

# DREAMY DRAW DAM

GILA RIVER BASIN, ARIZONA

DREAMY DRAW

## DAM, OUTLET WORKS AND SPILLWAY

PERIODIC INSPECTION

REPORT NO. 3

OCTOBER 1975



A-R-3

U.S. ARMY ENGINEERS DISTRICT, LOS ANGELES

CORPS OF ENGINEERS

A203.906

TEAM INSPECTION OF DREAMY DRAW DAM  
Periodic Inspection Report No. 3  
dated October 1975

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**RECEIVED**  
Flood Control Dist.  
Maricopa County

JUN 7 1976

TEAM INSPECTION OF  
DREAMY DRAW DAM

1. INSPECTION TEAM. On 20 October 1975 a periodic team inspection of Dreamy Draw Dam was made as required by ER 1110-2-100. The team consisted of the following personnel:

\*Maricopa County Flood  
Control District

Los Angeles District

B. Pendergast  
W. Anderson

T. Tatsugawa  
V. Minor

South Pacific Division

L. Lauro  
T. Hembree  
T. Dobrovolny

R. Skillings  
R. Catanach

\*Maricopa County Flood Control District is the agency responsible for operation and maintenance of the project.

2. PROJECT CONDITIONS.

a. The weather was clear with bright sunshine and a high temperature of about 85 degrees F.

b. The reservoir was dry with only a few small trees and a sparse growth of brush growing in the basin area.

3. MAXIMUM WATER SURFACE ELEVATION. The highest water surface elevation recorded since the last inspection 13 November 1974 was less than 2 feet above the intake invert elevation of the ungated conduit which is 1369.71. The spillway crest elevation is 1405.00 ft. m.s.l.

4. INSPECTION RESULTS.

a. Embankment.

(1) Crest - The crest was free of erosion, weeds and brush. The bituminous roadway surface showed no evidence of settlement or cracking. The settlement monuments and guard posts were in good condition.

(2) Abutment contacts - There were no cracks, slides or other signs of instability, nor any erosion of the exposed abutment surfaces since the last inspection.

(3) Upstream and downstream slopes - There was no erosion or evidence of burrowing animals on the upstream slope. The riprap on the slope was sound and durable with no signs of deterioration, nor was there any vegetation on the slope. Since the last inspection the freshly applied topsoil on the downstream slope has produced its first covering

of grass which is now dormant. Several gullies about 1 foot wide and 0.5 feet deep have scoured the emerging turf on the downstream slope from the crest to the toe of the slope. These gullies, about 12 inches apart, form small groups that are about 100 feet apart.

(4) Upstream and downstream toes - There was no evidence of erosion, seepage, undermining, or settlement at the toes.

b. Saddle dike.

(1) Crest - The crest was free of erosion and vegetation. There was no evidence of settlement or cracking of the bituminous roadway.

(2) Abutment contacts - There were no signs of instability, nor any erosion of the exposed abutment surfaces.

(3) Upstream and downstream slopes - The riprap on the upstream slope was sound and in place. No vegetation was observed on the slope. The condition of the downstream slope was stable.

(4) Upstream and downstream toes - No evidence of erosion or settlement was observed at the toes.

c. Spillway.

(1) Approach channel - There was some ravelling of the left excavated slope due to flow over the top of the slope from the natural waterways.

(2) Control section. Concrete in the sill had only minor shrinkage cracking, and there was no sign of reactive aggregate. There was no erosion or ravelling of the excavated slopes above the sill.

(3) Outlet channel - Excavation for the spillway intersected three gullies 3 to 5 feet deep which drain down the left excavated slope into the channel. Flow from these gullies has caused considerable erosion of the slope since the last inspection. These gullies have a maximum depth of 3 feet. The right excavated slope was not eroding. The channel was clean and unobstructed.

d. Outlet works.

(1) Approach channel - The channel was free of debris and unobstructed.

(2) Intake structure - Concrete in the structure was in good condition with no evidence of reactive aggregate and only minor cracking. There was no debris in the vicinity of the structure.

(3) Conduit - The concrete in the conduit did not reveal any structural damage.

(4) Outlet structure. The concrete was in good condition with no evidence of reactive aggregate or structural distress. Cracking was minor. Two 6-inch drains under the downstream toe of the embankment terminate at the upstream wall of the stilling basin where they are closed by automatic flap gates. Both gates appeared to be in good operating condition.

(5) Outlet channel - The channel was free of debris and unobstructed. A few small trees and some brush were growing on the side slopes.

e. Instrumentation.

(1) Settlement monuments - Settlements and horizontal movements measured in November 1975 were insignificant.

5. CONCLUSIONS.

a. The erosion on the downstream slope of the dam is not significant since a stable layer of slope protection was placed on the slope during construction and prior to the addition of the 18-inch layer of topsoil.

b. The erosion along the left bank of the spillway channel could cause excessive deposition of alluvium in the spillway channel. This could result in partial blocking of the spillway channel.

6. REQUIRED ACTION.

a. Install grouted stone flumes with adequate cutoff walls at each of the three gullies draining down the left bank of the spillway channel.

NOTE: Following approval of this report by SPD, it will be transmitted to the Maricopa County Flood Control District. The transmittal letter will state the required action and request MCFCD to notify the Los Angeles District by letter when the work is done so a final inspection of the completed work can be made.

7. FUTURE INSPECTION. The next team inspection for Dreamy Draw Dam is scheduled for October 1976.





Photo 1 - Entrance to project showing project sign.



Photo 2 - Upstream slope of dam from saddle dike.



Photo 3 - Reservoir, intake structure and upstream slope of dam from crest.



Photo 4 - Intake structure and upstream slope of dam.



Photo 5 - Outlet works outlet channel, outlet structure and downstream slope of dam from crest.



Photo 6 - Outlet structure and downstream slope of dam.



Photo 7 - Upstream slope of saddle dike from right abutment of dike.



Photo 8 - Downstream slope of saddle dike from left abutment showing new grass now dormant.



Photo 9 - Spillway approach channel looking upstream from sill.



Photo 10 - Spillway sill looking west.



Photo 11 - Erosion of left side slope of the spillway outlet channel at a gulley drain.



Photo 12 - Spillway outlet channel looking downstream from sill.

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MEMORANDUM FOR THE RECORD

SUBJECT: Periodic Inspection - Dreamy Draw Dam

1. On 20 October 1975, the following personnel performed the periodic inspection of Dreamy Draw Dam:

R. Catanach	SPD
R. Skillings	SPD

T. Dobrovlny	SPL
T. Hembree	SPL
L. Lauro	SPL
V. Minor	SPL
H. Tatsugawa	SPL

W. Anderson	Maricopa County Flood Control
P. Pendergast	District

2. This was the third annual inspection since the completion of the project in 1973: the next inspection will be held in one year.

3. The project is in good condition and there are no questions regarding the structure stability, safety or operational adequacy of the project. A number of items were noted during the inspection and deserve comment and, where appropriate, action prior to the next inspection.

a. Landscaping of the downstream slope was completed and materials are beginning to gully and wash into the toe riprap. Some concern was again expressed over the use of this material on the steep slope, and the potential danger of the soil washing off during an intense rainfall and causing blockage of the downstream channel.

b. Vandalism continues to be a problem: however, the measures taken appear to be working in controlling damage.

c. Results on instrumentation were not available for the inspection. Surveys should be completed prior to inspection so results can be reviewed at the site.

d. The drains under the downstream toe of the embankment which terminate at the unstream wall of the impact stilling basin had been recently flushed.

e. Construction of road along the south side of the spillway has amplified the drainage and erosion problems reported during the last inspection. The roadway provided greater runoff and concentrates the

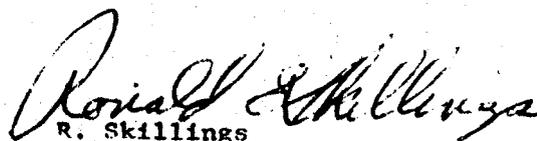
MEMORANDUM FOR THE RECORD

SUBJECT: Periodic Inspection - Dreamy Draw Dam

flows into the gullies which were eroding the left side of the spillway. The gully erosion should be arrested by some means. The problem was brought to the attention of the county representative at the site.



R. Catanach  
Geology, Soils & Materials Br.



R. Skillings  
Construction- Operations

APPENDIX II  
AGENDA FOR INSPECTION OF  
DREAMY DRAW, TAT MOMOLIKOT (SANTA ROSA)  
AND MOJAVE RIVER DAMS

Monday, 20 October 1975 - LAD team members will travel by private car to LAX and take TWA flight #412 leaving at 0945 hours for Phoenix, Arizona, arriving in Phoenix at 1056 hours. SPD and OCE team members should arrive in Phoenix by 1100 hours. LAD and SPD will each rent a commercial car from Econo-Car of Phoenix, 319 South 24th Street, Phoenix, telephone (602) 275-4429. Rental rate is \$12.00 a day plus 12¢ a mile with a 5% discount. Single room reservations will be made for all team members for 20 October 1975. The name and address of the motel is:

Ramada Inn East  
38th & Van Buren  
Phoenix, Arizona  
Telephone Number: (602) 275-7878  
Cost per room: \$15.75 including tax

1300	Travel from motel to Dreamy Draw Dam
1330	Inspect Dreamy Draw Dam
1630	Return to motel

Tuesday, 21 October 1975

0800	Check out of motel and travel to Tat Momolikot Dam
0930	Inspection of dam
1130	Lunch-Team members will bring own lunch
1200	Inspection of dam
1430	Depart for Phoenix
1700	All team members to take Hughes Airwest flight #889 to Ontario, California
1754	Arrive at Ontario
1815	Depart by commercial car for Victorville, California
1930	Arrive in Victorville

LAD will rent commercial cars at the Ontario Airport from any rental agency desired. Single room reservations will be made for all team members for 21 October 1975. The name and address of the motel is:

Green Tree Inn  
14173 Green Tree Boulevard  
Victorville, California  
Telephone Number: (714) 245-3461  
Cost per room: \$15.90 including tax

Wednesday, 22 October 1975

0800

Depart from motel for Mojave River Dam

0830

Inspection of dam

1300

Lunch

1400

Return to Ontario Airport

1515

Arrive at Ontario Airport and check in  
rental cars

1545

SPD and OCE personnel leave for next  
destination. LAD personnel return  
home via LAX. (PSA flight #493  
leaves Ontario at 1645 hours and  
arrives in San Francisco at  
1745 hours)