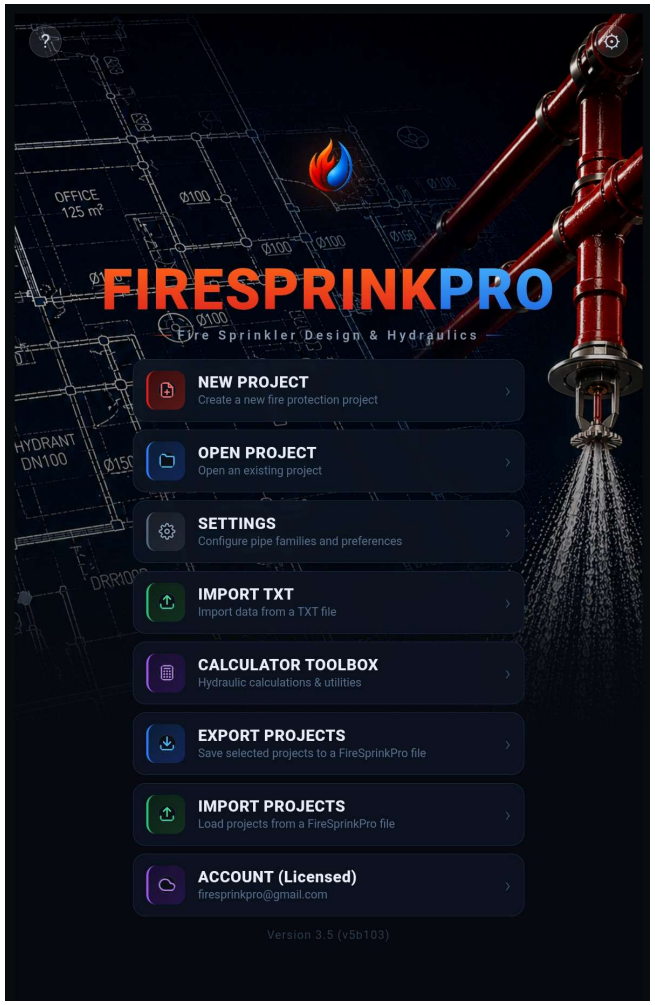
FireSprinkPro
Quick Start Manual
Part 1

Contents

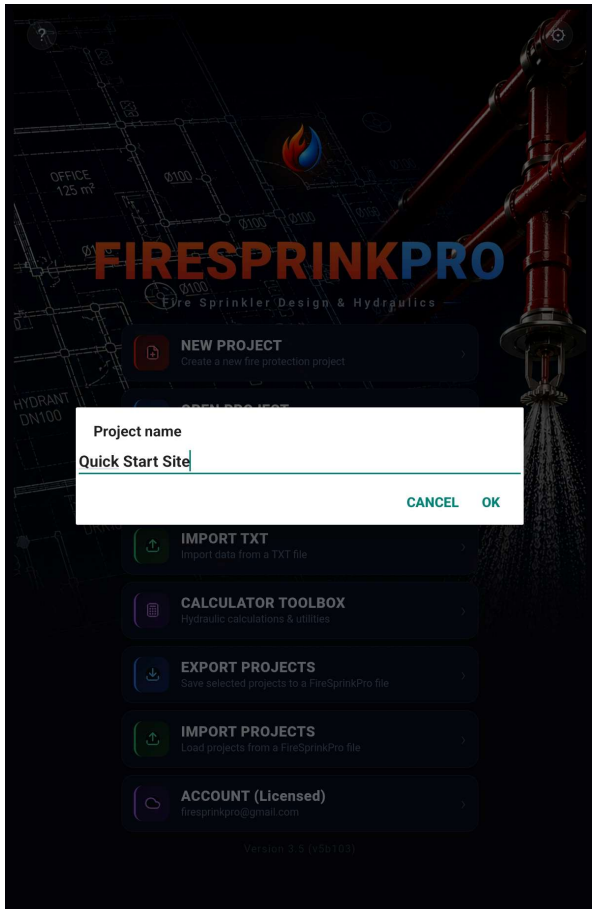
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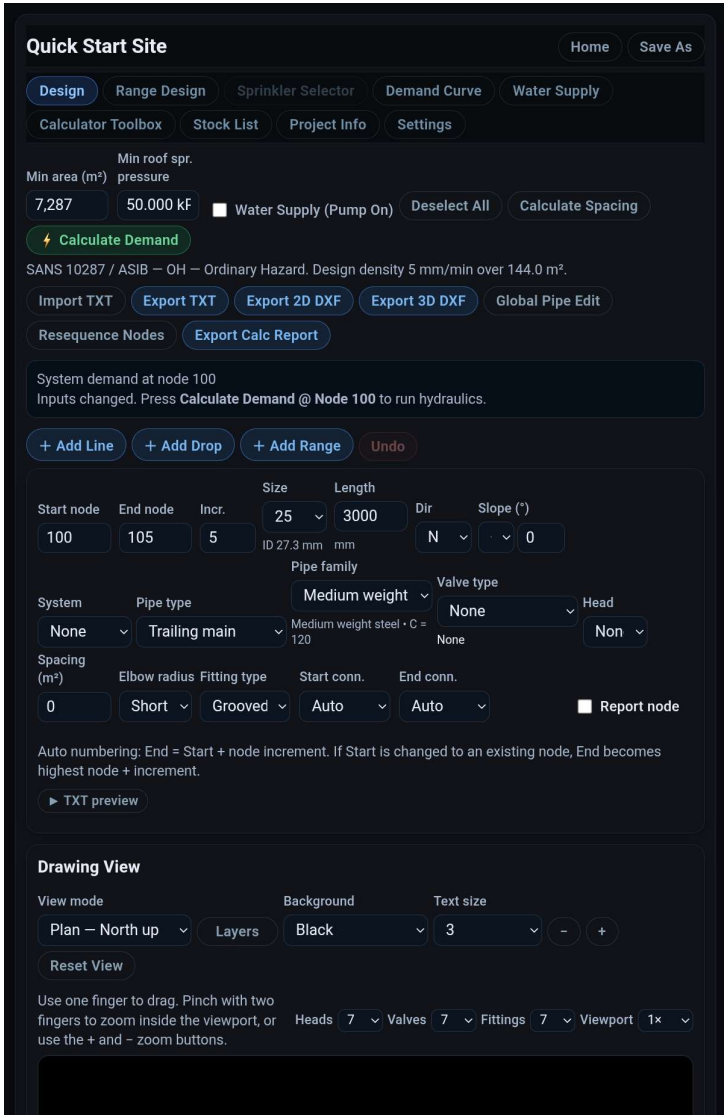
1. Start a new project by selecting New Project.



2. Give your project a name and select OK.

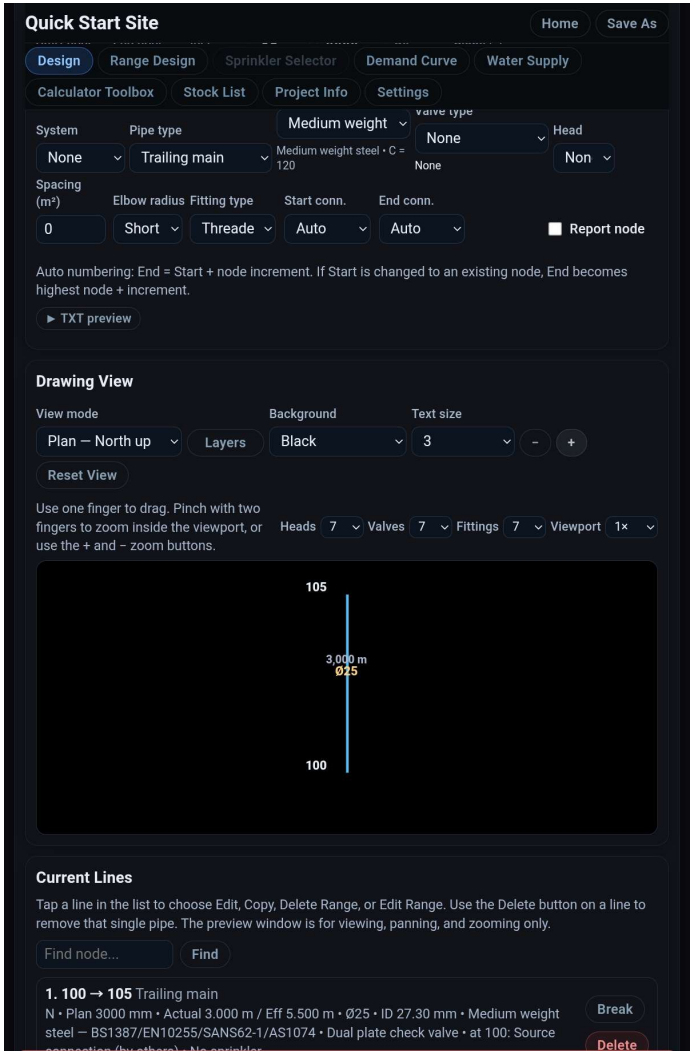
The project is now saved. Use Open Project to find it in your project list later.



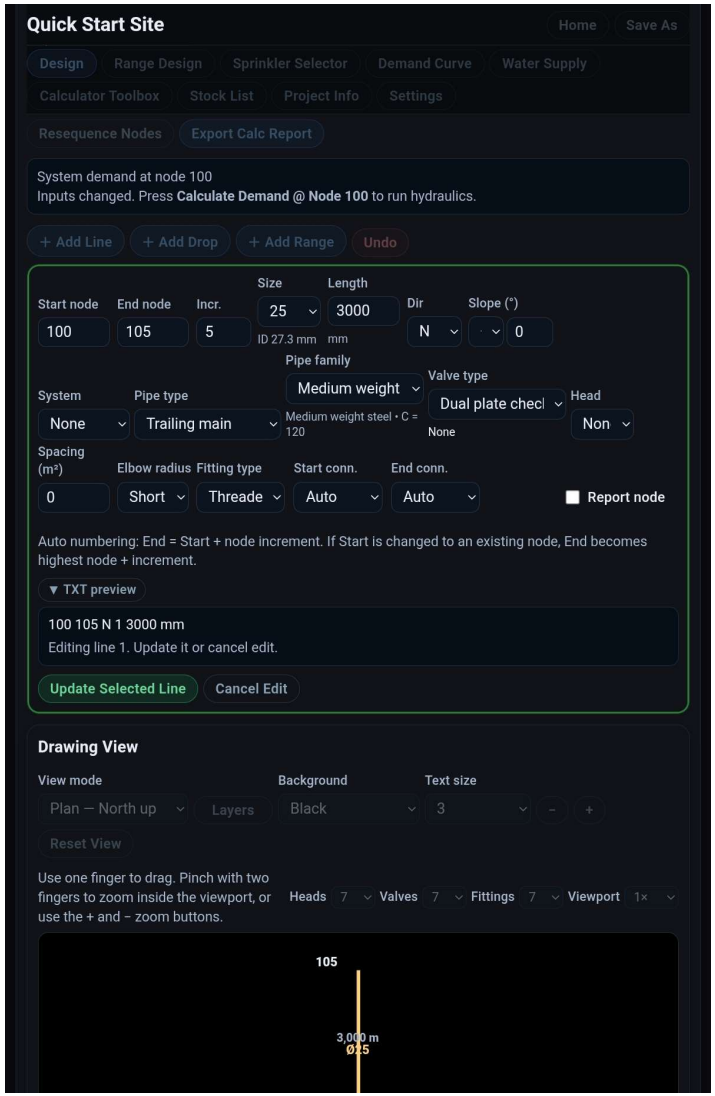


3. Welcome to the drawing interface.
You can enter data from a printed drawing, a CAD program or measurements taken on site.
The start node is automatically set to 100 and the end node to 105. Length is set to 3000 mm and pipe size to 25 mm. Check the fitting type shown.
Pipe ends are set to Auto. The first pipe ends follow the fitting type unless you change them. Later pipes follow the existing connection at their start node.
System Type is set to None.
Direction is set to North.
Pipe Type is set to Trailing Main.
Report node is unticked, but node 100 always appears on page 1 of the calculation report. Node 100 is your water supply, such as a town-main connection or a pump delivery flange.

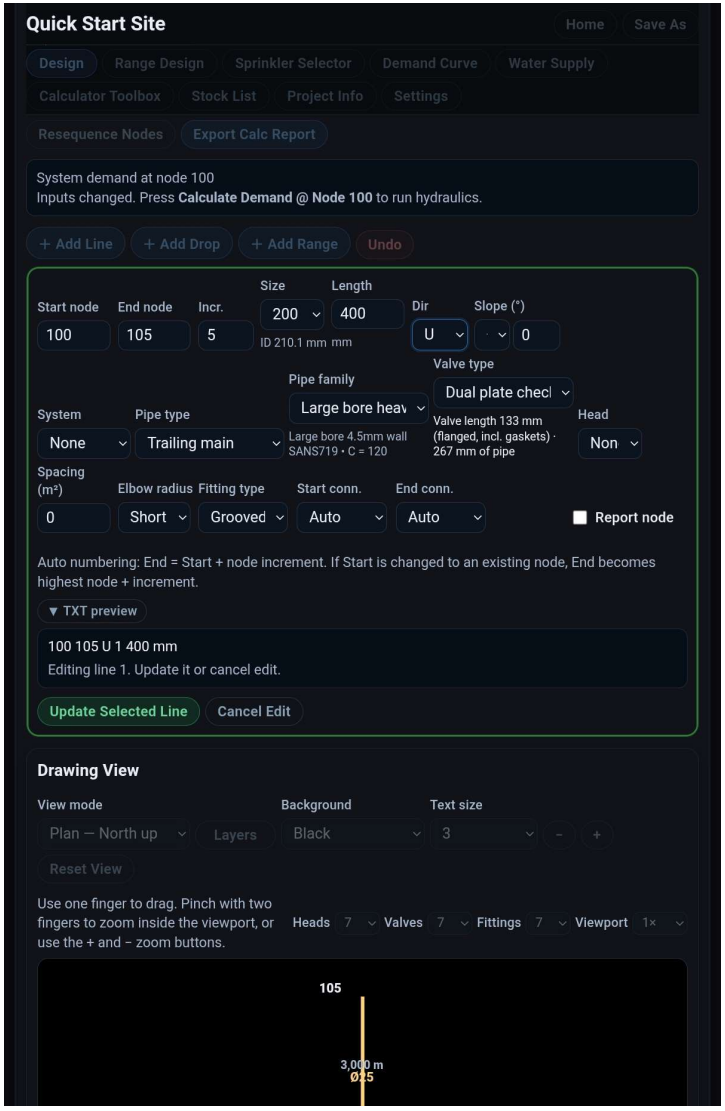
Create the first pipe by selecting +Add Line.
Undo then becomes available.



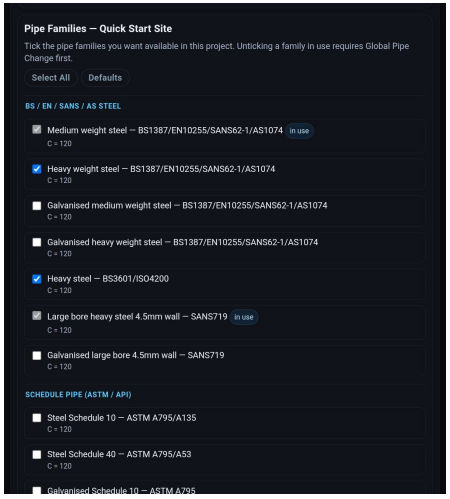
4. Scroll down to see the drawing in the viewport. Choose from six view modes: two plan views, two side views and two isometric views. Use Layers to control what you see. Too much information can make larger sites difficult to follow. Choose a comfortable background colour and text size. You can also adjust the displayed sizes of sprinkler heads, valves and fittings, and enlarge the viewport to 1.5× or 2× for larger phones and tablets. Node 100 is the water supply. Nodes 1–99 are reserved for suction pipework. A 25 mm supply pipe is not suitable for this example, so let’s edit it.
Select the pipe in the list, choose Edit and scroll up to its input fields. For a larger system, enter a node number and select Find. The list scrolls to the matching pipe and highlights it in the drawing.



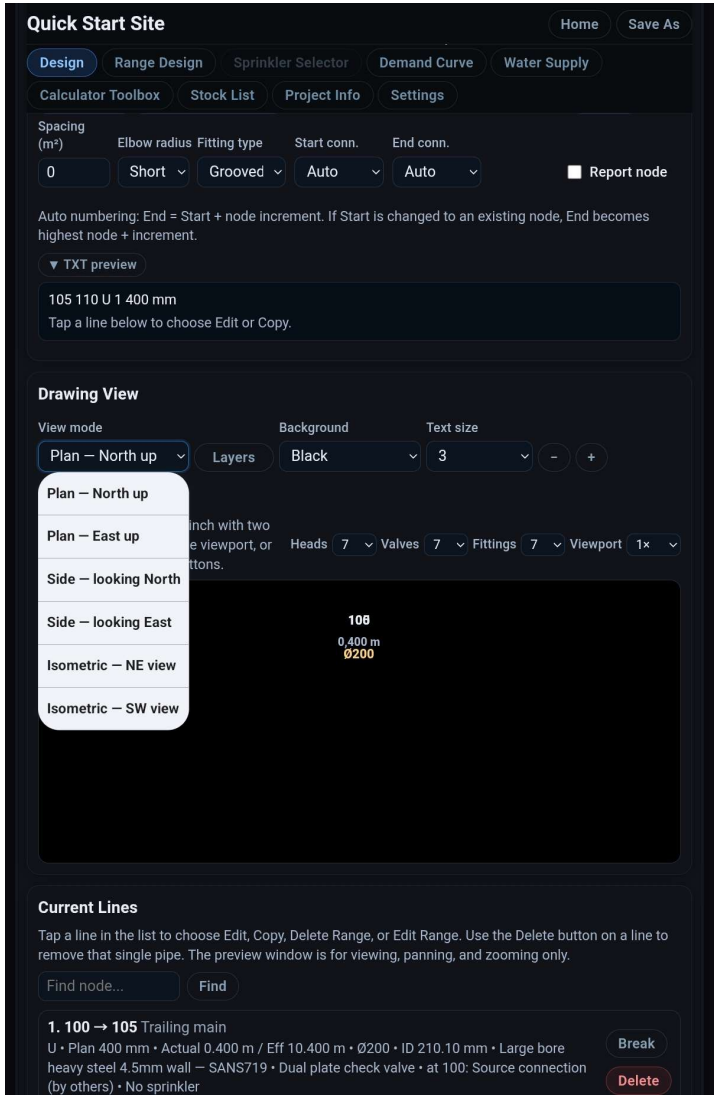
5. Change the pipe using the same fields as for a new line. Other options remain disabled until you select Update Selected Line or Cancel Edit.



6. Change the pipe size to 200 mm and choose a pipe family that supports it. I use SANS 719 for this example. I will use an end-suction centrifugal pump, so I will change the direction to Up. Add a dual plate non-return valve and set the length to 400 mm, including the pipe and valve. The selected wafer valve uses flanged connections, although the fitting type is Grooved. Select Update Selected Line. The available pipe families, valve types and head types can be changed in Settings.

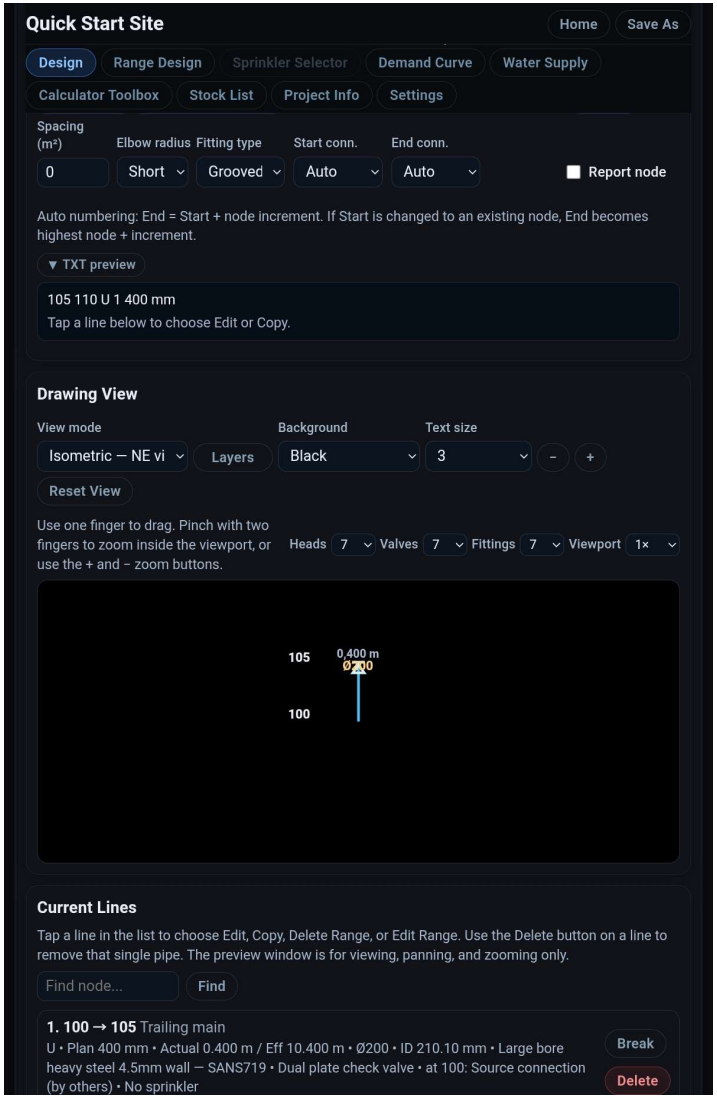


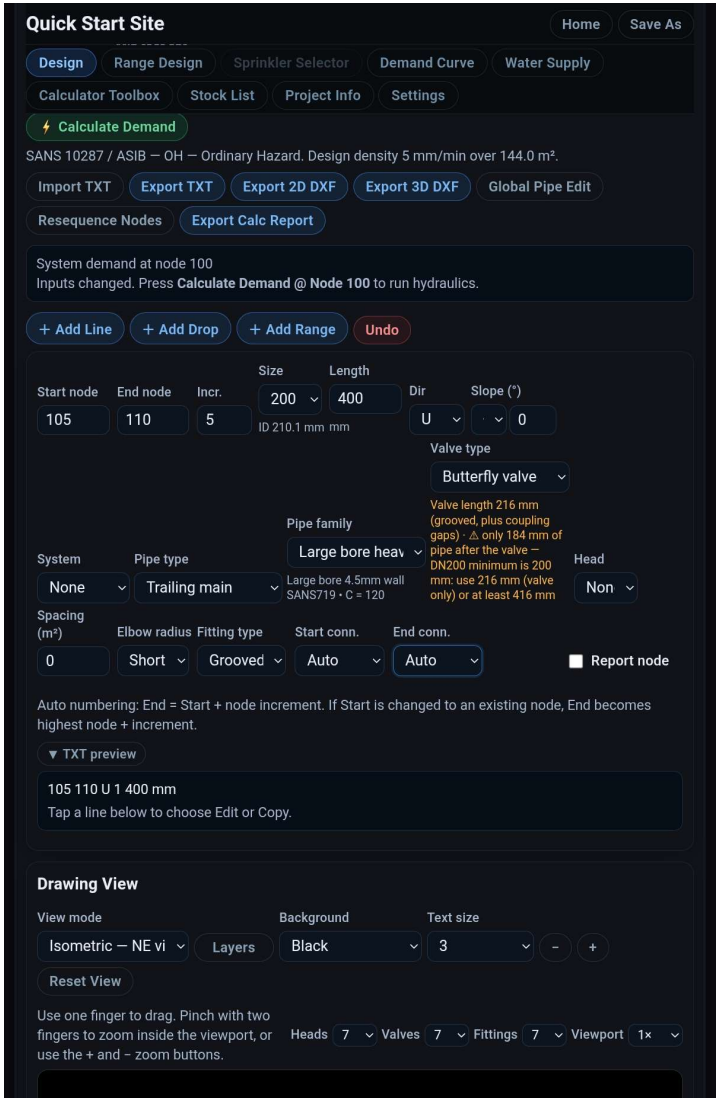
7. Settings changed while working in a project apply to that project. The settings changed on the Home screen determine the defaults for new projects.



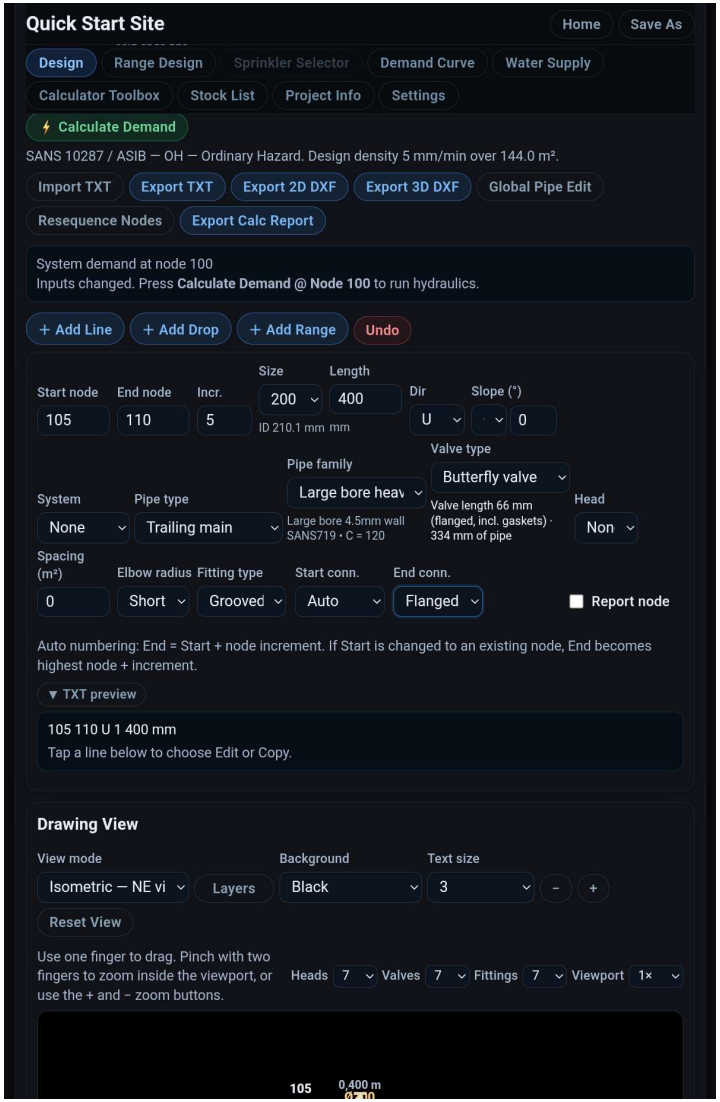
8. In the viewport, the pipe labels are visible but the vertical pipe appears end-on. Change the view mode to Isometric NE.

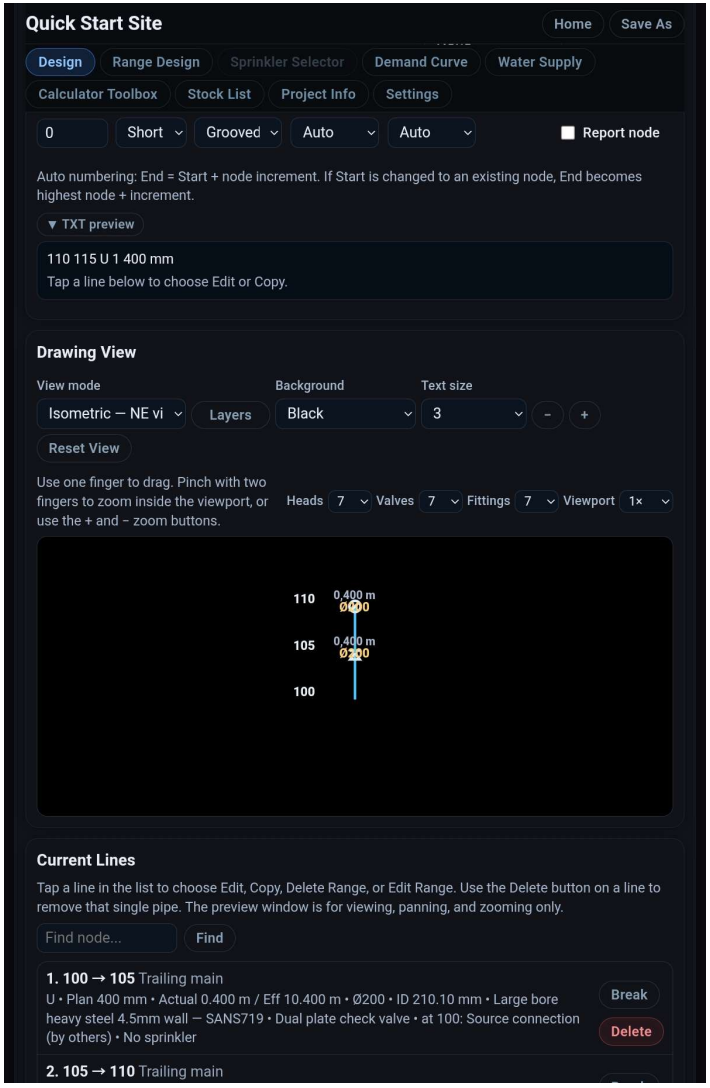
9. The pipe is now visible in isometric view. To display the valve, enable fitting symbols in Layers.





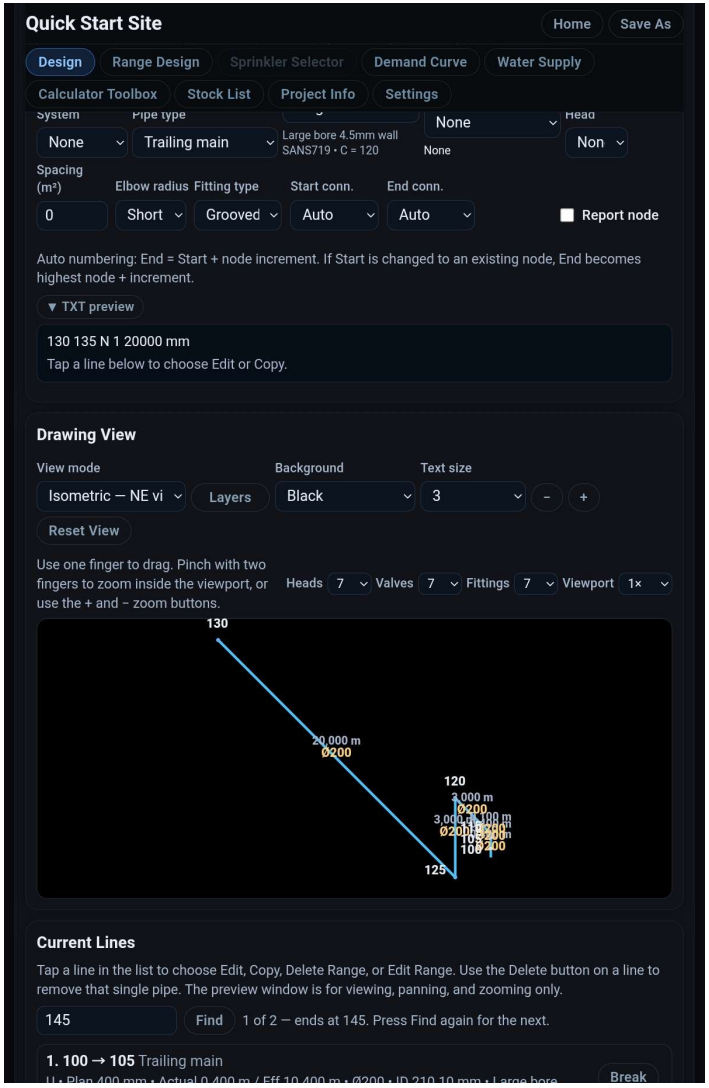
10. Add the next pipe Up, 400 mm long, with a butterfly valve. With Grooved fittings selected, FireSprinkPro selects a grooved valve. Its length leaves a Ø200 grooved pipe piece shorter than 200 mm, which produces a warning. I prefer a wafer valve for this example, so I change the end connection to Flanged. Select +Add Line again.

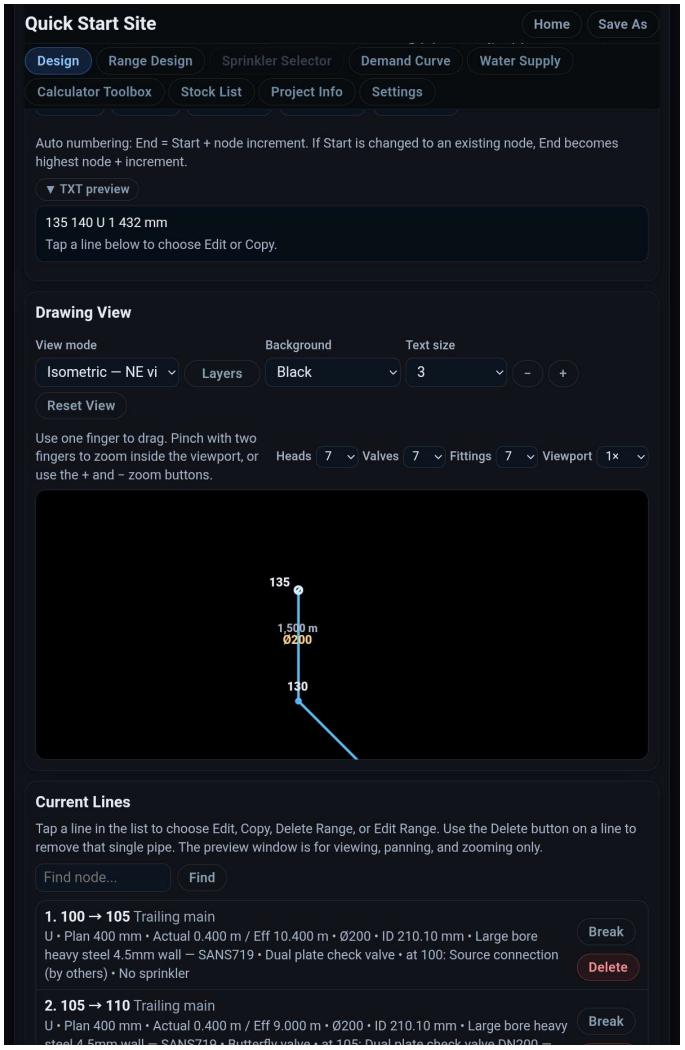




11. You will see your system take shape. The next start node defaults to the previous end node, and the end node advances by the selected increment. Pipe size, length, direction, slope, system, pipe type, pipe family and head type inherit their values from the start node. Valve type always defaults to None.

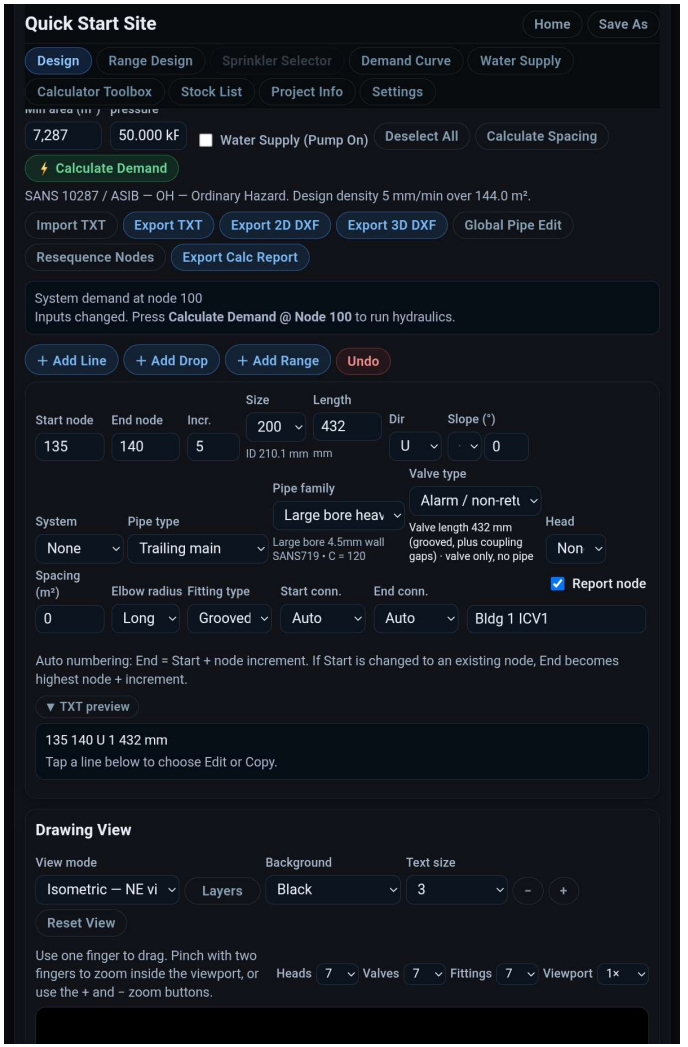
12. Add another pipe Up, 100 mm long. Then add 3000 mm North, 3000 mm Down and 20000 mm North. The 100 mm section deliberately creates a warning later: it is too short for the Ø200 grooved elbow connection to the flange.

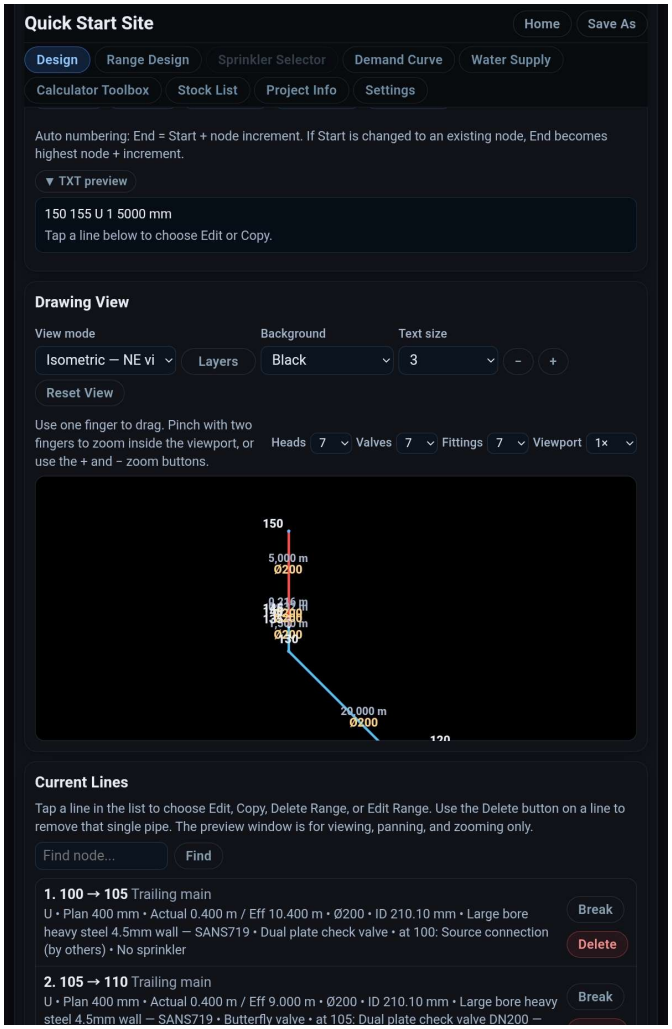




13. I am now ready to create the installation control valve (ICV) assembly. Add a pipe Up, 1500 mm long, with a butterfly valve. Pinch to zoom and pan around the drawing.

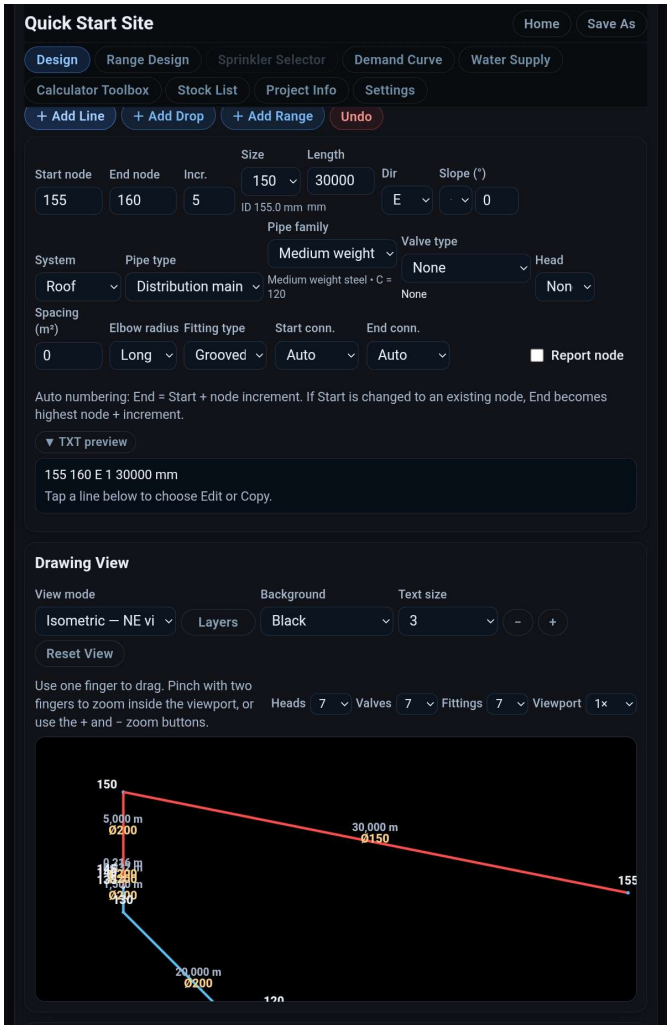
14. Next, add an alarm valve. System Type changes to Roof, and Pipe Type changes to Feed Main. You can change the system to Rack, Deluge or Hydrant. I will set the length to 432 mm so no extra pipe is needed. Tick Report Node and name it Bldg 1 ICV 1. This node will appear on page 1 of the hydraulic report. You can enable reporting for any node.

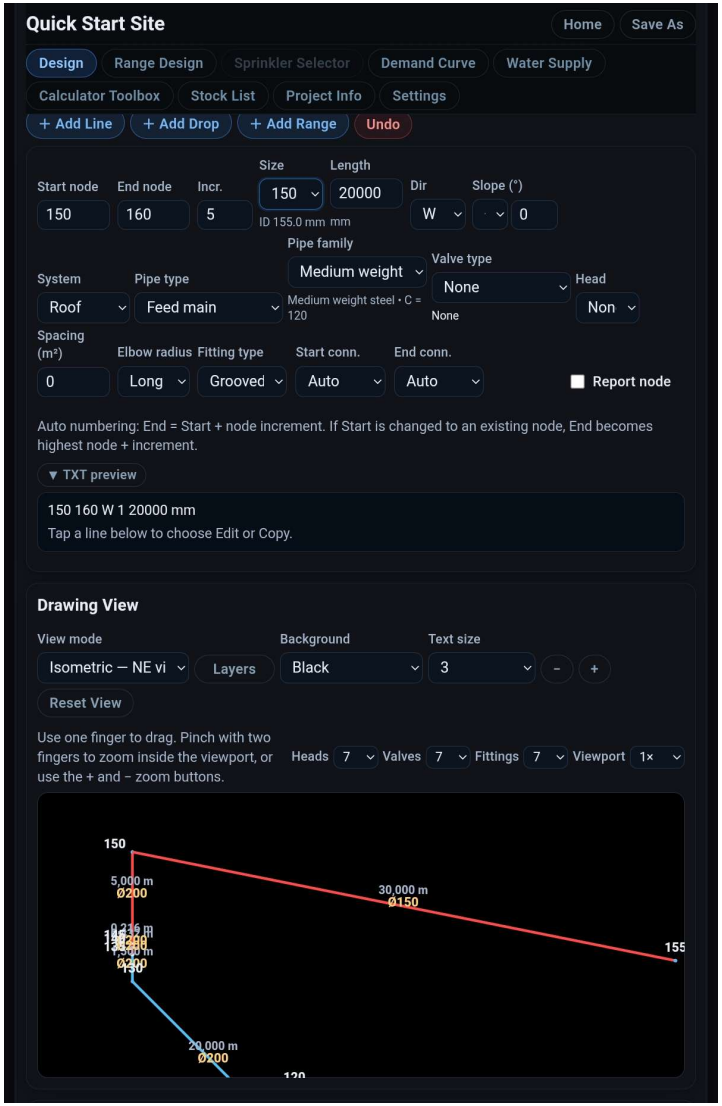




15. Add another pipe Up with a butterfly valve. Set the length to 226 mm for the valve-only section. Then add a 5000 mm pipe Up to roof level. Roof pipework appears in red. Use Layers to control which pipe types you see.

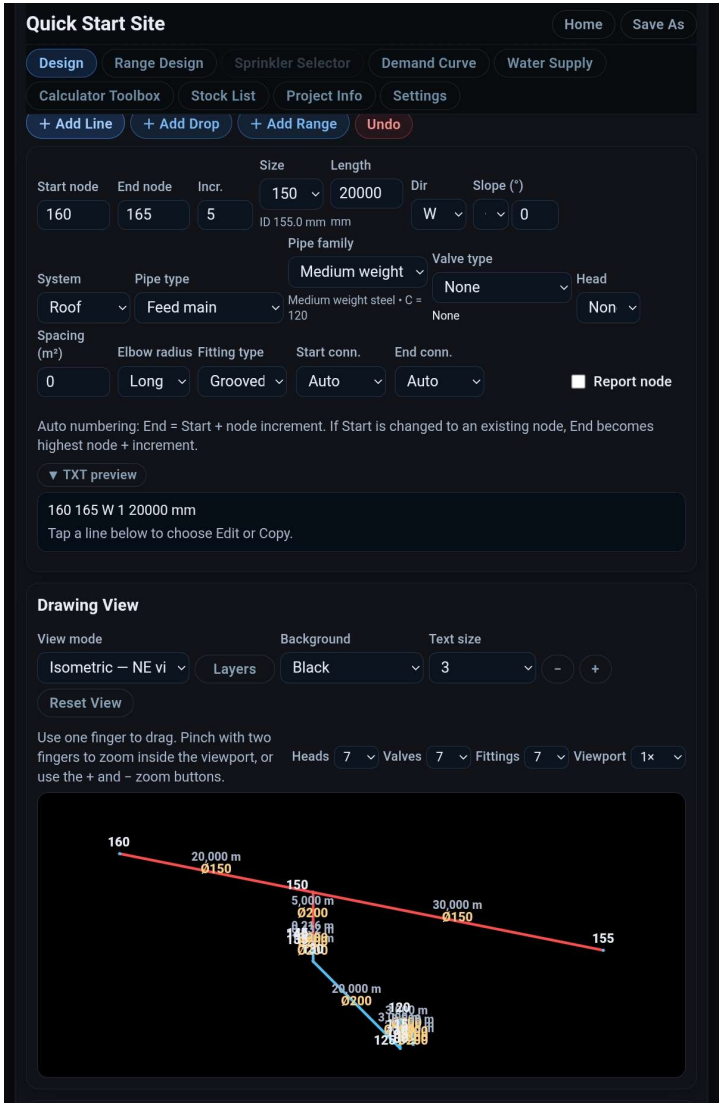
16. We can now add the distribution main. Manually change Pipe Type to Distribution Main. This label does not affect the hydraulic calculation, but correctly labelled pipework is easier to manage and edit. Add a Ø150 medium steel distribution main, 30000 mm long, to the East.





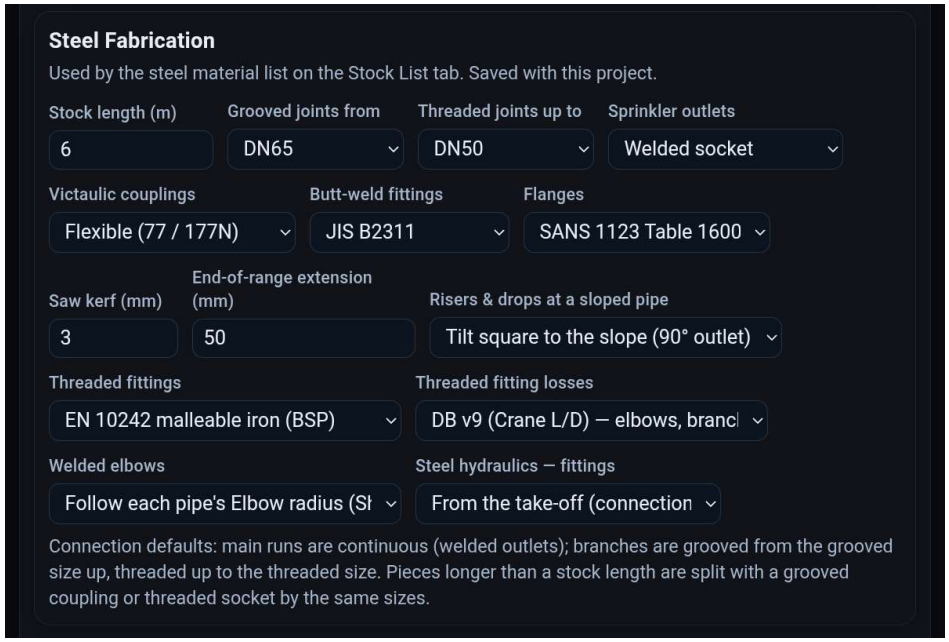
17. Add another 20000 mm distribution main to the West. Set the start node to 150, as shown. Check the inherited values, change Pipe Type to Distribution Main and set Direction to West before adding the pipe.

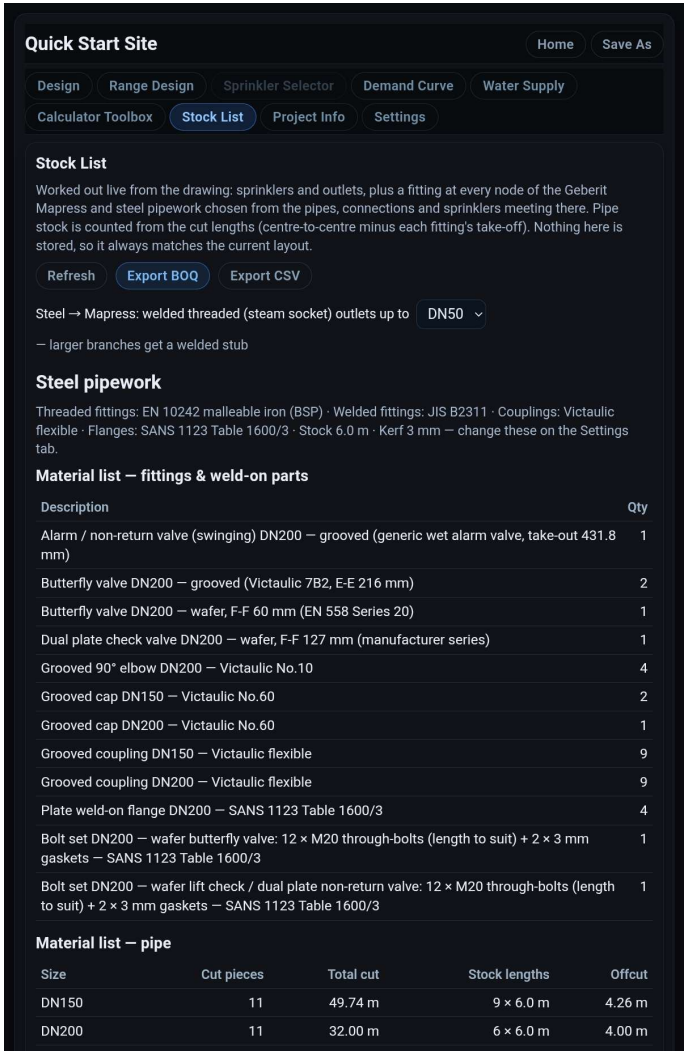
18. The trailing main, feed main and distribution mains are now in place from the pump. We are ready to add range pipes and sprinkler heads.

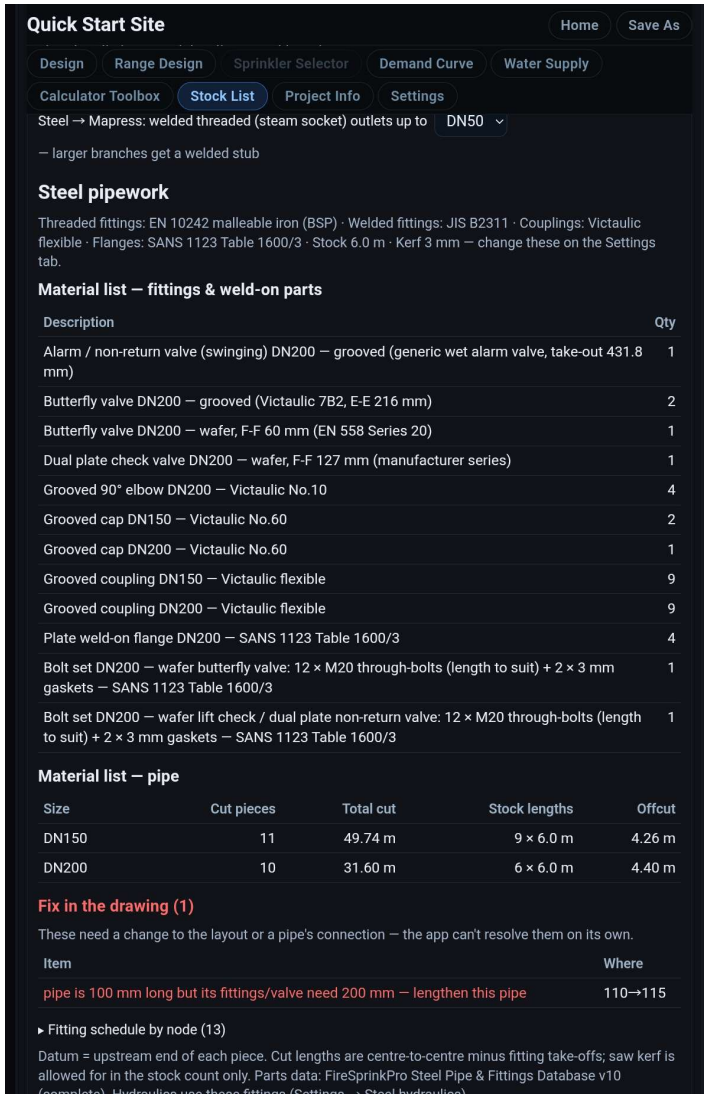


19. Now is a good time to check the materials needed so far. The material list depends on the Steel Fabrication settings, fitting types and pipe ends selected for the pipes.

20. Open Stock List to review and export the bill of quantities (BOQ) for costing and ordering materials.





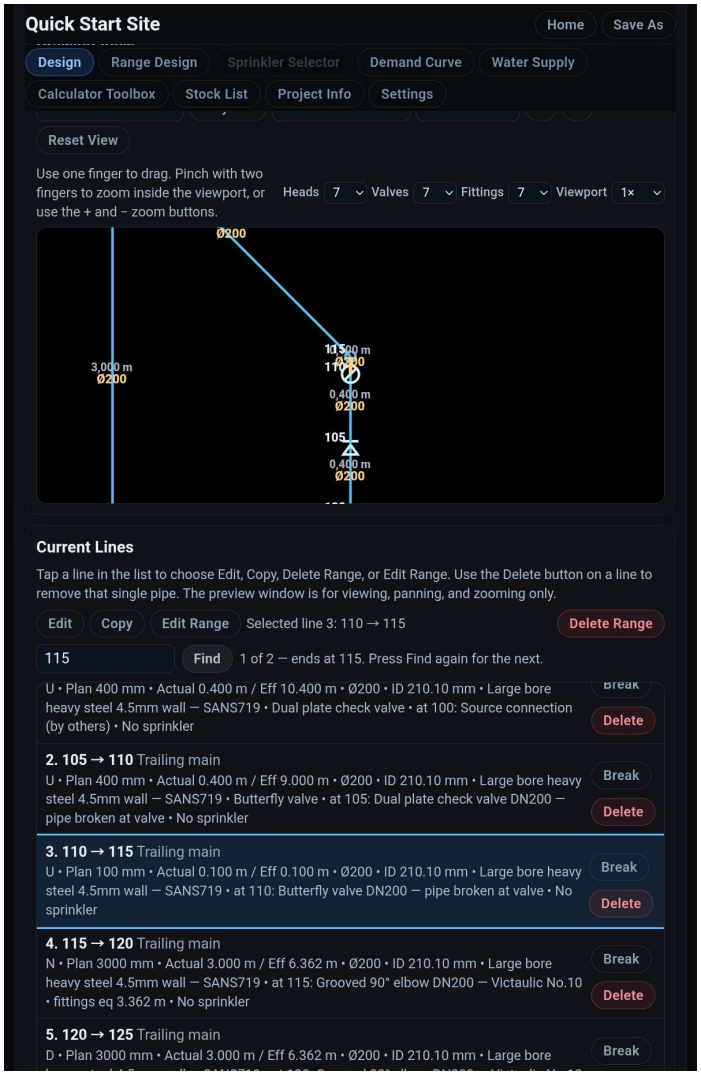


21. Scroll down to review the warning.

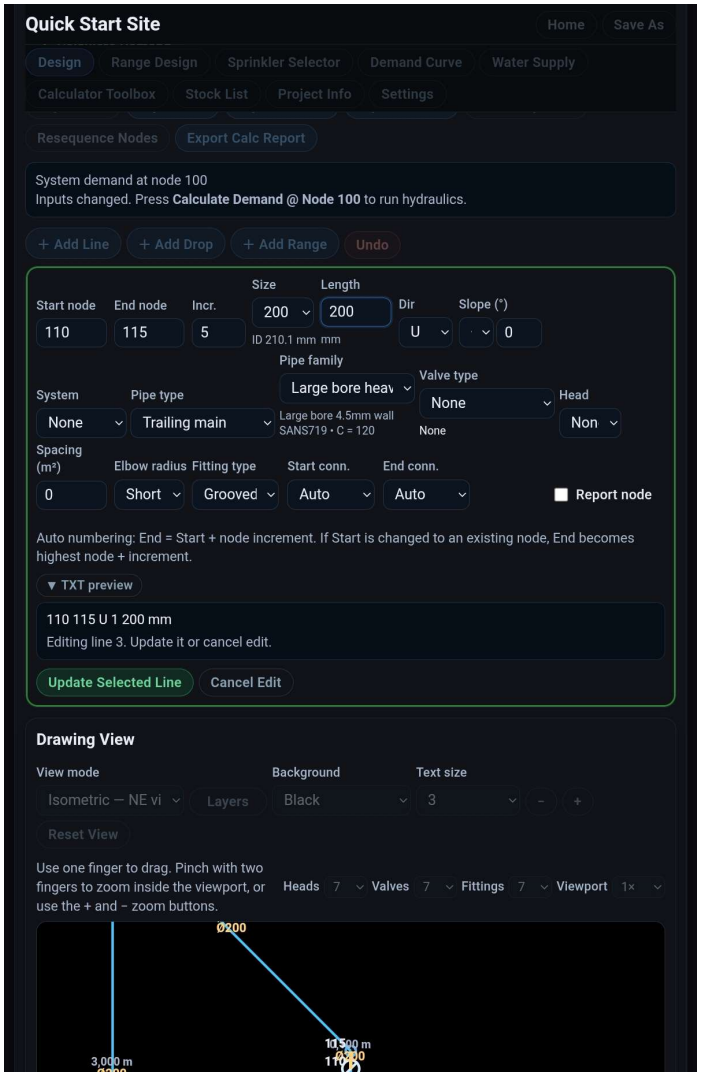
I deliberately created this short section. The program could not warn me earlier because the elbow connection had not yet been defined.

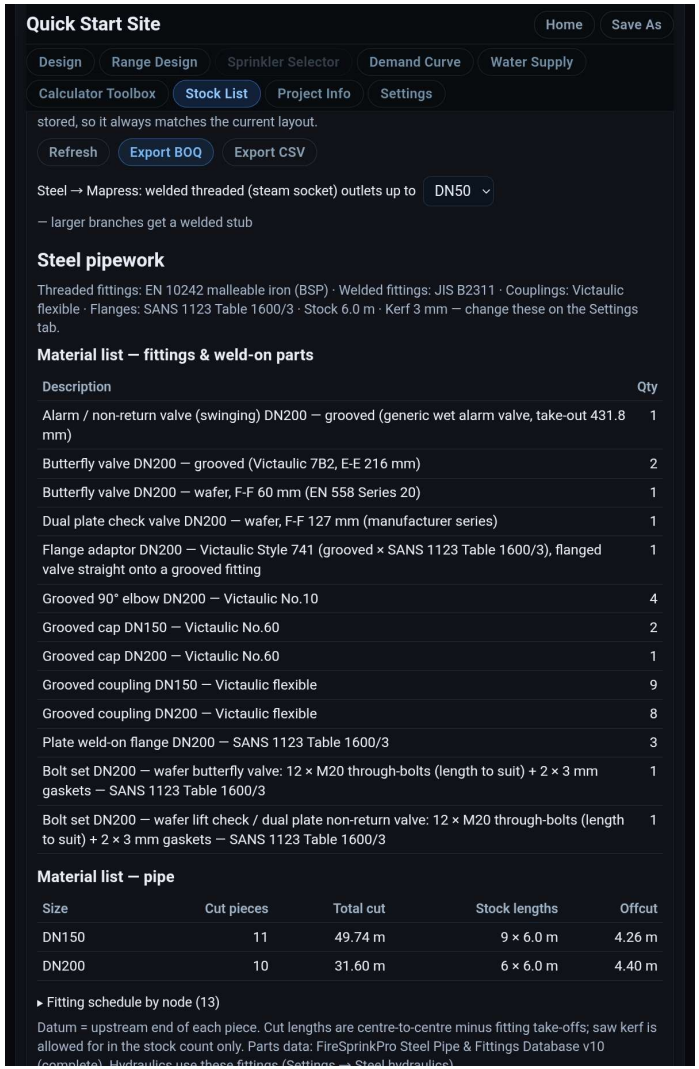
Warnings also appear when FireSprinkPro cannot resolve a fitting at a node. Here, the Ø200 grooved elbow requires a longer section, so the program asks me to extend the pipe.

If you intend to use a specially fabricated or ordered connection, confirm its details before proceeding.

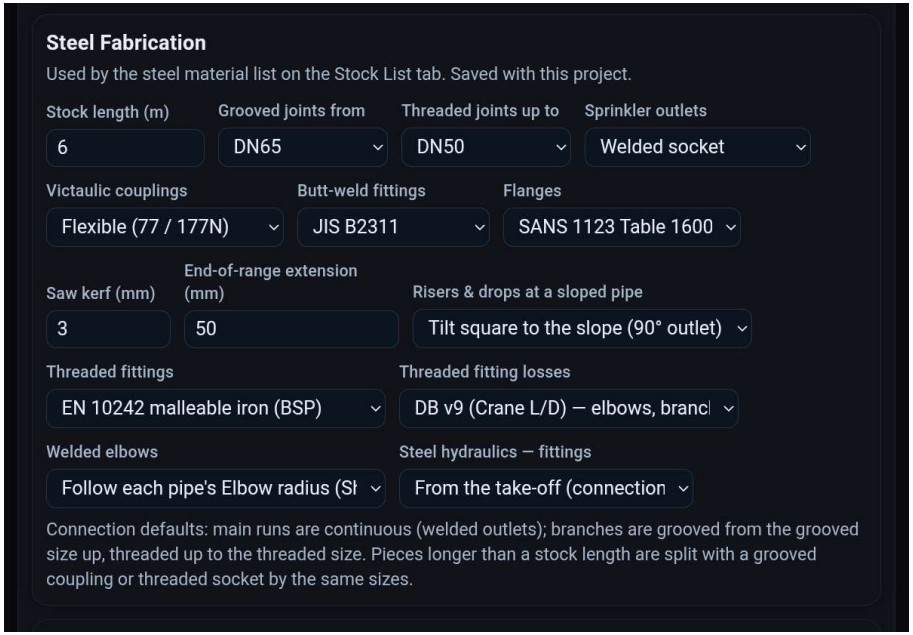


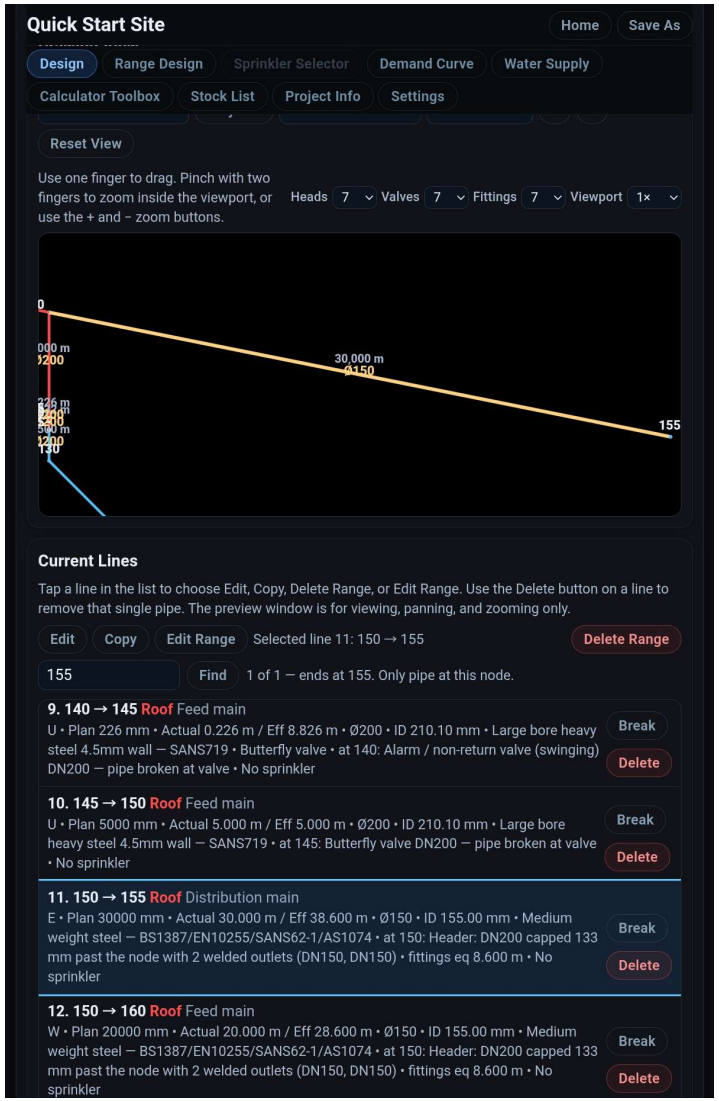
22. Open Design and search for node 115, the end node of the short pipe. Find selects and highlights the first matching pipe and zooms to it. Select Find again to cycle to the next matching pipe. Select Edit, change the length to 200 mm or longer, then select Update Selected Line. The grooved elbow now connects to the flange. Let’s review the resulting stock list.





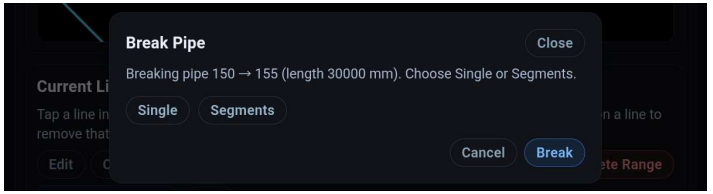
23. Return to Stock List and confirm that the warning has cleared. A flange adaptor has been added to connect the grooved elbow to the flange. Under Settings, open Steel Fabrication to choose the materials and stock lengths you buy.



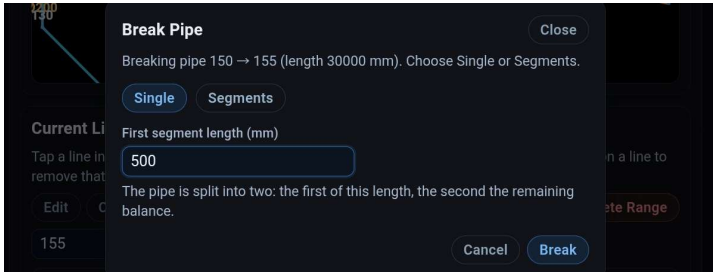


24. I want the first range to start 500 mm from the riser. Select pipe 150–155 in the list or find it by node number, then choose Break. I could have created a 500 mm section initially, but this demonstrates splitting an existing pipe.

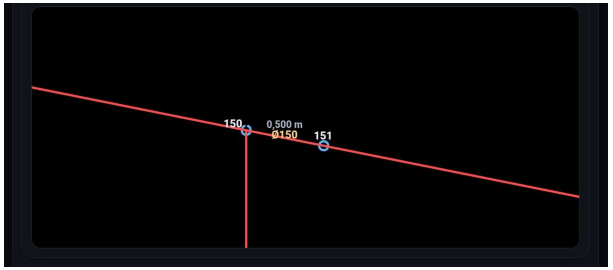
25. For one break, select Single.

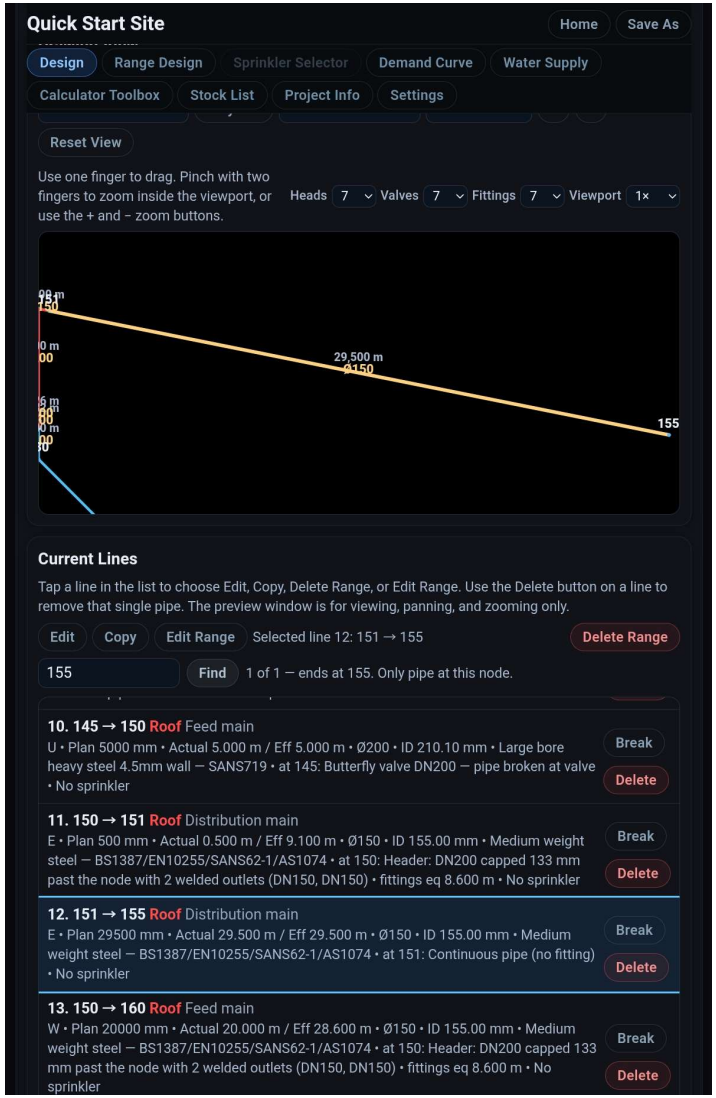


26. Enter 500 mm and select Break.



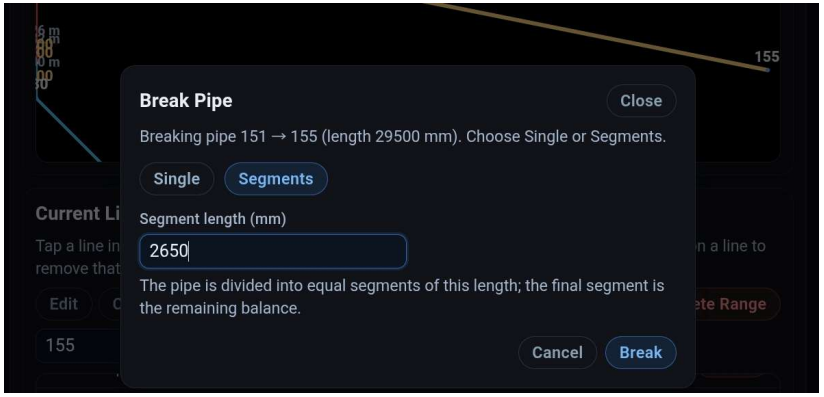
27. Node 151 is now created. FireSprinkPro assigns a node number between the start and end node numbers when possible.





28. Create the remaining range outlets at 2650 mm intervals. Select the remaining pipe, 151–155, in the list or find it by node number, then select Break again.

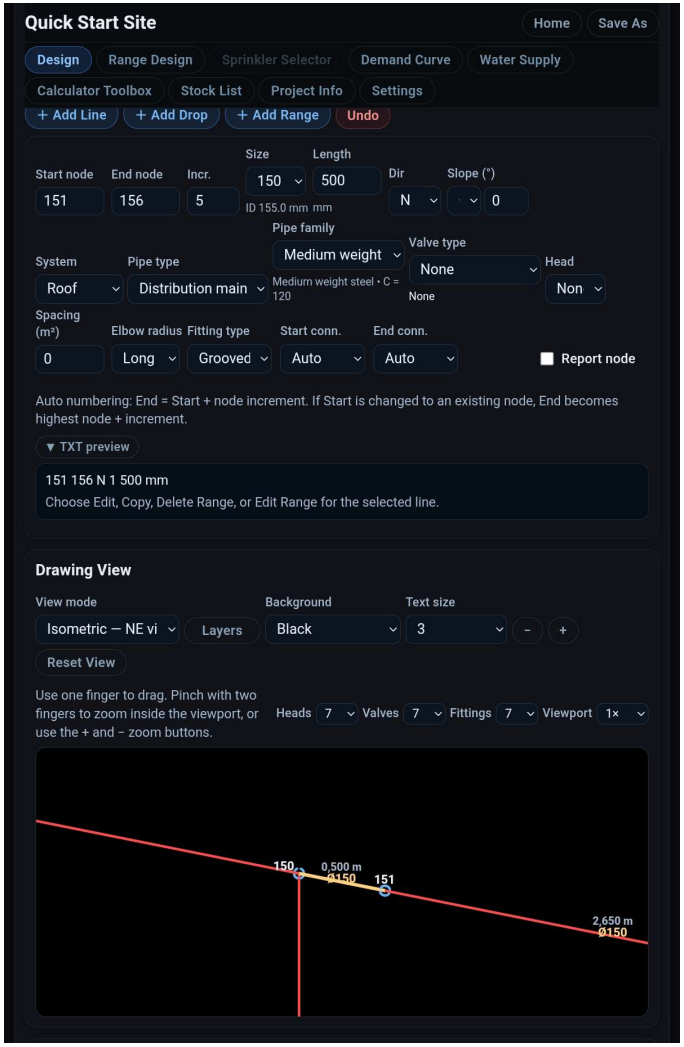
29. This time, select Segments, enter 2650 mm as the segment length and select Break.



30. The main is now divided into sections with outlet nodes for the range pipes.



31. Searching for a node zooms to the matching pipe and highlights it. Its end node becomes the next start node, ready for the next pipe.

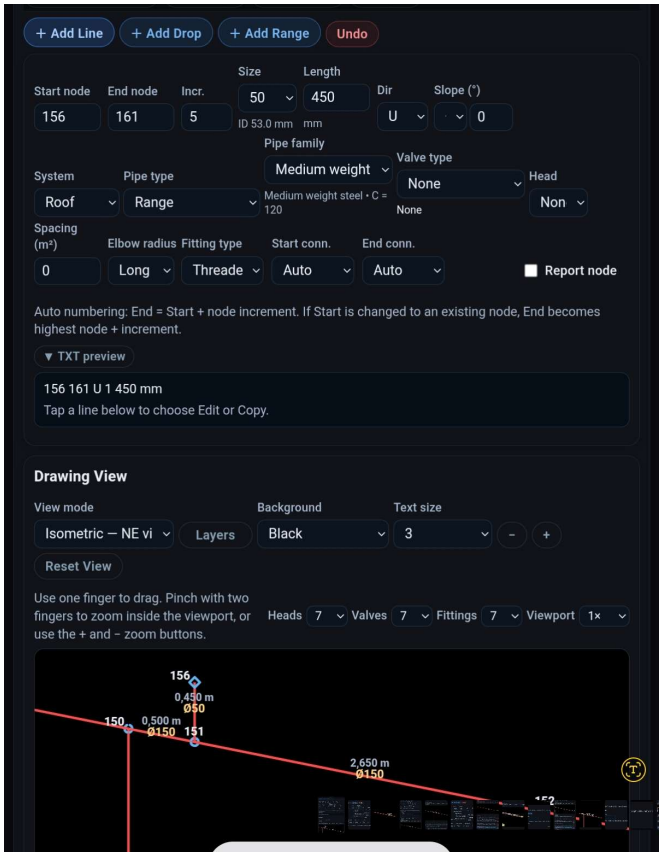


32. The selected pipe supplies the defaults for the next line. If another pipe already occupies that direction from the same start node, the program chooses another available direction, starting with North.

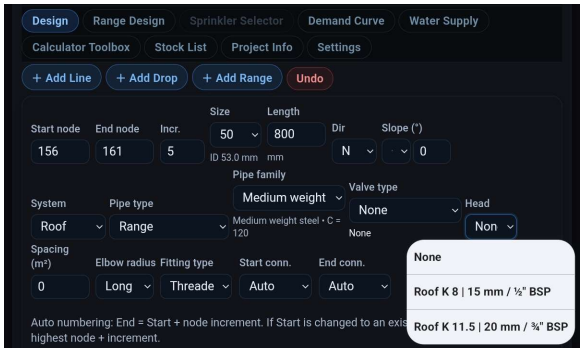
Check that the start node is 151 and change Direction to Up to add the riser.

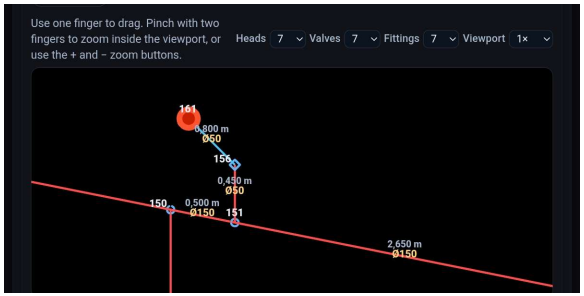


33. Create a Ø50 riser, 450 mm long, in the Up direction. Check that Pipe Type changes to Range and Fitting Type to Threaded. Select +Add Line.

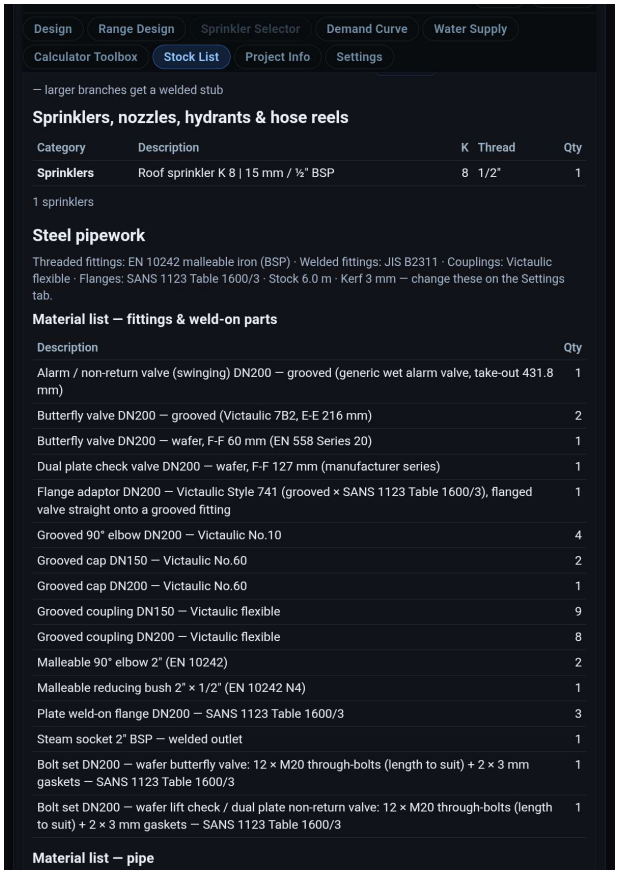


34. Add the first sprinkler pipe, 800 mm long, with a 5° slope. The available heads are those enabled in Settings. Select +Add Line, then review Stock List.

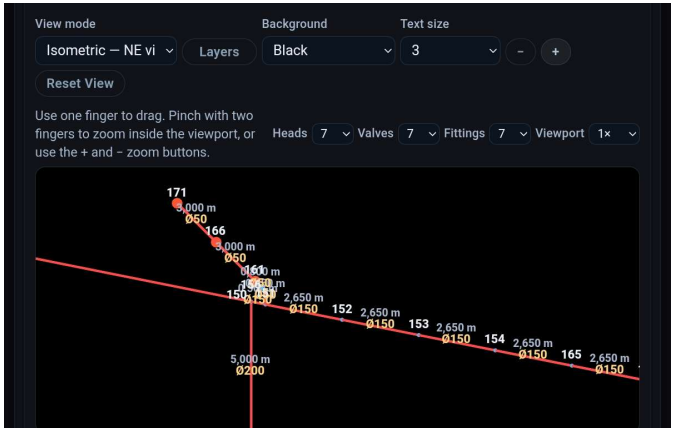


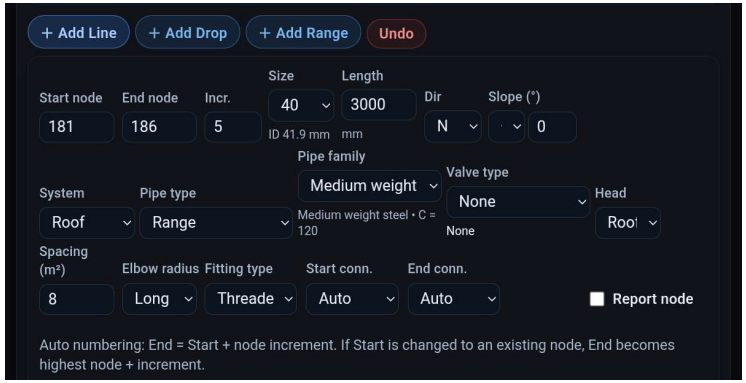


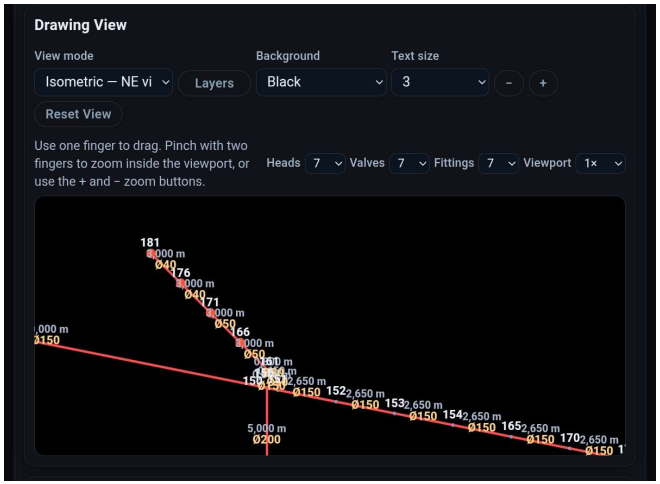
35. Review the sprinkler connection in Stock List. Check that the listed elbow and reducing bush match the intended arrangement.



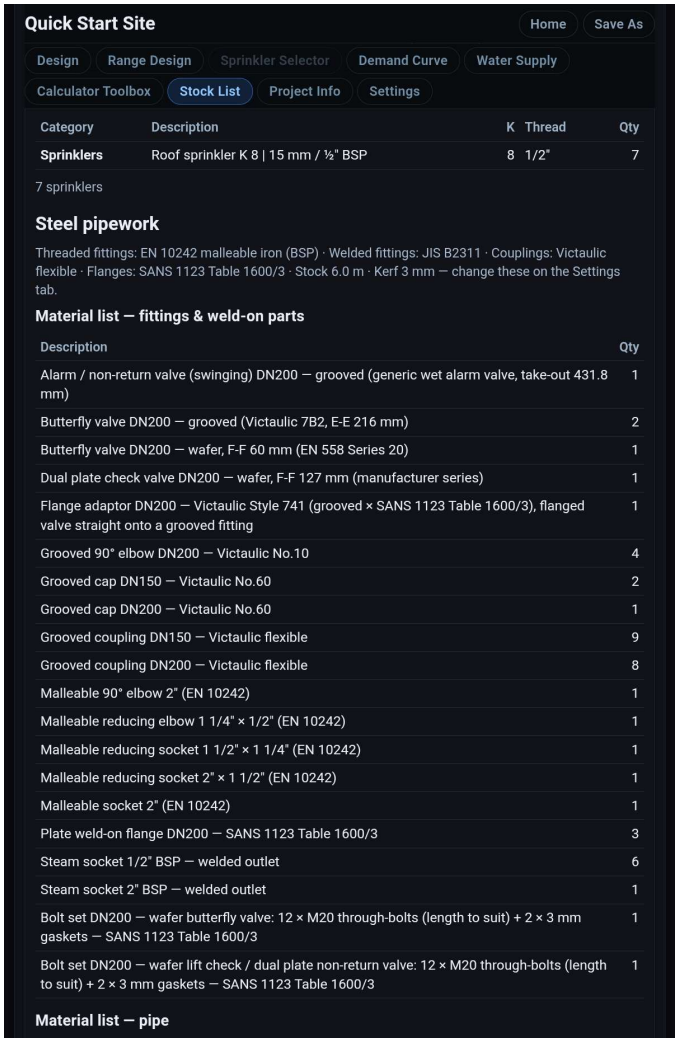
36. The next pipe inherits the sprinkler head from the previous pipe. Leave the size at 50 mm, change the length to 3000 mm and select +Add Line twice. Change the size to 40 mm and add two more pipes, then do the same at 32 mm.











Quick Start Site

Home Save As

Design | Range Design | Sprinkler Selector | Demand Curve | Water Supply

Calculator Toolbox | Stock List | Project Info | Settings

Category	Description	K	Thread	Qty
Sprinklers	Roof sprinkler K 8 | 15 mm / ½" BSP	8	1/2"	7

7 sprinklers

Steel pipework

Threaded fittings: EN 10242 malleable iron (BSP) · Welded fittings: JIS B2311 · Couplings: Victaulic flexible · Flanges: SANS 1123 Table 1600/3 · Stock 6.0 m · Kerf 3 mm — change these on the Settings tab.

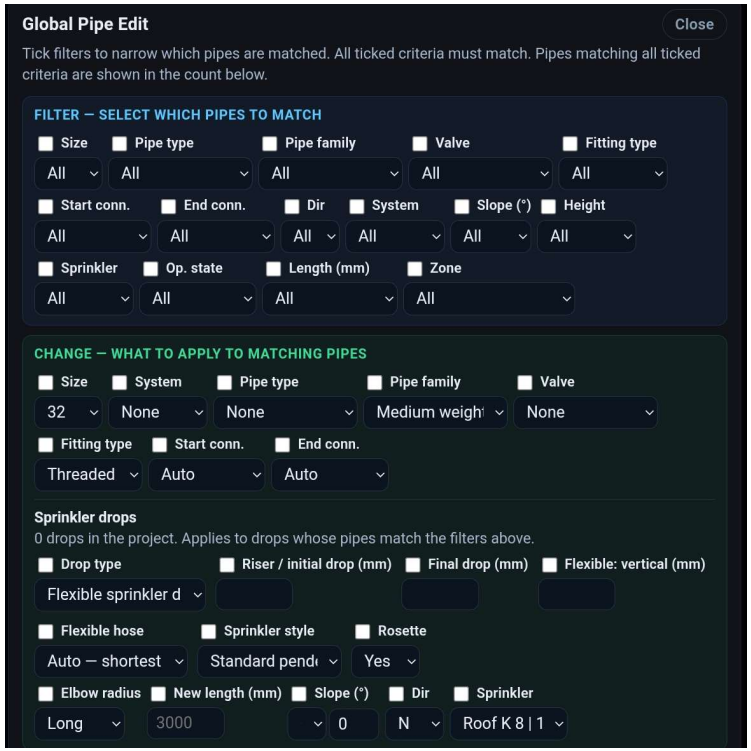
Material list — fittings & weld-on parts

Description	Qty
Alarm / non-return valve (swinging) DN200 — grooved (generic wet alarm valve, take-out 431.8 mm)	1
Butterfly valve DN200 — grooved (Victaulic 7B2, E-E 216 mm)	2
Butterfly valve DN200 — wafer, F-F 60 mm (EN 558 Series 20)	1
Dual plate check valve DN200 — wafer, F-F 127 mm (manufacturer series)	1
Flange adaptor DN200 — Victaulic Style 741 (grooved × SANS 1123 Table 1600/3), flanged valve straight onto a grooved fitting	1
Grooved 90° elbow DN200 — Victaulic No.10	4
Grooved cap DN150 — Victaulic No.60	2
Grooved cap DN200 — Victaulic No.60	1
Grooved coupling DN150 — Victaulic flexible	9
Grooved coupling DN200 — Victaulic flexible	8
Malleable 90° elbow 2" (EN 10242)	1
Malleable reducing elbow 1 1/4" × 1/2" (EN 10242)	1
Malleable reducing socket 1 1/2" × 1 1/4" (EN 10242)	1
Malleable reducing socket 2" × 1 1/2" (EN 10242)	1
Malleable socket 2" (EN 10242)	1
Plate weld-on flange DN200 — SANS 1123 Table 1600/3	3
Steam socket 1/2" BSP — welded outlet	6
Steam socket 2" BSP — welded outlet	1
Bolt set DN200 — wafer butterfly valve: 12 × M20 through-bolts (length to suit) + 2 × 3 mm gaskets — SANS 1123 Table 1600/3	1
Bolt set DN200 — wafer lift check / dual plate non-return valve: 12 × M20 through-bolts (length to suit) + 2 × 3 mm gaskets — SANS 1123 Table 1600/3	1

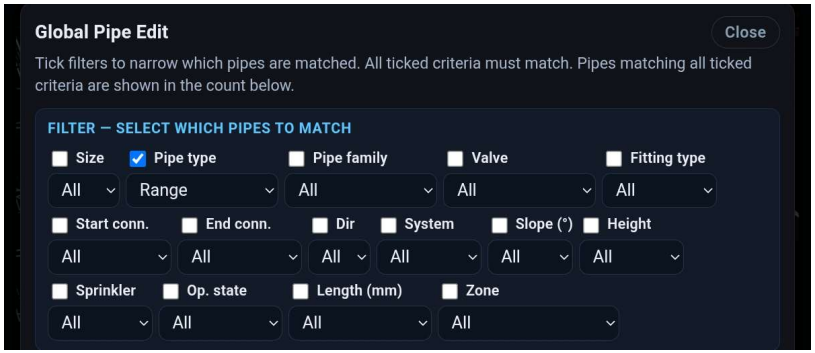
Material list — pipe

37. Let’s review Stock List. Six of the seven sprinklers use welded sockets. A node does not necessarily represent a cut in the physical pipe. Where a reducer requires a break, its length and fitting affect the next pipe section. Threaded pipe ends would produce threaded fittings at the sprinkler nodes. I can change this using Global Pipe Edit or Edit Range.

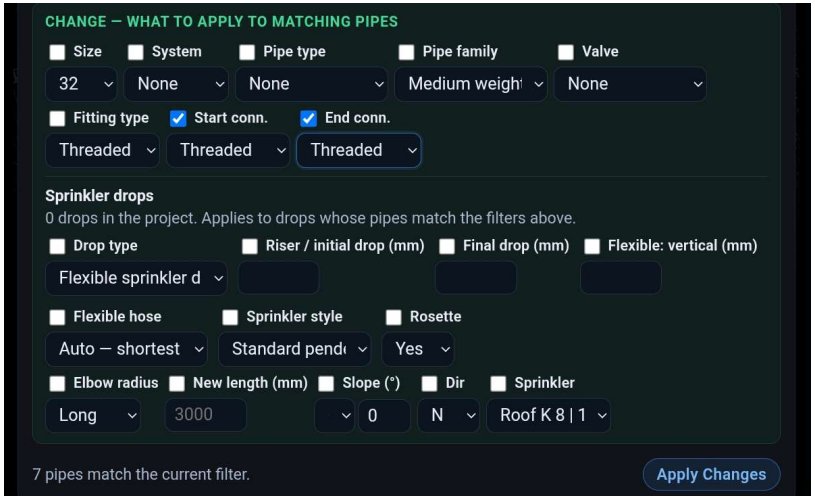
38. Let’s use Global Pipe Edit first. The top filter selects matching pipes across the project. The bottom section defines the changes to apply.



39. Select Range as the Pipe Type filter to change all range pipes in the project.



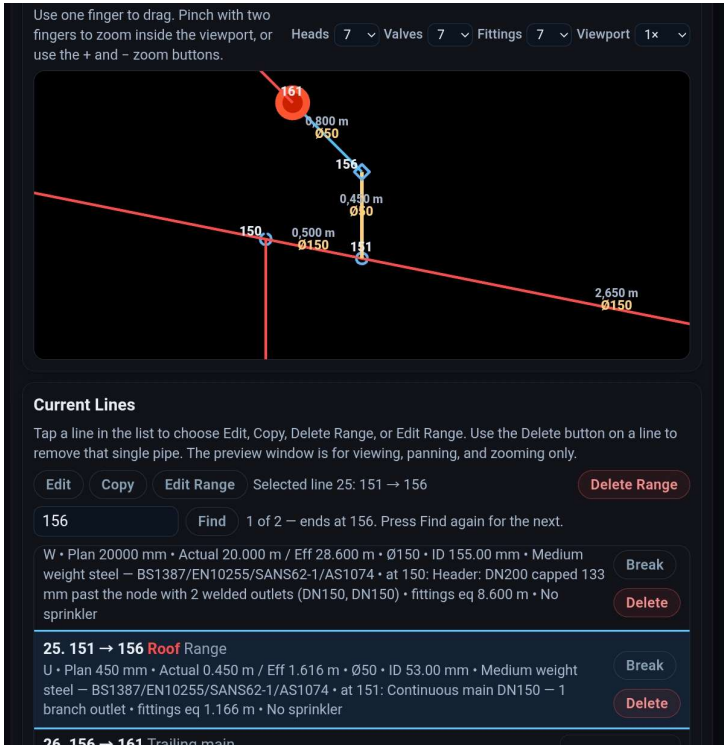
40. Tick Start connection and End connection, set both to Threaded, then select Apply Changes.

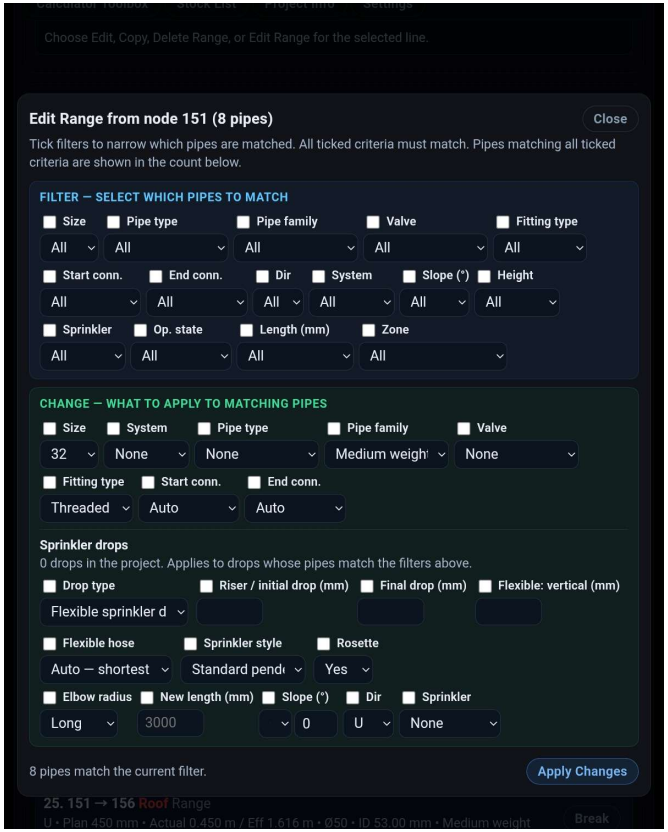


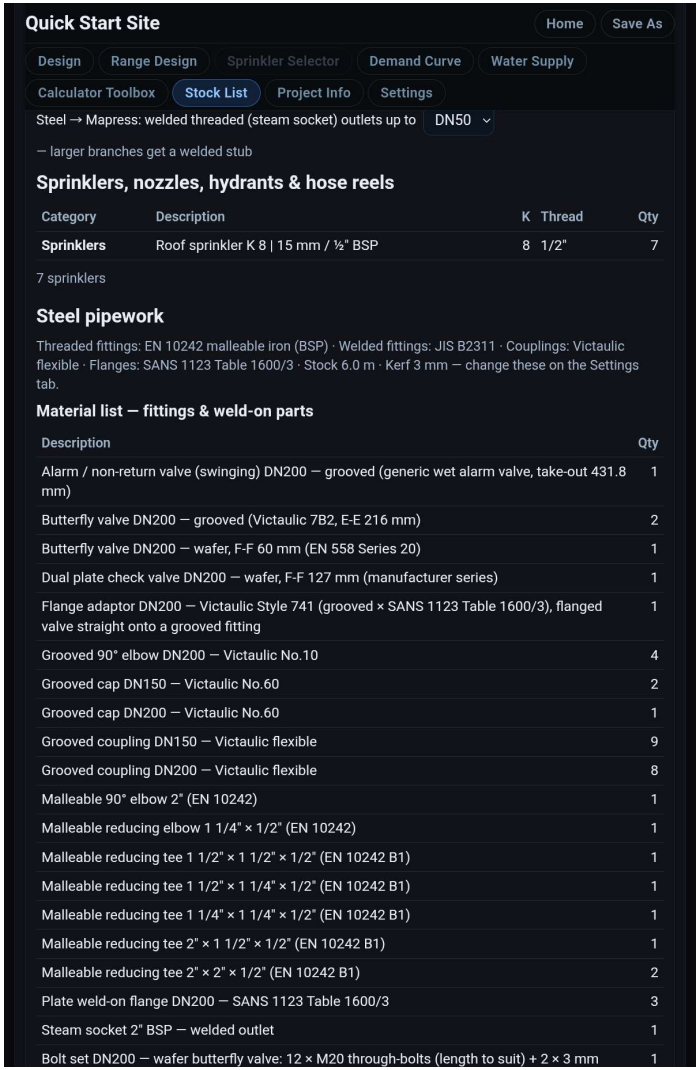
41. Check the confirmation message for the number of pipes changed.



42. For changes to one part of a larger system, select a pipe and choose Edit Range. Its filter considers only pipework downstream of the selected pipe. Check the selection before applying changes. Global Pipe Edit searches the whole project.



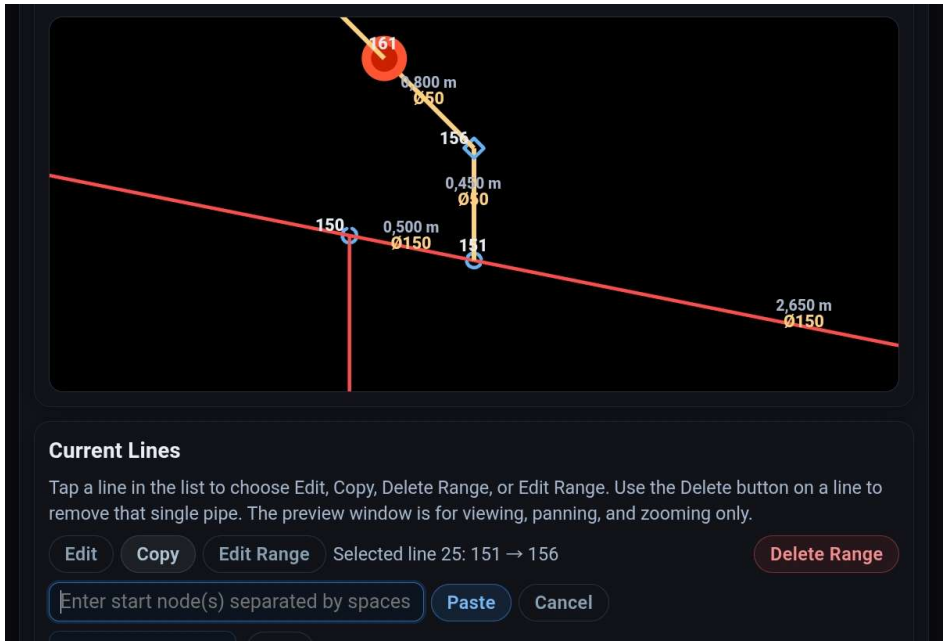




43. Review Stock List again. The sprinkler connections now use reducing tees, and the hydraulic calculation uses these fittings. Stock List also shows the required pipe quantities, stock lengths and offcuts, based on the stock length selected under Steel Fabrication in Settings.



44. Once the range is complete, I can copy it to nodes that need the same arrangement. Select the 50 mm riser and choose Copy. All downstream pipework to be copied becomes highlighted.



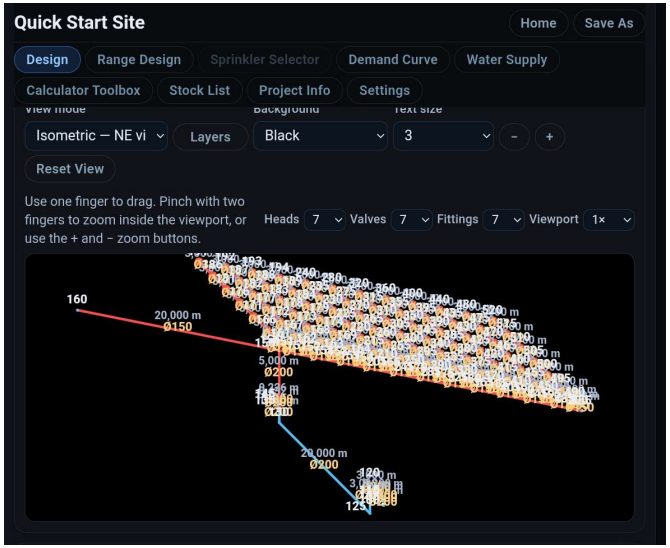
45. Enter the destination node numbers, separated by spaces. Pan and zoom around the drawing to check the node numbers.



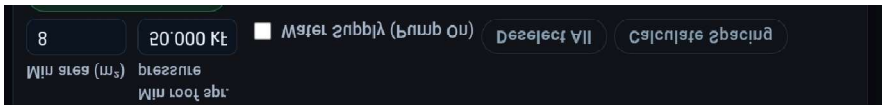
46. Paste.



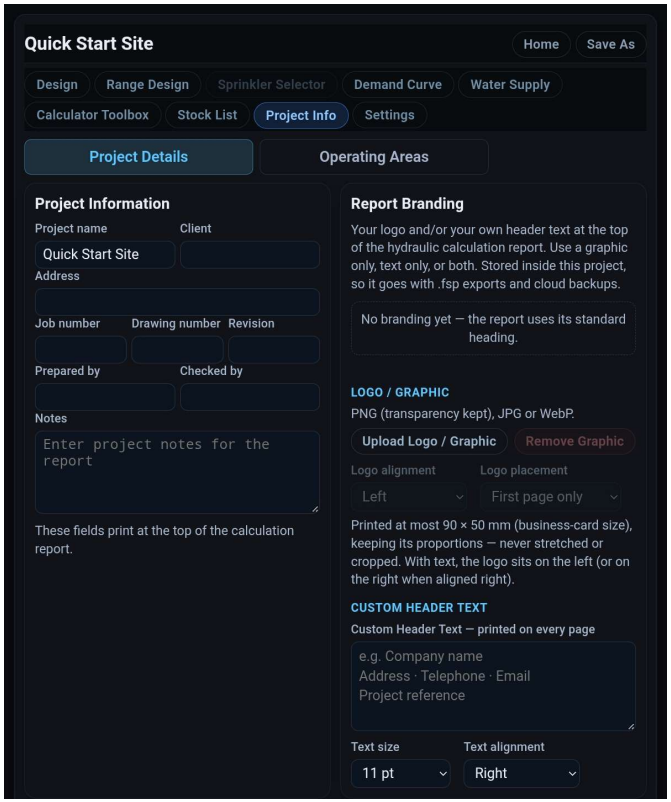
47. Scroll to the top of Drawing View and select Reset View. The East section is complete and ready for a hydraulic calculation.

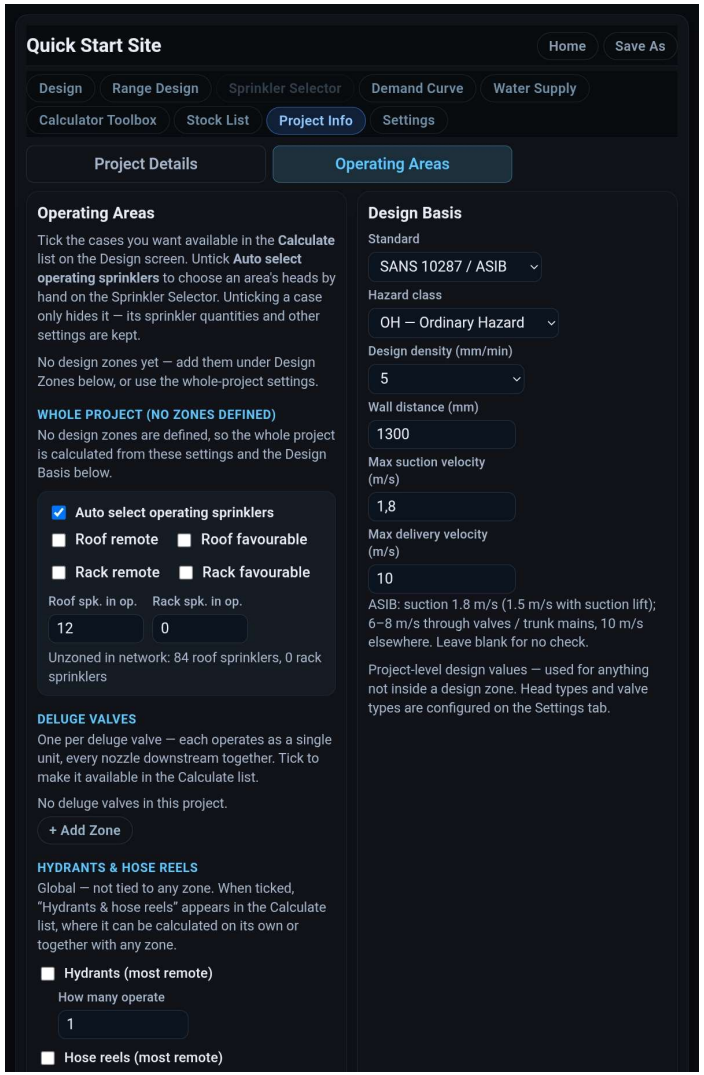


48. Select Calculate Spacing and review the displayed area per sprinkler. The program also uses this value to determine the minimum starting pressure.

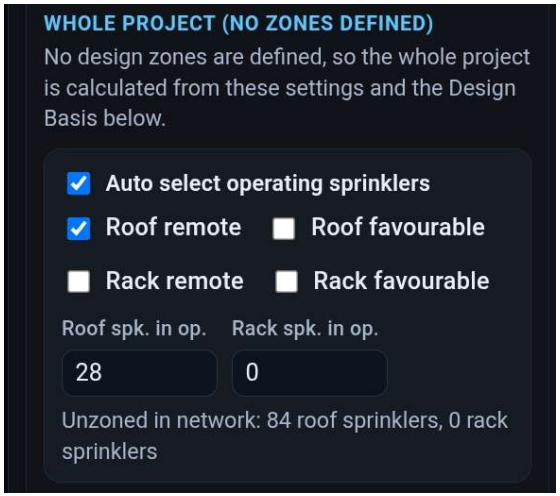


49. Open Project Info. Under Project Details, enter the information to appear on the report. You can also change the project name shown in the project list.



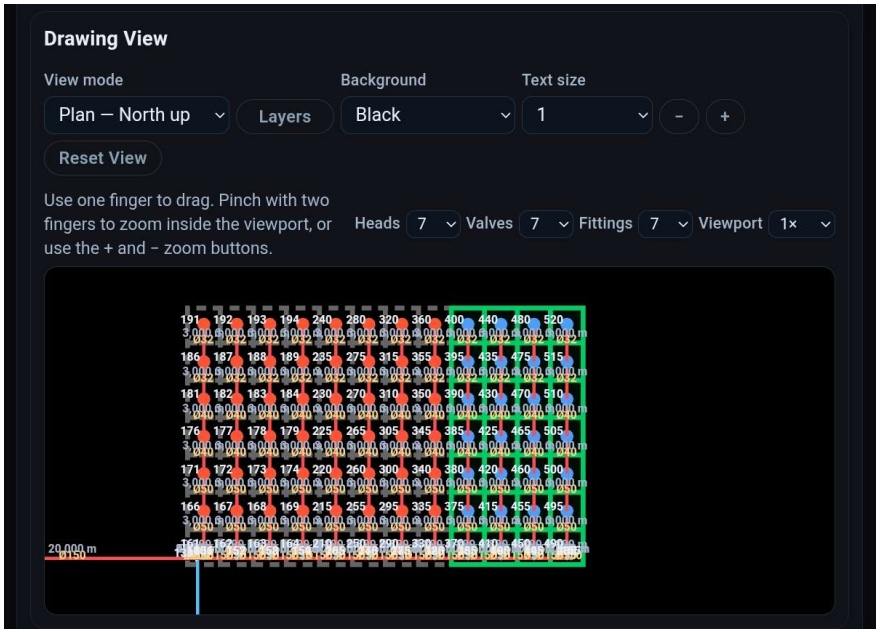


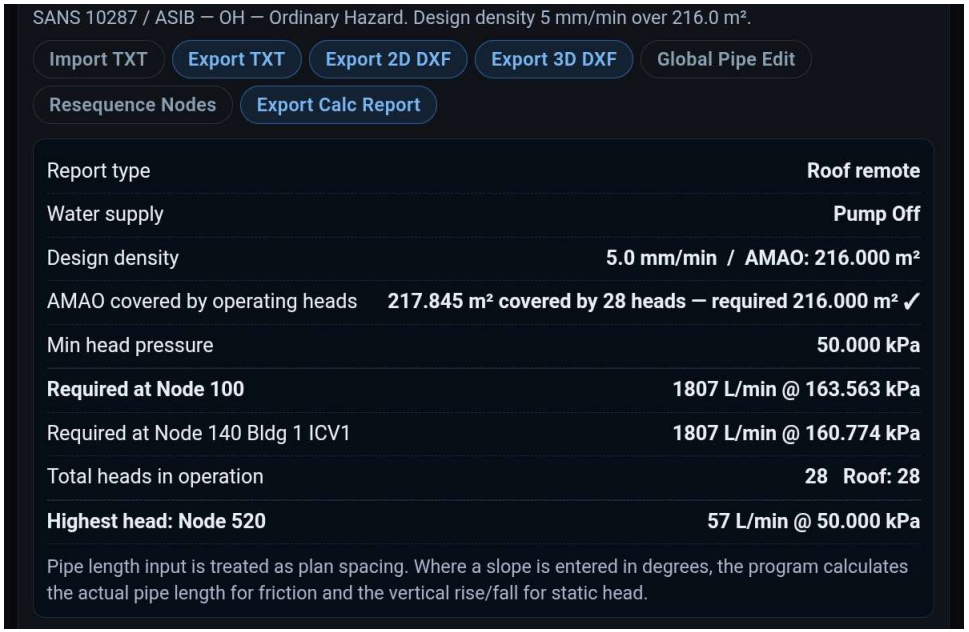
50. Before zones are created, all sprinklers use the same Design Basis. Set the standard, hazard class, design density and maximum wall distance. Choose automatic or manual selection of operating sprinklers, enable the operating areas and set the number of sprinklers to operate. For this example, the operating area is 216 m² and the area per sprinkler is 7.95 m². Since 216 ÷ 7.95 = 27.17, I round up to 28 sprinklers. The report shows the actual covered area so I can check and adjust the selection if needed. Use the design criteria required for your own project.



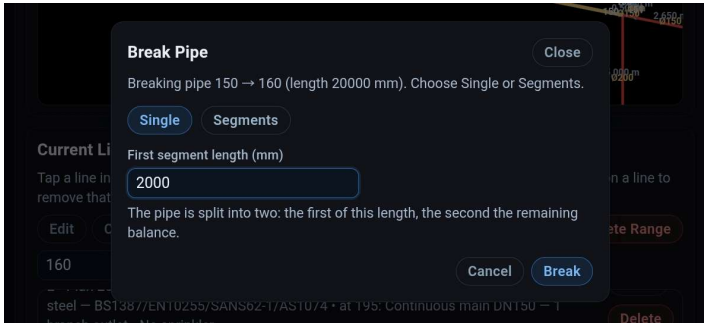
51. Return to Design and select a plan view. Review the remote and favourable areas selected by FireSprinkPro. Hide labels in Layers or reduce the text size for a clearer view. Selected sprinklers are blue, with their coverage areas highlighted in green.

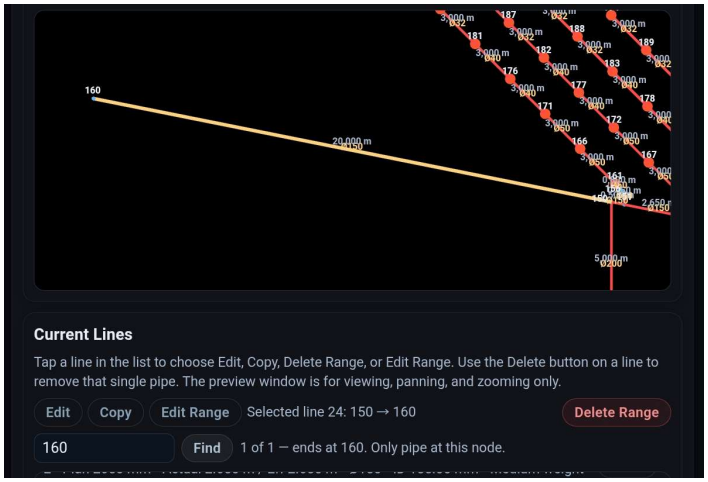
52. Select Calculate Demand. FireSprinkPro displays a summary of demand at water-supply node 100 and report node 140. Export the detailed calculation report to review the hydraulic results at each hydraulically significant node.



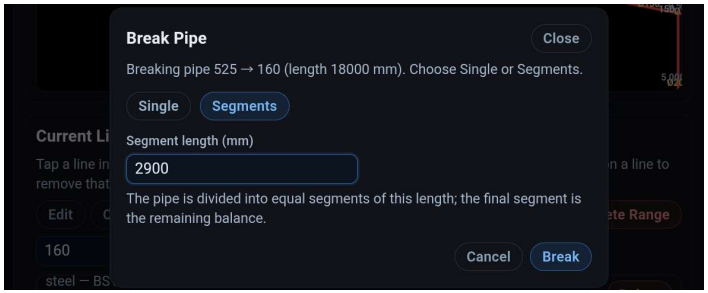


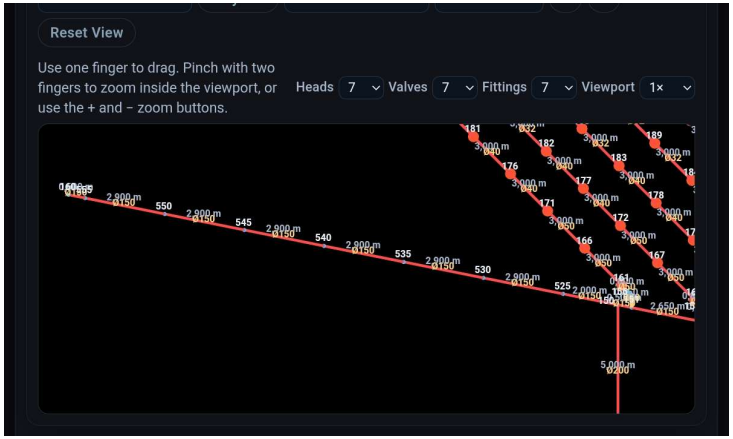
53. Let’s finish the West section of the building. Break pipe 150–160 to create the first outlet 2000 mm from its start.



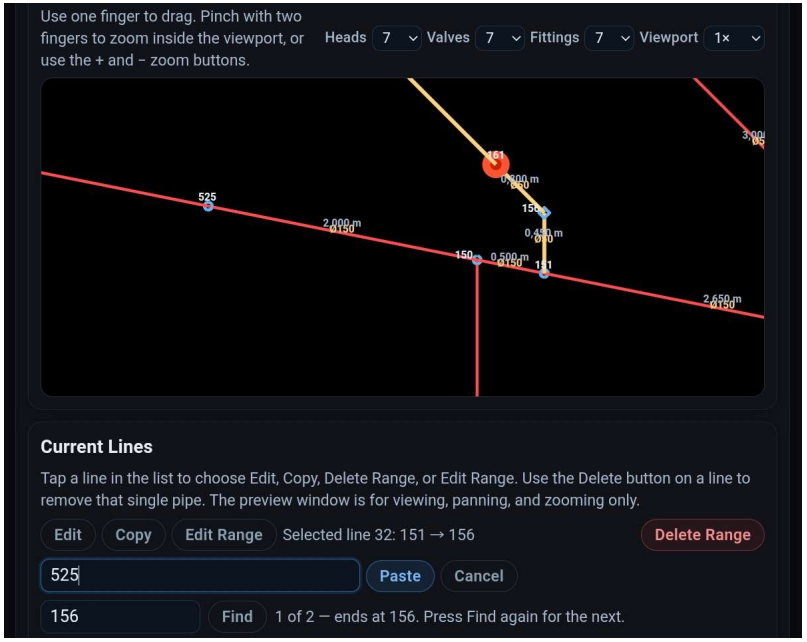


54. Then divide the remaining pipe into 2900 mm segments.



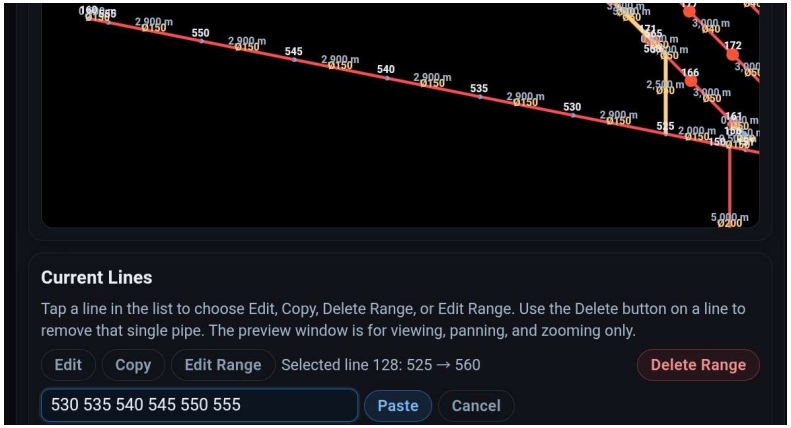


55. Copy a range from the completed East section and paste it at node 525 in the West section.



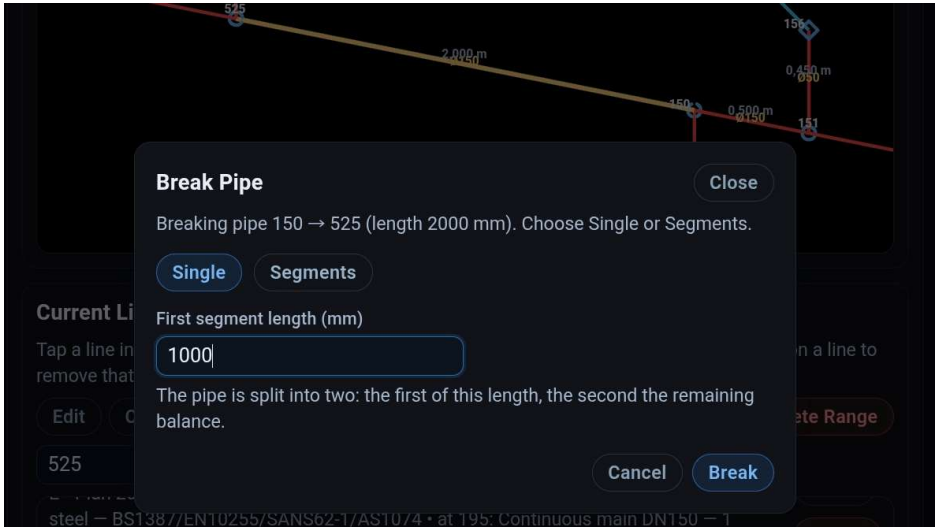
56. Edit the copied riser to 2500 mm for the higher warehouse roof.
Check its geometry before copying the range again.

57. Copy the adjusted range to the other outlet nodes on the West main.





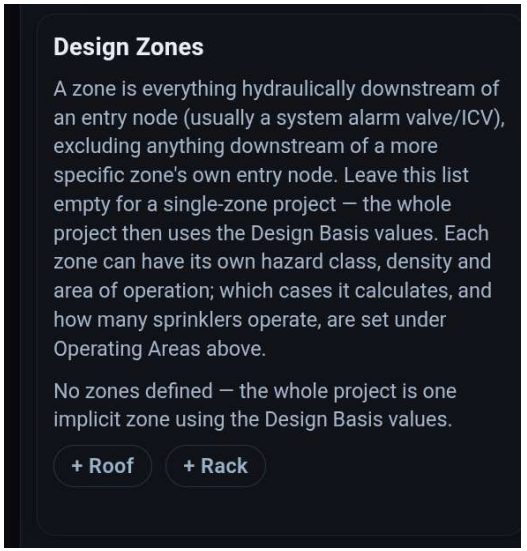
58. To create a new High Hazard zone, first create an entry point by breaking pipe 150–525 again.

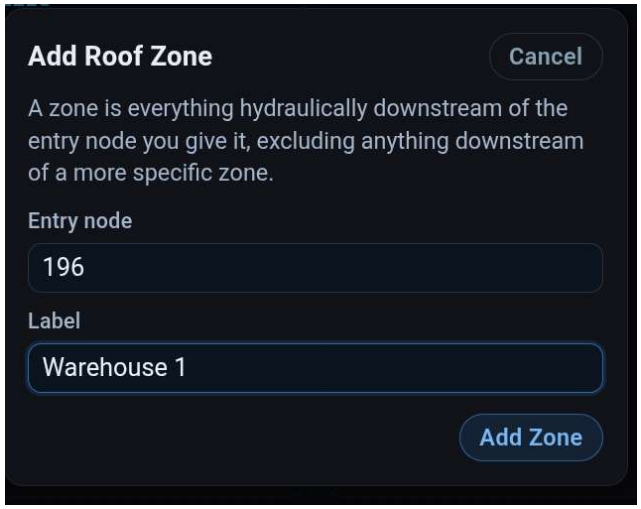


59. Use node 196 as the entry node for this zone.

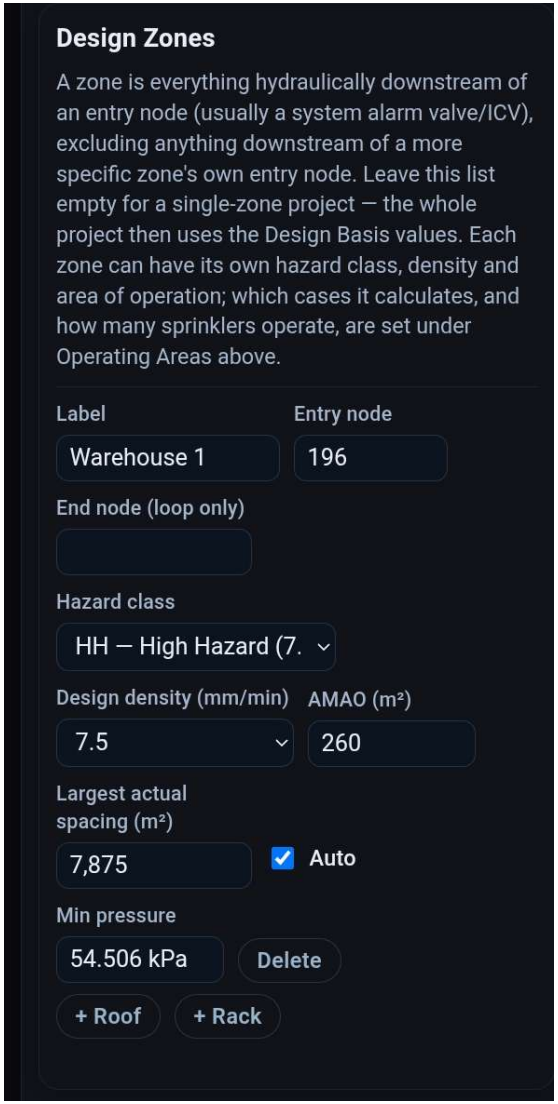


60. Under Project Info, open Operating Areas. Scroll to Design Zones and select +Roof.



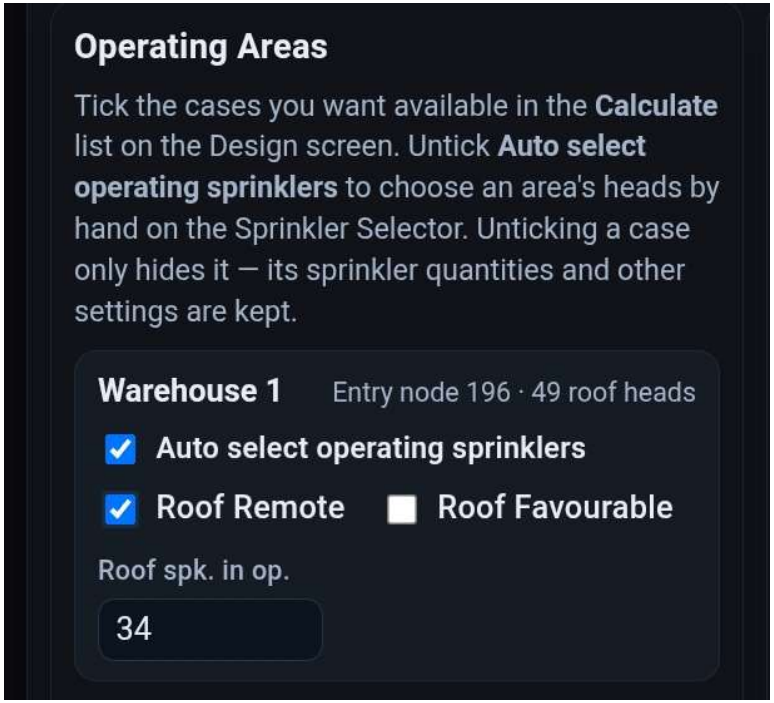


61. Enter the entry node and zone name, then select Add Zone.

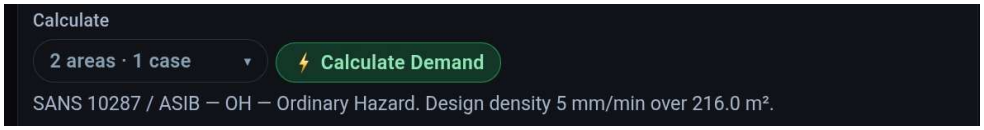


62. Under Design Zones, set this example zone to HH (High Hazard) with a design density of 7.5 mm/min. Let FireSprinkPro determine the largest area covered by a sprinkler, or enter it manually. This value determines the minimum starting pressure.

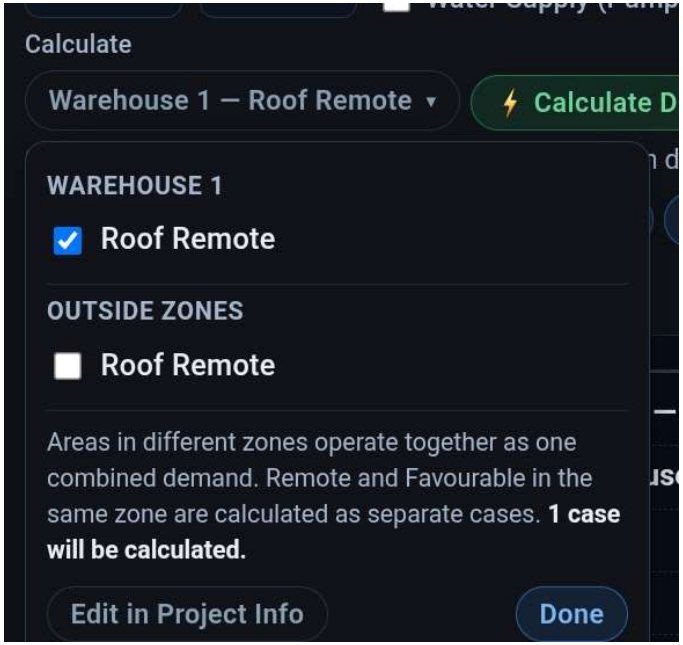
63. Near the top, choose the operating areas for this zone, set the number of sprinklers to operate and choose automatic or manual sprinkler selection.



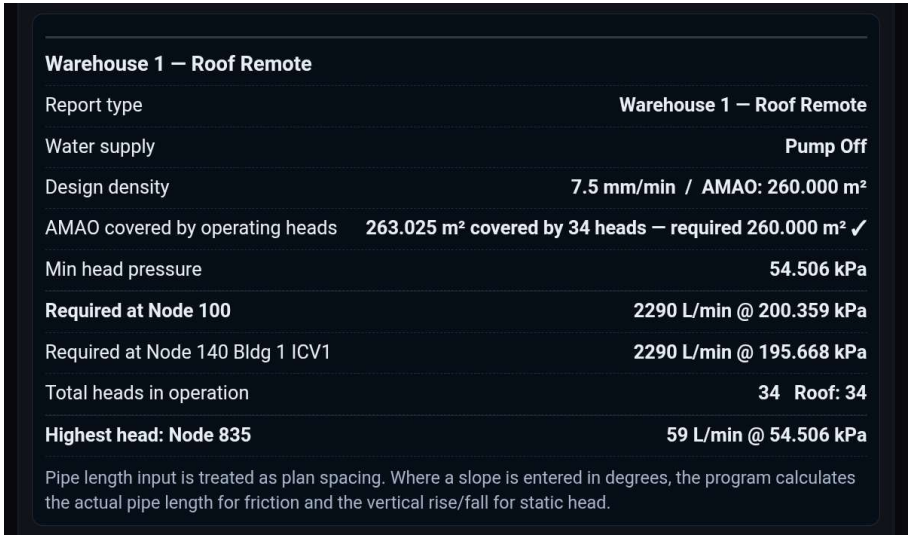
64. Back in Design, use the drop-down selector to choose the zone cases to calculate.



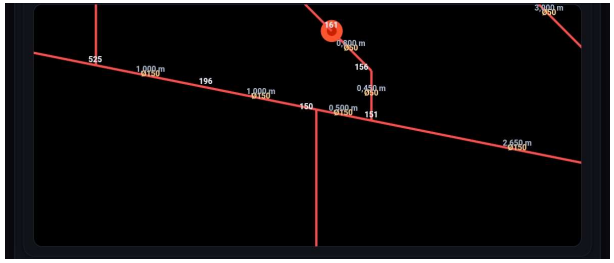
65. Untick Outside Zones and leave Warehouse 1 – Roof Remote enabled.



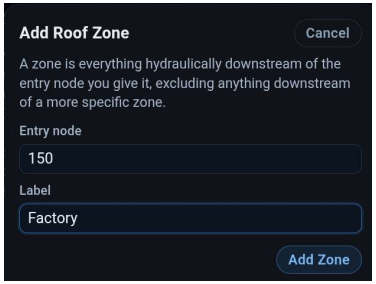
66. Select Calculate Demand to calculate the selected area. Roof, rack, deluge, hydrant and hose requirements may need different combinations of zones operating together. Confirm the required combinations for your project before using the results.

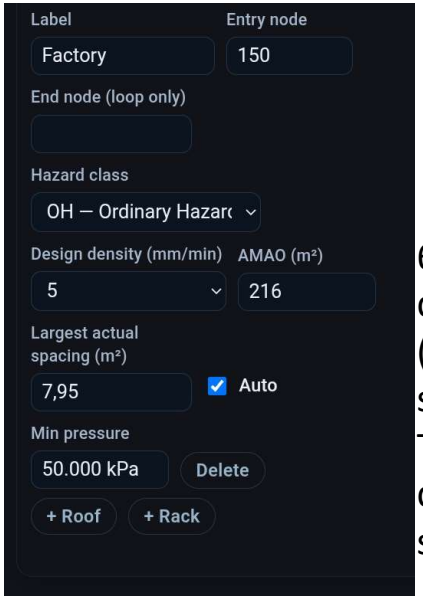


67. Let’s create a zone for the factory. Warehouse 1 starts at node 196, so I will use node 150 as the factory entry node.



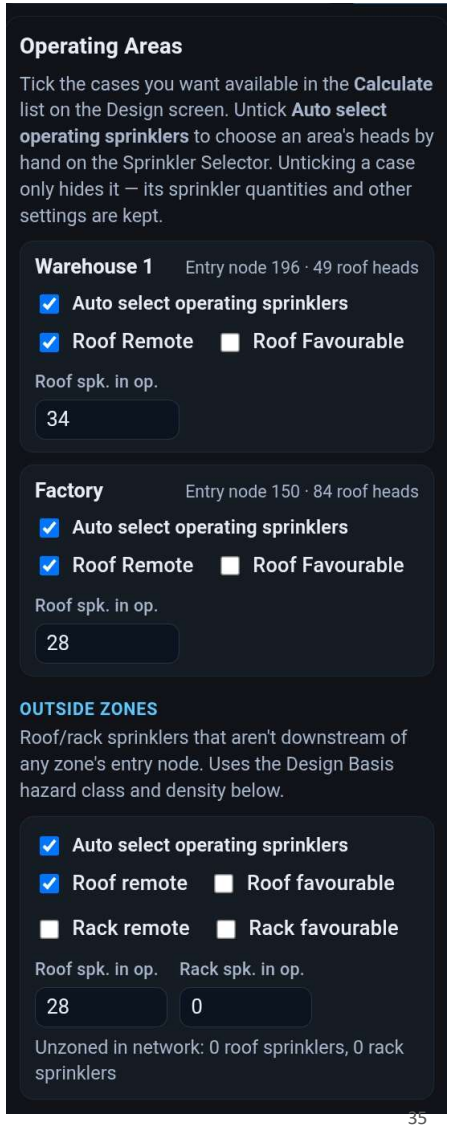
68. Open Project Info, then Operating Areas. Scroll down and select +Roof. Enter entry node 150, name the zone Factory and select Add Zone.



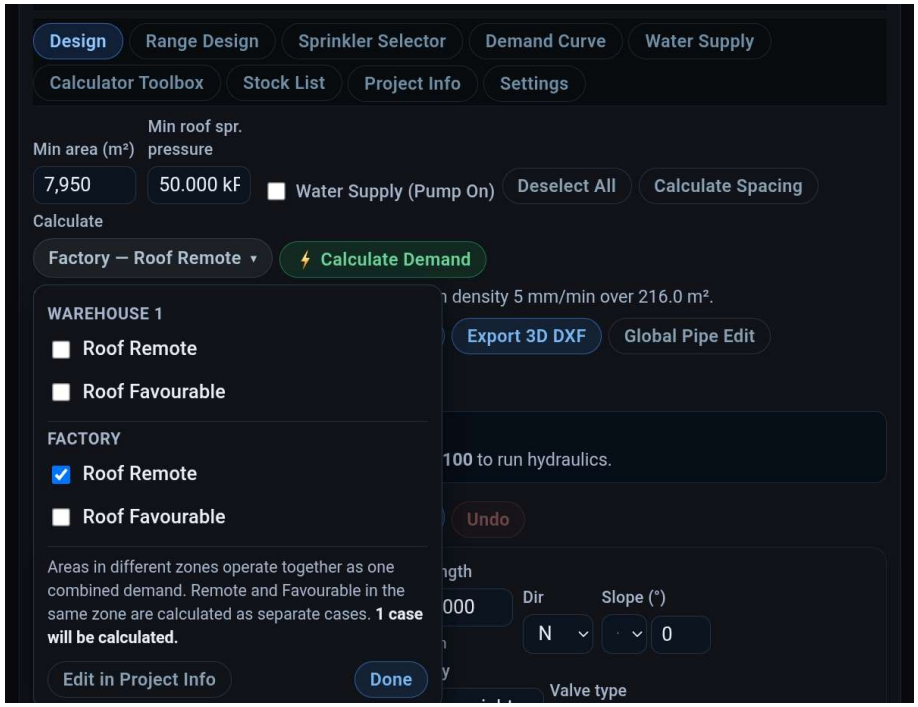


69. Set the hazard class, design density and area of operation (AMAO). Enter the largest actual spacing area, or leave Auto enabled. The program uses this value to determine the zone’s minimum starting pressure.

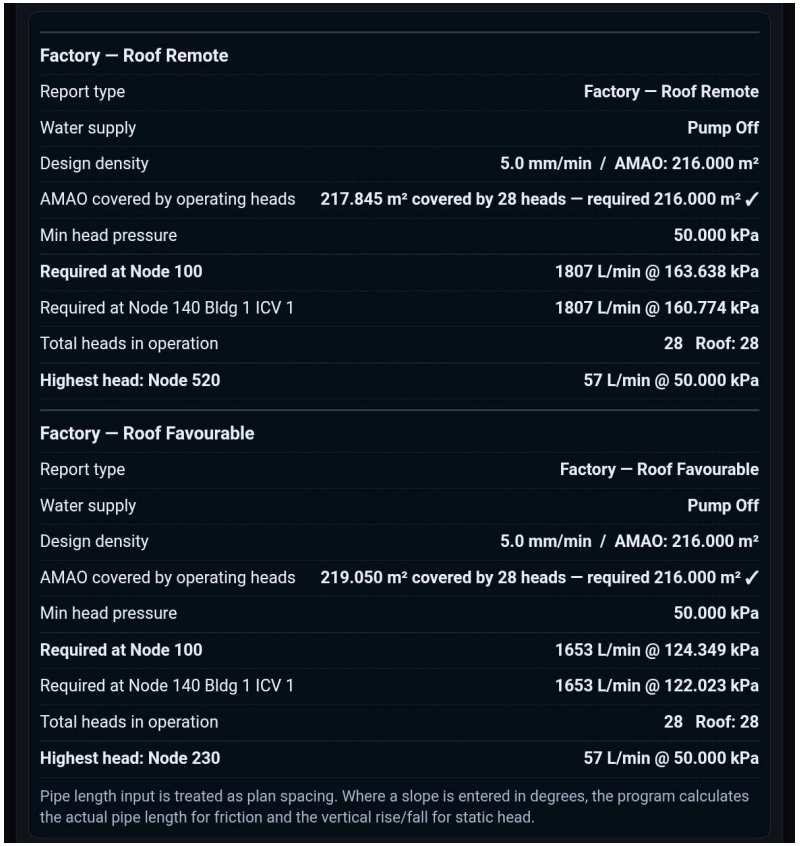
70. Scroll up to Operating Areas and set the number of sprinklers to operate. Enable Roof Remote, Roof Favourable or both. Outside Zones now has no roof or rack sprinklers assigned to it. Untick it to hide it from the Calculate list in Design. Enable the favourable cases required for this example.



71. Back in Design, the available calculation areas are clearly identified. Select the required cases, or choose Edit in Project Info to return to Operating Areas. Cases from different zones can operate together as a combined demand. Remote and favourable areas in the same zone calculate as separate cases.



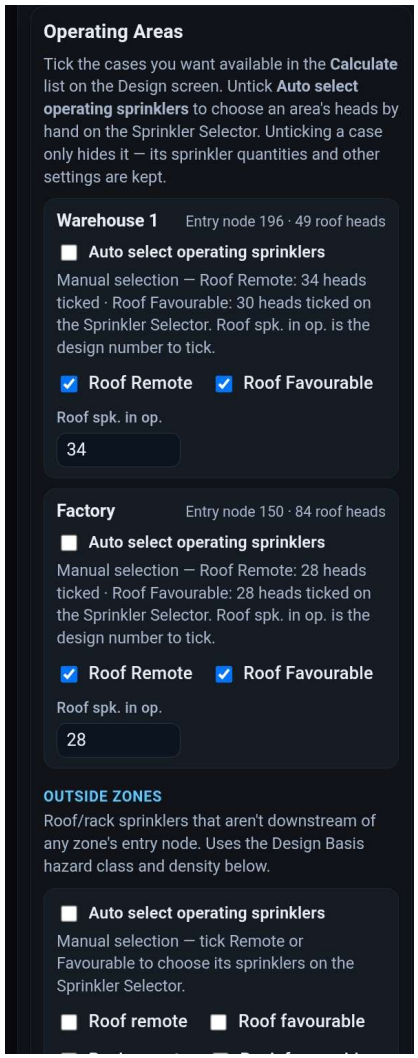
72. The report lists each calculation case separately.



Factory — Roof Remote	
Report type	Factory — Roof Remote
Water supply	Pump Off
Design density	5.0 mm/min / AMAO: 216.000 m²
AMAO covered by operating heads	217.845 m² covered by 28 heads — required 216.000 m² ✓
Min head pressure	50.000 kPa
Required at Node 100	1807 L/min @ 163.638 kPa
Required at Node 140 Bldg 1 ICV 1	1807 L/min @ 160.774 kPa
Total heads in operation	28 Roof: 28
Highest head: Node 520	57 L/min @ 50.000 kPa

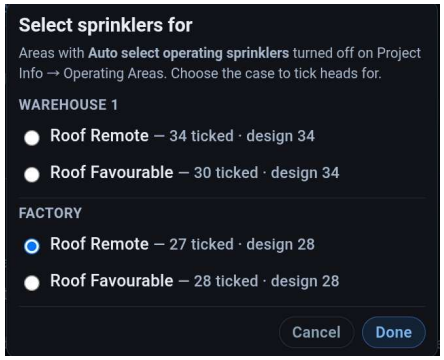
Factory — Roof Favourable	
Report type	Factory — Roof Favourable
Water supply	Pump Off
Design density	5.0 mm/min / AMAO: 216.000 m²
AMAO covered by operating heads	219.050 m² covered by 28 heads — required 216.000 m² ✓
Min head pressure	50.000 kPa
Required at Node 100	1653 L/min @ 124.349 kPa
Required at Node 140 Bldg 1 ICV 1	1653 L/min @ 122.023 kPa
Total heads in operation	28 Roof: 28
Highest head: Node 230	57 L/min @ 50.000 kPa

Pipe length input is treated as plan spacing. Where a slope is entered in degrees, the program calculates the actual pipe length for friction and the vertical rise/fall for static head.

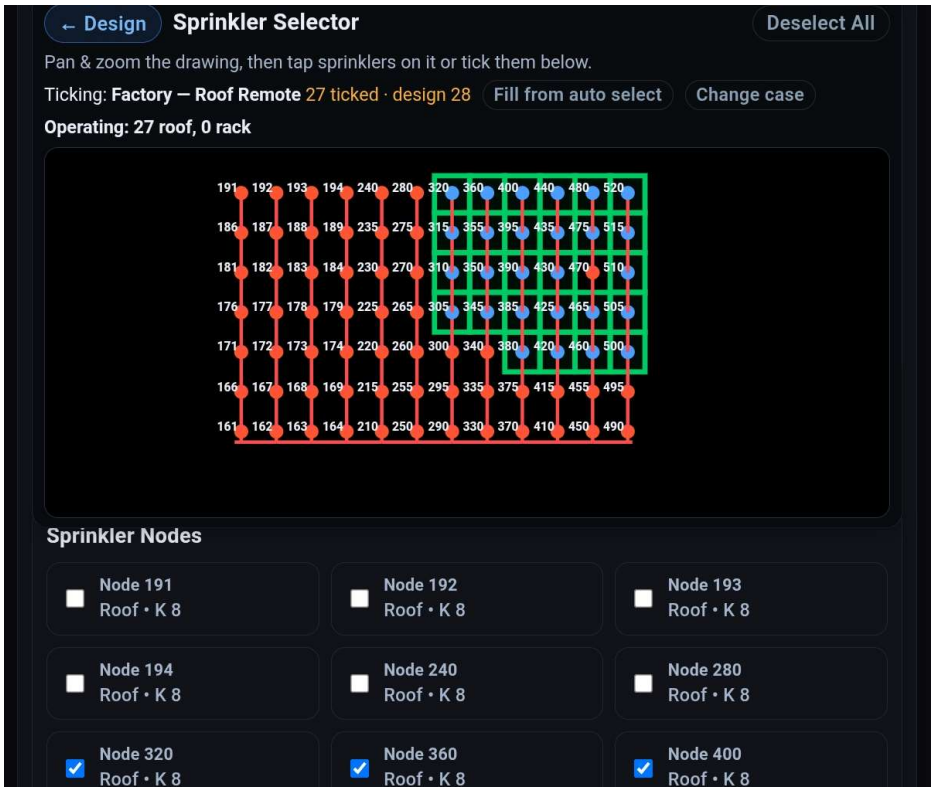


73. For manual sprinkler selection, return to Operating Areas and untick Auto select operating sprinklers. Leave the required operating areas ticked.

74. Open Sprinkler Selector and choose an operating area. Enabled areas with automatic selection turned off appear in this list.



75. Sprinkler Selector shows the selected zone in plan view. Select sprinklers in the drawing or in the list of visible heads below it. Only the Design tab is shown at the top to save screen space. When finished, select Design.



76. This manual selection gives a lower demand than the automatic selection. It may still be the relevant remote area if a separation wall excludes the other sprinklers.

77. The results view shows the pipes that carry water to the operating sprinklers. This can include pipework passing non-operating heads. Enable Insignificant pipes in Layers to display the rest of the system.

Factory — Roof Remote (selected heads)

Report type	**Factory — Roof Remote (selected heads)**
Water supply	**Pump Off**
Design density	**5.0 mm/min / AMAO: 216.000 m²**
AMAO covered by operating heads	**219.050 m² covered by 28 heads — required 216.000 m² ✓**
Min head pressure	**50.000 kPa**
Required at Node 100	**1719 L/min @ 153.757 kPa**
Required at Node 140 Bldg 1 ICV 1	**1719 L/min @ 151.204 kPa**
Total heads in operation	**28 Roof: 28**
Highest head: Node 520	**57 L/min @ 50.000 kPa**

Pipe length input is treated as plan spacing. Where a slope is entered in degrees, the program calculates the actual pipe length for friction and the vertical rise/fall for static head.



FireSprinkPro

Quick Start Manual: Part 1 complete

You have built and copied sprinkler ranges, reviewed the stock list, configured design zones and calculated hydraulic demand.

Final review

1. Check pipe sizes, lengths, directions and fittings against your drawing.

2. Review stock list warnings and confirm any changes to the pipework.

3. Confirm design criteria, zone entry nodes and operating area selections.

4. Review each required calculation case, then export the report and bill of quantities.

This worked example demonstrates the software workflow. Check your own project against the applicable design standard and local authority requirements.