Self-Certification User Guide - v1.2

Self-Certification

SCOTTSDALE

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User Prerequisite Qualification

User Qualification

Users of the software must be:

- Fully trained in accordance with the Scottsdale Training Manual with a Certificate of completion.
- Fully identified and recognised by Scottsdale as a competent user with experience in construction and/or manufacturing of trusses.
- Fully informed by Scottsdale on any up-to-date enhancements/additions to the software.
- The validity of the certification will last a period of no more than 3 years.

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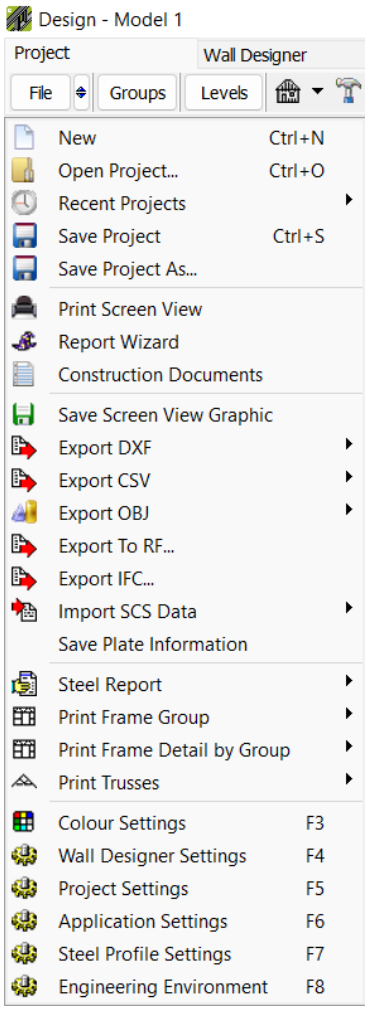
Engineering Environment

Getting Started

Self-Certification is a function that depends on the settings the user selects within the ScotEnvironment application.

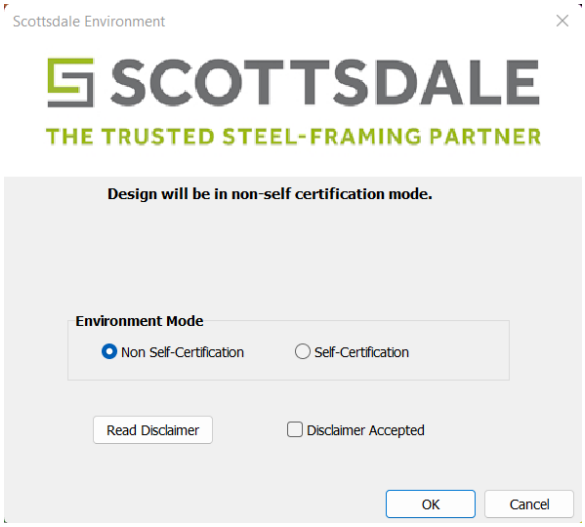
The Environment program is launched by selecting “Engineering Environment” from the File menu in ScotSteel:



When starting a new design file, the design must first be saved with a filename before you can launch the Environment program.

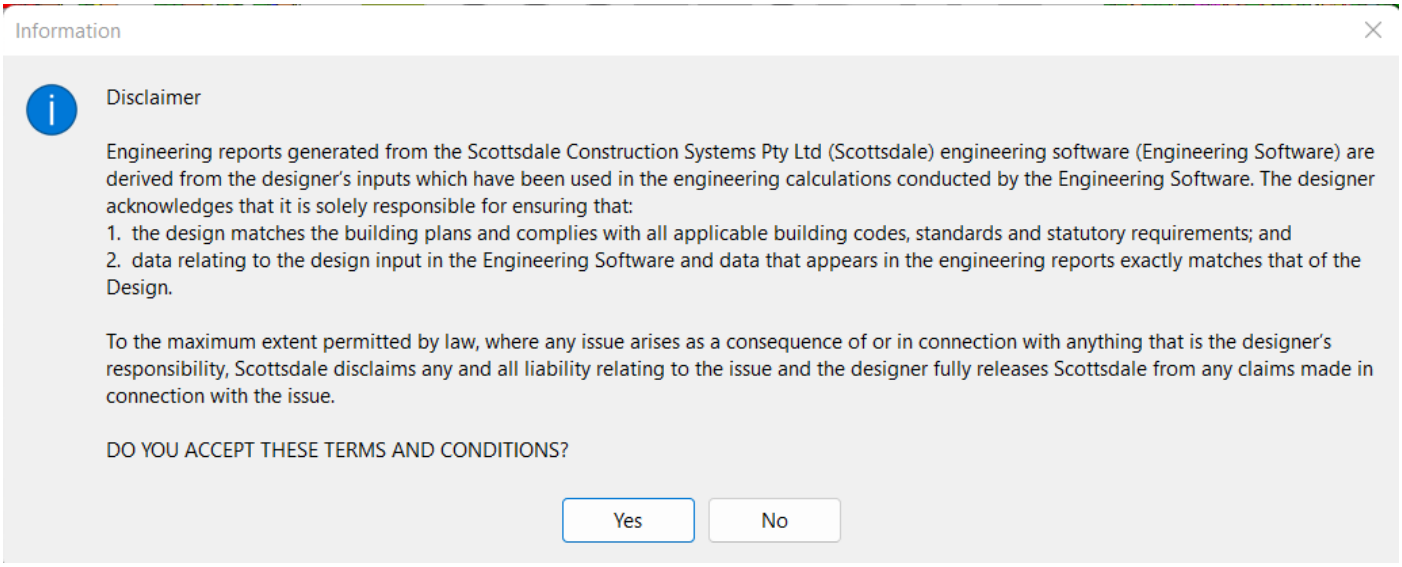
Selecting the File menu when on the Project tab will present the “Engineering Environment option at the bottom of the menu, as shown above. Clicking on this menu item will show the window below.

Self-Certification Mode: Main Page



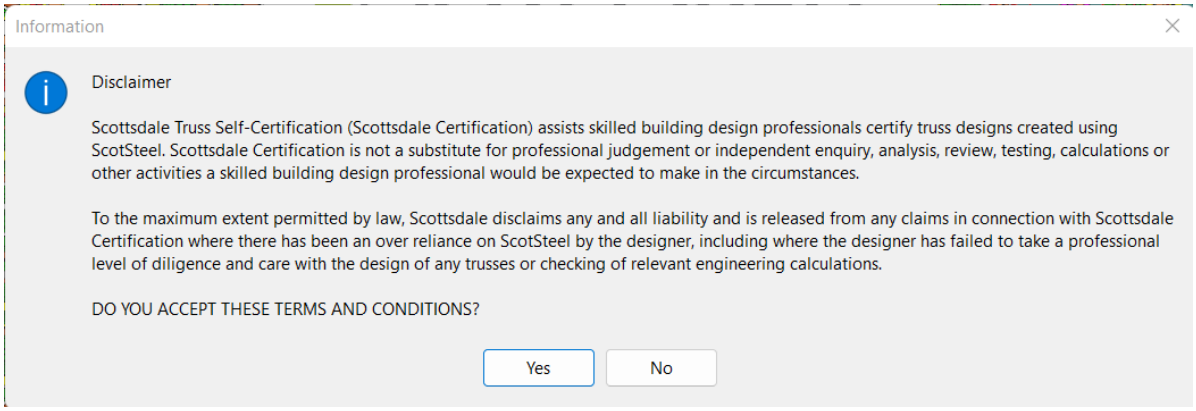
The Scottsdale Environment screen will default to “Non Self-Certification” the first time it is run. This will launch the normal Environment form as per previous versions of SCSDesign.

Like the previous version, the Disclaimer must be accepted before proceeding. Clicking on the “Read Disclaimer” button will present the user with the following screen:



Clicking the “Yes” button will close the window and automatically check the box “Disclaimer Accepted”, allowing the user to proceed.

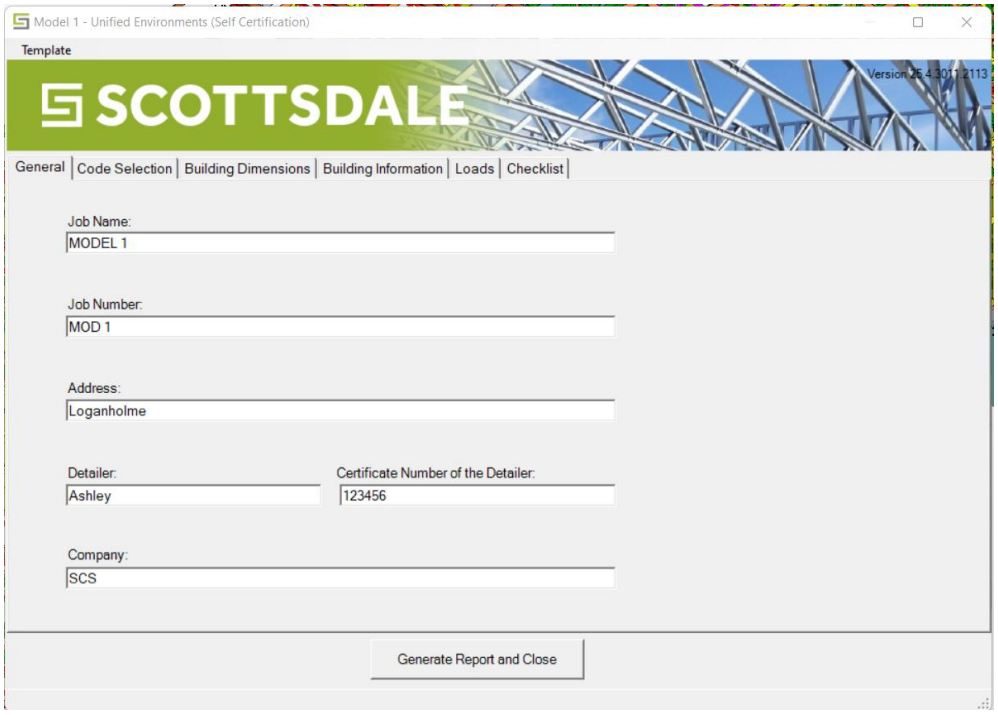
If the user clicks on the “Self-Certification” option, the screen will change to the below:



Similar to choosing the Non Self-Certification option, the user must click on the “Disclaimer Accepted” button to proceed. They also must click on the “This applies to country code – AU only” checkbox to continue - Self-Certification mode is currently only available for the Australia building code (AU).

If both checkboxes are selected, the user can then click the “OK” button to launch the Self Certification Environment program.

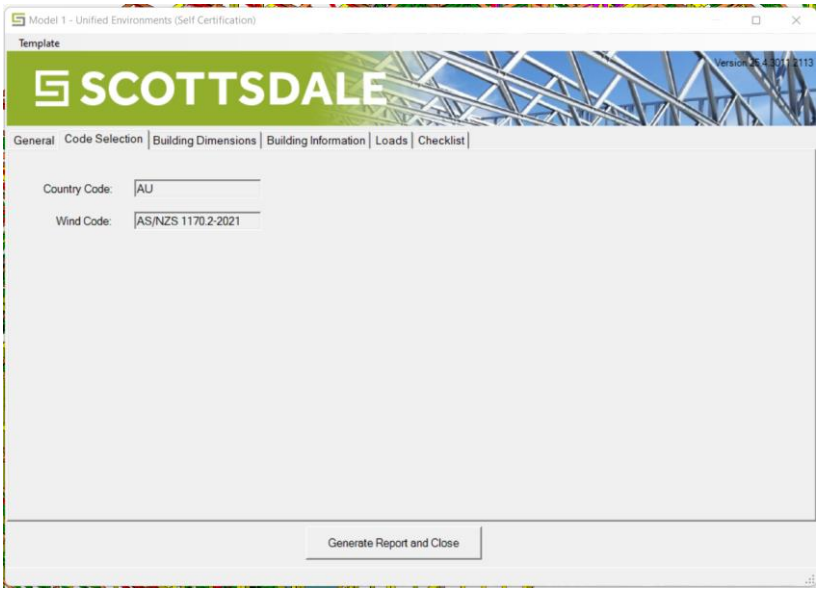
Self-Certification Mode: General



On this first tab - General, the user enters the Job Name, Job number, Address, Detailer and Company. These are not mandatory fields but are used for informational purposes on the Engineering report.

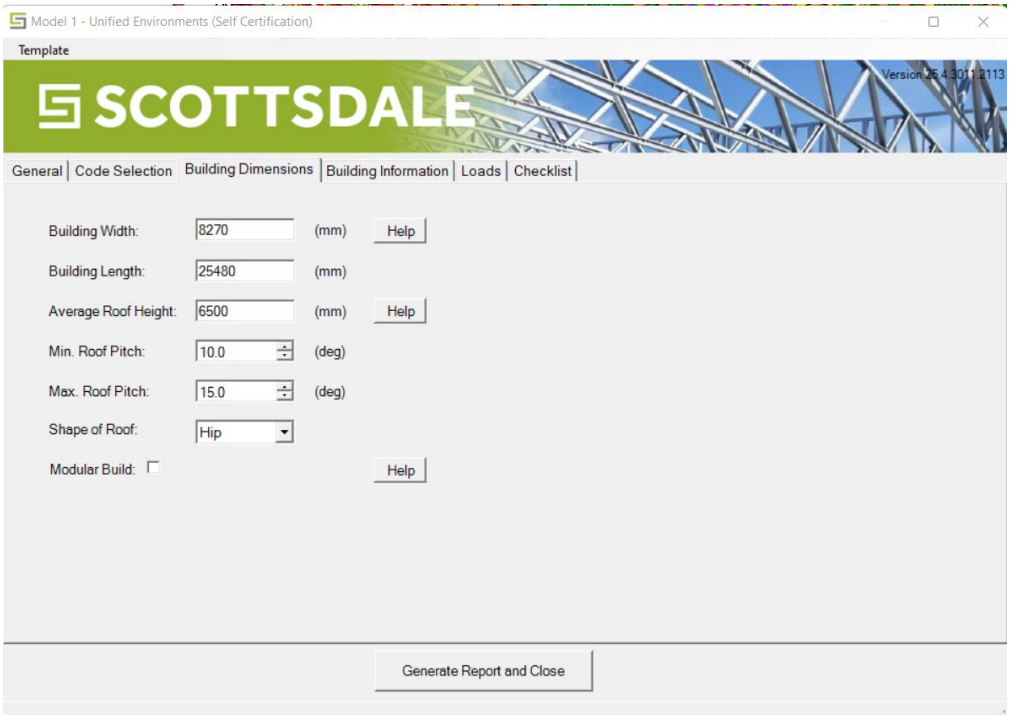
Self-Certification Mode: Code Selection

The next tab “Code” is for informational purposes only and cannot be edited in Self Certification mode:



Self-Certification Mode: Building Dimensions

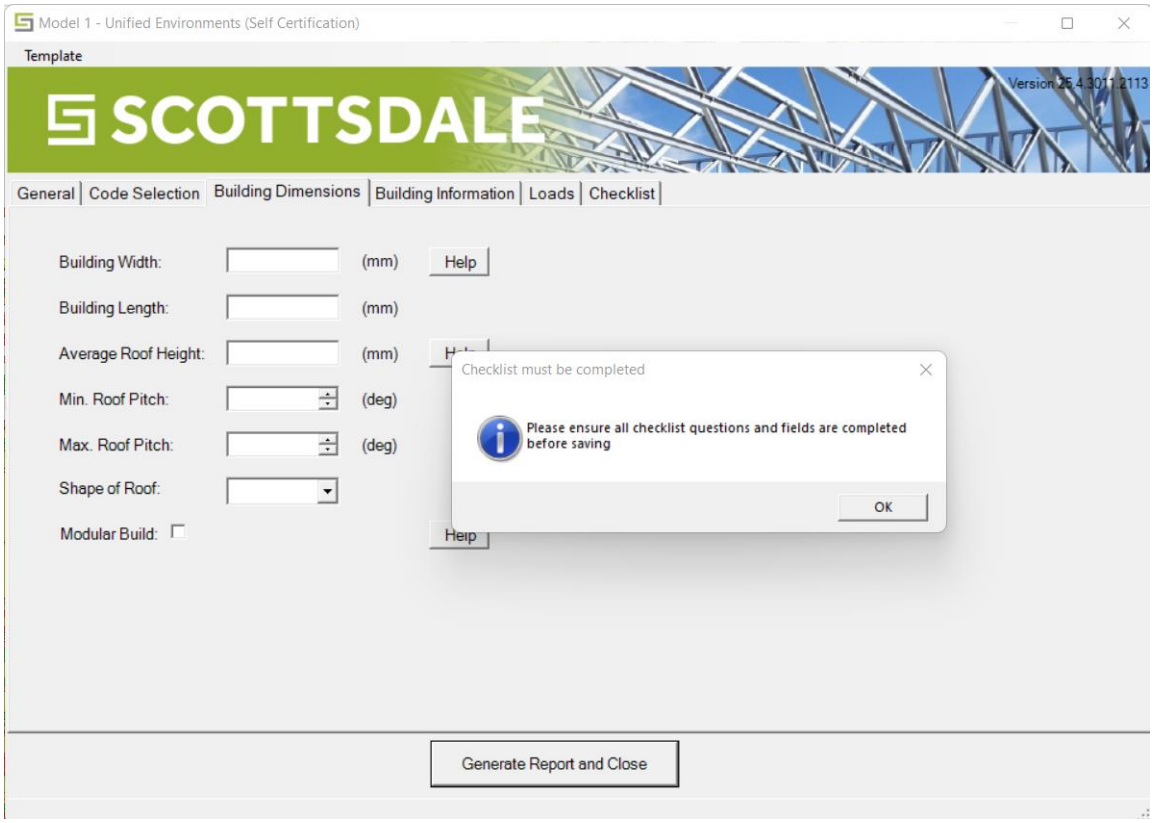
Selecting the “Building Dimensions” tab allows the user to enter the building’s width, length, roof height and roof pitch.



These values must meet set limits for the design to be eligible for Self-Certification, as follows:

- Building Width < 16000 mm
- Building Length < 5x Building Width
- Average Roof Height < 7250 mm (this is based on Ground to eave height < 6000 mm and Ground to highest point < 8500 mm)
- Roof Pitch < 35 degrees
- For modular build the dimensions for the entire structure should not exceed the specified dimensions

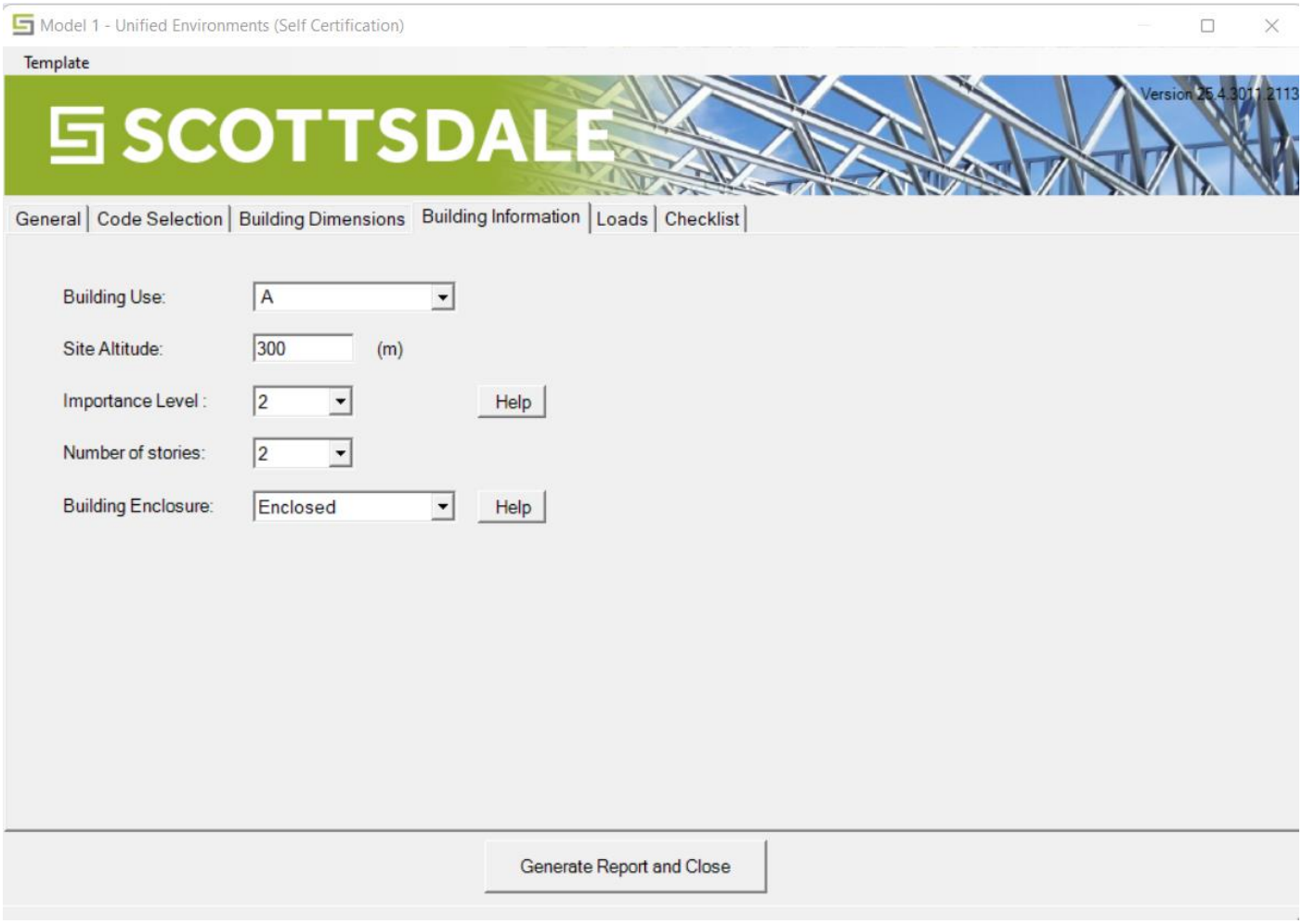
These fields have validation to ensure they have values entered, and values meet the conditions listed above:



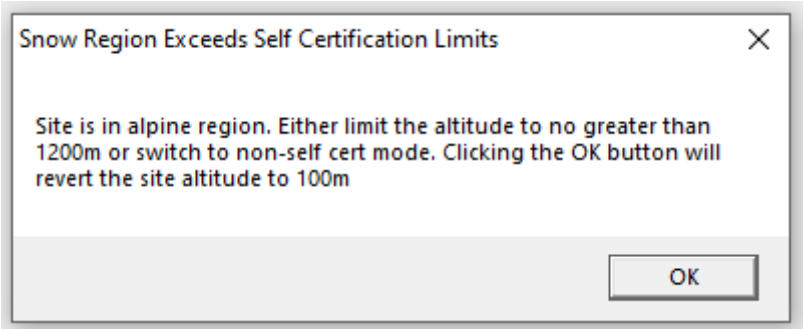
Not meeting the conditions above will result in the user being alerted to the problem and not being able to proceed until corrected.

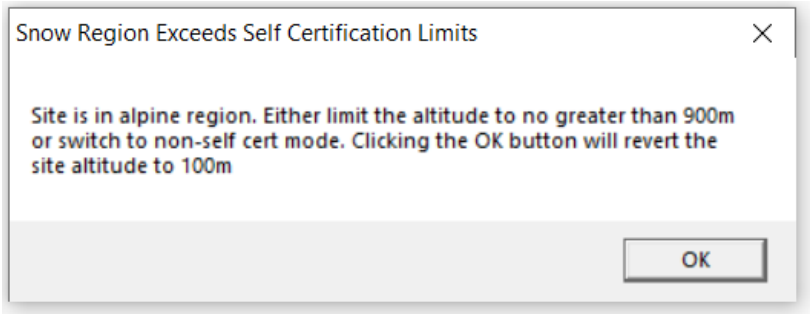
Self-Certification Mode: Building Information

The Building Information tab operates the same as with the previous version, and must have valid values selected for all fields:



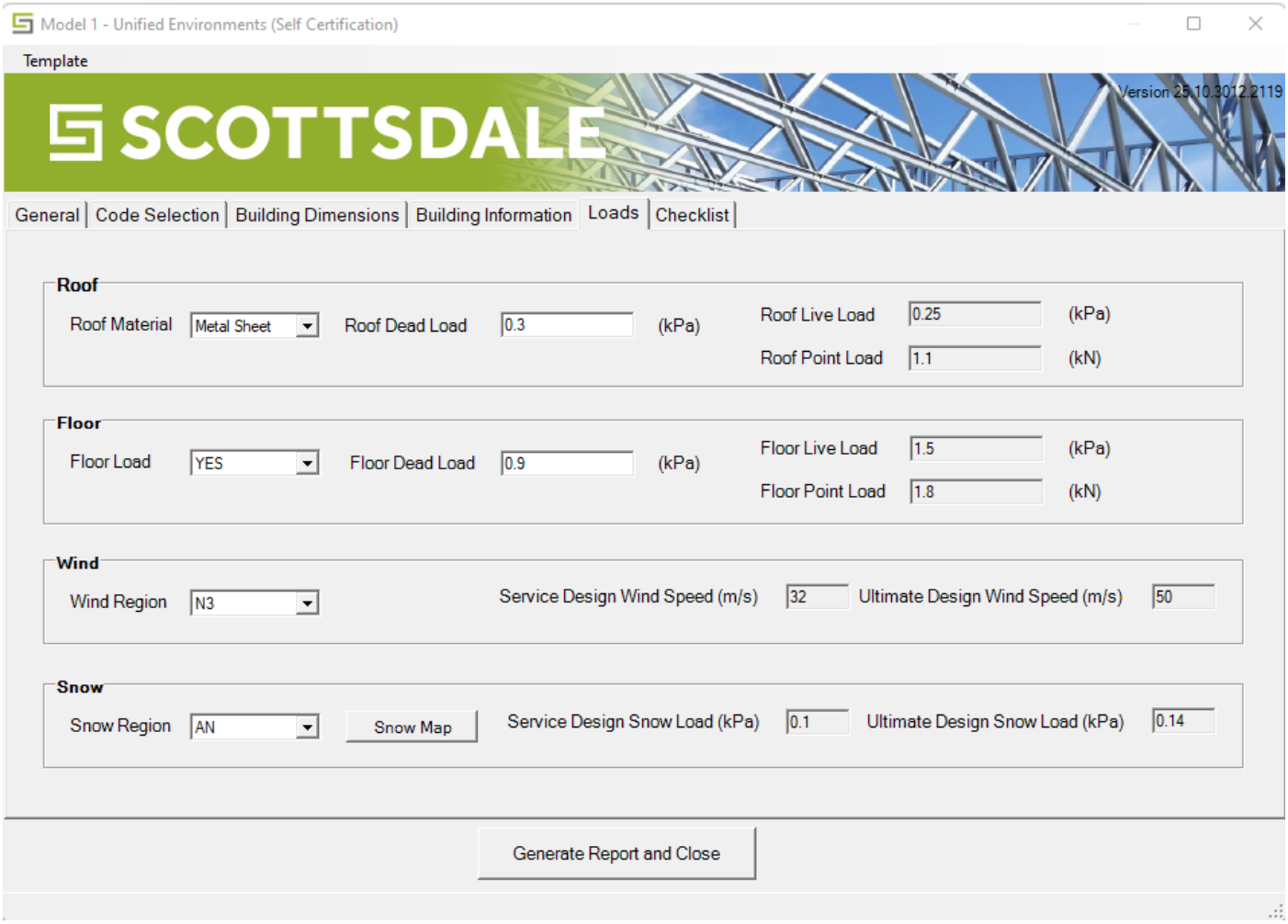
The Site Altitude will have a dependency on Snow Region. Depending on which Snow Region is selected, if the combination of Site Altitude and Snow Region values are not valid, the program will reset the Altitude to 100m and advise the user to correct these or not proceed with self-certification:



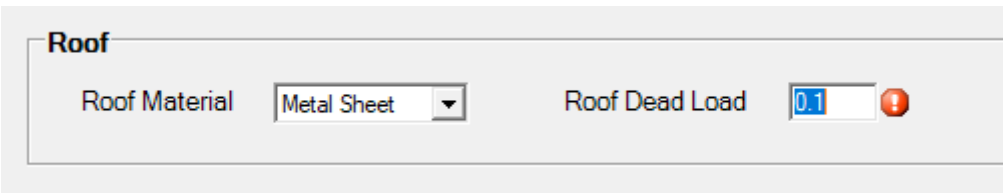


Self-Certification Mode: Loads

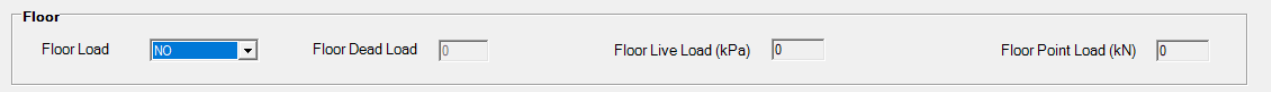
The “Loads” tab is for entering Roof, Floor, Wind and Snow load information:



The Roof Material pulldown contains two items: “Metal Sheet” and “Concrete Tile”, with respective default values of 0.25 and 0.75. These are the minimum values allowed for Roof Dead Load. Entering lower values will result in an error advising the user to enter a higher value:



If Floor Load is “NO” then the Floor Dead Load textbox will be set to 0 and be disabled:

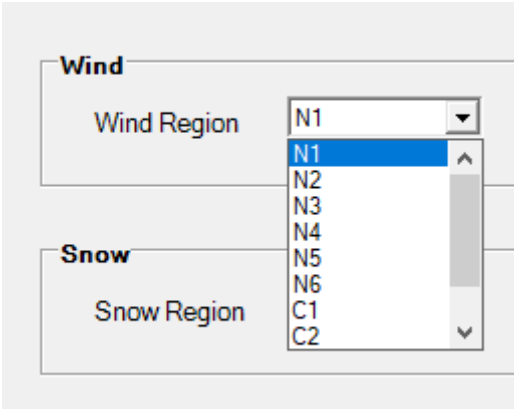


Setting Floor Load to “YES” defaults the Floor Dead Load to 0.9 kPa (as per screenshot above). This value is editable and must be a value >= 0.9 kPa.

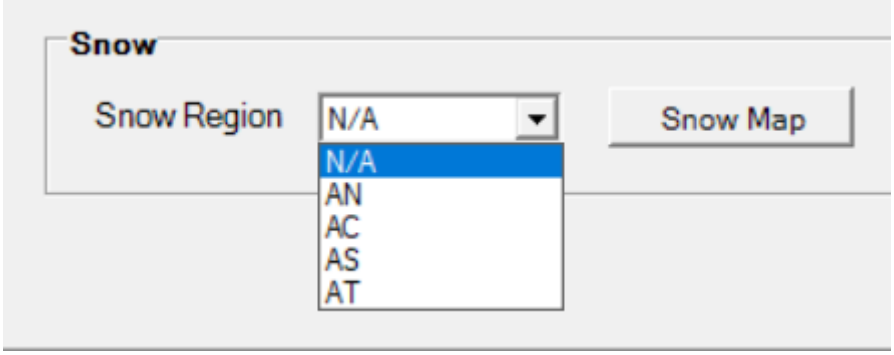
All the live loads and point loads will be hard-coded; however, they are both subject to change based on the building type. All the Wind and Snow load values will be calculated based on the user selection.

Wind Region

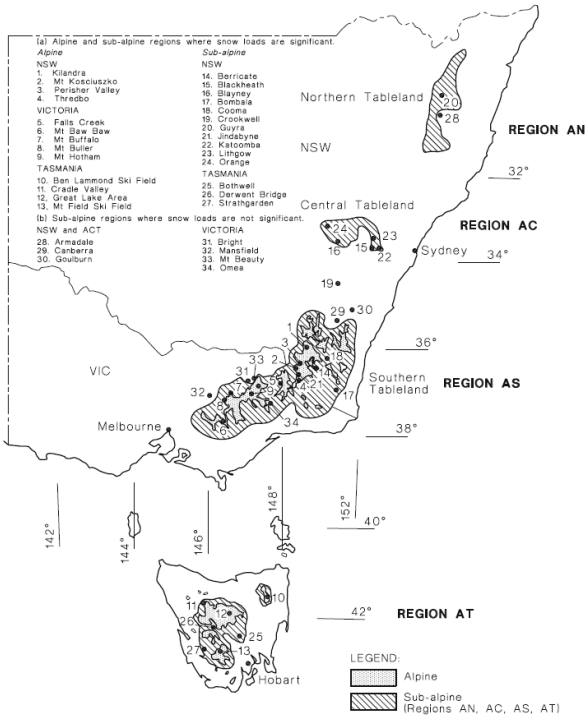
In the Wind Region pull-down list, the user can select one of 6 non-cyclonic wind regions or one of 4 cyclonic regions. By selecting C1...C4, the report will reflect this as Cyclonic:



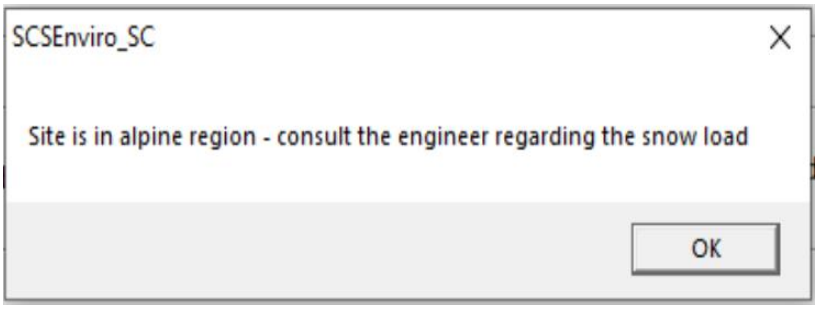
Snow Region



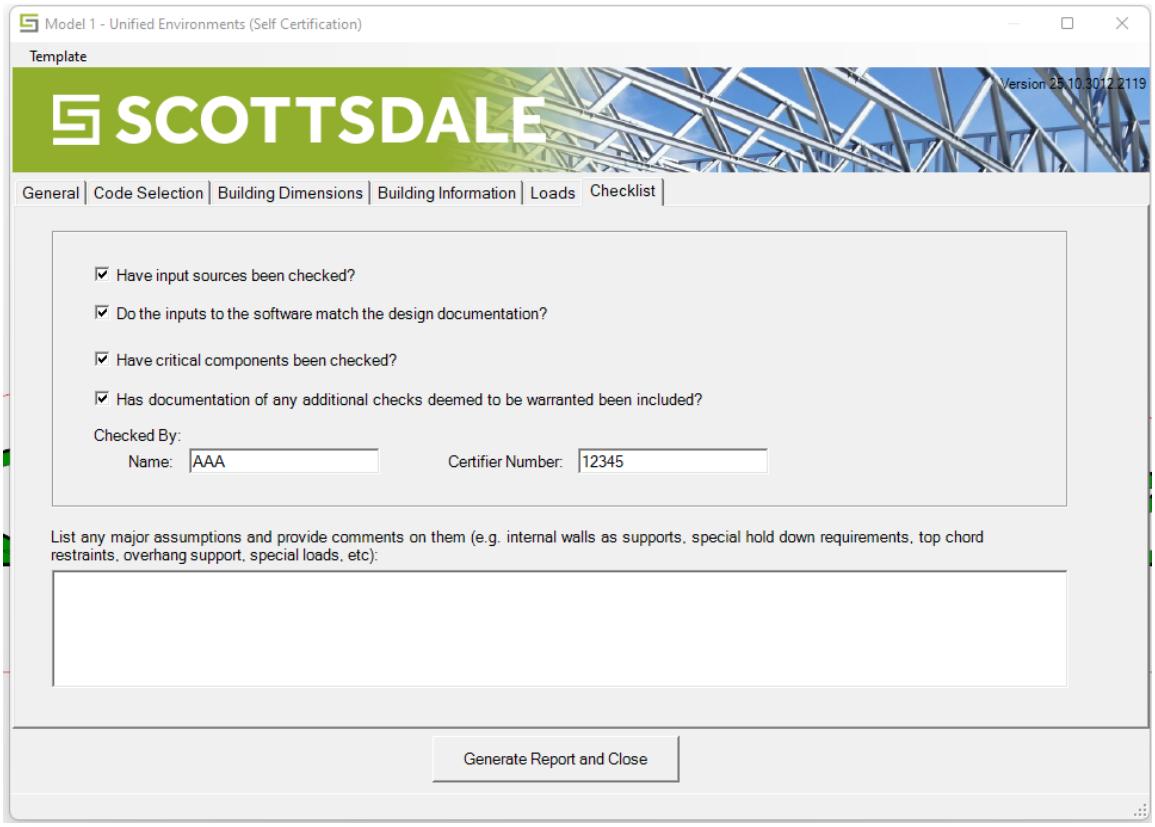
There are four (4) possible snow regions in Australia to select from. Clicking on the Snow Map button will show where in Australia each region is located. For any designs being built in any other region not shown on the map, select “N/A”.



As previously mentioned, the Snow Region will have a dependency on Altitude. If the combination of values is not valid, the program will reset the Altitude to 100m and advise the user to correct these or not proceed with self-certification:

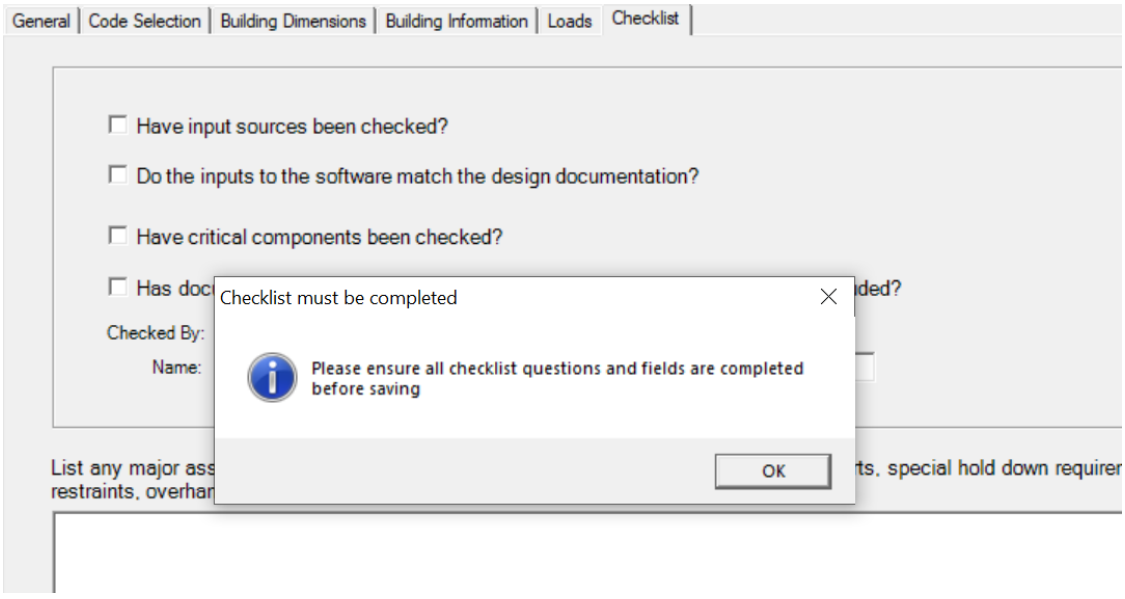


Self-Certification Mode: Checklist



The last tab is a checklist that must be completed for the design to be self-certified.

Must be checked by two people from the same company, and must be both certified



Self-Certification Mode: Generate Report/Close

Once all settings have been entered and are ready to save, the user will click on the “Generate Report and Close” button. This action will save the values to a configuration/settings file to be used in the other Scottsdale software modules and when the environment application is called again in future for this same design, the values saved from the previous time will be persistent.

Upon the application closing, it will also generate a PDF report. This report for self-certification will be similar to the existing (non self-certification) report, but will also be labelled “SELF CERTIFIED FOR TRUSSES ONLY”:

SCOTTSDALE THE TRUSTED STEEL-FRAMING PARTNER Version 25.4.3011.2113	Project Name	Model 1	Project No.	123
	Address	Loganholme		
	Company	SCS		
	Detailer	TR	Certificate No.	1222
	Reference	Model 1 - Unified Environments (Self Certification)		

Disclaimer
Disclaimer Scottsdale Truss Self-Certification (Scottsdale-Certification) assists skilled building design professionals certify truss designs created using ScottSteel. Scottsdale-Certification is not a substitute for professional judgement or independent enquiry, analysis, review, testing, calculations or other activities a skilled building design professional would be expected to make in the circumstances. To the maximum extent permitted by law, Scottsdale disclaims any and all liability and is released from any claims in connection with Scottsdale-Certification where there has been an over reliance on ScottSteel by the designer, including where the designer has failed to take a professional level of diligence and care with the design of any trusses or checking of relevant engineering calculations.

SELF CERTIFIED FOR TRUSSES ONLY

BUILDING DATA	
country code	AU
wind code	AS/NZS 1170.2-2021 and AS 4055
building use (code)	A
importance level	2
annual prob. of exceedence - wind, (1/x)	500
annual prob. of exceedence - snow, (1/x)	150
annual prob. of exceedence - EQ, (1/x)	500
building length, (mm)	20000
building width, (mm)	15000
roof type	Hip
max. roof pitch, (deg)	20.00
min roof pitch, (deg)	10.00
roof height, (mm)	5000
modular build	False
number of stories	2
is building enclosed	Enclosed
roof material	Metal Sheet

SITE DATA	
elevation above sea level, (m)	100
wind region	N1

GRAVITY LOADS			
	dead load, (kPa)	live load, (kPa)	point load, (kN)
roof	0.3	0.25	1.1
ceiling under roof	n/a	0	1.1

WIND CALCULATION	
service design wind speed (m/s)	26
ultimate design wind speed (m/s)	34
service dynamic pressure (kPa)	0.406
ultimate dynamic pressure (kPa)	0.694

SNOW CALCULATION	
region	AS
elevatation above sea level, (m)	100
ground snow load, (kPa)	0
Exposure Reduction Coefficient	1
service snow load, (kPa)	0
ultimate snow load, (kPa)	0

LOAD SUMMARY	
wind uplift service (roof), (kPa)	-0.353
wind uplift service (canopy), (kPa)	-0.694
wind uplift ultimate (roof), (kPa)	-0.603
wind uplift ultimate (canopy), (kPa)	-1.186
wind pressure service (roof), (kPa)	0.183
wind pressure service (canopy), (kPa)	0.389
wind pressure utimate (roof), (kPa)	0.312
wind pressure ultimate (canopy), (kPa)	0.666
roof dead load, (kPa)	0.3
roof imposed load, (kPa)	0.25
roof point load, (kN)	1.1
service snow load, (kPa)	0
ultimate snow load, (kPa)	0
roof ceiling dead load, (kPa)	n/a
roof ceiling live load, (kPa)	0
roof ceiling point load, (kN)	1.1
floor dead load, (kPa)	n/a
floor live load, (kPa)	n/a
floor point load, (kN)	n/a
floor ceiling dead load, (kPa)	n/a
floor ceiling live load, (kPa)	n/a
floor ceiling point load, (kN)	n/a
wind face load service (walls), (kPa)	0.365
wind face load ultimate (walls), (kPa)	0.624
wall dead load (hardcoded), (kPa)	n/a
wind internal wall face load service, (kPa)	-0.122
wind internal wall face load ultimate, (kPa)	-0.208

SOFTWARE CHECKLIST	
Self-Certification (AU Trusses) version number	1.0
Software version number	25.4.3011.2113
Have input sources been checked?	Yes
Do the inputs to the software match the design documentation?	Yes
Have critical components been checked?	Yes
Has documentation of any additional checks deemed to be warranted been included?	Yes
Certifier Name	AAA
Certifier Number	12345
List any major assumptions and provide comments on them (e.g. internal walls as supports, special hold down requirements, top chord restraints, overhang support, special loads, etc	-

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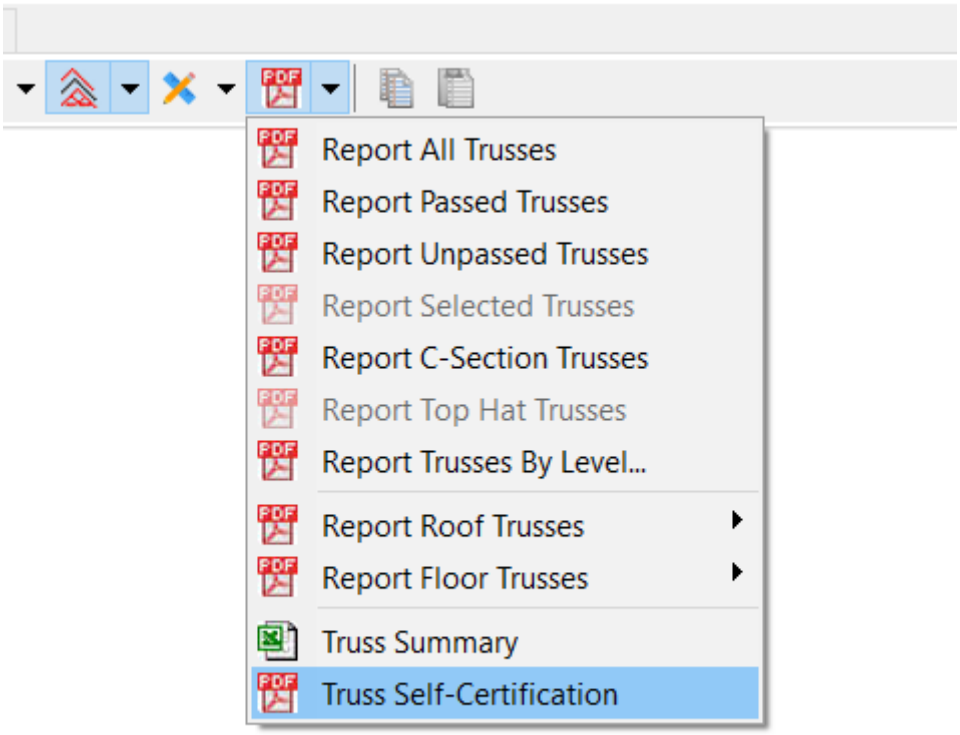
Self-Certification Mode: Added Features

Self-Certified Design Reports

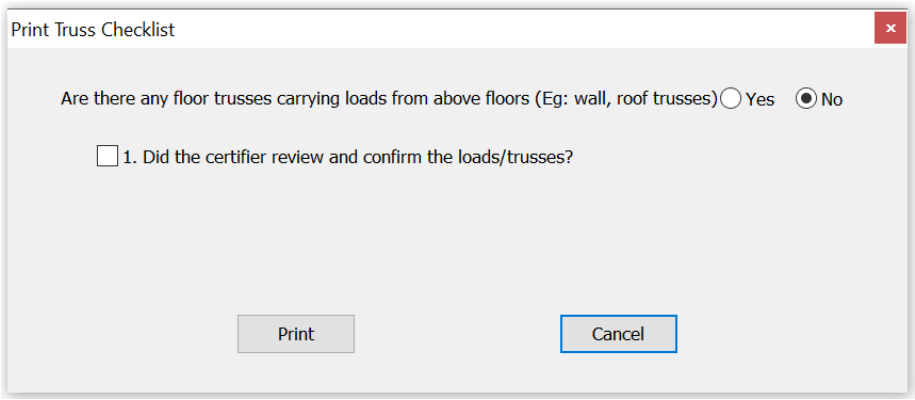
The truss reports now have a checklist cover page for self-certified designs.

Note: Truss Reports can be generated based on the selection below. The Truss Self-Certification Certificate can be created in the below highlighted tab 'Truss Self-Certification'



There are four possible scenarios, documented below.

When reporting on trusses from the design software, if the environment has been set up as self-certification, the user will now be prompted with the following options:

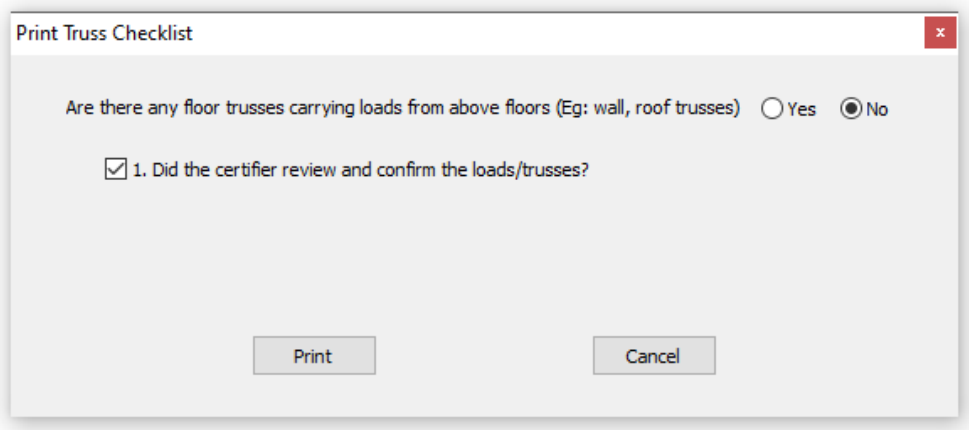


1. If “No” is selected for the first question, only question 1 is visible. If the certifier has NOT reviewed and confirmed the loads, the following appears on the first page of the truss report:

Checklists apply to Self Certified designs

Checklist	Yes/No
Are there any floor trusses carrying loads from above floors (e.g. wall, roof trusses)	No
1. Did the certifier review and confirm the loads/trusses?	No

If the certifier has not reviewed and confirmed the loads then Self-Certification is not valid.

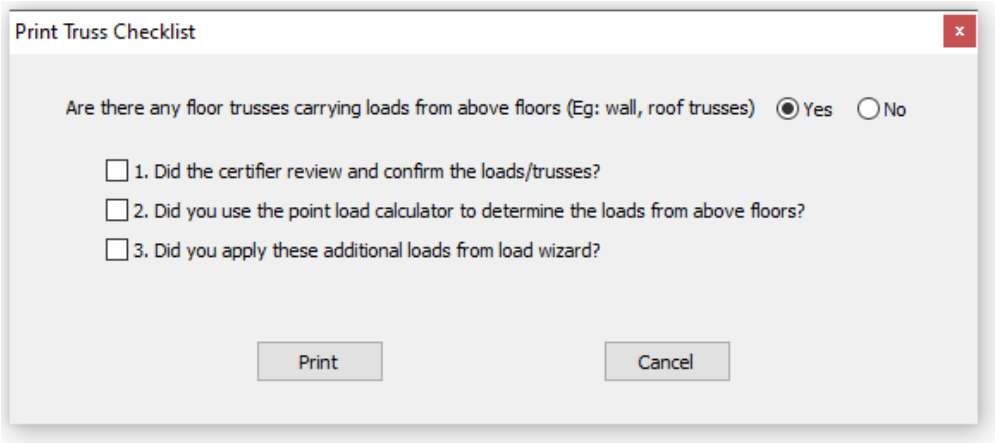


2. If “No” is selected for the first question and the certifier selects that they HAVE reviewed and confirmed the loads, the following appears on the first page of the truss report:

Checklists apply to self certified designs

Checklist	Yes/No
Are there any floor trusses carrying loads from above floors (e.g. wall, roof trusses)	No
1. Did the certifier review and confirm the loads/trusses?	Yes

3. If “Yes” is selected, the screen shows all three questions:



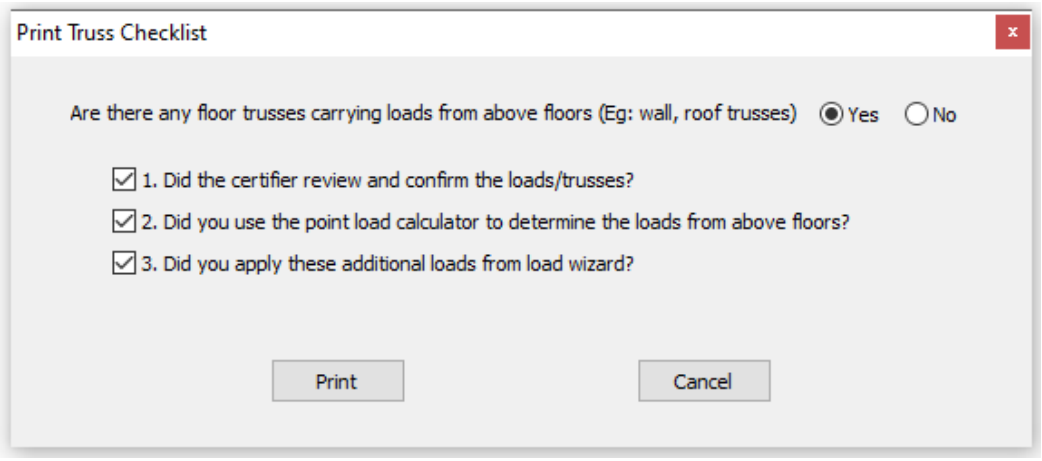
If any of the checkboxes 1-3 are NOT selected, the following warning message appears on the report:

Checklists apply to self certified designs

Checklist	Yes/No
Are there any floor trusses carrying loads from above floors (e.g. wall, roof trusses)	Yes
1. Did the certifier review and confirm the loads/trusses?	No
2. Did you use the point load calculator to determine the loads from above floors?	No
3. Did you apply these additional loads from load wizard?	No

If any of the above checklist items 1-3 are "No" then self certification is not valid.

4. If “Yes” is selected and all checkboxes 1-3 are checked, the previous tables document will reflect this with no warning messages.



Below is the complete cover page for the Truss Engineering report:

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Checklists apply to self certified designs

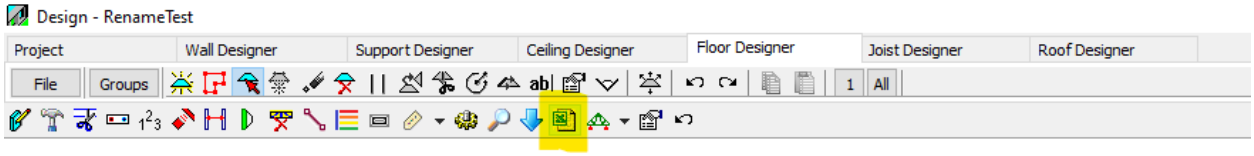
Checklist	Yes/No
Are there any floor trusses carrying loads from above floors (e.g. wall, roof trusses)	Yes
1. Did the certifier review and confirm the loads/trusses?	Yes
2. Did you use the point load calculator to determine the loads from above floors?	Yes
3. Did you apply these additional loads from load wizard?	Yes

Sign Off By	
Designer Name:	Ashley
Designer Certification Number:	123456
Certifier Name:	Thanuja
Certifier Certification Number:	Ranawaka

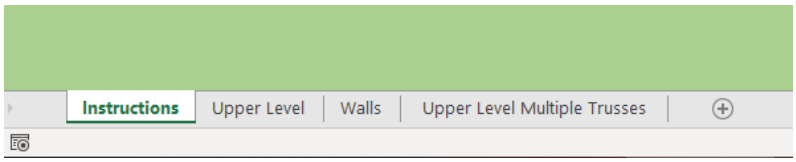
Item	Yes/No
Have site storage and lifting caused any damage to the components?	
Have approved plans and layouts been followed?	
Have connection, fixing and hold-down specifications been followed?	
Have instructions from the manufacturer been supplied and followed?	

Point Load Calculator

This calculator is accessed from the following toolbar button in the Floor Designer tab in the SCS Design software:



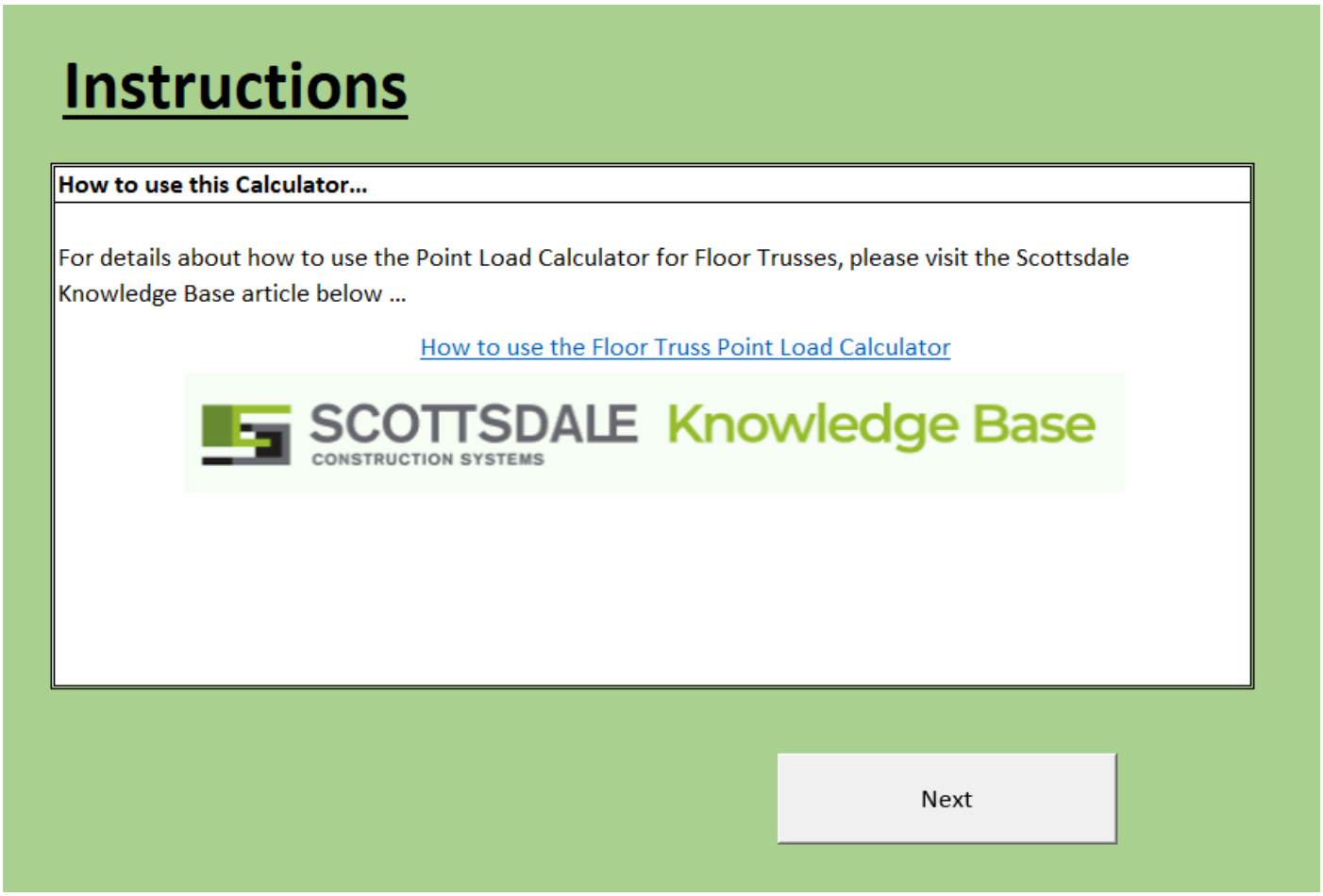
This spreadsheet initially contains 4 tabs to assist in calculating point loads:



Instructions tab

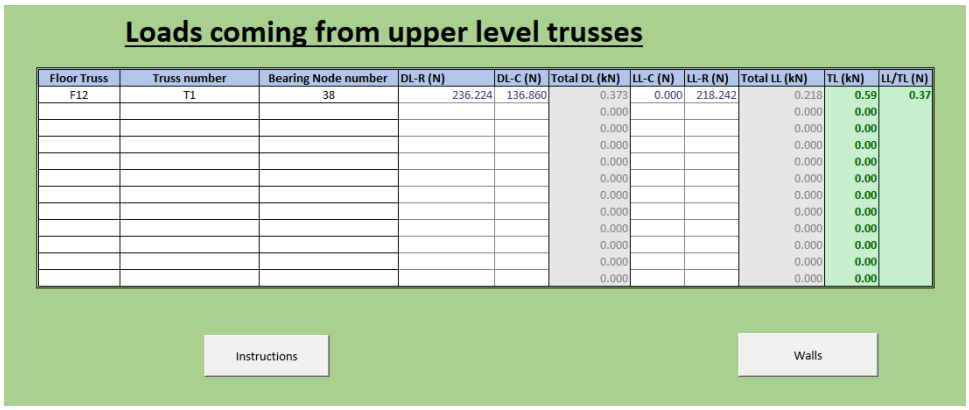
This tab provides a link to the Knowledge Base, which explains the purpose of this spreadsheet and includes instructions on how to use it with the files for a specific design.

How to use the Floor Truss Point Load Calculator



To begin, the user needs to click on the “Next” button. This will take them to the “Upper Level” tab.

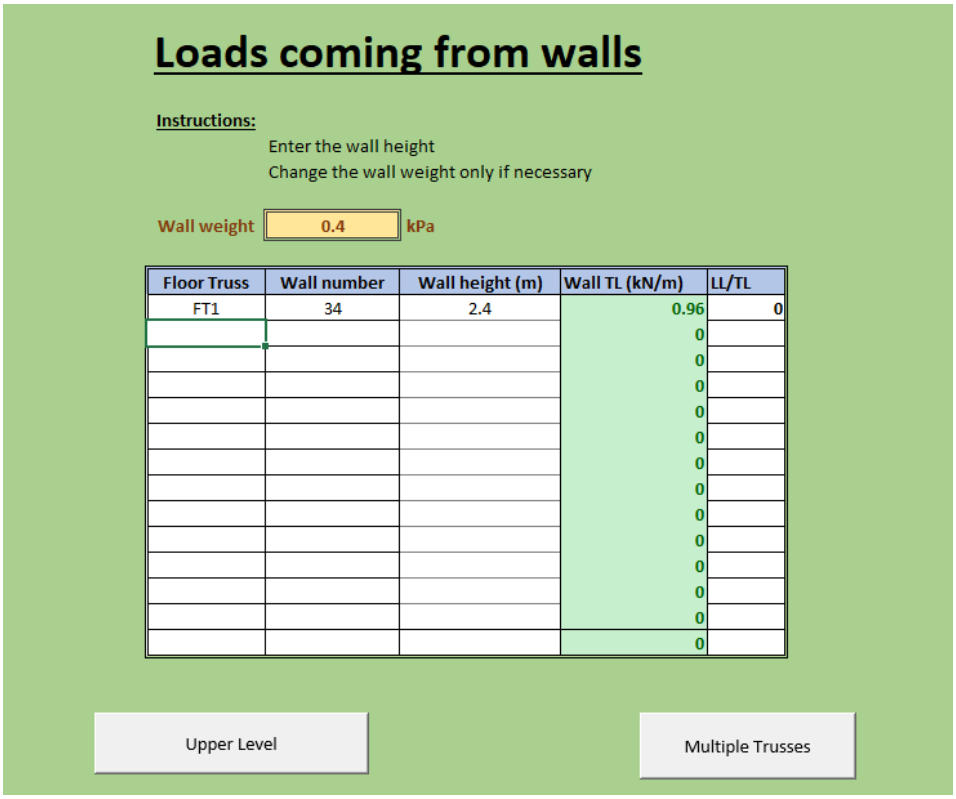
Upper-Level tab



Here, the user enters the Floor Truss, Truss number, Bearing Node number, DL-R, DL-C, LL-C and LL-R values. The Total DL and LLs are then calculated.

To move onto the Wall tab, the user can either click the “Walls” button or the “Walls” tab at the bottom of the screen.

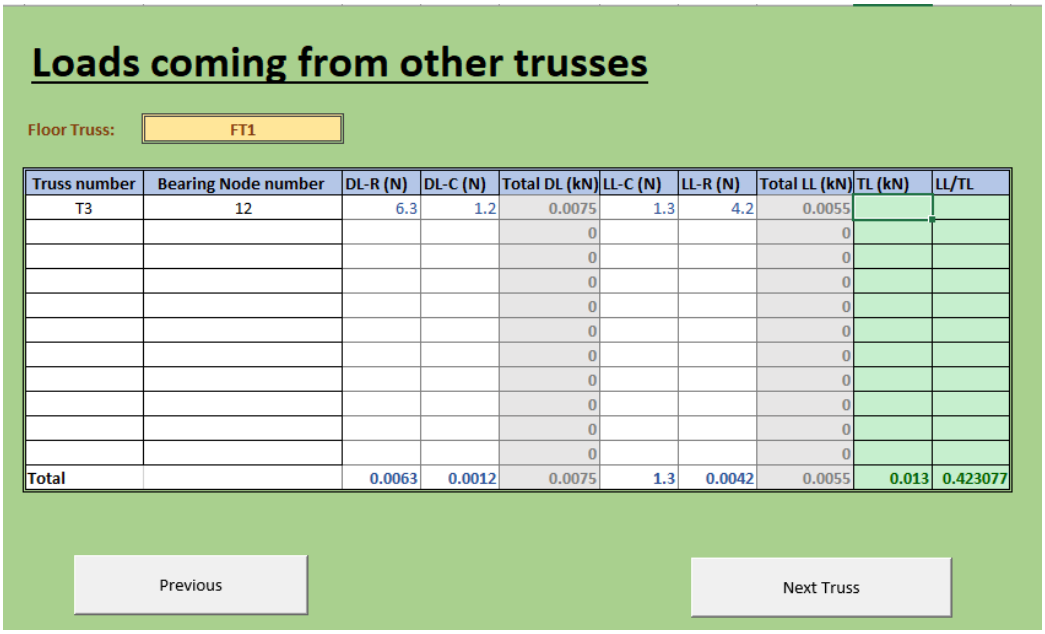
Walls tab



To calculate wall loads, the user first enters the Wall Weight in the yellow box above. Then, as per the other tabs, the user enters the Floor Truss, Wall number and Wall height values. Wall TL is then calculated.

To move onto the next tab, the user can either click the “Multiple Trusses” button or the “Upper-Level Multiple Trusses” tab at the bottom of the screen.

Upper-level Trusses



Loads coming from other trusses

Floor Truss: FT1

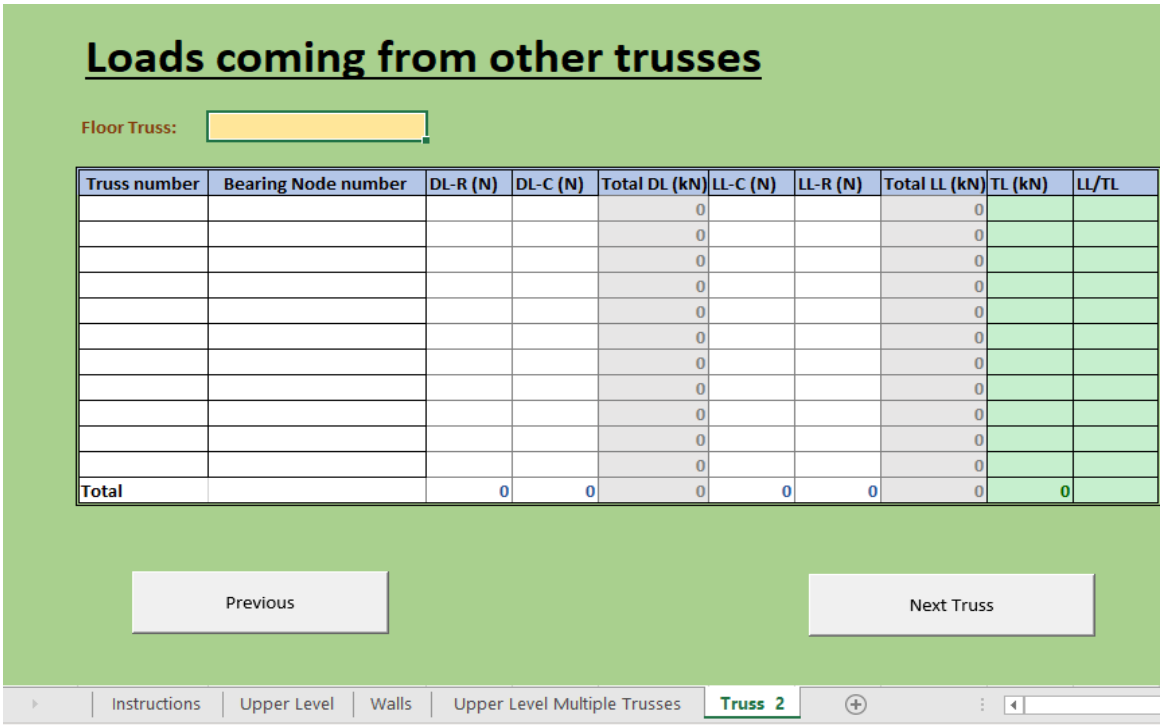
Truss number	Bearing Node number	DL-R (N)	DL-C (N)	Total DL (kN)	LL-C (N)	LL-R (N)	Total LL (kN)	TL (kN)	LL/TL
T3	12	6.3	1.2	0.0075	1.3	4.2	0.0055		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
Total		0.0063	0.0012	0.0075	1.3	0.0042	0.0055	0.013	0.423077

Previous

Next Truss

The user first enters the Floor Truss ID in the yellow box above. Then, as per the other tabs, the user enters the Truss number, Bearing Node number, DL-R, DL-C, LL-C and LL-R values. The Total DL and LLs are then calculated.

For other Upper-Level Trusses, the user can click on the “Next Truss Button create a new Truss tab, which creates a duplicate/blank tab as the one above. This can be repeated for every truss:



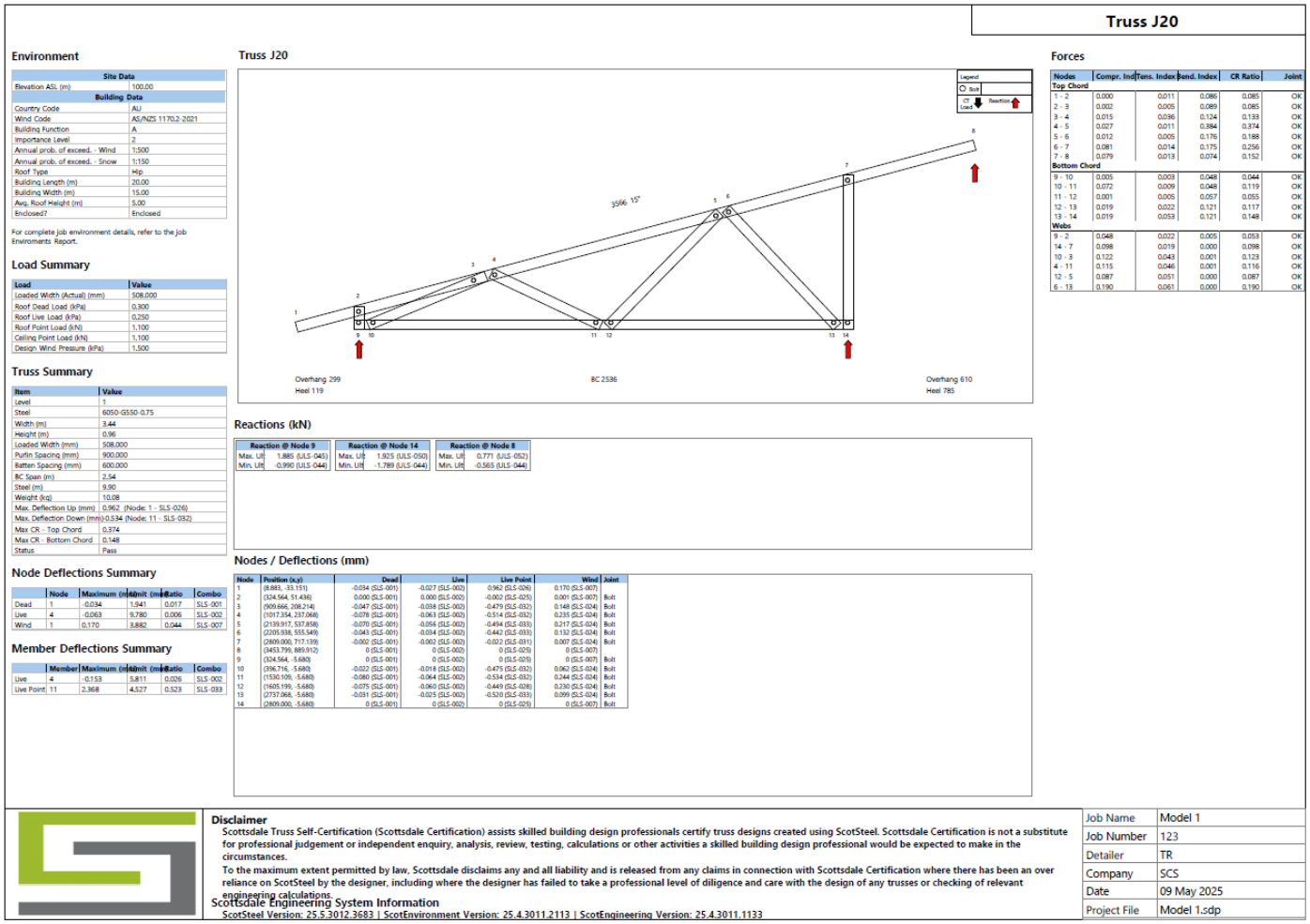
Loads coming from other trusses

Floor Truss:

Truss number	Bearing Node number	DL-R (N)	DL-C (N)	Total DL (kN)	LL-C (N)	LL-R (N)	Total LL (kN)	TL (kN)	LL/TL
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
				0			0		
Total		0	0	0	0	0	0	0	

Engineered Truss Reports

The following report shows that Truss J20 has “Passed” Self- Self-Certification Engineering. Therefore, it is accepted for manufacturing.



Truss J20

Environment

Site Data	
Elevation ASL (m)	100.00
Building Data	
Country Code	AU
Wind Code	AS/NZS 1170.2 2021
Building Function	A
Importance Level	2
Annual prob. of exceed. - Wind	1:500
Annual prob. of exceed. - Snow	1:150
Roof Type	Hip
Building Length (m)	20.00
Building Width (m)	15.00
Avg. Roof Height (m)	5.00
Enclosed?	Enclosed

For complete job environment details, refer to the job Enviroments Report.

Load Summary

Load	Value
Loaded Width (Actual) (mm)	508.000
Roof Dead Load (kPa)	0.300
Roof Live Load (kPa)	0.250
Roof Point Load (kN)	1.100
Ceiling Point Load (kN)	1.100
Design Wind Pressure (kPa)	1.500

Truss Summary

Item	Value
Level	1
Steel	6050-G550-0.75
Width (m)	3.44
Height (m)	0.96
Loaded Width (mm)	508.000
Purlin Spacing (mm)	900.000
Batten Spacing (mm)	600.000
BC Span (m)	2.54
Steel (m)	9.90
Weight (kg)	10.08
Max. Deflection Up (mm)	0.962 (Node: 1 - SLS-026)
Max. Deflection Down (mm)	0.534 (Node: 11 - SLS-032)
Max CR - Top Chord	0.374
Max CR - Bottom Chord	0.148
Status	Pass

Node Deflections Summary

	Node	Maximum (mm)	Limit (mm)	Ratio	Combo
Dead	1	-0.034	1.941	0.017	SLS-001
Live	4	-0.063	9.780	0.006	SLS-002
Wind	1	0.170	3.882	0.044	SLS-007

Member Deflections Summary

	Member	Maximum (mm)	Limit (mm)	Ratio	Combo
Live	4	-0.153	5.811	0.026	SLS-002
Live Point	11	2.368	4.527	0.523	SLS-033

Truss J20

Reactions (kN)

Reaction @ Node 9		Reaction @ Node 14		Reaction @ Node 8	
Max. Uplift	1.885 (ULS-045)	Max. Uplift	1.925 (ULS-050)	Max. Uplift	0.771 (ULS-052)
Min. Uplift	-0.990 (ULS-044)	Min. Uplift	-1.789 (ULS-044)	Min. Uplift	-0.565 (ULS-044)

Nodes / Deflections (mm)

Node	Position (x,y)	Dead	Live	Live Point	Wind	Joint
1	(8.883, -33.151)	-0.034 (SLS-001)	-0.027 (SLS-002)	0.962 (SLS-026)	0.170 (SLS-007)	
2	(324.564, 51.436)	0.000 (SLS-001)	0.000 (SLS-002)	-0.002 (SLS-025)	0.001 (SLS-007)	Bolt
3	(909.666, 208.214)	-0.047 (SLS-001)	-0.038 (SLS-002)	-0.479 (SLS-032)	0.148 (SLS-024)	Bolt
4	(1017.354, 237.068)	-0.078 (SLS-001)	-0.063 (SLS-002)	-0.514 (SLS-032)	0.235 (SLS-024)	Bolt
5	(2139.917, 537.858)	-0.070 (SLS-001)	-0.056 (SLS-002)	-0.494 (SLS-033)	0.217 (SLS-024)	Bolt
6	(2205.938, 555.549)	-0.043 (SLS-001)	-0.034 (SLS-002)	-0.442 (SLS-033)	0.132 (SLS-024)	Bolt
7	(2809.000, 717.139)	-0.002 (SLS-001)	-0.002 (SLS-002)	-0.022 (SLS-031)	0.007 (SLS-024)	Bolt
8	(3453.799, 889.912)	0 (SLS-001)	0 (SLS-002)	0 (SLS-025)	0 (SLS-007)	
9	(324.564, -5.680)	0 (SLS-001)	0 (SLS-002)	0 (SLS-025)	0 (SLS-007)	Bolt
10	(396.716, -5.680)	-0.022 (SLS-001)	-0.018 (SLS-002)	-0.475 (SLS-032)	0.062 (SLS-024)	Bolt
11	(1530.109, -5.680)	-0.080 (SLS-001)	-0.064 (SLS-002)	-0.534 (SLS-032)	0.244 (SLS-024)	Bolt
12	(1605.199, -5.680)	-0.075 (SLS-001)	-0.060 (SLS-002)	-0.449 (SLS-028)	0.230 (SLS-024)	Bolt
13	(2737.068, -5.680)	-0.031 (SLS-001)	-0.025 (SLS-002)	-0.520 (SLS-033)	0.099 (SLS-024)	Bolt
14	(2809.000, -5.680)	0 (SLS-001)	0 (SLS-002)	0 (SLS-025)	0 (SLS-007)	Bolt

Forces

Node	Compr. Ind	Tens. Index	Bend. Index	CR Ratio	Joint
Top Chord					
1 - 2	0.000	0.011	0.086	0.085	OK
2 - 3	0.002	0.005	0.089	0.085	OK
3 - 4	0.015	0.036	0.124	0.133	OK
4 - 5	0.027	0.011	0.384	0.374	OK
5 - 6	0.012	0.005	0.176	0.188	OK
6 - 7	0.081	0.014	0.175	0.256	OK
7 - 8	0.079	0.013	0.074	0.152	OK
Bottom Chord					
9 - 10	0.005	0.003	0.048	0.044	OK
10 - 11	0.072	0.009	0.048	0.119	OK
11 - 12	0.001	0.005	0.057	0.055	OK
12 - 13	0.019	0.022	0.121	0.117	OK
13 - 14	0.019	0.053	0.121	0.148	OK
Webs					
9 - 2	0.048	0.022	0.005	0.053	OK
14 - 7	0.098	0.019	0.000	0.098	OK
10 - 3	0.122	0.043	0.001	0.123	OK
4 - 11	0.115	0.046	0.001	0.116	OK
12 - 5	0.087	0.051	0.000	0.087	OK
6 - 13	0.190	0.061	0.000	0.190	OK

Disclaimer

Scottsdale Truss Self-Certification (Scottsdale Certification) assists skilled building design professionals certify truss designs created using ScotSteel. Scottsdale Certification is not a substitute for professional judgement or independent enquiry, analysis, review, testing, calculations or other activities a skilled building design professional would be expected to make in the circumstances.

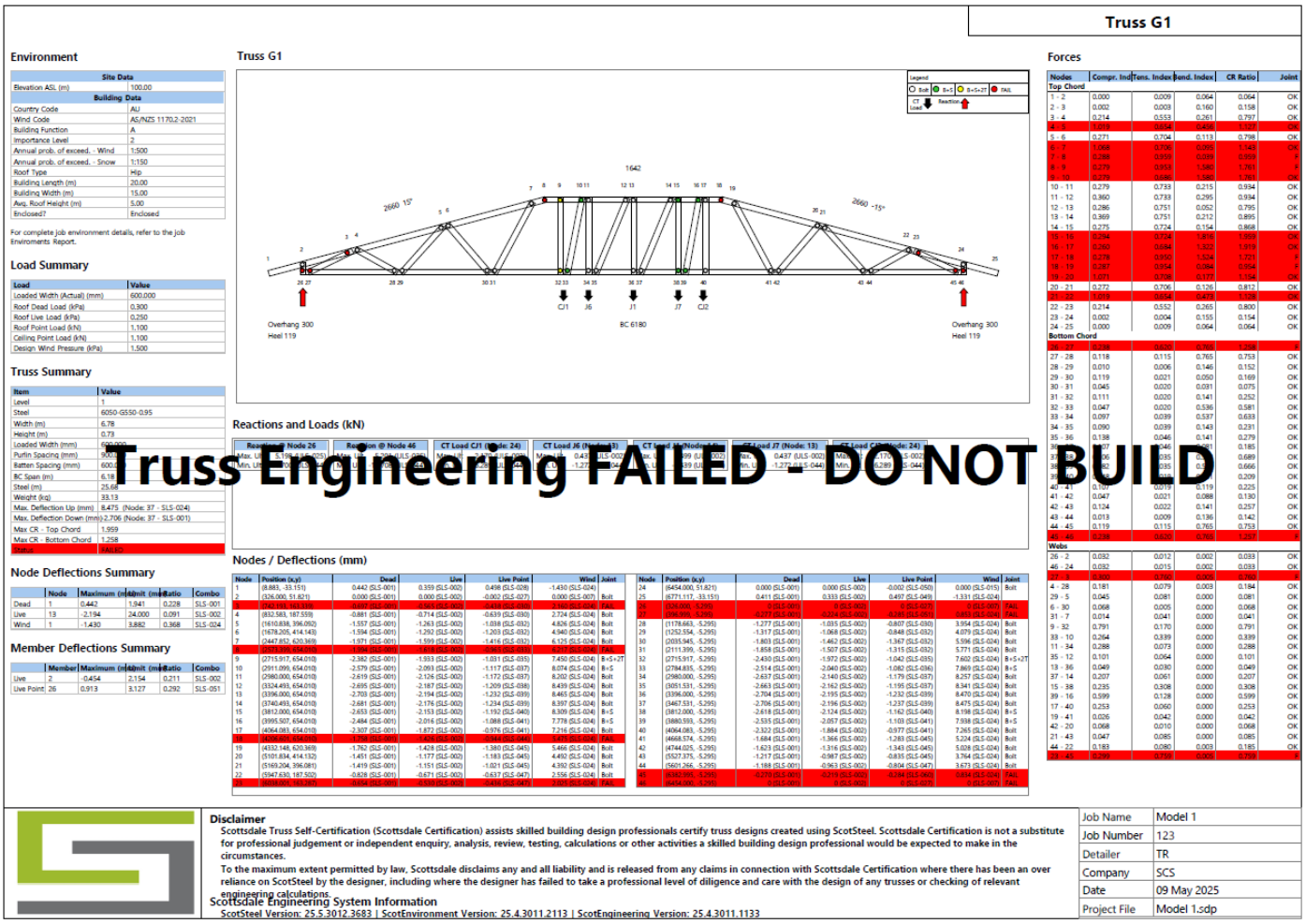
To the maximum extent permitted by law, Scottsdale disclaims any and all liability and is released from any claims in connection with Scottsdale Certification where there has been an over reliance on ScotSteel by the designer, including where the designer has failed to take a professional level of diligence and care with the design of any trusses or checking of relevant engineering calculations.

Scottsdale Engineering System Information

ScotSteel Version: 25.5.3012.3683 | ScotEnvironment Version: 25.4.3011.2113 | ScotEngineering Version: 25.4.3011.1133

Job Name	Model 1
Job Number	123
Detailer	TR
Company	SCS
Date	09 May 2025
Project File	Model 1.sdp

The following report shows Truss G1 has Not Passed Self- Certification Engineering. Therefore, it is Not accepted for manufacturing and requires adjustment of the truss design.



Truss G1

Environment

Site Data	
Elevation ASL (m)	100.00
Building Data	
Country Code	AU
Wind Code	AS/NZS 1170.2-2021
Building Function	A
Importance Level	2
Annual prob. of exceed. - Wind	1:500
Annual prob. of exceed. - Snow	1:150
Roof Type	Hip
Building Length (m)	20.00
Building Width (m)	15.00
Avg. Roof Height (m)	5.00
Enclosed?	Enclosed

For complete job environment details, refer to the Job Enviroments Report.

Load Summary

Load	Value
Loaded Width (Actual) (mm)	600.000
Roof Dead Load (kPa)	0.300
Roof Live Load (kPa)	0.250
Roof Point Load (kN)	1.100
Ceiling Point Load (kN)	1.100
Design Wind Pressure (kPa)	1.500

Truss Summary

Item	Value
Level	1
Steel	6050-G550-0.95
Width (m)	6.78
Height (m)	0.73
Loaded Width (mm)	600.000
Purlin Spacing (mm)	900
Batten Spacing (mm)	600.0
BC Span (m)	6.18
Steel (m)	25.68
Weight (kg)	33.13
Max. Deflection Up (mm)	8.475 (Node: 37 - SLS-024)
Max. Deflection Down (mm)	2.706 (Node: 37 - SLS-001)
Max CR - Top Chord	1.959
Max CR - Bottom Chord	1.258
Status	FAILED

Node Deflections Summary

	Node	Maximum (mm)	Limit (mm)	Ratio	Combo
Dead	1	0.442	1.941	0.228	SLS-001
Live	13	-2.194	24.000	0.091	SLS-002
Wind	1	-1.430	3.882	0.368	SLS-024

Member Deflections Summary

	Member	Maximum (mm)	Limit (mm)	Ratio	Combo
Live	2	0.454	2.154	0.211	SLS-002
Live Point	26	0.913	3.127	0.292	SLS-051

Truss G1

Reactions and Loads (kN)

Truss Engineering FAILED - DO NOT BUILD

Nodes / Deflections (mm)

Node	Position (x,y)	Dead	Live	Live Point	Wind	Joint
1	(8.863, -33.151)	0.442 (SLS-001)	0.359 (SLS-002)	0.498 (SLS-028)	-1.430 (SLS-024)	
2	(326.000, 51.821)	0.000 (SLS-001)	0.000 (SLS-002)	-0.002 (SLS-027)	0.000 (SLS-007)	Bolt
3	(742.193, 163.339)	-0.697 (SLS-001)	-0.565 (SLS-002)	-0.416 (SLS-030)	2.102 (SLS-024)	FAIL
4	(832.583, 187.559)	-0.881 (SLS-001)	-0.714 (SLS-002)	-0.639 (SLS-030)	2.724 (SLS-024)	Bolt
5	(1610.838, 396.092)	-1.557 (SLS-001)	-1.263 (SLS-002)	-1.038 (SLS-032)	4.826 (SLS-024)	Bolt
6	(1678.205, 414.143)	-1.594 (SLS-001)	-1.292 (SLS-002)	-1.203 (SLS-032)	4.940 (SLS-024)	Bolt
7	(2447.852, 620.369)	-1.971 (SLS-001)	-1.599 (SLS-002)	-1.416 (SLS-032)	6.125 (SLS-024)	Bolt
8	(2515.376, 638.288)	-1.994 (SLS-001)	-1.618 (SLS-002)	-0.965 (SLS-033)	6.277 (SLS-024)	FAIL
9	(2715.917, 654.010)	-2.382 (SLS-001)	-1.933 (SLS-002)	-1.031 (SLS-035)	7.450 (SLS-024)	B+S+2T
10	(2911.099, 654.010)	-2.579 (SLS-001)	-2.093 (SLS-002)	-1.117 (SLS-037)	8.074 (SLS-024)	B+S
11	(2980.000, 654.010)	-2.619 (SLS-001)	-2.126 (SLS-002)	-1.172 (SLS-037)	8.202 (SLS-024)	Bolt
12	(3324.493, 654.010)	-2.695 (SLS-001)	-2.187 (SLS-002)	-1.209 (SLS-038)	8.439 (SLS-024)	Bolt
13	(3396.000, 654.010)	-2.703 (SLS-001)	-2.194 (SLS-002)	-1.232 (SLS-039)	8.465 (SLS-024)	Bolt
14	(3740.493, 654.010)	-2.681 (SLS-001)	-2.176 (SLS-002)	-1.234 (SLS-039)	8.397 (SLS-024)	Bolt
15	(3812.000, 654.010)	-2.653 (SLS-001)	-2.153 (SLS-002)	-1.192 (SLS-040)	8.309 (SLS-024)	B+S
16	(3995.507, 654.010)	-2.484 (SLS-001)	-2.016 (SLS-002)	-1.088 (SLS-041)	7.778 (SLS-024)	B+S
17	(4064.081, 654.010)	-2.307 (SLS-001)	-1.872 (SLS-002)	-0.976 (SLS-041)	7.216 (SLS-024)	Bolt
18	(4206.601, 654.010)	-1.758 (SLS-001)	-1.426 (SLS-002)	-0.744 (SLS-044)	5.473 (SLS-024)	FAIL
19	(4332.148, 620.369)	-1.762 (SLS-001)	-1.428 (SLS-002)	-1.380 (SLS-045)	5.466 (SLS-024)	Bolt
20	(5101.834, 414.132)	-1.451 (SLS-001)	-1.177 (SLS-002)	-1.183 (SLS-045)	4.492 (SLS-024)	Bolt
21	(5169.204, 396.081)	-1.419 (SLS-001)	-1.151 (SLS-002)	-1.021 (SLS-045)	4.392 (SLS-024)	Bolt
22	(5947.630, 187.502)	-0.828 (SLS-001)	-0.671 (SLS-002)	-0.637 (SLS-047)	2.556 (SLS-024)	Bolt
23	(6018.001, 163.267)	-0.654 (SLS-001)	-0.530 (SLS-002)	-0.416 (SLS-047)	2.015 (SLS-024)	FAIL

Node	Position (x,y)	Dead	Live	Live Point	Wind	Joint
24	(6454.000, 51.821)	0.000 (SLS-001)	0.000 (SLS-002)	-0.002 (SLS-050)	0.000 (SLS-015)	Bolt
25	(6771.117, -33.151)	0.411 (SLS-001)	0.333 (SLS-002)	0.497 (SLS-049)	-1.331 (SLS-024)	
26	(326.000, -5.295)	0 (SLS-001)	0 (SLS-002)	0 (SLS-027)	0 (SLS-007)	FAIL
27	(326.000, -5.295)	-0.277 (SLS-001)	-0.234 (SLS-002)	-0.236 (SLS-051)	0.451 (SLS-024)	FAIL
28	(1178.663, -5.295)	-1.277 (SLS-001)	-1.035 (SLS-002)	-0.807 (SLS-030)	3.954 (SLS-024)	Bolt
29	(1252.554, -5.295)	-1.317 (SLS-001)	-1.068 (SLS-002)	-0.848 (SLS-032)	4.079 (SLS-024)	Bolt
30	(2035.945, -5.295)	-1.803 (SLS-001)	-1.462 (SLS-002)	-1.367 (SLS-032)	5.596 (SLS-024)	Bolt
31	(2111.399, -5.295)	-1.858 (SLS-001)	-1.507 (SLS-002)	-1.315 (SLS-032)	5.771 (SLS-024)	Bolt
32	(2715.917, -5.295)	-2.430 (SLS-001)	-1.972 (SLS-002)	-1.042 (SLS-035)	7.602 (SLS-024)	B+S+2T
33	(2784.835, -5.295)	-2.514 (SLS-001)	-2.040 (SLS-002)	-1.062 (SLS-036)	7.869 (SLS-024)	B+S
34	(2980.000, -5.295)	-2.637 (SLS-001)	-2.140 (SLS-002)	-1.179 (SLS-037)	8.257 (SLS-024)	Bolt
35	(3051.531, -5.295)	-2.663 (SLS-001)	-2.162 (SLS-002)	-1.195 (SLS-037)	8.341 (SLS-024)	Bolt
36	(3396.000, -5.295)	-2.704 (SLS-001)	-2.195 (SLS-002)	-1.232 (SLS-039)	8.470 (SLS-024)	Bolt
37	(3467.531, -5.295)	-2.706 (SLS-001)	-2.196 (SLS-002)	-1.237 (SLS-039)	8.475 (SLS-024)	Bolt
38	(3812.000, -5.295)	-2.618 (SLS-001)	-2.124 (SLS-002)	-1.162 (SLS-040)	8.198 (SLS-024)	B+S
39	(3880.593, -5.295)	-2.535 (SLS-001)	-2.057 (SLS-002)	-1.103 (SLS-041)	7.938 (SLS-024)	B+S
40	(4064.083, -5.295)	-2.322 (SLS-001)	-1.884 (SLS-002)	-0.977 (SLS-041)	7.265 (SLS-024)	Bolt
41	(4668.574, -5.295)	-1.684 (SLS-001)	-1.366 (SLS-002)	-1.283 (SLS-045)	5.224 (SLS-024)	Bolt
42	(4744.025, -5.295)	-1.623 (SLS-001)	-1.316 (SLS-002)	-1.343 (SLS-045)	5.026 (SLS-024)	Bolt
43	(5527.375, -5.295)	-1.217 (SLS-001)	-0.987 (SLS-002)	-0.835 (SLS-045)	3.764 (SLS-024)	Bolt
44	(5601.266, -5.295)	-1.188 (SLS-001)	-0.963 (SLS-002)	-0.804 (SLS-047)	3.673 (SLS-024)	Bolt
45	(6382.595, -5.295)	-0.270 (SLS-001)	-0.219 (SLS-002)	-0.284 (SLS-060)	0.834 (SLS-024)	FAIL
46	(6454.000, -5.295)	0 (SLS-001)	0 (SLS-002)	0 (SLS-027)	0 (SLS-007)	FAIL

Forces

Node	Compr. Index	Tens. Index	Bend. Index	CR Ratio	Joint
Top Chord					
1 - 2	0.000	0.009	0.064	0.064	OK
2 - 3	0.002	0.003	0.160	0.158	OK
3 - 4	0.214	0.553	0.261	0.797	OK
4 - 5	0.019	0.654	0.408	1.258	OK
5 - 6	0.271	0.704	0.113	0.798	OK
6 - 7	1.068	0.706	0.095	1.143	OK
7 - 8	0.288	0.959	0.039	0.959	F
8 - 9	0.279	0.953	1.582	1.761	F
9 - 10	0.279	0.686	1.580	1.761	OK
10 - 11	0.279	0.733	0.215	0.934	OK
11 - 12	0.360	0.733	0.295	0.934	OK
12 - 13	0.286	0.751	0.052	0.795	OK
13 - 14	0.369	0.751	0.212	0.895	OK
14 - 15	0.275	0.724	0.154	0.868	OK
15 - 16	0.294	0.724	1.816	1.959	OK
16 - 17	0.260	0.664	1.322	1.919	OK
17 - 18	0.278	0.950	1.504	1.721	F
18 - 19	0.287	0.954	0.084	0.954	F
19 - 20	1.071	0.708	0.177	1.154	OK
20 - 21	0.272	0.706	0.126	0.812	OK
21 - 22	0.019	0.654	0.408	1.258	OK
22 - 23	0.214	0.552	0.265	0.800	OK
23 - 24	0.002	0.004	0.155	0.154	OK
24 - 25	0.000	0.009	0.064	0.064	OK
Bottom Chord					
26 - 27	0.238	0.620	0.769	1.208	F
27 - 28	0.118	0.115	0.765	0.753	OK
28 - 29	0.010	0.006	0.146	0.152	OK
29 - 30	0.119	0.021	0.050	0.169	OK
30 - 31	0.045	0.020	0.031	0.075	OK
31 - 32	0.111	0.020	0.141	0.252	OK
32 - 33	0.047	0.020	0.536	0.581	OK
33 - 34	0.097	0.039	0.537	0.633	OK
34 - 35	0.090	0.039	0.143	0.231	OK
35 - 36	0.138	0.046	0.141	0.279	OK
[illegible]	[illegible]	[illegible]	[illegible]	0.185	OK
[illegible]	[illegible]	[illegible]	[illegible]	0.689	OK
[illegible]	[illegible]	[illegible]	[illegible]	0.666	OK
[illegible]	[illegible]	[illegible]	[illegible]	0.209	OK
40 - 41	0.107	0.019	0.119	0.225	OK
41 - 42	0.047	0.021	0.088	0.130	OK
42 - 43	0.104	0.022	0.141	0.257	OK
43 - 44	0.013	0.009	0.136	0.142	OK
44 - 45	0.119	0.115	0.765	0.753	OK
45 - 46	0.238	0.620	0.769	1.267	F
Webs					
26 - 2	0.032	0.012	0.002	0.033	OK
46 - 24	0.032	0.015	0.002	0.033	OK
27 - 3	0.181	0.079	0.003	0.184	OK
4 - 28	0.181	0.079	0.003	0.184	OK
29 - 5	0.045	0.081	0.000	0.081	OK
6 - 30	0.068	0.005	0.000	0.068	OK
31 - 7	0.014	0.041	0.000	0.041	OK
8 - 32	0.791	0.170	0.000	0.791	OK
33 - 10	0.264	0.339	0.000	0.339	OK
11 - 34	0.288	0.073	0.000	0.288	OK
35 - 12	0.101	0.064	0.000	0.101	OK
13 - 36	0.049	0.030	0.000	0.049	OK
37 - 14	0.207	0.061	0.000	0.207	OK
15 - 38	0.235	0.308	0.000	0.308	OK
39 - 16	0.599	0.128	0.000	0.599	OK
17 - 40	0.253	0.060	0.000	0.253	OK
19 - 41	0.026	0.042	0.000	0.042	OK
42 - 20	0.068	0.010	0.000	0.068	OK
21 - 43	0.047	0.085	0.000	0.085	OK
44 - 22	0.183	0.080	0.003	0.185	OK
23 - 45	0.789	0.756	0.058	0.759	F

Disclaimer

Scottsdale Truss Self-Certification (Scottsdale Certification) assists skilled building design professionals certify truss designs created using ScotSteel. Scottsdale Certification is not a substitute for professional judgement or independent enquiry, analysis, review, testing, calculations or other activities a skilled building design professional would be expected to make in the circumstances.

To the maximum extent permitted by law, Scottsdale disclaims any and all liability and is released from any claims in connection with Scottsdale Certification where there has been an over reliance on ScotSteel by the designer, including where the designer has failed to take a professional level of diligence and care with the design of any trusses or checking of relevant engineering calculations.

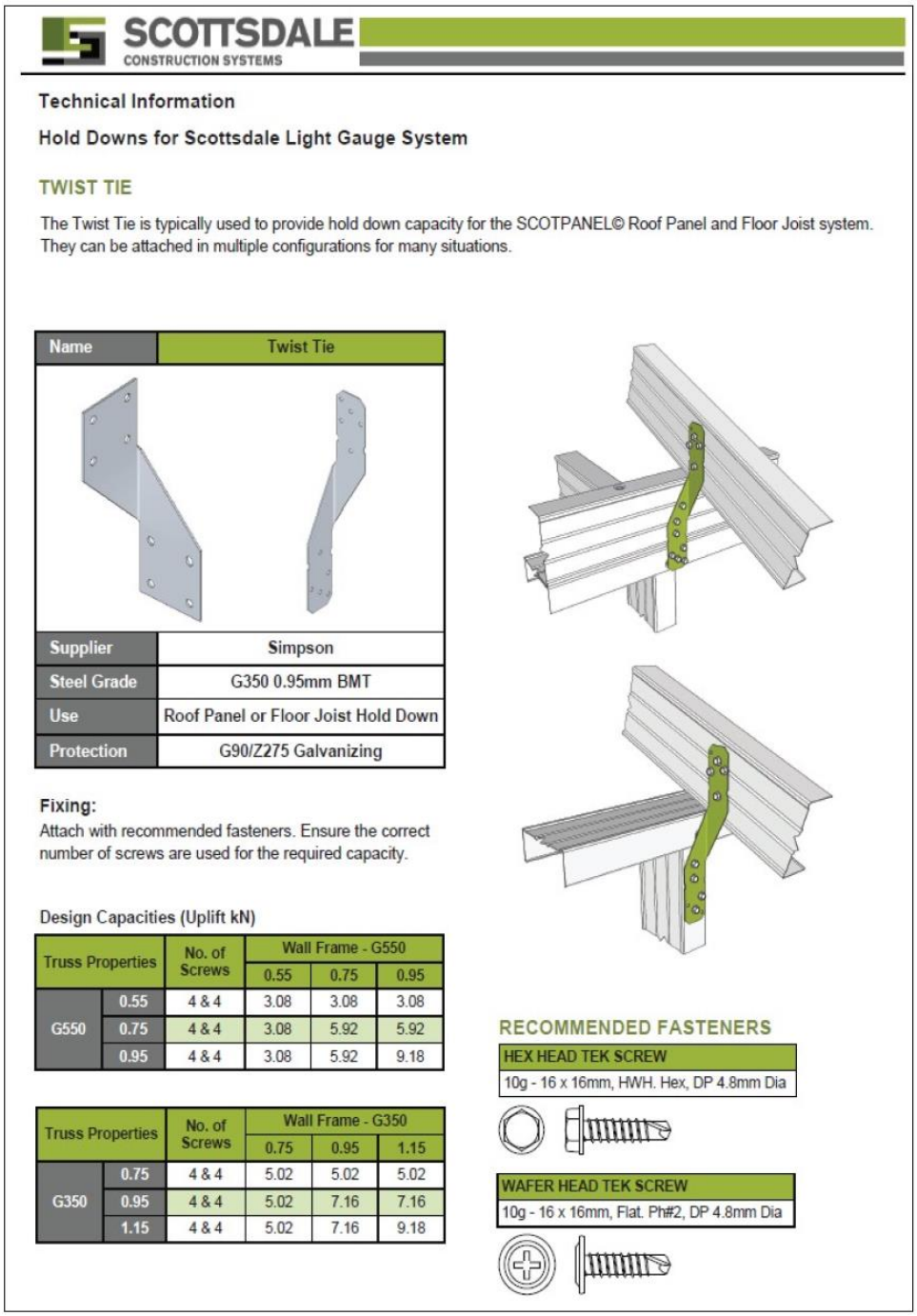
Scottsdale Engineering System Information

ScotSteel Version: 25.5.3012.3683 | ScotEnvironment Version: 25.4.3011.2113 | ScotEngineering Version: 25.4.3011.1133

Job Name	Model 1
Job Number	123
Detailer	TR
Company	SCS
Date	09 May 2025
Project File	Model 1.sdp

Tie Down Details

Lastly, the Truss report now includes a complete tie down section. This is a standard (non-changing) document. First page shown as sample below:



SCOTTSDALE
CONSTRUCTION SYSTEMS

Technical Information

Hold Downs for Scottsdale Light Gauge System

TWIST TIE

The Twist Tie is typically used to provide hold down capacity for the SCOTPANEL© Roof Panel and Floor Joist system. They can be attached in multiple configurations for many situations.

Name	Twist Tie
Supplier	Simpson
Steel Grade	G350 0.95mm BMT
Use	Roof Panel or Floor Joist Hold Down
Protection	G90/Z275 Galvanizing

Fixing:
Attach with recommended fasteners. Ensure the correct number of screws are used for the required capacity.

Design Capacities (Uplift kN)

Truss Properties		No. of Screws	Wall Frame - G550		
			0.55	0.75	0.95
G550	0.55	4 & 4	3.08	3.08	3.08
	0.75	4 & 4	3.08	5.92	5.92
	0.95	4 & 4	3.08	5.92	9.18

Truss Properties		No. of Screws	Wall Frame - G350		
			0.75	0.95	1.15
G350	0.75	4 & 4	5.02	5.02	5.02
	0.95	4 & 4	5.02	7.16	7.16
	1.15	4 & 4	5.02	7.16	9.18

RECOMMENDED FASTENERS

HEX HEAD TEK SCREW
10g - 16 x 16mm, HWH. Hex, DP 4.8mm Dia

WAFER HEAD TEK SCREW
10g - 16 x 16mm, Flat. Ph#2, DP 4.8mm Dia

Self-Certification Certificate

The Self-Certification Certificate ensures that the structural design with respect to trusses complies with engineering principles and is in accordance with the latest Australian Standard and Building Code. The Certificate can be presented to a Local Government Area (LGA) within Australia as proof of certification.

Note: The Truss Self-Certification Certificate can be created in the tab highlighted: 'Truss Self-Certification' (Refer to section 3.1)

Checklists apply to Self Certified designs

Checklist	Yes/No
Are there any floor trusses carrying loads from above floors (e.g. wall, roof trusses)	Yes
1. Did the certifier review and confirm the loads/trusses?	Yes
2. Did the certifier use the point load calculator to determine the loads from above floors?	Yes
3. Did the certifier apply these additional loads from the load wizard?	Yes

Sign Off By	
Designer Name:	TR
Designer Certification Number:	1222
Certifier Name:	AAA
Certifier Certification Number:	12345

Item	Yes/No
Have site storage and lifting caused any damage to the components?	
Have approved plans and layouts been followed?	
Have connection, fixing and hold-down specifications been followed?	
Have instructions from the manufacturer been supplied and followed?	

SCOTTSDALE THE TRUSTED STEEL-FRAMING PARTNER Version:25.10.3012.3900				
	Project Name	Model 1	Project No.	123
	Address	Loganholme		
	Company	SCS		
	Detailer	TR	Certificate No.	1222
	Reference	Model 1.sdp		

Self-Certification of Scottsdale Construction Systems for Trusses

This document certifies that the engineering calculations performed by Scottsdale Construction Systems Pty Ltd (Scottsdale) engineering system (Self-Certification AU Trusses version number 1.0) with respect to trusses in Project No. 123 (Trusses) designed using Scottsdale's design software ScotSteel version 25.10.3012.3900 (ScotSteel) comply with:

- AS/NZS 1170.0:2002 General Principles
- AS/NZS 1170.1:2002 Permanent Imposed and Other Actions
- AS/NZS 1170.2:2011 Wind Actions
- AS/NZS 1173.3:2003 Snow and Ice Actions
- AS 4055: 2012 Wind Load for Housing
- AS/NZS 4600:2018 Cold-formed Steel Structures
- Building Code of Australia 2019 Volume 1 and 2
- NASH Handbook - Design of Residential and Low-rise Steel Framing 2009
- NASH Standard Residential and Low-rise steel framing – Part1 – Design Criteria (2005) – Incorporating Amendment C: September 2011
- NASH Standard Residential and Low-rise Steel Framing – Part2 – Design Solutions (2014) – Incorporating Amendment A:2015

Invalidity

This certificate is invalid where:

1. ScotSteel is not used strictly in accordance with the Self-Certification of Scottsdale Construction Systems for Trusses document (13/10/2025).
2. any certification condition (set out below) has been breached.
3. steel used in Trusses varies from design details used in the engineering calculations in grade, thickness, size or otherwise does not meet applicable building material standards including AS 1397:2011.
4. fasteners, connections, bracing or any other engineered products used in assembling or installing the Trusses vary from those used in the engineering calculations or otherwise does not meet applicable building standards.

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Design details and loads

BUILDING DATA	
country code	AU
wind code	AS/NZS 1170.2 and AS 4055
building use (code)	A
importance level	2
annual prob. of excedence - wind, (1/x)	500
annual prob. of excedence - snow, (1/x)	150
annual prob. of excedence - EQ, (1/x)	500
building length, (m)	20.00
building width, (m)	15.00
roof type	Hip
max. roof pitch, (deg)	20.0
min roof pitch, (deg)	10.0
roof height, (m)	5.00
modular build	False
number of stories	2
is building enclosed	Enclosed
roof material	Metal Sheet

SITE DATA	
elevation above sea level, (m)	100
wind region	N3

GRAVITY LOADS			
	dead load, (kPa)	live load, (kPa)	point load, (kN)
roof	0.25	0.25	1.1
ceiling under roof	0.2	0	1.1
floor	0.9	1.5	1.8
ceiling under floor	0.2	0	1.1

WIND CALCULATION	
service design wind speed (m/s)	32.00
ultimate design wind speed (m/s)	50.00
service dynamic pressure (kPa)	0.61
ultimate dynamic pressure (kPa)	1.50

SNOW CALCULATION	
region	AT
altitude (m)	100
ground snow load, (kPa)	0.00
Exposure Reduction Coefficient	1.00
service snow load, (kpa)	0.00
ultimate snow load, (kpa)	0.00

Trusses

ROOF TRUSSES									
Truss No.	Status	Truss No.	Status	Truss No.	Status	Truss No.	Status	Truss No.	Status
C1	Pass	J10	Pass	J36	Pass	J64	Pass	T6	Pass
C2	Pass	J11	Pass	J37	Pass	J65	Pass	T7	Pass
C5	Pass	J12	Pass	J38	Pass	J66	Pass	T9	Pass
C7	Pass	J13	Pass	J39	Pass	J67	Pass	T10	Pass
C8	Pass	J14	Pass	J40	Pass	J68	Pass	T11	Pass
C10	Pass	J15	Pass	J41	Pass	J69	Pass	T12	Pass
C11	Pass	J16	Pass	J42	Pass	J70	Pass	T13	Pass
CJ1	Pass	J17	Pass	J43	Pass	J71	Pass	T14	Pass
CJ2	Pass	J18	Pass	J46	Pass	J72	Pass	T15	Pass
CJ3	Pass	J19	Pass	J47	Pass	J73	Pass	T16	Pass
CJ4	Pass	J20	Pass	J48	Pass	J74	Pass	T17	Pass
CJ5	Pass	J21	Pass	J49	Pass	J75	Pass	T18	Pass
CJ6	Pass	J22	Pass	J50	Pass	J76	Pass	T19	Pass
CJ7	Pass	J23	Pass	J51	Pass	J77	Pass	T20	Pass
CJ8	Pass	J24	Pass	J52	Pass	J78	Pass	T21	Pass
G2	Pass	J25	Pass	J53	Pass	J79	Pass	T22	Pass
G4	Pass	J26	Pass	J54	Pass	J80	Pass	T23	Pass
J1	Pass	J27	Pass	J55	Pass	J81	Pass	T24	Pass
J2	Pass	J28	Pass	J56	Pass	J82	Pass	T25	Pass
J3	Pass	J29	Pass	J57	Pass	J83	Pass		
J4	Pass	J30	Pass	J58	Pass	J84	Pass		
J5	Pass	J31	Pass	J59	Pass	J85	Pass		
J6	Pass	J32	Pass	J60	Pass	J86	Pass		
J7	Pass	J33	Pass	J61	Pass	T2	Pass		
J8	Pass	J34	Pass	J62	Pass	T4	Pass		
J9	Pass	J35	Pass	J63	Pass	T5	Pass		

FLOOR TRUSSES									
Truss No.	Status	Truss No.	Status	Truss No.	Status	Truss No.	Status	Truss No.	Status
F1	Pass	F16	Pass	F32	Pass	F55	Pass	F70	Pass
F2	Pass	F17	Pass	F33	Pass	F56	Pass	F71	Pass
F3	Pass	F18	Pass	F36	Pass	F57	Pass	F72	Pass
F4	Pass	F19	Pass	F37	Pass	F58	Pass	F73	Pass
F5	Pass	F20	Pass	F38	Pass	F59	Pass	F74	Pass
F7	Pass	F21	Pass	F39	Pass	F60	Pass		
F8	Pass	F22	Pass	F40	Pass	F61	Pass		
F9	Pass	F25	Pass	F41	Pass	F62	Pass		
F10	Pass	F26	Pass	F42	Pass	F64	Pass		
F11	Pass	F27	Pass	F43	Pass	F65	Pass		
F12	Pass	F28	Pass	F44	Pass	F66	Pass		
F13	Pass	F29	Pass	F45	Pass	F67	Pass		
F14	Pass	F30	Pass	F53	Pass	F68	Pass		
F15	Pass	F31	Pass	F54	Pass	F69	Pass		

1. Certification is only for the Trusses set out above.
2. Certification is only for buildings within the following dimensions:
    a. distance from ground to underside of eaves equal to or less than 6 m.
    b. distance from ground to highest point of roof structure less than or equal to 8.5 m.
    c. building width (including roofed verandas but excluding eaves) less than or equal to 16 m.
    d. The building length must not exceed five times greater than the building width.
    e. The roof pitch must not exceed 35°.
3. The correct dimensions of the building based on the building plans must be used in the engineering system.
4. The correct inputs including loads on the trusses must be used in the engineering system.
5. The correct number of plies must be used in engineering system.
6. If the building is outside a cyclone prone area, the building is assumed to be enclosed. If the building is within a cyclone prone area, the building is assumed to be partially enclosed.
7. Tie downs, tie down brackets, roof battens, roof rafters, ceiling battens, bracings and their connections are not considered in this certification.
8. Fire actions, earthquake action or any accidental loads are not considered in this certification.
9. The designer's and certifier's names and certificate numbers must be correctly stated below.

Software and certifier details

SOFTWARE CHECKLIST				
Self-Certification (AU Trusses) version number		1.0		
Software version number		25.10.3012.3900		
Have input sources been checked?		Yes		
Do the inputs to the software match the design documentation?		Yes		
Have critical components been checked?		Yes		
Has documentaion of any additional checks deemed to be warrented been included?		Yes		
Certifier Name		AAA		
Certifier Number		12345		
List any major assumptions and provide comments on them (e.g. Internal walls as supports, special hold down requirements, top chord restraints, overhang support, special loads, etc.				
	Project Name	Model 1	Project No.	123
	Address	Loganholme		
	Company	SCS		
	Detailer	TR	Certificate No.	1222
	Reference	Model 1.sdp		

Certification conditions