FIGURE 1 - FLAC GRID AND APPLIED LOADS, psf

JOB TITLE : EXCAVATION -- 40 FEET

FLAC (Version 3.40)

LEGEND

28-Nov- 0 0:07
step 54870
-3.500E+01 <x< 6.500E+01
-8.000E+01 <y< 2.000E+01

Grid plot

0 2E 1

Net Applied Forces

Max Vector = 4.667E+03

0 1E 4

Applied Velocities

Max Vector = 2.428E-04

0 5E -4

Dynamic Apply Conditions

* = Free Field Boundary
Marked Gridpoints

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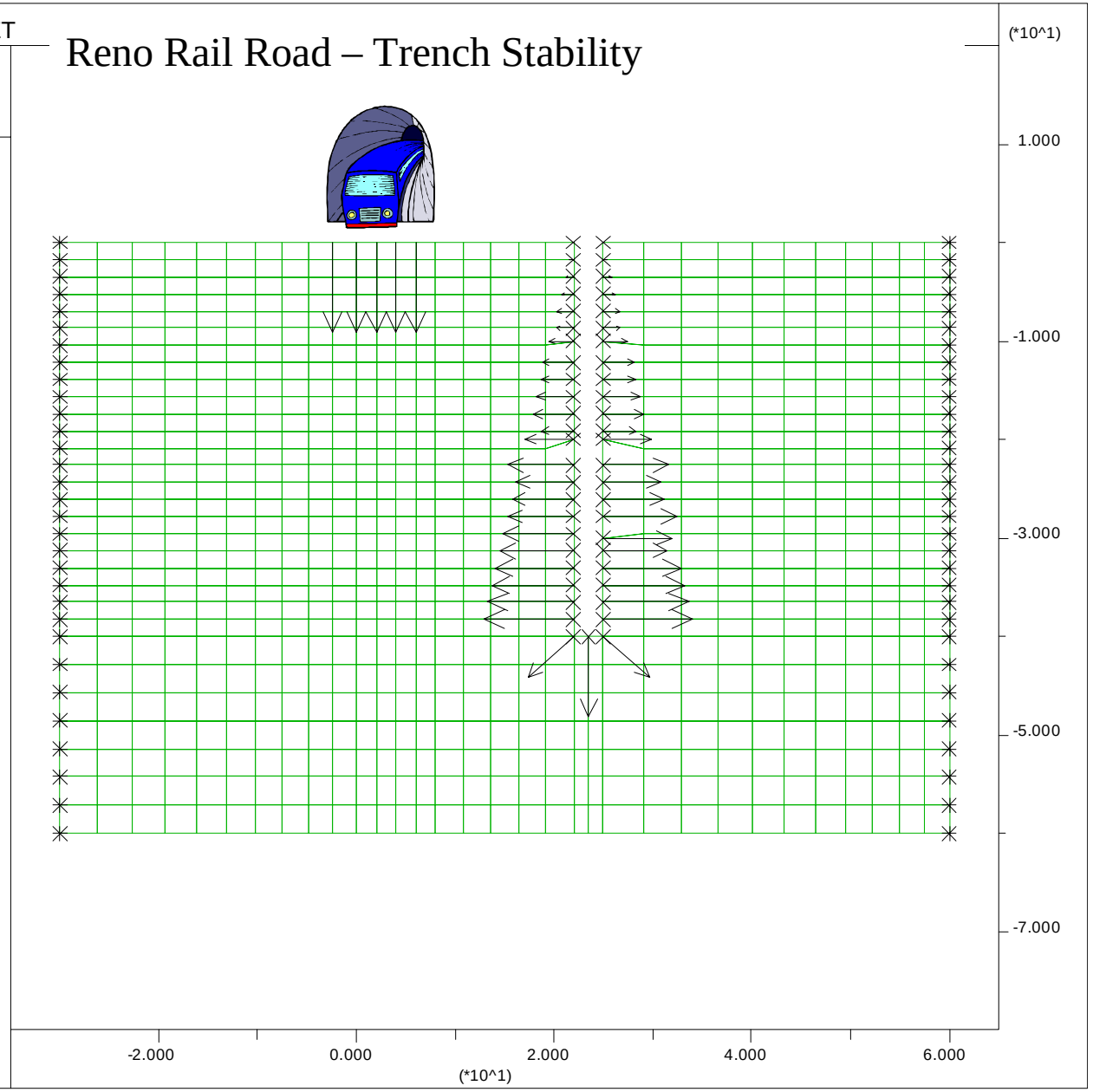

FIGURE 2 - DISPLACEMENT VECTORS for STATIC TRAIN LOADS

JOB TITLE : EXCAVATION -- 40 FEET

FLAC (Version 3.40)

LEGEND

28-Nov- 0 7:50
step 9150
-3.500E+01 <x< 6.500E+01
-8.000E+01 <y< 2.000E+01

Boundary plot

0 2E 1

Displacement vectors

Max Vector = 4.132E-02

0 1E -1

Displacement vectors are highly exaggerated for illustration purposes.

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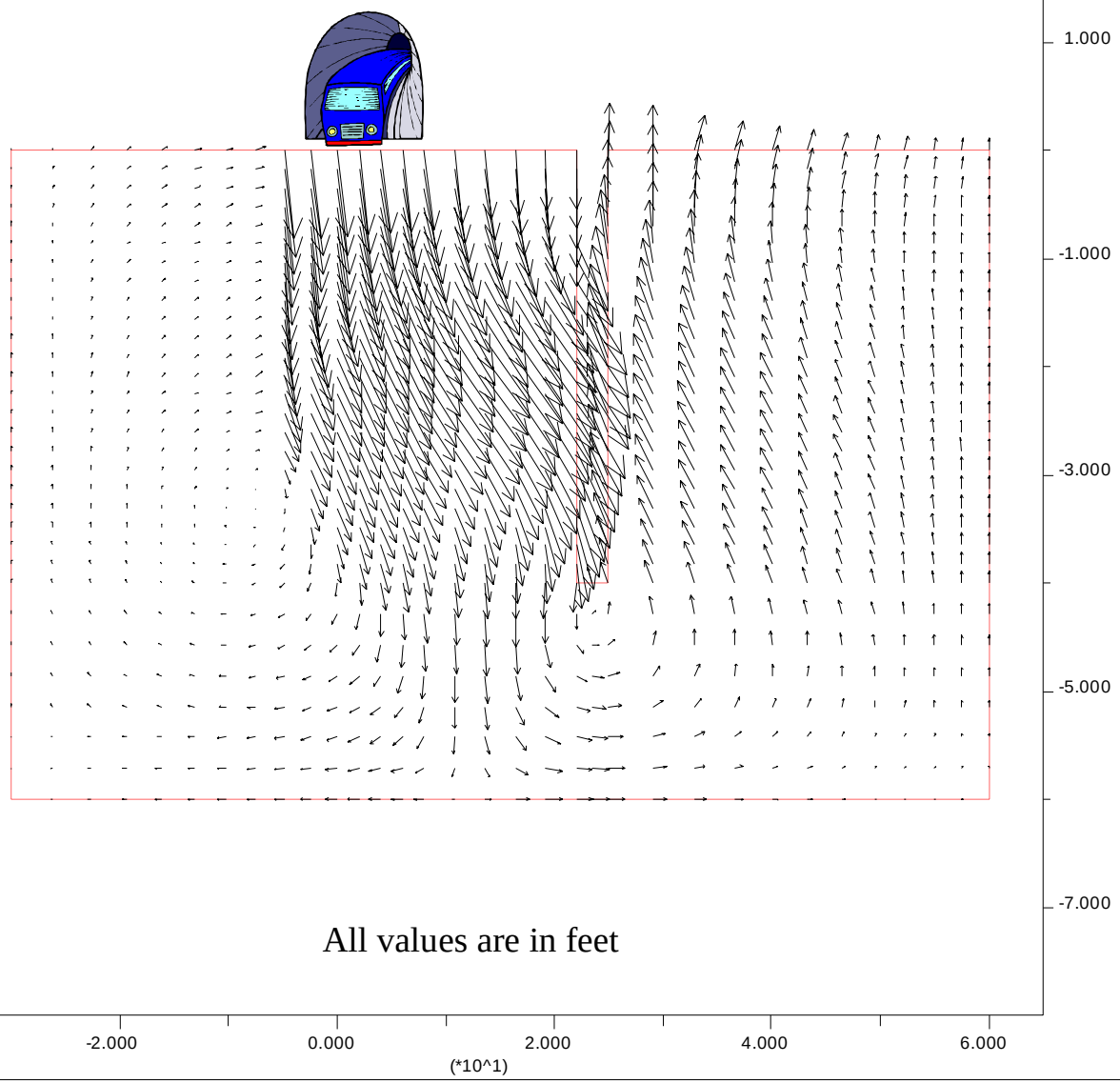
Reno Rail Road – Trench Stability



All values are in feet

FIGURE 3 - X-DISPLACEMENT CONTOURS - STATIC CASE

JOB TITLE : EXCAVATION -- 40 FEET

FLAC (Version 3.40)

LEGEND

28-Nov- 0 7:50
step 9150
-3.500E+01 <x< 6.500E+01
-8.000E+01 <y< 2.000E+01

Boundary plot

0 2E 1

X-displacement contours

- -5.00E-03
- 0.00E+00
- 5.00E-03
- 1.00E-02
- 1.50E-02
- 2.00E-02

Contour interval= 5.00E-03

Net Applied Forces

Max Vector = 6.534E+03

0 2E 4

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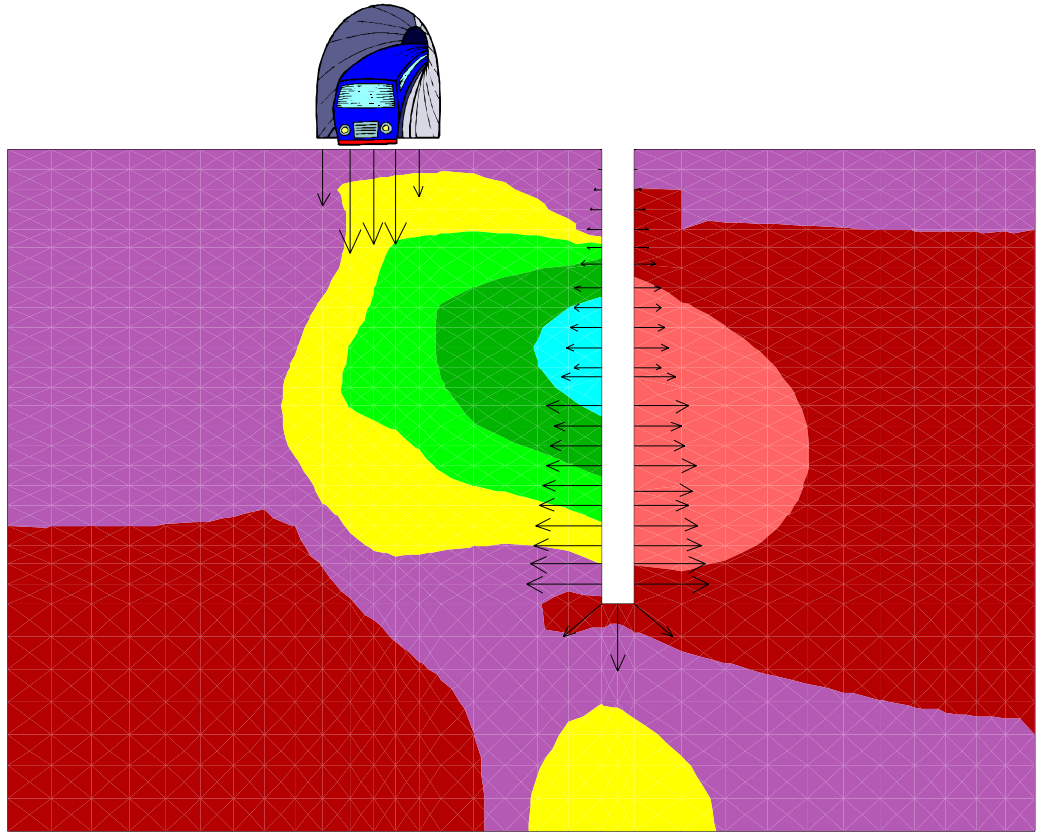
Reno Rail Road – Trench Stability Static Case



All values are in feet

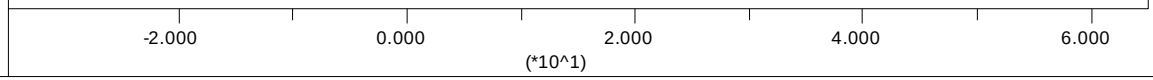


FIGURE 4 - Y-DISPLACEMENT CONTOURS - STATIC CASE

JOB TITLE : EXCAVATION -- 40 FEET

FLAC (Version 3.40)

LEGEND

28-Nov- 0 7:50
step 9150
-3.500E+01 <x< 6.500E+01
-8.000E+01 <y< 2.000E+01

Boundary plot

0 2E 1

Y-displacement contours

- -3.00E-02
- -2.00E-02
- -1.00E-02
- 0.00E+00
- 1.00E-02
- 2.00E-02

Contour interval= 1.00E-02

Net Applied Forces

Max Vector = 6.534E+03

0 2E 4

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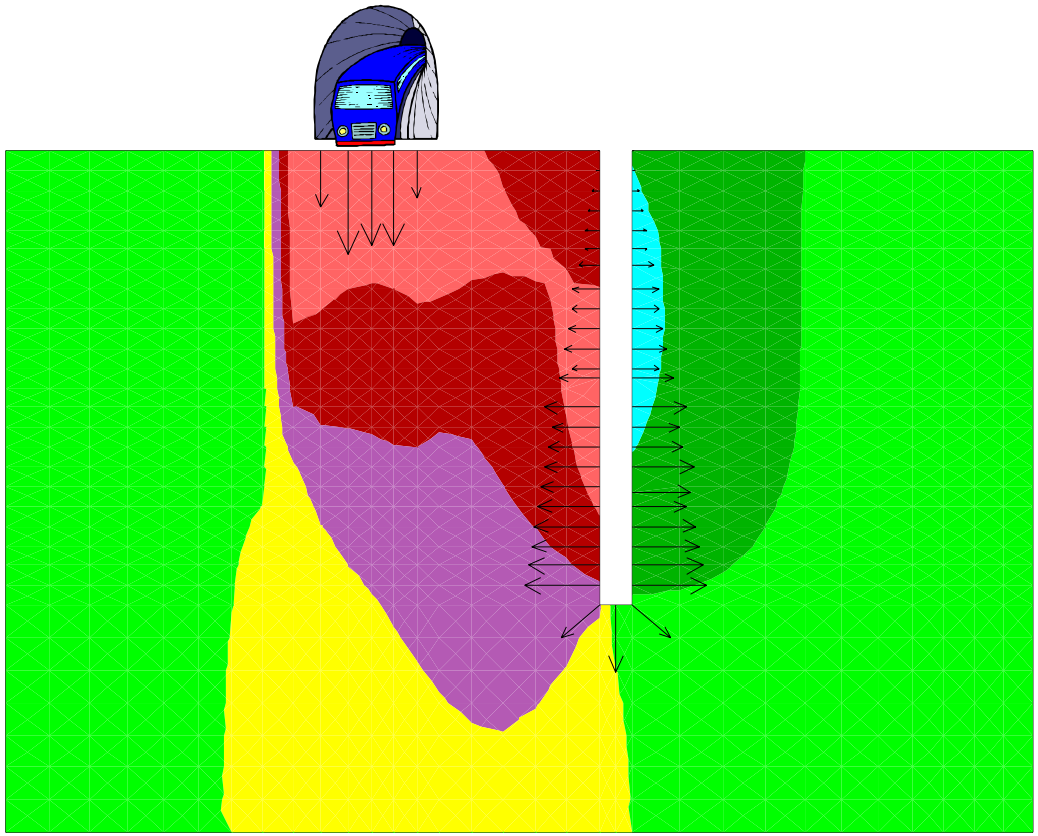
Reno Rail Road – Trench Stability Static Case



All values are in feet

(*10^1)
1.000
-1.000
-3.000
-5.000
-7.000

-2.000 0.000 2.000 4.000 6.000
(*10^1)

FIGURE 5 - Y-DISPLACEMENT HISTORY @ TRACK BOTTOM

JOB TITLE : EXCAVATION -- 40 FEET

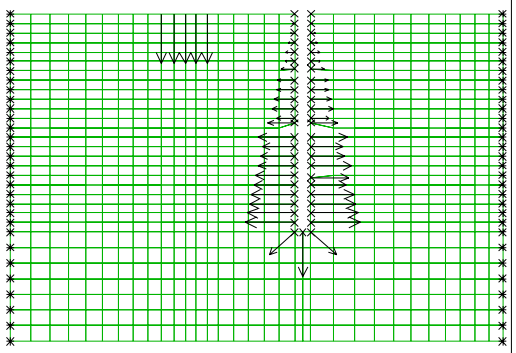
FLAC (Version 3.40)

LEGEND

28-Nov- 0 7:50
step 9150

HISTORY PLOT
Y-axis :
Y displacement(11, 31)
X-axis :
Number of steps

All values are in feet



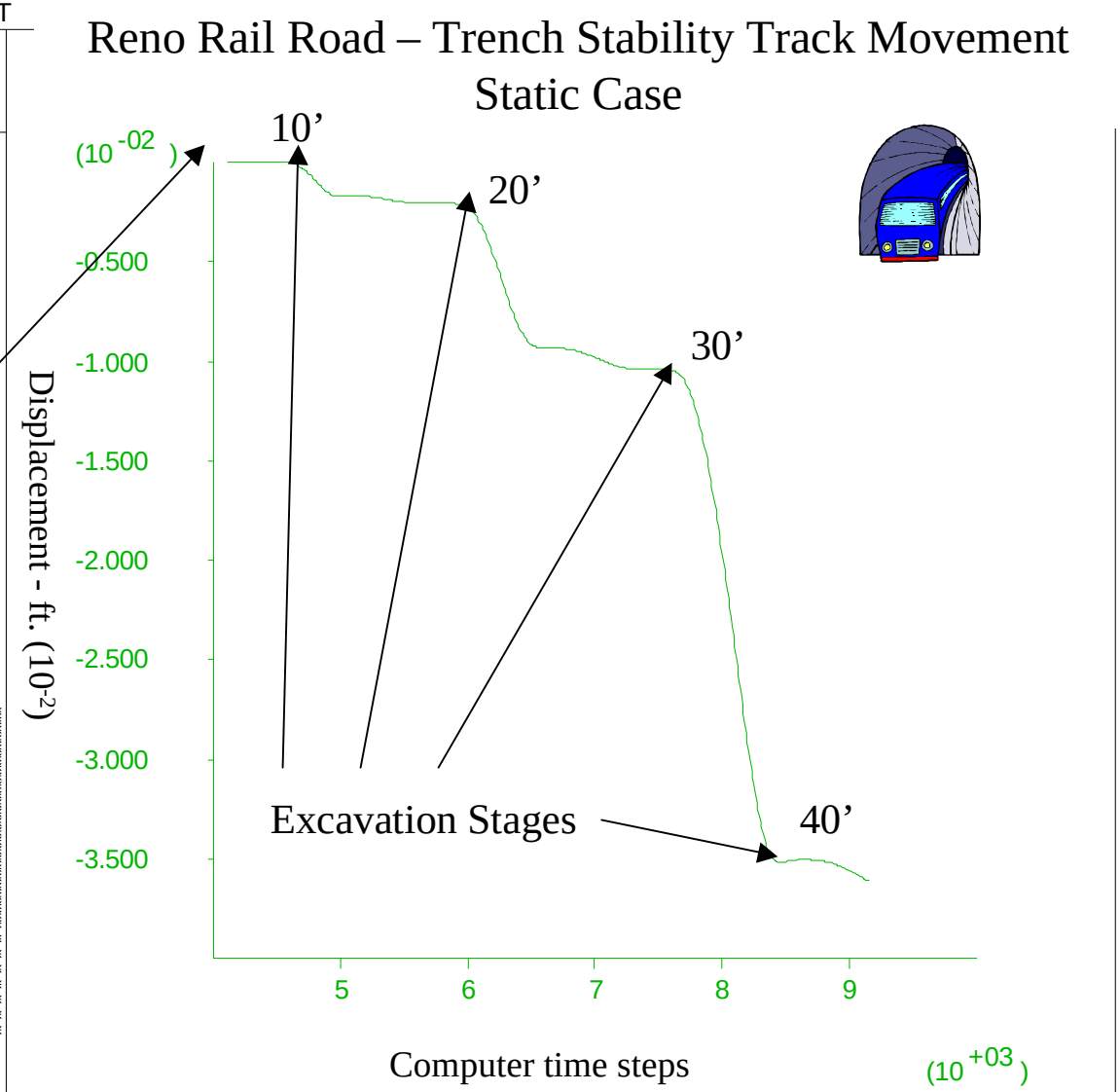


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FIGURE 6 - X-DISPLACEMENT CONTOURS - VIBRATION CASE

JOB TITLE : EXCAVATION -- 40 FEET

FLAC (Version 3.40)

LEGEND

28-Nov- 0 0:07
step 54870
-3.500E+01 <x< 6.500E+01
-8.000E+01 <y< 2.000E+01

Boundary plot

0 2E 1

X-displacement contours

- -2.50E-04
- 0.00E+00
- 2.50E-04
- 5.00E-04
- 7.50E-04
- 1.00E-03

Contour interval= 2.50E-04
Net Applied Forces

Max Vector = 4.667E+03

0 1E 4

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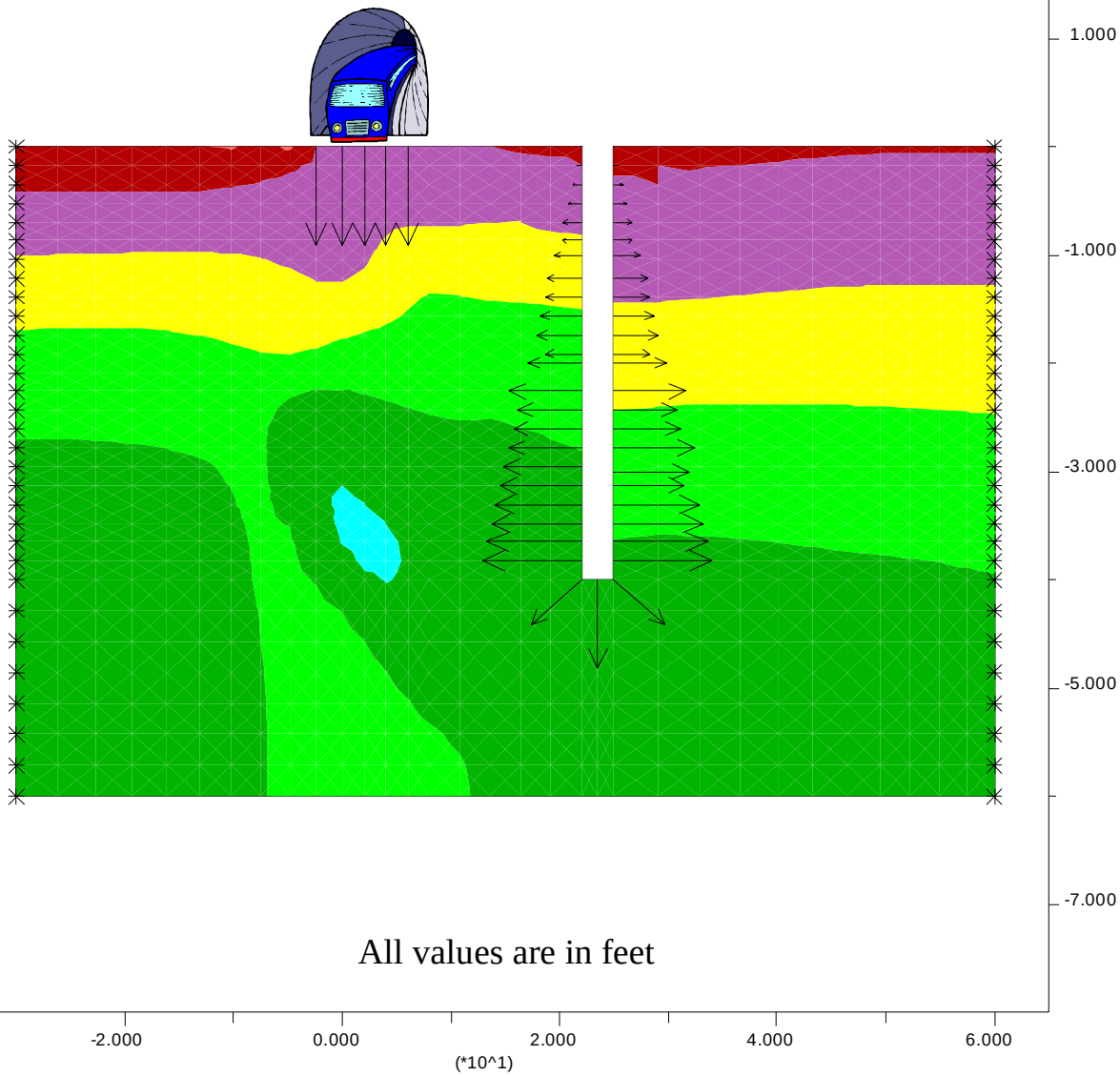
Reno Rail Road – Trench Stability Post Vibration



All values are in feet

FIGURE 7 - Y-DISPLACEMENT CONTOURS - VIBRATION CASE

JOB TITLE : EXCAVATION -- 40 FEET

FLAC (Version 3.40)

LEGEND

28-Nov- 0 0:07
step 54870
-3.500E+01 <x< 6.500E+01
-8.000E+01 <y< 2.000E+01

Boundary plot

0 2E 1

Y-displacement contours

- -2.50E-04
- 0.00E+00
- 2.50E-04
- 5.00E-04
- 7.50E-04
- 1.00E-03
- 1.25E-03

Contour interval= 2.50E-04

Net Applied Forces

Max Vector = 4.667E+03

0 1E 4

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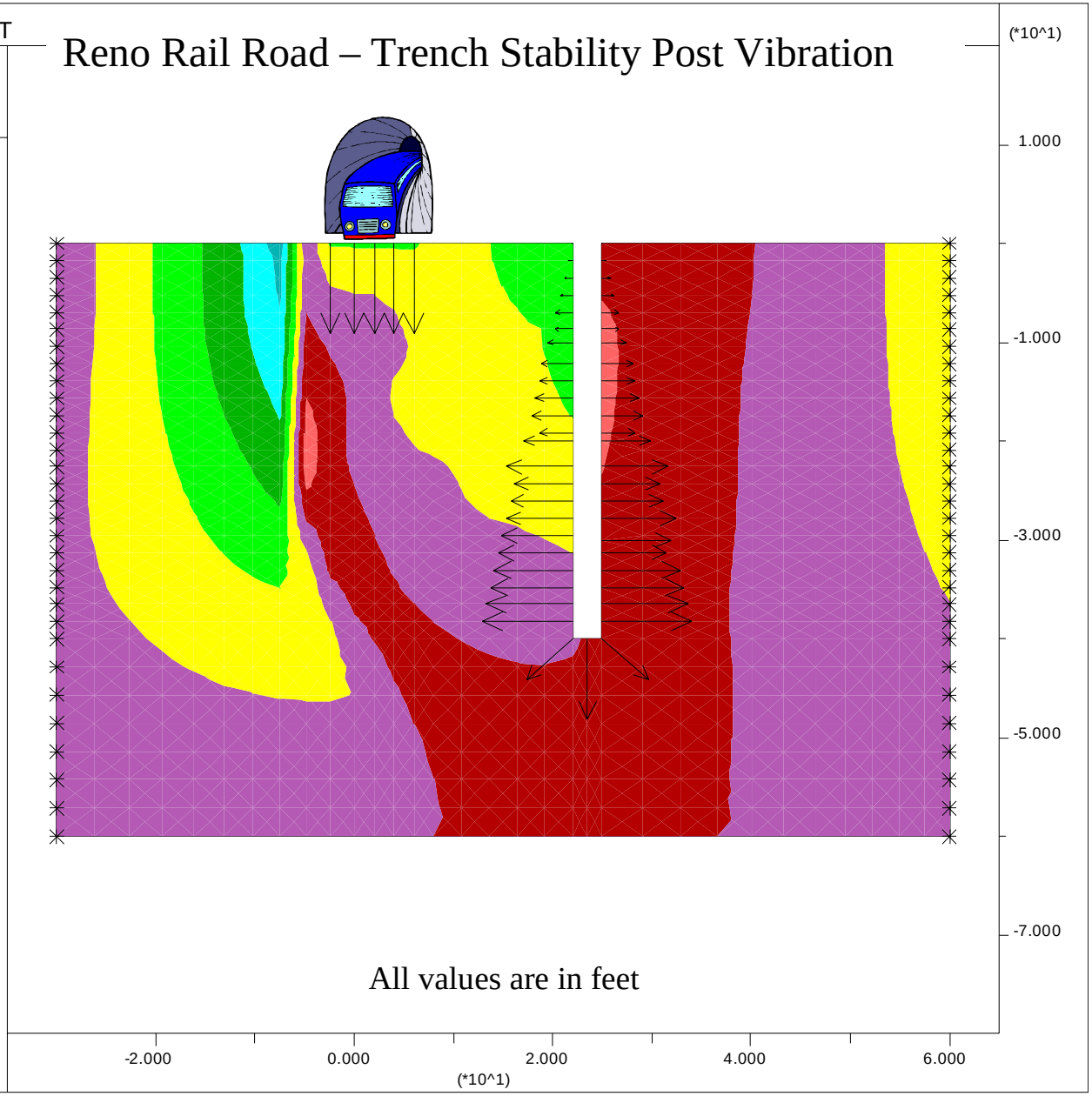

FIGURE 8 - X-DISPLACEMENT HISTORY @ TRENCH WALL

JOB TITLE : EXCAVATION -- 40 FEET

FLAC (Version 3.40)

LEGEND

28-Nov- 0 0:07
step 54870

HISTORY PLOT
Y-axis :
X displacement(20, 18)
X displacement(20, 14)
X displacement(20, 10)
X-axis :
Dynamic time

All values are in feet

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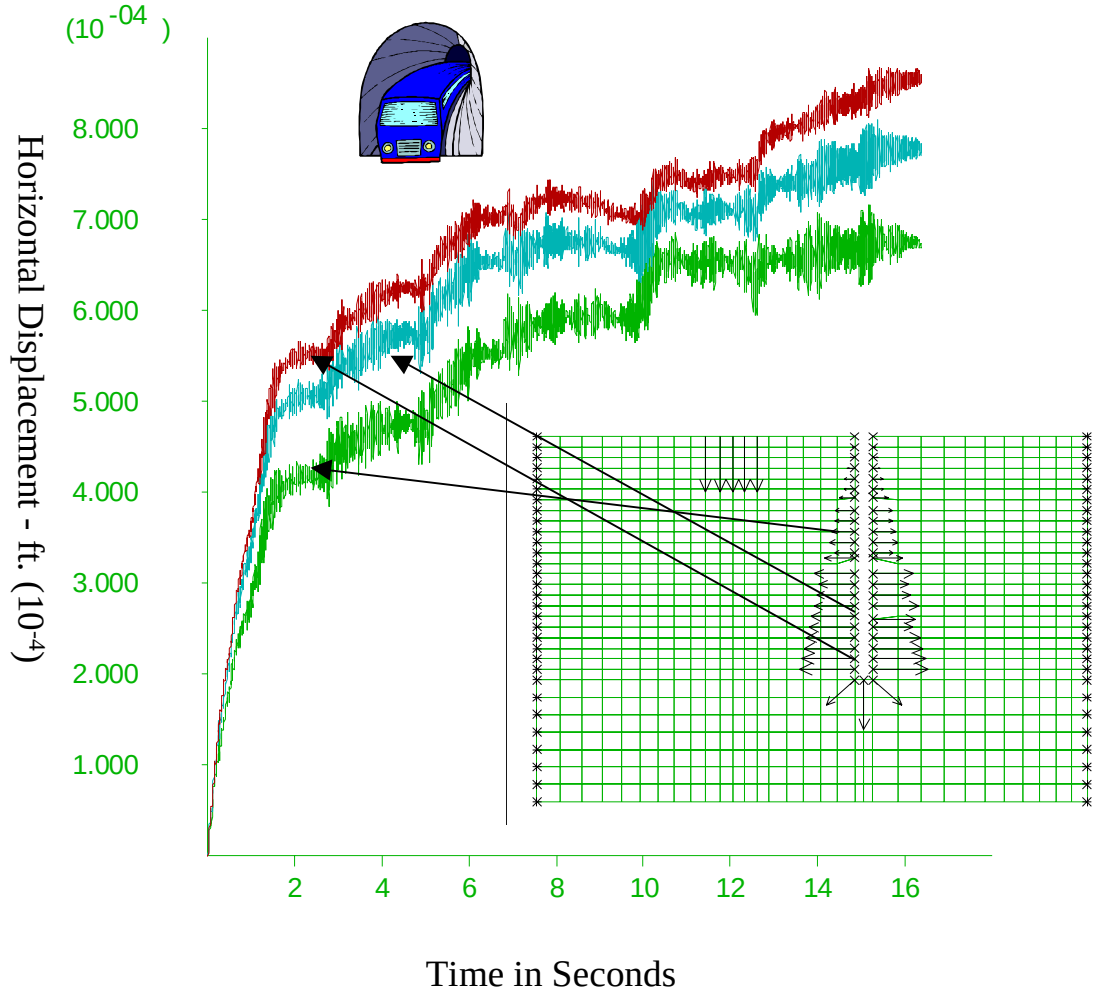
Reno Rail Road – Trench Stability Displacement History