Figure 2.5-129— {RCTS Testing Sample B-404-14, Powerblock Area}

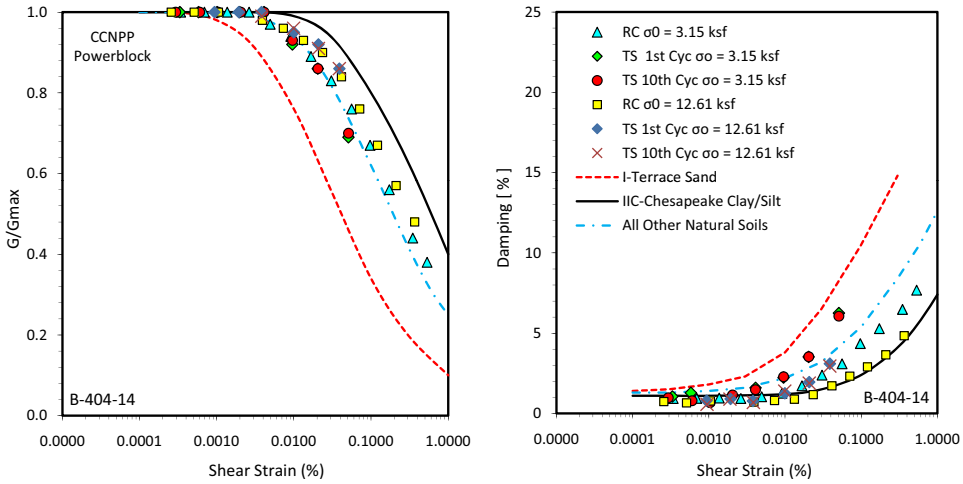


Figure 2.5-130— {RCTS Testing Sample B-401-31, Powerblock Area}

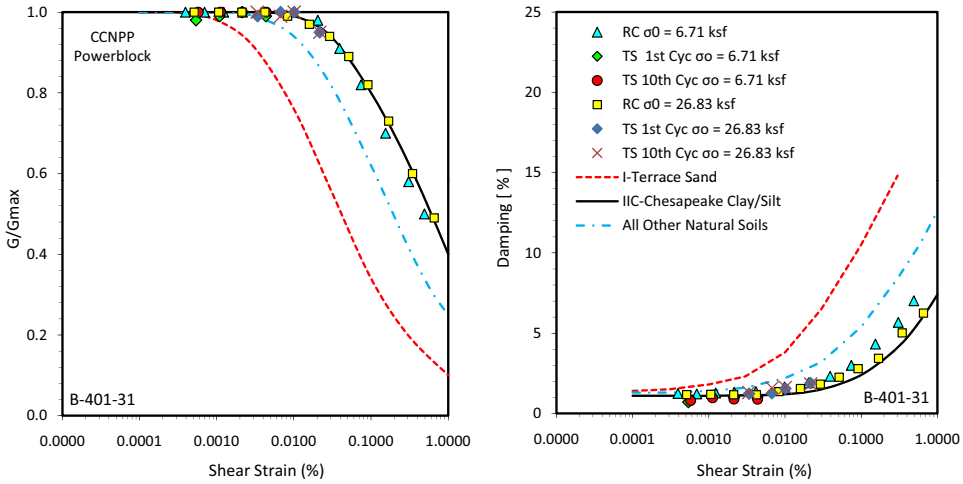


Figure 2.5-131— {RCTS Testing Sample B-401-67, Powerblock Area}

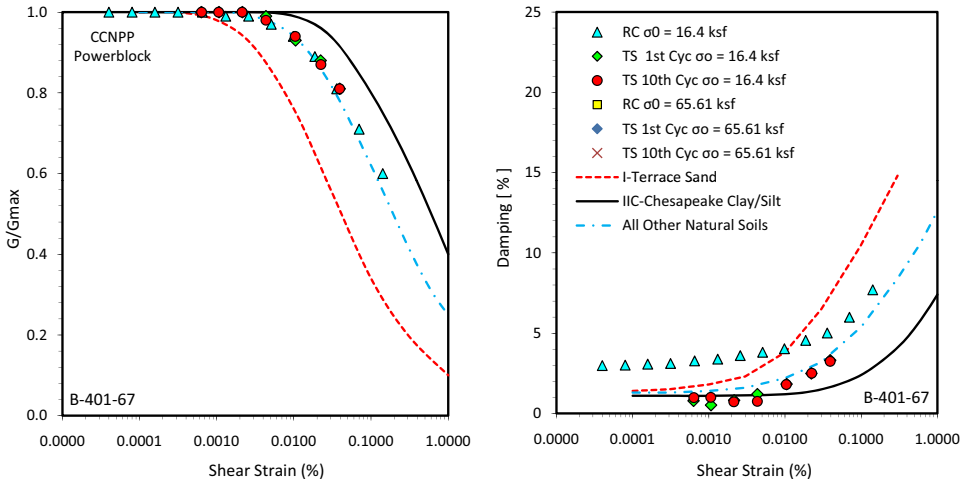


Figure 2.5-132— {RCTS Testing Sample B-401-48, Powerblock Area}

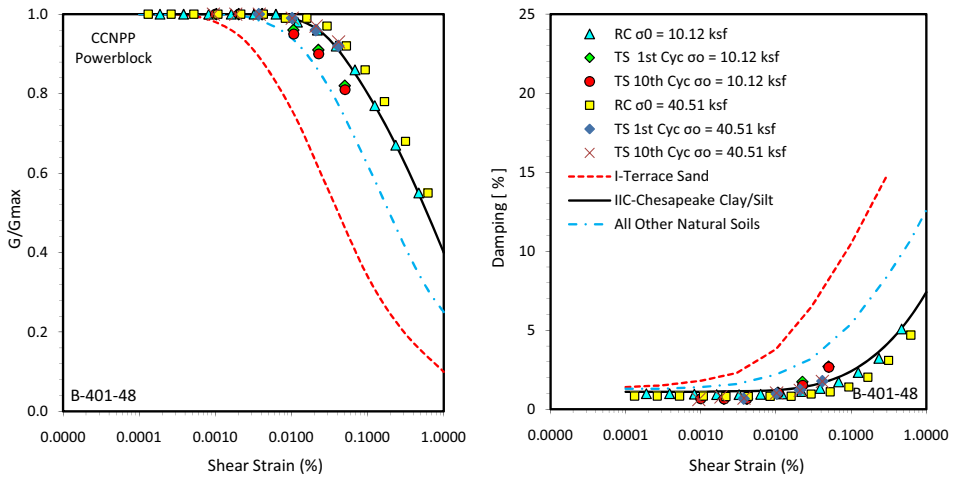


Figure 2.5-133— {RCTS Testing Sample B-301-78, Powerblock Area}

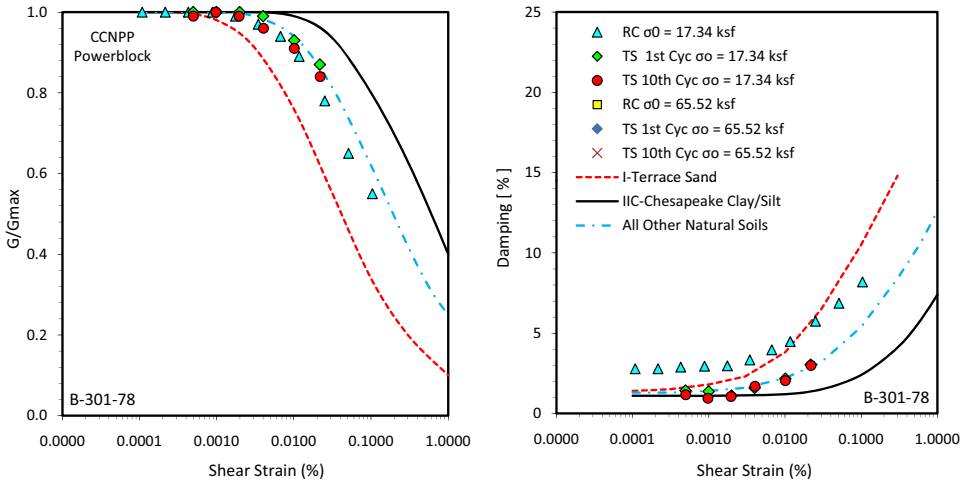


Figure 2.5-134— {RCTS Testing Sample B-306-17, Powerblock Area}

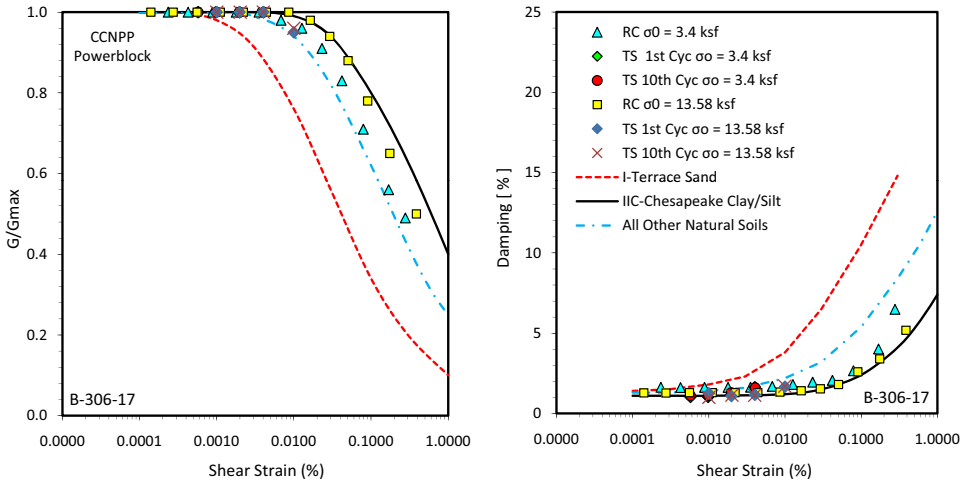


Figure 2.5-135— {RCTS Testing Sample B-409-15, Powerblock Area}

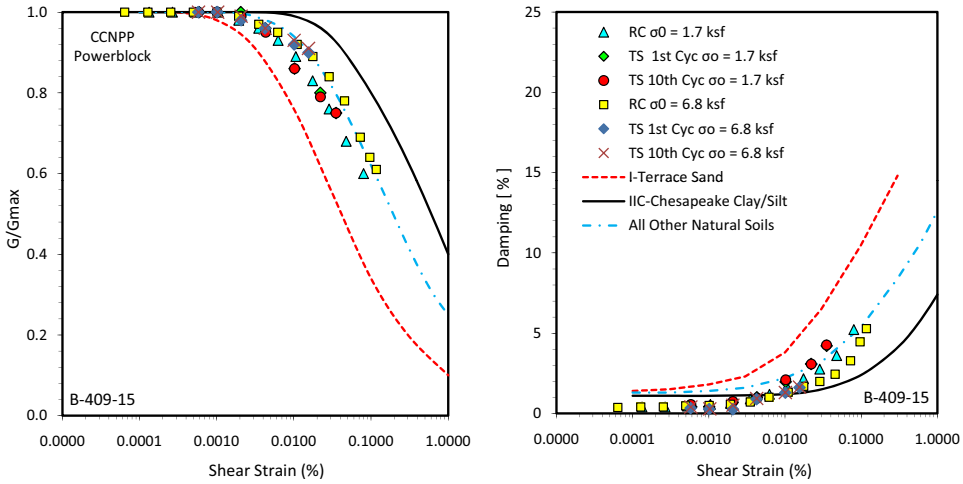


Figure 2.5-136— {RCTS Testing Sample B-404-22, Powerblock Area}

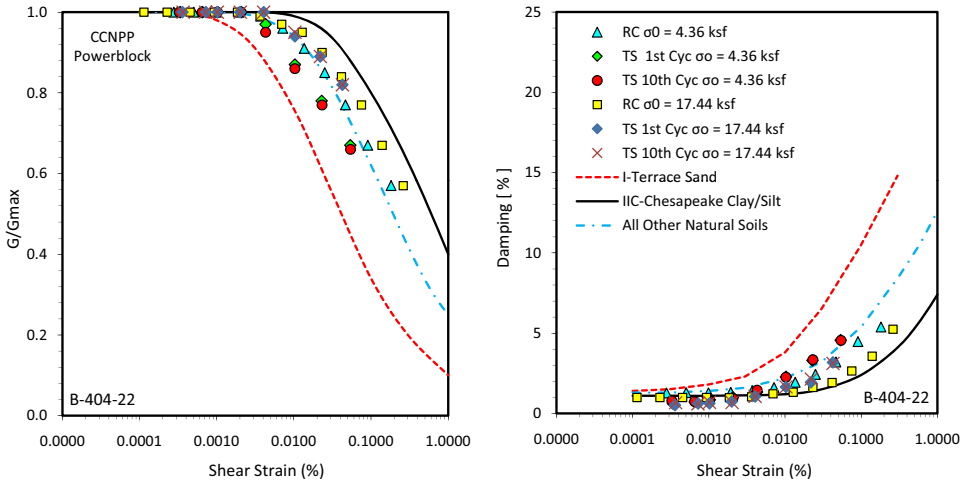


Figure 2.5-137— {RCTS Testing Sample B-401-42, Powerblock Area}

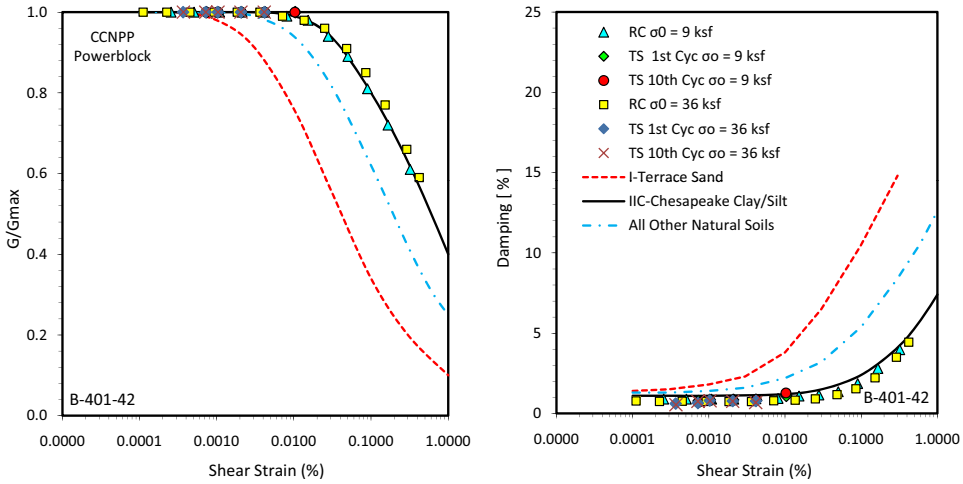


Figure 2.5-138— {RCTS Testing Sample B-409-39, Powerblock Area}

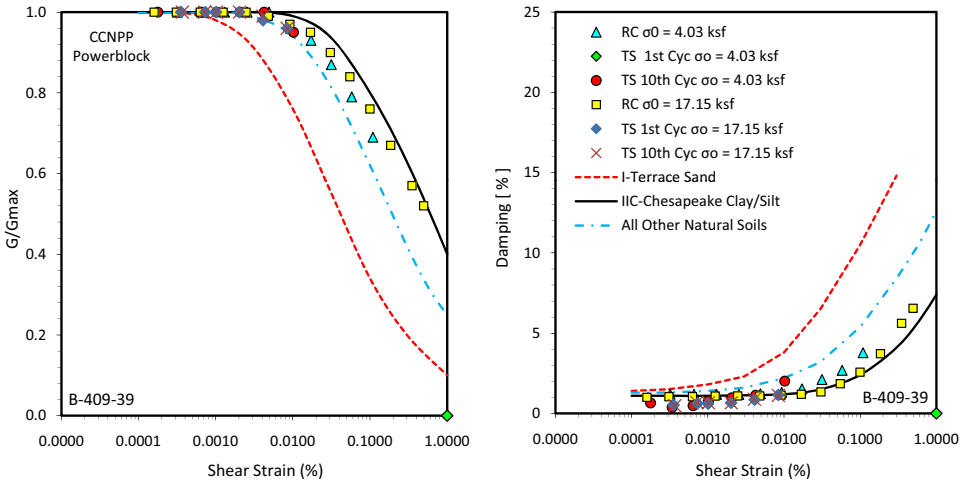


Figure 2.5-139— {RCTS Testing Sample B-773-2, Intake Area}

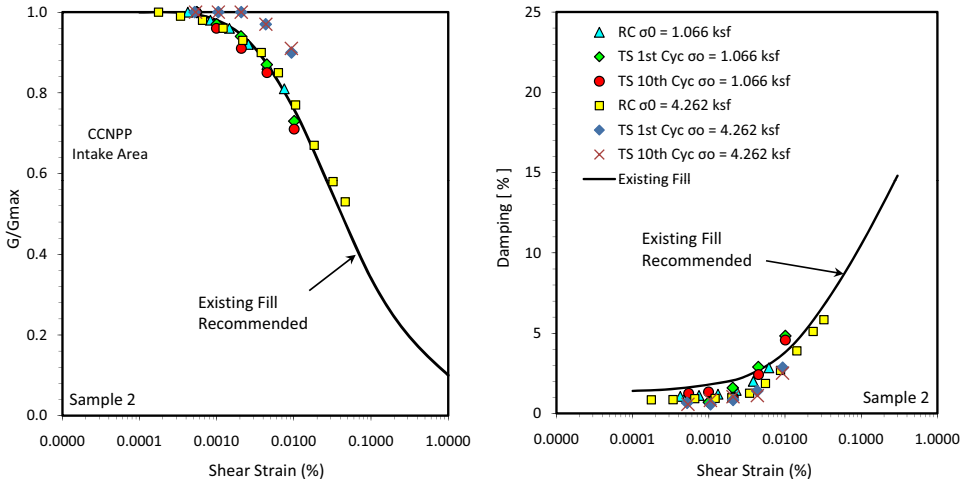


Figure 2.5-140— {RCTS Testing Sample B-773-3, Intake Area}

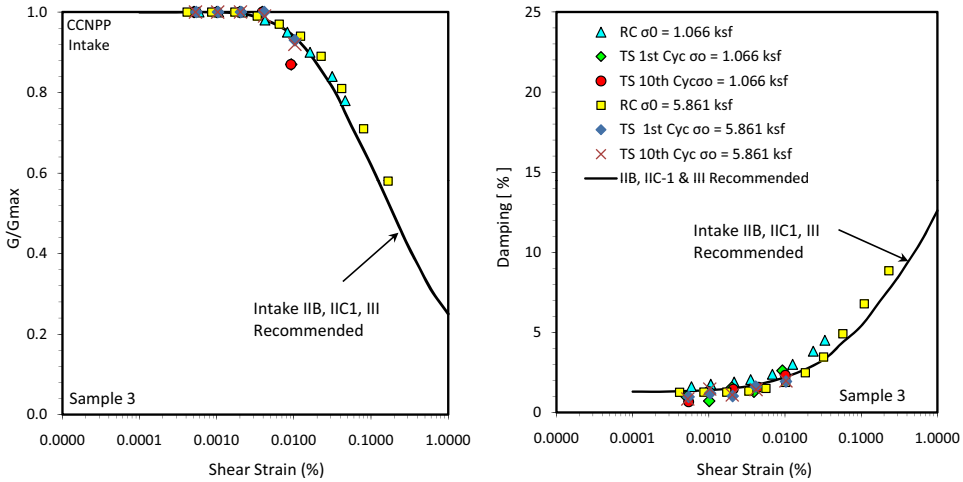


Figure 2.5-141— {RCTS Testing Sample B-773-4, Intake Area}

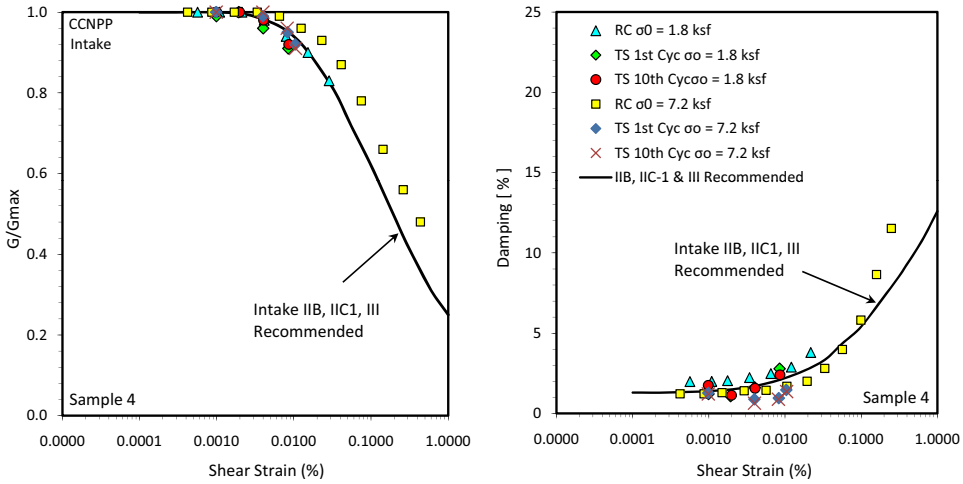


Figure 2.5-142— {RCTS Testing Sample B-773-5, Intake Area}

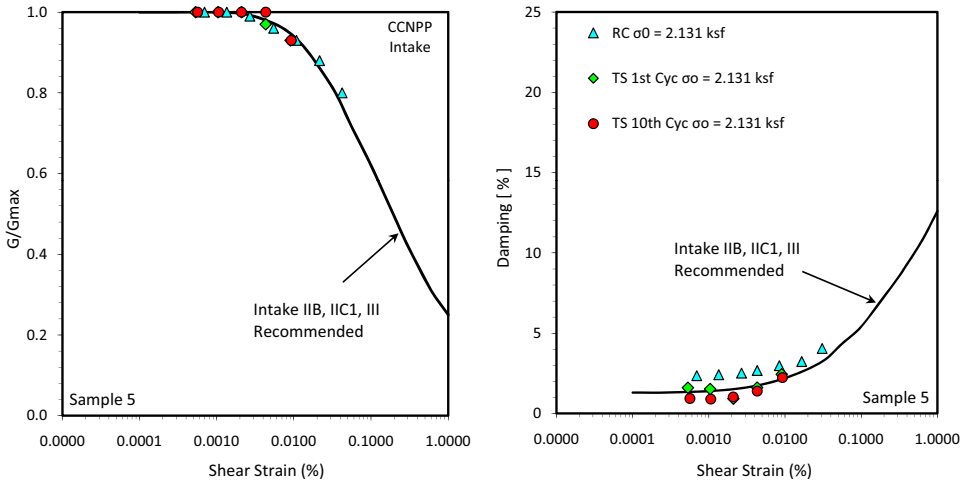


Figure 2.5-143— {RCTS Testing Sample B-773-6, Intake Area}

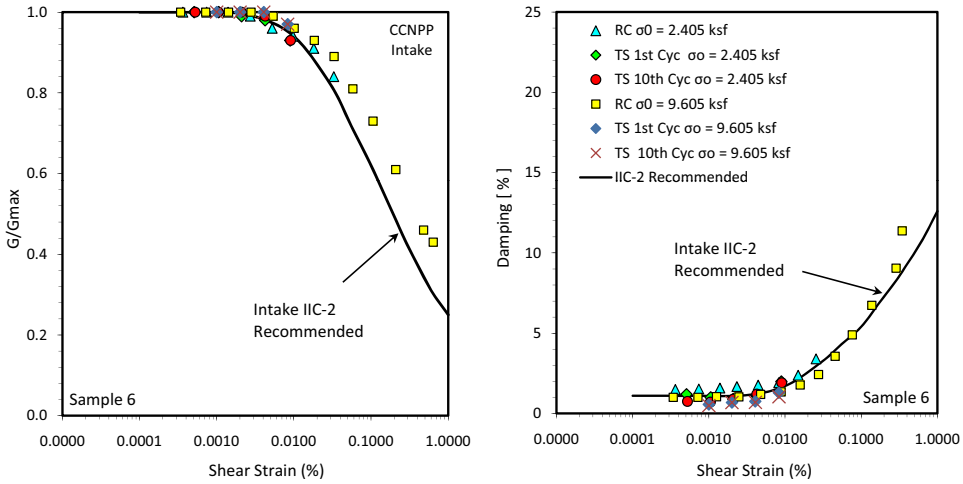


Figure 2.5-144— {RCTS Testing Sample B-773-7, Intake Area}

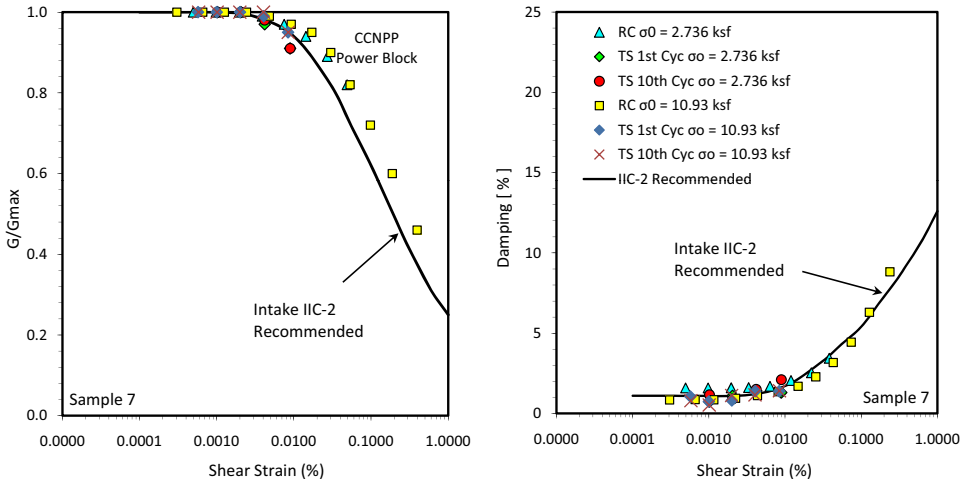


Figure 2.5-145— {RCTS Testing Sample B-773-9, Intake Area}

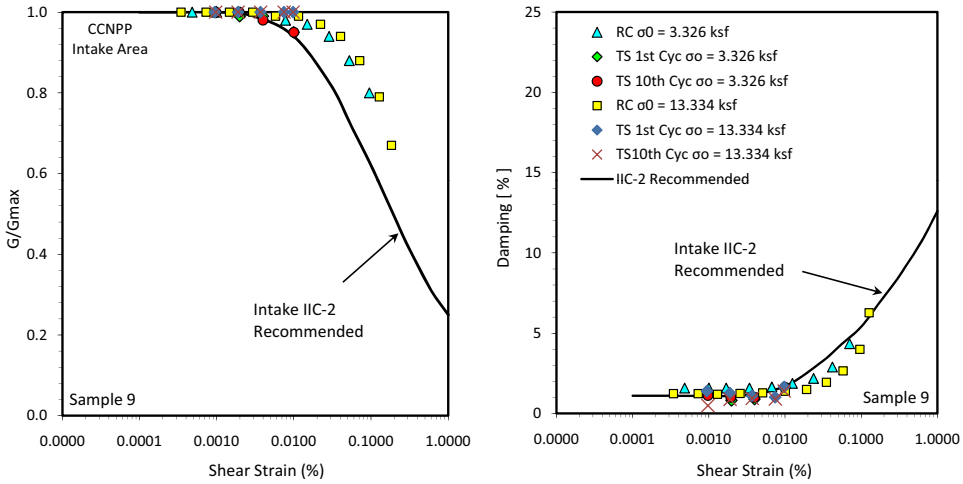


Figure 2.5-146— {RCTS Testing Sample B-773-11, Intake Area}

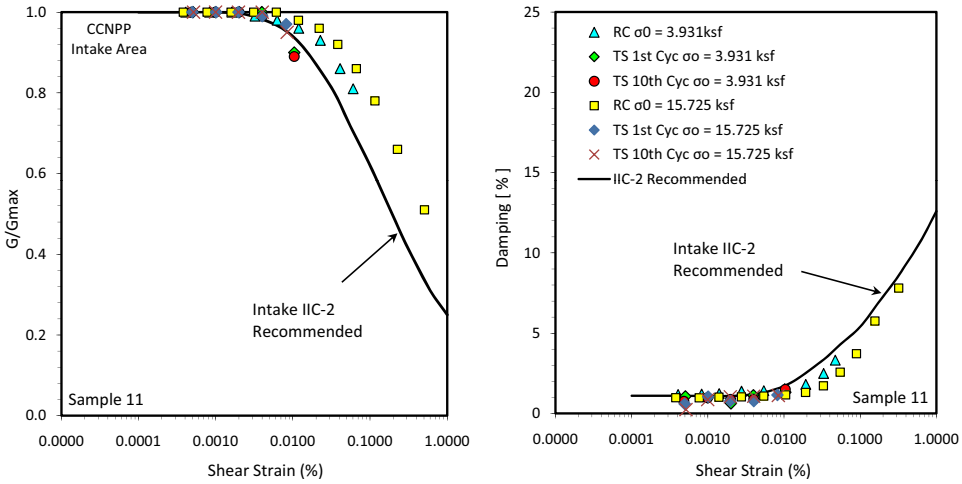


Figure 2.5-147— {RCTS Testing Sample B-773-13, Intake Area}

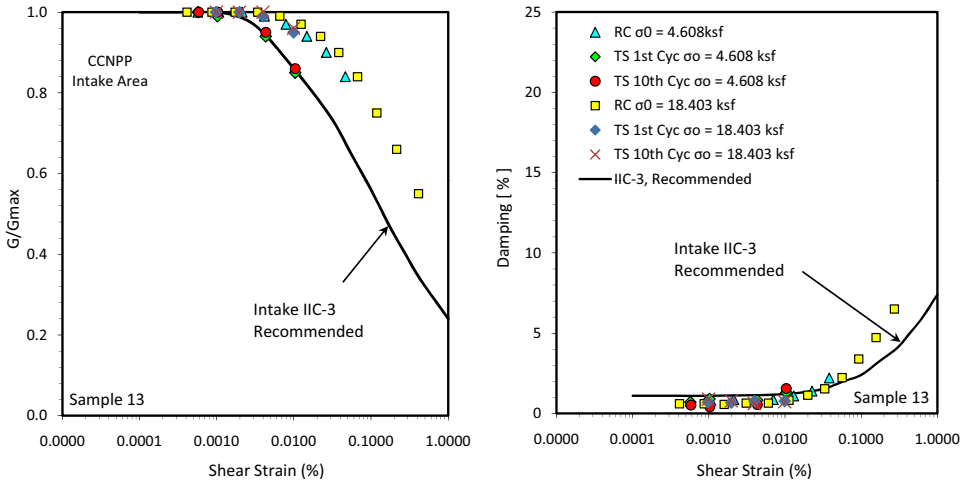


Figure 2.5-148— {RCTS Testing Sample B-773-15, Intake Area}

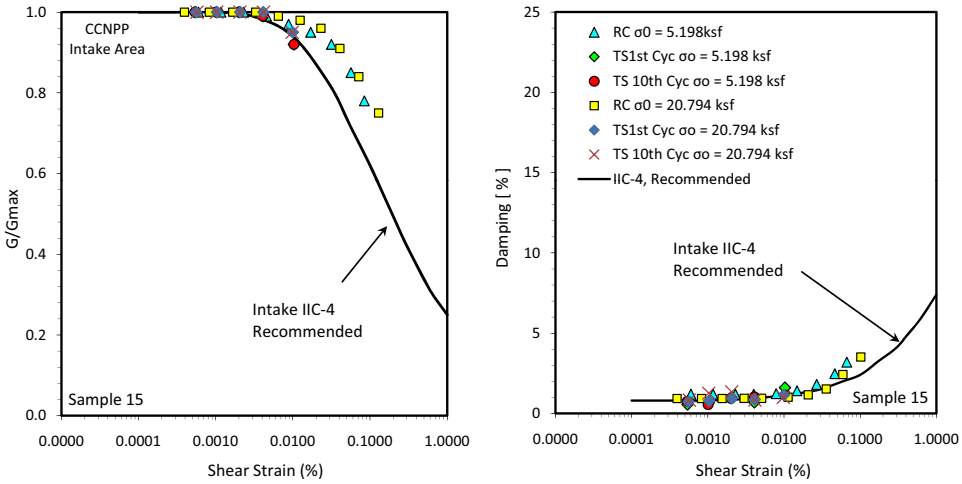


Figure 2.5-149— {RCTS Testing Sample CR6 Blend, Backfill}

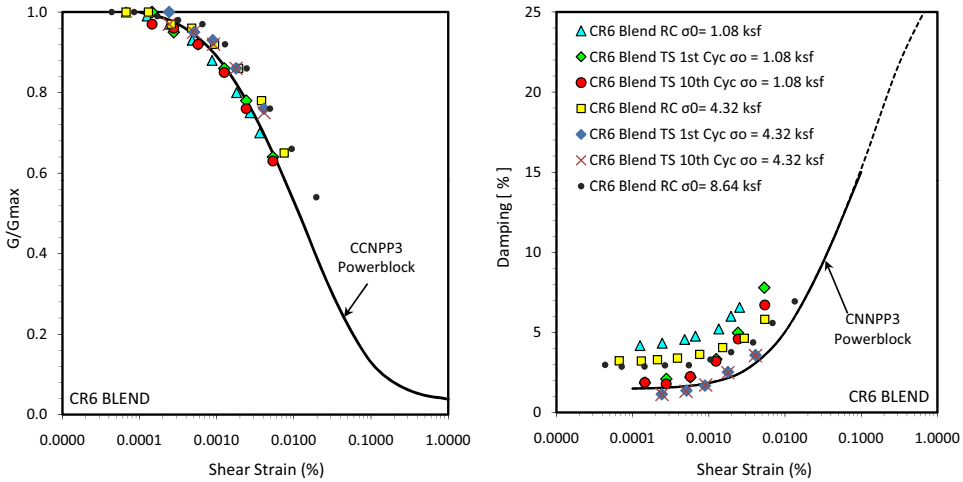


Figure 2.5-150— {RCTS Testing Sample GAB Blend, Backfill}

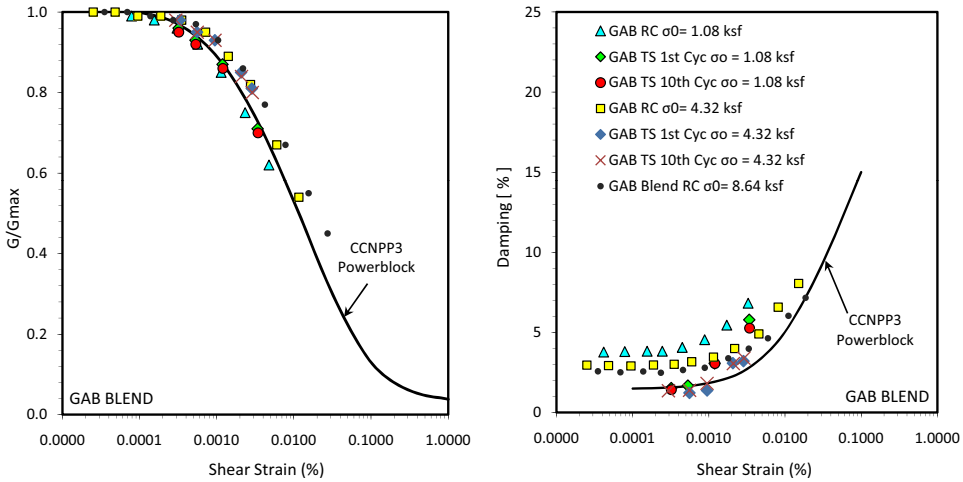


Figure 2.5-151— {RCTS Testing Sample CR6 Vulcan Average, Backfill}

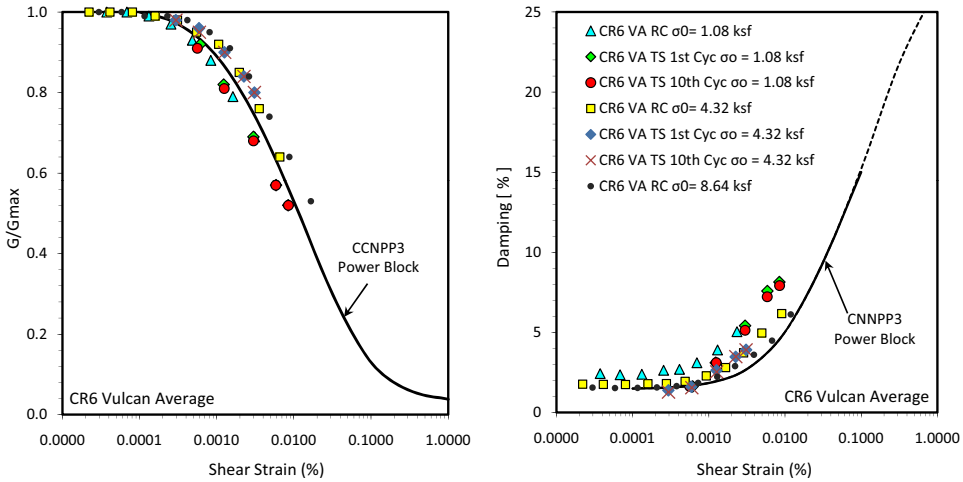


Figure 2.5-152— {Proximity of Chester and Lexington Park Sites to CCNPP}

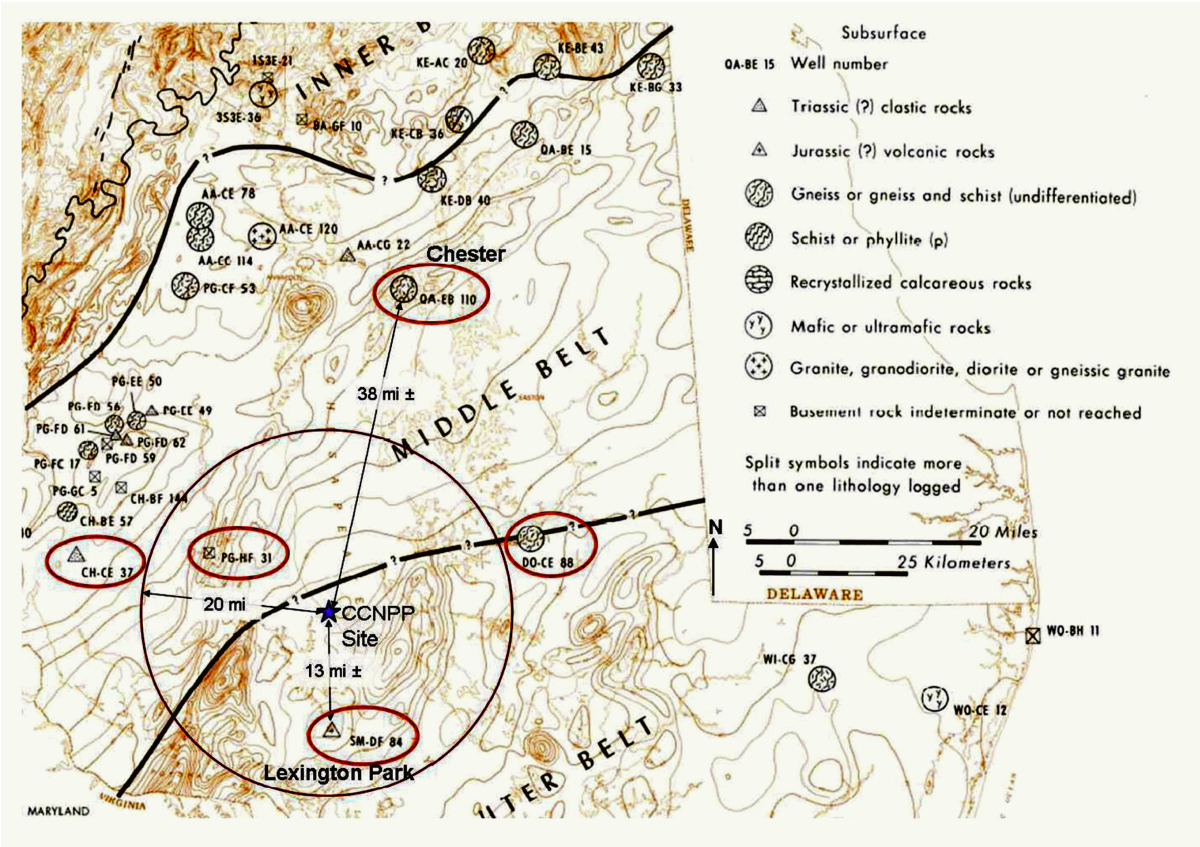


Figure 2.5-153— {Shear Wave Velocity Based on Chester (Kent Island) Measurements}

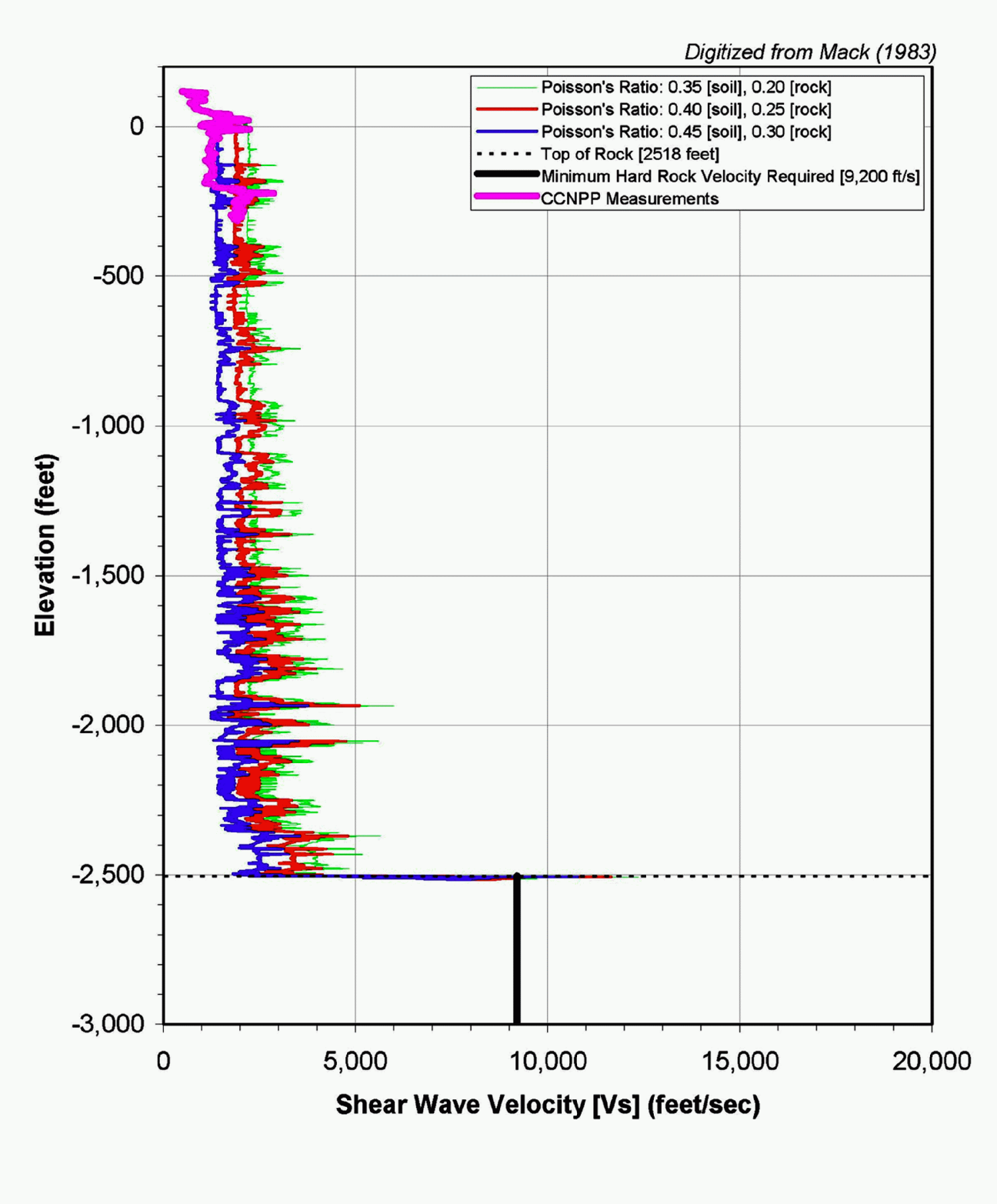


Figure 2.5-154— {Shear Wave Velocity Based on Lexington Park Measurements}

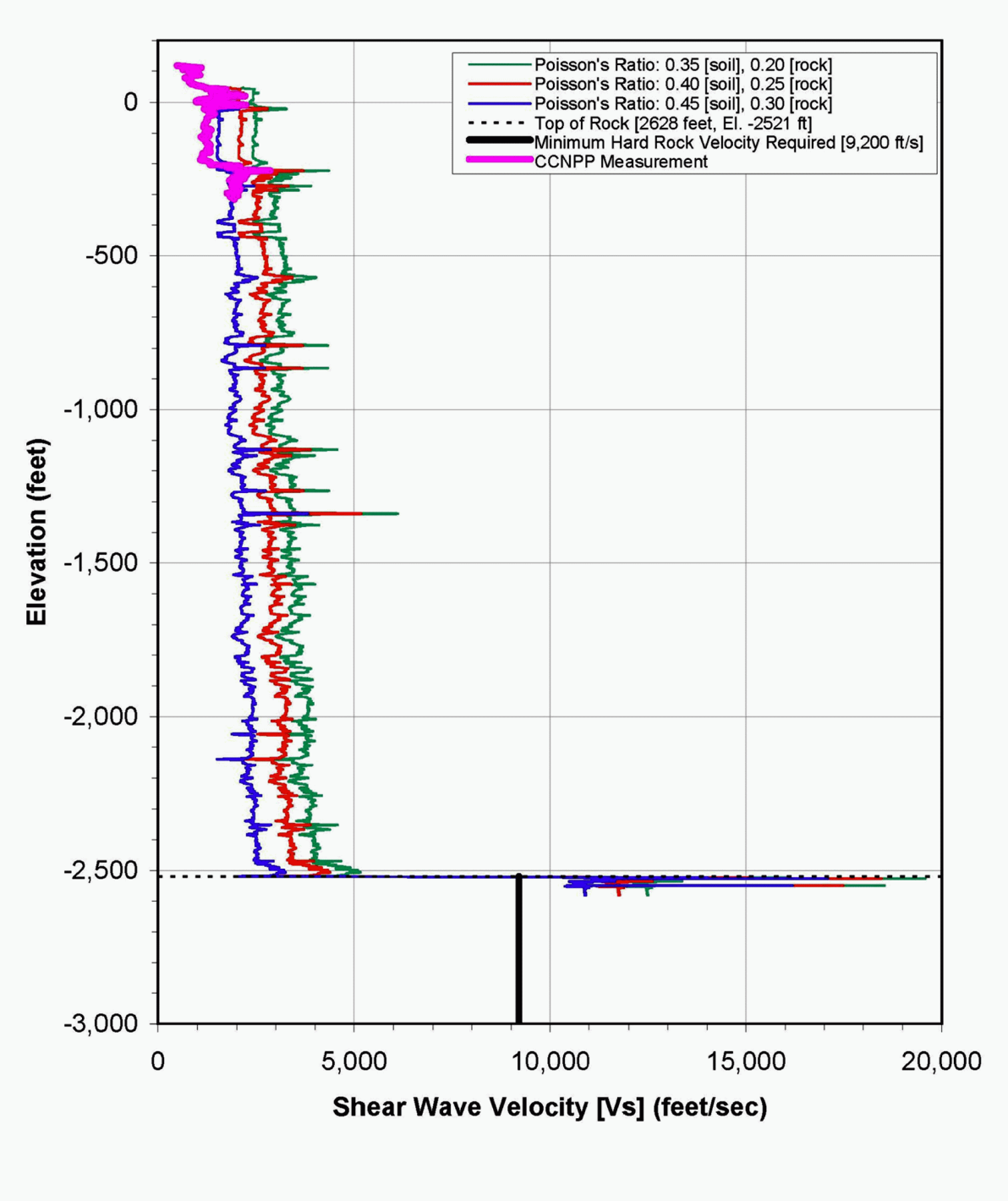


Figure 2.5-155— {Smoothed and Averaged V_s Log for Chester and Lexington Park Measurements}

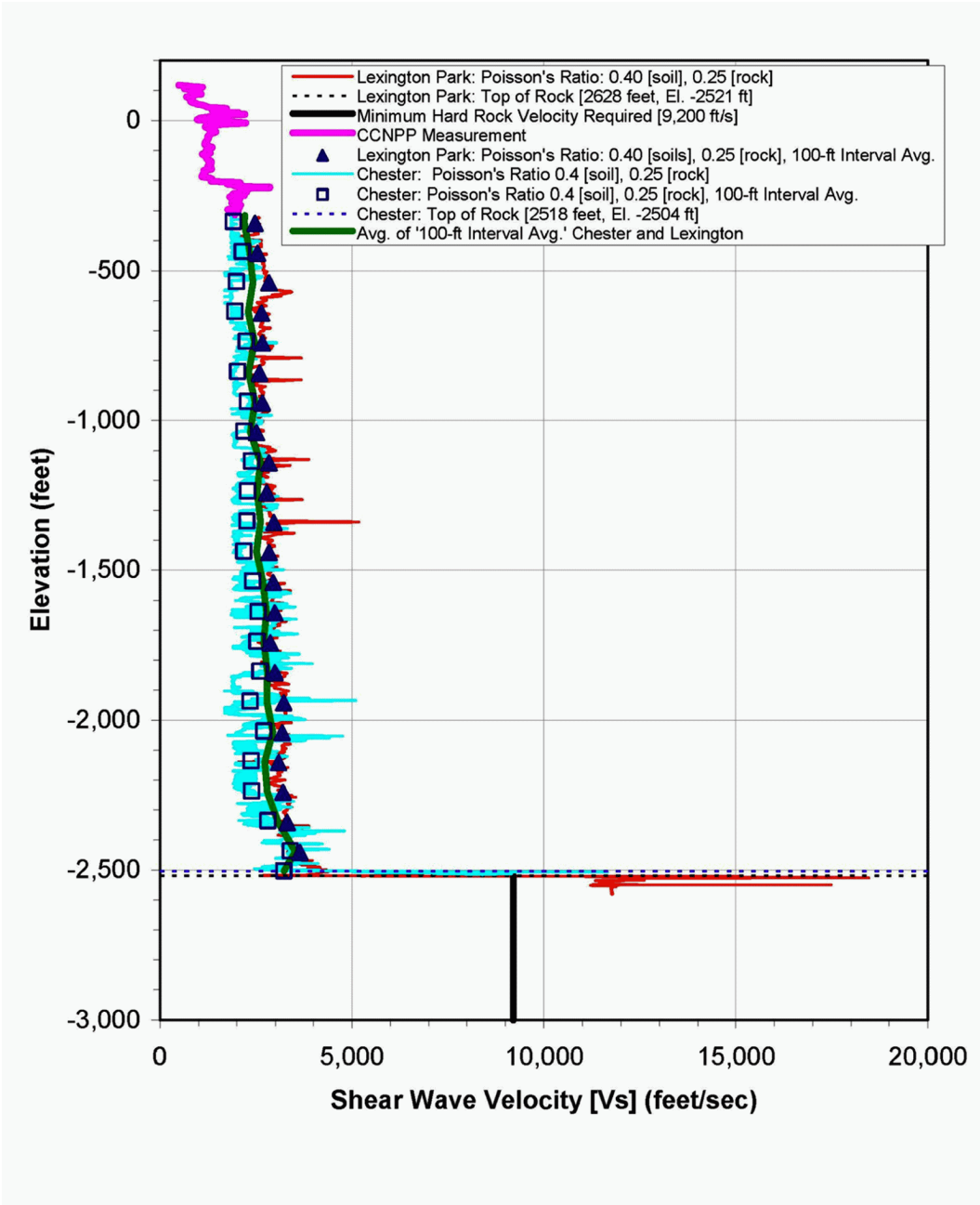


Figure 2.5-156— {Average V_s, Chester, Lexington Park, Maryland and Deep Measurements in Coastal Plain Soils}

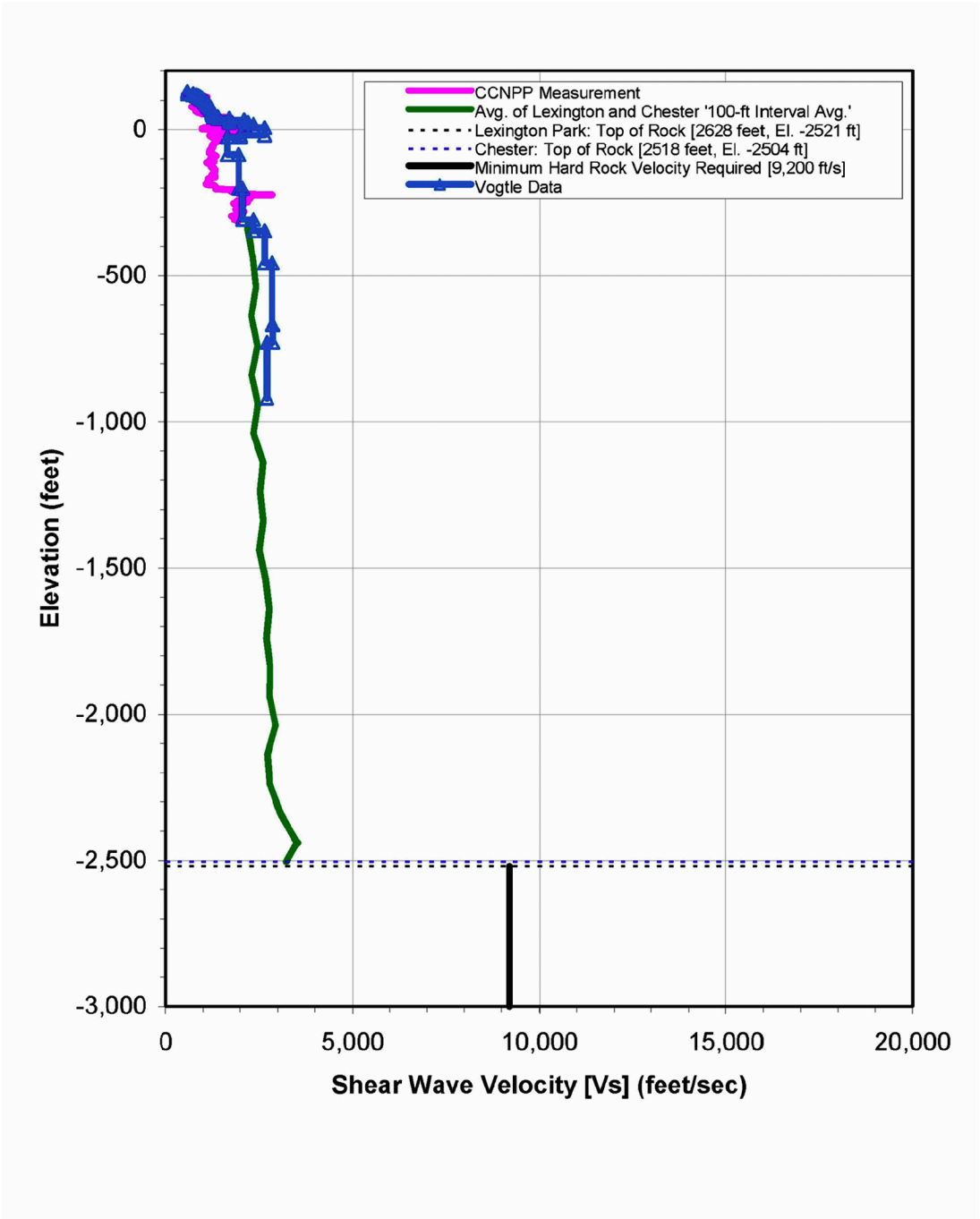


Figure 2.5-157— {Bedrock V_s Log for Chester (Kent Island), Maryland}

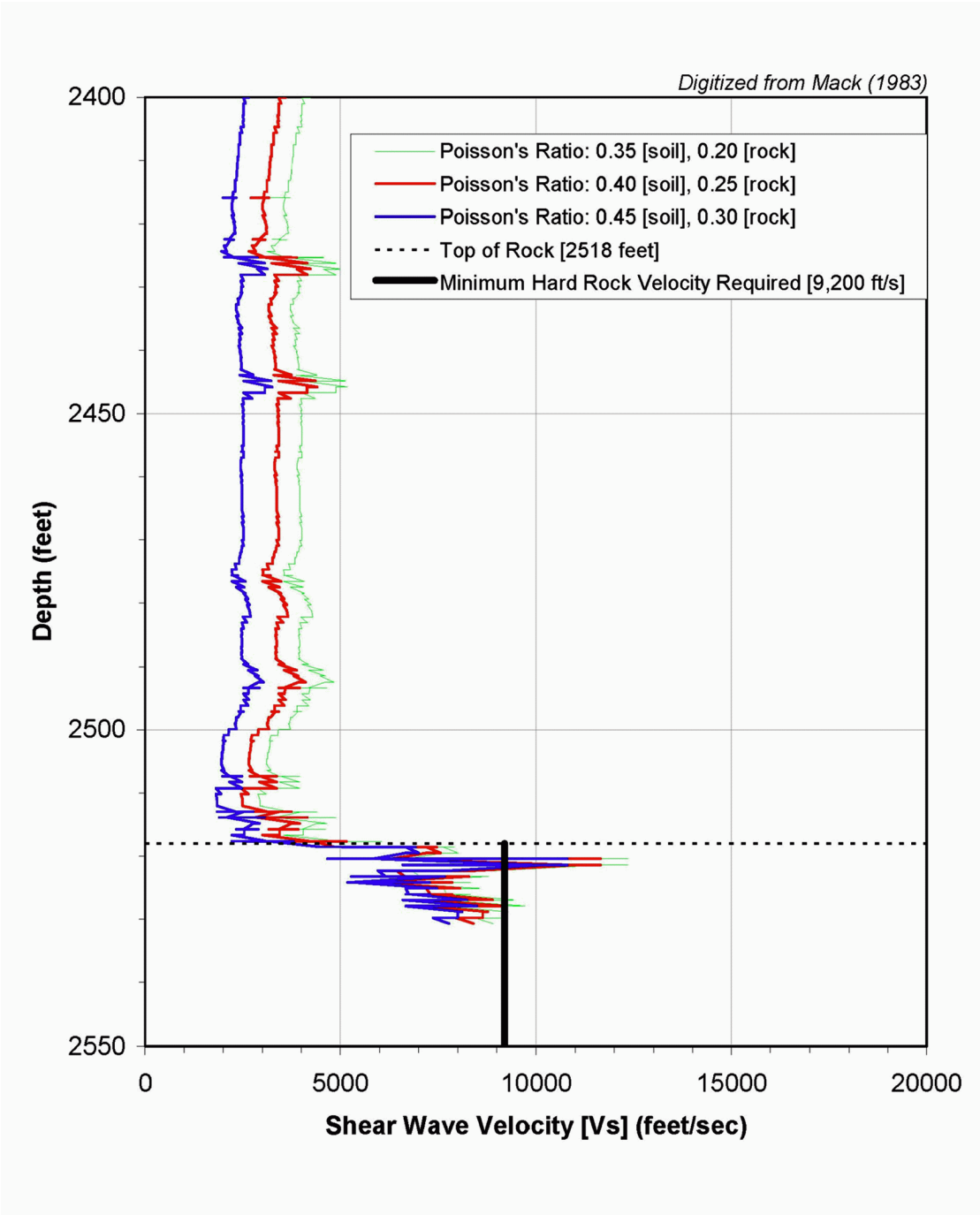


Figure 2.5-158— {Bedrock V_s Log for Lexington Park, Maryland}

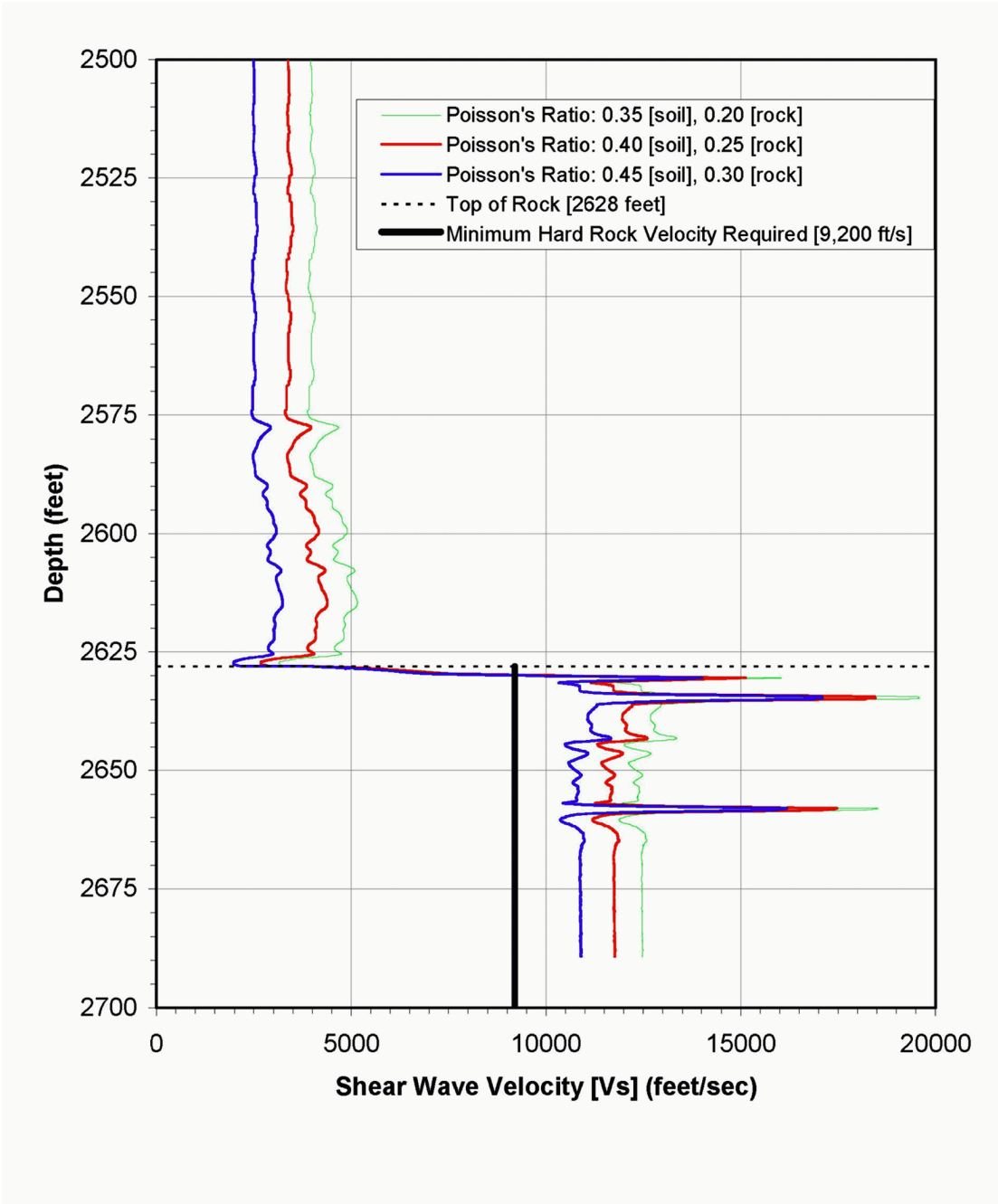
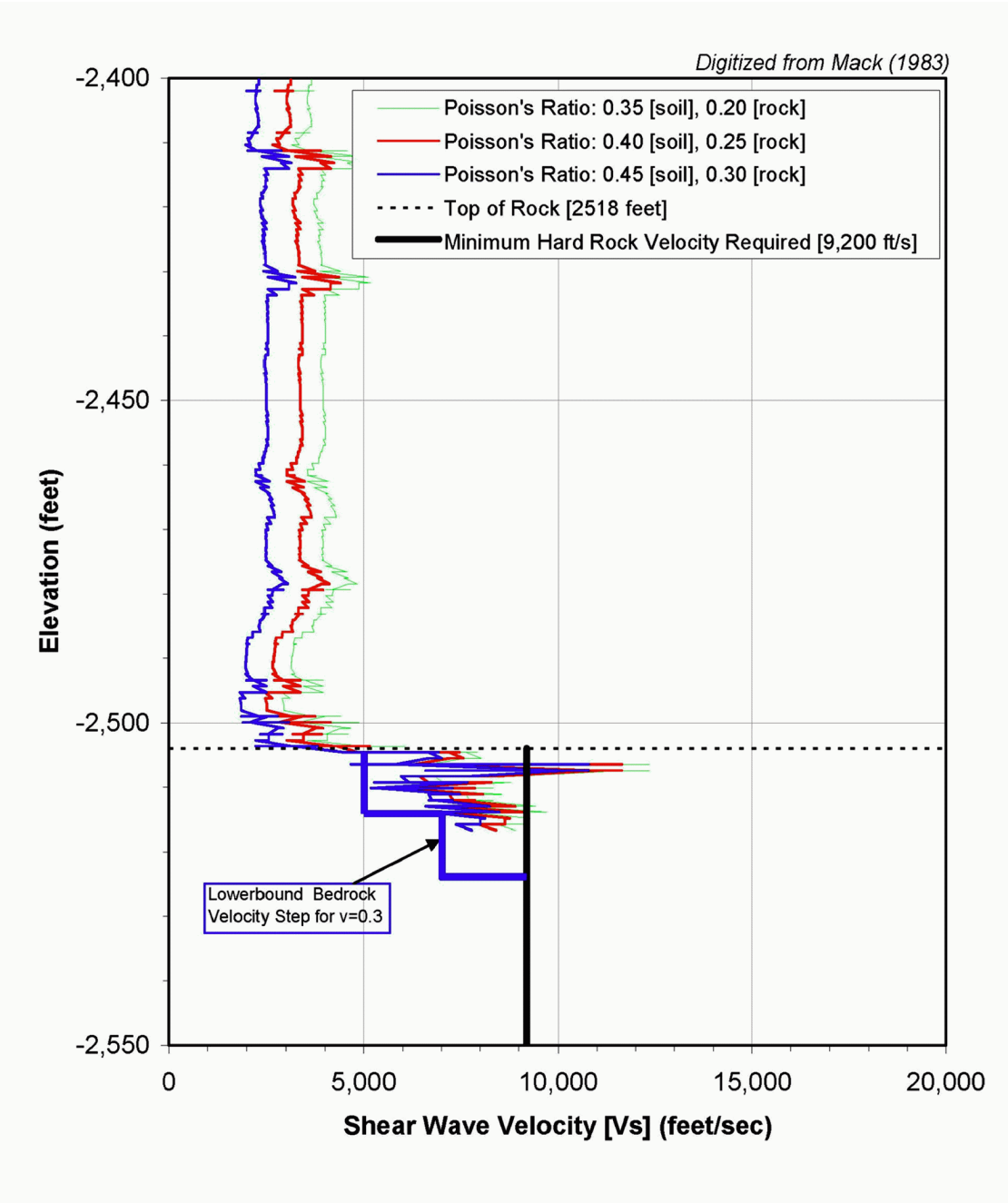


Figure 2.5-159— {Interpretation of Bedrock Velocity Gradient for Chester Measurement}



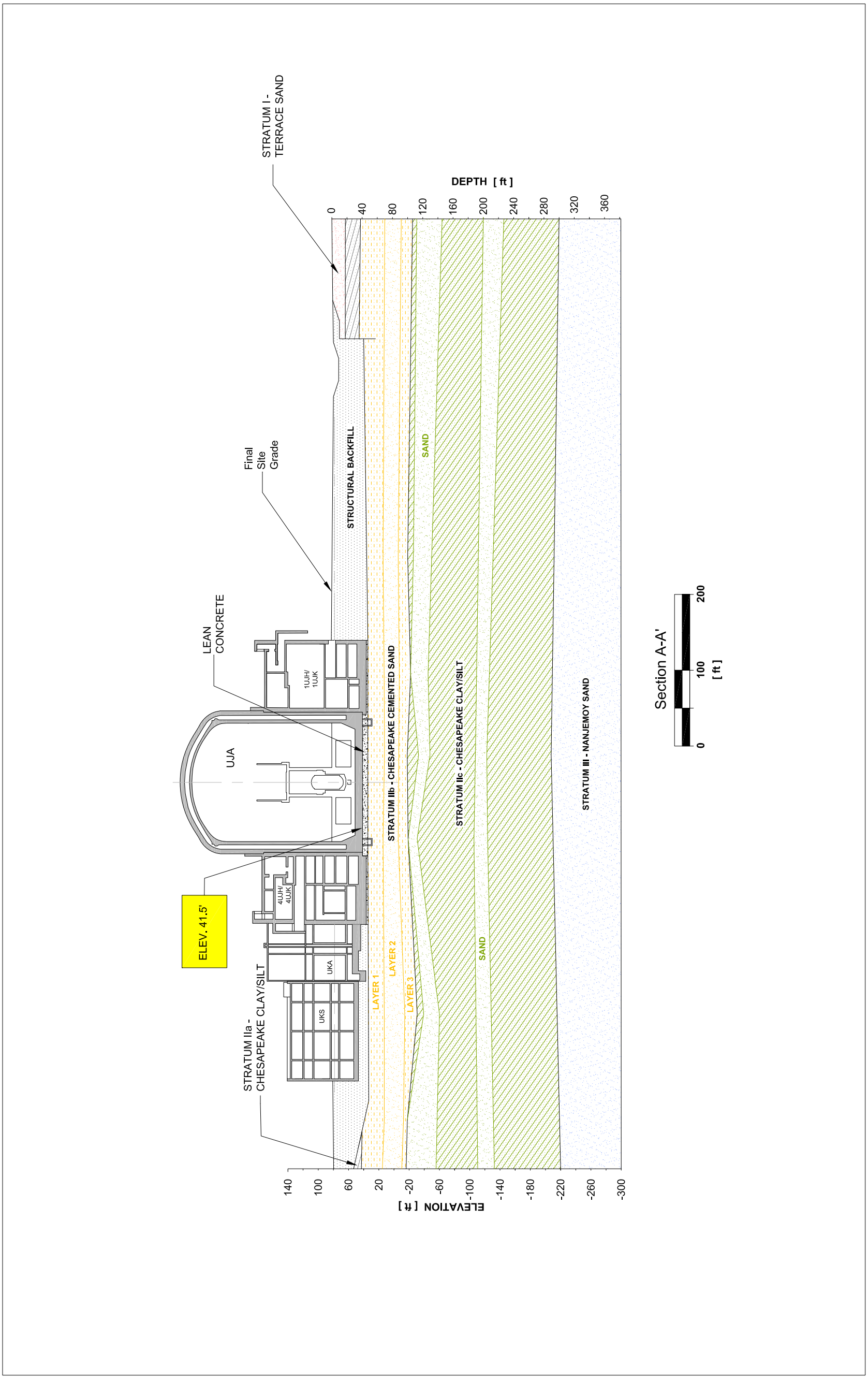


Figure 2.5-160— {Excavation Profile AA', Powerblock Area}

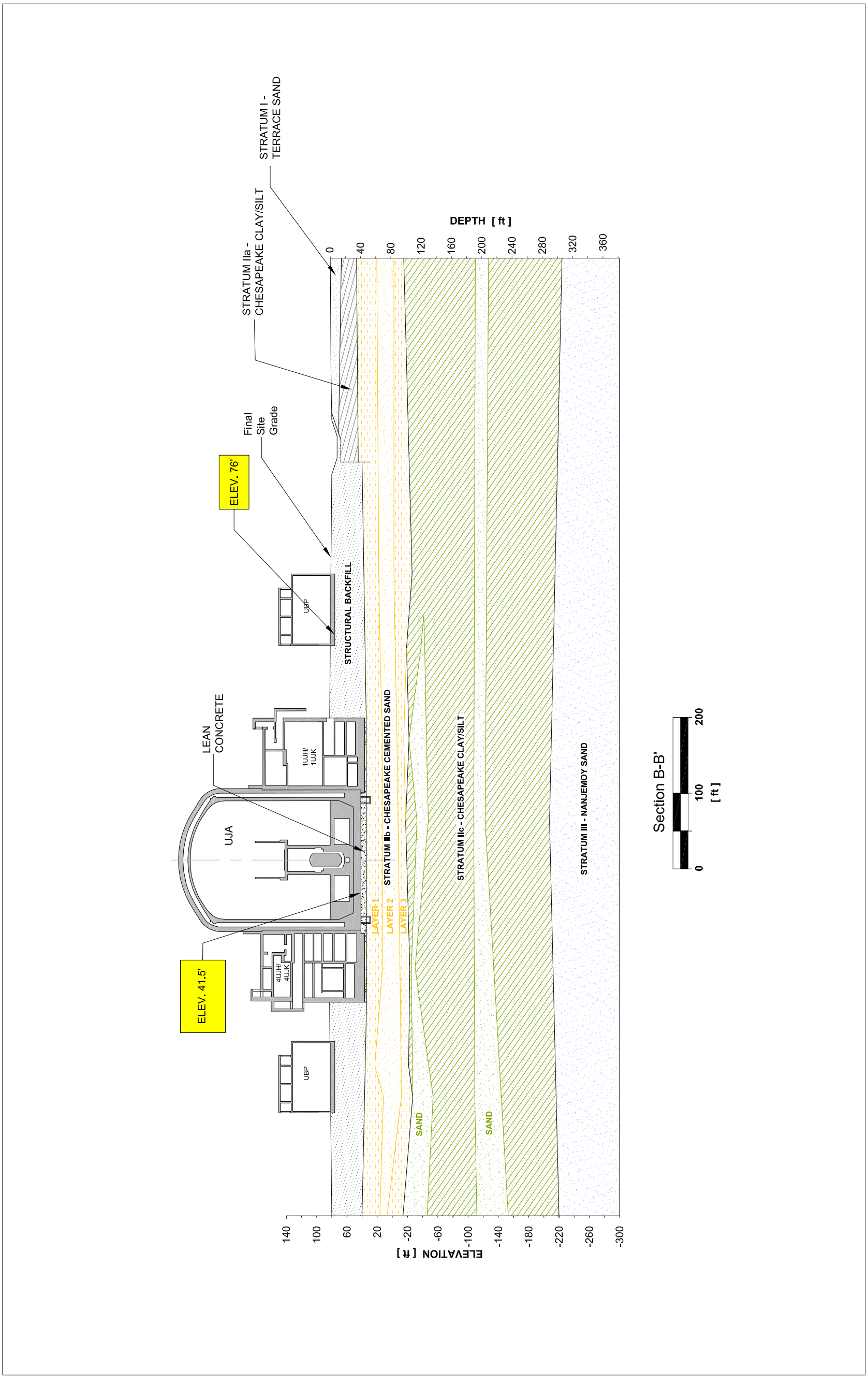


Figure 2.5-161— {Excavation Profile BB', Powerblock Area}

Figure 2.5-162— {Excavation Profile CC', Powerblock Area}

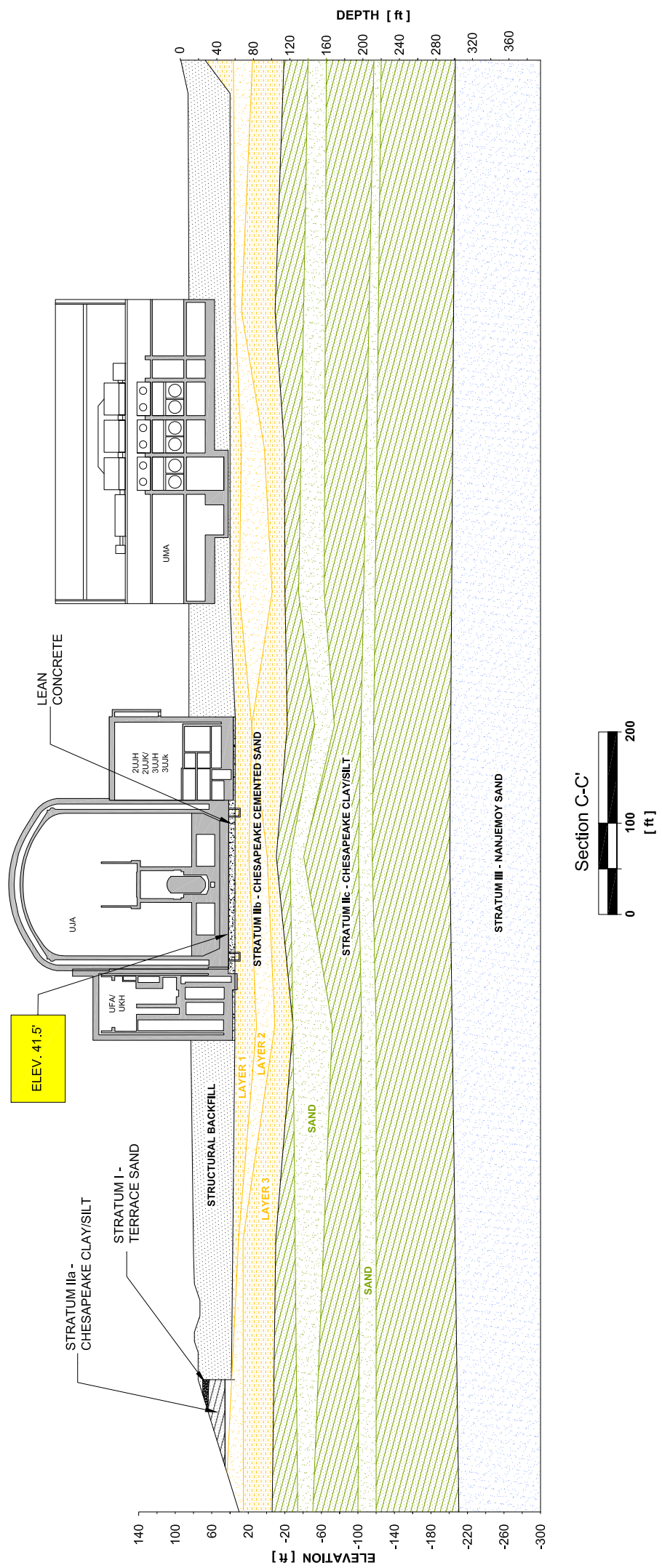
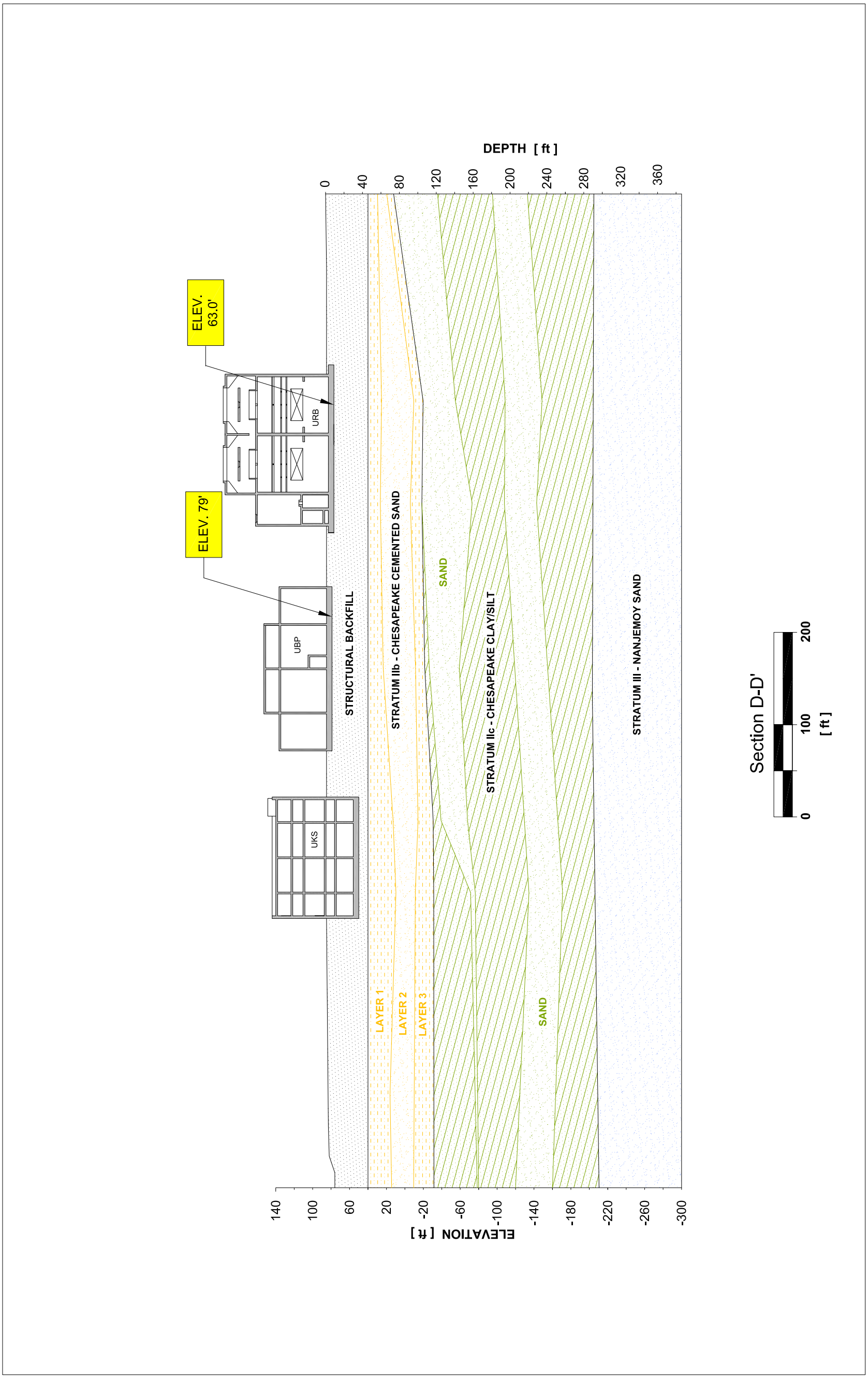


Figure 2.5-163— {Excavation Profile DD', Powerblock Area}



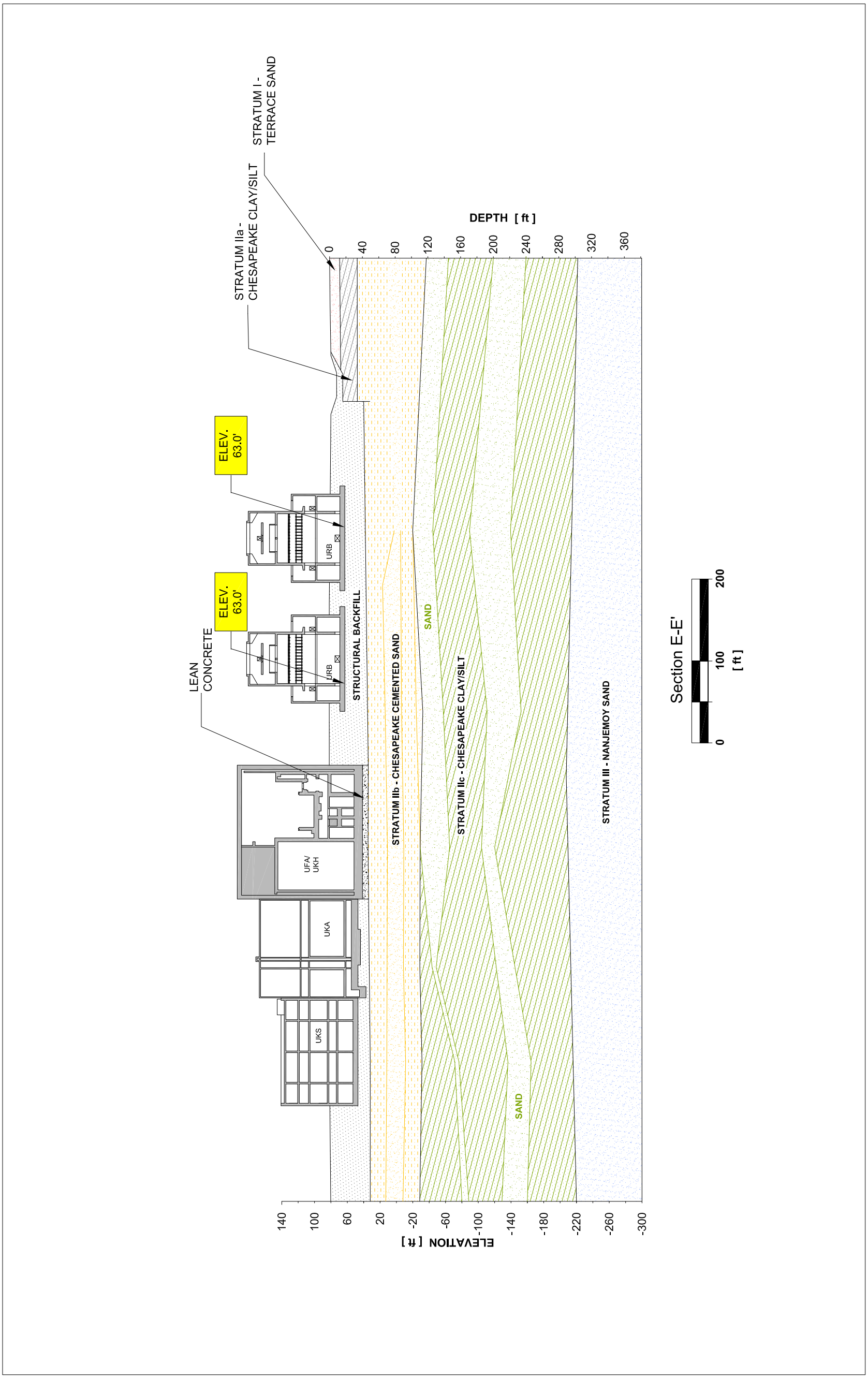


Figure 2.5-164— {Excavation Profile EE', Powerblock Area}

Figure 2.5-165— {Excavation Profile FF, Intake Area}

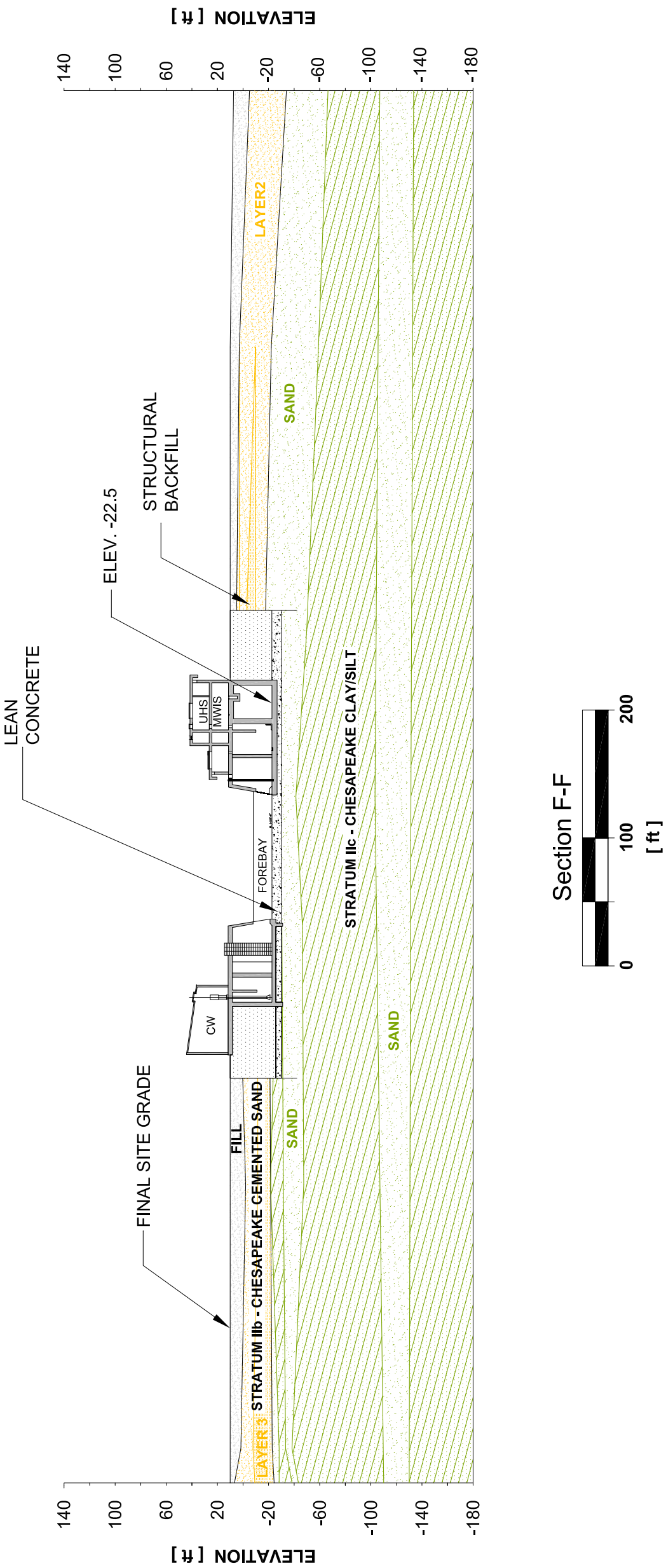


Figure 2.5-166— {Best Estimate Velocity Profiles, In-Situ condition, Powerblock Area}

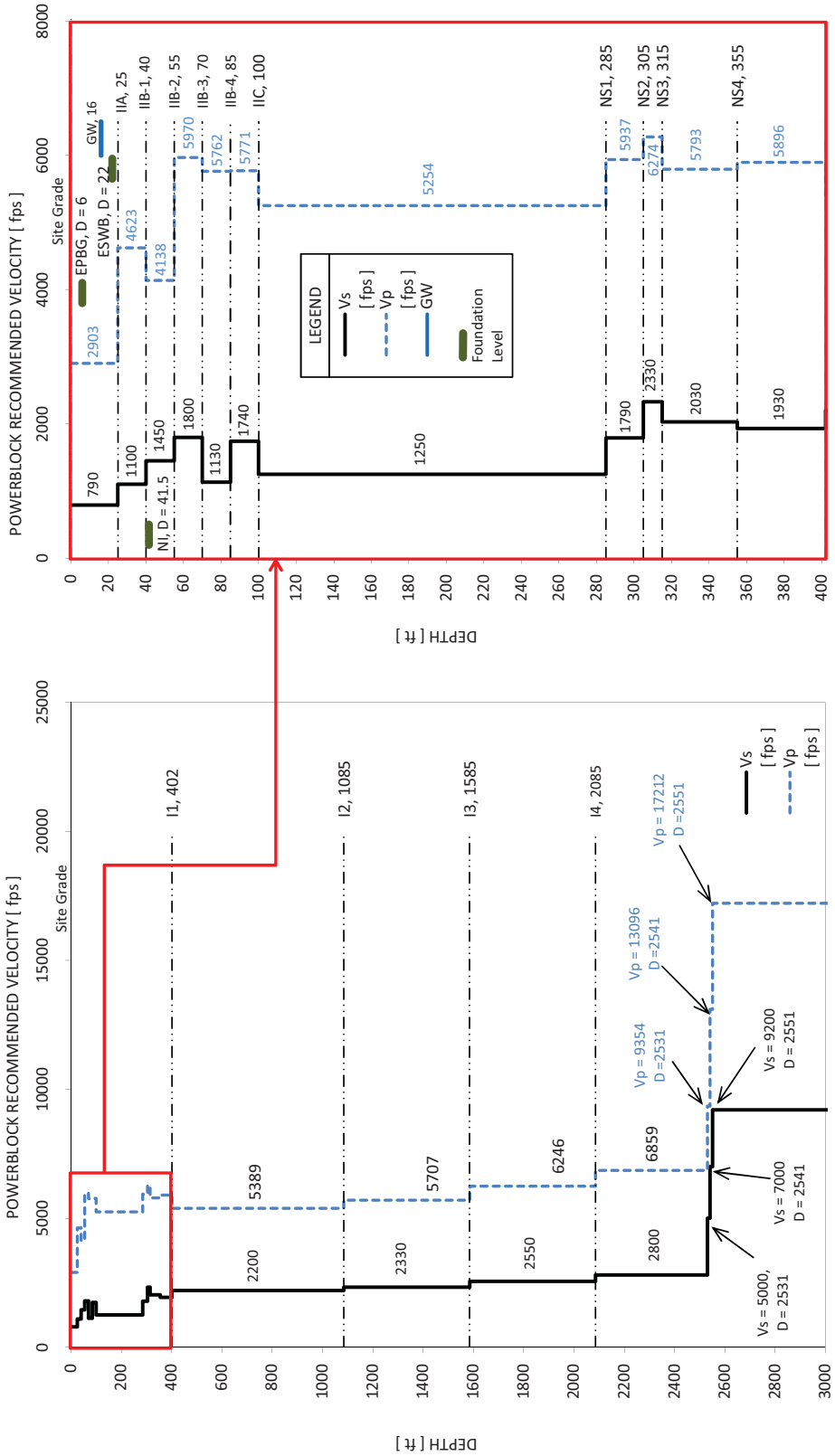


Figure 2.5-167— {Best Estimate Velocity Profiles with Fill Placement, Powerblock Area}

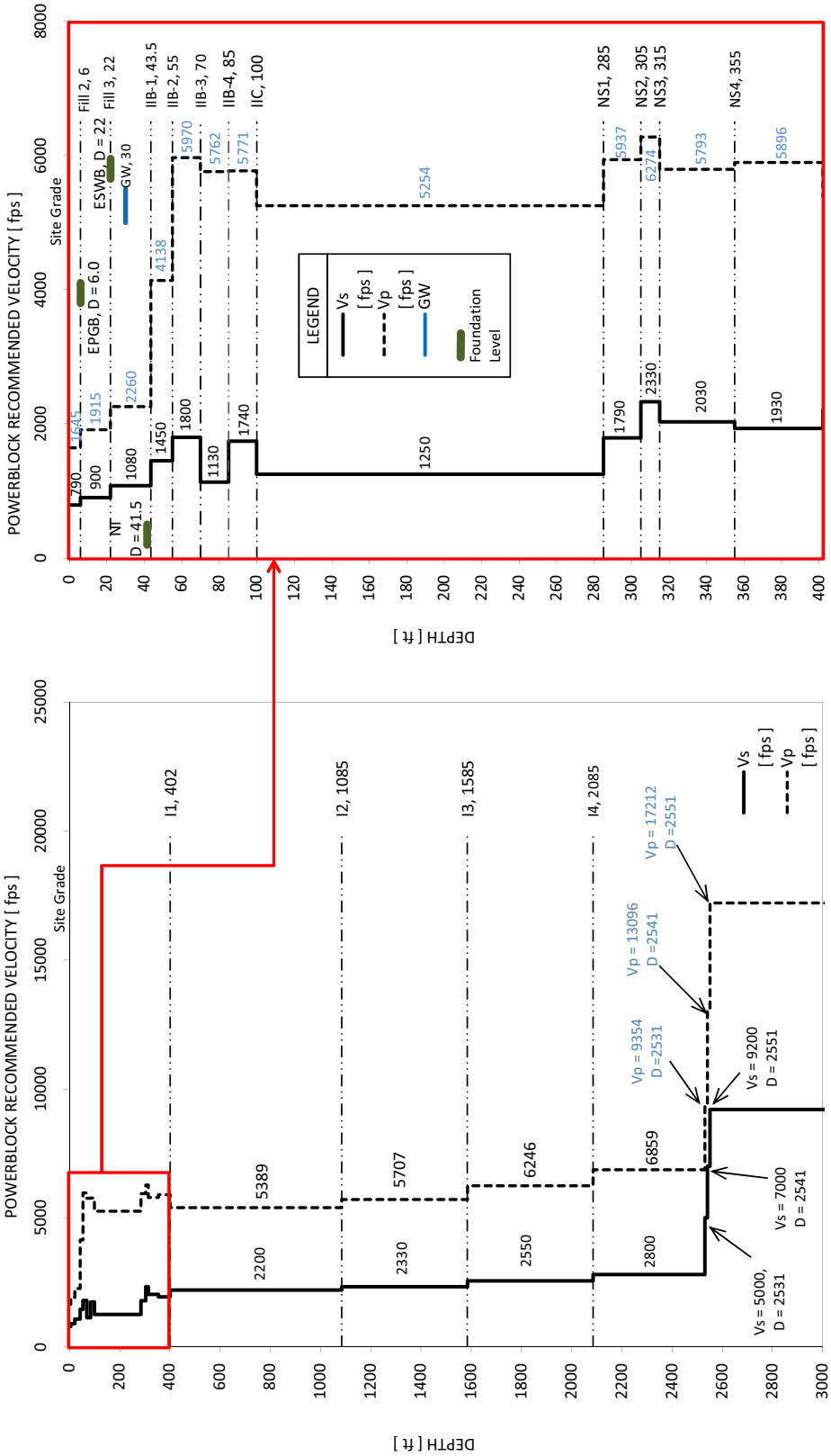


Figure 2.5-168— {Best Estimate Velocity Profiles, In-Situ Condition, Intake Area}

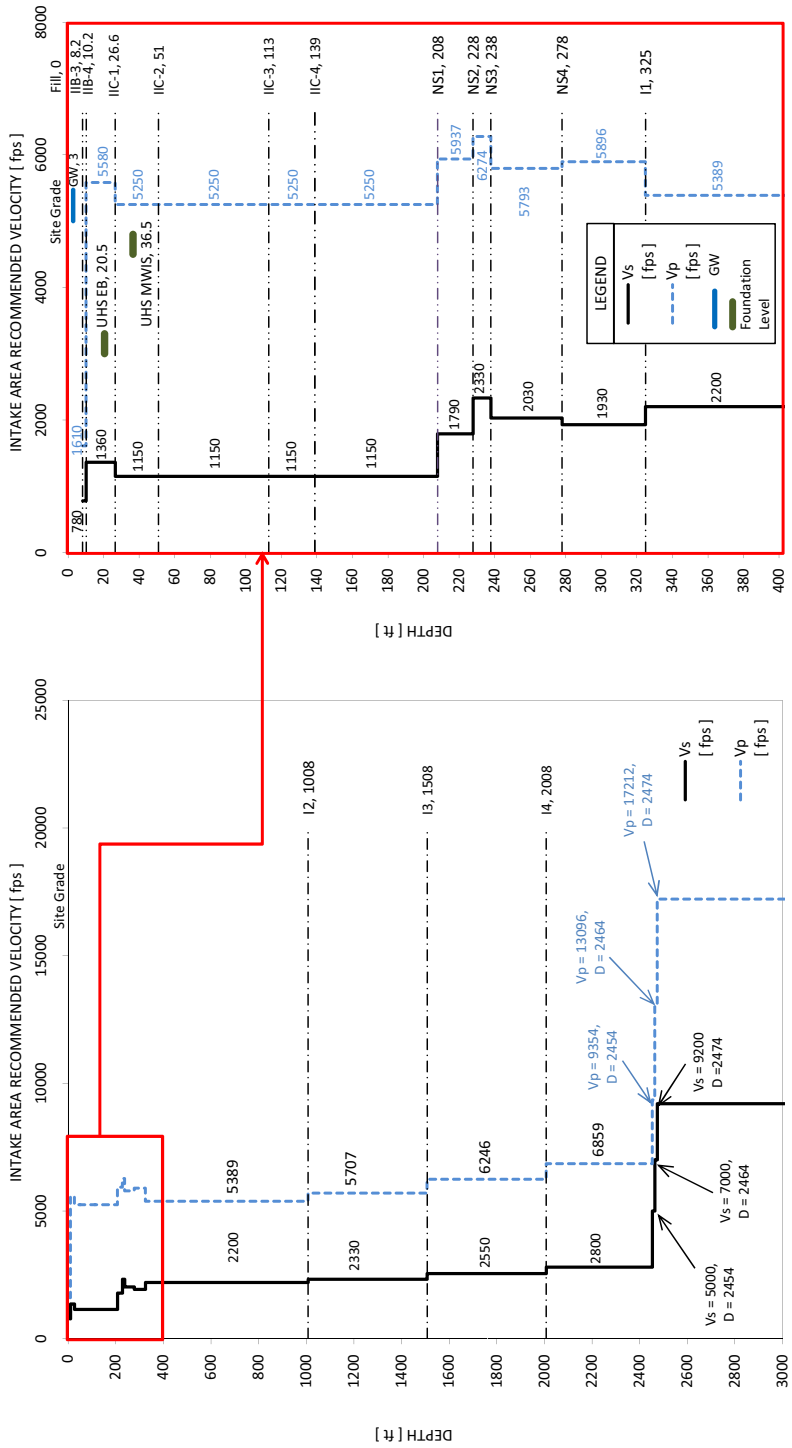


Figure 2.5-169— {Best Estimate Velocity Profiles with Fill Placement, Intake Area}

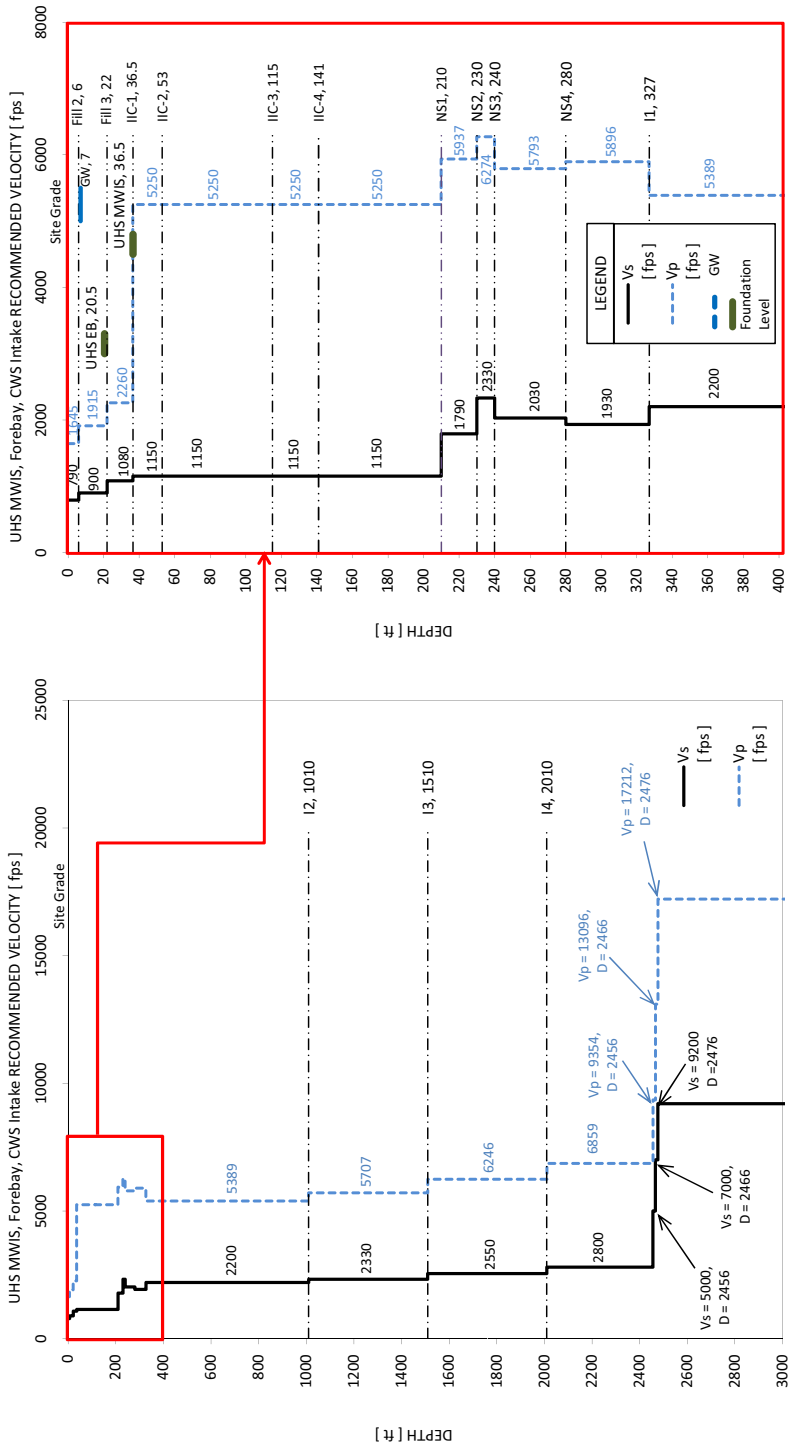


Figure 2.5-170— {Strain Dependant Properties for Powerblock Area}

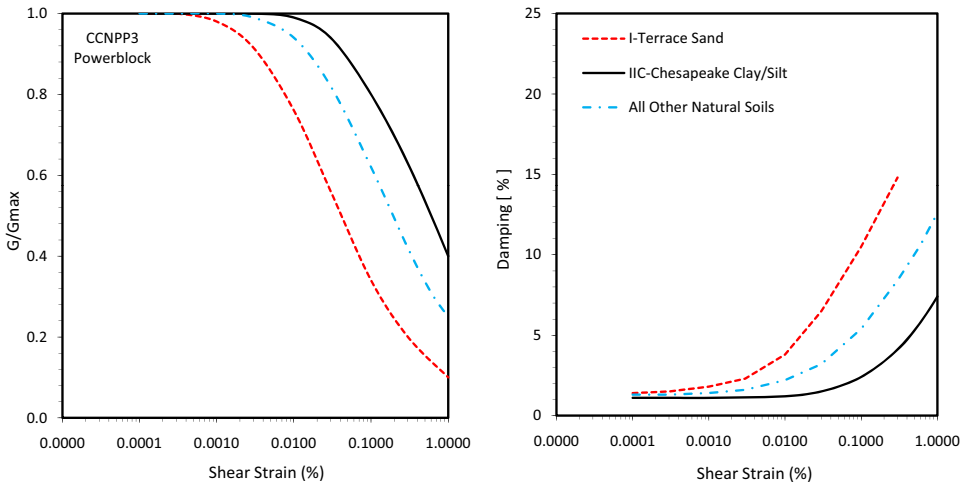


Figure 2.5-171— {Strain Dependant Properties for Intake Area}

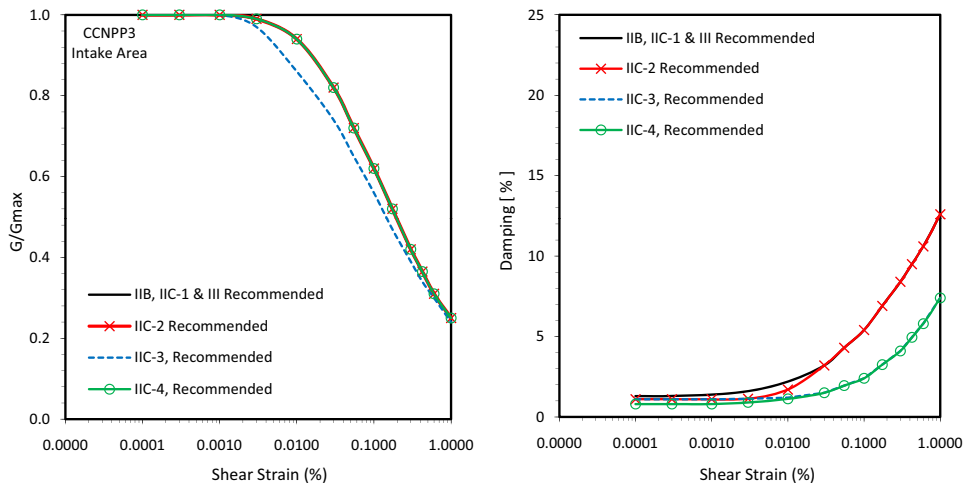


Figure 2.5-172— {Strain Dependant Properties for Backfill}

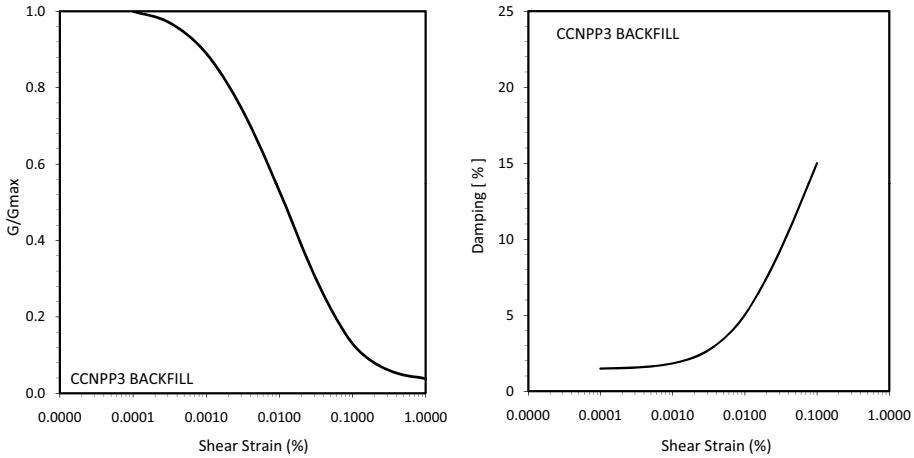
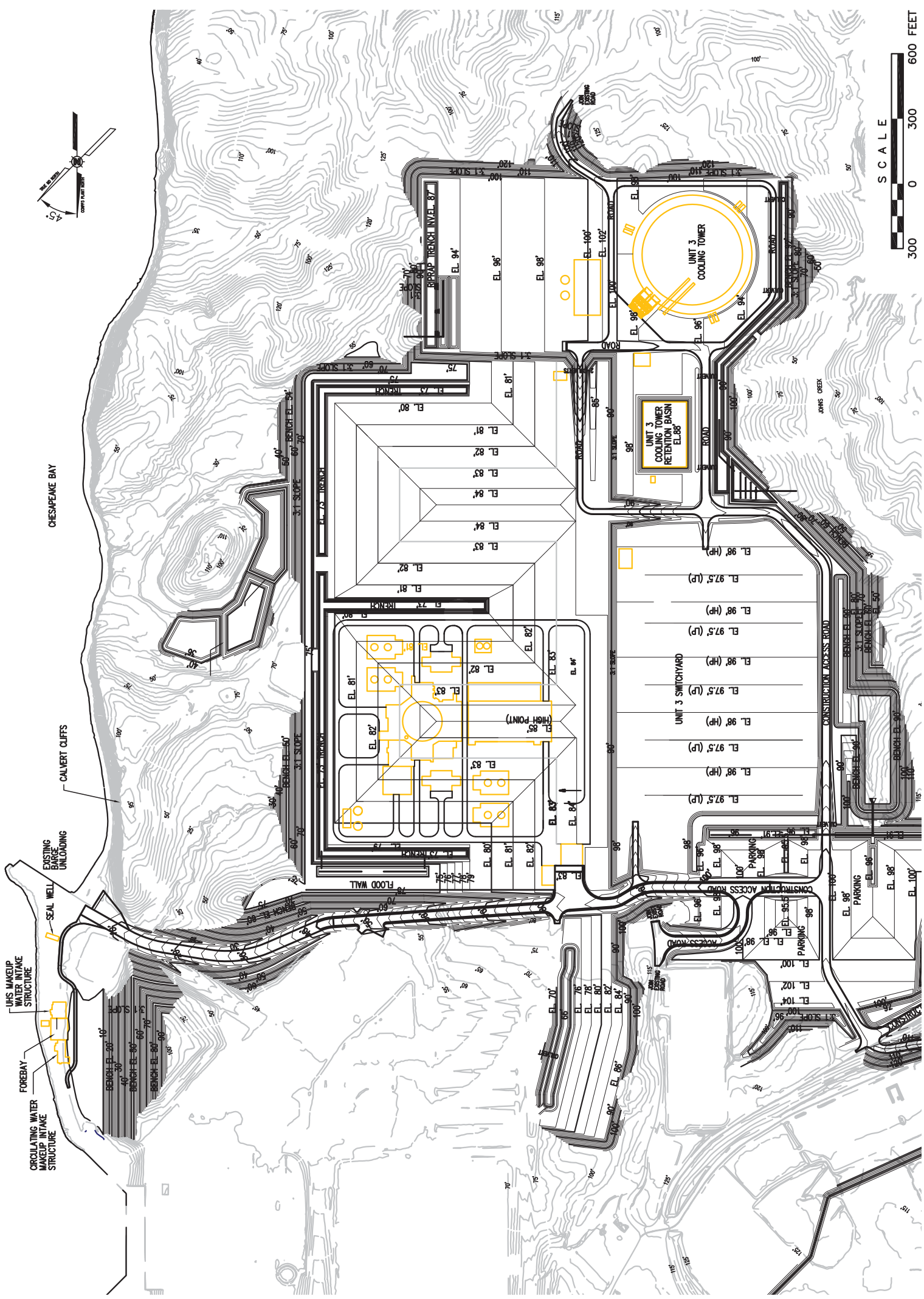
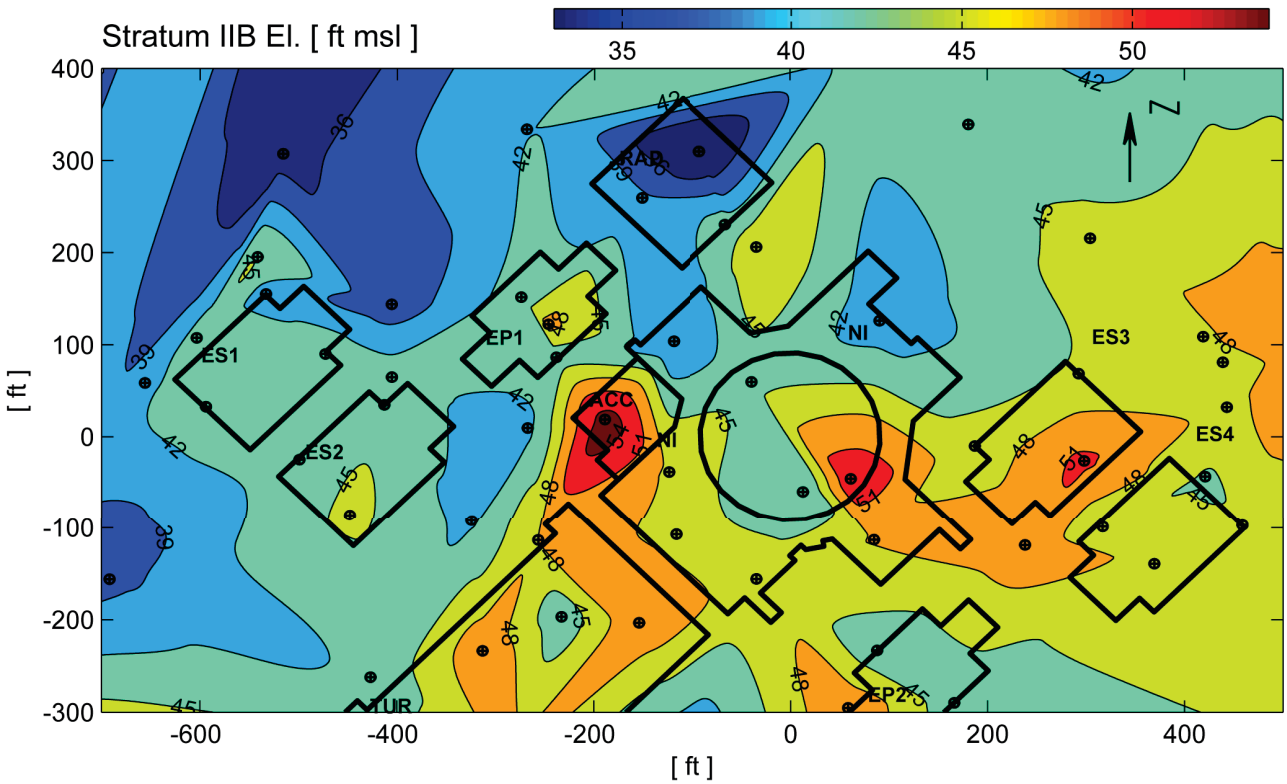


Figure 2.5-173— {Site Grading Plan}



See Figure 1.2-1 for Powerblock layout

Figure 2.5-174— {Elevation Contours of Top of Stratum IIb Cemented Sand}



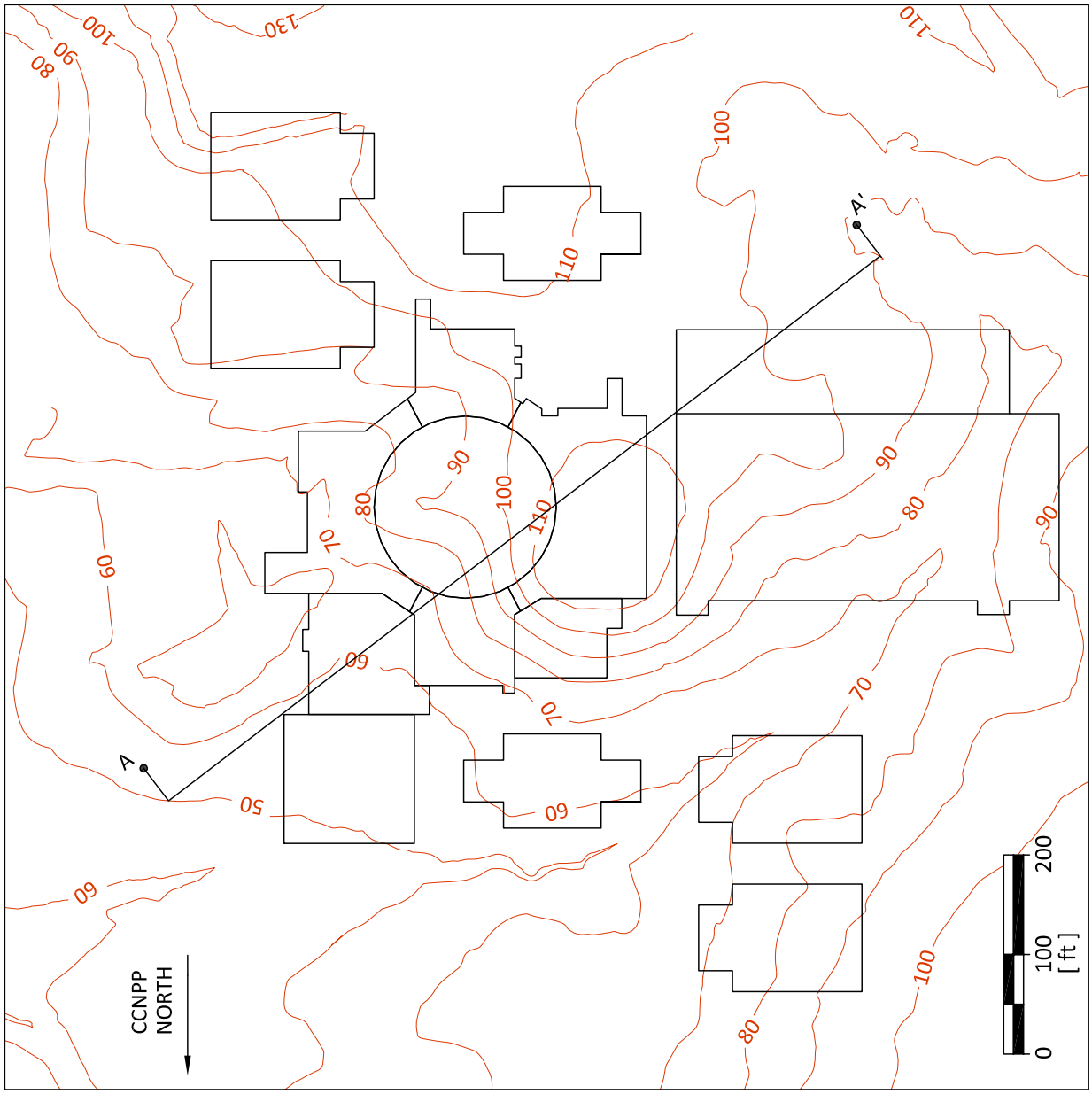


Figure 2.5-175— {Topography in Powerblock Area}

Figure 2.5-176— {FOS against Liquefaction Based on SPT Data, Powerblock}

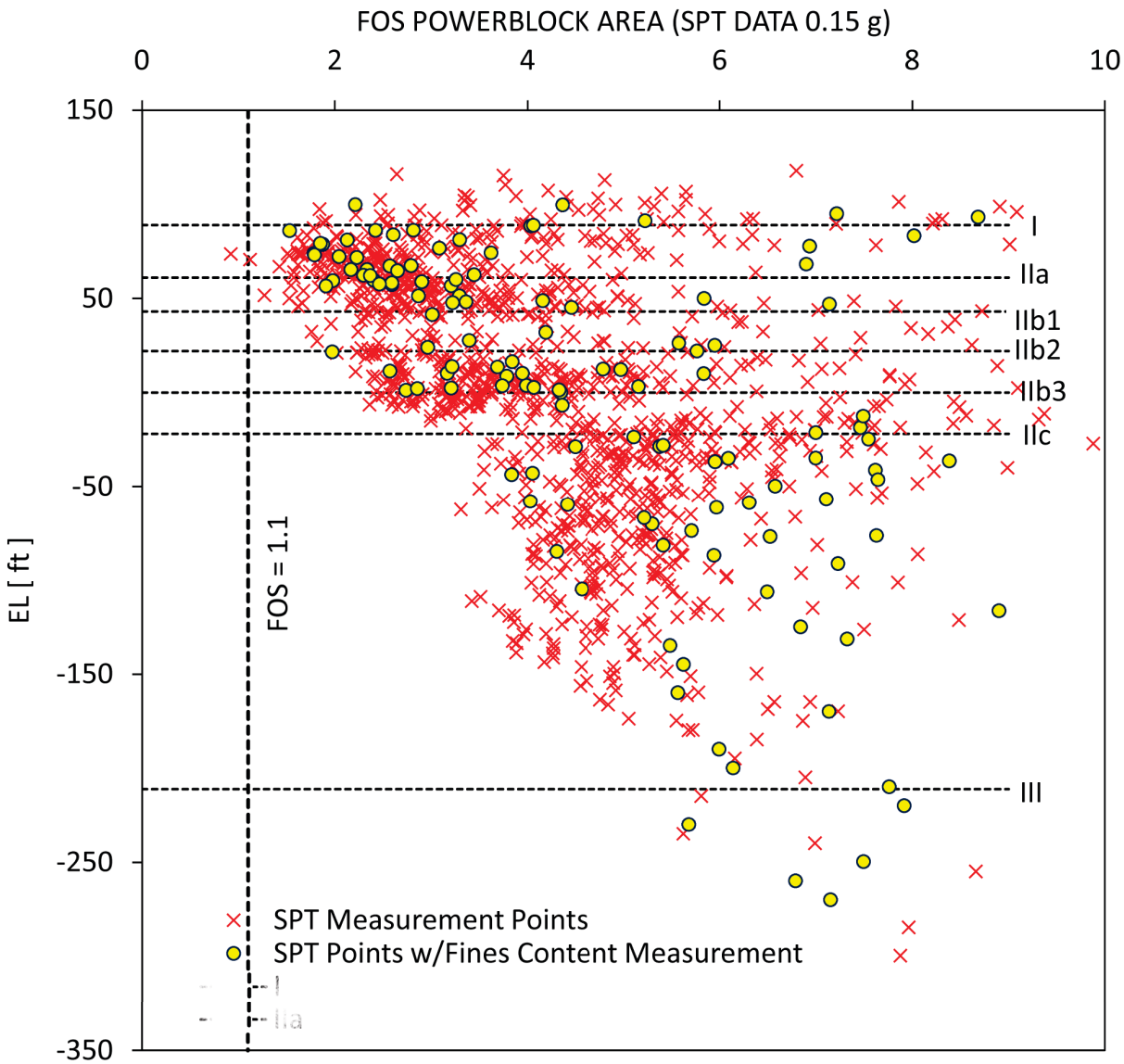


Figure 2.5-177— {FOS against Liquefaction Based on SPT Data, Intake Area}

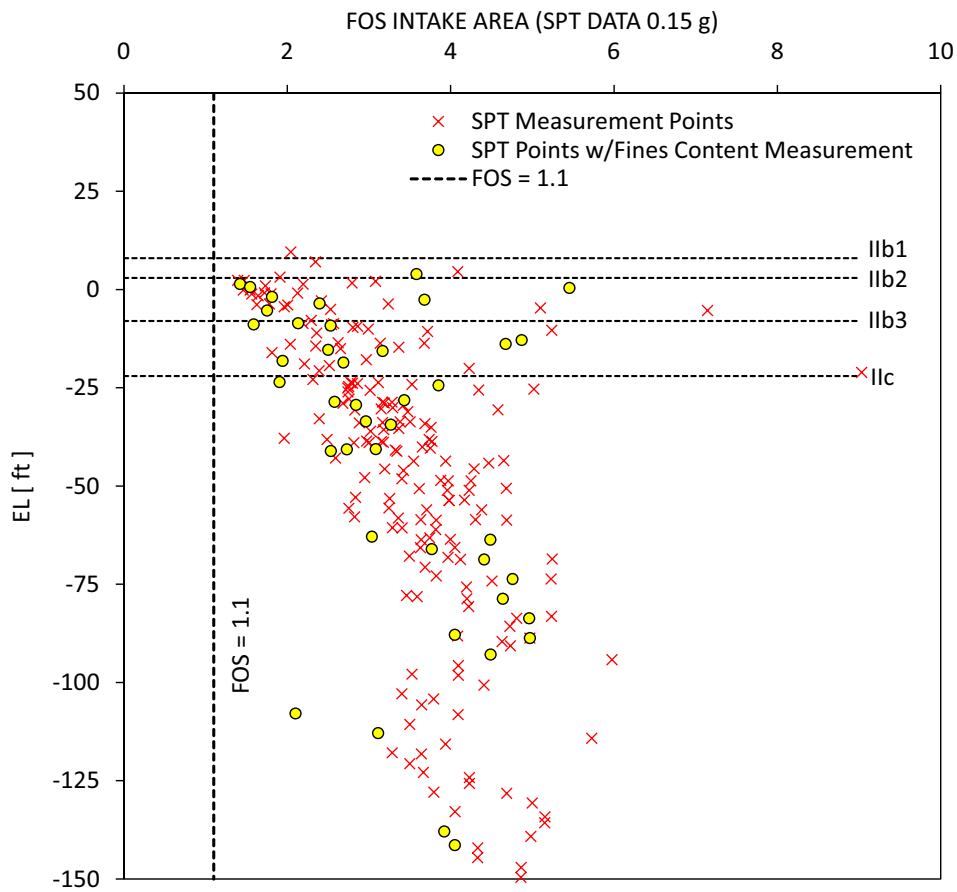


Figure 2.5-178— {FOS against Liquefaction Based on V_s Data, Powerblock}

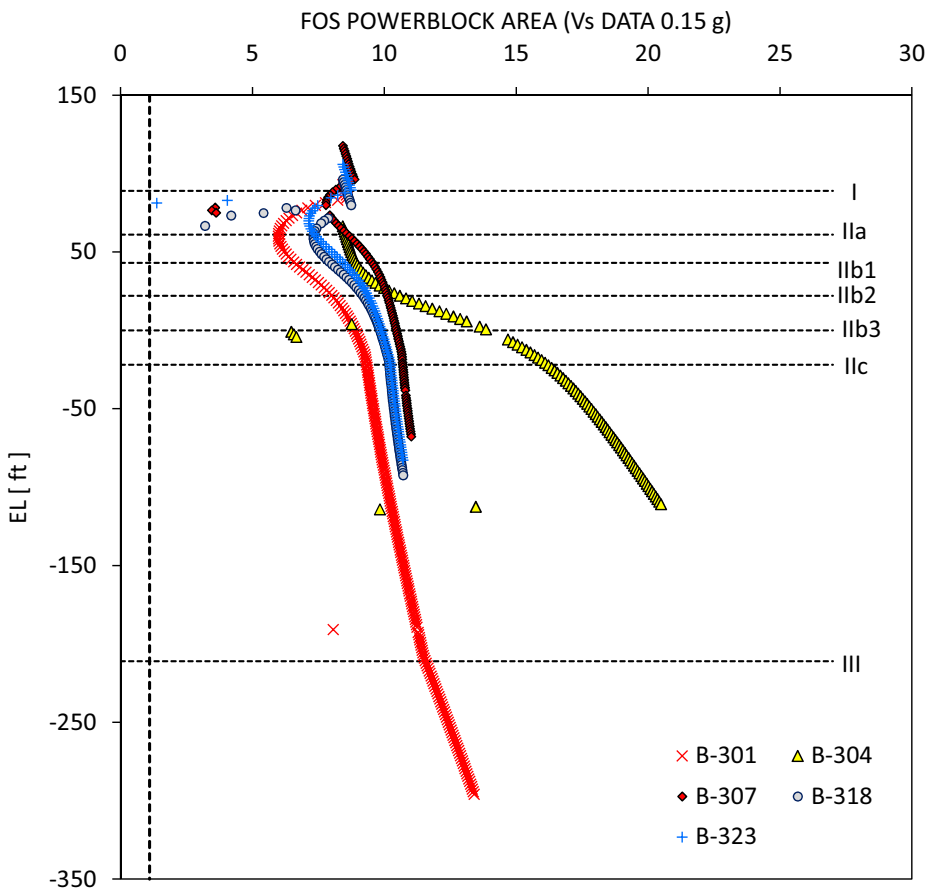


Figure 2.5-179— {FOS against Liquefaction Based on V_s Data, Intake Area}

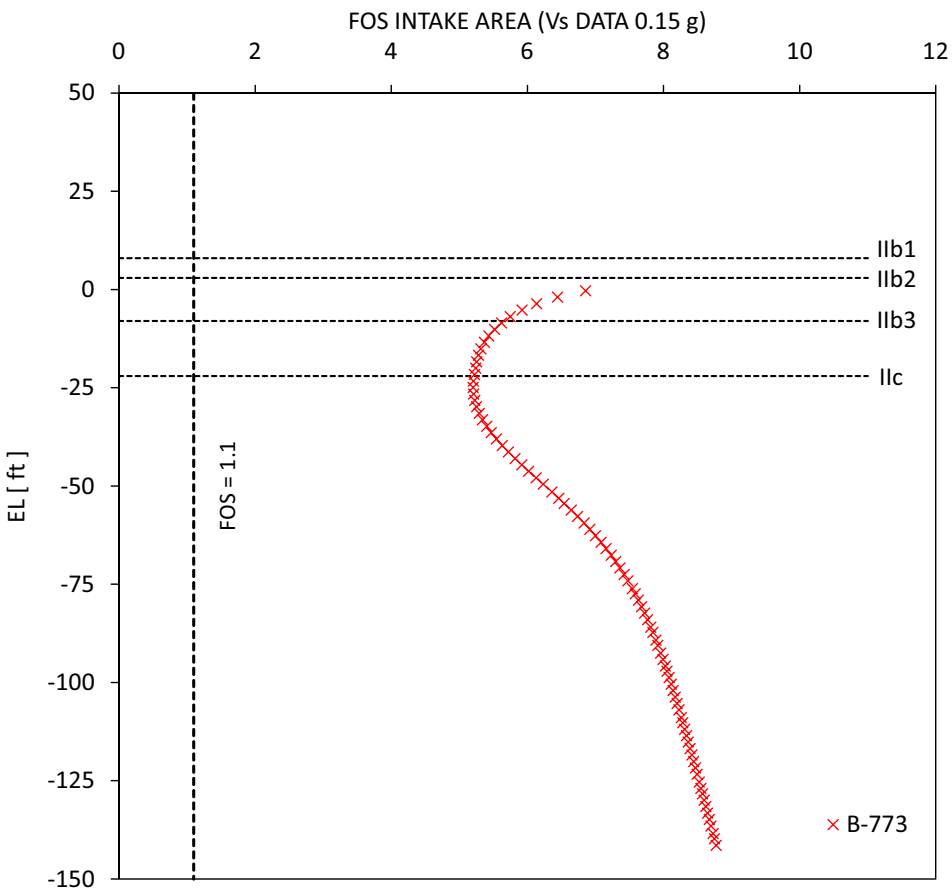


Figure 2.5-180— {FOS against liquefaction based on CPT Data, Powerblock Area}

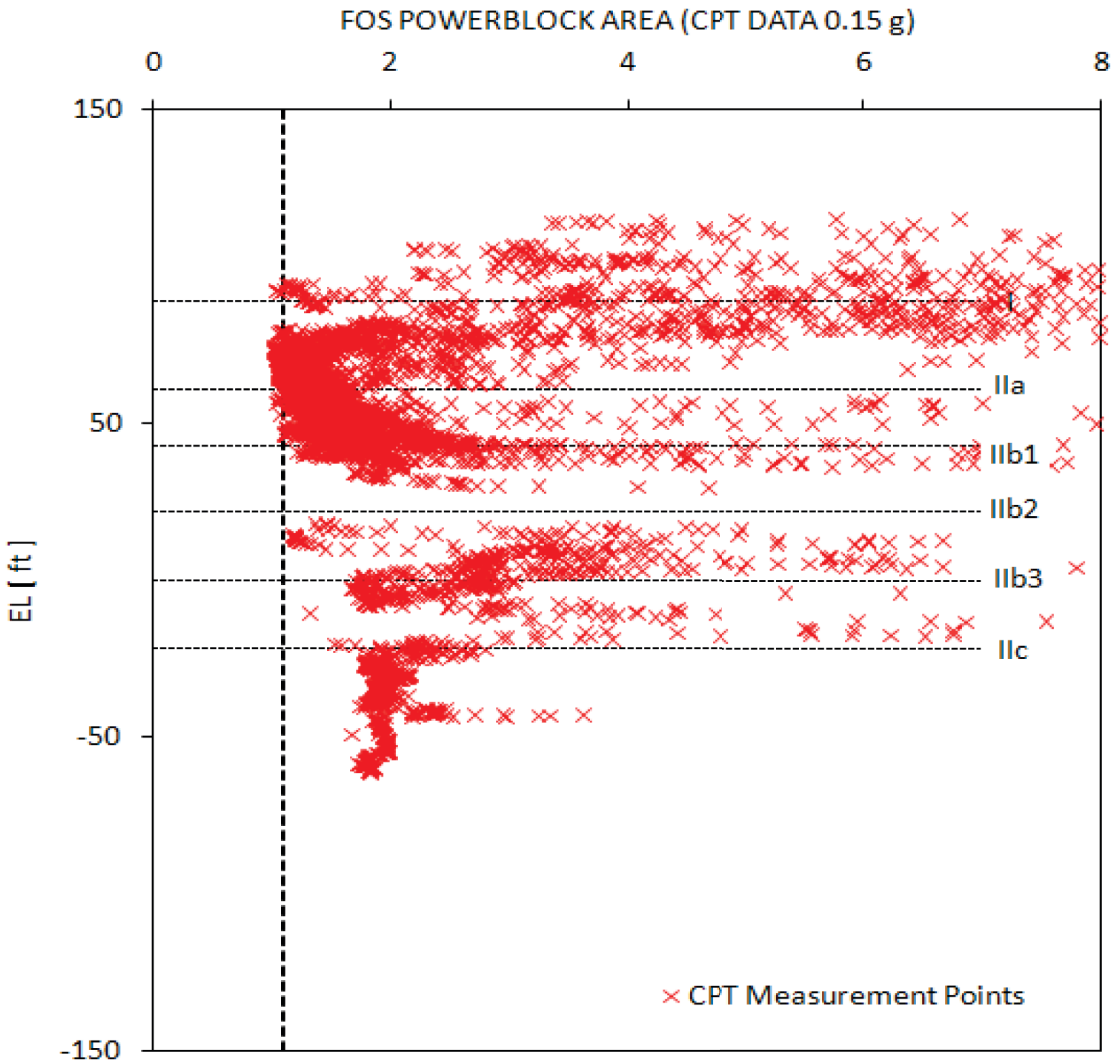


Figure 2.5-181— {FOS against liquefaction based on CPT Data, Intake Area}

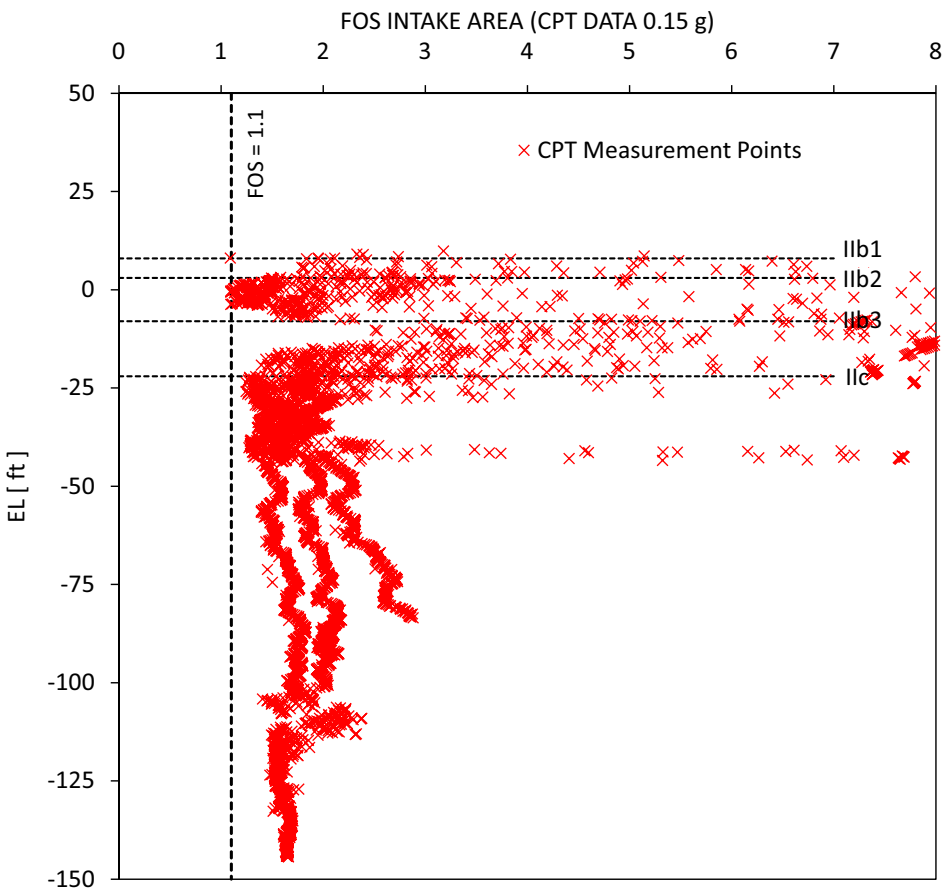


Figure 2.5-182— {FOS against Liquefaction for Backfill, Powerblock Area}

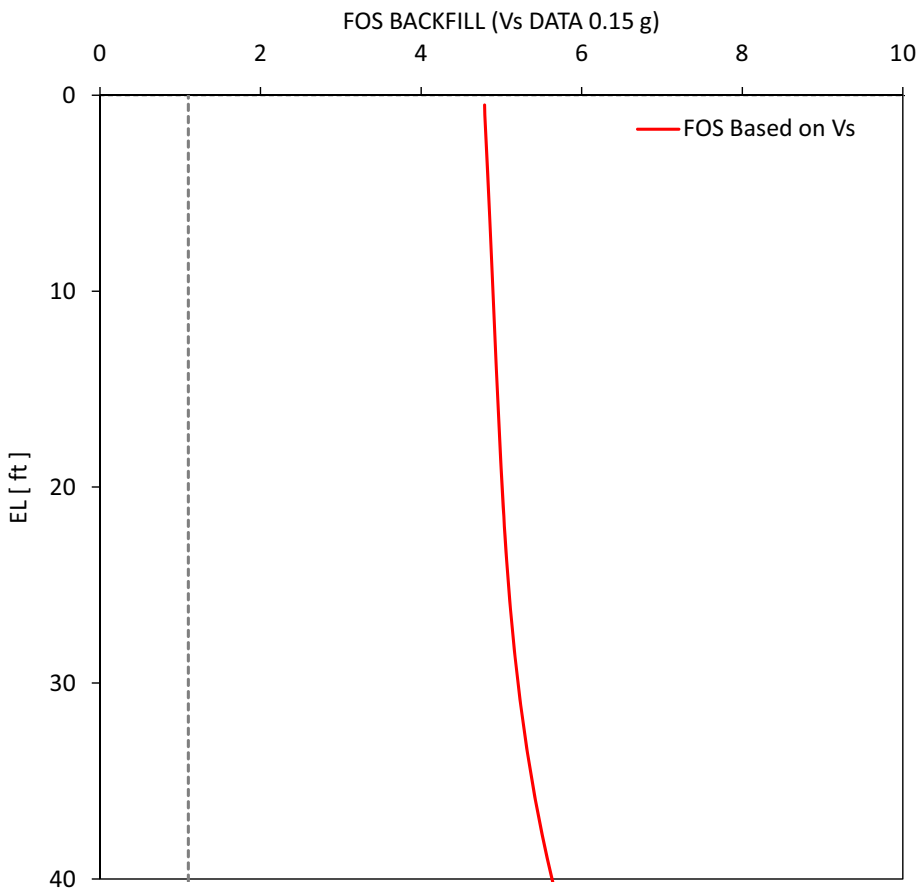
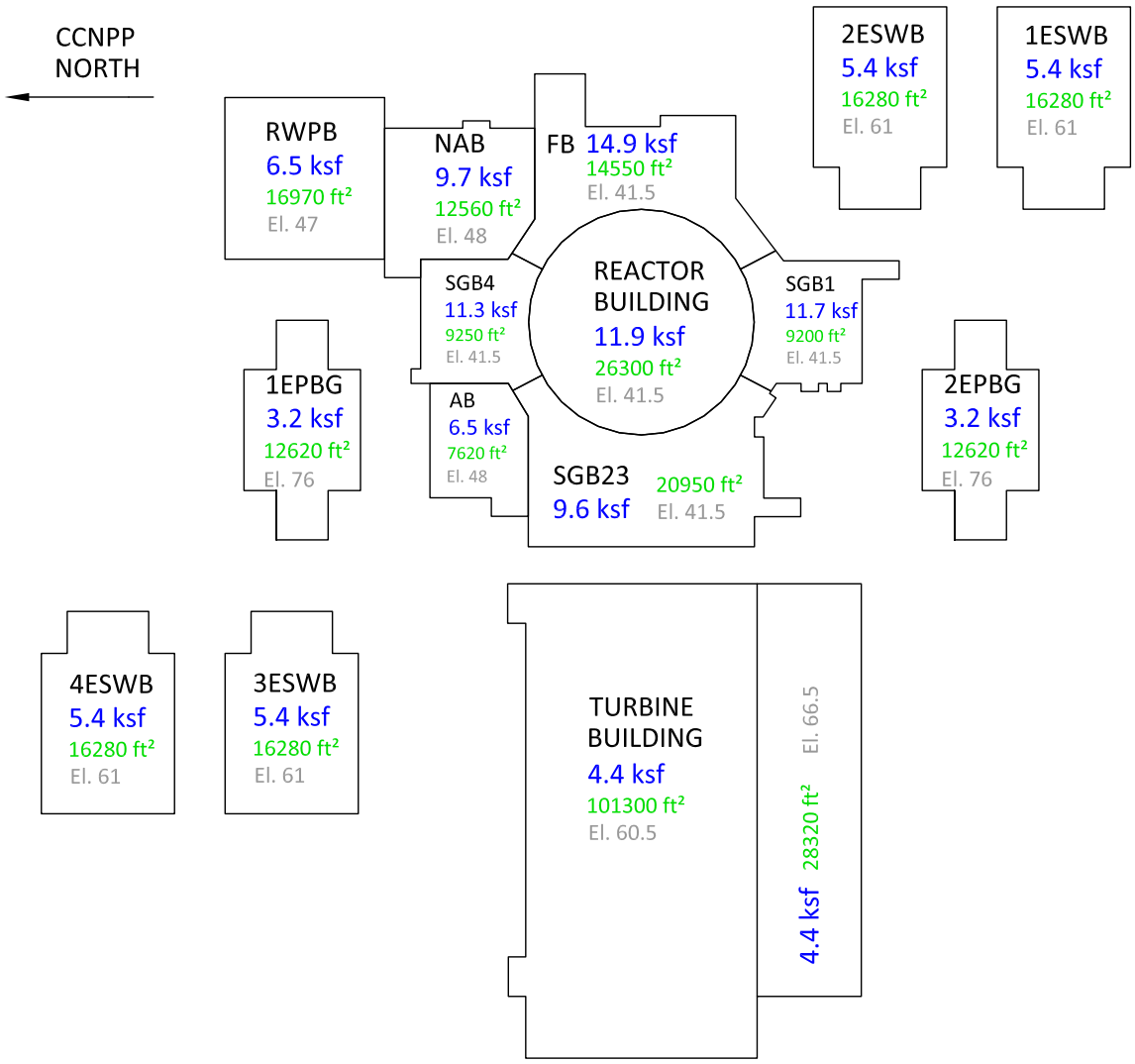


Figure 2.5-183— {Building Areas, Loads, and Foundation Elevation}



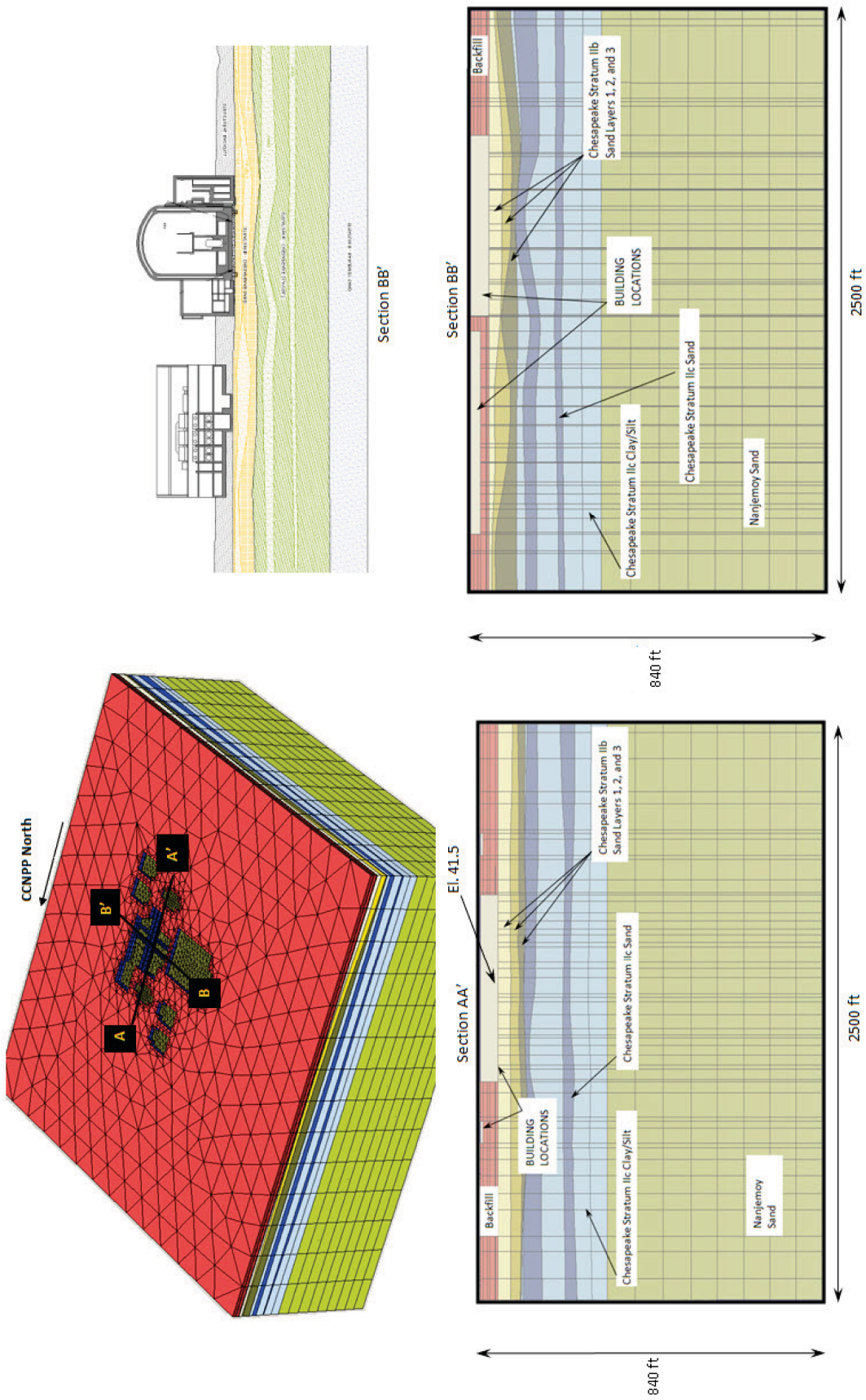


Figure 2.5-184— {PLAXIS 3D Subsurface Representation}

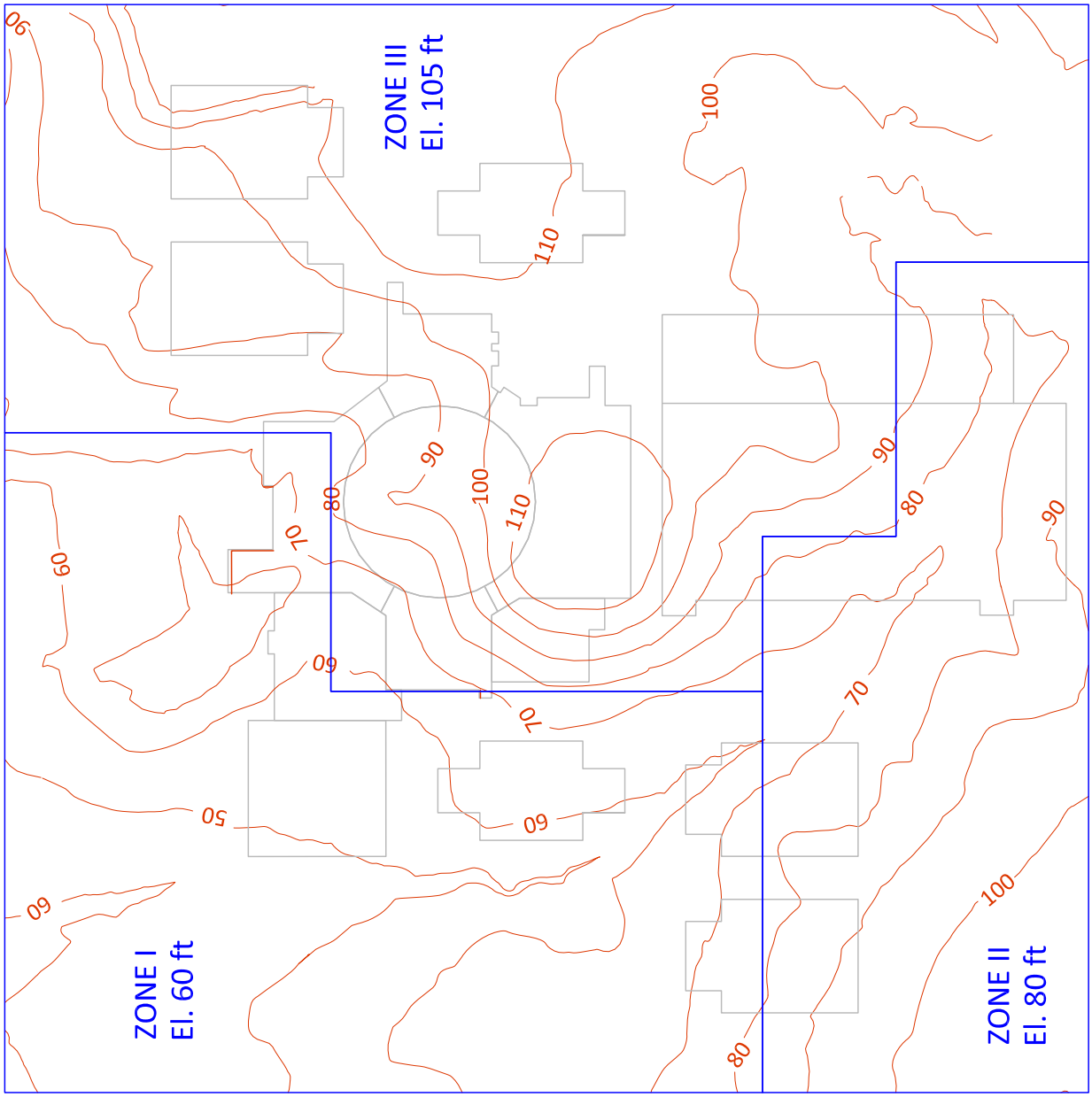


Figure 2.5-185— {Subdivision of ED Model to Account for Variable Surface Topography}

Figure 2.5-186— {Heave After Excavation}

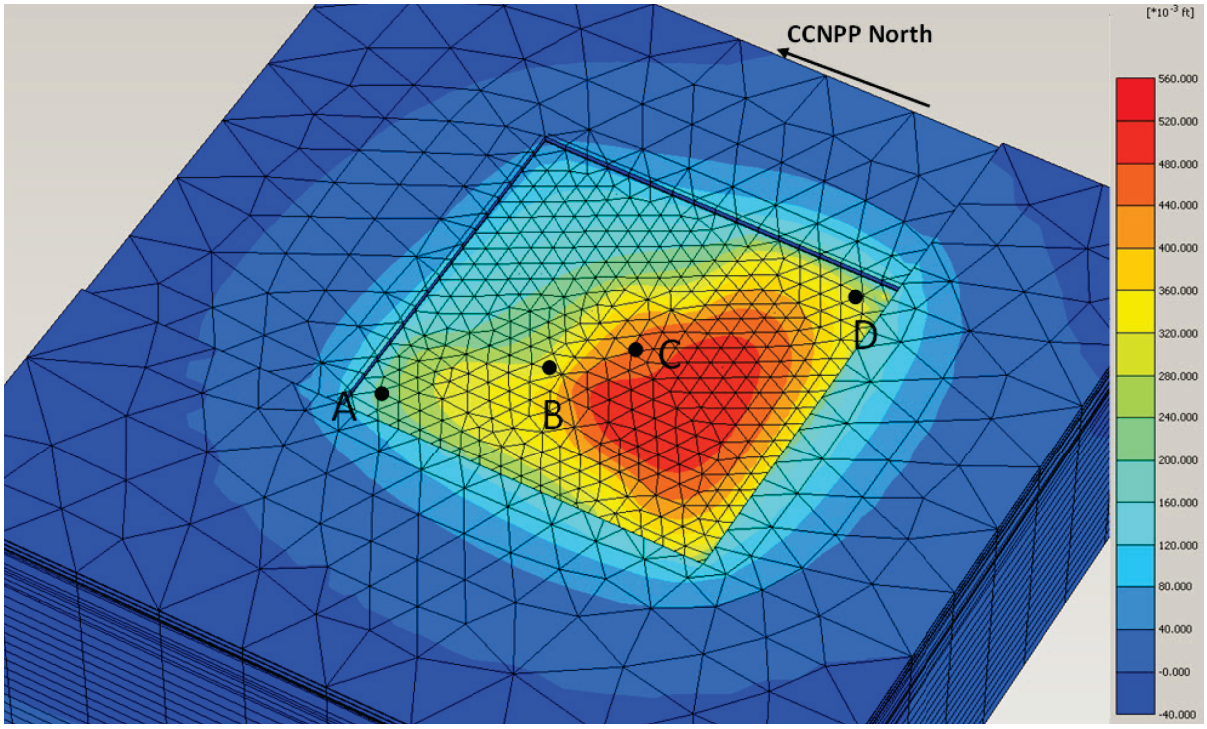


Figure 2.5-187— {Building Load Construction Sequence}

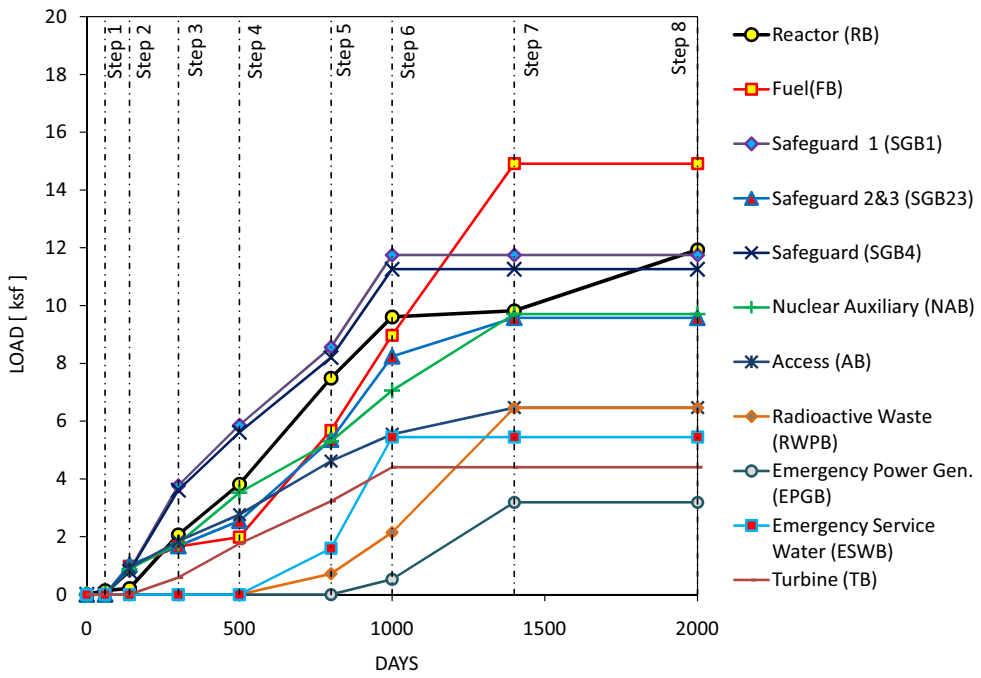
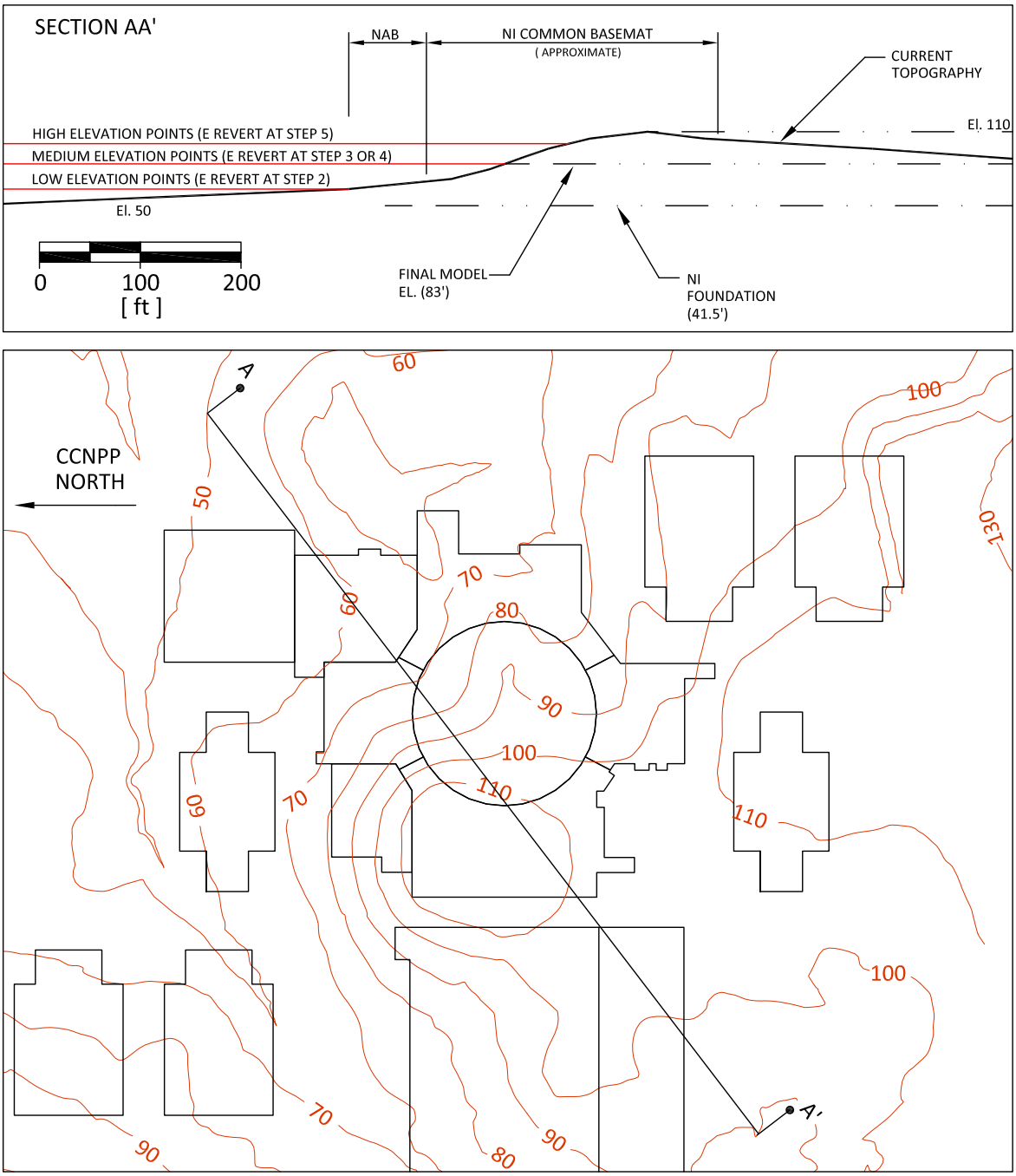


Figure 2.5-188— {Surface Topography Plan and Cross Section}



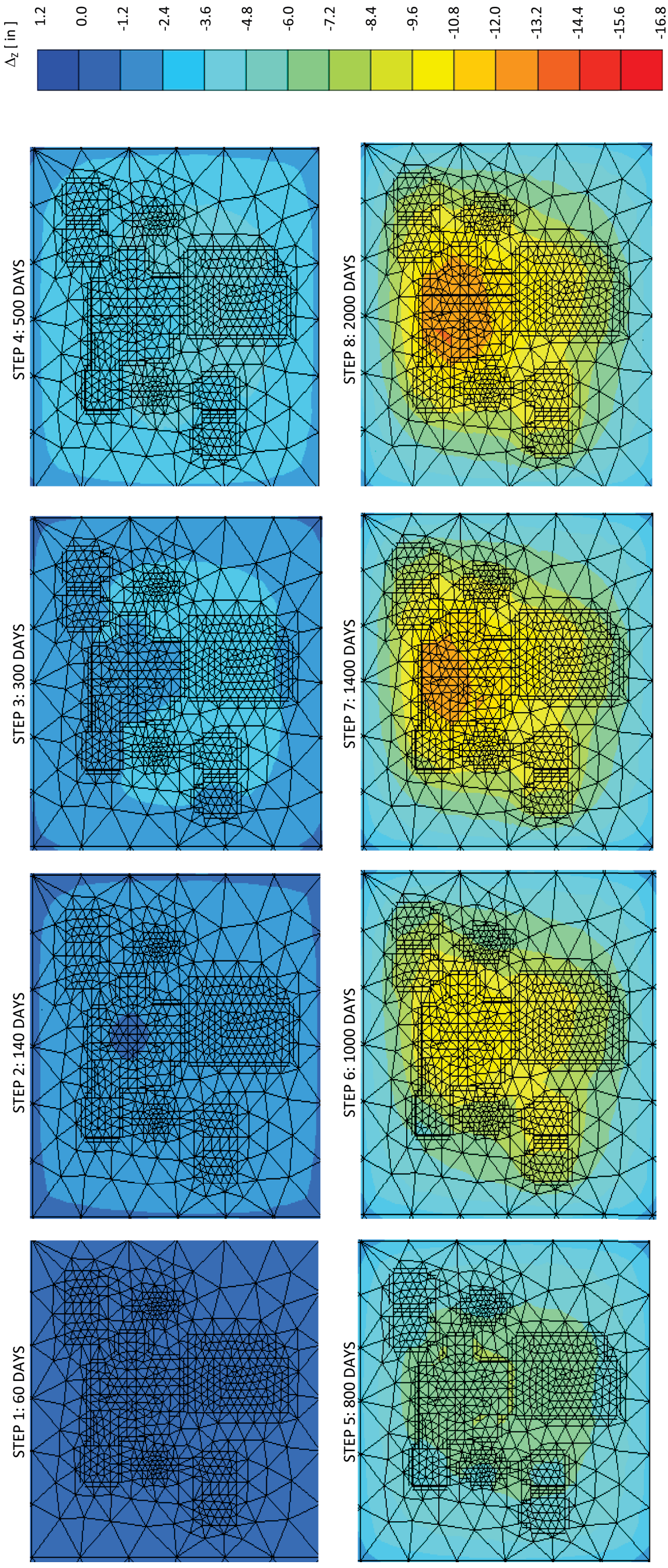
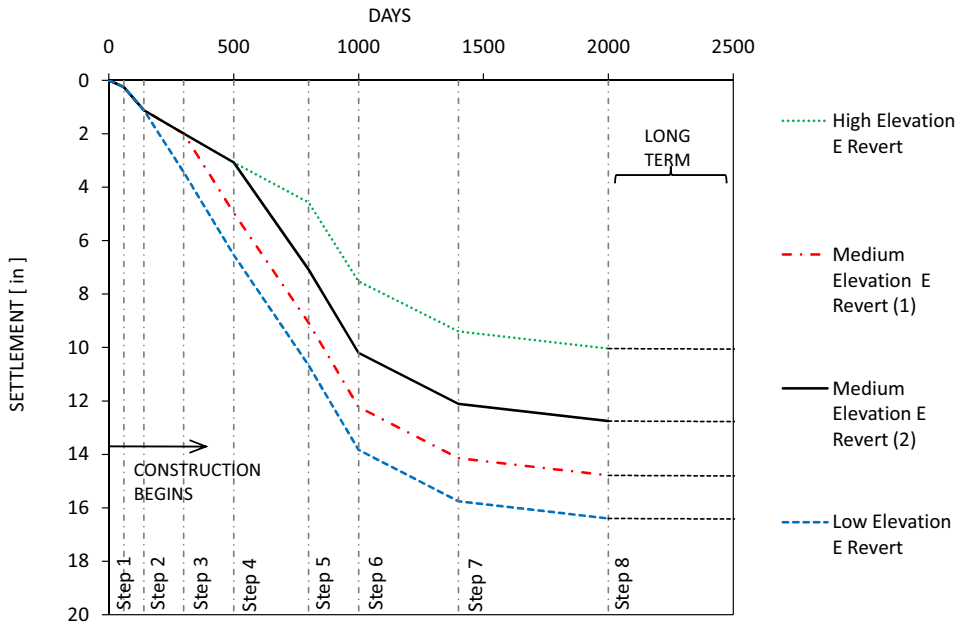


Figure 2.5-189— {Contour Plots of Incremental Settlements}

Figure 2.5-190— {NI Settlement Estimate}



Notes:

- Low Elevation: revert to loading modulus at the end of the 2nd load step (140 days)

- Medium Elevation (1): revert to loading modulus at the end of the 3rd load step (300 days)

- Medium Elevation (2): revert to loading modulus at the end of the 4th load step (500 days)

-High Elevation: revert to loading modulus at the end of the 5th load step (800 days)

- Long term settlement estimate due to creep and rewatering offset each other and are not significant

Figure 2.5-191— {Settlement at Center Point of Safety Related Buildings}

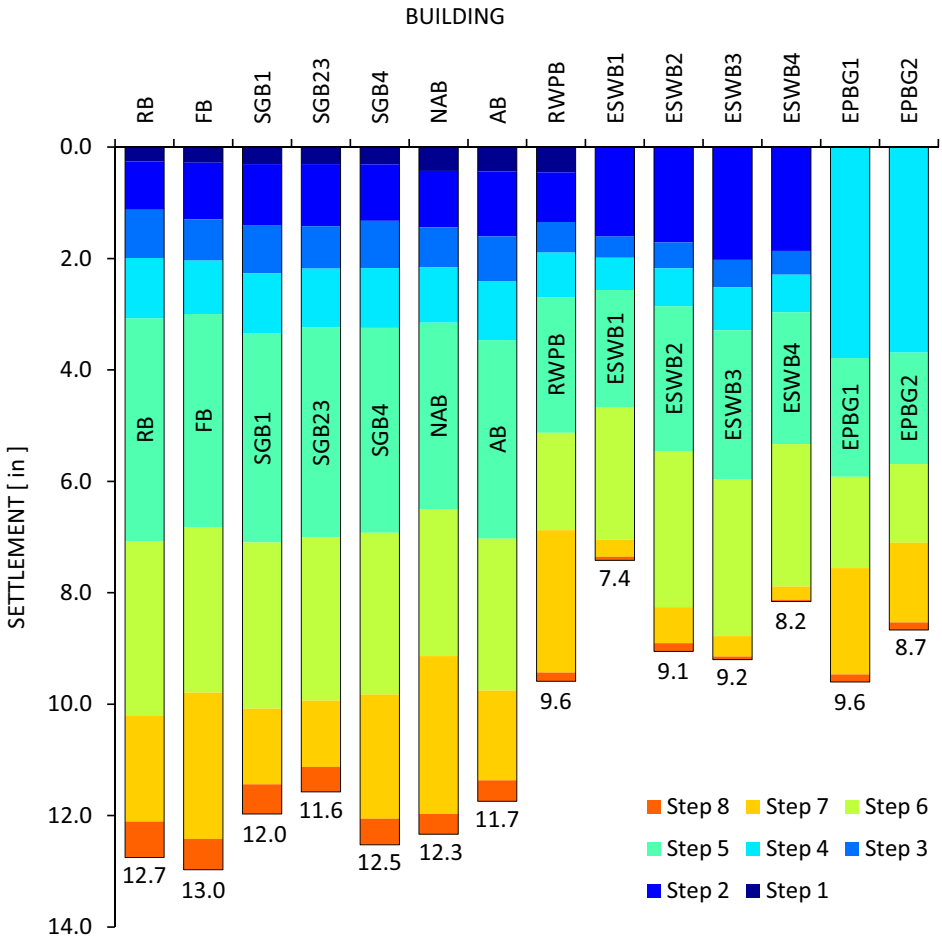


Figure 2.5-192— {Settlement Tracking Cross Sections}

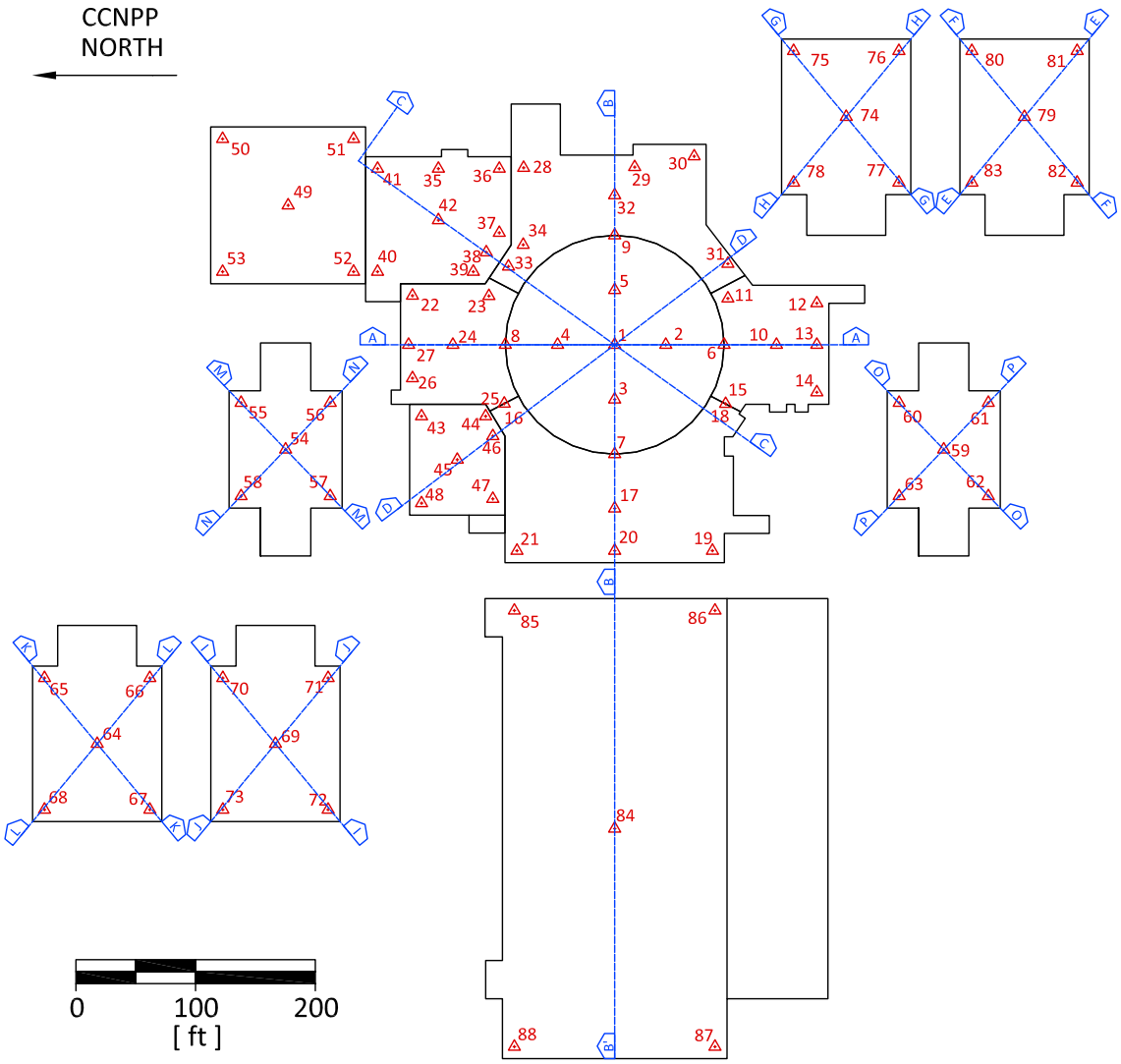


Figure 2.5-193— {Foundation Settlement across NI and TB Footprint}

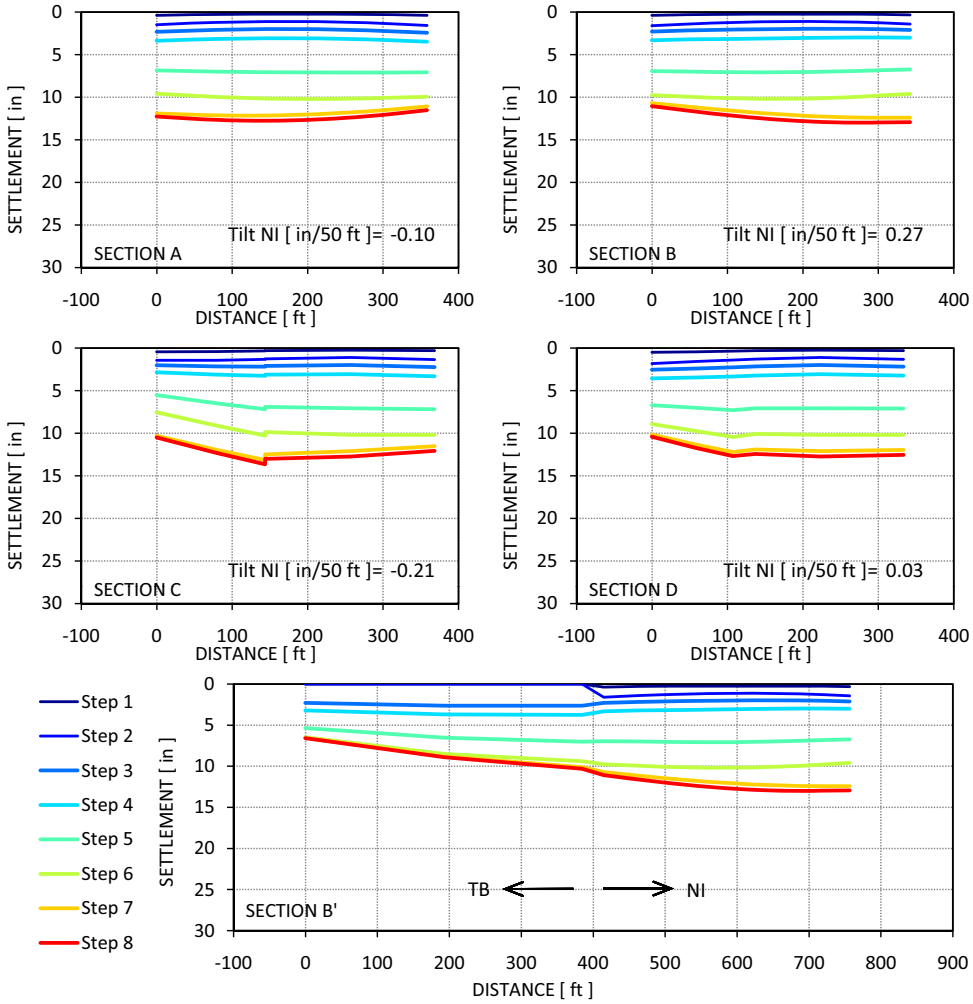


Figure 2.5-194— {Settlement at Center of Facilities After Adjustment for Topography}

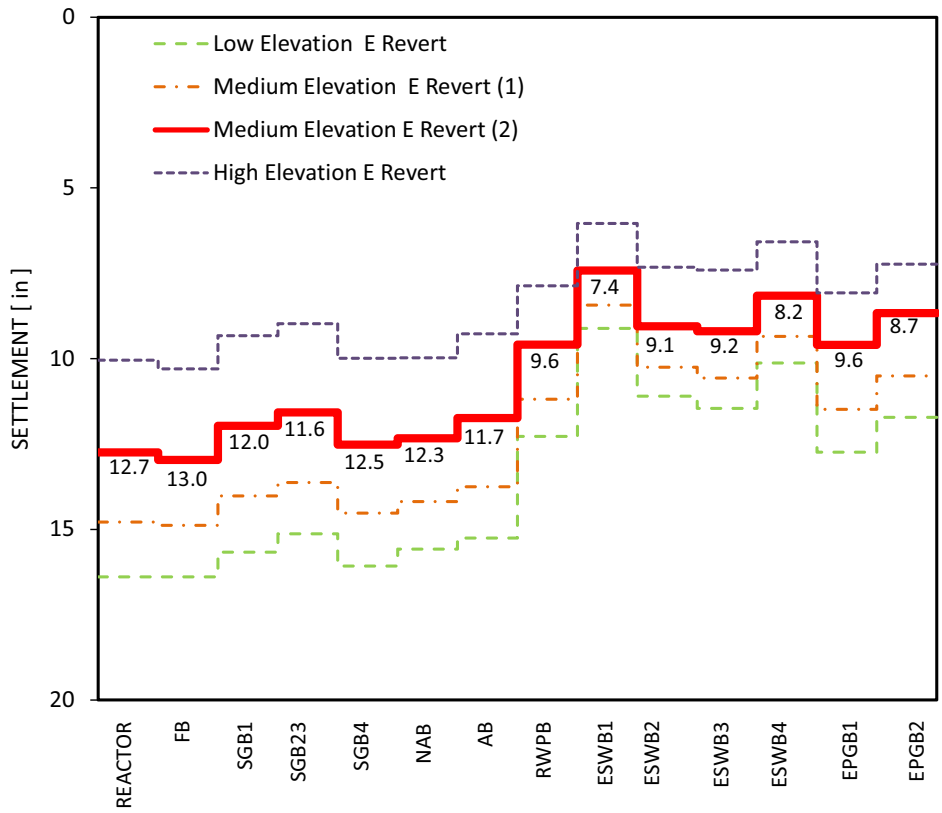
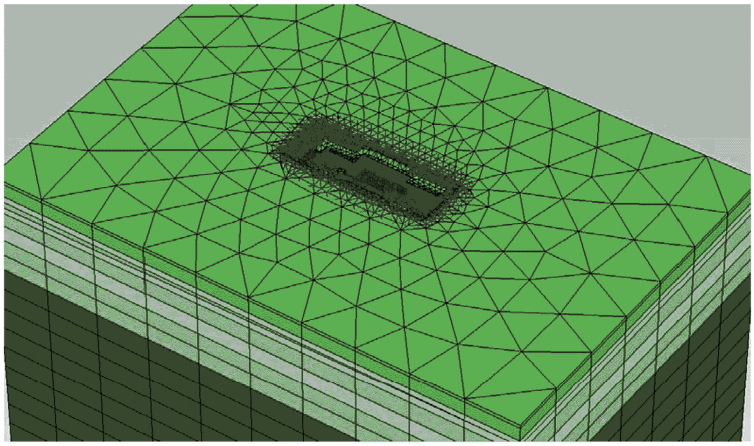
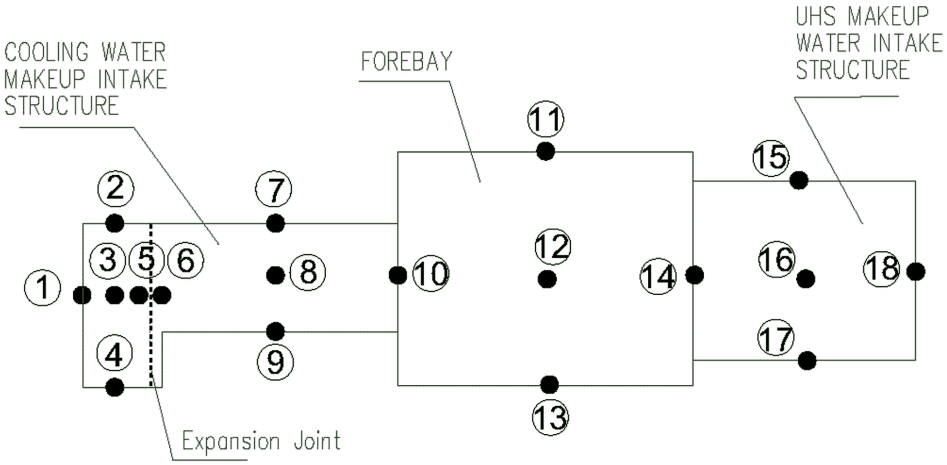


Figure 2.5-195— {UHS FEM Model}





Note: Numbers correspond to the settlement and tilt calculation points in the settlement analysis model.

Figure 2.5-196— {Earth Pressure Representative Diagrams}

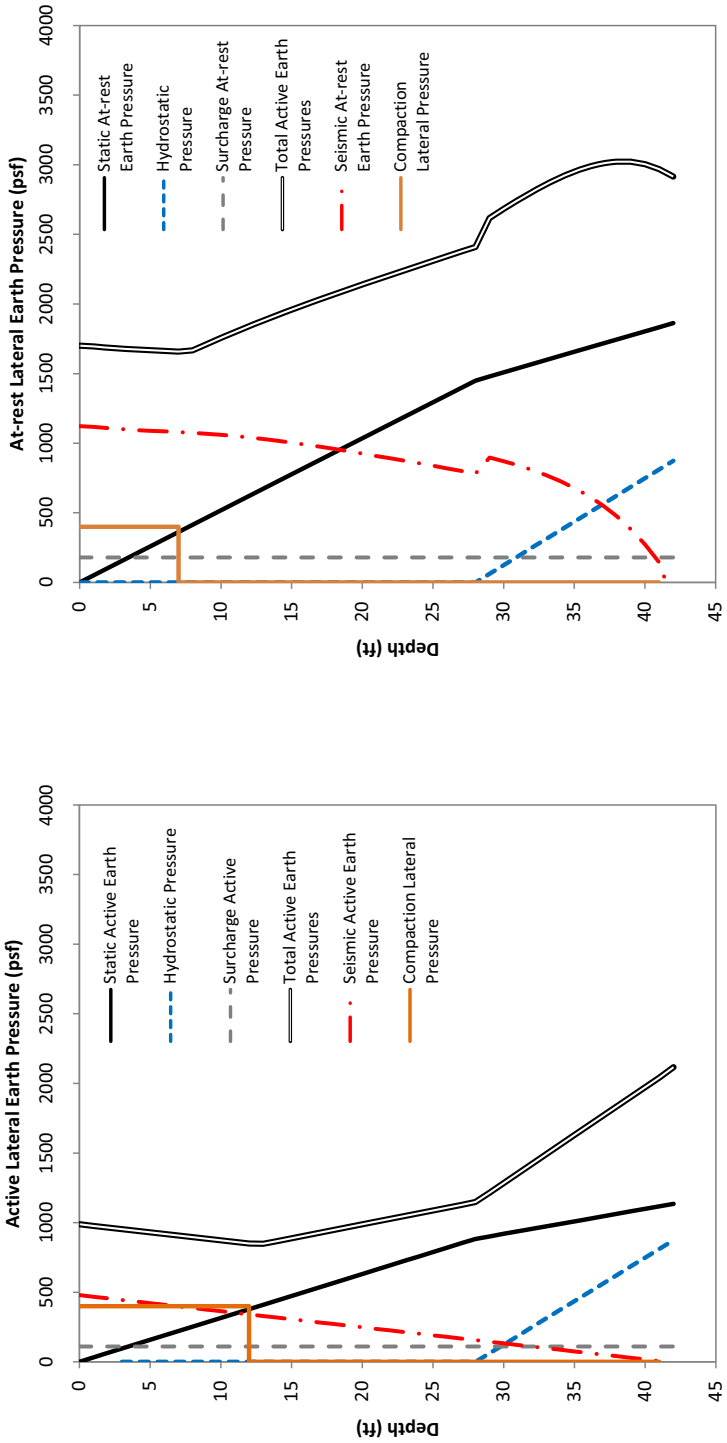
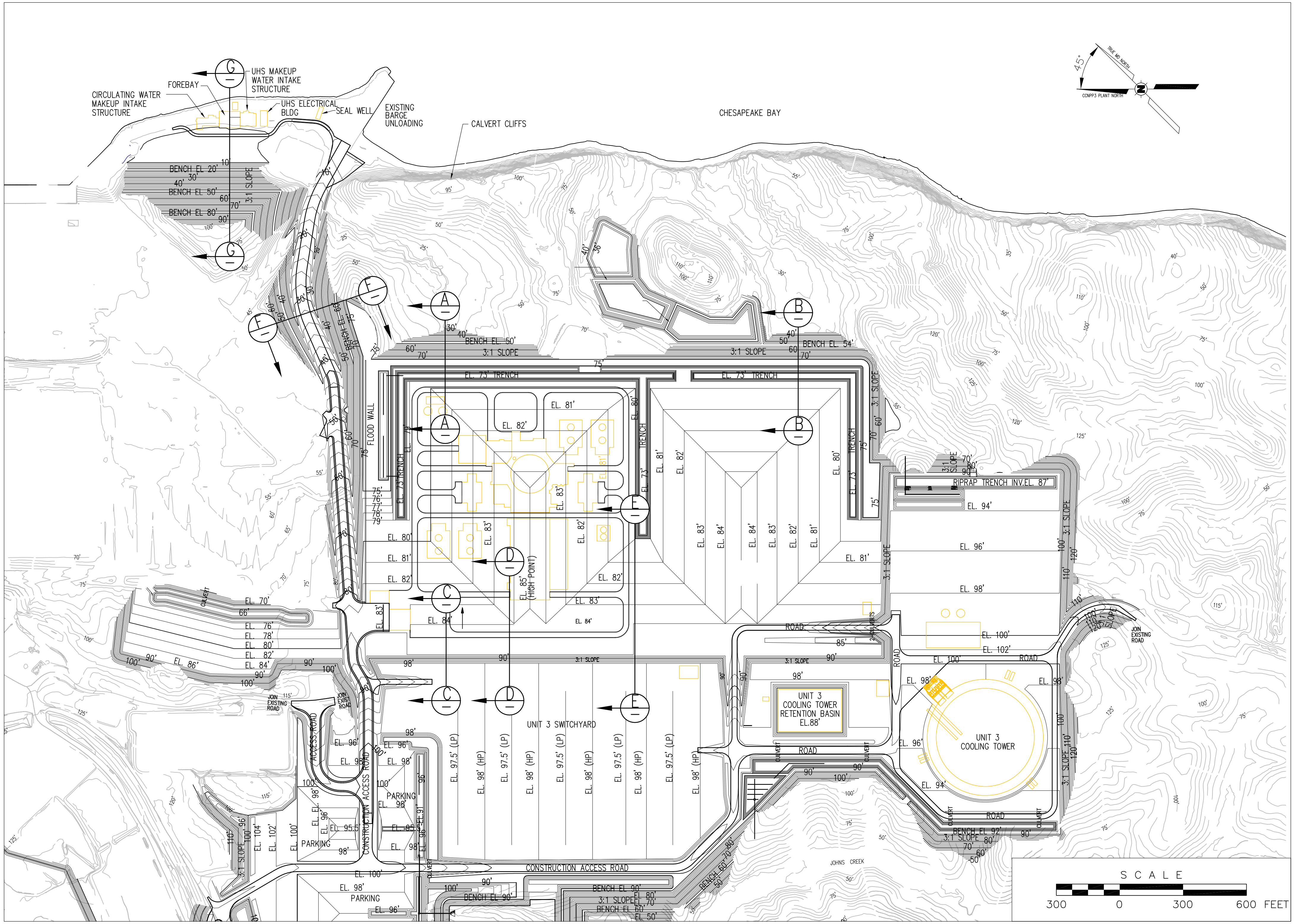


Figure 2.5-197— {Site Grading Plan with Slope Cross-Sections}



See Figure 1.2-1 for Powerblock layout

Figure 2.5-198— {Cross-sections in Powerblock Area}

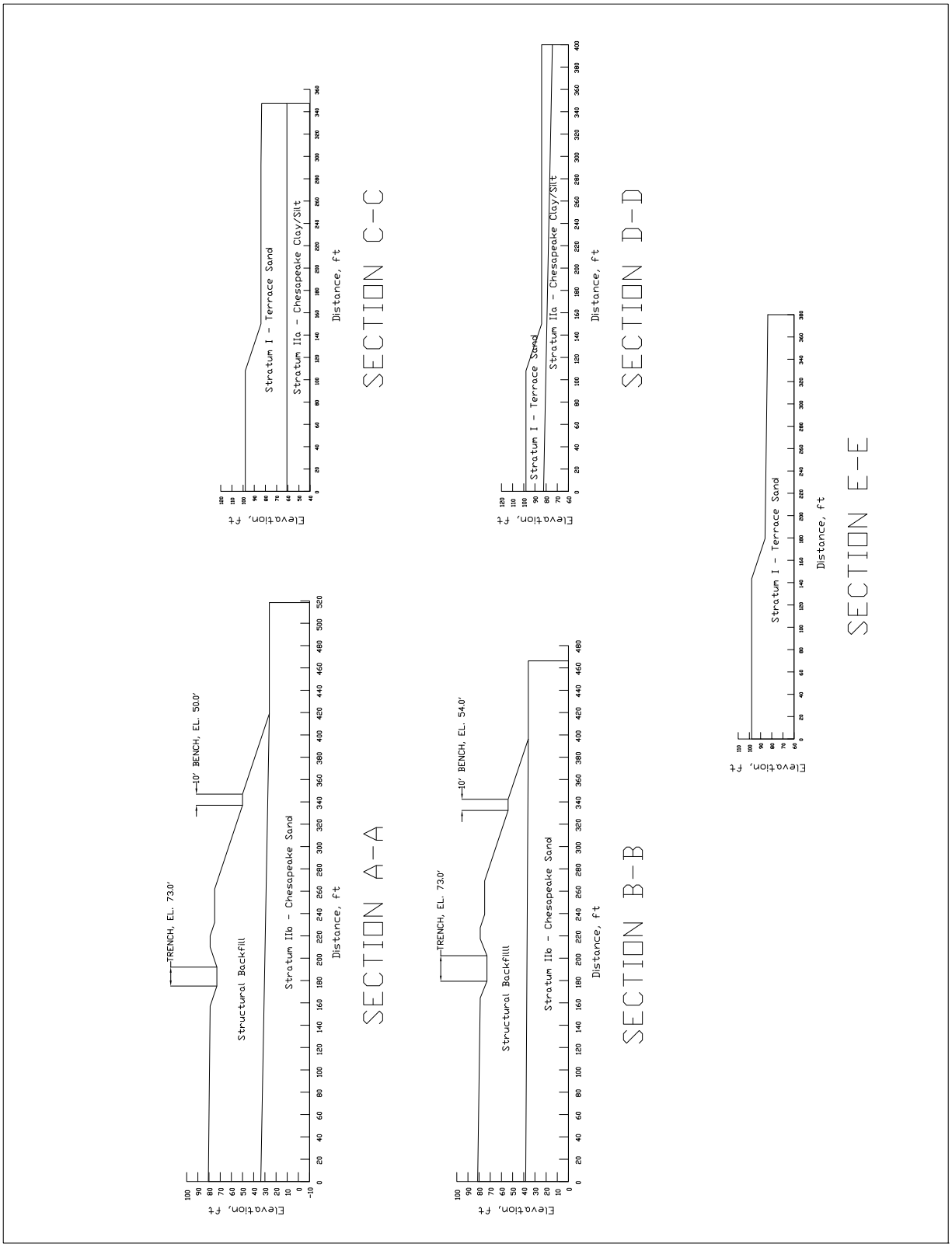


Figure 2.5-199— {Cross-sections in Intake Area and Utility Corridor}

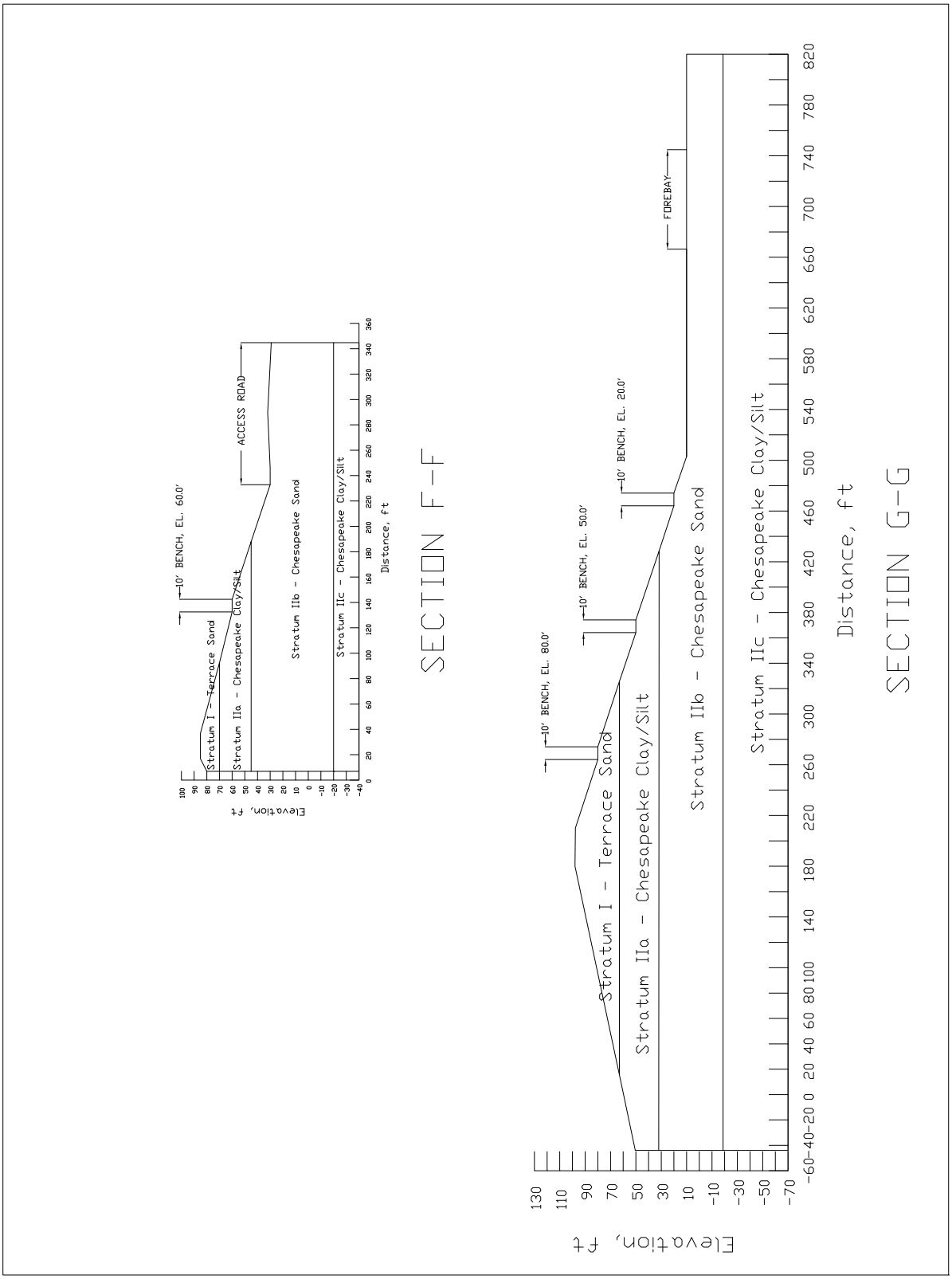
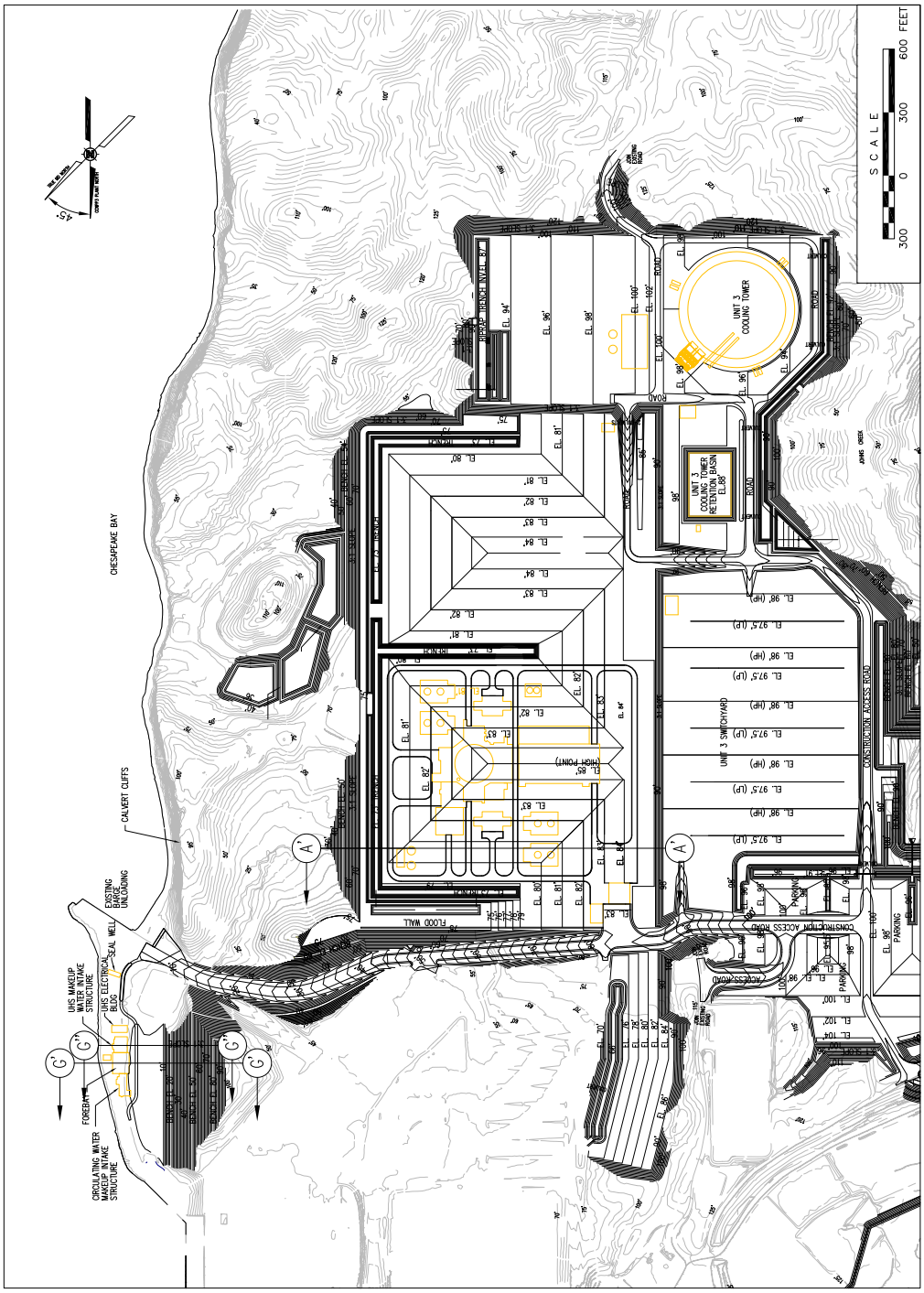


Figure 2.5-200— {Location of Excavation Cross-sections in CCNPP Unit 3}



See Figure 1.2-1 for Powerblock layout

Figure 2.5-201— {Excavation Cross-sections in CCNPP Unit 3}

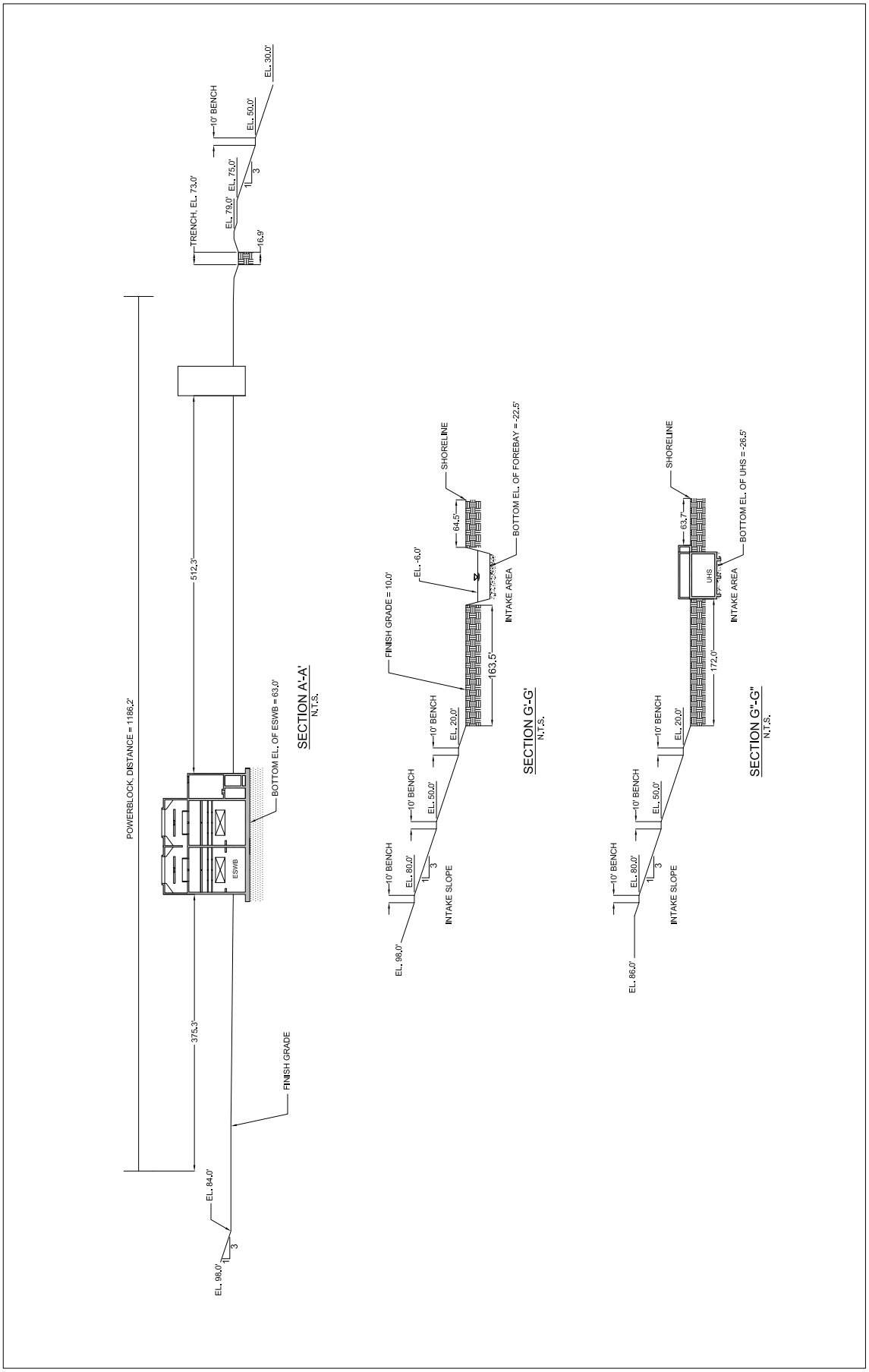


Figure 2.5-202— {Static and Pseudo-Static Stability Analyses of Slope Section A - Case a}

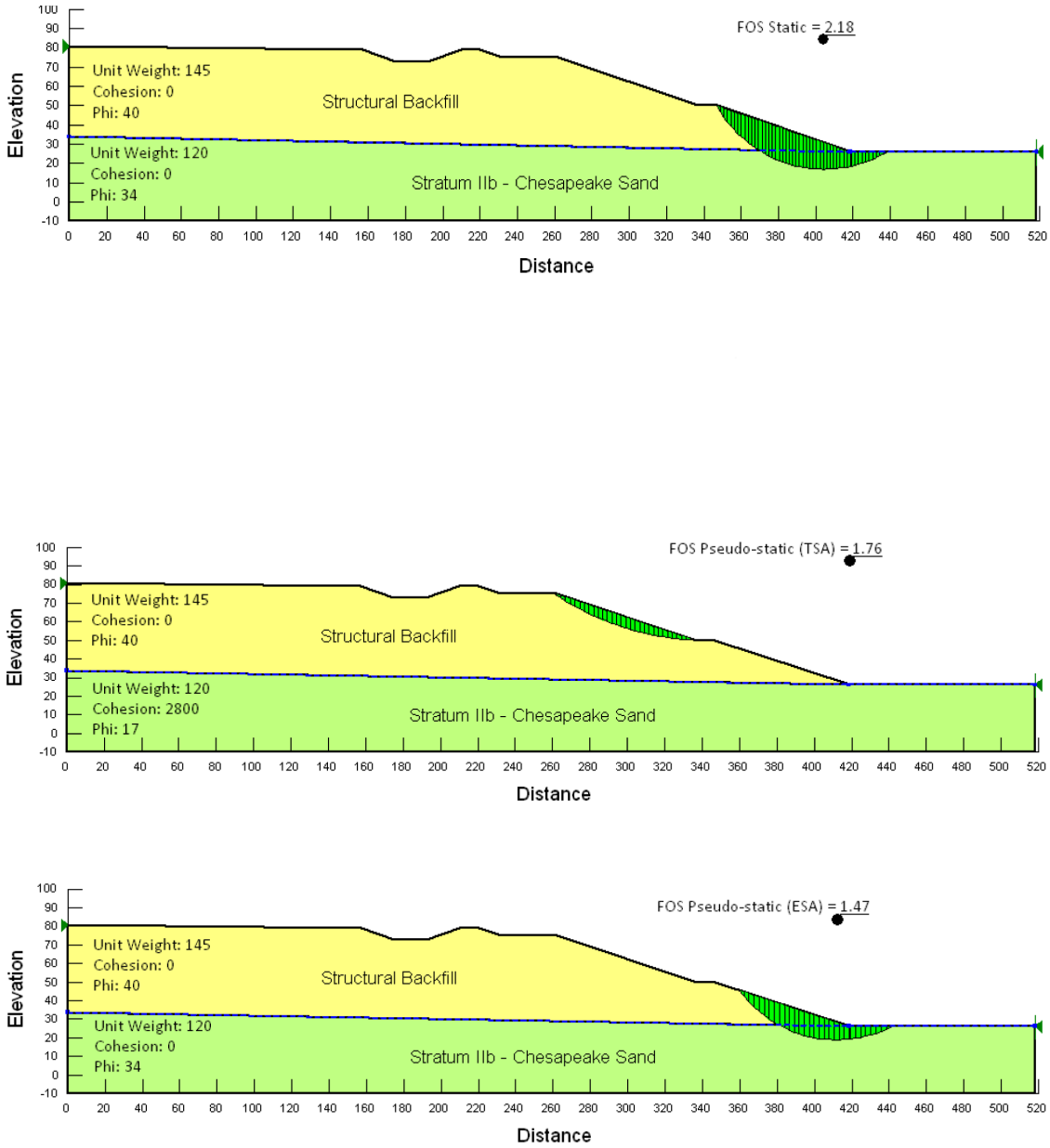
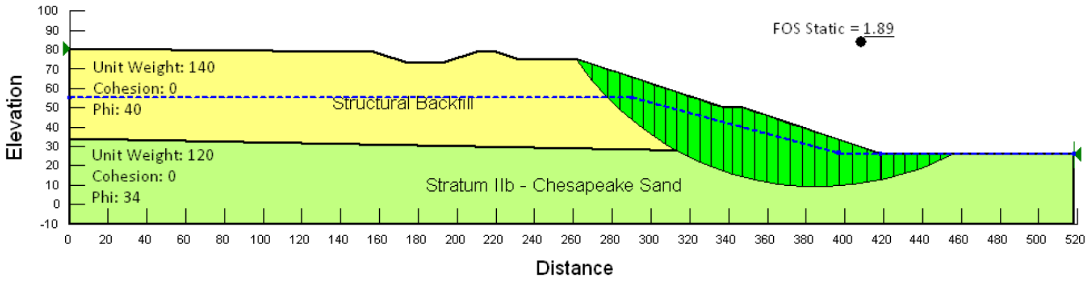
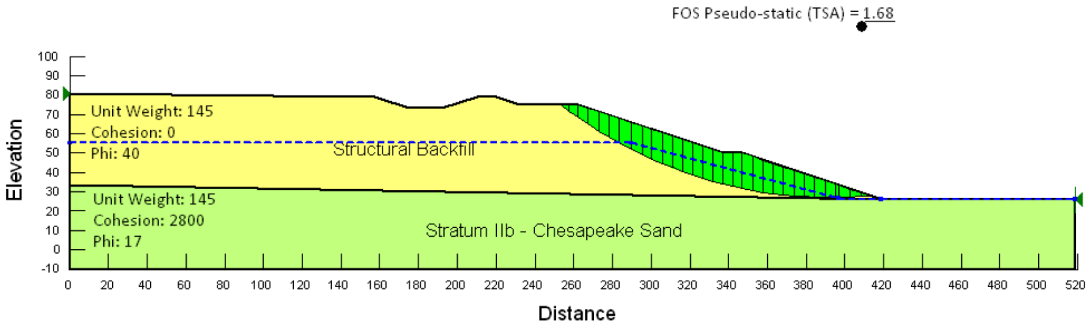


Figure 2.5-203— {Static and Pseudo-Static Stability Analyses of Slope Section A - Case b}





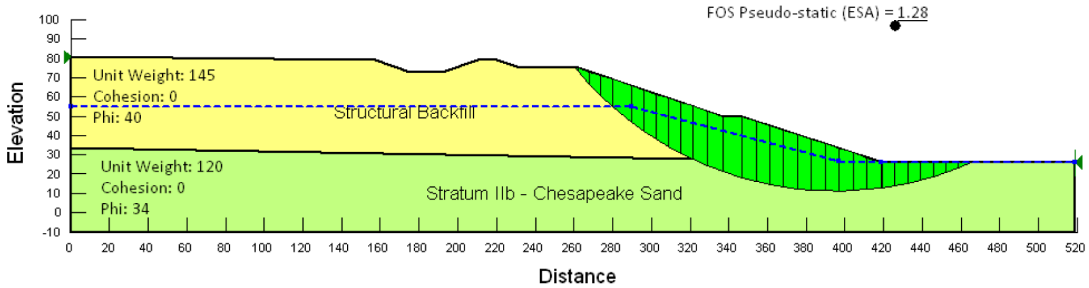


Figure 2.5-204— {Static and Pseudo-Static Stability Analyses of Slope Section B - Case a}

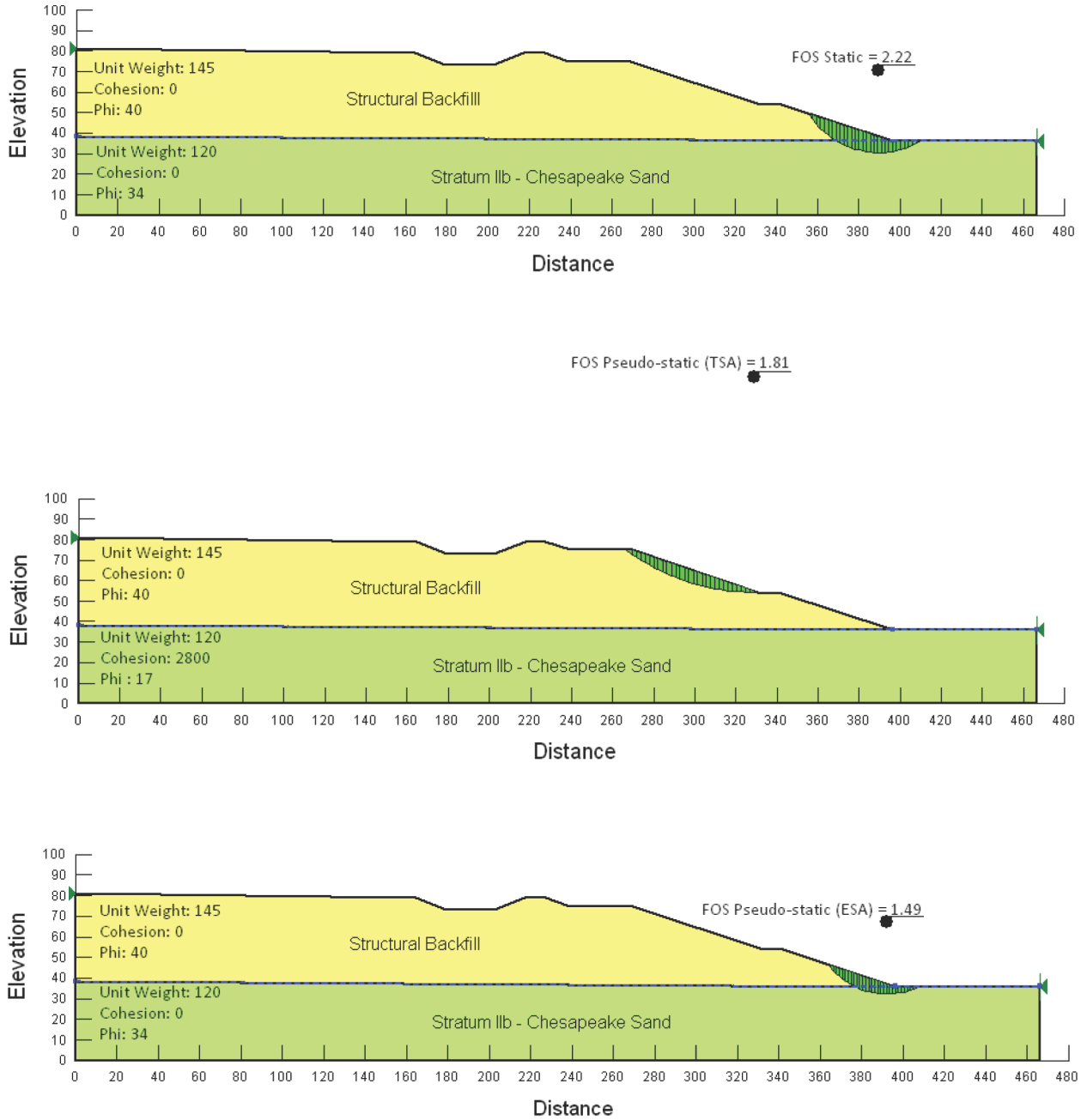


Figure 2.5-205— {Static and Pseudo-Static Stability Analyses of Slope Section B - Case b}

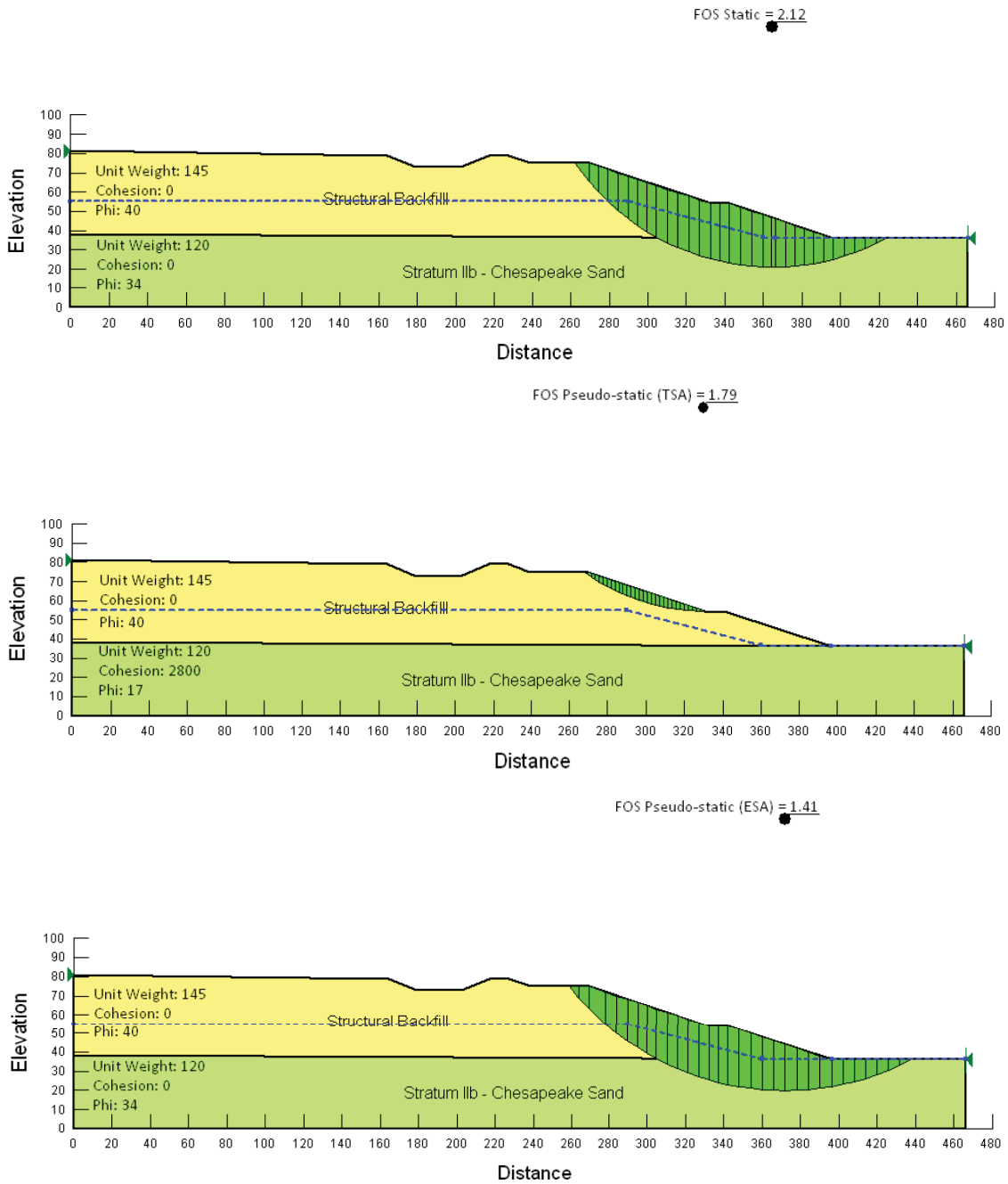


Figure 2.5-206— {Static and Pseudo-Static Stability Analyses of Slope Section C}

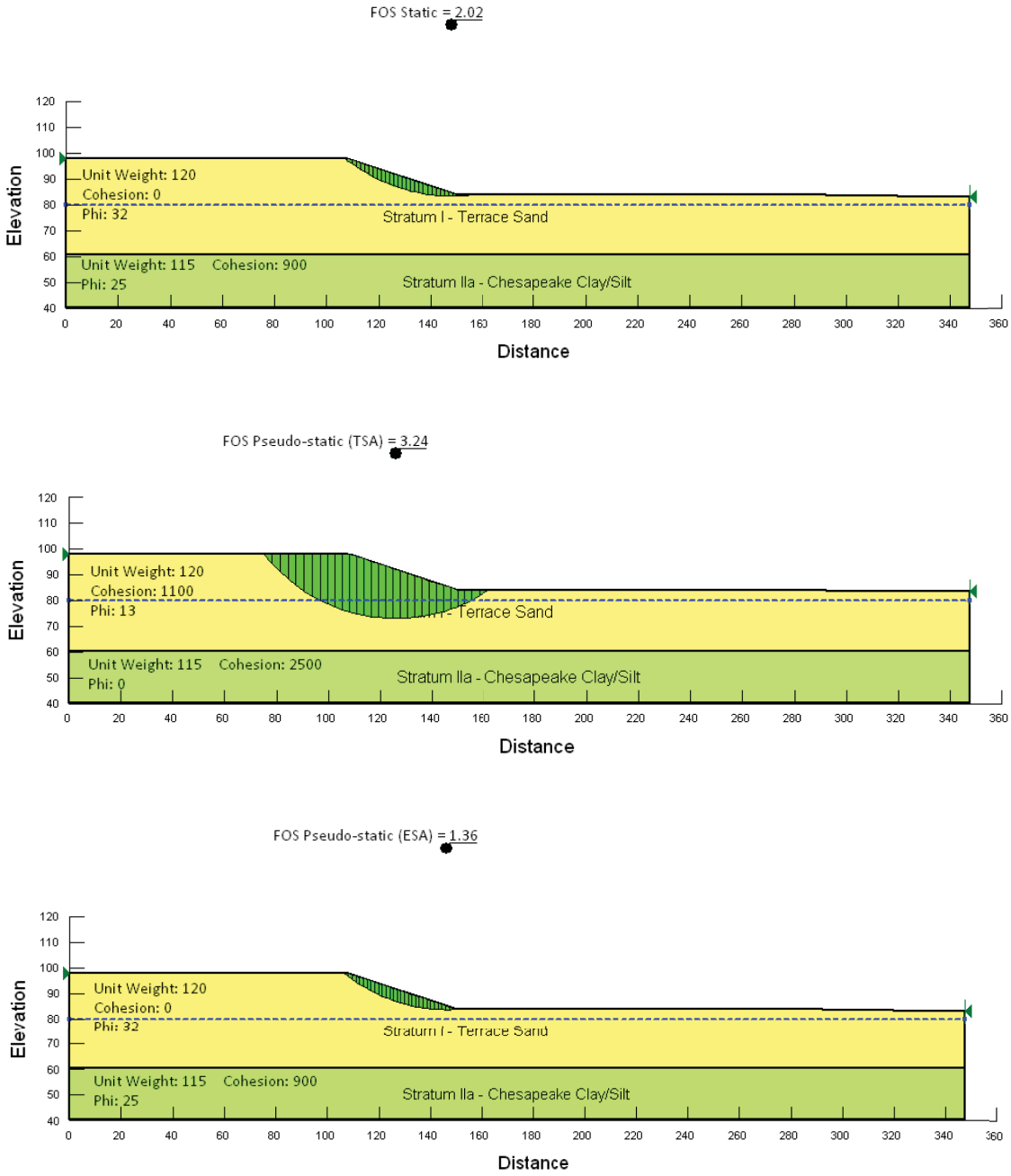


Figure 2.5-207— {Static and Pseudo-Static Stability Analyses of Slope Section D}

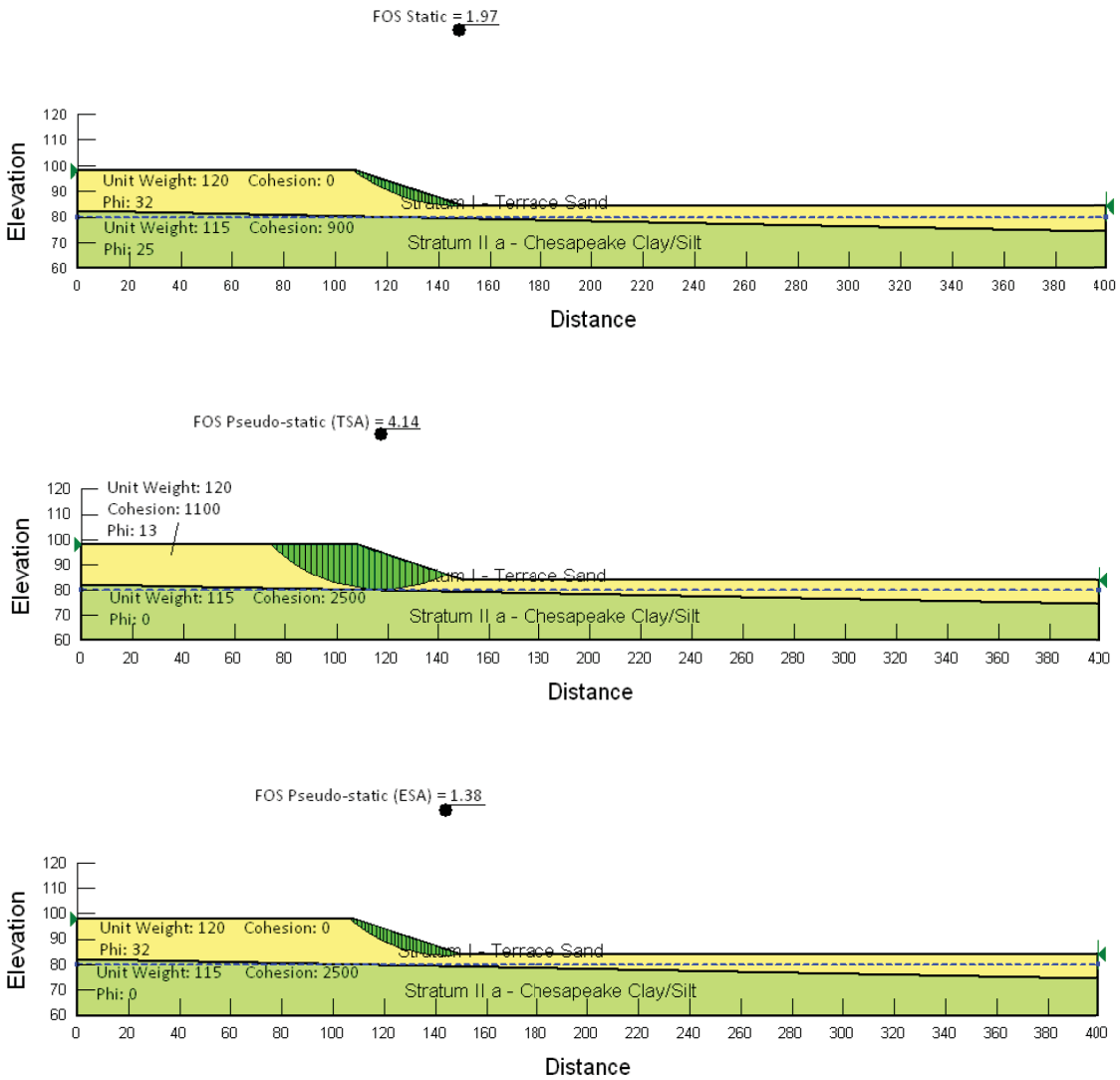


Figure 2.5-208— {Static and Pseudo-Static Stability Analyses of Slope Section E}

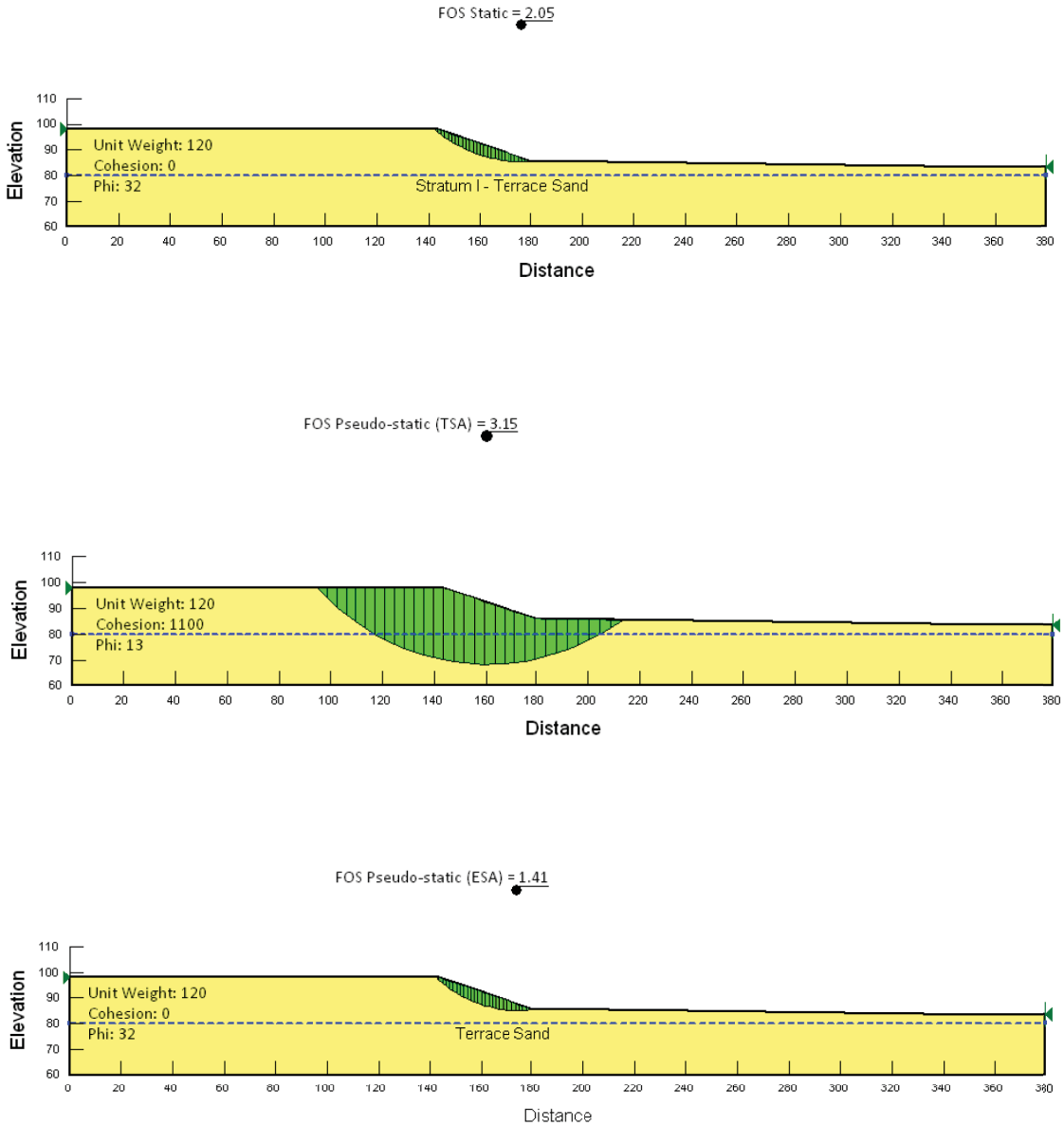
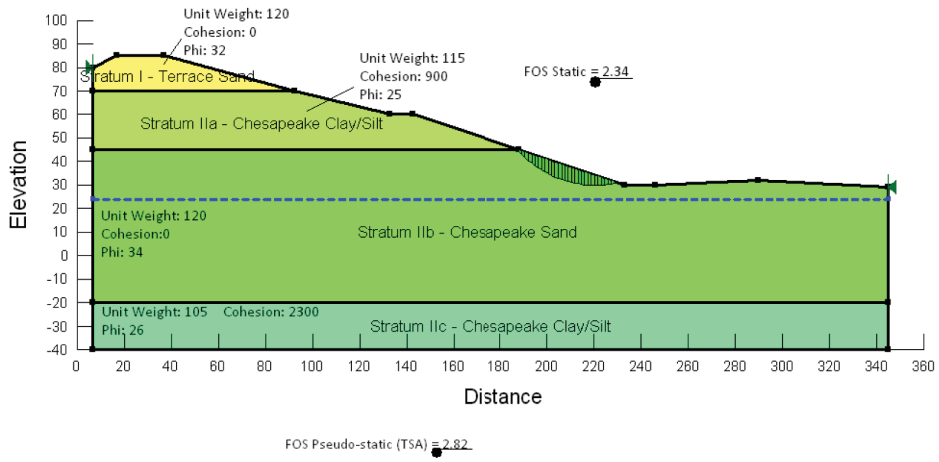
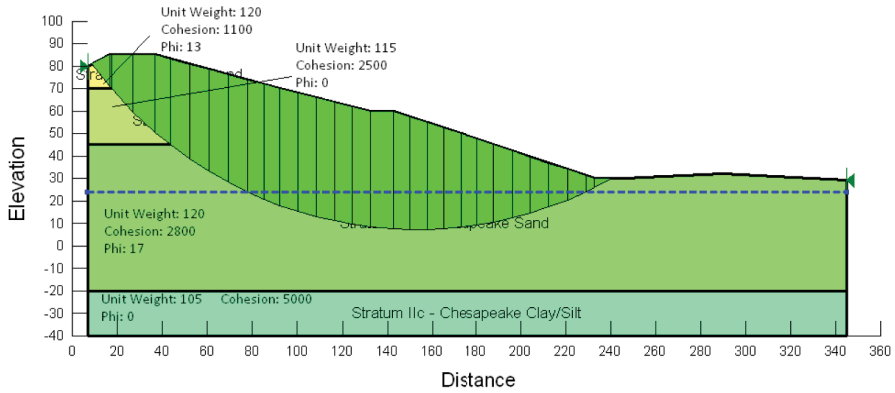


Figure 2.5-209— {Static and Pseudo-Static Stability Analyses of Slope Section F (Utility Corridor)}





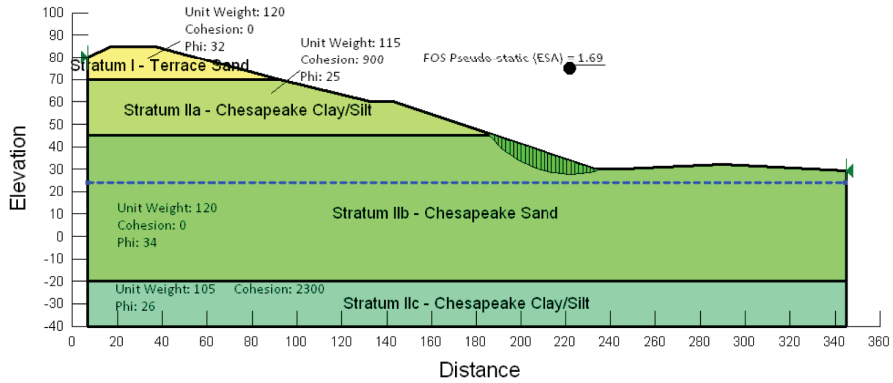
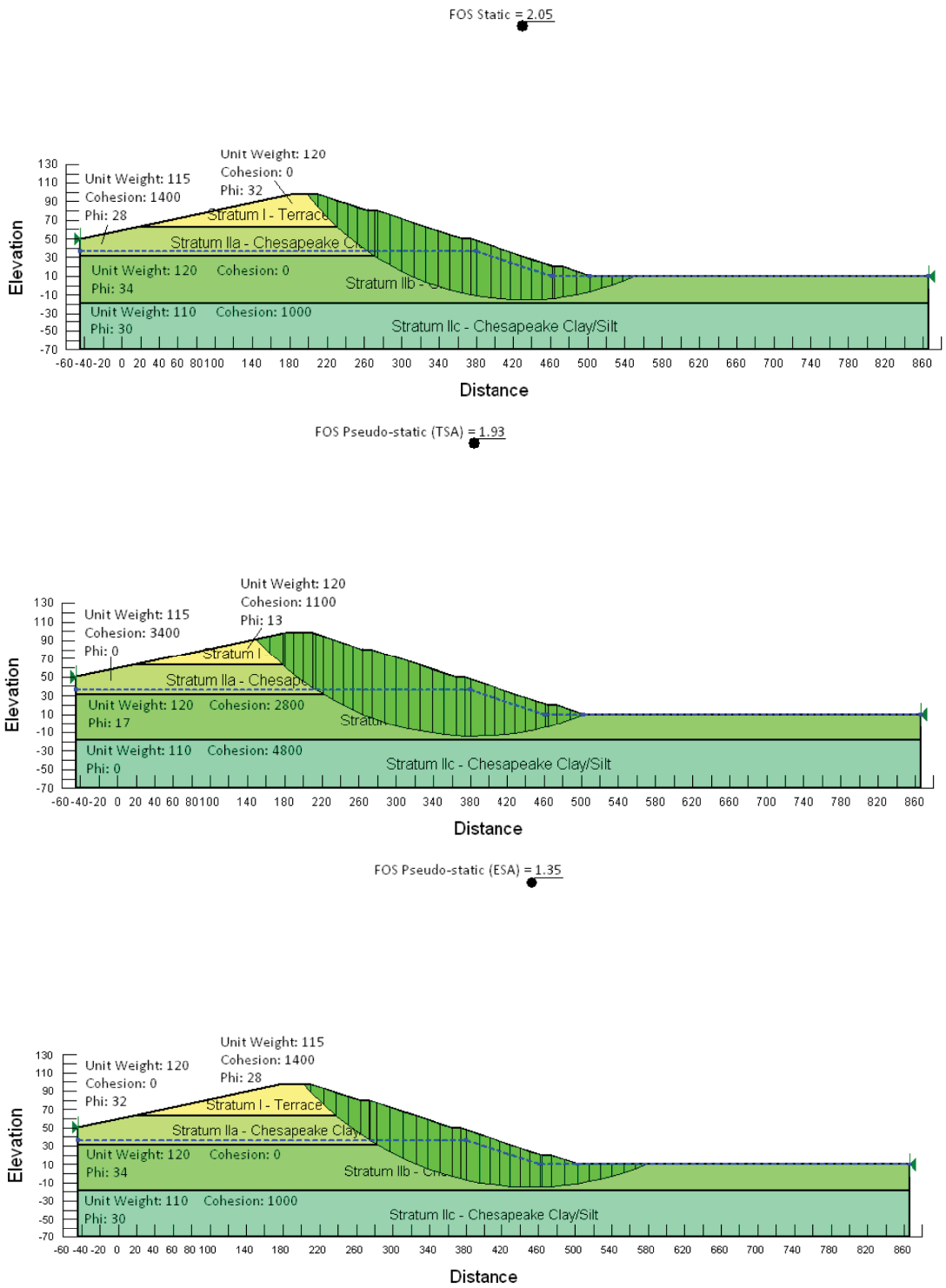


Figure 2.5-210— {Static and Pseudo-Static Stability Analyses of Slope Section G (Intake Area)}



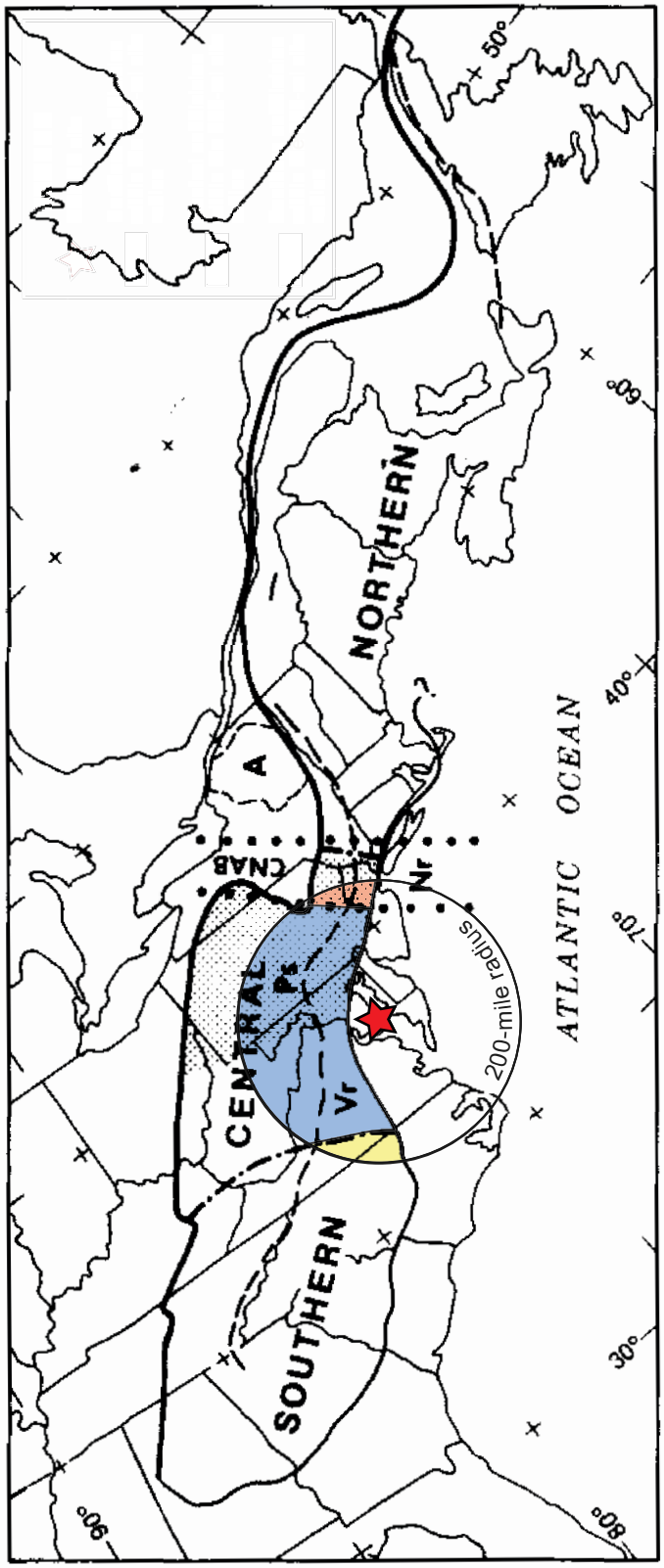


Figure 2.5-211— {Outline of the Appalachian Orogen and its Major Subdivisions along the Eastern North American Continent}

Figure 2.5-212— {Appalachian Orogen}

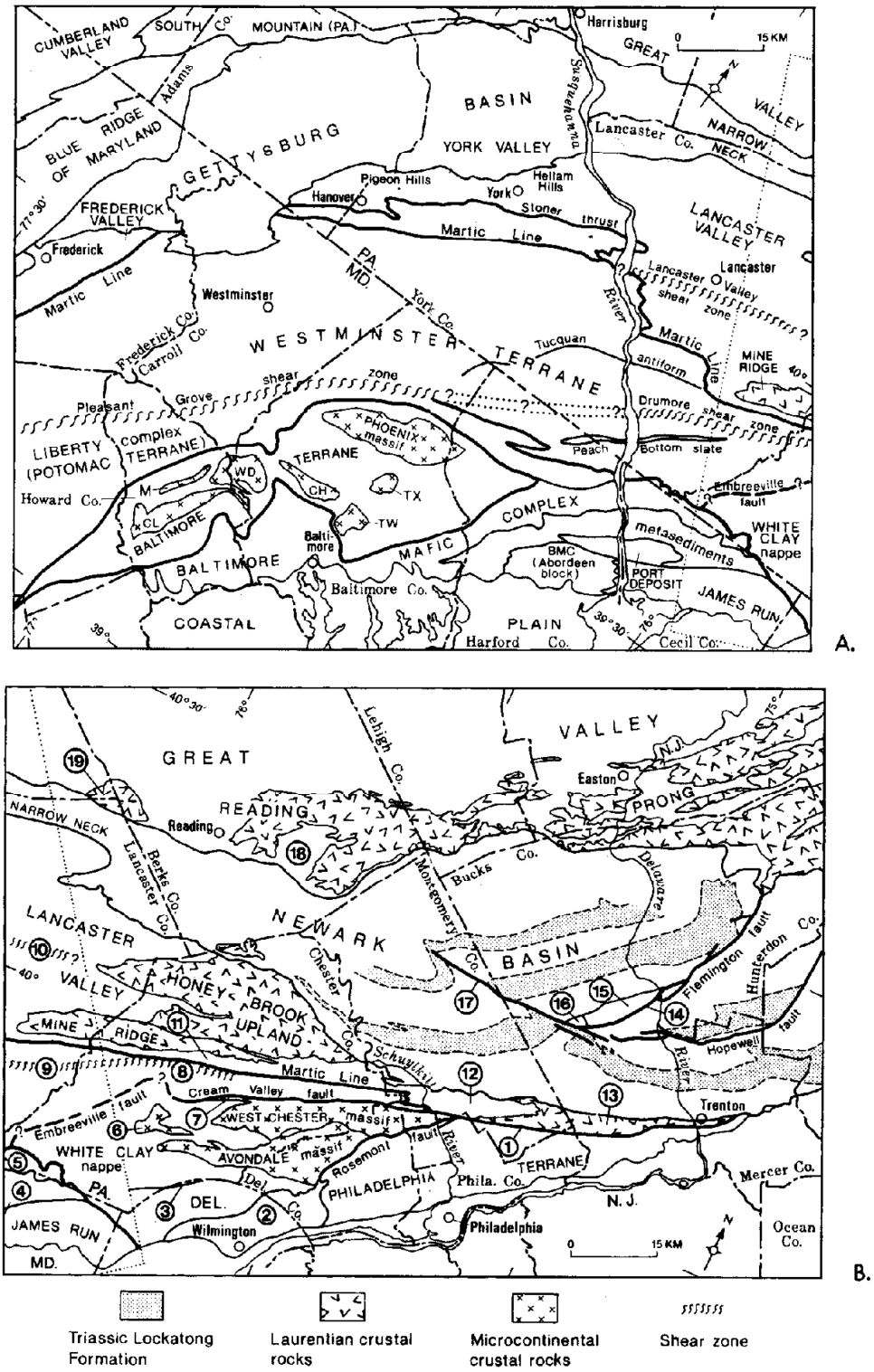


Figure 2.5-213— {Laurentian-Margin Subdivision and other Tectonic Elements of the Southeast of the Blue Mountain Front}

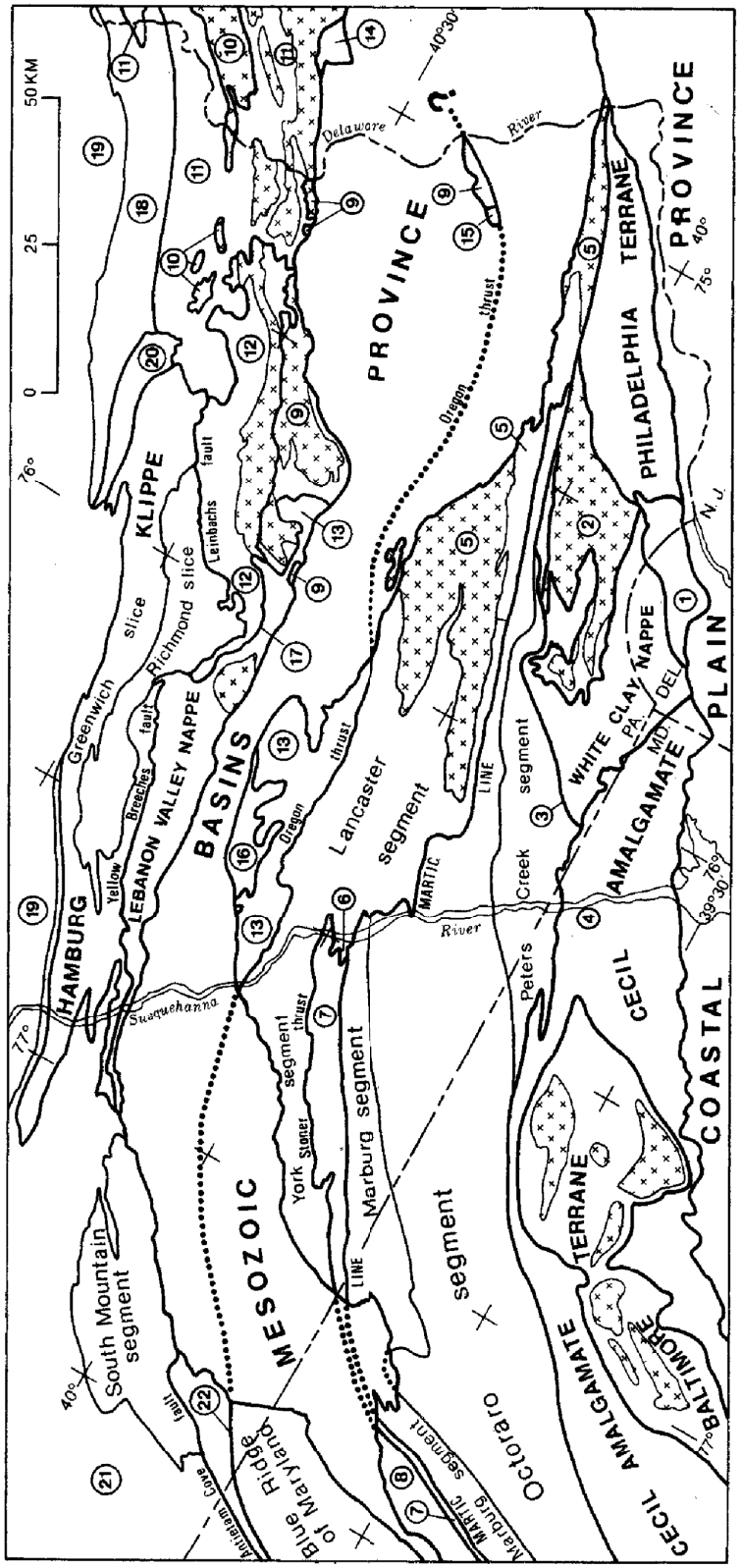
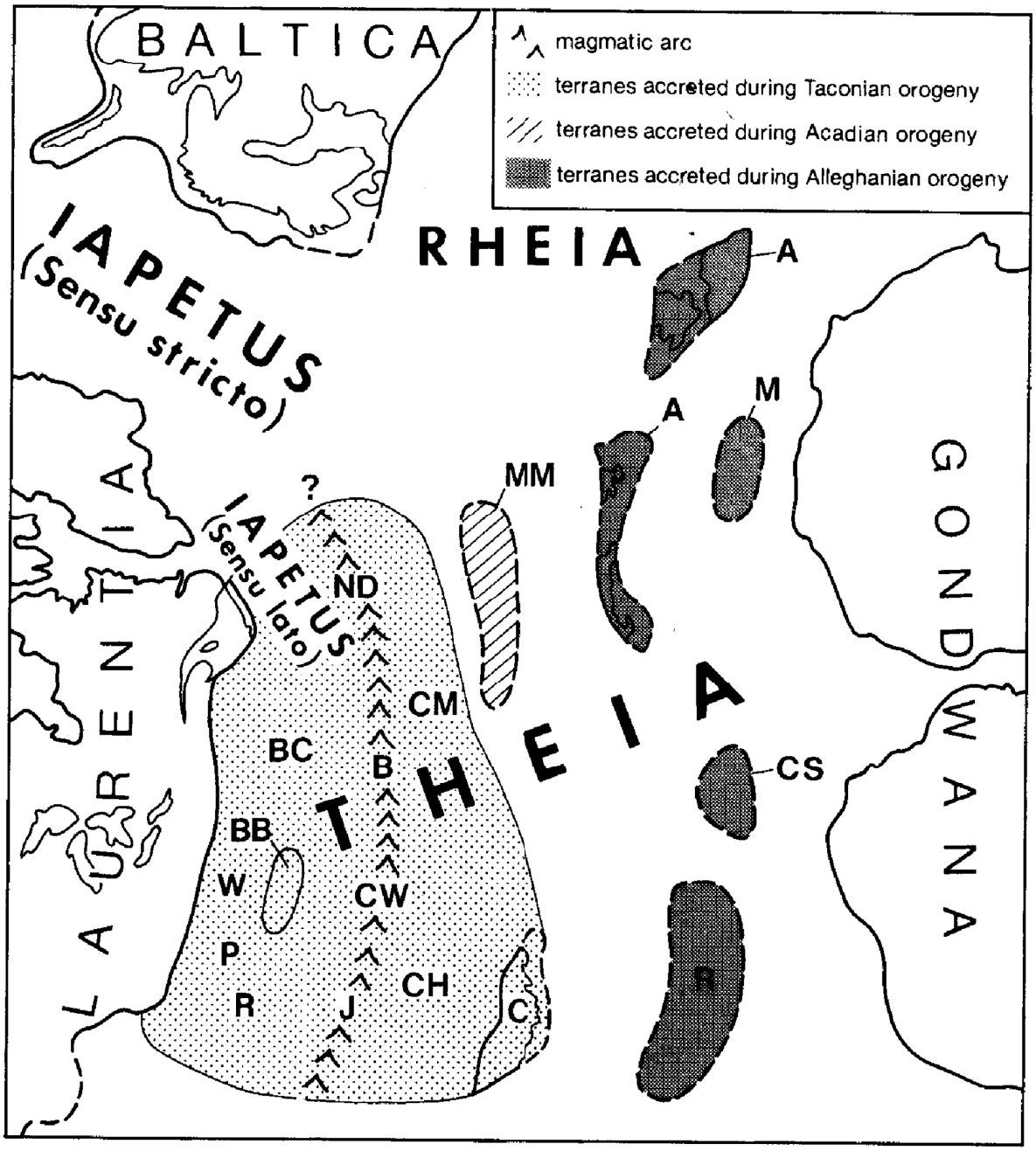


Figure 2.5-214— {Schematic Map Showing the Relative Positions of Exotic Terranes}



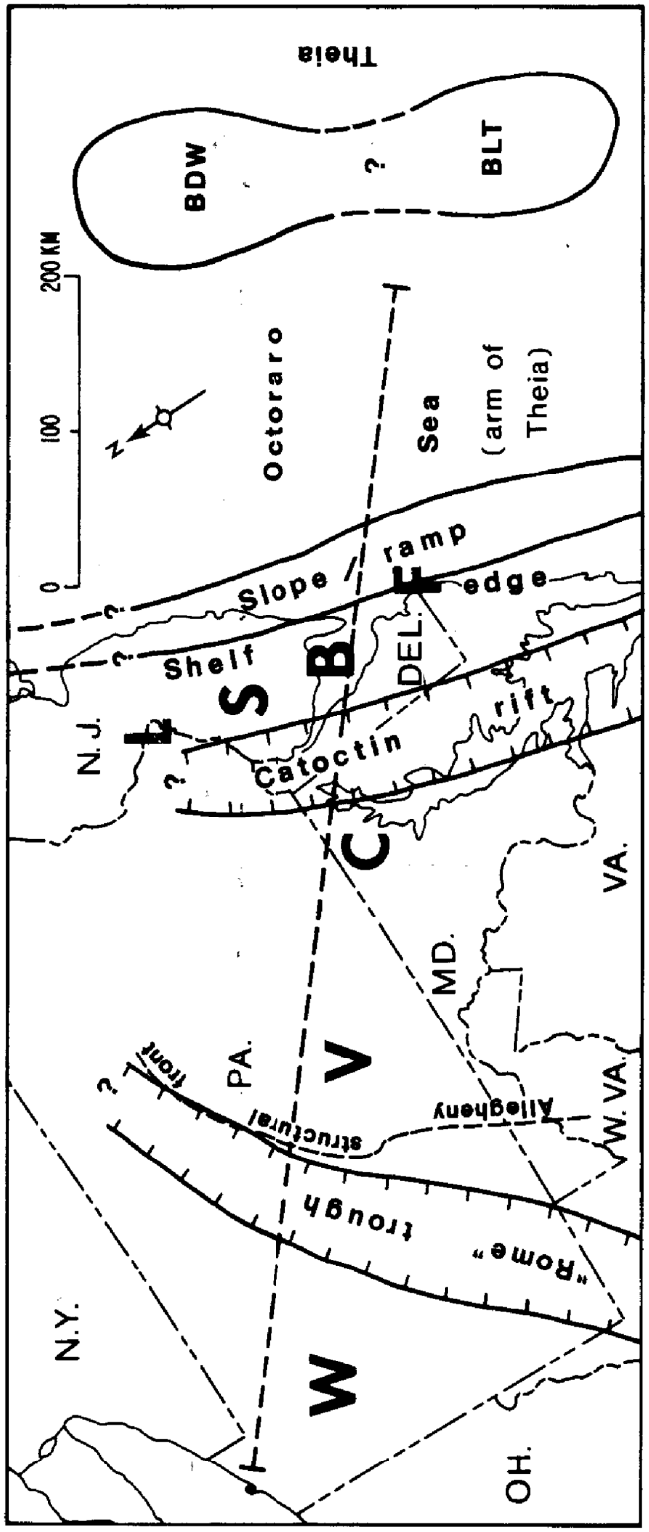


Figure 2.5-215— {Rifts Formed during the Breakup of Rodinia}

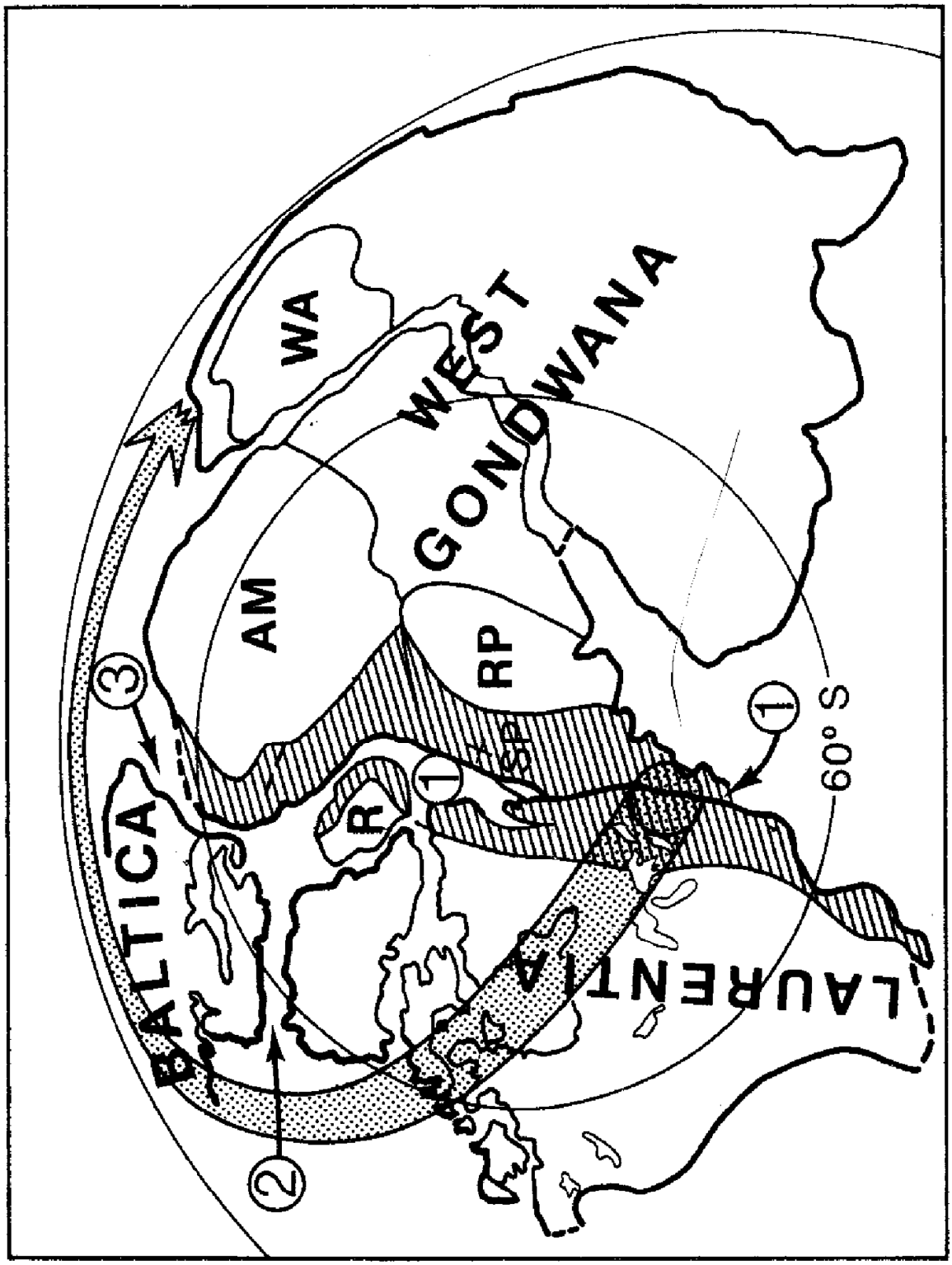


Figure 2.5-216— {Reconstruction of part of Rodinia at the end of the Neoproterozoic, showing the relative positions of Laurentia, Baltica, and West Gondwana}

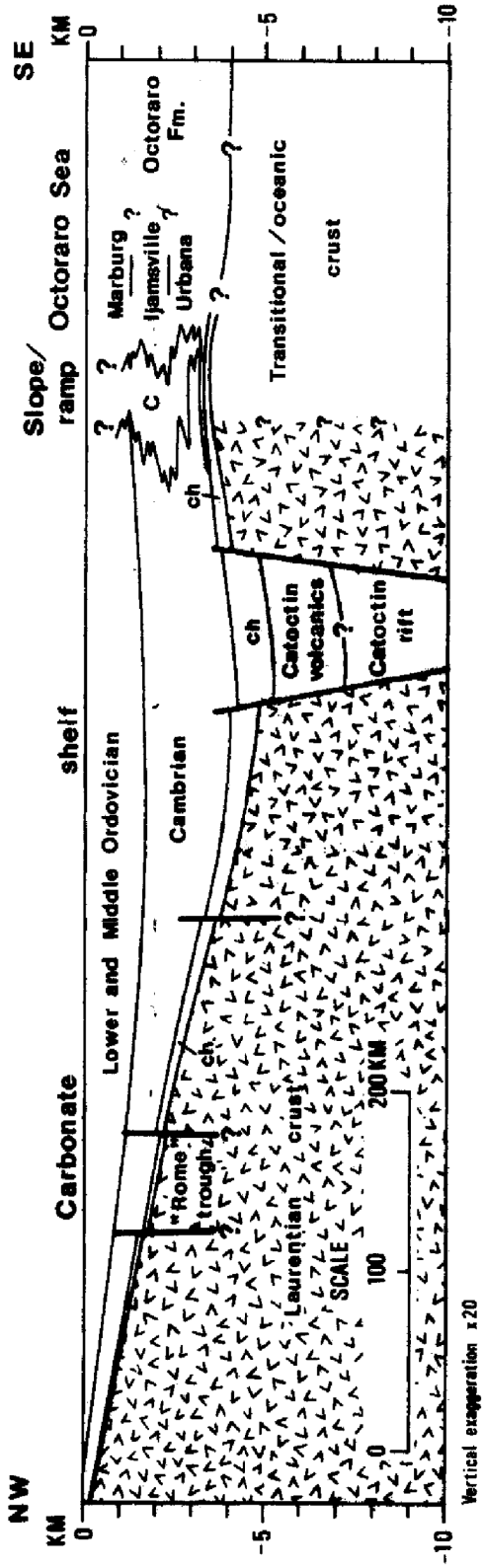


Figure 2.5-217— {Cross section of the carbonate shelf, shelf/slope/basin/transition, and proximal basin (Octorara seaway) during the Middle Ordovician, from Erie (NW) to the present Atlantic coaseline(SE)}

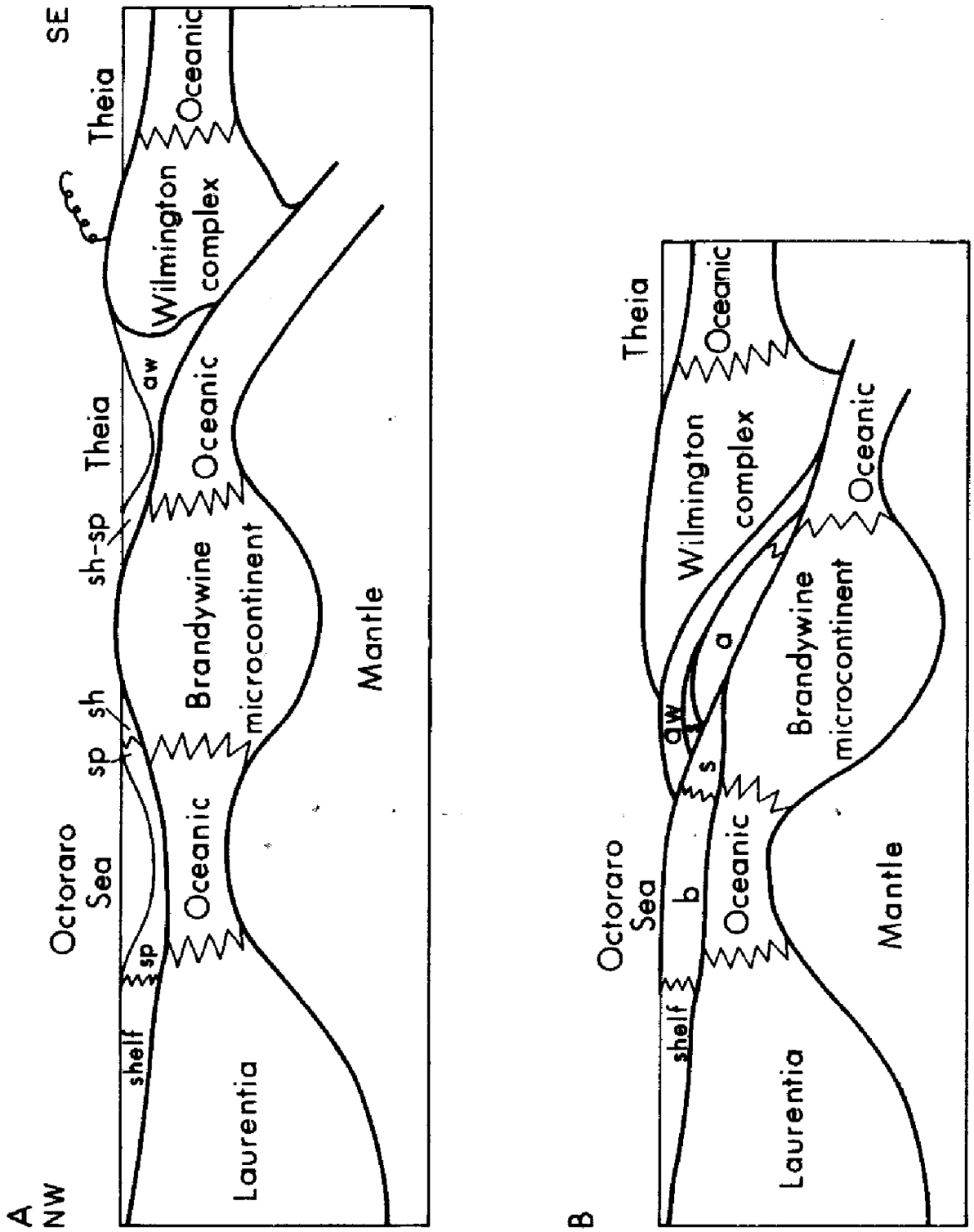


Figure 2.5-218— {Brandywine Microcontinent}

Figure 2.5-219— {Catskill clastic wedge Structure and Stratigraphy during the Acadian Orogeny}

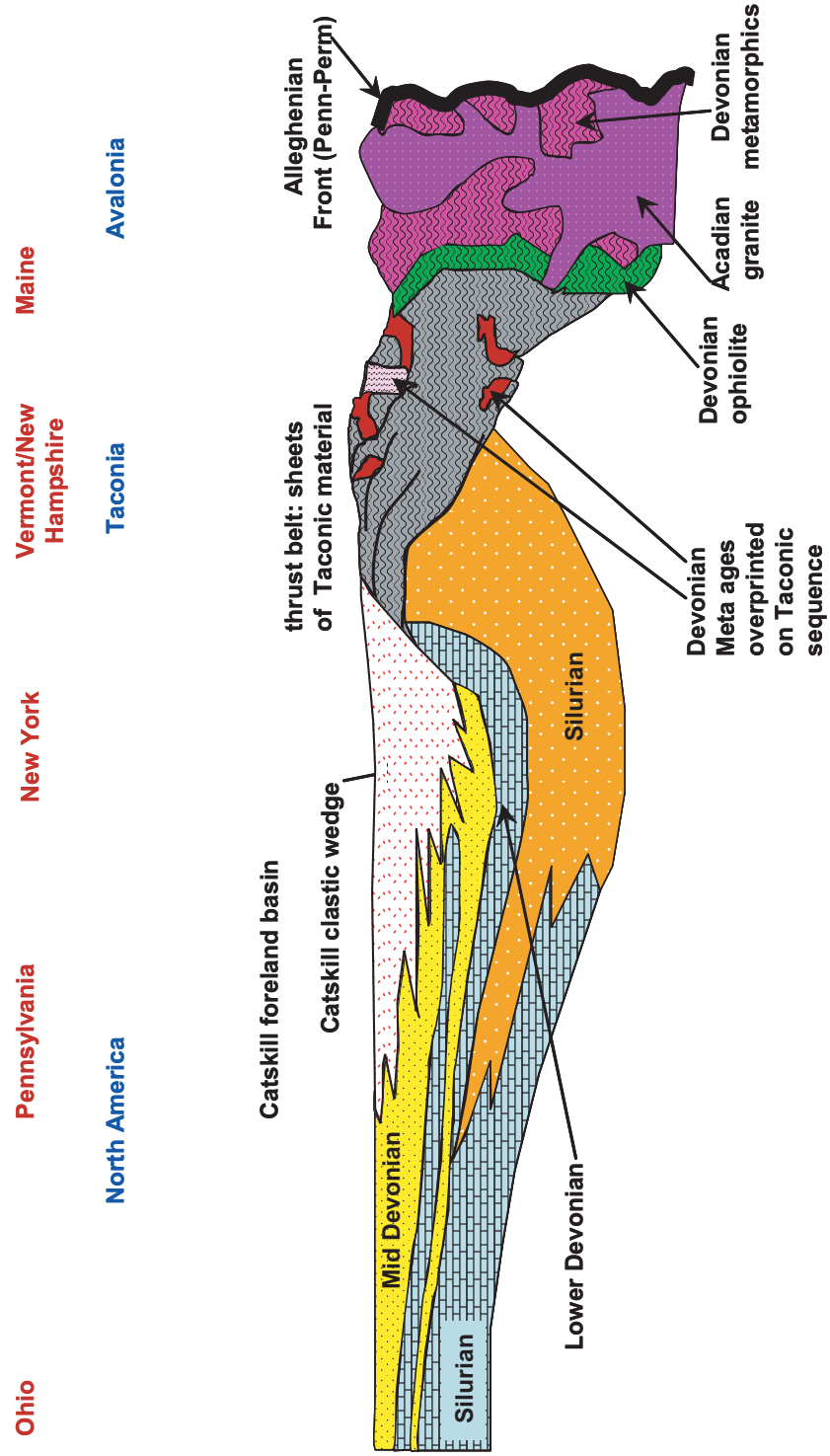
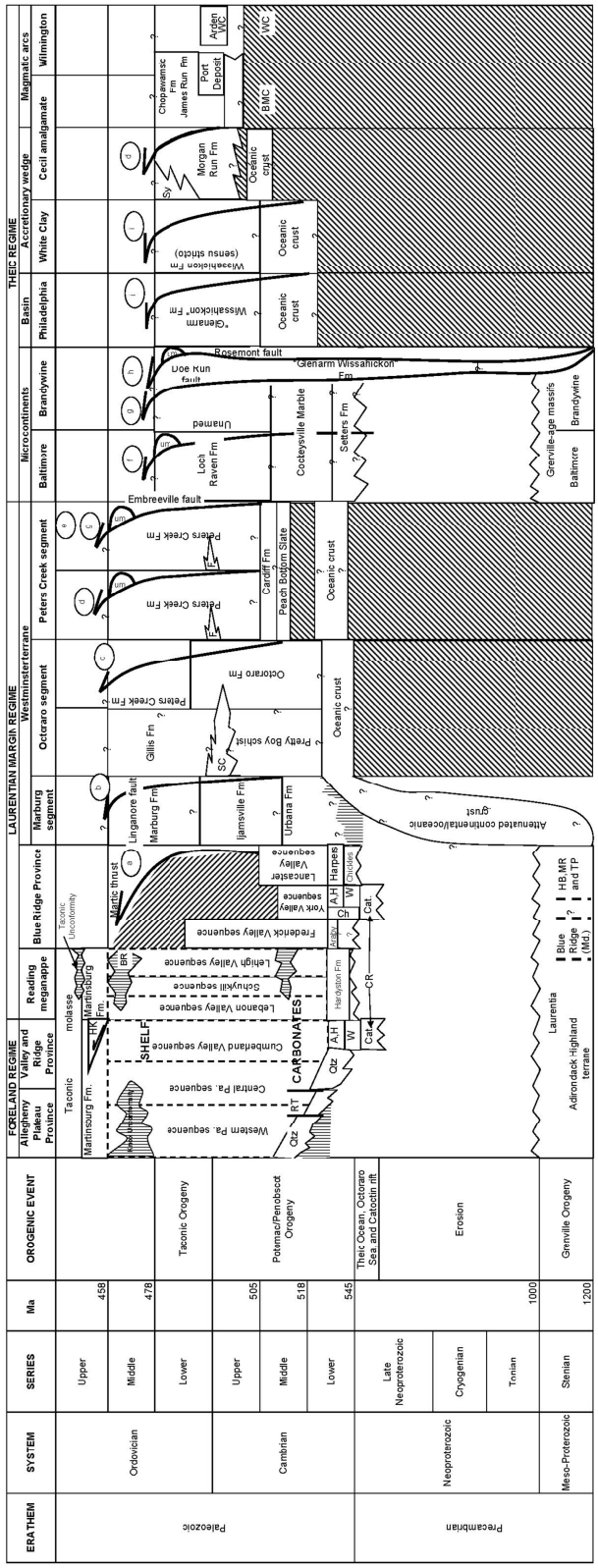


Figure 2.5-220— {Precambrian through Ordovician Regional Stratigraphy}



Notes:
Correlation chart of Neoproterozoic to Upper Ordovician in the Foreland, Laurentian Margin and Theic Regimes, and/or structural entities within regimes. Vertical lines-unconformity or discontinuity; diagonal lines (down to left)-intervals of unknown or no event; diagonal lines (down to right)-stratigraphic section since tremoved by erosion. Curved arrows-thrust faults; question marks-uncertain age

Figure 2.5-221— {Legend for Figure 2.5-220 (Precambrian through Ordovician Regional Stratigraphy)}

A-Antietam Formation
BMC-Baltimore Mafic Complex
MBR-Black Riveran hiatus

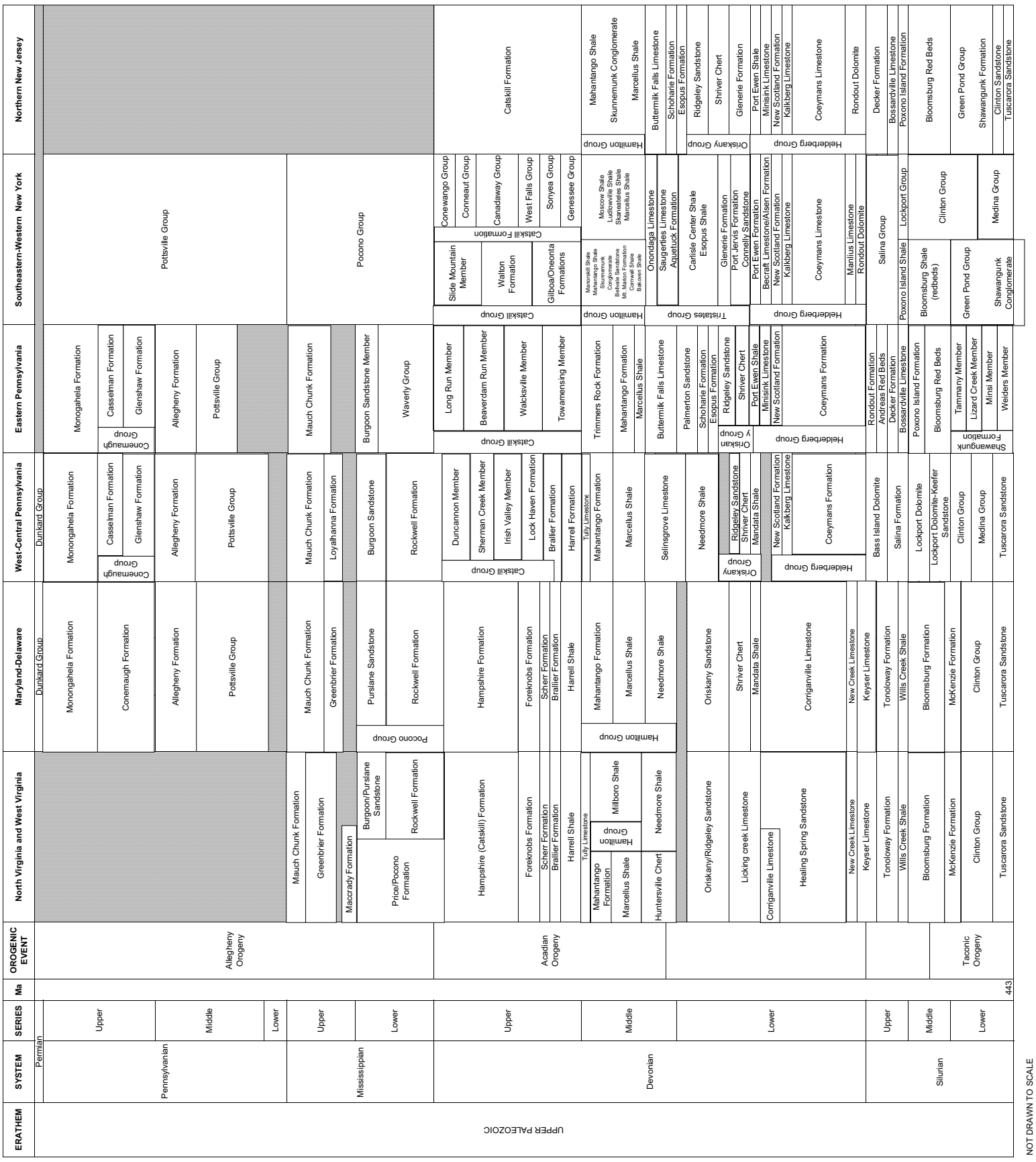
Cat.-Catoctin Formation
Ch-Chickies Formation
CR-Catoctin rift

F-Fishing Creek metabasalt
H-Harpers Formation
HB-Honey Brook Upland
HK-Hamburg klippe
MR-Mine Ridge
Qtz-quartzose siliciclastic rocks
RT-Rome trough
SC-Sams Creek Formation
Sy-Sykesville Formation
TP-Trenton prong
um-ultramafic body tectonically emplaced by entrainment within a fault
W-Weverton (and Loudoun) Formations
WC-Wilmington Complex

Hanging wall identities (in circles):
a-Westinster terrane
b-Linganore nappe
c-Westminster terrane ("Peters Creek" segment)
d-Baltimore Mafic Complex
e-Brandywine terrane
f-Liberty Complex or Baltimore Mafic Complex
g-White Clay nappe
h-Philadelphia terrane
i-Wilmington Complex

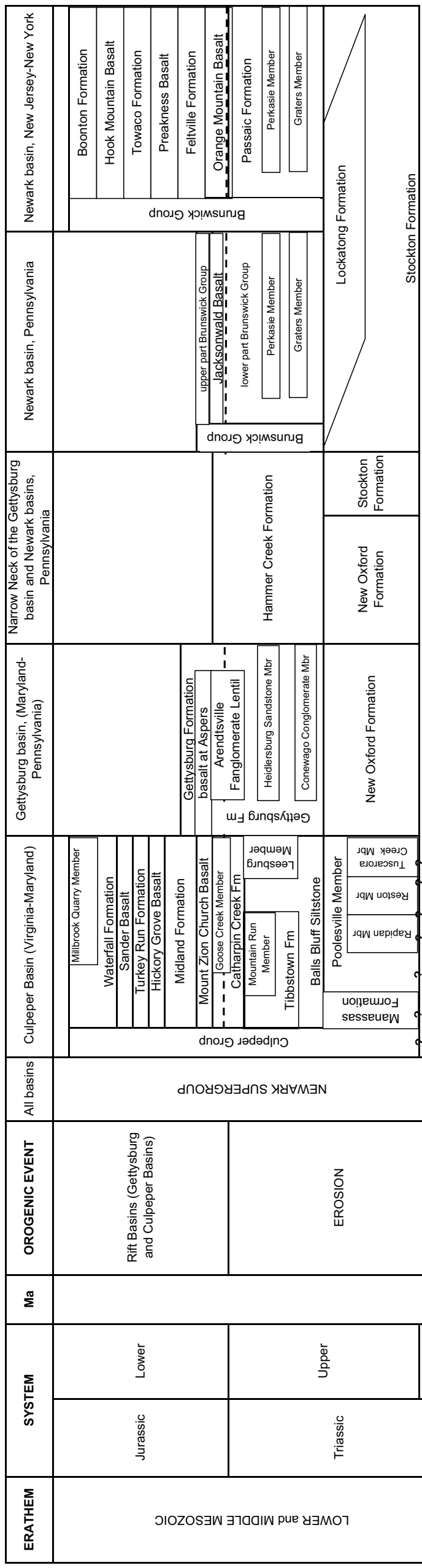
modified from Faill 1997a

Figure 2.5-222— {Silurian through Permian Regional Stratigraphy}



modified from Swezey, 2002, Inners, 1987, Epstein, 1986, Ver Straeten and Brett, 2000, Castle, 2001, Edmunds, 1996, NYDEC accessed on 8/12/2009
Carter, 2007 (accessed on 8/12/2009), Miici and Swezey, 2006, MGS, 2000 (accessed on 8/13/2009),Schmidt, 1993, Ver Straeten, 2007, USGS, 2008, Rader and Evans, 1993

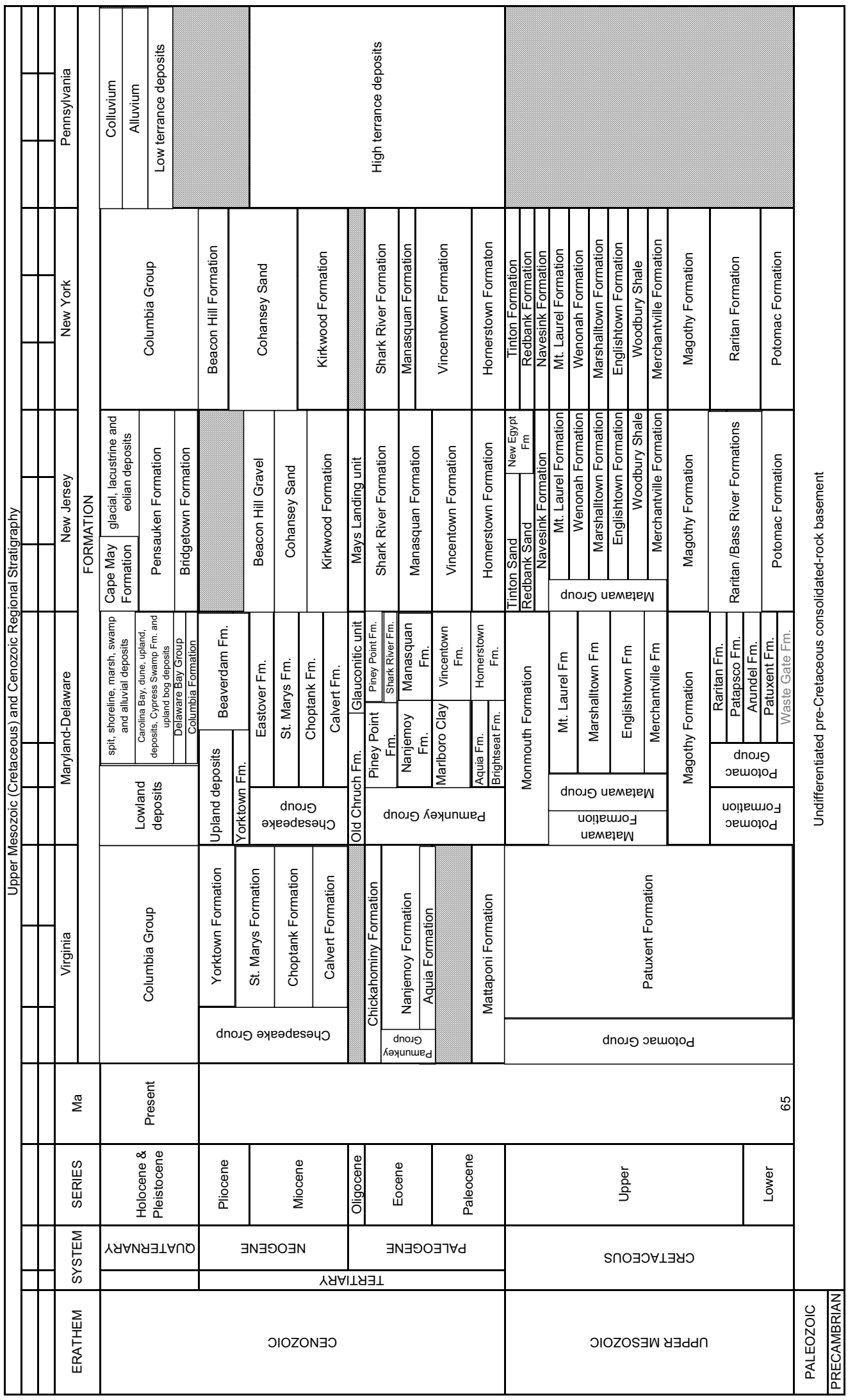
Figure 2.5-223— {Lower to Middle Mesozoic}



NOT DRAWN TO SCALE

Notes:
modified from Froleich and Robinson USGS Bulletin 1776, 1988, USGS, 2003, NJDEP, 1990

Figure 2.5-224— {Upper Mesozoic to Cenozoic}



NOT DRAWN TO SCALE
Note:
Waste Gate Formation is no longer recognized by the MGS (personal communication 2006)

modified from Hansen 1984, Achmad, 1997, Otton, 1955, Hansen 1996, and Calis and Drummond 2008 and USGS 2003 and Pickett, 1987, Vogt and Eshelman, 1987, Olsson, 1987, NJDEP, 1990
Achmad and Hansen, 1997, Baltimore Gas & Electric, 1968, Cederstrom, 1957, Glaser, 1971, Hansen, 1978, Hansen and Wilson, 1984, Hansen, 1996, Virginia State Water Control Board, 1974
Root, 1977, USGS accessed on 8/13/2009, DGS, 2007 (accessed on 8/12/2009)