Q 執行 Pushover Analysis 時， Pushover 曲線一直出不來，能幫我看看模型是哪裡有問題嗎？

A 我已經看你的模型。 分析以後，有 Error Message “WARNING : ELEMENT NO. (…) HAS ZERO LENGTH BY OFFSET.”

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----------------------------------------S T A R T I N G      S O L U T I O N

MULTI-FRONTAL SOLVER
AVAILABLE MEMORY =   22.4 GBYTES
GPU ACCELERATION : DISABLED (NOT SUITABLE COMPUTE CAPABILITY)
ENTRY NUMBERING_EQN
ENTRY FORM_STIFF_MASS_LOAD
THE INDIVIDUAL ELEMENT STIFFNESS AND LOAD MATRICES WILL NOW BE FORMED.
  ELEMENT NO. :   1500  OF    1800
  WARNING : ELEMENT NO.   1532  HAS ZERO LENGTH BY OFFSET.

  WARNING : ELEMENT NO.   1533  HAS ZERO LENGTH BY OFFSET.

  WARNING : ELEMENT NO.   1534  HAS ZERO LENGTH BY OFFSET.

  WARNING : ELEMENT NO.   1535  HAS ZERO LENGTH BY OFFSET.

  WARNING : ELEMENT NO.   1536  HAS ZERO LENGTH BY OFFSET.

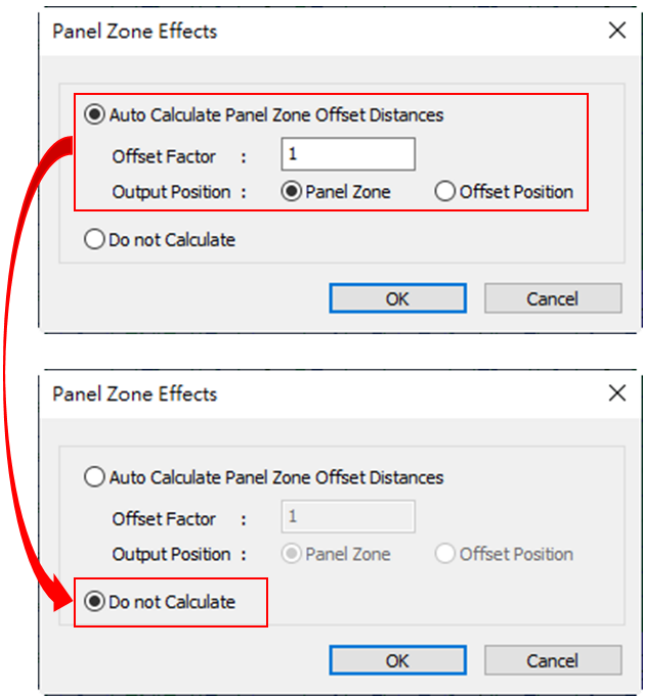
  WARNING : ELEMENT NO.   1537  HAS ZERO LENGTH BY OFFSET.

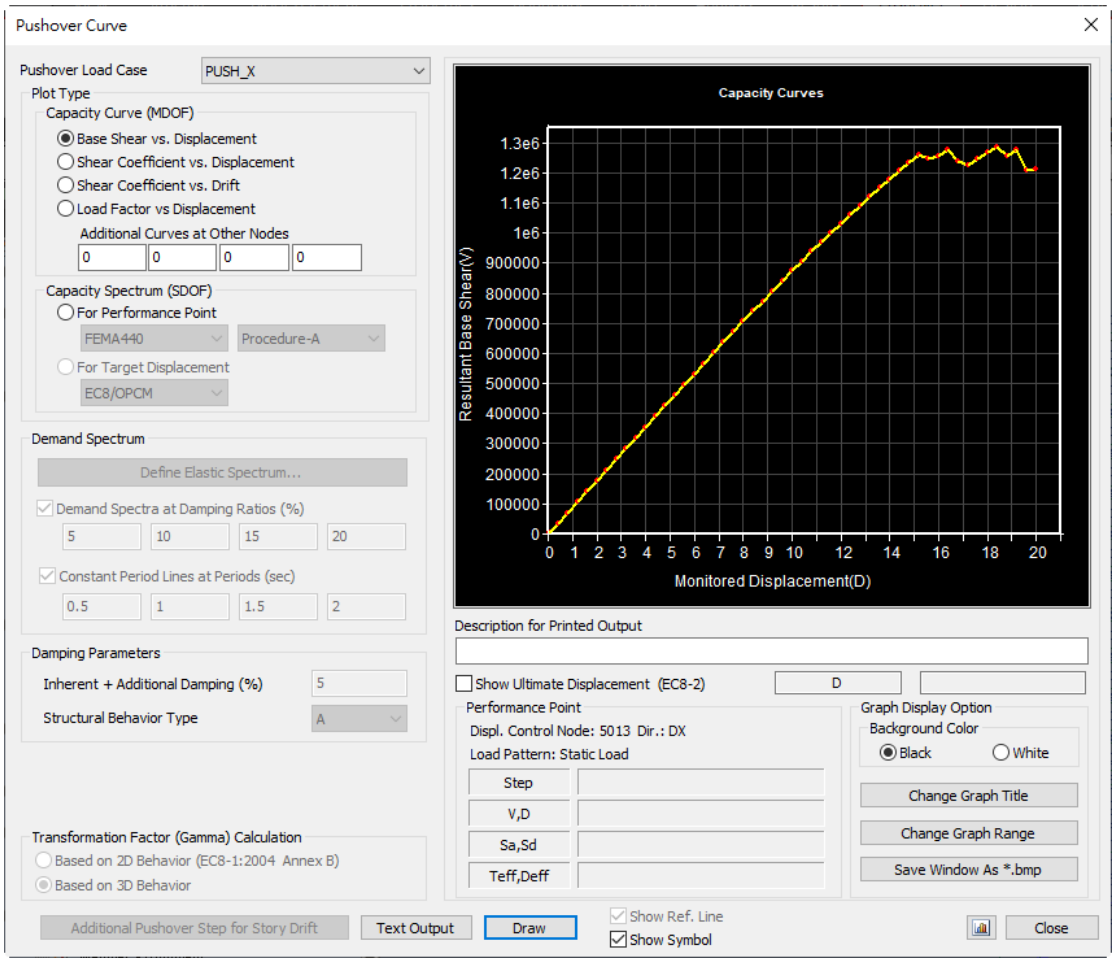
  WARNING : ELEMENT NO.   1538  HAS ZERO LENGTH BY OFFSET.

  WARNING : ELEMENT NO.   1539  HAS ZERO LENGTH BY OFFSET.

  WARNING : ELEMENT NO.   1540  HAS ZERO LENGTH BY OFFSET.
```

這個問題因為你輸入 Panel Zone Effect 以後，有一些 Element 沒有 Length。所以你應該 Remove Panel Zone Effect (在 Boundary > Panel Zone Effect > 選 Do not Calculate)。Run Pushover Analysis 以後，Pushover 曲線沒有問題。




Pushover Curve
Pushover Load Case
PUSH_X
Plot Type
Capacity Curve (MDOF)
Base Shear vs. Displacement
Shear Coefficient vs. Displacement
Shear Coefficient vs. Drift
Load Factor vs Displacement
Additional Curves at Other Nodes
0
0
0
0
Capacity Spectrum (SDOF)
For Performance Point
FEMA440
Procedure-A
For Target Displacement
EC8/OPCM
Demand Spectrum
Define Elastic Spectrum...
Demand Spectra at Damping Ratios (%)
5
10
15
20
Constant Period Lines at Periods (sec)
0.5
1
1.5
2
Damping Parameters
Inherent + Additional Damping (%)
5
Structural Behavior Type
A
Transformation Factor (Gamma) Calculation
Based on 2D Behavior (EC8-1:2004 Annex B)
Based on 3D Behavior
Capacity Curves
Resultant Base Shear(V)
1.3e6
1.2e6
1.1e6
1e6
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
0 1 2 3 4 5 6 7 8 9 10 12 14 16 18 20
Monitored Displacement(D)
Description for Printed Output
Show Ultimate Displacement (EC8-2)
D
Performance Point
Displ. Control Node: 5013 Dir.: DX
Load Pattern: Static Load
Step
V,D
Sa,Sd
Teff,Deff
Graph Display Option
Background Color
Black
White
Change Graph Title
Change Graph Range
Save Window As *.bmp
Additional Pushover Step for Story Drift
Text Output
Draw
Show Ref. Line
Show Symbol
Close