

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

CDB 790926 003

TO : H. S. Fox, Director of Power Production, 716 EB-C (2)

FROM : Roy H. Dunham, Manager of Engineering Design, W11A9 C-K

DATE : September 26, 1979

SUBJECT: CUMBERLAND STEAM PLANT - ANNUAL ASH DISPOSAL AREA INSPECTION

*AKB
Cumberland-
Ash Disposal*

Attached is a report from Jerry L. Glover to Frank D. Stansberry dated September 25, 1979 (CDB 790926 002), of the joint inspection of ash disposal areas at the Cumberland Steam Plant which includes a recommendation for continued efforts to remove floating ash from the disposal area. I concur in this recommendation.

Original Signed By
F. P. Lacy

Roy H. Dunham

GLB:JLG:TLT
Attachment

- cc: D. B. Bowen, 6204 MIB-K
- G. L. Buchanan, W3C126 C-K
- R. G. Domer, W9D224 C-K
- MEDS, E4B37 C-K
- E. F. Thomas, 550 CST2-C (Attachment)

RECEIVED			
4:15			
SEP 26 '79			
CIVIL ENG. & DES. BRANCH			
IN		OUT	
Date	Time	Date	Time
✓		GLB	26 ✓
		DLG	
		TJA	
		HCB	
		ELS	
		REH	
		HNS	
		NAL	
✓	27 9:30	FCS	27 11:40
✓	27 12	PJB	27 12:30
		JRF	
		RAD	
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		REB	
		JHC	
		SDS	
		RWA	

✓ 27 4 JLG 27 4
✓ 27 4 KWB 27 4



UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

CDB '79 09 26 002

TO : Frank D. Stansberry, Head Civil Engineer (Site Development, Highway, Railroad, and Bridge Design), W3A52 C-K

FROM : Jerry L. Glover, Civil Engineer (Site Development, Highway, and Railroad Design), W3A67 C-K

DATE : September 25, 1979

*HRB
Cumberland
Ash Dike*

SUBJECT: CUMBERLAND STEAM PLANT - ANNUAL ASH DISPOSAL AREA INSPECTION

On September 18, 1978, Larry Wall of P PROD and I inspected the ash disposal area at Cumberland Steam Plant. We were accompanied on the inspection by Walter Veal, Yard Operations Supervisor. Findings were discussed with C. C. Pepper, Assistant Plant Superintendent.

Last year's annual inspection of these dikes was made on August 24, 1978 (CDB 780913 002).

The ash disposal area is shown on the attached print of drawing 10N212.

Changes in Dikes Since Last Year's Inspection

Since last year's inspection, CSB has started construction on raising the dikes 15 feet (elevation 380 to elevation 395). CSB has completed lining the southern portion (see drawing 10N212) of the pond on the inside with bottom ash and earth spoil material and has raised the dikes of the southern portion approximately 5 feet with compacted earth. The northern portion of the pond is being lined on the inside with bottom ash and earth spoil material in preparation for raising the dikes. Raising of the dikes has been stopped temporarily while CSB constructs a bridge across Wells Creek for access to borrow areas B and C (suitable material in borrow area A has been exhausted). CSB will continue to construct the liner around the inside of the northern section.

The dikes appear to be in good condition. There is an excellent vegetative cover on the original dike slopes. The crushed stone is being removed from the top of the original dikes of the northern section by CSB in preparation of the dike raising.

The area of seepage along the relocated Wells Creek channel was submerged; therefore, it could not be inspected. Plant employees report that the seepage remains about the same as in the last few years but less than when first observed in October 1973.

Change in Pond Operation Since Last Year's Inspection

There has been no change in pond operation since last year's inspection. An ash divider dike separates the pond into two areas (southern and northern). The two areas are connected by pipes; therefore, they function as one pond.



Frank D. Stansberry
September 25, 1979

CUMBERLAND STEAM PLANT - ANNUAL ASH DISPOSAL AREA INSPECTION

This disposal area (see drawing 10N212) is the only ash disposal area for the plant. All fly ash is sluiced into it on the south side of the divider dike. It passes in pipes through the divider dike to the northern end after being directed to the southern end via ditch constructed by plant employees. All discharges are from the northern end of the ash disposal area and pass through the divider dike spillway into the stilling pool and through the type B spillways and skimmers to the ash disposal area spillway channel which empties into the plant condenser water discharge channel.

Condition of Spillways, Skimmers, and Outlets

The spillway and floating skimmer in the divider dike appear to be in good condition; however, fly ash is getting into the stilling pool (approximately 95 percent of the stilling pool area was covered with floating ash on the day of the inspection). According to plant employees, most of the floating ash entering the stilling pool builds up behind the skimmer causing the skimmer to sink and then the fly ash flows over the skimmer. A 15 \pm -inch skirt has been added to the bottom of the skimmer to prevent fly ash from flowing under the skimmer.

The standard type B spillways and skimmers appear to be in good condition. There is no erosion at the pipe outlets or in the outlet channel. There are no signs of loss of ash.

Action on Recommendations of Last Year's Inspection

1. Trees and large bushes have been removed from the dike slopes.
2. Unsuccessful attempts have been made by plant employees to remove floating ash from the stilling pool. The point was made that Kingston Steam Plant has a similar problem and is having the floating ash removed. Plant employees will check with Kingston Steam Plant.
3. Debris has been removed from the area of the divider dike spillway.

Recommendation

Plant employees should continue efforts to remove floating ash from the stilling pool. The floating ash should also be periodically removed from behind the floating skimmer in the spillway through the divider dike to keep it from building up and sinking the skimmer.

Jerry L. Glover
Jerry L. Glover

kwBJLG:TLT
Attachment

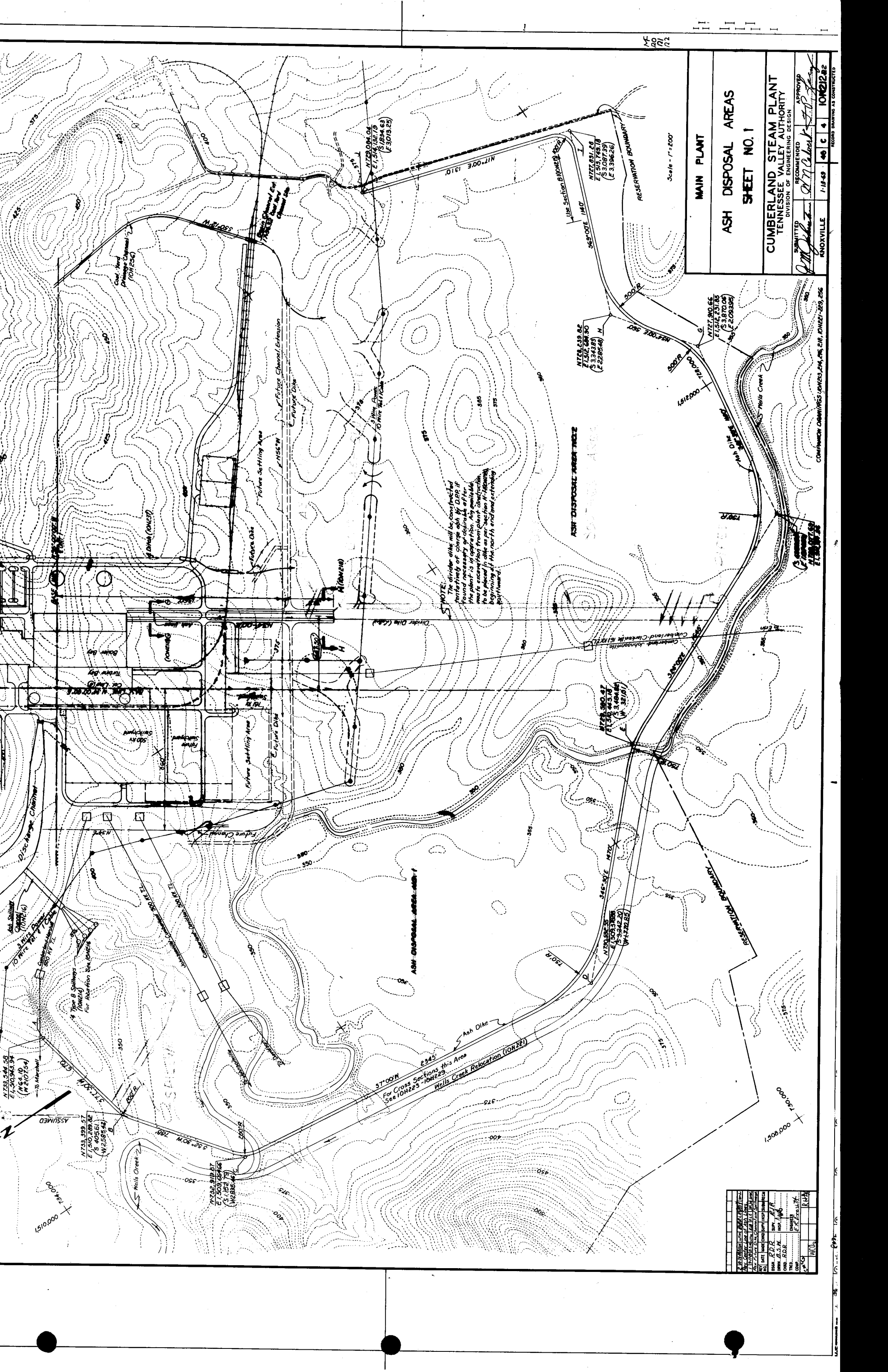
Concur:

Robert G. Bowman
for Frank D. Stansberry

G. L. Buchanan
G. L. Buchanan

cc: D. B. Bowen, 6204 MIB-K (Attachment)
R. G. Damer, W9D224 C-K (Attachment)
Roy H. Dunham, W1A9 C-K
MEDS, E4B37 C-K (Attachment)

cc: G. L. Buchanan, W3C126 C-K (Attachment)



ME 100 101 102

MAIN PLANT

ASH DISPOSAL AREAS

SHEET NO. 1

Scale - 1"=200'

CUMBERLAND STEAM PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

APPROVED: *[Signature]* DATE: 1-18-59
RECOMMENDED: *[Signature]* DATE: 1-18-59
SUBMITTED: *[Signature]* DATE: 1-18-59

KNOXVILLE 1-18-59 49 C 4 10K212.82
RECORD DRAWING AS CONSTRUCTED

NOTE:
The divider dikes will be constructed periphery of change with M.D.P. if found necessary to contain it. If the plant is in operation, any available water excavation from plant construction to be placed in dikes as per Section 11-10000 beginning at the north end and extending southward.

1. 10/15/58	10/15/58	10/15/58	10/15/58
2. 10/15/58	10/15/58	10/15/58	10/15/58
3. 10/15/58	10/15/58	10/15/58	10/15/58
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8. 10/15/58	10/15/58	10/15/58	10/15/58
9. 10/15/58	10/15/58	10/15/58	10/15/58
10. 10/15/58	10/15/58	10/15/58	10/15/58

COMPASS DRAWINGS: JONRO, JMS, 216, 10H211-219, 225