

## **REFERENCES**

## REFERENCES

Akinci, A., R.B. Herrmann, and C.J. Ammon, 1999. "Shallow Crustal Structure in the Central Conterminous United States from Teleseismic Receiver Functions." Saint Louis University, Department of Earth and Atmospheric Sciences.

Anderson, Neil L. 1998, "Subsurface Structure of the Commerce, English Hill and Related Faults in the Benton Hills of Southeastern Missouri: Collaborative Research, University of Missouri-Rolla, Department of Geology and Geophysics and Missouri Department of Natural Resources, Division of Geology and Land Survey." Retrieved January 23, 2006 from <http://erp-web.er.usgs.gov/reports/annsum/vol140/cu/g3038.htm>.

Anderson, J.E., JR., M.E. Bickford, A.L. Odom, and A.W. Berry, 1969. "Some Age Relations and Structural Features of the Precambrian Volcanic Terrane, St. Francois Mountains, Southeastern Missouri." Geological Society of America Bulletin, v. 80, pp. 1815-1818.

Berry, AW., Jr., 1976, Proposed stratigraphic column for Precambrian volcanic rocks, western St. Francois Mountains, Missouri; in Klisvarsanyi, E.B., ed., Studies in Precambrian geology; Missouri Geological Survey Report of Investigations 61, p. 81-90.

Boss International and Brigham Young University, 1999, "SEEP2D" GMS Groundwater Modeling System.

Braile, L. W., W.J. Hinze, G.R. Keller, E.G. Lidiak, and J.L. Sexton, 1986. "Tectonic Development of the New Madrid Rift Complex, Mississippi Embayment, North America." Tectonics, Vol. 131, pp. 1-21.

Brunsdon, D (1993) Mass movement: The research frontier and beyond: a geomorphological approach. Geomorphology, 7, pp 85-128.

Clendenin, C.W., C.A. Niewendorp, and G.R. Lowell, 1989. "Reinterpretation of Faulting in Southeast Missouri." Geology, Vol.17, pp. 217-220.

Delano, H. L., and Wilshusen, J. P., 2001, Landslides in Pennsylvania: Pennsylvania Geological Survey, 4th ser., Educational Series 9, 34 p.

D.F. VanDine (1996) Debris Flow Control Structures for Forest Engineering, British Columbia, Ministry of Forests, Research Program.

Gregory, 2003, "GSTABL7 with Stedwin, Slope Stability Analysis," Program Manual Version 2004, Geotechnical Engineering Software.

Kisvarsanyi, Eva B., 1981, "Granitic Ring Complexes and Precambrian hot-spot activity in the Saint Francois terrane, Midcontinent Region, United States." Geology, Vol. 8, pp. 43-47.

Kisvarsanyi, E.B. and A.W. Hebrank, 1982, "Field Trip Guidebook to the St. Francois Mountains and the Historic Bonne Terre Mine." Open File Report Series OFR-82-16-MR. Missouri Department of Natural Resources, Geological Survey and Resource Assessment Division, Rolla, MO, 39 pp.

IAEG Commission on Landslides (1990) Bulletin of the International Association of Engineering Geologists, 41

Langenheim, V.E. and T.G. Hildenbrand, 1997, "Commerce geophysical lineament-Its source, geometry, and relation to the Reelfoot rift and New Madrid seismic zone." GSA Bulletin, Vol. 109, no. 5, pp. 580-595.

Lowell, Gary R. 2000, "Eruptive style of mesoproterozoic A-type calderas in Southeastern Missouri, USA." Revista Brasileira de Geociencias, Vol. 30, pp. 745-751.

MWH, 2003 "Eighth FERC Part 12 Independent Consultant Safety Inspection Report". prepared for AmerenUE.

Meert, J.G. and W. Stuckey, 2002, "Revisiting the paleomagnetism of the 1.476 Ga St. Francois Mountains igneous province, Missouri." Tectonics, Vol. 21, No. 2, pp. 1-19.

Pierson, T.C. and J.E. Costa. 1987. A rheologic classification of subaerial sediment-water flows. In Debris flows/avalanches: process, recognition and mitigation. Reviews in Engineering Geology. J.E. Costa and G.F. Wieczorek (editors). Geol. Soc. Am., Vol. VII, pp. 1-12.

Pratt, W.P., M.A. Middendorf, I.R. Satterfield, and P.E. Gerdemann, 1992. "Geologic Map of the Rolla 1°x 2° Quadrangle, Missouri." Missouri Department of Natural Resources, Division of Geology and Land Survey, Publication I-1998.

U.S. Department of Energy, 1992, "DOE Guideline, Root Cause Analysis Guidance Document," DOE-NE-STD-1004-92, Washington, DC.

Van Dine, D.F., 1996, Debris Flow Control Structures for Forest Engineering: Res. Br., B.C. Min. For., Victoria B.C. Work Pap. p8/1996.

# PLATES

PLOT 1:1  
DRAWN BY  
B.F.R. 02/24/06  
CHECKED BY JPO  
APPROVED BY JPO  
2-24-06  
2-24-06  
CAD FILE NUMBER 06-3551-E303

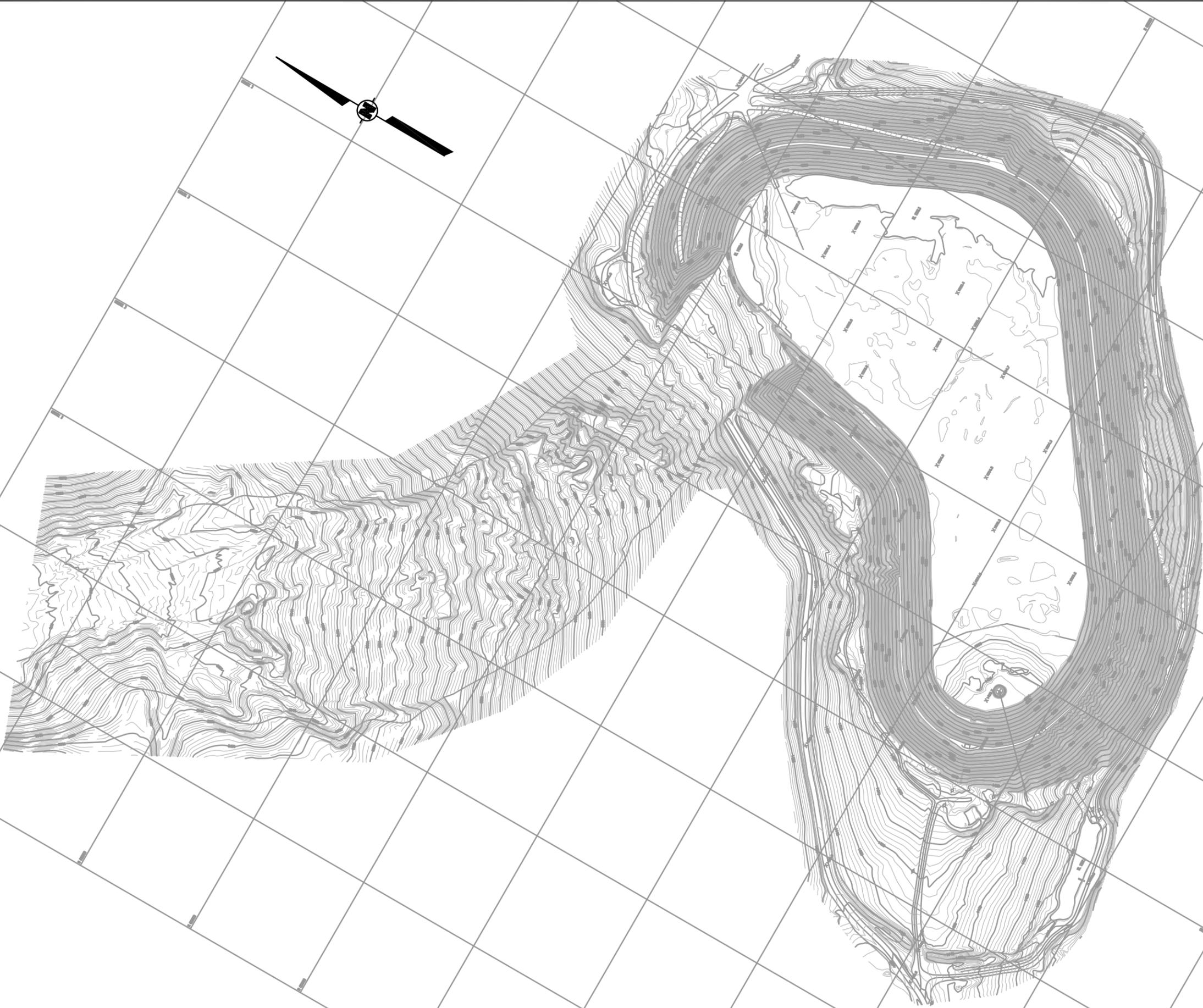


PLATE 2.1  
SITE TOPOGRAPHIC MAP  
TAUM SAUK PLANT  
UPPER RESERVOIR DIKE  
PREPARED FOR  
FOLEY & LARDNER LLP  
MILWAUKEE, WISCONSIN

REFERENCE:  
TOPO TAKEN FROM SURDEX CORPORATION, JOB NO. 1501211/62  
DRAWING TAUM SAUK RESERVOIR SHEET 1 OF 1. DATE OF  
PHOTOGRAPHY 12/19/2005



**LEGEND:**

- RHY1-PORPHYRITIC RHYOLITE, very dark red to very dusky purple, aphanitic groundmass with 0.5-5mm feldspar phenocrysts, 0.5-2mm quartz phenocrysts, hard to very hard when fresh or slightly weathered, moderately to intensely fractured, 60% of mapped area is exposure of fresh to slightly weathered rock, 20% highly weathered rock, and 20% residual soil.
- RHY2- RHYOLITE, aphanitic, light red to moderate pink, fresh to slightly weathered, hard to very hard.
- SOIL - residual and/or detrital soil. Residual soil contains abundant roots and is silt with clay (plasticity not noted). Detritus includes 1-6 inch rocks pressed into silt with clay. Soil is 0.1 to 1.6 feet thick. Some zones grade into weathered rock, approximately 20% of foundation area is covered with soil.
- BR - Breccia/damage zone.
- BZ - "Baked" zone recrystallized by contact metamorphism.

- FEATURE TYPE (F=Fracture, SZ=shear zone, sense of offset not determined)
- ^ F-22 - GEOLOGIC FEATURE NUMBERS (NOTE: Descriptions included in tables)
- ∇ FEATURE NUMBER
- Dip and dip direction of banding.
  - Dip and dip direction of fracture.
  - Dip and dip direction of inclined fault.
  - Left lateral apparent offset.
  - Right lateral apparent offset.
  - Plunge and plunge direction of slickensides.



PLATE 3.1  
BREACH AREA FOUNDATION  
GEOLOGIC MAP  
TAUM SAUK PLANT  
UPPER RESERVOIR DIKE  
PREPARED FOR  
FOLEY & LARDNER LLP  
MILWAUKEE, WISCONSIN



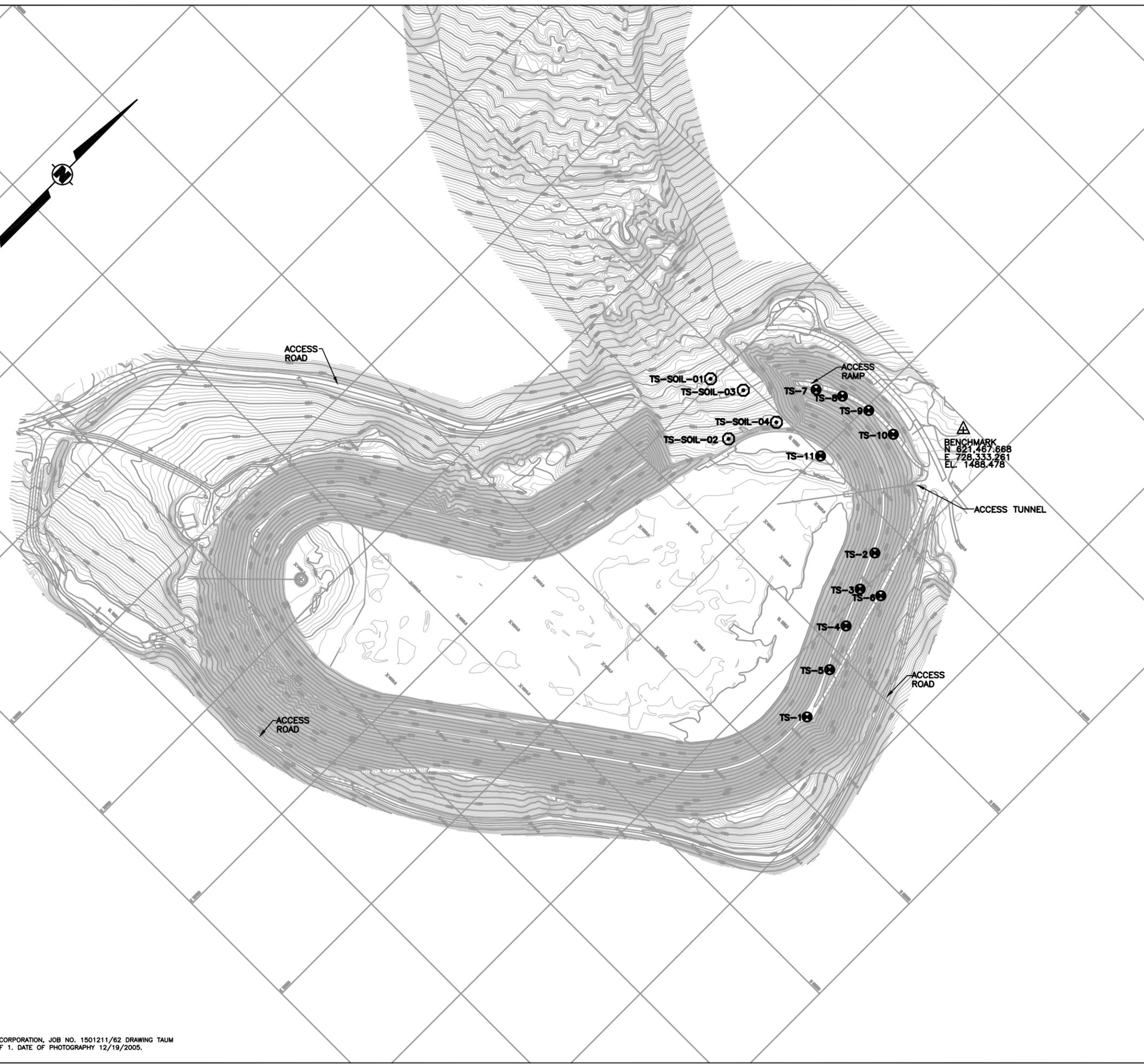
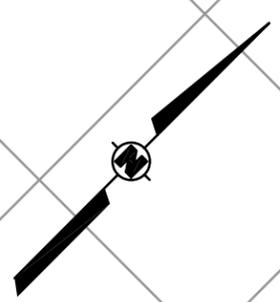
**LEGEND:**

- GOOD ROCK, Rock Mass Rating RMR 80-61.
- FAIR ROCK, rock mass rating 60-41.
- POOR ROCK, rock mass rating 40-21.
- Soil; residual and/or detrital soil. Residual soil contains abundant roots and is silt with clay (plasticity not noted). Detritus includes 1-6 inch rocks pressed into silt with clay. Soil is 0.1 to 1.6 feet thick. Some zones grade into weathered rock, approximately 20% of foundation area is covered with soil.
- BR - Breccia/damage zone.
- BZ - "Baked" zone recrystallized by contact metamorphism.

- FEATURE TYPE (F=Fracture, SZ=shear zone, sense of offset not determined)
- ^ F-22 - GEOLOGIC FEATURE NUMBERS (NOTE: Descriptions included in tables)
- ∇ FEATURE NUMBER
- Dip and dip direction of banding.
  - Dip and dip direction of fracture.
  - Dip and dip direction of inclined fault.
  - Left lateral apparent offset.
  - Right lateral apparent offset.
  - Plunge and plunge direction of slickensides.

PLATE 3.2  
BREACH AREA FOUNDATION  
ENGINEERING PROPERTIES MAP  
TAUM SAUK PLANT  
UPPER RESERVOIR DIKE  
PREPARED FOR  
FOLEY & LARDNER LLP  
MILWAUKEE, WISCONSIN

PLOT 1:1  
 DRAWN BY  
 JFB 02/20/06  
 CHECKED BY JPO  
 APPROVED BY JPO  
 2-24-06  
 2-24-06  
 CAD FILE NUMBER 06-3551-E304



**LEGEND**

- TS-SOIL-01 PCRA SOIL SAMPLE LOCATION AND DESIGNATION
- TS-1 PCRA BORING LOCATION AND DESIGNATION



PLATE 7.1  
 BORING LOCATION PLAN  
 TAUM SAUK PLANT  
 UPPER RESERVOIR DIKE  
 PREPARED FOR  
 FOLEY & LARDNER  
 MILWAUKEE, WISCONSIN



REFERENCE:  
 TOPO TAKEN FROM SURDEX CORPORATION, JOB NO. 1501211/62 DRAWING TAUM SAUK RESERVOIR SHEET 1 OF 1. DATE OF PHOTOGRAPHY 12/19/2005.