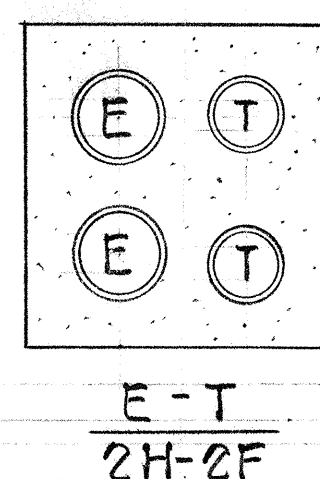
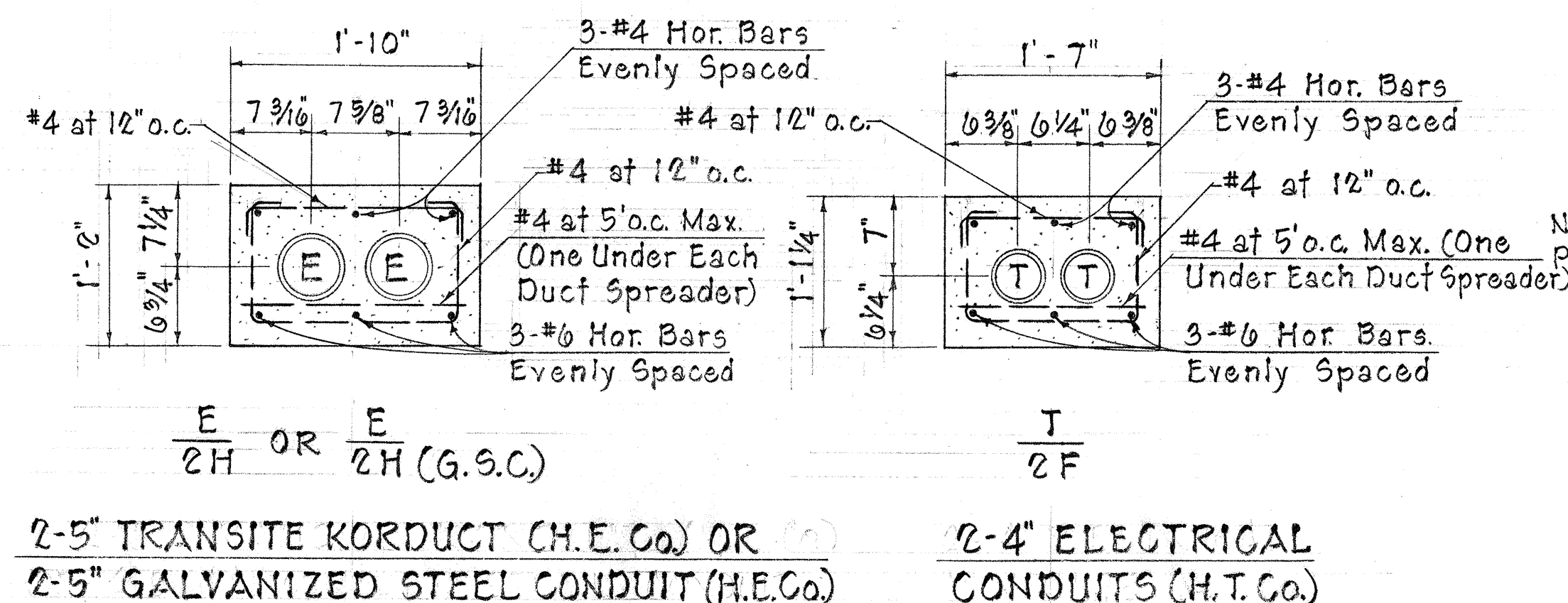
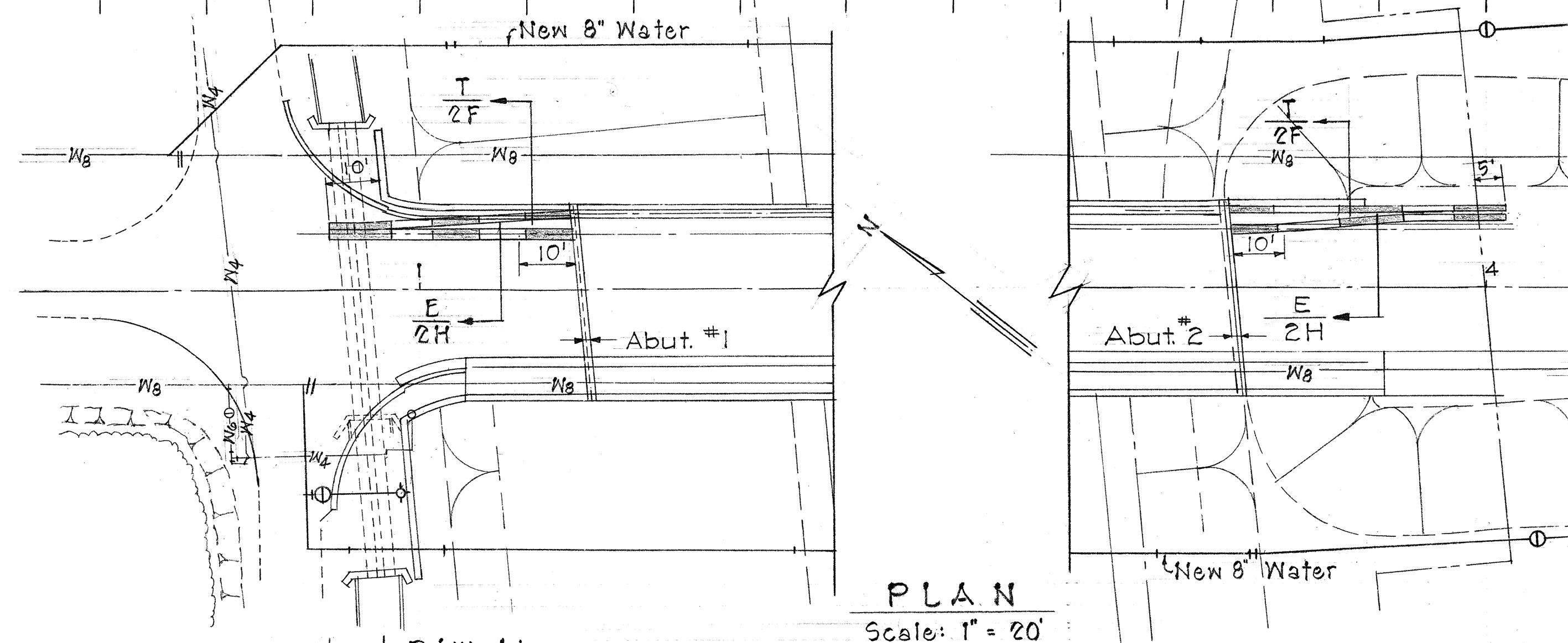
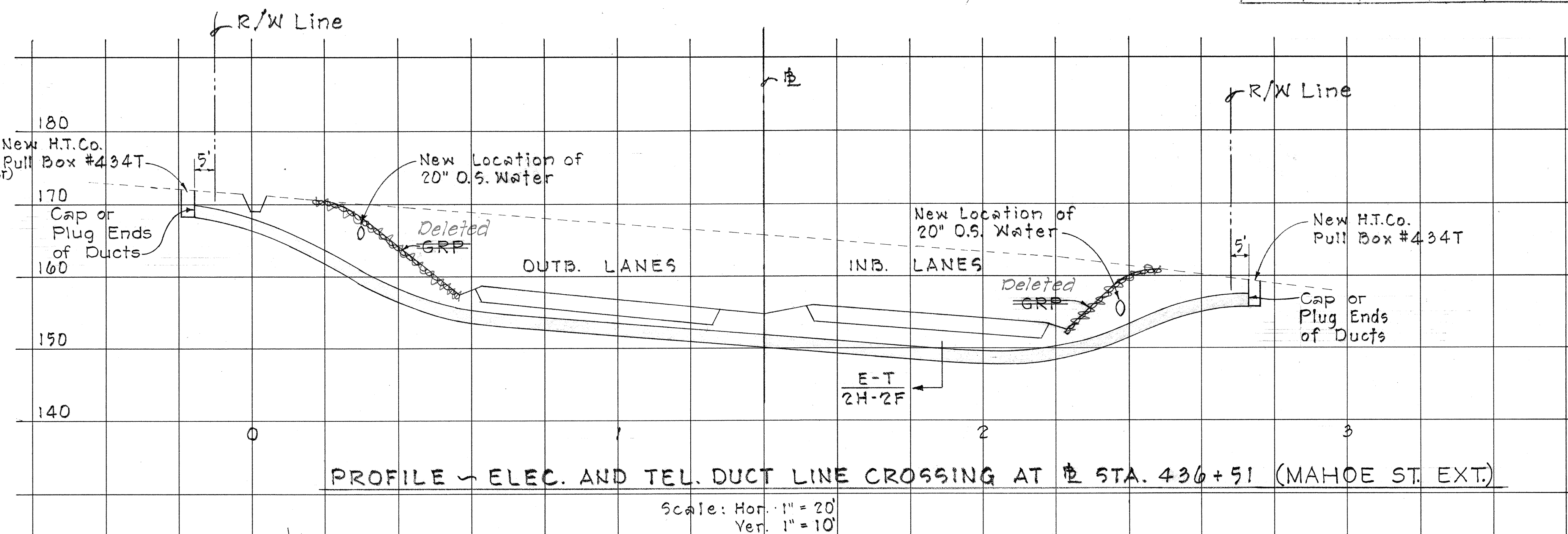


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(32):5 Unit 3	1967	74	99



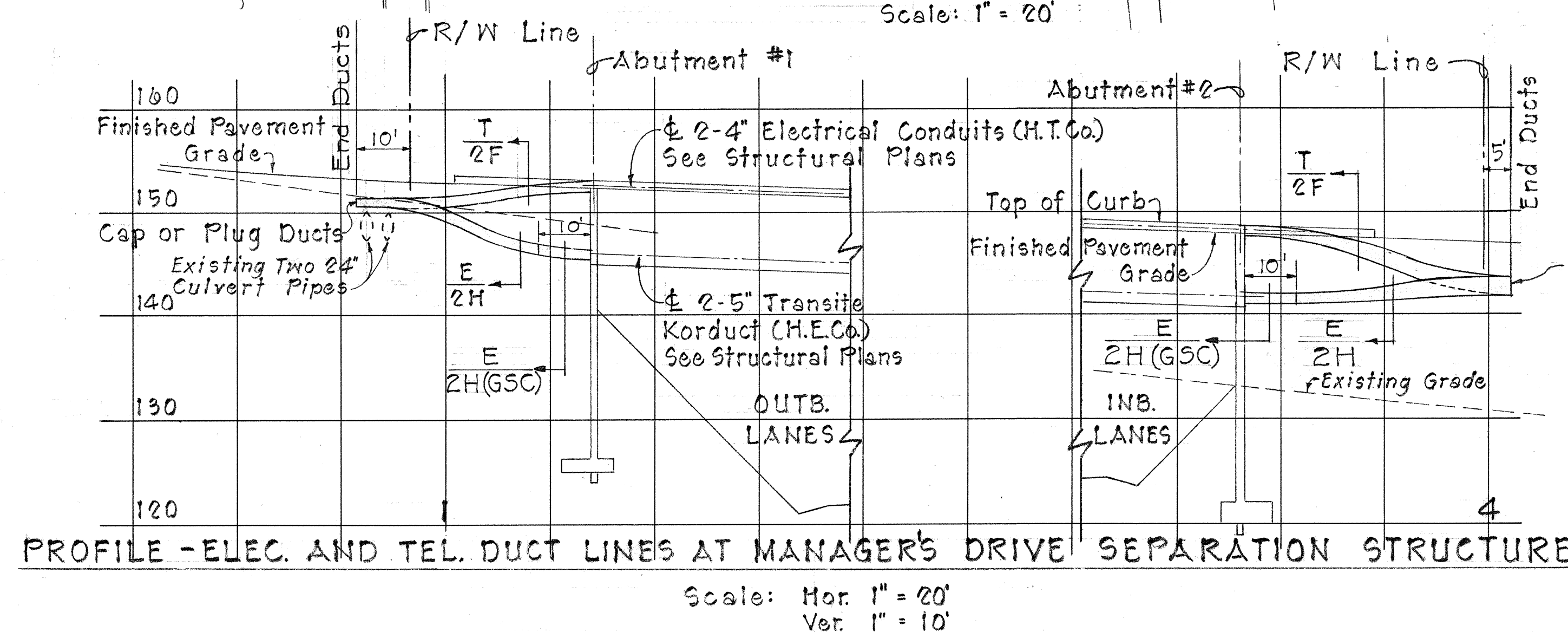
2-5" TRANSITE KORDUCTS (H.E.Co.)
2-4" PLASTIC DUCTS (H.T.Co.)



LEGEND	
○ E.T.P.	Existing Electric or Telephone Pole
⊗ E.T.P.	Existing Electric or Telephone Pole to be Removed
○ E.P. T.P.	New Electric or Telephone Pole
— ○ —	Existing Pole with Existing Anchor
— ○ —	Existing Pole with New Anchor
— ○ —	New Pole with New Anchor
—	New Pull Box or Service Box
—	New Duct Line Encased in Plain or Reinforced Concrete Jacket
—	Duct Section Designation (See Duct Section Details)
P.B.	Pull Box
G.S.C.	Galvanized Steel Conduit

GENERAL NOTES

- Contractor shall stake out proposed duct line locations and H.E.Co. and H.T.Co. shall check locations before Contractor undertakes excavations.
- Minimum depth of cover over duct lines or cables from finished grade to top of concrete jacket where ducts are concrete encased 2'-0" unless otherwise noted or ordered by the Engineer.
- Depth of all pull boxes and service boxes shall be determined in the field.
- Ducts encased in concrete jacket:
 - Normal distance from face of plain concrete jacket to all ducts to be 3" minimum.
 - Clear distance of 1 1/2" minimum between ducts of same utility company.
 - Clear distance of 3" minimum between H.E.Co. Ducts and H.T.Co. Ducts
- All ducts and conduits called for installation in concrete jacket shall be inspected and approved by the respective Engineer of H.E.Co. or H.T.Co. before concrete placing, 24 hours (Minimum) notice to respective utility shall be given before pouring concrete.



APPROVED:
HAWAIIAN ELECTRIC CO., INC.
OUTSIDE PLANT ENGINEER H.T.CO., LTD.

DATE: 8/18/67
8-16-67

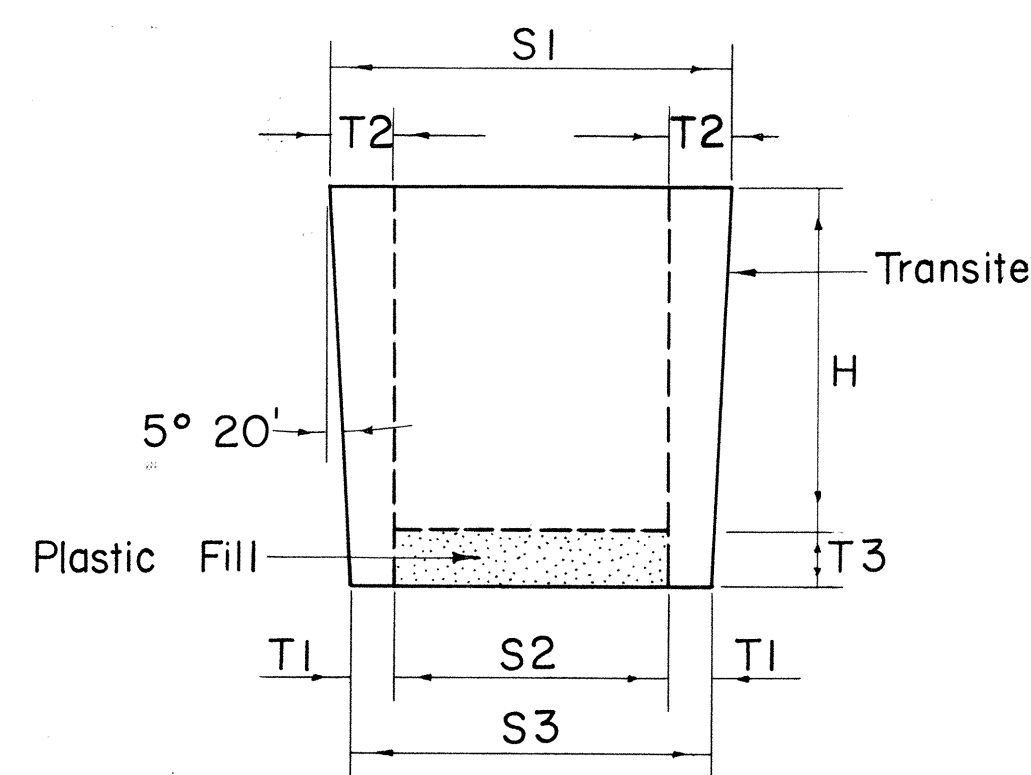
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITIES
ELECTRIC & TELEPHONE

INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-HI-1(32):5, Unit 3
Scale: As Noted June, 1967

SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	I-HI-1(32):5 Unit 3	1967	76	99



PLUGS FOR TRANSITE KORDUCTS

Not to Scale

SIZE	H	S1	S2	S3	T1	T2	T3
3"	4"	3 3/8"	2"	2 5/8"	5 1/16"	11 1/16"	3 3/4"
4"	4 1/2"	4 27/64"	2 3/4"	3 37/64"	13 3/32"	27 3/32"	3 3/4"
4 1/2"	4 1/2"	4 59/64"	3"	4 5/64"	35 3/64"	31 3/32"	3 3/4"
5"	4 1/2"	5 27/64"	3 1/2"	4 37/64"	35 3/64"	31 3/32"	3 3/4"

JUNIOR END BELLS

Not to Scale

SIZE	DI	D2	F	X	E	R
3"	3 25/64"	4 1/2"	1 11/32"	1 29/32"	1 1/4"	1 3/4"
4"	4 25/64"	5 3/4"	1 9/16"	1 9/16"	3 8/8"	2"
4 1/2"	4 57/64"	6 1/4"	1 9/16"	1 9/16"	3 8/8"	2"
5"	5 29/64"	7"	1 9/16"	1 7/16"	1 1/2"	2"

Note "X"

- Provide one set of Spacers
(a) 10 Ft. straight run for 4 Ducts high or less.
(b) 5 Ft. straight run for 5 Ducts high or more.

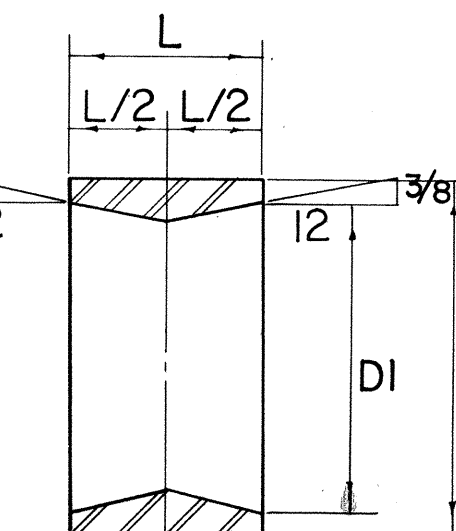
TRANSITE KORDUCTS

Not to Scale

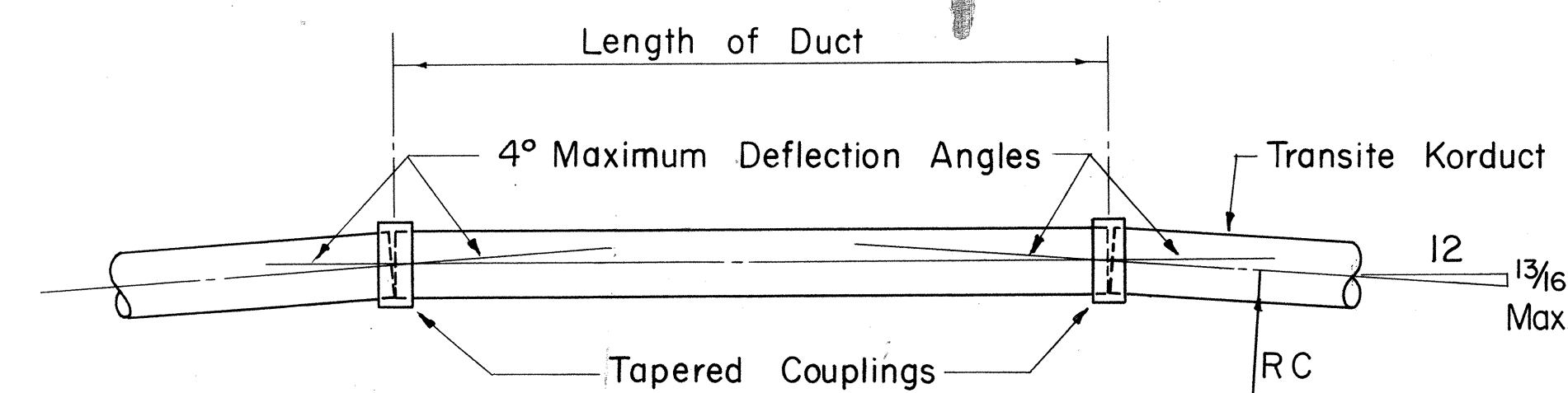
SIZE	DI	D3	C	P	T
3"	3 25/64"	3 35/64"	1 1/8"	7 8/8"	17 64"
4"	4 25/64"	4 35/64"	1 1/4"	1"	17 64"
4 1/2"	4 57/64"	5 3/64"	1 1/4"	1"	17 64"
5"	5 29/64"	5 39/64"	1 25/64"	1 1/8"	19 64"

TAPERED COUPLINGS

Not to Scale



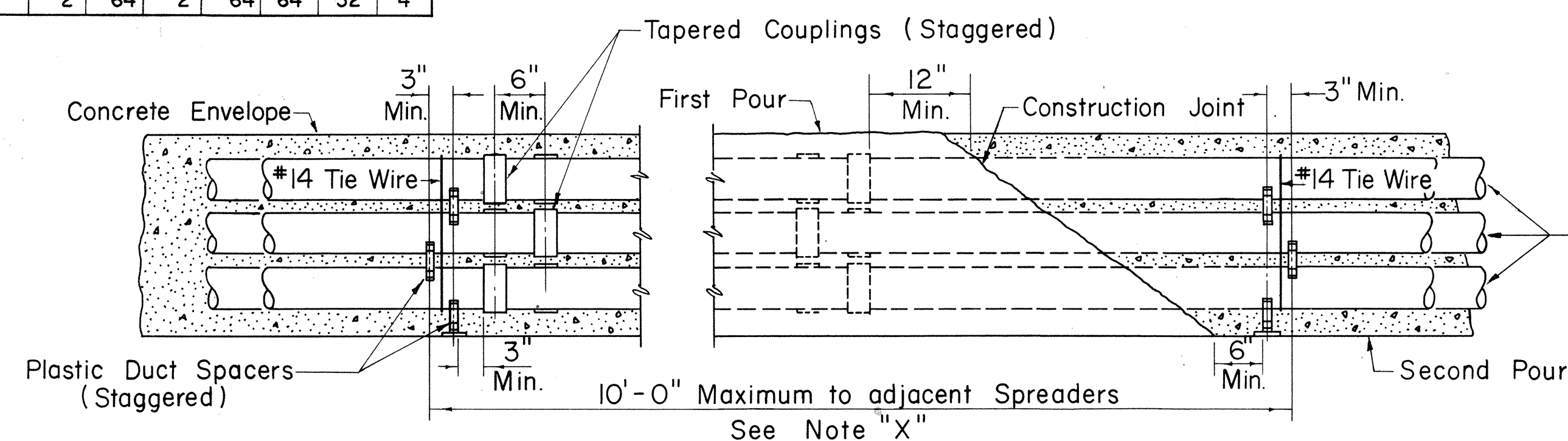
SIZE	DI	D2	L
3"	3 25/32"	4 11/64"	2 1/4"
4"	4 25/64"	5 3/16"	2 1/2"
4 1/2"	4 57/64"	5 49/64"	2 1/2"
5"	5 29/64"	6 21/64"	2 3/4"



METHOD OF FORMING CURVES

Not to Scale

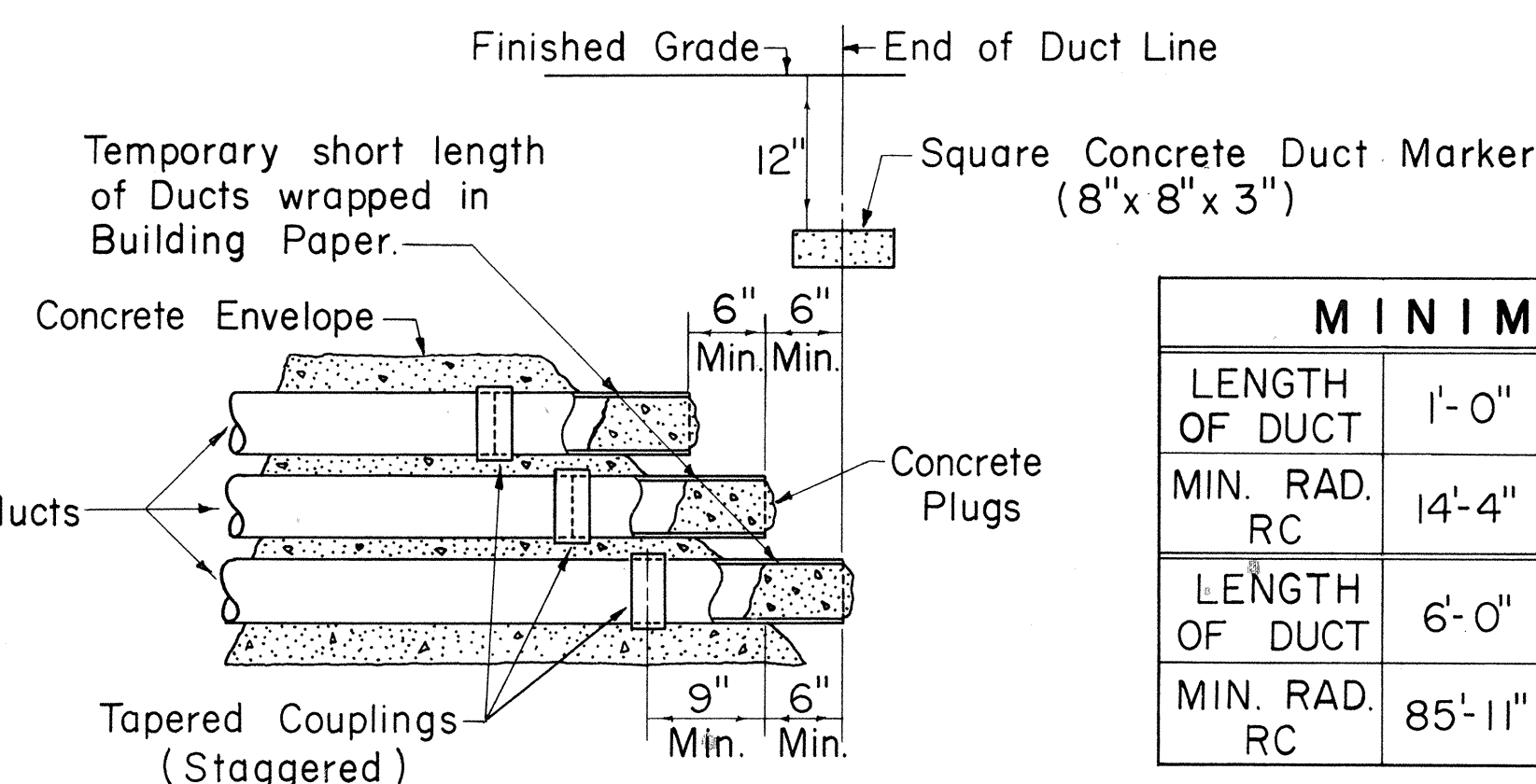
	MINIMUM RADIUS TO FORM CURVES									
LENGTH OF DUCT	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"
MIN. RAD. RC	14'-4"	21'-6"	28'-8"	35'-10"	42'-11"	50'-11"	57'-3"	64'-5"	71'-7"	78'-9"
LENGTH OF DUCT	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	
MIN. RAD. RC	85'-11"	93'-1"	100'-3"	107'-5"	114'-7"	121'-8"	128'-10"	136'-0"	143'-2"	



TYPICAL DUCT ENVELOPE ELEVATION

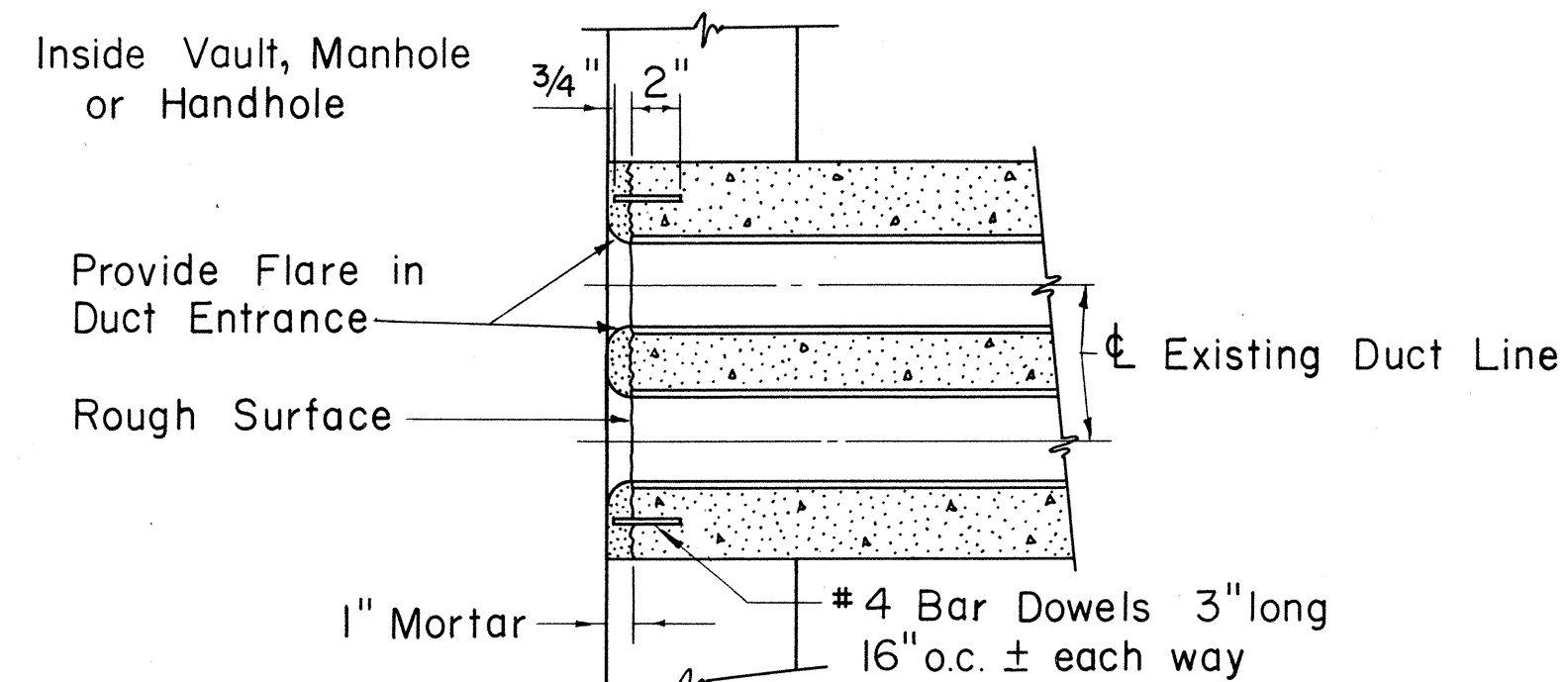
(6 WAY DUCT LINE SHOWN)

Not to Scale



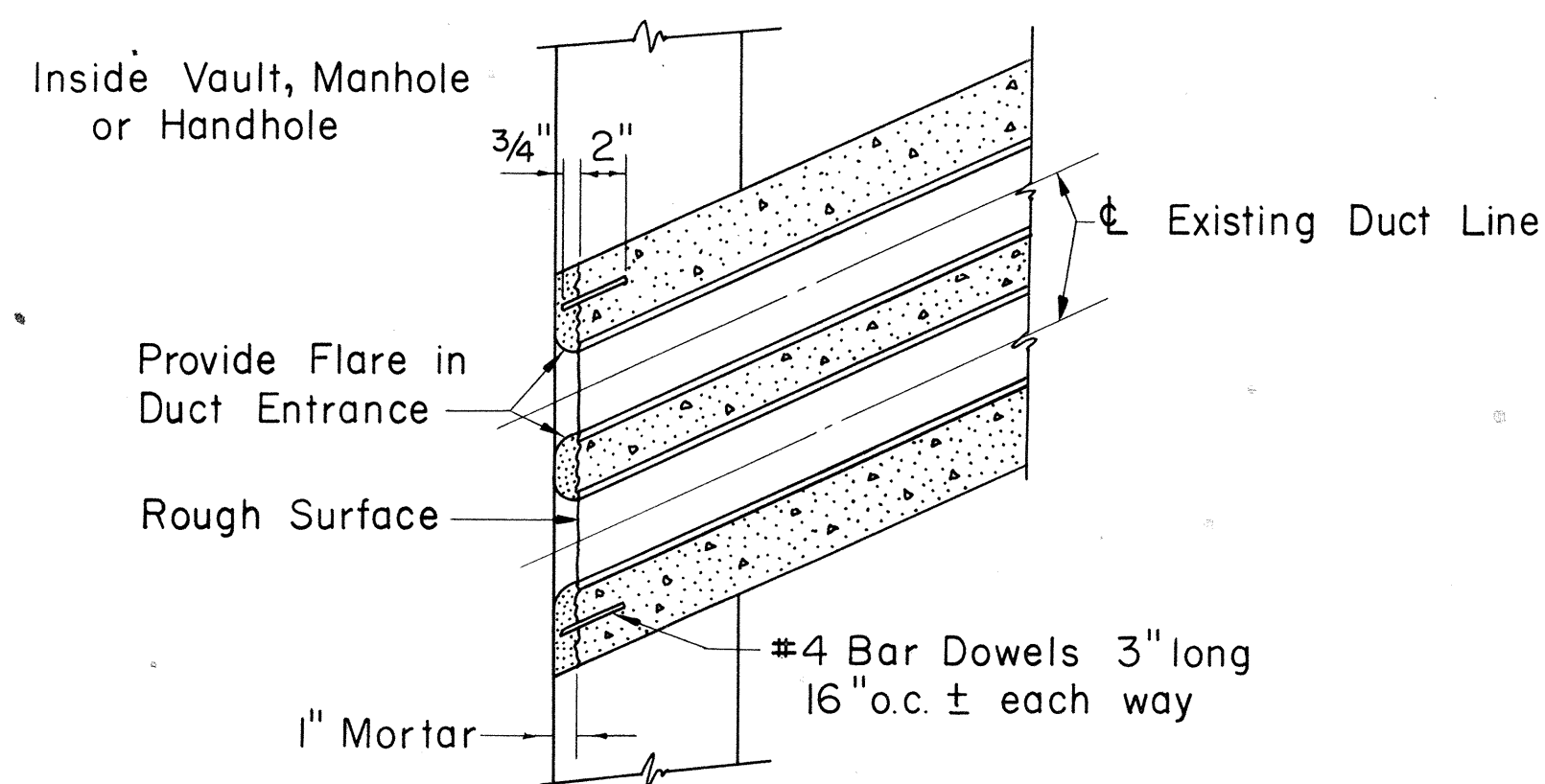
TYPICAL STUB OUT DETAIL

Not to Scale



DUCT LINE ENTRANCE AT EXISTING DUCT LINE

Scale: 1/2" = 1'-0"



DUCT LINE DIAGONAL ENTRANCE

Scale: 1/2" = 1'-0"

APPROVED:

HAWAIIAN ELECTRIC CO., INC.

DATE

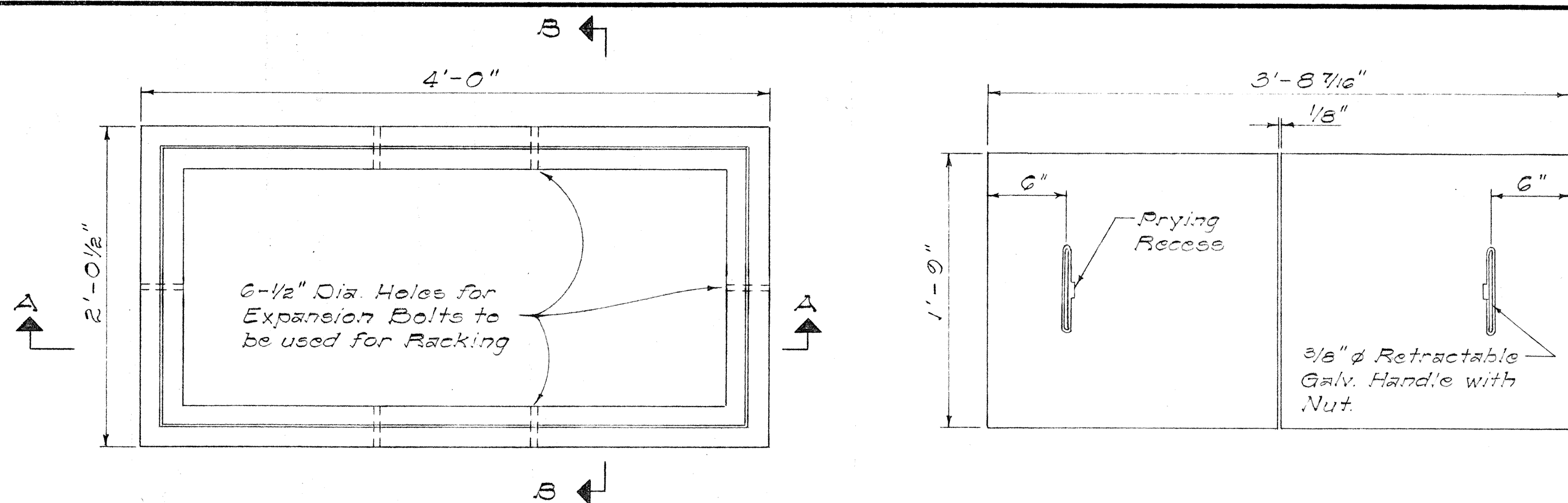
HECo., Inc. Drawing Number
18585 SHEET No. 2 OF 2 SHEETS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CONSTRUCTION STANDARDS
TRANSITE KORDUCTS
UNDERGROUND DUCT LINES
F.A.I. PROJ. NO. I-HI-1(32):5, Unit 3
Scale: As Noted Date June 1967

SHEET NO. 3 OF 4 SHEETS

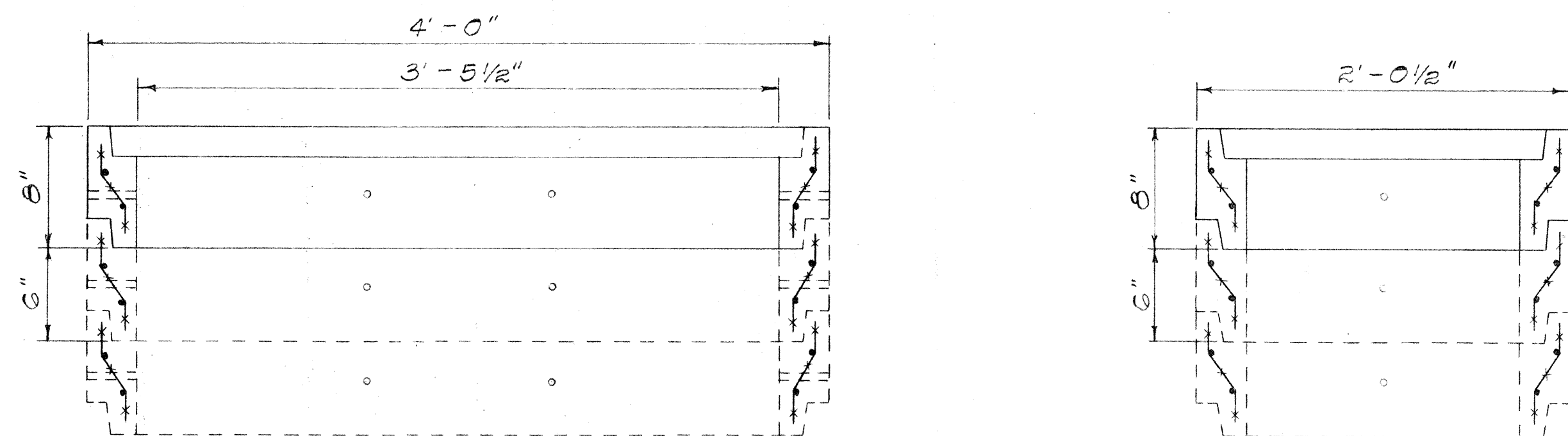
7 6

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(32):5 Unit 3	1967	77	99



PLAN

PLAN OF COVER

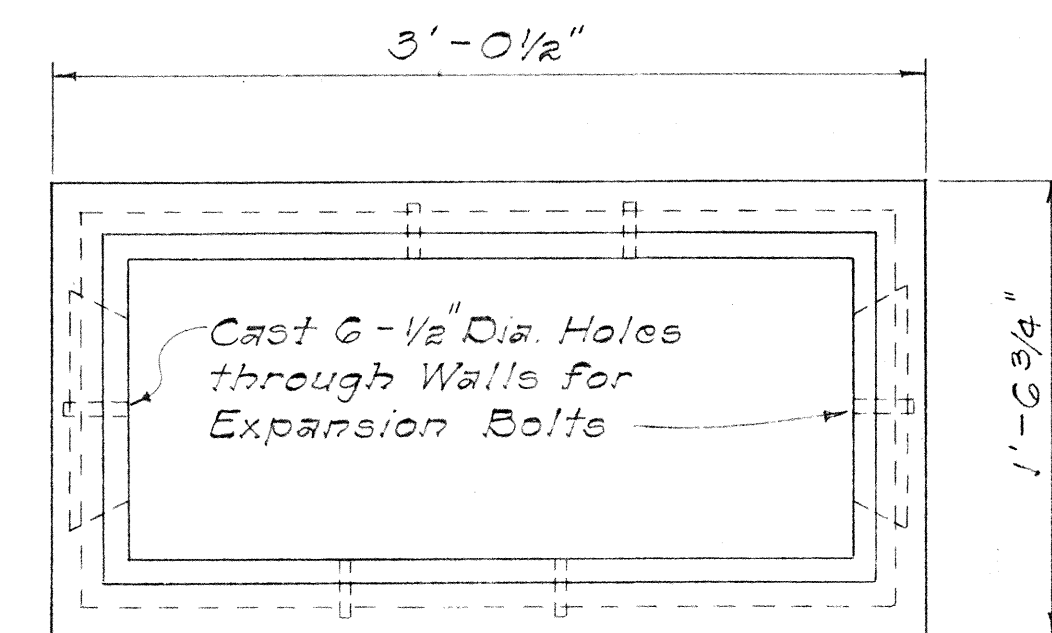


SECTION "A-A"

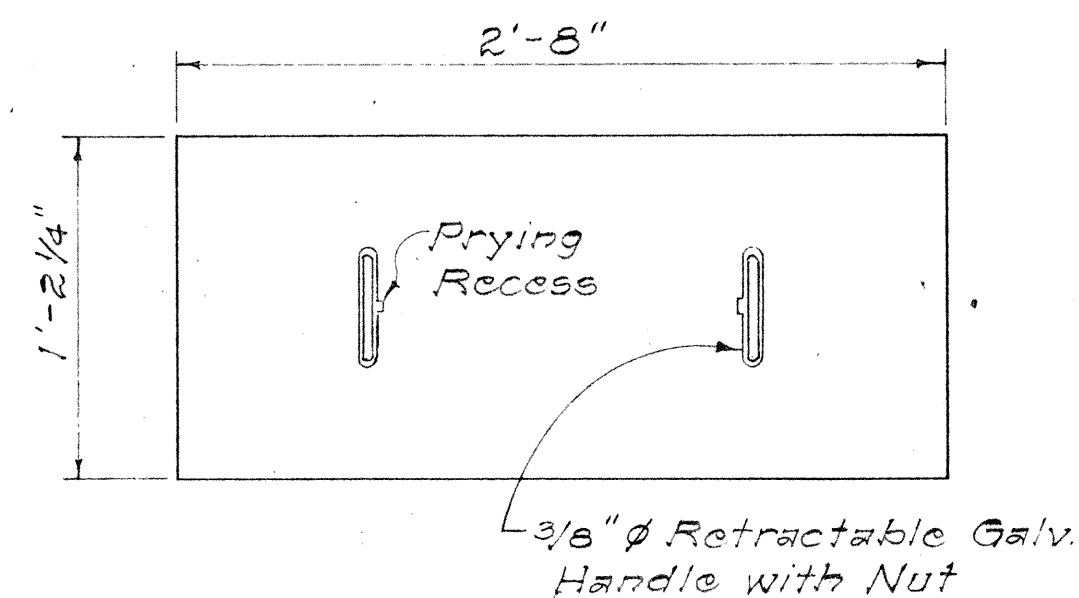
SECTION "B-B"

DETAIL OF LARGE PULL BOX No. 435T-A

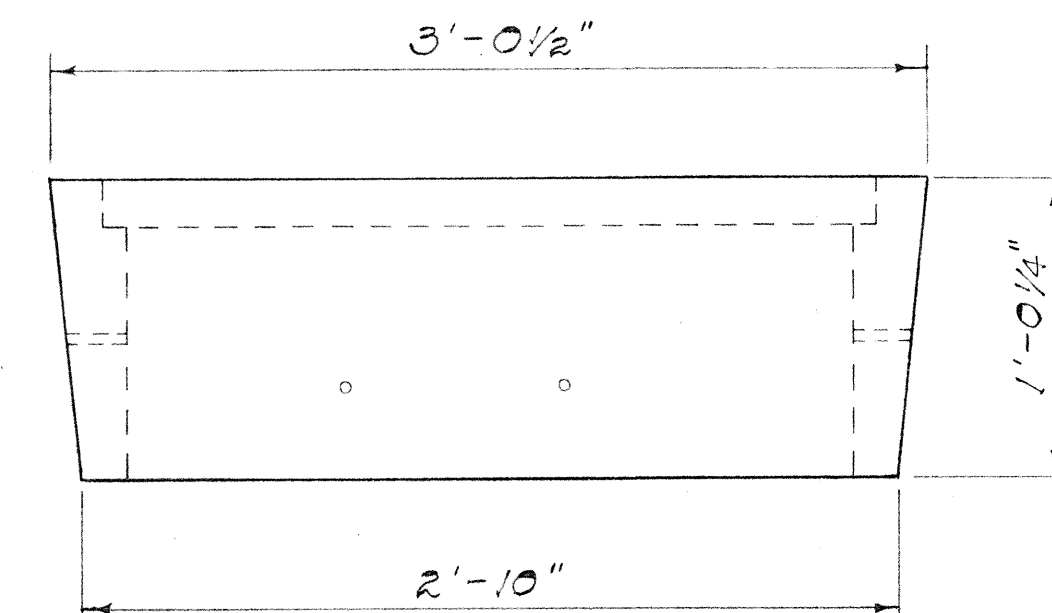
Scale: 1 1/2" = 1'-0"



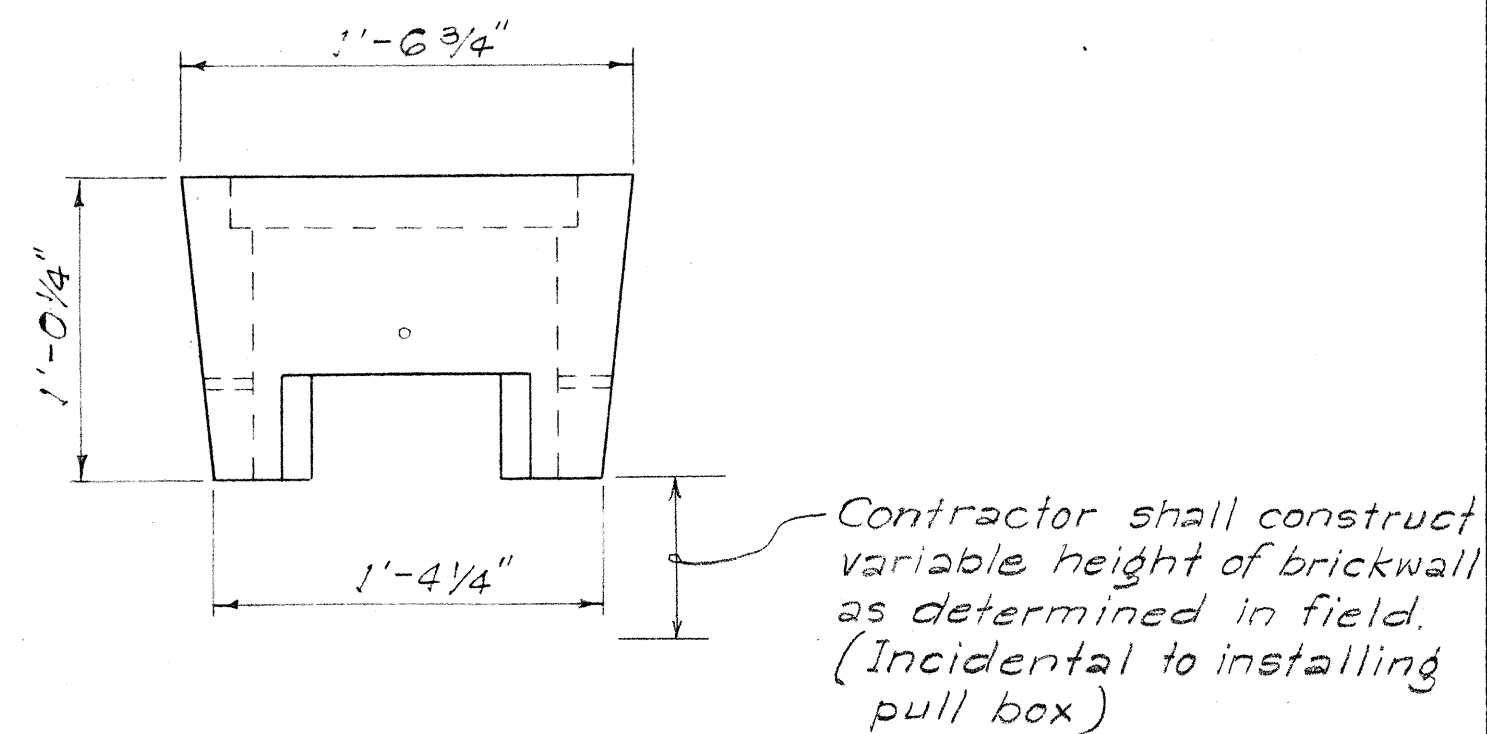
PLAN



PLAN OF COVER



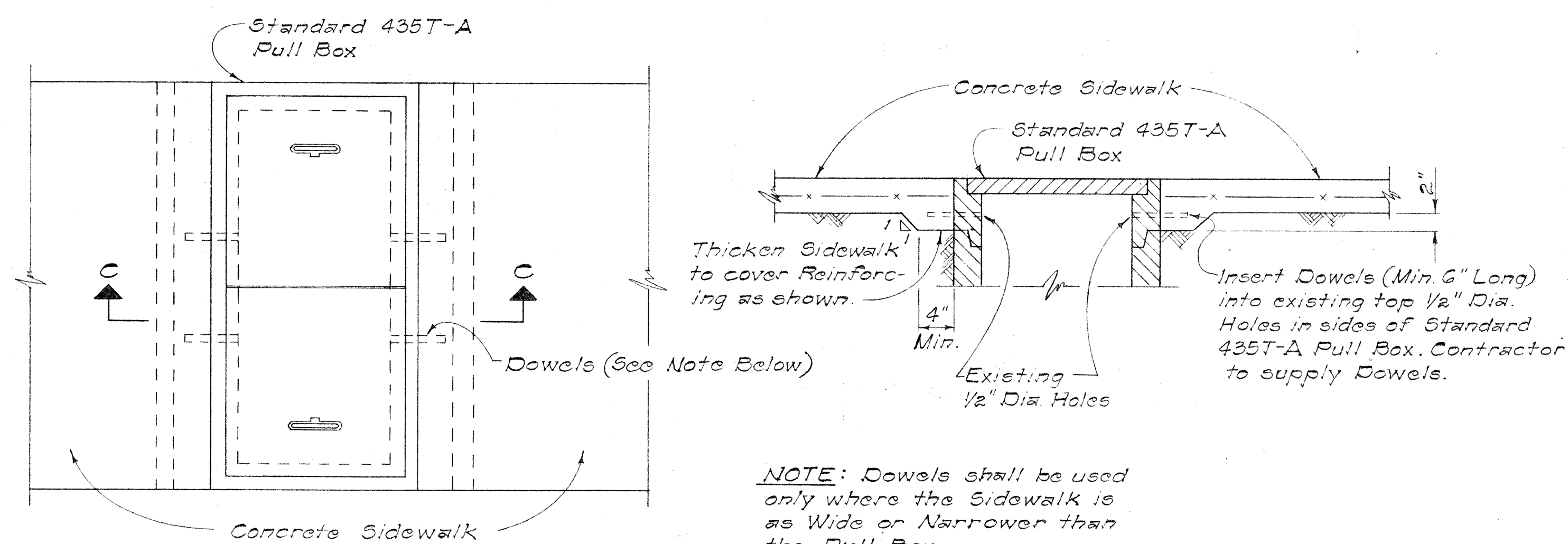
SIDE ELEVATION



END ELEVATION

DETAIL OF SMALL PULL BOX No. 434T

Scale: 1 1/2" = 1'-0"

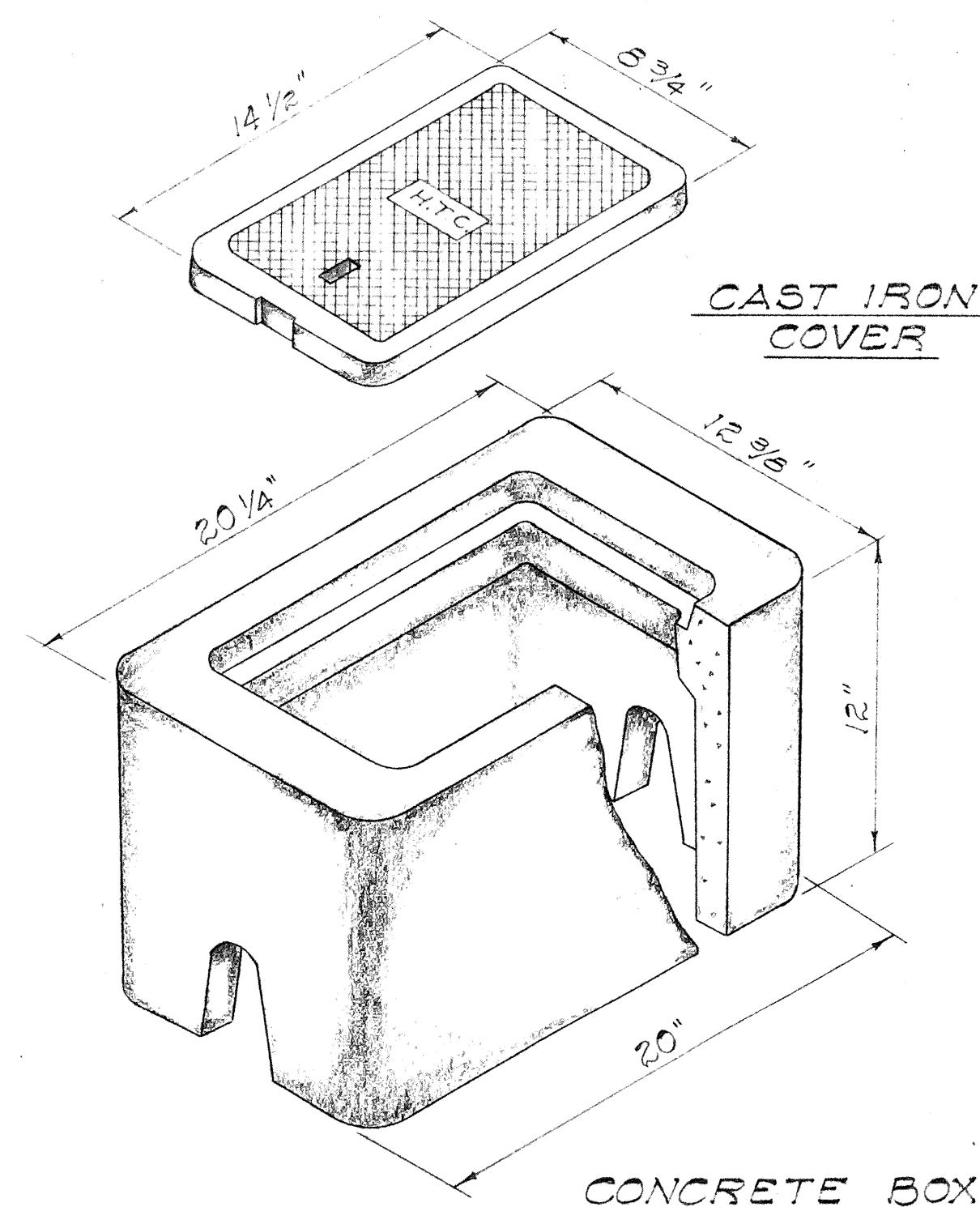


PLAN

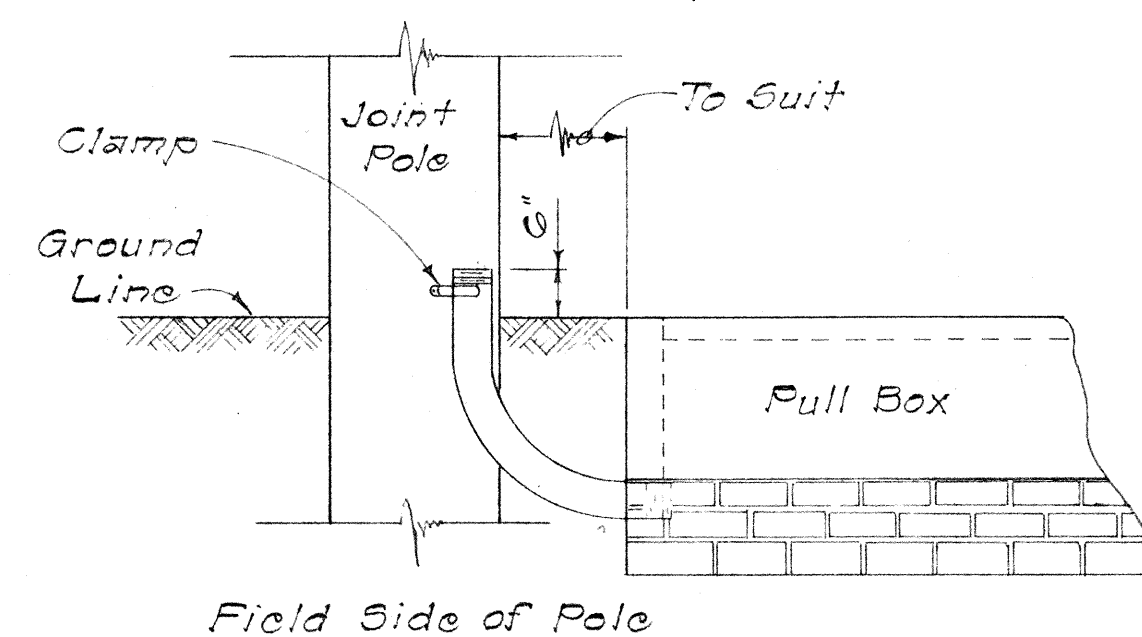
SECTION "C-C"

INSTALLATION DETAIL OF PULL BOX No. 435T-A IN SIDEWALK AREAS

Scale: 1" = 1'-0"



TYPE "B" METER BOX
TYPE 436T



TYPICAL 90° CONDUIT
BEND TO POLE
Not To Scale

APPROVED:
[Signature] 8-16-67
OUTSIDE PLANT ENGINEER, H.T.CO., LTD. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
TELEPHONE PULL BOXES
Nos. 435T-A, 434T AND 436T

F.A.I. PROJ. NO. I-HI-1(32):5, Unit 3
Scale: As Shown Date: June, 1967

SHEET No. 4 OF 4 SHEETS