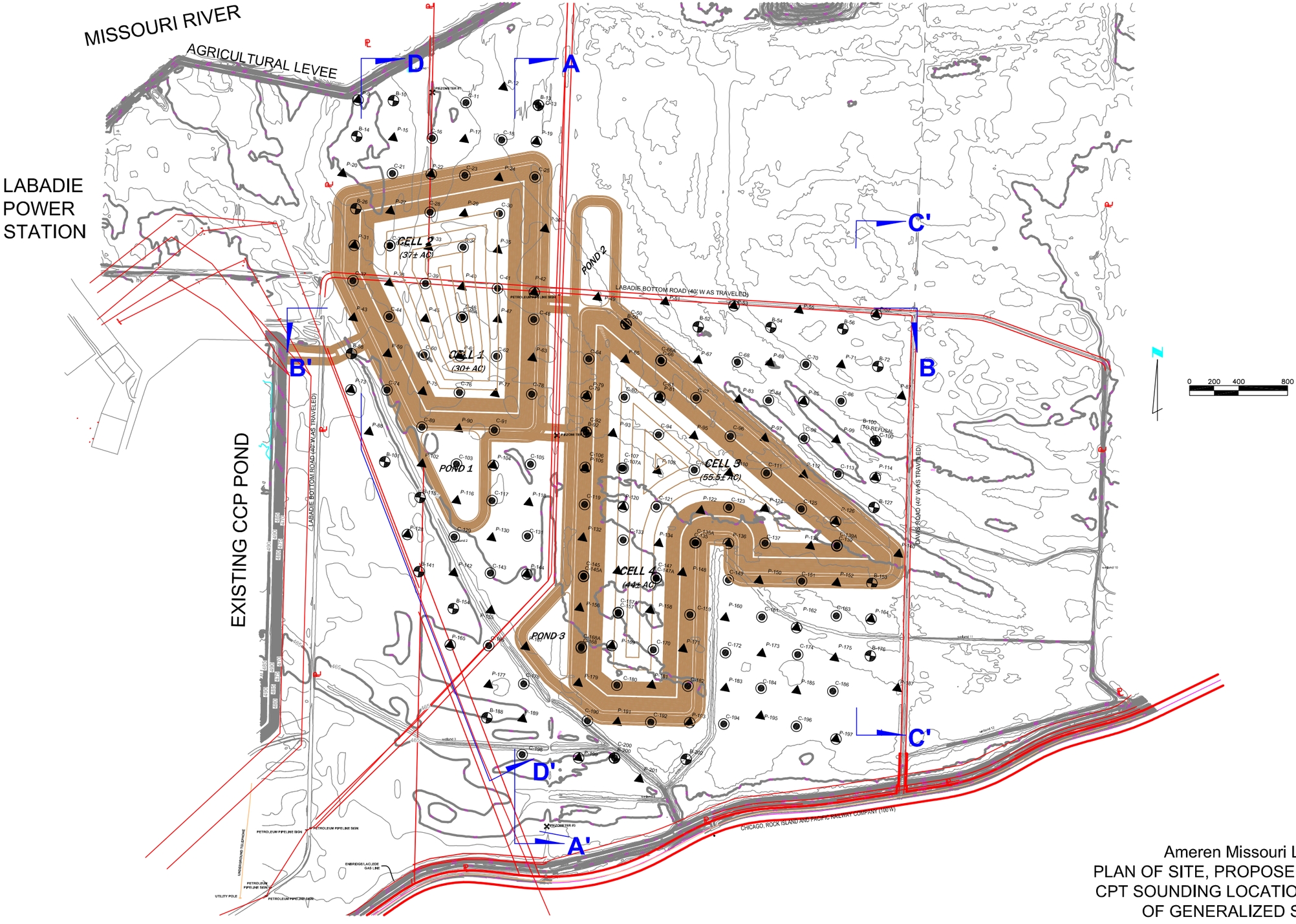


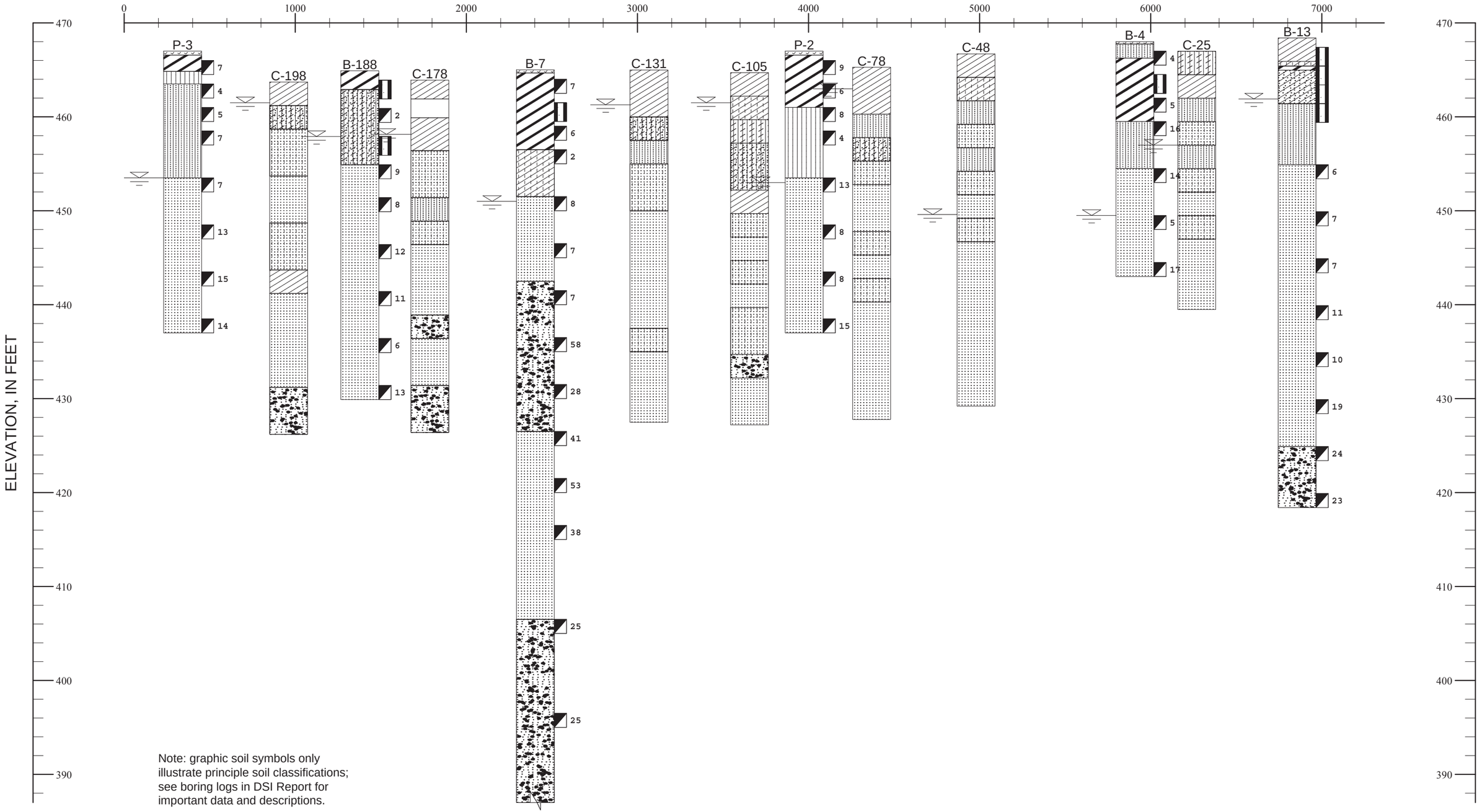
Ameren Missouri Labadie UWL
PLAN OF SITE, PROPOSED UWL, BORING AND CPT SOUNDING LOCATIONS AND LOCATIONS OF GENERALIZED SOIL PROFILES

REITZ & JENS, INC.

Figure 1

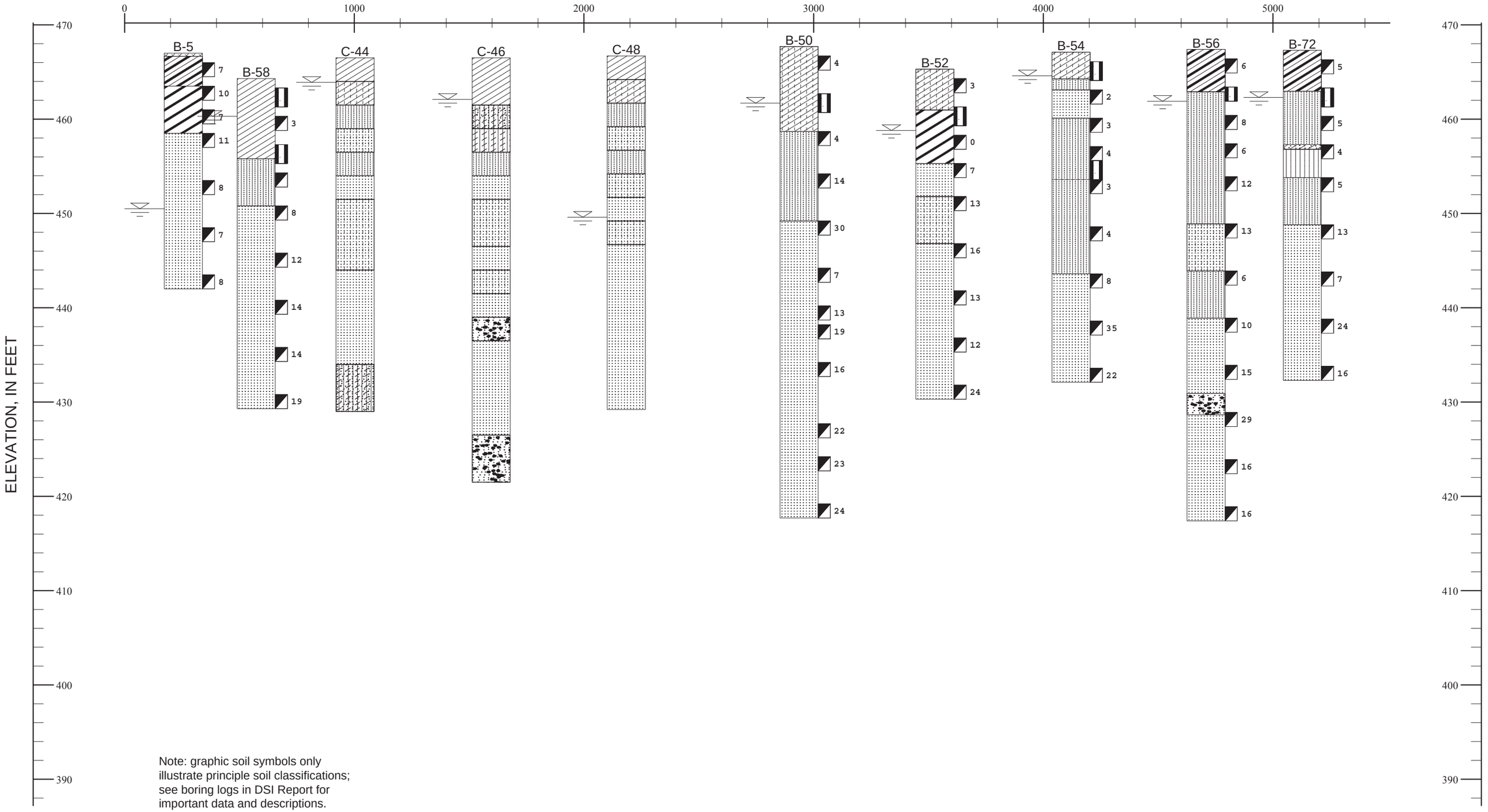
SCHEDULE CJG-ST1

SCHEDULE CJG-ST1



Ameren Missouri Labadie UWL
GENERAL SOIL PROFILE
A-A'

SCHEDULE CJG-ST1

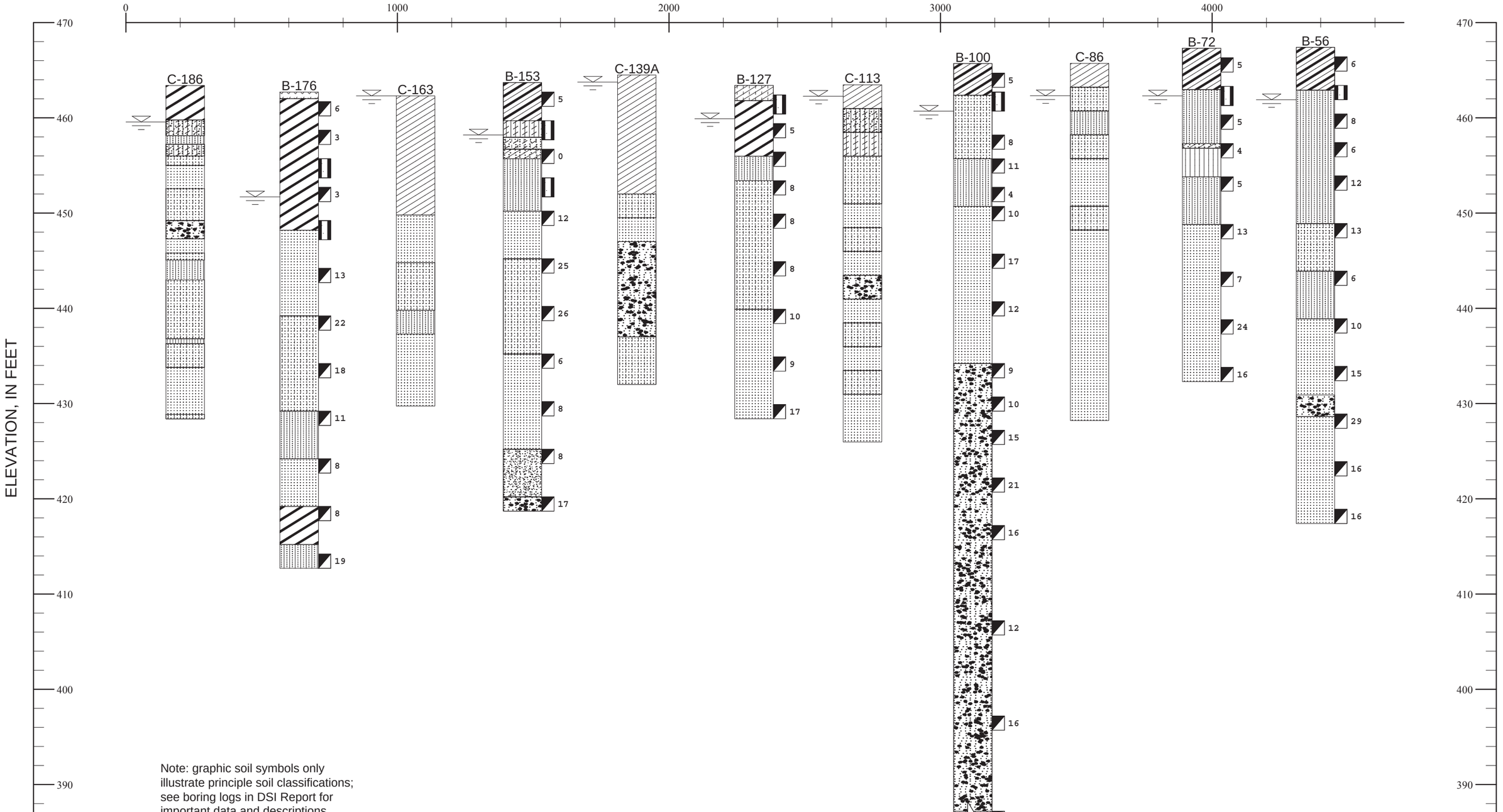


Note: graphic soil symbols only illustrate principle soil classifications; see boring logs in DSI Report for important data and descriptions.

- Topsoil
- Medium to high plastic CLAY
- High plastic CLAY (CH)
- Poorly-graded SAND (SP)
- Low plastic CLAY (CL)
- Silty SAND or Sandy SILT (SM)
- Low plastic Silty CLAY (CL)
- Poorly-graded SAND with traces of fines
- Clayey Sandy SILT (ML)
- Low plastic Clayey SILT (ML)
- Poorly-graded SAND & GRAVEL (GP)
- Clayey SAND or Sandy CLAY (SC)
- Inorganic, non-plastic SILT (ML)
- Depth of ground water observed during drilling

Ameren Missouri Labadie UWL
GENERAL SOIL PROFILE
B-B'

SCHEDULE CJG-ST1



Note: graphic soil symbols only illustrate principle soil classifications; see boring logs in DSI Report for important data and descriptions.

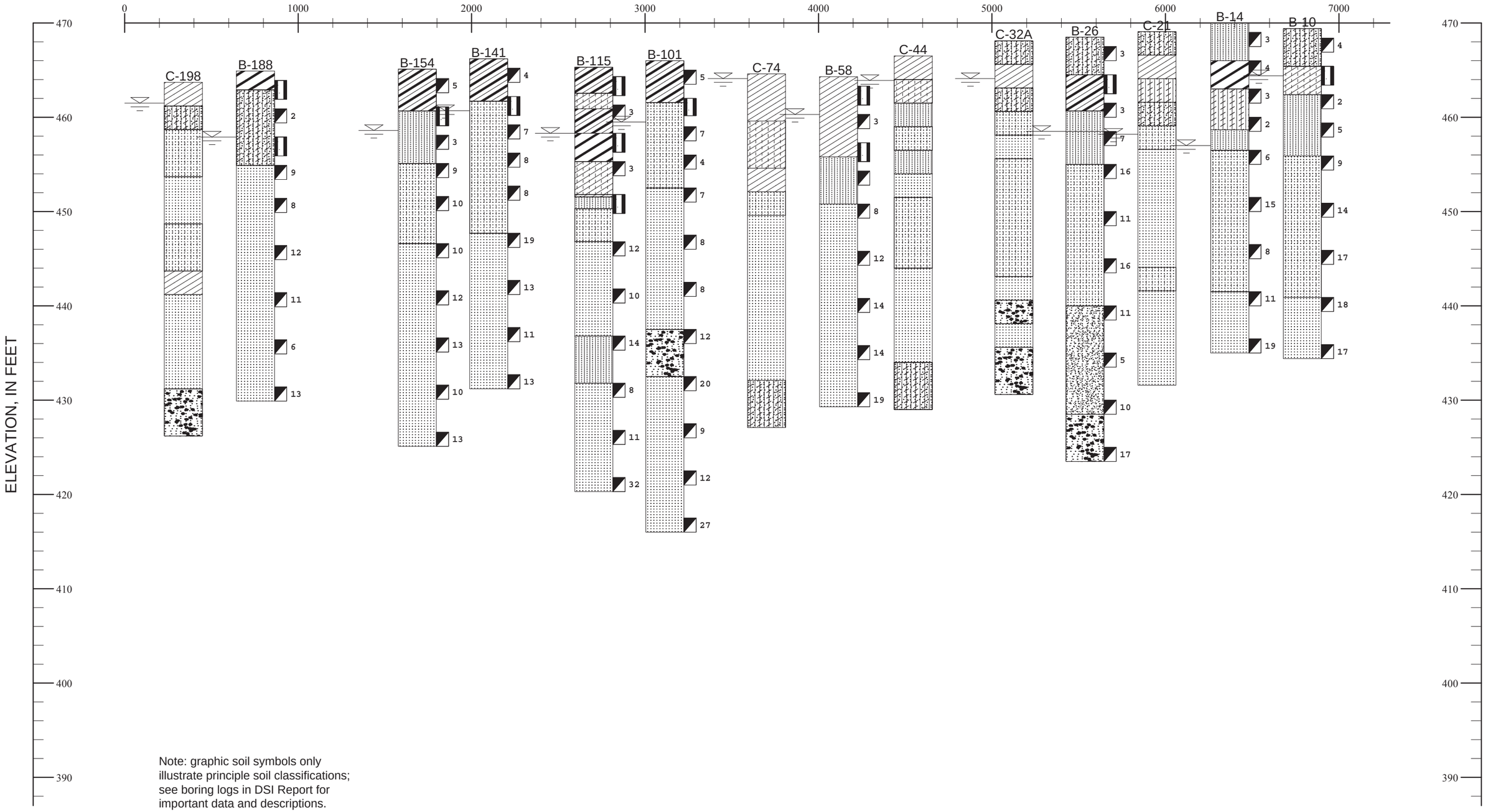
- High plastic CLAY (CH)
- Clayey Sandy SILT (ML)
- Silty SAND or Sandy SILT (SM)
- Poorly-graded SAND with traces of fines
- Poorly-graded SAND (SP)
- Poorly-graded SAND & GRAVEL (GP)
- Topsoil
- Low plastic CLAY (CL)
- Medium to high plastic CLAY
- Low plastic Clayey SILT (ML)
- Clayey Silty SAND (SC-SM)
- Clayey SAND or Sandy CLAY (SC)
- Well-graded SAND with no fines (SW)
- Low plastic Silty CLAY (CL)
- Inorganic, non-plastic SILT (ML)
- Depth of ground water observed during drilling

Ameren Missouri Labadie UWL
GENERAL SOIL PROFILE
C-C'

REITZ & JENS, INC.

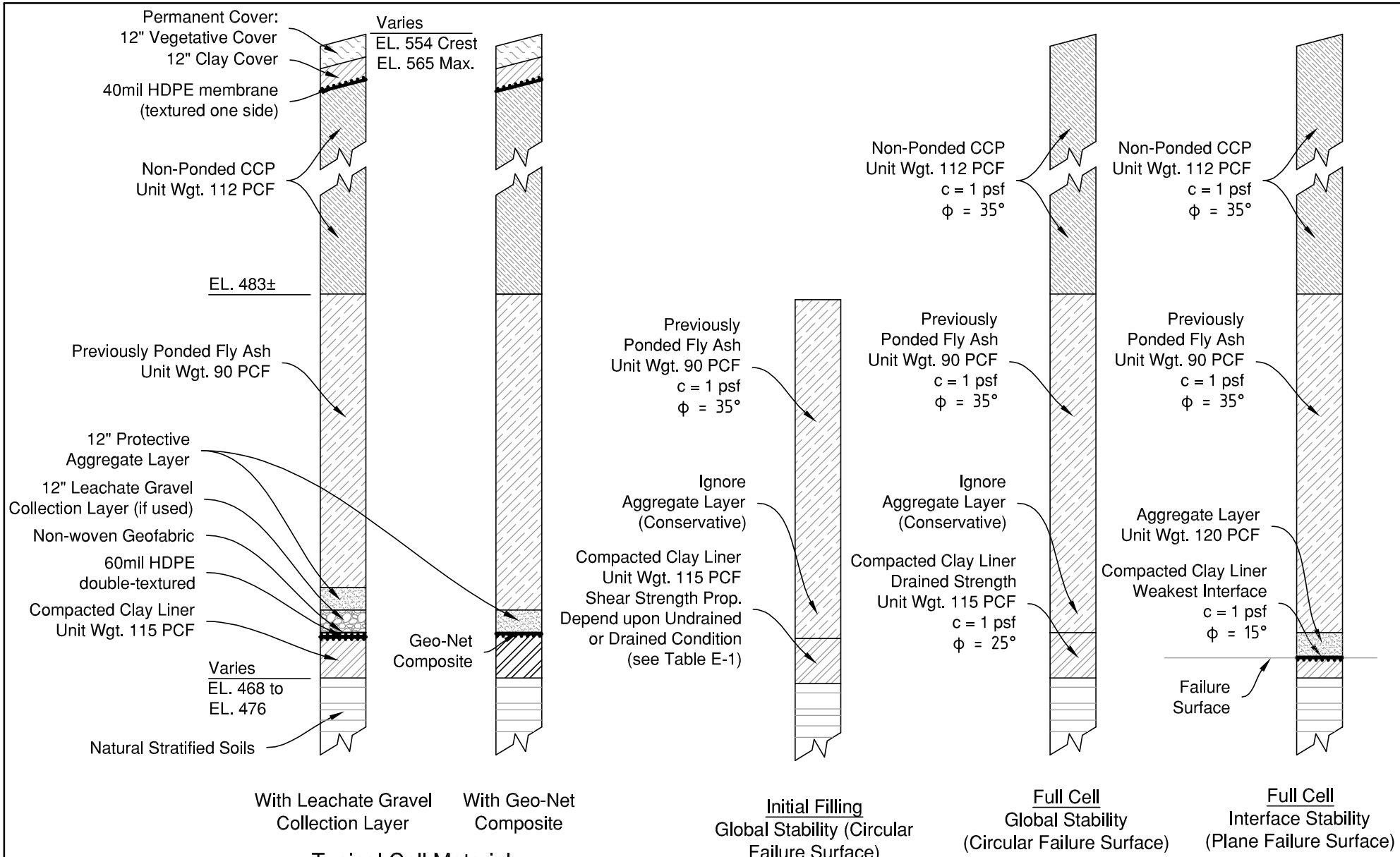
SCHEDULE CJG-ST1 Figure 4

SCHEDULE CJG-ST1



Ameren Missouri Labadie UWL
GENERAL SOIL PROFILE
D-D'

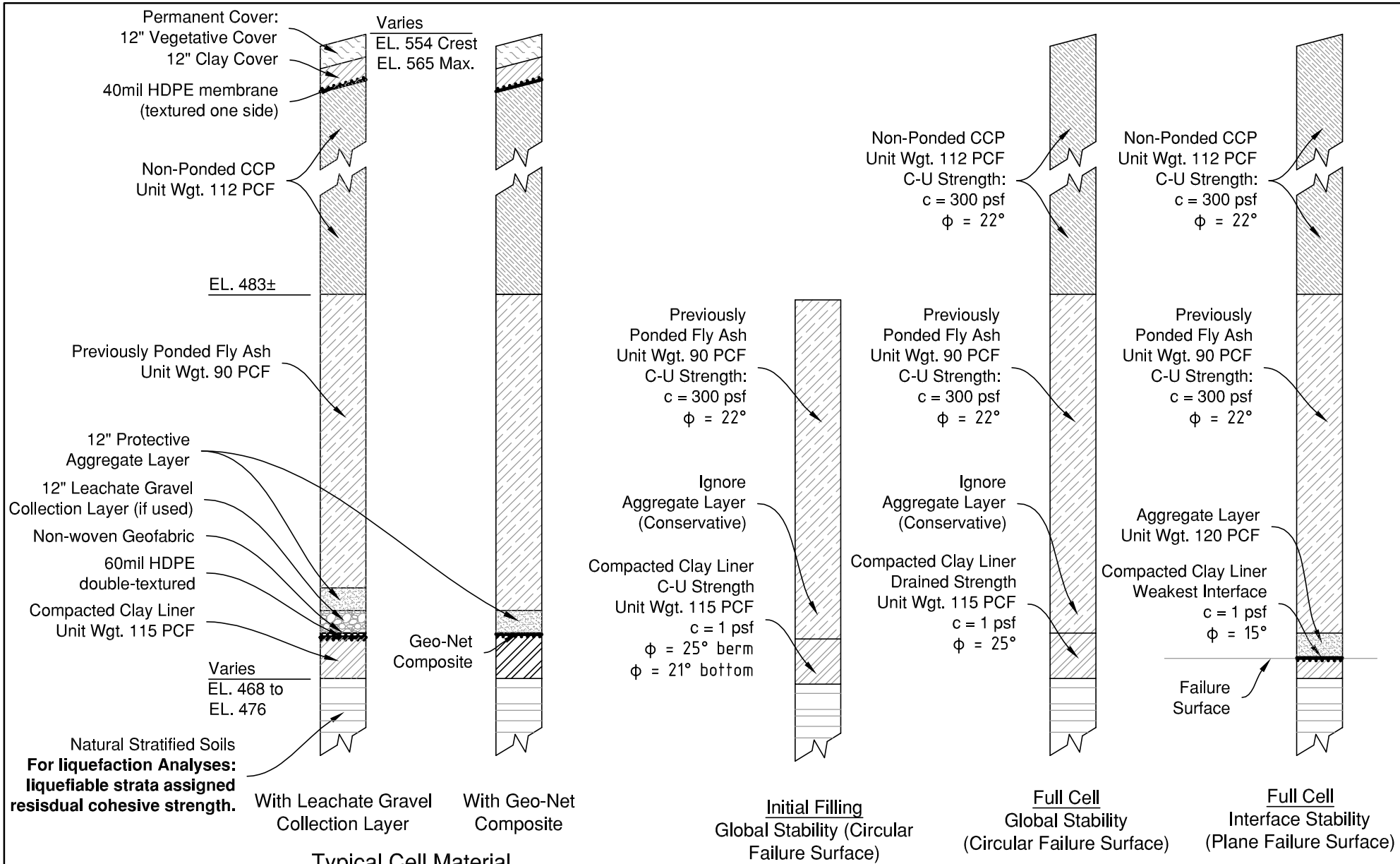
SCHEDULE CJG-ST1



Ameren Labadie UWL
GRAPHIC DEPICTION OF MATERIALS FOR
STABILITY ANALYSES

Figure 6

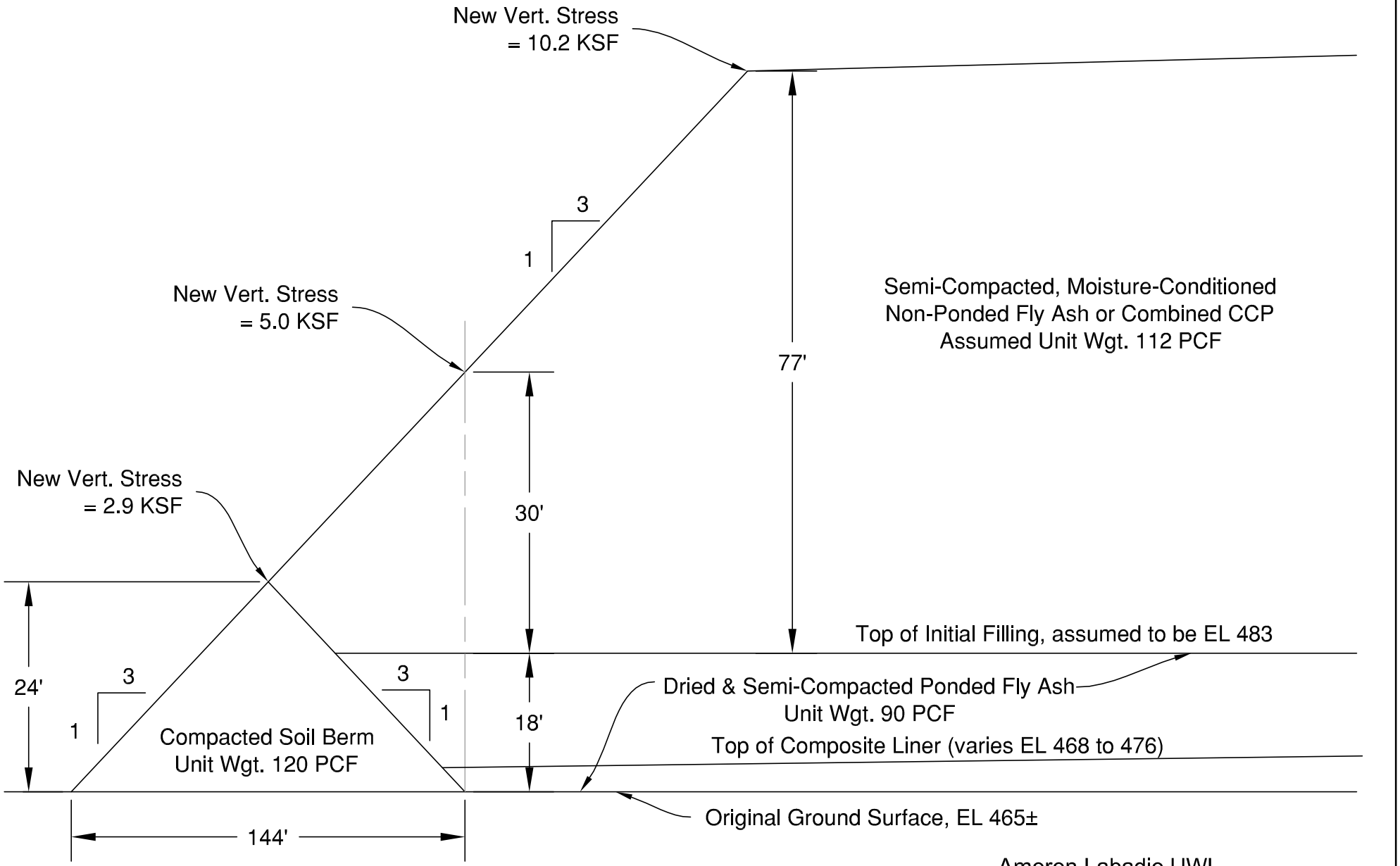
SCHEDULE CJG-ST1



Ameren Labadie UWL
GRAPHIC DEPICTION OF MATERIALS
FOR SEISMIC ANALYSES

Figure 7

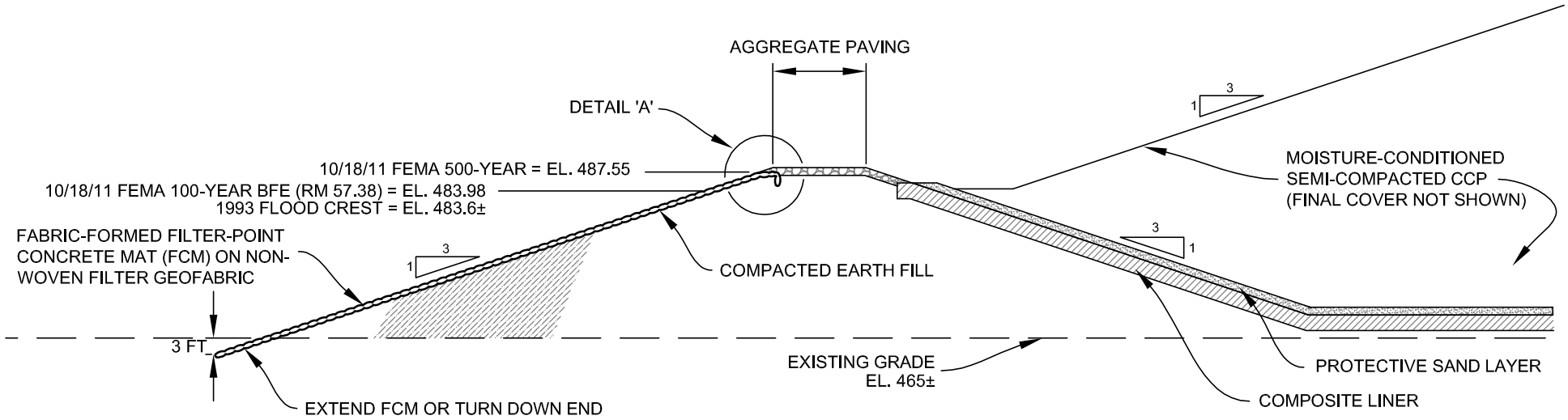
SCHEDULE CJG-ST1



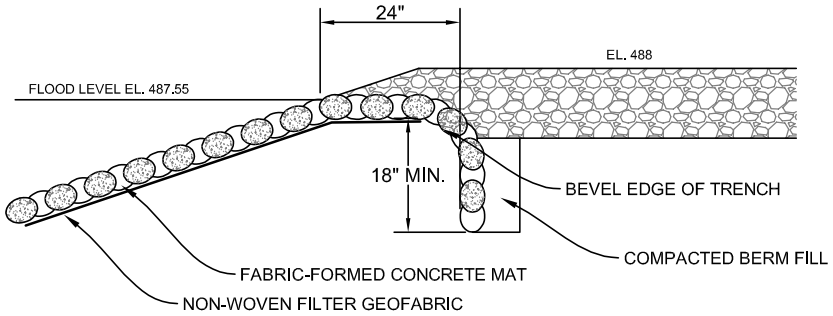
Ameren Labadie UWL
MODEL FOR CALCULATION OF VERT. STRESSES
FOR SETTLEMENT ANALYSES

Figure 8

SCHEDULE CJG-ST1

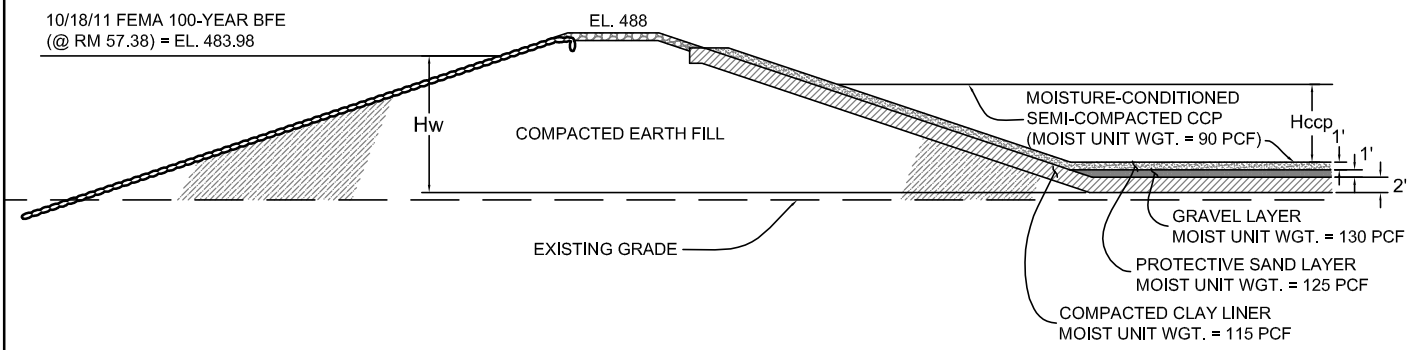


GENERAL CROSS-SECTION OF PERMANENT EXTERIOR BERM



DETAIL 'A' - FCM ANCHOR TRENCH

Ameren Missouri Labadie UWL
PROPOSED CONCRETE EROSION
PROTECTION FOR EXTERIOR BERMS



Factor of Safety Against Hydrostatic Uplift of Bottom Clay Liner (FS_{uplift}):

FS_{uplift} = (Hccp x 90 PCF + 1' x 125 PCF + 1' x 130 PCF + 2' x 115 PCF) / (Hw x 62.4 PCF)

with a 12" thick protective sand layer, 12" thick gravel leachate collection layer, and a 24" thick compacted clay liner, where:

Hw = difference in height from flood level to bottom of clay liner (based upon the assumption that the subgrade of the clay liner is permeable)

Hccp = height of CCP above sand layer (with CCP moist unit weight = 93 PCF)

The required height of the CCP for a FS_{uplift} of 1.1 and with a gravel collection layer:

Required Hccp = [(Hw x 62.4 PCF x 1.1) - 485 PSF] / 90 PCF

Example: for 100-year flood at el. 484 and bottom of clay liner at el. 466,
Hw = 484 - 466 = 18 feet, and required Hccp = 8.3 feet for FS_{uplift} = 1.1,
or a vertical difference of 5.7 feet between the 100-year flood level and the top of the CCP fill.

If a geonet is substituted for the 12" thick gravel collection layer, and the geonet is considered to be weightless, then:

FS_{uplift} = (Hccp x 93 PCF + 1' x 125 PCF + 2' x 115 PCF) / (Hw x 62.4 PCF)

and the required height of the CCP is:

Required Hccp = [(Hw x 62.4 PCF x 1.1) - 355 PSF] / 90 PCF

where Hccp is the height of CCP above the protective sand layer. This equation applies to any point on the side slope of the berm where the geonet will be used, but only if the berm is constructed with permeable fill (sands and silts).

Ameren Missouri Labadie UWL
CALCULATION OF RESISTANCE
TO HYDROSTATIC UPLIFT ON CLAY LINER