

1 **S-72 STRUCTURE 72**

2
3 **Location**

4 S-72 is located in C-40 approximately four miles upstream from Lake Okeechobee.

5
6 **Description**

7 S-72 is a reinforced concrete, gated spillway with discharge controlled by two stem
8 operated vertical lift gates. Operation of the gates is controlled automatically, manually,
9 or by telemetry in accordance with the established operating criteria.

10
11 **Purpose**

12 The structure will maintain desirable water control stages upstream from the structure
13 during low flow periods; pass all discharges up to design capacity without exceeding
14 desirable stages; restrict discharge during floods to that which will not cause damaging
15 velocities or stages downstream; and pass sufficient discharge during low flow periods to
16 maintain stages and satisfy irrigation demands downstream. The structure also prevents
17 backflow from Lake Okeechobee during excessive stages in the lake resulting from
18 floods or wind-tide.

19
20 **Operation**

21 The automatic controls operate both gates simultaneously to maintain an optimum water
22 level of between 20.0 and 21.2 ft., NGVD above the structure. When the headwater
23 reaches 21.2 ft., NGVD, the gates open to continuously pass the design discharge 3,120
24 cfs or as much up to that amount as will reach the structure. When the headwater drops
25 to 20.7 ft., NGVD, the gates remain stationary until the headwater again reaches 21.2 ft.,
26 NGVD or drops to 20.2 ft., NGVD at which time the gates will begin to close. The gates
27 continue to close until they are fully closed or until the headwater again reaches 20.7 ft.,
28 NGVD, when they once more remain stationary until reactivated by the rising or falling
29 headwater. When the tailwater rises to within 0.2 ft., NGVD of the headwater or higher,
30 the gates will close to prevent negative heads from causing backflow through the
31 structure.

| | | |
|----|-------------------------------------|--------------|
| 1 | <u>STRUCTURE 72</u> | |
| 2 | | |
| 3 | <u>HYDRAULIC DESIGN DATA</u> | |
| 4 | | |
| 5 | <u>Type of Structure</u> | Spillway |
| 6 | <u>Location</u> | |
| 7 | Canal | C-40 |
| 8 | Station | 940+00 |
| 9 | <u>Discharge (cfs)</u> | |
| 10 | Design | 3.120 |
| 11 | SPF | 3.120 |
| 12 | Critical | - |
| 13 | <u>Headwater Elevation</u> | |
| 14 | Design | 20.4 |
| 15 | SPF | 23.5 |
| 16 | Critical | - |
| 17 | Optimum | 21.0 to 1111 |
| 18 | Minimum | 18.0 |
| 19 | <u>Tailwater Elevation</u> | |
| 20 | Design | 19.9 |
| 21 | SPF | - |
| 22 | Critical | 27.0 |
| 23 | (Hurricane) | |
| 24 | Optimum | 16.4 |
| 25 | Minimum | 9.9 |
| 26 | <u>Crest</u> | |
| 27 | Shape | Ogee |
| 28 | Elevation | 9.9 |
| 29 | Net Length (ft.) | 54.0 |
| 30 | <u>Gates</u> | |
| 31 | Number | 2 |
| 32 | Width X Height (ft.) | 27.0 X 11.6 |
| 33 | Clearance Elevation | 21.5 |
| 34 | Elevation of Overflow Slots | |
| 35 | Breastwall Elevation | 21.5 to 27.0 |
| 36 | <u>Stilling Basin</u> | |
| 37 | Apron Elevation | 3.6 |
| 38 | Apron Length | 28.0 |
| 39 | End Still Elevation | 5.0 |
| 40 | Baffle Block Elevation | 5.0 |
| 41 | Chute Block Elevation | - |
| 42 | Training Wall Elevation | 20.0 |

1 **STRUCTURE 72**

2

3 **HYDRAULIC DESIGN DATA (CONTINUED)**

4

5 Channel Section

| | | |
|---|---------------------------------|-----------|
| 6 | Side Slopes (vert. on horiz.) | 1 on 2 |
| 7 | Upstream Bottom Width & Elev. | 20 @ 1.0 |
| 8 | Downstream Bottom Width & Elev. | 50 @ -0.5 |

9 Riprap

| | | |
|----|--|-------|
| 10 | Upstream Channel | |
| 11 | Length (ft.) | - |
| 12 | Protection Elev. | - |
| 13 | Downstream Channel | |
| 14 | Length (ft.) | 70.0 |
| 15 | Protection Elev. | 19.5 |
| 16 | Downstream Bank | |
| 17 | Length Below Channel Riprap (ft.) | |
| 18 | Elevation | |
| 19 | <u>Approximate Ground Elevation at Structure</u> | 19.5+ |
| 20 | <u>Protection Elevation</u> | 27.0 |

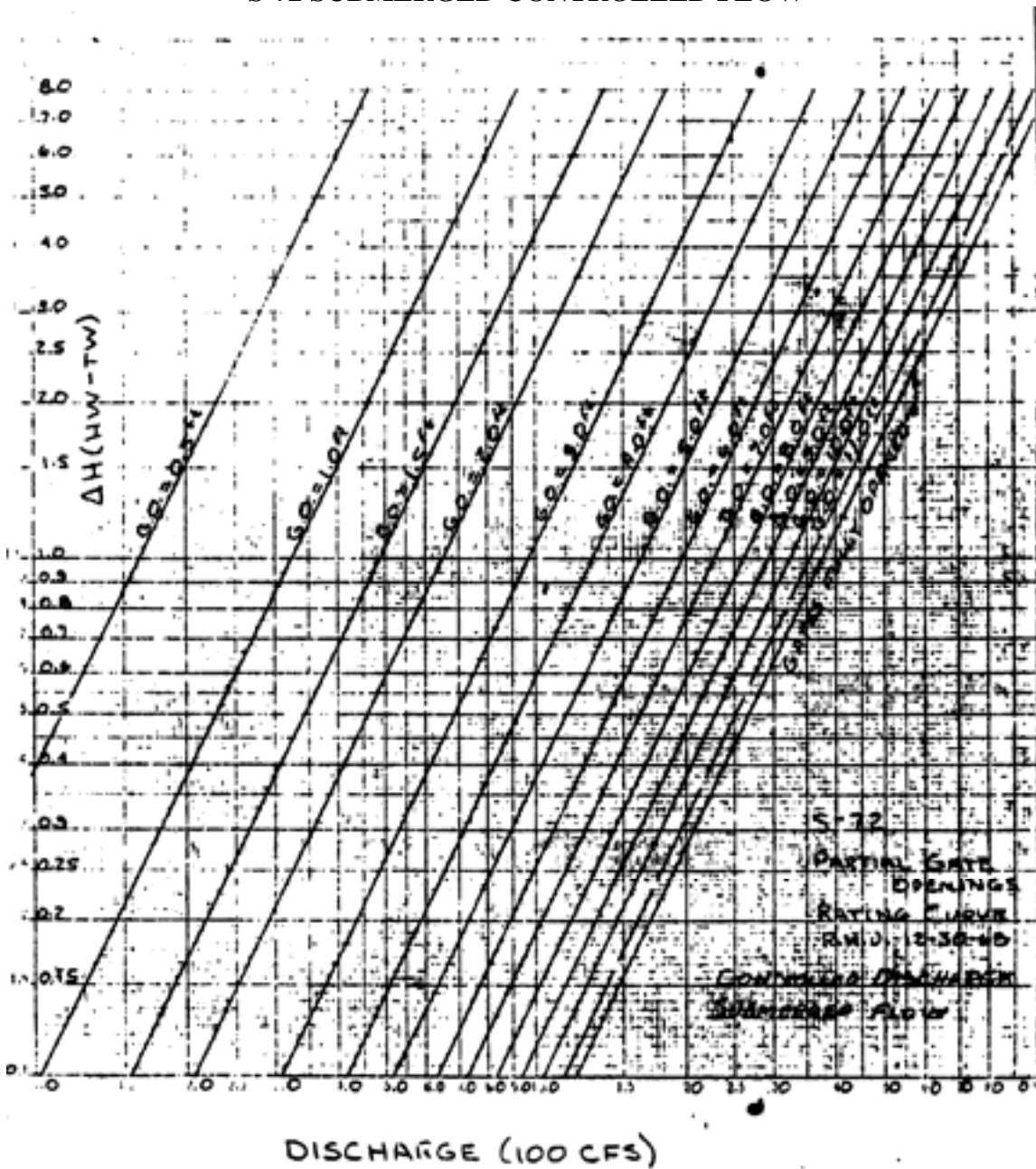
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23 Notes: All elevations refer to feet, NGVD.

24

S-72 SUBMERGED CONTROLLED FLOW



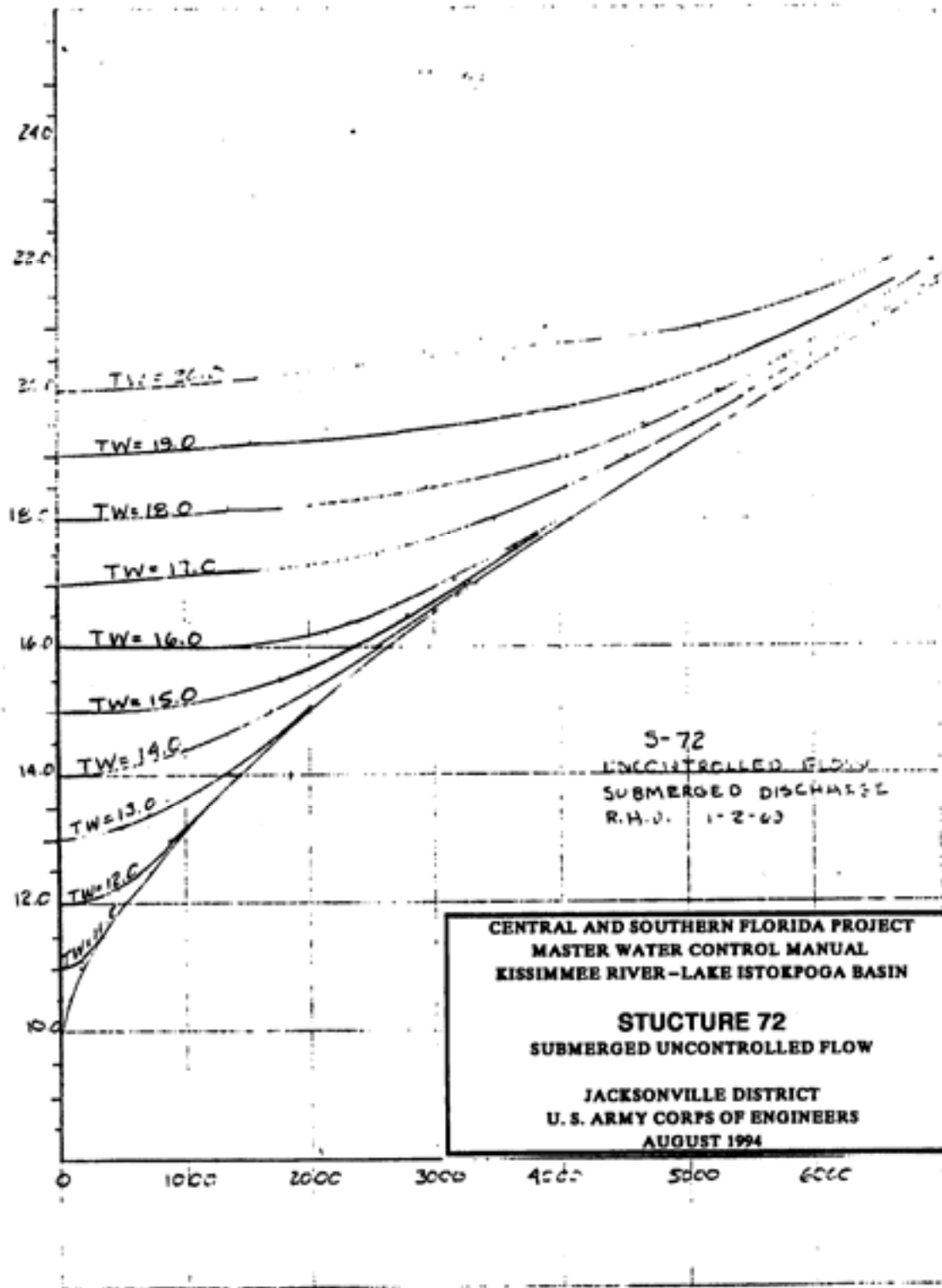
A-872-4

CENTRAL AND SOUTHERN FLORIDA PROJECT
 MASTER WATER CONTROL MANUAL
 KISSIMMEE RIVER-LAKE ISTOKPOGA BASIN

STRUCTURE 72
 SUBMERGED CONTROLLED FLOW

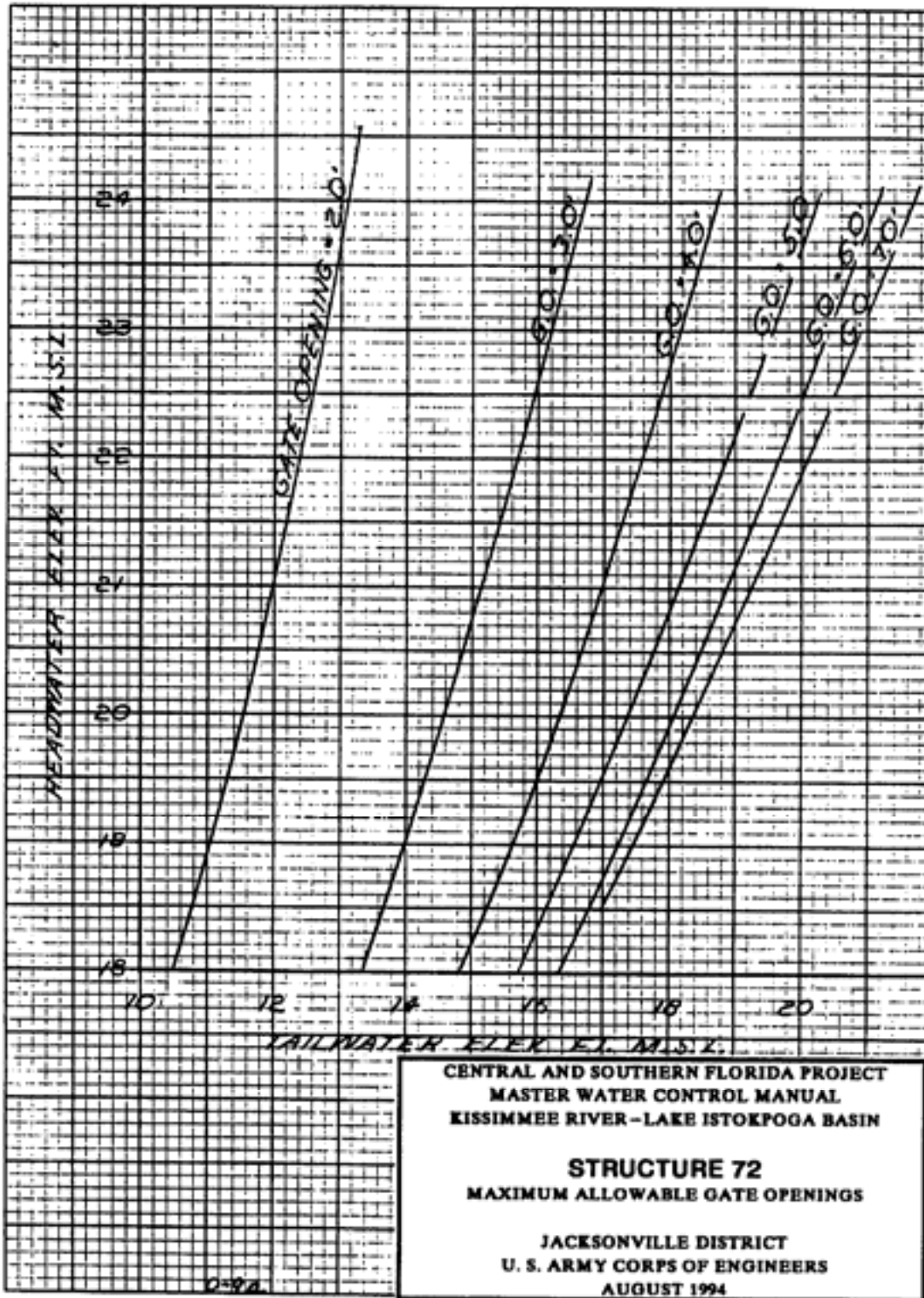
JACKSONVILLE DISTRICT
 U. S. ARMY CORPS OF ENGINEERS
 AUGUST 1994

S-72 SUBMERGED UNCONTROLLED FLOW



A-872-5

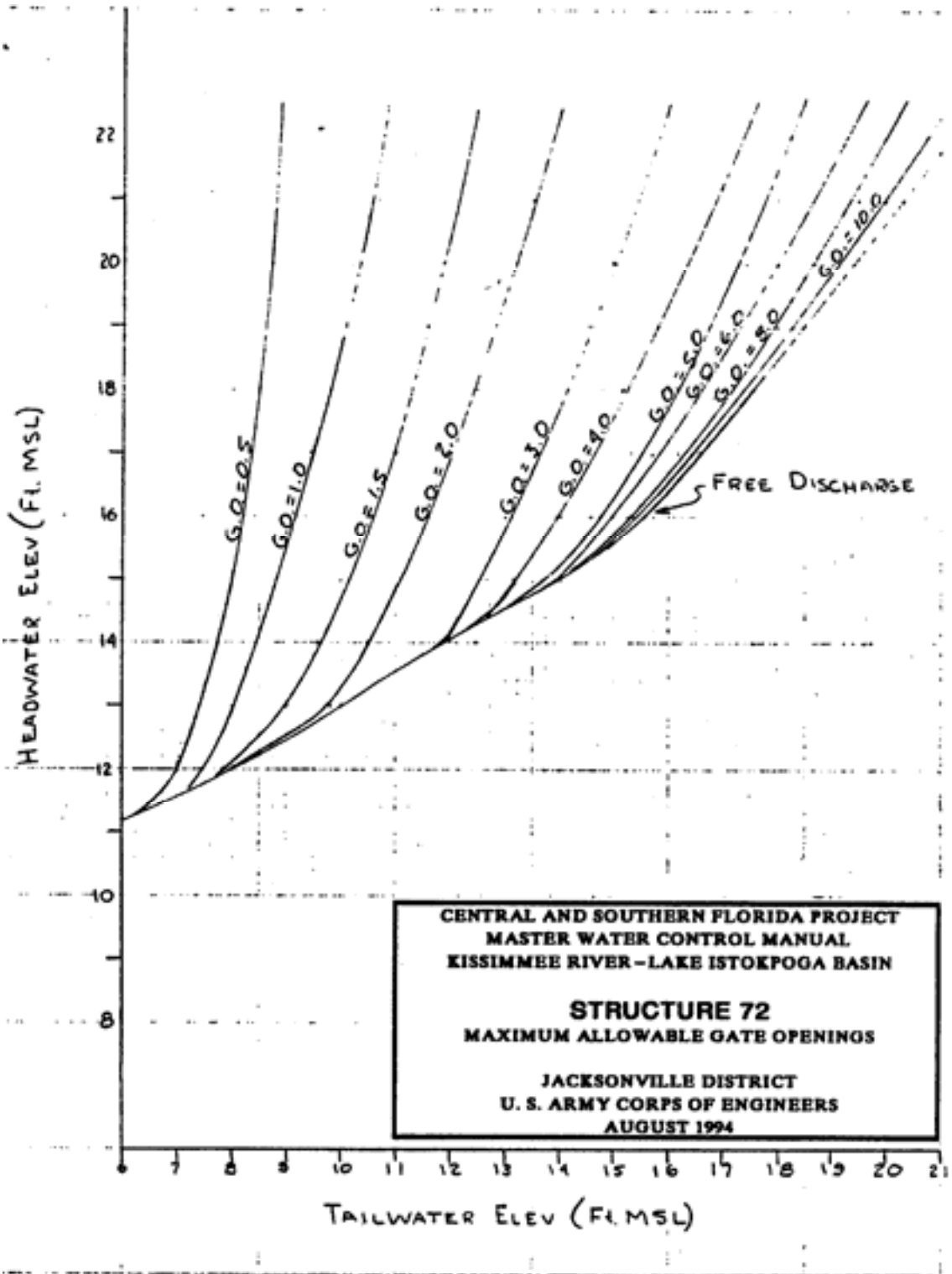
S-72 MAXIMUM ALLOWABLE GATE OPENINGS – SPECIFIC CASES



A-872-6

SAJWH 9-12-64

S-72 MAXIMUM ALLOWABLE GATE OPENINGS – GENERAL CASE



A-872-7

1 **S-75 STRUCTURE 75**

2
3 **Location**

4 S-75 is located in C-40 approximately about ten miles upstream of S-72 and about 14
5 miles upstream from Lake Okeechobee.

6
7 **Description**

8 S-72 is a reinforced concrete, gated spillway with discharge controlled by a stem operated
9 vertical lift gate. Operation of the gate is controlled automatically, manually, or by
10 telemetry in accordance with the established operational criteria.

11
12 **Purpose**

13 The structure will maintain desirable water-control stages upstream from the structure
14 during low flow periods; pass all discharges up to design capacity without exceeding
15 desirable stages; restrict discharge during floods to that which will not cause damaging
16 velocities or stages downstream; and pass sufficient discharge during low flow periods to
17 maintain stages and satisfy irrigation demands downstream.

18
19 **Operation**

20 The automatic controls operate the gate to maintain an optimum water level of between
21 25.3 and 26.2 ft., NGVD, above the structure. When the headwater reaches 26.2 ft.,
22 NGVD the gate opens continuously to pass the design discharge of 1,150 cfs or as much
23 up to that amount as will reach the structure. When the headwater drops to 25.7 ft.,
24 NGVD, the gate remains stationary until the headwater again reaches 26.2 ft., NGVD or
25 drops to 25.3 ft., NGVD at which time the gates begin to close. The gate continues to
26 close until it is fully closed or until the headwater again reaches 25.7 ft., NGVD when it
27 once more remain stationary until reactivated by the rising or falling headwater. When
28 the tailwater falls to 20.0 ft., NGVD, the automatic controls will open the gate 0.6 ft. The
29 gate will close when the tailwater rises to 21.0 ft., NGVD.

1 **STRUCTURE 75**

2

3 **HYDRAULIC DESIGN DATA**

4

| | | |
|----|-----------------------------|--------------|
| 5 | <u>Type of Structure</u> | Spillway |
| 6 | <u>Location</u> | |
| 7 | Canal | C-40 |
| 8 | Station | 400+00 |
| 9 | <u>Discharge (cfs)</u> | |
| 10 | Design | 1.150 |
| 11 | SPF | - |
| 12 | Critical | - |
| 13 | <u>Headwater Elevation</u> | |
| 14 | Design | 25.5 |
| 15 | SPF | 31.4 |
| 16 | Critical | - |
| 17 | Optimum | 26.0 to 1111 |
| 18 | Minimum | 23.5 |
| 19 | <u>Tailwater Elevation</u> | |
| 20 | Design | 25.0 |
| 21 | SPF | 27.7 |
| 22 | Critical | - |
| 23 | Optimum | 21.0 |
| 24 | Minimum | 18.0 |
| 25 | <u>Crest</u> | |
| 26 | Shape | Rounded |
| 27 | Elevation | 17.0 |
| 28 | Net Length (ft.) | 28.0 |
| 29 | <u>Gates</u> | |
| 30 | Number | 1 |
| 31 | Width X Height (ft.) | 28.0 X 9.5 |
| 32 | Clearance Elevation | 26.5 |
| 33 | Elevation of Overflow Slots | |
| 34 | Breastwall Elevation | 26.5 to 31.5 |
| 35 | <u>Stilling Basin</u> | |
| 36 | Apron Elevation | 7.5 |
| 37 | Apron Length | 14.5 |
| 38 | End Still Elevation | 10.0 |
| 39 | Baffle Block Elevation | 10.0 |
| 40 | Chute Block Elevation | - |
| 41 | Training Wall Elevation | 25.0 |

1 **STRUCTURE 75**

2

3 **HYDRAULIC DESIGN DATA (CONTINUED)**

4

5 Channel Section

| | | |
|---|---------------------------------|----------|
| 6 | Side Slopes (vert. on horiz.) | 1 on 2 |
| 7 | Upstream Bottom Width & Elev. | 20 @ 9.6 |
| 8 | Downstream Bottom Width & Elev. | 20 @ 7.5 |

9 Riprap

| | | |
|----|--|-------|
| 10 | Upstream Channel | |
| 11 | Length (ft.) | - |
| 12 | Protection Elev. | - |
| 13 | Downstream Channel | |
| 14 | Length (ft.) | 30.0 |
| 15 | Protection Elev. | 27.0 |
| 16 | Downstream Bank | |
| 17 | Length Below Channel Riprap (ft.) | |
| 18 | Elevation | |
| 19 | <u>Approximate Ground Elevation at Structure</u> | 27.0+ |
| 20 | <u>Protection Elevation</u> | 31.5 |

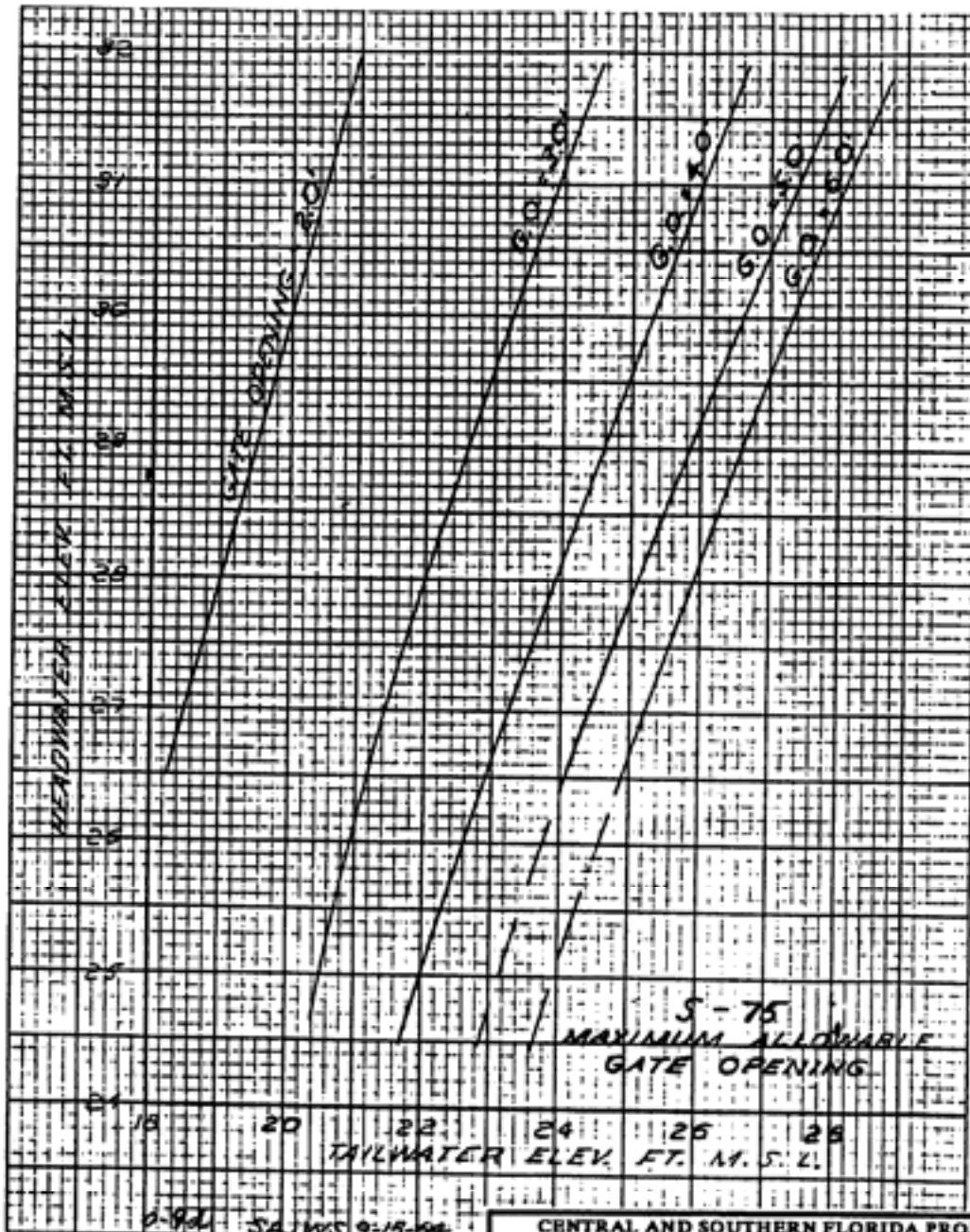
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23 Notes: All elevations refer to feet, NGVD.

24

S-75 MAXIMUM ALLOWABLE GATE OPENINGS



S-75
MAXIMUM ALLOWABLE
GATE OPENING

CENTRAL AND SOUTHERN FLORIDA PROJECT
MASTER WATER CONTROL MANUAL
KISSIMMEE RIVER-LAKE ISTOKPOGA BASIN

STRUCTURE 75
MAXIMUM ALLOWABLE GATE OPENINGS

JACKSONVILLE DISTRICT
U. S. ARMY CORPS OF ENGINEERS
AUGUST 1994

A-S75-4

1 **S-82 STRUCTURE 82**

2
3 **Location**

4 S-82 is located in C-41 about 500 feet downstream of the intersection of C-41 and C-41A
5 and five miles downstream from Lake Istokpoga.
6

7 **Description**

8 S-82 is a reinforced concrete, gated spillway with discharge controlled by two stem
9 operated vertical lift gates. Operation of the gates is controlled automatically, manually,
10 or by telemetry in accordance with the seasonal operational criteria.
11

12 **Purpose**

13 The structure will restrict discharges from C-41A into C-41 during periods when C-41
14 capacity is required for local runoff; but will permit up to 2,100 cfs from Lake Istokpoga
15 to be discharged down C-41 when the capacity is available. It will permit agricultural
16 releases into C-41 of up to 800 cfs during dry periods.
17

18 **Operation**

19 The automatic controls operate both gates simultaneously to maintain (together with S-
20 83) a water level of between 31.8 and 32.5 ft., NGVD in C-41A above the structure.
21 When the headwater reaches 32.5 ft., NGVD, the gates begin to open to pass the design
22 discharge of 2,100 cfs or as much up to that amount as will reach the structure. When the
23 headwater drops to 32.0 ft., NGVD, the gates become stationary and remain so until the
24 headwater again rises to 32.5 ft., NGVD or drops to 31.8 ft., NGVD when the gates begin
25 to close. They continue to close until fully closed or the headwater again reached 32.0 ft.,
26 NGVD when they once more remain stationary until reactivated by the rising or falling
27 headwater. Since the 2,100 cfs capacity is only secondary for regulation of Lake
28 Istokpoga, the gates will close whenever the tailwater reaches 31.0 ft., NGVD regardless
29 of headwater elevation. When the tailwater falls to elevation 25.0 ft., NGVD, the
30 automatic controls will open the gates to 1.6 ft. to pass about 800 cfs. The gates will
31 close when the tailwater reaches elevation 26.0 ft., NGVD.

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|----|-------------------------------------|--------------|
| 1 | <u>STRUCTURE 82</u> | |
| 2 | | |
| 3 | <u>HYDRAULIC DESIGN DATA</u> | |
| 4 | | |
| 5 | <u>Type of Structure</u> | Spillway |
| 6 | <u>Location</u> | |
| 7 | Canal | C-41 |
| 8 | Station | 322+60 |
| 9 | <u>Discharge (cfs)</u> | |
| 10 | Design | 2.100 |
| 11 | SPF | 2.100 |
| 12 | Critical | - |
| 13 | <u>Headwater Elevation</u> | |
| 14 | Design | 32.5 |
| 15 | SPF | 40.0 |
| 16 | Critical | - |
| 17 | Optimum | 32.0 to 1111 |
| 18 | Minimum | 29.0 |
| 19 | <u>Tailwater Elevation</u> | |
| 20 | Design | 30.9 |
| 21 | SPF | 34.7 |
| 22 | Critical | - |
| 23 | Optimum | 26.0 |
| 24 | Minimum | 23.5 |
| 25 | <u>Crest</u> | |
| 26 | Shape | Ogee |
| 27 | Elevation | 26.7 |
| 28 | Net Length (ft.) | 46.0 |
| 29 | <u>Gates</u> | |
| 30 | Number | 2 |
| 31 | Width X Height (ft.) | 23.0 X 6.8 |
| 32 | Clearance Elevation | 33.5 |
| 33 | Elevation of Overflow Slots | |
| 34 | Breastwall Elevation | 33.5 to 40.0 |
| 35 | <u>Stilling Basin</u> | |
| 36 | Apron Elevation | 22.3 |
| 37 | Apron Length | 23.0 |
| 38 | End Still Elevation | 23.5 |
| 39 | Baffle Block Elevation | 23.5 |
| 40 | Chute Block Elevation | - |
| 41 | Training Wall Elevation | 31.0 |
| 42 | <u>Channel Section</u> | |
| 43 | Side Slopes (vert. on horiz.) | 1 on 2 |
| 44 | Upstream Bottom Width & Elev. | 40 @ 16.7 |
| 45 | Downstream Bottom Width & Elev. | 40 @ 16.7 |
| 46 | | |

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STRUCTURE 82

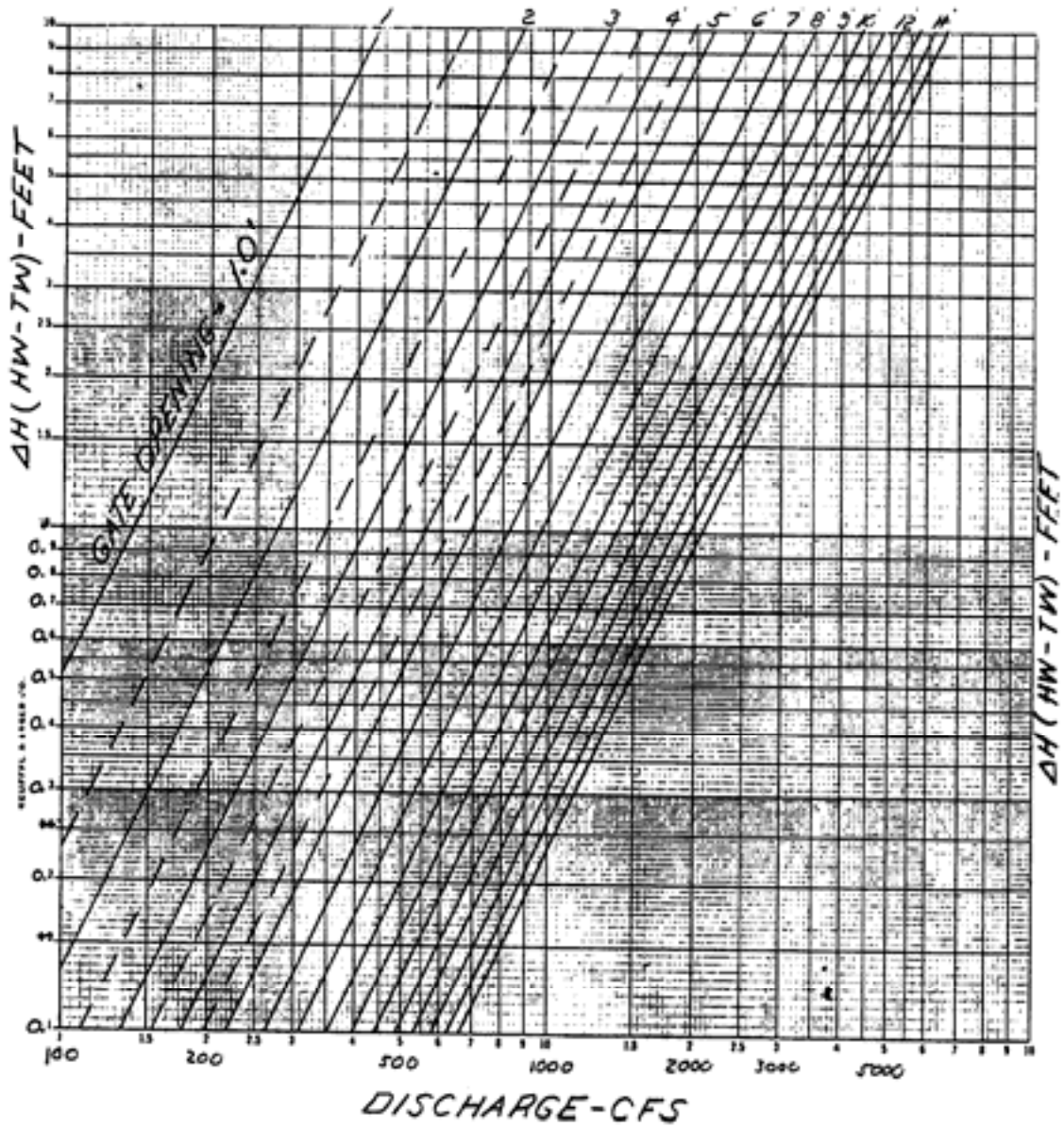
HYDRAULIC DESIGN DATA (CONTINUED)

Riprap

| | |
|---|--------------|
| Upstream Channel | |
| Length (ft.) | - |
| Protection Elev. | - |
| Downstream Channel | |
| Length (ft.) | 60.0 |
| Protection Elev. | 33.5 |
| Downstream Bank | |
| Length Below Channel Riprap (ft.) | |
| Elevation | |
| <u>Approximate Ground Elevation at Structure</u> | 33.5+ |
| <u>Protection Elevation</u> | 40.0 |

Notes: All elevations refer to feet, NGVD.

S-82 SUBMERGED CONTROLLED FLOW



$Q = CA\sqrt{2g\Delta H}$
 $C = 0.75$
 $A = 23.0' \times G_0$
 $\Delta H = HW - TW$
 NOTE: Structure has 2 gates-
 For total discharge multiply
 by 2.

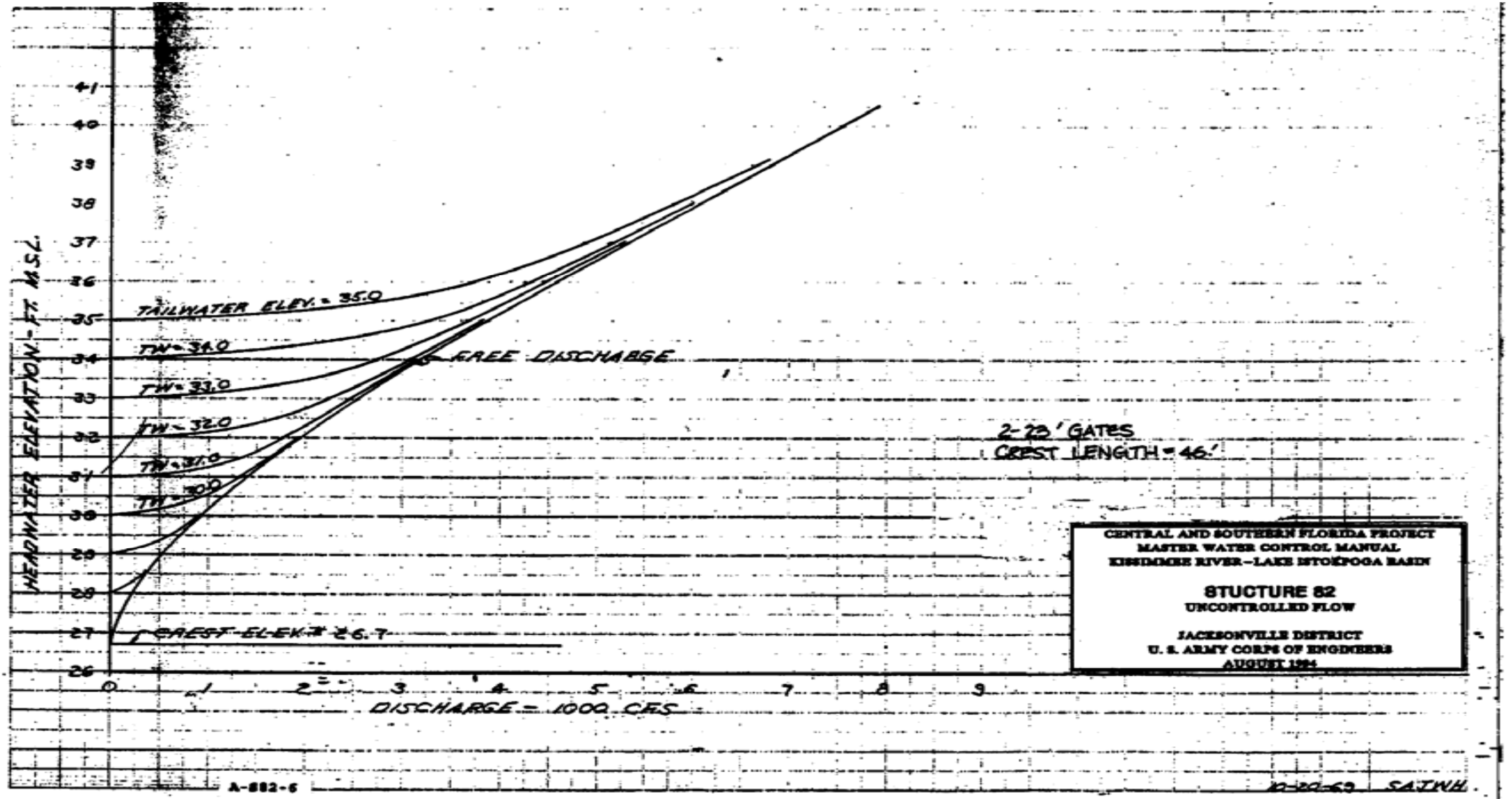
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 MASTER WATER CONTROL MANUAL
 KISSIMMEE RIVER - LAKE ISTOKPOGA BASIN

STRUCTURE 82
 SUBMERGED CONTROLLED FLOW

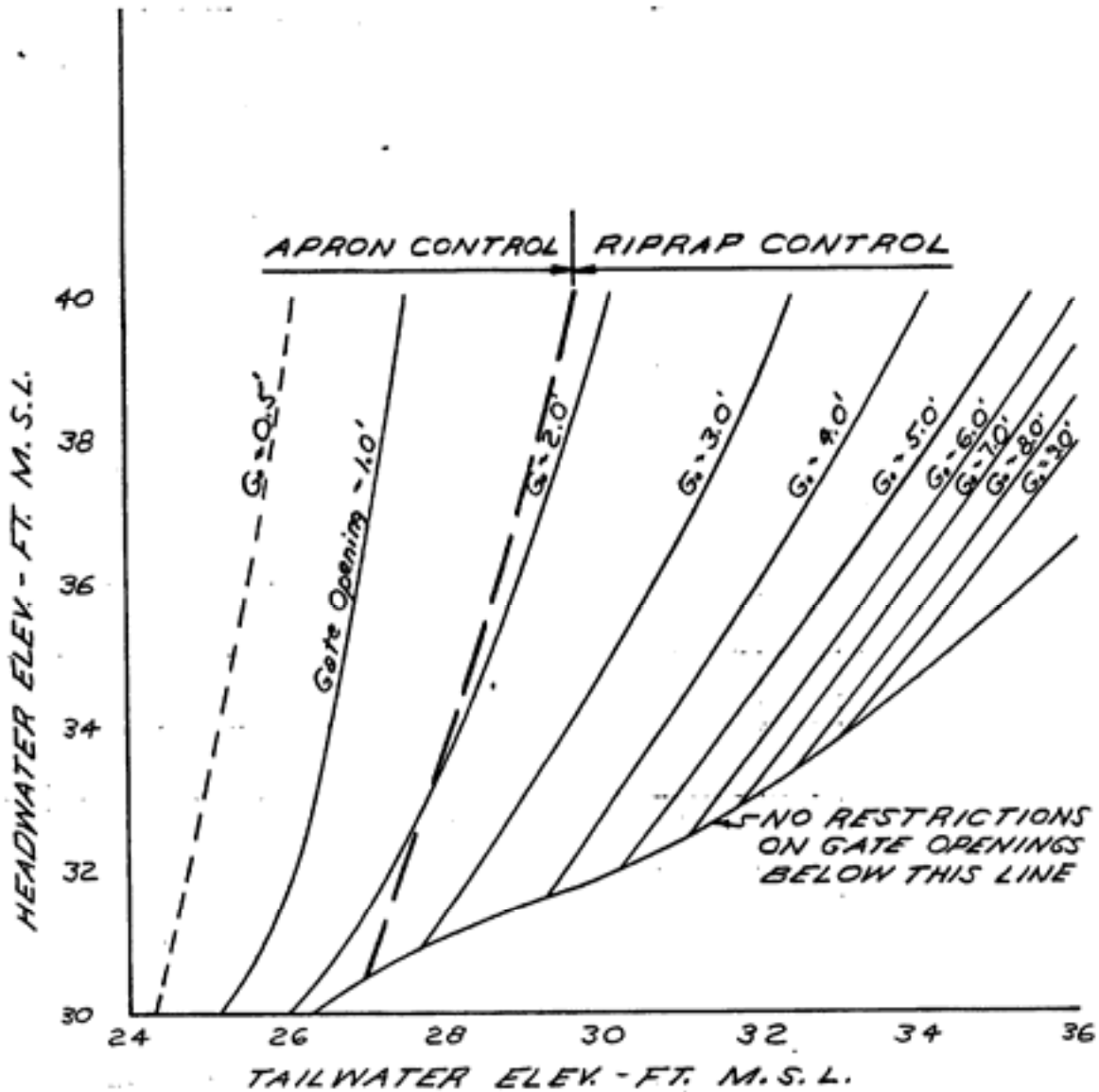
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 AUGUST 1994

A-882-4 10-20-69 SAJWH

S-82 UNCONTROLLED FLOW



S-82 MAXIMUM ALLOWABLE GATE OPENINGS



EXAMPLE:
 HW = 36.0; TW = 32.0
 Gate opening should
 not exceed 4.0'

2 SPILLWAY GATES
 OPENED UNIFORMLY

CENTRAL AND SOUTHERN FLORIDA PROJECT
 MASTER WATER CONTROL MANUAL
 KISSIMMEE RIVER-LAKE ISTOKPOGA BASIN

STRUCTURE 82
 MAXIMUM ALLOWABLE GATE OPENINGS

JACKSONVILLE DISTRICT
 U. S. ARMY CORPS OF ENGINEERS
 AUGUST 1994

A-882-7

1 **S-83 STRUCTURE 83**

2
3 **Location**

4 S-83 is located in C-41A about 500 feet downstream from its junction with C-41 and five
5 miles downstream from Lake Istokpoga.
6

7 **Description**

8 S-83 is a reinforced concrete, gated spillway with discharge controlled by the stem
9 operated vertical lift gate. Operation of the gate is controlled automatically, manually, or
10 by telemetry in accordance with the seasonal operational criteria.
11

12 **Purpose**

13 The structure maintains desirable water control stages in C-41A upstream from the
14 structure during low flow periods; passes all discharge up to the design capacity of 3,380
15 cfs without exceeding desirable stages; restricts discharges during floods to that which
16 will not cause damaging velocities or stages downstream; and passes up to 300 cfs during
17 low flow periods to maintain stages and satisfy irrigation demands downstream.
18

19 **Operation**

20 The automatic controls operate the gate to maintain (together with S-82) an optimum
21 water level of between 31.8 and 32.2 ft., NGVD in C-41A above the structure. When the
22 headwater reaches 32.2 ft., NGVD, the gate begins to open to pass the design discharge
23 of 3,830 cfs or as much up to that amount as will reach the structure. When the
24 headwater drops to 32.0 ft., NGVD, the gate becomes stationary and remains so until the
25 headwater again rises to 32.2 ft. NGVD, or drop to 31.8 ft., NGVD when the gate begins
26 to close. It continues to close until fully closed or until the headwater again reaches 32.0
27 ft., NGVD when it once more remains stationary until reactivated by the rising or falling
28 headwater. An overriding control will close the gates, regardless of the headwater
29 elevation, whenever the tailwater elevation reaches 31.0 ft., NGVD
30

31 During extreme emergency conditions, when overflow from Lake Istokpoga is reaching
32 C-41A, the gate may be operated manually to pass up to 5,500 cfs. When the tailwater
33 falls to elevation 24.0 ft., NGVD, the automatic controls will open the gate to 0.9 ft to
34 pass about 300 cfs. The gate will close when the tailwater reaches elevation 25.0 ft.,
35 NGVD.
36

1 **STRUCTURE 83**

2
3 **HYDRAULIC DESIGN DATA**

| | | |
|----|---------------------------------|--------------|
| 4 | | |
| 5 | <u>Type of Structure</u> | Spillway |
| 6 | <u>Location</u> | |
| 7 | Canal | C-41A |
| 8 | Station | 722+00 |
| 9 | <u>Discharge (cfs)</u> | |
| 10 | Design | 3.830 |
| 11 | SPF | 3.830 |
| 12 | Critical | - |
| 13 | <u>Headwater Elevation</u> | |
| 14 | Design | 32.0 |
| 15 | SPF | 39.8 |
| 16 | Critical | - |
| 17 | Optimum | 32.0 to 1111 |
| 18 | Minimum | 29.0 |
| 19 | <u>Tailwater Elevation</u> | |
| 20 | Design | 28.4 |
| 21 | SPF | 33.7 |
| 22 | Critical | - |
| 23 | Optimum | 25.0 |
| 24 | Minimum | 23.0 |
| 25 | <u>Crest</u> | |
| 26 | Shape | Ogee |
| 27 | Elevation | 18.4 |
| 28 | Net Length (ft.) | 25.0 |
| 29 | <u>Gates</u> | |
| 30 | Number | 1 |
| 31 | Width X Height (ft.) | 25.0 X 13.6 |
| 32 | Clearance Elevation | 33.0 |
| 33 | Elevation of Overflow Slots | |
| 34 | Breastwall Elevation | - |
| 35 | <u>Stilling Basin</u> | |
| 36 | Apron Elevation | 10.0 |
| 37 | Apron Length | 20.0 |
| 38 | End Still Elevation | 12.0 |
| 39 | Baffle Block Elevation | 23.5 |
| 40 | Chute Block Elevation | - |
| 41 | Training Wall Elevation | 28.4 |
| 42 | <u>Channel Section</u> | |
| 43 | Side Slopes (vert. on horiz.) | 1 on 2 |
| 44 | Upstream Bottom Width & Elev. | 30 @ 10.0 |
| 45 | Downstream Bottom Width & Elev. | 60 @ 8.0 |

1 **STRUCTURE 83**

2

3 **HYDRAULIC DESIGN DATA (CONTINUED)**

4

5 Riprap

6 Upstream Channel

7 Length (ft.)

-

8 Protection Elev.

-

9 Downstream Channel

10 Length (ft.)

60.0

11 Protection Elev.

32.0

12 Downstream Bank

13 Length Below Channel Riprap (ft.)

14 Elevation

15 Approximate Ground Elevation at Structure

32.0+

16 Protection Elevation

40.0

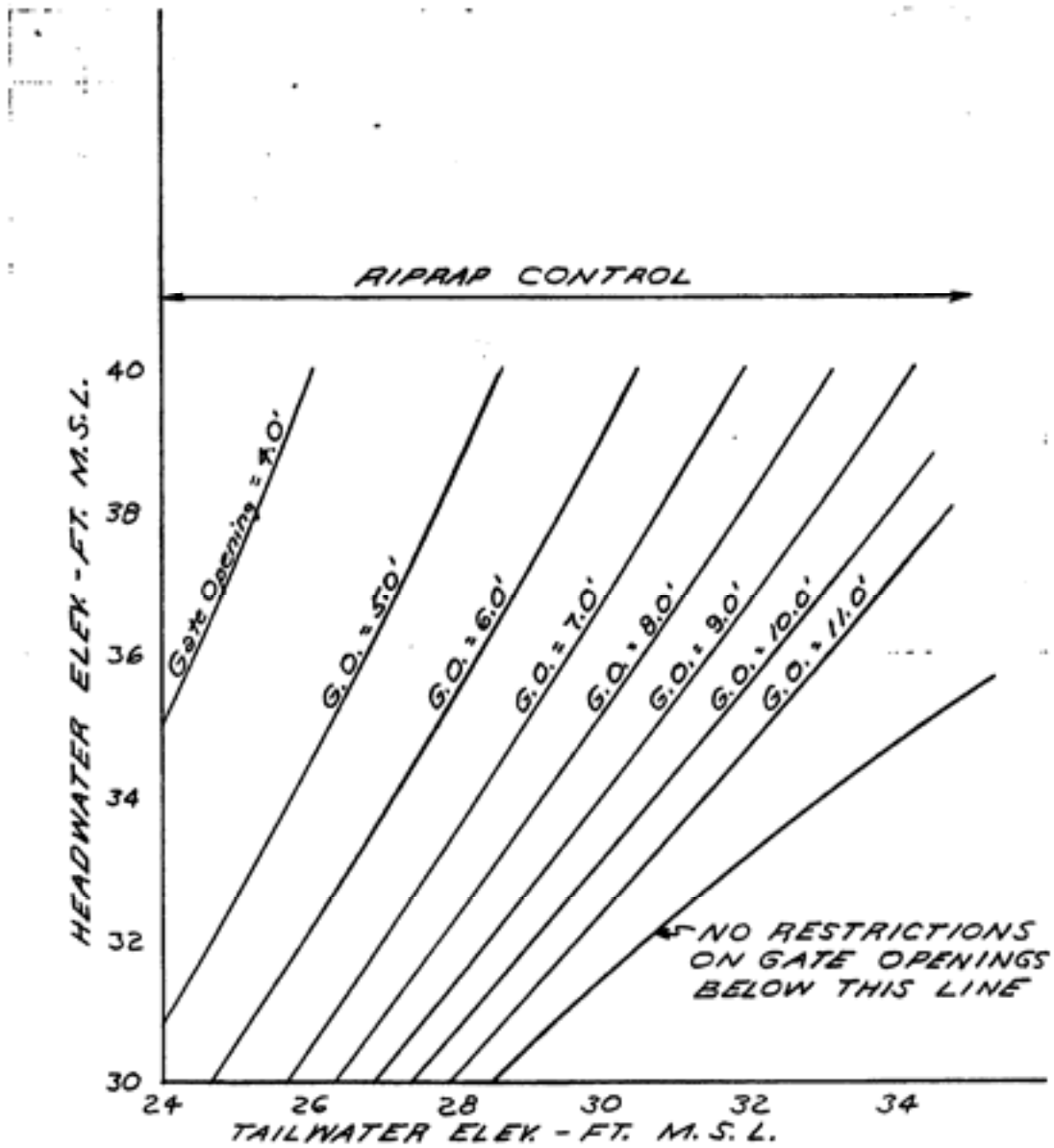
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19 Notes: All elevations refer to feet, NGVD.

20

S-83 MAXIMUM ALLOWABLE GATE OPENINGS



EXAMPLE:
 HW = 35.0, TW = 28.9
 Gate Opening should not exceed 7.0'

1-25' GATE
 CREST ELEV. = 18.4

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 MASTER WATER CONTROL MANUAL
 KISSIMMEE RIVER-LAKE ISTOKPOGA BASIN

STRUCTURE 83
 MAXIMUM ALLOWABLE GATE OPENINGS

JACKSONVILLE DISTRICT
 U. S. ARMY CORPS OF ENGINEERS
 AUGUST 1994

A-883-4

1 **S-84 STRUCTURE 84**

2
3 **Location**

4 S-84 is located in C-41A about 12 miles downstream from S-83 and about one mile
5 upstream from the junction of C-41A with C-38.
6

7 **Description**

8 S-84 is a reinforced concrete, gated spillway with discharge controlled by two cable
9 operated vertical lift gates. Operation of the gates is controlled automatically, manually,
10 or by telemetry in accordance with the established operational criteria.
11

12 **Purpose**

13 The structure maintains desirable water control stages upstream from the structure during
14 low flow periods; passes all discharges up to design capacity without exceeding desirable
15 stages; restricts discharge during floods to that which will not cause damaging velocities
16 or stages downstream. The structure also prevents backflow from Lake Okeechobee
17 through C-38 during excessive stages in the lake resulting from floods or windtides.
18

19 **Operation**

20 The automatic controls operate both gates simultaneously to maintain an optimum water
21 level of between 24.3 and 25.2 ft. NGVD, above the structure. When the headwater
22 reaches 25.2 ft., NGVD, the gates open to continuously pass the design discharge of
23 5,670 cfs or as much up to that amount as will reach the structure. When the headwater
24 drops to 24.7 ft., NGVD, the gates remain stationary until the headwater again reaches
25 25.2 ft., NGVD, or drops to 24.3 ft., NGVD, at which time the gates will begin to close.
26 The gates will continue to close until they are fully closed or until the headwater again
27 reaches 24.7 ft., NGVD, when they once more remain stationary until reactivated by the
28 rising or falling headwater.
29

1 **STRUCTURE 84**

2
3 **HYDRAULIC DESIGN DATA**

| | | |
|----|---------------------------------|--------------|
| 4 | | |
| 5 | <u>Type of Structure</u> | Spillway |
| 6 | <u>Location</u> | |
| 7 | Canal | C-41A |
| 8 | Station | 10+00 |
| 9 | <u>Discharge (cfs)</u> | |
| 10 | Design | 5.670 |
| 11 | SPF | 5.670 |
| 12 | Critical | - |
| 13 | <u>Headwater Elevation</u> | |
| 14 | Design | 24.5 |
| 15 | SPF | 30.6 |
| 16 | Critical | - |
| 17 | Optimum | 25.0 to 1111 |
| 18 | Minimum | 23.0 |
| 19 | <u>Tailwater Elevation</u> | |
| 20 | Design | 19.3 |
| 21 | SPF | 21.6 |
| 22 | Critical | - |
| 23 | Optimum | 16.4 |
| 24 | Minimum | 9.9 |
| 25 | <u>Crest</u> | |
| 26 | Shape | Ogee |
| 27 | Elevation | 13.2 |
| 28 | Net Length (ft.) | 42.0 |
| 29 | <u>Gates</u> | |
| 30 | Number | 2 |
| 31 | Width X Height (ft.) | 26.0 X 11.0 |
| 32 | Clearance Elevation | 25.5 |
| 33 | Elevation of Overflow Slots | |
| 34 | Breastwall Elevation | - |
| 35 | <u>Stilling Basin</u> | |
| 36 | Apron Elevation | -1.3 |
| 37 | Apron Length | 46.0 |
| 38 | End Still Elevation | 1.0 |
| 39 | Baffle Block Elevation | 1.1 |
| 40 | Chute Block Elevation | - |
| 41 | Training Wall Elevation | 19.3 |
| 42 | <u>Channel Section</u> | |
| 43 | Side Slopes (vert. on horiz.) | 1 on 2 |
| 44 | Upstream Bottom Width & Elev. | 80 @ 4.0 |
| 45 | Downstream Bottom Width & Elev. | 80 @ -8.0 |
| 46 | | |

1 **STRUCTURE 84**

2

3 **HYDRAULIC DESIGN DATA (CONTINUED)**

4

5 Riprap

6 Upstream Channel

7 Length (ft.) 30.0

8 Protection Elev. 25.0

9 Downstream Channel

10 Length (ft.) 70.0

11 Protection Elev. 25.0

12 Downstream Bank

13 Length Below Channel Riprap (ft.)

14 Elevation

15 Approximate Ground Elevation at Structure 35.0+

16 Protection Elevation 45.0

17

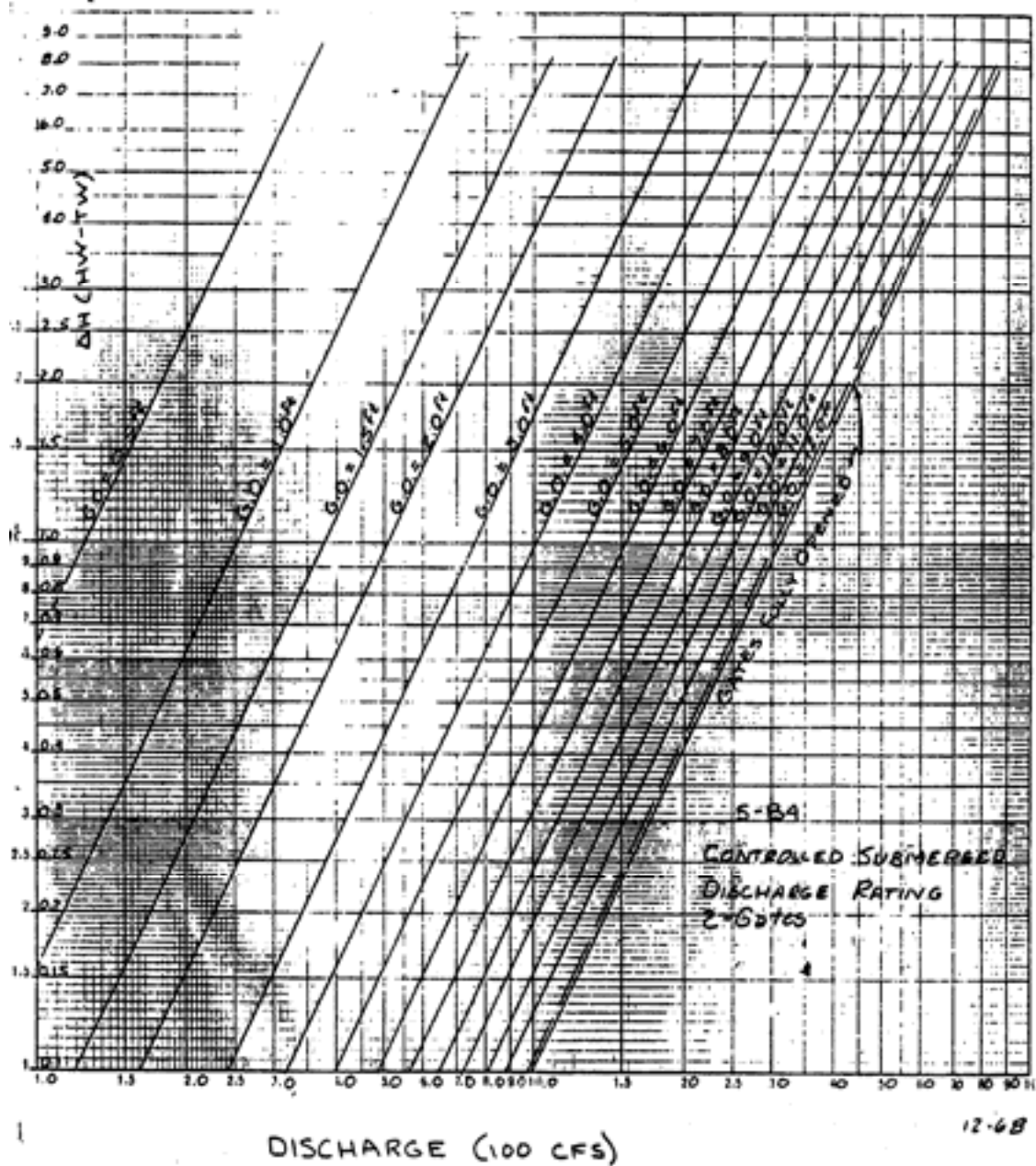
18

19 Notes: All elevations refer to feet, NGVD.

20

21

S-84 SUBMERGED CONTROLLED FLOW



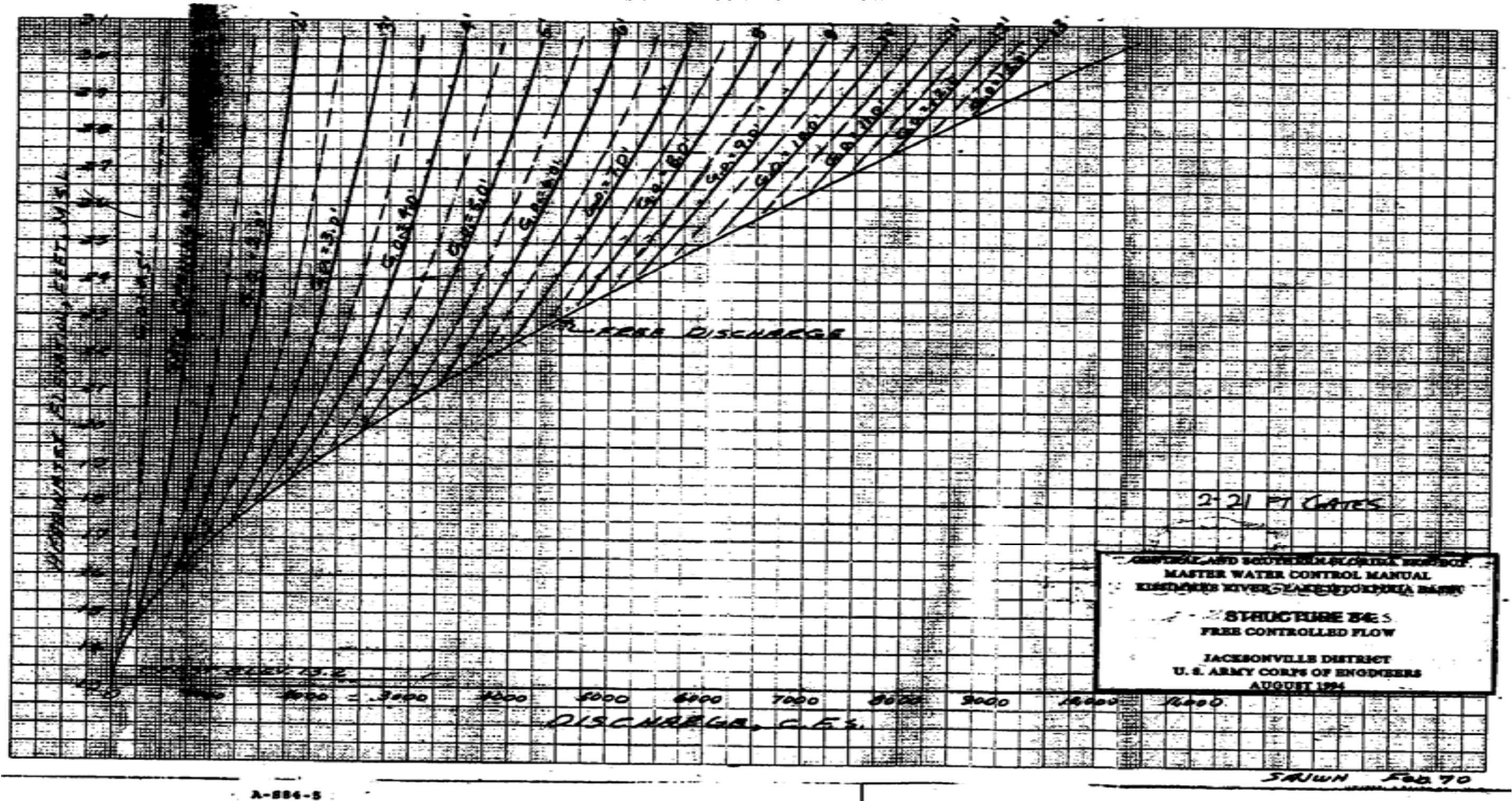
CENTRAL AND SOUTHERN FLORIDA PROJECT
 MASTER WATER CONTROL MANUAL
 KISSIMMEE RIVER-LAKE ISTOKPOGA BASIN

STRUCTURE 84
 SUBMERGED CONTROLLED FLOW

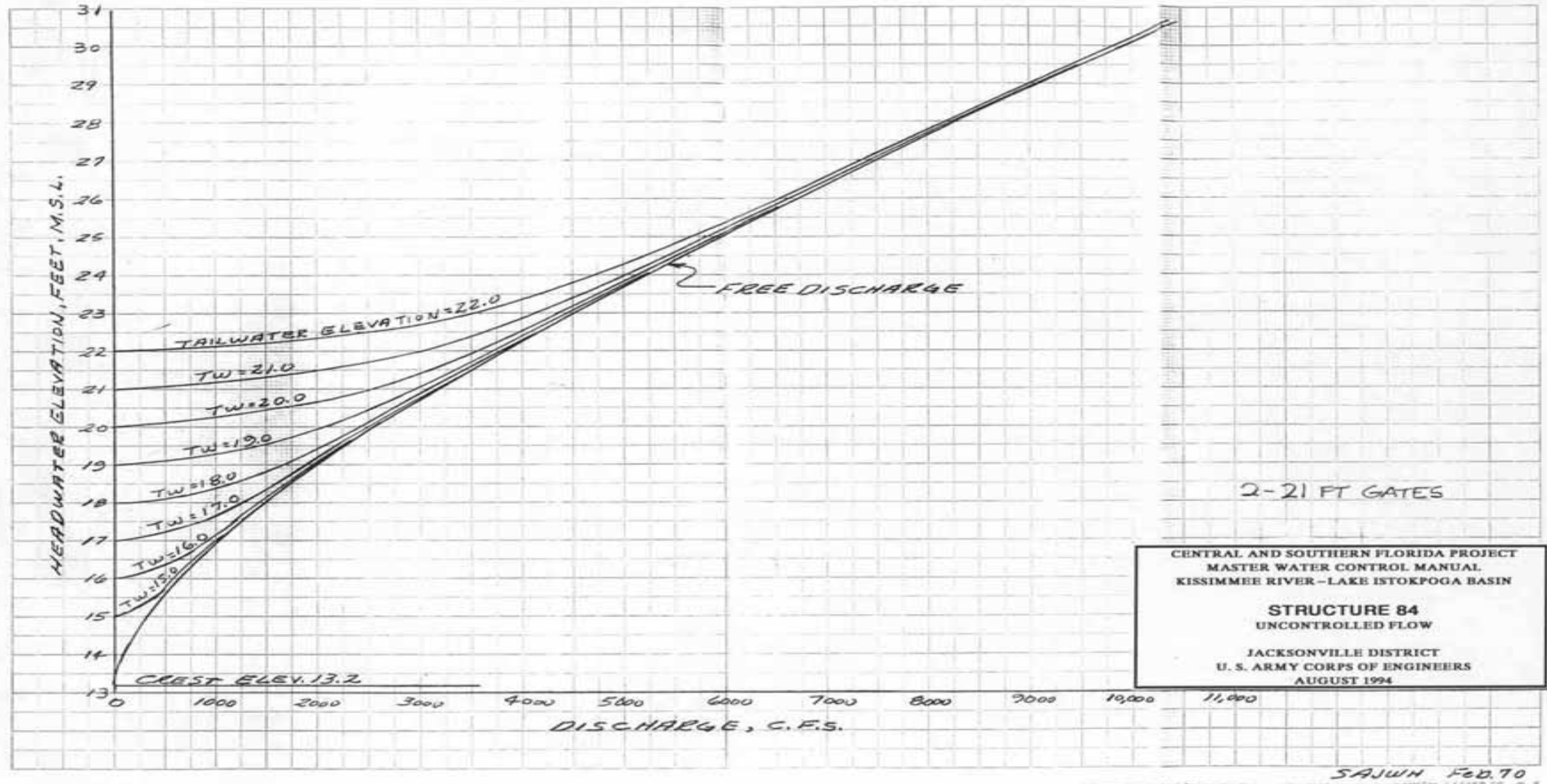
JACKSONVILLE DISTRICT
 U. S. ARMY CORPS OF ENGINEERS
 AUGUST 1994

A-884-4

S-84 FREE CONTROLLED FLOW



S-84 UNCONTROLLED FLOW - GRAPH MISSING



A-584-5

S-84 MAXIMUM ALLOWABLE GATE OPENINGS

