

SPRINKLER

SUMMARY

SAFETY IMPROVEMENTS,
PROJ: KALIHI STREET TO PALI HIGHWAY

PROJ. NO. I-HI-I(112):19

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-I(112):19	1973	92	176

SPRINKLER SYSTEM			ESTIMATED QUANTITIES																REMARKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
NUMBER	SYSTEM	DETAIL SHEET NO.	ITEM NO.	206.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.

SUMMARY

SAFETY IMPROVEMENTS,
PROJ.:KALIHU STREET TO PALI HIGHWAY

PROJ. NO. I-HI-1(112):19

REVISED: 10/1/73

FED. ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112):10	1973	03	176

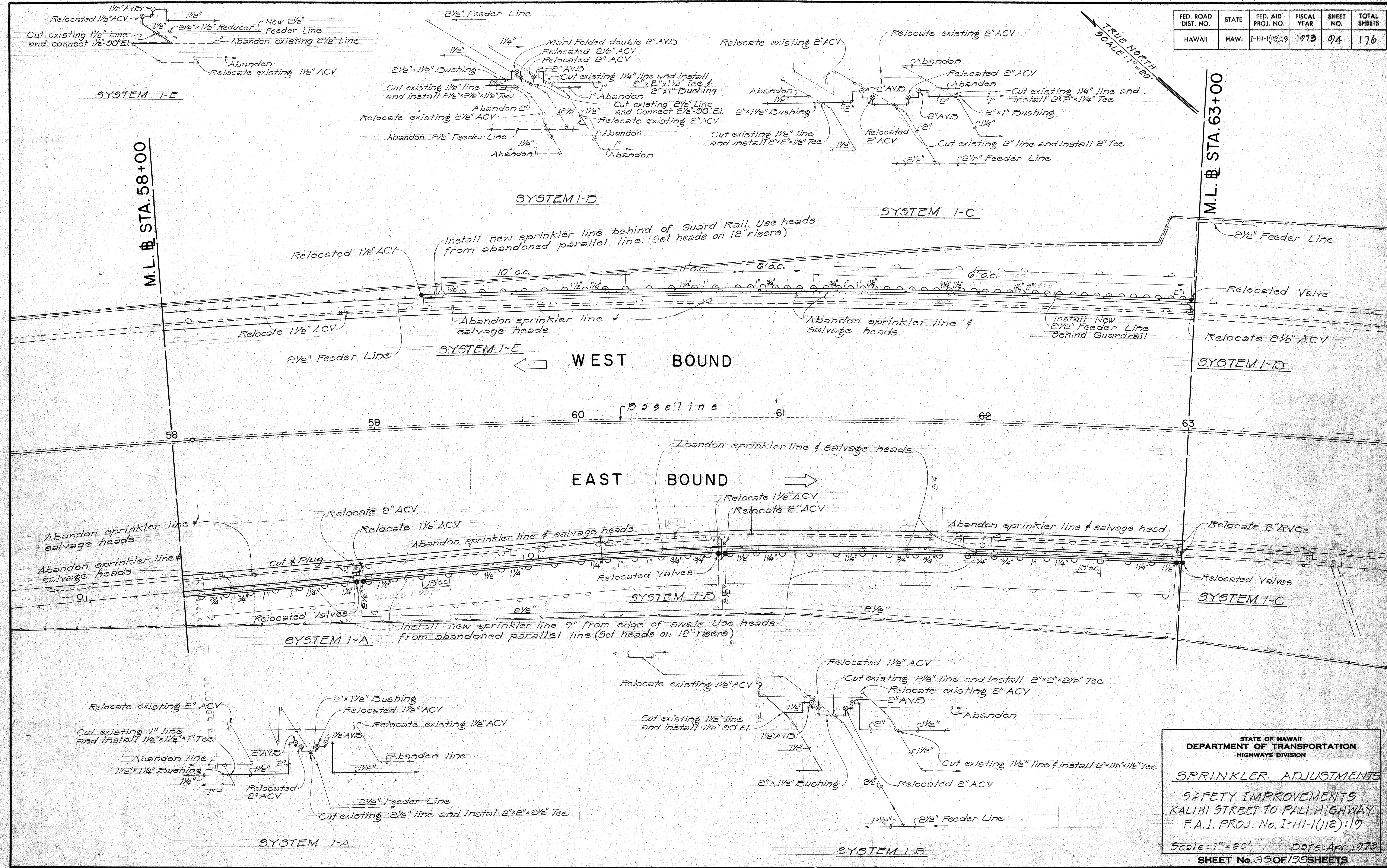
[illegible]

SHEET NO. 25 OF 105 SHEETS

93

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK	DRAWN BY _____	at _____
	TRACED BY _____	at _____
	DESIGNED BY _____	at _____
	QUANTITIES BY _____	at _____
No. _____	CHECKED BY _____	_____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112):19	1973	94	176



DATE	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
NO.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER ADJUSTMENTS

SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112):19

Scale: 1" = 20' Date: Apr. 1973

SHEET No. 35 OF 95 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112):19	1973	96	176

TRUE NORTH
Scale: 1"=20'

M.L. STA. 68+00

M.L. STA. 73+75
P.C. STA. 73+89.02

SYSTEM 3-A

R/W Line

NORTH FRONTAGE

WEST BOUND

EAST BOUND

SOUTH FRONTAGE

R/W Line

SYSTEM 3-B

RAMP "1"

RAMP "2"

328° 00' 00"

Baseline

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER ADJUSTMENTS

SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112):19

Scale: 1"=20' Date: Apr, 1973
SHEET No. 96 OF 95 SHEETS

9 6

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112):19	1973	97	176

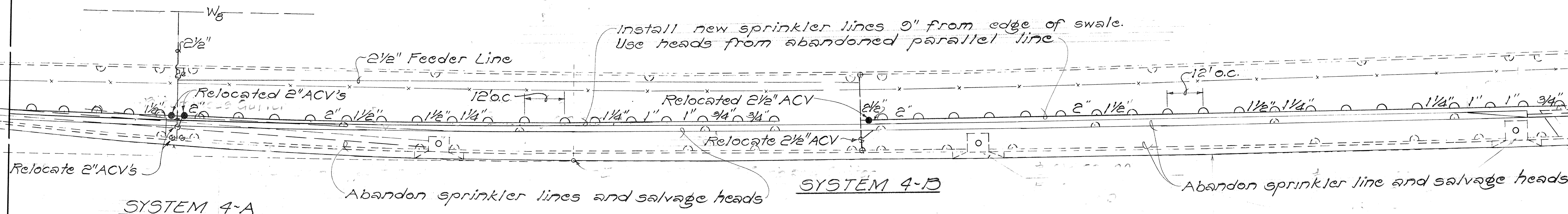
TRUE NORTH
SCALE: 1"=20'

M.L. # STA. 79+50

M.L. # STA. 73+75

SYSTEM 4-A

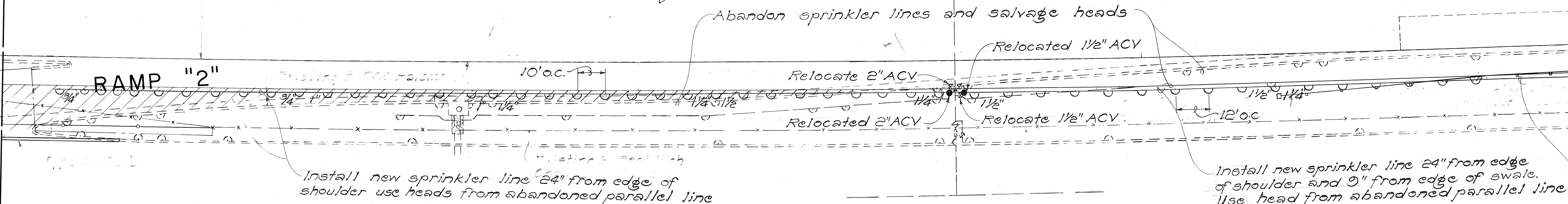
SYSTEM 4-B



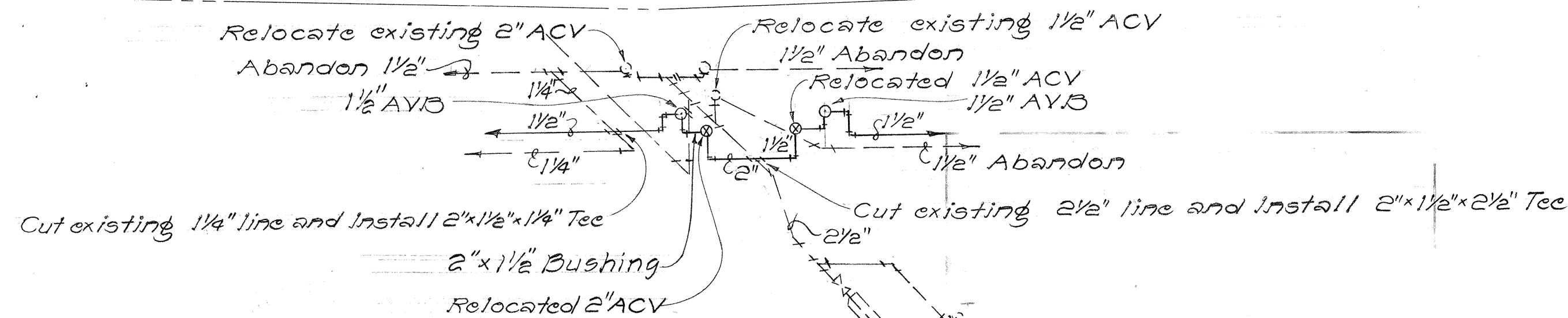
WEST BOUND

EAST BOUND

RAMP "2"



SYSTEM 4-C

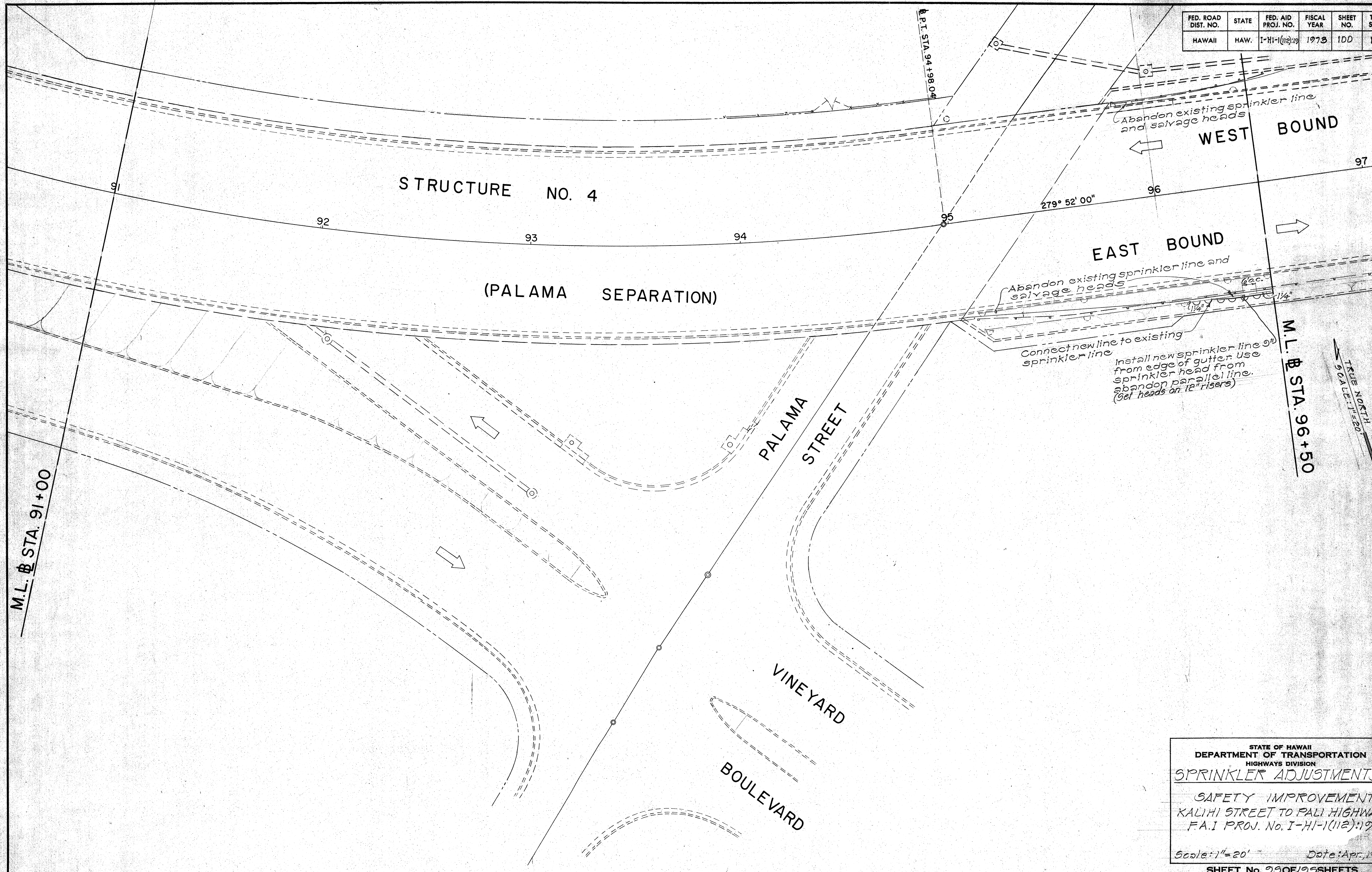


SYSTEM 4-C

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SPRINKLER ADJUSTMENTS
SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112):19
Scale: 1"=20' Date: Apr. 1973
SHEET No. 03 OF 93 SHEETS

97

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112):19	1973	100	170



ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER ADJUSTMENTS

SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112):19

Scale: 1"=20' Date: Apr. 1973

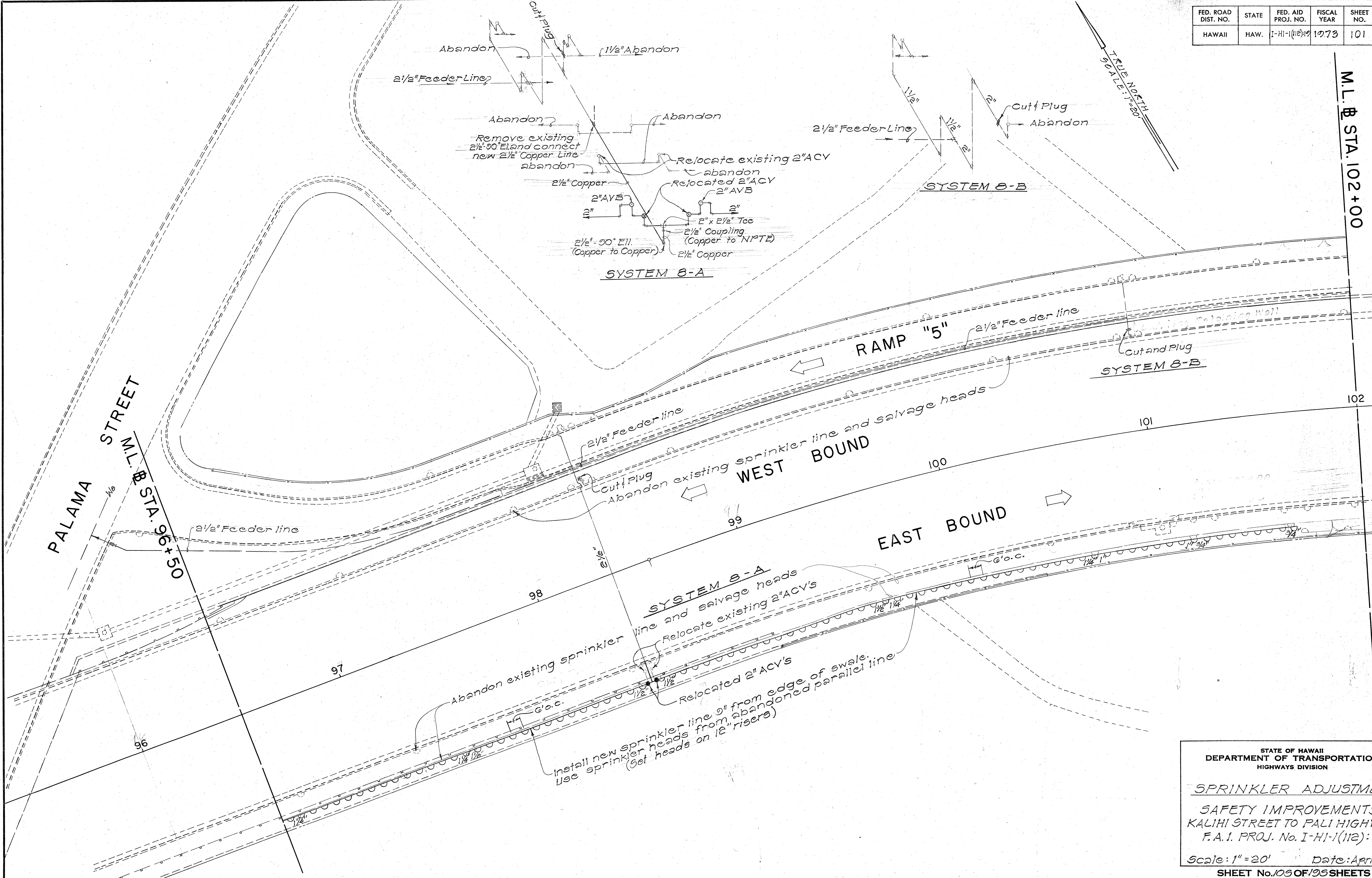
SHEET No. 09 OF 105 SHEETS

REVISED: 10/1/73

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112):19	1973	101	176

M.L. STA. 102+00

TRUE NORTH
90° 42' 15" 20"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

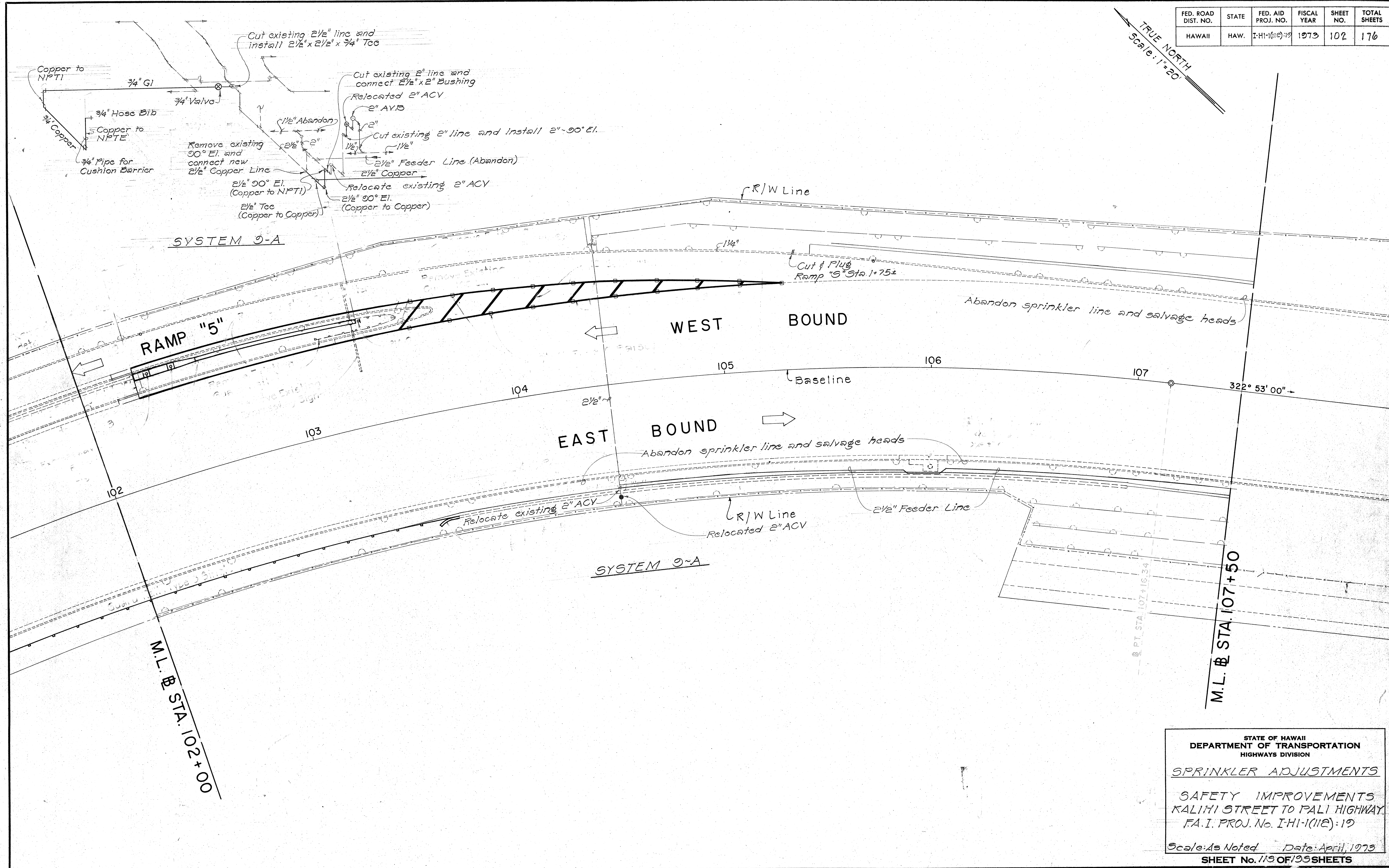
SPRINKLER ADJUSTMENT
SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112):19

Scale: 1" = 20' Date: April, 1973
SHEET No. 103 OF 103 SHEETS

REVISED: 10/1/73

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112)-19	1973	102	176

TRUE NORTH
Scale: 1"=20'



DESIGNED BY	DATE
TRACED BY	
NOTED BY	
CHECKED BY	

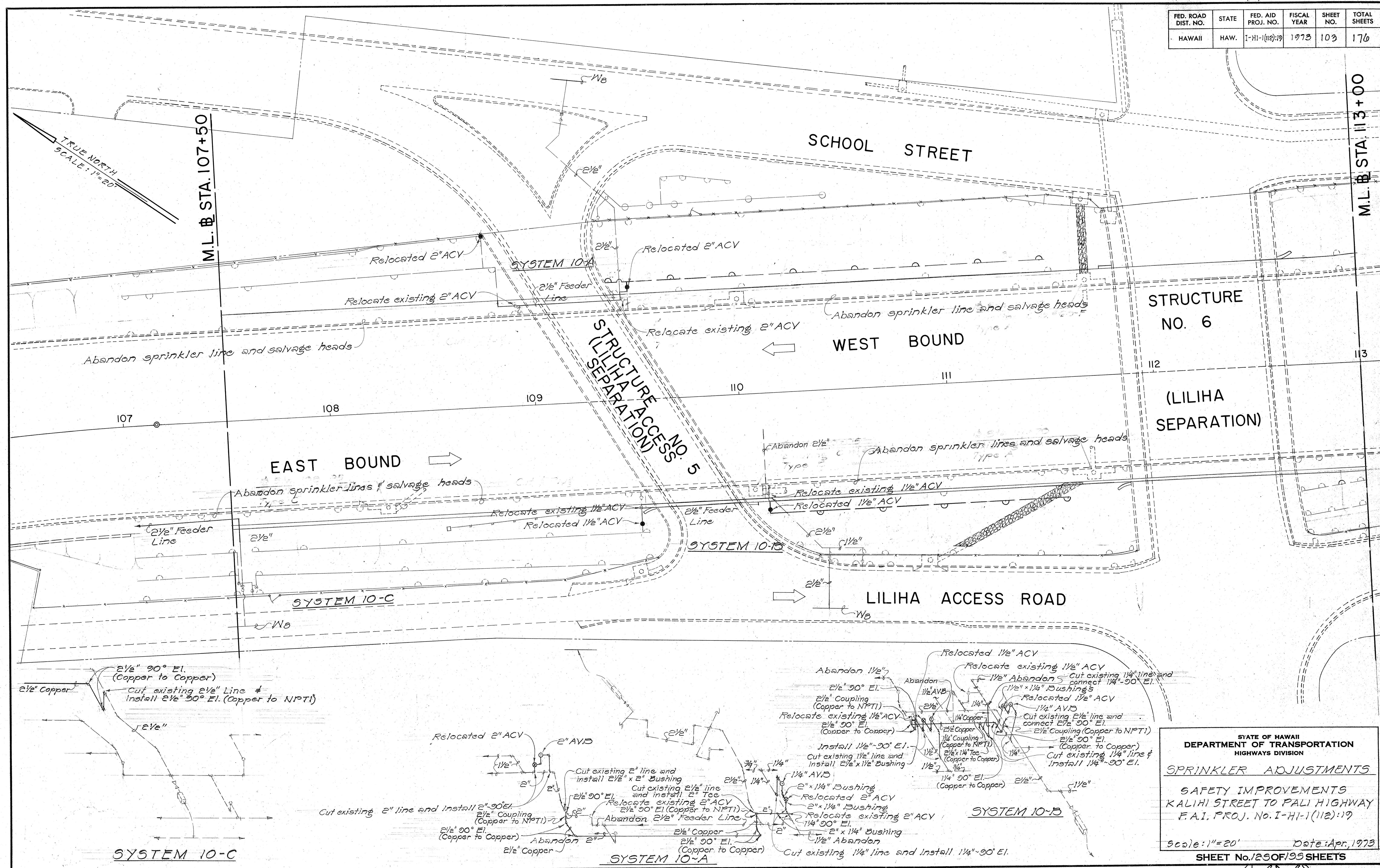
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER ADJUSTMENTS

SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112)-19

Scale: As Noted Date: April, 1973
SHEET No. 102 OF 176 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	I-HI-1(112):19	1973	103	176



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER ADJUSTMENTS

SAFETY IMPROVEMENTS
KALIHU STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-H-1(112):19

Scale: 1"=20' Date: Apr. 1973

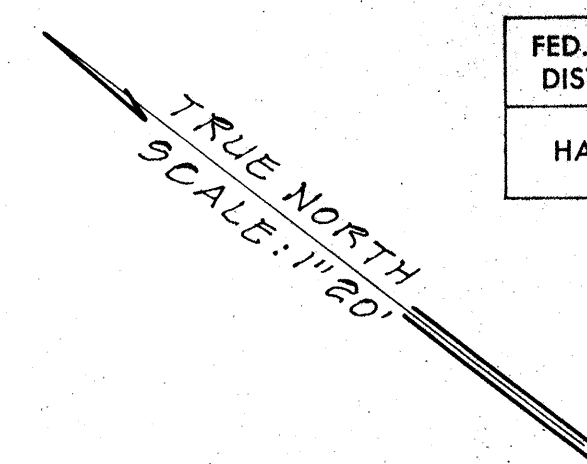
SHEET No.123 OF 193 SHEETS

103

20

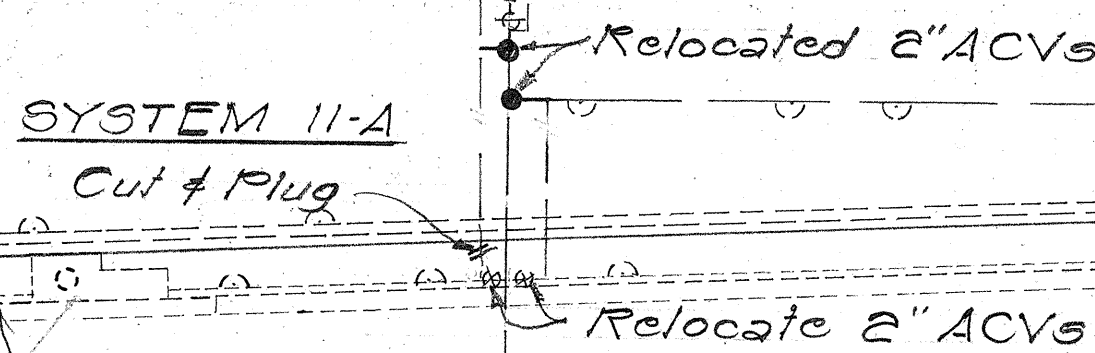
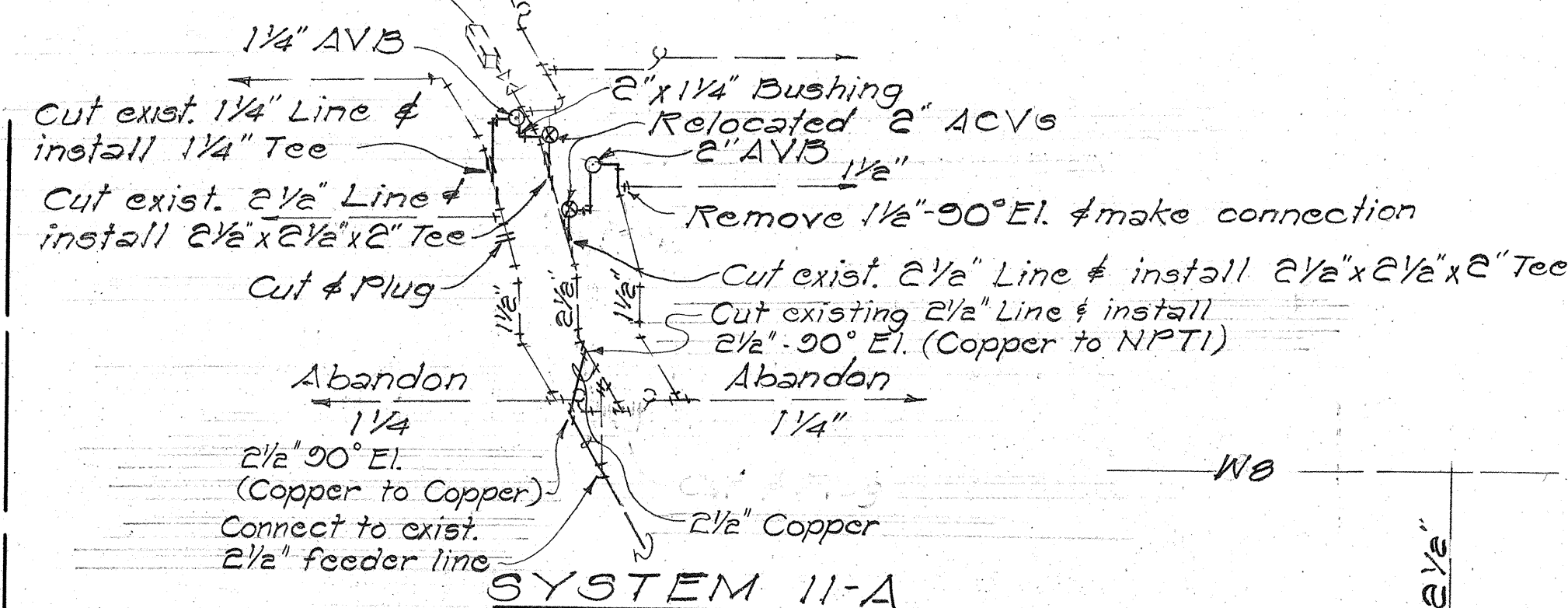
REVISED: 10/11/73

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112):19	1973	104	176



M.L. STA. 113+00

M.L. STA. 119+00



Abandon existing sprinkler lines & salvage heads

WEST BOUND

RAMP "7"

Connect 10' of new sprinkler line to existing line & use heads from abandoned line.

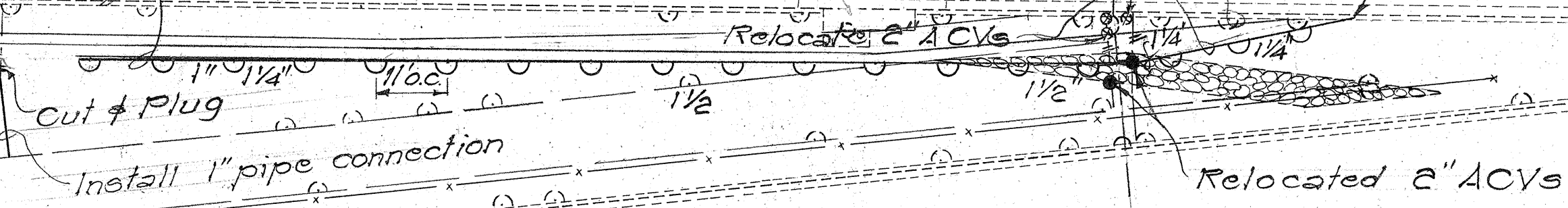
113 114 115 116 117 118 119

EAST BOUND

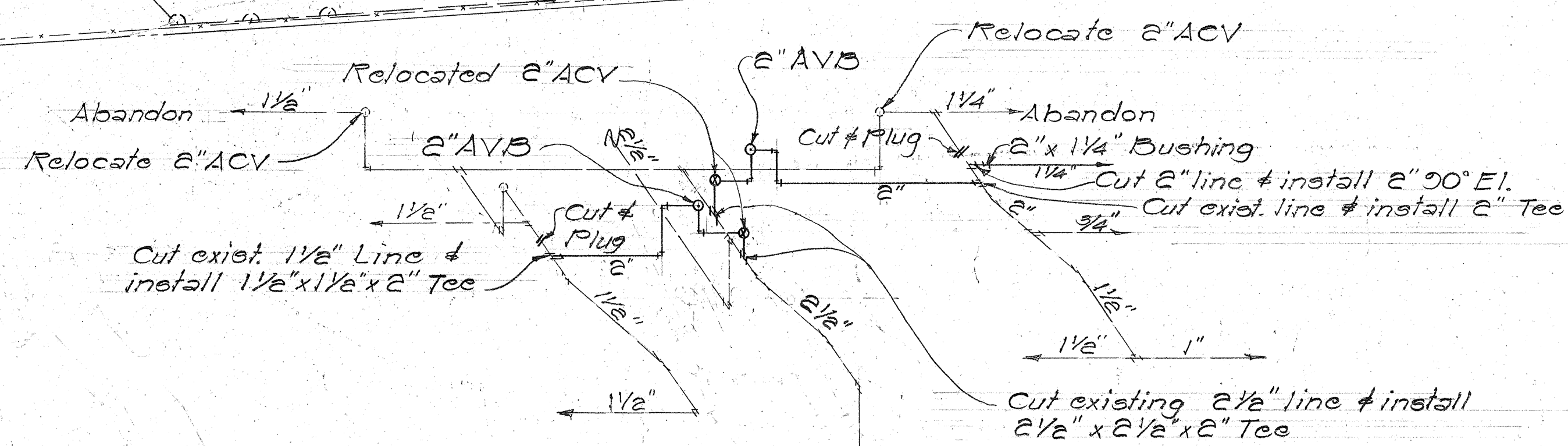
SYSTEM 11-B

Abandon existing sprinkler line & salvage heads
Install new sprinkler line along curb & use heads from abandoned parallel line

Connect new sprinkler line to existing line



RAMP "6"

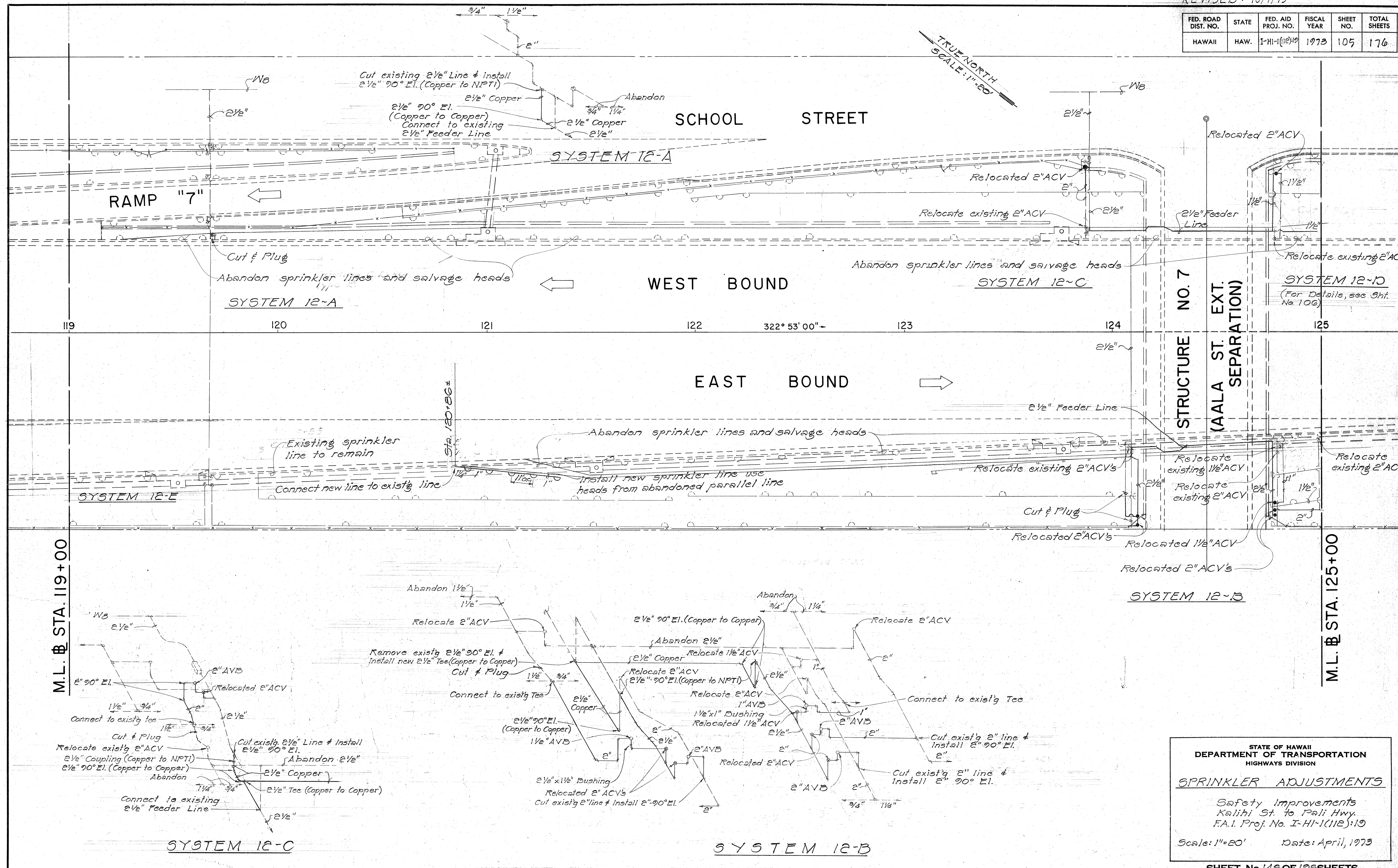


SYSTEM 11-B

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SPRINKLER ADJUSTMENTS
SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112):19
Scale: 1"=20' Date: Apr, 1973
SHEET No. 104 OF 176 SHEETS

11041

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112)P2	1973	105	176



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER ADJUSTMENTS

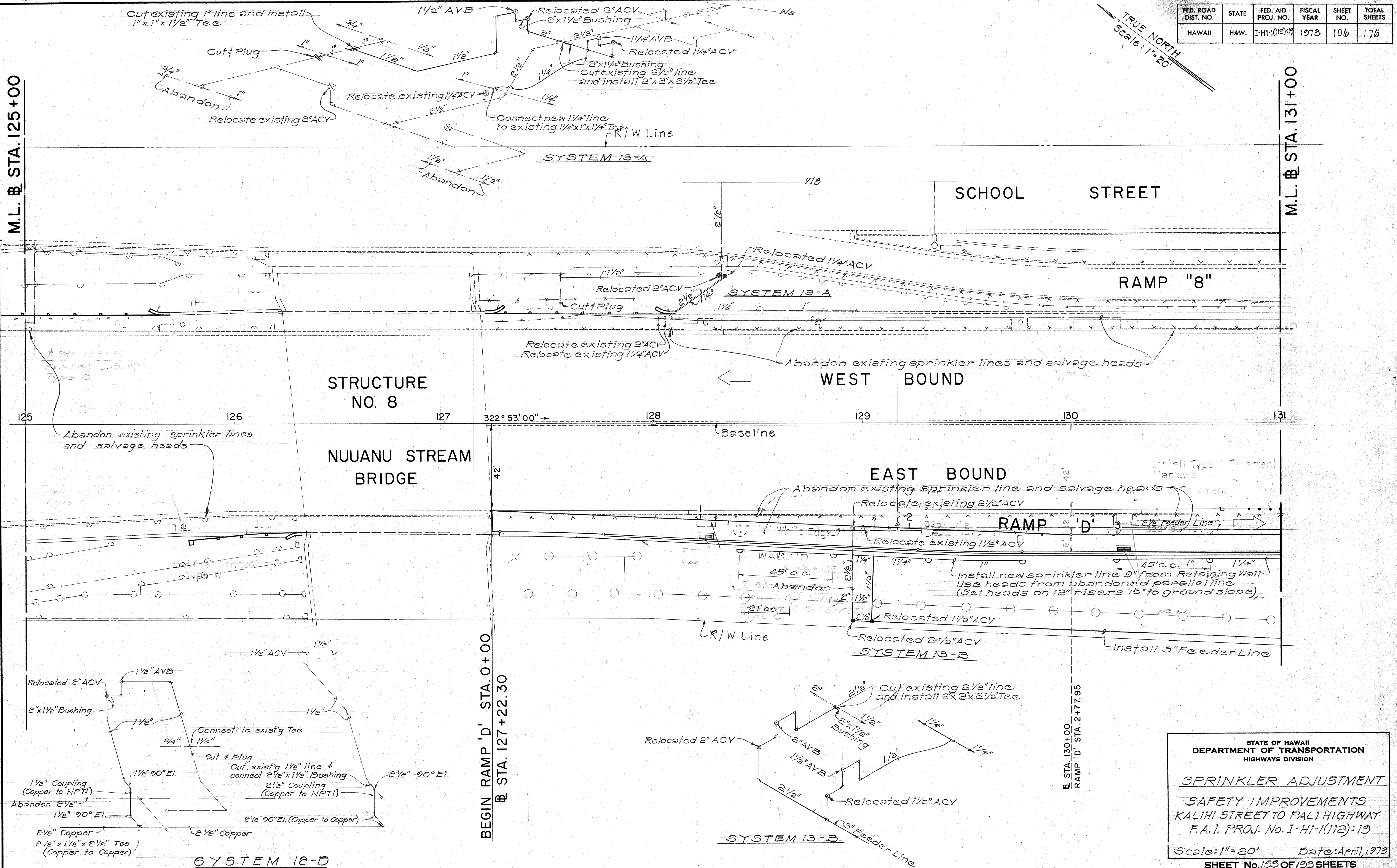
Safety Improvements
Kalihi St. to Pali Hwy.
F.A.I. Proj. No. I-HI-1(112)P2

Scale: 1"=20' Date: April, 1973

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

TRUE NORTH
Scale: 1"=20'

M.L. STA. 131+00



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER ADJUSTMENT

SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112)-19

Scale: 1" = 20' Date: April, 1973

SHEET No. 153 OF 193 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112)49	1973	108	176

M.L. & STA. 137+00

M.L. & STA. 143+00

TRUE NORTH
SCALE: 1"=20'

SCHOOL STREET

WEST BOUND

EAST BOUND

RAMP "D"

137 138 139 140 141 142 143

322°53'00"

Abandon existing Feeder Line
2 1/2" Cut & Plug
Abandon existing sprinkler line & salvage heads
Cut & Plug
Abandon existing 2 1/2"
Install new sprinkler line next to curb. Use heads from abandoned parallel line.
Connect to existing line
Install new sprinkler line next to curb. Use heads from abandoned parallel line. (Set heads on 12" risers)
Abandon exist. sprinkler line and salvage heads
Abandon existing 2 1/2"
Connect to existing Line
Cut & Plug
Connect to existing line
Abandon exist. sprinkler line & salvage heads
Install new sprinkler line along curb. Use heads from abandoned parallel line.

SYSTEM 14-E

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
No.	

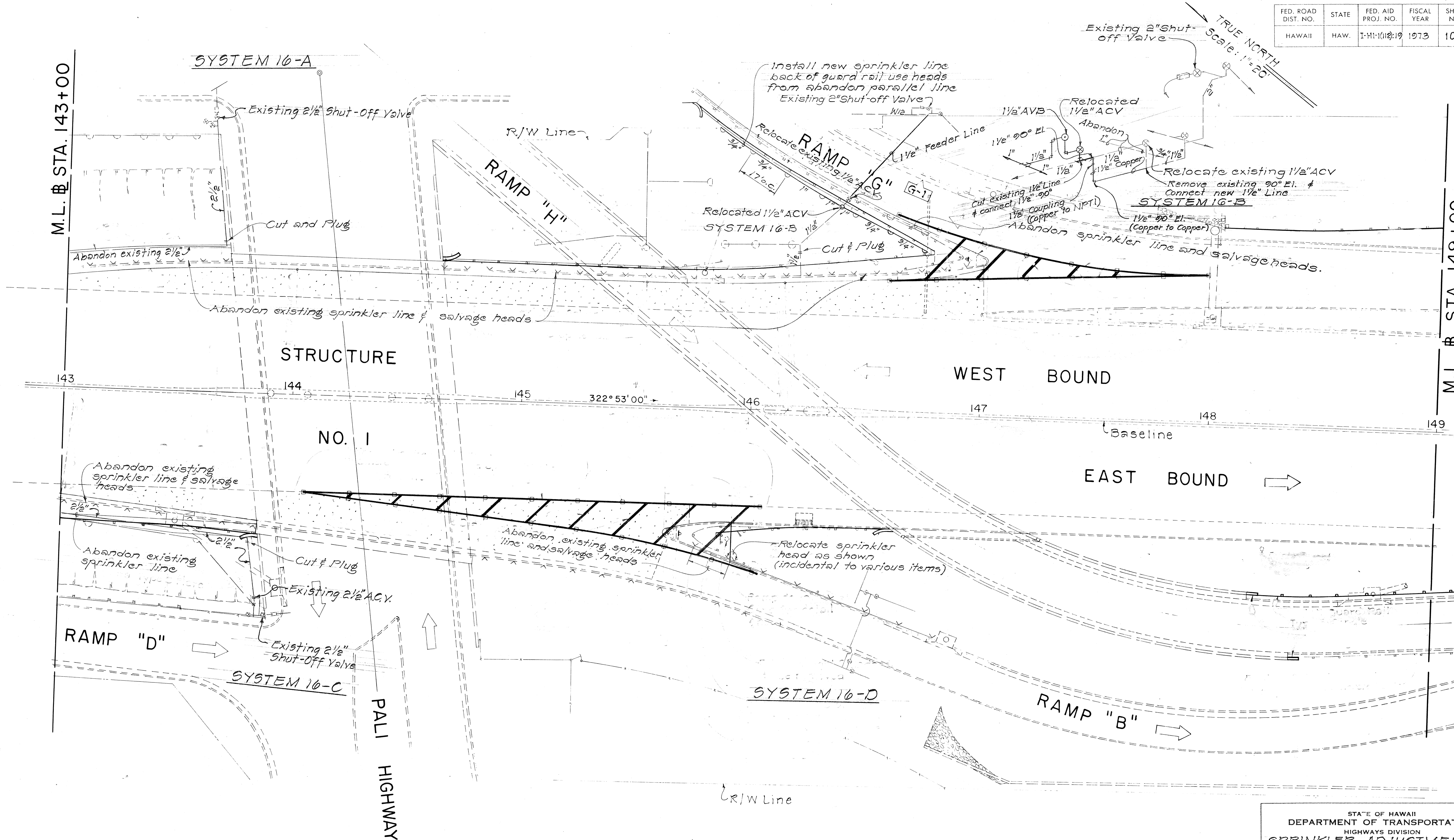
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SPRINKLER ADJUSTMENTS
SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. Proj. No. I-HI-1(112)-19
Scale: 1"=20' Date: April, 1973
SHEET No. 175 OF 193 SHEETS

108

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(112)-19	1973	109	176

M.L. # STA. 143+00

M.L. # STA. 149+00



ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

CURVE DATA			
	L-2	F-1	G-1
Δ	6° 32' 22"	3° 26' 00"	73° 46' 00"
R	921.75	1,000.00	350.00
T	52.66	29.97	262.63
Lc	105.21	59.92	450.61

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

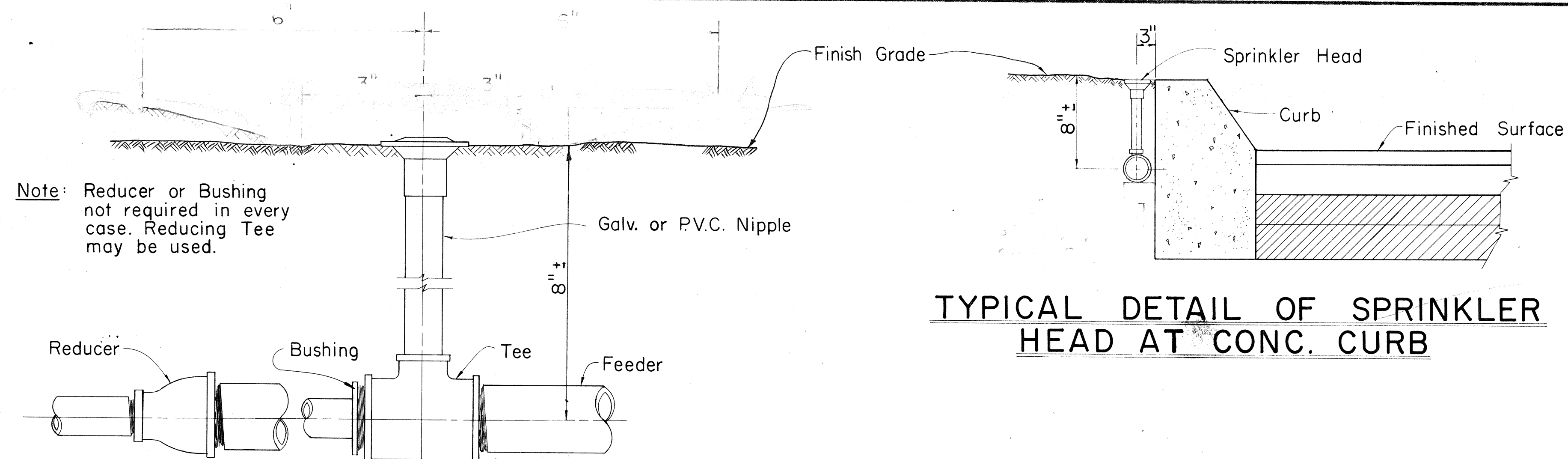
SPRINKLER ADJUSTMENTS

SAFETY IMPROVEMENTS
KALIHI STREET TO PALI HIGHWAY
F.A.I. PROJ. No. I-HI-1(112)-19

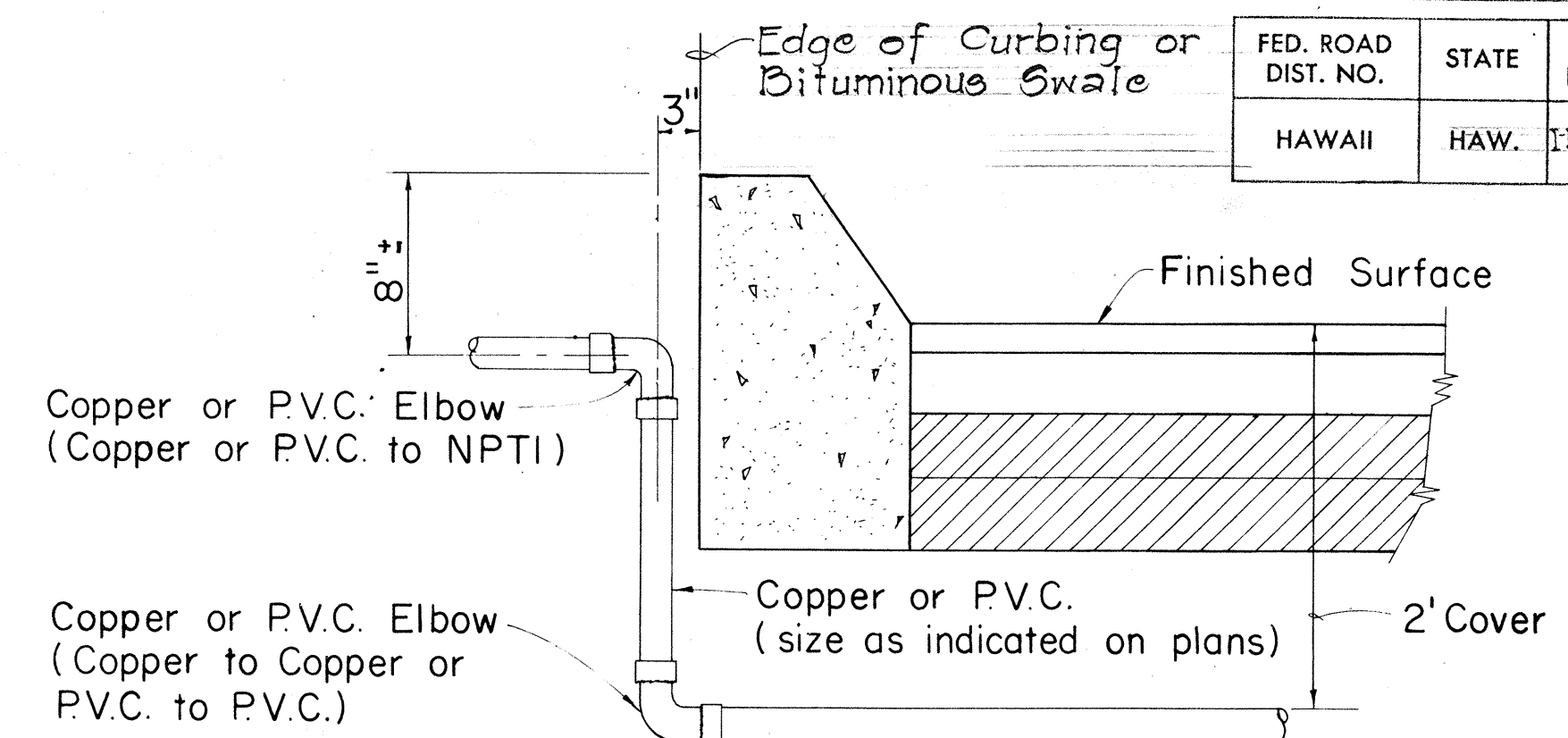
Scale: 1" = 20' Date: Apr, 1973

SHEET No. 109 OF 125 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	111-112-12	1973	110	176

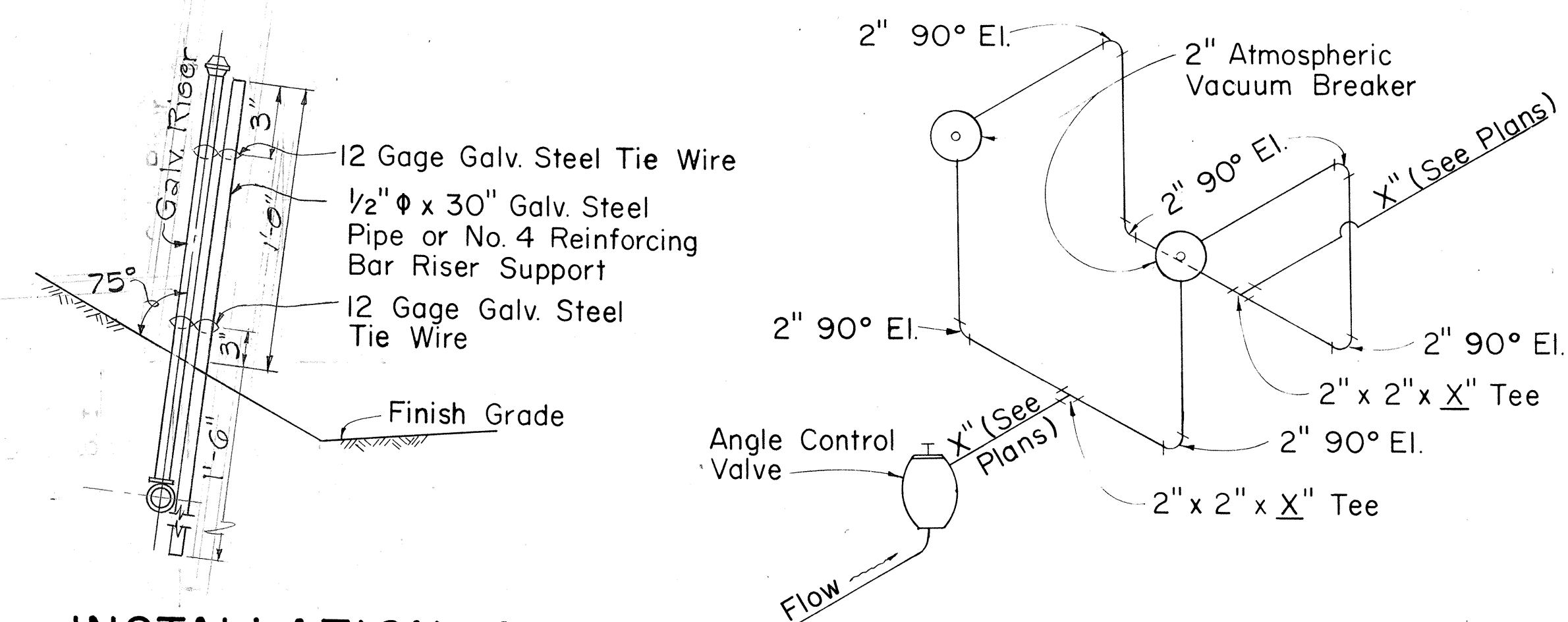


TYPICAL DETAIL OF SPRINKLER HEAD AT CONC. CURB

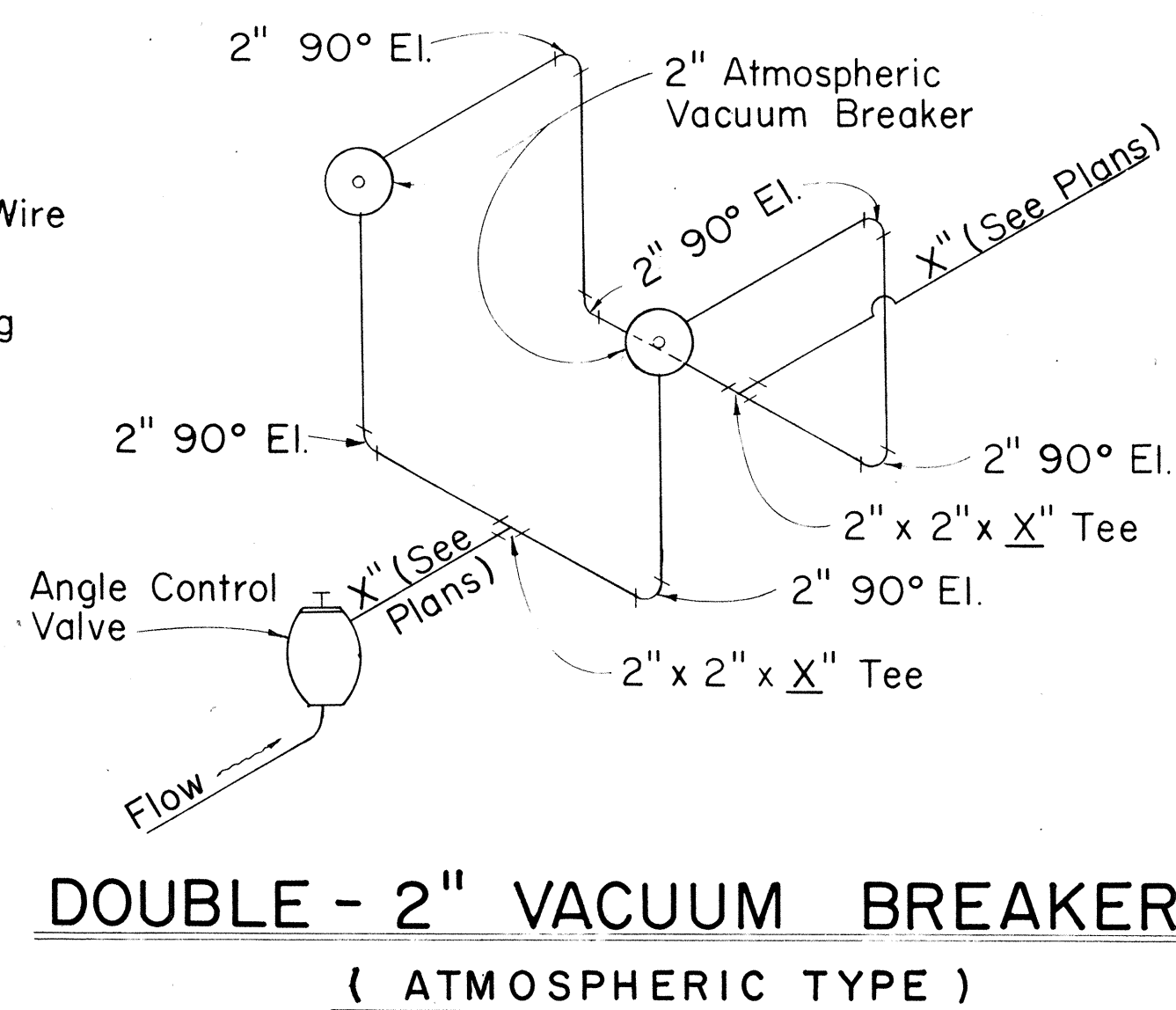


TYPICAL DETAIL OF ROADWAY CROSSING

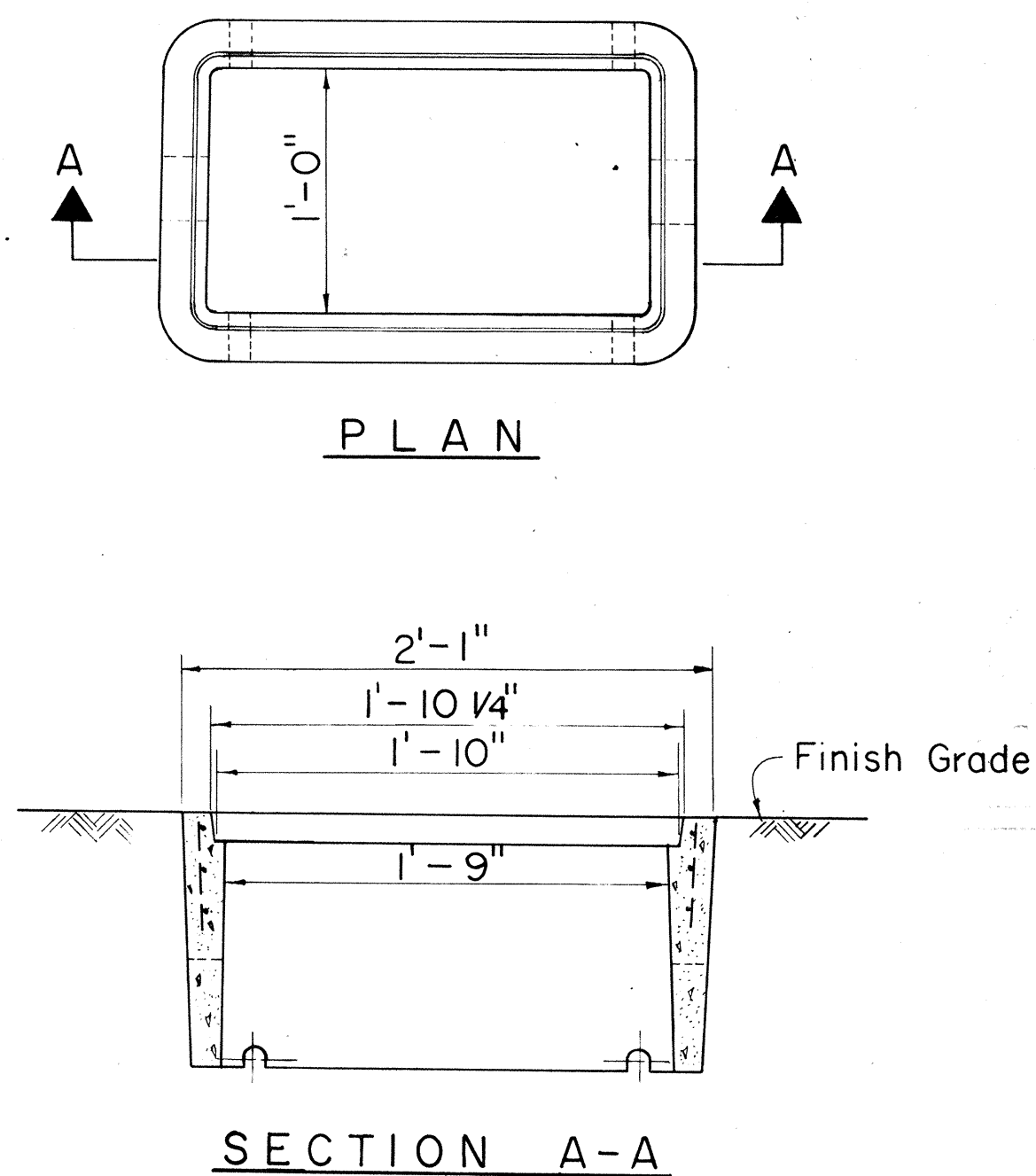
CONNECTION OF SPRINKLER HEAD TO FEEDER



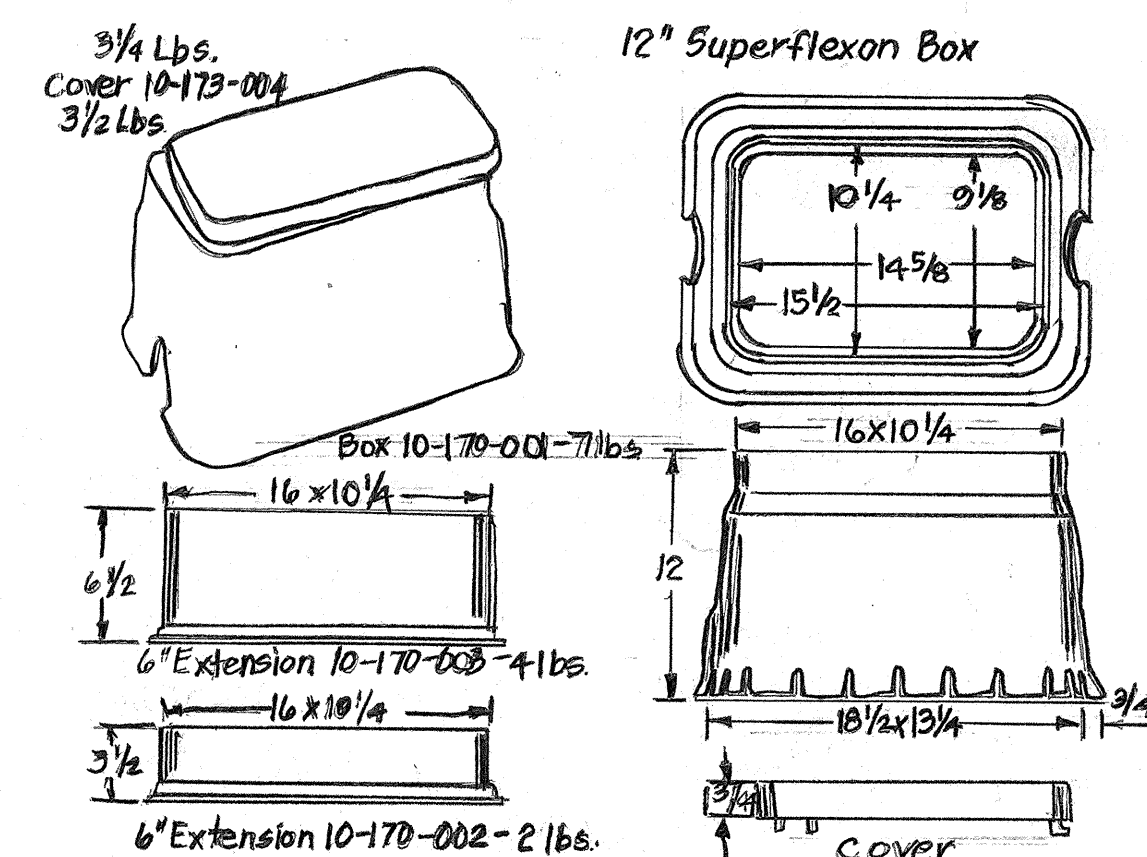
INSTALLATION OF SPRINKLER ON SLOPE



DOUBLE - 2" VACUUM BREAKER (ATMOSPHERIC TYPE)



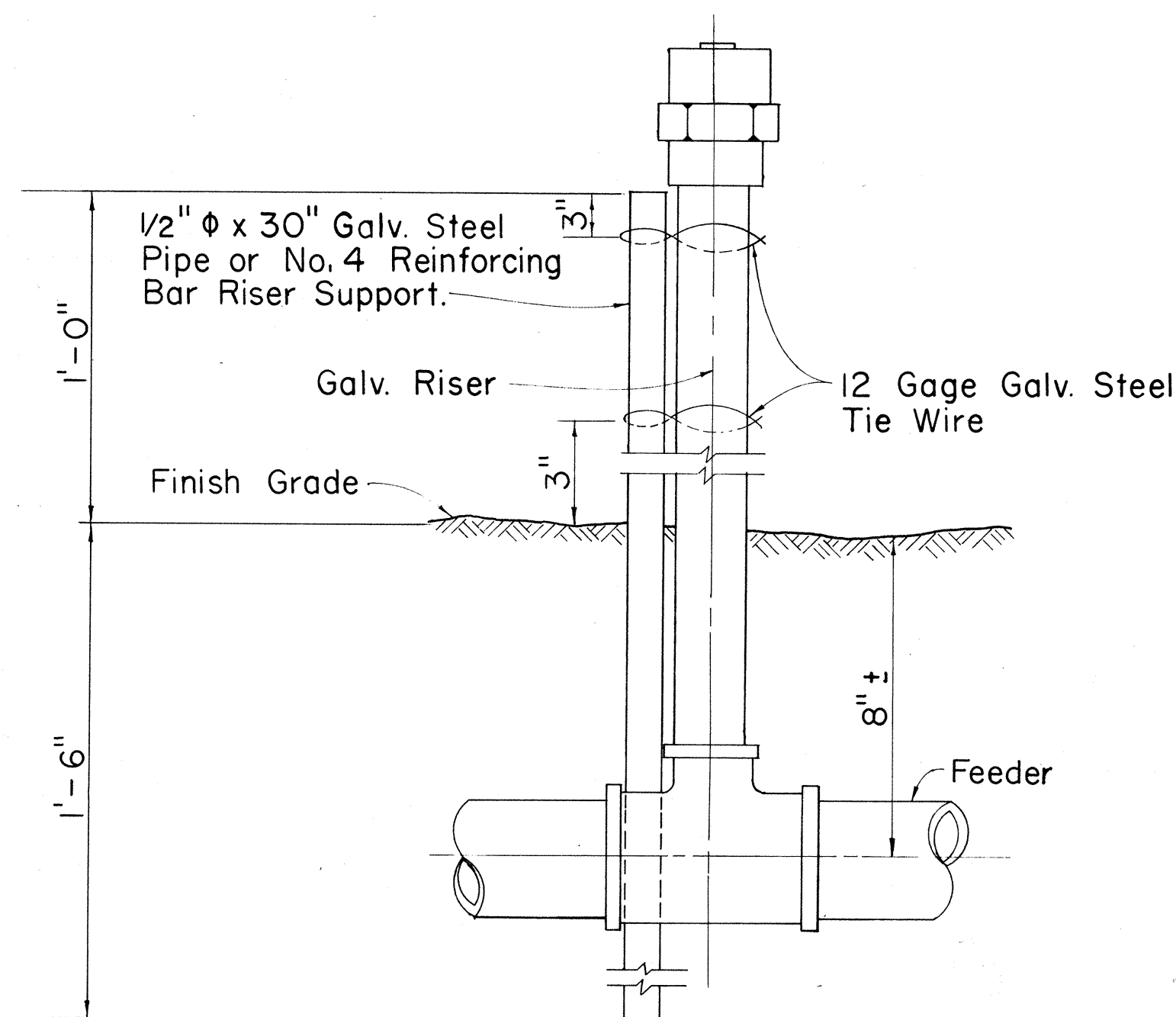
TYPE "A" VALVE BOX



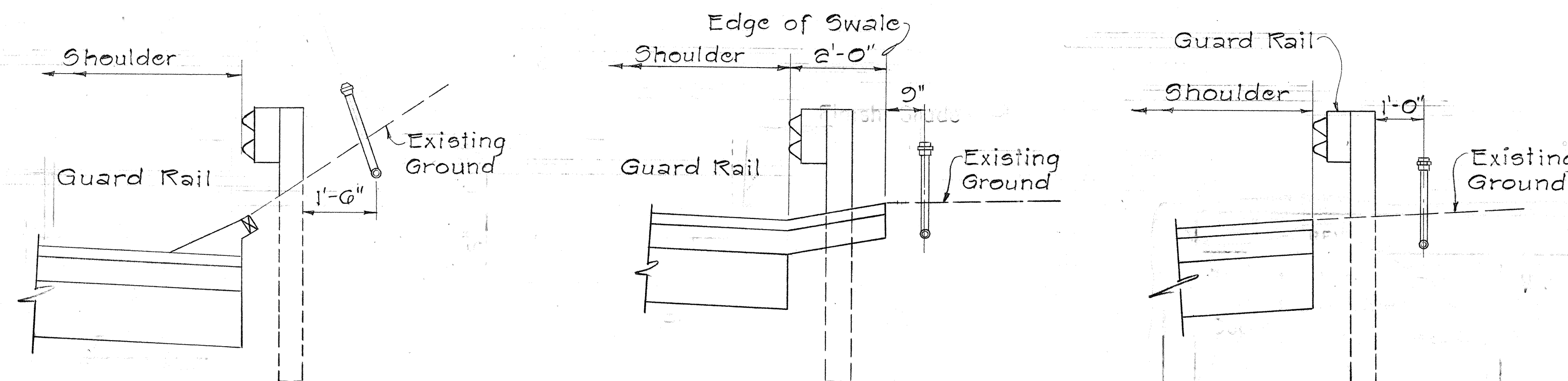
VALVE & CONTROL BOXES WITH
EVERGREEN COVERS
C.C.O. #13

GENERAL NOTES

1. Type "A" Valve Box and Pressure Regulator Box is similar to a Honolulu Board of Water Supply Type "X" Meter Box. However, instead of the words "Board of Water Supply" and "Water Meter" on the Cast Iron Covers, imprint the words "Sprinkler Valve" on the Valve Box Cover and "Pressure Regulator" on the Pressure Regulator Box Cover.
2. Locate the sprinkler valve at a sufficient depth in the Valve Box to make it operable with the cover in place.
3. Riser less than 20" will not require support.
4. Riser support will be considered incidental to the various items of the sprinkler system.



DETAIL OF SPRINKLER HEAD ON RISER



TYPICAL LOCATIONS OF SPRINKLER HEADS

ORIGINAL FLAN	SURVEY PLOTTED BY.....	DATE.....
	DRAWN BY.....	
	TRACED BY.....	
	DESIGNED BY.....	
	QUANTITIES BY.....	
	CHECKED BY.....	
No.		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SPRINKLER SYSTEM DETAILS
SAFETY IMPROVEMENTS
KALIHI STREET to PALI HIGHWAY
F.A.I. Proj. No. I-HI-1(112):19

Not to Scale Date: April, 1973
SHEET No. 125 OF 195 SHEETS DH 18