



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

AUG 29 2008

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the)
Tennessee Valley Authority)

Docket Nos. 50-390
50-391

**WATTS BAR NUCLEAR PLANT (WBN) – DAM SAFETY INSPECTION RESULTS AND
FUTURE SCHEDULING**

In response to the teleconference held on July 21, 2008, provided in the Enclosure is a copy of the most recent Dam Safety Inspection report for the Yard Holding Pond on site at WBN. The future inspections of this dam are being tracked in the Enterprise Maintenance Planning and Control (EMPAC) system for intervals of 2.5 years and 5 years. In addition, TVA has reviewed the applicable criteria and determined that no structures at Sequoyah Nuclear Plant or Browns Ferry Nuclear Plant qualify under the Federal Guidelines as dams.

There are no regulatory commitments associated with this submittal. If you have any questions concerning this matter, please call Rusty Tompkins, Dam Safety Manager, at (423) 751-6111.

Sincerely,

M. K. Brandon
Manager, Site Licensing
and Industry Affairs

Enclosure
cc: See Page 2

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COOL
NRR

U.S. Nuclear Regulatory Commission
Page 2

AUG 29 2008

Enclosures

cc (Enclosures):

U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

ATTN: George A. Wilson
U.S. Nuclear Regulatory Commission
OWFN 9 E3
Washington, DC 20555-0001

ENCLOSURE

Watts Bar Nuclear Plant
Dam Safety Inspection Report

**Dam Safety Inspection Report - Class A
Watts Bar Hydro Plant
Special, Nuclear Yard Drainage Holding Pond**

File Number: 91-00
EDMS Number: J22 080807 001
UNID: WBH-00-INSP-333 -DAM
Report ID: R00WBHCLA082008

Date of Inspection: 05/28/04

Headwater: N/A
Tailwater: N/A

Inspection Participants:

Dam Safety: Scott Kramer, Rusty Tompkins
WBN Nuclear: Darrin Hutchison, Environmental Tech Support Manager

Features Inspected:

Yard Drainage Holding Pond
Spillway Dam

Attachments to this Inspection Memorandum:

Exhibit 1: Recommendations
Exhibit 2: Inspection Procedure, Checklist, Observations
Exhibit 3: Photographs
Exhibit 4: Drawing 10N225, 10N226, 10W227, 17W303-2

Summary:

A yard drainage holding pond is located at Watts Bar Nuclear plant, which is included in the National Inventory of Dams (NID). The size of the reservoir is such that an embankment dam located at the Southwest corner of the holding pond meets the definition of a dam per the Federal Guidelines for Dam Safety; therefore Dam Safety inspections of this dam are required. This was the first such inspection performed at this facility.

The dam is in satisfactory condition and only some minor maintenance is recommended in Exhibit 1.

Original signed by Scott Kramer, PE
Principal Dam Safety Inspection Engineer

Original signed by Lynn Petty, PE
Manager, Civil Engineering

Distribution: Senior Manager, RO Support Services, Gene Gibson; Senior Manager, River Scheduling, Charles Bach, Carol Eimers; Manager, Dam Safety, Russell Tompkins; Manager, Civil Engineering, Lynn Petty; WBN Nuclear, Darrin Hutchison; Facilities Management, Darrel Reed; Dam Safety, Kim Barrett; Chattanooga Dam Safety Files (Hard Copy), BSL (Diana Miles)

Exhibit 1, Recommendations
Watts Bar Hydro Plant
Special, Nuclear Yard Drainage Holding Pond

Maintenance & Repair Items to be Handled by Other Organizations:

1. PM – Remove the trees located on the upstream and downstream side of the small embankment dam and spillway. Include all trees within 20' of the toe and groin areas.
Responsible Organization: Facilities Maintenance, Darrel Reed
Estimated Cost: \$4,000.00
Estimated Completion Date: 3/30/09

2. PM – Fill the small hole that is undermining the left side of the spillway slab just downstream from the crest of the dam with small 1/2" washed stone.
Responsible Organization: Facilities Maintenance, Darrel Reed
Estimated Cost: \$500.00
Estimated Completion Date: 3/30/09

Maintenance & Repair Items:

None

Pending Projects:

None

Follow-up Tasks:

None

Exhibit 2, Inspection Procedure and Checklist
Watts Bar Hydro Plant
Special, Nuclear Yard Drainage Holding Pond

1. Inspection Procedure:

1.1. See procedure: ..\\..\\Inspection Procedures, Civil\\IP2.0 General, Intermediate Civil Inspections.doc

1.2. Equipment Requirements: PPE, Camera

2. Inspection Checklist:

2.1. Holding Pond Embankment Dam (Including Abutment):

2.1.1. Upstream Face:

- 2.1.1.1. Slope Protection
- 2.1.1.2. Erosion
- 2.1.1.3. Sinkholes, Depressions
- 2.1.1.4. Vegetation
- 2.1.1.5. Low Level Outlet Structure

2.1.2. Downstream Face (Including Abutment):

- 2.1.2.1. Slope Protection
- 2.1.2.2. Erosion
- 2.1.2.3. Sinkholes, Depressions
- 2.1.2.4. Vegetation
- 2.1.2.5. Seeps

2.2. Spillway Section:

2.2.1. Crest and Downstream Face:

- 2.2.1.1. Surface Condition of concrete
- 2.2.1.2. Cracks/ Spalls
- 2.2.1.3. Block Movement at Joints
- 2.2.1.4. Leakage
- 2.2.1.5. Erosion
- 2.2.1.6. Undermined Holes along Edges

Exhibit 2, Inspection Procedure and Checklist
Watts Bar Hydro Plant
Special, Nuclear Yard Drainage Holding Pond

3. Inspection Observations:

A small yard holding pond of 190 acre-feet is located on the south side of the Watts Bar Nuclear plant, which collects discharge water from the cooling towers during periods of high river water temperatures. A small embankment dam with a concrete overflow spillway is located at the southwest side of the pond. For an overall plan view of the pond and dam, see the attached drawing 10N225. Details of the embankment dam and spillway can be found on drawing 10N226. Since the size of the reservoir is larger than the 50 acre-feet, this dam meets the definition of a dam per the Federal Guidelines for Dam Safety and Dam Safety inspections are required. This dam is classified as a low hazard.

An embankment crosses over the pond in front of the embankment dam, which creates a small pond in front of the actual dam. There are (5) 24" diameter pipes and (1) 24" pipe that directly connects the larger pond with the smaller pond, which acts as a skimmer between the main pond and the smaller pond. Details for the skimmer embankment are located on drawing 10W227. This particular feature is not considered as a dam.

An additional embankment separates another small pond at the northwest end of the main pond. A pipe allows water to flow from the smaller pond to the larger pond, therefore this embankment is also not considered as a dam.

Two small aluminum sludge settling ponds are located on the north side of the main yard pond, but these are too small to be considered as dams.

Also see procedure: ..\Inspection Procedures, Civil\IP1.5 Civil Post Inspection Activities.doc

3.1. Embankment Dam:

The embankment dam is estimated at 350' long and 19' high above natural ground elevation. A 25' wide uncontrolled concrete overflow spillway is located in the center section.

An inlet structure is located on the upstream left side of the embankment dam, from which a 48" diameter pipe is routed in the direction of the Tennessee River. This pipe tees into a 72" pipe that runs from the cooling towers downstream to an outlet structure on the river.

The embankment dam is in satisfactory condition. Numerous trees will require removal per Dam Safety requirements. See Exhibit 1 for recommendations.

3.2. Spillway Section:

The spillway section is in satisfactory condition. A small undermined area is located on the left side of the spillway slab, which allows water to flow underneath the slab. This hole should be filled with small 1/2" stone. See Exhibit 1 for recommendations.

Exhibit 3, Inspection Photographs
Watts Bar Hydro Plant
Special, Nuclear Yard Drainage Holding Pond

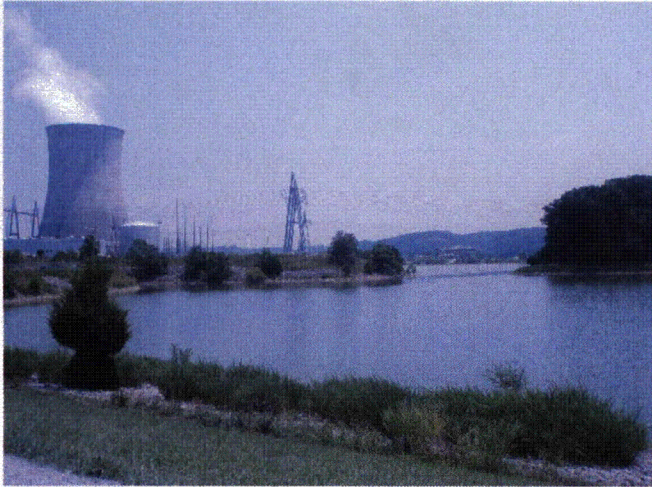


Figure 1
View of main yard holding pond looking eastward towards the cooling towers.



Figure 2
View of main holding pond taken from same spot at Figure 1, looking towards the Southeast.



Figure 3
View of main holding pond looking towards the northwest and at the location of the photo taken in Figure 2.

Exhibit 3, Inspection Photographs
Watts Bar Hydro Plant
Special, Nuclear Yard Drainage Holding Pond



Figure 4:
View of upstream side of dam with the concrete spillway. Note numerous trees that will need to be removed.



Figure 5:
View of crest of dam and upstream edge of concrete spillway. A weir for measuring flow is located on the upstream end of the spillway.



Figure 6:
View of downstream slope of dam, with concrete spillway slab. Note trees located along the toe which will require removal.

Exhibit 3, Inspection Photographs
Watts Bar Hydro Plant
Special, Nuclear Yard Drainage Holding Pond

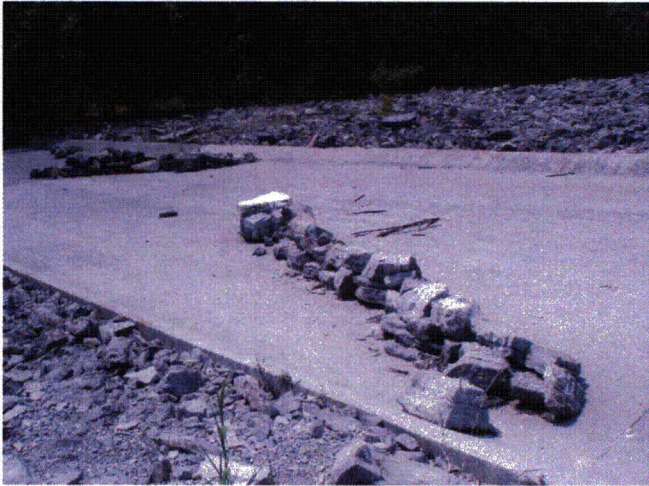


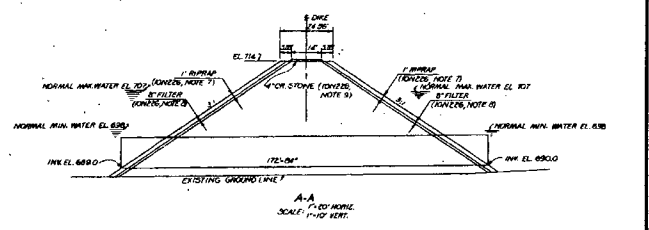
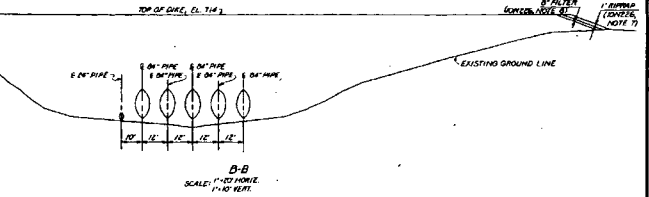
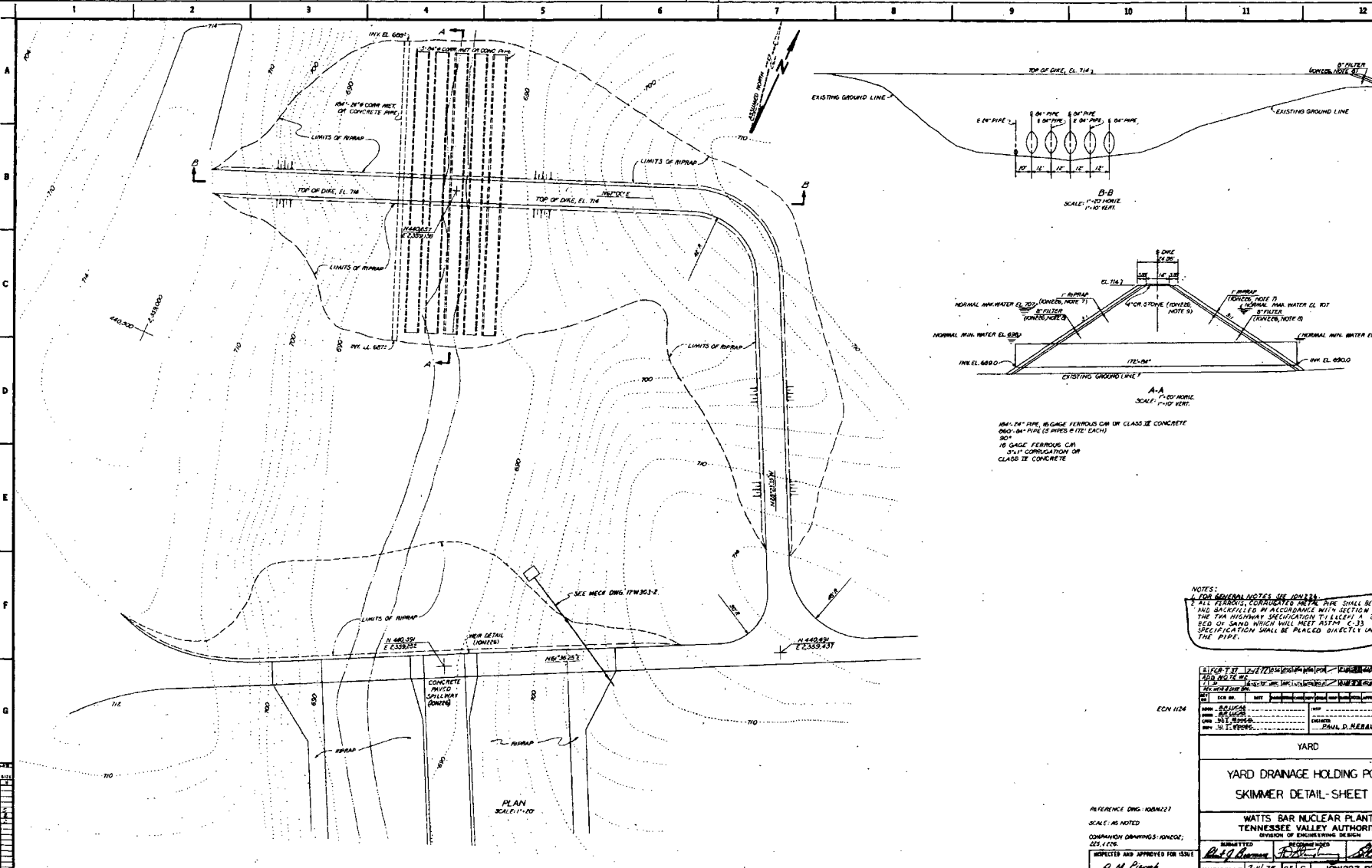
Figure 7:
View of concrete spillway slab on
downstream slope.



Figure 8:
View of a small hole that has undermined the
concrete spillway slab.



Figure 9:
View of small whirlpool above inlet structure
for 48" outlet pipe.



3/4" x 1/4" FERRUGINOUS COIL OR CLASS III CONCRETE
 600-04" PIPE (6 INCHES E.T.E. EACH)
 50'
 1/2" GAUGE FERRUGINOUS COIL
 3/4" CORRUGATION OR
 CLASS III CONCRETE

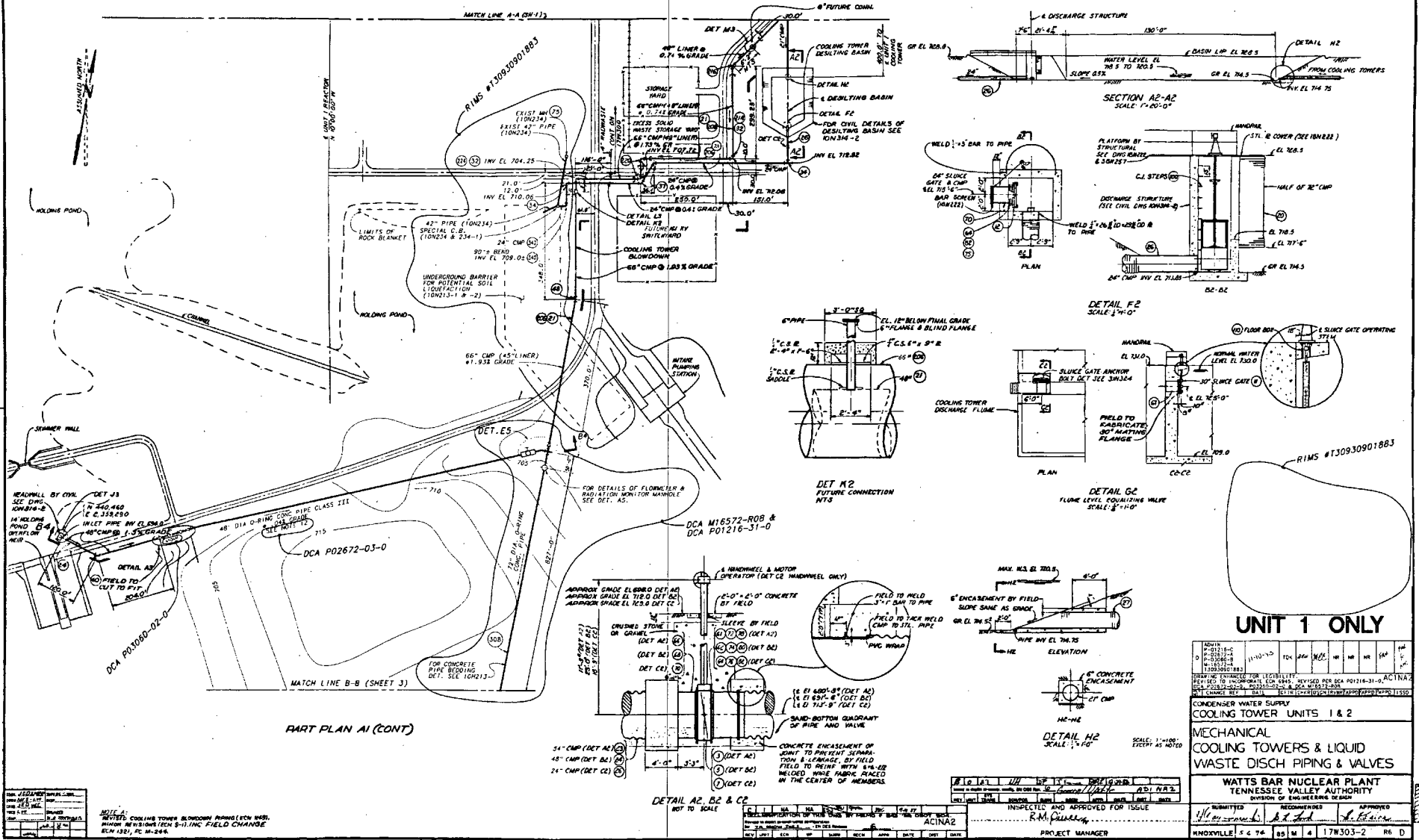
NOTES:
 FOR GENERAL NOTES SEE SHEET 1
 1. ALL FERRUGINOUS CORRUGATED IRON PIPE SHALL BE PLACED AND BACKFILLED IN ACCORDANCE WITH SECTION 602 OF THE TVA HIGHWAY SPECIFICATION TO LLEST 1. A 2" MIN. BED OF SAND WHICH WILL MEET ASTM C-33 SPECIFICATION SHALL BE PLACED DIRECTLY UNDER THE PIPE.

DESIGNED BY	DATE	SCALE	PROJECT NO.	SHEET NO.
DRAWN BY	DATE	SCALE	PROJECT NO.	SHEET NO.
CHECKED BY	DATE	SCALE	PROJECT NO.	SHEET NO.
APP. BY	DATE	SCALE	PROJECT NO.	SHEET NO.

YARD
 YARD DRAINAGE HOLDING POND
 SKIMMER DETAIL-SHEET 3
 WATTS BAR NUCLEAR PLANT
 TENNESSEE VALLEY AUTHORITY
 DIVISION OF ENGINEERING DESIGN
 SUBMITTED BY: *[Signature]*
 CHECKED BY: *[Signature]*
 APPROVED BY: *[Signature]*
 INSPECTED AND APPROVED FOR ISSUE:
R. M. Purdy
 KNOXVILLE 2-14-75 85 C IOW227 R2

DATE	BY	REVISION

E-11



PART PLAN A1 (CONT)

UNIT 1 ONLY

NO. 1110-10	REV. 1	REV. 2	REV. 3	REV. 4	REV. 5	REV. 6	REV. 7	REV. 8	REV. 9	REV. 10
DATE	BY	CHKD	APP'D	DATE	BY	CHKD	APP'D	DATE	BY	CHKD
11-10-75
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CONDENSER WATER SUPPLY										
COOLING TOWER UNITS 1 & 2										
MECHANICAL										
COOLING TOWERS & LIQUID										
WASTE DISCH PIPING & VALVES										
WATTS BAR NUCLEAR PLANT										
TENNESSEE VALLEY AUTHORITY										
DIVISION OF ENGINEERING DESIGN										
APPROVED	RECOMMENDED	APPROVED								
11/10/75								
KNOXVILLE 2474 85 M 4 17M303-2 R6 D										

PROCADAM MAINTAINED DRAWING
 THIS CONSTRUCTION CONTROL DRAWING IS MAINTAINED BY THE
 DRAWING CONTROL UNIT AND IS NOT PART OF THE ORIGINAL DRAWING
 17M303-2 R6 D

AS CONSTRUCTED