

LEGEND

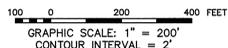
- Edge of River Pool
- Assumed Limits of Original Disposal Ponds
- (A) Original Disposal Pond Designation

NOTES:

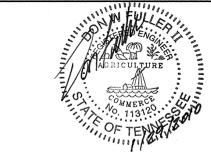
1. Topographic mapping was developed by Tuck Mapping Solutions, Inc. on March 19, 2009.
2. The Tennessee Valley Authority Surveying and Project Services performed a hydrographic survey on the Holston River on September 17, 2009 and on the Bottom Ash Disposal Area 2 on January 12, 2006.
3. The limits of the Bathtub Area were developed using drawing 10H291-3. The limits of the Original Disposal Ponds were approximated using drawing 10N295 and previous inspection reports.
4. The geotechnical information and data furnished herein are not intended as representation or warranties but are furnished for information only. It shall be distinctly understood that the Owner or Engineer will not be responsible for any deduction, interpretation or conclusion drawn therefrom. The information is made available in order that the Contractor may have ready access to the same information available to the Owner and the Engineer and is not part of this contract.

ORIGINAL DISPOSAL FACILITIES PLAN
SCALE: 1" = 200'

RECORD DRAWING



For Supporting Design Calculations see
FPG JSF FES CDX 000 000 2010 0001



Stantec
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www.stantec.com

REV	NO.	DATE	DISN	DRWN	CHKD	SUPV	RVMD	APPR	ISSD	PROJECT ID	AS CONET	REV
R 0	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ				

SCALE: 1" = 200'
EXCEPT AS NOTED

YARD

GEOTECHNICAL EXPLORATION ORIGINAL DISPOSAL FACILITIES PLAN

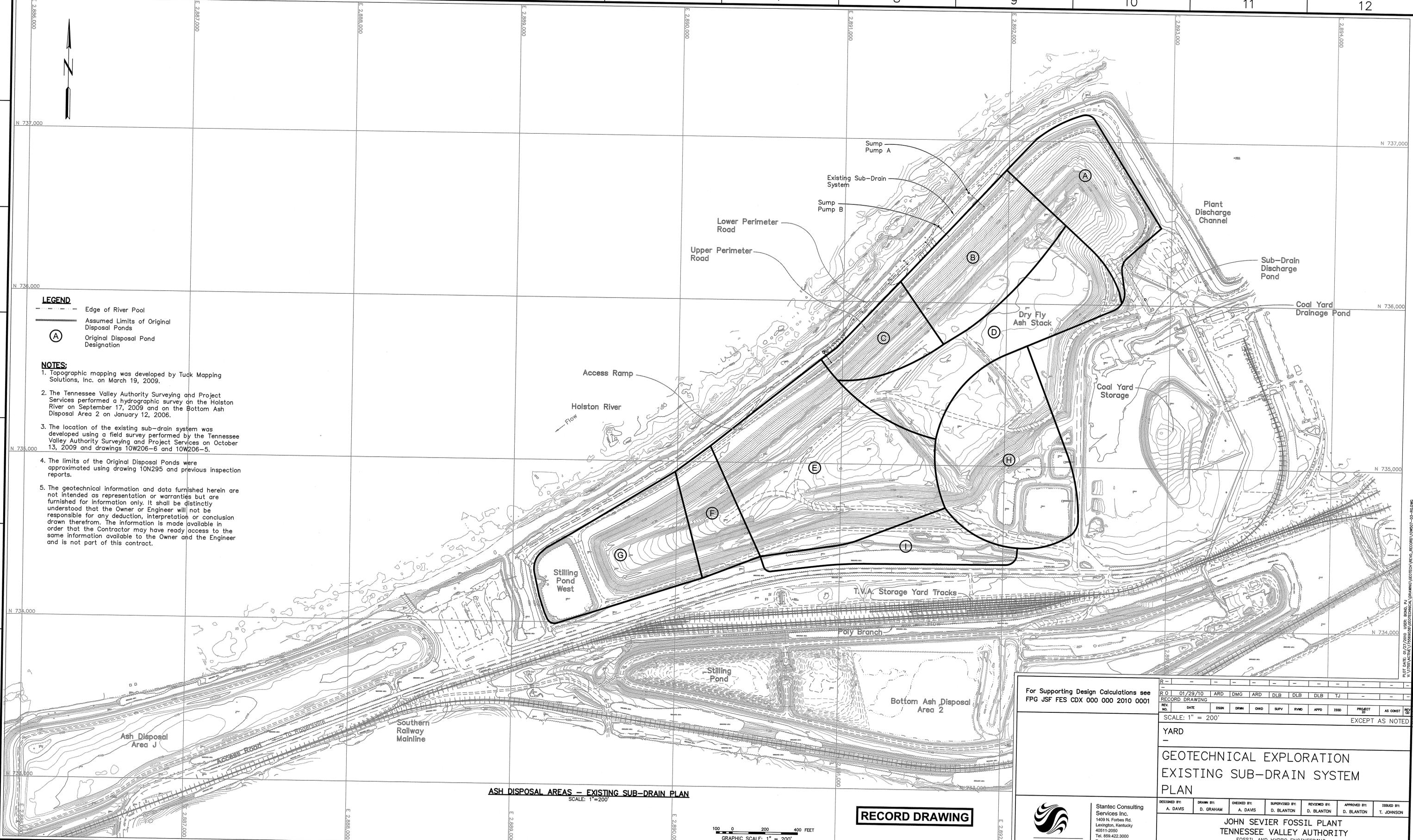
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON

JOHN SEVIER FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

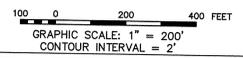


- LEGEND**
- - - - Edge of River Pool
 - Assumed Limits of Original Disposal Ponds
 - (A) Original Disposal Pond Designation

- NOTES:**
1. Topographic mapping was developed by Tuck Mapping Solutions, Inc. on March 19, 2009.
 2. The Tennessee Valley Authority Surveying and Project Services performed a hydrographic survey on the Holston River on September 17, 2009 and on the Bottom Ash Disposal Area 2 on January 12, 2006.
 3. The location of the existing sub-drain system was developed using a field survey performed by the Tennessee Valley Authority Surveying and Project Services on October 13, 2009 and drawings 10W206-6 and 10W206-5.
 4. The limits of the Original Disposal Ponds were approximated using drawing 10N295 and previous inspection reports.
 5. The geotechnical information and data furnished herein are not intended as representation or warranties but are furnished for information only. It shall be distinctly understood that the Owner or Engineer will not be responsible for any deduction, interpretation or conclusion drawn therefrom. The information is made available in order that the Contractor may have ready access to the same information available to the Owner and the Engineer and is not part of this contract.



ASH DISPOSAL AREAS - EXISTING SUB-DRAIN PLAN
SCALE: 1" = 200'



RECORD DRAWING

For Supporting Design Calculations see
FPG JSF FES CDX 000 000 2010 0001

REV. NO.	DATE	DESIGN	DRAWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT	AS CONST	REV

DESIGNED BY: A. DAVIS
 DRAWN BY: D. GRAHAM
 CHECKED BY: A. DAVIS
 SUPERVISED BY: D. BLANTON
 REVIEWED BY: D. BLANTON
 APPROVED BY: D. BLANTON
 ISSUED BY: T. JOHNSON

SCALE: 1" = 200'	EXCEPT AS NOTED
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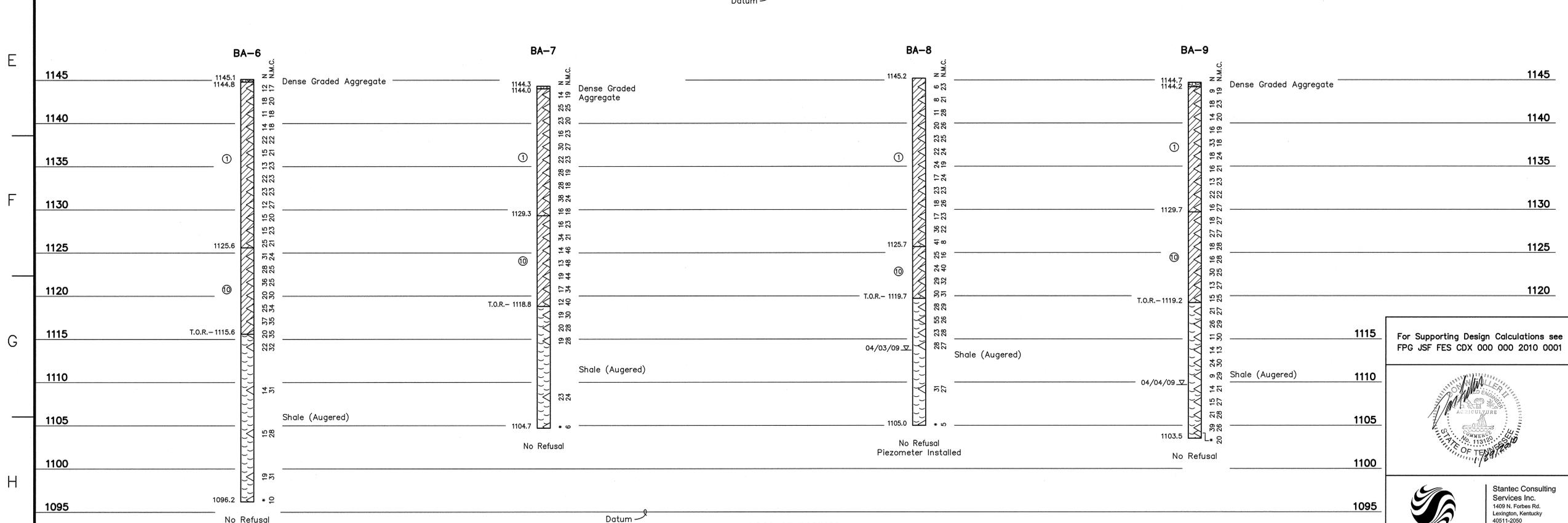
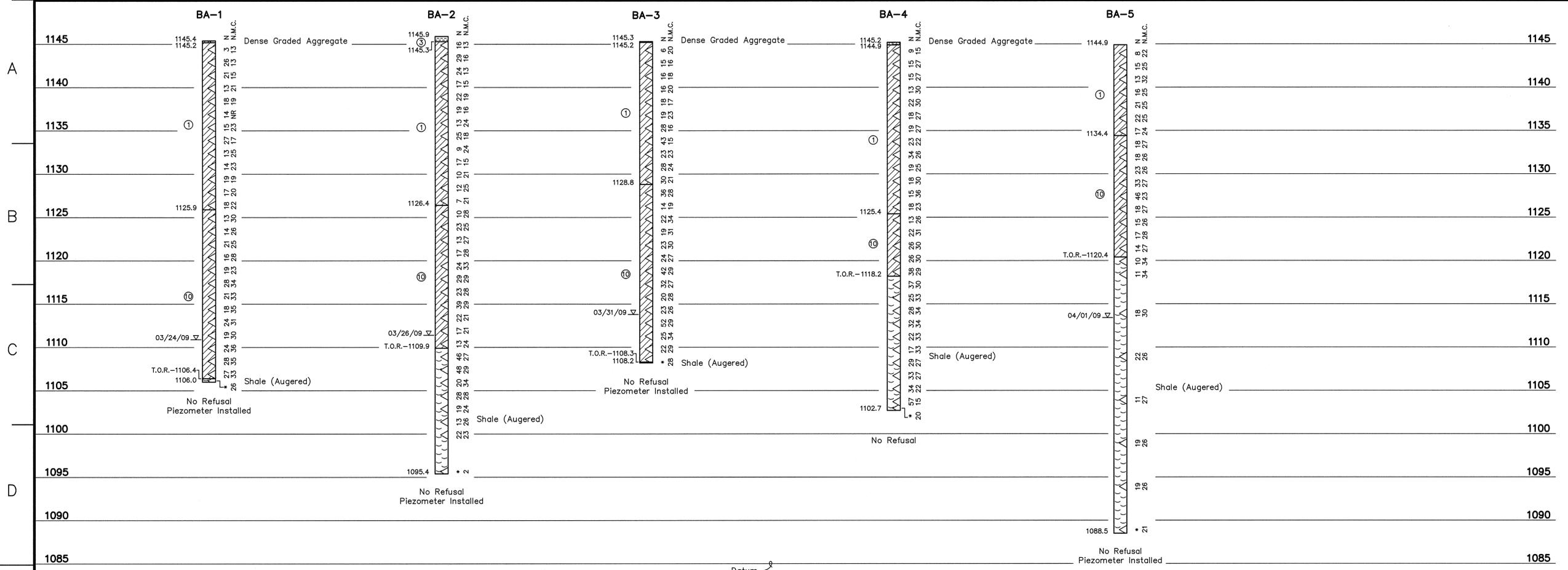
YARD
GEOTECHNICAL EXPLORATION
EXISTING SUB-DRAIN SYSTEM
PLAN

DESIGNED BY: A. DAVIS	DRAWN BY: D. GRAHAM	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING						
AUTOCAD R 2000	DATE: 01/29/10	41	C	10W507-03	R 0	



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PLOT DATE: 01/27/2010 USER: BOND, D1



- LEGEND**
- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
 - ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Δ Standard Penetration Test Interval
 ■ Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 Water Level and Date Recorded
 T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C. Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

GEOTECHNICAL NOTE:
 The boring logs and related information shown on this drawing depict approximate subsurface conditions only at the specific boring locations noted and at the time of drilling. Conditions at other locations may differ from those occurring at the boring locations. Also, the passage of time may result in a change in the subsurface conditions at the boring locations. Any correlations shown between borings are generally based on straight line interpolation. Actual conditions between borings are unknown and may differ from those shown.

RECORD DRAWING

For Supporting Design Calculations see
 FPG JSF FES CDX 000 000 2010 0001

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DESIGNED BY: A. DAVIS	DRAWN BY: R. ELLISON	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING						
AUTOCAD R 2000	DATE: 07/29/10	41	C	10W507-04	R 0	

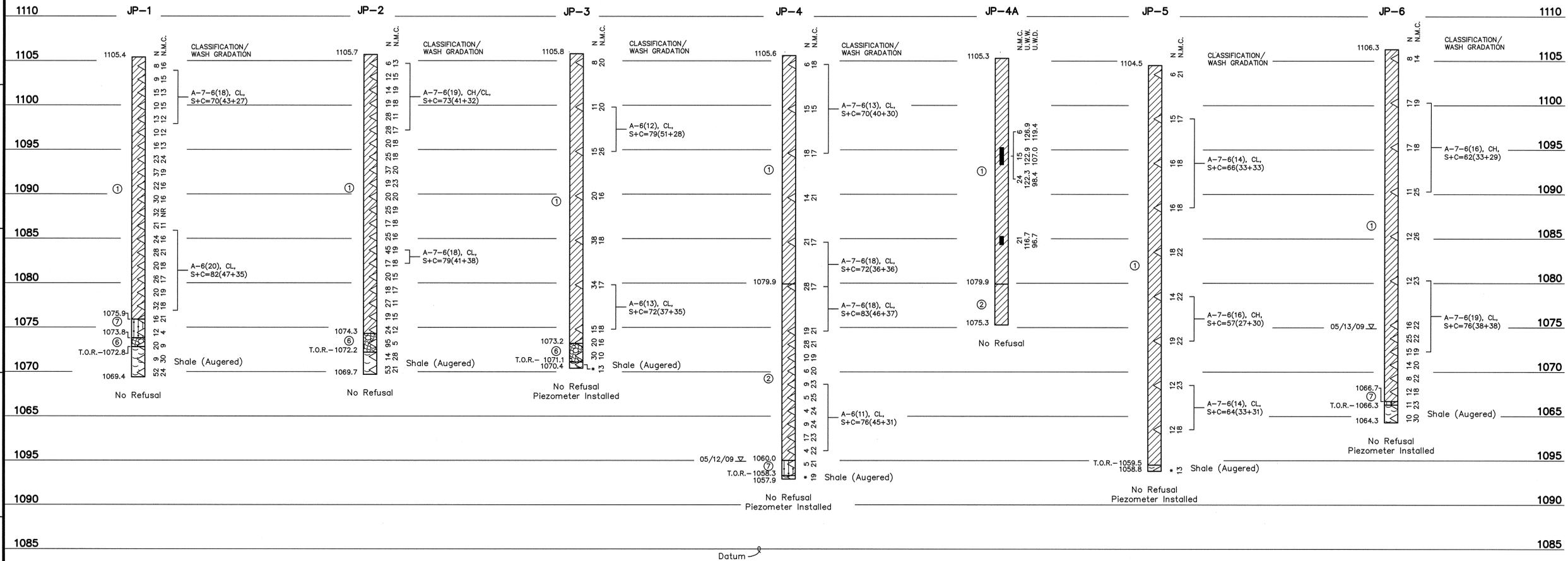
LOGS OF BORINGS
 SCALE: 1"=5' (VERTICAL ONLY)

A
B
C
D
E
F
G
H

A
B
C
D
E
F
G
H

LEGEND

- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- ③ Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
- ④ Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
- ⑤ Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- ⑥ Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
- ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
- WR Weight of Rods
- NR No Recovery
- Standard Penetration Test Interval
- N Undisturbed Thin-Walled (Shelby) Tube Sample
- N.M.C. Natural Moisture Content (%)
- U.W.W. Unit Weight Wet (lbs./cu.ft.)
- U.W.D. Unit Weight Dry (lbs./cu.ft.)
- U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
- U.C. Unconfined Compressive Strength (psf)
- U.U. Unconsolidated Undrained Triaxial Test (psf)
- 03/31/09 U. Water Level and Date Recorded
- T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
- B.C. Begin Rock Core
- R.Q.D. Rock Quality Designation (%)
- REC. Recovery (%)
- Refusal Auger Refusal using a carbide-tipped tooth auger bit
- No Refusal No Refusal Encountered
- * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.



GEOTECHNICAL NOTE:
The boring logs and related information shown on this drawing depict approximate subsurface conditions only at the specific boring locations noted and at the time of drilling. Conditions at other locations may differ from those occurring at the boring locations. Also, the passage of time may result in a change in the subsurface conditions at the boring locations. Any correlations shown between borings are generally based on straight line interpolation. Actual conditions between borings are unknown and may differ from those shown.

RECORD DRAWING

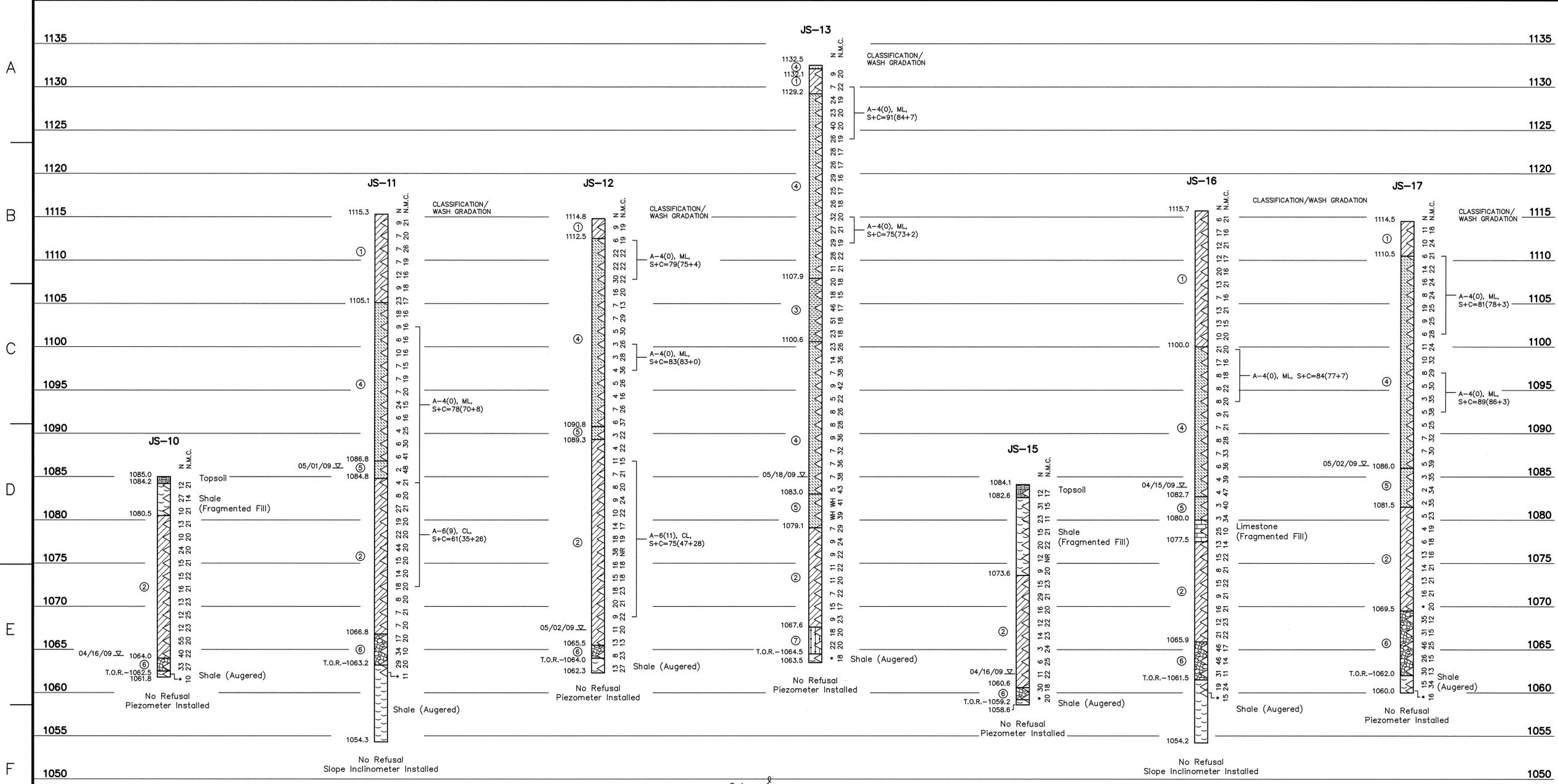
For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001

STANTEC CONSULTING SERVICES INC. 1409 N. FORBES RD. LEXINGTON, KY 40511-2050 TEL: 859.422.3000 FAX: 859.422.3100 WWW.STANTEC.COM

JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING

DESIGNED BY: A. DAVIS	DRAWN BY: RELISSON	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON
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AUTOCAD R 2000 DATE 01/29/10 41 C 10W507-05 R 0



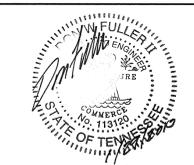
- LEGEND**
- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
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 - ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
 - ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Standard Penetration Test Interval
 Undisturbed Thin-Walled (Shelby) Tube Sample
 Standard Penetration Test Blow Count (blows/ft.)
 N Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 SW Water Level and Date Recorded
 T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C. Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

GEOTECHNICAL NOTE:
 The boring logs and related information shown on this drawing depict approximate subsurface conditions only at the specific boring locations noted and at the time of drilling. Conditions at other locations may differ from those occurring at the boring locations. Also, the passage of time may result in a change in the subsurface conditions at the boring locations. Any correlations shown between borings are generally based on straight line interpolation. Actual conditions between borings are unknown and may differ from those shown.

LOGS OF BORINGS
 SCALE: 1"=5' (VERTICAL ONLY)

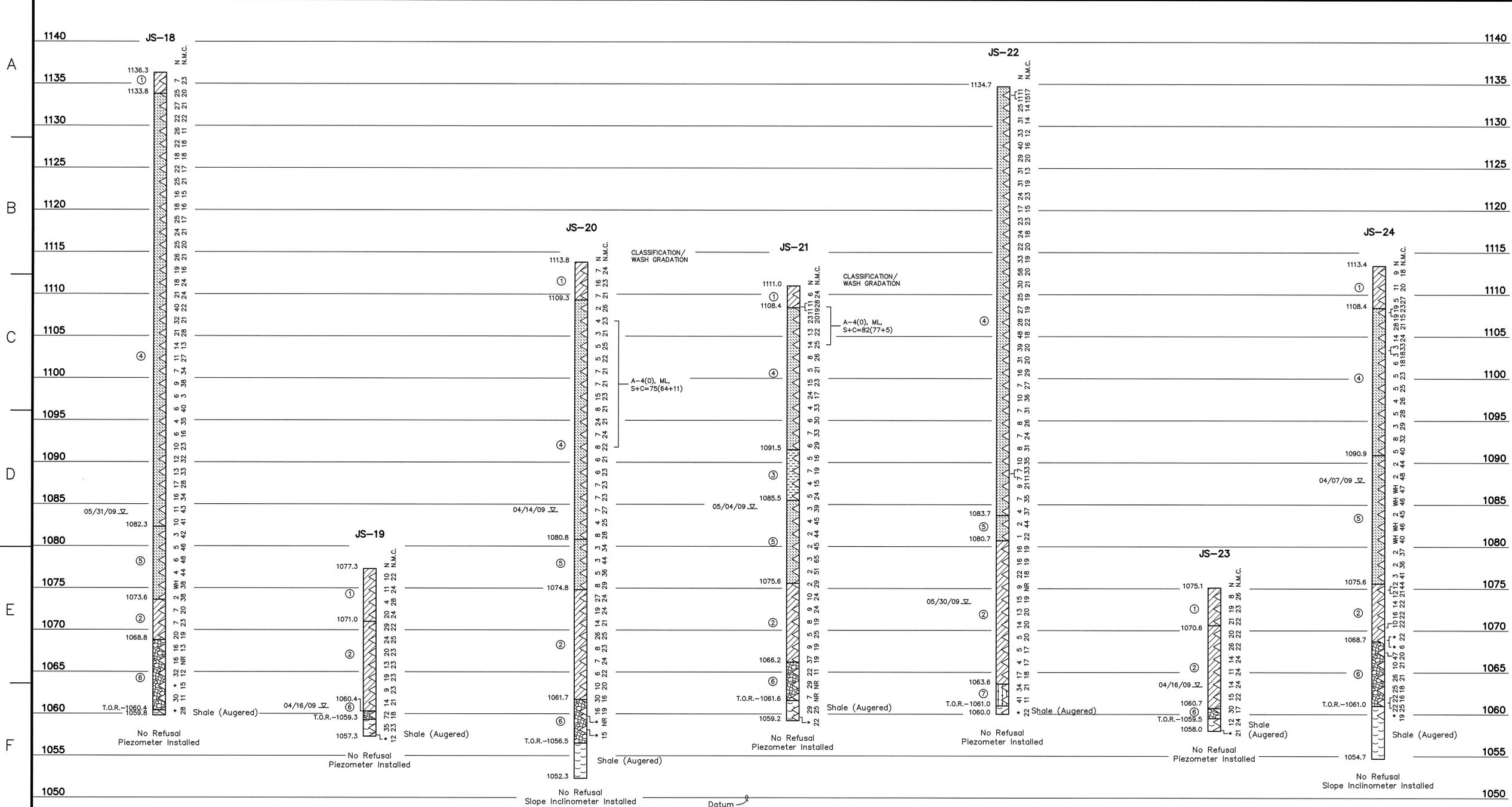
RECORD DRAWING

For Supporting Design Calculations see
 FPG JSF FES CDX 000 000 2010 0001



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RECORD DRAWING	DATE: 01/29/10	DSGN: ARD	DRWN: RWL	CHKD: ARD	SUPV: DLB	RVD: DLB	APPD: DLB	ISSD: TJ	PROJECT: --	AS CONST: --	DATE: --	BY: --
SCALE: AS SHOWN EXCEPT AS NOTED												
YARD												
GEOTECHNICAL EXPLORATION DRY FLY ASH STACK LOGS OF BORINGS												
DESIGNED BY: A. DAVIS	DRAWN BY: R. ELLISON	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON						
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING												
AUTOCAD R 2000	DATE: 01/29/10	41	C	10W507-06				R 0				



- LEGEND**
- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
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 - ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, very soft to hard, with trace gravels and manganese concretions
 - ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Δ Standard Penetration Test Interval
 ■ Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
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 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

GEOTECHNICAL NOTE:
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RECORD DRAWING

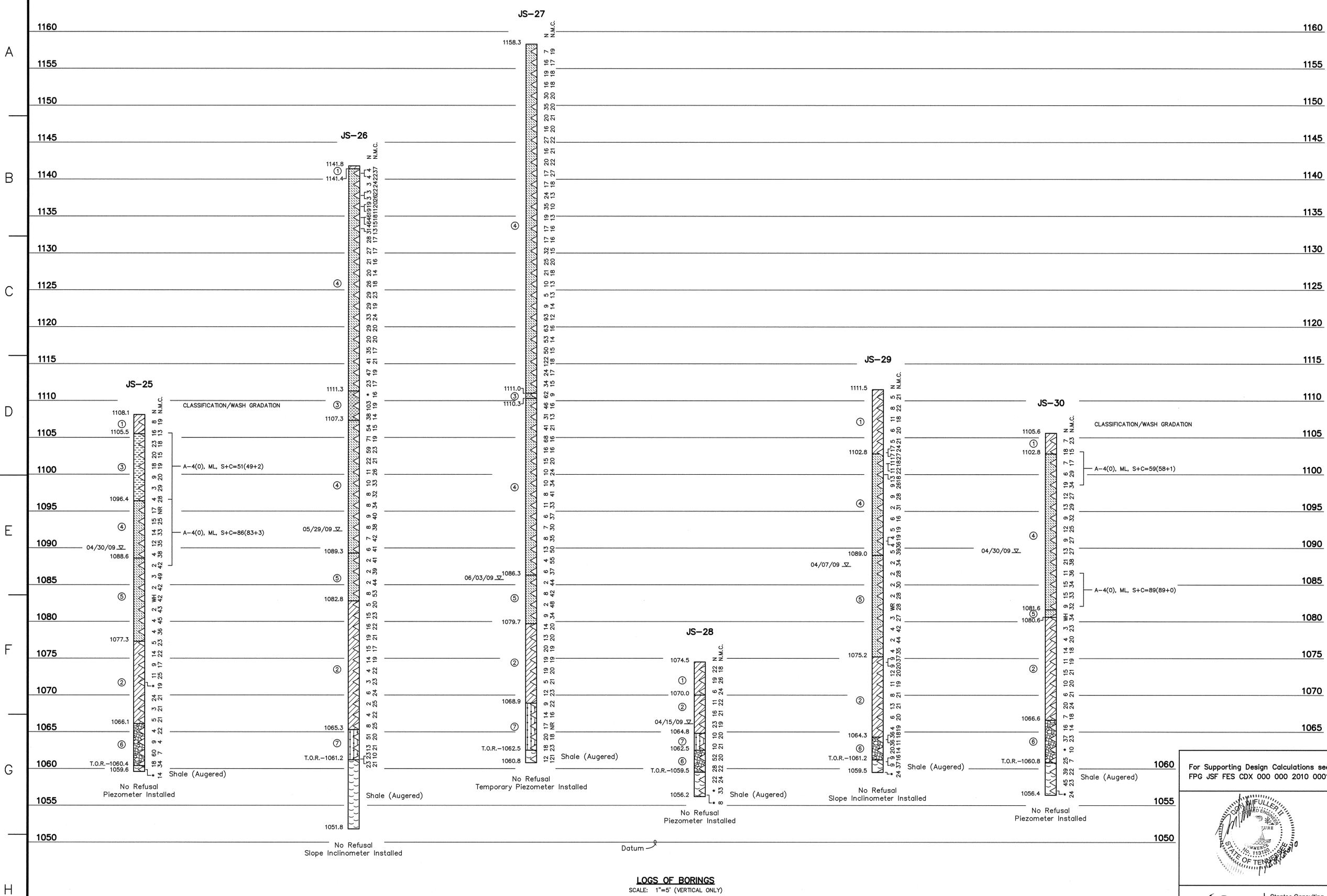
For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001

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DESIGNED BY: A. DAVIS
DRAWN BY: R. ELLISON
CHECKED BY: A. DAVIS
SUPERVISED BY: D. BLANTON
REVIEWED BY: D. BLANTON
APPROVED BY: D. BLANTON
ISSUED BY: T. JOHNSON

JOHN SEVIER FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2000 DATE: 01/29/10 41 C 10W507-07 R 0



LEGEND

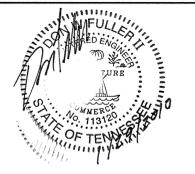
- Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
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WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Standard Penetration Test Interval
 Standard Penetration Test Blow Count (blows/ft.)
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 W Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
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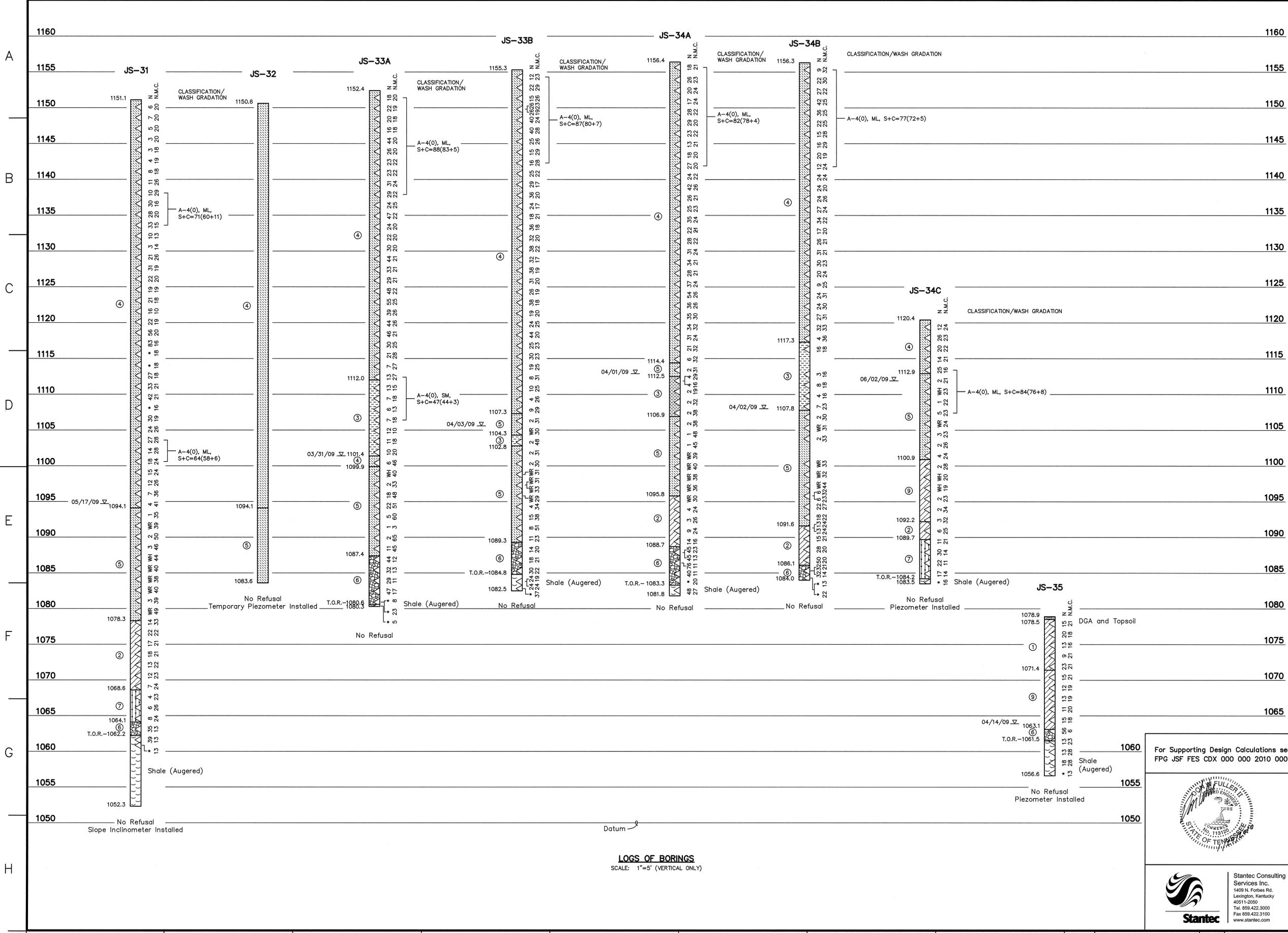
RECORD DRAWING

For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001



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RECORD DRAWING	DATE	DSGN	DRWN	CHKD	SUPV	RWMD	APPR	ISSD	PROJECT	AS CONST	REV
SCALE: AS SHOWN	EXCEPT AS NOTED										
YARD											
GEOTECHNICAL EXPLORATION											
DRY FLY ASH STACK											
LOGS OF BORINGS											
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:					
A. DAVIS	R. ELLISON	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON					
JOHN SEVIER FOSSIL PLANT											
TENNESSEE VALLEY AUTHORITY											
FOSSIL AND HYDRO ENGINEERING											
AUTOCAD R 2000	DATE	41	C	10W507-08	R 0						



LEGEND

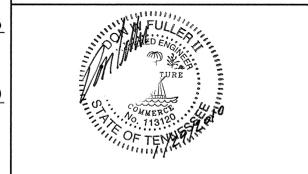
- Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
- Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
- Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
- Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions

WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Standard Penetration Test Interval
 Undisturbed Thin-Walled (Shelby) Tube Sample
 Standard Penetration Test Blow Count (blows/ft.)
 N Natural Moisture Content (%)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 Water Level and Date Recorded
 T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C. Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

GEOTECHNICAL NOTE:
The boring logs and related information shown on this drawing depict approximate subsurface conditions only at the specific boring locations noted and at the time of drilling. Conditions at other locations may differ from those occurring at the boring locations. Also, the passage of time may result in a change in the subsurface conditions at the boring locations. Any correlations shown between borings are generally based on straight line interpolation. Actual conditions between borings are unknown and may differ from those shown.

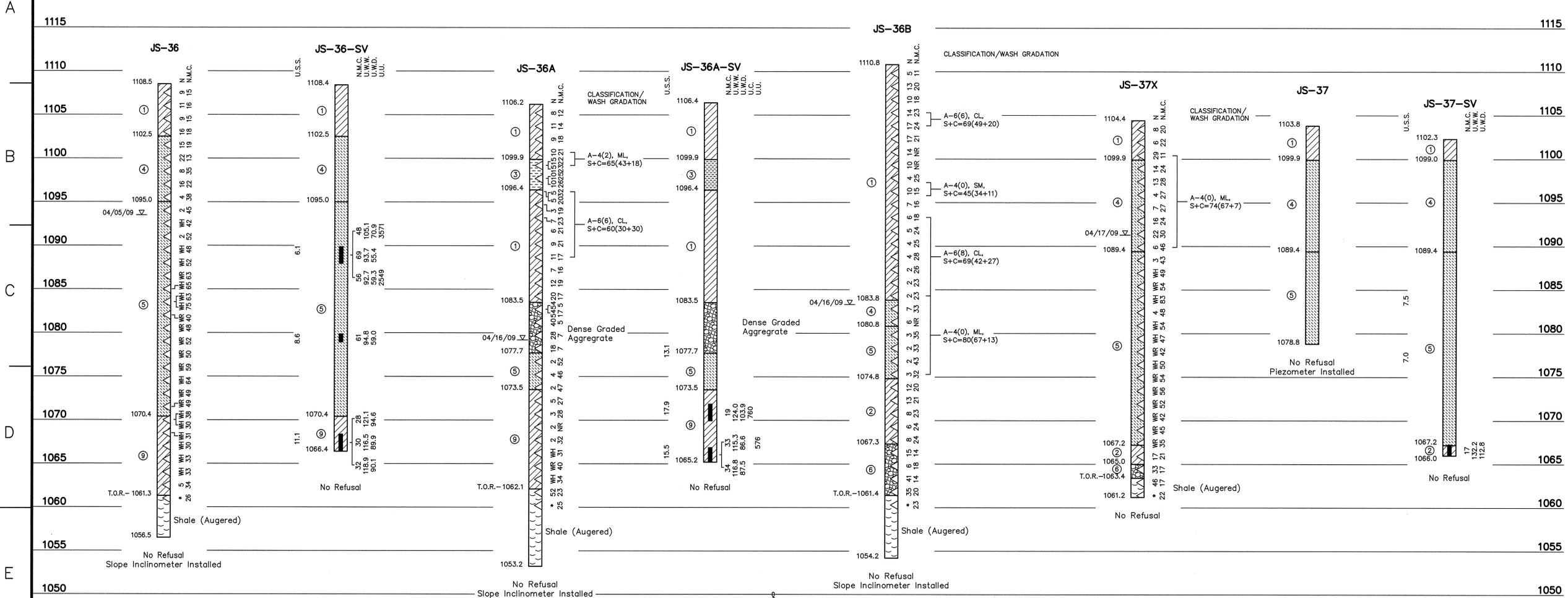
RECORD DRAWING

For Supporting Design Calculations see
FPG JSF FES CDX 000 000 2010 0001



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DESIGNED BY: A. DAVIS	DRAWN BY: R. ELLISON	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING						
AUTOCAD R 2000	DATE 01/29/10	41	C	10W507-09	R 0	



- LEGEND**
- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, moist to very stiff, with trace gravels and manganese concretions
 - ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Standard Penetration Test Interval
 Undisturbed Thin-Walled (Shelby) Tube Sample
 Standard Penetration Test Blow Count (blows/ft.)
 N Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 U.U.
 T.O.R.—
- B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

GEOTECHNICAL NOTE:
The boring logs and related information shown on this drawing depict approximate subsurface conditions only at the specific boring locations noted and at the time of drilling. Conditions at other locations may differ from those occurring at the boring locations. Also, the passage of time may result in a change in the subsurface conditions at the boring locations. Any correlations shown between borings are generally based on straight line interpolation. Actual conditions between borings are unknown and may differ from those shown.

RECORD DRAWING

For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001

RECORD DRAWING

SCALE: AS SHOWN EXCEPT AS NOTED

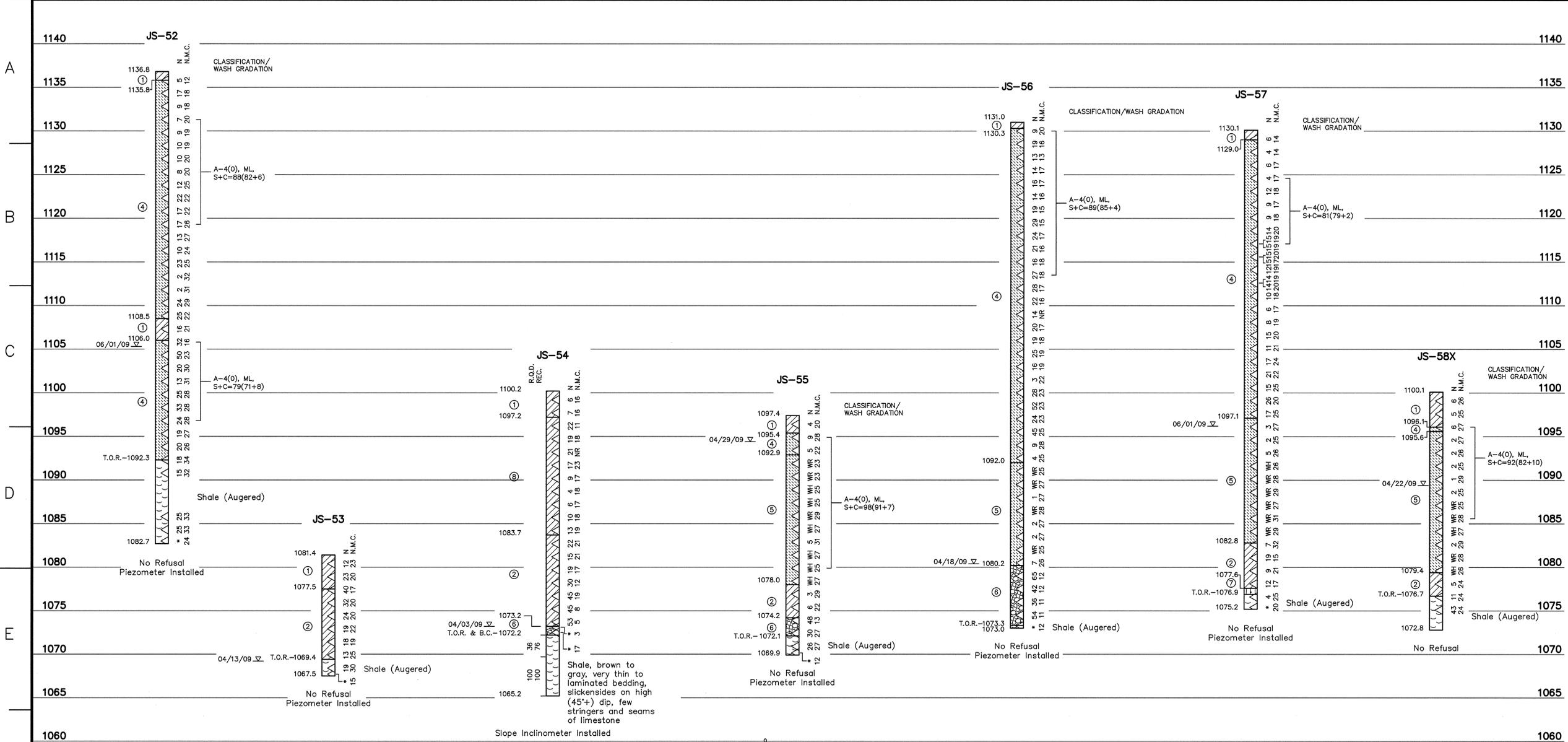
YARD

GEOTECHNICAL EXPLORATION
DRY FLY ASH STACK
LOGS OF BORINGS

DESIGNED BY: A. DAVIS	DRAWN BY: R. ELLISON	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON
-----------------------	----------------------	----------------------	---------------------------	-------------------------	-------------------------	-----------------------

JOHN SEVIER FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R. 2000 DATE 01/29/10 41 C 10W507-10 R 0



LEGEND

- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- ③ Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
- ④ Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
- ⑤ Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- ⑥ Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, moist to very dense, with trace gravels and manganese concretions
- ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions

WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 N Standard Penetration Test Interval
 U.U. Undisturbed Thin-Walled (Shelby) Tube Sample
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C. Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

GEOTECHNICAL NOTE:
 The boring logs and related information shown on this drawing depict approximate subsurface conditions only at the specific boring locations noted and at the time of drilling. Conditions at other locations may differ from those occurring at the boring locations. Also, the passage of time may result in a change in the subsurface conditions at the boring locations. Any correlations shown between borings are generally based on straight line interpolation. Actual conditions between borings are unknown and may differ from those shown.

LOGS OF BORINGS
 SCALE: 1"=5' (VERTICAL ONLY)

RECORD DRAWING

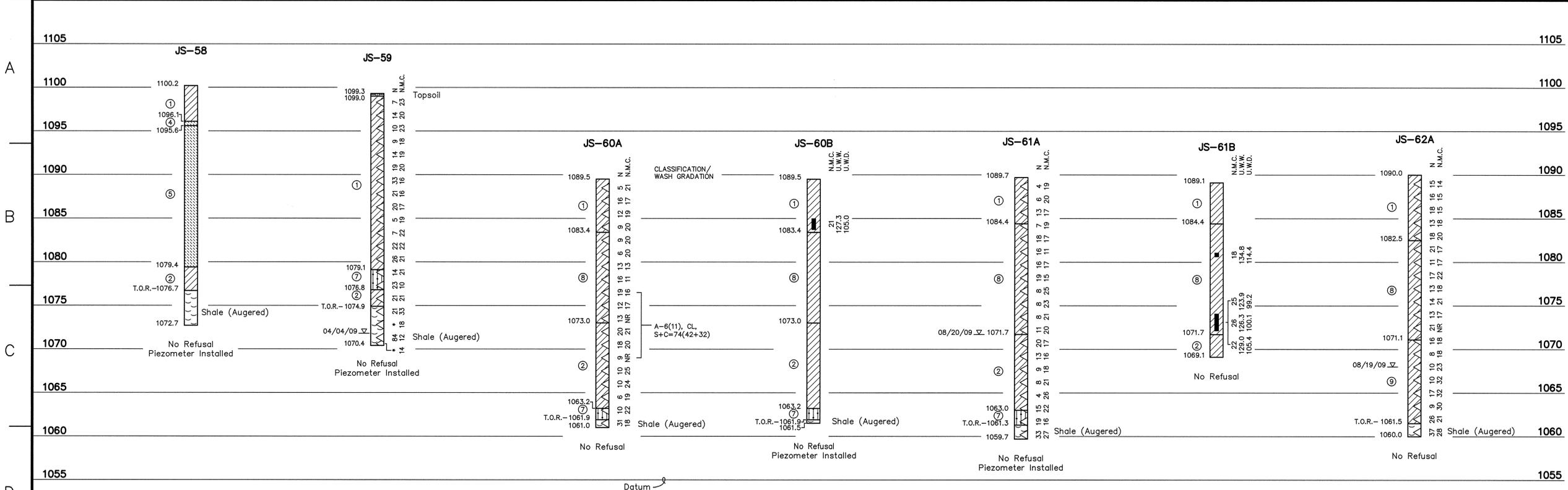
For Supporting Design Calculations see
 FPG JSF FES CDX 000 000 2010 0001



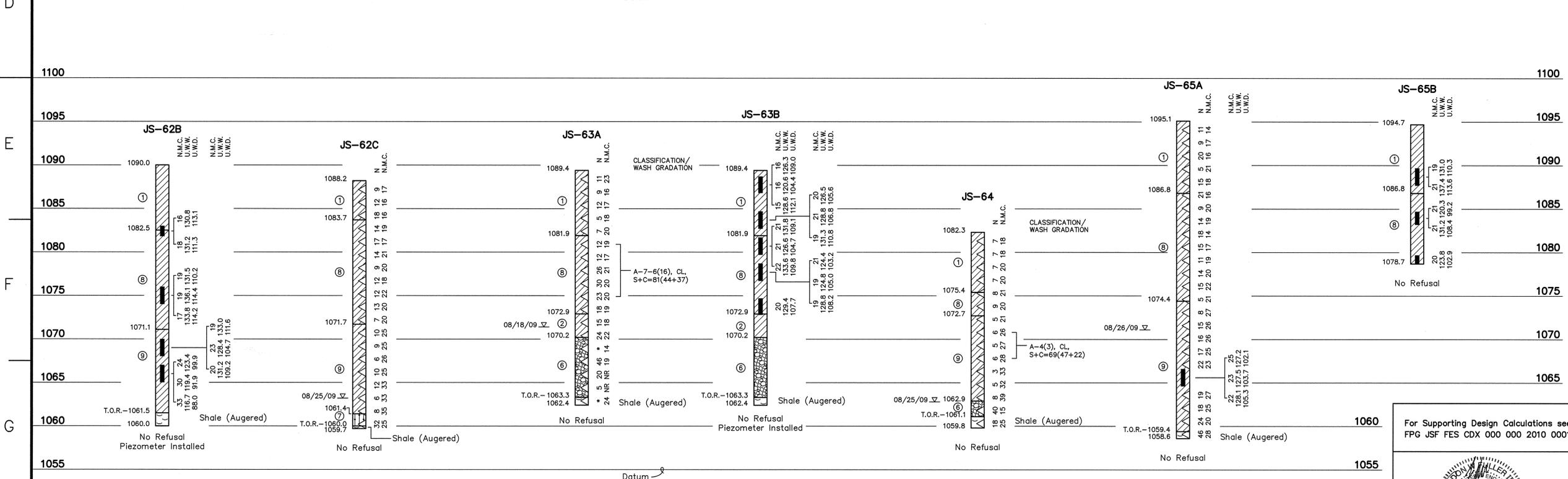
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A. DAVIS	R. ELLISON	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING						
AUTOCAD R 2000	DATE	41	C	10W507-13	R 0	

PLOT DATE: 01/27/2010 USER: BOND, P.J. V:\1955\ACTIVE\17556666\GEOTECH\VIEW\RECORD_DWG07-13.dwg



- LEGEND**
- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, moist to very stiff, with trace gravels and manganese concretions
 - ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Standard Penetration Test Interval
 Undisturbed Thin-Walled (Shelby) Tube Sample
 Standard Penetration Test Blow Count (blows/ft.)
 N N
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 Water Level and Date Recorded
 Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.- Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.



RECORD DRAWING

GEOTECHNICAL NOTE:
The boring logs and related information shown on this drawing depict approximate subsurface conditions only at the specific boring locations noted and at the time of drilling. Conditions at other locations may differ from those occurring at the boring locations. Also, the passage of time may result in a change in the subsurface conditions at the boring locations. Any correlations shown between borings are generally based on straight line interpolation. Actual conditions between borings are unknown and may differ from those shown.

LOGS OF BORINGS
SCALE: 1"=5' (VERTICAL ONLY)

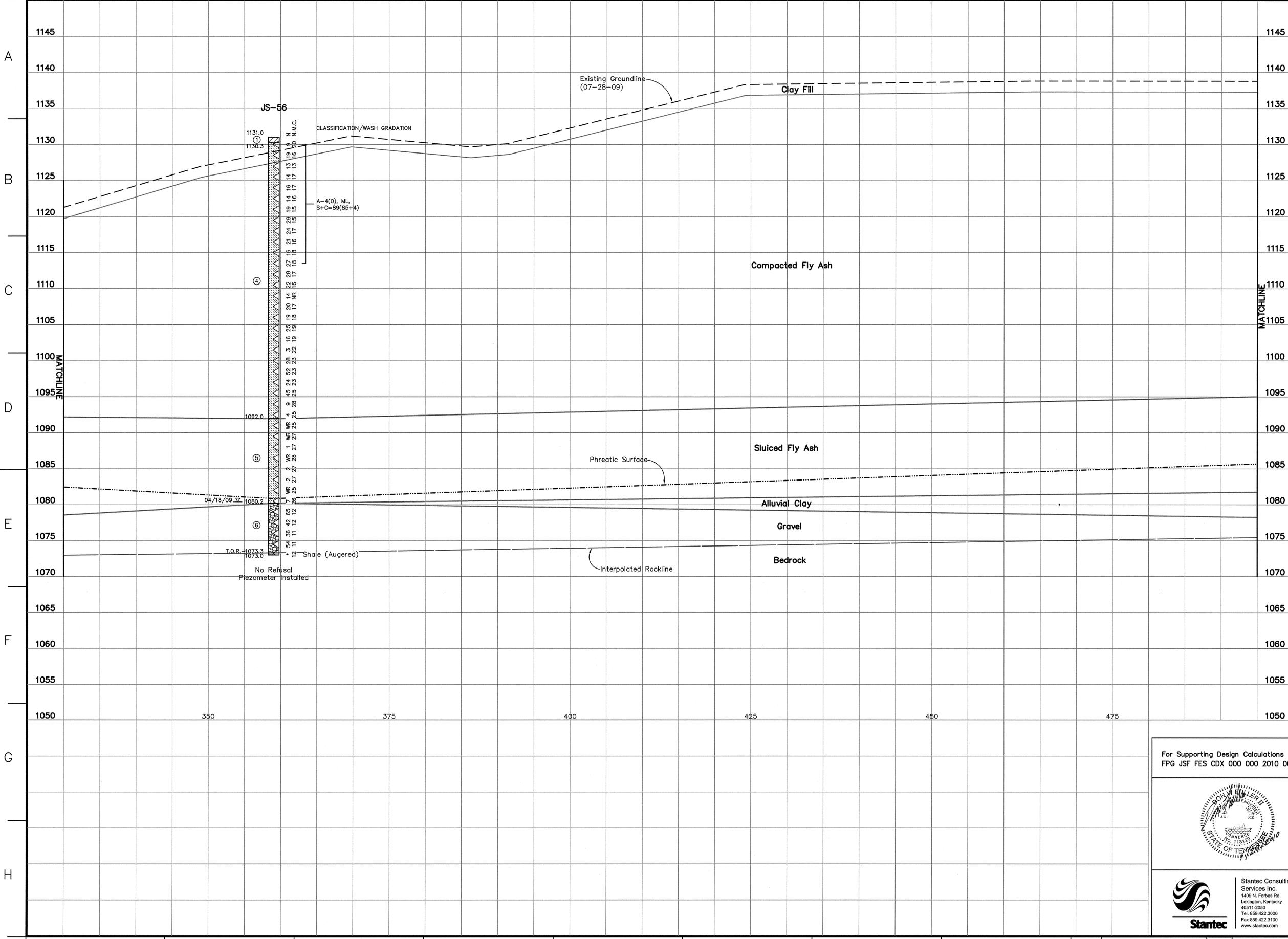
For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001

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DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
A. DAVIS	R. ELLISON	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON

JOHN SEVIER FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2000 DATE 01/29/10 41 C 10W507-14 R 0



LEGEND

- ① [Symbol] Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- ② [Symbol] Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- ③ [Symbol] Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
- ④ [Symbol] Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
- ⑤ [Symbol] Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- ⑥ [Symbol] Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- ⑦ [Symbol] Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- ⑧ [Symbol] Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
- ⑨ [Symbol] Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- ⑩ [Symbol] Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions

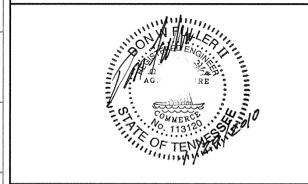
WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Δ Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09_U Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

NOTES:

- The Tennessee Valley Authority Surveying and Project Services performed a land survey on July 28, 2009 and hydrographic survey on the Holston River on September 17, 2009.
- See Geotechnical Report for references of drawings used in development of cross sections.
- The geotechnical information and data furnished herein are not intended as representation or warranties but are furnished for information only. It shall be distinctly understood that the Owner or Engineer will not be responsible for any deduction, interpretation or conclusion drawn therefrom. The information is made available in order that the Contractor may have ready access to the same information available to the Owner and the Engineer and is not part of this contract.

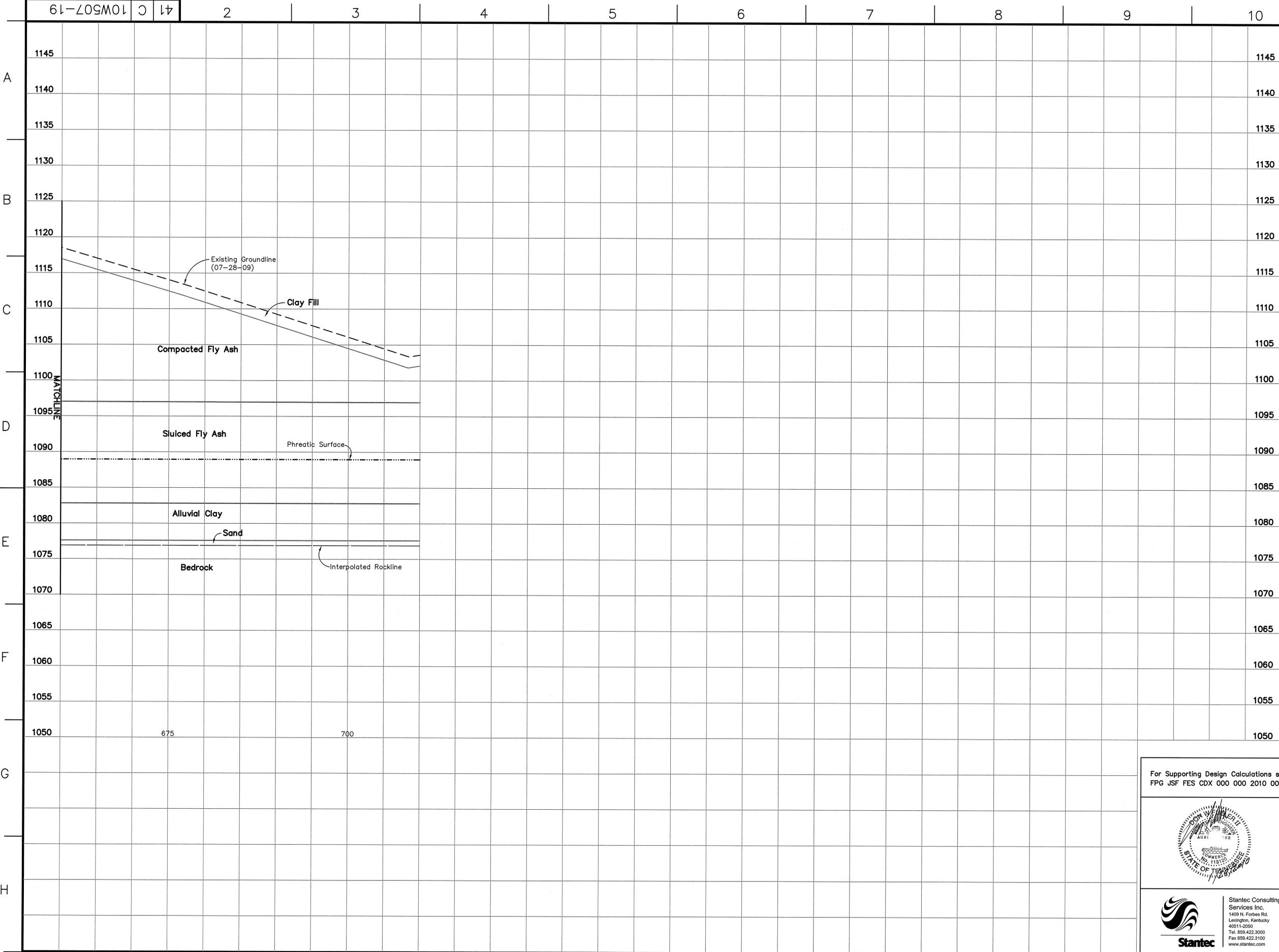
RECORD DRAWING

For Supporting Design Calculations see
FPG JSF FES CDX 000 000 2010 0001



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RECORD DRAWING	DATE	DSGN	DRWN	CHKD	SUPV	RWMD	APPR	ISSD	PROJECT	AS CONST	REV
SCALE: AS SHOWN	EXCEPT AS NOTED										
YARD											
GEOTECHNICAL EXPLORATION											
DRY FLY ASH STACK											
GEOLOGIC SECTION A-A'											
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:					
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON					
JOHN SEVIER FOSSIL PLANT											
TENNESSEE VALLEY AUTHORITY											
FOSSIL AND HYDRO ENGINEERING											
AUTOCAD R 2000	DATE	41	C	10W507-17		R 0					
PLOT FACTOR: XX											
W_TVA											
C.A.D. DRAWING DO NOT ALTER MANUALLY											



- LEGEND**
- ① [Symbol] Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② [Symbol] Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ [Symbol] Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ [Symbol] Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ [Symbol] Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ [Symbol] Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ [Symbol] Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ [Symbol] Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
 - ⑨ [Symbol] Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ [Symbol] Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 △ Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 ■ Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 U.Z. Water Level and Date Recorded
 T.O.R.- Top of Rock (indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.- Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
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 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

- NOTES:**
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RECORD DRAWING

For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001

SCALE: AS SHOWN EXCEPT AS NOTED

YARD

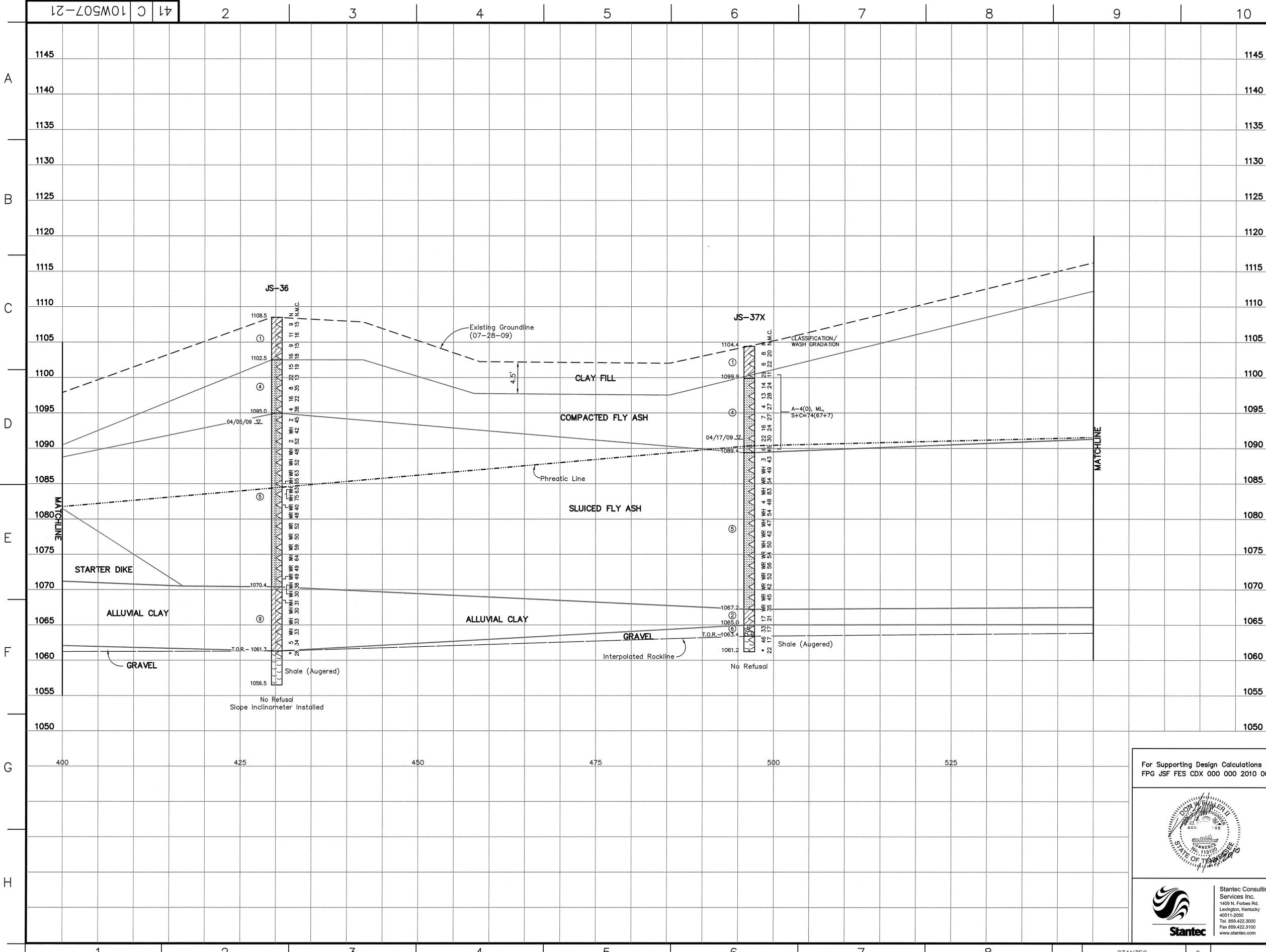
**GEOTECHNICAL EXPLORATION
DRY FLY ASH STACK
GEOLOGIC SECTION A-A'**

DESIGNED BY: A. DAVIS	DRAWN BY: D. GRAHAM	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON
--------------------------	------------------------	-------------------------	------------------------------	----------------------------	----------------------------	--------------------------

**JOHN SEVIER FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING**

AUTOCAD R 2000 DATE 01/29/10 41 C 10W507-19 R 0

PLOT DATE: 01/27/2010 USER: DONALD.P. A:\PROJECTS\10W507\10W507-19-40.dwg



LEGEND

- Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
- Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
- Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
- Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions

Abbreviations:

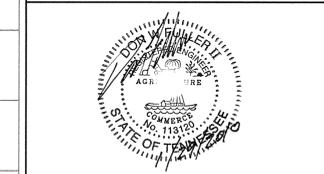
- WH: Weight of Hammer
- WR: Weight of Rods
- NR: No Recovery
- Standard Penetration Test Interval
- Undisturbed Thin-Walled (Shelby) Tube Sample
- Standard Penetration Test Blow Count (blows/ft.)
- N: Undrained Shear Strength (psi) determined from Vane Shear Testing
- N.M.C.: Natural Moisture Content (%)
- U.W.W.: Unit Weight Wet (lbs./cu.ft.)
- U.W.D.: Unit Weight Dry (lbs./cu.ft.)
- U.S.S.: Unconsolidated Undrained Triaxial Test (psf)
- U.C.: Unconfined Compressive Strength (psf)
- U.U.: Unconsolidated Undrained Triaxial Test (psf)
- 03/31/09: Water Level and Date Recorded
- T.O.R.: Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
- B.C.: Begin Rock Core
- R.Q.D.: Rock Quality Designation (%)
- REC.: Recovery (%)
- Refusal: Auger Refusal using a carbide-tipped tooth auger bit
- No Refusal: No Refusal Encountered
- *: Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

NOTES:

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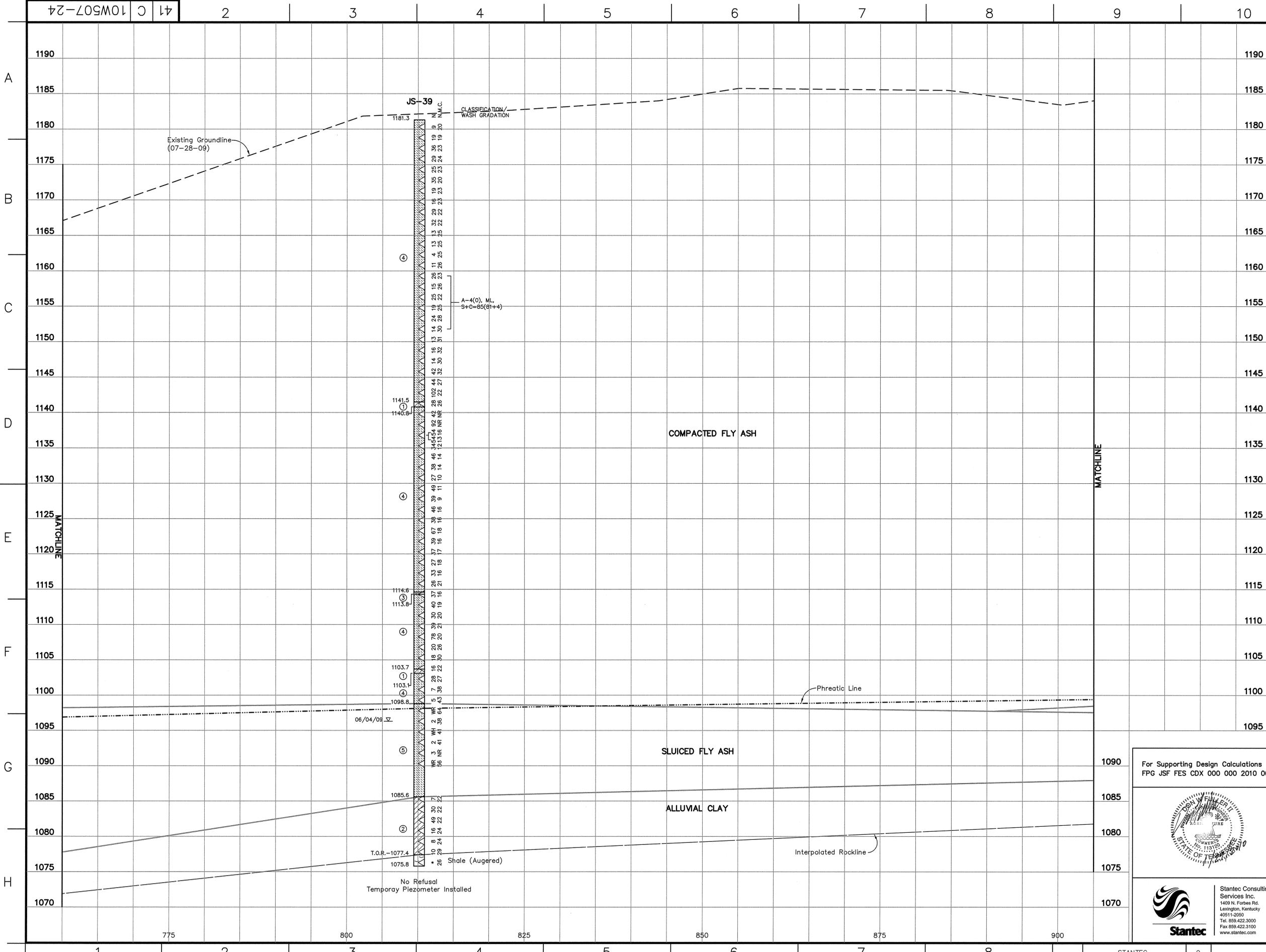
RECORD DRAWING

For Supporting Design Calculations see
 FPG JSF FES CDX 000 000 2010 0001



Stantec Consulting Services Inc.
 1409 N. Forbes Rd.
 Lexington, Kentucky 40511-2050
 Tel. 859.422.3000
 Fax 859.422.3100
 www.stantec.com

REV	NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVMG	APPR	ISSD	PROJECT	AS CONST	DATE
EXCEPT AS NOTED												
YARD												
GEOTECHNICAL EXPLORATION												
DRY FLY ASH STACK												
GEOLOGIC SECTION D-D'												
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:						
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON						
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING												
AUTOCAD R 2000	DATE	01/29/10	41	C	10W507-21	R 0						



LEGEND

- Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
- Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
- Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
- Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions

WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Standard Penetration Test Interval
 Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 W.L. Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

NOTES:

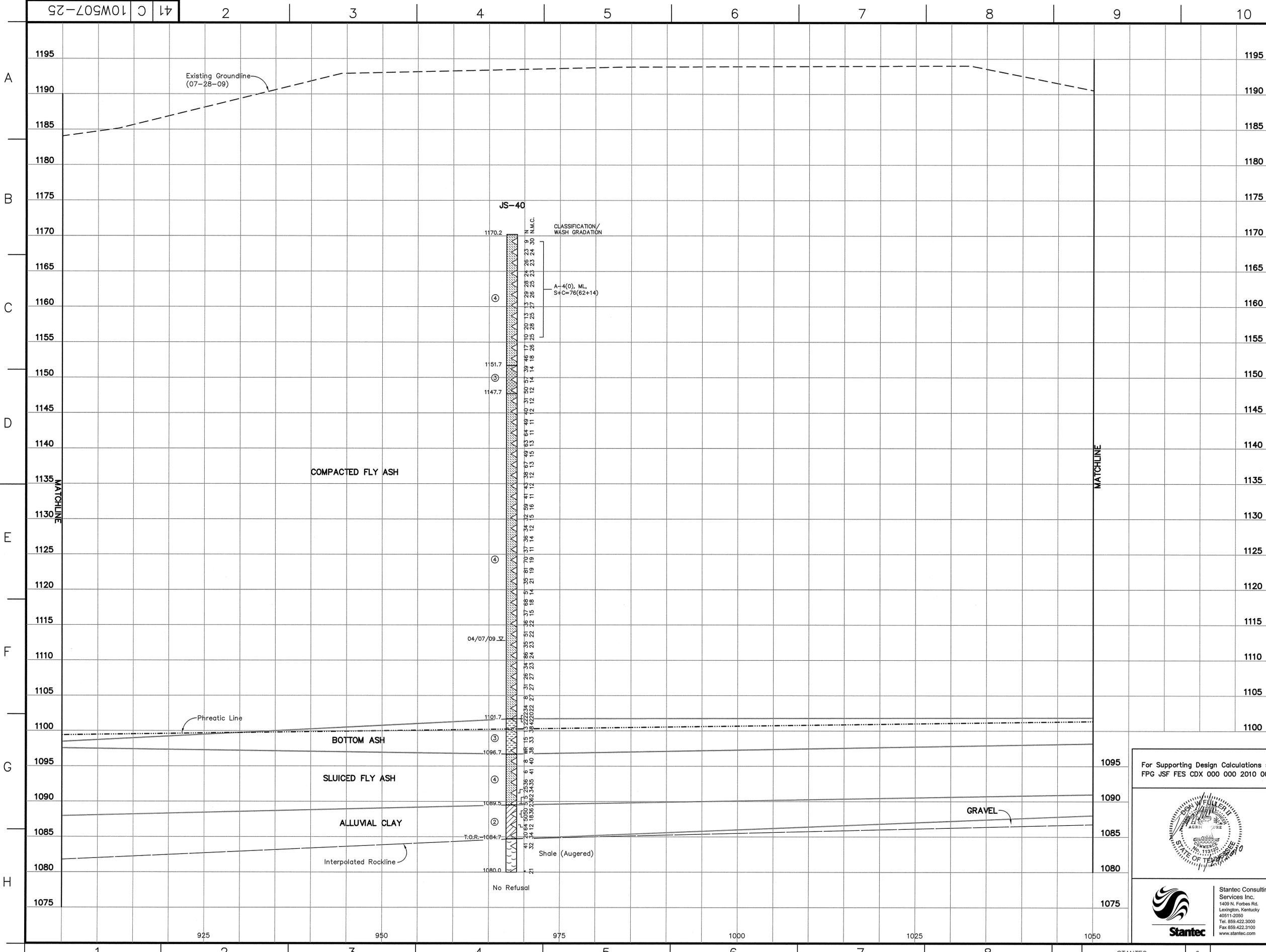
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RECORD DRAWING

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FPG JSF FES CDX 000 000 2010 0001

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REV	NO.	DATE	ISSN	DRWN	CHKD	SUPV	RVMD	APPR	ISSD	PROJECT	AS COMET	REV
R 0	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ				
SCALE: AS SHOWN EXCEPT AS NOTED												
YARD												
GEOTECHNICAL EXPLORATION												
DRY FLY ASH STACK												
GEOLOGIC SECTION D-D'												
DESIGNED BY:	DRWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:						
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON						
JOHN SEVIER FOSSIL PLANT												
TENNESSEE VALLEY AUTHORITY												
FOSSIL AND HYDRO ENGINEERING												
AUTOCAD R 2000	DATE	41	C	10W507-24				R 0				



LEGEND

- Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
- Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
- Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
- Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions

WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 < Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

NOTES:

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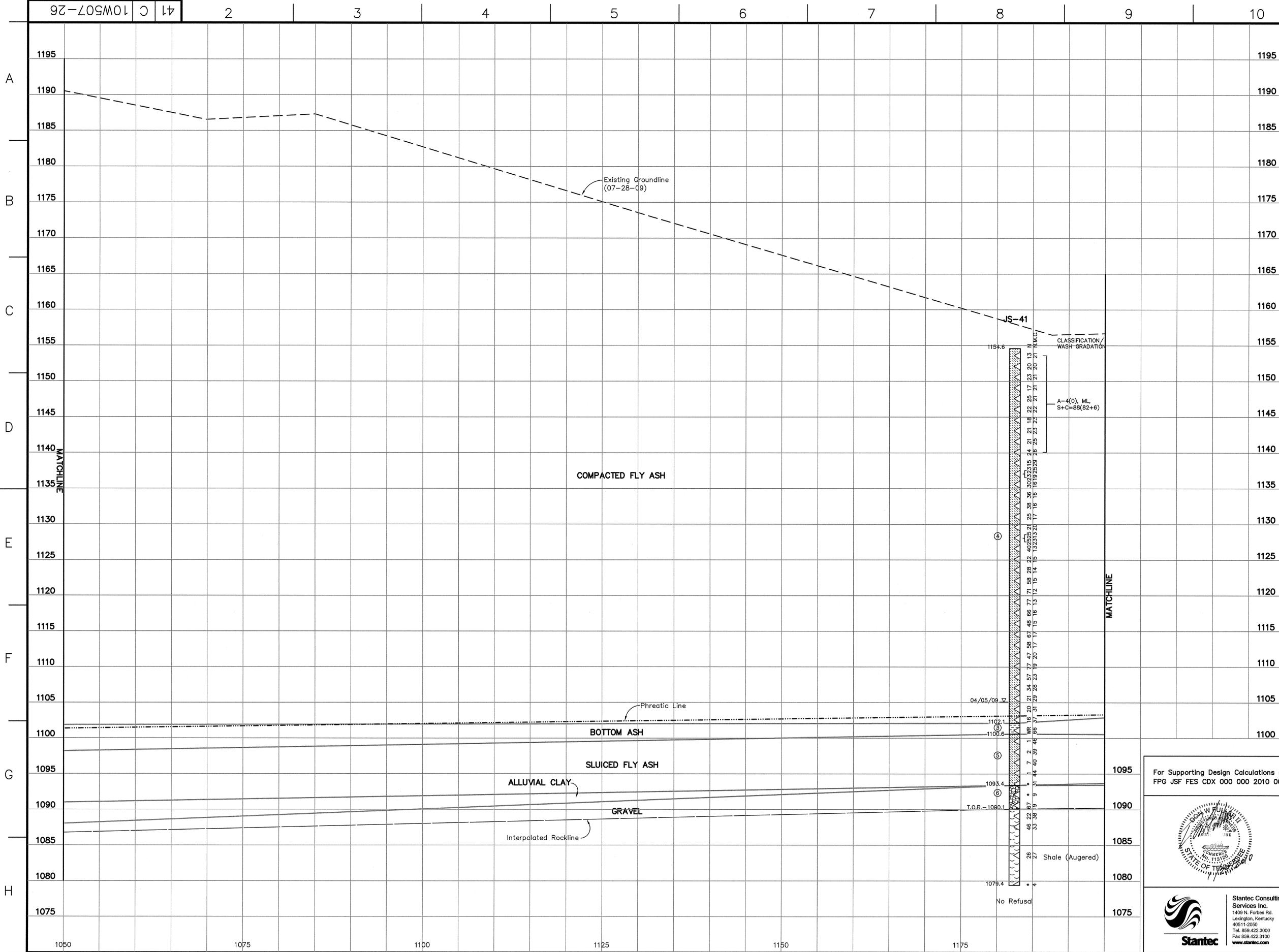
RECORD DRAWING

For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001



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REV	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPR	ISSD	PROJECT	AS CONST	BY
1	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ			
SCALE: AS SHOWN EXCEPT AS NOTED											
YARD											
GEOTECHNICAL EXPLORATION											
DRY FLY ASH STACK											
GEOLOGIC SECTION D-D'											
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:					
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON					
JOHN SEVIER FOSSIL PLANT											
TENNESSEE VALLEY AUTHORITY											
FOSSIL AND HYDRO ENGINEERING											
AUTOCAD R 2000	DATE	01/29/10	41	C	10W507-25	R 0					



LEGEND

- Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
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- Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
- Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions

WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 Water Level and Date Recorded
 T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C. Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

NOTES:

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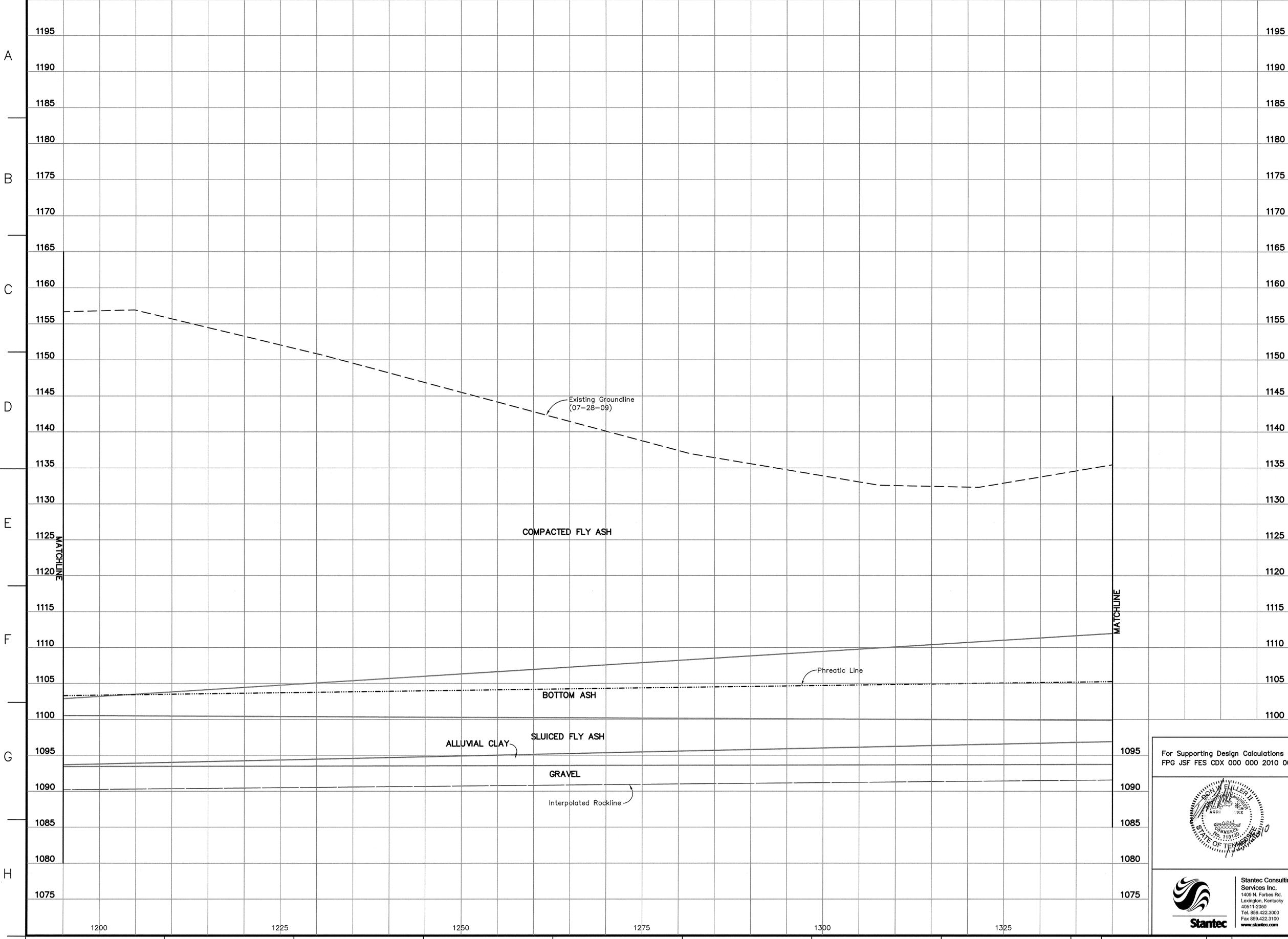
RECORD DRAWING

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RECORD DRAWING	DATE	DSGN	DRWN	CHKD	SUPV	RWMD	APPR	ISSD	PROJECT	AS CONST	DATE
	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ			
SCALE: AS SHOWN EXCEPT AS NOTED											
YARD											
GEOTECHNICAL EXPLORATION											
DRY FLY ASH STACK											
GEOLOGIC SECTION D-D'											
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:					
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON					
JOHN SEVIER FOSSIL PLANT											
TENNESSEE VALLEY AUTHORITY											
FOSSIL AND HYDRO ENGINEERING											
AUTOCAD R 2000	DATE	41	C	10W507-26			R 0				
	01/29/10										



- LEGEND**
- ① [Symbol] Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② [Symbol] Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ [Symbol] Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ [Symbol] Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
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 - ⑥ [Symbol] Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ [Symbol] Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ [Symbol] Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
 - ⑨ [Symbol] Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ [Symbol] Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 ◁ Standard Penetration Test Interval
 ▴ Undisturbed Thin-Walled (Shelby) Tube Sample
 ■ Standard Penetration Test Blow Count (blows/ft.)
 N Natural Moisture Content (%)
 N.M.C. Unit Weight Wet (lbs./cu.ft.)
 U.W.W. Unit Weight Dry (lbs./cu.ft.)
 U.W.D. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.S.S. Unconfined Compressive Strength (psf)
 U.C. Unconsolidated Undrained Triaxial Test (psf)
 U.U. Water Level and Date Recorded
 03/31/09 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
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 No Refusal No Refusal Encountered
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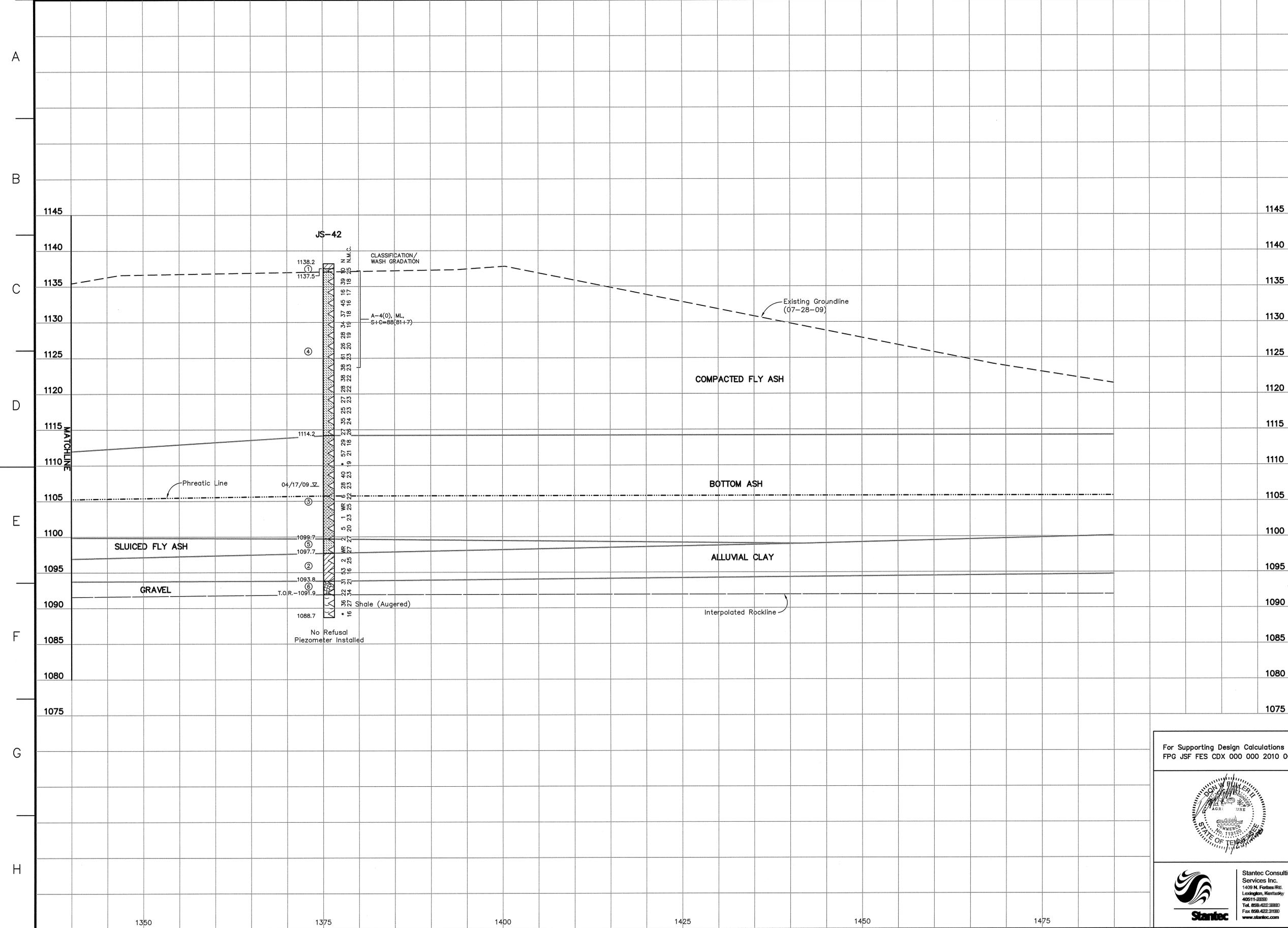
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REV	NO.	DATE	ISSN	DRWN	CHKD	SUPV	RWMD	APPR	ISSD	PROJECT	AS CONST	BY
0	1	01/29/10		ARD	DMG	ARD	DLB	DLB	DLB	TJ		
SCALE: AS SHOWN EXCEPT AS NOTED												
YARD												
GEOTECHNICAL EXPLORATION												
DRY FLY ASH STACK												
GEOLOGIC SECTION D-D'												
DESIGNED BY:	DRWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:						
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON						
JOHN SEVIER FOSSIL PLANT												
TENNESSEE VALLEY AUTHORITY												
FOSSIL AND HYDRO ENGINEERING												
AUTOCAD R 2000	DATE	01/29/10	41	C	10W507-27			R 0				



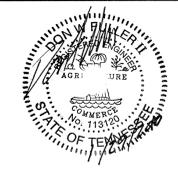
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 - ④ [Symbol] Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ [Symbol] Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ [Symbol] Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
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 - ⑧ [Symbol] Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
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 - ⑩ [Symbol] Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 Δ Standard Penetration Test Interval
 ■ Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 Δ Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
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 Refusal Auger Refusal using a carbide-tipped tooth auger bit
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RECORD DRAWING

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REV	NO.	DATE	DSGN	DRWN	CHKD	SUPV	INVD	APPR	ISSD	PROJECT ID	AS CONST	REV
R	0	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ			

SCALE: AS SHOWN EXCEPT AS NOTED

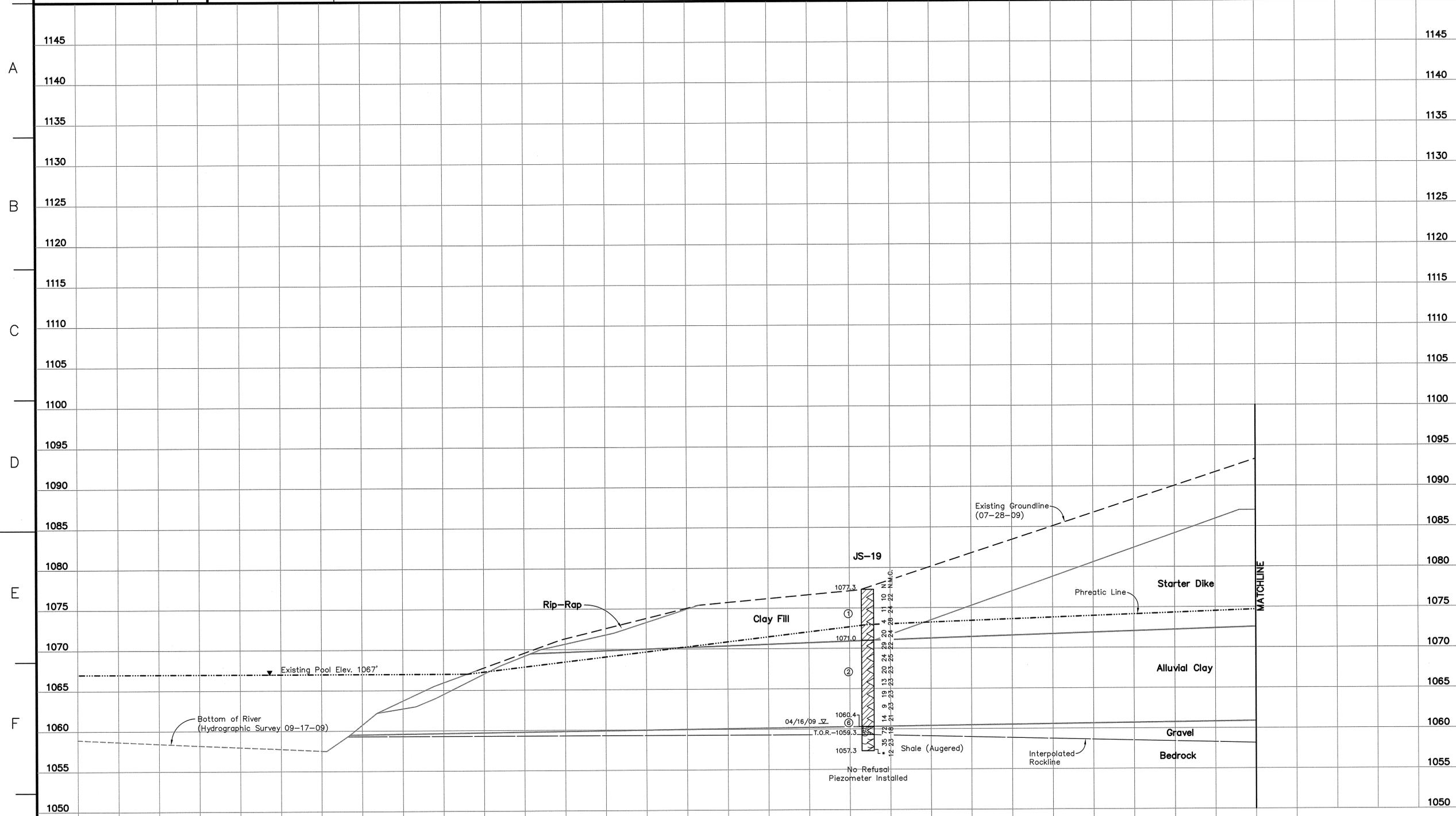
YARD

**GEOTECHNICAL EXPLORATION
 DRY FLY ASH STACK
 GEOLOGIC SECTION D-D'**

DESIGNED BY	DRAWN BY	CHECKED BY	SUPERVISED BY	REVIEWED BY	APPROVED BY	ISSUED BY
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON

**JOHN SEVIER FOSSIL PLANT
 TENNESSEE VALLEY AUTHORITY
 FOSSIL AND HYDRO ENGINEERING**

AUTOCAD R 2000 DATE 01/29/10 41 C 10W507-28 R 0



- LEGEND**
- ① [Symbol] Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② [Symbol] Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
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- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 < Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
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- NOTES:**
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RECORD DRAWING

For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001



Stantec Consulting Services Inc.
 1409 N. Forbes Rd.
 Lexington, Kentucky 40511-2050
 Tel. 859.422.3000
 Fax 859.422.3100
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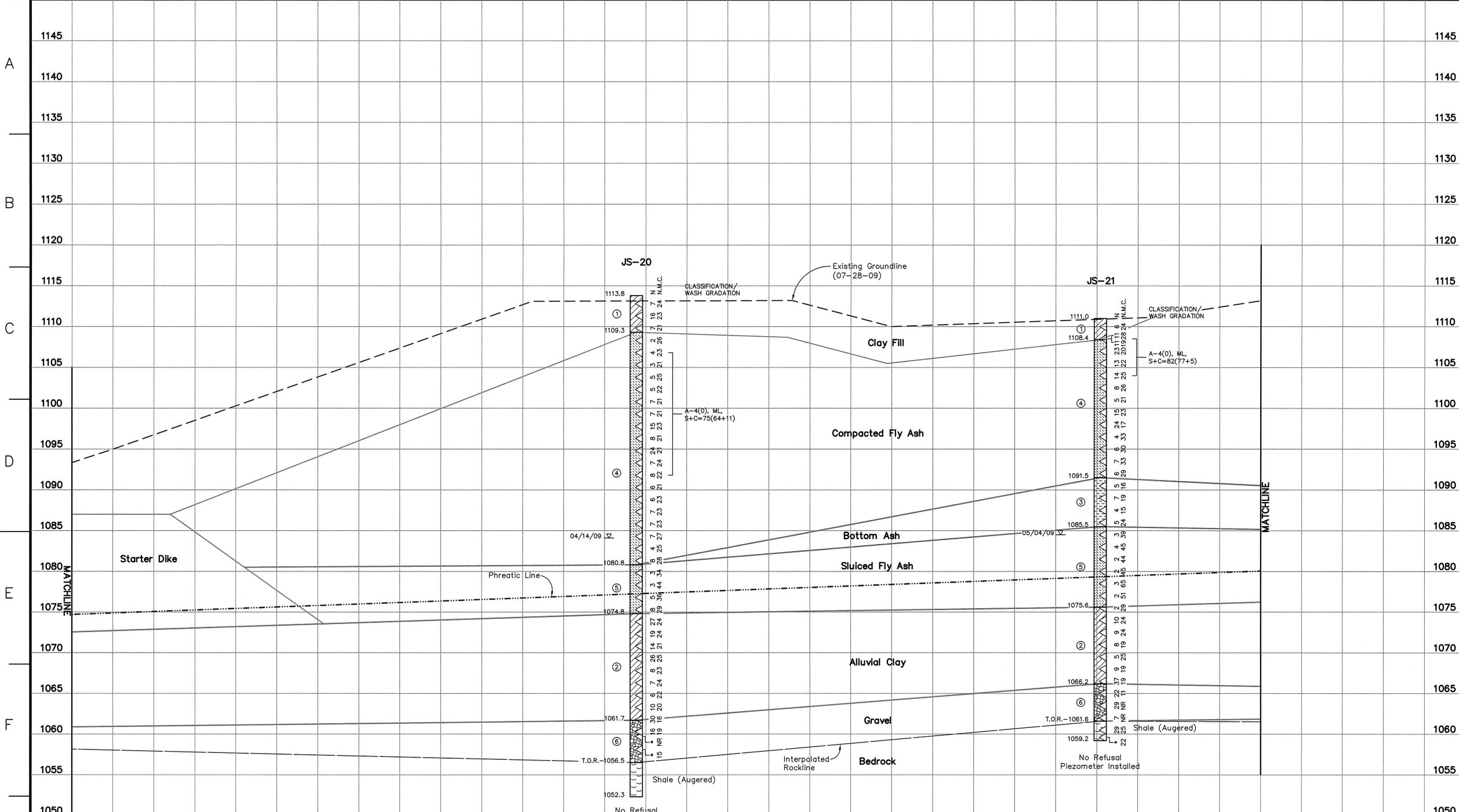
REV. NO.	DATE	ISSN	DRWN	CHKD	SUPV	RVNG	APPR	ISSD	PROJECT ID	AS CONST	REV
0	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ			

SCALE: AS SHOWN EXCEPT AS NOTED

YARD
 GEOTECHNICAL EXPLORATION
 DRY FLY ASH STACK
 GEOLOGIC SECTION G-G'

DESIGNED BY:	DRWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON

JOHN SEVIER FOSSIL PLANT
 TENNESSEE VALLEY AUTHORITY
 FOSSIL AND HYDRO ENGINEERING



- LEGEND**
- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, very soft to hard, with occasional gravels and manganese concretions
 - ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- Abbreviations:**
- WH Weight of Hammer
 - WR Weight of Rods
 - NR No Recovery
 - Standard Penetration Test Interval
 - Undisturbed Thin-Walled (Shelby) Tube Sample
 - N Standard Penetration Test Blow Count (blows/ft.)
 - N.M.C. Natural Moisture Content (%)
 - U.W.W. Unit Weight Wet (lbs./cu.ft.)
 - U.W.D. Unit Weight Dry (lbs./cu.ft.)
 - U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 - U.C. Unconfined Compressive Strength (psf)
 - U.U. Unconsolidated Undrained Triaxial Test (psf)
 - 03/31/09_W Water Level and Date Recorded
 - T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 - B.C. Begin Rock Core
 - R.Q.D. Rock Quality Designation (%)
 - REC. Recovery (%)
 - Refusal Auger Refusal using a carbide-tipped tooth auger bit
 - No Refusal No Refusal Encountered
 - * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

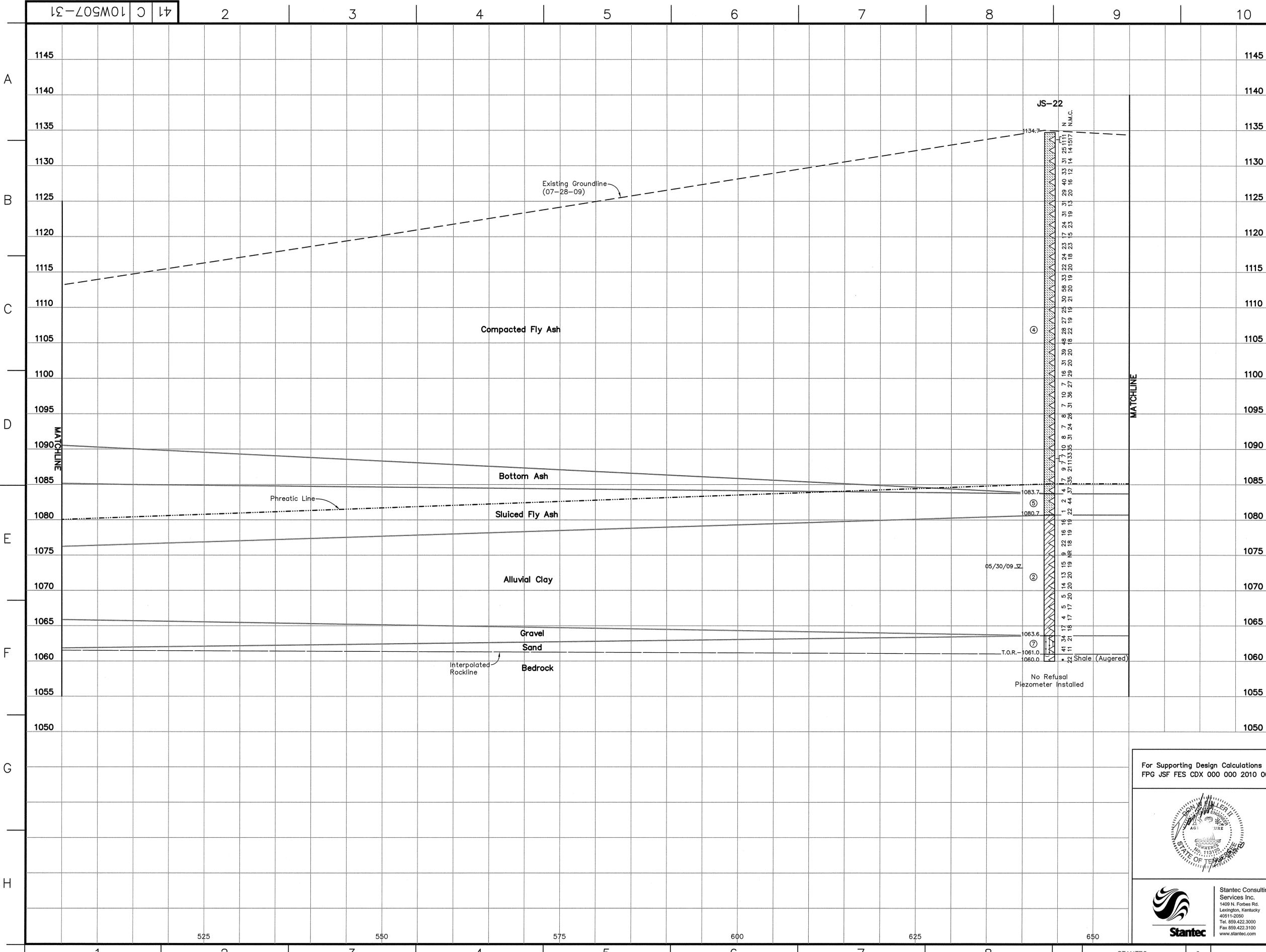
- NOTES:**
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RECORD DRAWING

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FPG JSF FES CDX 000 000 2010 0001

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RECORD DRAWING	DATE: 01/29/10	ISSN: ARD	DRWN: DMG	CHKD: ARD	SUPV: DLB	RVMD: DLB	APPR: DLB	ISSD: TJ	PROJECT: --	AS CONST: --	DATE: --	BY: --
SCALE: AS SHOWN EXCEPT AS NOTED												
YARD												
GEOTECHNICAL EXPLORATION												
DRY FLY ASH STACK												
GEOLOGIC SECTION G-G'												
DESIGNED BY: A. DAVIS	DRAWN BY: D. GRAHAM	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON						
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING												
AUTOCAD R 2000	DATE: 01/29/10	41	C	10W507-30				R 0				

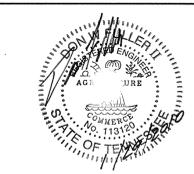


- LEGEND**
- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
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 WR Weight of Rods
 NR No Recovery
 Δ Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
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 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09_Δ Water Level and Date Recorded
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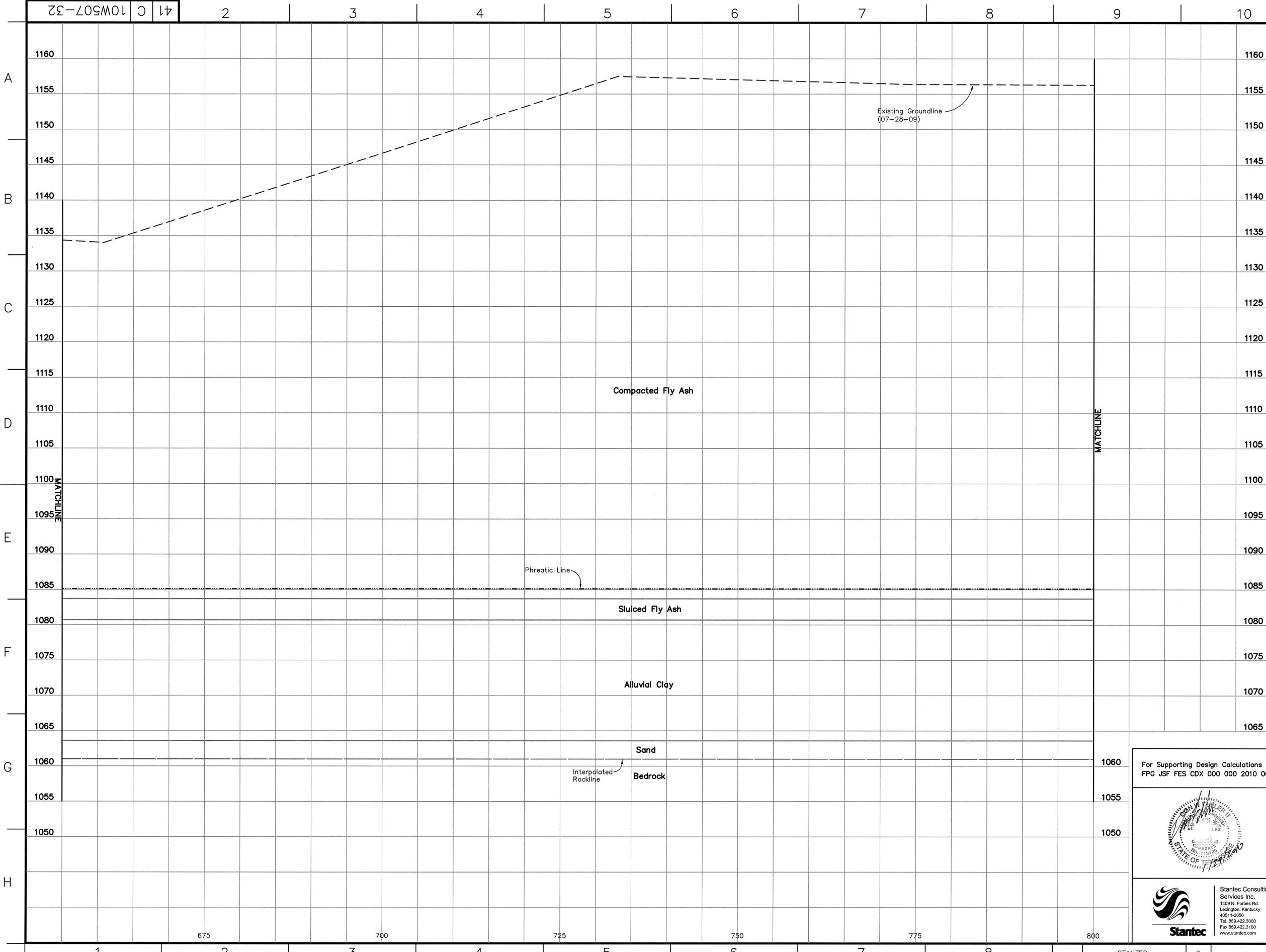
RECORD DRAWING

For Supporting Design Calculations see
 FPG JSF FES CDX 000 000 2010 0001



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DESIGNED BY: A. DAVIS	DRAWN BY: D. GRAHAM	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING						
AUTOCAD R 2000	DATE 01/29/10	41	C	10W507-31		R 0



- LEGEND**
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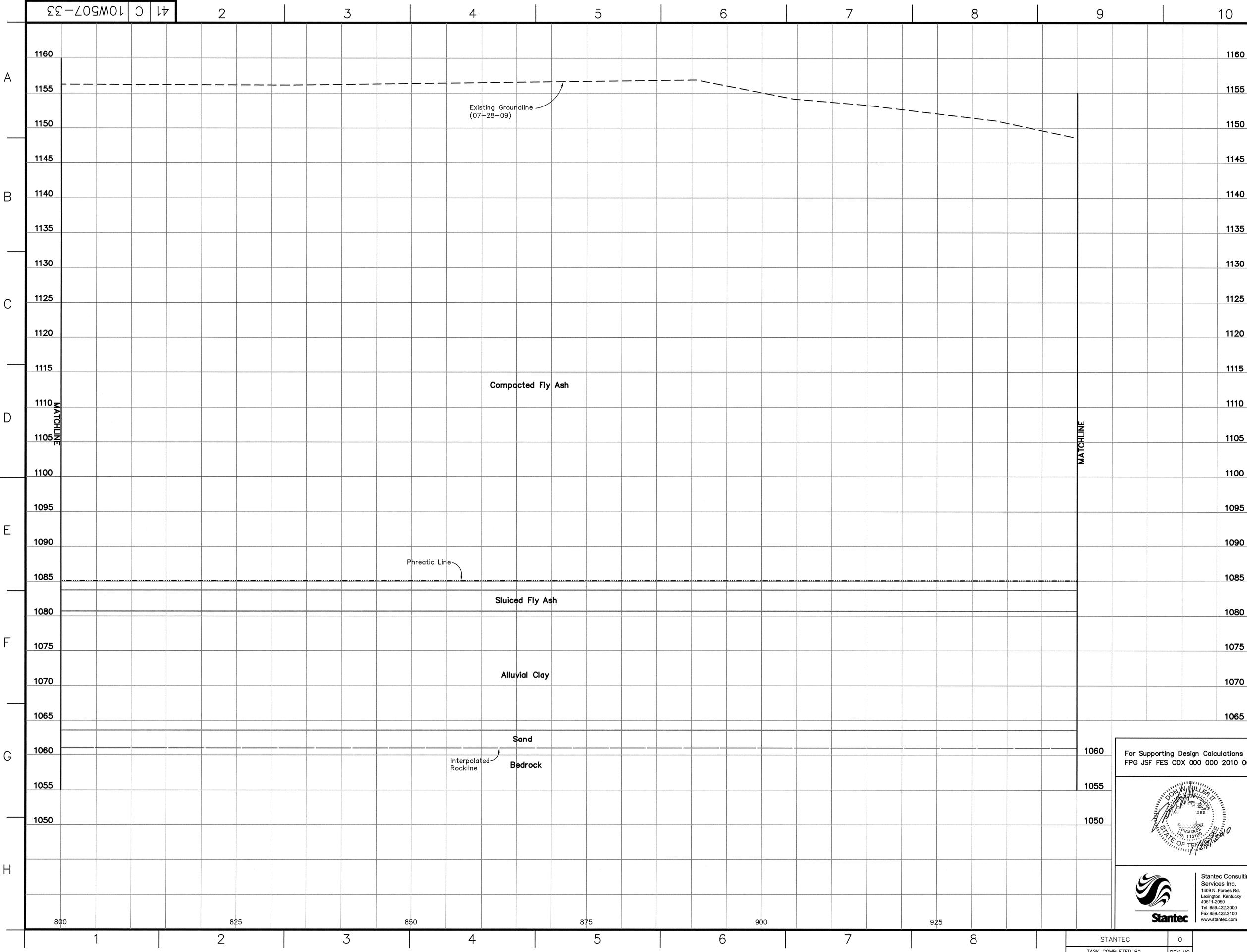
R 0	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ	-	-	-
ISSUED FOR REVIEW											
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RWMD	APPR	ISSD	PROJECT ID	AS CONST	BY
SCALE: RECORD DRAWING										EXCEPT AS NOTED	

YARD
 GEOTECHNICAL EXPLORATION
 DRY FLY ASH STACK
 GEOLOGIC SECTION G-G'

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON

JOHN SEVIER FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
 FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2000 DATE 01/28/10 41 C 10W507-32 R 0



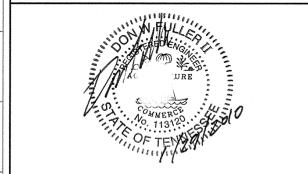
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 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09_Z Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
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NOTES:

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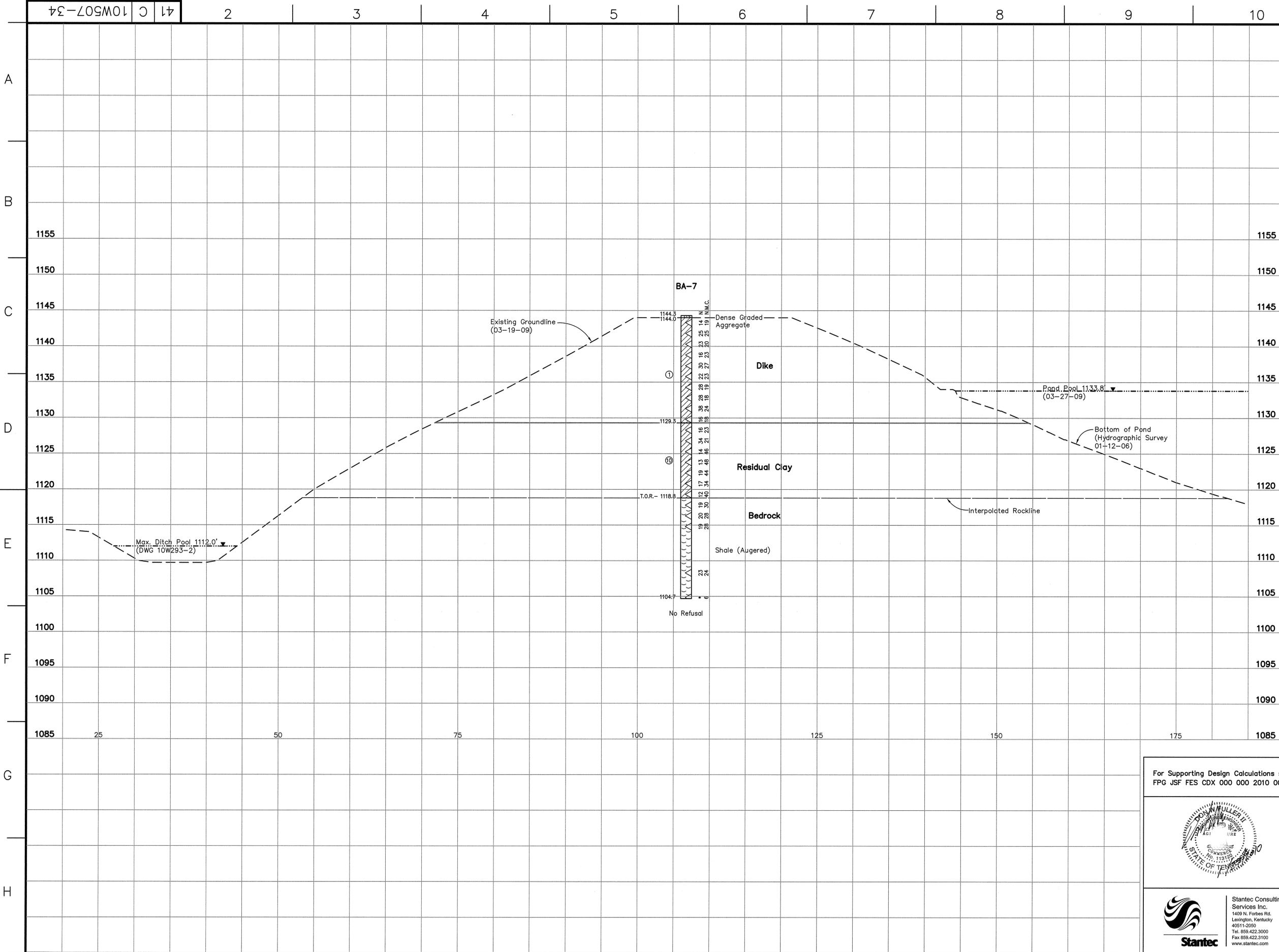
RECORD DRAWING

For Supporting Design Calculations see
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R 0	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ	-	-	-	-	-	-	-	-	-	-	-	-
RECORD DRAWING																				
REV. NO.	DATE	ISSN	DRWN	CHKD	SUPV	RWMD	APPR	ISSD	PROJECT	AS CONST	BY									
SCALE: AS SHOWN										EXCEPT AS NOTED										
YARD																				
GEOTECHNICAL EXPLORATION																				
DRY FLY ASH STACK																				
GEOLOGIC SECTION G-G'																				
DESIGNED BY:	DRWN BY:	CHKD BY:	SUPRVSED BY:	REVISED BY:	APPROVED BY:	ISSUED BY:														
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON														
JOHN SEVIER FOSSIL PLANT																				
TENNESSEE VALLEY AUTHORITY																				
FOSSIL AND HYDRO ENGINEERING																				
AUTOCAD R 2000	DATE	41	C	10W507-33												R 0				

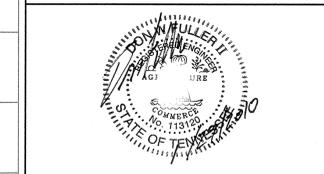


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 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 U.L. Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
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 No Refusal No Refusal Encountered
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- NOTES:**
- Topographic mapping was developed by Tuck Mapping Solutions, Inc. on March 19, 2009.
 - The Tennessee Valley Authority Surveying and Project Services performed a hydrographic survey on the Bottom Ash Disposal Area 2 on January 12, 2006.
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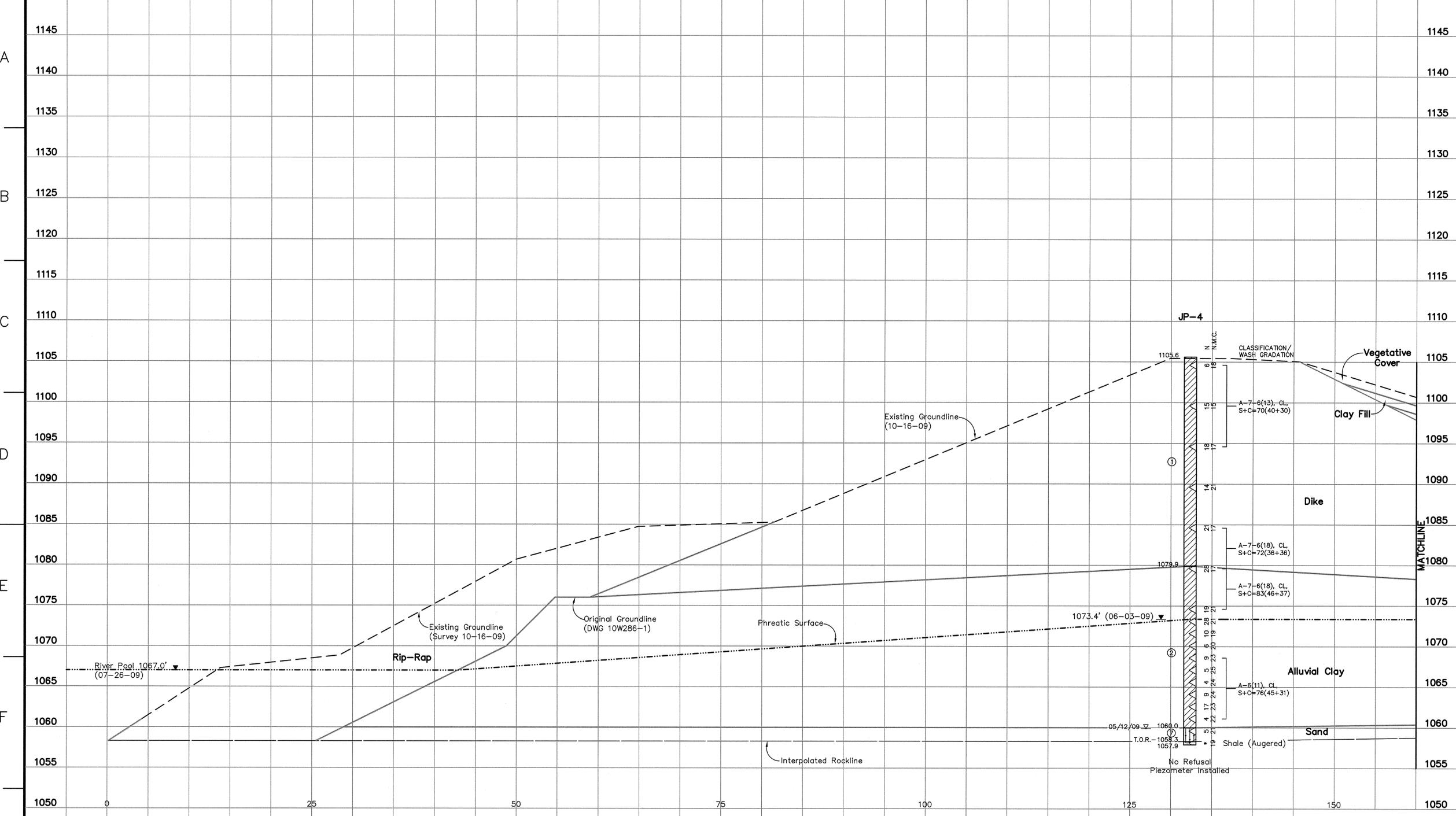
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1	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ			
SCALE: AS SHOWN EXCEPT AS NOTED											
YARD											
GEOTECHNICAL EXPLORATION											
BOTTOM ASH DISPOSAL AREA 2											
GEOLOGIC SECTION I-I'											
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:					
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON					
JOHN SEVIER FOSSIL PLANT											
TENNESSEE VALLEY AUTHORITY											
FOSSIL AND HYDRO ENGINEERING											
AUTOCAD R 2000	DATE	41	C	10W507-34	R 0						



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 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 U.U. Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

- NOTES:**
- The Tennessee Valley Authority Surveying and Project Services performed a land survey on October 16, 2009 and hydrographic survey on the Holston River on September 17, 2009.
 - See Geotechnical Report for references of drawings used in development of cross sections.
 - The geotechnical information and data furnished herein are not intended as representation or warranties but are furnished for information only. It shall be distinctly understood that the Owner or Engineer will not be responsible for any deduction, interpretation or conclusion drawn therefrom. The information is made available in order that the Contractor may have ready access to the same information available to the Owner and the Engineer and is not part of this contract.

RECORD DRAWING

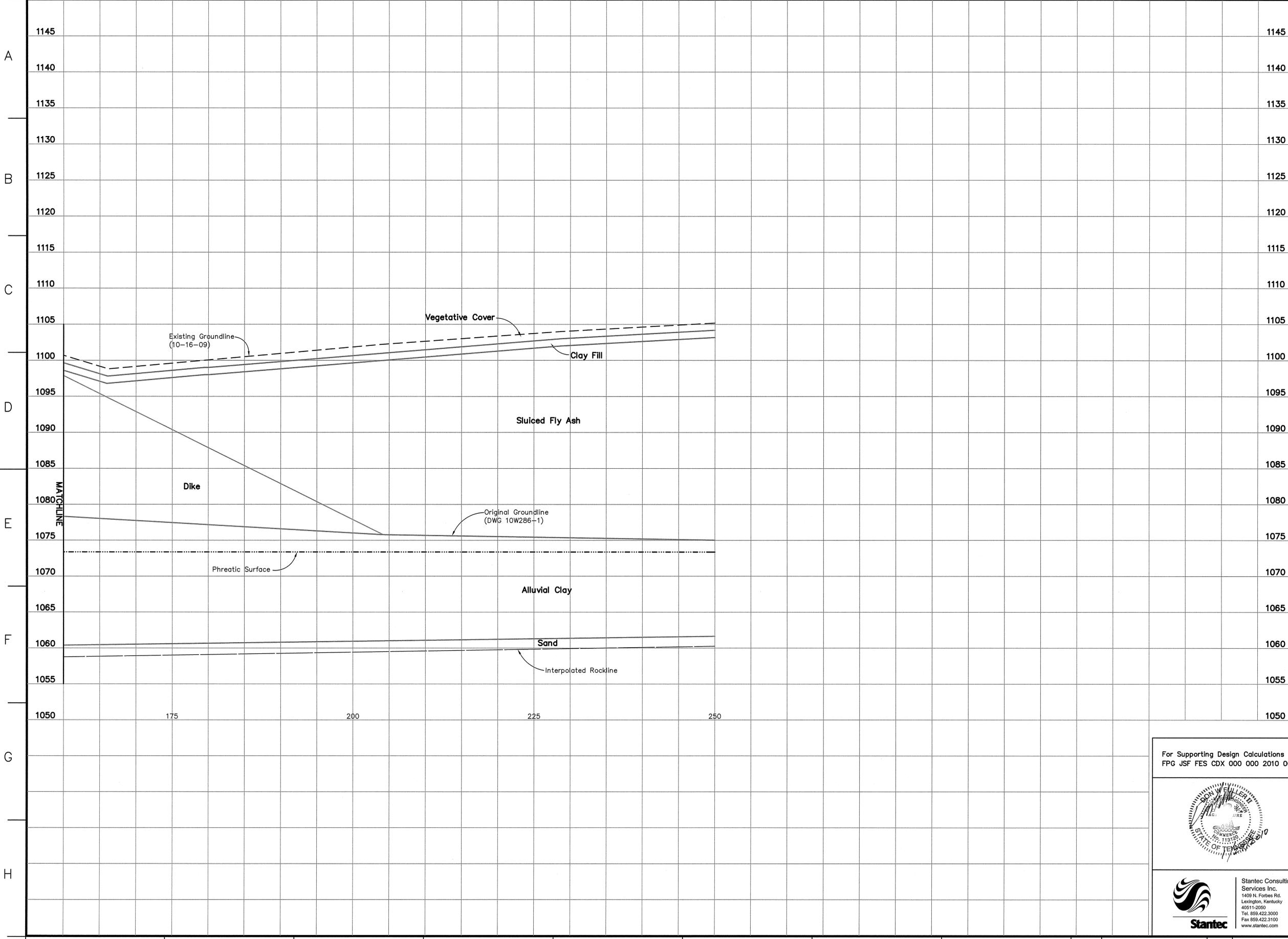
For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001

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 40511-2050
 Tel: 659.422.3000
 Fax: 659.422.3100
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DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON

JOHN SEVIER FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
 FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2000 DATE 01/29/10 41 C 10W507-35 R 0

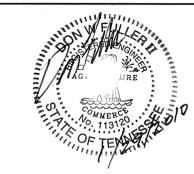


- LEGEND**
- ① [Symbol] Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② [Symbol] Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ [Symbol] Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ [Symbol] Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ [Symbol] Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ [Symbol] Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ [Symbol] Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ [Symbol] Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
 - ⑨ [Symbol] Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ [Symbol] Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 < Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09_U Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Refusal Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

- NOTES:**
- The Tennessee Valley Authority Surveying and Project Services performed a land survey on October 16, 2009 and hydrographic survey on the Holston River on September 17, 2009.
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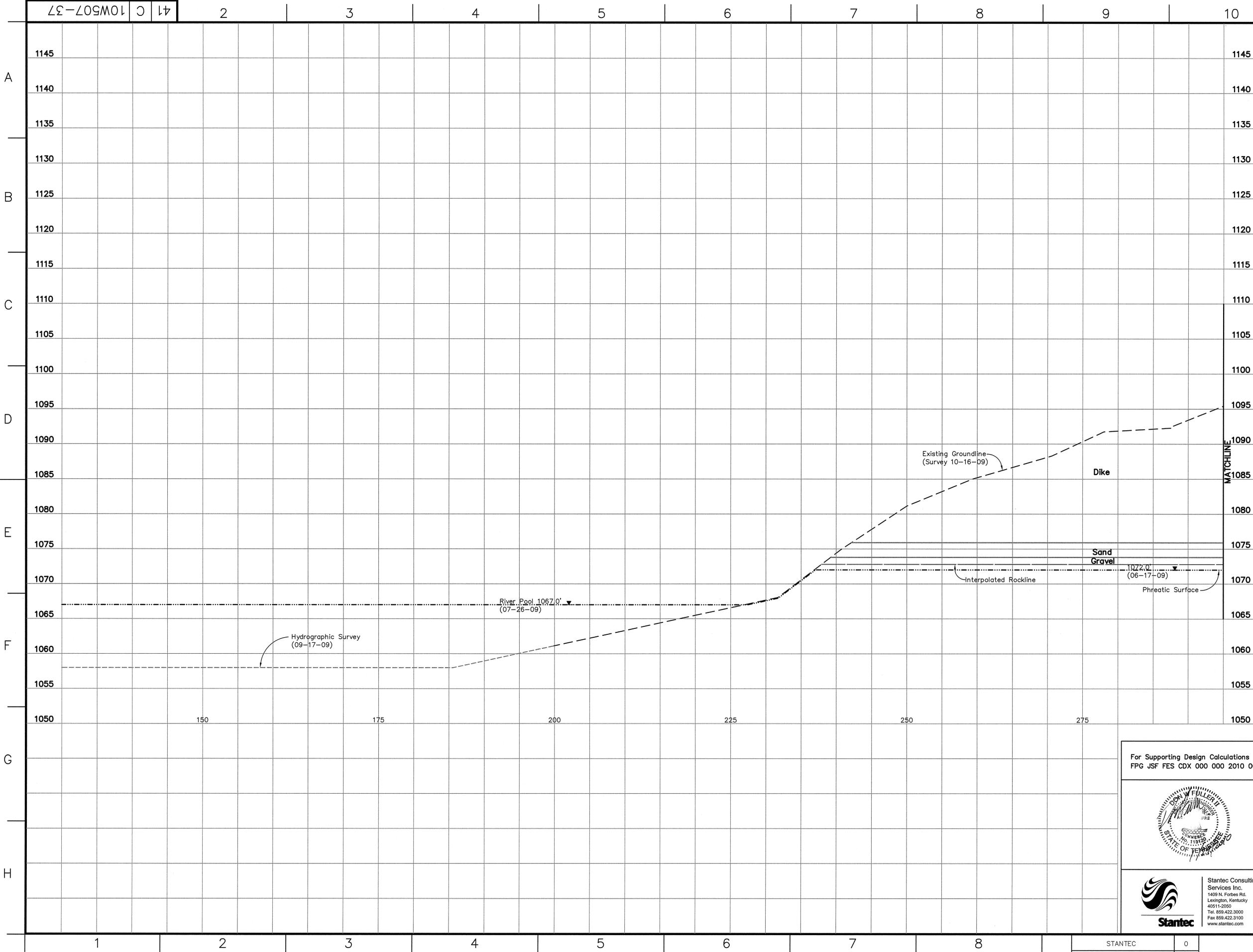
RECORD DRAWING

For Supporting Design Calculations see
FPG JSF FES CDX 000 000 2010 0001



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RECORD DRAWING	DATE	ISSN	DRIN	CRD	SUPV	RWMD	APPD	ISSD	PROJECT	AS CONST	REV
SCALE: AS SHOWN	EXCEPT AS NOTED										
YARD											
GEOTECHNICAL EXPLORATION											
ASH DISPOSAL AREA J											
GEOLOGIC SECTION J-J'											
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:					
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON					
JOHN SEVIER FOSSIL PLANT											
TENNESSEE VALLEY AUTHORITY											
FOSSIL AND HYDRO ENGINEERING											
AUTOCAD R 2000	DATE	41	C	10W507-36		R 0					



- LEGEND**
- ① [Symbol] Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② [Symbol] Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ [Symbol] Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ [Symbol] Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ [Symbol] Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ [Symbol] Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ [Symbol] Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ [Symbol] Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
 - ⑨ [Symbol] Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ [Symbol] Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 < Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 ■ Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 W Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

- NOTES:**
- The Tennessee Valley Authority Surveying and Project Services performed a land survey on October 16, 2009 and hydrographic survey on the Holston River on September 17, 2009.
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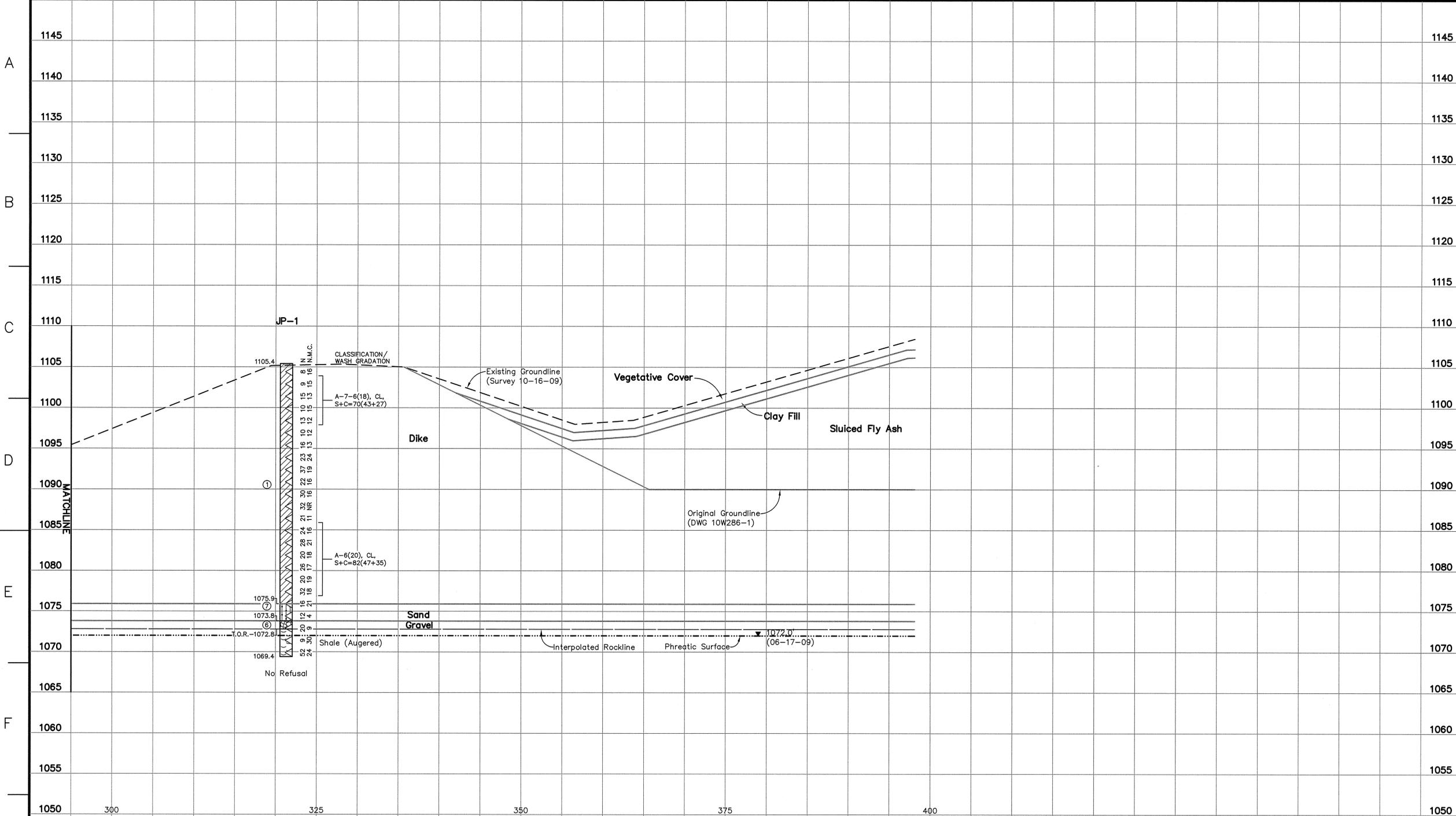
RECORD DRAWING

For Supporting Design Calculations see
 FPG JSF FES CDX 000 000 2010 0001



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RECORD DRAWING	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ	-	-	-	-	-	-	-	-	-	-	-	-	
SCALE: AS SHOWN	EXCEPT AS NOTED																				
YARD																					
GEOTECHNICAL EXPLORATION ASH DISPOSAL AREA J GEOLOGIC SECTION O-O'																					
DESIGNED BY: A. DAVIS	DRAWN BY: D. GRAHAM	CHECKED BY: A. DAVIS	SUPERVISED BY: D. BLANTON	REVIEWED BY: D. BLANTON	APPROVED BY: D. BLANTON	ISSUED BY: T. JOHNSON															
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING																					
AUTOCAD R 2000	DATE 01/29/10	41	C	10W507-37	R 0																



LEGEND

- ① Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
- ② Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
- ③ Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
- ④ Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
- ⑤ Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
- ⑥ Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
- ⑦ Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
- ⑧ Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
- ⑨ Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
- ⑩ Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions

WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 △ Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)

03/31/09 Water Level and Date Recorded
 T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)

B.C. Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

NOTES:

- The Tennessee Valley Authority Surveying and Project Services performed a land survey on October 16, 2009 and hydrographic survey on the Holston River on September 17, 2009.
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RECORD DRAWING

For Supporting Design Calculations see FPG JSF FES CDX 000 000 2010 0001

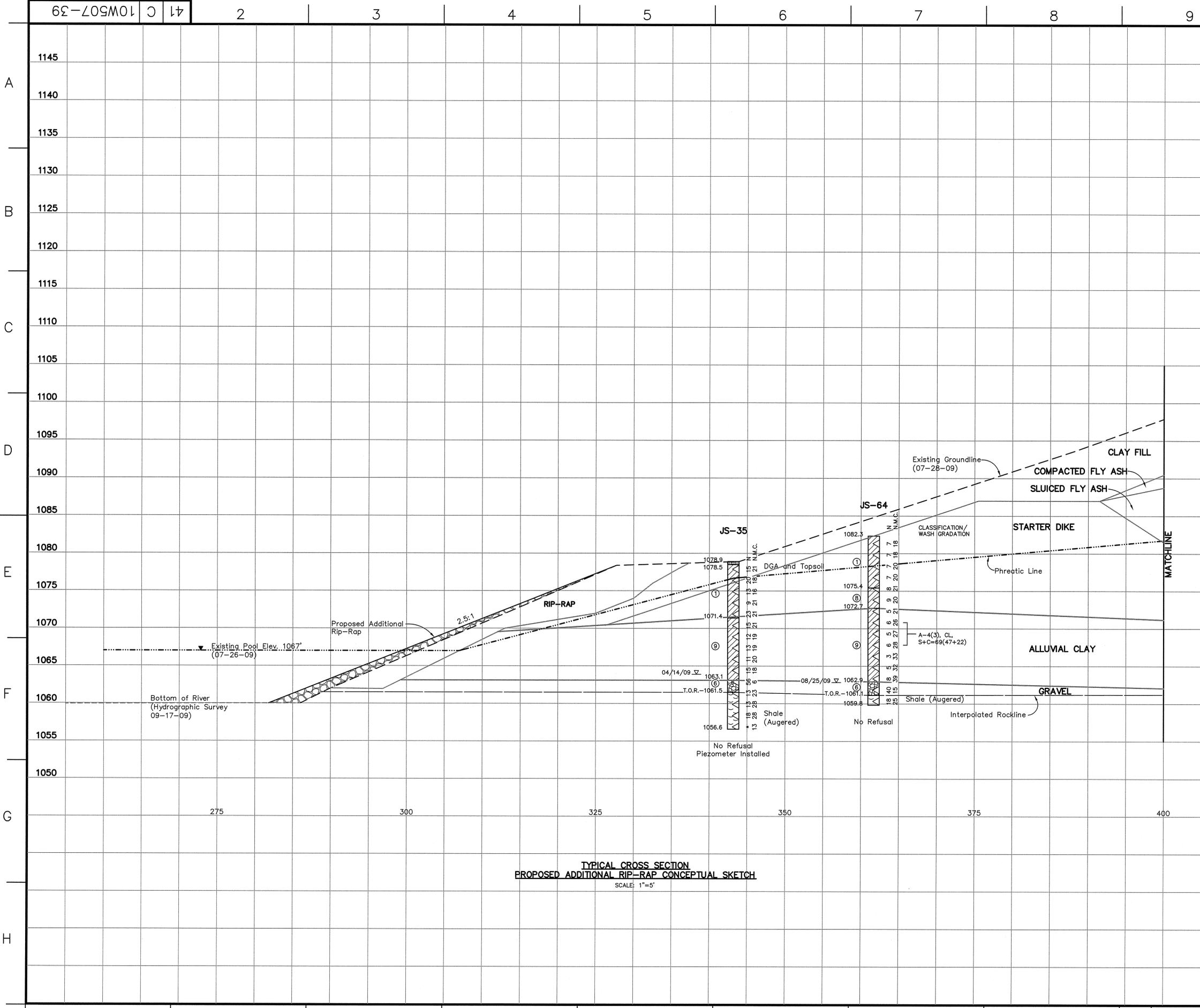
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DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON

**JOHN SEVIER FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING**

AUTOCAD R 2000 DATE 01/29/10 41 C 10W507-38 R 0



**TYPICAL CROSS SECTION
PROPOSED ADDITIONAL RIP-RAP CONCEPTUAL SKETCH**
SCALE: 1"=5'

- LEGEND**
- ① [Symbol] Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② [Symbol] Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
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 - ⑦ [Symbol] Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ [Symbol] Lean Clay with Sand and Silt, light brown to brown to gray, very soft to hard, with trace gravels and manganese concretions
 - ⑨ [Symbol] Lean Clay with Silt, dark gray to dark brown, moist to wet, very soft to hard, with occasional manganese concretions and gravels
 - ⑩ [Symbol] Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 < Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
- 03/31/09 U.U. Water Level and Date Recorded
 T.O.R. Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the auger. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.- Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

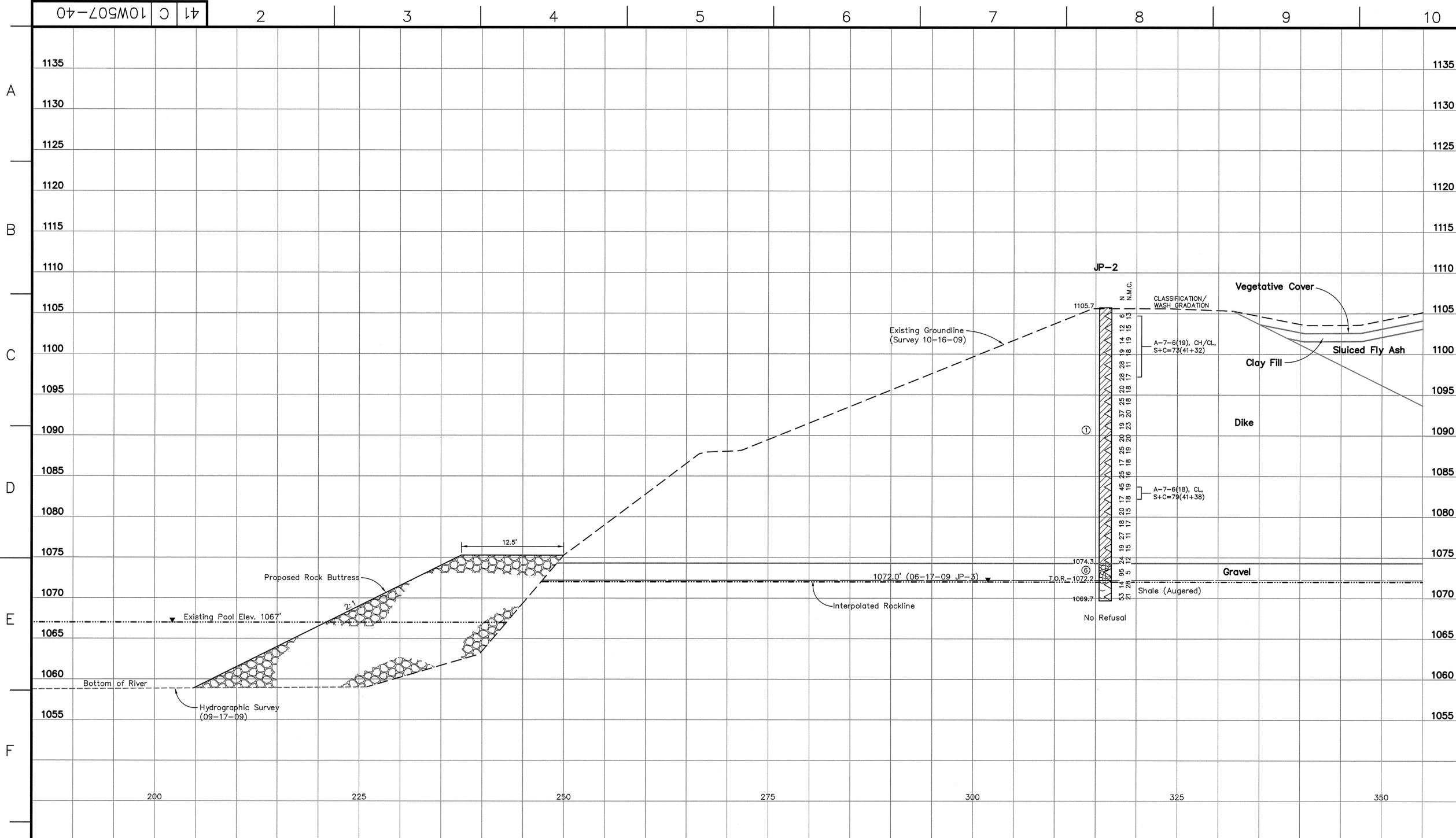
- NOTES:**
- The Tennessee Valley Authority Surveying and Project Services performed a land survey on July 28, 2009 and hydrographic survey on the Holston River on September 17, 2009.
 - See Geotechnical Report for references of drawings used in development of cross sections and analysis used in development of proposed additional riprap.
 - The geotechnical information and data furnished herein are not intended as representation or warranties but are furnished for information only. It shall be distinctly understood that the Owner or Engineer will not be responsible for any deduction, interpretation or conclusion drawn therefrom. The information is made available in order that the Contractor may have ready access to the same information available to the Owner and the Engineer and is not part of this contract.

RECORD DRAWING

For Supporting Design Calculations see
FPG JSF FES CDX 000 000 2010 0001

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 Fax 859.422.3100
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REV.	NO.	DATE	DSGN	DRWN	CHKD	SUPV	INVD	APPR	ISSD	PROJECT	AS CONST	REV
SCALE: AS SHOWN EXCEPT AS NOTED												
YARD												
GEOTECHNICAL EXPLORATION DRY FLY ASH STACK PROPOSED ADDITIONAL RIP-RAP												
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:						
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON						
JOHN SEVIER FOSSIL PLANT TENNESSEE VALLEY AUTHORITY FOSSIL AND HYDRO ENGINEERING												
AUTOCAD R. 2000	DATE	01/29/10	41	C	10W507-39			R 0				



- LEGEND**
- ① [Symbol] Lean Clay with Sand and Gravel (Fill), light brown to brown with gray mottling, moist to wet, soft to hard, with occasional silty zones, roots, and manganese concretions
 - ② [Symbol] Lean Clay with Sand, brown to tan with occasional gray mottling, moist to wet, soft to hard, with occasional manganese concretions, peat, roots, silty zones, and gravel
 - ③ [Symbol] Bottom Ash, gray to dark gray and black, dry to wet, very loose to very dense, medium to very coarse grained, poorly sorted, angular
 - ④ [Symbol] Fly Ash, gray to dark gray, dry to wet, very loose to very dense, with occasional clay seams, gravels, coal fragment, and trace bottom ash
 - ⑤ [Symbol] Sluiced Fly Ash, gray to dark gray, moist to wet, very loose to loose, with trace bottom ash
 - ⑥ [Symbol] Gravel with Sand, gray to brown to tan, dry to wet, loose to very dense, sand is fine to medium grained, poorly graded and sorted (Visually Classified)
 - ⑦ [Symbol] Sand, light brown to brown, moist, loose to very dense, fine to coarse grained (Visually Classified)
 - ⑧ [Symbol] Lean Clay with Sand and Silt, light brown to brown to gray, moist, medium stiff to very stiff, with trace gravels and manganese concretions
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 - ⑩ [Symbol] Lean Clay, light brown to brown, moist to wet, stiff to hard, with rare manganese concretions
- WH Weight of Hammer
 WR Weight of Rods
 NR No Recovery
 < Standard Penetration Test Interval
 N Undisturbed Thin-Walled (Shelby) Tube Sample
 N Standard Penetration Test Blow Count (blows/ft.)
 N.M.C. Natural Moisture Content (%)
 U.W.W. Unit Weight Wet (lbs./cu.ft.)
 U.W.D. Unit Weight Dry (lbs./cu.ft.)
 U.S.S. Undrained Shear Strength (psi) determined from Vane Shear Testing
 U.C. Unconfined Compressive Strength (psf)
 U.U. Unconsolidated Undrained Triaxial Test (psf)
 03/31/09 W.L. Water Level and Date Recorded
 T.O.R.— Top of Rock (Indicates the beginning of rock-like resistance to the advancement of the augers. This may indicate the beginning of weathered bedrock, boulders or rock remnants. An exact determination cannot be made without performing rock coring.)
 B.C.— Begin Rock Core
 R.Q.D. Rock Quality Designation (%)
 REC. Recovery (%)
 Refusal Auger Refusal using a carbide-tipped tooth auger bit
 No Refusal No Refusal Encountered
 * Standard Penetration Test (SPT) terminated per ASTM D 1586-99. Refer to typed boring log.

- NOTES:**
- The Tennessee Valley Authority Surveying and Project Services performed a land survey on October 16, 2009 and hydrographic survey on the Holston River on September 17, 2009.
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TYPICAL CROSS SECTION
 PROPOSED ROCK BUTTRESS CONCEPTUAL SKETCH
 SCALE: 1"=5'

RECORD DRAWING

For Supporting Design Calculations see
 FPG JSF FES CDX 000 000 2010 0001



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 Lexington, Kentucky 40511-2050
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 Fax: 859.422.3100
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REV	NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVMD	APPR	ISSD	PROJECT	AS CONST	REV
R 0	01/29/10	ARD	DMG	ARD	DLB	DLB	DLB	TJ				
SCALE: AS SHOWN EXCEPT AS NOTED												
YARD												
GEOTECHNICAL EXPLORATION												
ASH DISPOSAL AREA J												
PROPOSED ROCK BUTTRESS												
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:						
A. DAVIS	D. GRAHAM	A. DAVIS	D. BLANTON	D. BLANTON	D. BLANTON	T. JOHNSON						
JOHN SEVIER FOSSIL PLANT												
TENNESSEE VALLEY AUTHORITY												
FOSSIL AND HYDRO ENGINEERING												
AUTOCAD R 2000	DATE	01/29/10	41	C	10W507-40	R 0						