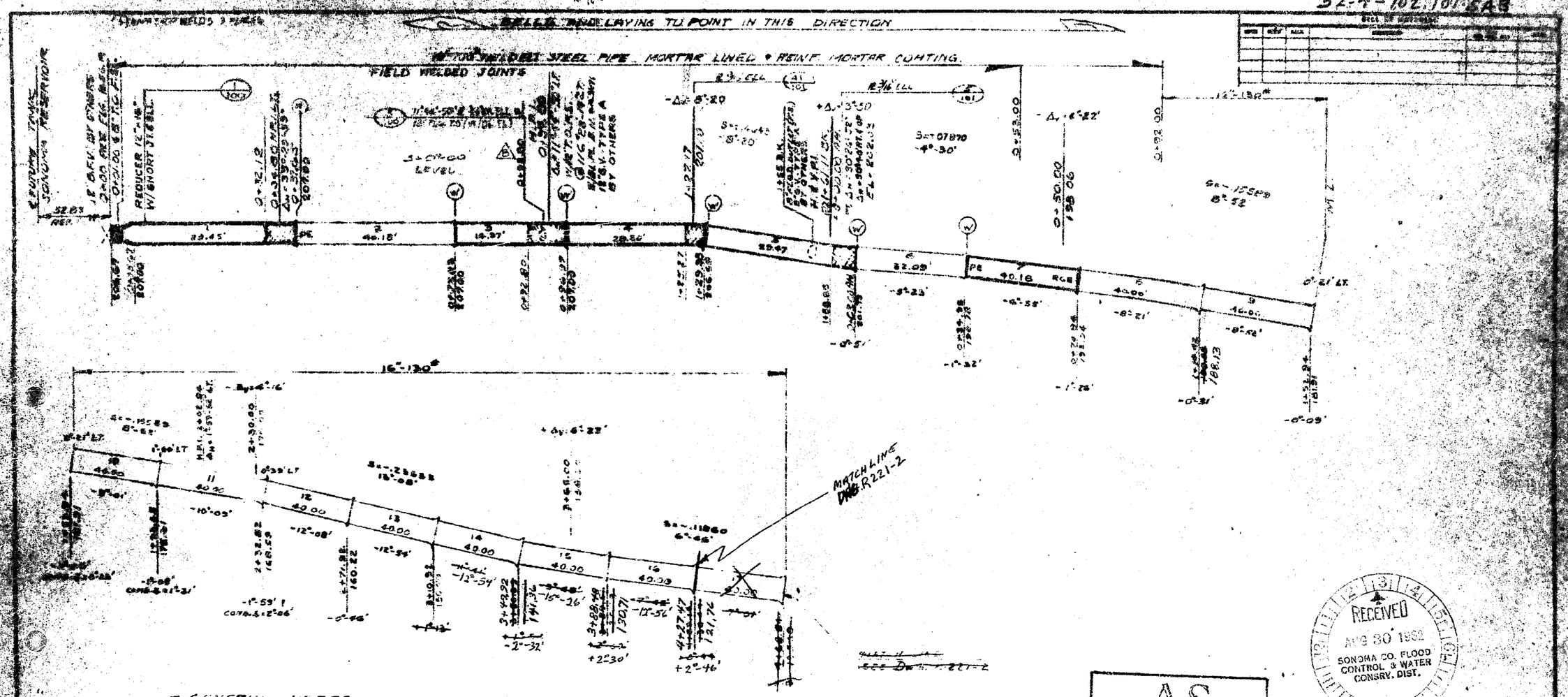
52-4-102.101 SAB



GENERAL NOTES.

1. LAYING LENGTHS NOMINAL:

TYPE	DIA	L.L.		TYPE	DIA.	L.L.	
ROUND RING SEAL	16	40.00'	30.00' 19.82'	FIELD WELD JT	16"	40.18	30.00' 20.00'
	20"	40.00'	30.00' 19.82'		20"	40.18	30.00' 20.00'

2. BEFORE FABRICATION SEE DET. SHEETS FOR ALL JOINTS.
3. STA & ELEV ARE ON INVERT AT BELL END.
4. HORIZ DEFLECTIONS ARE SHOWN BELOW PIPE JOINTS.
5. VERT. DEFLECTIONS ARE SHOWN BELOW PIPE JOINTS.
6. 12 3/16" ELLS & SPECIAL ASSEM. AT NAPA, BELL END PIECES TO BE FURNISHED BY [illegible]
7. 12 3/16" x 40 [illegible] WILL BE SHIPPED TO NAPA, AND CUT FIT & ASSEM. & COMPLETE ELL.
8. 12 3/16" ELL SAME ENDS & OTHER 12 3/16 SPECIALS TO BE ROLLED, FORMED & CUT AT SHOP PR.
9. PULL 16"Ø JT 3/4" = 2'-41" DEF.
   PULL 20"Ø JT. 3/4" = 2'-10" DEF.
10. SYMBOLS & ABBREVIATIONS:
    (W) FIELD JT. WELD.
11. ALL ELEVATIONS ARE TO PIPE INVERT
12. FIELD CLOSURE PIECES AS REQUIRED.

Sheets 1 thru 12

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

APPROVED FOR CONSTRUCTION
AUG 6 1962
ST. A. [illegible]

REF. DWG 52-4-102.4

LTR	DESCRIPTION	BY	CHK	DATE
C	CHG'D AS PER APPR. DR.			
B	[illegible]			
A	GENERAL REV PER CHECK PRINT			

REVISIONS

REFERENCE DRAWINGS

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

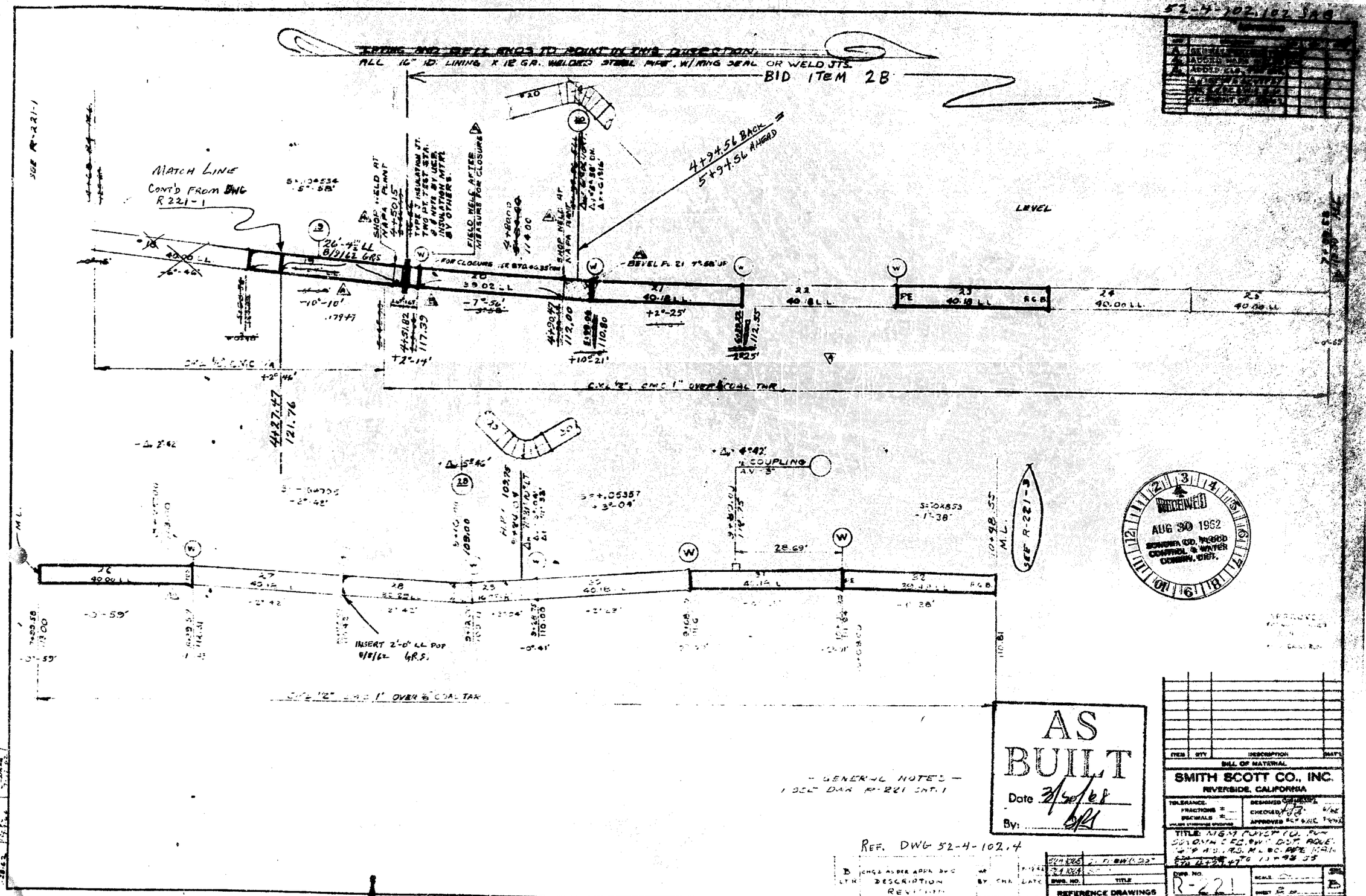
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS, DECIMALS
DESIGNED C.W. [illegible]
CHECKED [illegible]
APPROVED [illegible]

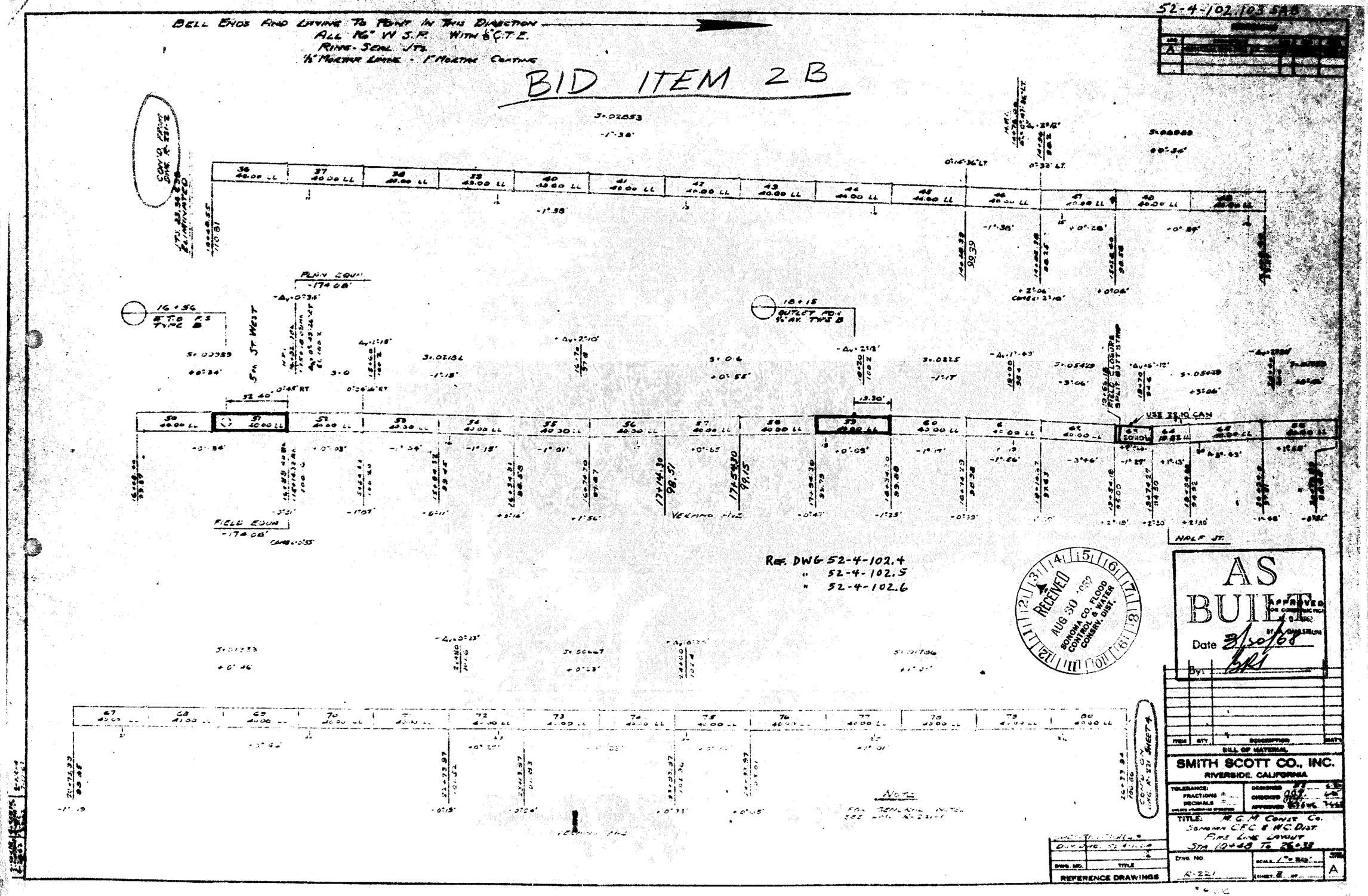
TITLE: LAYOUT: 16" WELDED STL. PIPE MORT. LIN. & COAT. W/ FIELD WELD &/OR RUBBER GASKET JT. STA. 0+00 TO 4+[illegible]

DWG NO. R-221
SCALE NONE
SHEET 1 OF 6

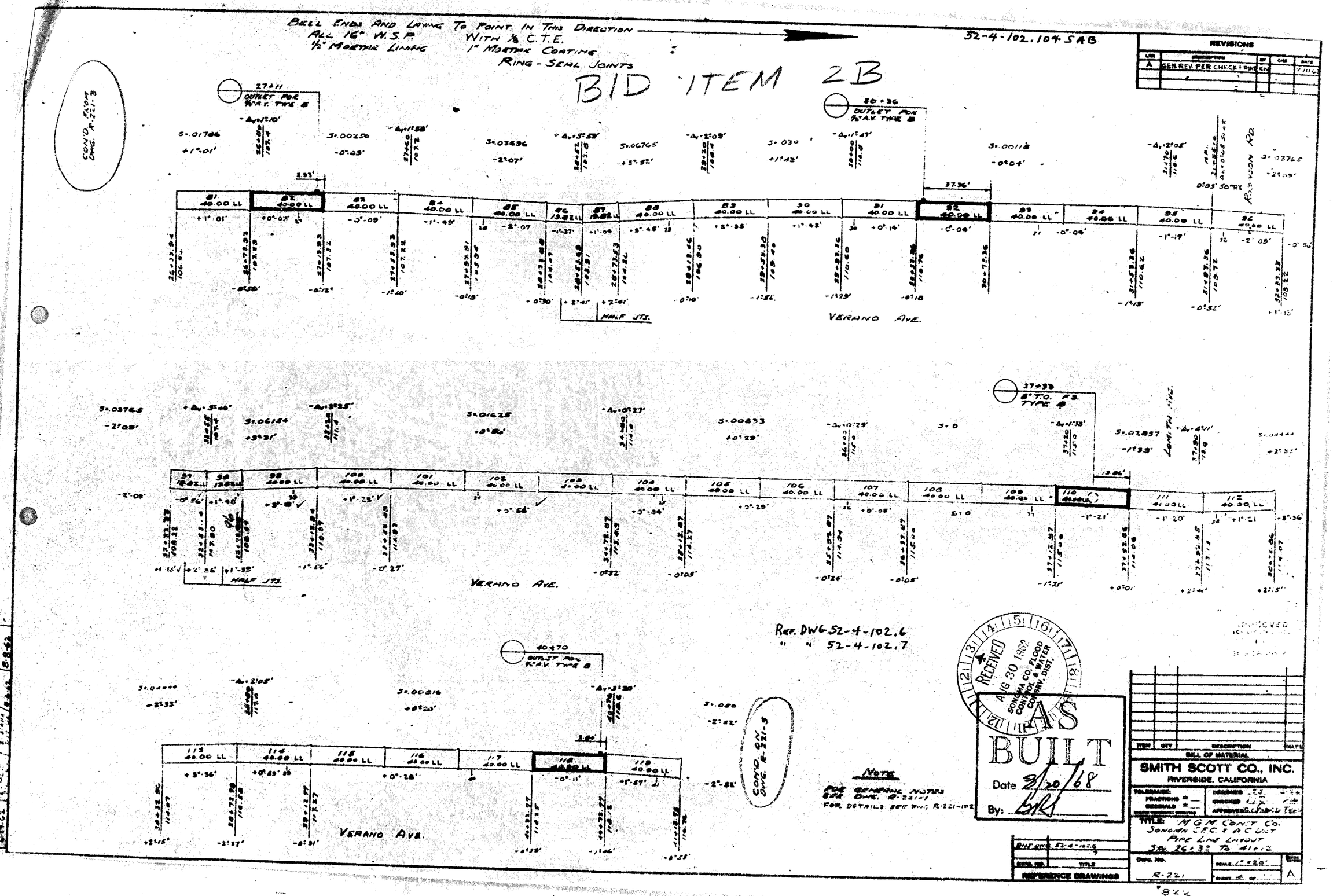
U.C.P. JOB # 822.



52-4-102.102 SAB
ALL 16" ID. LINING X 12 GA. WELDED STEEL PIPE, W/RING SEAL OR WELD JTS.
BID ITEM 2B
MATCH LINE
CONT'D FROM DWG R 221-1
SEE R-221-1
4+94.56 BACK
5+94.56 AHEAD
LEVEL
26'-4½" LL
8/9/62 GRS
SHOP WELD AT NAPA PLANT
FIELD WELD AFTER MEASURE FOR CLOSURE
FOR CLOSURE
BEVEL PL 21
4+27.47
121.76
COUPLING
28.69'
INSERT 2'-0" LL POP
8/8/62 GRS.
SEE R-221-3
RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.
AS BUILT
Date 3/30/68
By:
- GENERAL NOTES -
1 SEE DWG R-221 SHT. 1
REF. DWG 52-4-102.4
REFERENCE DRAWINGS
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: MGM CONST. CO. FOR SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST. AQUE. 16" W.S. RS. M.L. SC. PIPE MAIN
DWG. NO. R-221
JCA JOB #822



52-4-102.103 SAB
BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P. WITH 1/8" C.T.E.
RING-SEAL JTS.
1/2" MORTAR LINING - 1" MORTAR COATING
BID ITEM 2B
PLAN EQUA
-174.08'
16+56
B.T.O. F.S. TYPE B
5th ST. WEST
18+15
OUTLET FOR 1/2" AV. TYPE B
FIELD CLOSURE SPLIT BUTT STRAP
USE 22.10 CAN
FIELD EQUA
-174.08'
VERANO AVE
HALF ST.
Ref. DWG 52-4-102.4
" 52-4-102.5
" 52-4-102.6
RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
AS BUILT
APPROVED
Date 8/30/68
By:
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE:
FRACTIONS ±
DECIMALS ±
DESIGNED
CHECKED
APPROVED
TITLE: M.G.M. CONST. CO.
SONOMA C.F.C. & W.C. DIST.
PIPE LINE LAYOUT
STA 10+48 TO 26+38
DWG NO.
R-221
SCALE 1" = 200'
SHEET 8 OF
A
REFERENCE DRAWINGS
DWG. NO.
TITLE
NOTE



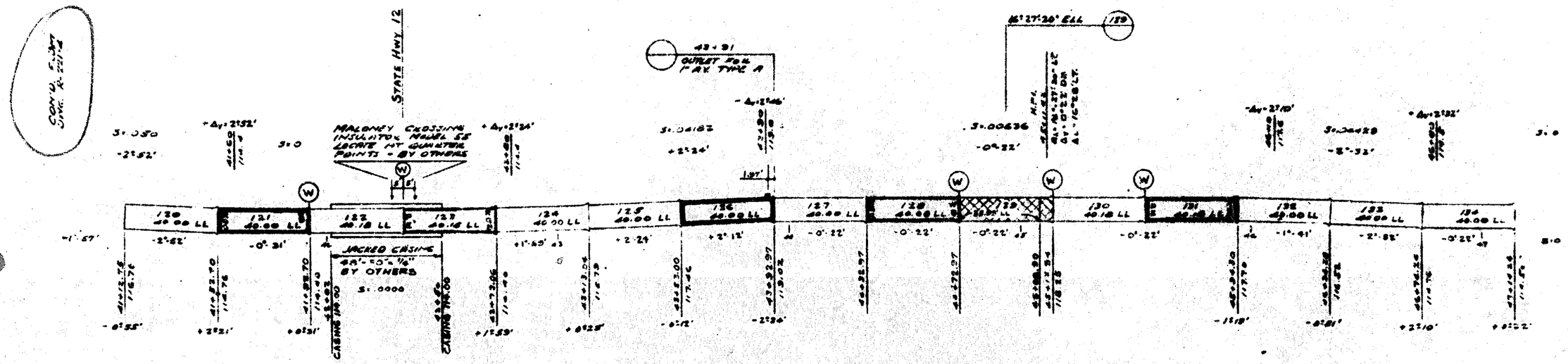
BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P. WITH 1/8 C.T.E.
1/2" MORTAR LINING 1" MORTAR COATING
RING - SEAL JOINTS
52-4-102.104 SAB
BID ITEM 2B
REVISIONS
A GEN. REV. PER CHECK PRINT
COND. FROM DWG. R-221-3
27+11 OUTLET FOR 1/2" A.V. TYPE B
30+36 OUTLET FOR 1/2" A.V. TYPE B
37+33 8" T.O. F.S. TYPE B
40+70 OUTLET FOR 1/2" A.V. TYPE B
VERANO AVE.
HALF JTS.
LOMITH AVE.
ROBINSON RD.
COND. FROM DWG. R-221-5
REF. DWG 52-4-102.6
" " 52-4-102.7
NOTE
FOR GENERAL NOTES SEE DWG. R-221-1
FOR DETAILS SEE DWG. R-221-102
RECEIVED AUG 30 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
AS BUILT
Date 8/20/68
By:
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: M.G.M. CONST. CO. SONOMA S.F.C. & W.C. DIST. PIPE LINE LAYOUT STA. 26+33 TO 41+12
DWG. NO. R-221
REFERENCE DRAWINGS

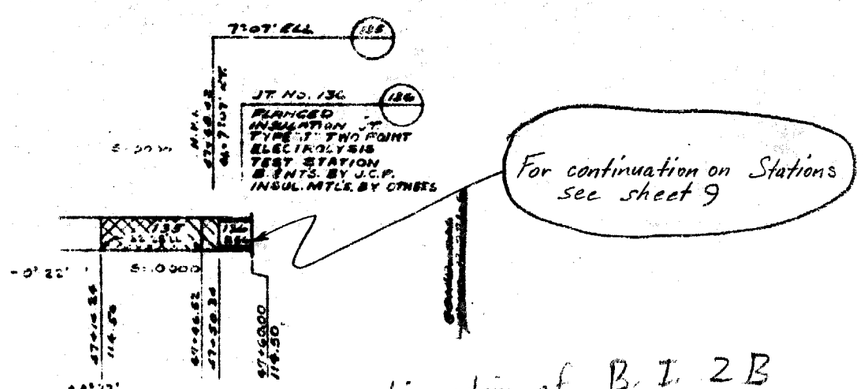
BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P. WITH ¼" C.T.E.
½" MORTAR LINING 1" MORTAR COATING
RING-SEAL JTS. EXCEPT WHERE NOTED AS WELDED.

52-4-102.105 SAB

REVISIONS				
A	GEN. REV. PER CHECK PRINT			

BID ITEM 2B





For continuation on Stations see sheet 9

for continuation of B. I. 2B
go to sheet 6
Sta 144 +35

NOTE
FOR GENERAL NOTES SEE DWG. R-221-1

RECEIVED AUG 30 1968 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

Ref. DWG 52-4-102.7

AS BUILT
Date 3/20/68
By: BRS

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TITLE: M G M CONST. CO. SONOMA CFC & W.C. DIST. PIPE LINE LAYOUT STA. 41+12 TO 47+60

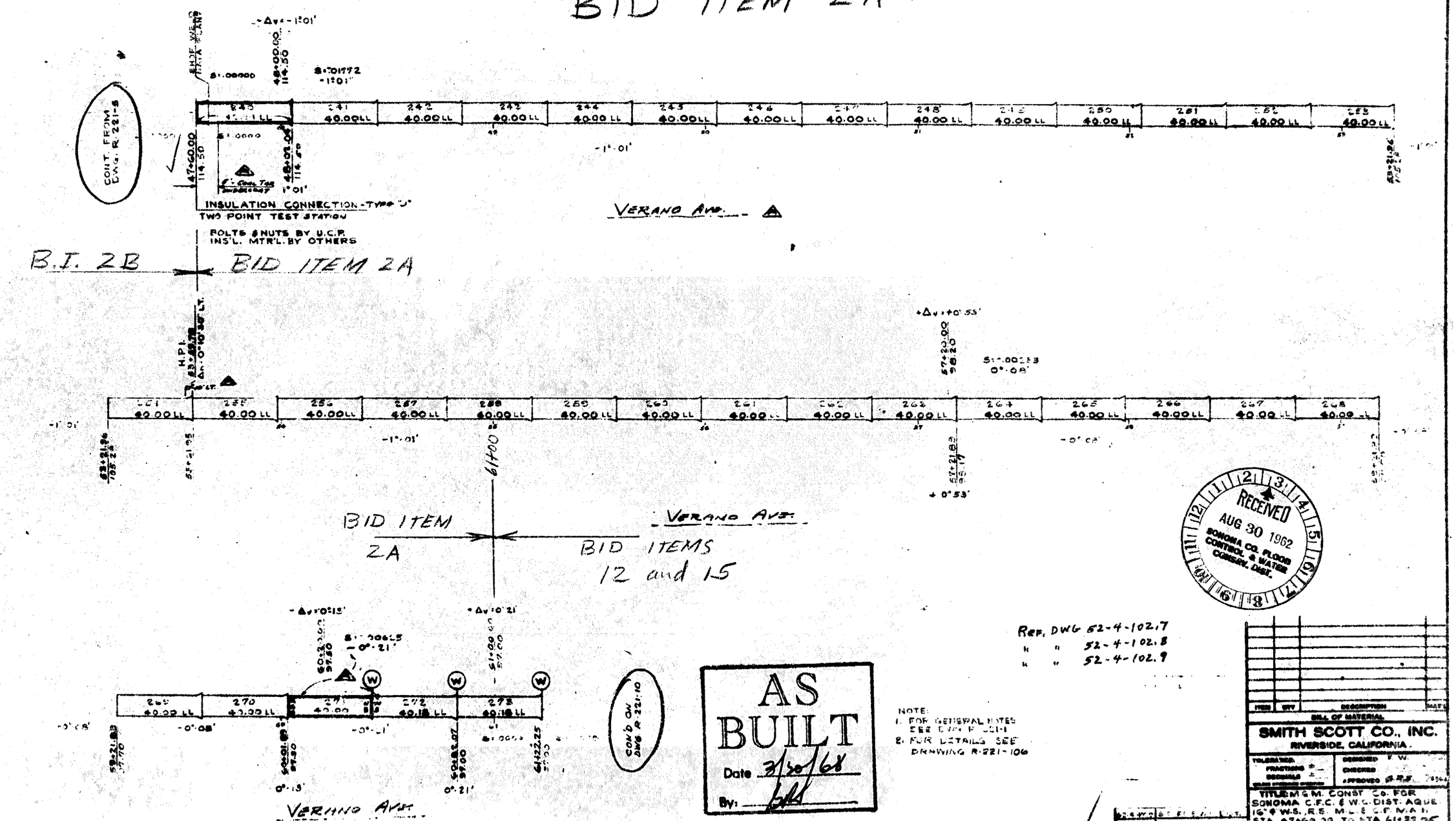
REFERENCE DRAWINGS

BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
½" MORTAR LINING 1¼" MORTAR COATING
RING SEAL JTS. EXCEPT WHERE NOTED AS "WELDED"
1" MORTAR COATING OVER ⅛" COAL TAR WHERE NOTED.

52-4-102.106 SAB

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	FOR SONOMA CO. FLOOD			

BID ITEM 2A



AS BUILT
Date 3/30/68
By:

NOTE:
1. FOR GENERAL NOTES SEE DWG R-221-1
2. FOR DETAILS SEE DRAWING R-221-106

REF. DWG 52-4-102.7
" " 52-4-102.8
" " 52-4-102.9

RECEIVED AUG 30 1962 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ± DECIMALS ±
DESIGNED F.W.
CHECKED
APPROVED G.R.S.

TITLE: M.G.M. CONST. CO. FOR SONOMA C.F.C. & W.C. DIST. AQUE. 16" ϕ W.S., R.S. M.L. & C.F. M.A.I. STA. 47+60.00 TO STA. 61+22.25

DWG. NO.	TITLE
52-4-102.7	C.F.C. & W.C. DIST.
52-4-102.8	
52-4-102.9	

REFERENCE DRAWINGS

DWG. NO. R-221 SCALE SHEET 9 OF A

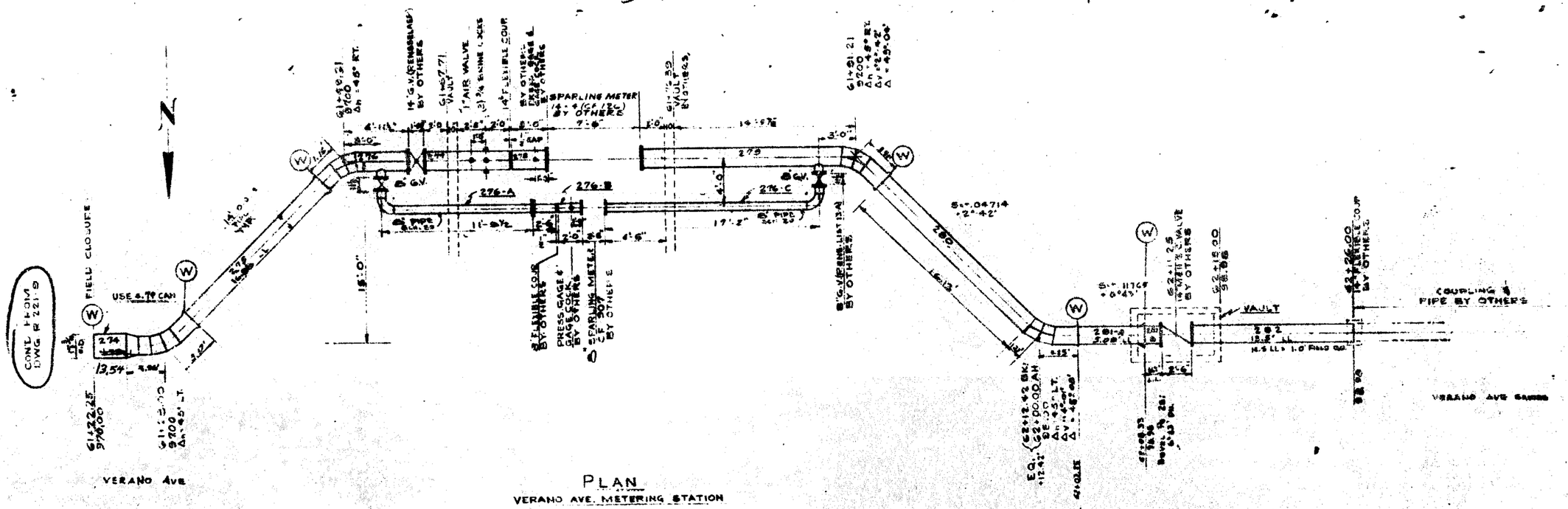
J.C.I. JOB #822

52-4-102.107 SAB

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	As Per Chk'd Prints	JE	[illegible]	8-3-62
B	Added 11'9" to J+274			8-9-62

BELL ENDS AND LAYING TO POINT IN THIS DIRECTION

BID ITEMS 12 & 15



PLAN
VERANO AVE. METERING STATION

NOTES-
1. GEN. NOTES ON SHEET R221-1 WHICH APPLY TO THIS DWG
2. 17¾ DIA CYL IS 3/16 PL ALSO REDUCER CONE
3. 14" O.D. PIPE SCHEDULE 10.
   ½" MORTAR LINING.
   1¼" MORTAR COATING.
4. [illegible] DWG. R-221-107

RECEIVED AUG 30 1962 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

Sta 61+22.25 to Sta 64+06.00

REF. DWG 52-4-102.9

AS BUILT
Date 7/30/68
By: [illegible]

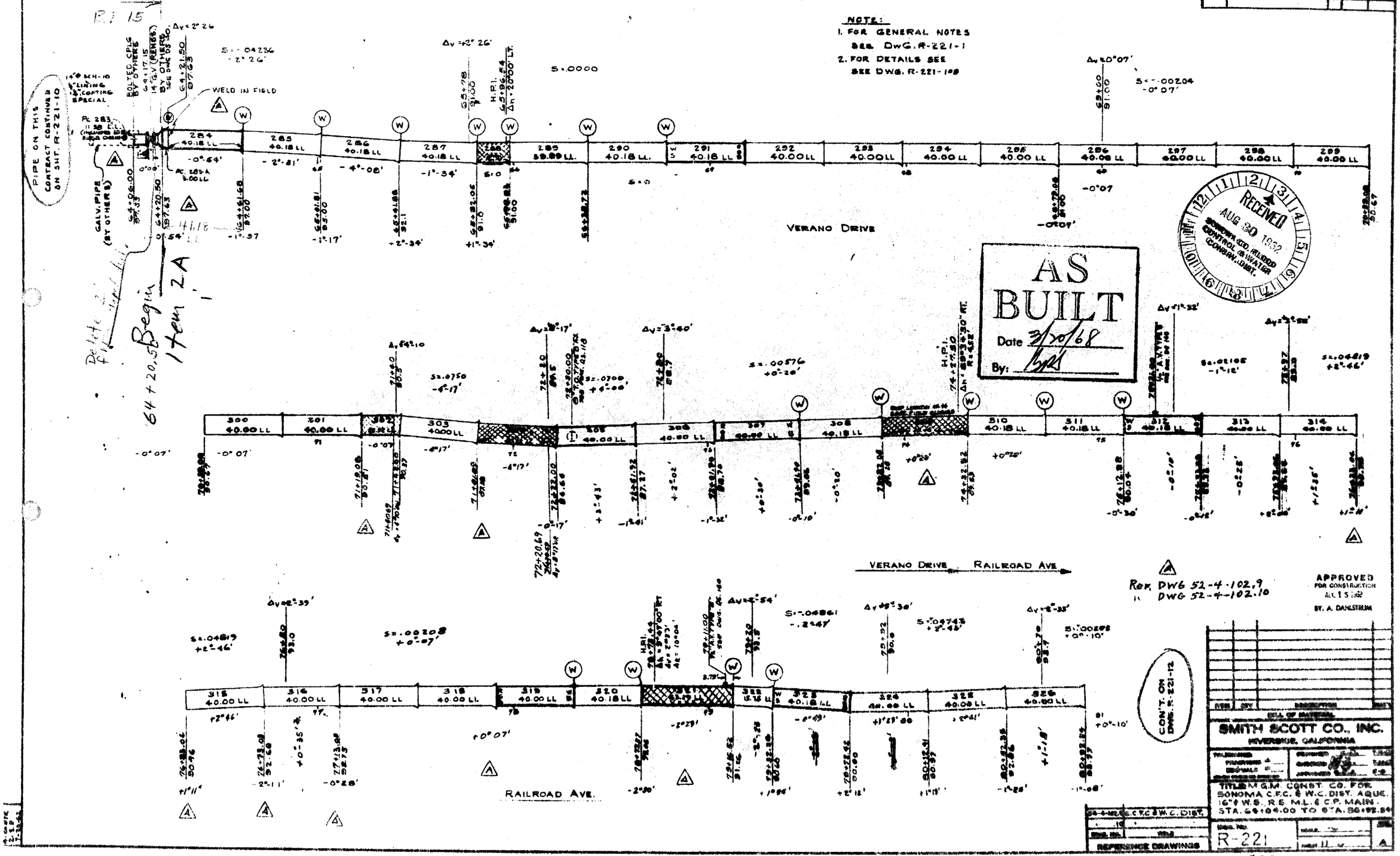
ITEM	QTY	DESCRIPTION	MAT'L
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TITLE: M.G.M. CONST. CO. FOR SONOMA C.F.C. & W.C. DIST. ADJ. 14" W.S. [illegible] & C.P. MAIN VERANO AVE. METERING STATION

DWG. NO. R 221 — SCALE — SHEET 10 — A

REFERENCE DRAWINGS



BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
½" MORTAR LINING 1¼" MORTAR COATING
RING-SEAL JTS. EXCEPT WHERE NOTED AS "WELDED"
52-4-102.108SAB
BID ITEM 2A
NOTE:
1. FOR GENERAL NOTES SEE DWG. R-221-1
2. FOR DETAILS SEE SEE DWG. R-221-108
REVISIONS
A CHG'D AS PER CHG'D PET.
PIPE ON THIS CONTRACT CONTINUED ON SHT. R-221-10
WELD IN FIELD
GALV. PIPE (BY OTHERS)
Begin Item 2A
VERANO DRIVE
AS BUILT
Date 3/20/68
By:
RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
VERANO DRIVE RAILROAD AVE
Ref. DWG 52-4-102.9
DWG 52-4-102.10
APPROVED FOR CONSTRUCTION
BY A. DAHLSTRUM
CON'T. ON DWG. R-221-12
RAILROAD AVE.
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE M.G.M. CONST. CO. FOR SONOMA C.F.C. & W.C. DIST. AQUE. 16"Ø W.S. R.S. M.L. & C.P. MAIN. STA. 64+04.00 TO STA. 86+92.84
R-221
REFERENCE DRAWINGS
UCP #822

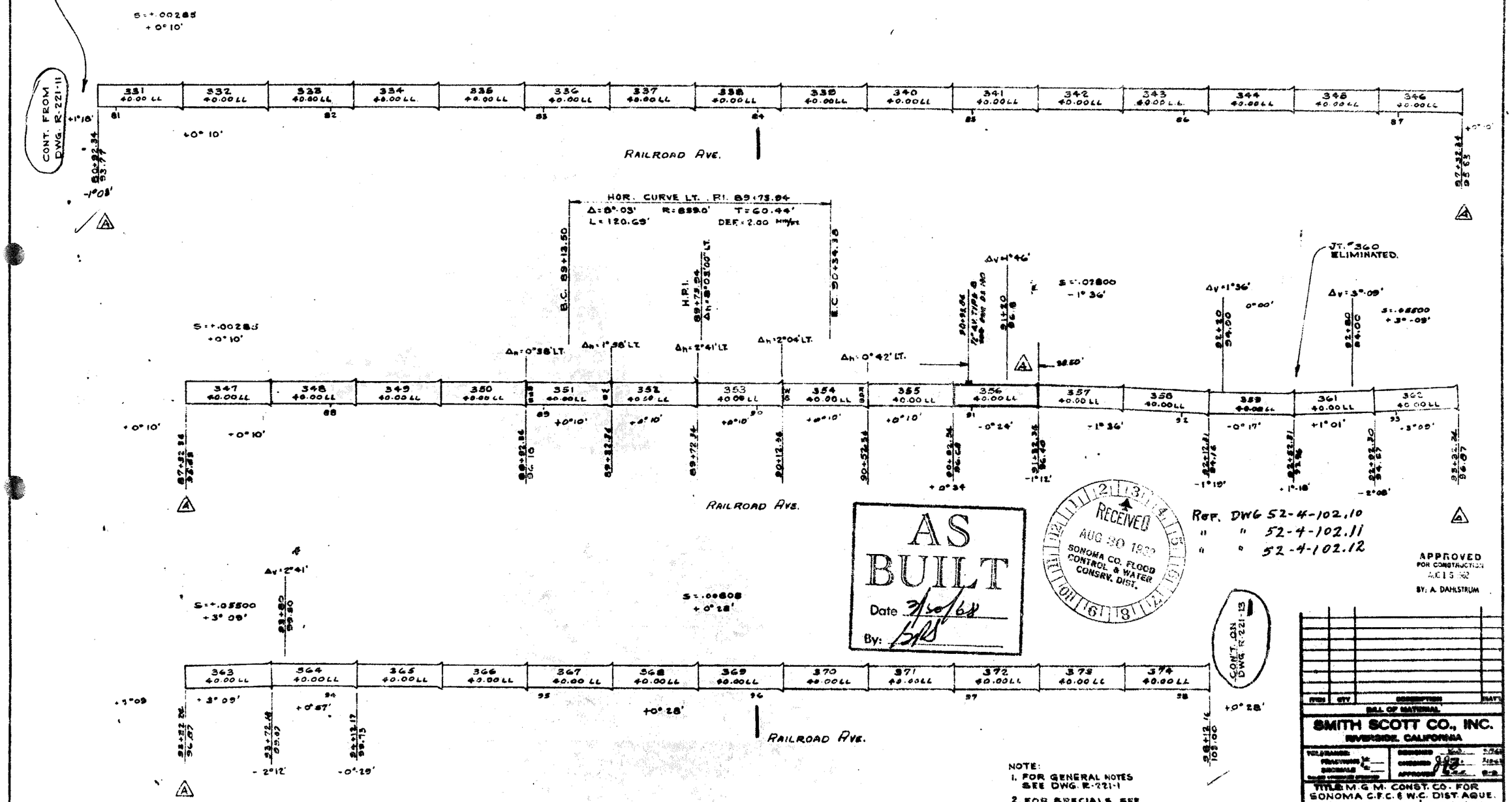
BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
½" MORTAR LINING 1¼" MORTAR COATING
RING-SEAL JTS. EXCEPT WHERE NOTED AS "WELDED"

52-4-102.109 SAB

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	CHKD AS PER CHKD DWG.			

NOTE
JTS. 327 THRU #330 ELIMINATED

BID ITEM 2A



AS BUILT
Date 3/30/68
By: [illegible]

RECEIVED
AUG 30 1968
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

Ref. DWG 52-4-102.10
" " 52-4-102.11
" " 52-4-102.12

APPROVED FOR CONSTRUCTION
AUG 15 1962
BY: A. DAHLSTRUM

NOTE:
1. FOR GENERAL NOTES SEE DWG. R-221-1
2. FOR SPECIALS SEE DWG. R-221-100

REFERENCE DRAWINGS	
52-4-102.18	S.C. F.C. & W.C. DIST.
DWG. NO.	TITLE

ITEM	QTY	DESCRIPTION	MATL
BILL OF MATERIAL			

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TITLE M.G.M. CONST. CO. FOR SONOMA C.F.C. & W.C. DIST. AQUE. 16"ϕ W.S. R.E., M.L. & C.P. MAIN STA. 80+82.84 TO STA. 98+12.16

DWG. NO. R-221
SCALE
SHEET 12 OF

U.C.P. JOB #822

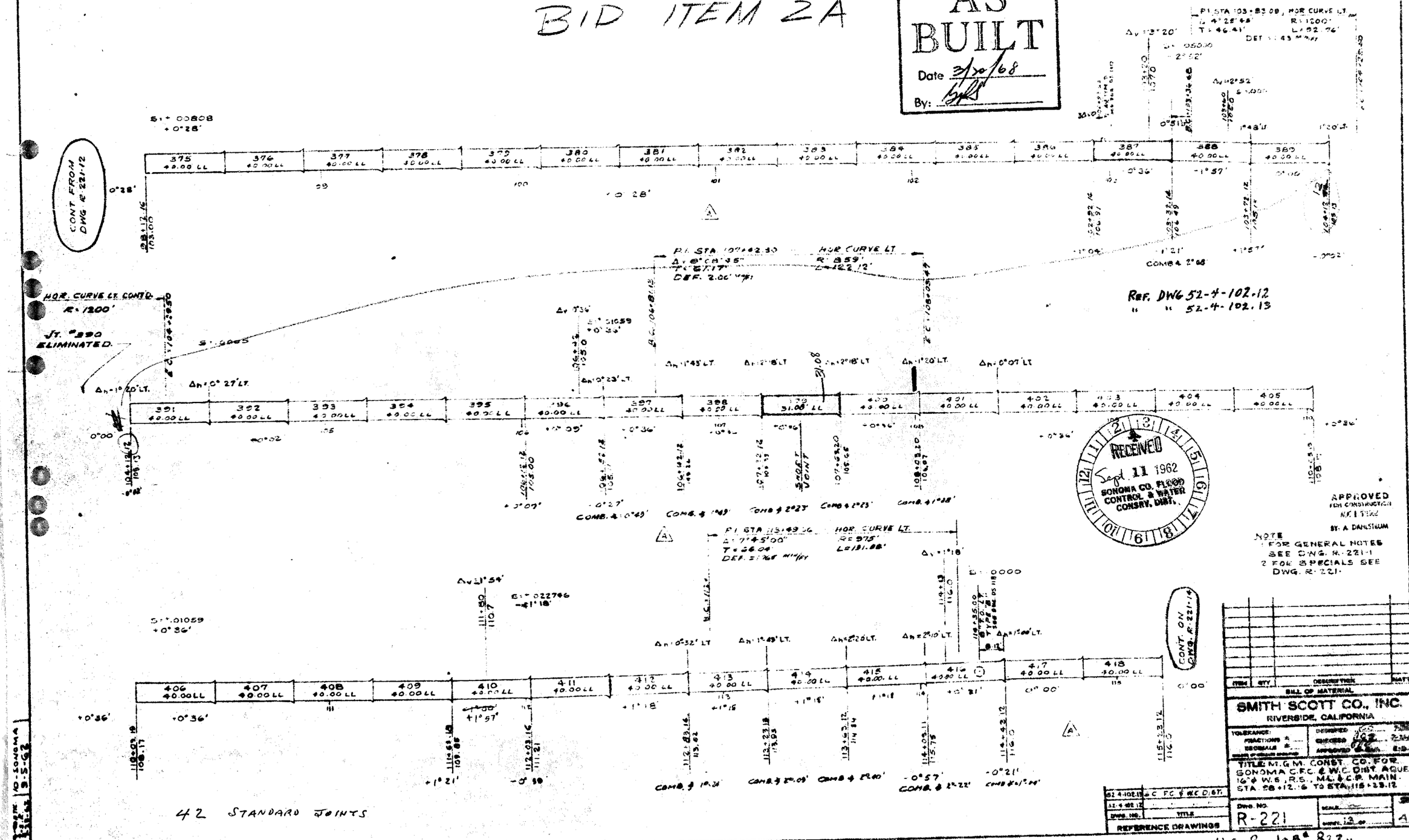
52-4-102.110 SAB

BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16 W.S.P.
1/2" MORTAR LINING 1 1/4" MORTAR COATING
RING-SEAL JTS EXCEPT WHERE NOTED AS "WELDED."

BID ITEM 2A

AS BUILT
Date 3/30/68
By: [signature]

REVISIONS



RECEIVED Sept 11 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

APPROVED FOR CONSTRUCTION
BY: A. DANSTRUM

NOTE
1 FOR GENERAL NOTES SEE DWG. R-221-1
2 FOR SPECIALS SEE DWG. R-221.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± DECIMALS ±

DESIGNED / CHECKED / APPROVED

TITLE: M.G.M. CONST. CO. FOR SONOMA C.F.C. & W.C. DIST. AQUE. 16"Ø W.S., R.S., M.L. & C.P. MAIN. STA. 98+12.16 TO STA. 115+23.12

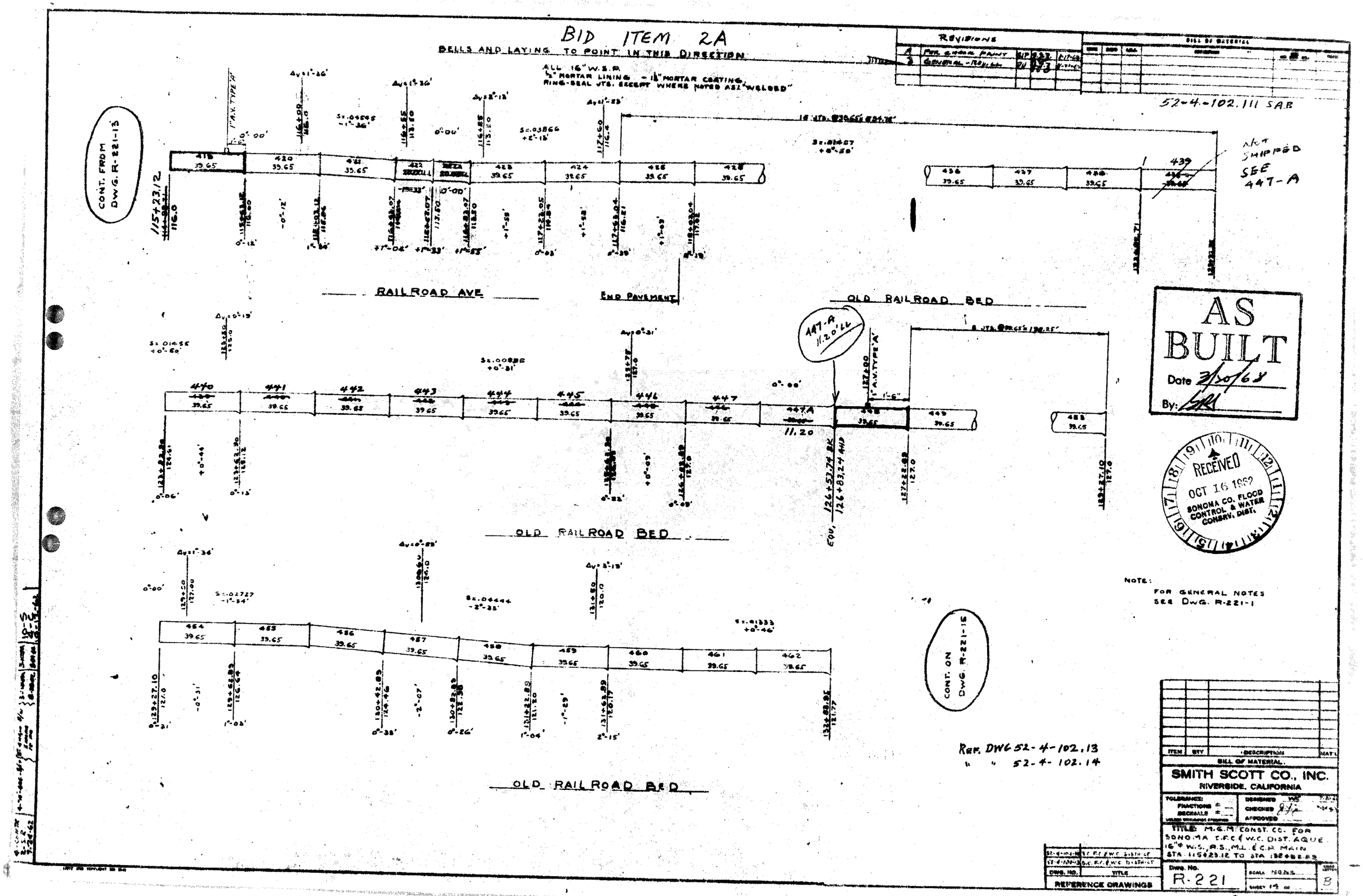
DWG. NO.	TITLE
52-4-102.13	S.C. F.C. & W.C. DIST.
52-4-102.12	

REFERENCE DRAWINGS

DWG. NO. R-221 SCALE SHEET 13 OF A

U.C.P. 108 827

10-SONOMA 3-5-62

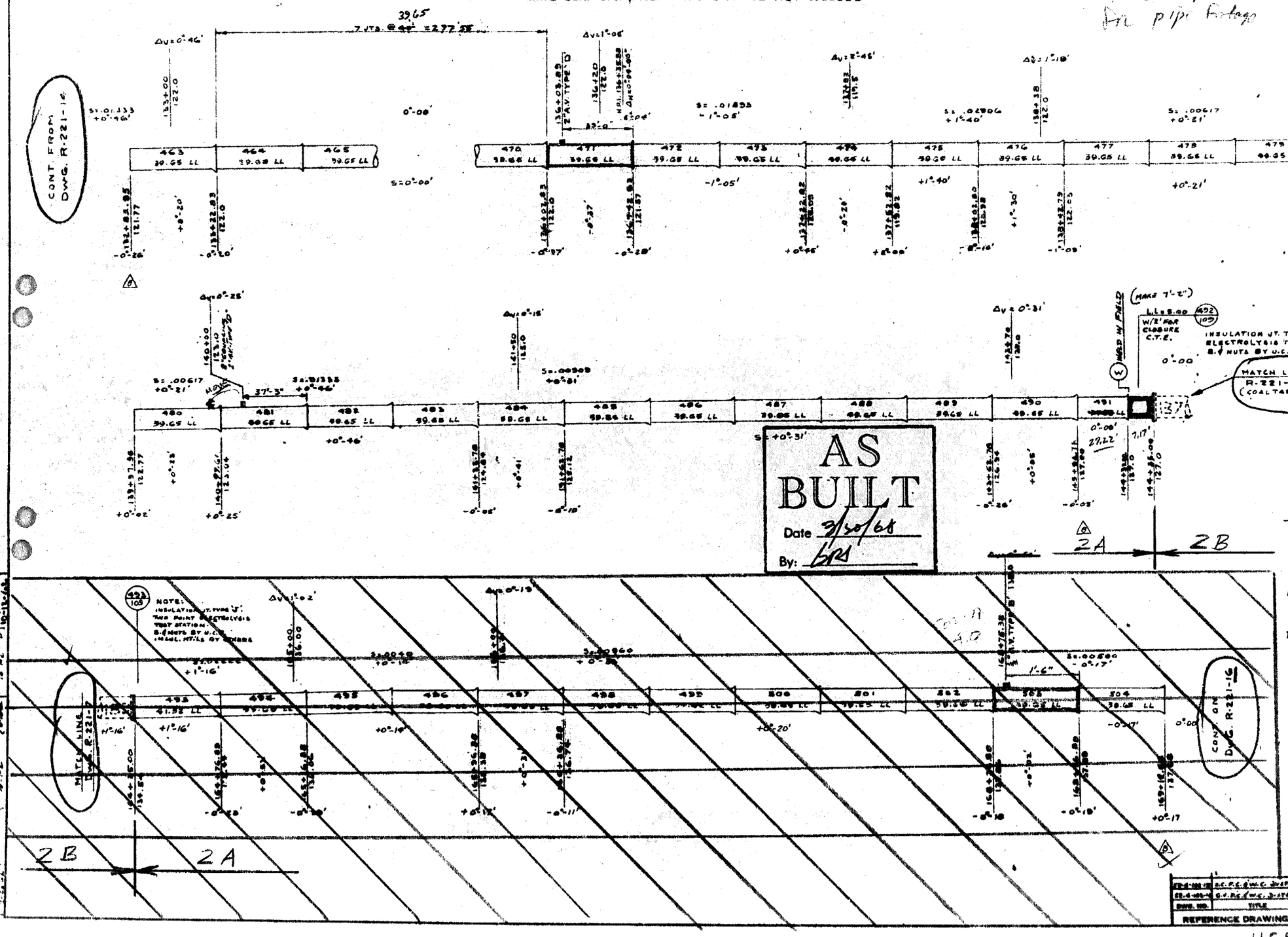

BID ITEM 2A
BELLS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
½" MORTAR LINING - 1½" MORTAR COATING
RING-SEAL JTS. EXCEPT WHERE NOTED AS "WELDED"
52-4-102.111 SAB
CONT. FROM DWG. R-221-13
RAILROAD AVE
END PAVEMENT
OLD RAILROAD BED
NOT SHIPPED SEE 447-A
447-A 11.20' LL
11.20
EQU. 126+53.74 BK 126+83.24 AHD
OLD RAILROAD BED
OLD RAILROAD BED
CONT. ON DWG. R-221-15
AS BUILT
Date 3/30/68
By: SRI
RECEIVED OCT 16 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
NOTE: FOR GENERAL NOTES SEE DWG. R-221-1
REF. DWG 52-4-102.13
" " 52-4-102.14
ITEM
QTY
DESCRIPTION
MAT'L
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE: FRACTIONS ± DECIMALS ±
DESIGNED
CHECKED
APPROVED
TITLE: M.G.M. CONST. CO. FOR SONOMA C.F.C. & W.C. DIST. AQUE. 16" W.S., R.S., M.L. & C.P. MAIN STA. 115+23.12 TO STA. 132+82.89
DWG. NO.
TITLE
REFERENCE DRAWINGS
DWG. NO. R-221
SCALE NONE
SHEET 14 OF
B
U.C.P. JOB # 822

BID ITEM 2A

BELLS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
½" MORTAR LINING - 1¼" MORTAR COATING
RING-SEAL JTS. EXCEPT WHERE NOTED AS: "WELDED"

Don't use this dwg for pipe footage

52-4-102.112 SAB



AS BUILT
Date 3/30/68
By: GRS

NOTE:
FOR GENERAL NOTES SEE DWG. R-221-1
FOR DETAILS SEE DWG R-221-108

132 + 83.85 TO 144+35.00

Ref. DWG 52-4-102.14

RECEIVED
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TITLE: M.G.M. CONST. CO. FOR SONOMA C.F.C. & W.C. DIST. AQUE 16" W.S., R.S., M.L. & C.P. MAIN

DWG. No. R-221
SCALE NONE
SHEET 15

REFERENCE DRAWINGS

UCP JOB #822

BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P. ALL WITH ½ C.T.E.
½" MORTAR LINING 1" MORTAR COATING
RING-SEAL JOINTS

BID ITEM 2B
COAL TAR UNDERCOAT

52-4-102.113 SAB

REVISIONS

A	CONF. REV.			

137 FLANGED INSULATION JT. TYP. J TWO POINT ELECTROLYSIS TEST STATION. B.& NUTS BY U.C.R. INSUL. MTLS BY OTHERS.

MATCH LINE Eng. 130+15

26°-34' ELL (141) (142) (143)
140 26°-34' ELL W/A.V. OUTLET

R.S. JOINT WELD IN FIELD

137 41.67 LL | 138 40.00 LL | 139 40.00 LL | 140 | 141 | 142 | 143 | 144 40.00 LL | 145 40.00 LL | 146 40.00 LL | 147 40.00 LL | 148 40.00 LL | 149 40.00 LL | 150 40.00 LL | 151 40.00 LL | 152 40.00 LL | 153 40.00

145+82.00 OUTLET FOR A.V. TYPE B

Should have been on other side

153+95 B.T.O. F.S. TYPE B

154 40.00 LL | 155 40.00 LL | 156 40.00 LL | 157 40.00 LL | 158 40.00 LL | 159 40.00 LL | 160 40.00 LL | 161 40.00 LL | 162 40.00 LL | 163 40.00 LL | 164 40.00 LL | 165 40.00 LL | 166 40.00 LL | 167 40.00 LL | 168 40.00 LL

169 40.00 LL | 170 40.00 LL | 171 40.00 LL | 172 40.00 LL | 173 40.00 LL | 174 40.00 LL | 175 40.00 LL

CONT. OF SHEET 5

CONT. ON DWG. 52-221-7

RECEIVED AUG 30 1968 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

REF. DWG 52-4-102.14
" " 52-4-102.15

NOTE
FOR GENERAL NOTES SEE DWG. NO. 52-221-1
FOR DETAILS SEE DWG. R-551-103

AS BUILT
Date 8/30/68
By: [illegible]

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

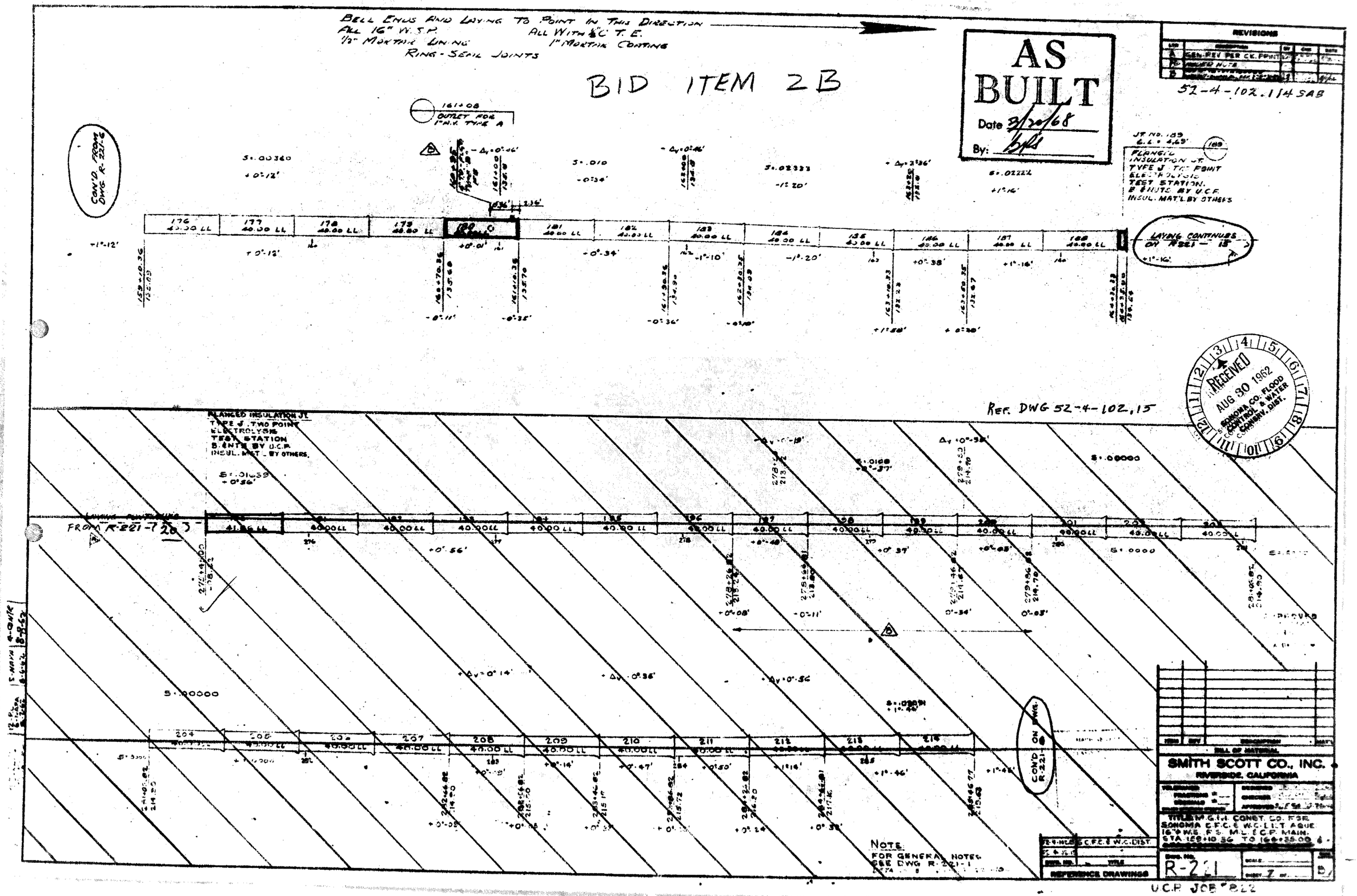
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± DECIMALS ±
DESIGNED
CHECKED
APPROVED

TITLE: [illegible]
Sta. 144+35.01 to 153+10.36

DWG. NO.	TITLE
REFERENCE DRAWINGS	

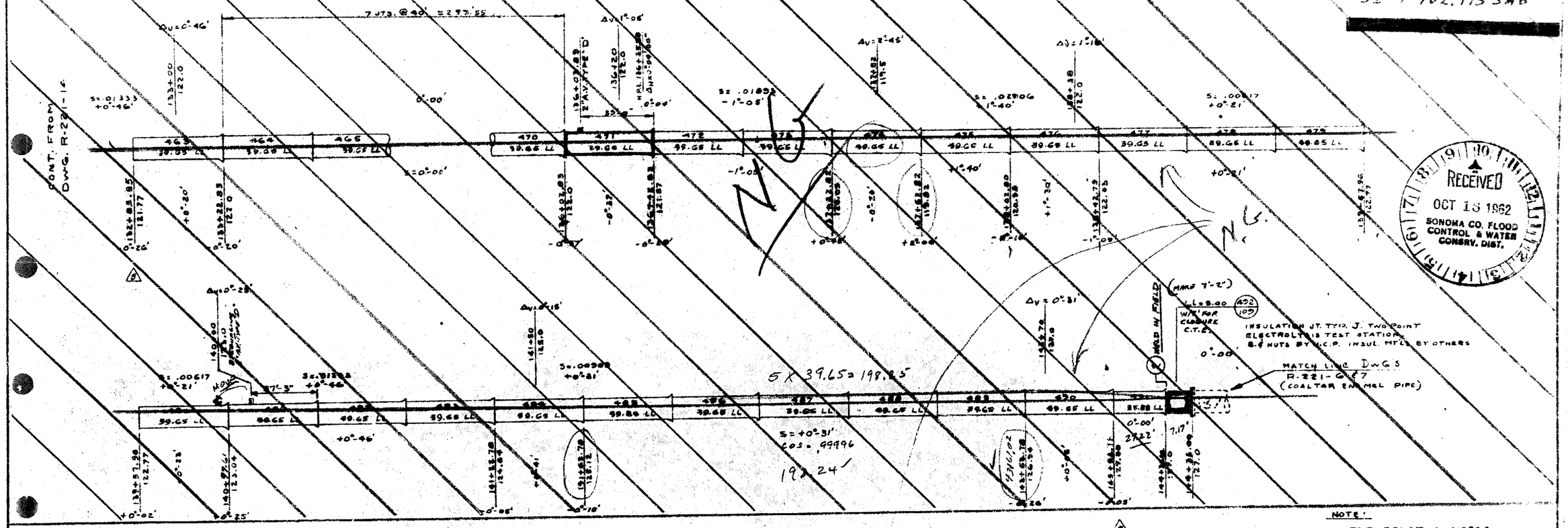
DWG. NO.
SCALE
SHEET 6



BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
1/2" MORTAR LINING
RING-SEAL JOINTS
ALL WITH 1/8" C.T.E.
1" MORTAR COATING
BID ITEM 2B
AS BUILT
Date 3/20/68
By:
REVISIONS
52-4-102.114 SAB
161+08
OUTLET FOR 1" A.V. TYPE A
CON'D FROM DWG R-221-6
JT. NO. 189
FLANGED INSULATION JT. TYPE J TWO POINT ELECTROLYSIS TEST STATION. B & NUTS BY U.C.P. INSUL. MAT'L BY OTHERS
LAYING CONTINUES ON R221-15
REF. DWG 52-4-102.15
RECEIVED AUG 30 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
FLANGED INSULATION JT. TYPE J TWO POINT ELECTROLYSIS TEST STATION B & NUTS BY U.C.P. INSUL. MAT'L BY OTHERS.
LAYING CONTINUES FROM R-221-(20)
CON'D ON DWG. R-221-8
NOTE: FOR GENERAL NOTES SEE DWG R-221-1
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE M.G.I.I. CONST. CO. FOR SONOMA C.F.C. & W.C. DIST. AQUE. 16" W.S. F.S. M.L. & C.P. MAIN. STA. 159+10.36 TO 164+35.00
REFERENCE DRAWINGS
R-221
U.C.P. JOB 822

BELLS AND LAYING TO POINT IN THIS DIRECTION
A.S.A. 16" W.S.P.
½" MORTAR LINING - ¼" MORTAR COATING
RING SEAL JTS. EXCEPT WHERE NOTED AS: "WELDED"

52-4-102.115 SAB

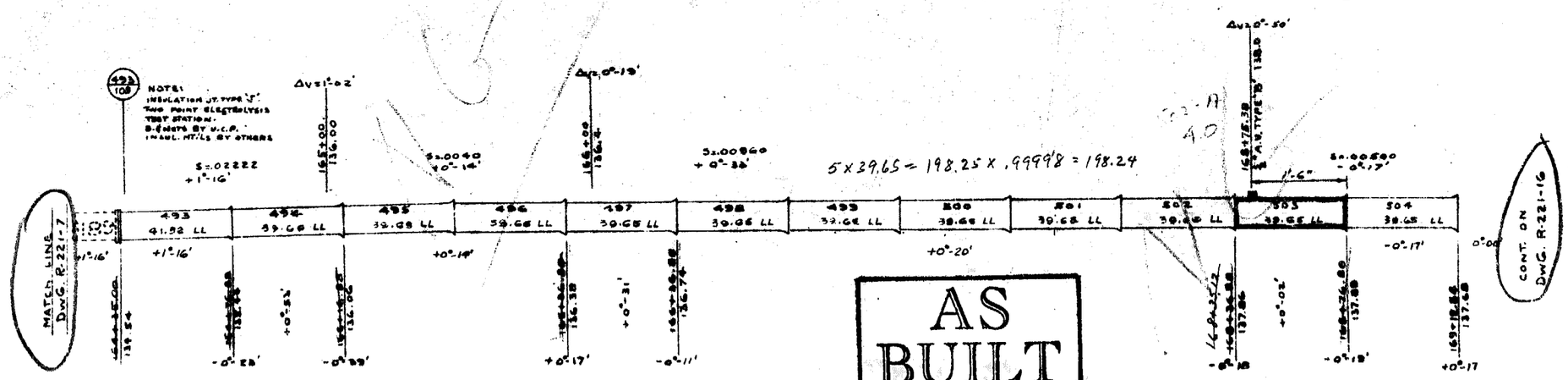


RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

NOTE:
FOR GENERAL NOTES SEE DWG. R-221-1
FOR DETAILS SEE DWG. R-221-10B

REF. DWG 52-4-102.15

Sta. 164+35.00 to 169+12.64



AS BUILT
Date 3/20/68
By:

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

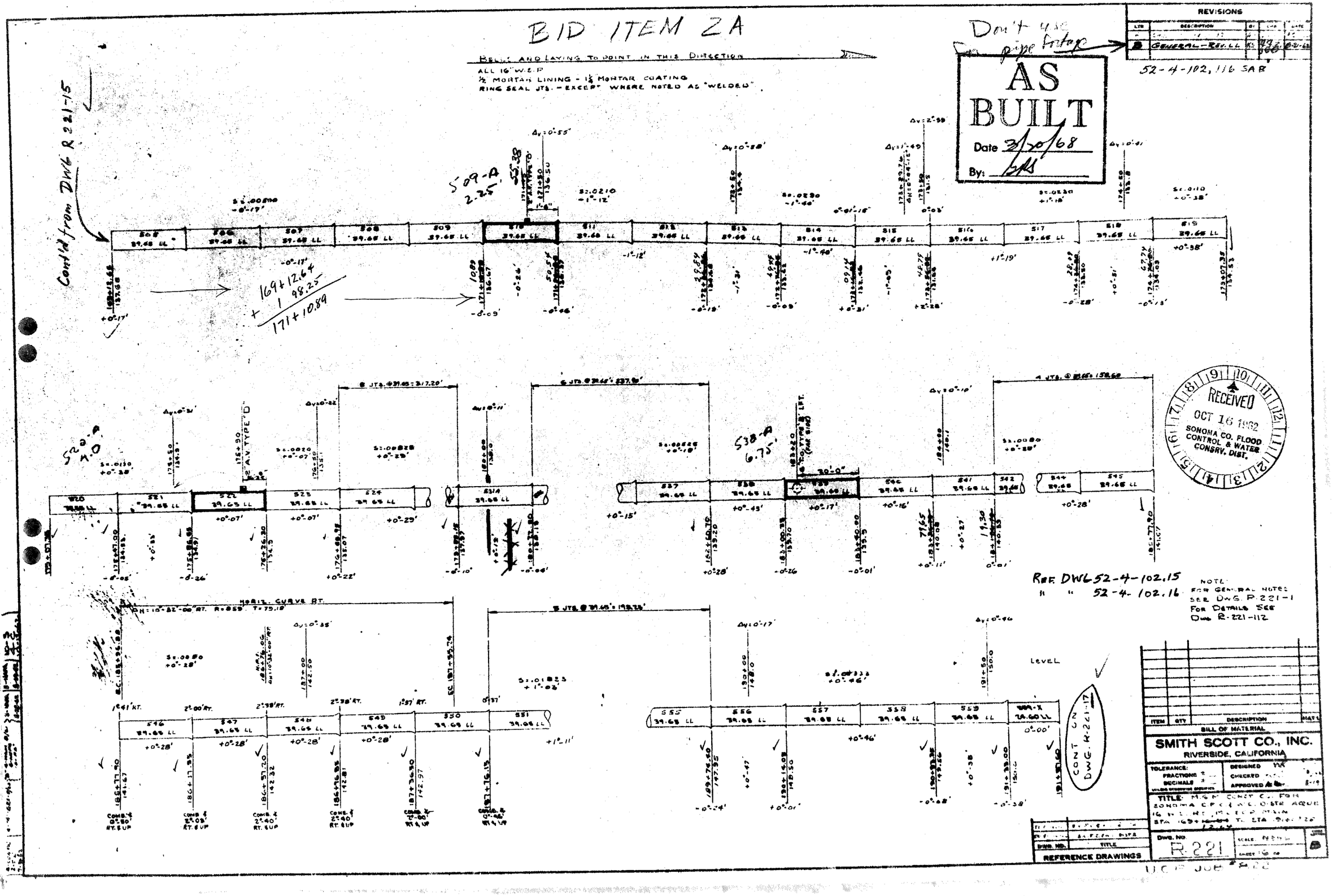
TOLERANCE: FRACTIONS ± DECIMALS ±
DESIGNED VK
CHECKED
APPROVED BY G.R.S.

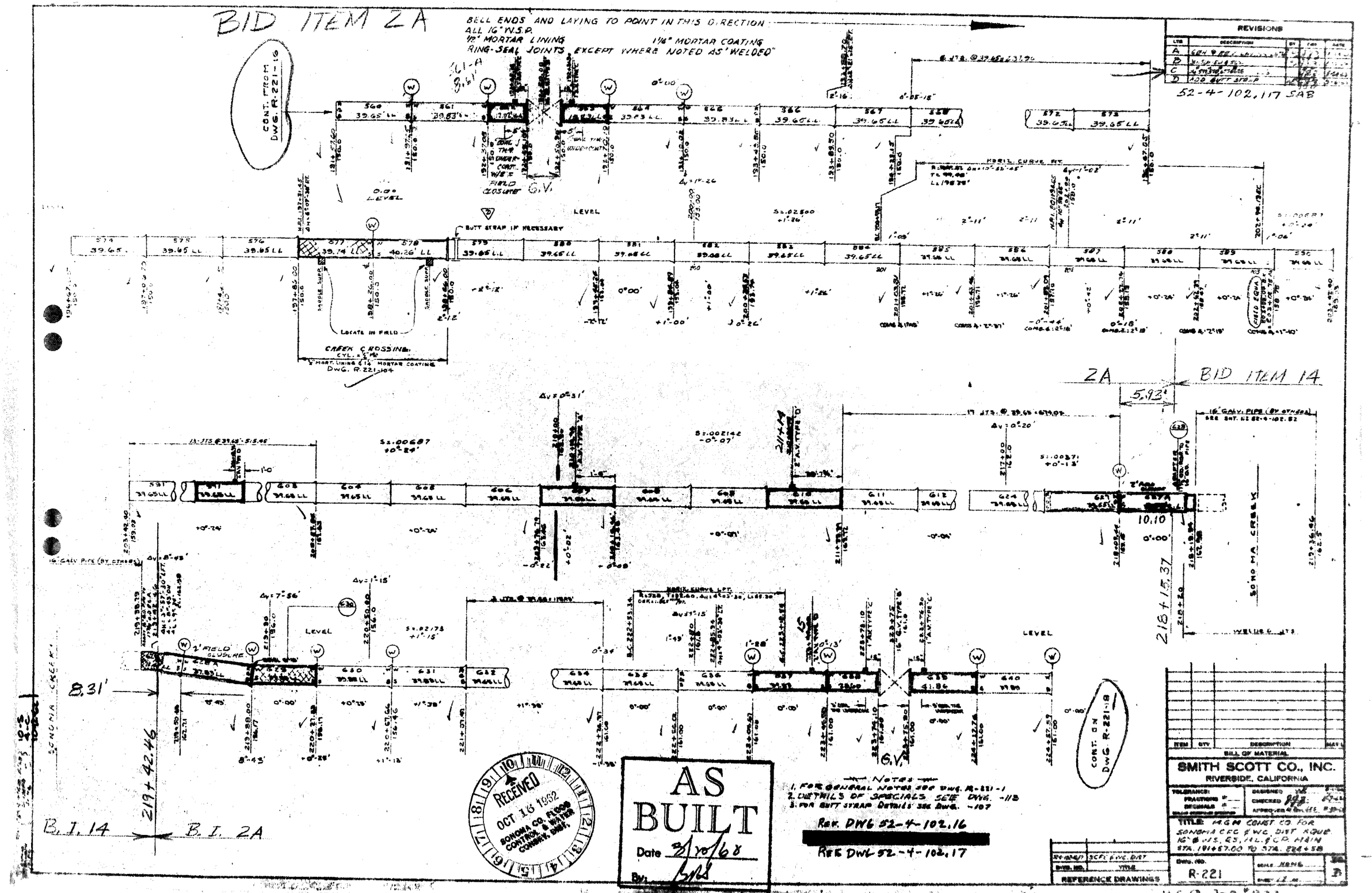
TITLE: M.G.M. CONST. CO. FOR SONOMA CPK & W.C. DIST AQUE 16" W.S., R.S., N.L. & C.P. MAIN STA. [illegible]

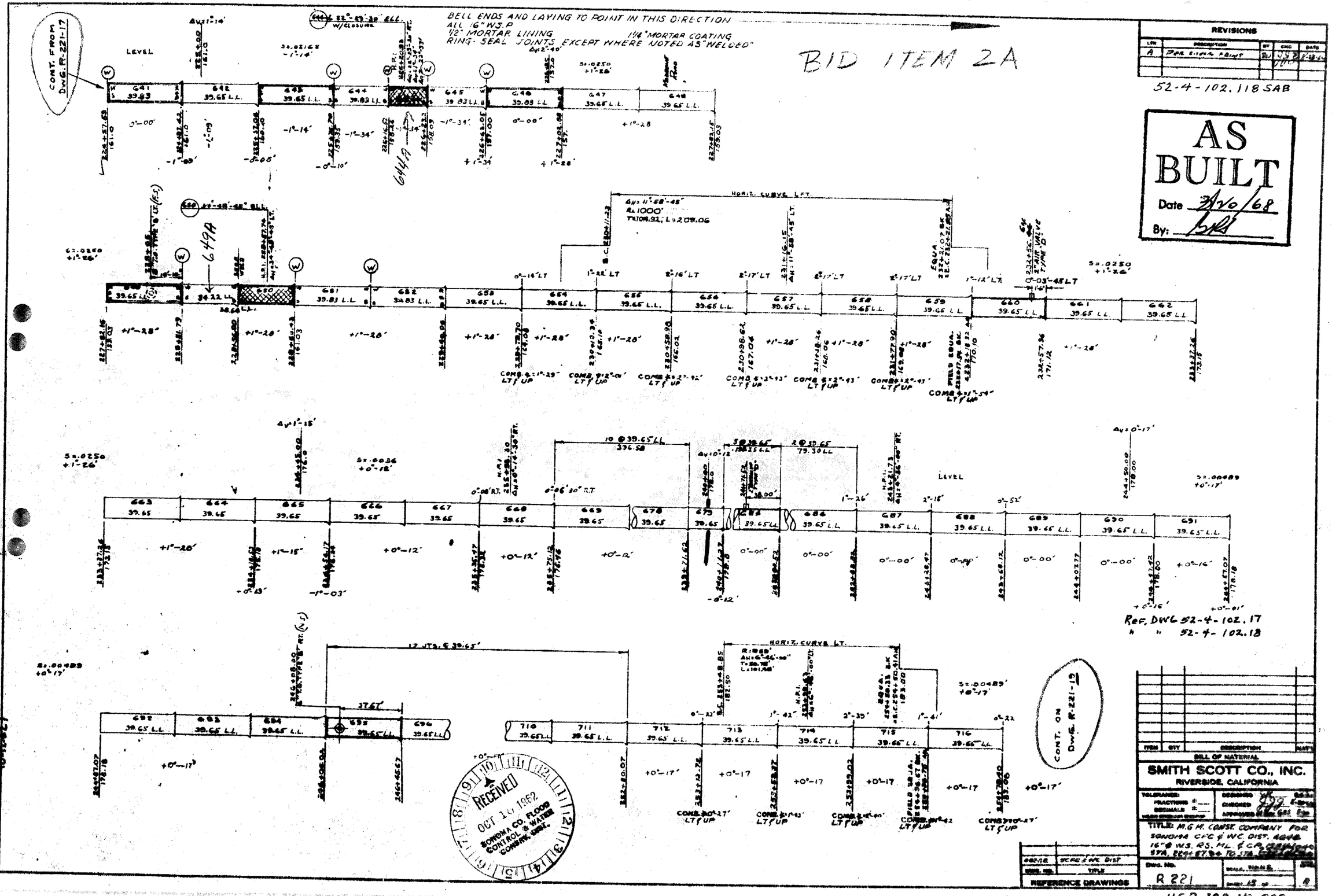
DWG. NO.	TITLE
52-4-102.15	B.C. P.C. & W.C. D. 2-57
52-4-102.16	B.C. P.C. & W.C. D. 2-57

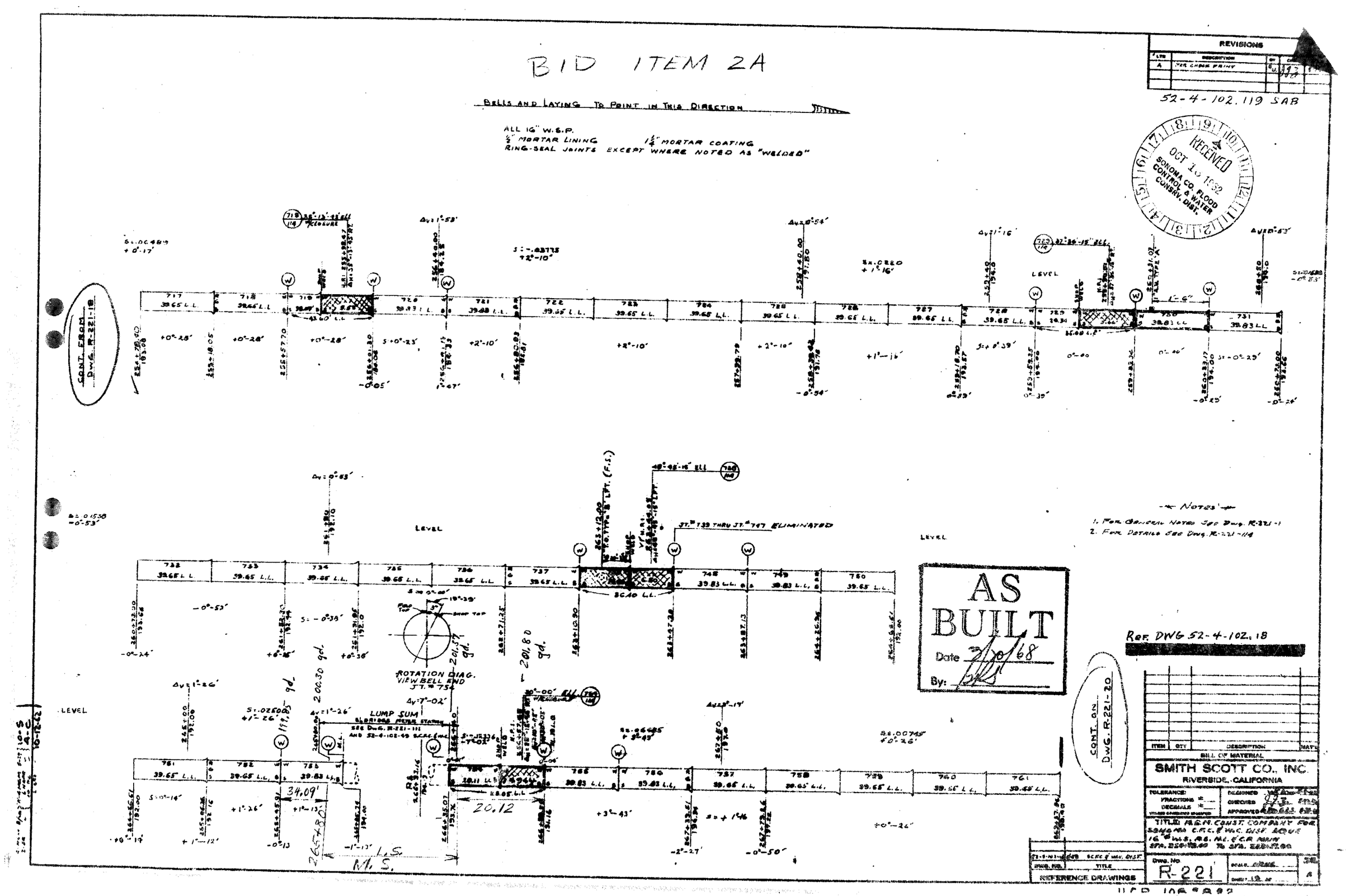
REFERENCE DRAWINGS

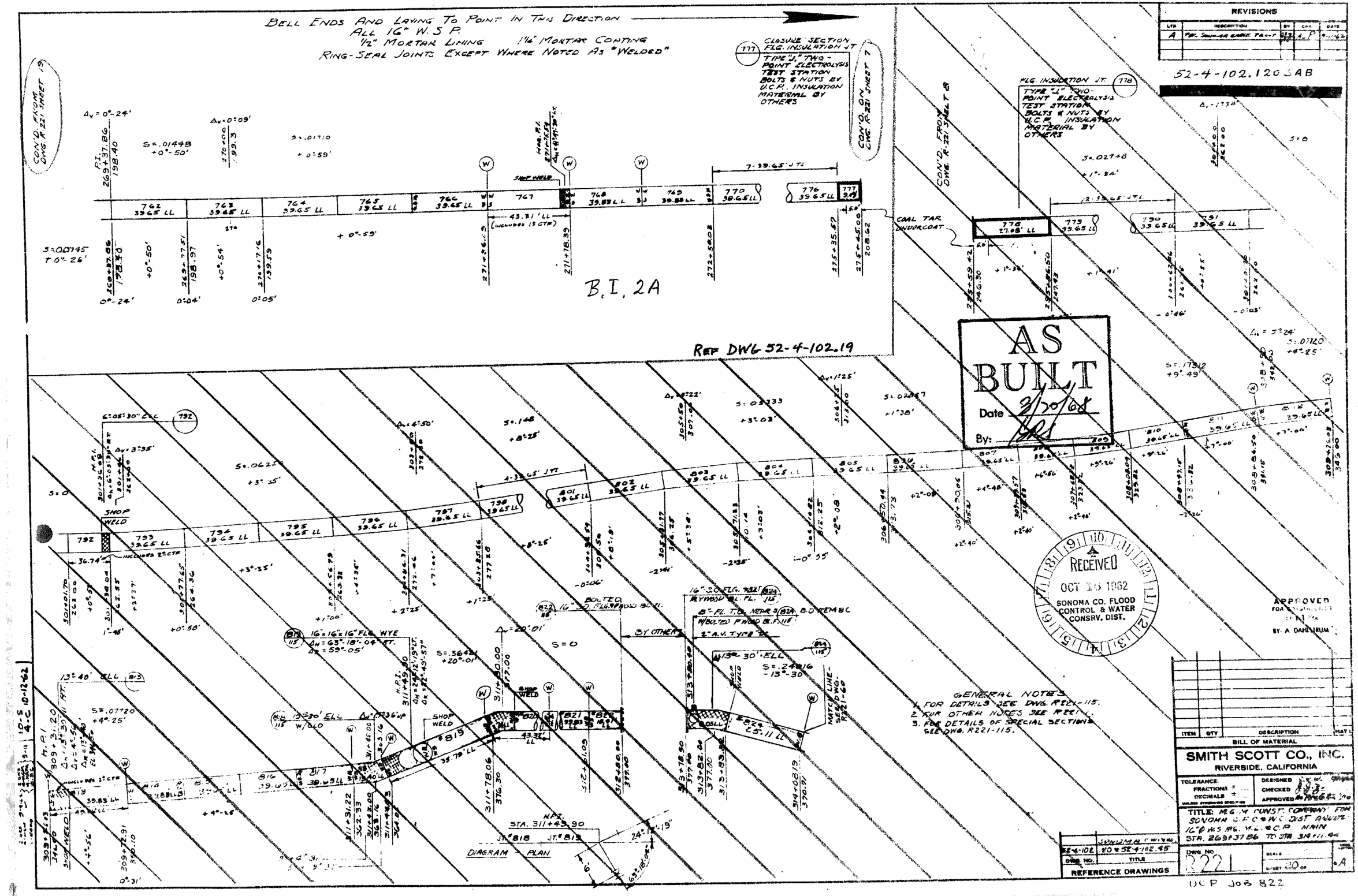
DWG NO R-221
SCALE NONE
SHEET 15 OF


BID ITEM 2A
BELLS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
½ MORTAR LINING - 1½ MORTAR COATING
RING SEAL JTS. - EXCEPT WHERE NOTED AS "WELDED"
Don't use pipe footage
AS BUILT
Date 3/20/68
By:
REVISIONS
B GENERAL-REV. LL
52-4-102, 116 SAB
Cont'd from DWG R 221-15
509-A 2.25'
169+12.64
+ 1 98.25
171+10.89
538-A 6.75'
REF. DWG 52-4-102.15
" " 52-4-102.16
NOTE: FOR GENERAL NOTES SEE DWG. R-221-1 FOR DETAILS SEE DWG. R-221-112
HORIZ. CURVE RT.
LEVEL
CONT ON DWG. R-221-17
RECEIVED OCT 16 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
REFERENCE DRAWINGS
DWG. NO. R-221
UCP JOB #822

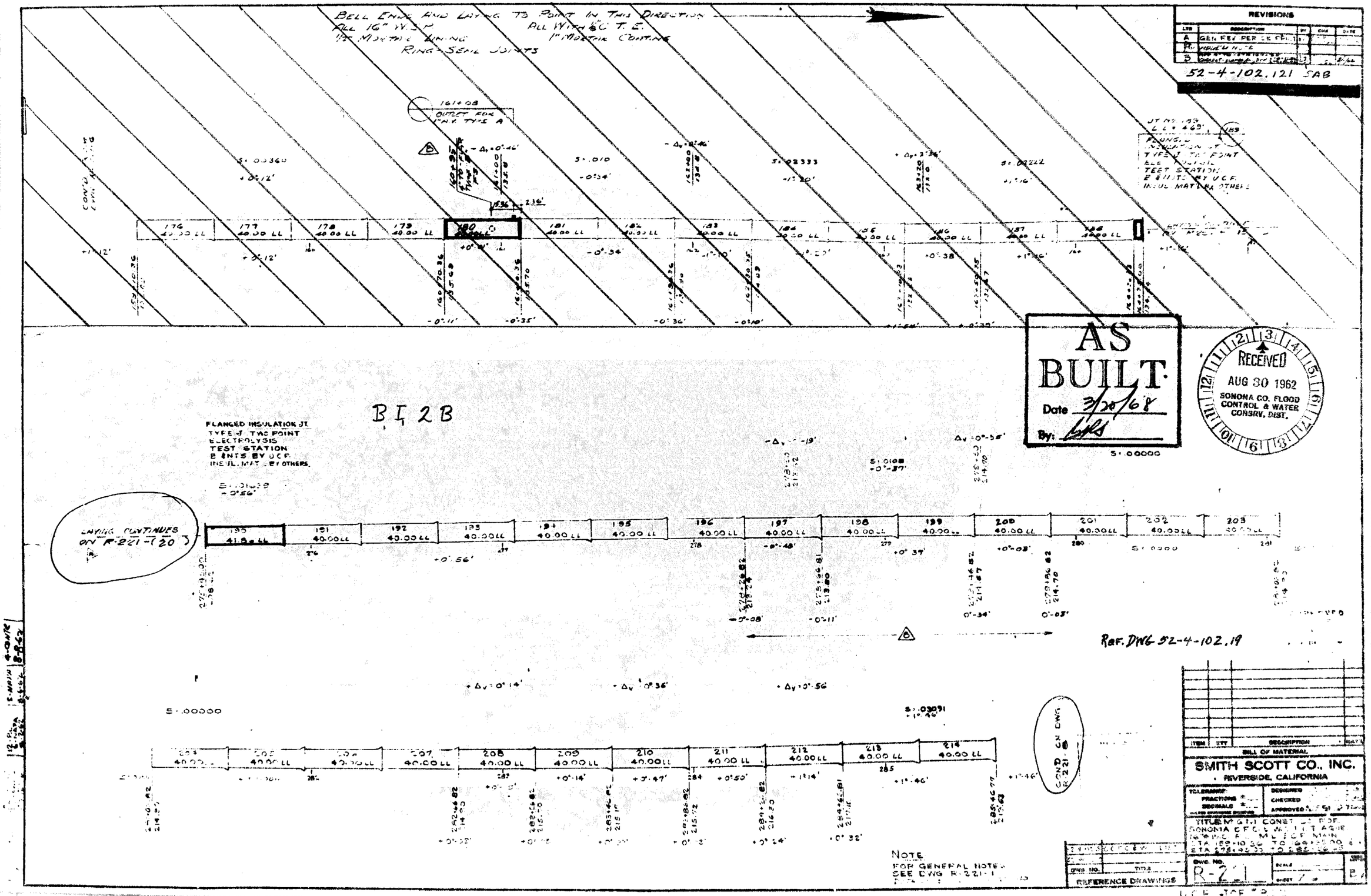

BID ITEM 2A
BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
1/2" MORTAR LINING
1 1/4" MORTAR COATING
RING-SEAL JOINTS EXCEPT WHERE NOTED AS "WELDED"
CONT. FROM DWG. R-221-16
REVISIONS
52-4-102,117 SAB
LEVEL
BUTT STRAP IF NECESSARY
LOCATE IN FIELD
CREEK CROSSING
DWG. R-221-104
2A
BID ITEM 14
5.93'
16" GALV. PIPE (BY OTHERS)
SONOMA CREEK
218+15.37
8.31'
219+42.46
B.I. 14
B.I. 2A
CONT. ON DWG. R-221-18
RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
AS BUILT
Date 3/10/68
By:
NOTES
1. FOR GENERAL NOTES SEE DWG. R-221-1
2. DETAILS OF SPECIALS SEE DWG. -113
3. FOR BUTT STRAP DETAILS SEE DWG. -107
REF. DWG 52-4-102.16
REF. DWG 52-4-102.17
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: M.G.M. CONST. CO. FOR SONOMA CFC & WC DIST. AQUE. 16" Ø W.S., E.S., H.L. & C.P. MAIN STA. 191+57.00 TO STA. 224+58
DWG. NO. R-221
REFERENCE DRAWINGS
U.C.P. JOB #822


BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
1/2" MORTAR LINING
1 1/4" MORTAR COATING
RING-SEAL JOINTS EXCEPT WHERE NOTED AS "WELDED"
BID ITEM 2A
CONT. FROM DWG. R-221-17
LEVEL
HORIZ. CURVE LFT.
HORIZ. CURVE LT.
CONT. ON DWG. R-221-19
REVISIONS
52-4-102.118 SAB
AS BUILT
Date 3/20/68
By:
Ref. DWG 52-4-102.17
" " 52-4-102.18
RECEIVED
OCT 18 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
ITEM
QTY
DESCRIPTION
MAT'L
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCES:
FRACTIONS ±
DECIMALS ±
DESIGNED
CHECKED
APPROVED
TITLE: M.G.H. CONST. COMPANY FOR SONOMA CFC & WC DIST. AQUA 16" Ø W.S. RS. ML. & CP.
STA. 224+57.94 TO STA.
DWG. No.
R 221
SCALE
SHEET 13 OF
REFERENCE DRAWINGS


BID ITEM 2A
BELLS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
1/2" MORTAR LINING 1 1/4" MORTAR COATING
RING-SEAL JOINTS EXCEPT WHERE NOTED AS "WELDED"
52-4-102.119 SAB
REVISIONS
RECEIVED OCT 16 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
CONT. FROM DWG. R-221-18
CONT. ON DWG. R-221-20
LEVEL
JT. #739 THRU JT. #747 ELIMINATED
ROTATION DIAG. VIEW BELL END JT. #754
LUMP SUM
34.09'
20.12
L.S.
M.S.
NOTES
1. FOR GENERAL NOTES SEE DWG. R-221-1
2. FOR DETAILS SEE DWG. R-221-114
AS BUILT
Date 3/20/68
By:
REF. DWG 52-4-102.18
ITEM
QTY
DESCRIPTION
MAT'L
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE:
FRACTIONS ±
DECIMALS ±
DESIGNED
CHECKED
APPROVED
TITLE: M.S.M. CONST. COMPANY FOR SONOMA C.F.C. & W.C. DIST. AQUE 16" W.S.P. R.S. M.L. & C.R. MAIN
DWG. NO. R-221
SCALE
SHEET 19 OF
REFERENCE DRAWINGS



BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
1/2" MORTAR LINING 1 1/4" MORTAR COATING
RING-SEAL JOINTS EXCEPT WHERE NOTED AS "WELDED"
CLOSURE SECTION FLG. INSULATION JT.
TYPE "J," TWO-POINT ELECTROLYSIS TEST STATION BOLTS & NUTS BY U.C.P., INSULATION MATERIAL BY OTHERS
CON'D. FROM DWG. R-221 SHEET 19
CON'D. ON DWG. R-221 SHEET 7
CON'D. FROM DWG. R-221 SHEET 8
FLG. INSULATION JT.
TYPE "J," TWO-POINT ELECTROLYSIS TEST STATION BOLTS & NUTS BY U.C.P., INSULATION MATERIAL BY OTHERS
COAL TAR UNDERCOAT
B.I. 2A
REF DWG 52-4-102.19
AS BUILT
Date 3/20/68
By:
RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
APPROVED
BY A. DAHLSTRUM
16"x16"x16" FLG. WYE
BY OTHERS
DIAGRAM PLAN
GENERAL NOTES
1. FOR DETAILS SEE DWG. R221-115.
2. FOR OTHER NOTES SEE R221-1.
3. FOR DETAILS OF SPECIAL SECTIONS SEE DWG. R221-115.
REVISIONS
52-4-102.120 SAB
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: M.G.M. CONST. COMPANY FOR SONOMA C.F.C. & W.C. DIST. AQUEDUCT 16" Ø W.S. RG. M.L. & C.P. MAIN STA. 269+37.86 TO STA. 314+11.44
REFERENCE DRAWINGS
DWG. NO. R221
SHEET 20 OF
UCP JOB 822



REVISIONS

LTR	DESCRIPTION	BY	CHK	DATE
A	GEN. REV. PER CK. PRINT			
B	ADDED NOTE			
B	[illegible]			

52-4-102.121 SAB

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± DECIMALS ±
DESIGNED
CHECKED
APPROVED

TITLE: M & N CONST. CO. FOR SONOMA C.F.C. & W.C. I.T. AGNE. 16" W.S.P. M.L. & C.P. MAIN STA. 159+10.36 TO 164+35.00 & STA. 275+45.00 TO 285+56.00

DWG. NO. R-221

REFERENCE DRAWINGS

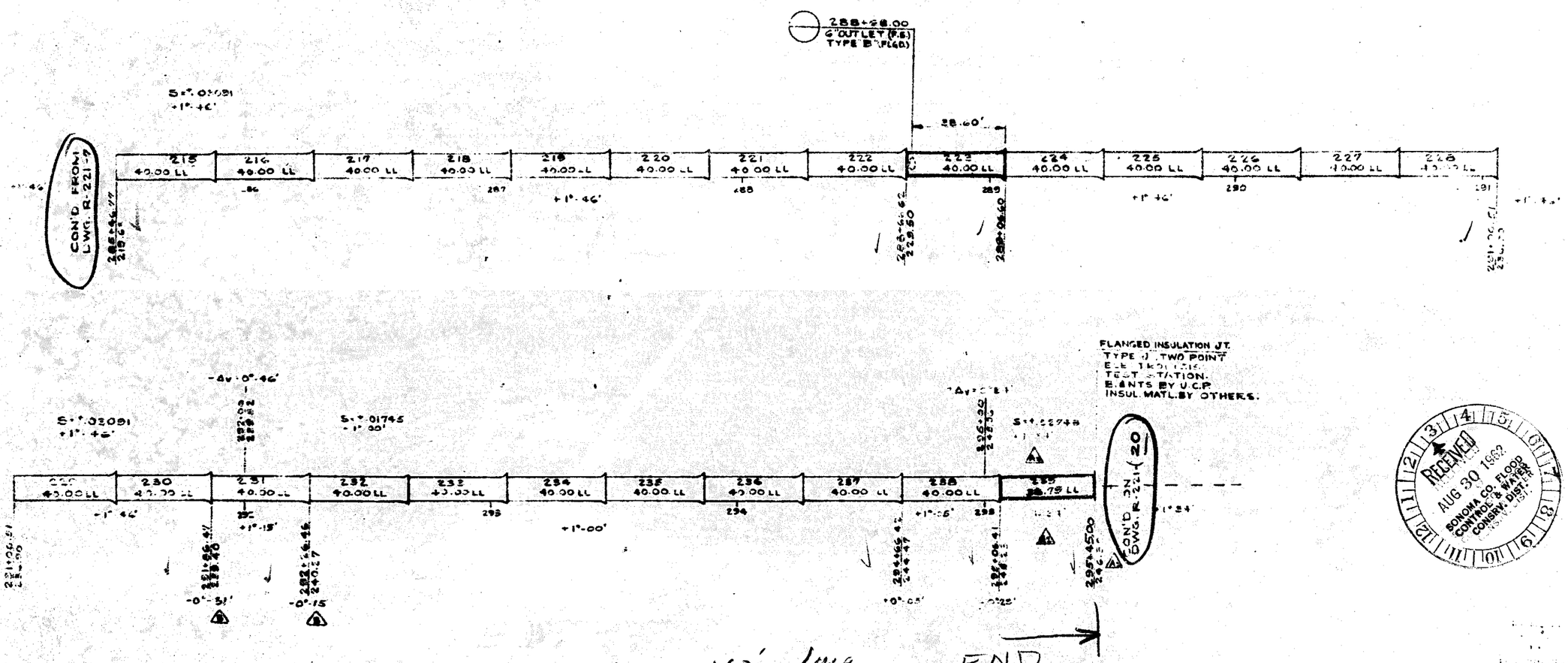
U.C.P. JOE

BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P. ALL WITH 1/8" C.T.E.
1/2" MORTAR LINING 1" MORTAR COATING
RING - SEAL JOINTS

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A1	GEN. REV. PER CK. PRINT			
A2	[illegible]			
	[illegible]			
B	CORRECTION [illegible]			

52-4-102, 122 SAB

BID ITEM 2B



24 Std joints - 40' long
1 joint 38.79

END
B.I. 2B

NOTE:
1. FOR GENERAL NOTES SEE DWG. R-221-1
2. FOR DET. SEE R-221-106

Ref. DWG 52-4-102.19

RECEIVED AUG 30 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

AS BUILT
Date 3/20/68
By: [illegible]

ITEM	QTY	DESCRIPTION	MAT'L
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ± DECIMALS ±
DESIGNED
CHECKED
APPROVED

TITLE: M.&M. CONST. CO. FOR SONOMA C.F.C.& W.C. DIST. AQUE. 16"Ø W.S., R.S. M.L. & C.P. MAIN. STA. 285+46.64 TO 295+45.00

DWG. NO.	TITLE
52-4-102.19	S.C.F.C.& W.C. DIST.

REFERENCE DRAWINGS

DWG. NO. R-221 SCALE SHEET 8 OF

U.C.P. JOB #822

BELL ENDS AND LAYING TO POINT IN THIS DIRECTION
ALL 16" W.S.P.
1/2" MORTAR LINING 1 1/4" MORTAR COATING
RING-SEAL JOINTS EXCEPT WHERE NOTED AS "WELDED"

CONT'D. FROM DWG. R-221 SHEET 9

CLOSURE SECTION FLG. INSULATION JT. TYPE "J" TWO-POINT ELECTROLYSIS TEST STATION BOLTS & NUTS BY U.C.P. INSULATION MATERIAL BY OTHERS

CONT'D. ON DWG. R-221 SHEET 7

CONT'D. FROM DWG. R-221 SHEET 8

FLG. INSULATION JT. TYPE "J" TWO-POINT ELECTROLYSIS TEST STATION BOLTS & NUTS BY U.C.P. INSULATION MATERIAL BY OTHERS

COAL TAR UNDERCOAT

BID ITEM 2A

B.I. 2B

B.I. 2A

B.I. 2A (END) BID ITEM 1

16"x16"x16" FLG. WYE
$\Delta_N = 63°-18'-04"$ RT.
$\Delta_R = 59°-05'$

15 30' ELL W/CLO.

13°-40' ELL

16"-30 FLG. ELL

BOLTED 16"-30 FLG. ROAD BL. R.

BY OTHERS HOSP. TANK

8"-FL. TO-MEM. & BID ITEM 8C

BOLTED FLANGED BL. P.

2" A.V. TYPE "B"

15°-30' ELL

MATCH LINE - SEE DWG. R221-45

SHOP WELD

H.P.I. STA. 311+49.90

JT. #818 JT. #819

DIAGRAM - PLAN

GENERAL NOTES
1. FOR DETAILS SEE DWG. R221-115.
2. FOR OTHER NOTES SEE R221-1.
3. FOR DETAILS OF SPECIAL SECTIONS SEE DWG. R221-115.
4. #823 NOT USED

REF. DWG 52-4-102.19
" " 52-4-102.20
" " 52-4-102.45

REFERENCE DRAWINGS	
DWG. NO.	TITLE
52-4-102.20 & 52-4-102.45	TRACING & COVER

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	FOR SUBMITTAL CONSTRUCTION PRINT		AJP	9-11-62

52-4-102, 123 SAB

RECEIVED OCT 16 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

AS BUILT
Date 3/20/68
By:
APPROVED FOR CONSTRUCTION SEP 1 1962 BY: A. SCHLESTRUNA

ITEM	QTY	DESCRIPTION	MAT'L
BILL OF MATERIAL			

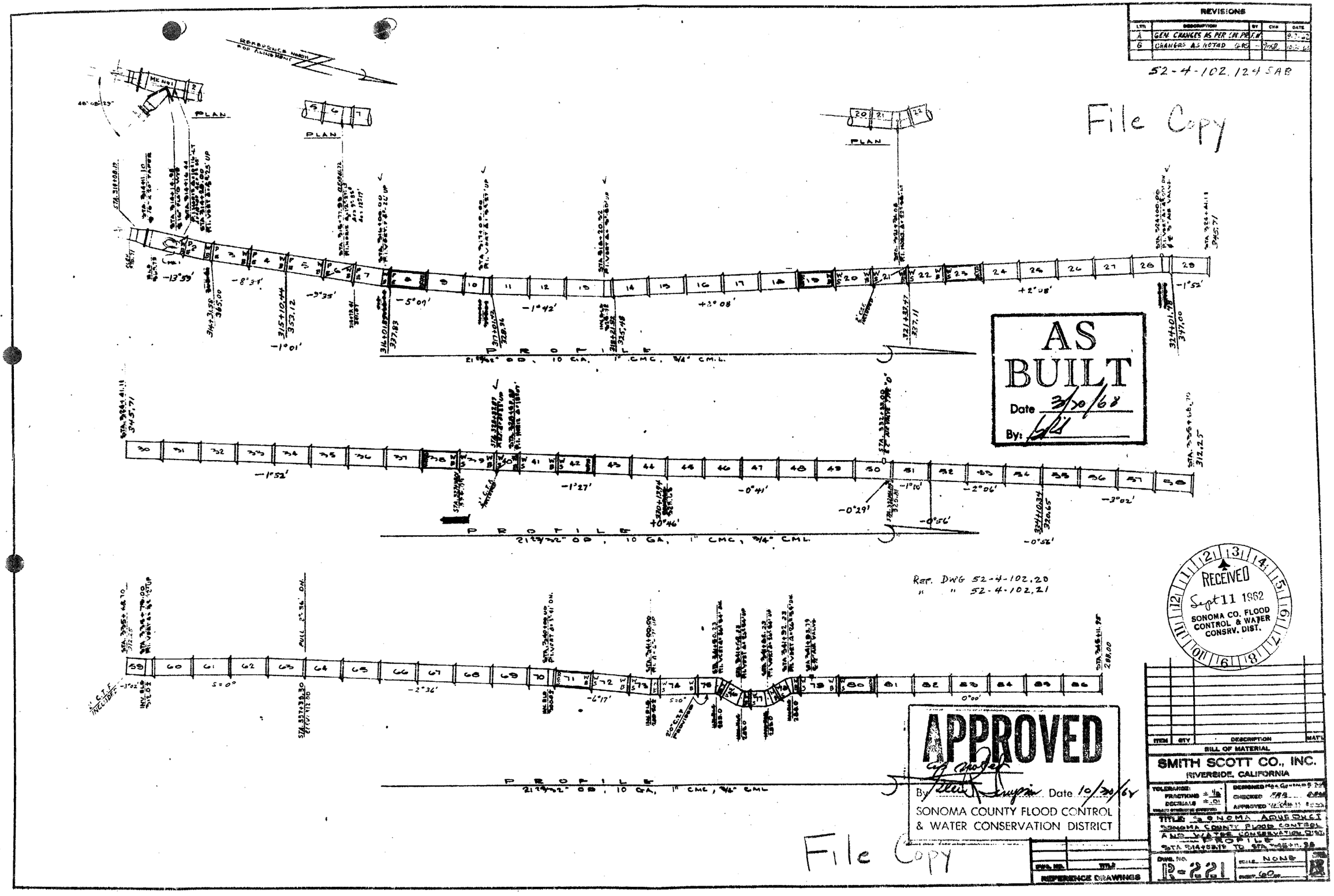
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± ___ DECIMALS ± ___
DESIGNED C.W.L. CHECKED APPROVED

TITLE: M.E.M. CONST. COMPANY FOR SONOMA C.F.C. & W.C. DIST. AQUEDUCT 16"Ø W.S. RES. M.L. & C.P. MAIN STA. 269+37.86 TO STA. 341+

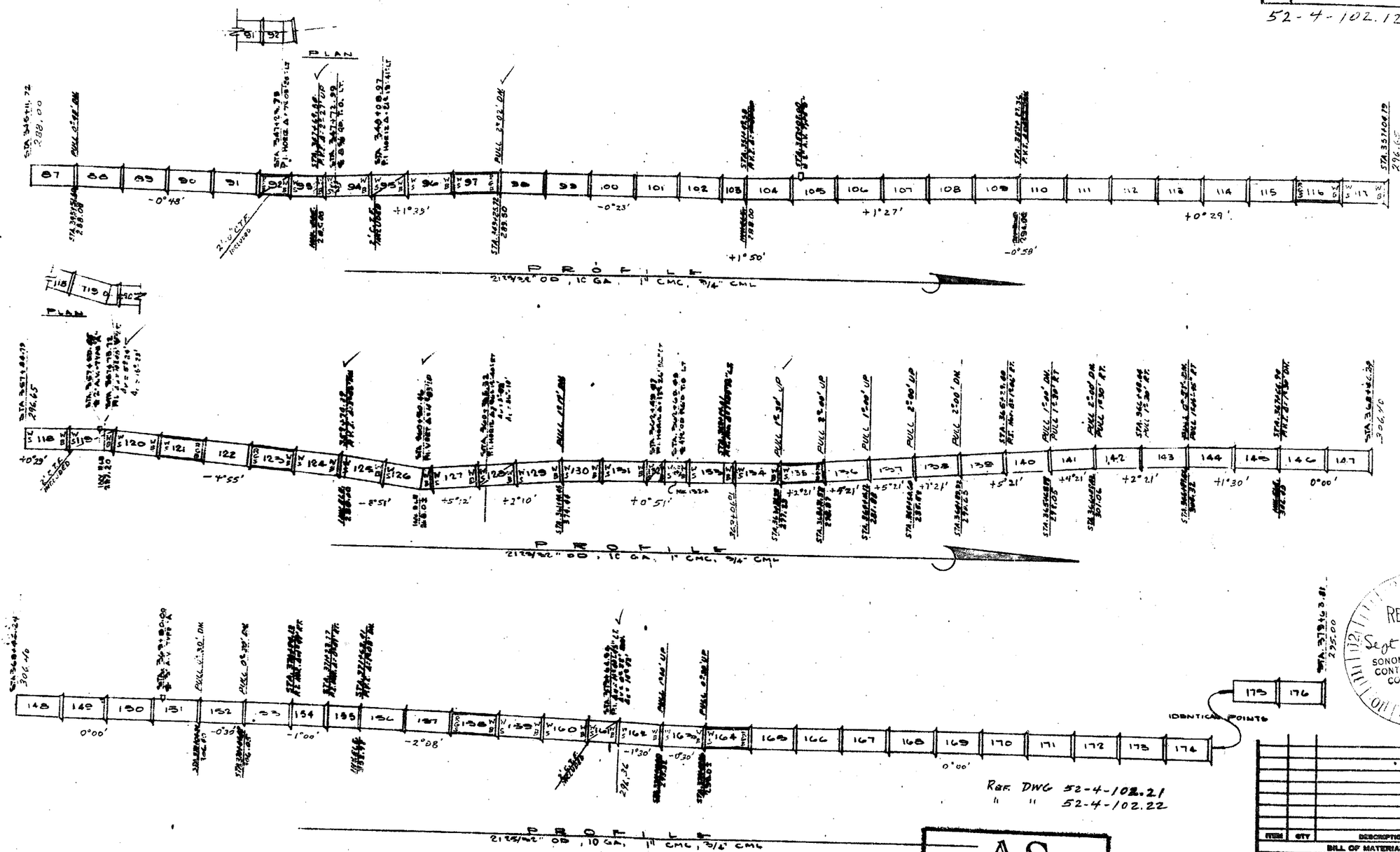
DWG. NO. R221 SCALE: SHEET NO. 20 OF ___ REV. A

U.C.P. 102 017


REVISIONS
LTR | DESCRIPTION | BY | CHK | DATE
A | GEN. CHANGES AS PER CHK. PR. | F.W. | | 9-7-62
B | CHANGES AS NOTED | G.R.S. | | 10-30-62
52-4-102.124 SAB
File Copy
PLAN
PROFILE
21 29/32" OD, 10 GA, 1" CMC, 3/4" CML
AS BUILT
Date 3/20/68
By:
Ref. DWG 52-4-102.20
" " 52-4-102.21
RECEIVED
Sept 11 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
APPROVED
By
Date 10/30/62
SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
File Copy
ITEM | QTY | DESCRIPTION | MAT'L
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE: FRACTIONS ± 1/8 DECIMALS ± .01
DESIGNED
CHECKED
APPROVED
TITLE: SONOMA AQUEDUCT SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
PROFILE
DWG. NO. R-221
SCALE NONE
SHEET 60
REFERENCE DRAWINGS

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	GEN. CHANGES AS PER CHK PR	EW		

52-4-102.125 SAR



Ref. DWG 52-4-102.21
" " 52-4-102.22

RECEIVED
Sept 11 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

AS BUILT
Date 3/20/68
By: [illegible]

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ± 1/8, DECIMALS ± .01
UNLESS OTHERWISE SPECIFIED

DESIGNED [illegible]
CHECKED FRR
APPROVED [illegible]

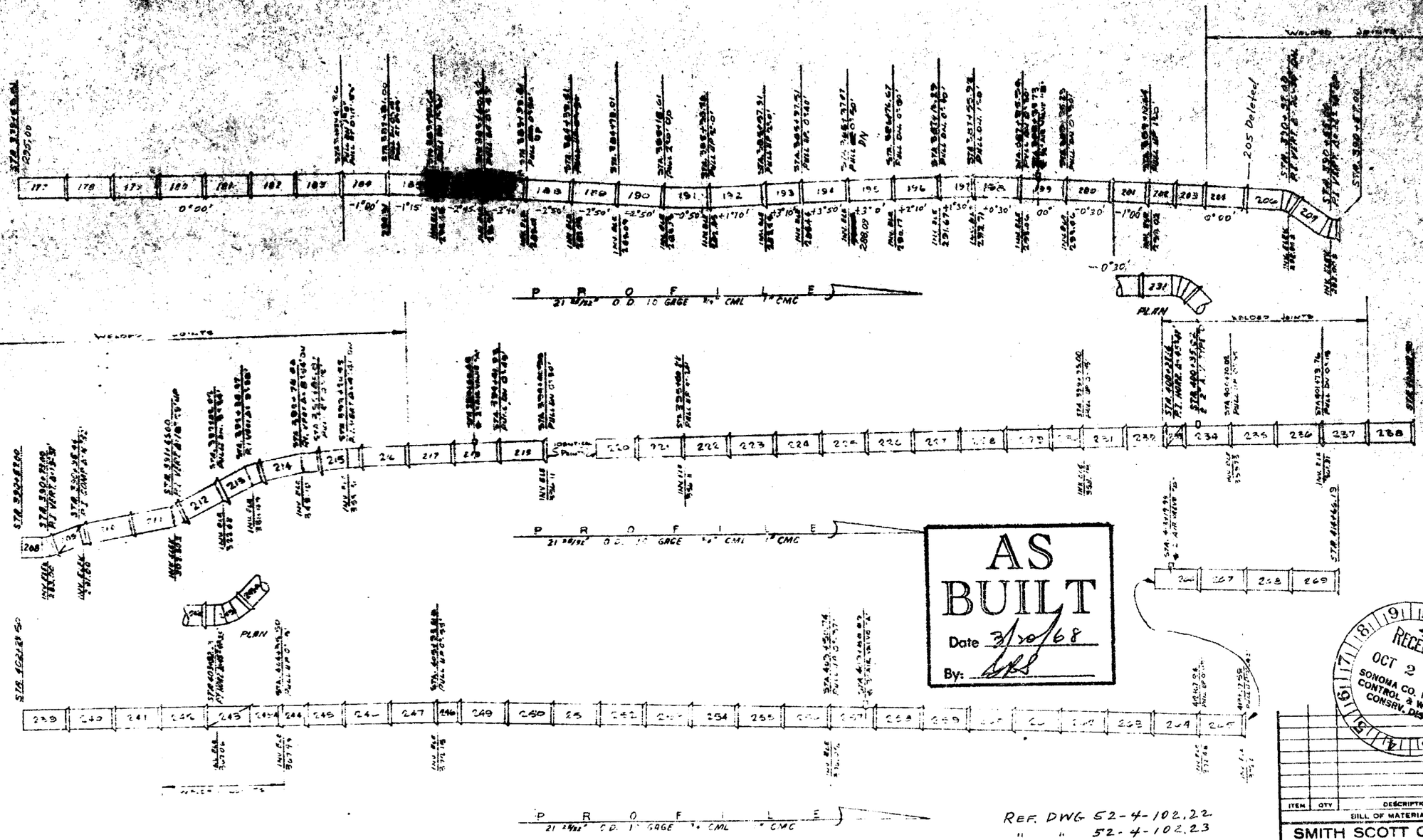
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND CONSERVATION DISTRICT
PROFILE
FROM STA: 348+11.72 TO STA 379+63.81

DWG. NO.	TITLE

REFERENCE DRAWINGS

DWG. NO. R-221
SCALE NONE
SHEET 61 OF

52-4-102.126 AB



AS BUILT
Date 3/20/68
By:

RECEIVED
OCT 2 1952
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

REF. DWG 52-4-102.22
" " 52-4-102.23

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

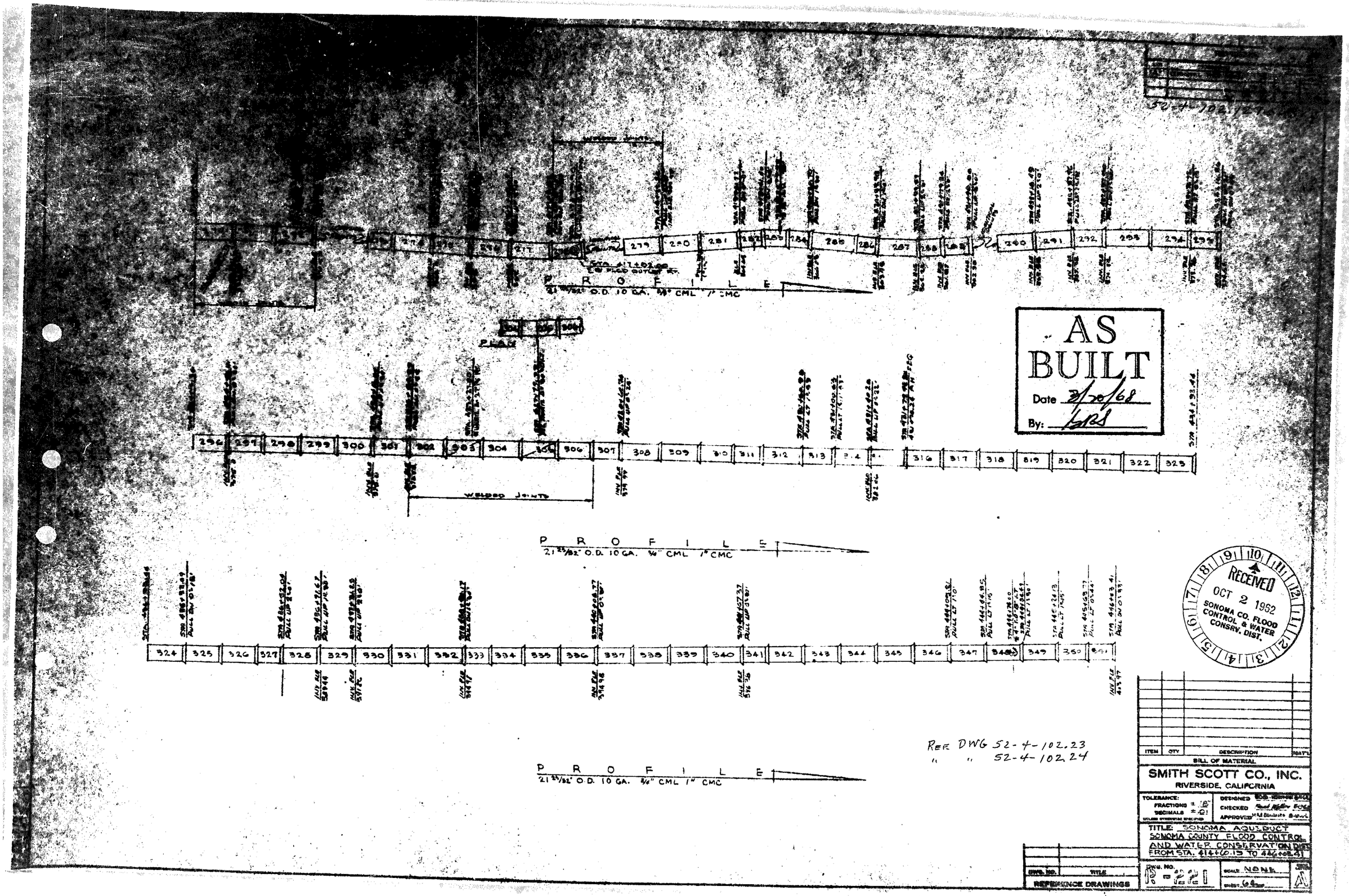
TOLERANCE
FRACTIONS
DECIMALS .01
UNLESS OTHERWISE SPECIFIED

DESIGNED
CHECKED
APPROVED

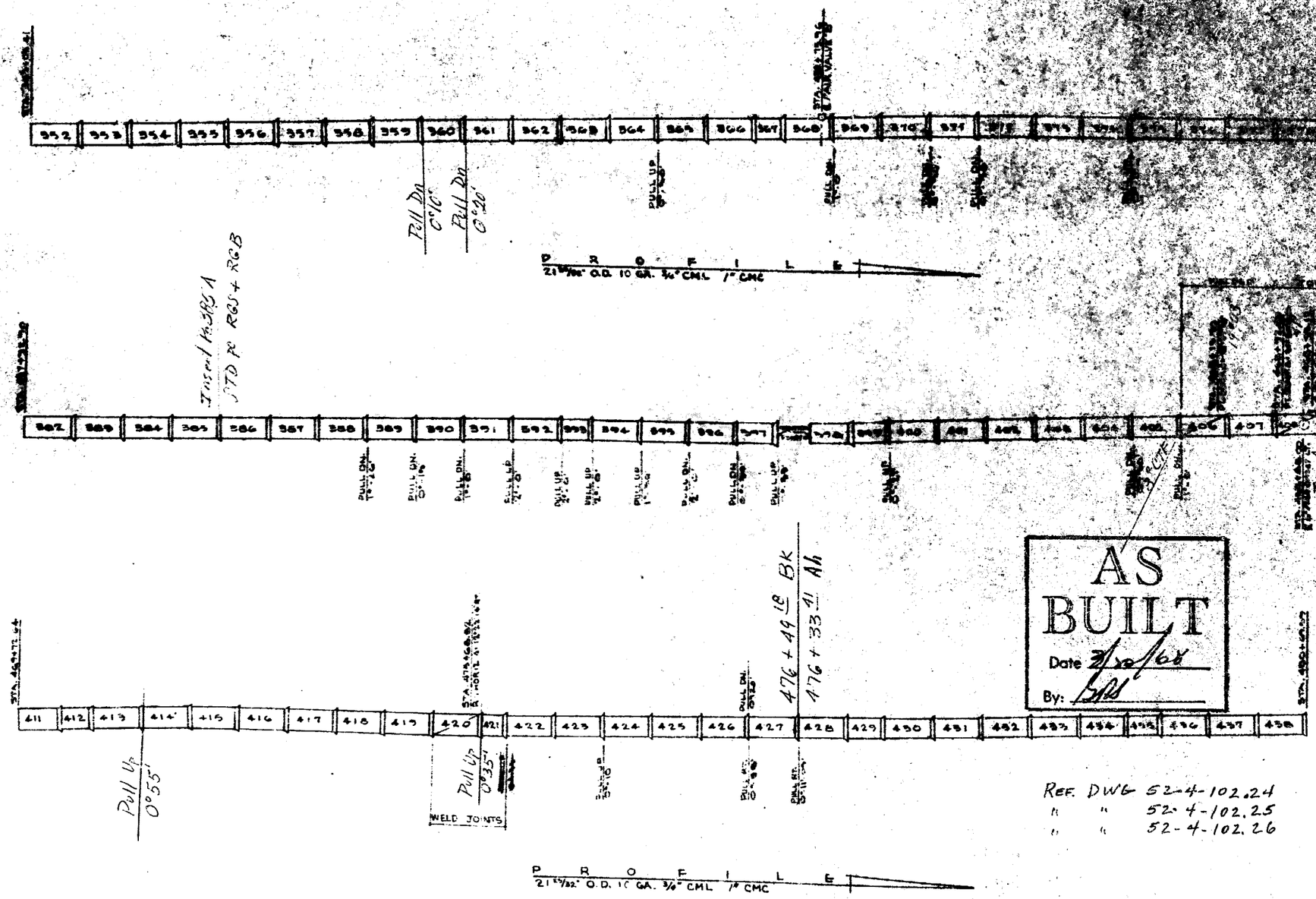
TITLE: SONOMA AQUEDUCT

DWG NO | TITLE
REFERENCE DRAWINGS

DWG NO
SCALE NE
SHEET



PROFILE
21 25/32" O.D. 10 GA. 3/4" CML 1" CMC
PLAN
WELDED JOINTS
AS BUILT
Date 3/20/68
By: GRS
RECEIVED
OCT 2 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
REF DWG 52-4-102.23
" " 52-4-102.24
ITEM
QTY
DESCRIPTION
MAT'L
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE:
FRACTIONS ± 1/8"
DECIMALS ± .01
DESIGNED
CHECKED
APPROVED
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST
FROM STA. 414+60.15 TO 446+03.41
DWG. NO.
TITLE
REFERENCE DRAWINGS
DWG. NO. R-221
SCALE NONE
SHEET 64



AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 8 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

REF. DWG 52-4-102.24
" " 52-4-102.25
" " 52-4-102.26

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

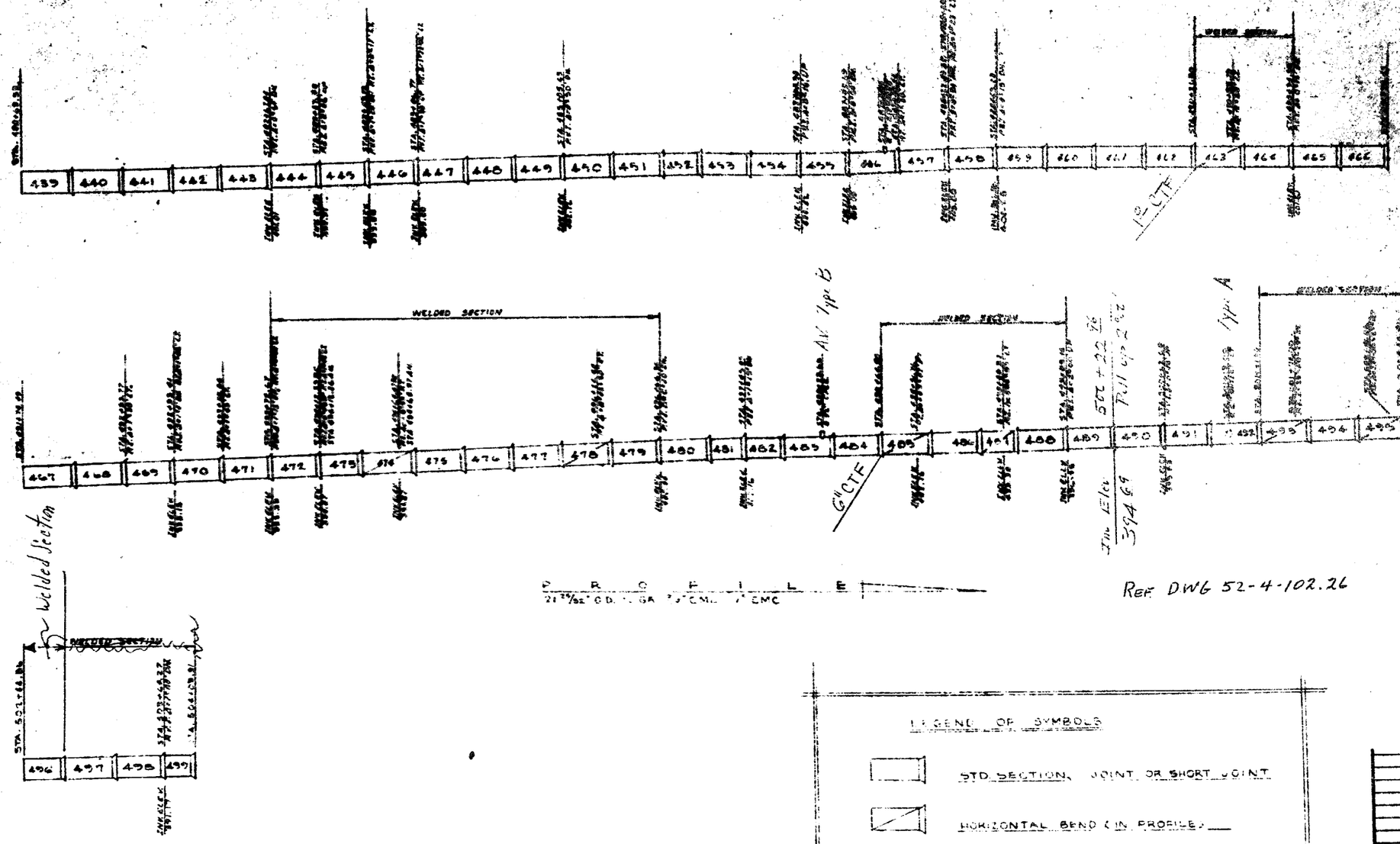
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ± 1/16; DECIMALS ± .01
DESIGNED [illegible]
CHECKED [illegible]
APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
FROM STA. 446+09.41 TO 480+69.59

DWG. NO. R-221
SCALE NONE
SHEET 6 OF [illegible]

DWG. NO.	TITLE
REFERENCE DRAWINGS	



AS BUILT
Date 3/20/68
By

RECEIVED OCT 8 1982 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

LEGEND OF SYMBOLS

STD. SECTION, JOINT OR SHORT JOINT

HORIZONTAL BEND (IN PROFILE)

M.R.S.	MALE RING SEAL
F.R.S.	FEMALE RING SEAL
P.E.	PLAIN END
W.B.	WELD BELL
C.T.F.	CUT TO FIT
STAB LOSS	FOR RING SEAL .35 (4 1/4")
STAB LOSS	FOR WELD BELL .12 (1 1/2")
P.I.	POINT OF INTERSECTION

DWG. NO.	TITLE
REFERENCE DRAWINGS	

ITEM	QTY	DESCRIPTION	MAT'L
BILL OF MATERIAL			

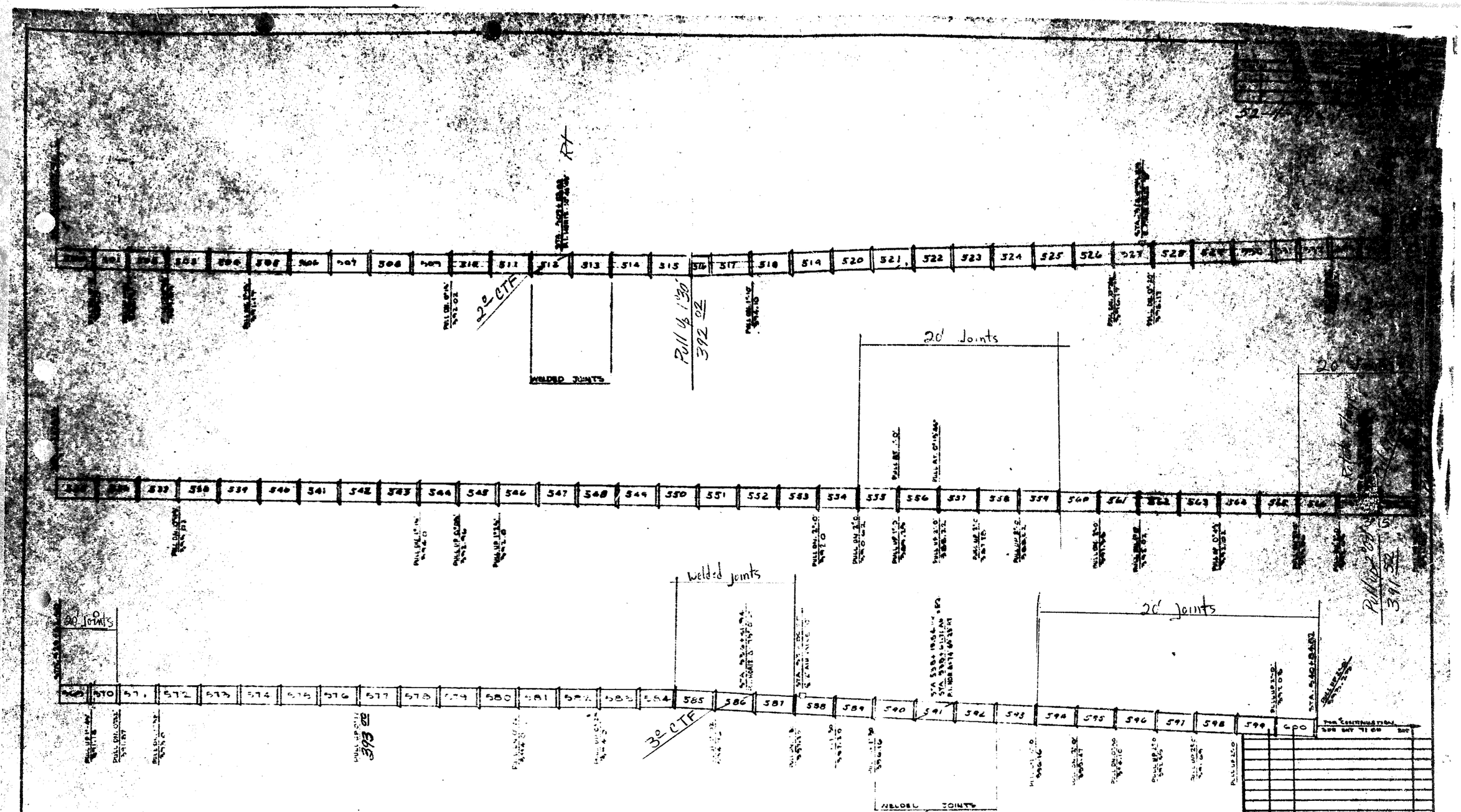
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± 1/16 DECIMALS ± .01

DRAWN
CHECKED
APPROVED

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
FROM STA. 480+69.59 TO 504+03.91

DWG. No. R-221
SCALE NONE
SHEET 67 OF



AS BUILT
Date 3/30/68
By: [illegible]

REF DWG 52-4-102,26
" " 52-4-102,27
" " 52-4-102,28
" " 52-4-102,29

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ±1/8" DECIMALS ±.01

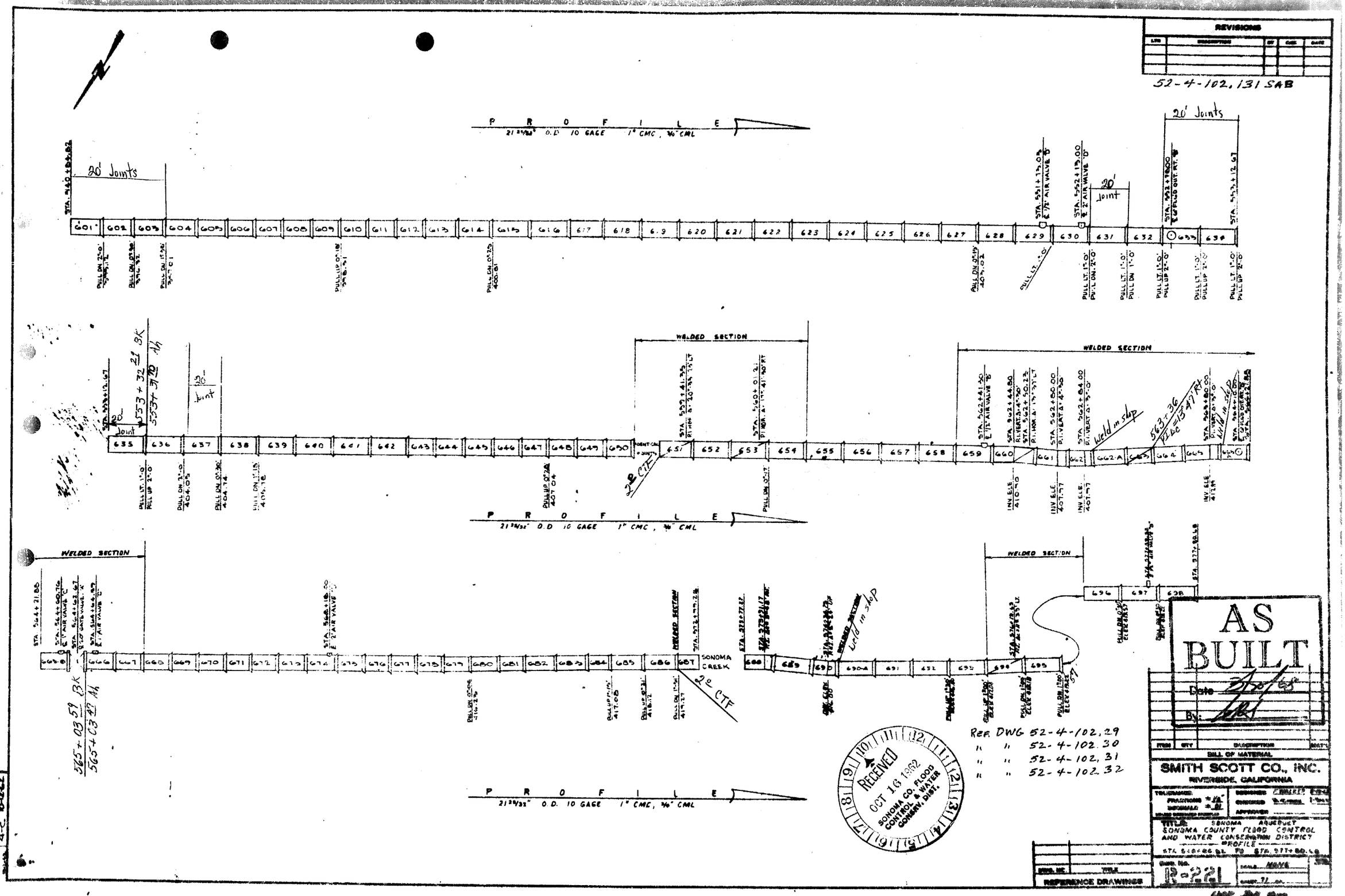
DESIGNED [illegible]
CHECKED [illegible]
APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
FROM STA. 504+03.91 TO 540+84.82

DWG. NO. R-221
SCALE NONE
SHEET 69 OF

DWG. NO.	TITLE

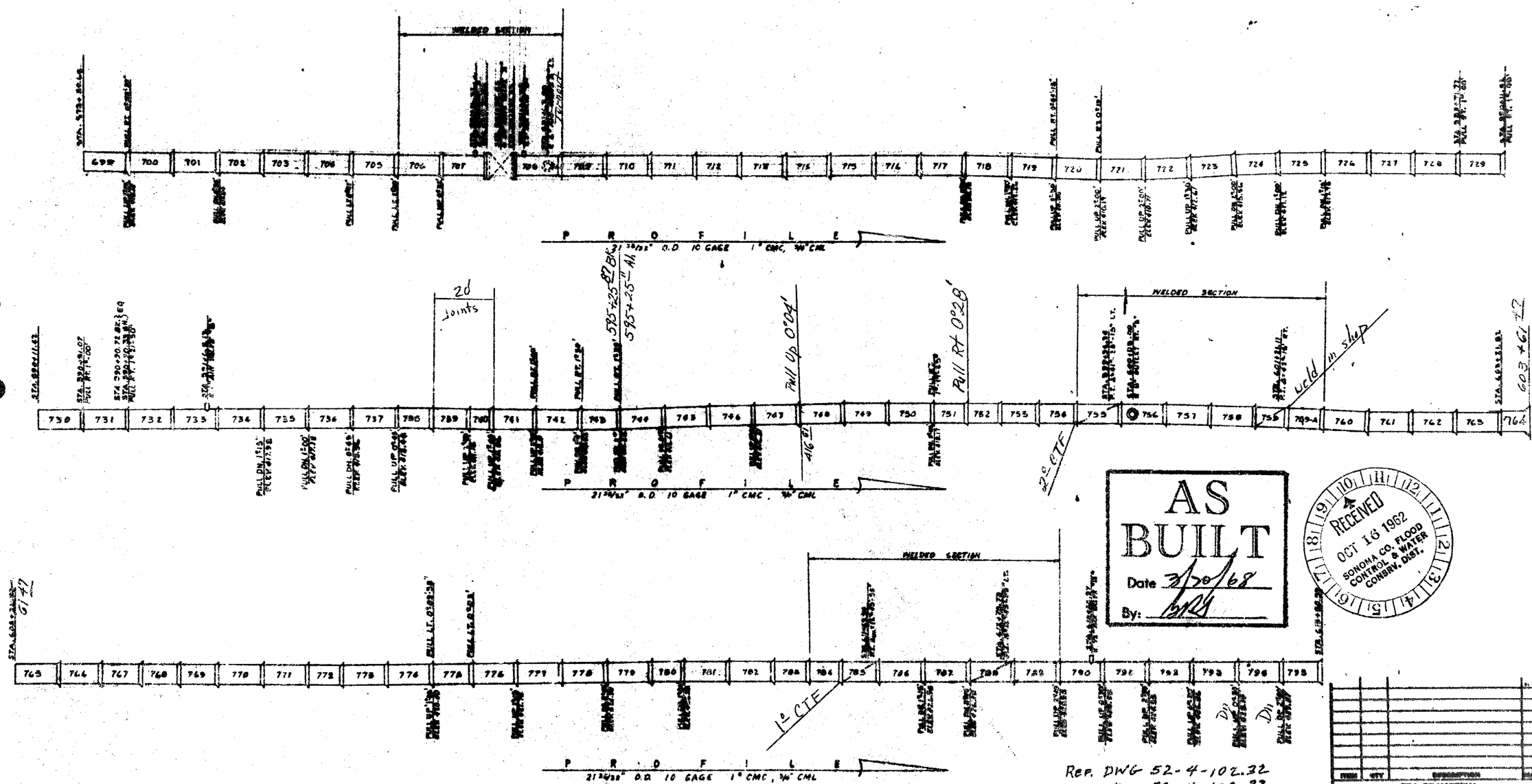
REFERENCE DRAWINGS



REVISIONS
52-4-102.131 SAB
PROFILE
21 29/32" O.D. 10 GAGE 1" CMC, 3/4" CML
20' Joints
20' Joint
WELDED SECTION
Weld in shop
2° CTF
SONOMA CREEK
AS BUILT
Date
By:
Ref. DWG 52-4-102.29
" " 52-4-102.30
" " 52-4-102.31
" " 52-4-102.32
RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
PROFILE
R-221
REFERENCE DRAWINGS

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE

52-4-102.132 SAB



AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

Ref. DWG 52-4-102.32
" " 52-4-102.33

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± 1/16" DECIMALS ± .01

DESIGNED [illegible] CHECKED [illegible] APPROVED

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
PROFILE
STA. 577+00.00 TO STA. 615+00.00

DWG. NO. R-221

SCALE: NONE

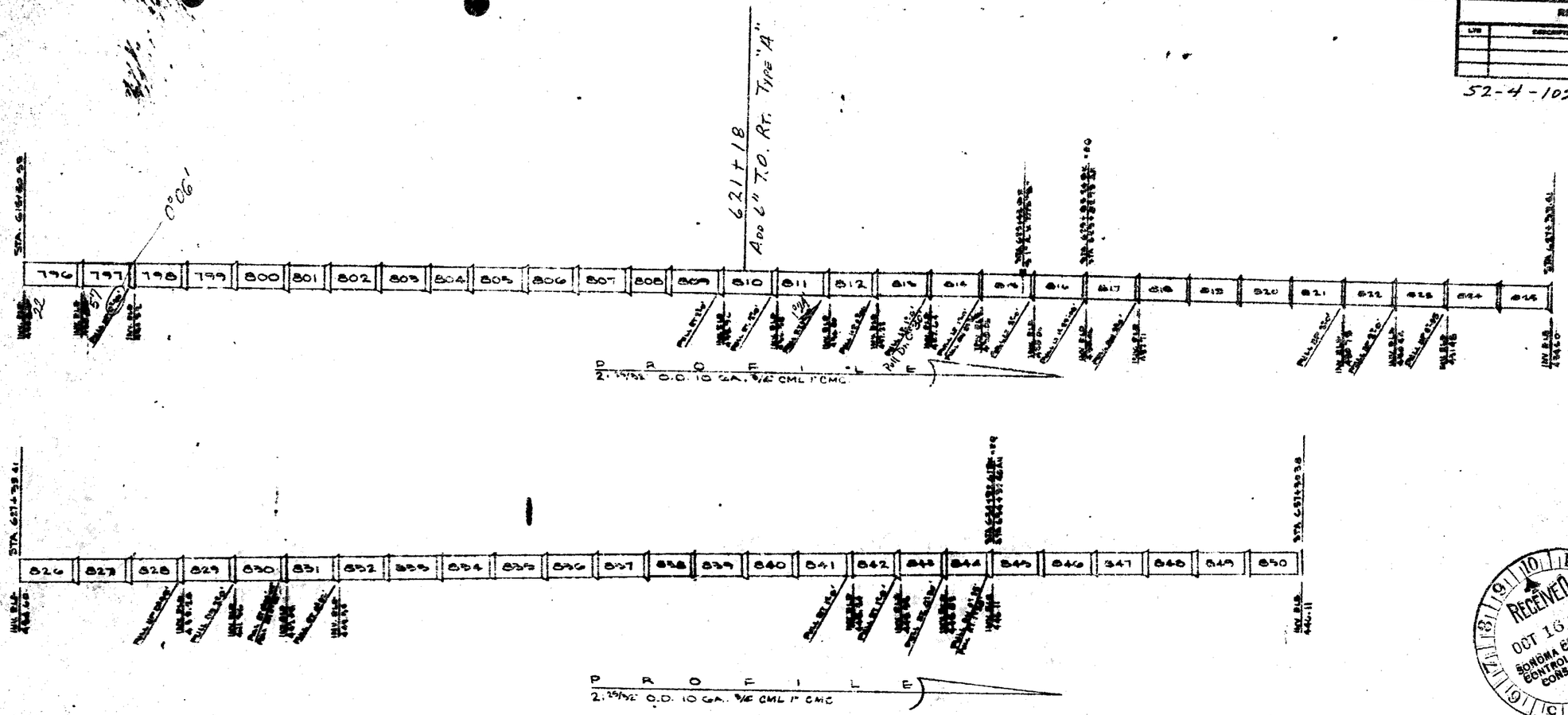
SHEET 72 OF

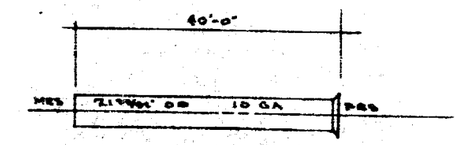
REFERENCE DRAWINGS

10-2 4-C 10-12-62

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE

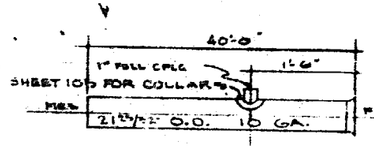
52-4-102.133 SAB





SCHEDULE

MK NO	MK NO	MK NO	MK NO	MK NO
796	807	819	830	841
797	808	820	831	842
798	809	821	832	843
799	810	822	833	844
800	811	823	834	845
801	812	824	835	846
802	813	825	836	847
803	814	826	837	848
804	816	827	838	849
805	817	828	839	850
806	818	829	840	



MARK NO. 815

RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

REF. DWG 52-4-102.33
" " 52-4-102.34

AS BUILT
Date 3/20/68
By: BRS

615+50.59 TO 637+30.38

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ±1/16 DECIMALS ±.01

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
PROFILE & FABRICATION DETAILS

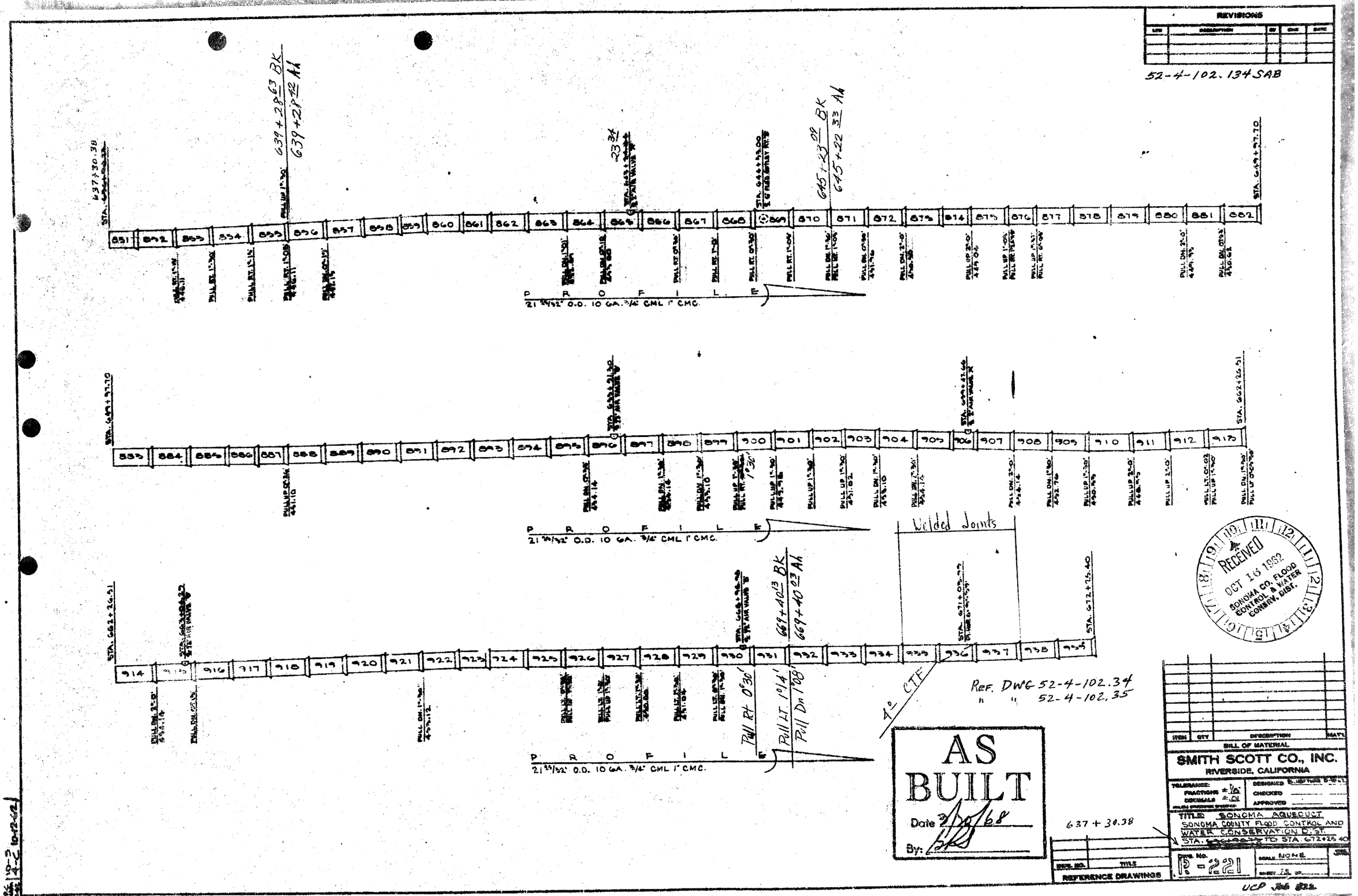
DWG. NO.	TITLE

REFERENCE DRAWINGS

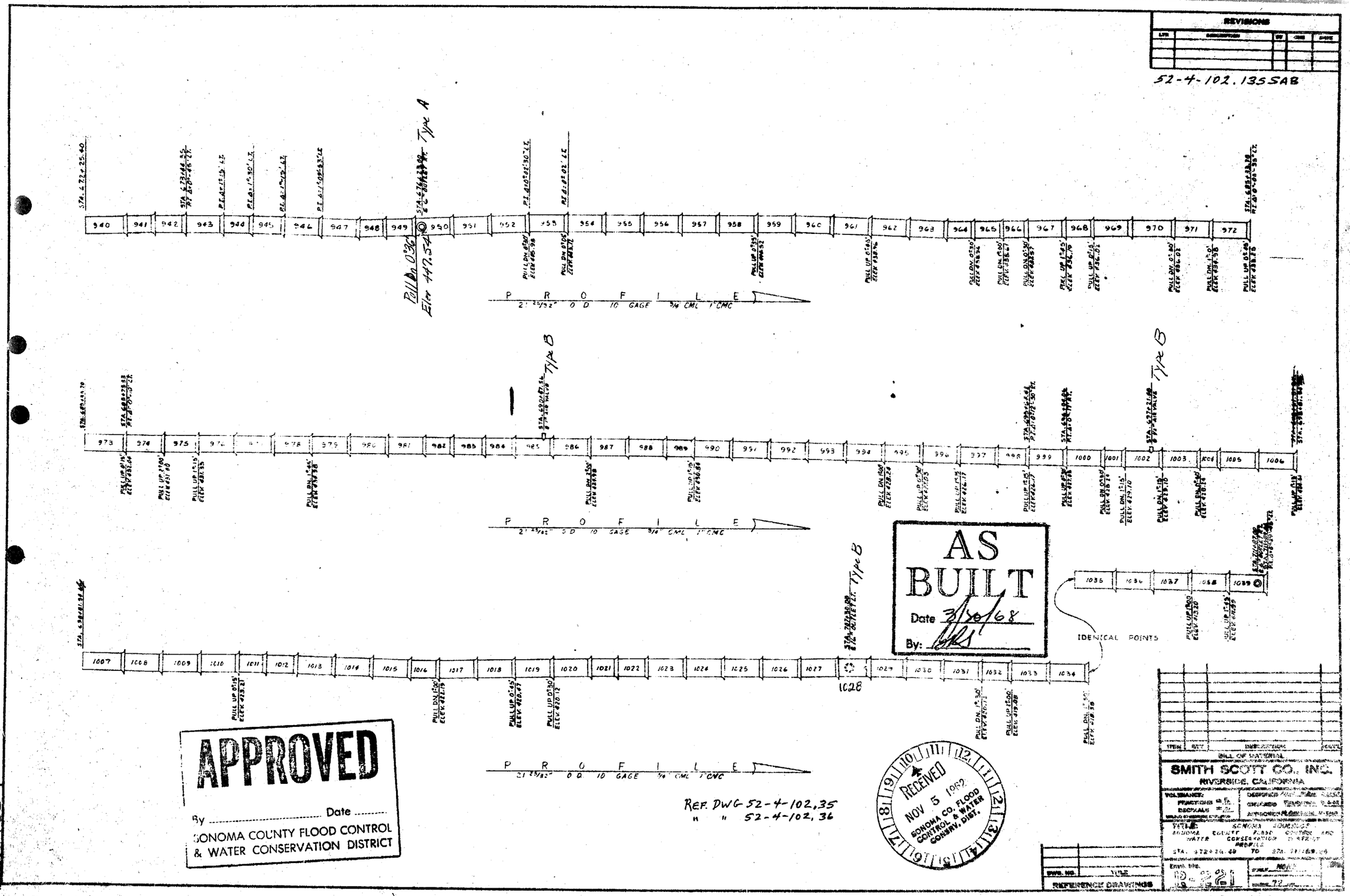
Dwg. No. R-221

SCALE NONE

UCP JOB 822



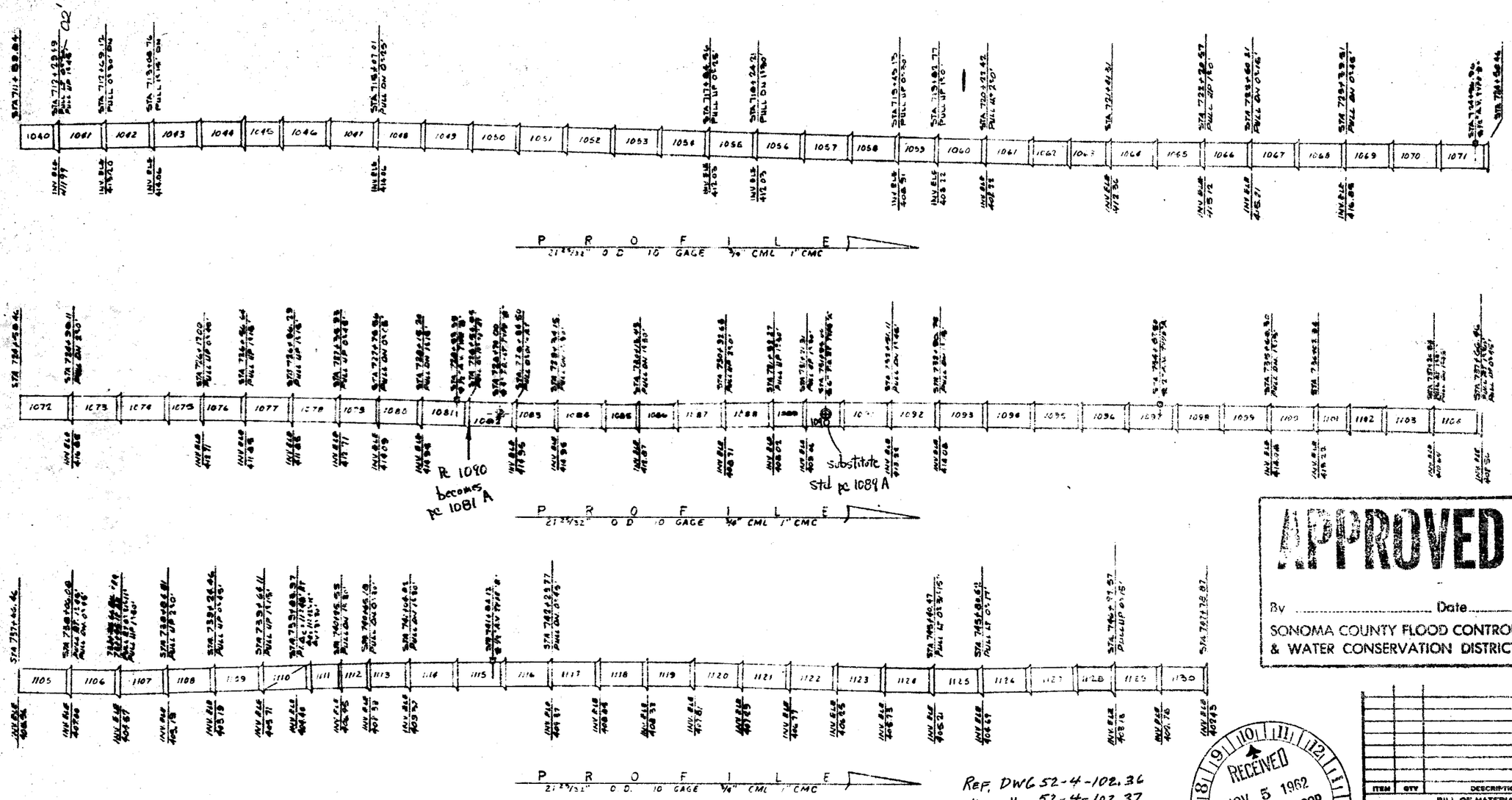
REVISIONS
52-4-102.134SAB
639+28.63 BK
639+28.42 Ah
645+23.09 BK
645+22.33 Ah
PROFILE
21 25/32" O.D. 10 GA. 3/4" CML 1" CMC.
Welded Joints
669+40.13 BK
669+40.03 Ah
Pull Rt 0°30'
Pull LT 1°14'
Pull Dn 1°08'
4° CTF
Ref. DWG 52-4-102.34
" " 52-4-102.35
AS BUILT
Date 3/20/68
By:
637 + 30.38
REFERENCE DRAWINGS
RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
STA. 672+25.40
R-221
SCALE NONE
UCP



REVISIONS
52-4-102.135SAB
Type A
Pull Dn 0°36'
Elev 447.54
PROFILE
2' 25/32" O.D. 10 GAGE 3/4" CML 1" CMC
Type B
Type B
Type B
IDENTICAL POINTS
1028
AS BUILT
Date 3/30/68
By:
APPROVED
By ..... Date .....
SONOMA COUNTY FLOOD CONTROL
& WATER CONSERVATION DISTRICT
REF. DWG 52-4-102,35
" " 52-4-102,36
RECEIVED
NOV 5 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
REFERENCE DRAWINGS

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE

52-4-102.136 SAB



REF. DWG 52-4-102.36
" " 52-4-102.37

APPROVED
By ..... Date .....
SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

RECEIVED NOV 5 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

AS BUILT
Date 3/20/68
By [illegible]

ITEM	QTY	DESCRIPTION	DATE
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ±1/8" DECIMALS ±.01 UNLESS OTHERWISE SPECIFIED
DESIGNED [illegible]
CHECKED [illegible]
APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
PROFILE
STA. 711+89.84 TO STA 767+78.87

DWG. NO.	TITLE
	REFERENCE DRAWINGS

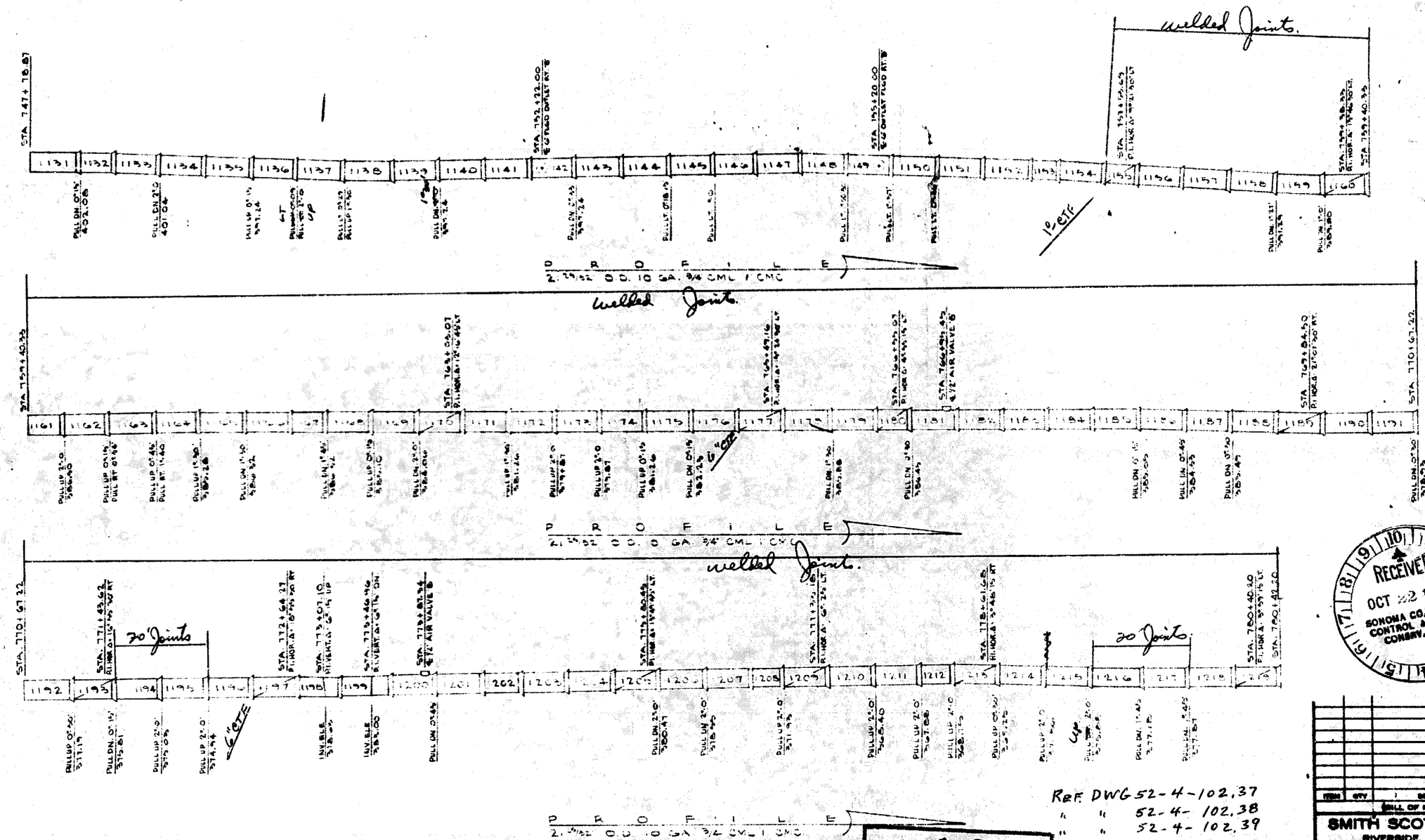
DWG. NO. R-221
SCALE NONE
SHEET 79 OF

UCP JOB 822

10-CUST.
4-CONTR.
11-1-62

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	GENERAL REVISIONS	[illegible]		[illegible]

52-4-102.137 SAB



Ref. DWG 52-4-102.37
" " 52-4-102.38
" " 52-4-102.39

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 22 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ± 1/8; DECIMALS ± .01

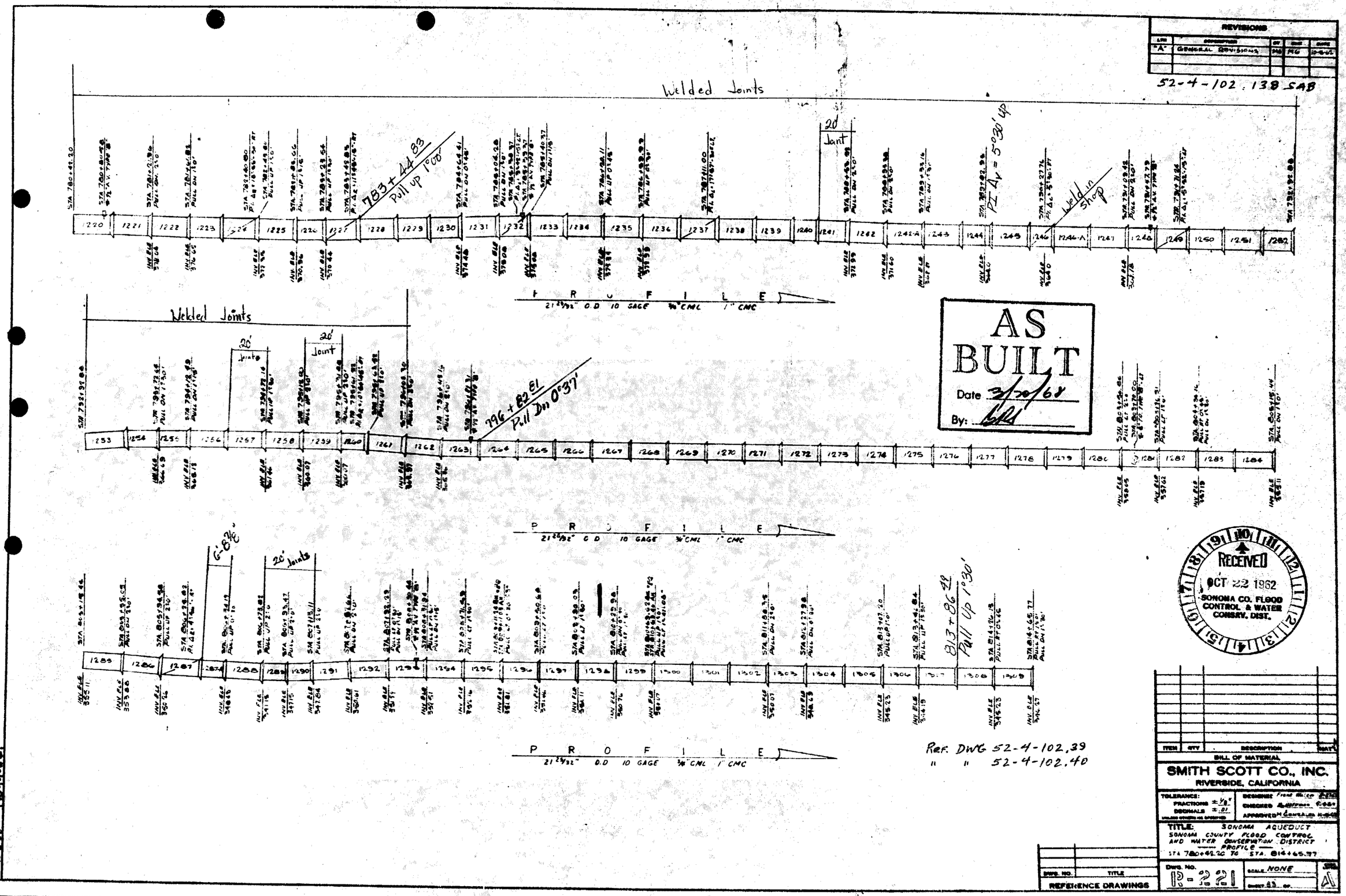
DESIGNED [illegible]
CHECKED [illegible]
APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST
FROM STA. 747+78.87 - 780+42.20
PROFILE

DWG. NO.	TITLE

REFERENCE DRAWINGS

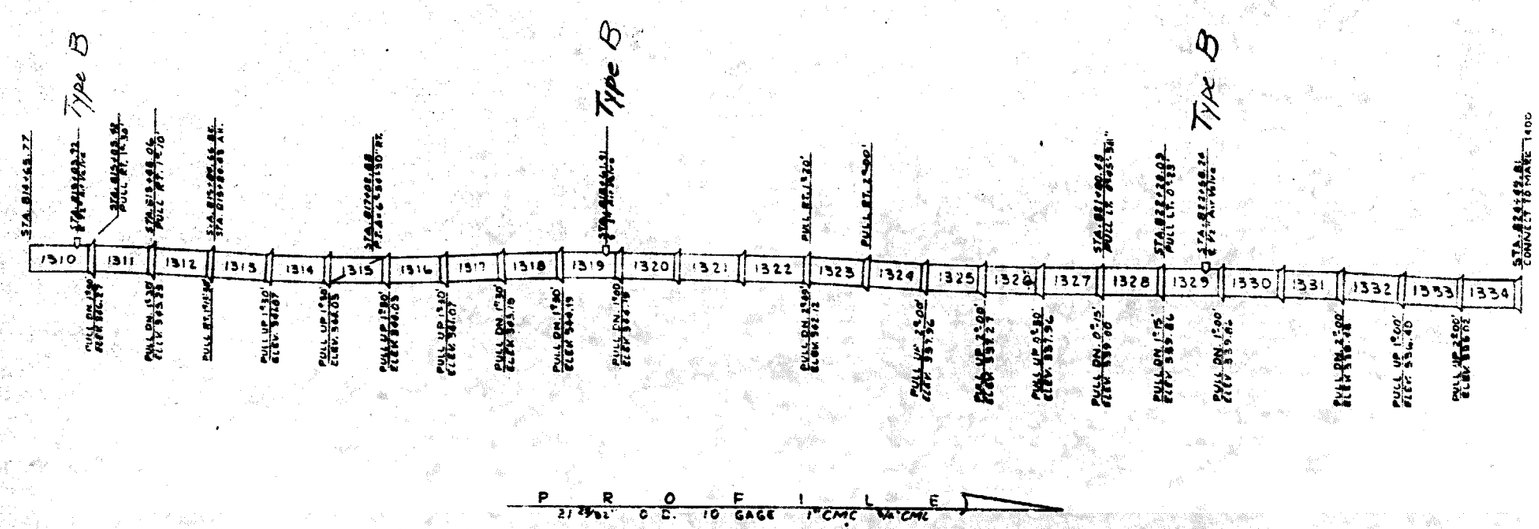
DWG. NO. R-221
SCALE NONE
SHEET 81 OF



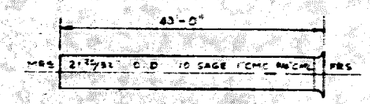
REVISIONS
"A" GENERAL REVISIONS
52-4-102.138 SAB
Welded Joints
783+44.83 Pull up 1°00'
20' Joint
PI Δv = 5°30' up
Weld in Shop
PROFILE
21 29/32" O.D 10 GAGE 3/4" CML 1" CMC
Welded Joints
20' Joints
20' Joint
796+82.81 Pull Dn 0°37'
PROFILE
21 29/32" O.D 10 GAGE 3/4" CML 1" CMC
6'-8 7/8"
20' Joints
813+86.49 Pull Up 1°30'
PROFILE
21 29/32" O.D 10 GAGE 3/4" CML 1" CMC
AS BUILT
Date 3/20/68
By:
RECEIVED
OCT 22 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
Ref. DWG 52-4-102.39
" " 52-4-102.40
ITEM
QTY
DESCRIPTION
MAT'L
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE:
FRACTIONS ± 1/8"
DECIMALS ± .01
DESIGNED
CHECKED
APPROVED
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
PROFILE
STA 780+42.20 TO STA. 814+65.77
DWG. NO. TITLE
REFERENCE DRAWINGS
DWG. NO. R-221
SCALE NONE
SHEET 63 OF
A

REVISIONS				
LTR.	DESCRIPTION	BY	CHK.	DATE
A	GENERAL RIVISIONS	[illegible]		10-5-62

52-4-102.139 SAB

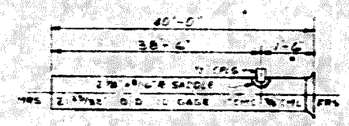


REF. DWG 52-4-102.40



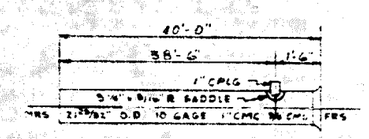
STANDARD SECTION

SCHEDULE			
MK. NO.	MK NO.	MK NO.	MK NO.
1311	1317	1323	1328
1312	1318	1324	1330
1313	1320	1325	1331
1314	1321	1326	1332
1316	1322	1327	1333

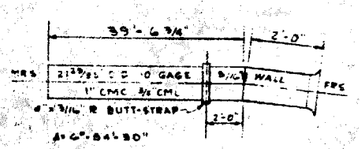


SECTION W/CPLG.

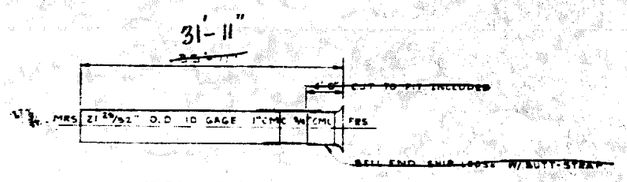
SCHEDULE
MK NO.
1320
1329



MARK NO. 1319



MARK NO. 1315



MARK NO. 1334

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED OCT 22 1962 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ±1/8" DECIMALS ±.01
DESIGNED P. WALKER 9-26-62
CHECKED P. WALKER 10-5-62
APPROVED M. GARRAND 9-26-62

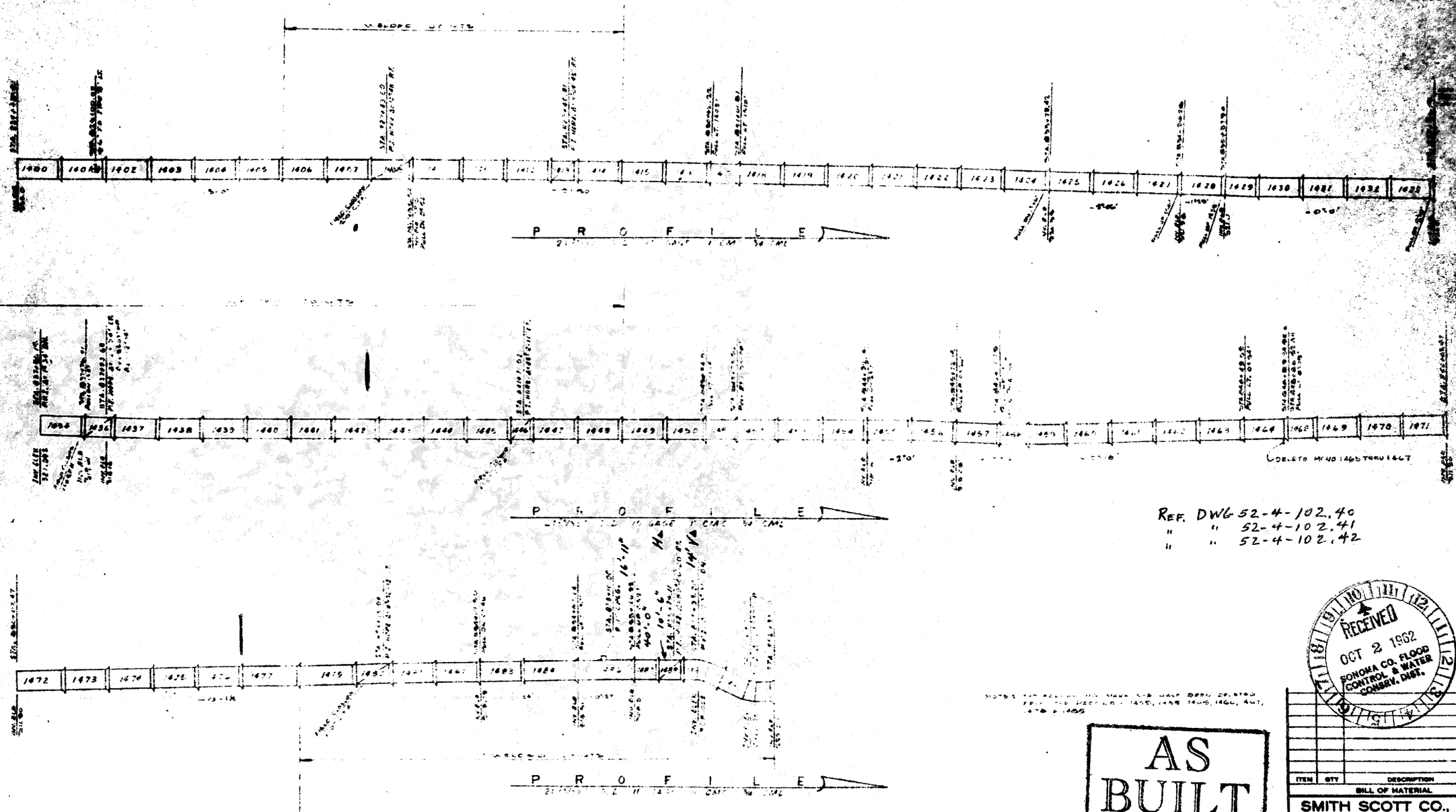
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
PROFILE & DETAIL
STA. 816+69.77 TO STA. 826+69.81

DWG. NO. | TITLE
REFERENCE DRAWINGS

Dwg. No. P-2121
SCALE NONE
SHEET 69 OF

R-5 2-26-63 10-19-63

52-4-102.140 SAB



REF. DWG 52-4-102.40
" " 52-4-102.41
" " 52-4-102.42

AS BUILT
Date 3/8/68
By: [illegible]

RECEIVED
OCT 2 1962
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

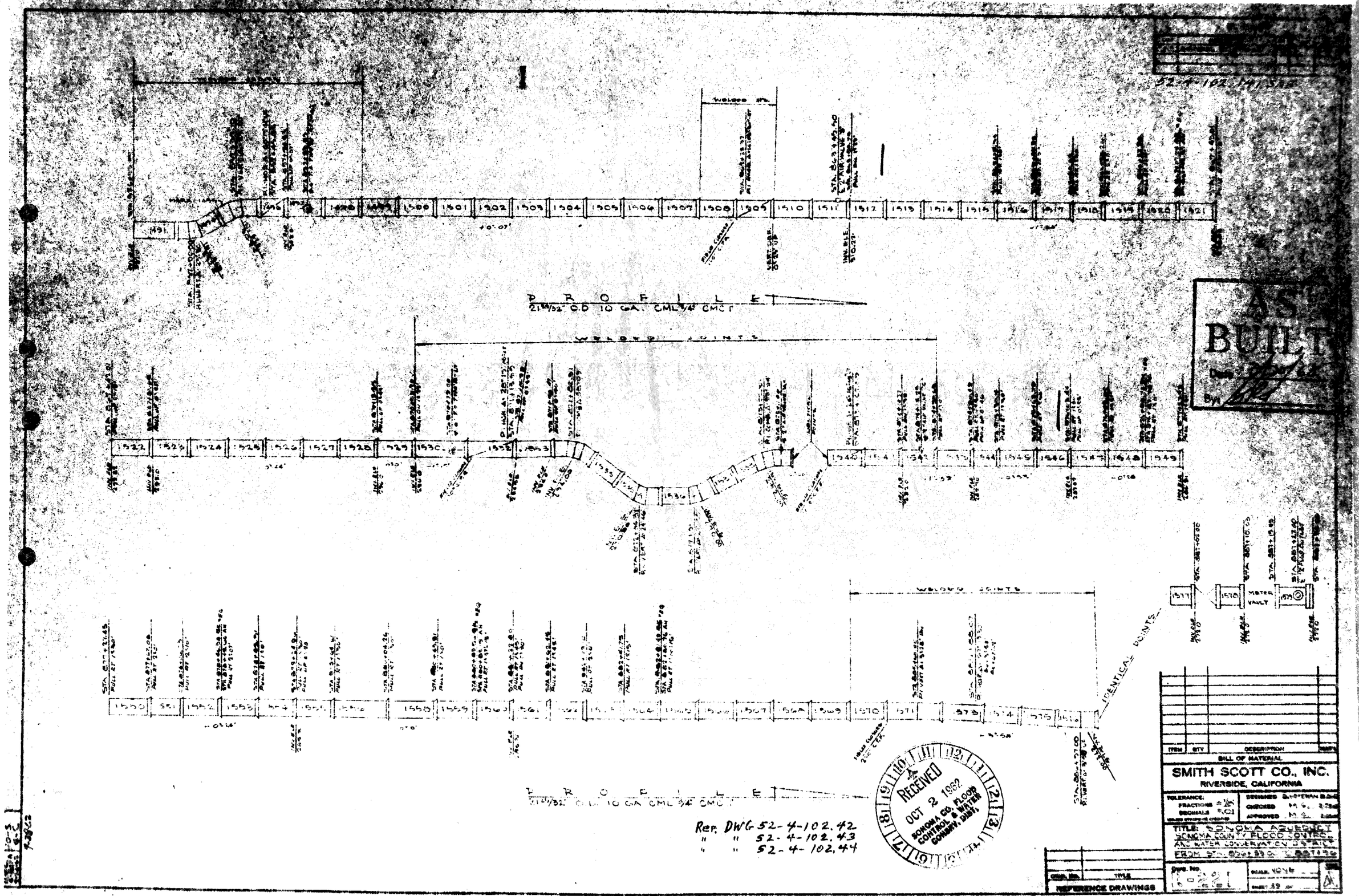
TOLERANCE: FRACTIONS ± 1/8" DECIMALS ± .01 UNLESS OTHERWISE SPECIFIED
DESIGNED [illegible] CHECKED [illegible] APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
PROFILE
STA. [illegible] TO STA. [illegible]

Dwg. No. P-221
SCALE: NONE

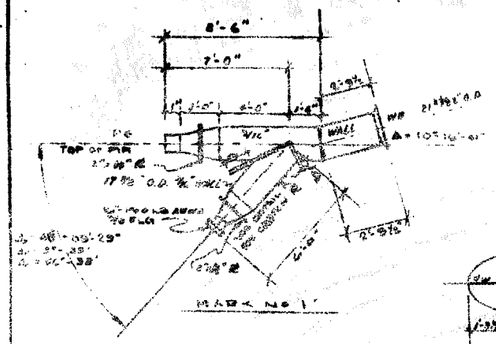
DWG. NO.	TITLE

REFERENCE DRAWINGS

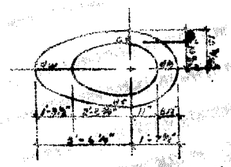


52-4-102.141 SAE
PROFILE
21 24/32" O.D. 10 GA. CML 3/4" CMCT
WELDED JOINTS
IDENTICAL POINTS
METER VAULT
AS BUILT
Date
By
RECEIVED
OCT 2 1962
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.
Ref. DWG 52-4-102.42
" " 52-4-102.43
" " 52-4-102.44
ITEM
QTY
DESCRIPTION
MAT'L
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE:
FRACTIONS ±1/16
DECIMALS ±.01
DESIGNED
CHECKED
APPROVED
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
FROM STA. 856+33.00 TO 887+96
DWG. NO.
TITLE
REFERENCE DRAWINGS
SCALE: NONE
SHEET 49 OF

PROFILE SHEET NO 60

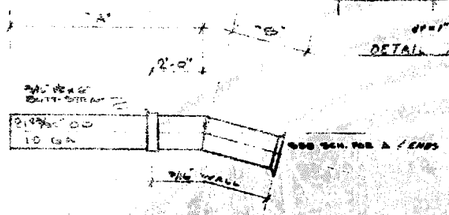


SCHEDULE FOR 40' SECT. & SPECIAL ENDS			
MK NO	END	MK NO	END
3	PE x WB	37	MRS x WB
4	PE x WB	38	PE x WB
5	PE x WB	39	PE x WB
8	PE x FRS	41	PE x WB
19	MRS x WB	42	PE x FRS
20	PE x WB	71	MRS x WB
22	PE x WB	72	PE x WB
23	PE x FRS	80	PE x FRS
		58	MRS x WB



DETAIL SHEET NO 62
FABRICATION DETAILS OF STANDARD & SPECIAL ENDS FOR PROFILE SHEETS 60 & 61 FROM STA. 314+08.19 TO STA. 319+63.81

RGS = Rubber Gasket Spigot
RGB = " " Bell
WB = Weld Bell
WS = " Spigot
3/4" conc. lining Required
1" " coating "
Miter cut to nearest 1/8"



SCHEDULE				
MARK NO	"A"	"B"	ANGLE	ENDS
2	31'-8"	5'-7 3/8"	45° 25'	PE x WB
6	29'-6 5/8"	1'-6"	12° 27'	PE x WB
7	21'-0"	1'-10 3/8"	42° 26'	PE x WB
10	35'-4 1/4"	1'-6 1/8"	5° 27'	MRS x FRS
13	40'-0"	1'-6"	35° 40'	MRS x FRS
40	17'-5 7/8"	1'-6 3/8"	13° 01'	PE x WB
55	8'-5 1/4"	1'-6 3/8"	5° 02'	PE x FRS
70	27'-8 3/8"	1'-6 3/8"	34° 41'	MRS x FRS
75	19'-7 3/8"	2'-2 1/8"	6° 17'	PE x WB

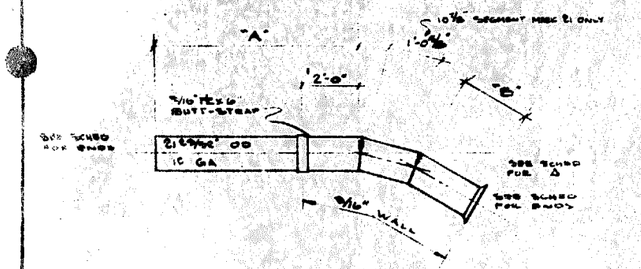
40'-0"
(39.65 LL)
(Bell loss .35)

RGS — RGB

21 29/32" OD 10 GA
STANDARD SECTION

SCHEDULE

MARK NO	MARK NO	MARK NO	MARK NO	MARK NO	MARK NO
	18	31	49	59	67
		32	44	56	68
		33	45	57	69
		34	46		
9		35	47	60	
11	24	36	48	61	
12	25		49	62	81
14	26		50	63	82
15	27		51	64	83
16	28		52	65	84
17	30		53	66	85
			54		86



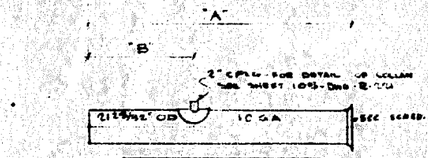
SCHEDULE				
MARK NO	"A"	"B"	ANGLE	ENDS
21	33'-4 1/4"	2'-0 1/8"	22° 56'	PE x WB
75	9'-3"	1'-8 1/2"	26° 54'	PE x WB
76	[illegible]	1'-11 1/8"	26° 54'	PE x WB
77	[illegible]	1'-8 1/2"	26° 54'	PE x WB
78	9'-2 1/8"	1'-6 1/2"	26° 54'	PE x WB

40'-0"
(39.88 LL)
(Bell Loss .12)

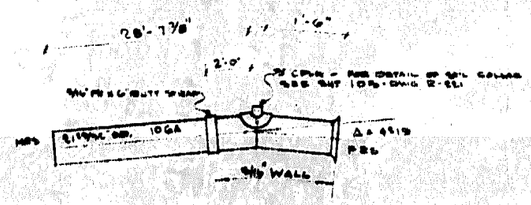
WS — WB

21 29/32" OD 10 GA

MARK NO 74

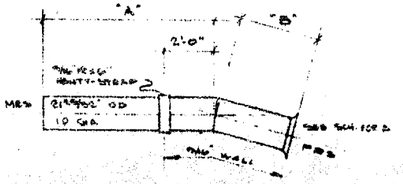


SCHEDULE			
MARK NO	"A"	"B"	ENDS
50	40'-0"	26'-2"	MRS x FRS
79	40'-0"	1'-7 1/2"	PE x WB

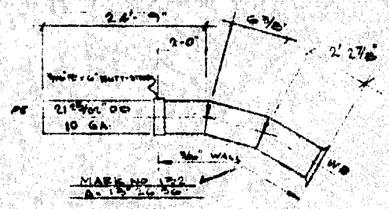


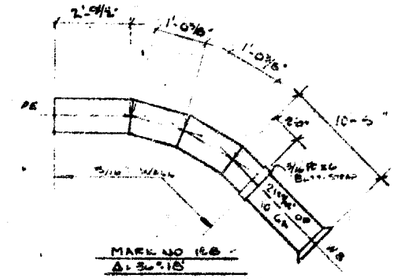
MARK NO 28

PROFILE SHEET NO 61



SCHEDULE				
MARK NO	"A"	"B"	ANGLE	ENDS
52	13'-10 3/8"	5'-10 3/8"	77° 05' 25"	MRS x WB
53	40'-0"	2'-0"	22° 27'	PE x WB
125	38'-10 1/8"	1'-10 1/8"	3° 56'	PE x WB
126	38'-2 1/8"	1'-9 1/4"	10° 38'	PE x WB
135	40'-7 1/8"	2'-0"	7° 04' 00"	PE x WB
161	5'-3 1/8"	3'-8 1/2"	41° 42' 00"	PE x WB



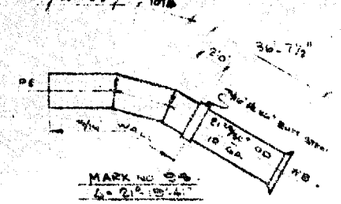


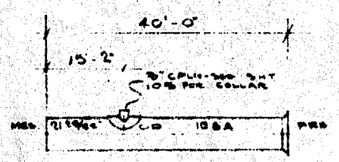
40'-0"

MRS 21 29/32" OD 10 GA PRS
STANDARD SECTION

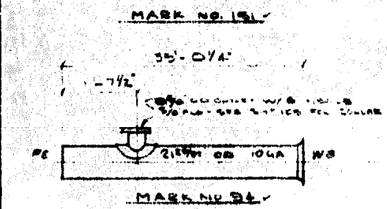
SCHEDULE

MARK NO	MARK NO	MARK NO	MARK NO	MARK NO	MARK NO
87	106		137	150	165
88	107		138	152	166
89	108		139	153	167
90	109	121	140	155	168
91	110	154	141	156	169
		155	142	157	170
98	112	163	144	158	171
99	113		145		172
100	114		146		173
101	115		147		174
102		136	148	164	175
104			149		176

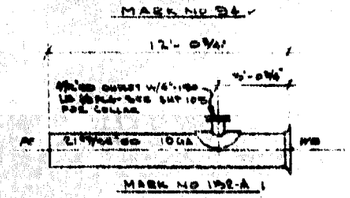




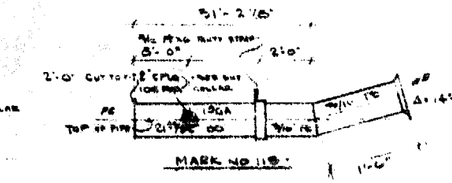
MARK NO 191



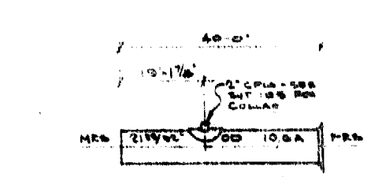
MARK NO 94



MARK NO 192-A



MARK NO 119



MARK NO 105

SCHEDULE		
MARK NO	"A"	ENDS
103	25'-[illegible]	MRS x FRS
134	[illegible]	PE x WB
148-A	5'-4 1/8"	MRS x FRS

Note - See Calc. sheets for final lengths.

REVISIONS				
NO	DESCRIPTION	BY	CHK	DATE
A	GEN CHANGES AS PER CHANGE [illegible]			[illegible]

52-4-102.142 SAB

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
Sept. 11 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	MATL
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

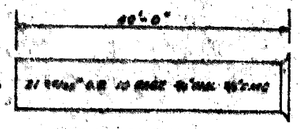
TOLERANCES: FRACTIONS ± 1/16, DECIMALS ± .01
DESIGNED [illegible] CHECKED [illegible] APPROVED [illegible]

TITLE SONOMA AQUEDUCT, SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
FABRICATION DETAILS

Dwgs. No. [illegible] SCALE NONE

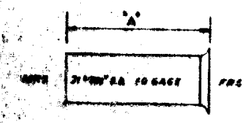
REFERENCE DRAWINGS

PROFILE SHEET NO. 63



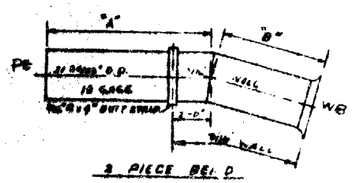
STANDARD SECTION

SCHEDULE				
MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.
[illegible]	[illegible]	219	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]



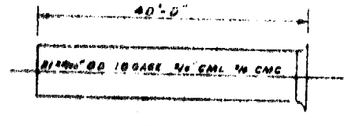
SHORT JOINTS

SCHEDULE	
MK. NO.	"A"
191	20'-0"
192	20'-0"

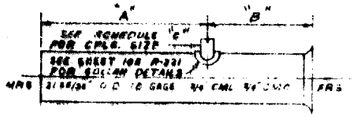


3 PIECE BEND

SCHEDULE			
MK. NO.	"A"	"B"	Δ
213	40'-0"	2'-0"	9°-38'
214	40'-0"	2'-0"	8°-54'
215	40'-0"	2'-0"	4°-41'



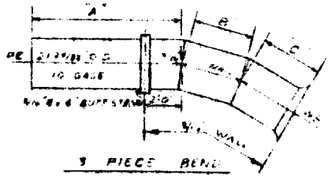
SPECIAL ENDS



JOINT WITH CPLG.

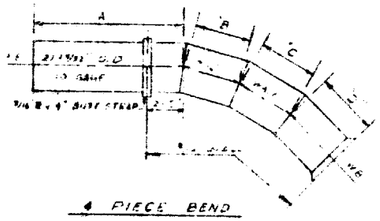
NOTE
MK NO. 232 ARE PE x WB ENDS.

SCHEDULE			
MK. NO.	"A"	"B"	"C"
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
234	[illegible]	[illegible]	8" CPLG.
237	[illegible]	[illegible]	3" CPLG.
[illegible]	[illegible]	[illegible]	[illegible]



3 PIECE BEND

SCHEDULE				
MK. NO.	"A"	"B"	"C"	Δ
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
208	[illegible]	[illegible]	[illegible]	19°-37'
206	[illegible]	[illegible]	[illegible]	[illegible]
209	[illegible]	[illegible]	[illegible]	16°-32'
211	[illegible]	[illegible]	[illegible]	16°-24'



4 PIECE BEND

SCHEDULE					
MK. NO.	"A"	"B"	"C"	"D"	Δ
233	[illegible]	[illegible]	[illegible]	[illegible]	45°-47'
243	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SCHEDULE	
MK. NO.	ENDS
204	PE x WB
[illegible]	MRS x WB
243-A	PE x WB
244	PE x FRS
210	PE x WB
[illegible]	MRS x WB
212	PE x WB
217	PE x FRS

SCHEDULE	
MK. NO.	ENDS
[illegible]	PE x WB
229	MRS x WB
242	PE x WB
241	MRS x WB
228	PE x FRS

DETAIL SHEET NO. 65

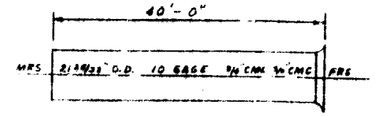
FABRICATION DETAILS OF STANDARDS & SPECIALS FOR PROFILE SHEETS 63 & 64 FROM STA 3+79.62.60 TO [illegible]

PROFILE SHEET NO. 64

52-4-102.143 SAB

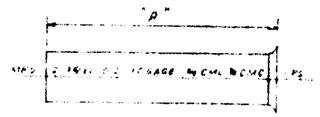
REVISIONS

LTR	DESCRIPTION	BY	CHK	DATE



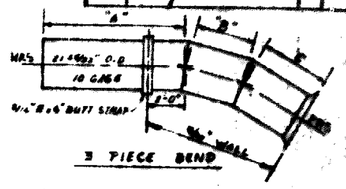
STANDARD SECTION

SCHEDULE				
MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.
[illegible]	[illegible]	[illegible]	321	336
[illegible]	[illegible]	[illegible]	322	337
[illegible]	291	[illegible]	323	338
274	293	309	324	339
275	295	311	325	340
[illegible]	296	[illegible]	326	342
292	297	[illegible]	328	[illegible]
[illegible]	298	[illegible]	[illegible]	344
281	284	316	310	345
282	[illegible]	317	[illegible]	346
287	[illegible]	318	[illegible]	347
286	[illegible]	319	334	[illegible]
288	[illegible]	320	335	349



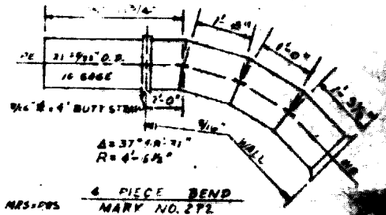
SHORT JOINTS

SCHEDULE	
MK. NO.	"A"
[illegible]	[illegible]
[illegible]	[illegible]



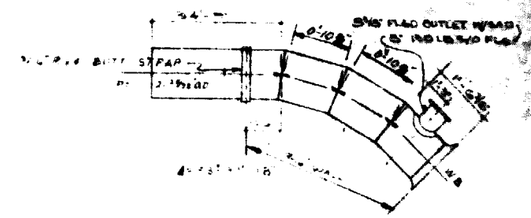
3 PIECE BEND

SCHEDULE				
MK. NO.	"A"	"B"	"C"	Δ
305	[illegible]	[illegible]	[illegible]	[illegible]
303	[illegible]	[illegible]	[illegible]	[illegible]

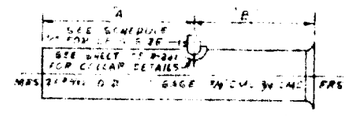


MARK NO. 332 = 41'-2 5/8" MRS x FRS

4 PIECE BEND
MARK NO. 272

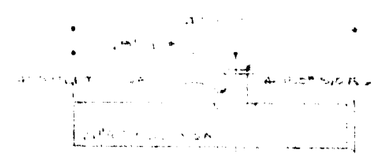


4 PIECE BEND W/8" OUTLET
MARK NO. 278



JOINT WITH CPLG.

SCHEDULE			
MK. NO.	A	B	C
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]



MARK NO. [illegible]

AS BUILT
Date 3/20/68
By: [illegible]

AS LENGTHS W/SPECIAL ENDS

SCHEDULE	
MK. NO.	ENDS
270	PE x WB
[illegible]	[illegible]
277	MRS x WB
279	PE x WB
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
280	PE x FRS
[illegible]	PE x FRS

RECEIVED
OCT 2 1969
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE:
FRACTIONS ±
DECIMALS ±

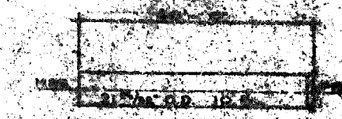
DESIGNED
CHECKED
APPROVED

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
PROFILE PLAN

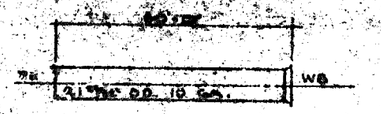
Dwg. No. R221

DWG NO.	TITLE

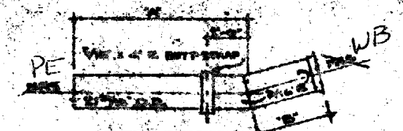
REFERENCE DRAWINGS



SCHEDULE

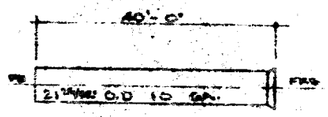


MK. NO.
407
405
421



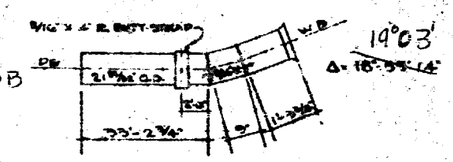
SCHEDULE

MK. NO.	"A"	"B"	Δ
420	[illegible]	[illegible]	[illegible]

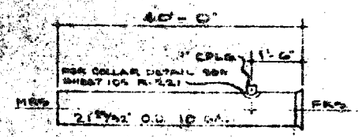


MK. NO.
410
422
411

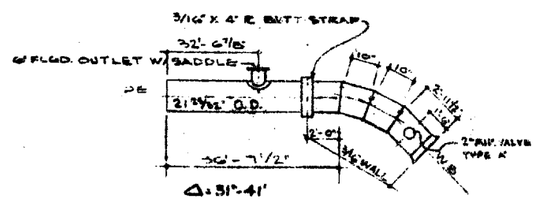
405 ARS x WB



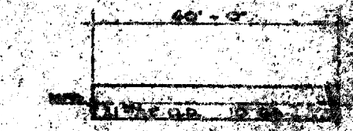
MARK 406



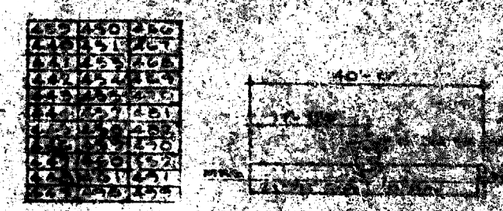
MARK 368

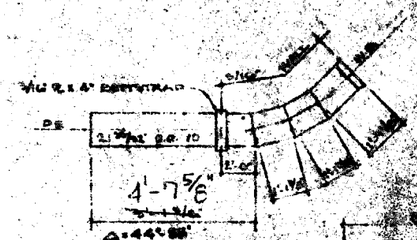


MARK 408

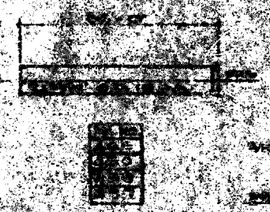


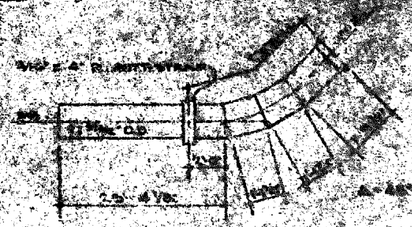
SCHEDULE



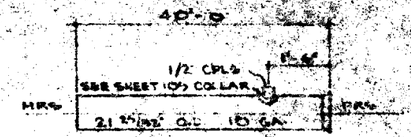


MARK NO. 487

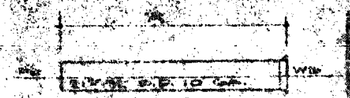




MARK 486

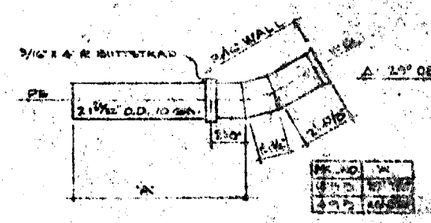


MARK 483



MK. NO.	"A"
464	[illegible]
473	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

MK. NO.	"A"
474	[illegible]
484	[illegible]

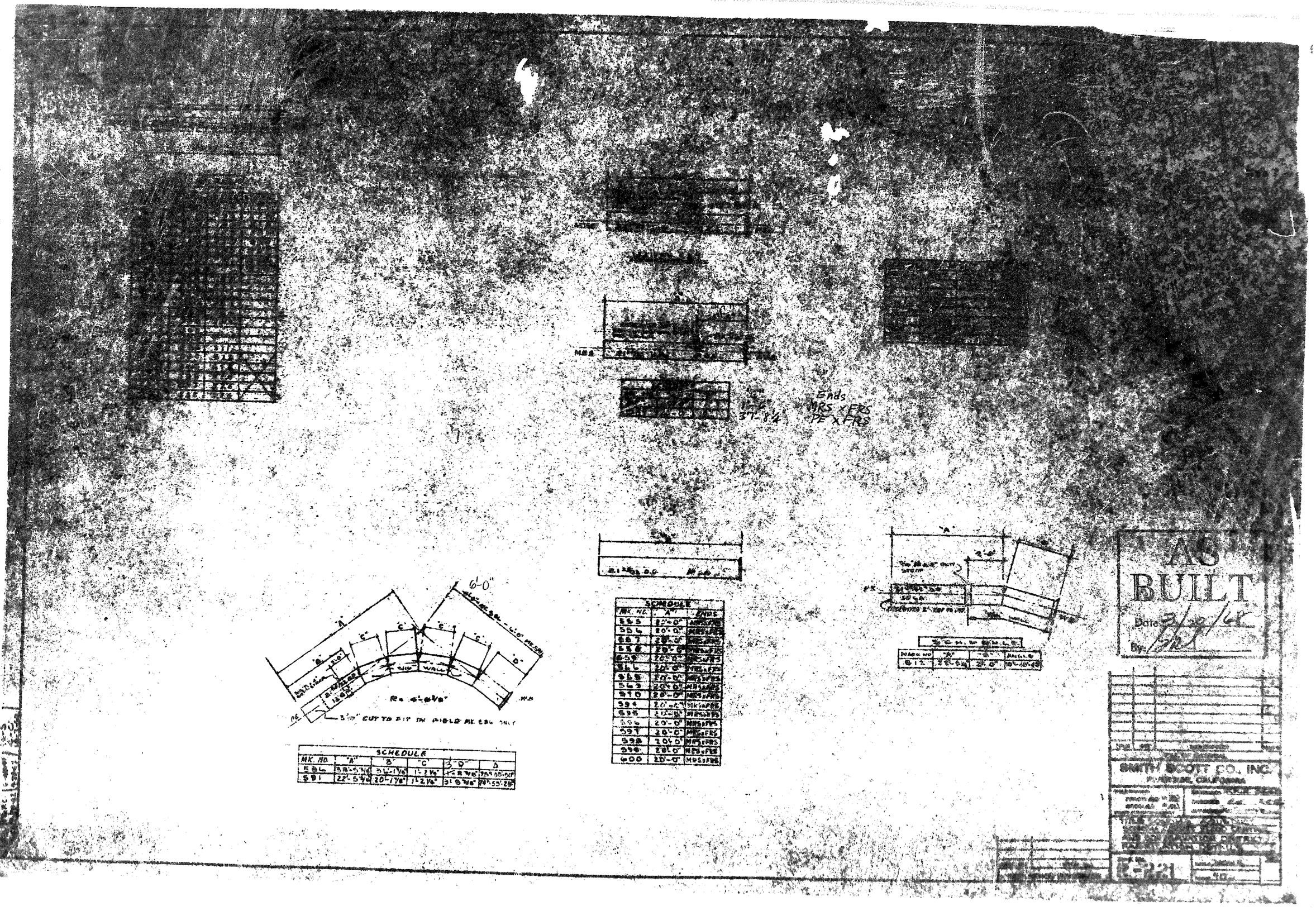


MK. NO.	"A"
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

FOR FLUME, TURNOUT, MORENO COUNTY FLOOD CONTROL & WATER CONSERVATION DIST. MORENO, CALIFORNIA

C-221



Ends
MRS x FRS
PE x FRS
37'-8 1/4"
6'-0"
"A"
"B"
"C"
"D"
WALL
R = 4'-6 1/8"
3'-0" CUT TO FIT IN FIELD MK 586 ONLY
SCHEDULE
MK. NO. "A" ENDS
555 20'-0" MRS x FRS
556 20'-0" MRS x FRS
557 20'-0" MRS x FRS
558 20'-0" MRS x FRS
559 20'-0" MRS x FRS
566 20'-0" MRS x FRS
565 20'-0" MRS x FRS
563 20'-0" MRS x FRS
570 20'-0" MRS x FRS
594 20'-0" MRS x FRS
595 20'-0" MRS x FRS
596 20'-0" MRS x FRS
597 20'-0" MRS x FRS
598 20'-0" MRS x FRS
599 20'-0" MRS x FRS
600 20'-0" MRS x FRS
SCHEDULE
MARK NO. "A" "B" ANGLE
612 22'-5 1/8" 21'-0" 10°-18'-45"
SCHEDULE
MK. NO. "A" "B" "C" "D" Δ
586 38'-5 3/8" 36'-1 7/8" 1'-2 1/8" 1'-8 3/8" 75°-00'-00"
591 22'-5 3/8" 20'-1 7/8" 1'-2 1/8" 3'-8 3/8" 74°-55'-25"
AS BUILT
Date 3/20/68
By
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

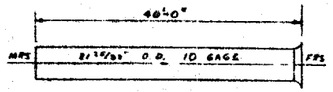
PROFILE SHEET NO. 71

DETAIL SHEET NO. 23
FABRICATION DETAILS of STANDARDS & SPECIALS for PROFILE SHEETS 71 & 72
STA. 640+84.82 to STA. 643+50.00

PROFILE SHEET NO 72

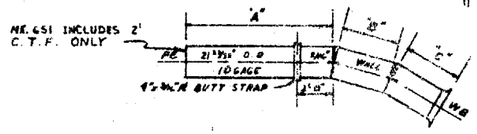
REVISIONS

52-4-102.146 SAB



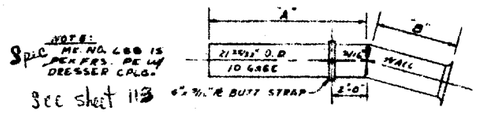
STANDARD SECTION

SCHEDULE				
MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.
608	618	635	669	684
609	619	636	670	685
606	620	637	671	689
607	624	642	672	691
608	622	643	673	692
609	623	644	675	698
610	624	645	676	
611	625	646	677	
612	626	647	678	
613	627	648	679	
614	628	649	680	
615	632	656	681	
616	636	657	682	
617	638	658	683	



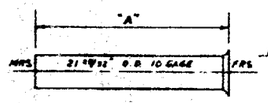
3 PC BEND

SCHEDULE				
MK. NO.	"A"	"B"	"C"	"Δ"
651	36'-8 3/16"	9 3/16"	2'-7"	20°-33'-23"
653	16'-9 3/16"	8 5/16"	2'-7 3/16"	179°41'-50"



2 PC BEND

SCHEDULE				
MK. NO.	"A"	"B"	"Δ"	
661	29'-11 7/8"	2'-0"	4°-30'	PE x WB
662	2'-1 1/2"	2'-0"	3°-00'	PE x WB
663	10'-10 3/4"	2'-0"	13°-47'	PE x WB
665	1'-8 3/4"	2'-0"	3°-0'	PE x WB
688	13'-10 7/8"	2'-0"	5°-48'	PE x FRS
690	2'-5 1/8"	2'-0"	8°-24'	MRS x WB
694	24'-2 1/2"	2'-0"	11°-33'	PE x WB

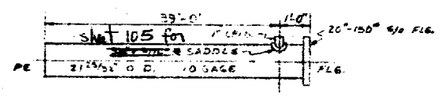


SHORT JOINT

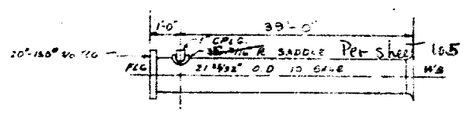
NOTE: MARK NO. 687 PE x PE w/ DRESSER CPLG. THIS END. Spec See sheet 113

SCHEDULE				
MK. NO.	"A"	MK. NO.	"A"	
601	20'-0"	687	20'-0"	
602	20'-0"	665	15'-9 3/16"	
603	20'-0"	686	36'-6"	MRS x WB
631	20'-0"	687	8'-6"	PE x PE
604	20'-0"			
635	20'-0"			

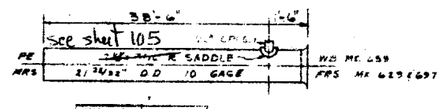
Spec Note



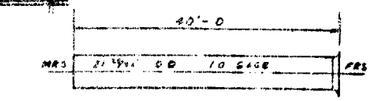
MARK NO 665-B



MARK NO. 666



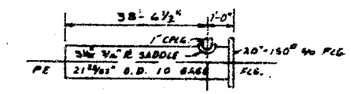
MK. NO.	MK. NO.
629	697
659	



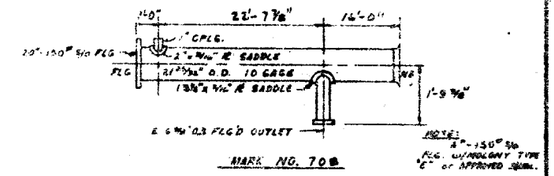
STANDARD SECTION

SCHEDULE				
MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.
699	718	732	743	770
700	719	734	750	771
701	720	755	761	772
702	721	756	762	773
703	722	757	763	774
704	723	758	764	775
710	724	741	742	776
711	725	742	743	777
712	726	743	744	778
713	727	744	745	779
714	728	745	746	780
715	729	746	747	781
716	730	747	748	782
717	731	748	749	791
792	793	794	795	

SCHEDULE FOR 40' SECT. w/ SPECIAL END			
MK. NO.	ENDS	MK. NO.	ENDS
705	MRS x WB	759-A	PE x WB
703	PE x WB	760	PE x PE
709	PE x FRS	786	MRS x WB
754	MRS x WB	784	PE x WB
757	PE x PE	785	PE x WB
789	PE x WB	787	PE x WB

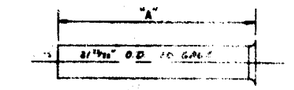


MARK NO. 707



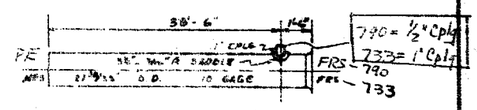
NOTE: A 20"-150# S/O FLG. w/ ANOLONY TYPE "E" or APPROVED EQUAL.

MARK NO. 708

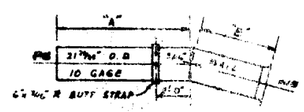


SHORT JOINT

SCHEDULE		
MK. NO.	"A"	
789	20'-0"	PE x FRS
760	20'-0"	MRS x FRS
768	38'-6 1/2"	PE x WB

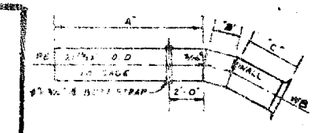


MARK NO. 733 & 790

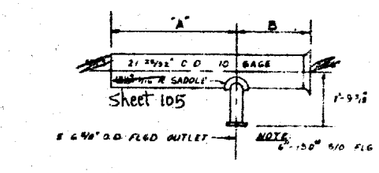


2 PC BENDS

SCHEDULE			
MK. NO.	"A"	"B"	Δ
785	16'-9 3/16"	2'-0"	22°45'-55"
788	19'-6 1/2"	2'-0"	[illegible]

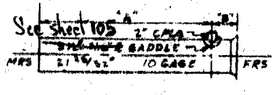


SCHEDULE				
MK. NO.	"A"	"B"	"C"	Δ
785	36'-0"	1'-7 3/8"	3'-1 3/8"	41°20'-42"
759	5'-[illegible]"	1'-8"	1'-1"	62°15'



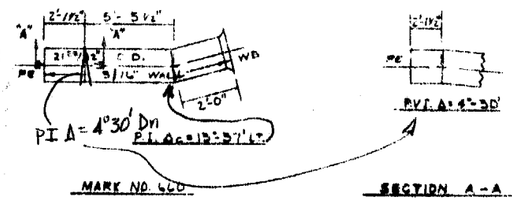
SCHEDULE			
MK. NO.	"A"	"B"	Ends
653	4'-11 7/8"	15'-1 1/8"	MRS x FRS
665-A	18'-1 1/2"	11'-10 3/4"	PE x WB

28'



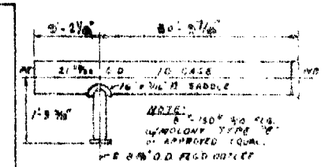
MK. NO.	"A"	"B"
650	38'-6"	1'-6"
674	36'-10 3/4"	3'-1 1/4"

SCHEDULE FOR 40' SECT. w/ SPECIAL END			
MK. NO.	ENDS	MK. NO.	ENDS
667	PE x WB	690-A	PE x FRS
650	MRS x WB	693	MRS x WB
664	PE x WB	695	PE x WB
655	PE x FRS	696	PE x FRS
		632	PE x WB
662-A	PE x WB	658	MRS x WB
664	PE x WB		
668	PE x FRS		



MARK NO. 660

SECTION A-A PC 660



MARK NO. 756

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
NOV 5 1962
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

ITEM	QTY	DESCRIPTION	MATL
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± 1/16" DECIMALS ± .01

TITLE: SONOMA AQUEDUCT SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT FABRICATION DETAILS

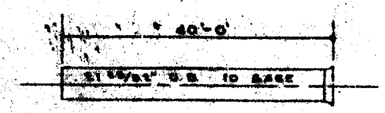
REFERENCE DRAWINGS

SCALE NONE

Job 822

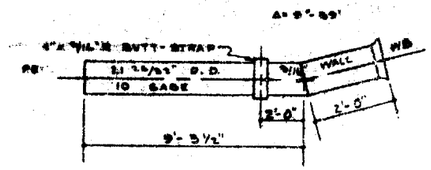
REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE

52-4-102.147 SAB

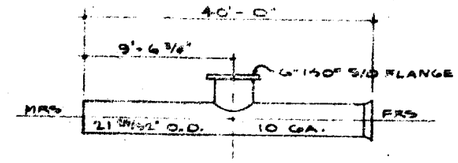


SCHEDULE

MK. NO.	ENDS
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

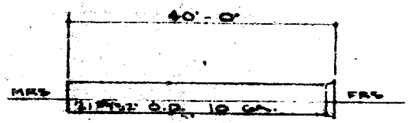


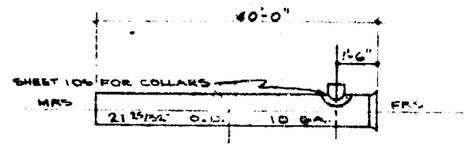
MARK NO. 936



MARK NO. 869

NOTE:
ALL PIPE IS 1" CMC & 3/4" CML.





SCHEDULE

MK. NO.	Ø CPLG
865	2"
896	1/2"
906	2"
915	1/2"
930	1/2"

MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.
851	861	873	883	893	904	916
852	862	874	884	894	905	917
853	863	875	885	895	907	918
854	864	876	886	897	908	919
855	866	877	887	898	909	920
856	867	878	888	899	910	921
857	868	879	889	900	911	922
858	870	880	890	901	912	923
859	871	881	891	902	913	924
860	872	882	892	903	914	925
			933	931	928	926
			939	932	929	927

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	REV'D
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ±1/16; DECIMALS ±.01

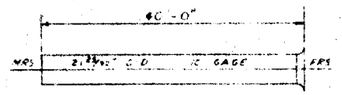
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
FABRICATION DETAILS

DWG. NO.	TITLE
REFERENCE DRAWINGS	

DWG. NO. R-221 SCALE NONE

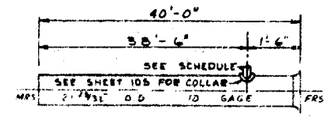
REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE

52-4-102.148 SAB



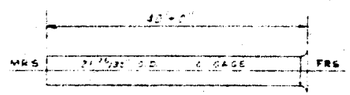
STANDARD SECTIONS

SCHEDULE					
MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.
940	953	965	977	990	1003
941	954	966	978	991	1004
942	955	967	979	992	1005
943	956	968	980	993	1006
944	957	969	981	994	1007
945	958	970	982	995	1008
946	959	971	983	996	1009
947	960	972	984	997	1010
948	961	973	986	998	1011
949	962	974	987	999	1012
951	963	975	988	1000	1013
952	964	976	989	1001	1014



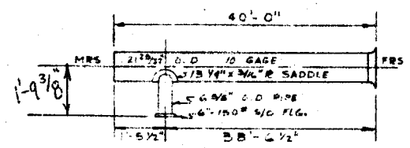
SECTIONS w/CPLG'S.

SCHEDULE	
MK. NO.	CPLG.
985	1"
1003	1/2"

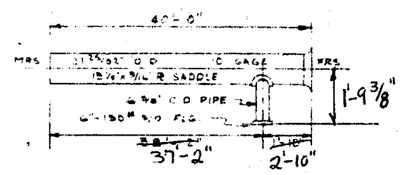


STANDARD SECTIONS

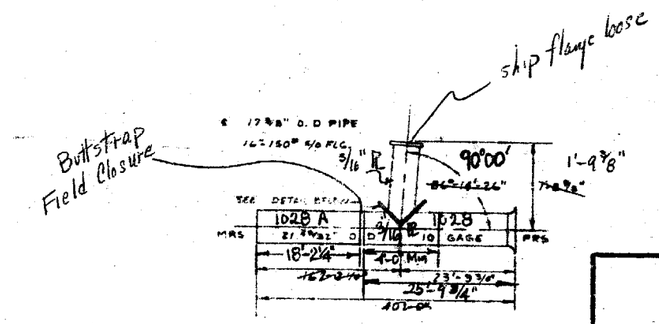
SC-FOULE			
MK. NO.	MK. NO.	MK. NO.	MK. NO.
1015	1020	1025	1031
1016	1021	1026	1032
1017	1022	1027	1033
1018	1023	1029	1034
1019	1024	1030	1036
			1037
			1038



MARK 950

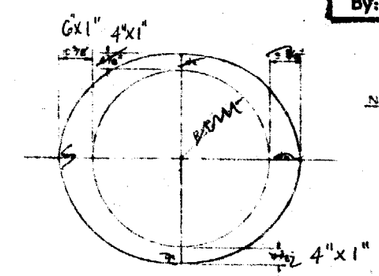


MARK NO 1039



MARK NO. 1028

AS BUILT
Date 3/20/68
By: [illegible]



NOTE:
1/2" R STEEL.

CROTCH PLATE DETAIL

APPROVED
By ..... Date.....
SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

RECEIVED
NOV 5 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ±1/16, DECIMALS ±.01
DESIGNED [illegible]
CHECKED [illegible]
APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
FABRICATION DETAILS

DWG. NO.	TITLE

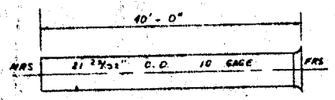
REFERENCE DRAWINGS

DWG. NO. R-221
SCALE NONE
SHEET 78 OF

UCP JOB 822

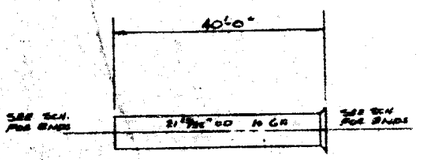
REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE

52-4-102.149 SAB

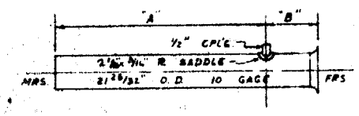


STANDARD SECTIONS

SCHEDULE						
MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.	MK. NO.
1040	1052	1064	1077	1092	1105	1121
1041	1053	1065	1078	1093	1106	1122
1042	1054	1066	1079	1094	1107	1123
1043	1055	1067	1080	1095	1108	1124
1044	1056	1068	1083	1096	1113	1125
1045	1057	1069	1084	1098	1114	1126
1046	1058	1070	1085	1099	1115	1127
1047	1059	1072	1086	1100	1116	1128
1048	1060	1073	1087	1101	1117	1129
1049	1061	1074	1088	1102	1118	1130
1050	1062	1075	1089	1103	1119	
1051	1063	1076	1091	1104	1120	

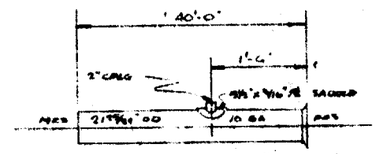


SCHEDULE	
MK. NO	ENDS
1109	MRS x WB
1111	PE x WB
1112	PE x FRS

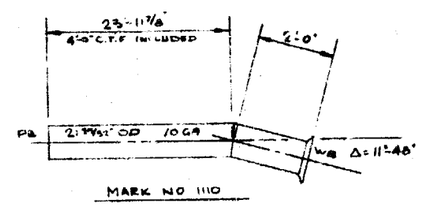


SECTIONS w/ 1/2" CPLG.

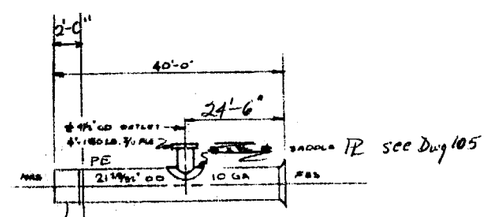
SCHEDULE		
MK. NO.	"A"	"B"
1071	38'-6"	1'-6"
1081	38'-6"	1'-6"



MARK NO 1097



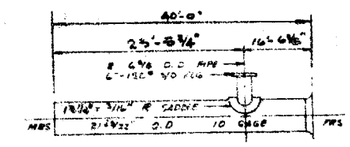
MARK NO 1110



MARK NO 1082

Extra Spigot closure

Final closure
ship spigot end loose with 2 piece bullstrap & 4" Cplg.



MARK NO 1090

APPROVED

By ..... Date.....

SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

AS BUILT

Date 3/20/68

By: [signature]

RECEIVED NOV 5 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± 1/2" DECIMALS ± .01

DESIGNED [illegible] CHECKED [illegible] APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
PROFILE
STA. 741+00.00 TO STA. 747+70.67

DWG. NO. R-221 SCALE NONE SHEET 80 OF

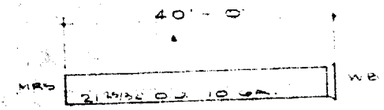
DWG. NO.	TITLE

REFERENCE DRAWINGS

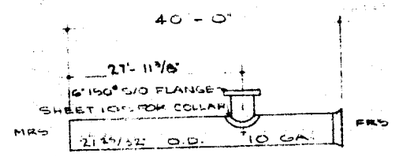
UCP JOB 822

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
"A"	GENERAL REVISIONS			2-8-63

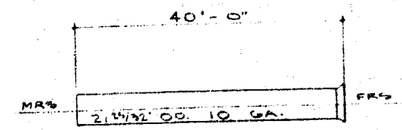
52-4-102.150 SAB



MARK NO. 1154

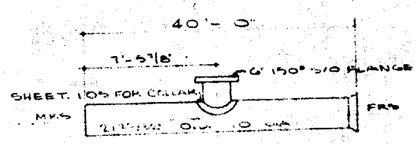


MARK NO. 1149

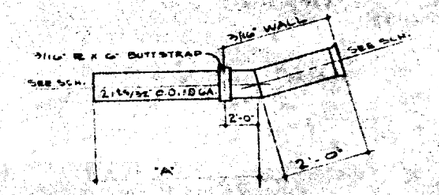


SCHEDULE

MK. NO.	MK. NO.
1133	1144
1134	1145
1135	1146
1136	1148
1137	1132
1139	1150
1140	1151
1141	1152
1131	1153
1143	1158
	1149

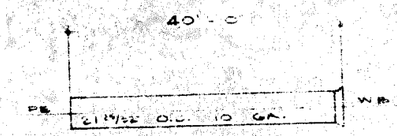


MARK NO. 1142



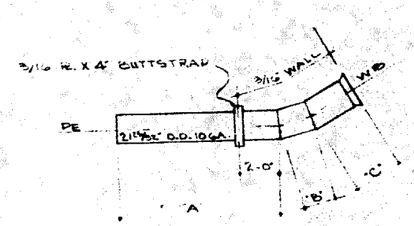
SCHEDULE

MK. NO.	"A"	Δ	ENDS
1159	24'-6"	9°21'30"	PE & WB
1160	28'-7"	9°46'30"	PE & WB
1170	4'-0 5/8"	17°16'45"	PE & WB
1180	23'-3 1/2"	4°34'15"	PE & WB
1198	39'-11 1/8"	6°-15'	PE & WB
1199	38'-2 1/8"	6°-15'	PE & WB
1205	32'-2 1/8"	8°47'45"	PE & WB
1209	31'-0 7/8"	6°-25'	PE & WB
1213	7'-0 1/2"	8°48'15"	PE & WB
1219	17'-7"	8°39'15"	PE & WB



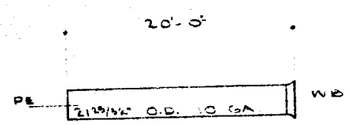
SCHEDULE

MK. NO.	MK. NO.	MK. NO.	MK. NO.
1156	1157	1174	1191
1162	1158	1175	1192
1163	1159	1176	1196
	1161	1178	1201
	1164	1179	1202
	1165	1182	1203
	1166	1183	1204
	1167	1184	1206
	1168	1185	1207
	1169	1186	1208
	1171	1187	1210
	1172	1188	1211
	1173	1190	1212
			1214
			1215
			1218



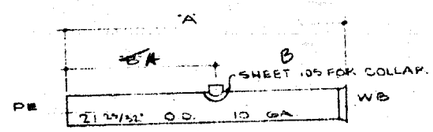
SCHEDULE

MK. NO.	"A"	"B"	"C"	Δ
1177	5'-5 5/8"	0'-7 1/8"	2'-8 5/8"	15°-24'30"
1189	8'-1 5/8"	0'-10"	2'-7"	21°01'30"
1193	36'-5 3/4"	0'-8 1/8"	2'-8 1/8"	62°55'30"
1197	38'-5 1/8"	0'-9"	2'-7 7/8"	65°55'30"



SCHEDULE

MK. NO.
1194
1195
1216
1217



SCHEDULE

MK. NO.	"A"	"B"	℄ CPLG
1181	35'-6"	1'-6"	1/2"
1200	38'-6"	1'-6"	1/2"

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 22 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY.	DESCRIPTION	MAT'L
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ±1/8, DECIMALS ±.01

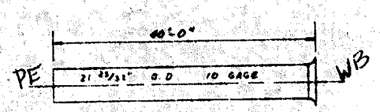
TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DIST.
FABRICATION DETAILS

DWG. NO. R-221 SCALE NONE

DWG. NO.	TITLE
	REFERENCE DRAWINGS

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	GENERAL REVISIONS			

52-4-102.151 SAB

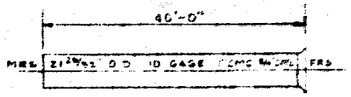


40' SECTIONS

SCHEDULE PE x WB			
MK NO.	MK. NO.	MK. NO.	
1221	1235	1250	
1222	1236	1251	
1223	1238	1252	
1225	1239	1253	
1226	1240	1254	
1228	1242	1255	
1229	1242-A	1256	
1230	1243	1258	
1231	1245	1261	
1233	1246-A	1262	PE x FRS
1234	1247		

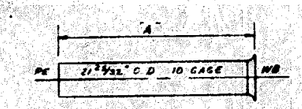
2 PC BENDS

SCHEDULE			
MK NO.	"A"	Δ	ENDS
1227	19'-5"	11°45'-15"	PE x WB
1244	10'-3"	5°-30'	PE x WB
1246	3'-7/8"	5°-30'	PE x WB
1249	22'-7/8"	5°32'-15"	PE x WB
1260	29'-9 3/16"	12°54'-45"	PE x WB
1287	3'-8 3/8"	4°-56'	MRS x FRS



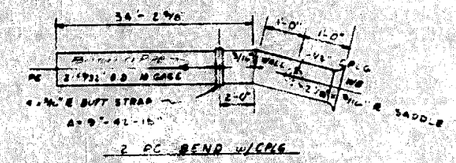
STANDARD SECTION

SCHEDULE			
MK NO.	MK NO.	MK. NO.	MK NO
1264	1275	1288	1302
1265	1276	1291	1303
1266	1277	1292	1304
1267	1278	1294	1305
1268	1279	1295	1306
1269	1280	1296	1307
1270	1282	1297	1308
1271	1283	1298	1309
1272	1284	1299	
1273	1285	1300	
1274	1286	1301	



SHORT JOINTS

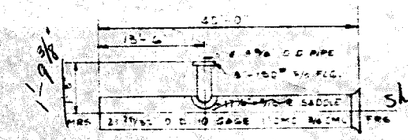
SCHEDULE		
MK. NO.	"A"	
1241	20'-0"	
1287	10'-0"	
1289	20'-0"	
1287-A	6'-8 3/8"	MRS x FRS
1289	10'-0"	MRS x FRS
1290	20'-0"	MRS x FRS



shut 105

2 PC BEND W/CPLG

MARK NO. 1222

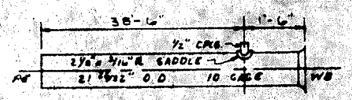


shut 105

MARK NO. 1281

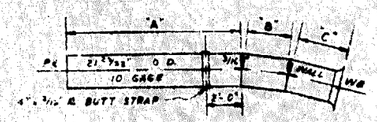
NOTE

PIPE IS 11" CMC x 3/8 CML.



SECTION W/CPLG.

SCHEDULE	
MK. NO.	
1220	
1248	
1268	MRS x FRS
1298	MRS x FRS



3 PC BENDS

SCHEDULE				
MK. NO	"A"	"B"	"C"	Δ
1224	18'-11 5/8"	9"	2'-7 5/8"	18°-56'-30"
1247	14'-10 5/8"	8 1/2"	2'-7 5/8"	19°-07'-30"

AS BUILT

Date 3/20/68

By: [illegible]

RECEIVED
OCT 22 1962
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCES: FRACTIONS ±1/16 DECIMALS ±.01

DESIGNED [illegible] CHECKED [illegible] APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
FABRICATION DETAILS

DWG. NO. 1221 SCALE: NONE SHEET 24 OF [illegible]

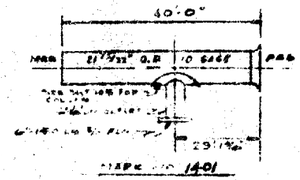
DWG. NO.	TITLE

REFERENCE DRAWINGS

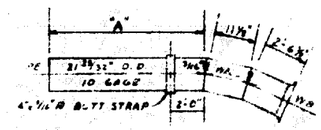
52-4-102.152 SAB

STANDARD SECTION

SCHEDULE				
MK. NO	MK. NO.	MK. NO.	MK. NO.	MK. NO
1400	1423	1455	1464	1476
	1424	1456	1465	1477
1402	1425	1458	1466	1478
1403	1426	1459	1467	1479
1404	1427	1457	1472	1481
1418	1428	1465	1473	1482
1419	1430	1460	1474	1483
1420	1431	1461	1475	
1421	1432	1462	1476	
1422	1433	1463		

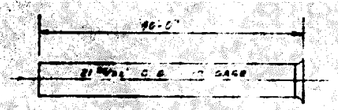


MARK 1401



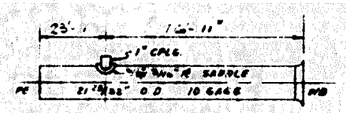
3 PC BENDS

SCHEDULE		
MK. NO	"A"	Δ
1489	6'-8 5/8"	13°-3'-[illegible]
1490	36'-9 5/8"	23°-[illegible]

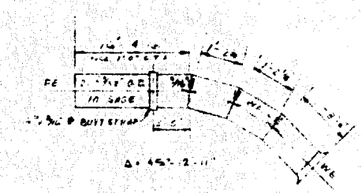


SPECIAL ENDS

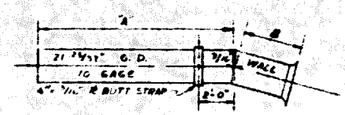
SCHEDULE			
MK. NO.	ENDS	MK. NO.	ENDS
1405	MRS x WB	1441	FE x WB
1406	PE x WB	1442	FE x WB
1407	PE x WB	1443	PE x WB
1410	PE x WB	1444	PE x WB
1411	PE x WB	1445	FE x WP
1412	PE x WB	1447	PE x WB
1414	PE x WB	1448	PE x WB
1415	PE x WB	1449	PE x WB
1425	MRS x WB	1451	MRS x WB
1434	PE x WB	1453	FE x WB
		1461	FE x WB
1437	PE x WB	1462	FE x WB
1438	PE x WB	1463	PE x WB
1439	PE x WB	1464	FE x WB
1440	PE x WB	1465	PE x WB



MARK 1486

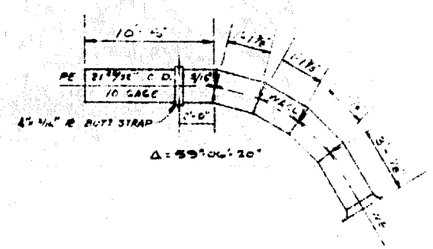


4 PC. BEND MARK 1446



2 PC BENDS

SCHEDULE					REMARKS
MK NO.	"A"	"B"	ENDS	Δ	
1408	18'-1 7/8"	2'-0"	PE x WB	17°-48"	"A" INCL 2'-0" TA
1413	35'-5 5/8"	2'-0"	PE x WB	8°04'-55"	CTR OMITTED
1436	Δ 5 5/8"	2'-0"	PE x WB	12°-04"	"A" INCL 10'-0" CTR
1490	4'-4 7/8"	2'-0"	PE x WB	9°-30'-13"	"A" INCL 10'-0" CTR



5 PC BEND MARK 1488

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 2 1962
SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

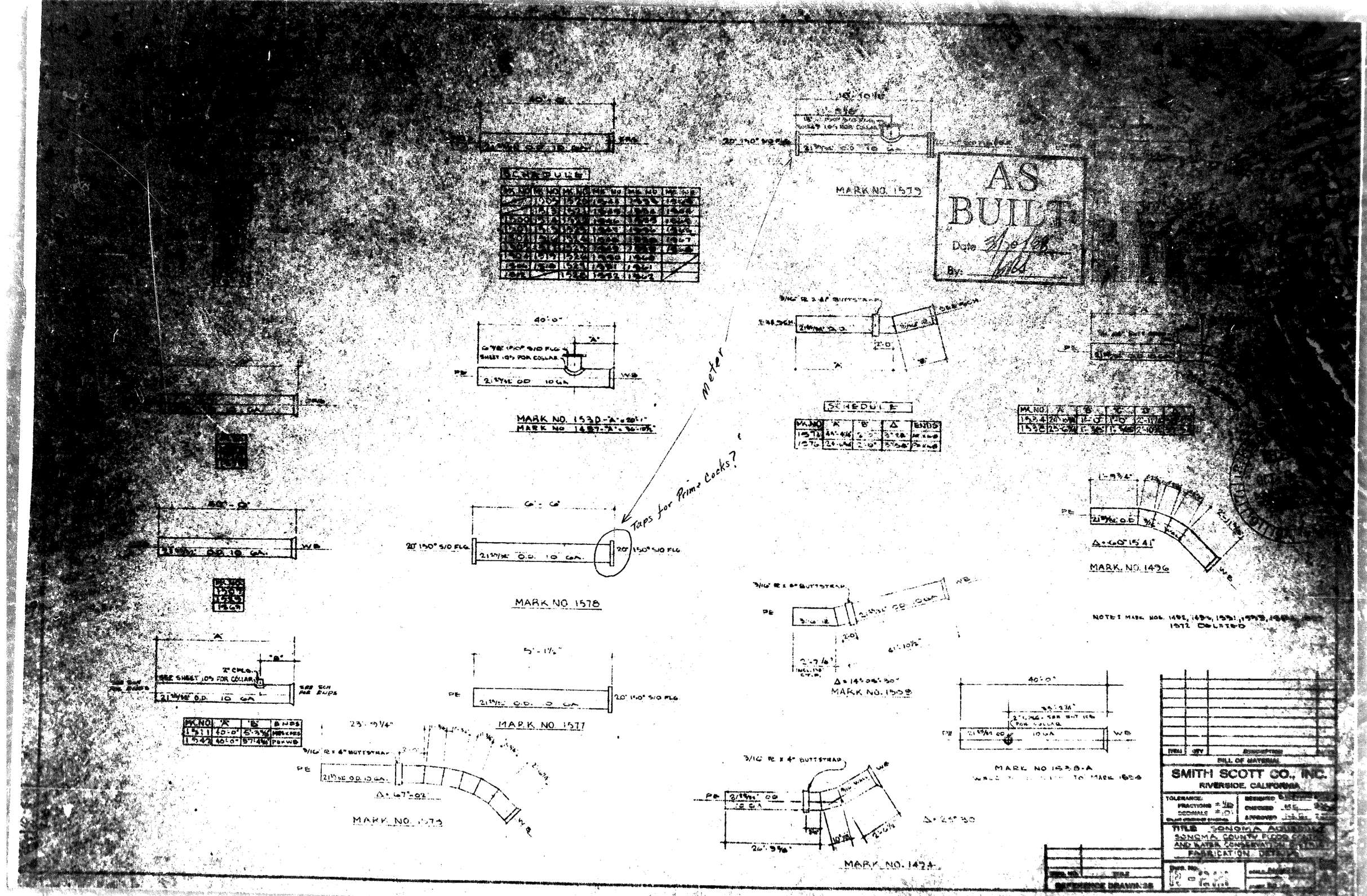
TOLERANCE: FRACTIONS ± 1/8" DECIMALS ± .01
DESIGNED [illegible]
CHECKED [illegible]
APPROVED [illegible]

TITLE: SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
FABRICATION DETAILS

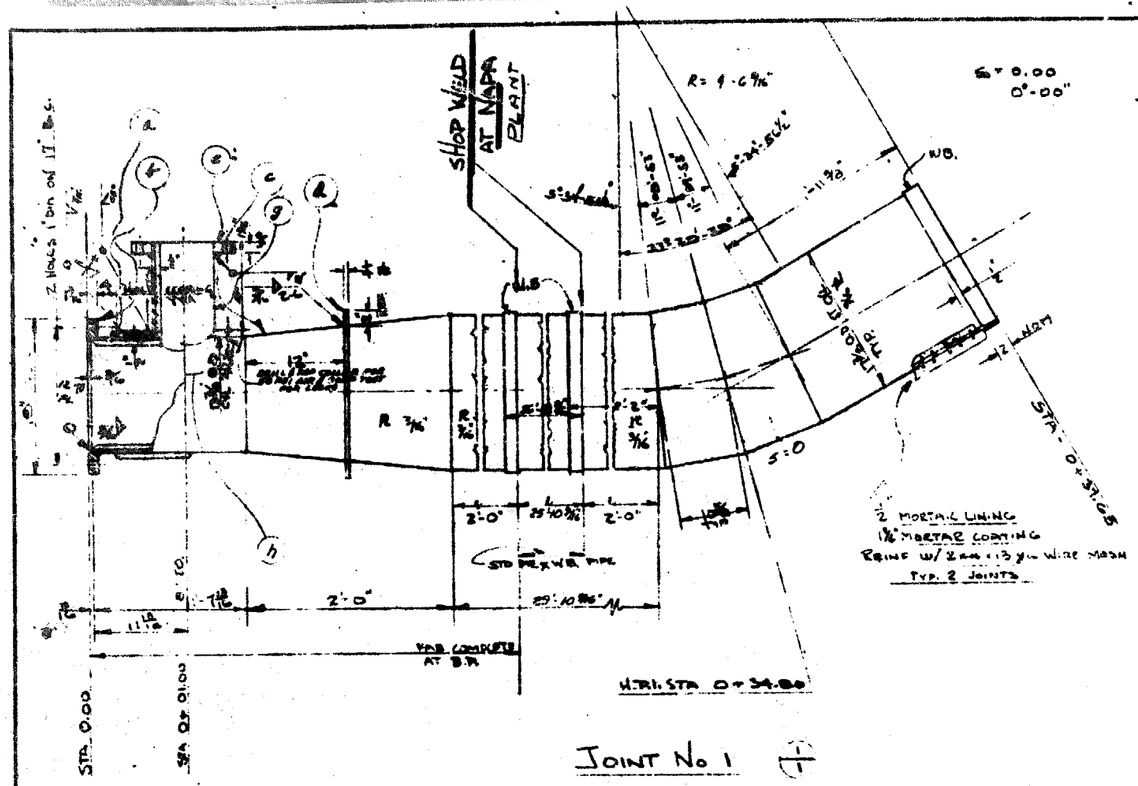
DWG NO. TITLE
REFERENCE DRAWINGS

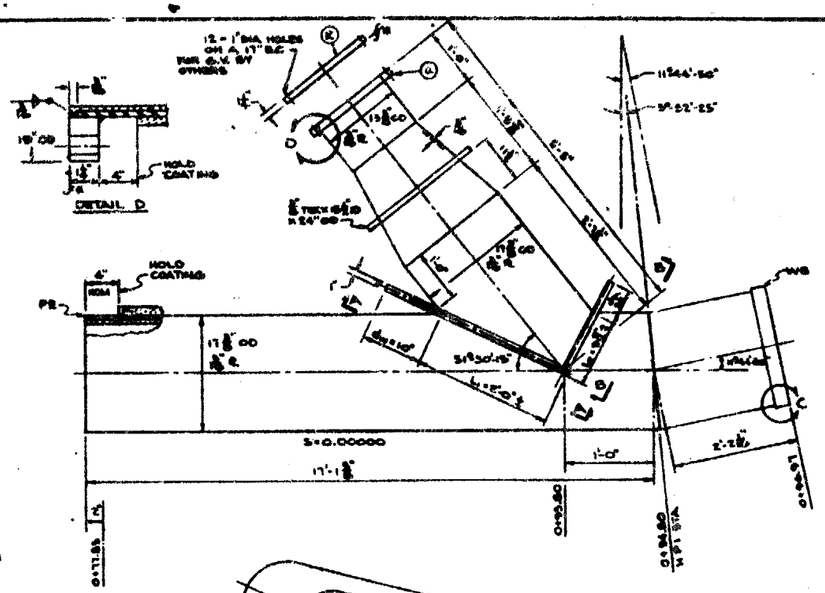
DWG NO. P-221
SCALE NONE
SHEET 21 OF

10-5
4-C
4-1962



AS BUILT
Date
By:
SCHEDULE
MARK NO. 1579
MARK NO. 1530-"A"
MARK NO. 1487-"A"
SCHEDULE
MARK NO. 1578
MARK NO. 1577
MARK NO. 1573
MARK NO. 1496
MARK NO. 1508
MARK NO. 1538-A
MARK NO. 1494
Meter
Taps for Prime Cocks?
SEE SHEET 105 FOR COLLAR
SEE SCH FOR ENDS
NOTE: MARK NOS. 1492, 1494, 1531, 1533, 1534, 1572 DELETED
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE:
FRACTIONS ± 1/16
DECIMALS ± .01
TITLE SONOMA AQUEDUCT
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
FABRICATION DETAILS
REFERENCE DRAWINGS





REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	DELETED STRESS RELIEVE			
	REVISED NOTES			
A	CHANGED AS REQ. ADD. LTR			

52-4-102,154 SAB

GENERAL NOTES

1. MARK EA PIPE - FOR EXAMPLE 24-SC-300
24 = 1.0 IN INCHES "SC" = STL CYL 300 = CLASS IN FT.
THE ABOVE IS IN ADDITION TO JT. No. & DATE OF LINING
2. MARK EA FITTING & BEVELED SECTION WITH VERT ℄
3. MARKINGS ON PIPE TO BE PERMANENT TYPE
4. SEE SPECIF. & PLAN DWG. SK 4-1022 FOR TYPE AND THICKNESS OF LINING & COATING.
5. FOR JOINT DETAILS AS FOLLOWS: [illegible]
RGB = RUBBER GASKT. BELL [illegible]
RGS = RUBBER GASKT. SPIG. SK 6.6.62 [illegible]
PE = PLAIN END = WELD SPIG. SK 6.6.62 d
WB = WELD BELL = WELD BELL SK. 6.6.62 d
6. * SYMBOL f INDICATES FLANGES TO HAVE MACHINED FLAT FACE, AND SEATS FOR BOLT HEADS & NUTS TO BE [illegible]
7. FLANGE BOLT HOLES TO STRADDLE VERT. ℄
8. STEELS FOR SPECIALS & FITTINGS SHALL BE A 283 C

GENERAL NOTES (CONT.)

9. WELDING PROCEDURE.
   A. FLANGES:
      1. WELD FLANGES INSIDE & OUT PER FIG. 1, AYIWA C-207
   B. NOZZLES:
      1. WELD NOZZLE TO PIPE
      2. WELD SADDLE PLATE TO NOZZLE
      3. WELD SADDLE PLATE TO PIPE SHELL
      4. DRILL & TAP SADDLE PLATE FOR 50 PSI AIR & SOAP TEST FOR LEAKS.
   C. STEP BACK SEQUENCE TO MINIMIZE DISTORTION FOR OUTLETS & FLANGES > 6" DIA.
      1. DIVIDE WORK INTO QUARTERS
      2. WELD AS INDICATED 1, 2, 3, 4.

RECEIVED
AUG 30 19[illegible]
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

AS BUILT
Date 3/20/68
By: [illegible]

ITEM	QTY	DESCRIPTION	MATL
K	1	[illegible]	
J	1	[illegible]	
[illegible]	1	[illegible]	
[illegible]	1	[illegible]	
[illegible]	1	[illegible]	
[illegible]	1	[illegible]	
[illegible]	1	[illegible]	
[illegible]	1	[illegible]	
[illegible]	2	[illegible]	

BILL OF MATERIAL

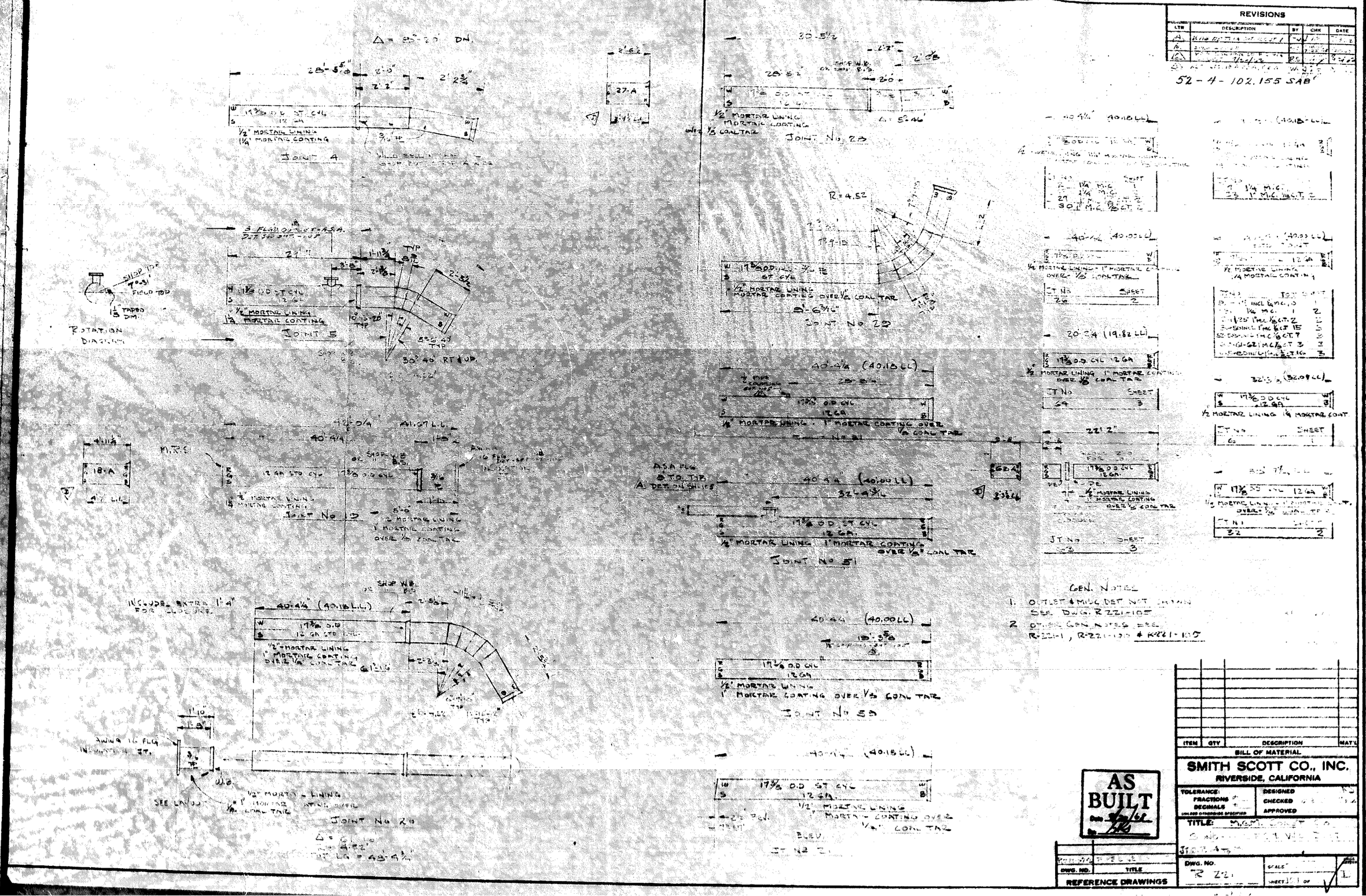
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± 1/16; DECIMALS ± 1/32
DESIGNED [illegible]
CHECKED [illegible]
APPROVED [illegible]

TITLE: [illegible]

DWG. NO. [illegible]
SCALE [illegible]
SHEET [illegible]

REFERENCE DRAWINGS



REVISIONS
52-4-102.155 SAB
JOINT 4
JOINT 5
JOINT No 10
JOINT No 20
JOINT No 28
JOINT No 29
JOINT No 51
JOINT No 59
JOINT No 21
ROTATION DIAGRAM
GEN. NOTES
1. OUTLET & MISC DET NOT SHOWN SEE DWG. R221-105
2. OTHER GEN NOTES SEE R-221-1, R-221-100 & R-221-105
AS BUILT
ITEM
QTY
DESCRIPTION
MAT'L
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TOLERANCE:
FRACTIONS
DECIMALS
UNLESS OTHERWISE SPECIFIED
DESIGNED
CHECKED
APPROVED
TITLE:
DWG. NO.
R 221
SCALE
SHEET
DWG. NO.
TITLE
REFERENCE DRAWINGS

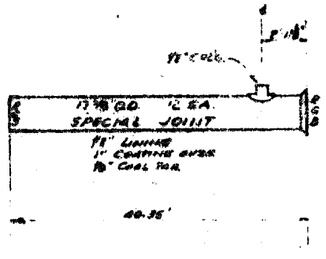
REVISIONS

A	[illegible]	[illegible]	[illegible]	[illegible]

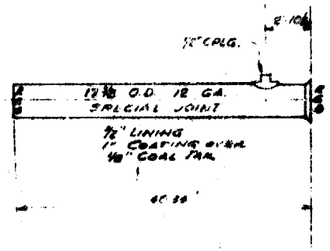
52-4-102.156 SAB

AS BUILT
Date 8/20/68
By: [illegible]

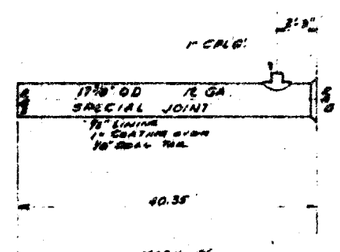
RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.



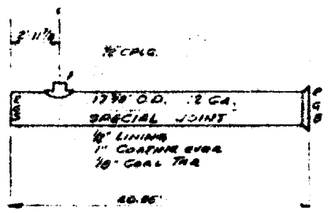
MARK 82



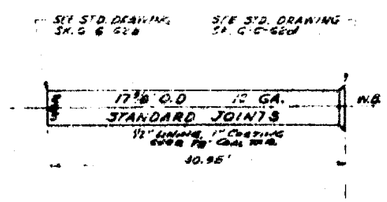
MARK 118



MARK 126

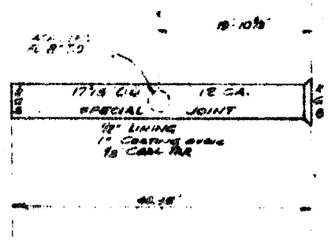


MARK 38

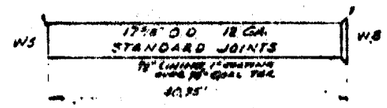


SCHEDULE

MARK NO.	MARK NO.	MARK NO.	MARK NO.
38			
118			

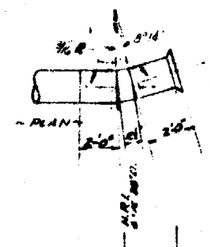


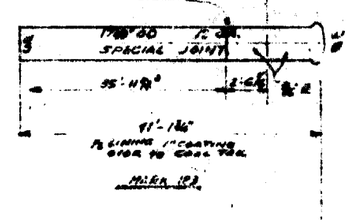
MARK 110



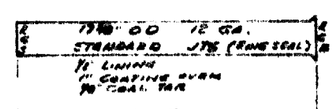
SCHEDULE

MARK NO.	MARK NO.	MARK NO.	MARK NO.
110			
130			



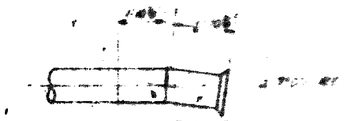


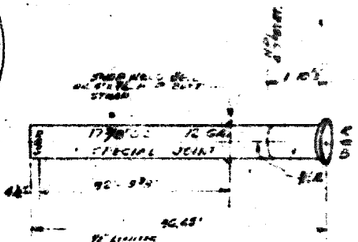
MARK 123



SCHEDULE

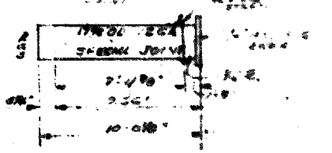
MARK NO.	MARK NO.	MARK NO.	MARK NO.
01	98	115	
02	100	116	
03	101	117	
04	106	118	
05	108	119	
06	109	120	
07	110	121	
08	111	122	
09	112	123	
10	113	124	
11	114		





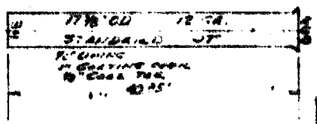
MARK 195

GENERAL NOTES
(SEE CHT. 110 & 111)
1. OUTLET [illegible]
R-221-105



MARK 196

7/8" LINING
1" COATING OVER
1/8" COAL TAR



SCHEDULE

MARK NO.	MARK NO.	MARK NO.	MARK NO.
195			
196			

QTY.	UNIT	DESCRIPTION	MATL.
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

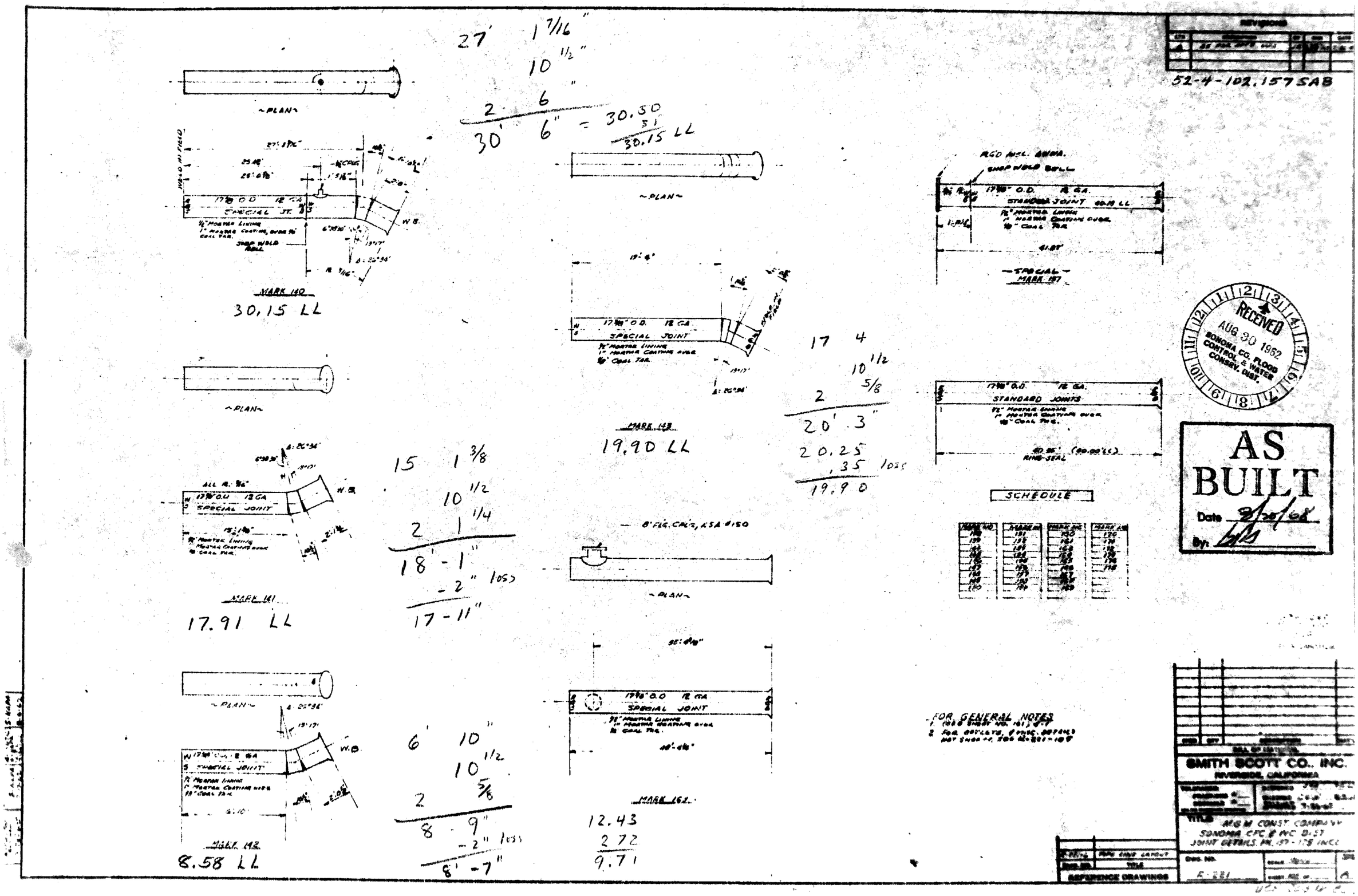
TOLERANCES: FRACTIONS ±, DECIMALS ±
DESIGNED [illegible]
DRAWN [illegible]
DATE [illegible]

TITLE [illegible] SONOMA [illegible]

DWG. NO.
SCALE
SHEET

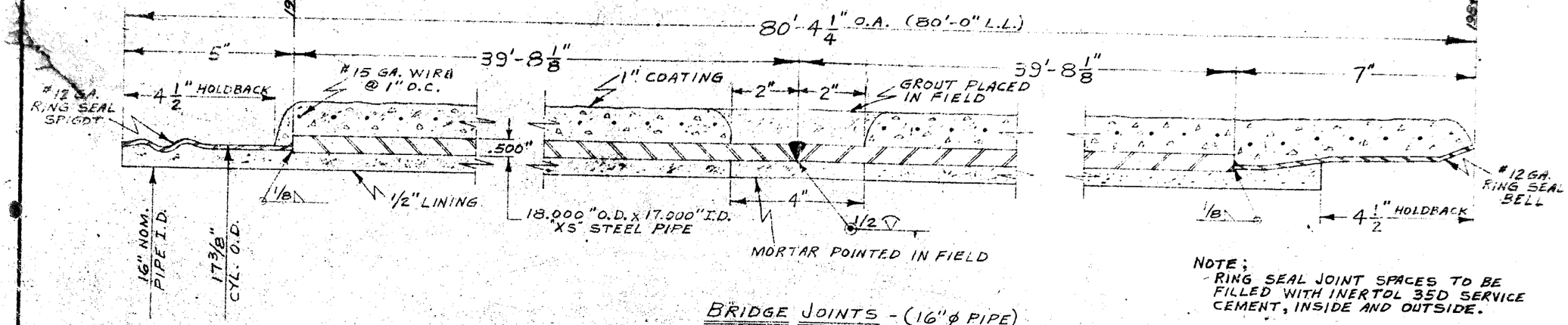
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
DWG. NO.	TITLE	

REFERENCE DRAWINGS



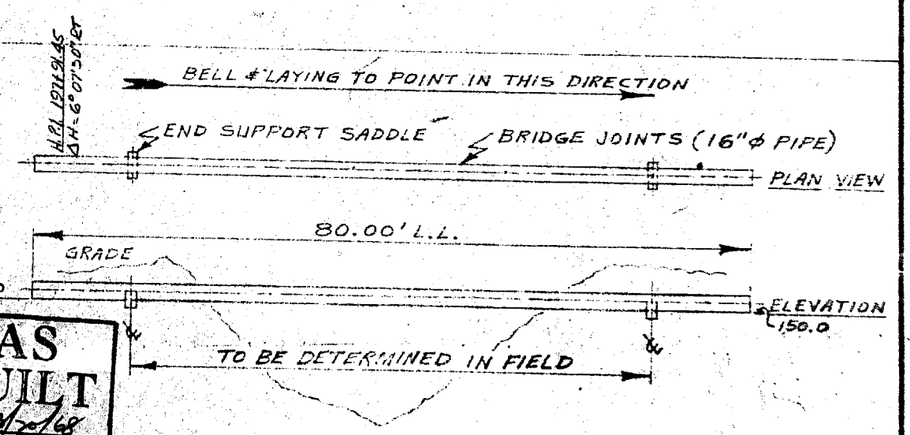
52-4-102.157SAB
REVISIONS
27' 1 7/16"
10 1/2"
2 6"
30' 6" = 30.50
31
30.15 LL
~PLAN~
MARK 140
30.15 LL
17 3/8" O.D. 12 GA.
SPECIAL JT.
1/2" MORTAR LINING
1" MORTAR COATING OVER 1/8" COAL TAR.
SHOP WELD BELL
W.B.
MARK 143
19.90 LL
17 4
10 1/2
2 5/8
20' 3"
20.25
.35 loss
19.90
SPECIAL
MARK 157
STANDARD JOINTS
RING-SEAL
SCHEDULE
MARK 141
17.91 LL
15 1 3/8
10 1/2
2 1 1/4
18' - 1"
- 2" loss
17 - 11"
8' FLG. CPLG, ASA #150
MARK 162
12.43
2.72
9.71
MARK 142
8.58 LL
6' 10"
10 1/2
2 5/8
8 - 9"
- 2" loss
8' - 7"
FOR GENERAL NOTES
REFERENCE DRAWINGS
RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
AS BUILT
Date 8/30/68
By:
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE
M.G.M. CONST. COMPANY
SONOMA CFC & WC DIST
JOINT DETAILS, PL. 157-175 INCL
DWG. NO.
E-231

52-4-102.158 SAB

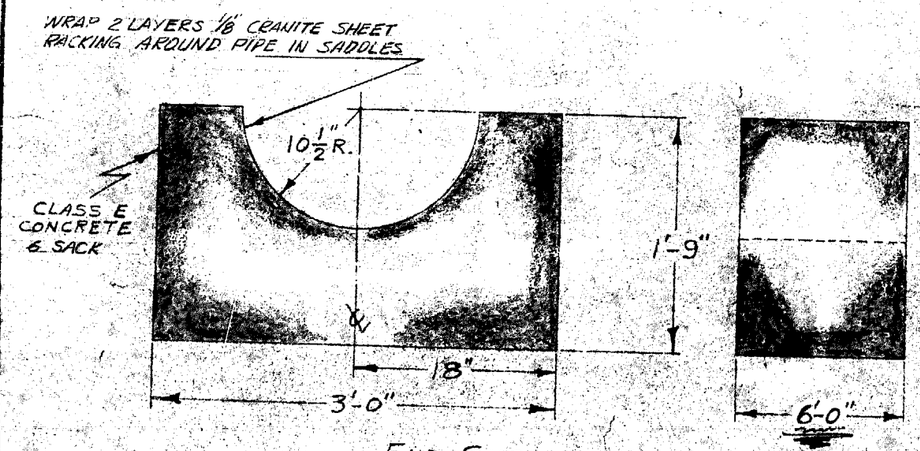


NOTE:
RING SEAL JOINT SPACES TO BE FILLED WITH INERTOL 35D SERVICE CEMENT, INSIDE AND OUTSIDE.

BRIDGE JOINTS - (16"ϕ PIPE)
HALF SIZE



GENERAL ARRANGEMENT
SCALE 1" = 10'-0"



END SUPPORT SADDLES
SCALE 1 1/2" = 1'-0"
2 REQ'D.

NOTES -
1. POUR SADDLES AFTER PIPE IS IN TRENCH & PROPERLY SUPPORTED
2. DO NOT BACKFILL BETWEEN RUBBER GASKET JOINTS (STA. 197+85 TO 198+67) UNTIL LINE IS FILLED WITH WATER.

AS BUILT
Date 3/20/68
By

APPROVED
By Date 9-27-62
SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
Subject to corrections shown

RECEIVED AUG 21 1962 DIVISION OF SAFE WATER CONSTR. SAC.

MARK	REQ'D	A.M.R.	DESCRIPTION	SIZE FOR DWG. NO.	NOTES

BILL OF MATERIAL

NO.	DATE	BY	REVISIONS	ALTERATION	CH'K.
A	9/13/62	AJP	REV. PER DIST. CHK. PRINT.		

TITLE	NO
DIST. DWG. 52-4-102.16	

REFERENCE DRAWINGS

TOLERANCE UNLESS NOTED
FRACTION ± 1/16", DEC. X = ± .1, XX = ± .03, XXX = ± .001, ANG. = ± 1/4°
JOB TITLE
OWNER
PURCHASER

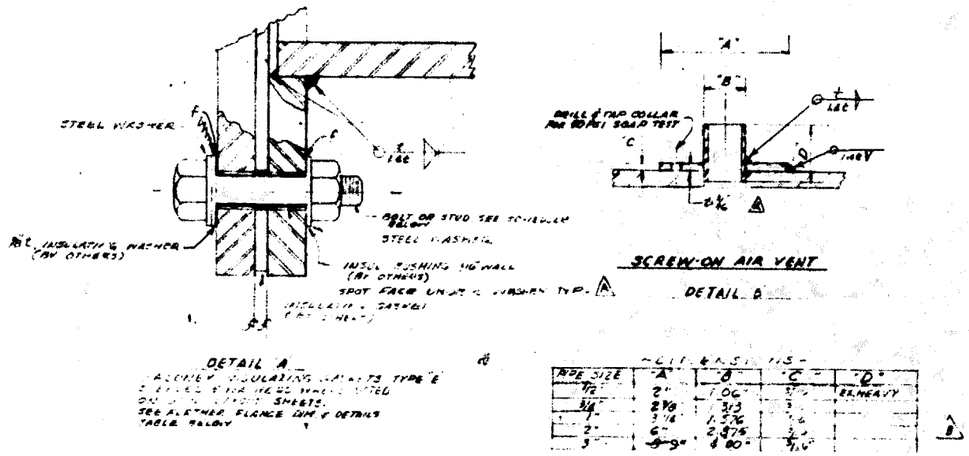
APPROVED
RELEASED FOR SHOP FABRICATION

SMITH SCOTT CO., INC.
RIVERSIDE CALIFORNIA
DWG. TITLE
MGM CONSTR. CO.
SONOMA C.F.C. & W.C. DIST.
PIPE LINE LAYOUT
STA. 198+00.00 TO 198+56.00
SCALE AS NOTED
DRAWN AJP
DATE 7-6-62
ORDER NO. R-221-104

LCF 1-58 #82.

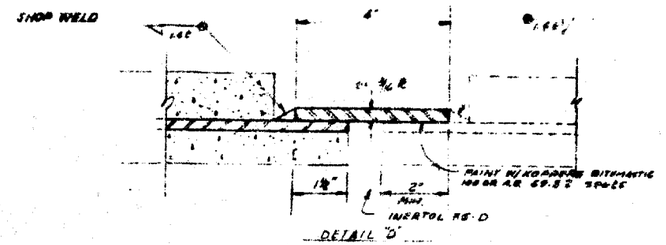
REVISIONS				
LTR	DESCRIPTION	BY	DATE	APPD
A	CORR. STAMP & NOTE			
B	CORR. CALC. DETAIL			
C	AS BLD. APPD DWG			

52-4-102.159SAB



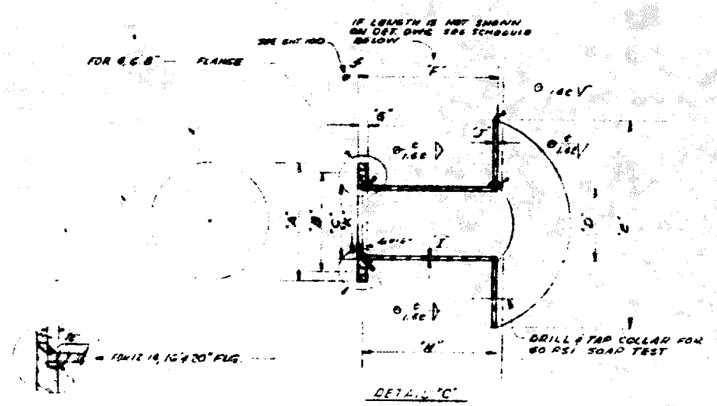
DETAIL A

PIPE SIZE	"A"	"B"	"C"	"D"
1/2"	2"	1.06"		EX. HEAVY
3/4"	2 1/8	1.13		
1"	3 1/4	1.576		
2"	6"	2.375		
3"	9"	4.80"		

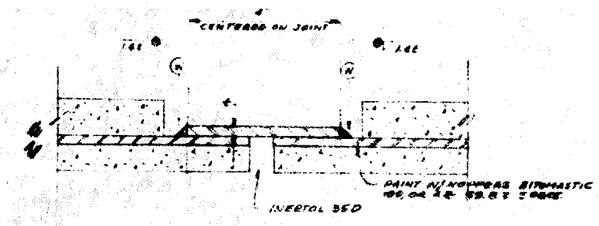


DETAIL "D"

SHOP WELD - FIELD WELD
BUTT STRAP

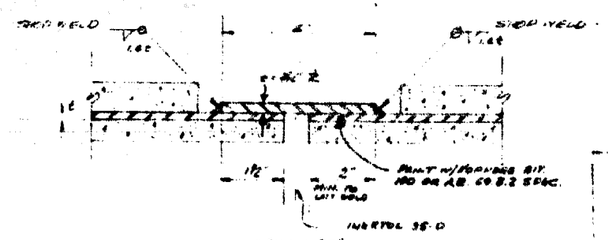


FLANGED OUTLET ASSEMBLY



DETAIL "E"

FIELD WELD BUTT STRAP
AT CLOSURE



DETAIL "F"

SHOP WELD BUTT STRAP

—DIMENSIONS—

PIPE SIZE	NO. HOLES	"A"	"B"	"E"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	STUD STYLE	BOLT SIZE
4 ASA	8		9"	7 1/2"	4.63"	6.50	10	10	10 1/16"	9 3/4"	237	3/4	—	3/4 x 6"	3/4 x 3 1/2
6 AWWA	8		11	8 1/2	6.81"	6.625	14"	10	11		280	3/4	—	3/4 x 6"	3/4 x 3 1/2
8 AWWA	8		13 1/2"	11 3/4	8.81	8.625	17 1/2"	10	13 1/2"		322	3/4	—	3/4 x 6"	3/4 x 3 1/2
12 AWWA	12		19.00	15	13.46	13 3/4		10	17 1/2"	9 3/4"			12	3/4 x 6"	3/4 x 4"
16 AWWA			21	19 3/4	16.19"	16"		10	19 3/4	9 3/4			16	7/8 x 6 1/2	7/8 x 4 1/4
[illegible]			23 1/2	21 1/4	19.56	[illegible]		10	21	10 1/2			20	1 x 6 1/2	1 x 4 1/4
20 AWWA	20		27 1/2	25	[illegible]	21 3/4		10	23 1/4"	9 3/4			20	1 1/8" x 6"	1 1/8 x 4 1/2

21.97"

EA. QUANTY REQD. SEE LAY OUT DRAWING

* ALL AWWA FLGS. C 207 CL "D" FOR 1.150 PSI
** NOT NEEDED FOR LINE FLGS
1. FURNISH STUDS, NUTS & STEEL WASHER FOR 16" INSULATED LINE FLG.
2. SEE DETAIL DWG. FOR TYPE AND SIZE BOLTS OR STUDS FOR OTHER FLANGES

~GENERAL NOTES~

1. SEE DWG. R221-1 & 100 & DETAIL DWGS.
2. COATING & LINING PER SPECIF. OR L/O.

AS BUILT
Date 3/20/68
By: BRS

RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

REFERENCE DRAWINGS	
SHEET	SCREWED DIST.
D-100	[illegible]
D-100	[illegible]
D-100	[illegible]
D-100	[illegible]
D-100	DETAIL ON [illegible]
A-101-6	U.P. 40
DWG. NO.	TITLE

ITEM	QTY	DESCRIPTION	MATL

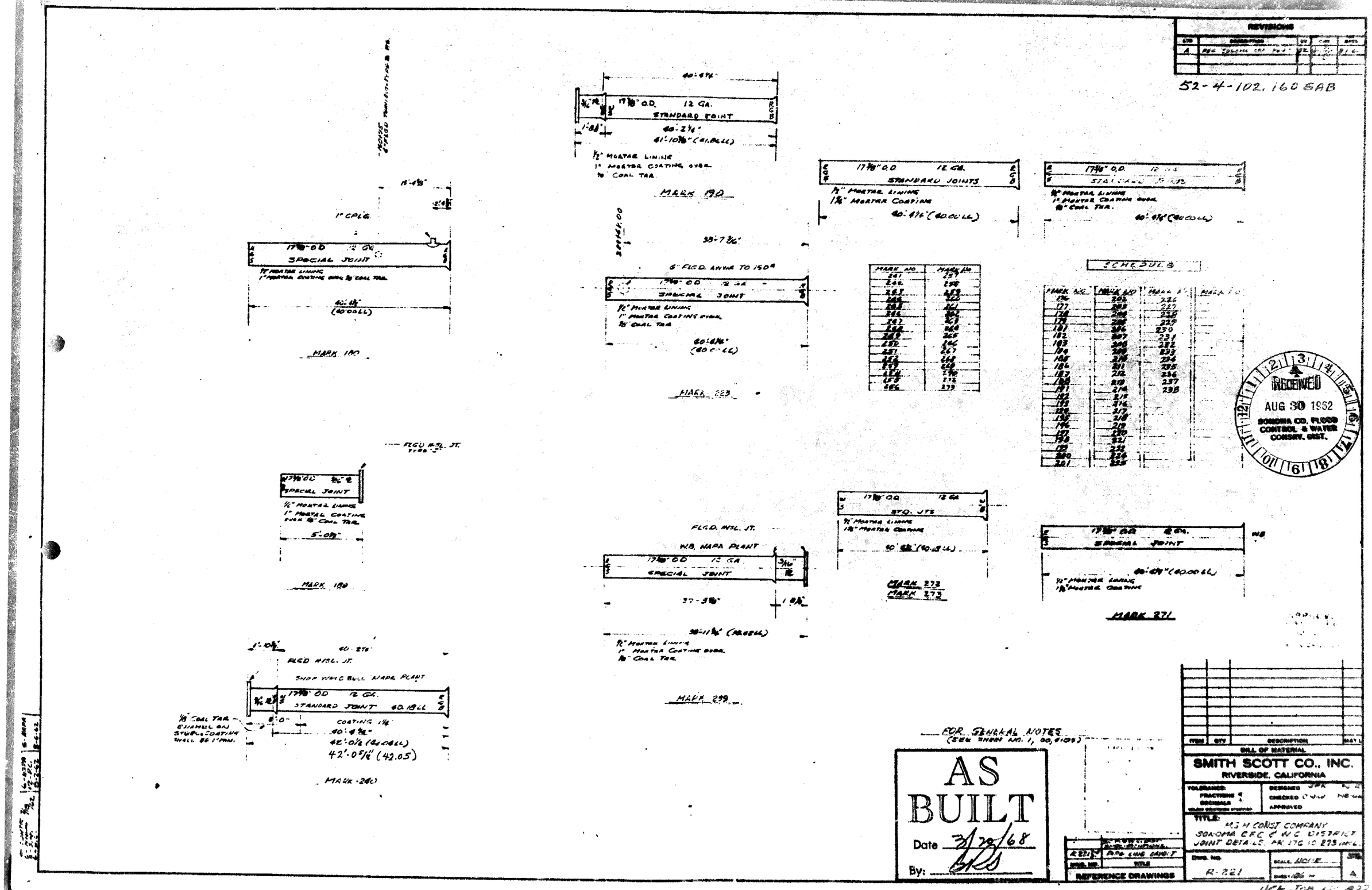
BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

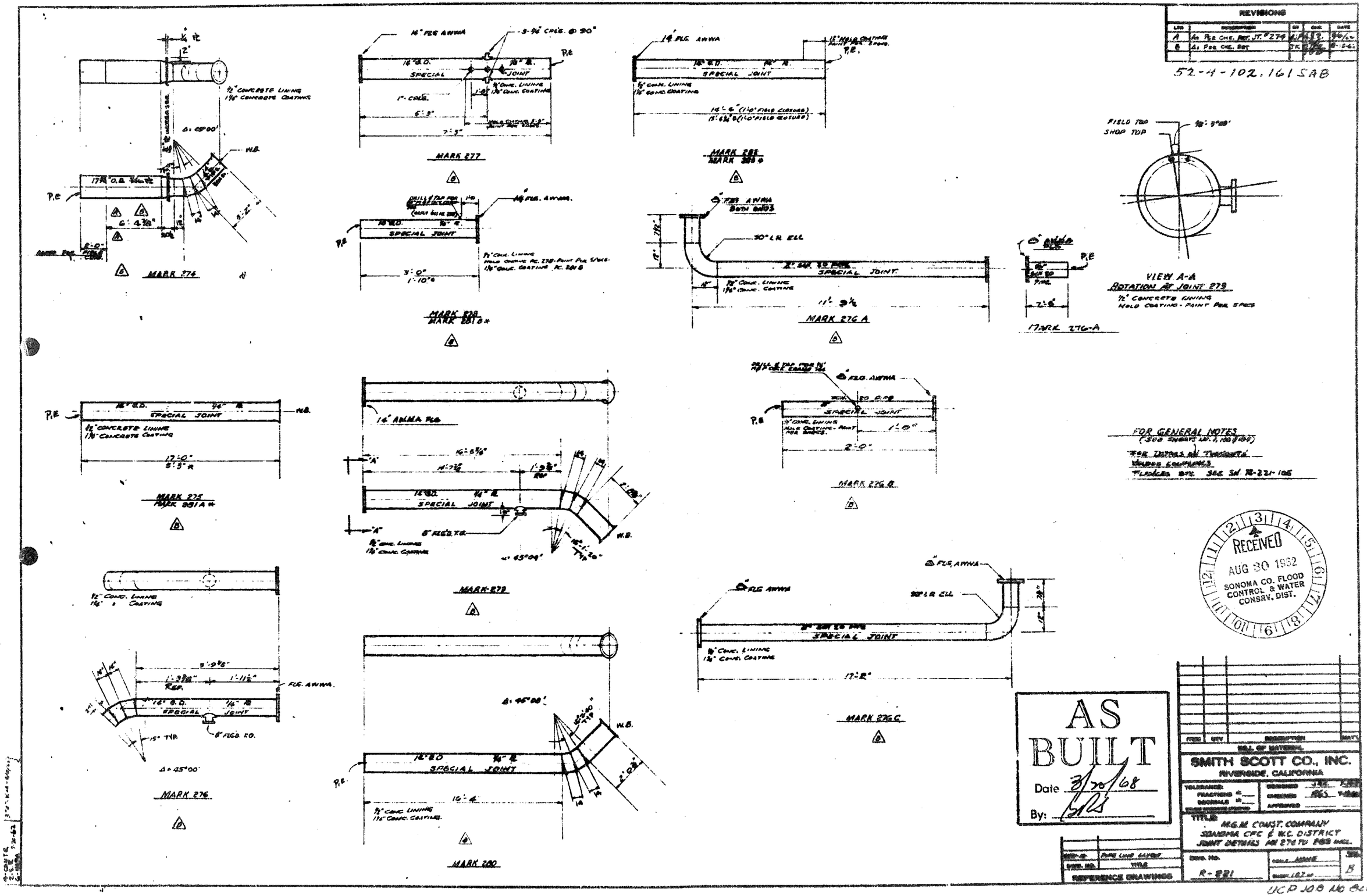
TOLERANCES: FRACTIONS ±, DECIMALS ±, ANGLES ±
DRAWN [illegible] CHECKED [illegible] ENGRD. [illegible] DATE [illegible]

TITLE: M & N COAST COMPANY FLANGED, SCREWED, TAPPED AND LINING DETAILS

DWG. NO. R 221 SCALE [illegible] SHEET 5 OF [illegible]



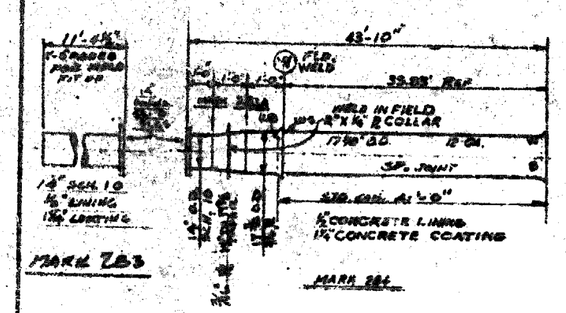
REVISIONS
52-4-102, 160 SAB
MARK 190
MARK 180
MARK 223
MARK 189
MARK 299
MARK 272
MARK 273
MARK 271
MARK 240
SCHEDULE
RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
FOR GENERAL NOTES
(SEE SHEET NO. 1, 00, 4109)
AS BUILT
Date 3/20/68
By: BRS
BILL OF MATERIAL
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: M.S.H. CONST. COMPANY
SONOMA C.F.C. & W.C. DISTRICT
JOINT DETAILS, MK 176 TO 273 INCL.
DWG. NO. R-221
REFERENCE DRAWINGS

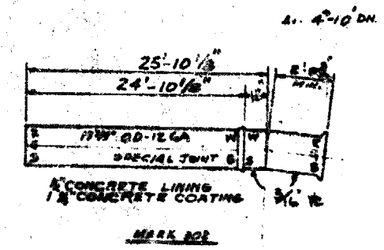


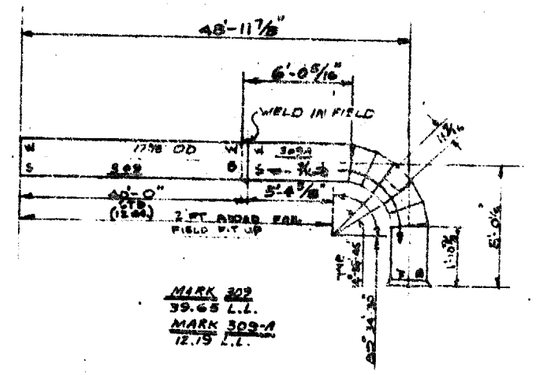
REVISIONS
52-4-102.161 SAB
MARK 274
MARK 277
MARK 278
MARK 281 B*
MARK 276 A
MARK 276-A
VIEW A-A
ROTATION AT JOINT 279
MARK 275
MARK 281 A*
MARK 279
MARK 276 B
MARK 276 C
MARK 276
MARK 280
FOR GENERAL NOTES
RECEIVED
AUG 30 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.
AS BUILT
Date 3/20/68
By:
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: M.G.M. CONST. COMPANY
SONOMA CFC & W.C. DISTRICT
JOINT DETAILS
R-221
REFERENCE DRAWINGS

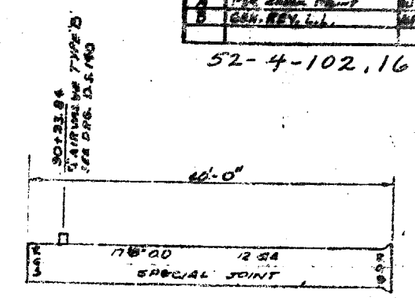
REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	PER ASBUILT PRINT	[illegible]	[illegible]	6-12-62
B	GEN. REV. L.L.	[illegible]	[illegible]	3-15-62

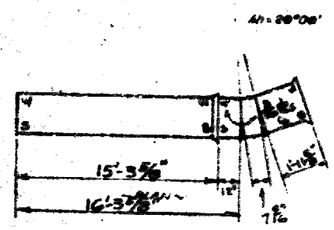
52-4-102, 162 SAB

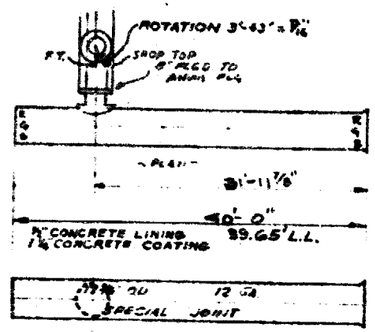


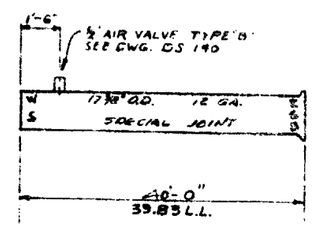


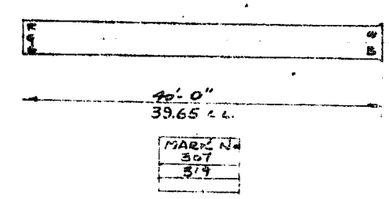




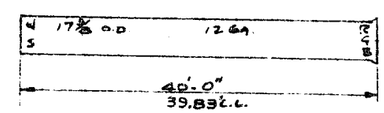




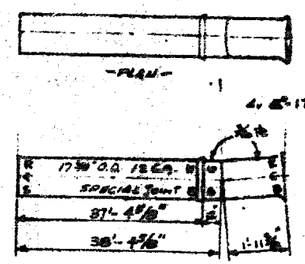




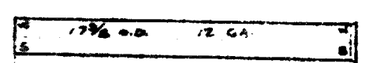
MARK No
307
519



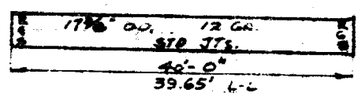
MARK No
291
323



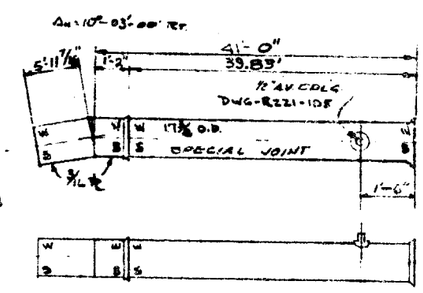
SCHEDULE



MARK No	MARK No	MARK No	MARK No
284	289	310	
286	290	311	
287	308	322	320



MARK No	MARK No	MARK No	MARK No	MARK No
292	316	340	361	351
293	317	341	362	352
294	318	342	363	353
295	324	343	364	354
296	325	344	366	
297	326	345	366	
298	33	346	367	
299	332	347	368	
300	333	348	369	
301	334	349	370	
303	335	353	371	
306	336	355	372	
313	337	357	373	
314	338	358	374	
315	339	359		



NOTE —

JTS- 327 THRU 330 ELIMINATED

JT- 360 "

AS BUILT

Date 3/30/68

By: [illegible]

RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± ___ DECIMALS ± ___ UNLESS OTHERWISE SPECIFIED

DESIGNED [illegible] CHECKED [illegible] 7-26-62 APPROVED

TITLE: SONOMA AQUEDUCT
SONOMA CRC & WCD DIST ADJ
JT-283-374
STA [illegible]

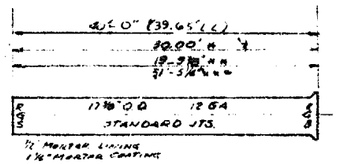
Dwg. No. R-321 SCALE [illegible] SHEET [illegible] OF [illegible] B

DWG. NO.	TITLE
R-721 (2)	SCRC & WC DIST.

REFERENCE DRAWINGS

REVISIONS				
LTR	DESCRIPTION	BY	CHKD	DATE
A	As Bld. Chk'd Dwg.	JK		5-17-62
B	Revision - Rel. 46	DB		8-24-62
C	Add 2" Cpl. To Jt. 480			1-18-62

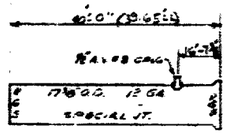
52-4-102.163 SAB



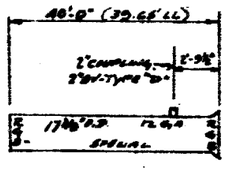
SCHEDULE

MARK NO	MARK NO	MARK NO	MARK NO
375	390 LINING	409	397
376	391	410	398
377	392	411	399
378	393	412	400
379	394	413	401
380	395	414	412
381	396	415	413
382	402	416	414
383	403	417	415
384	404		
385	405		
386	406	504	
388	407	490-X	
389	408		

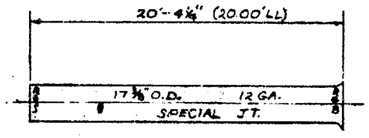
NOTE: JT 390 ELIMINATED



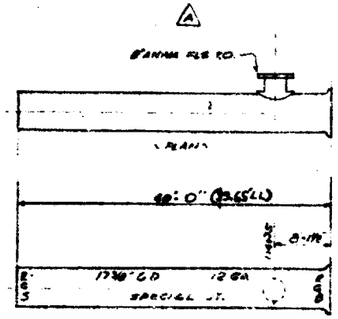
MARK 387



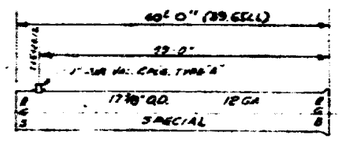
MARK 480



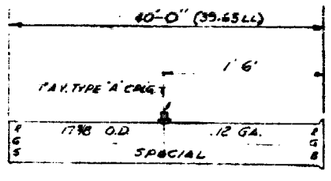
MARK 422
MARK 422-A



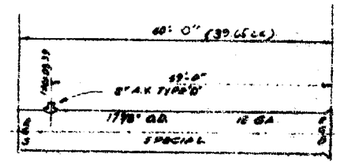
MARK 416



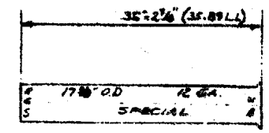
MARK 419



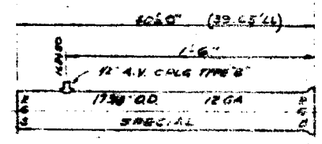
MARK 448



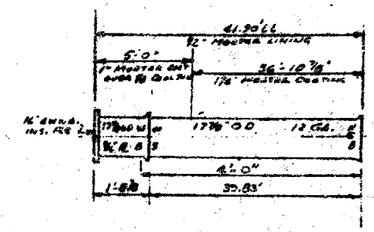
MARK 471



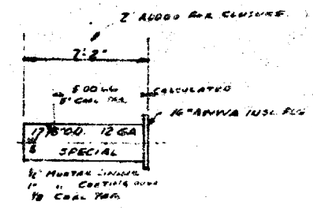
MARK 421



MARK 303



MARK 493



MARK 498

GENERAL NOTES

1. SEE SHEETS NO. 1-135
2. SEE SHEET NO. 105, FOR TOP, PLAN, CPLGS, ETC.
3. EXCEPT AS NOTED, ½" MORTAR LINING & 1½" COATING.

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ±___ DECIMALS ±___
DESIGNED / DRAWN / CHECKED / APPROVED

TITLE: M.G.M. CONST. COMPANY
SONOMA C.F.C. & W.C. DISTRICT
JOINT DETAILS IR-375-506

DWG. NO. R-821 SCALE NONE SHEET 109 OF ___ REV. C

DWG. NO.	TITLE
4-381-1146	SCFC & WC DIST.

REFERENCE DRAWINGS

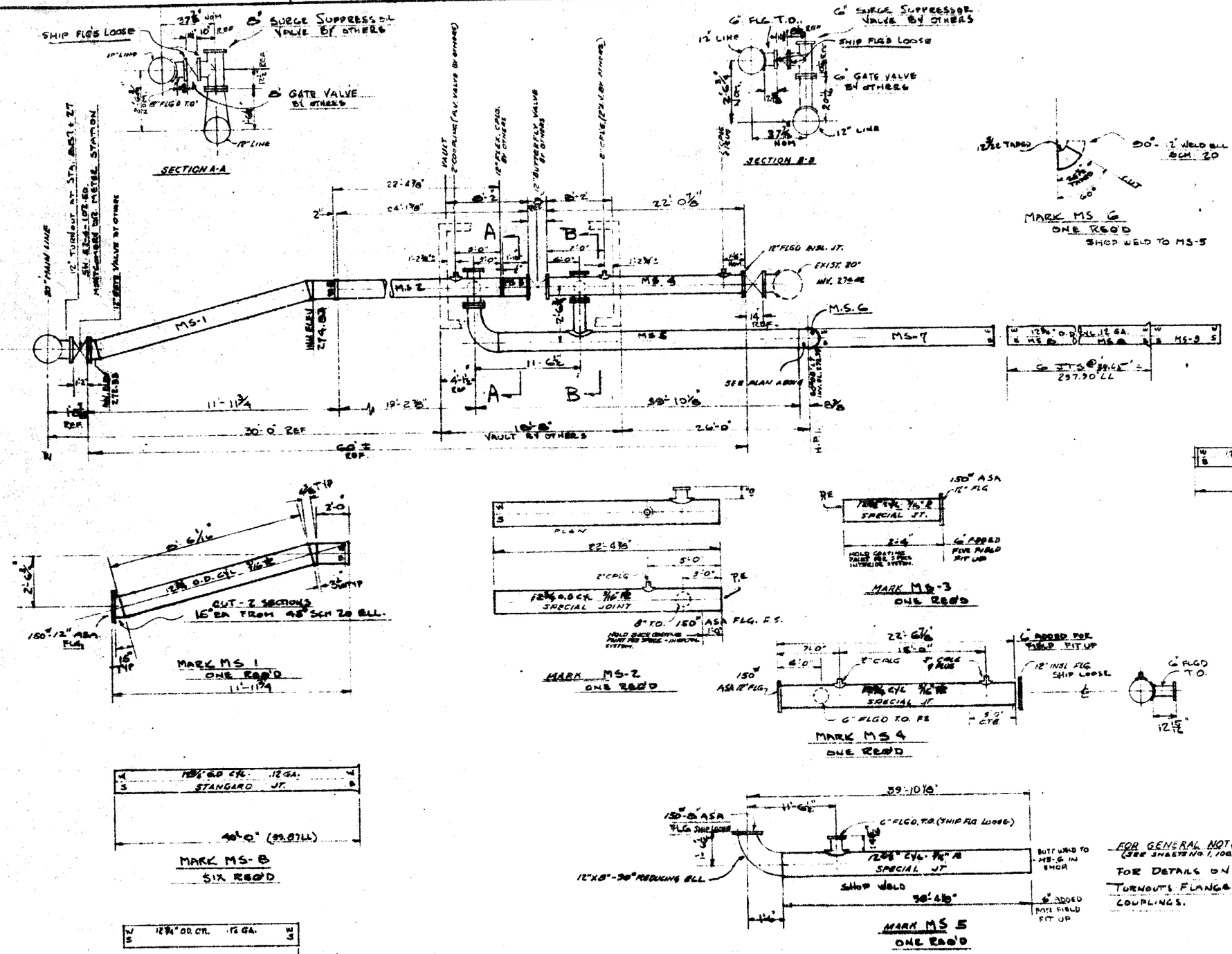
USED FOR NO. 812

REVISIONS				
LTR	DESCRIPTION	BY	CHKD	DATE
A	AS PER CHKD PRINT			

52-4-102, 164 SAB

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED OCT 16 1968 SONOMA CO. FLOOD CONTROL & WATER CONSV. DIST.



NOTE

MARK M.S. = MONTGOMERY STATION
SEE SH. R221-109, FOR DETAILS ON TURNOUTS, WELDED COUPLING, FLANGES. ALL PIPING OUTSIDE OF STRUCTURE TO BE LINED & COATED SAME AS MAIN LINE.
ALL PIPING INSIDE OF STRUCTURE TO RECIEVE ½" MORTAR LINING & INERTOL PRIMER & PAINT PER SEC. 2.19 OF SPECS. AS INDICATED
ALL FLGS SHOWN TO BE AWWA CLASS D

FOR GENERAL NOTES (SEE SHEETS NO. 1, 100 & 105)

FOR DETAILS ON TURNOUTS FLANGES COUPLINGS.

ITEM	QTY	DESCRIPTION	MAT'L

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TOLERANCE: FRACTIONS ± — DECIMALS ± —

DESIGNED JAC 1-1-68
DRAWN RGS 7-1-68
APPROVED

TITLE: SONOMA AQUEDUCT
SONOMA C.F.C. & W.C. DISTRICT
MONTGOMERY SER. METER STA. PIPING & COUP. TO SONOMA AQUEDUCT

DWG. NO. A 321
SCALE NONE
SHEET 88 OF
A

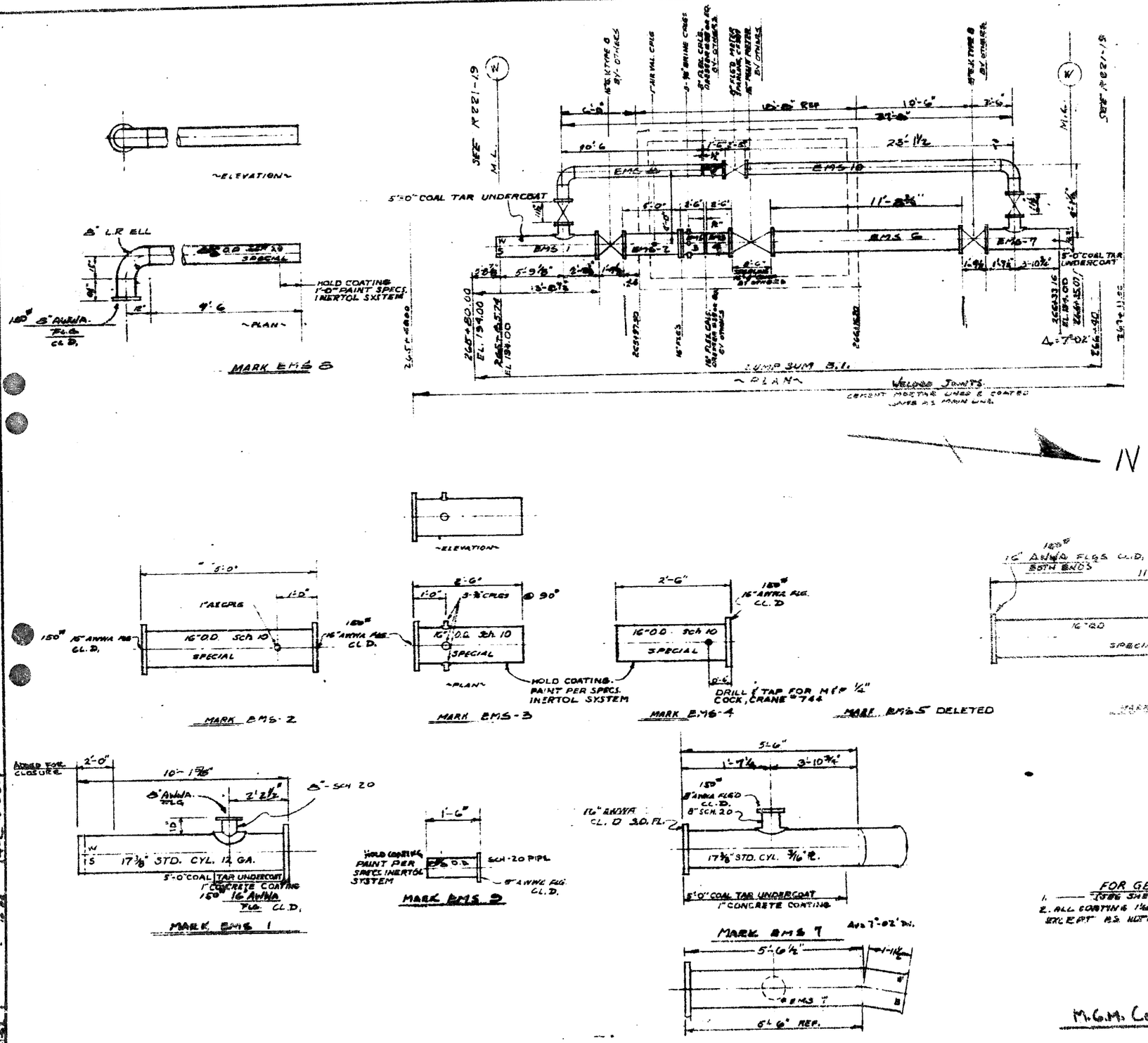
M.G.M CONST CO.

REFERENCE DRAWINGS

UCF 108 WC 822

REVISIONS				
LTR	DESCRIPTION	BY	CHK	DATE
A	GEN. CHKD. & L.			

52-4-102, 165 SAB



NOTE

MARK EMS = ELDRIDGE METER STATION

SEE - SH # 221-105 FOR DETAILS ON TURNOUTS - WELDED COUPLINGS - FLANGES

ALL PIPING OUTSIDE OF STRUCTURE TO BE LINED & COATED SAME AS MAIN LINE

ALL PIPING INSIDE OF STRUCTURE TO RECEIVE 1/2" MORTAR LINING & INERTOL PRIMER & PAINT PER SEC. 2.14 OF SPECIF. AS SHOWN

ALL FLANGES SHOWN TO BE AWWA CL. D.

RECEIVED OCT 13 1962 SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

AS BUILT
Date 3/20/68
By: [illegible]

FOR GENERAL NOTES
1. (SEE SHEETS NO. 1, 100 & 105)
2. ALL COATING 1/16" OR 1" OVER COAL TAR. & SYLKAT AS NOTED.

M.G.M. CONST. CO.

ITEM	QTY	DESCRIPTION	MATL

BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

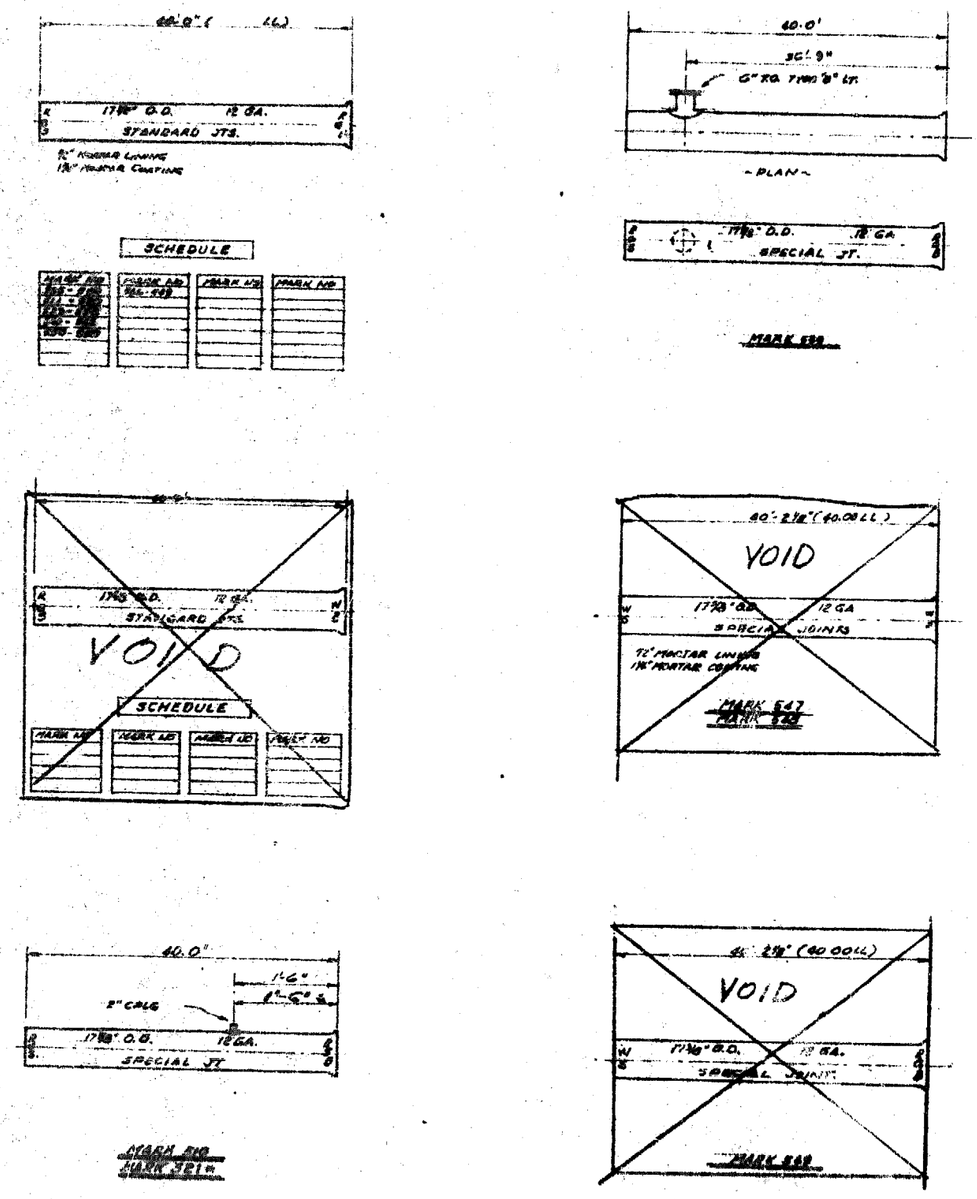
TOLERANCE: FRACTIONS ± ___ DECIMALS ± ___
DESIGNED JAK CHECKED JAS APPROVED

TITLE Solano Aqueduct
Solano Co. R.C.D. & N.C. Dist.
Eldridge Meter Station

REFERENCE DRAWINGS

DWG. NO. R-281 SCALE ___ SHT. III

UCP JOB NO. [illegible]



REVISIONS

LTR	DESCRIPTION	BY	CHK	DATE
A	[illegible]	[illegible]	[illegible]	[illegible]

52-4-102.166 SAB

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

ITEM	QTY	DESCRIPTION	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

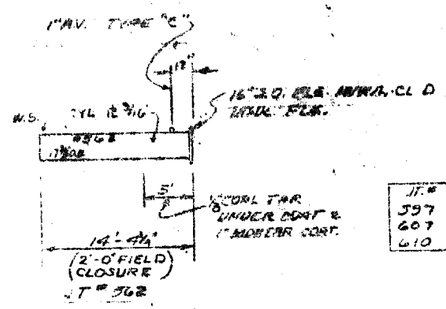
TITLE: [illegible]

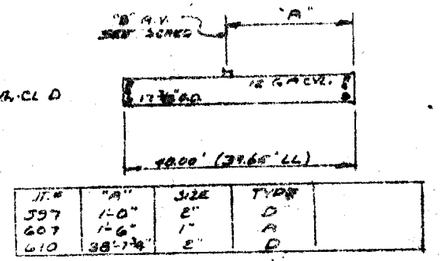
REFERENCE DRAWINGS

DWG. NO. R-22

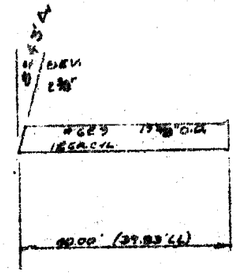
REVISIONS				
A	JT. NO. REVISED			
B	PER CONN. PRINT			

52-4-102.167 SAB

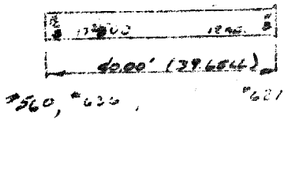




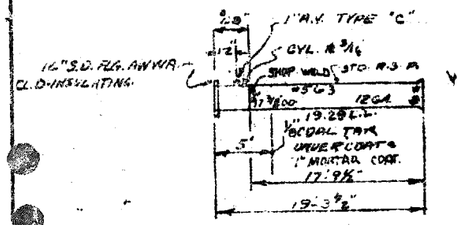
JT. #	"A"	SIZE	TYPE
597	1'-0"	8"	D
607	1'-6"	1"	A
610	38'-7 3/8"	8"	D



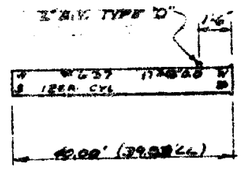
JT. # 629



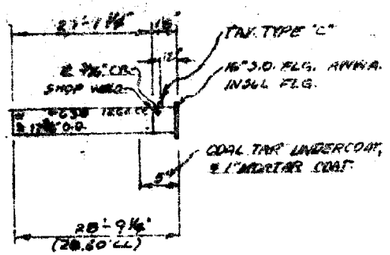
#560, #620, #621



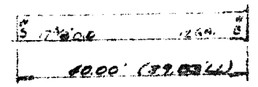
MARK #563



MARK #637



JT. # 638

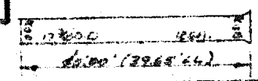


#564, #565

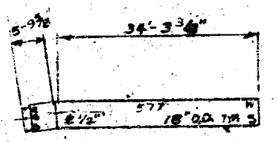
#630

#640

AS BUILT
Date 3/20/68
By: [illegible]

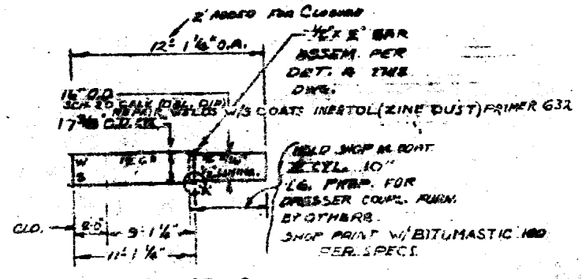


566 TO 576	579 TO 596		598 TO 626	628 TO 629	631 TO 638	632 TO 639

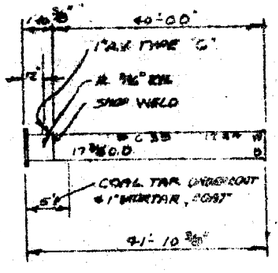


M.F. SEE R221-104

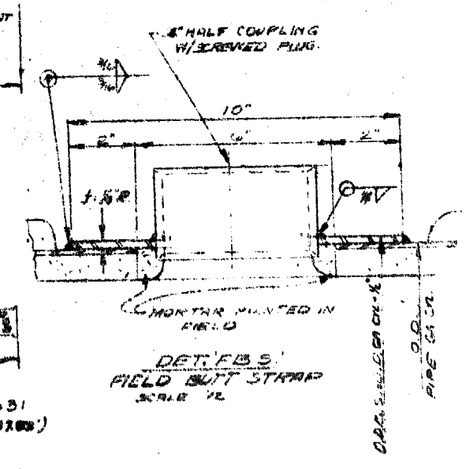
MARK #577



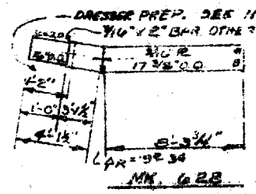
MK. 627-A



JT. # 639

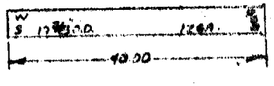


DET. "B"
FIELD BUTT STRAP
SCALE 1/2"



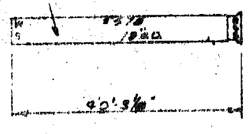
ELL DATA
Δh = 3°-57'-30" LT.
Δv = 8°-45' DN
Δh = 9°-34' PROVIDED L.P.D.

MK. 628

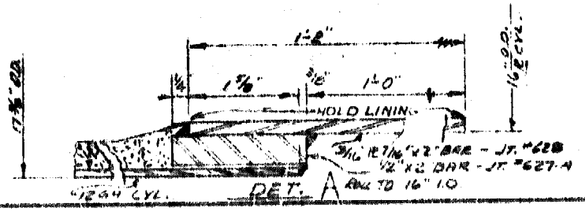


565 - (LL 39.88') + 631
OR 628-A (LL 39.88')

12 1/2" CYL. SEE R221-104



MARK #578



DET. A

GENERAL NOTES
1. ALL LINING = 2", ALL COATING = 1 1/4" EXCEPT AS NOTED.
2. FURTHER DET. SEE SHEET #1, #100 & #105

DWG. NO.	TITLE

REFERENCE DRAWINGS

RECEIVED OCT 16 1962 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

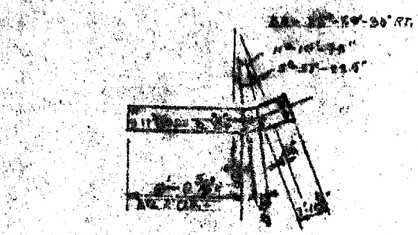
ITEM	QTY	DESCRIPTION	MAT
		BILL OF MATERIAL	

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

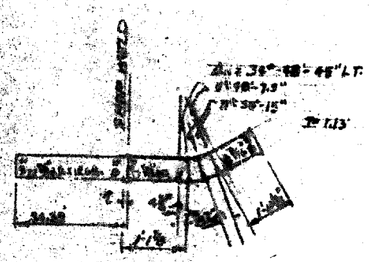
TOLERANCE: FRACTIONS ± DECIMALS ±
DESIGNED
CHECKED
APPROVED

TITLE: [illegible]

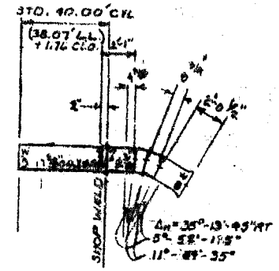
DWG. NO. R221
SCALE
DATE 1/13/62



JT. # 644-L



JT. # 650



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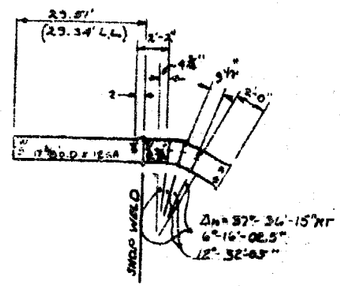

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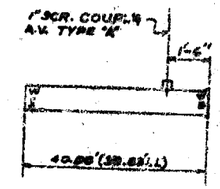

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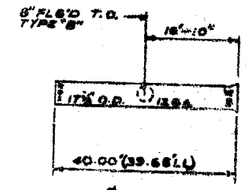

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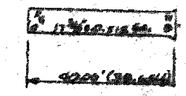
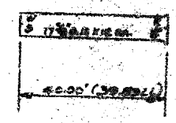
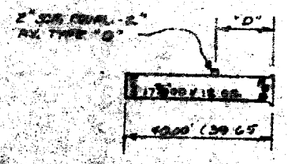
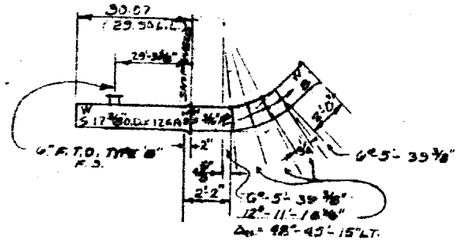


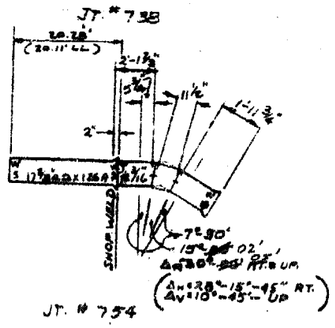




JT. # 660 1'-6"
664 38'-0"



JT. # 738



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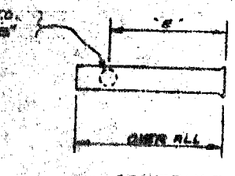
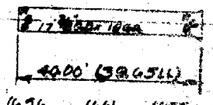
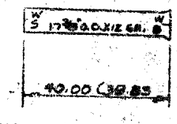


SCHEDULE

JT. #	OVERALL	L.L.	DIM "E"
695	40.00	32.65	37.67'





642	653	656	661	665	696		
647	654	6 TO	23 TO	16 TO	21 TO		
648	655	659	633	694	716		
719	732	750	757				
722	5 TO	751	5 TO				
6 TO	736		761				
727							

NOTE:- JTS. #739 THRU #747 - ELIMINATED

GENERAL NOTES.
1. ALL COATING 1/4", ALL LINING 1/2"
2. FOR FURTHER DETAILS SEE DWG. R-221-1, 400, & 405

AS BUILT
Date 3/20/68
By: [illegible]

RECEIVED
OCT 16 1962
SONOMA CO. FLOOD CONTROL & WATER CONSRV. DIST.

REVISIONS

52-4-102, 168 SAB

ITEM	QTY	DESCRIPTION	MAT'L

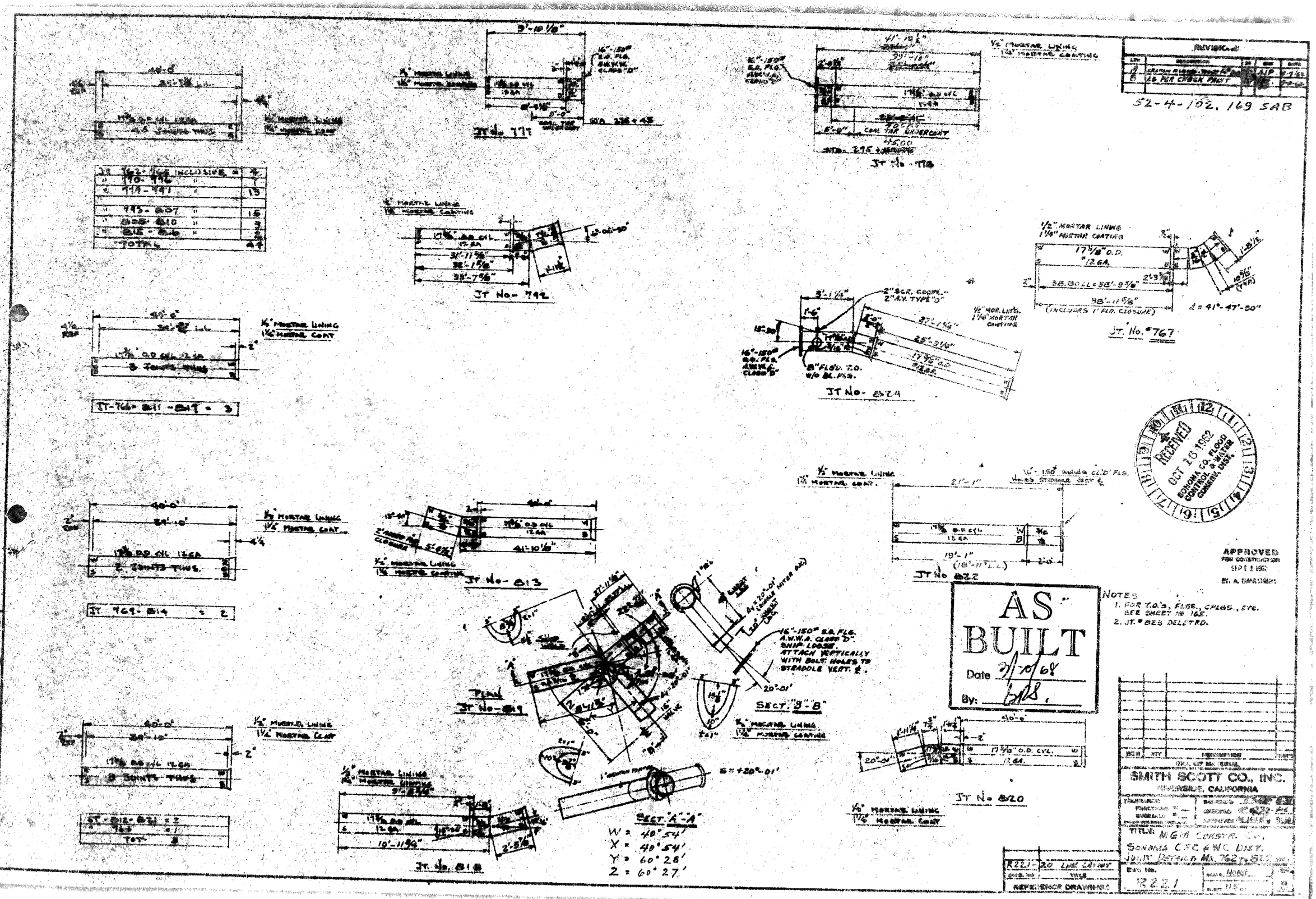
BILL OF MATERIAL

SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA

TITLE: [illegible] CONST. COMPANY
[illegible] W.C. DISTRICT
[illegible]

DWG. NO. R-221

REFERENCE DRAWINGS



52-4-102, 169 SAB
JT No. 777
JT No. 778
JT No. 792
JT No. 767
JT No. 824
JT No. 813
JT No. 822
JT No. 819
JT No. 820
JT No. 818
JT. 769-814 = 2
JT-766-811-819 = 3
JT. 812-821 = 2
TOTAL 44
PLAN
SECT. "B"-"B"
SECT. "A"-"A"
W = 40° 54'
X = 40° 54'
Y = 60° 28'
Z = 60° 27'
16"-150# S.O. FLG. A.W.W.A. CLASS "D". SHIP LOOSE. ATTACH VERTICALLY WITH BOLT HOLES TO STRADDLE VERT. ℄.
1/2" MORTAR LINING
1 1/4" MORTAR COATING
2" SCR. COUPL. 2" A.V. TYPE "D"
8" FLG'D. T.O. W/O BL. FLG.
17 3/8" O.D. CYL. 12 GA.
38.80 LL = 38'-9 5/8"
38'-11 5/8" (INCLUDES 1' FLD. CLOSURE)
Δ = 41°-47'-30"
RECEIVED OCT 16 1962 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.
APPROVED FOR CONSTRUCTION SEP 1 1962
AS BUILT
Date 3/10/68
By: BRS.
NOTES
1. FOR T.O.'S, FLGS., CPLGS., ETC. SEE SHEET No. 165.
2. JT. # 823 DELETED.
SMITH SCOTT CO., INC.
RIVERSIDE, CALIFORNIA
TITLE: MGM CONSTR. CO. SONOMA CFC & WC DIST. JOINT DETAILS MK. 762 to 822 INC.
R221
REFERENCE DRAWINGS

COMPUTED BY:

hi-Flo STEELWATER PIPE

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

File Copy 52-4-102.170 SAB

RECORD SET

PIPE SIZE - 21 25/32"

PIPE GAGE - 10

CUSTOMER - M.G.M. Const. Co. ENGINEER - Sonoma Co. Flood Control ENDS - —

JOB NO. R-221 LENGTH - STANDARD - 40.00' COATING - 1" LINING - 3/4"

PAY LENGTH

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
				Bid Item #1					314+08.19		16" to 20" Reducer
	16" x 20" Reducer	3.00'	—	3.00'	24902	97037	24192	.09	314+11.10		
1	20" x 20" x 16" W&E ℄	4.47	—	4.47	"	"	"	.13	314+15.44		℄ of 16" W&E
	2 PC Bend PE x WB	1.03	—	1.03	"	"	"	.03	314+16.44		P.I. Hor. 10°16' LT.
		2.79	—	2.79	"	"	"	.09	314+19.14		END of MARK 1
				—							
2	2 PC Bend PE x WB	9.24	.12	9.12	24902	97037	24192	.26	314+28.00	365.00	P.V.I. Δ=5°25' up
		3.62	—	3.62	15064	98884	14896	.04	314+31.58		
3	Joint PE x WB	40.00	.12	39.88	"	"	"	.45	314+71.01		
4	" " "	40.00	.12	39.88	"	"	"	.45	315+10.44	353.12	P.V.I. Δ=0°09' DN.
5	" " "	40.00	.12	39.88	16884	98604	16648	.56	315+49.76		
6	2 PC Bend PE x WB	28.69	.12	28.57	"	"	"	.40	315+77.93	241.72	P.I. Hor. Δ=12°27' LT. Δ=9°35' Δ=12°17'
		1.50	—	1.50				.02	315+79.41		
				—							
7	2 PC Bend PE x WB	21.00	.12	20.88	"	"	"	.29	316+00.00	337.83	P.V.I. Δ=4°26' up
		1.90		1.90	09013	99596	08926	.01	316+01.89		
				—							
8	Joint PE x FRS	40.00	.12	39.88	"	"	"	.17	316+41.60		
9	Std. Sect. MRS x FRS	40.00	.35	39.65	"	"	"		316+81.08		
10	2 PC Bend MRS x FRS	19.35	.35	19.00	"	"		.08	317+00.00	328.[illegible]	P.V.I. Δ=3°27' up
		1.43	—	1.43	02968	99957	02967	.01	317+01.42		
				—							
11	Std. Sect. MRS x FRS	40.00	.35	39.65	"	"	"	.02	317+41.05		
				336.13							

10-5
4-MGM } SHEETS 1 THRU 11
10-8-62

APPROVED

By [signature] Date 10/30/62

SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

SHEET 1 OF SHEETS

COMPUTED BY:

52-4-102,171 SAB

hi-Flo STEELWATER PIPE

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

SMITH-SCOTT CO., INC.

PIPE SIZE - 21 25/32"
PIPE GAGE - 10
CUSTOMER - M.G.M. Const. Co. ENGINEER - Sonoma Co. Flood Control
ENDS - —
JOB NO. R-221 LENGTH - STANDARD - 40' COATING - 1" LINING - 3/4"

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									317+41.05		
12	Std. Sect. MRS x FRS	40.00	.35	39.65	.02968	.99957	.02967	.02	317+80.68		
[illegible]	2 PC Bend MRS x FRS	40.00	.35	39.65	"	"	"	.02	318+20.32	325.42	P.V.I. Δ = 3° 50' Up
		1.50	—	1.50	.03725	.99930	.03722	—	318+21.82		
				—							
14	Std. Sect. MRS x FRS	40.00	.35	39.65	"	"	"	.03	318+61.43		
15	" " " "	"	"	"	"	"	"	"	319+01.05		
16	" " " "	"	"	"	"	"	"	"	319+40.67		
17	" " " "	"	"	"	"	"	"	"	319+80.29		
18	" " " "	"	"	"	"	"	"	"	320+19.91		
19	Joint MRS x WB	40.00	.35	39.65	"	"	"	.03	320+59.53		
20	Joint PE x WB	"	.12	" ?	"	"	"	"	320+99.38		
21	3 PC Bend PE x WB	33.84	.12	33.72	2° C.F. Included			.02	321+31.08	337.04	P.I. Hor. 22°39' [illegible]
[illegible]		2.46	—	2.46	.03725	.99930	.03722	—	321+33.54		
				—							
22	Joint PE x WB	41.90	.12	39.88	"	"	"	.03	321+73.37		
23	Joint PE x FRS	"	"	"	"	"	"	"	322+13.29		
24	Std. Sect. MRS x FRS	"	.35	39.65	"	"	"	.03	322+52.86		
25	" " "	"	"	"	"	"	"	"	322+92.48		
26	" " "	"	"	"	"	"	"	"	323+32.10		
27	" " "	"	"	"	"	"	"	"	323+71.72		
28	2 PC Bend MRS x FRS	28.65	.35	28.30	"	"	"	.02	324+00.00	347.00	E 3" A.V. P.V.I. Δ = 4° 0' DN.
	w/3" A.V.	1.47	—	1.49	.03259	.99947	.03257	.01	324+01.48		
				662.68							

AS BUILT
Date 3/20/68
By: [illegible]

SHEET 2 OF SHEETS

52-4-102.173SAB

COMPUTED BY:

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

Hi-Flo STEELWATER PIPE

PIPE SIZE - 21 25/32"

PIPE GAGE - 10

CUSTOMER - M.G.M. Const. Co. ENGINEER - Sonoma Co. Flood Control ENDS - —

JOB NO. R-221 LENGTH - STANDARD - 40' COATING - 1" LINING - 3/4"

PUSH IT Smith-Scott Co., Inc. Date 3-17-69 By: [illegible]

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									331+72.54		
49	Std Sect. MRS x FRS	40.00'	.35	39.65	.01193	.99993	.01193	—	332+12.19		
50	Joint MRS x FRS	26.16	.35	25.81				—	332+38.00		@ 2" A.V. Type "D"
	2" A.V. Type "D"	13.84	-	13.84				—	332+51.84	325.81	P.V.I. Δ = 0°29' DN.
51	Std Sect. MRS x FRS	40.00	.35	39.65	.02036	.99979	.02036	.02	332+91.48	325.00	P.V.I. Δ = 0°56' DN.
52					.03667	.99933	.03664	.03	333+31.10		
53									333+70.72		
54									334+10.39	320.63	P.V.I. Δ = 0°56' DN.
55					.05299	.99860	.05292	.06	334+49.93		
56									334+89.52		
57									335+29.11		
58	Joint MRS x WB								335+68.70		
59	2 PC Bend PE x FRS	8.43	.12	~~8.31~~ 6.31	2' CTE Included			.01	335+75.00	312.00	P.V.I. Δ = 3°02' up
		1.70	—	1.70	0000	0000		—	335+76.70		
60	Std. Sect. MRS x FRS	40.00	.35	39.65					336+16.35		
61									336+56.00		
62									336+95.65		
63									337+35.20	312.00	P.V.I. Δ = 2°36' DN.
64					.04541	.99897	.04536	.04	337+74.91	310.20	
65									338+14.62		
66									338+54.13		
67									338+93.79		

721.71

SHEET 4 OF SHEETS

COMPUTED BY:

52-4-102,172 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

SMITH-SCOTT CO., INC.

PIPE SIZE - 21" 25/32

PIPE GAGE - 10

CUSTOMER - M.G.M. Const. Co. ENGINEER - Sonoma Co. Flood Control ENDS - —

JOB NO. R-221 LENGTH - STANDARD - 40' COATING - 1" LINING - 3/4"

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									324+01.48		
29	Std. Sect. MRS x FRS	40.00	.35	39.65	03259	99947	03257	.02	324+41.11		
30	" " "	"	"	"	"	"	"	"	324+80.74		
31									325+20.37		
32									325+60.00		
33									325+79.63		
34									326+39.26		
35									326+78.89		
36									327+18.52		
37	Joint MRS x WB	40.00	.35	39.65				.02	327+58.15		
38	Joint PE x WB	40.00	.12	39.88				.02	327+98.01	334.09	
39	" " "	"	"	"				"	328+37.87	333.08	P.V.I. Δ = 0°25' up
40	2 PC Bend PE x WB	17.48	.12	17.36	2'-0" CUT TO FIT.			—	328+53.23	332.69	P.I. Δ = 13°07' Lt.
		1.71	—	1.71	02531	99968	02530	—	328+54.94		
				—							
41	Joint PE x WB	40.00	.12	39.88				.02	328+94.80		
42	Joint PE x FRS	"	"	"				"	329+34.66		
43	Std. Sect. MRS x FRS	40.00	.35	39.65				.01	329+74.30		
44								"	330+13.94	328.63	P.V.I. Δ = 0°46' up
45					01193	99913	01193	.00	330+53.59		
46									330+93.24		
47									331+32.89		
48									331+72.54		
				773.34							

AS BUILT

Date 3/30/68

By: [illegible]

SHEET 3 OF SHEETS

52-4-102.174SAB

COMPUTED BY:

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEEL WATER PIPE

PIPE SIZE - 21 25/32"

PIPE GAGE - 10

CUSTOMER - M.G.M. Const. Co. ENGINEER - Sonoma Co. Flood Control ENDS - —

JOB NO. R-221 LENGTH - STANDARD - 40' COATING - 1" LINING - 3/4"

SMITH-SCOTT CO. INC.

AS BUILT

Date 3/20/68

By: [illegible]

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									338+93.74		
68	Std. Sect MRSxFRS	40.00	.35	39.65	04541	99897	04536	.04	339+33.35		
6[illegible]	" " " "	"	"	"				"	339+72.96		
7[illegible]	2 PC Bend MRSxFRS	27.42	.35	27.07				.03	340+00.00	300.00	P.V.I. Δ=3°41' DN.
		1.55	—	1.55	11011	99399	10949	.01	340+01.54		
				—							
71	Joint MRS x WB	40.00	.35	39.65				.24	340+40.95		
72	" PEx WB	40.00	.12	39.88				.24	340+80.59		
73	2 PC Bend PEx WB	19.65	.12	19.53				.12	341+00.00	289.00	P.V.I. Δ 6°17' up
		2.17	—	2.17	0000	1.00000	00000	—	341+02.17		
				—							
74	Joint PEx WB	40.00	.12	39.88					341+42.05		
75	3 PC Bend PExWB	10.30	.12	8.18	2' C T F		Included		341+50.23	289.00	P.V.I. Δ=26°34' DN.
		1.70	—	1.70	50003	89441	44724	.18	341+51.75		
				—							
76	3 PC Bend PExWB	11.83	.12	11.71	"	"	"	1.23	341+62.23	283.00	P.V.I. Δ=26°34' up
		1.94	—	1.94	0000	1.00000	00000	—	341+64.17		
				—							
77	3 PC Bend PExWB	18.18	.12	18.06	"	"	"	—	341+82.23	283.00	P.V.I. Δ=26°34' up
		1.59	—	1.59	50003	89441	44724	.17	341+83.65		
				—							
78	3 PC Bend PExWB	9.71	.12	9.59	"	"	"	1.01	341+92.23	288.00	P.V.I. Δ=26°34' DN.
		2.06	—	2.06	0000	1.0000	00000		341+94.29		
				303.86							

SHEET 5 OF SHEETS

COMPUTED BY:

52-4-102.175 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-flo STEELWATER PIPE

SMITH-SCOTT CO., INC.

PIPE SIZE - 21 25/32

PIPE GAGE - 10

CUSTOMER - M.G.M. Const. Co ENGINEER - Sonoma Co. Flood Control ENDS - —

JOB NO. R-221 LENGTH - STANDARD - 40' COATING - 1" LINING - 3/4

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
					.00000	1.00000	.00000				
79	Joint PE x WB	1.62	.12	1.50				+	341+94.29		
	W/1/2 AIR VALVE	38.38	—	38.38				—	341+95.79		℄ of ½ A.V.
									342+34.17		
80	Joint PE x FRS	40.00	.12	39.88							
81	Std. Sect. MRS x FRS	40.00	.35	39.65					342+74.05		
82									343+13.70		
83									343+53.35		
84									343+92.00		
85									344+32.65		
86									344+72.30		
87									345+11.95		
88									345+51.60	288.00	P.V.I. A = 0° 48' DN.
89					.01396	.99990	.01396	—	345+91.25		
90									346+30.90		
91									346+70.56		
92	2 PC. Bend MRS x WB	13.88	.35	13.53					347+10.20		
		5.89	—	5.89					347+23.73		P.I. Hor. Δ = 7° 03' LT.
93	2 PC BEND PE x WB	40.00	.12	39.88					347+29.62		
		2.00	—	2.00					347+69.50	285.00	P.I. VERT A = 2° 27' UP
								+	347+71.50		
94	Joint w/8" outlet	1.62	.12	1.50	.02890	.99958	.02879	.01	347+72.99		℄ 8 5/8 O.D. to LT.
	PE x WB	33.40	—	33.40				.02	348+06.37		
				612.11							

SHEET 6 OF SHEETS

AS BUILT

Date 3/20/68

By: [illegible]

COMPUTED BY:

52-4-102.176 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

SMITH-SCOTT CO., INC.

PIPE SIZE 21 25/32"

PIPE GAGE 10

CUSTOMER M.G.M. Const. Co. ENGINEER Sonoma Co. Flood Control ENDS —

JOB NO. R-221 LENGTH-STANDARD 40' COATING 1" LINING 3/4"

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
					2'-0" CUT TO FIT INC.				348+06.37		
95	3 Pc Bend PE x WB	4.72	.12	2.60	02880	99958	02879	—	348+08.97		P.I. Hor. Δ = 21°19'40" RT
		37.05	—	37.05					348+46.00		
				—							
96	Joint PE x WB	40.00	.12	39.88				.02	348+85.86		
97	Joint PE x FRS	40.00	.12	39.88				.02	349+25.72	289.50	P.V.I. Δ = 2°02' DN.
98	Std Sect MRS x FRS	40.00	.36	39.65	00669	99998	00669		349+65.37		
99									350+05.02		
100									350+44.67		
101									350+84.32		
102									351+23.97		
103	Short Joint MRS x FRS	25.96	.35	25.61					351+49.58	288.00	P.V.I. Δ = 1°27' up
104	Std. Sect. MRS x FRS	40.00	.35	39.65	02531	99968	02530	.02	351+89.21		
105	JOINT MRS x FRS. 2" AIR VALVE	19.15 20.85	.35	18.80 20.85				.01 .01	352+08.00 352+28.86	—	@ 2" A.V. TYPE "D"
106	STD. SECTION MRS x FRS	40.00	.35	39.65				.02	352+68.47		
107									353+08.10		
108									353+47.73		
109									353+87.36	294.00	P.V.I. Δ = 0°37' DN.
110					00844	99996	00843	.00	354+27.01		
111									354+66.66		
112									355+06.31		
113									355+45.96		
114									355+86.61		

779.42

SHEET 7

AS BUILT

Date 3/30/68

OF SHEETS

By: [illegible]

COMPUTED BY:

52-4-102, 177 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

SMITH-SCOTT CO., INC.

PIPE SIZE - 21 25/32"

PIPE GAGE - 10

CUSTOMER - M.G.M. Const. Co. ENGINEER - Sonoma Co Flood Control ENDS - —

JOB NO. R-221 LENGTH - STANDARD - 40' COATING - 1" LINING - 3/4"

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									355+85.61		
115	std. Sect MRS x FRS	40.00	.35	39.65	00999	99996	00243	—	356+25.26		
116	Joint MRS x WB	40.00	.35	39.65					356+64.91		
117	Joint PE x WB	40.00	.12	39.88					357+04.79		
118	" " "	"	"	"					357+44.67		
119	JOINT PE x WB	8.00	.12	~~7.88~~ 3.88	2' CTE Included				357+50.55		@ 2" A.V. Type "A"
119	W/2" AIR VALVE & 2	23.17		23.17	00999	99996	00243		357+73.72	297.20	P.T. Δ = 15°28'
119	PC. BEND	1.49		1.49	08600	99632	08571	.01	357+75.20		
120	Joint PE x WB	40.00	.12	39.88				.15	358+14.93		
121	Joint PE x FRS	40.00	.12	39.88					358+54.66		
122	Std. Sect. MRS x FRS	40.00	.35	39.65					358+94.16		
123	Std. Sect. MRS x WB	40.00	.35	39.65					359+33.66		
124	Joint PE x WB	40.00	.12	39.88					359+73.39		
125	2 PC Bend PE x WB	1.13	.12	1.01				.01	359+74.39	284.00	P.V.I. Δ = 3°56' DN.
		38.87	—	38.87	15570	98809	15385	X	360+12.80		
126	2 PC Bend PE x WB	38.23	.12	38.11				.05	360+50.46	268.00	P.V.I. Δ = 14°33' up
		1.77	—	1.77	09981	99505	09932	.01	360+52.22		
127	Joint PE x WB	40.00	.12	39.88				.20	360+91.90		

508.18

AS BUILT

Date 3/20/68

By: [illegible]

SHEET 8 OF SHEETS

52-4-102, 178 SAB

COMPUTED BY:

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

PIPE SIZE - 21 25/32

PIPE GAGE - 10

CUSTOMER - M.G.M. Const. Co. ENGINEER - Sonoma Co. Flood Control ENDS - —

JOB NO. R-221 LENGTH - STANDARD - 40' COATING - 1" LINING - 3/4"

BUILT SMITH-SCOTT CO., INC. Date 3/20/68 By: [illegible]

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									360+91.90		
128	4 PC Bend PEXWB	3.76	.12	3.64	09981	99505	09932	.02	360+95.52	272.50	P.I. Δc = 36°-18' Δv = 8°-32'
		11.38	—	11.38				.06	361+06.94 BK 361+09.60 AH	= EQ.	END MK. No. 128
				—							
129	Joint PEXWB	40.00	.12	39.88	03783	99928	03781	.03	361+44.45	274.44	P.V.I. Δ = 1°-19' DN.
130	" " "	"	"	"	01494	99989	01493	.01	361+84.33		
131	" " "	"	"	"				"	362+24.19		
				—							
132	3 PC Bend PEXWB	25.01	.12	24.89				.01	362+49.07		P.I. Hor. Δ = 13°-26'-36" LT.
		2.50	—	2.50				—	362+51.57		
				—							
132-A	Short Joint PEXWB	9.00	.12	8.88				—	362+60.45		℄ 4" FLG'D outlet
	w/ 4" outlet LT.	3.06	—	3.06					362+63.51		
				—							
133	2 PC Bend PEXWB	40.63	.12	40.51				.01	363+04.01		P.I. Hor. LT. Δ = 7°-04'-06"
		2.00	—	2.00					363+06.01		
				—							
134	Short Joint PEXWB	25.95	.12	25.73				.01	363+31.73	277.23	P.V.I. Δ = 1°-30' up
135	Joint PEXFRS	40.00	.12	39.88	04104	99916	04100	.03	363+71.58	278.87	P.V.I. Δ = 2°-00' up
136	Std. Sect. MRSXFRS	40.00	.35	39.65	07607	99712	07585	.11	364+11.12	281.88	P.V.I. Δ = 1°-00' up
137					09365	99564	09324	.17	364+50.60	285.58	P.V.I. Δ = 2°-00' up
138					12899	99178	12793	.33	364+89.92	290.65	P.V.I. Δ = 2°-00' DN.
139					09365	99564	09324	.17	365+29.40		P.I. Hor. Δ = 1°-06' RT.
				440.71							

SHEET 9 OF SHEETS

COMPUTED BY:

52-4-102.179 SAB

hi-Flo STEELWATER PIPE

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

SMITH-SCOTT CO., INC.

PIPE SIZE 21" 2 5/32

PIPE GAGE 10

CUSTOMER M.G.M. Const. Co. ENGINEER Sonoma Co. Flood Control ENDS —

JOB NO. R-221 LENGTH-STANDARD 40' COATING 1" LINING 3/4"

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
140	std. Sect. MRS x FRS	40.00	.35	39.65	09365	99564	09324	.17	365+29.40		
141									365+68.88	298.05	P.I. Δ_V = 1°00' DN Δ_H = 1°-30' RT
142					07607	99712	07585	.11	366+08.42	301.06	P.I. Δ_V = 2°00' DN. Δ_H = 1°-30' RT.
143					04104	99916	04100	.03	366+48.04		P.I. Hor. Δ: 1°30' RT.
144									366+87.66	304.32	P.I. Δ_V = 0°51' DN.
145					02618	99966	02618	.01	367+27.30		P.I. Δ_H = 1°04'45" RT.
146									367+66.94	306.40	P.V.I. 1°30' DN.
147					00000	1.00000	00000	.00	368+06.59		
148									368+46.24		
149									368+85.89		
150									369+25.54		
151	Joint MRS x FRS w/ 3" A.V.T. Δ	15.16 24.84	.35 —	14.81 24.84					369+65.19 369+90.00		@ 3" A.V.T. Δ
152	Std. Sect. MRS x FRS	40.00	.35	39.65					370+04.84	306.40	P.V.I. Δ: 0°-30' DN.
153					00873	99996	00873		370+44.49	306.05	P.V.I. Δ: 0°-30' DN.
154					01745	99985	01745	.01	370+84.13		P.I. Hor. Δ: 1°49' RT.
155									371+23.77		P.I. Hor. Δ = 0°-07' RT.
156									371+63.41	303.98	P.V.I. Δ = 1°08' DN.
157					03725	99931	03722	.03	372+03.03		
158									372+42.65		
159	Joint MRS x WB	40.00	.35	39.65					372+82.27		
160	Joint PEX WB	40.00	.12	39.88					373+21.89		
									373+61.74		
				832.88							

AS BUILT

Date 3/20/68

By:

SHEET 10

COMPUTED BY:

52-4-102.180 SAB

hi-Flo STEELWATER PIPE

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

SMITH-SCOTT CO., INC.

PIPE SIZE - 21 25/32"

PIPE GAGE - 10

CUSTOMER - M.G.M. Const. Co. ENGINEER - Sonoma Co. Flood Control ENDS - —

JOB NO. R-221 LENGTH-STANDARD - 40' COATING - 1" LINING - 3/4"

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
				3.20	03722	99931	03722		373+61.74		
161	2 Pc Bend PEX WB	5.32	.12	5.20	2" C.T.E. Included			—	373+64.94	296.46	P.I. {Δ1 = 14° 40' 45" Lt. Δ2 = 0° 31' RT. Δc = 14° 42'
		3.67	—	3.67	02618	99966	02618	—	373+68.61		
				—							
162	Joint PEX WB	40.00	.12	39.88				.01	374+08.48	295.32	P.V.I. Δ = 1° 00' up
163	Joint PEX FRS	40.00	.12	39.88	00873	99996	00873	—	374+48.36	295.00	P.V.I. Δ = 0° 30' up.
164	Std. Sect. MRS x FRS	40.00	.35	39.65	00000	100000	00000	—	374+88.01		
165									375+27.66		
166									375+67.31		
167									376+06.96		
168									376+46.61		
169									376+86.26		
170									377+25.91		
171									377+65.56		
172									378+05.21		
173									378+44.86		
174									378+84.51		
175									379+24.16		
176									379+63.81		
177									380+03.46	295.00	
				—							
				—							
				—							
				641.73							

AS BUILT

Date 3/20/68

By: [illegible]

SHEET 11 OF SHEETS

52-4-102.181 SAB

COMPUTED BY: MG

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

PIPE SIZE 21"

PIPE GAGE

CUSTOMER

ENGINEER

ENDS

JOB NO.

LENGTH - STANDARD

COATING

LINING

SMITH-SCOTT CO., INC.

BUILT

Date 3/20/68

By:

RECEIVED OCT 2 1962 SONOMA CO. FLOOD CONTROL & WATER CONSERV. DIST.

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
	Pc 177 listed on Pg 11								380+03.46		
				39.65							
177	" " "	40.00	.35	39.65	"	"	"	.00	38[illegible]		
178	" " "	"	"	"	"	"	"	.00	38[illegible]		
180	" " "	"	"	"	"	"	"	.00	381+27.41		
181	" " "	"	"	"	"	"	"	.00	381+6[illegible].06		
182	" " "	"	"	"	"	"	"	.00	382+01.71		
183	" " "	"	"	"	"	"	"	.00	382+41.36		PULL RT 0°17'53" PULL DN 1°0' ✓
184	" " "	"	"	"	.01745	.99984	.01745	.01	38[illegible]	294.[illegible] ✓	PULL RT 0°05' PULL DN 0°5' ✓
185	" " "	"	"	"	.02182	.99976	.02182	.01	383+20.64	293.45 ✓	PULL DN [illegible] ✓
186	" " "	"	"	"	.04803	.99884	.04798	.05	383+60.24	291.55 ✓	PULL DN 0° 55' ✓
187	" " "	"	"	"	.06[illegible]	.99795	.06[illegible]	.07	38[illegible]	[illegible] ✓	PULL [illegible] ✓

396.50'

SHEET 12 OF SHEETS

COMPUTED BY: MG

52-4-102, 182 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

PIPE SIZE - 21 25/32 OD

PIPE GAGE - 10 GA

CUSTOMER -

ENGINEER -

JOB NO.

LENGTH - STANDARD -

COATING -

AS BUILT

Date ENDS 3/20/68

By: LINING

SMITH-SCOTT CO., INC.

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
					[illegible]	99785	[illegible]		383+99.[illegible]	289.[illegible] ✓	PULL UP 0°50' ✓
188	STD SECTION MRS X FRS	40.00	35	3965	04949	99177	04943	05	384+39.41	287.[illegible] ✓	
189	" " "	"	"	"	"	"	"	05	384+79.[illegible]	285.09 ✓	
190	" " "	"	"	"	"	"	"	05	385+18.61	283.13 ✓	PULL UP 2°40'
191	SHORT JOINT MRS X FRS	20.00	35	1965	01454	99989		00	385+38.26	282.85 ✓	PULL UP 2°40'
192	" " "	20.00	35	1965	02036	99979	02036	00	385+57.91	283.25 ✓	PULL UP 2°40'
193	STD SECTION MRS X FRS	40.00	35	3965	05532	99847	05534	05	385+97.51	285.44 ✓	PULL UP 0°40'
194	" " "	"	"	"	06700	99776	06685	04	386+37.07	288.09 ✓	PULL ON 0°50'
195	" " "	"	"	"	05340	99863	05340	05	386+76.67	290.17 ✓	PULL ON 0°50'
196	" " "	"	"	"	03783	99928	03781	03	387+16.29	291.67 ✓	PULL ON 0°40'
197	" " "	"	"	"	02[illegible]	99965	02[illegible]	01	387+55.93	292.71 ✓	PULL ON 1°30'
198	" " "		"		[illegible]	99996	[illegible]	00	387+95.58	293.[illegible] ✓	PULL ON 0°30'

396.15'

SHEET 13 OF SHEETS

52-4-102.183 SAB

COMPUTED BY: MG

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

SMITH-SCOTT CO., INC.

PIPE SIZE 21 1/2" [illegible]

PIPE GAGE 10GA

CUSTOMER M.G.M.

JOB NO. R-221

ENGINEER Sonoma Co. Ltd Contract

LENGTH-STANDARD 40'-0"

COATING 1"

ENDS "Ring Seal"

LINING 3/4"

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
	[illegible]	[illegible]		1.50	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				39.65					[illegible]	[illegible]	[illegible]
					[illegible]	[illegible]	[illegible]	.01	389+10.52	[illegible]	[illegible]
[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	.00	[illegible]	[illegible]	
[illegible]	[illegible]	40.00	35	39.65	[illegible]	[illegible]	[illegible]	.00	389+89.82		
WELD FROM STA [illegible]		70 STA [illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	9.[illegible]	[illegible]	[illegible]	[illegible]	.00	390+09.70		
MARK 205 DELETED				7.30	2.00 C.T.F. INCLUDED						
206	3PC BEND [illegible]	9.40	12	[illegible]	[illegible]	[illegible]	[illegible]	.00	390+37.00		P.I. VERT 8°26'-4" DN
		2.00		2.00	.50003	89441	44724	.21	390+38.79		
207	3PC BEND [illegible]	18.24	12	[illegible]	[illegible]	[illegible]	[illegible]	1.91	390+55.00	283.00	P.I. VERT 26°34' UP
		2.00		2.00	.00000	[illegible]	.00000	.00	390+57.00		
208	3PC BEND [illegible]	16.12	12	16.00	[illegible]	[illegible]	[illegible]	.00	390+75.00	283.00	P.I. VERT 19°3' UP
		2.00		2.00	35641	94196	33572	.12	390+74.88		
				285.55'							

AS BUILT

Date [illegible]

By: [illegible]

SHEET 14 OF SHEETS

COMPUTED BY: MG

52-4-102.184 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

PIPE SIZE 21"/33"
PIPE GAGE 10 GA
CUSTOMER MGM
JOB NO. R-321
ENGINEER [illegible]
LENGTH-STANDARD 40'-0"
COATING 1"
ENDS Ring Seal
LINING 3/4"

BUILT SMITH-SCOTT CO., INC.
Date 3/30/68
By: [illegible]

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									390+74.88		
209	3PC BEND PE x WB	21.83	[illegible]	21.83	[illegible]		[illegible]	1.27	390+[illegible]	291.00	PL BEND Δ = 16°32'
		2.00		2.00	32137	[illegible]	30597	.10	390+[illegible]		
210	JOINT PE x WB	40.00	.12	39.88	16525	[illegible]	16304	.53	391+[illegible]	298.15	
211	3PC BEND PE x WB	28.[illegible]	.12	28.64	"	"	"	3.8	391+[illegible]	302.50	PL VERT Δ = 18°29'
		2.00		2.00	52[illegible]	[illegible]	40791	2.3	391+60.77		
212	JOINT PE x WB	40.00	.12	39.88	"	"	"	4.65	392+02.02	322.08	PULL DN 3°34'
213	2PC BEND PE x WB	40.00	.12	39.88	45151	11140	[illegible]	3.53	392+38.37	338.49	PL VERT Δ = 9°38'
		2.00		2.00	26172	[illegible]	[illegible]	.67	392+40.30		
214	2PC BEND PE x WB	40.00	.12	[illegible]				3.0	[illegible]	[illegible]	PL VERT [illegible]
				[illegible]		[illegible]		[illegible]	[illegible]		PULL RT [illegible]
215	2PC BEND PE x WB	[illegible]		[illegible]				2.0	393+20.55	353.31	PL VERT Δ = 4°41' DN
		2.00		2.00	01745	[illegible]	01745	.00	393+22.55		PULL RT 0°37'20"
216	JOINT PE x WB	40.00	.12	39.88	"	"	"	.01	393+62.42	354.04	PULL UP 0°15'
217	JOINT PE x FRS	"	"	"	02182	[illegible]	02181	.01	394+02.29	354.90	
218	JOINT MRS x FRS w/2" AIR	38.50	.35	38.15	"	"	"	.01	394+40.43		℄ 2" AIR VALVE-TYPE "A"
	VALVE (18" FROM BELL) TYPE "A"	1.50		1.50	"	"	"	.00	394+41.93	355.76	PULL DN 0°45'
219	STD SECTION MRS x FRS	40.00	.35	39.65	00872	[illegible]	00872	.05	394+81.58	356.11	PULL DN 0°30'
				418.93'							

SHEET 15 OF SHEETS

COMPUTED BY: MG

52-4-102.105 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

Hi-Flo STEELWATER PIPE

PIPE SIZE 21 25/32" OD

PIPE GAGE - 10 GA

CUSTOMER - MGM

JOB NO. R-221

ENGINEER - Sonoma Co. FLD Control

LENGTH - STANDARD - 40'-0"

COATING - 1"

ENDS - "Ring-Seal"

LINING - 3/4"

SMITH-SCOTT CO., INC.

AS BUILT

Date 3/20/68

By: [illegible]

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
220	STD SECTION MRS x FRS	40.00	.35	39.65	.00872	.99996	.00872	.00	394+81.58	356.11	PULL ON 0°30'
221	" " "	"	"	"	.00000	1.0000	.00000	.00	395+21.23		
222	" " "	"	"	"	"	"	"	.00	395+60.88	356.11	PULL UP 0°30'
223	" " "	"	"	"	.00581	.99998	.00581	.00	396+00.53	356.34	
224	" " "	"	"	"	"	"	"	.00	396+40.18	356.57	
225	" " "	"	"	"	"	"	"	.00	396+79.83	356.80	
226	" " "	"	"	"	"	"	"	.00	397+19.48	357.03	
227	" " "	"	"	"	"	"	"	.00	397+59.13	357.26	
228	" " "	"	"	"	"	"	"	.00	397+98.78	357.49	
229	" " "	"	"	"	"	"	"	.00	398+38.43	357.72	
230	" " "	"	"	"	"	"	"	.00	398+78.08	357.95	
231	" " "	"	"	"	.01018	.99994	.01018	.00	399+17.73	358.18	PULL UP 0°15'
								.00	399+57.38	358.58	
232	JOINT MRS x WB	40.00	.35	39.65	"	"	"	.00	399+97.03	358.98	
233	4 PC BEND PEX WB	30.23	.12	30.11	"	"	"	.00	400+27.14	359.29	P.I. Horiz Δ = 45°-47'-RT
		3.00		3.00	"	"	"	.00	400+30.14		
234	JOINT PEX WB w/2" AIR VALVE TYPE "D" 35 FT FROM BELL	5.00	.12	4.88	"	"	"	.00	400+35.02		℄ 2" A.V. TYPE "D"
		35.00		35.00	"	"	"	.00	400+70.02	359.73	PULL UP 0°55'
235	JOINT PEX WB	40.00	.12	39.88	.02618	.99965	.02618	.01	401+09.89		
236	" "	"	"	"	"	"	"	.01	401+49.76	361.81	PULL ON 0°15'

668.20'

SHEET 16 OF SHEETS

52-4-102.186 SAB

COMPUTED BY: MG

hi-Flo STEELWATER PIPE

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

SMITH-SCOTT CO., INC.

PIPE SIZE 21 29/32" PIPE GAGE 00

CUSTOMER MGM ENGINEER Sonoma Co. Flood Control ENDS "RING-SEAL"

JOB NO. R-221 LENGTH - STANDARD 40'-0" COATING 1" LINING 3/4"

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
					02618	99965	02618	"	401+49.76	361.81	PULL ON 0°-15'
237	JOINT PE x WB	40.00	.12	39.88	02112	99976	02182	.01	401+89.63	362.67	
238	JOINT PE x FRS	40.00	.12	39.88	"	"	"	01	402+29.50	363.53	
239	STD SECTION MRS x FRS	40.00	.35	39.65	"	"	"	01	402+69.14	364.39	
240	" " "	"	"	"	"	"	"	01	403+08.78	365.25	
241	JOINT MRS x WB	40.00	.35	39.65	"	"	"	01	403+48.42	366.11	
242	JOINT PE x WB	40.00	.12	39.88	"	"	"	01	403+88.29	366.97	
243	4PC BEND PE x WB	4.00	.12	3.94	"	"	"	00	403+92.23	367.00	PI Angle A = 45°-47'
		3.00		3.00	"	"	"	00	403+95.23	367.13	
243-A	JOINT PE x WB	40.00	.12	39.88	"	"	"	01	404+35.50	367.99	PULL UP 0°-15'
244	JOINT PE x FRS	40.00	.12	39.88	02618	99965	02618	01	404+74.97	369.03	
245	STD SECTION MRS x FRS	40.00	.35	39.65	"	"	"	01	405+14.61	370.07	
246	" " "	"	"	"	"	"	"	01	405+54.25	371.11	
247	" " "	"	"	"	"	"	"	01	405+93.89	372.15	PULL ON 0°-55'
248	" " "	"	"	"	01076	99994	01076	00	406+33.54	372.58	
249	" " "	"	"	"	"	"	"	00	406+73.19	373.01	
250	" " "	"	"	"	"	"	"	00	407+12.84	373.44	
251	" " "	"	"	"	"	"	"	00	407+52.49	373.87	
252	" " "	"	"	"	"	"	"	00	407+92.14	374.30	
253	" " "	"	"	"	"	"	"	00	408+31.79	374.73	
254	" " "	"	"	"	"	"	"	00	408+71.44	375.16	
				721.79'							

AS BUILT
Date 3/10/68
By

SHEET 17 OF SHEETS

52-4-102,187 SAB

COMPUTED BY: MG

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

PIPE SIZE 21 25/32" OD

PIPE GAGE 10 GA

CUSTOMER MGM.

JOB NO. R-221

ENGINEER Sonoma Co FLD Control

LENGTH-STANDARD 40'0"

COATING 1"

ENDS "Ring-Seal"

LINING 3/4"

SMITH-SCOTT CO., INC.

BUILT

Date

By

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
					01076	99994	01076	00	408+71.44	375.16	
255	STD SECTION MRS x FRS	40.00	.35	39.65	"	"	"	00	409+11.09	375.59	
25[illegible]	" " "	"	"	"	"	"	"	"	409+50.74	376.02	PULL DN 0°37'
257	JOINT MRS x FRS W/3" AIR	38.50	.35	38.15	"	"	"	"	409+88.89		℄ 3" A.V. TYPE "A"
	VALVE TYPE "A" (18" FROM BELL)	1.50		1.50	00000	1.0000	00000	00	409+90.39	376.02	
258	STD SECTION MRS x FRS	40.00	.35	39.65	"	"	"	00	410+30.04	376.02	PULL DN 0°51'
259	" " "	"	"	"	01483	99989	01482	00	410+69.69	375.43	
260	" " "	"	"	"	"	"	"	00	411+09.34	374.84	
261	" " "	"	"	"	"	"	"	00	411+48.99	374.25	
262	" " "	"	"	"	"	"	"	00	411+88.64	373.66	
263	" " "	"	"	"	"	"	"	00	412+28.29	373.07	
264	" " "	"	"	"	"	"	"	00	412+67.94	372.48	PULL DN 0°09'
265	" " "	"	"	"	01221	99992	01221	00	413+07.59	372.00	PULL UP 0°42'
266	JOINT MRS x FRS W/2" AIR	12.76	.35	12.41	00000	1.0000	00000	00	413+20.00		℄ 2" A.V.
	VALVE TYPE "D" 27'-3" FROM BELL	27.24		27.24	"	"	"	00	413+47.24		
267	STD SECTION MRS x FRS	40.00	.35	39.65	"	"	"	00	413+86.89		
268	" " "	"	"	"	"	"	"	00	414+26.54		
269	JOINT MRS x WB	40.00	.35	39.65	"	"	"	00	414+66.19	372.0	
270	JOINT PE x WB	40.00	.12	39.88	"	"	"	00	415+05.84	372.0	PULL DN 2°10'
271	" "	"	"	"	03783	99925	03782	03	415+45.69	370.49	
272	4 PC BEND PE x WB	5.03	.12	~~4.91~~ 2.91	2'-0" C.T.F INCLUDED				415+48.60	370.88	P.I. Horiz. 37°58'31"
		2.50		2.50					415+51.10		PULL DN 0°50'

679.92

SHEET 18 OF SHEETS

COMPUTED BY: MG

52-4-102, 188 SAP

hi-Flo STEELWATER PIPE

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

PIPE SIZE 21 25/32" OD

PIPE GAGE - 10GA

CUSTOMER - MGM

JOB NO. R 221

ENGINEER - SONOMA Co. FLO CONTROL

LENGTH - STANDARD - 40.00

COATING - 1"

ENDS "RING-SEAL"

LINING - 3/4"

SMITH-SCOTT CO., INC. BUILT Date 2/20/68 By: [illegible]

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
273	JOINT PE x FRS	40.00	.12	39.88	05240	99863	05234	05	415+51.10		
274	STD SECTION MRS x FRS	40.00	12	39.65	"	"	"	05	415+90.93	369.08	
275	" " "	"	"	"	05065	99871	05065	05	416+30.53	367.00	PULL UP 0°06'
276	" " "	"	"	"	07557	99714	07556	.11	416+70.13	365.00	PULL DN 1°26'
277	JOINT MRS x WB	"	"	"	03783	99928	03781	03	417+09.64	362.00	PULL UP 2°10'
278	4Pc BEND PE x WB W/8°	35.68	.12	35.56	00000	10000	00000	00	417+55.02 BK		
	T.O RT @ STA 417+82.00	2.50		2.50	"	"	"	00	417+77.90 AH	EQ 360.50	P.I. HORIZ Δ = 33°37'08"
279	JOINT PE x WB	40.00	12	39.88	"	"	"	00	417+82.40		
280	JOINT PE x FRS	40.00	12	39.88	03492	99939	03490	02	418+22.28	360.50	PULL UP 2°0'
281	STD SECTION MRS x FRS	40.00	.35	39.65	06992	99756	06976	02	418+62.14	361.88	
282	" " "	"	"	"	03491	99939	03490	02	419+01.77	364.65	PULL DN 2°0'
283	JOINT MRS x FRS - W/1½" AIR VALVE 12" FROM BELL	"	"	"	00000	10000	00000	00	419+41.40	366.03	PULL DN 2°0'
									419+81.05	366.03	
284	STD SECT MRS x FRS	40.00	.35	39.65	"	"	"	00	420+20.70	366.03	PULL DN 1°30'
285	" " "	"	"	"	02618	99965	02618	01	420+60.34	364.99	
286	" " "	"	"	"	"	"	"	01	420+99.98	363.95	PULL DN 1°0'
287	" " "	"	"	"	04366	99904	04362	04	421+39.59	362.23	PULL UP 2°0
288	" " "	"	"	"	00872	99992	00872	00	421+79.24	361.87	PULL UP 2°0'
289	SHORT JOINT MRS x FRS	20.00	.35	19.65	02618	99965	02618	01	421+98.88	362.38	PULL UP 2°0'
290	" " "	"	"	"	06116	99813	06105	04	422+18.49	363.58	PULL UP 2°0'
291	STD SECTION MRS x FRS	40.00	.35	39.65	09608	99539	09584	19	422+57.96	367.38	PULL DN 1°15'
				712.45'							

SHEET 19 OF SHEETS

COMPUTED BY: M.G

52-4-102, 189 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

PIPE SIZE - 21 25/32"

PIPE GAGE - 10GA

CUSTOMER - MGM

JOB NO. P-221

ENGINEER - SONOMA Co. FLD CONTROL

LENGTH - STANDARD - 40'-0"

ENDS - "RING-SEAL"

COATING - 1"

LINING - 3/4

SMITH-SCOTT CO., INC.

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									422+57.96	367.38	
292	STD SECTION MRS x FRS	40.00	.35	39.65	07431	99725	07411	.11	422+97.50	370.32	PULL DN 1°15'
293	" " "	"	"	"	04366	99904	04362	04	423+37.11	372.05	
294	" " "	"	"	"	"	"	"	04	423+76.72	373.78	PULL RT 0°15' PULL DN 1°15'
295	" " "	"	"	"	02182	99972	02181	01	424+16.36	374.64	PULL RT 0°21' PULL DN 0°45'
296	" " "	"	"	"	00872	99996	00873	00	424+56.01	375.00	PULL DN 0°30'
297	" " "	"	"	"	00000	10000	00000	00	424+95.66	375.00	
298	" " "	"	"	"	"	"	"	00	425+35.31		
299	" " "	"	"	"	"	"	"	00	425+74.96		
300	JOINT MRS x FRS w/2" G.V TYPE "D" AT 426+00.00	"	"	"	"	"	"	00	426+14.61	375.0	PULL UP 1°30'
301	JOINT MRS x WB	40.00	.35	39.65	02618	99965	02611	01	426+54.25	376.04	PULL DN 0°25'
302	JOINT PE x WB	40.00	.12	39.88	01891	99982	01891	01	426+94.12	376.79	
303	3PC BEND PE x WB	33.01	.12	32.89	"	"	"	01	427+27.00	377.41	P.I. Δ_R = 27°15'
		3.00		3.00	"	"	"	00	427+30.00	377.47	
304	JOINT PE x WB	40.00	.12	39.88	"	"	"	01	427+69.87	378.22	
305	3PC BEND PE x WB	10.25	.12	10.13	"	"	"	00	427+80.00	378.41	P.I. Δ_L = 30°0'
		3.00		3.00	"	"	"	00	427+83.00		
306	JOINT PE x WB	40.00	.12	39.88	"	"	"	00	428+22.87	379.22	
307	JOINT PE x FRS	40.00	.12	39.88	"	"	"	00	428+62.74	379.97	PULL UP 0°25'
308	STD SECT MRS x FRS	40.00	.35	39.65	02618	99967	02618	01	429+02.38	381.01	PULL LT 1°20' PULL DN 1°30'
				644.69'							

SHEET 20 OF SHEETS

52-4-102.190 SAB

COMPUTED BY: MG

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

PIPE SIZE 21 25/32" OD

PIPE GAGE - 10 GA

CUSTOMER - M.G.M.

JOB NO. R-221

ENGINEER - SONOMA Co FLOOD CONTROL

ENDS - RING-SEAL

LENGTH - STANDARD - 40'-0"

COATING - 1"

LINING - 3/4"

SMITH-SCOTT CO., INC.

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
					02618	99967	02618		429+02.38	381.01	
309	STD SECTION MRS x FRS	40.00	.35	39.65	00000	1.0000	00000	00	429+42.03	381.01	PULL LT 0°42'
310	" " "	"	"	"	"	"	"	00	429+81.68		
311	" " "	"	"	"	"	"	"	00	430+21.33	381.01	PULL UP 0°30'
312	" " "	"	"	"	00873	99996	00873	00	430+60.98	381.36	
313	" " "	"	"	"	"	"	"	"	431+00.63	381.71	PULL LT 1°11'-53"
314	" " "	"	"	"	"	"	"	"	431+40.28	382.06	PULL UP 0°22'
315	" " "	"	"	"	01512	99988	01512	"	431+79.93 BK 431+96.28 AH	= EQ	
316	" " "	"	"	"	"	"	"	"	432+15.89	383.26	
317	" " "	"	"	"	"	"	"	"	432+55.54	383.86	
318	" " "	"	"	"	"	"	"	"	432+95.19	384.46	
319	" " "	"	"	"	"	"	"	"	433+34.84	385.06	
320	" " "	"	"	"	"	"	"	"	433+74.49	385.66	
321	" " "	"	"	"	"	"	"	"	434+14.14	386.26	
322	" " "	"	"	"	"	"	"	"	434+53.79	386.86	
323	" " "	"	"	"	01512	99988	01512	"	434+93.44	387.46	
324	" " "	"	"	"	"	"	"	"	435+33.09	388.06	
325	" " "	"	"	"	00000	1.0000	00000	"	435+72.74	388.06	
326	" " "	"	"	"	"	"	"	"	436+12.39	"	
327	" " "	"	"	"	"	"	"	"	436+52.04	388.06	PULL UP 2°0'
328	" " "	"	"	"	03492	99939	03940	02	436+91.67	389.44	PULL UP 1°30
329	" " "	"	"	"	06116	99813	06105	07	437+31.25	391.86	PULL DN 2°0'
330	" " "	"	"	"	02618	99965	02618	01	437+70.89	392.90	

872.30'

AS BUILT

Date 3/20/68

By: [illegible]

SHEET 21 OF SHEETS

COMPUTED BY: MG

52-4-102.191 SAB

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

hi-Flo STEELWATER PIPE

PIPE SIZE 21 25/32" OD
PIPE GAGE - 10GA
CUSTOMER - MGM
JOB NO. R 321

ENGINEER - SONOMA Co FLOOD CONTROL
LENGTH - STANDARD -
COATING -
ENDS
LINING -

SMITH-SCOTT CO., INC.

MARK NO	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
331	STD SECT MRS x FRS	40.00	35	39.65	02618	99965	02618	01	437+70.89	392.90	
332	" " "	"	"	"	"	"	"	"	438+10.53	393.94	
333	" " "	"	"	"	"	"	"	"	438+50.17	394.98	PULL DN 1°30'
334	" " "	"	"	"	00000	1.0000	00000	"	438+89.82		
335	" " "	"	"	"	"	"	"	"	439+29.47		
336	" " "	"	"	"	"	"	"	"	439+69.12		
337	" " "	"	"	"	"	"	"	"	440+08.77	394.98	PULL UP 0°30'
338	" " "	"	"	"	00872	99996	00872	00	440+48.42		
339	" " "	"	"	"	"	"	"	"	440+88.07	395.68	
340	" " "	"	"	"	"	"	"	"	441+27.72	396.03	
341	" " "	"	"	"	"	"	"	"	441+67.37	396.38	
342	" " "	"	"	"	01745	99984	01745	.01	442+07.01	397.07	
343	" " "	"	"	"	"	"	"	"	442+46.65	397.76	
344	" " "	"	"	"	"	"	"	"	442+86.29	398.45	
345	" " "	"	"	"	"	"	"	"	443+25.93	399.14	
346	" " "	"	"	"	"	"	"	"	443+65.57	399.83	
347	" " "	"	"	"	"	"	"	"	444+05.21	400.52	PULL LT 1°0'
348	JOINT MRS x FRS - W/4° 7.0 AT STA 444+74.20	"	"	"	"	"	"	"	444+44.85	401.21	PULL LT 1°15'
349	STD SECT MRS x FRS	"	"	"	"	"	"	"	444+84.49	401.90	PULL LT 1°30'
350	" " "	"	"	"	"	"	"	"	445+24.13	402.59	PULL LT 1°15'
351	" " "	"	"	"	"	"	"	"	445+63.77	403.28	PULL LT 0°44'
									446+03.41	403.97	PULL DN 0°30'

837.65'

AS BUILT
Date 3/20/68
By: [illegible]

SHEET 22 OF SHEETS

52-4-102.192 SAB

COMPUTED BY: MG.

hi-Flo STEELWATER PIPE

PIPE CALCULATIONS

SMITH-SCOTT COMPANY, INC.

P. O. BOX 3033 RIVERSIDE, CALIFORNIA

OV 5-5251

PIPE SIZE 21"/23.00

PIPE GAGE · 10 GA

CUSTOMER · MGM

JOB NO. R 221

ENGINEER · SONOMA Co FLOOD CONTROL

LENGTH - STANDARD · 40'-0"

ENDS "RING-SEAL"

COATING · 1"

LINING 3/4"

BSSILT SMITH-SCOTT CO. Date 3/5/62 By: SAB

MARK NO.	DESCRIPTION	GROSS LENGTH	BELL LOSS	NET LENGTH	TANGENT	COSINE	SINE	SLOPE LOSS	STATION	ELEVATION	REMARKS
									446+03.41	403.97	PULL DN 0°-30'
352	STD SECT MBS x FBS	40.00	.35	39.65	00872	99996	00872	00	446+43.06	404.32	
353	" " "	"	"	"	"	"	"	"	446+82.71	404.67	
354	" " "	"	"	"	"	"	"	"	447+22.36	405.02	
355	" " "	"	"	"	"	"	"	"	447+62.01	405.37	
356	" " "	"	"	"	"	"	"	"	448+01.66	405.72	
357	" " "	"	"	"	"	"	"	"	448+41.31	406.07	
358	" " "	"	"	"	"	"	"	"	448+80.96	406.42	
359	" " "	"	"	"	00581	99998	00582	"	449+20.61	406.77	Pull Dn 0°-20'
360	" " "	"	"	"	00000	1.0000	00000	"	449+60.26	407.00	
361	" " "	"	"	"	"	"	"	"	449+99.91	"	
362	" " "	"	"	"	"	"	"	"	450+39.56	"	
363	" " "	"	"	"	"	"	"	"	450+79.21	"	
364	" " "	"	"	"	00872	99996	00872	"	451+18.86	407.00	PULL UP 0°-30'
365	" " "	"	"	"	"	"	"	"	451+58.51	407.35	
366	" " "	"	"	"	"	"	"	"	451+98.16	407.70	
									452+37.81	~~408.50~~	408.05
367	STD SECT MBS x FBS	40.00	.35	39.65	"	"	"	"	452+75.96		℄ 1" A.V. TYPE "B"
368	JOINT MBS x FBS w/1" AIR VALVE TYPE "B" 18" FROM BELL	38.50 / 1.50	.35	38.15 / 1.50					452+77.46	408.40	PULL DN 1°-0'
									453+17.11	408.05	
369	STD SECT MBS x FBS	40.00	.35	39.65	"	"	"	"	453+56.76	407.70	PULL DN 0°-30'
370	" " "	"	"	"	"	"	"	"			
				753.35							

SHEET 23 OF SHEETS

10 - SONOMA
4 - MGM

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