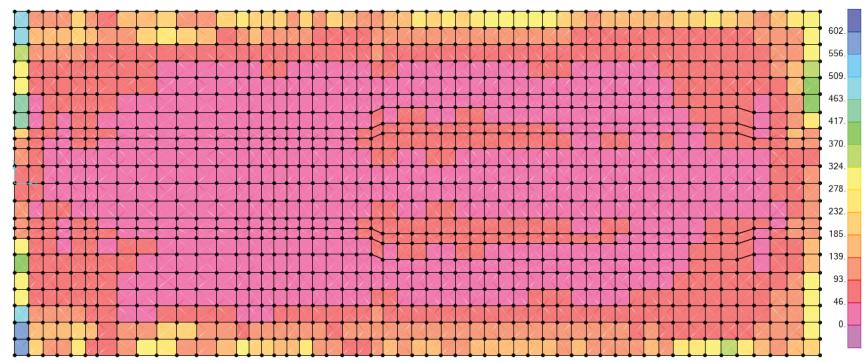
Figure 3.8.5-3: Seismic Base Pressure Contours from SASSI2010 Analysis (Lb, inch Units)



NuScale Final Safety Analysis Report

Figure 3.8.5-4: M22 due to Static Base Pressure

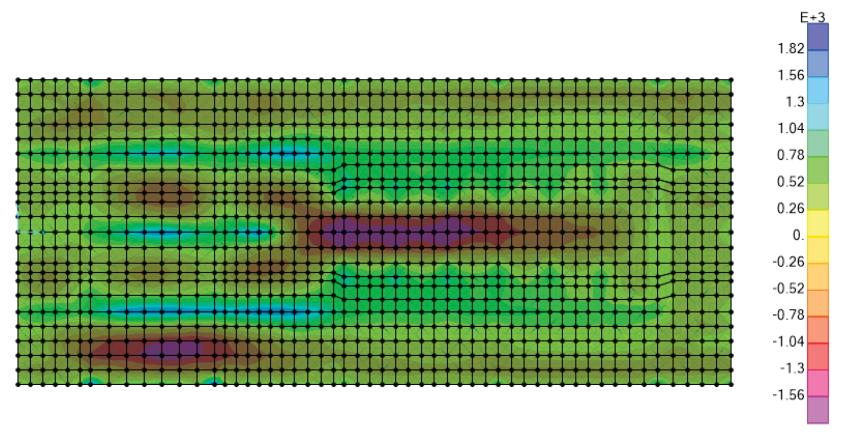
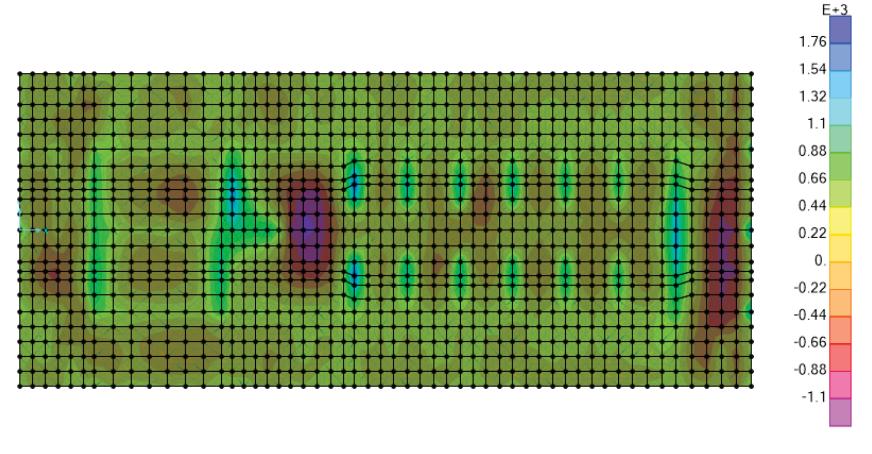


Figure 3.8.5-5: M11 due to Static Base Pressure



3.8-143

E<u>+3</u>

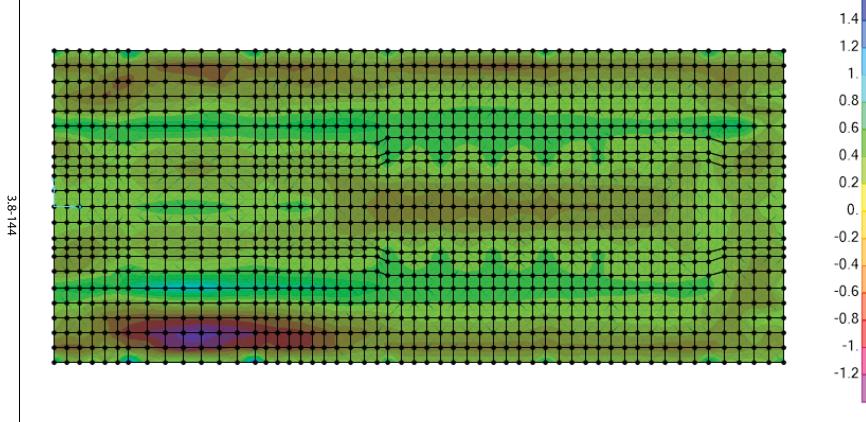
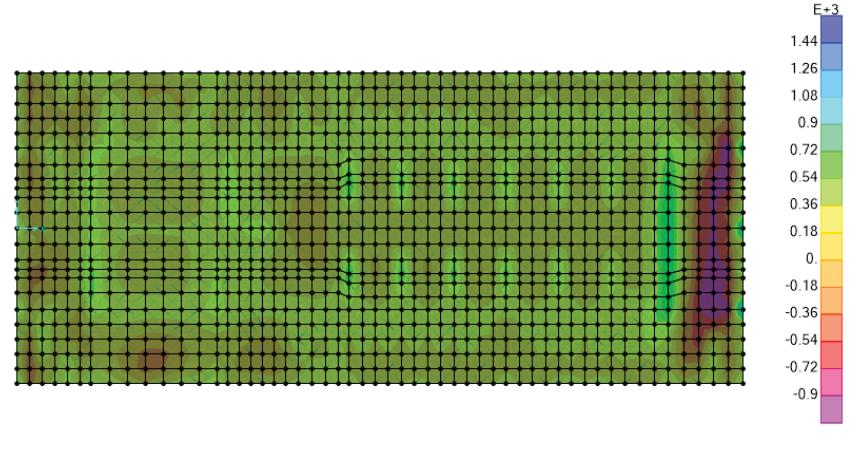


Figure 3.8.5-7: M11 due to Seismic Base Pressure



3.8-145

Figure 3.8.5-8: RXB ANSYS Model with Backfill Soil

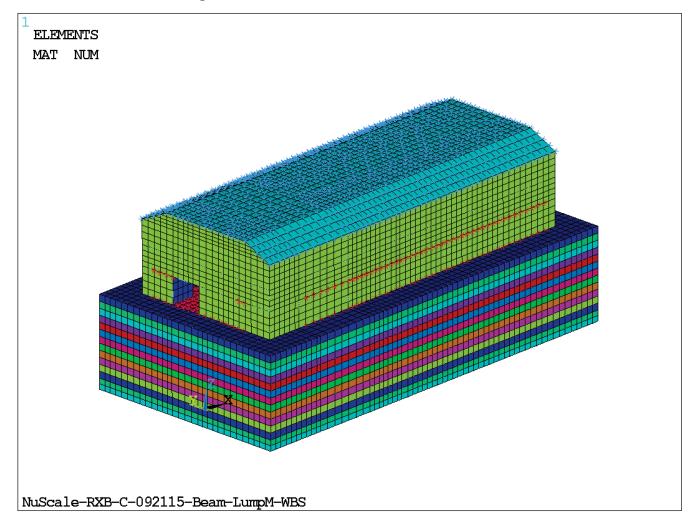


Figure 3.8.5-9: Nonlinear Contact Region between Building and Soil

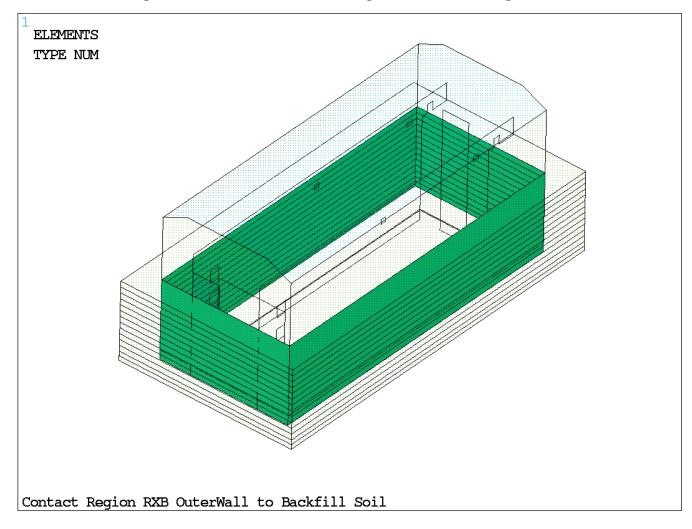


Figure 3.8.5-10: Nodes Selected for Settlement Values

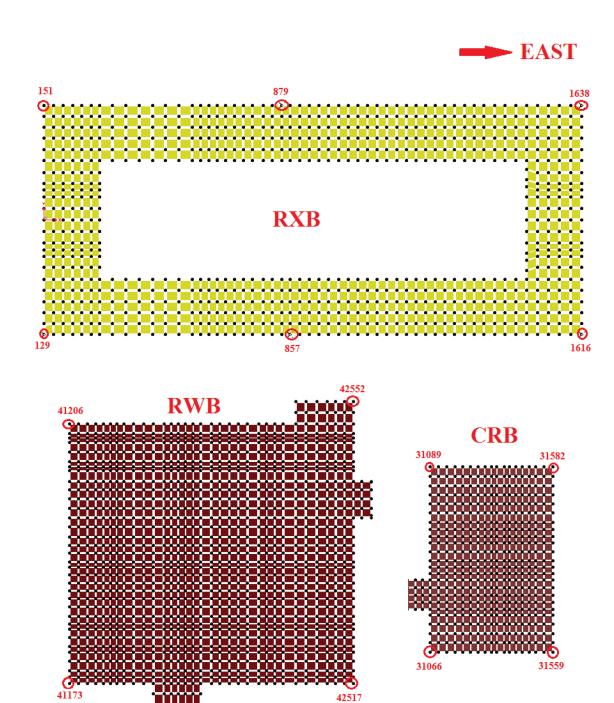


Figure 3.8.5-11: RXB Skin Nodes on Backfill Soil Vertical Boundaries for Applying SASSI Acceleration Time Histories

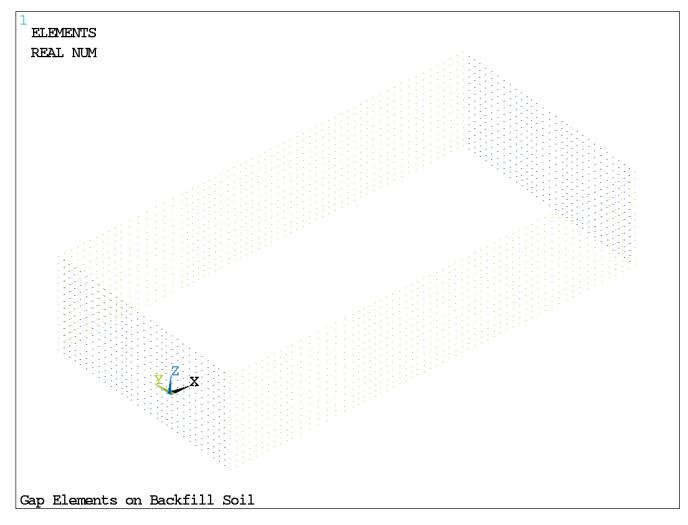
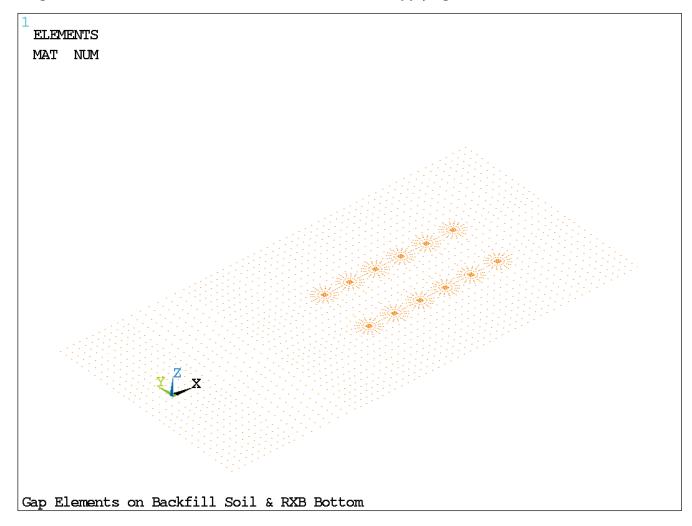


Figure 3.8.5-12: RXB Foundation Bottom Skin Nodes for Applying SASSI Acceleration Time Histories



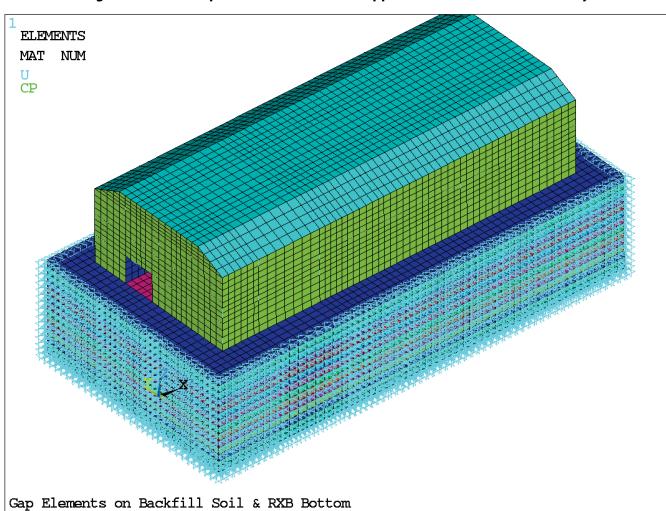


Figure 3.8.5-13: Displacements from SASSI Applied to ANSYS Model Boundary

ELEMENTS MAT NUM U СP Gap Elements on Backfill Soil & RXB Bottom

Figure 3.8.5-14: Displacements from SASSI Applied to ANSYS Model Boundary

NuScale Final Safety Analysis Report

Figure 3.8.5-15: Nonlinear Contact Element between Backfill and Surrounding Soil

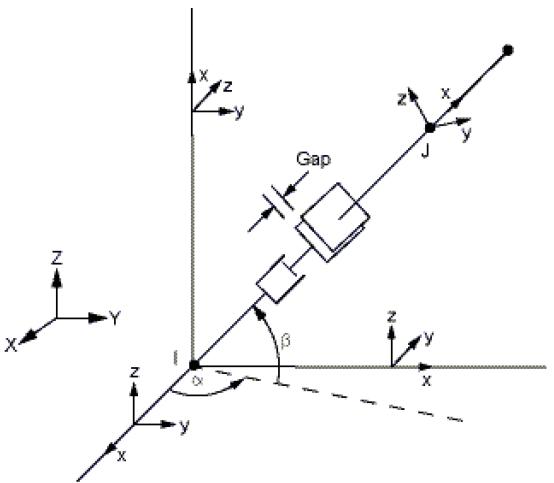


Figure 3.8.5-16: Buoyancy Load on Basemat

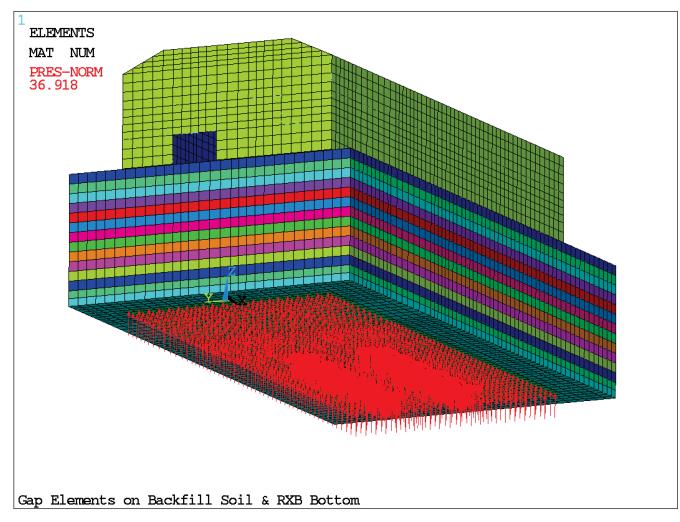


Figure 3.8.5-17: Soil Type 7 - Acceleration Time History - Vertical

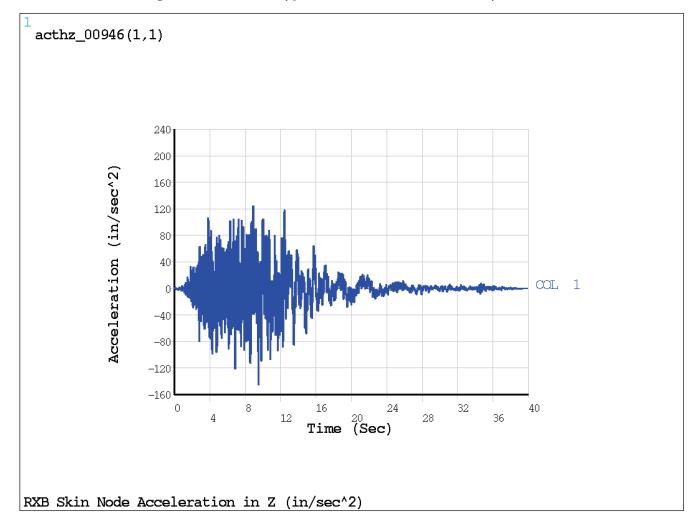


Figure 3.8.5-18: Soil Type 7 - Acceleration Time History - E-W

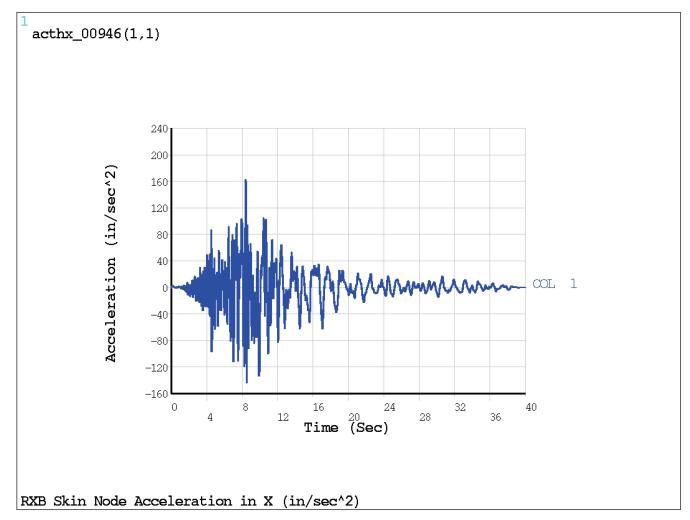


Figure 3.8.5-19: Soil Type 7 - Acceleration Time History - N-S

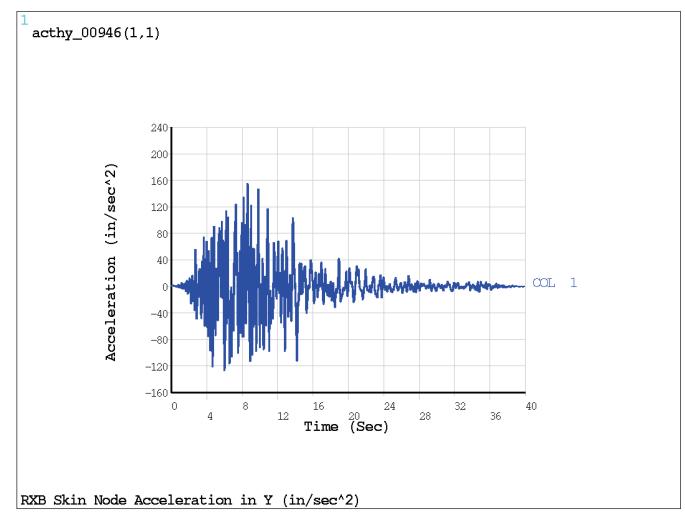


Figure 3.8.5-20: Soil Type 8 - Acceleration Time History - Vertical

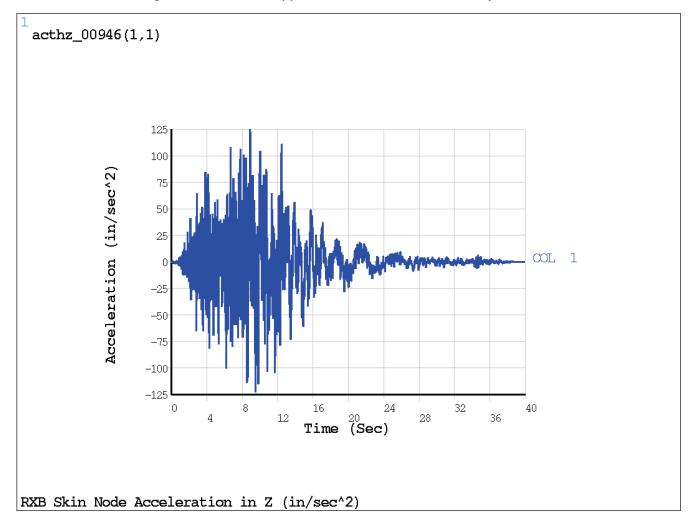


Figure 3.8.5-21: Soil Type 8 - Acceleration Time History - E-W

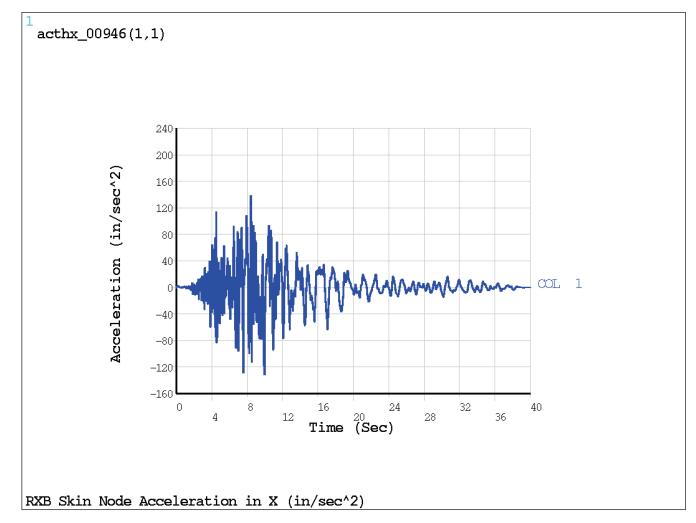


Figure 3.8.5-22: Soil Type 8 - Acceleration Time History - N-S

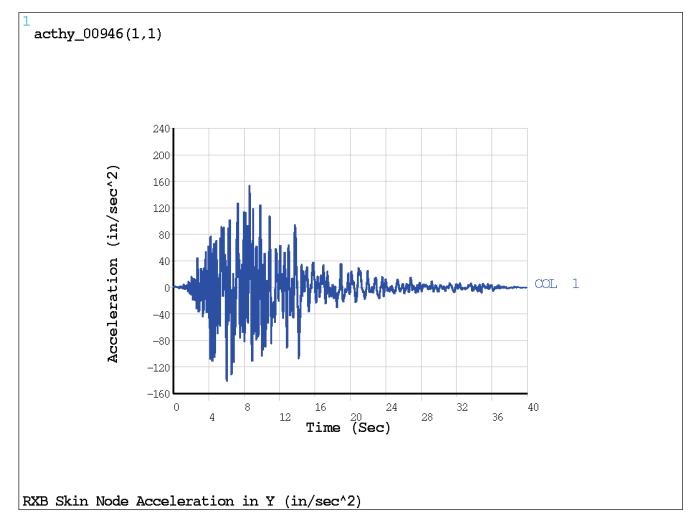


Figure 3.8.5-23: Soil Type 11 - Acceleration Time History - Vertical

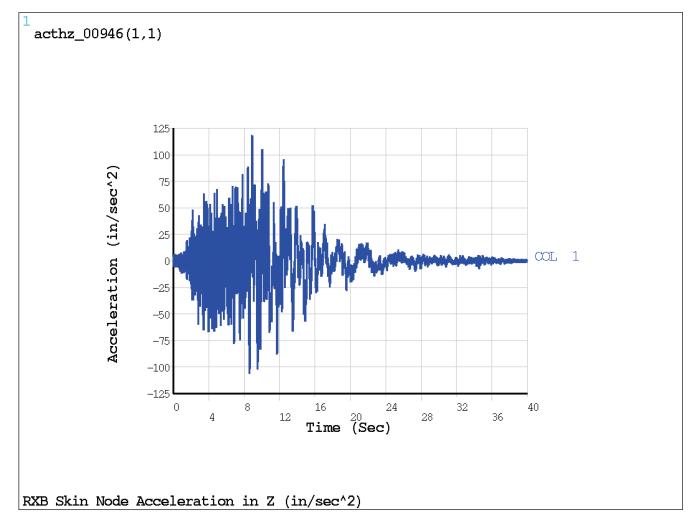
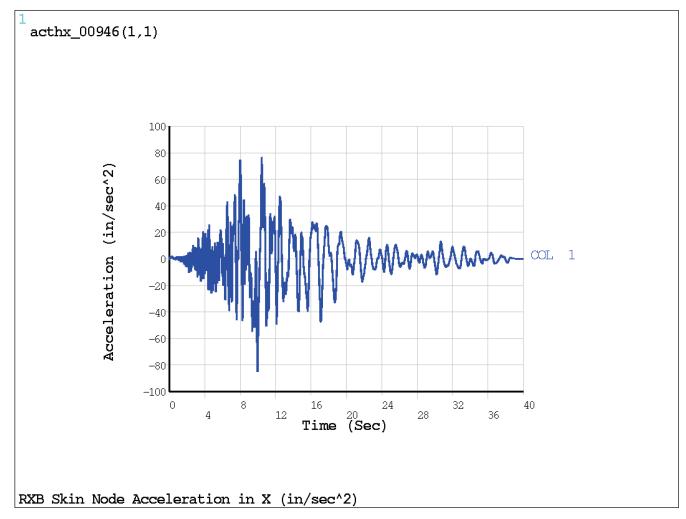
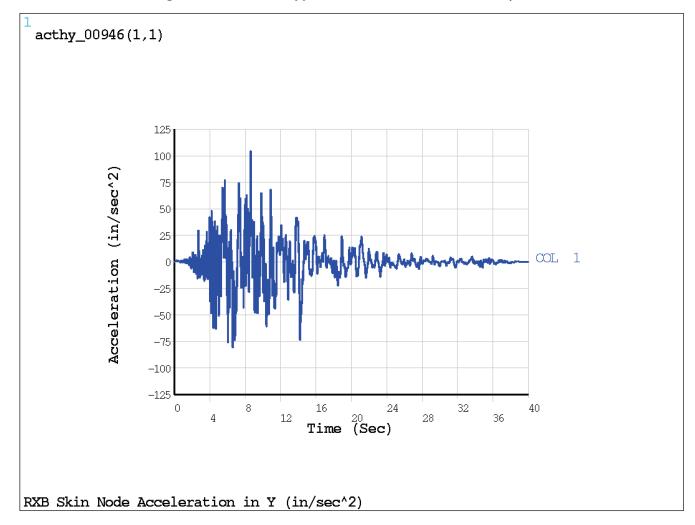


Figure 3.8.5-24: Soil Type 11 - Acceleration Time History - E-W



Revision 0

Figure 3.8.5-25: Soil Type 11 - Acceleration Time History - N-S



Revision 0

Figure 3.8.5-26: Nonlinear Contact Region between CRB and Soil

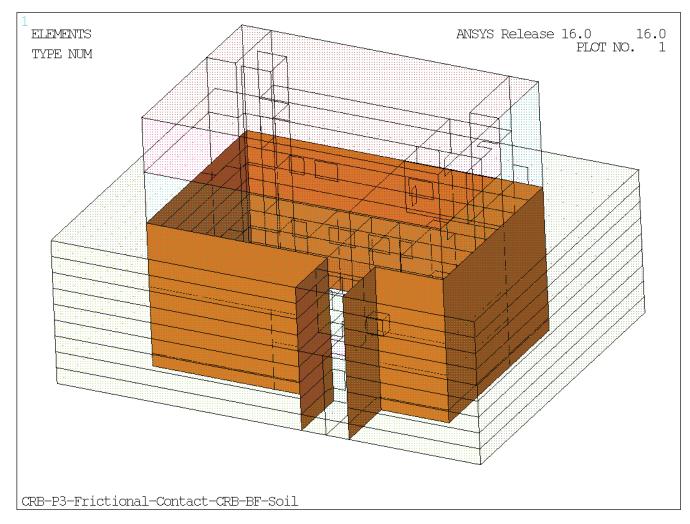
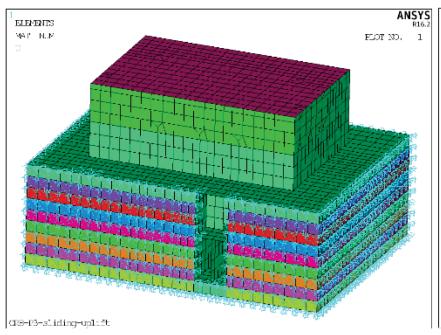


Figure 3.8.5-27: CRB Time Histories from SASSI Applied to ANSYS Model Boundary



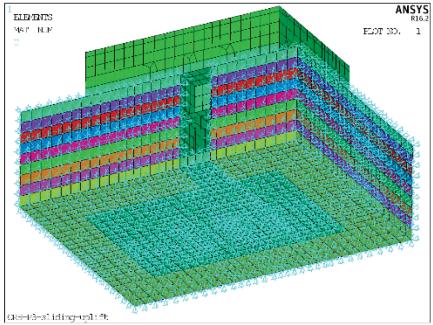


Figure 3.8.5-28: Soil Type 11, Capitola Input - Acceleration Time History - Vertical

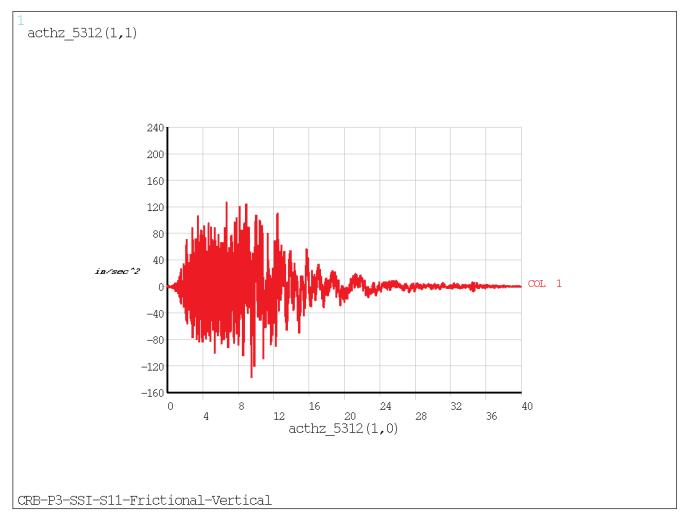


Figure 3.8.5-29: Soil Type 11, Capitola Input - Acceleration Time History - E-W

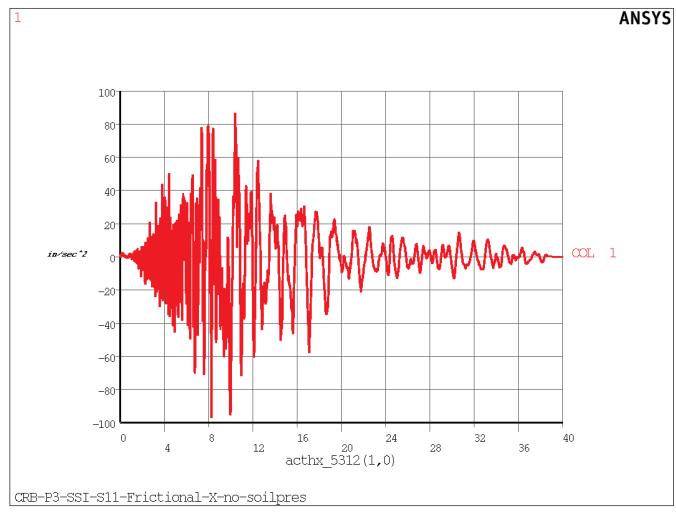
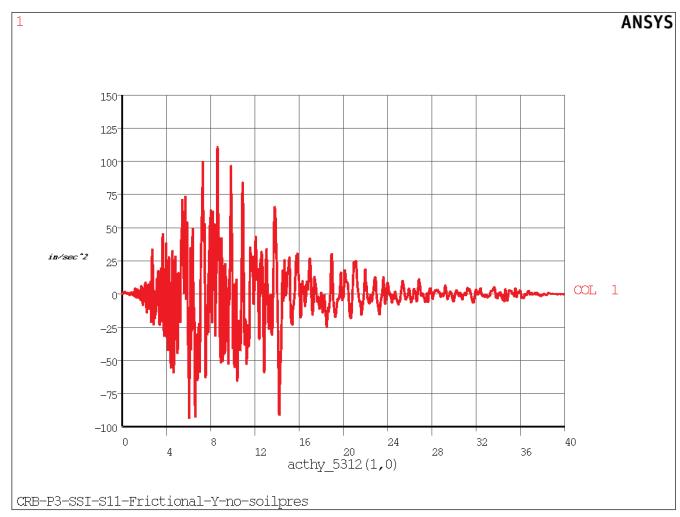


Figure 3.8.5-30: Soil Type 11, Capitola Input - Acceleration Time History - N-S



Revision 0

Figure 3.8.5-31: Soil Type 7, Capitola Input - Acceleration Time History - Vertical

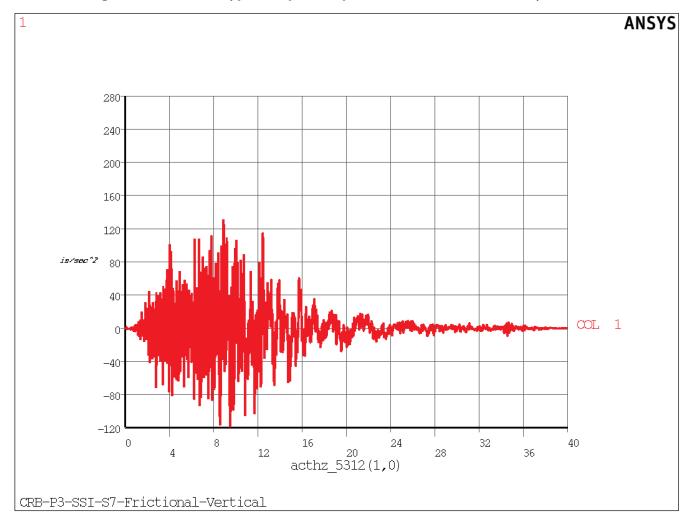


Figure 3.8.5-32: Soil Type 7, Capitola Input - Acceleration Time History - E-W

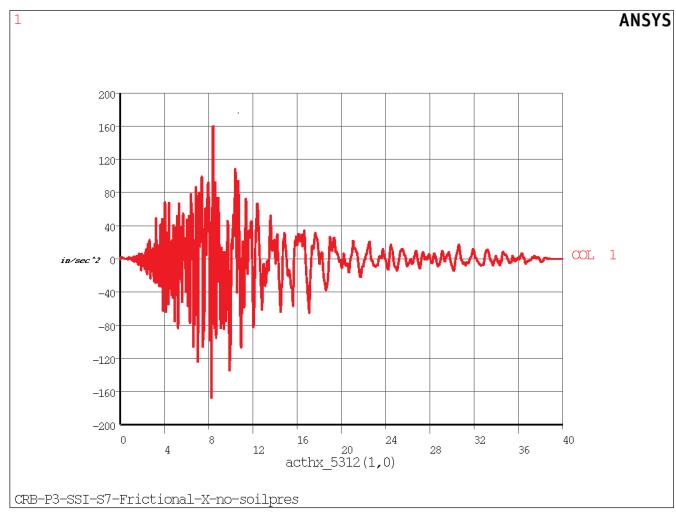


Figure 3.8.5-33: Soil Type 7, Capitola Input - Acceleration Time History - N-S

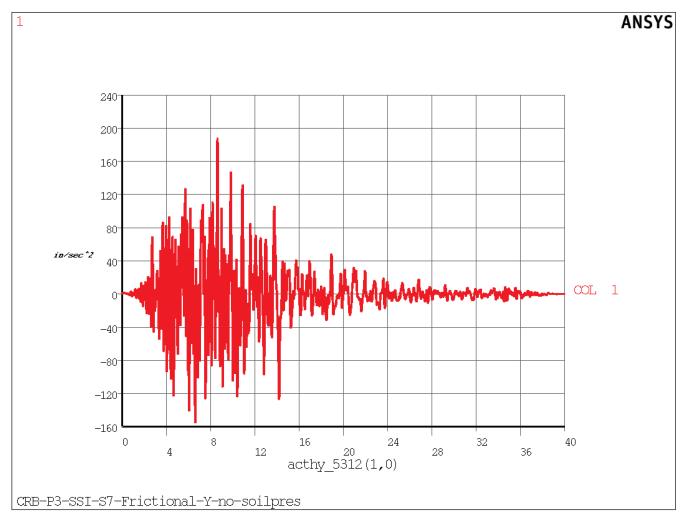


Figure 3.8.5-34: CRB Skin Nodes on Backfill Outer Boundaries for Applying SASSI Time Histories

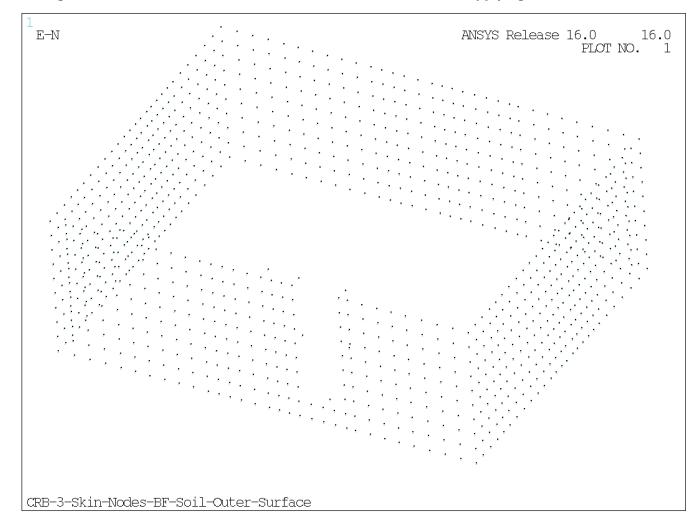


Figure 3.8.5-35: CRB Foundation Bottom Skin Nodes for Applying SASSI Time Histories

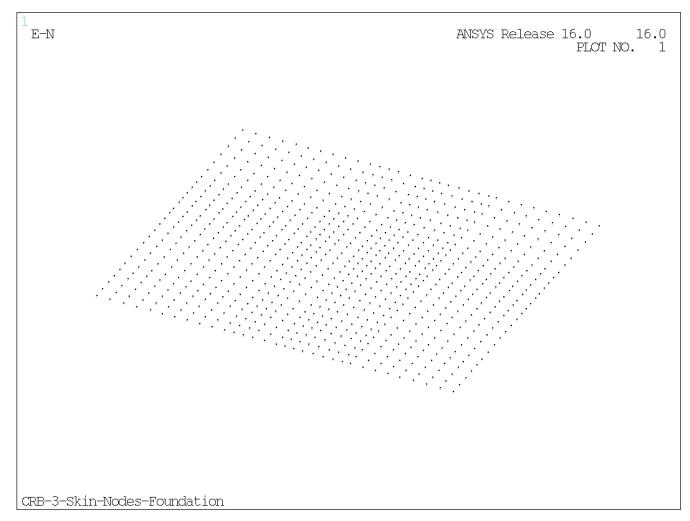


Figure 3.8.5-36: Buoyancy Load on Basemat

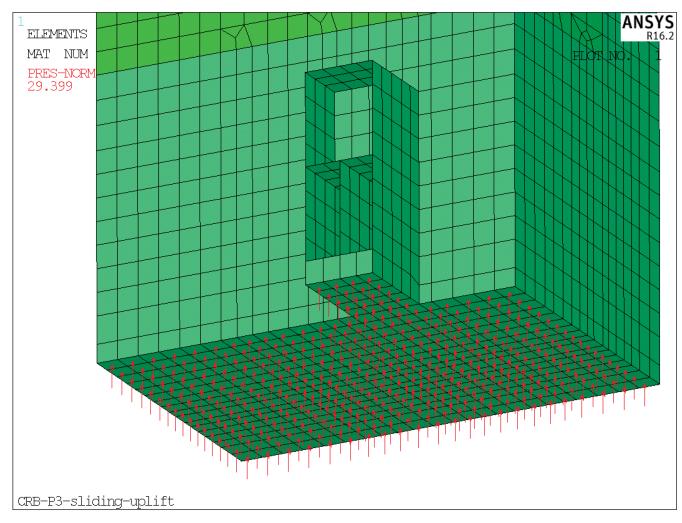
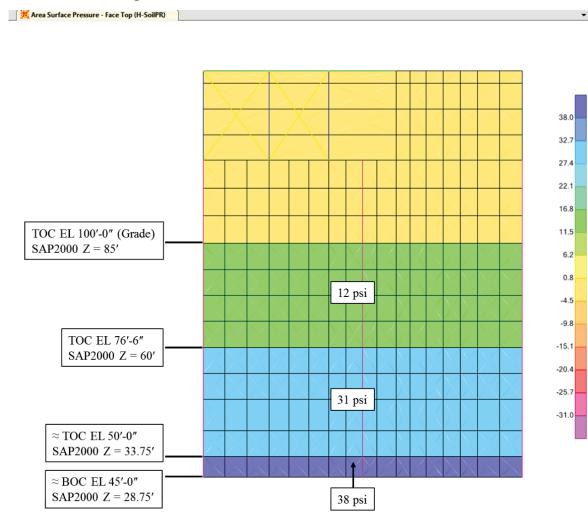
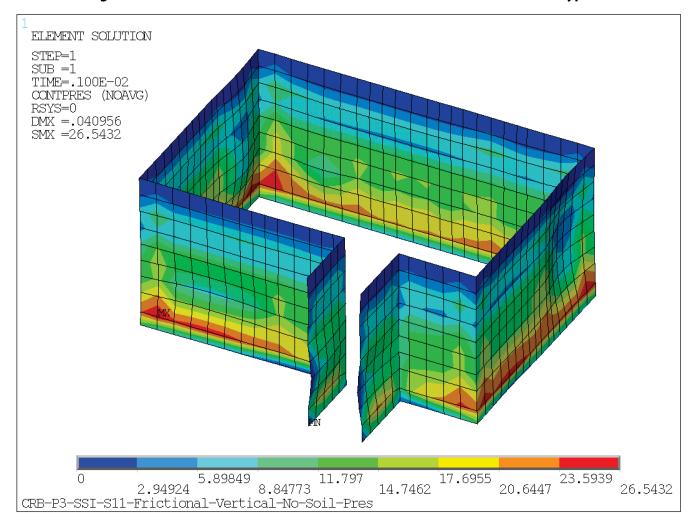


Figure 3.8.5-37: Static Soil Pressure on CRB Outer Walls



Revision 0

Figure 3.8.5-38: CRB Static Soil Pressure from Poisson's Ratio Effect - Soil Type 11



Revision 0

Figure 3.8.5-39: CRB Static Soil Pressure from Poisson's Ratio Effect - Soil Type 7

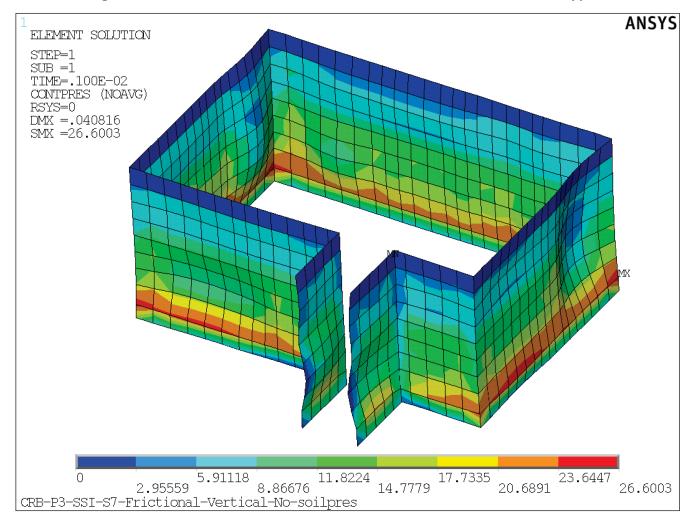
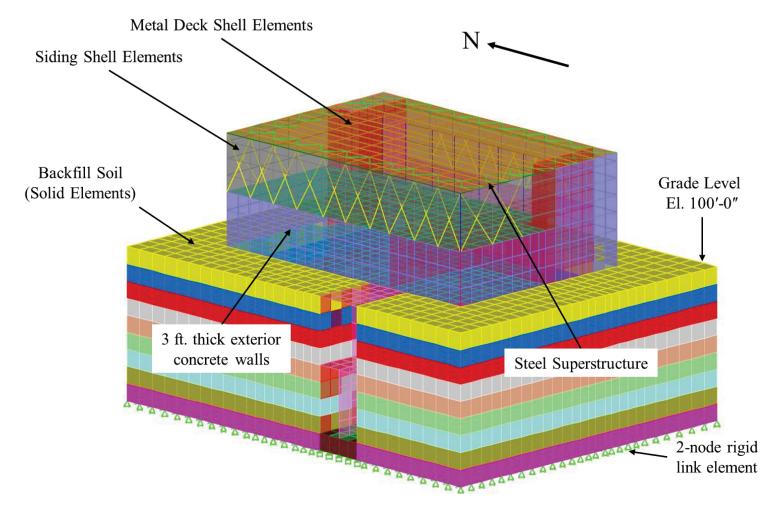


Figure 3.8.5-40: CRB SAP2000 Model with Backfill Soil



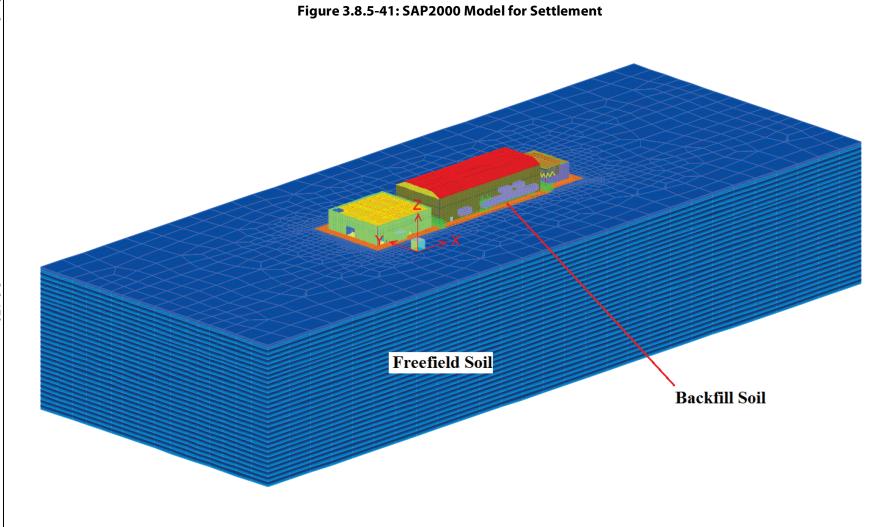


Figure 3.8.5-42: Total Cracked Base Vertical Reaction Time History due to Capitola for Soil Type 7

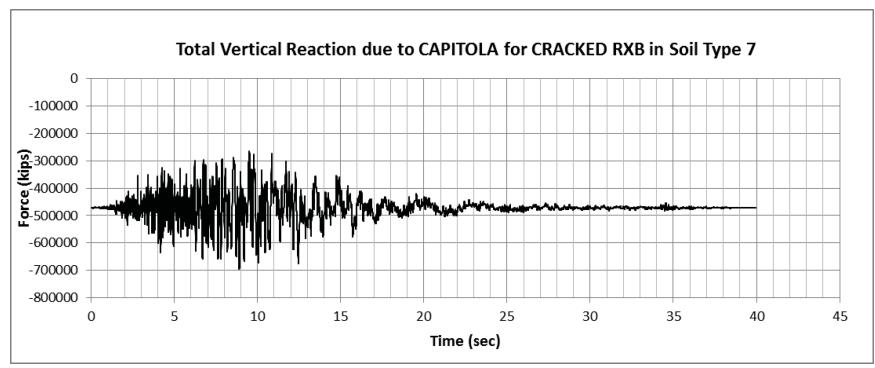


Figure 3.8.5-43: Total Uncracked Base Vertical Reaction Time History due to Capitola for Soil Type 7

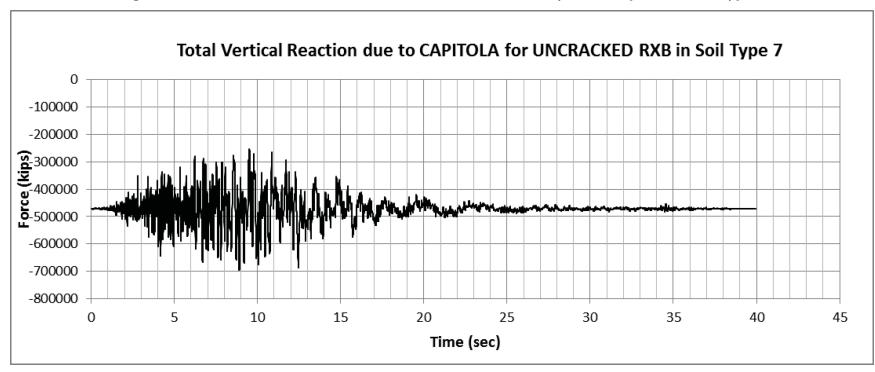


Figure 3.8.5-44: Total Cracked Base Vertical Reaction Time History due to Capitola for Soil Type 8

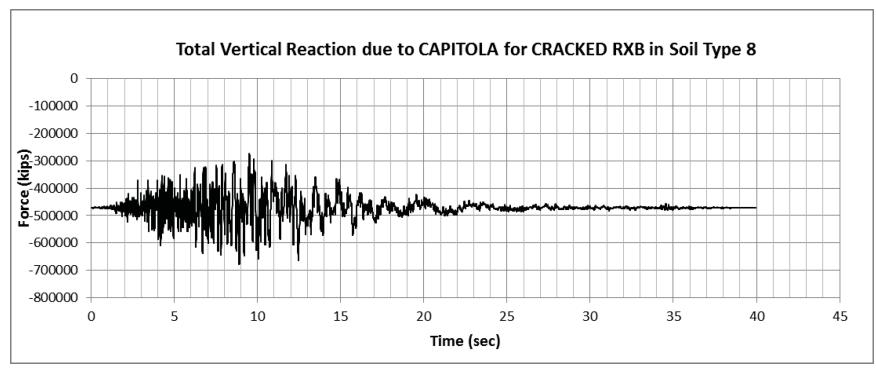


Figure 3.8.5-45: Total Cracked Base Vertical Reaction Time History due to Capitola for Soil Type 11

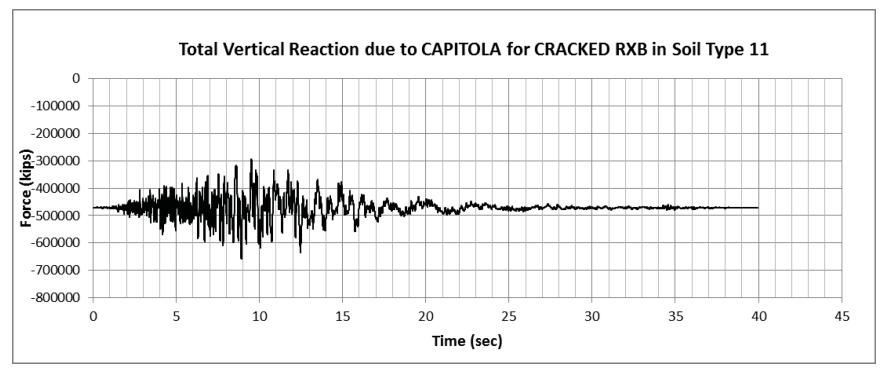


Figure 3.8.5-46: Total Cracked Base Vertical Reaction Time History due to Lucerne for Soil Type 7

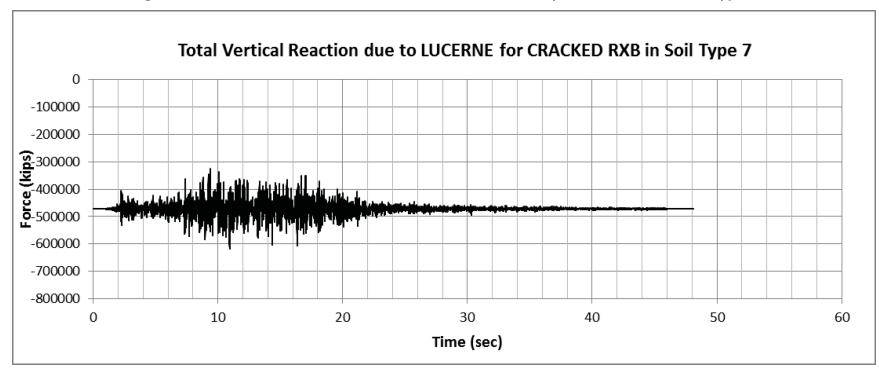


Figure 3.8.5-47: Total Cracked Base Vertical Reaction Time History due to Lucerne for Soil Type 9

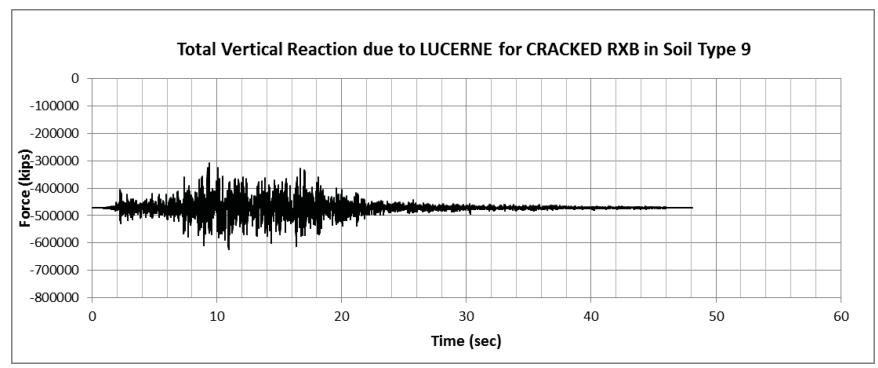
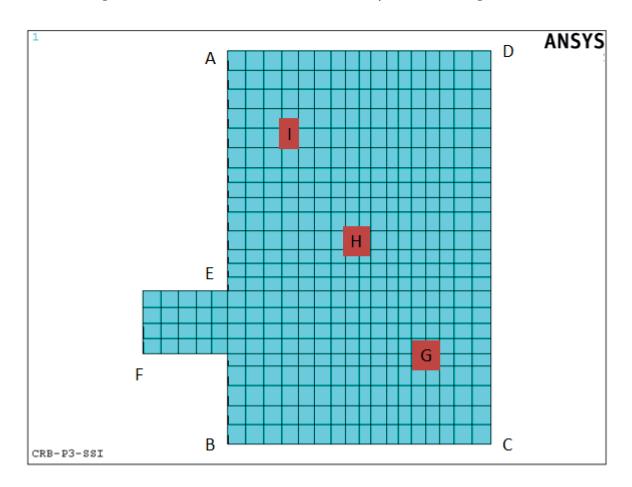


Figure 3.8.5-48: CRB Foundation Time History Location Designations



POST26

Figure 3.8.5-49: Reaction Force at Location A (S11 - Vertical Excitation)

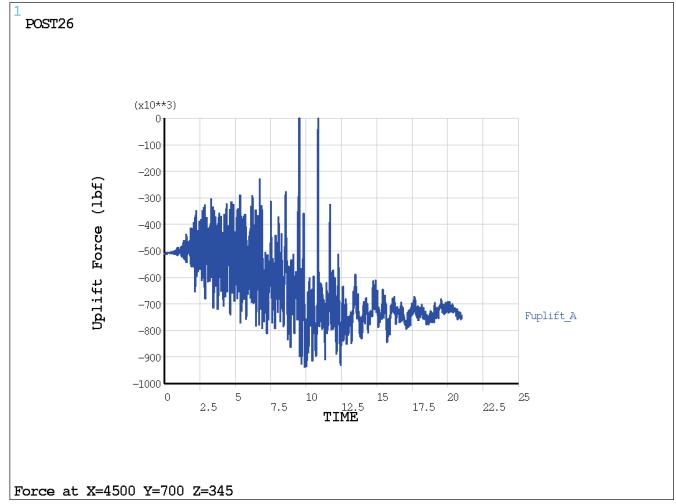


Figure 3.8.5-50: Relative Displacement (Uplift) at Location A (S11 - Vertical Excitation)

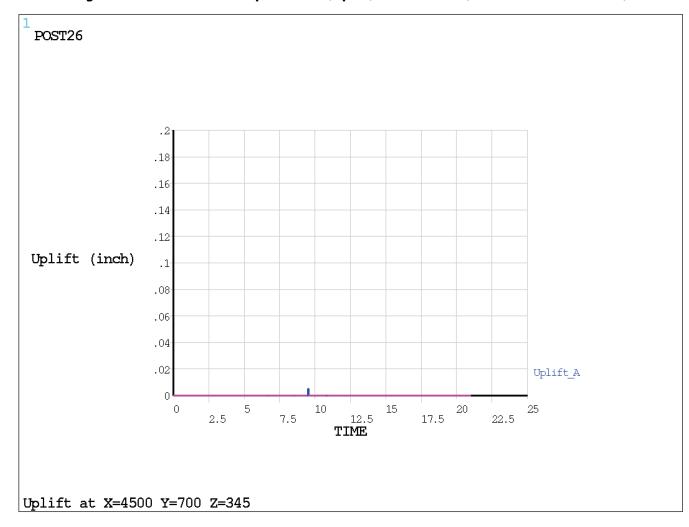
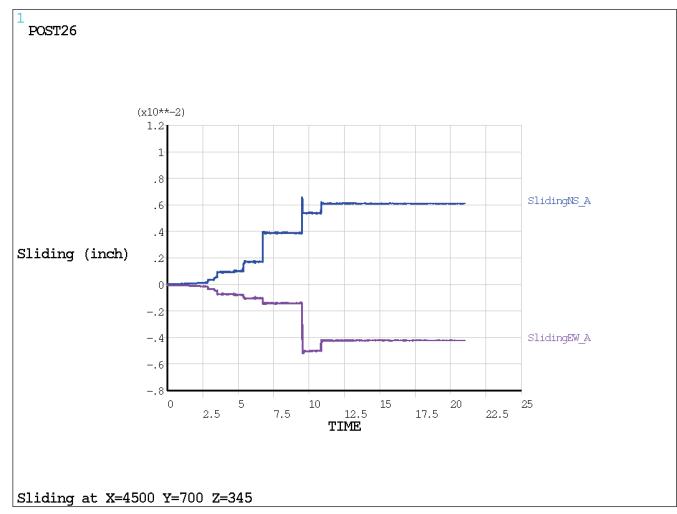


Figure 3.8.5-51: Lateral Relative Displacements (Sliding) at Location A (S11 - Vertical Excitation)



NuScale Final Safety Analysis Report

Figure 3.8.5-52: RXB Foundation Time History Location Designations

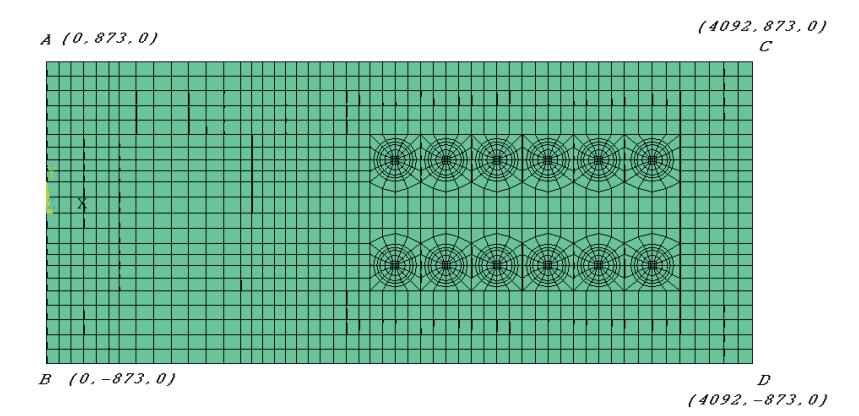


Figure 3.8.5-53: Lateral Relative Displacements (Sliding) at Location A (S7 - E-W Excitation)

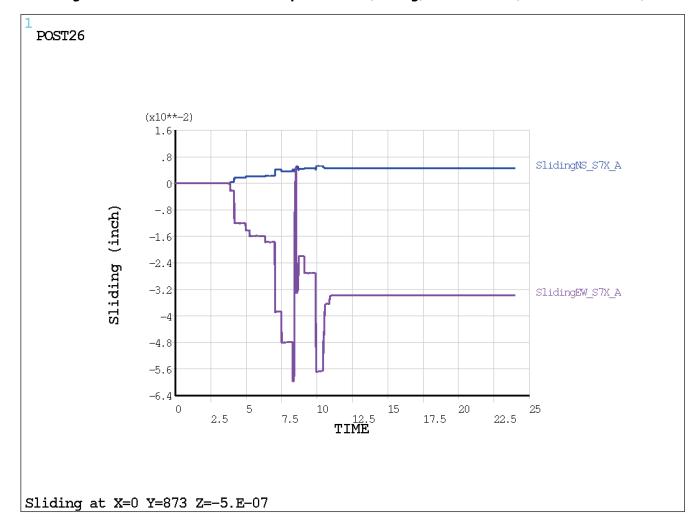


Figure 3.8.5-54: Lateral Relative Displacements (Sliding) at Location B (S7 – E-W Excitation)

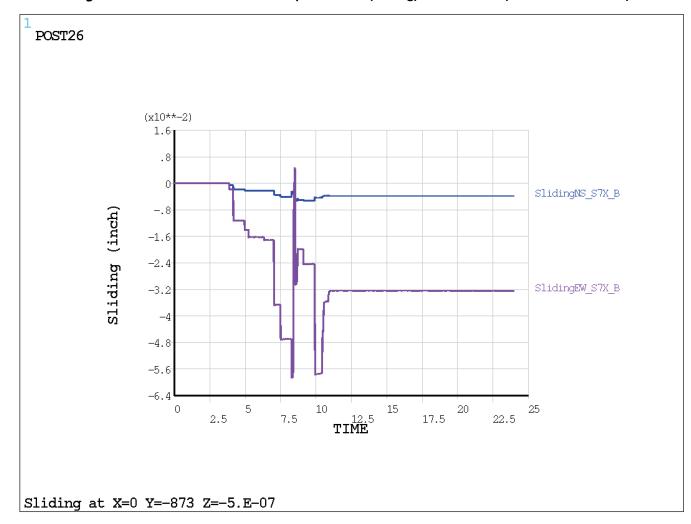


Figure 3.8.5-55: Lateral Relative Displacements (Sliding) at Location C (S7 - E-W Excitation)

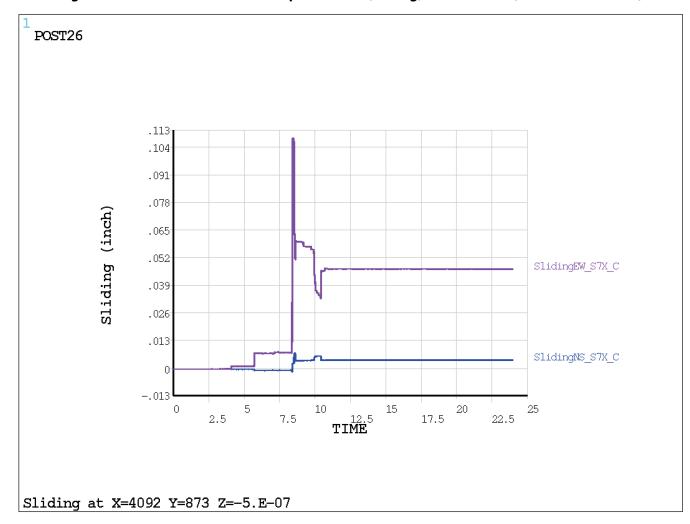
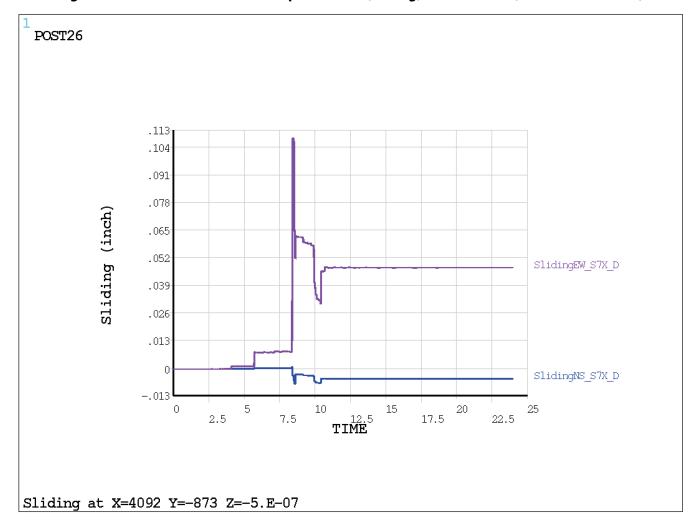


Figure 3.8.5-56: Lateral Relative Displacements (Sliding) at Location D (S7 - E-W Excitation)



Revision 0

Figure 3.8.5-57: Lateral Relative Displacements (Sliding) at Location A (S7 - N-S Excitation)

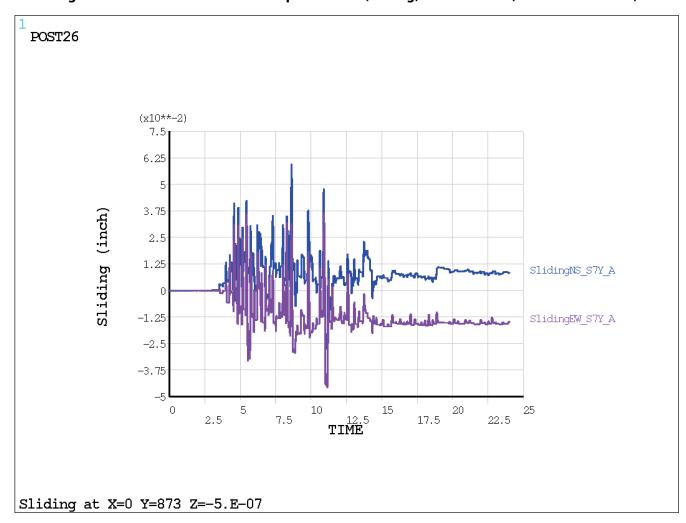


Figure 3.8.5-58: Lateral Relative Displacements (Sliding) at Location B (S7 - N-S Excitation)

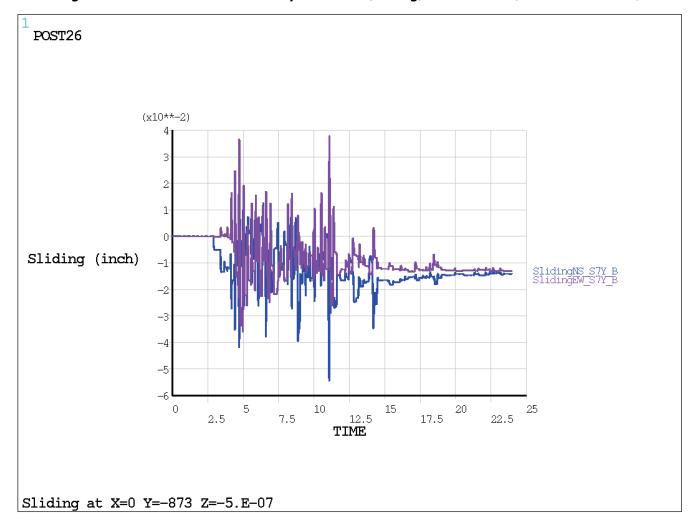
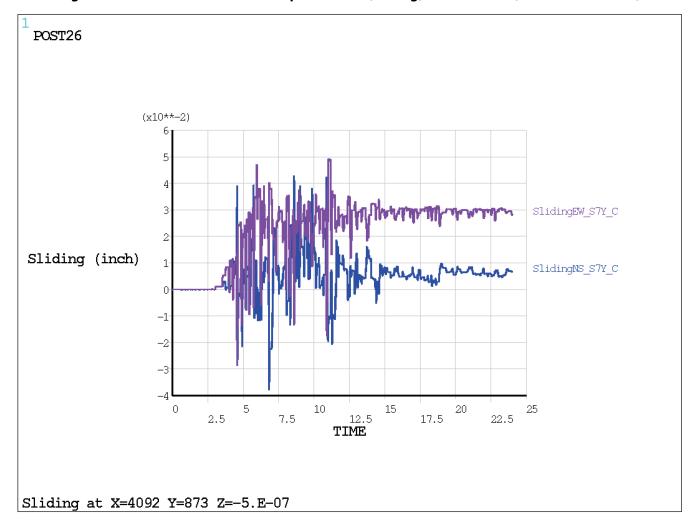


Figure 3.8.5-59: Lateral Relative Displacements (Sliding) at Location C (S7 - N-S Excitation)



Revision 0

Figure 3.8.5-60: Lateral Relative Displacements (Sliding) at Location D (S7 - N-S Excitation)

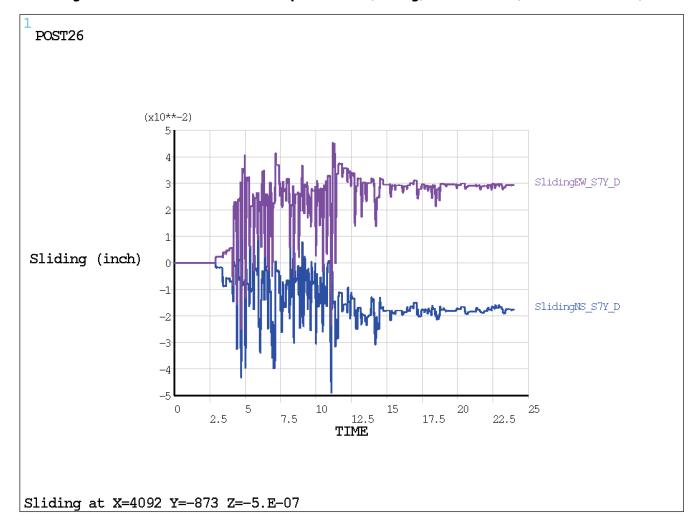


Figure 3.8.5-61: Lateral Relative Displacements (Sliding) at Location A (S11 - E-W Excitation)

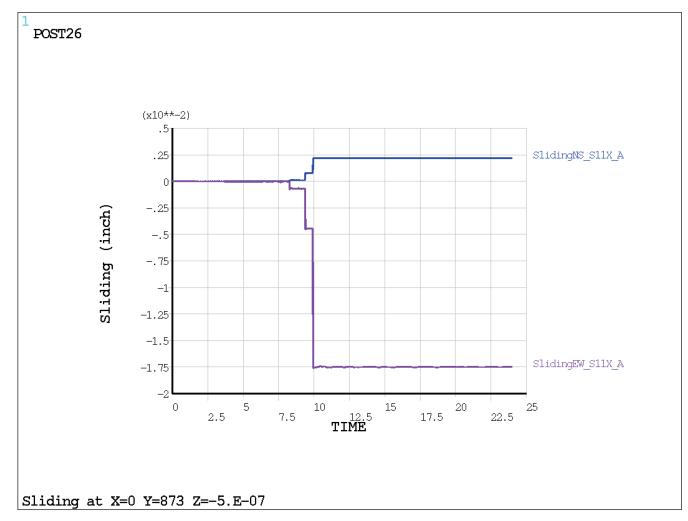


Figure 3.8.5-62: Lateral Relative Displacements (Sliding) at Location B (S11 - E-W Excitation)

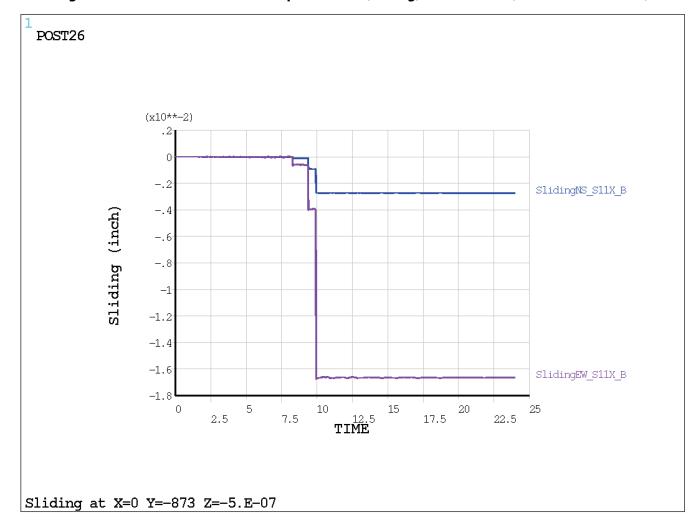


Figure 3.8.5-63: Lateral Relative Displacements (Sliding) at Location C (S11 - E-W Excitation)

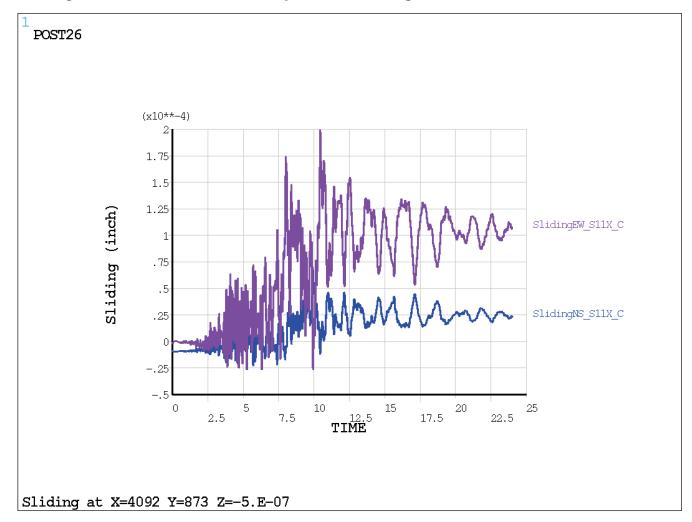


Figure 3.8.5-64: Lateral Relative Displacements (Sliding) at Location D (S11 - E-W Excitation)

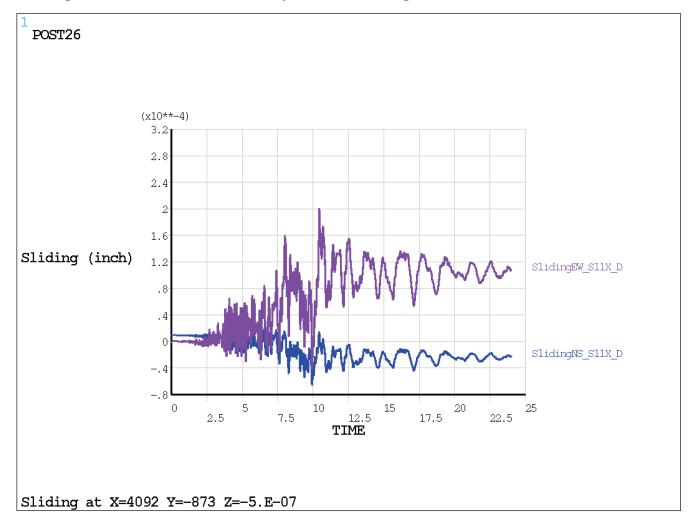


Figure 3.8.5-65: Lateral Relative Displacements (Sliding) at Location A (S11 - N-S Excitation)

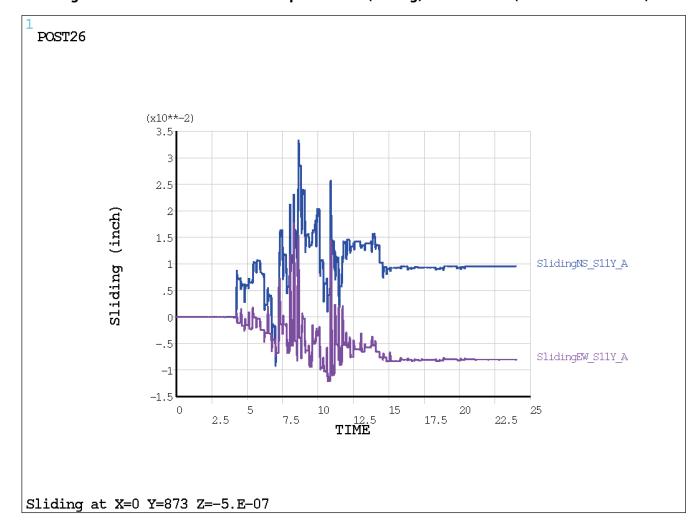


Figure 3.8.5-66: Lateral Relative Displacements (Sliding) at Location B (S11 - N-S Excitation)

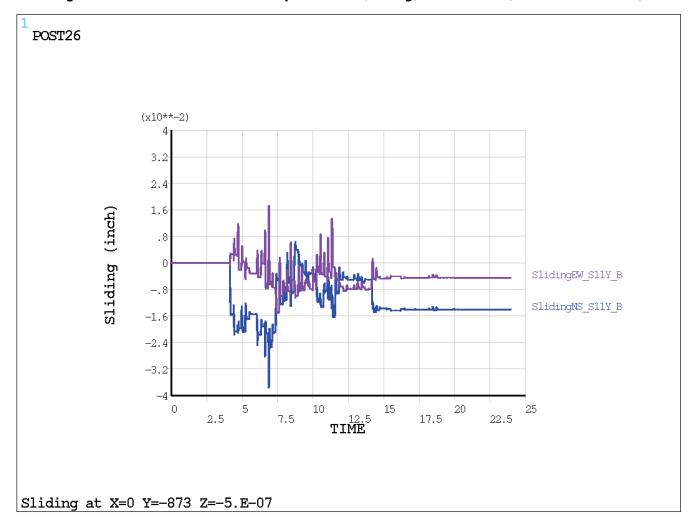


Figure 3.8.5-67: Lateral Relative Displacements (Sliding) at Location C (S11 - N-S Excitation)

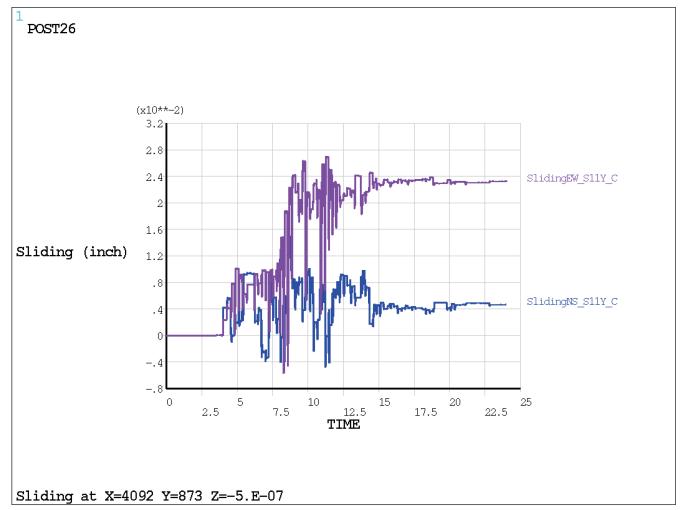


Figure 3.8.5-68: Lateral Relative Displacements (Sliding) at Location D (S11 - N-S Excitation)

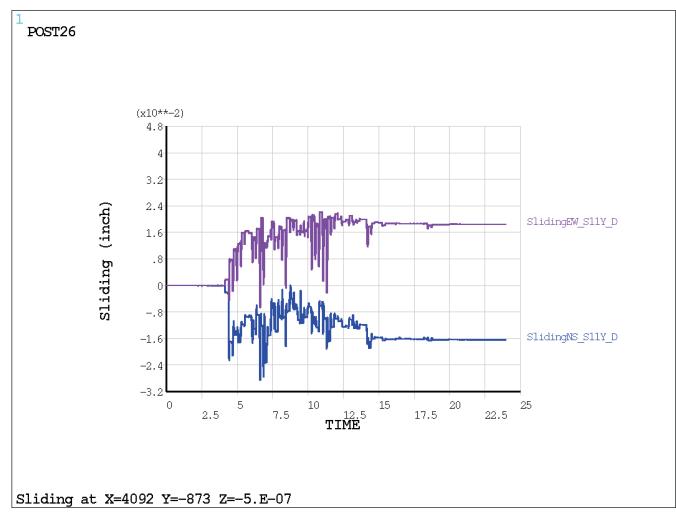


Figure 3.8.5-69: Lateral Relative Displacements (Sliding) at Location A (S8 - E-W Excitation)

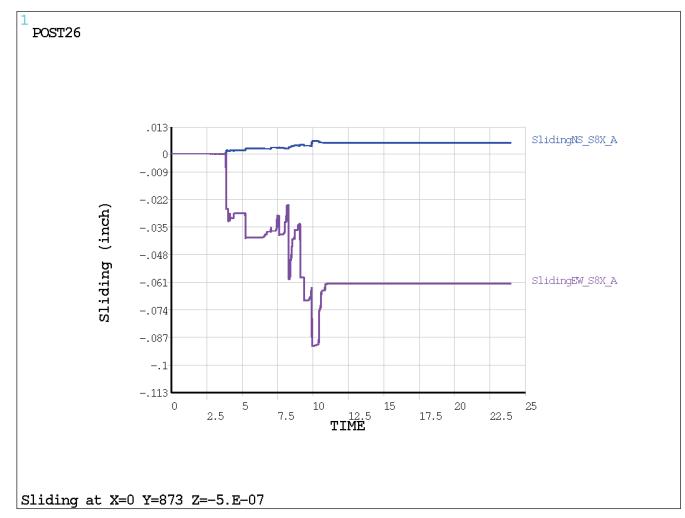
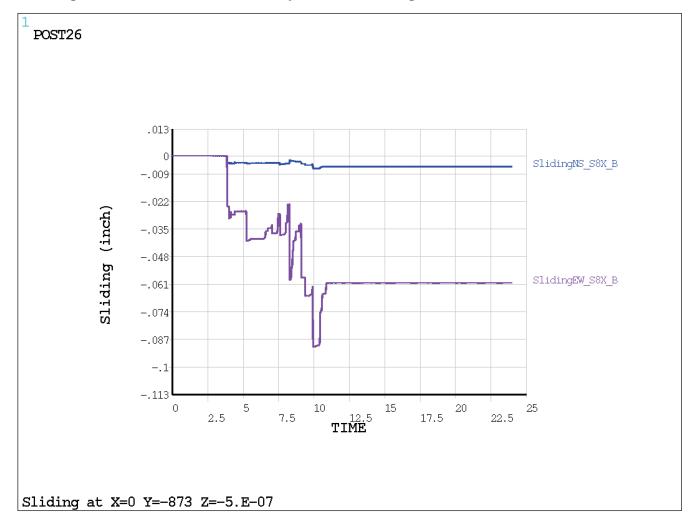


Figure 3.8.5-70: Lateral Relative Displacements (Sliding) at Location B (S8 - E-W Excitation)



Revision 0

Figure 3.8.5-71: Lateral Relative Displacements (Sliding) at Location C (S8 - E-W Excitation)

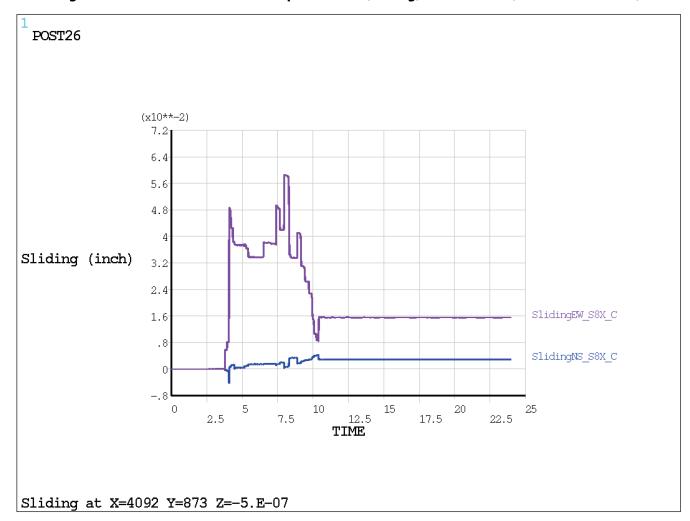


Figure 3.8.5-72: Lateral Relative Displacements (Sliding) at Location D (S8 - E-W Excitation)

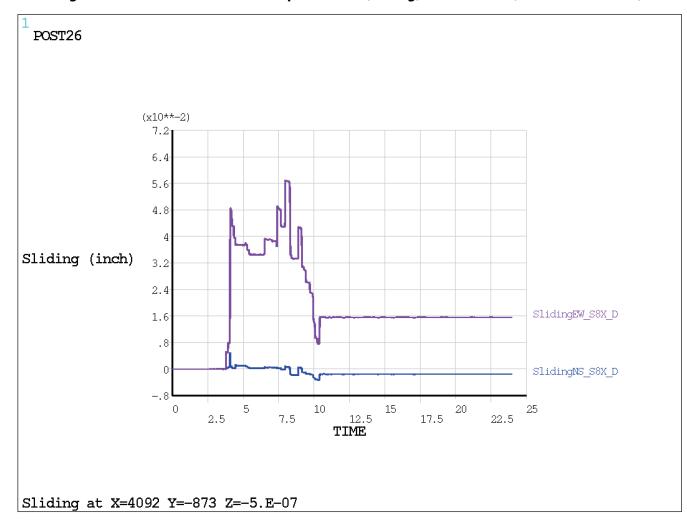


Figure 3.8.5-73: Lateral Relative Displacements (Sliding) at Location A (S8 - N-S Excitation)

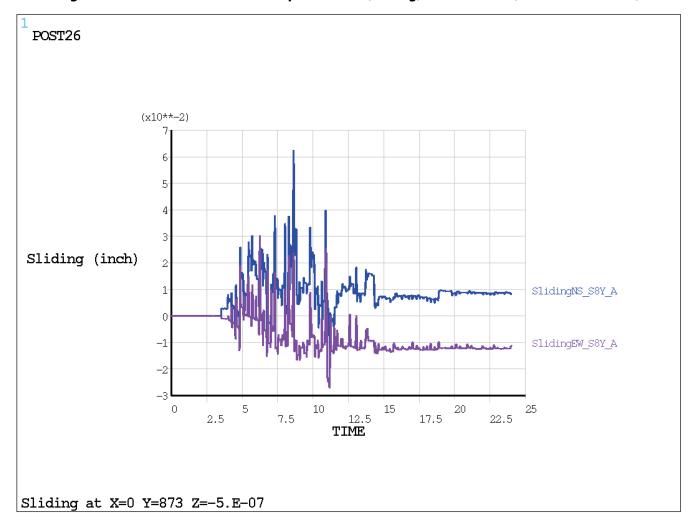


Figure 3.8.5-74: Lateral Relative Displacements (Sliding) at Location B (S8 - N-S Excitation)

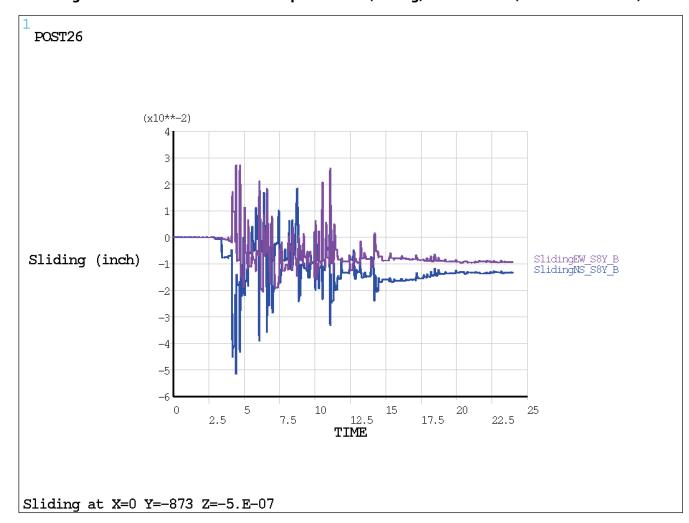
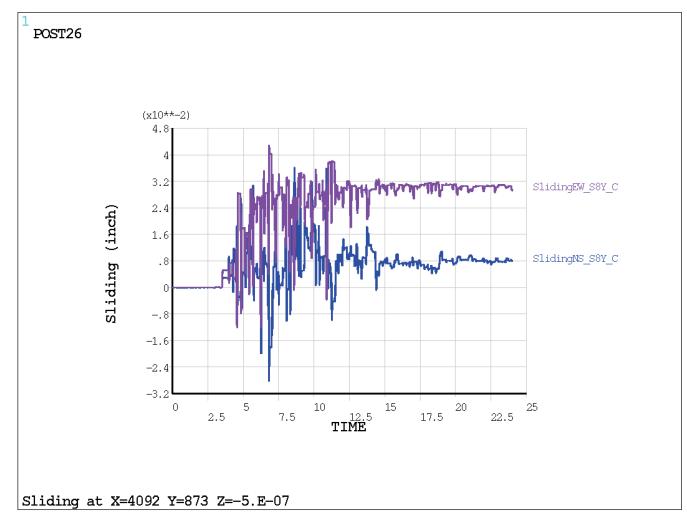


Figure 3.8.5-75: Lateral Relative Displacements (Sliding) at Location C (S8 - N-S Excitation)



Revision 0

Figure 3.8.5-76: Lateral Relative Displacements (Sliding) at Location D (S8 - N-S Excitation)

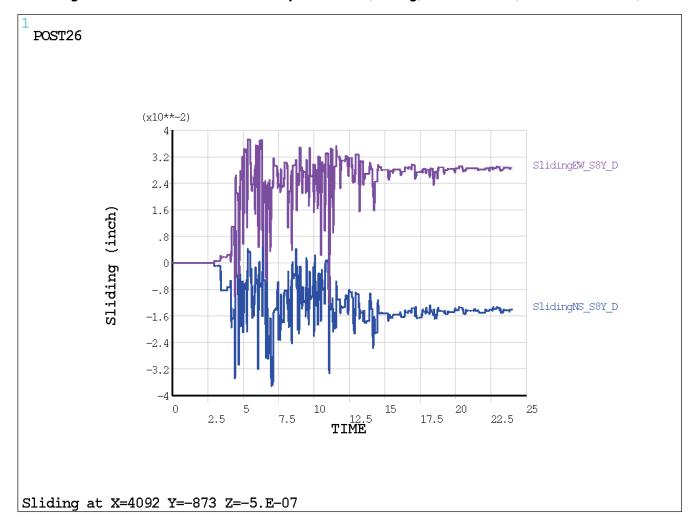


Figure 3.8.5-77: Total CRB Cracked Base Vertical Reaction Time History due to Capitola for Soil Type 7

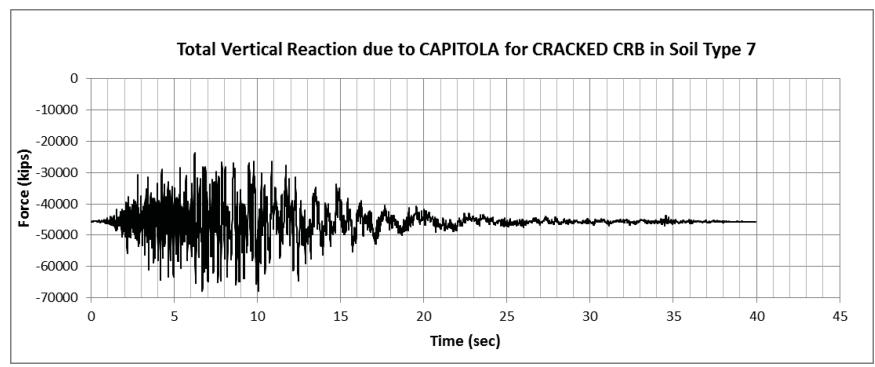


Figure 3.8.5-78: Total CRB Uncracked Base Vertical Reaction Time History due to Capitola for Soil Type 7

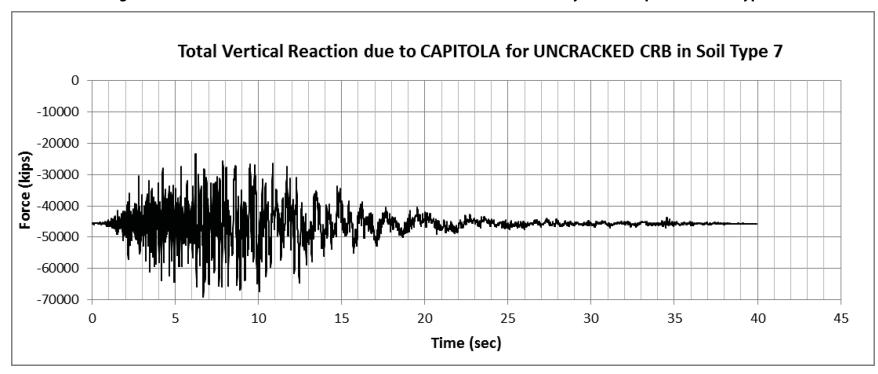


Figure 3.8.5-79: Total CRB Cracked Base Vertical Reaction Time History due to Capitola for Soil Type 8

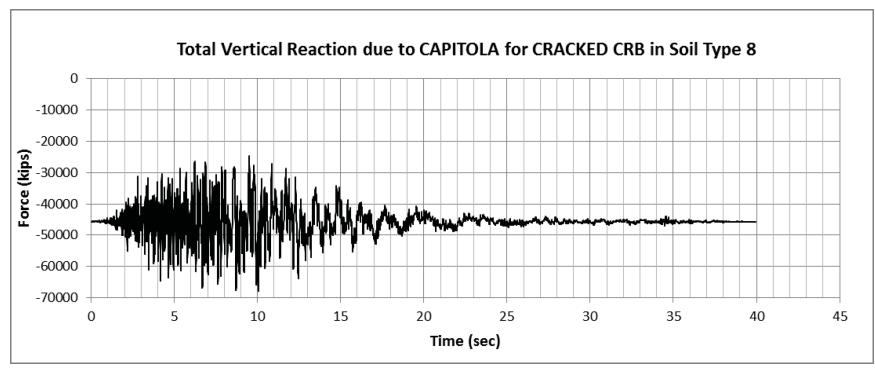


Figure 3.8.5-80: Total CRB Cracked Base Vertical Reaction Time History due to Capitola for Soil Type 11

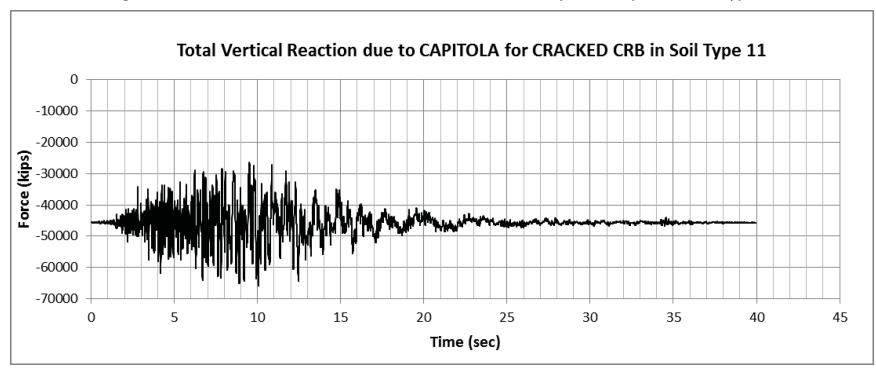


Figure 3.8.5-81: Total CRB Cracked Base Vertical Reaction Time History due to Lucerne for Soil Type 7

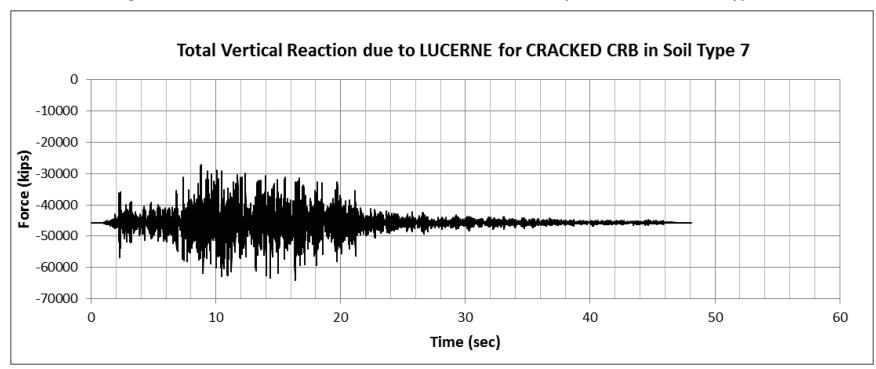


Figure 3.8.5-82: Total CRB Cracked Base Vertical Reaction Time History due to Lucerne for Soil Type 9

