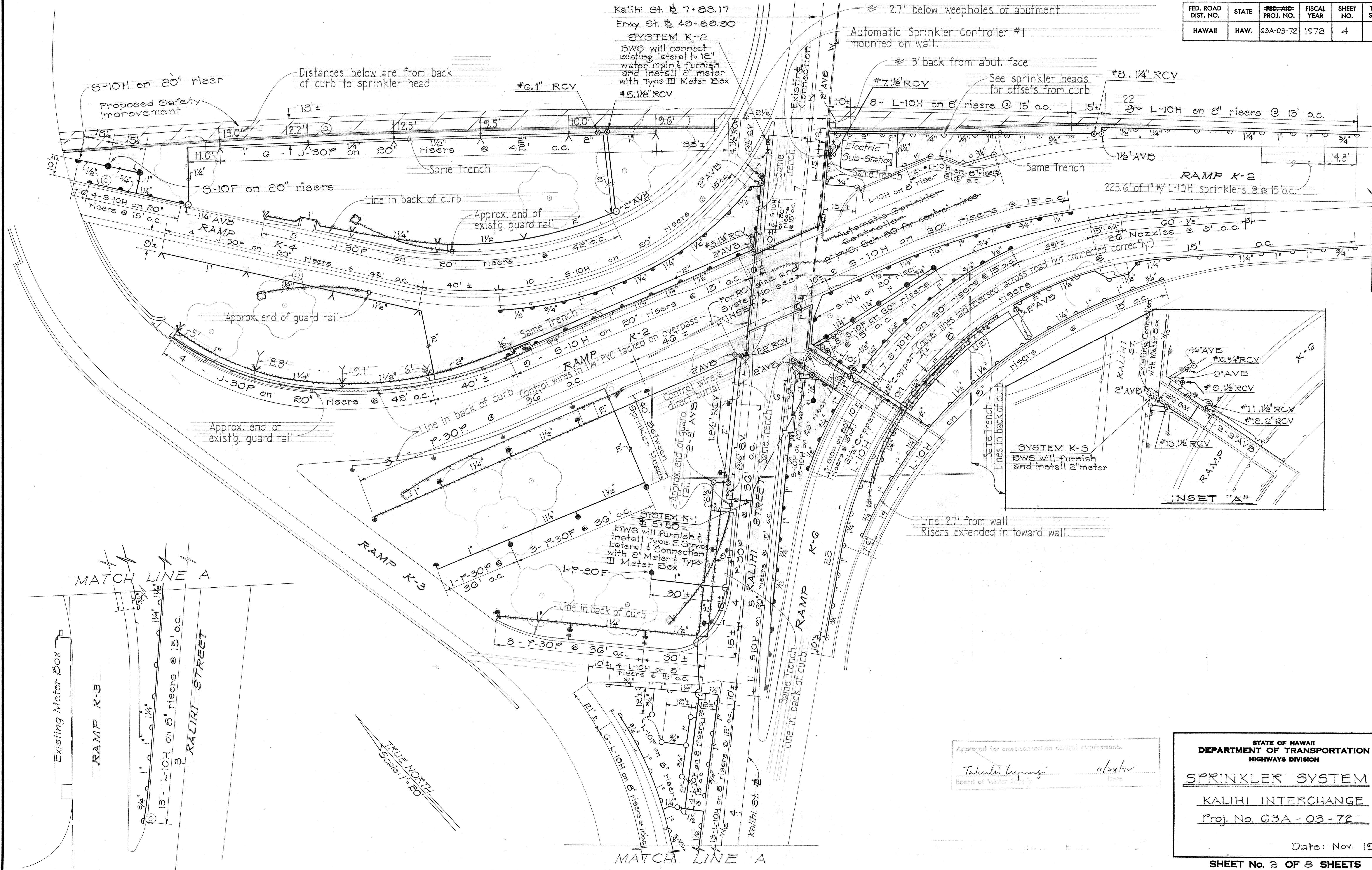


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-03-72	1972	4	11



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
QUANTITIES BY	DESIGNED BY	
CHECKED BY		

Approved for cross-connection control requirements.

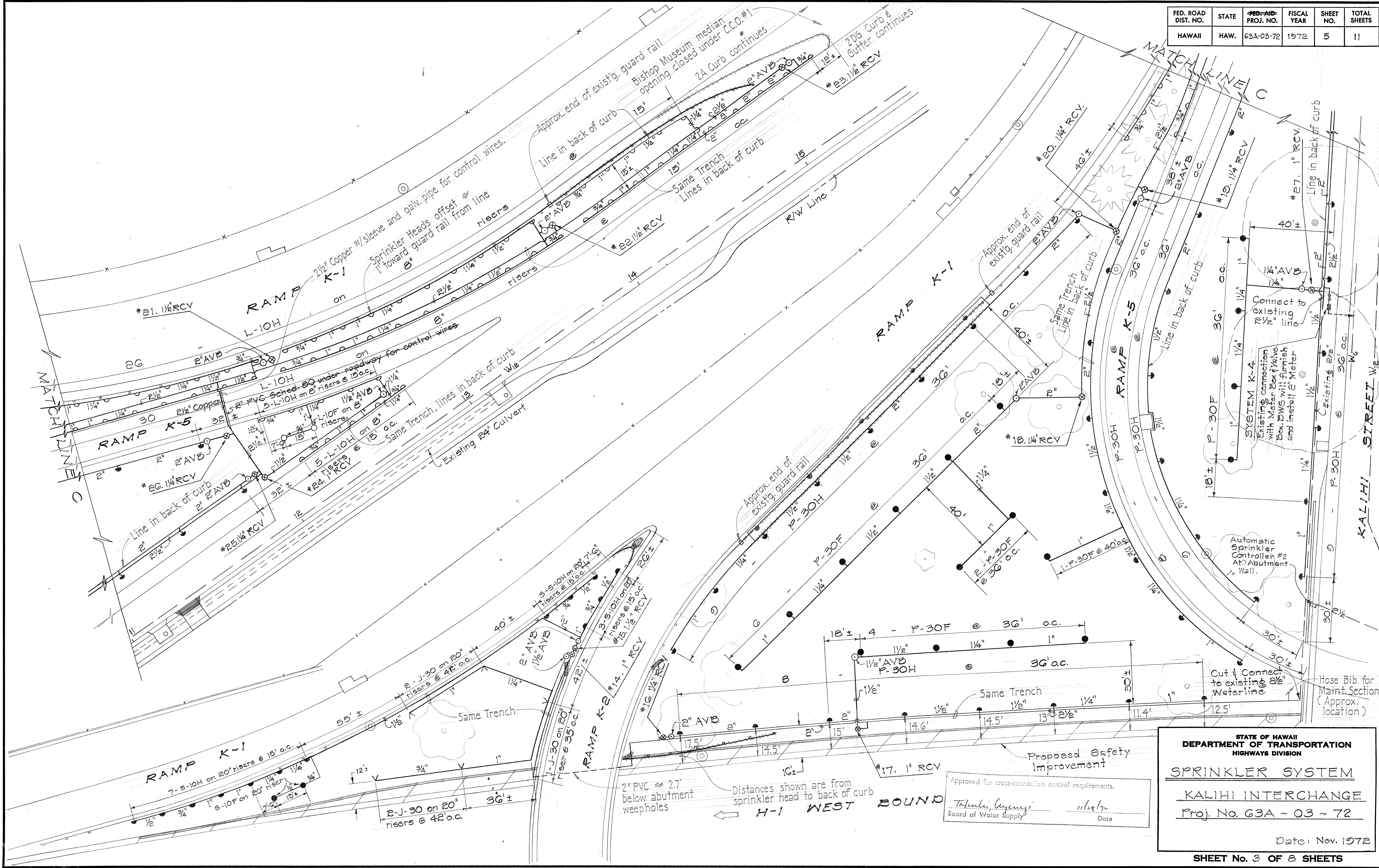
Takunagi Uyemura 11/28/72
 Board of Water Supply Date

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SYSTEM
KALIHI INTERCHANGE
Proj. No. 63A - 03 - 72
Date: Nov. 1972
SHEET No. 2 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-03-72	1972	5	11

ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SYSTEM

KALIHI INTERCHANGE

Proj. No. 63A-03-72

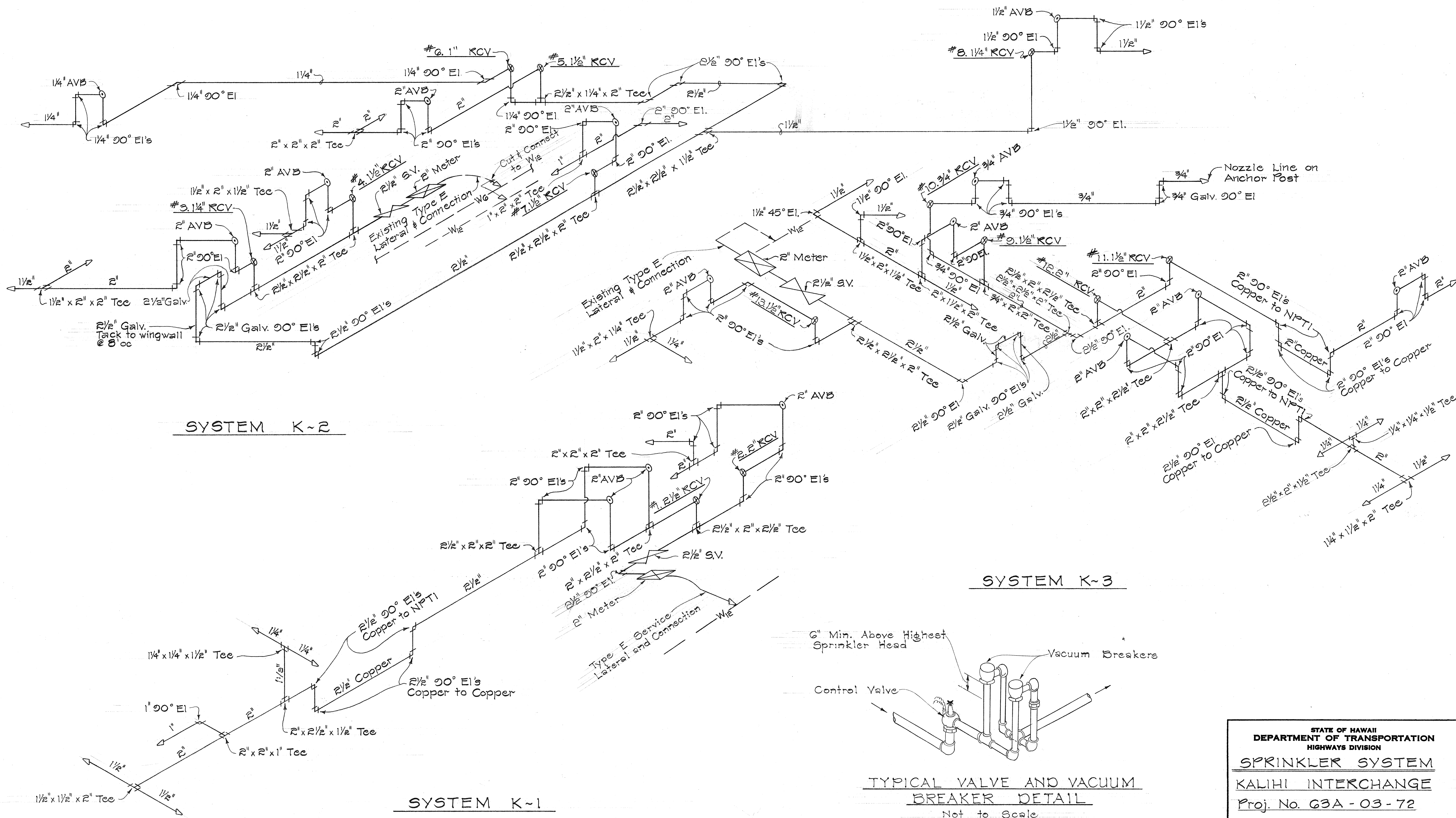
Date: Nov. 1972

SHEET No. 3 OF 8 SHEETS

K-E CRISTALINO

52

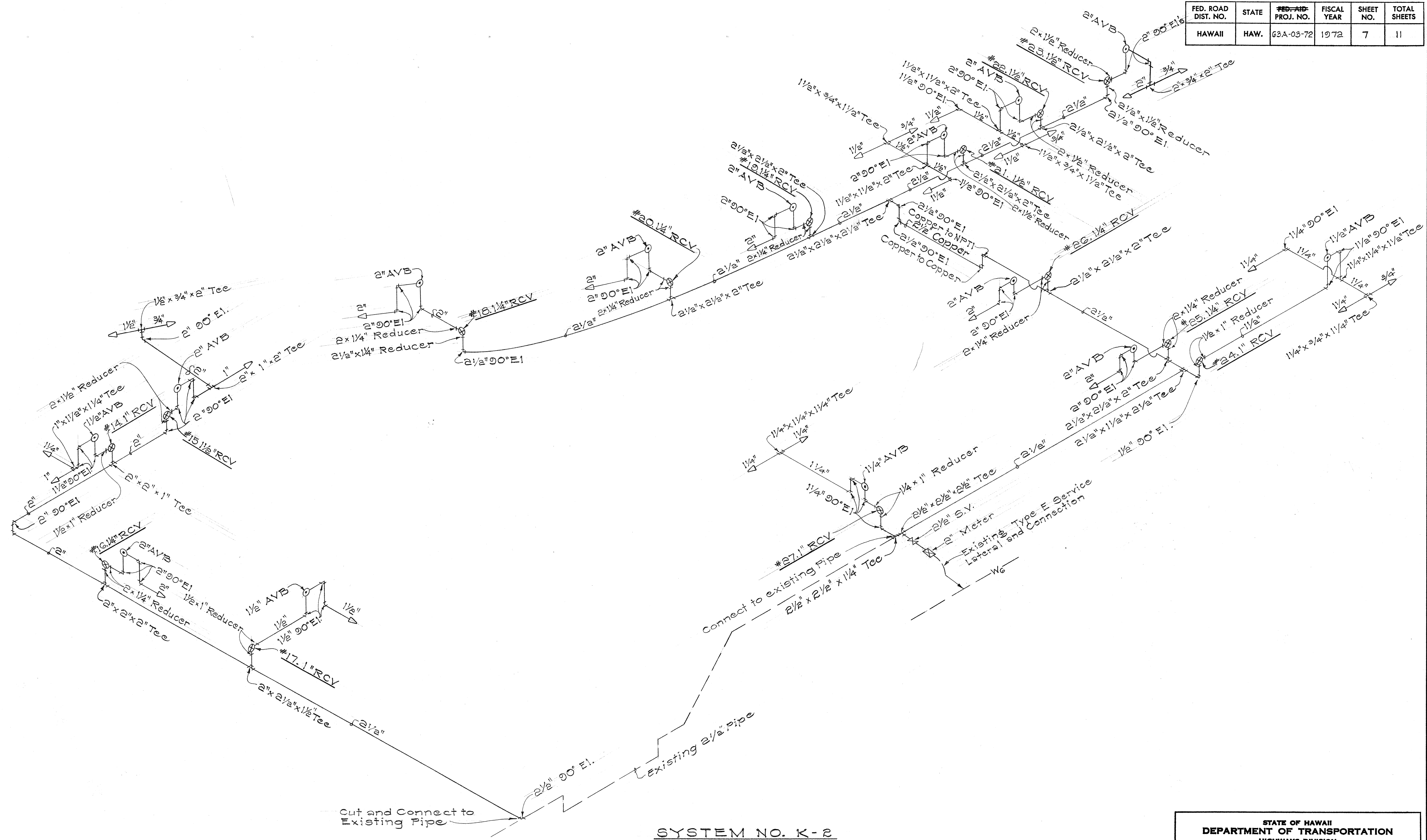
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-03-72	1972	6	11



PIPING SCHEMATIC

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
SPRINKLER SYSTEM KALIHI INTERCHANGE Proj. No. 63A-03-72
Date: Nov. 1972
SHEET No. 4 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	G3A-03-72	1972	7	11



SYSTEM NO. K-2

PIPING SCHEMATIC

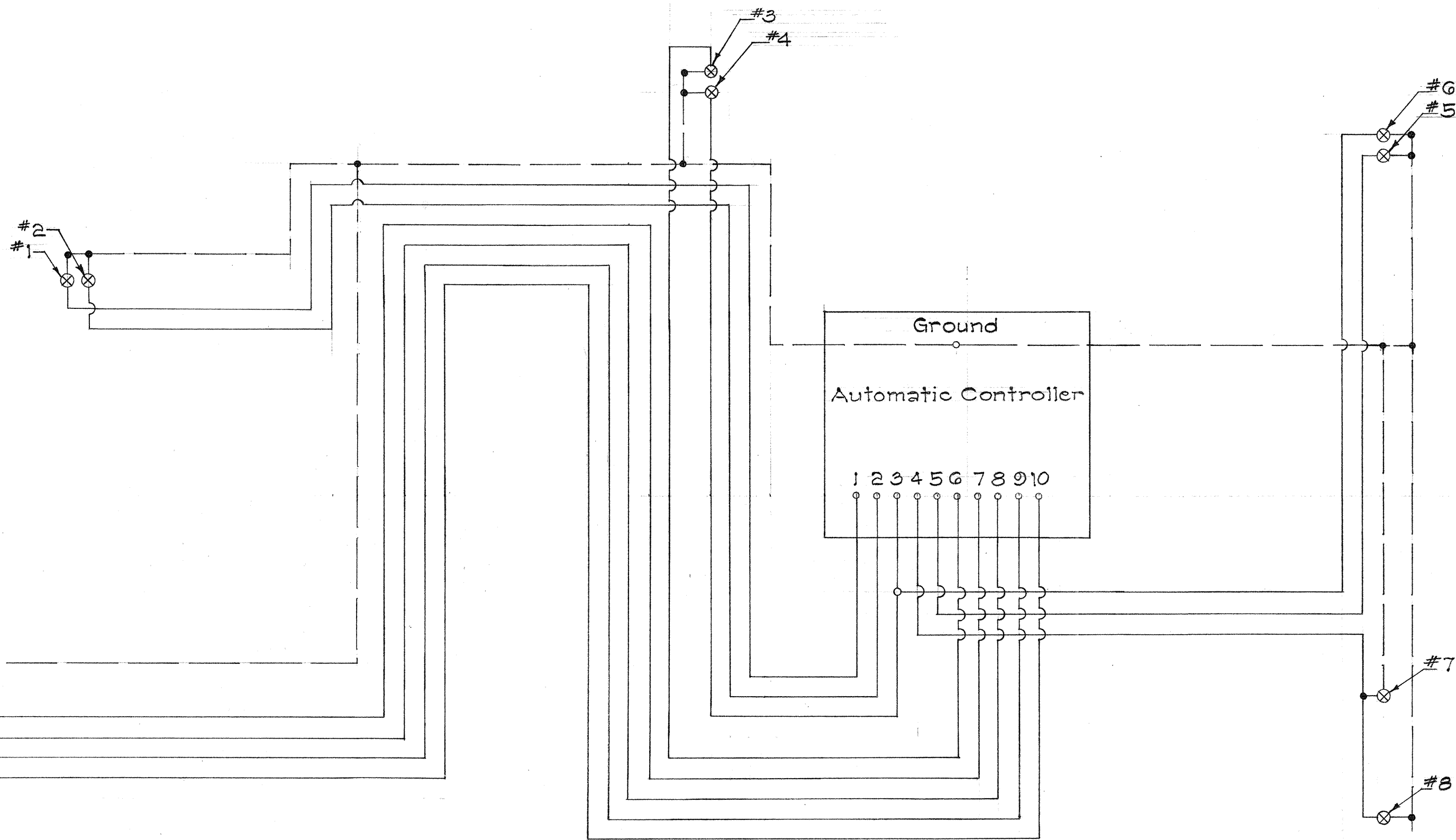
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SYSTEM
KALIHI INTERCHANGE
Proj. No. G3A-03-72
Date: Nov. 1972
SHEET No. 5 OF 8 SHEETS

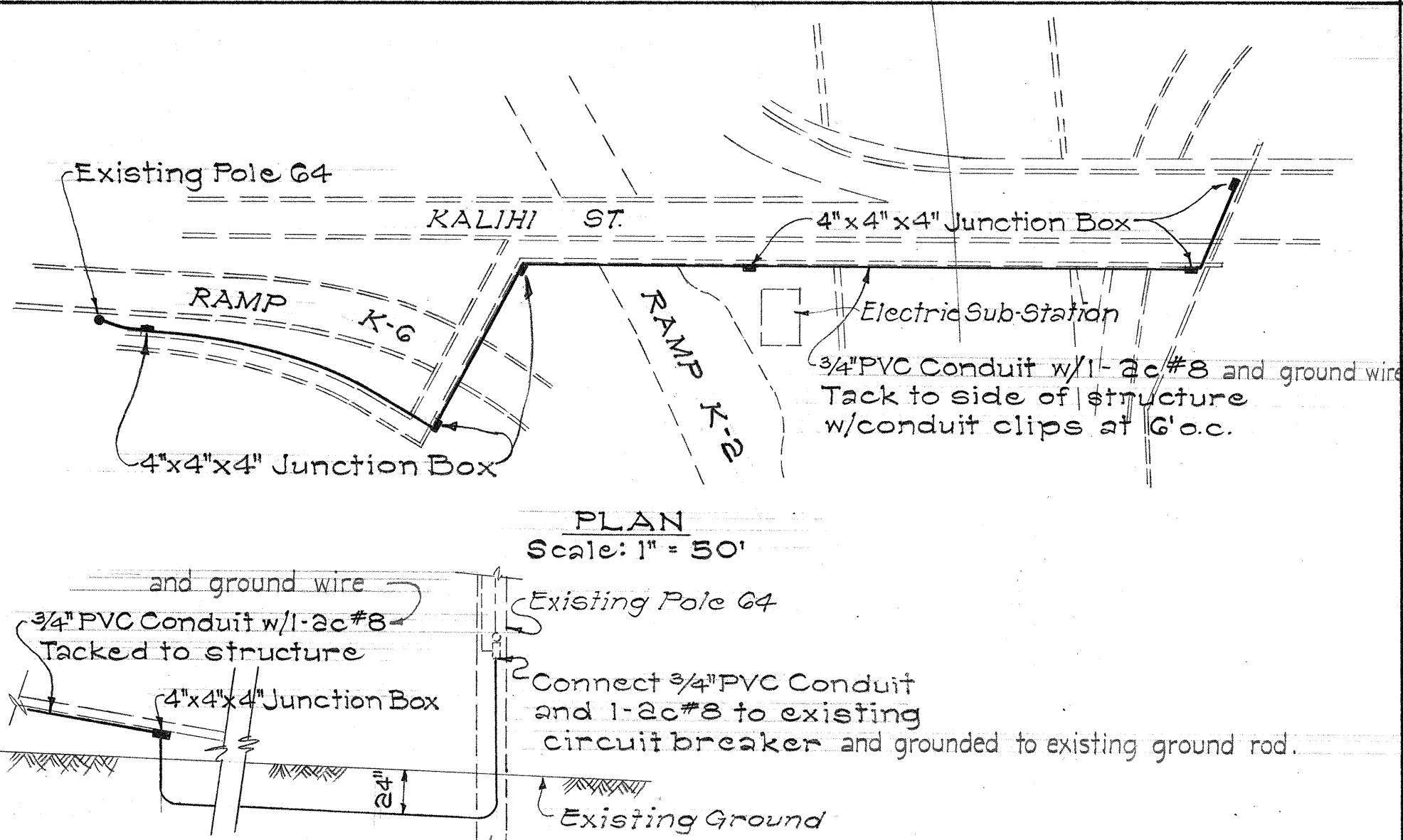
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

WATERING TIME		
STATION NO.	TIME (MINUTES)	
	Controller #1	Controller #2
1	6	6
2	30	30
3	6	6
4	6	6
5	50	30
6	50	6
7	6	30
8	6	30
9	6	30
10	9	30
11		60

Note: Set controller stations to the time interval indicated and program the controller for 2 watering cycles every other day.



Note:
All wires are #14 gage, unless indicated.
Wires are sized for 2 Watt, 24 Volt solenoids.
For higher wattage solenoids recheck
the wire size.



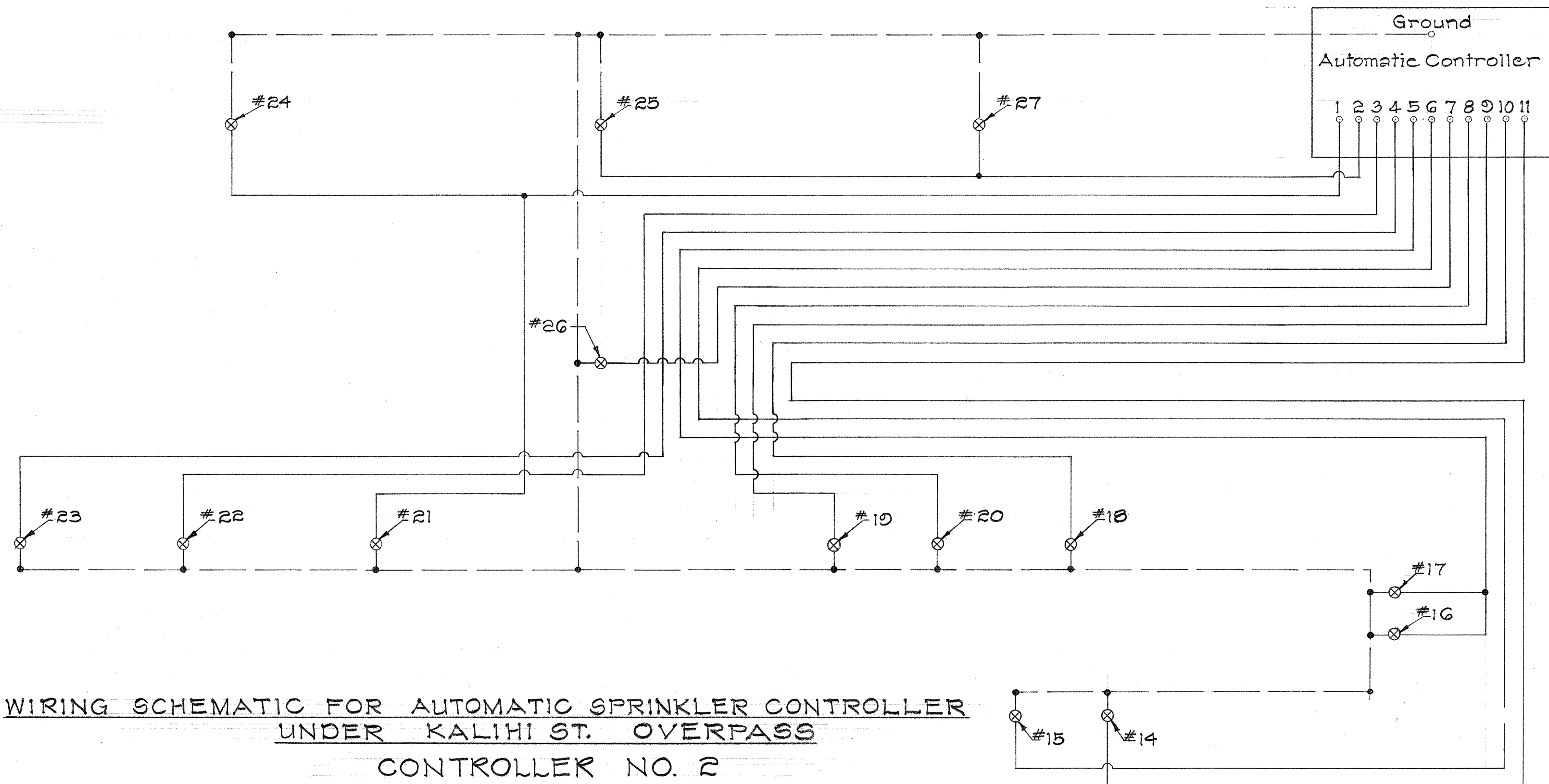
CONNECTION TO EXISTING POLE G4
Not to Scale

NOTES:

1. Exact location of Junction Boxes and conduits shall be determined in the field by the Engineer.
2. Junction Boxes shall be weather proof Cast Iron or Aluminum.
3. All work and materials shall be done in accordance with Sections 622, 712.27 and 712.34(B)

DETAIL OF ELECTRIC SERVICE CONNECTION
FOR AUTOMATIC CONTROLLERS

WIRING SCHEMATIC FOR AUTOMATIC SPRINKLER CONTROLLER
AT ELECTRIC SUB-STATION
CONTROLLER NO. 1



WIRING SCHEMATIC FOR AUTOMATIC SPRINKLER CONTROLLER
UNDER KALIHI ST. OVERPASS
CONTROLLER NO. 2

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-03-72	1972	8	11

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SYSTEM

KALIHI INTERCHANGE

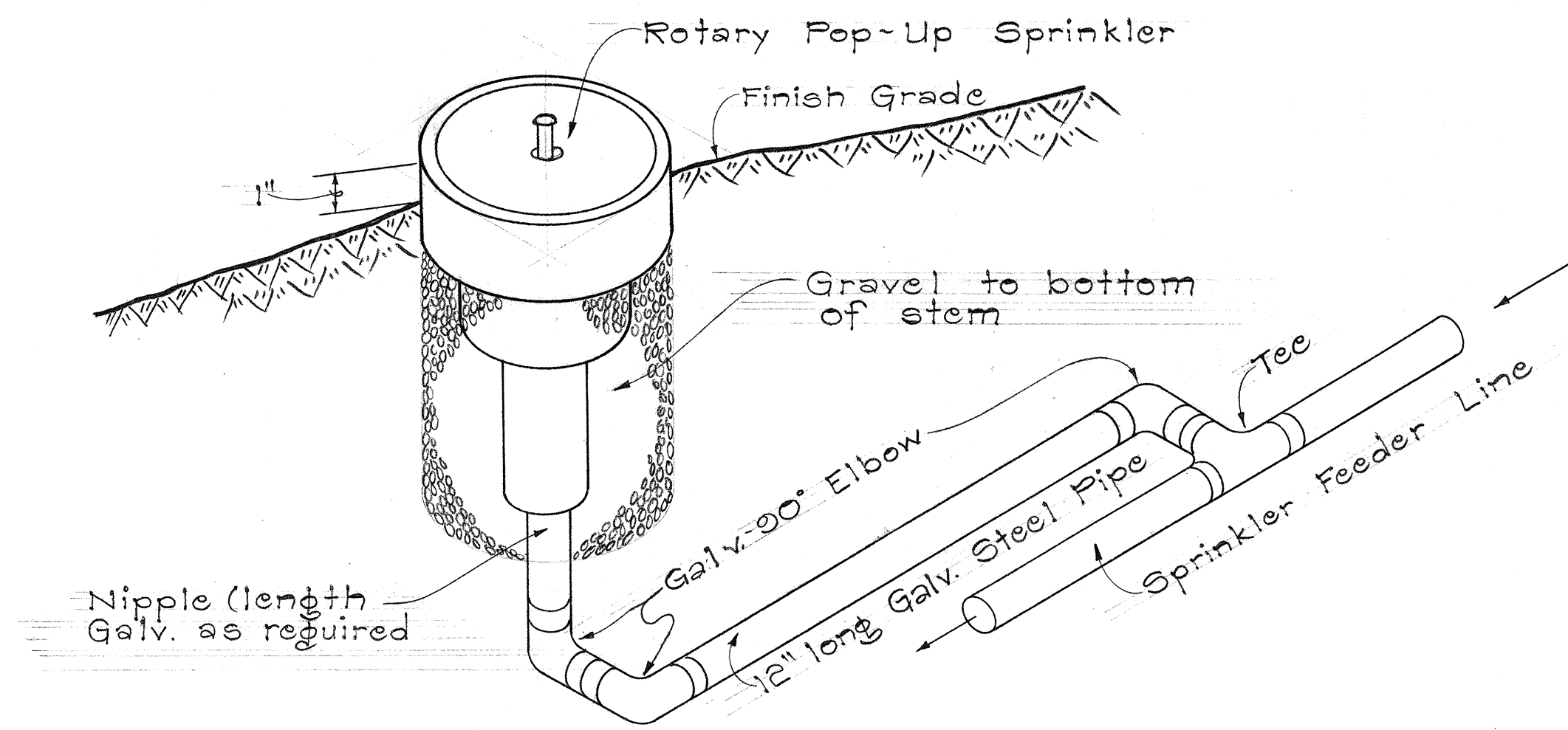
Proj. No. 63A-03-72

Date: Nov. 1972

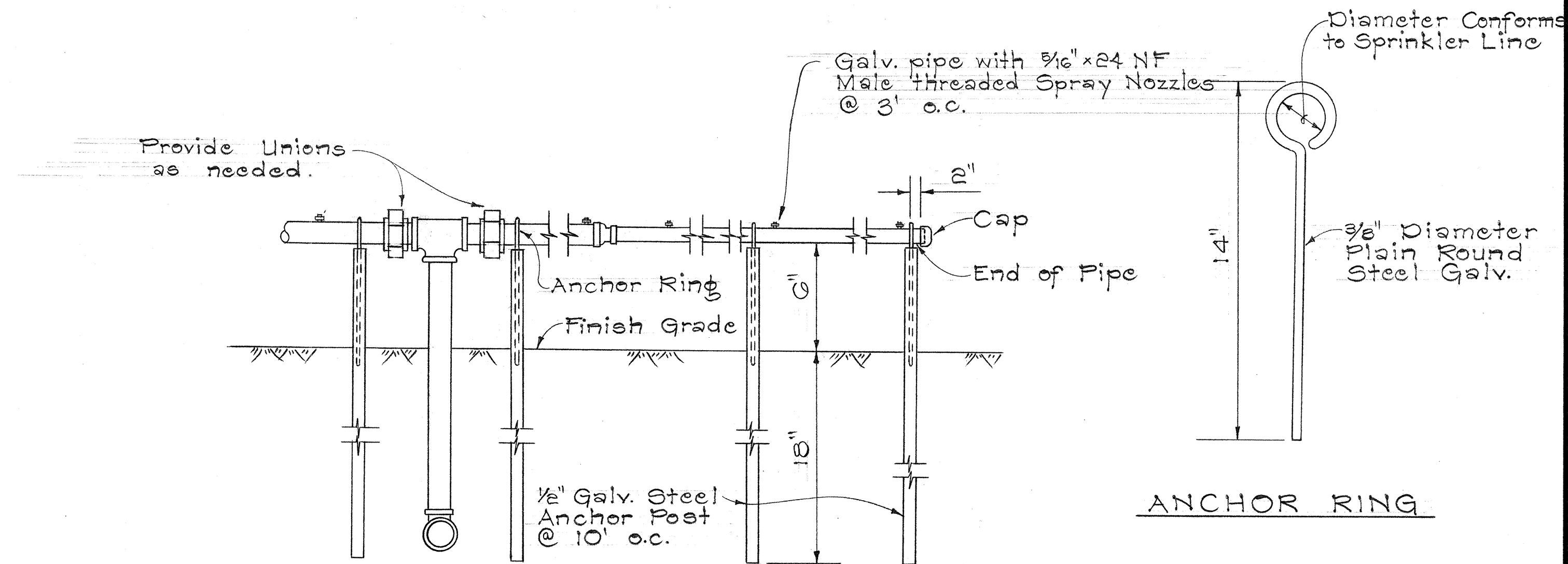
SHEET No. 6 OF 8 SHEETS

DATE	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

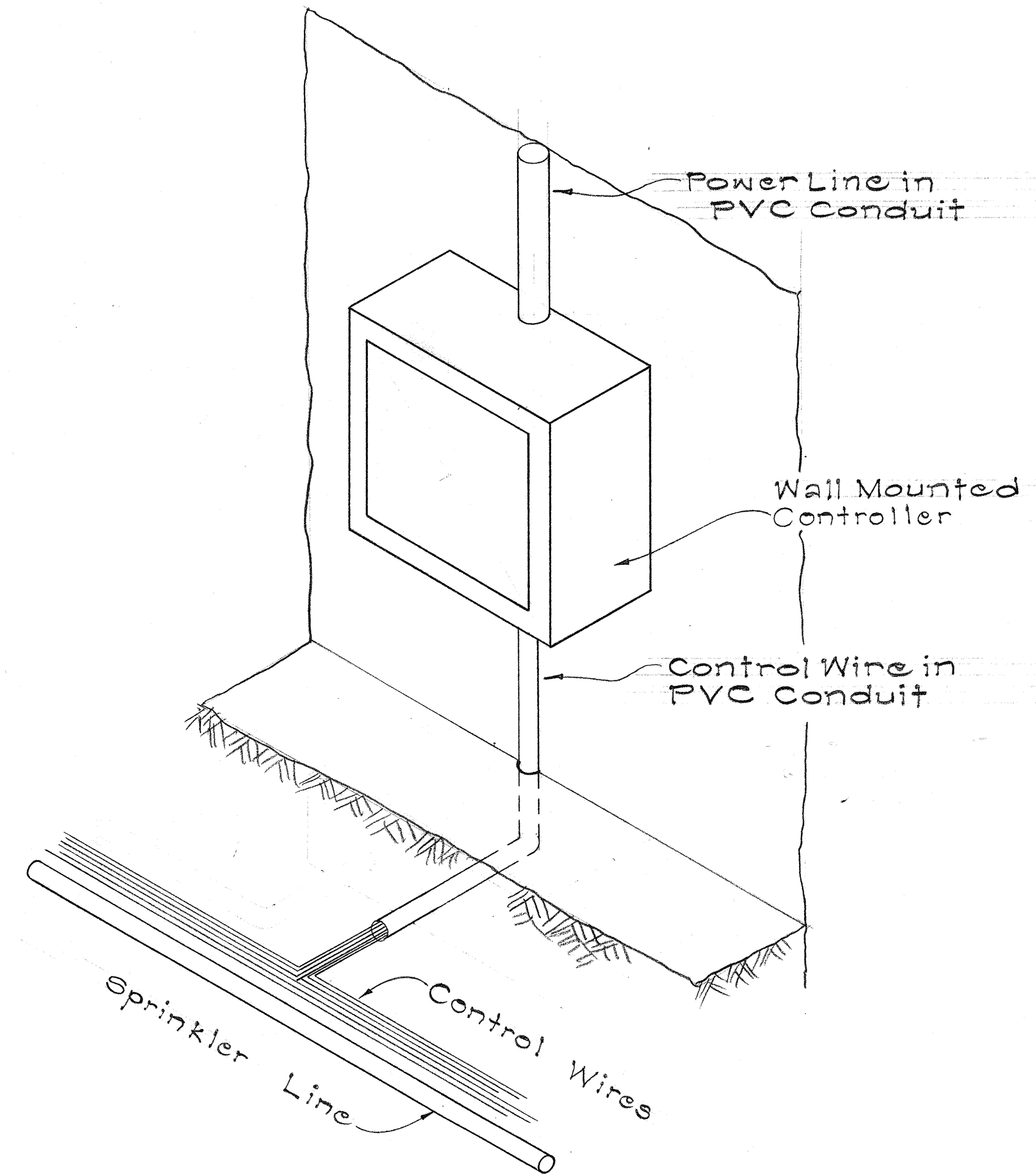
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-03-72	1972	9	11



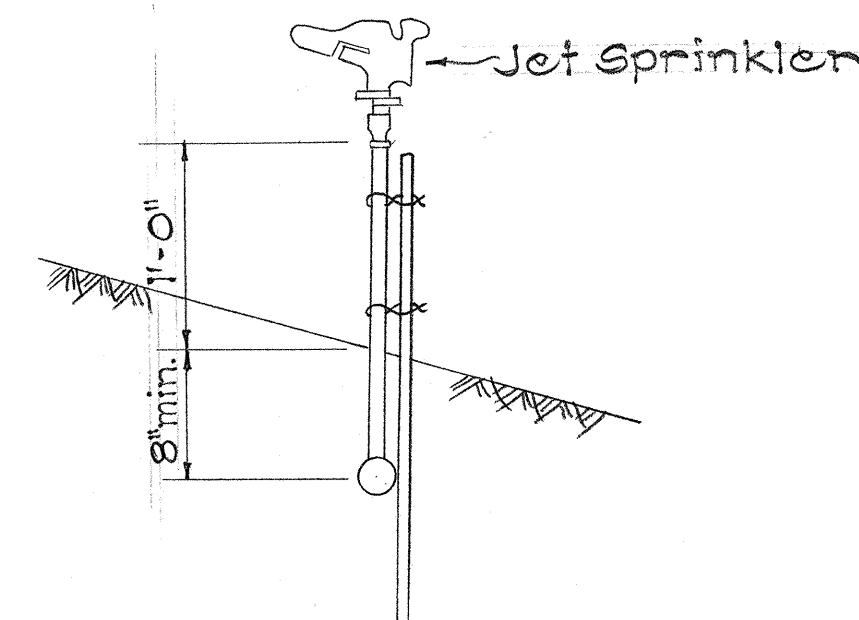
TYPICAL DETAIL OF ROTARY POP-UP SPRINKLER INSTALLATION



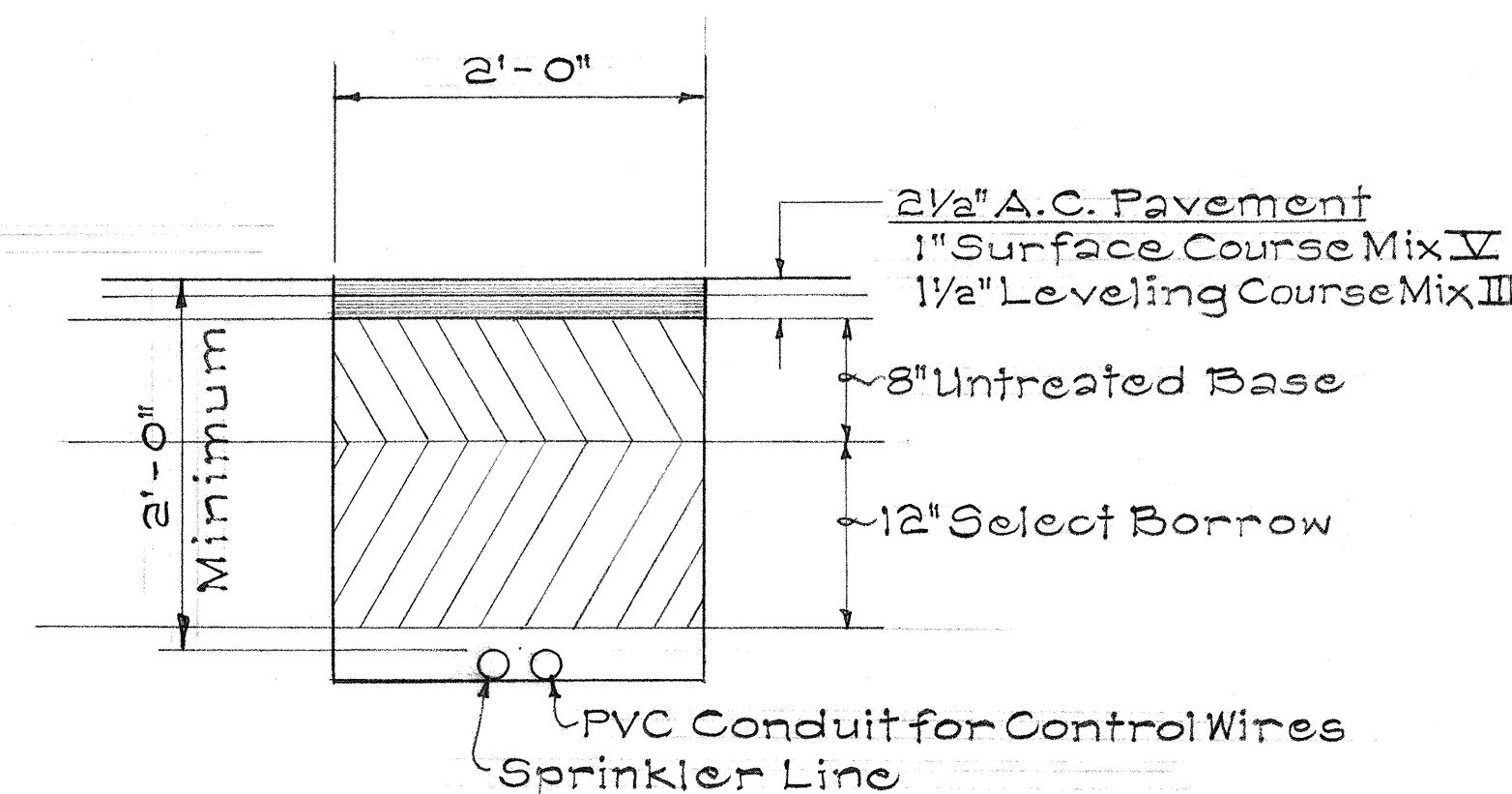
TYPICAL NOZZLE LINE ASSEMBLY DETAILS



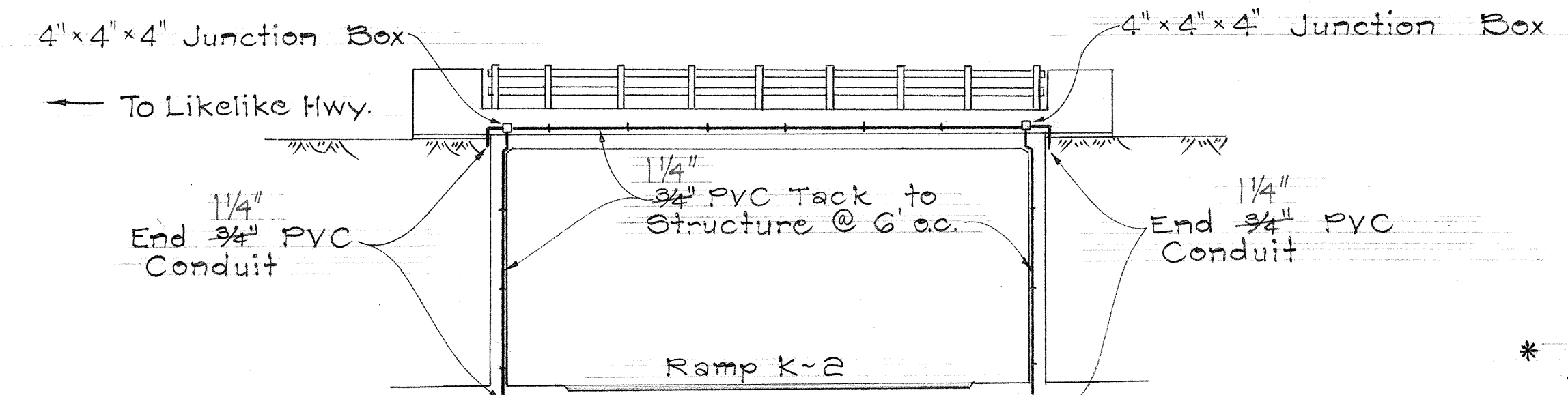
TYPICAL CONTROLLER DETAIL
The height of the Controller shall be as recommended by the manufacturer.



JET SPRINKLER DETAIL
Sprinkler shall be installed in the vertical position.



ROADWAY TRENCH DETAIL
See General Note No. 6
Scale: 1" = 1'-0"



DETAILS OF 3/4" PVC CONDUIT FOR CONTROL WIRES ON KALIHI ST. OVERPASS @ RAMP K-2

Scale 1" = 10'

* Route control wires through 3/4" conduit. PVC conduit and pull boxes shall be paid for under Electric Service Connection.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SYSTEM

KALIHI INTERCHANGE

Proj. No. 63A-03-72

Date: Nov. 1972

SHEET No. 7 OF 8 SHEETS

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

DIST. NO.

HAWAII

HAW.

Curb

Finished Surface

3"

8"

Copper or P.V.C. Elbow
(Copper or P.V.C. to NPTI)

Copper or P.V.C. Elbow
(Copper to Copper or
P.V.C. to P.V.C.)

Copper or P.V.C.
(size as indicated on plans)

2' Cover

Note: Reducer or Bushing not required in every case. Reducing Tee may be used.

Finish Grade

Sprinkler Head

Curb

Finished Surface

8" ±

2" x 4" x 4" Cinder Brick

Galv. or P.V.C. Nipple

Tee

Feeder

Reducer

Bushing

TYPICAL DETAIL OF SPRINKLER HEAD AT CONC. CURB

The image contains two technical diagrams. The left diagram, titled "INSTALLATION OF SPRINKLER ON SLOPE", shows a cross-section of a pipe assembly on a sloped ground. A vertical pipe is labeled "Galv. Riser". It is secured by "12 Gage Galv. Steel Tie Wire" and supported by a "1/2\" ϕ x 30\" Galv. Steel Pipe or No. 4 Reinforcing Bar Riser Support". Dimensions include a 3-inch section at the top, a 1-foot section below it, and a 1-foot 6-inch section at the bottom. A "Finish Grade" line is indicated. A horizontal dimension of 8 inches is shown on the left. The right diagram, titled "DOUBLE - 2\" VACUUM BREAKER (ATMOSPHERIC TYPE)", shows a piping system with two vacuum breakers. It includes an "Angle Control Valve" and a "Flow" arrow. Various pipe segments are labeled "2\" 90° El." and "2\" x 2\" x X\" Tee". A dimension "X\" (See Plans)" is indicated for the distance between the vacuum breakers.

INSTALLATION OF SPRINKLER ON SLOPE

Galv. Riser

3"

1'-0"

1'-6"

1'-0"

8"

Finish Grade

12 Gage Galv. Steel Tie Wire

1/2" ϕ x 30" Galv. Steel Pipe or No. 4 Reinforcing Bar Riser Support

12 Gage Galv. Steel Tie Wire

DOUBLE - 2" VACUUM BREAKER
(ATMOSPHERIC TYPE)

2" 90° El.

2" Atmospheric Vacuum Breaker

2" 90° El.

X" (See Plans)

2" 90° El.

2" x 2" x X" Tee

2" 90° El.

2" x 2" x X" Tee

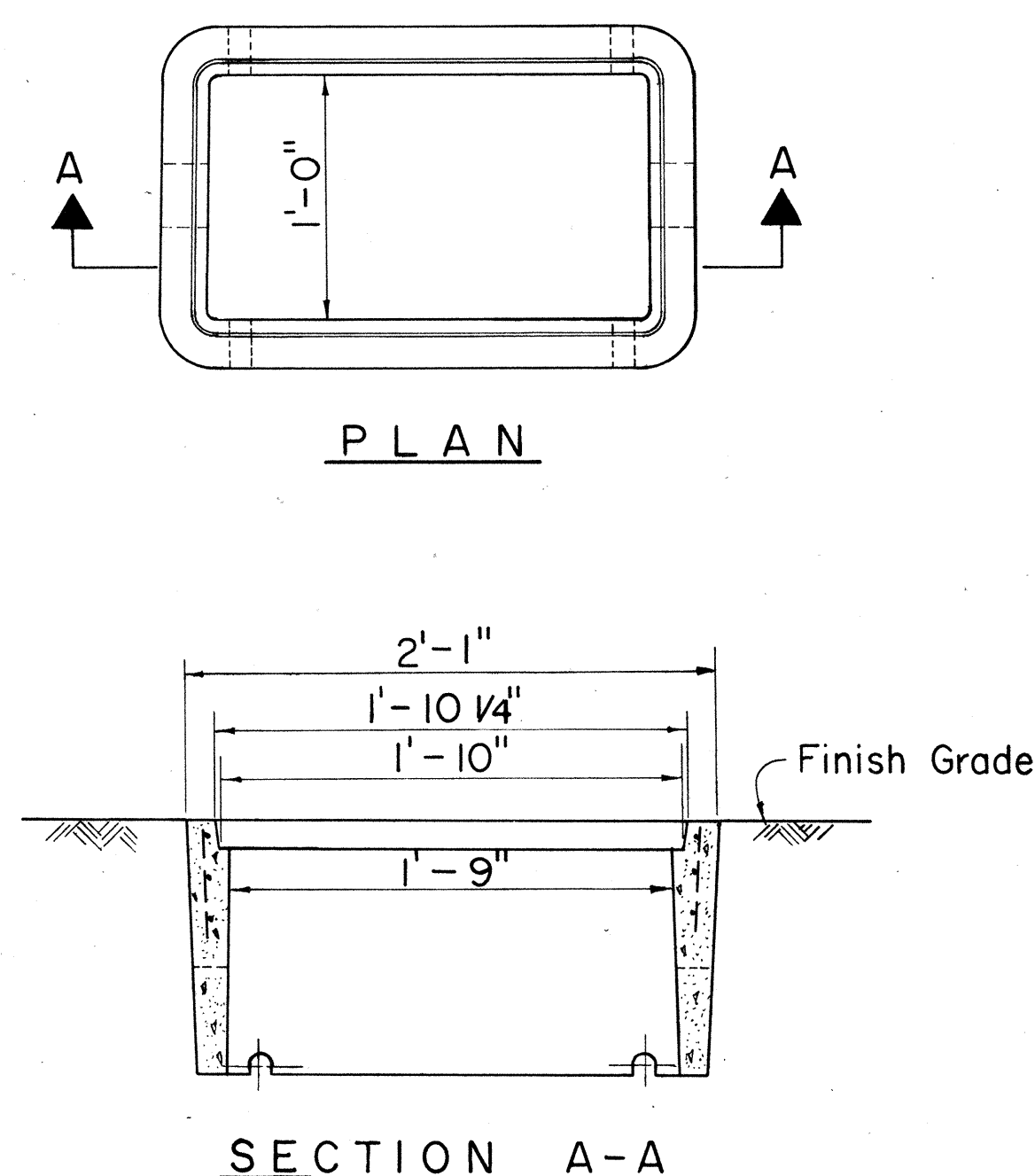
Angle Control Valve

X" (See Plans)

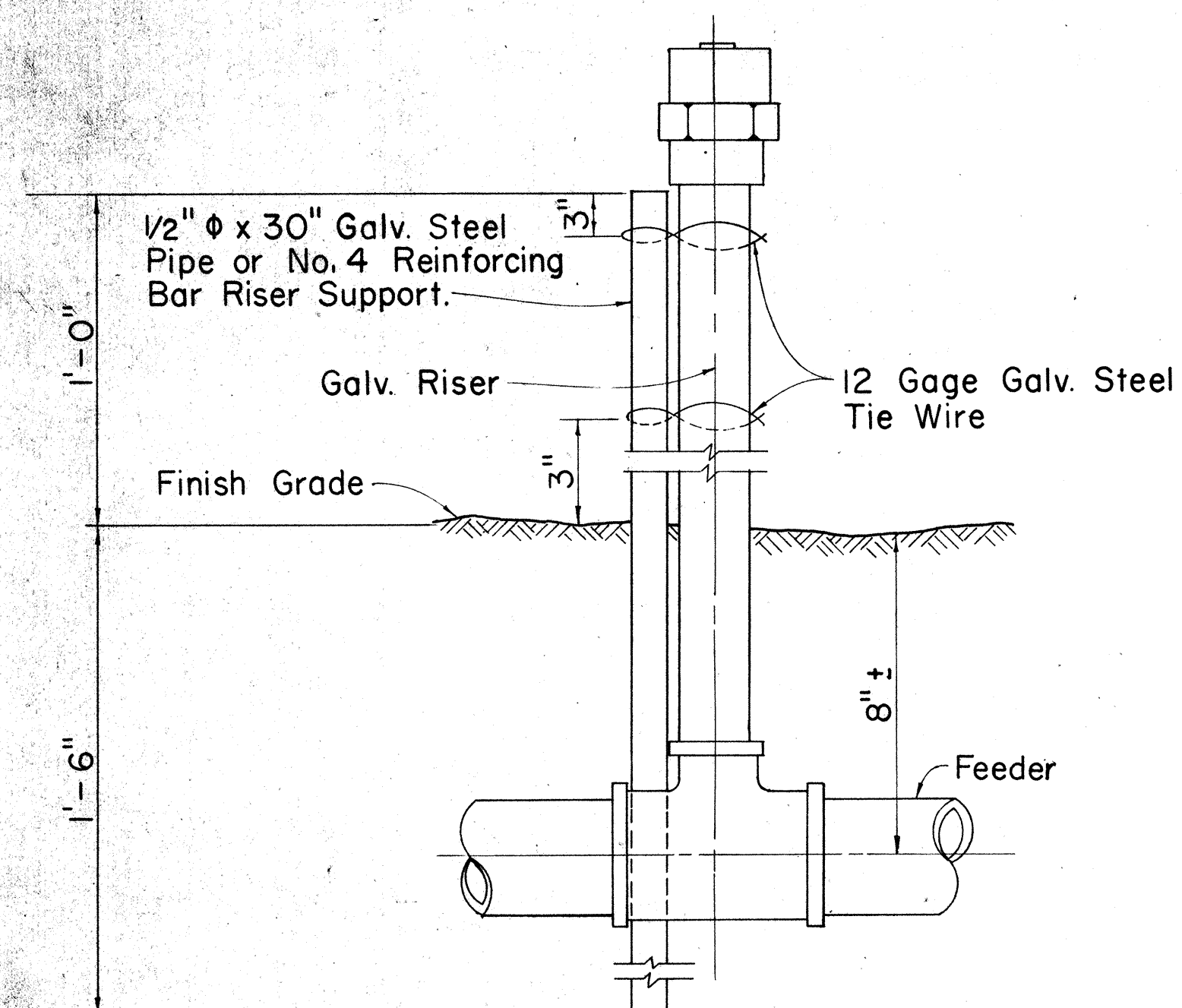
Flow

INSTALLATION OF SPRINKLER ON SLOPE

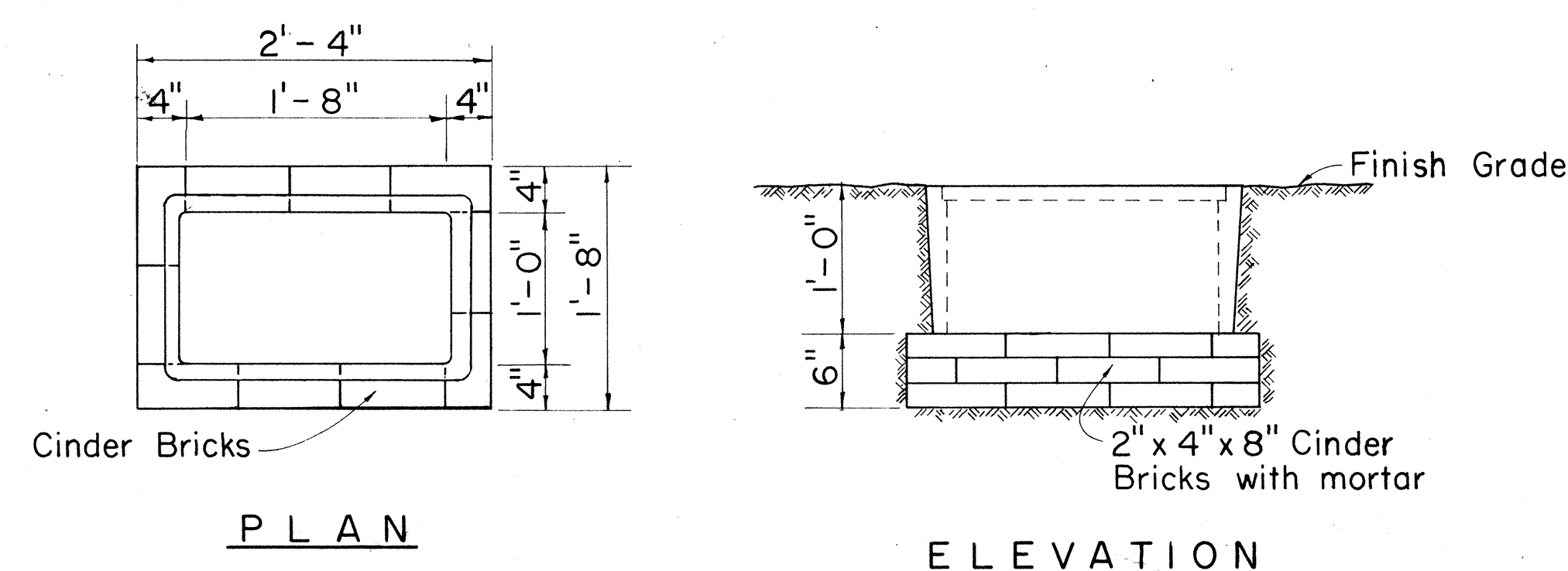
DOUBLE - 2" VACUUM BREAKER
(ATMOSPHERIC TYPE)



TYPE "A" VALVE BOX



DETAIL OF SPRINKLER HEAD ON RISER



PRESSURE REGULATOR BOX

NO.	REVISION	APPROVED BY	DATE
1.	This sheet supersedes sheet DH18 dated December 17, 1969.	H.C.	6-5-

APPROVAL RECOMMENDED: P. Jakans 6-5-71
HYDRAULIC DESIGN ENGINEER DATE

APPROVED: [Signature] 6-5-71
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
SPRINKLER SYSTEM

Not to Scale

SHEET No. 8 OF 8 SHEETS DH 18