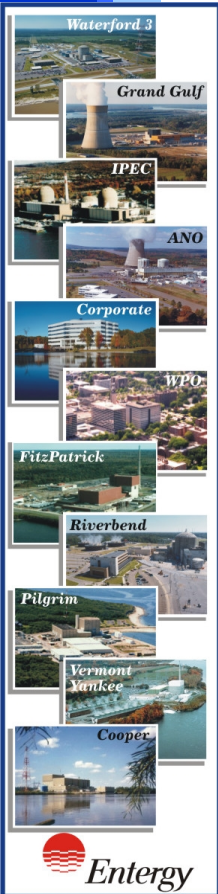


River Bend Unit 3



Preliminary NRC Acceptance Review Geotechnical Investigation Program October 22, 2008

Introduction & Agenda

- **Introduction of Team Members** – Jerry Burford (Entergy)
- **Discussion Regarding Boring Locations** – Mark Petersen (Black & Veatch)
 - Review of COL Applicant Requirements
 - Review of RBS Unit 3 Site Conditions
 - Review of Boring Layout for the following Structures
 - Reactor Building (RB)
 - Fuel Building (FB)
 - Control Building (CB)
 - Fire Water Service Complex (FWSC)

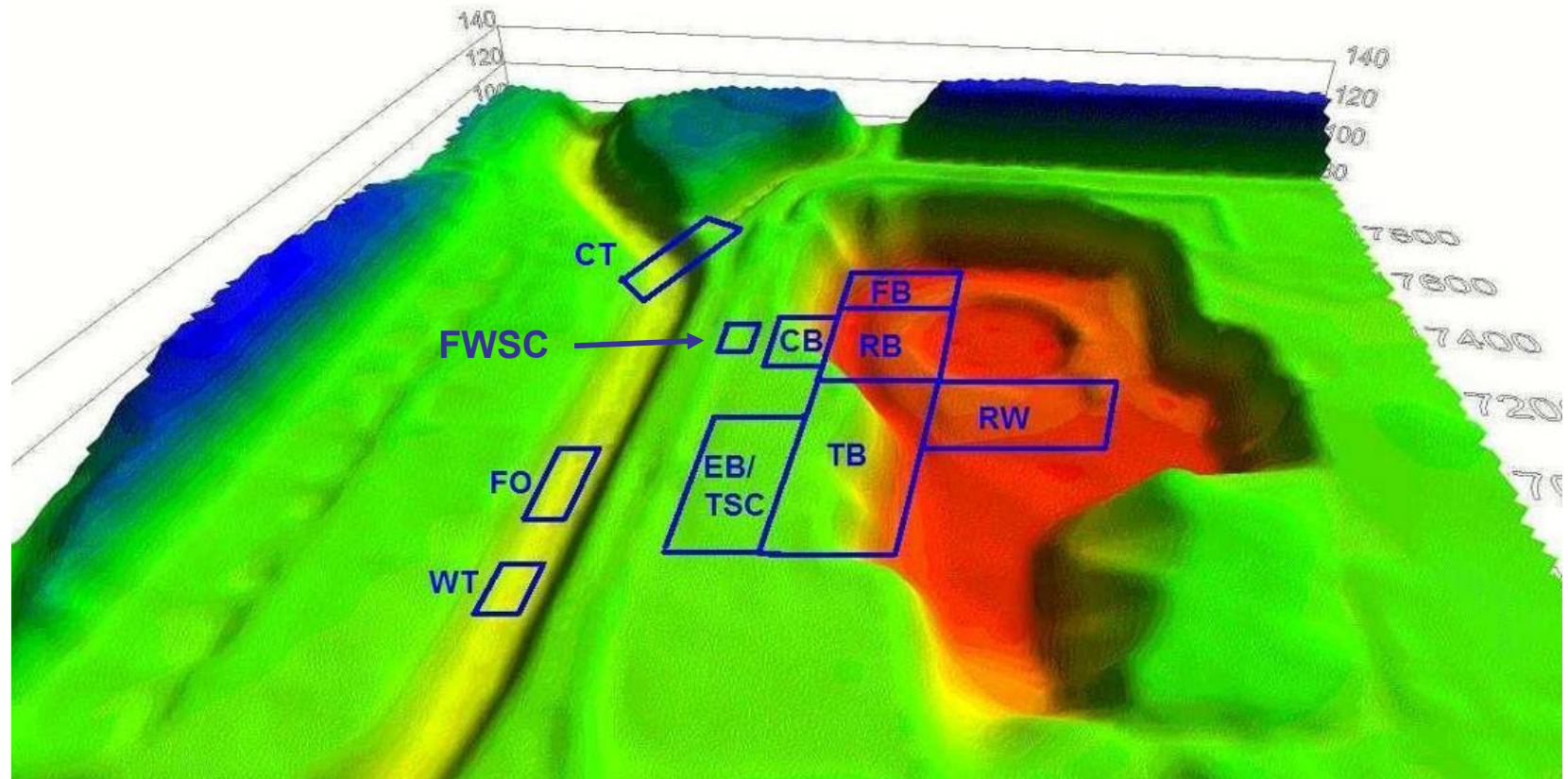
COL Applicant Requirements

- **NUREG-0800 Standard Review Plans**
 - Chapter 2, Sections 2.5.1 through 2.5.5
 - Site Investigation - Regulatory Guide 1.132, “Site Investigations for Foundations of Nuclear Power Plants” (Revision 2, October 2003).

RG 1.132 Review

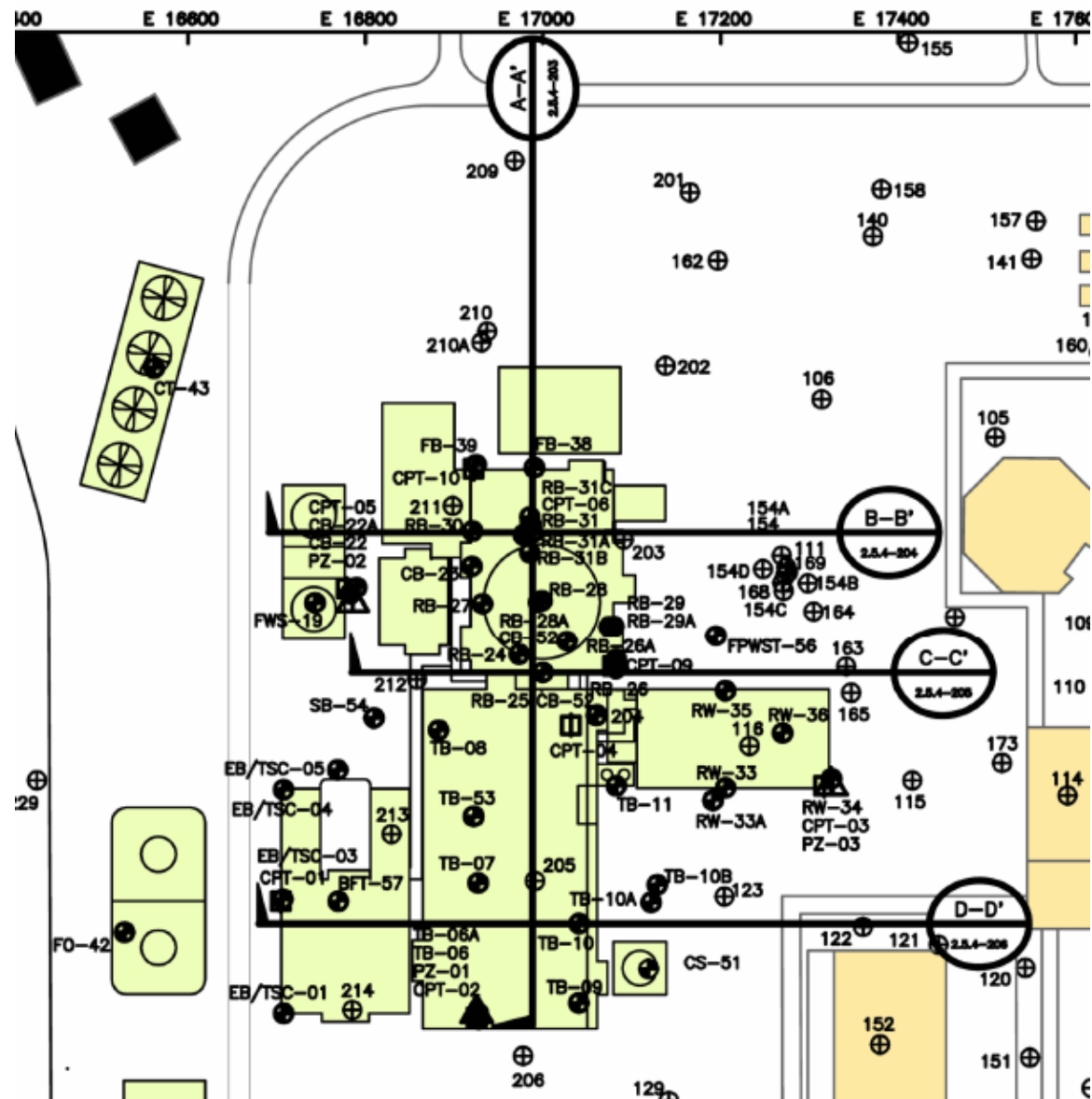
- **Position C.1**
 - Actual Site Investigation Program Tailored to Specific Site Conditions Using Sound Professional Judgment
 - Site Investigation Program Should be Flexible
- **Position 4.3.1.1**
 - Appendix D Provides General Guidelines for Boring Spacing and Depth
 - Uniform Conditions Permit Maximum Boring Spacing
 - Conditions Uniform If:
 - Geologic and Stratigraphic Features Can Be Correlated From One Boring Location to the Next With Relatively Smooth Variation in Thicknesses or Properties
 - An Occasional Anomaly or a Limited Number of Unexpected Lateral Variations May Occur
- **Appendix D**
 - At Least One Boring at Each Safety-Related Structure
 - Heavy Structures (Containment and Auxiliary Building) – At Least One Boring Per 10,000 Square Feet (100 Foot Spacing)
 - Borings Also Along Periphery, At Corners, or Other Selected Locations
- **Subsection 4.3 of Regulatory Guide for Other Structures**
 - Spacing and Depth as Necessary to Define Foundation Geology

Site Conditions



- Proposed Locations of Parts of Reactor Building, Turbine Building and All of Control Building are Within Existing Concrete Lined Excavation Slope
- Parts of Reactor Building, Fuel Building, and Radwaste Building within Existing Tank Area

Conformed to Construction Record, Site Investigation

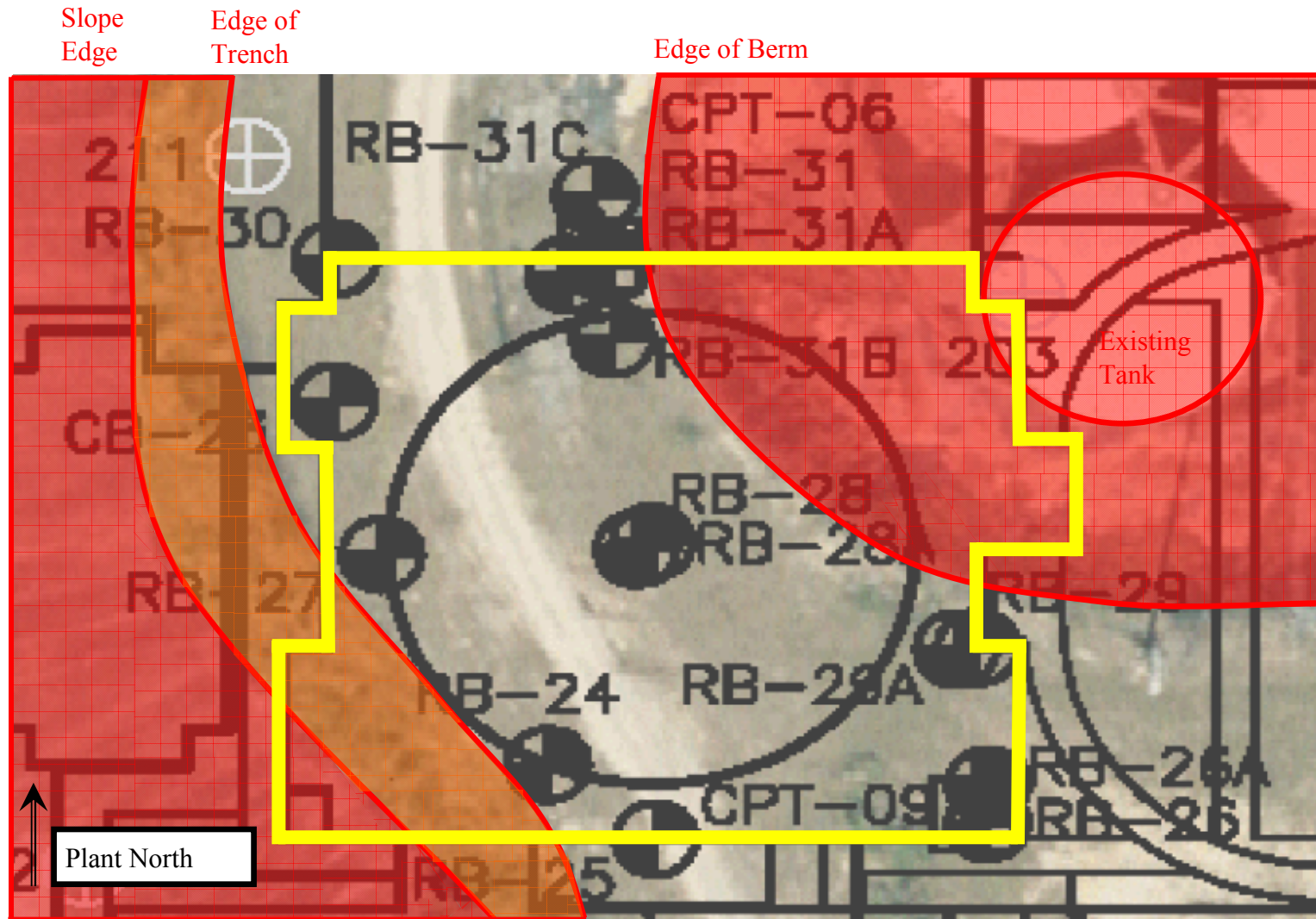


Plant North

Reactor Building Issue

- No Borings in Northeast Corner or Southwest Corner of Reactor Building Footprint

Reactor Building

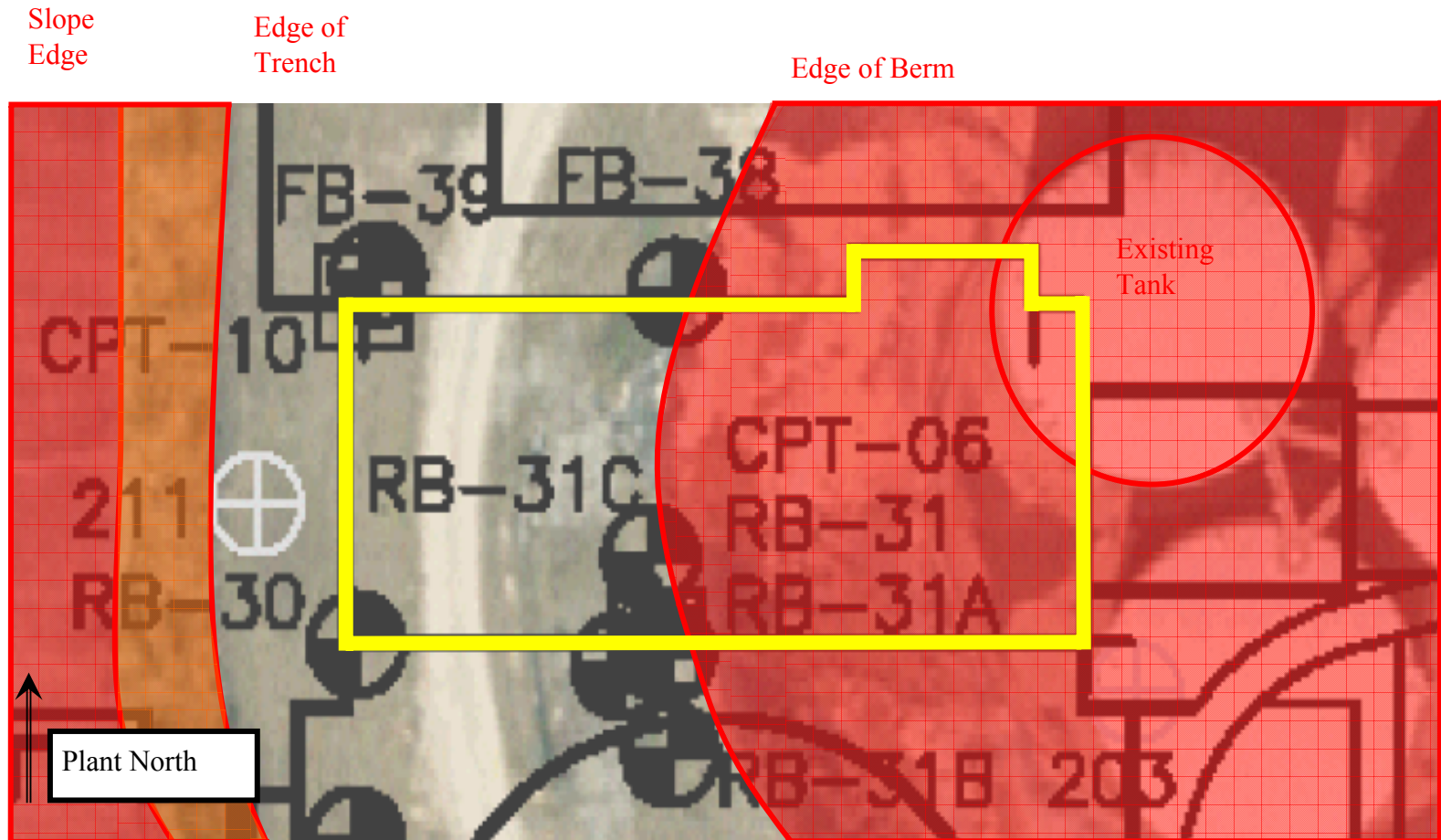


- 160' x 160' (25,600 SQ FT)
- 8 Borings, 1 CPT

Fuel Building Issue

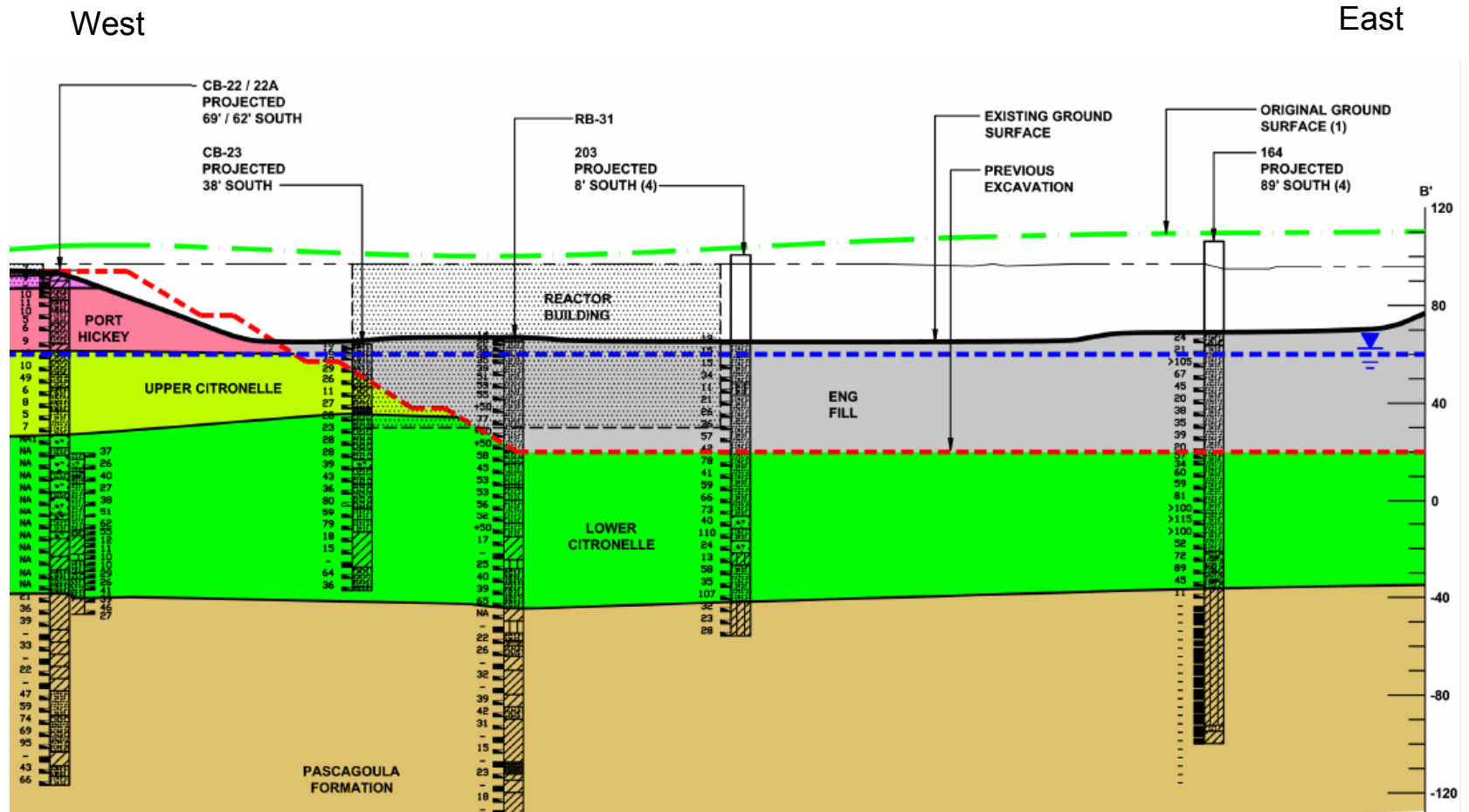
- No Borings on North-South (East) Side of Fuel Building Footprint

Fuel Building



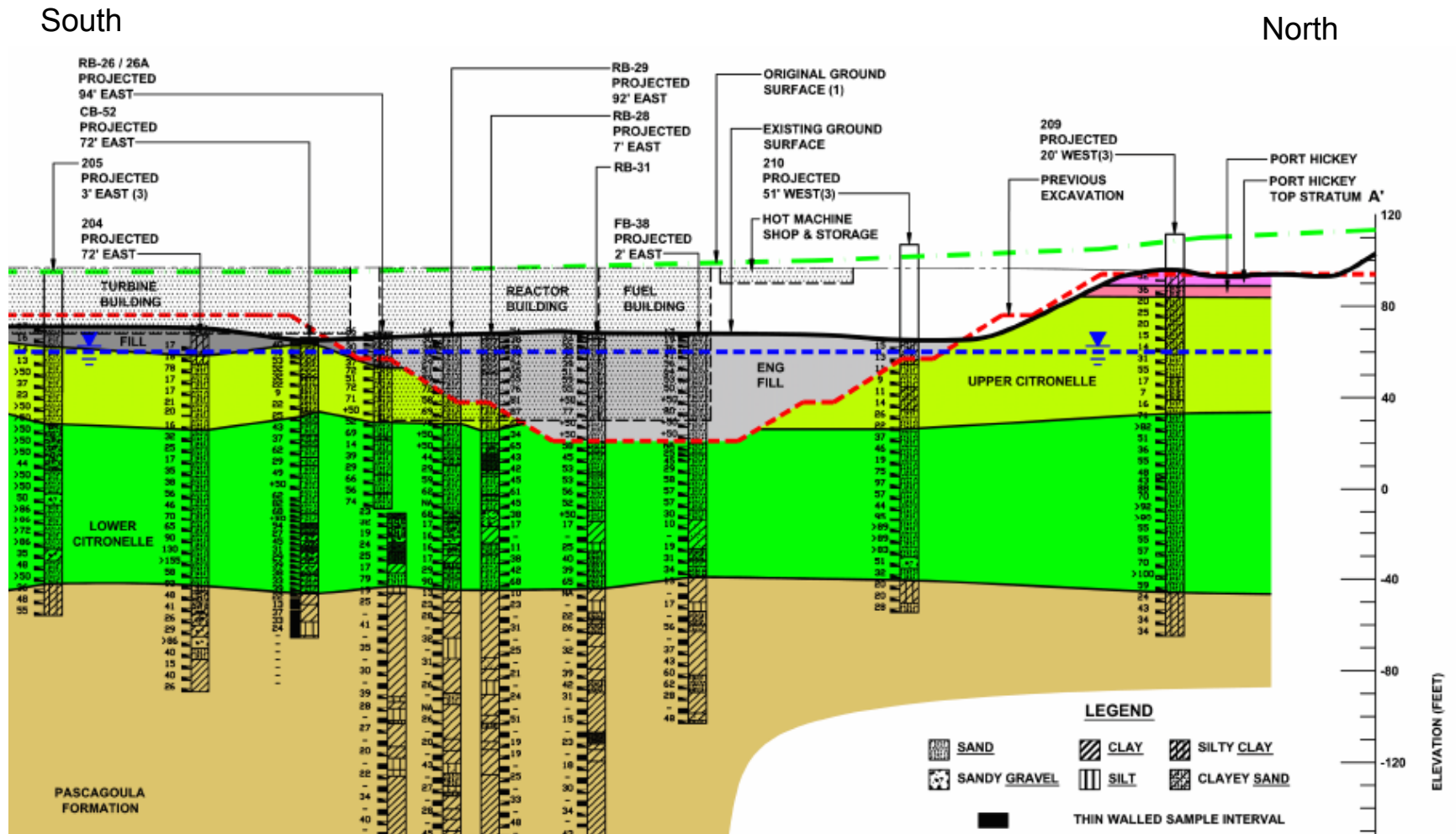
- 70' x 160' (11,200 SQ FT)
- 4 Borings, 2 CPT's

Uniformity of Subsurface Conditions



West-East Geologic Cross-section (Section B-B')
(excerpt from Figure 2.5.4.204 from the RBS Unit 3 FSAR)

Uniformity of Subsurface Conditions

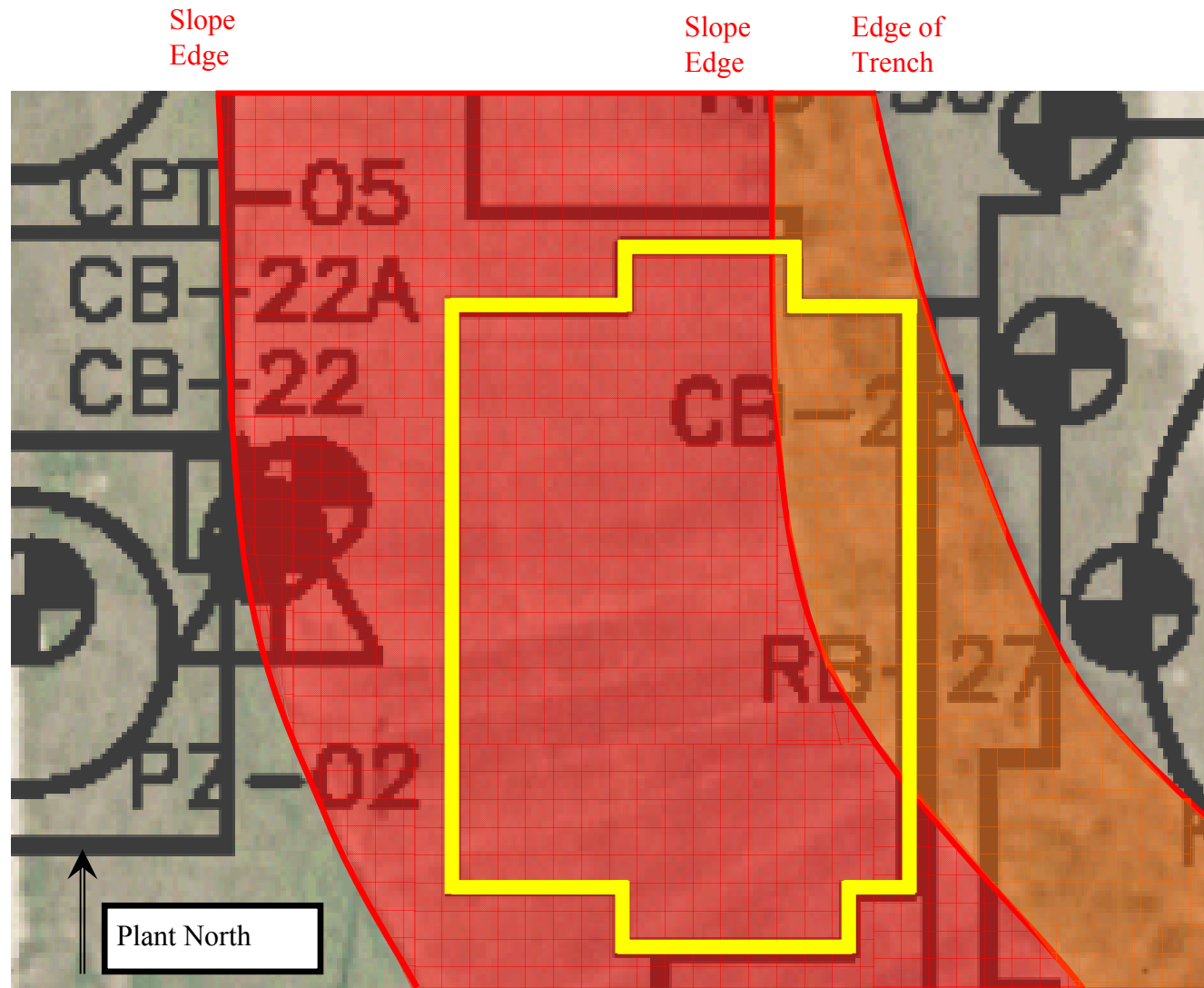


South-North Geologic Cross Section (Section A-A')
(excerpt from Figure 2.5.4.203 from the RBS Unit 3 FSAR)

Control Building Issue

- No Borings Beneath Control Building Footprint

Control Building



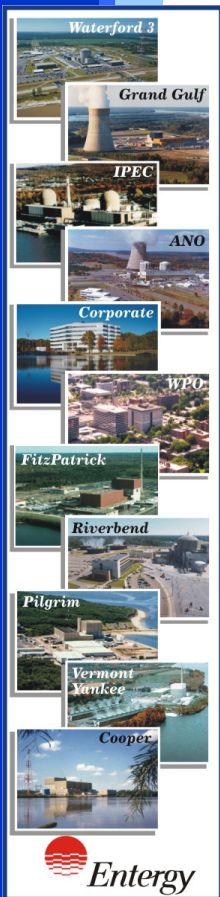
- 80' x 100' (8,000 SQ FT)
- 2 Borings, 1 CPT

Fire Water Service Complex Issue

- Initial Geotechnical Data Collection Plan Based on One 50 Foot Diameter, Non-Safety Related Tank
- One Boring Performed, 51.5 Feet (GE Recommended 20 Feet)
- Updated DCD's Increased FWSC Size (70' x 170')
- CB-22 – 11 Feet Away from FWSC

Conclusions

- Subsurface Conditions Uniform Across Unit 3 Area.
- Borings Sufficient to Perform Engineering Analysis and Design with Reasonable Assurance that Foundation Conditions have been Realistically Estimated.
- Location and Number of Borings in Investigation Program is Adequate and Meets RG 1.132 Guidelines Considering Site-Specific Conditions.



Discussion