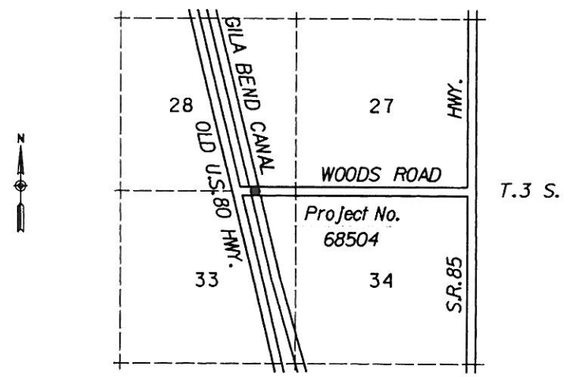
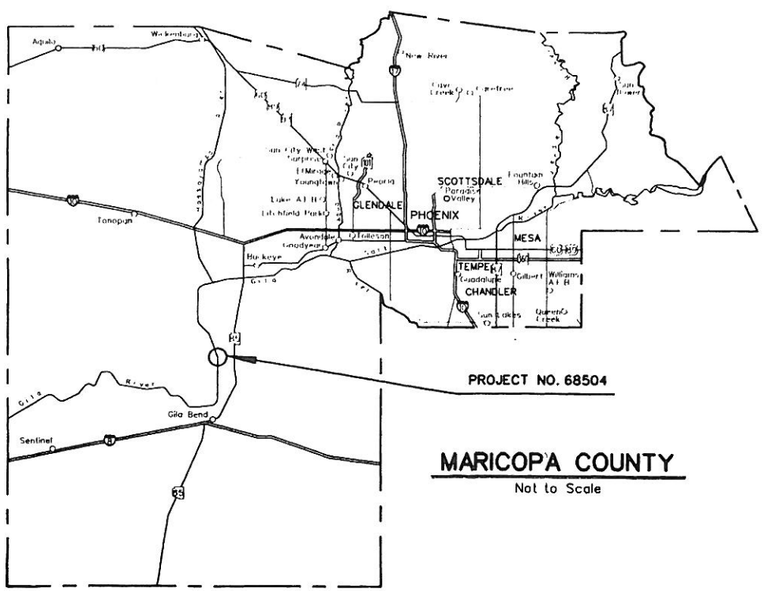
MARICOPA COUNTY
DEPARTMENT OF TRANSPORTATION

PLANS FOR THE CONSTRUCTION OF
WOODS ROAD BRIDGE AT GILA BEND CANAL
PROJECT NO. 68504



VICINITY MAP

AS-BUILT
3-24-94



MARICOPA COUNTY
Not to Scale

DIN # 66550

MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION

ISSUED FOR PUBLIC BIDDING BY:

DIRECTOR — DATE 10-22-93

COUNTY BOARD OF SUPERVISORS

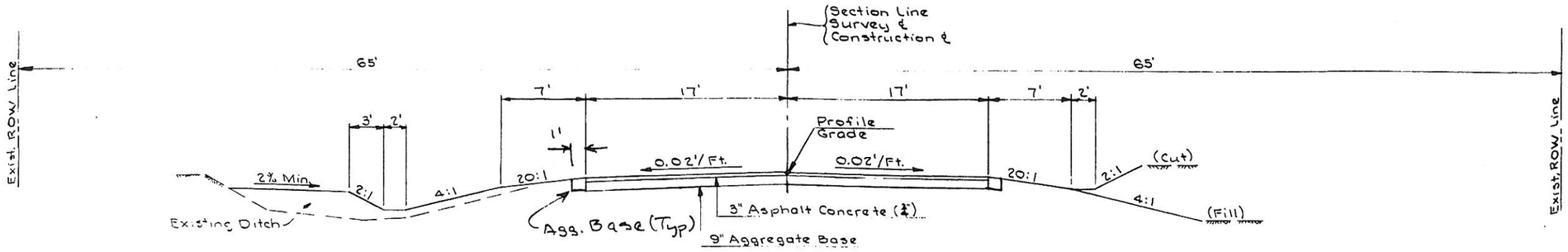
JIM BRUNER - CHAIRMAN

DISTRICT 1	TOM RAWLES
DISTRICT 2	JIM BRUNER
DISTRICT 3	BETSEY BAYLESS
DISTRICT 4	ED KING
DISTRICT 5	MARY ROSE WILCOX

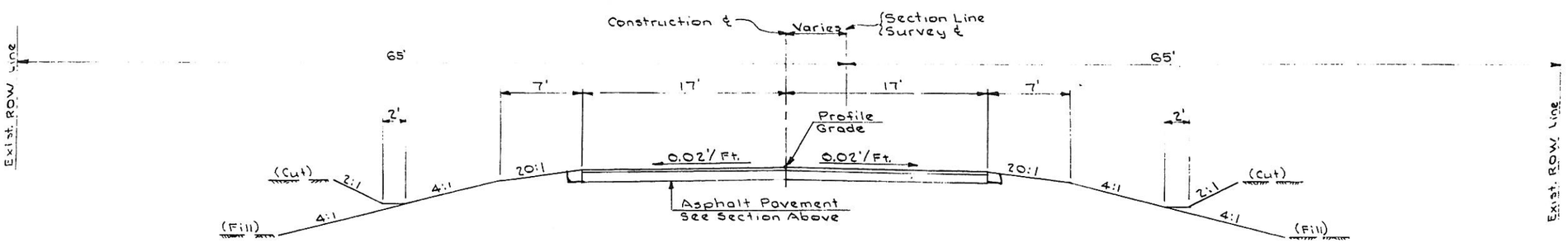
PROJECT NO. 68504

STATE	PROJECT NO	SHEET	TOTAL	AS BUILT
ARIZONA	68504	2	12	3-24-94

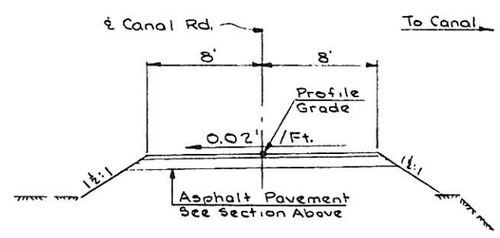
PE



WEST OF CANAL



EAST OF CANAL



CANAL ROAD

LENGTH OF PROJECT

Woods Rd.
Sta. 6+13 to 9+54.5 = 341.5'
Sta. 9+54.5 to 10+28.5 = 74' (Bridge)
Sta. 10+28.5 to 16+00 = 571.5'
Total = 987' or 0.19 miles

INDEX OF SHEETS

SHEET NO.	TYPE
1	Face Sheet
2	Sections & Notes
3,4	Plan & Profile
5	Location Plan
6-11	Bridge Details
12	Miscellaneous

GENERAL NOTES

All elevations are on U.S.C.&G.S. datum.

All R.O.W. encroachments will be removed or relocated by the Contractor.

Disposal of all waste material, broken concrete, etc., will be the responsibility of the Contractor.

All existing utilities shown on Plans are from latest available plats of record. Contractor shall verify actual locations prior to commencing construction operations to avoid conflicts.

All Public Utility facilities which interfere with construction will be removed or relocated by their respective owners.

New Roadway will be striped by M.C.D.O.T.

TYPICAL SECTIONS & NOTES

MARICOPA COUNTY HIGHWAY DEPARTMENT

SCALE: 1" = 5'	APPROVED BY:	DRAWN BY: P.E.
DATE: 12-12-89		CHECKED:

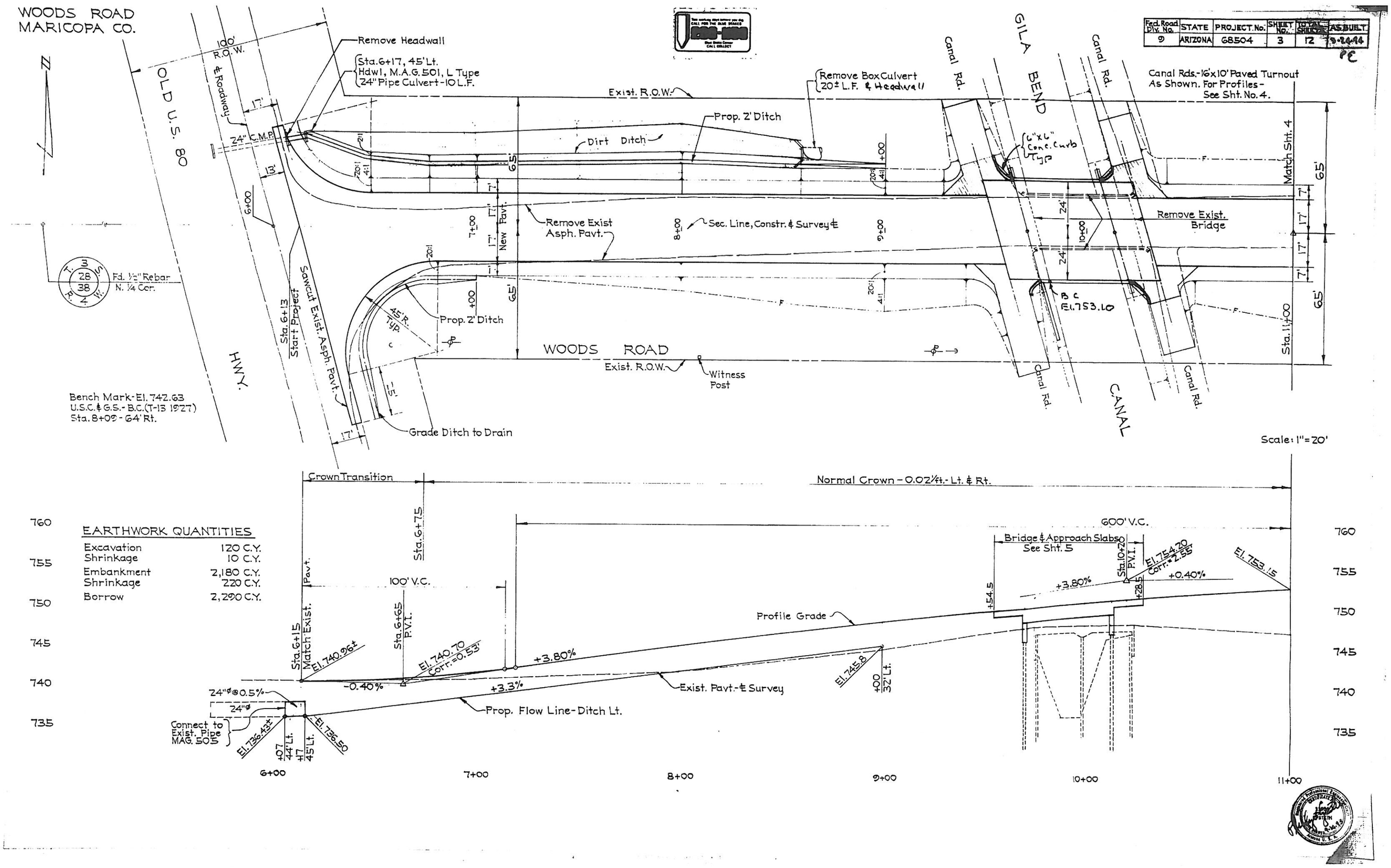
WOODS RD. - GILA BEND CANAL

M.C.H.D. Project No. 68504 — DRAWING NUMBER 2

DESCRIPTION OF REVISIONS	BASE OF	DATE

WOODS ROAD
MARICOPA CO.

Fed. Road Div. No.	STATE	PROJECT No.	SHEET No.	TOTAL SHEETS	AS BUILT
9	ARIZONA	68504	3	12	9-24-14 PE



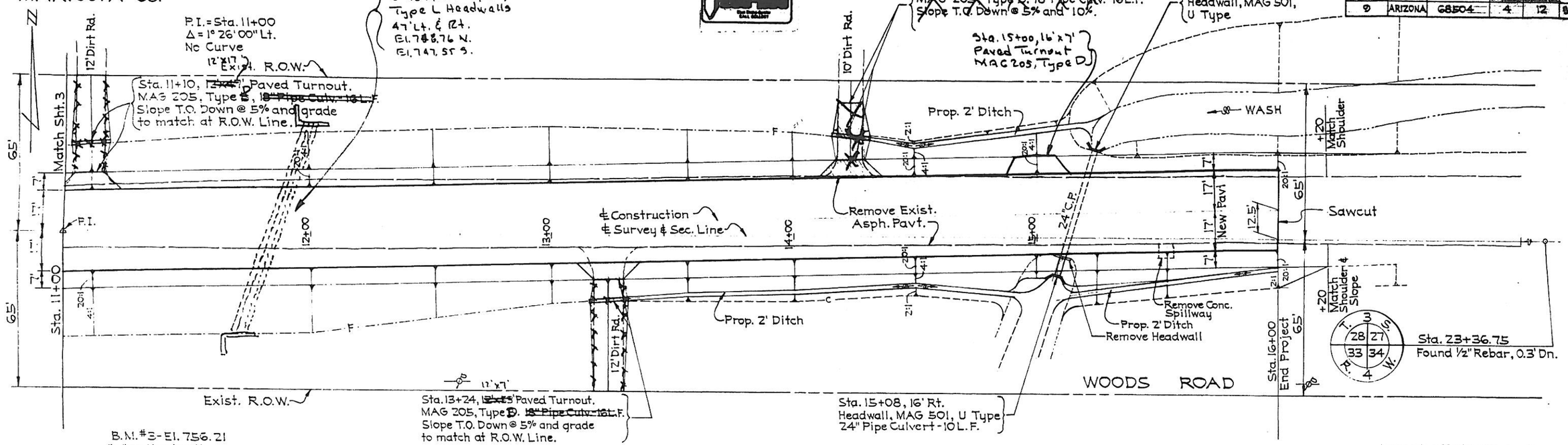
EARTHWORK QUANTITIES

Excavation	120 C.Y.
Shrinkage	10 C.Y.
Embankment	2,180 C.Y.
Shrinkage	220 C.Y.
Borrow	2,290 C.Y.

Fed. Road Div. No.	STATE	PROJECT No.	SHEET No.	TOTAL SHEETS	AS BUILT
9	ARIZONA	G8504	4	12	8-26-96

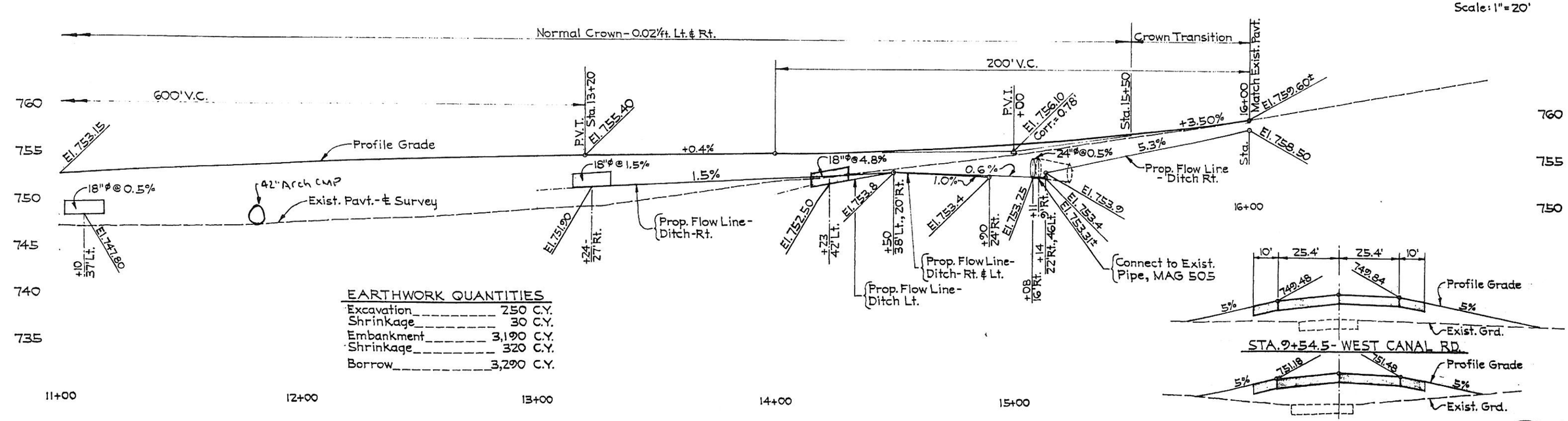
PE

WOODS ROAD
MARICOPA CO.



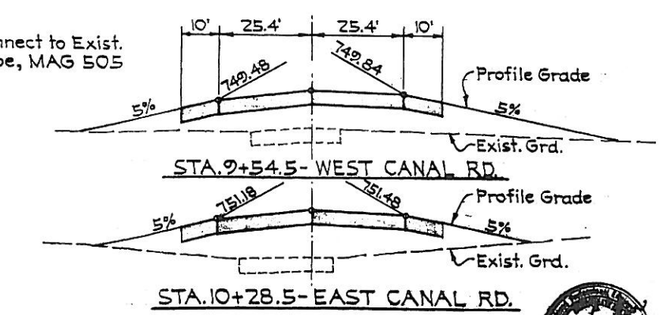
Note: All offsets called out from Survey ℄.

Scale: 1" = 20'



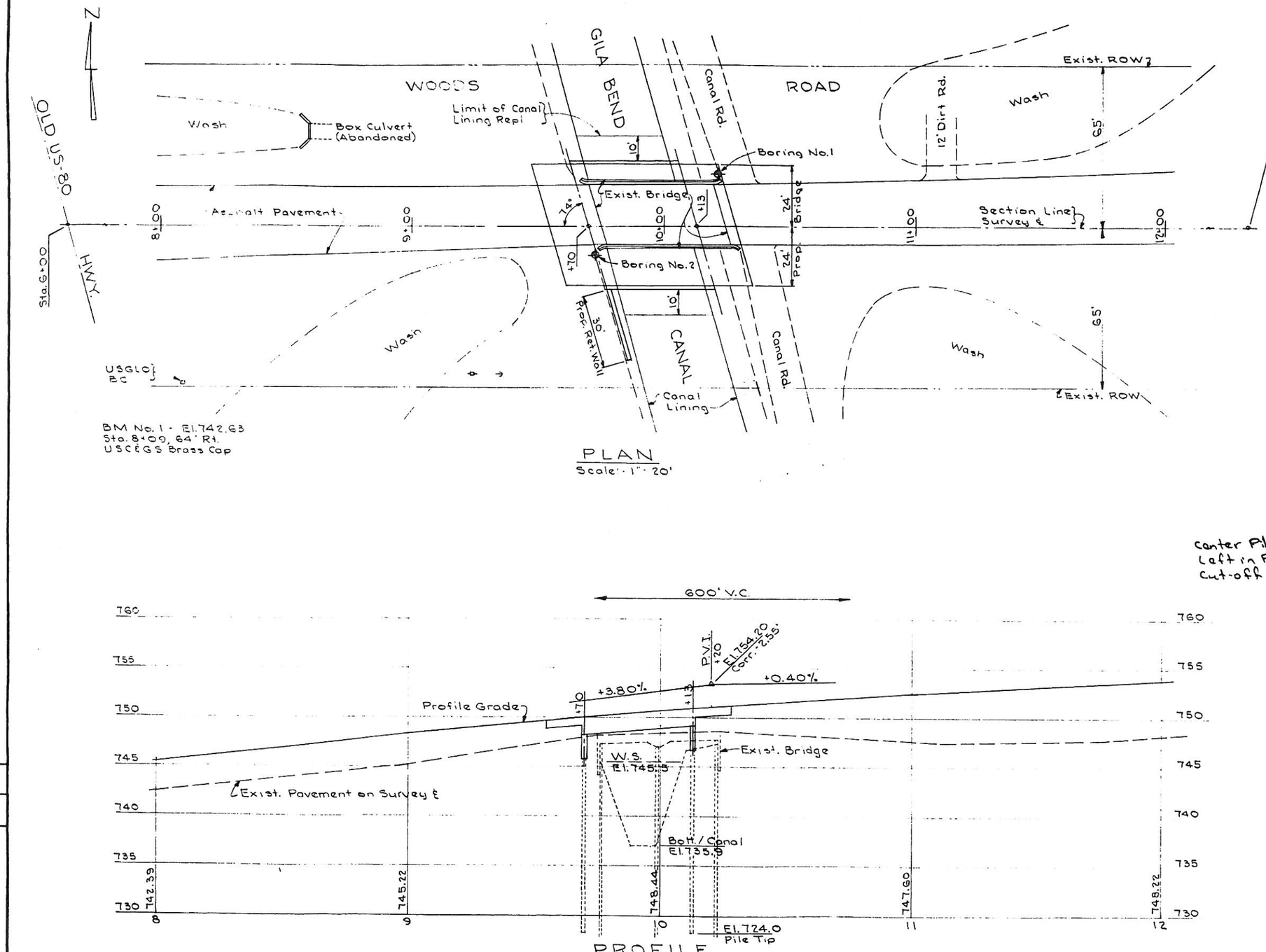
EARTHWORK QUANTITIES

Excavation	250 C.Y.
Shrinkage	30 C.Y.
Embankment	3,190 C.Y.
Shrinkage	320 C.Y.
Borrow	3,290 C.Y.

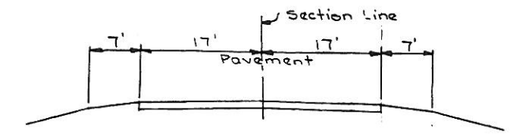


	STATE	PROJECT NO			
9	ARIZONA	68504	5	12	3-24-89

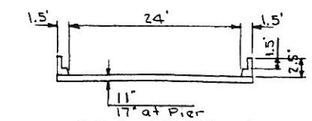
PE



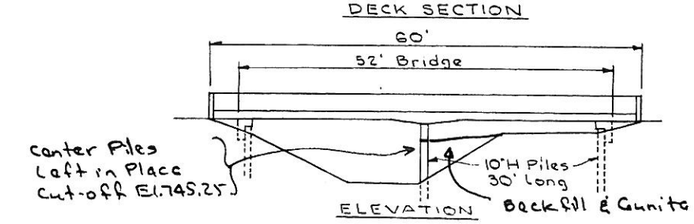
PLAN
Scale: 1" = 20'



APPROACH ROAD
Scale: 1" = 10'



DECK SECTION



ELEVATION

EXISTING BRIDGE
Scale: 1" = 10'

PROFILE
Scales: 1" = 20' Horz.
1" = 5' Vert.

NOTES

Elevations on U.S.C.&G.S. Datum
Design based on Alternates-
Concrete Beam Bridge and
Steel Beam Bridge.
Approach Road and Canal Roads-
See Sht. no. 3 & 4.

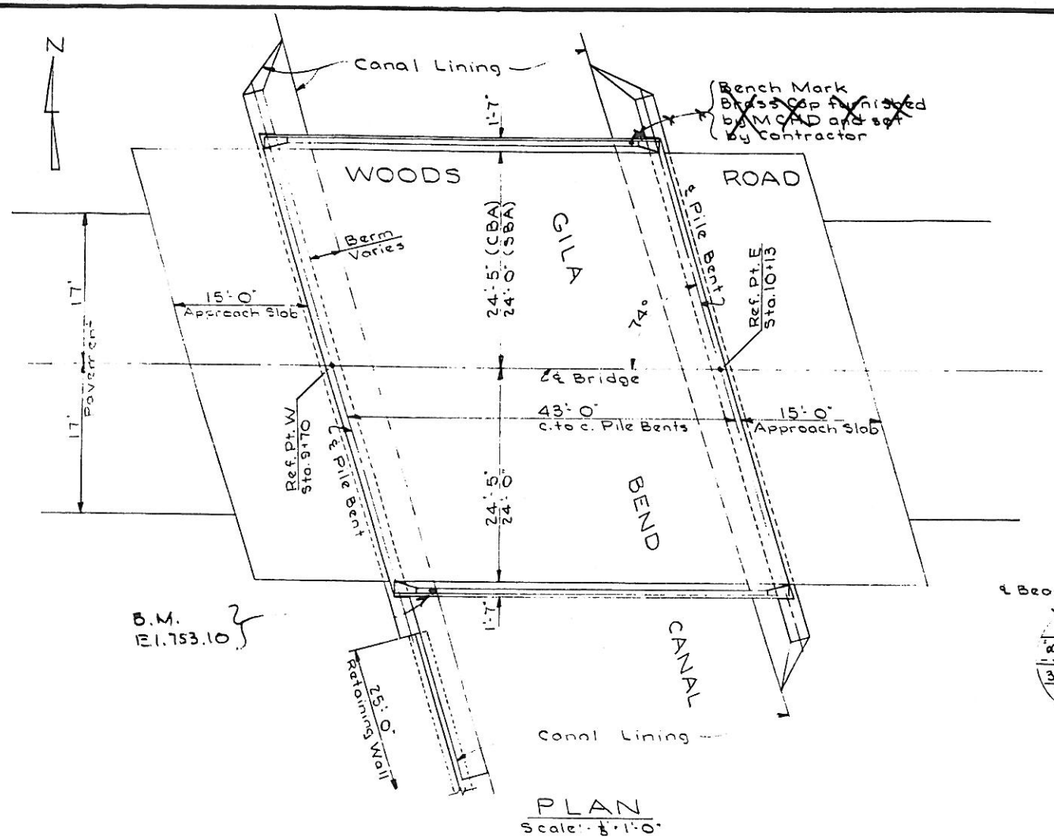
LOCATION PLAN

MARICOPA COUNTY HIGHWAY DEPARTMENT	
SCALE: As shown	APPROVED BY:
DATE: 4-14-89	DRAWN BY: PE
	CHECKED:
WOODS RD. - GILA BEND CANAL	
M.C.H.D. Project No. 68504	DRAWING NUMBER 5

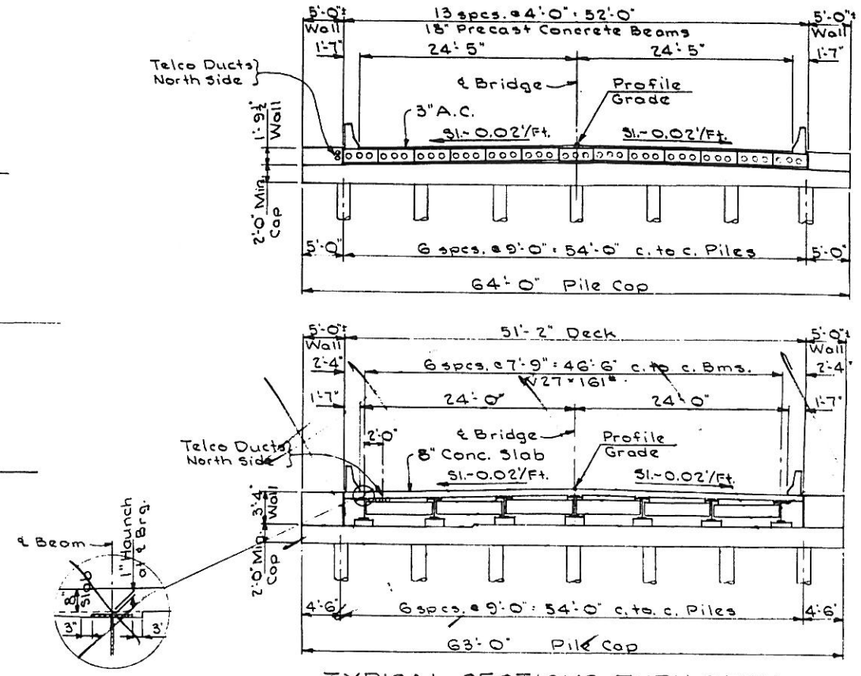
DESCRIPTION OF REVISIONS	MADE BY	DATE
Profile, Retaining Wall	P.E.	5-89

FILE NAME	STATE	PROJECT NO	SHEET NO	TOTAL SHEETS	AS BUILT
9	ARIZONA	68504	6	12	3-24-94

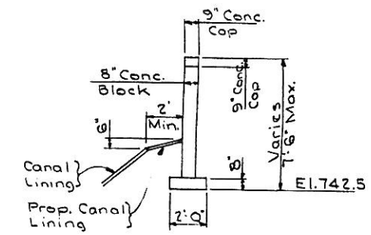
PE



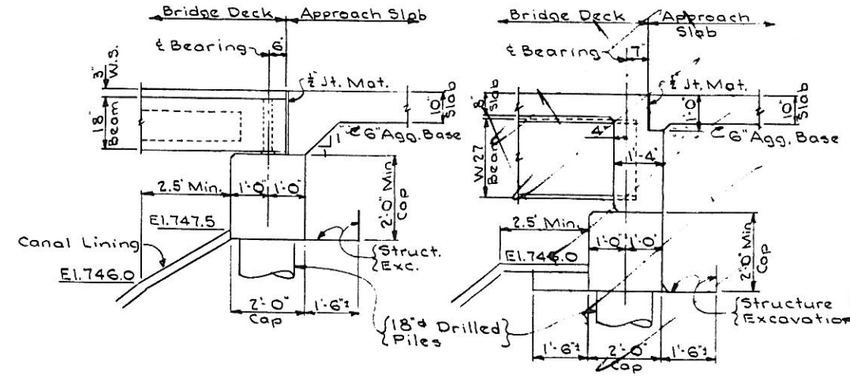
PLAN
Scale: 1/8" = 1'-0"



TYPICAL SECTIONS THRU DECK
Scale: 1/8" = 1'-0"

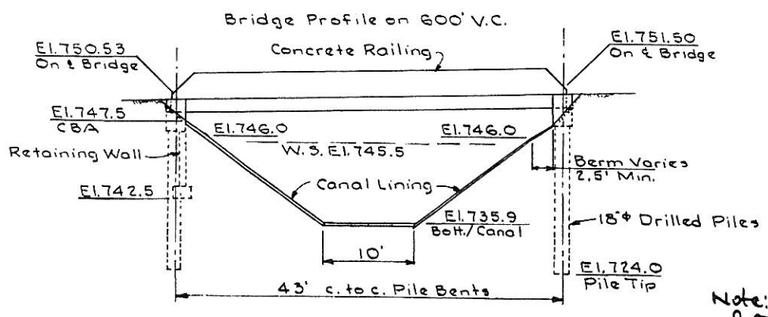


TYPICAL SECTION RETAINING WALL
Scale: 1/4" = 1'-0"



TYPICAL END OF BRIDGE DETAILS
Scale: 1/2" = 1'-0"

CONCRETE ALTERNATE CONSTRUCTED



ELEVATION
Scale: 1/8" = 1'-0"
Concrete Beam Alternate (CBA) shown
Steel Beam Alternate (SBA) similar

Note: Center Pier of Old Bridge remains in canal. See sh. no. 5

GENERAL NOTES

Construction - M.A.G. Uniform Std. Specs. for Public Works, 1992 and Current Supplements.

Design - A.A.S.H.T.O. Std. Specs. for Hwy. Bridges, 1983 Edition and Interims to date.
Non-composite for Live Load

Loading - HS 20-44
Allowance for Future Wearing Surface, Steel Beam Alternate only.

Concrete - Class A, f'c = 3000 psi

Reinforcing Steel - ASTM A-615, Grade 60
fs = 24,000 psi

Precast Concrete Beams
Concrete - Special, f'c = 5000 psi
Prestressing Steel - ASTM A-416, Low Relaxation, Grade 270, f's = 270 ksi

Structural Steel - ASTM A-36
ft = 20,000 psi

Pile Loads
Concrete Beam Alternate (CBA) = 43.2 Tons
Steel Beam Alternate (SBA) = 41.0 Tons

SUMMARY OF QUANTITIES

	CONCRETE BEAM	STEEL BEAM
Concrete Piles	314 L.F.	294 L.F.
Class A Concrete	103 C.Y.	69 C.Y.
Reinforcing Steel	15,350 Lbs.	28,130 Lbs.
Precast Concrete Beams	13 Ea.	
Structural Steel		53,460 Lbs.
*Aggregate Base	50 Tons.	50 Tons

*Included in Road Quantities

GENERAL PLAN OF BRIDGE

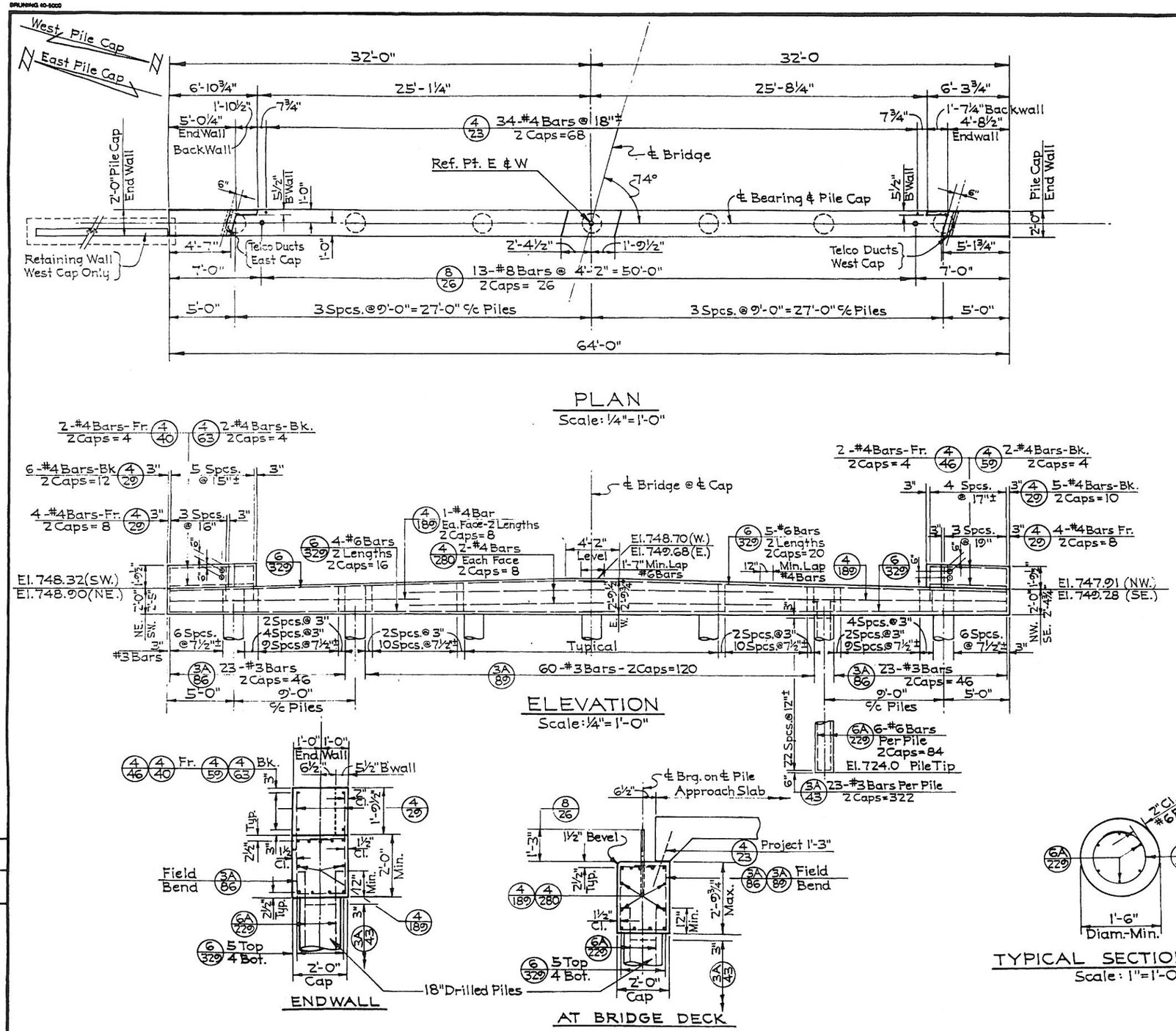
MARICOPA COUNTY HIGHWAY DEPARTMENT

SCALE: As shown | APPROVED BY: | DRAWN BY: P.E.
DATE: 5-22-89 | CHECKED:

WOODS RD. - GILA BEND CANAL

M.C.H.D. Project No. 68504 | DRAWING NUMBER 6

9			7	12	8-26-96



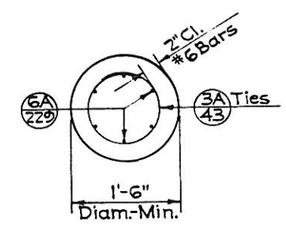
PLAN
Scale: ¼" = 1'-0"

ELEVATION
Scale: ¼" = 1'-0"

ENDWALL

AT BRIDGE DECK

TYPICAL SECTIONS - PILE CAP
Scale: ½" = 1'-0"



TYPICAL SECTION - PILES
Scale: 1" = 1'-0"

NOTES

Concrete-All concrete shall be Class A.
All exposed corners shall be beveled ¾" unless otherwise noted.
Reinforcing Steel: ASTM-A-615, Grade 60, except #3 Bars shall be Grade 40.
Piles: All piles shall be cast-in-place type, 18" min. diam. drilled piles.

Telco Ducts: Sleeves furnished by U.S. West Comm. and set by Contractor. Plug Ends.

QUANTITIES

Concrete Piles	314 L.F.
Class A Concrete	47 C.Y.
Reinforcing Steel	6,500 Lbs.

PILE CAP DETAILS
CONCRETE BEAM ALTERNATE

MARICOPA COUNTY HIGHWAY DEPARTMENT

SCALE: As Shown	APPROVED BY:	DRAWN BY: H.C.M.
DATE: 4-6-90		CHECKED BY:

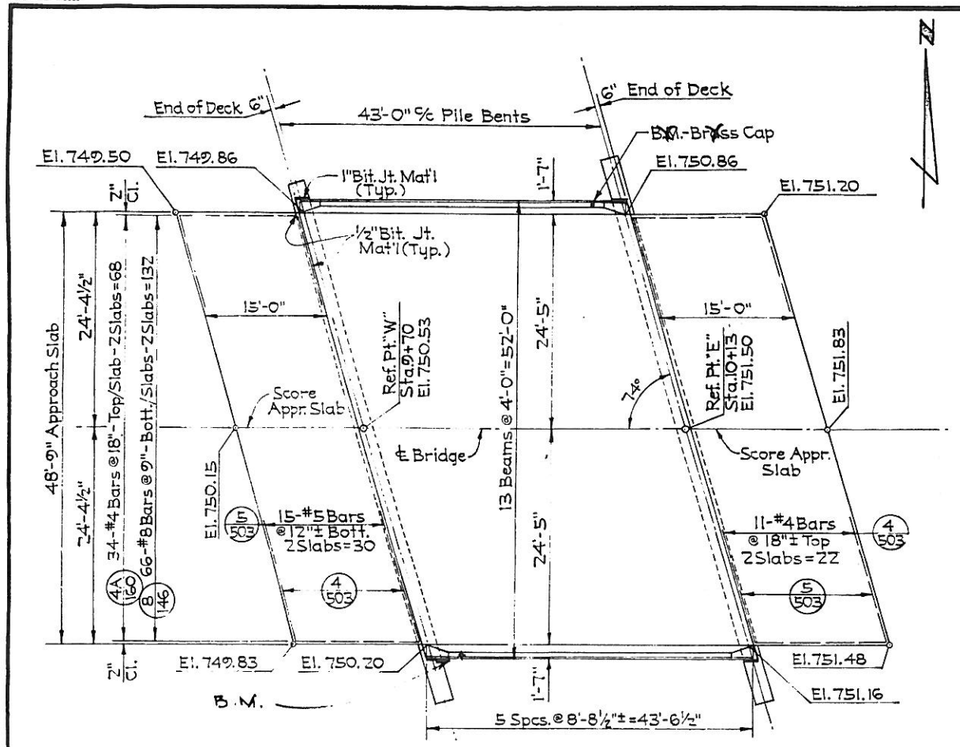
WOODS ROAD-GILA BEND CANAL

M.C.H.D. Project No. 68504

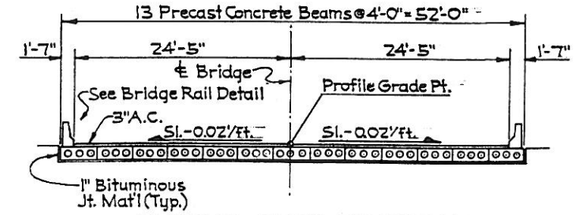
7

FEDERAL AID PROJ. NO.	STATE	PROJECT NO	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZONA	68504	8	12	B-2494

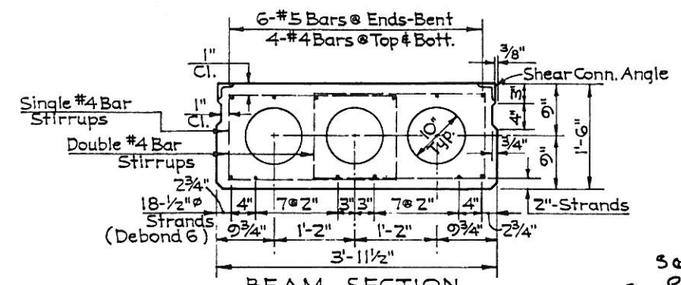
PE



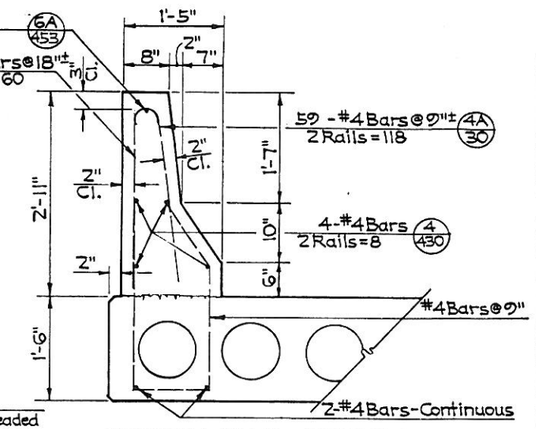
PLAN
Scale: ⅛" = 1'-0"



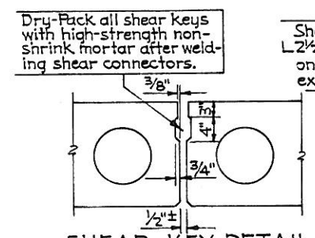
TYPICAL DECK SECTION
Scale: ⅛" = 1'-0"



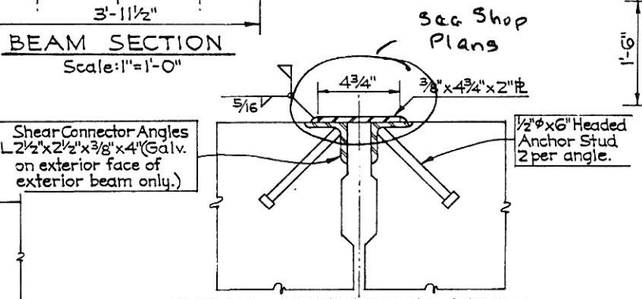
BEAM SECTION
Scale: 1" = 1'-0"



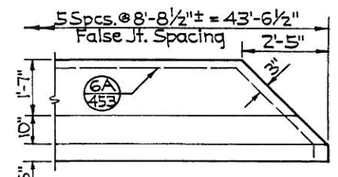
BRIDGE RAIL DETAIL
Scale: 1" = 1'-0"



SHEAR KEY DETAIL
Scale: 1" = 1'-0"

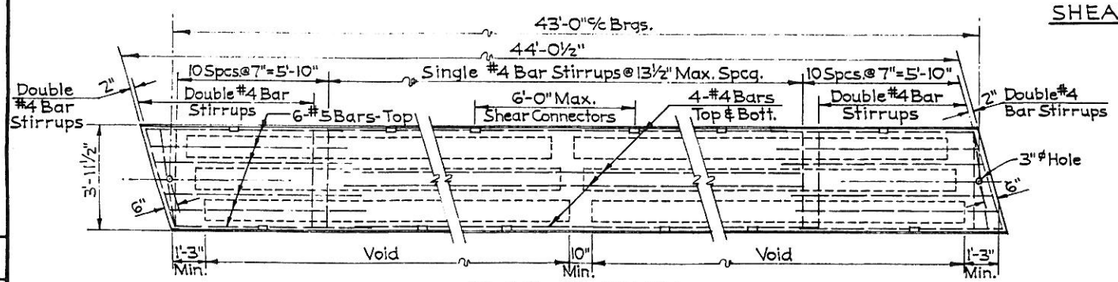


SHEAR CONNECTOR DETAIL
Scale: 3" = 1'-0"

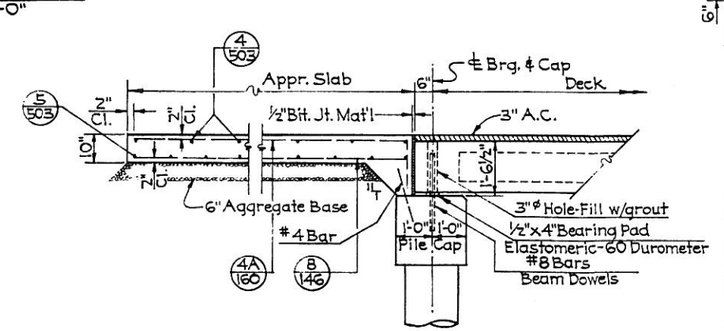


END OF RAIL DETAIL
Scale: ½" = 1'-0"

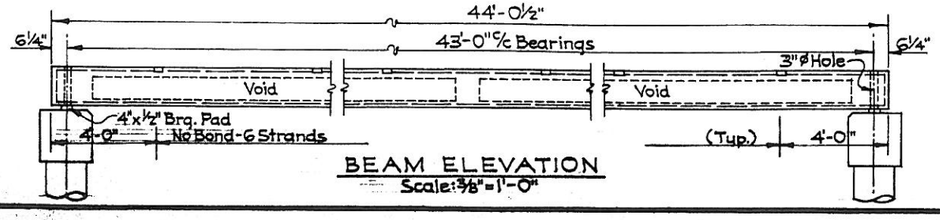
Note: False Jt.-Sawcut, 1" Deep, both faces and top of railing.



PLAN OF BEAM
Scale: ⅜" = 1'-0"



APPROACH SLAB DETAIL
Scale: ½" = 1'-0'



BEAM ELEVATION
Scale: ⅜" = 1'-0"

QUANTITIES

Precast Concrete Beams	13 Ea.
Class A Concrete	56 C.Y.
Reinforcing Steel	8,850 Lbs.
Aggregate Base	50 Tons

(Included In Road Quantities)

NOTES

Concrete: All concrete shall be Class "A".
Precast Concrete: Ultimate Strength @ 28 Days = 5,000 psi.
Minimum Strength @ Release = 4,000 psi.
Reinforcing Steel: ASTM-A-615-Grade 60.
Prestressing Steel: ASTM-A-416, Grade 270, Low Relaxation.
Prestress Force Per Beam-Initial: 556.9 Kips.
Final: 433.1 Kips.

PRECAST CONCRETE BEAMS AND DECK DETAILS

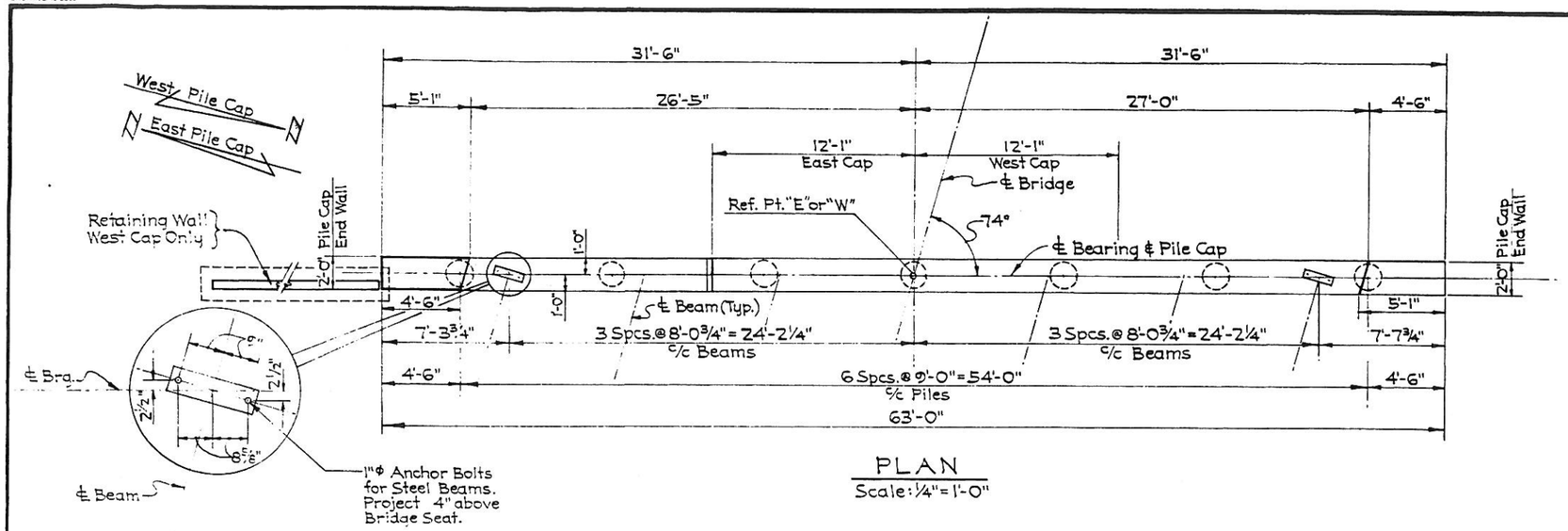
MARICOPA COUNTY HIGHWAY DEPARTMENT

SCALE: As Shown | APPROVED BY: | DRAWN BY: H.C.M.
DATE: 4-7-90 | DESIGNED: P.E.

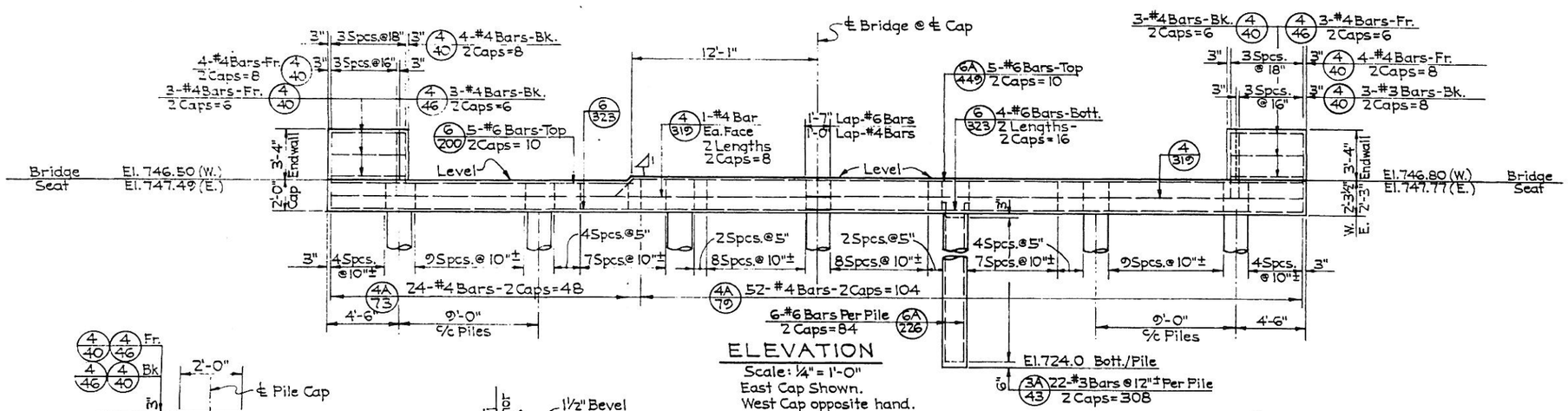
WOODS ROAD-GILA BEND CANAL

M.C.H.D. Project No. 68504

STATE	PROJECT NO	
ARIZONA	68504	



PLAN
Scale: ¼" = 1'-0"



ELEVATION
Scale: ¼" = 1'-0"
East Cap Shown.
West Cap opposite hand.

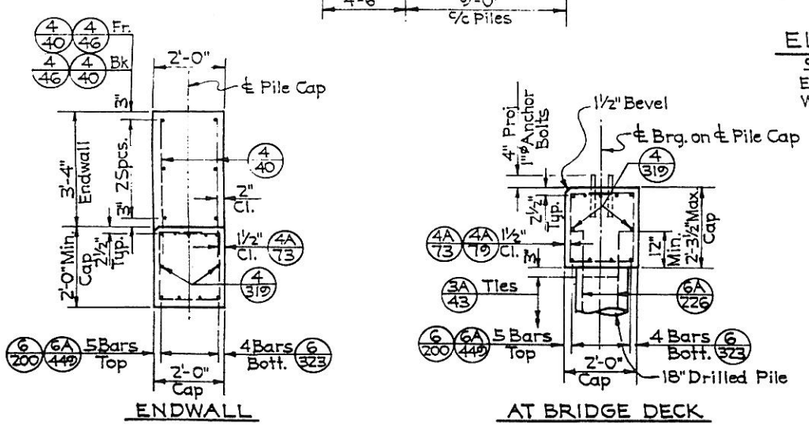
NOTES

Concrete-All concrete shall be Class A.
All exposed corners shall be beveled ¾" unless otherwise noted.
The Bridge Seat shall be finished in a true plane at the elevation shown and shall not vary more than 1/16" under any bearing.
Reinforcing Steel: ASTM A-615, Grade 60.
Anchor Bolts: All Anchor Bolts for steel beams shall be set accurately to a template.
Piles: All piles shall be cast-in place type, 18" min. diam. drilled piles.

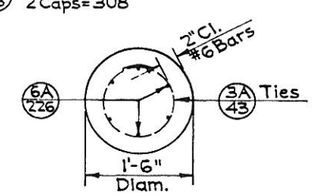
QUANTITIES

Concrete Piles	294 L.F.
Class A Concrete	44 C.Y.
Reinforcing Steel	6,170 Lbs.

NOT BUILT



TYPICAL SECTIONS - PILE CAP
Scale: ½" = 1'-0"



TYPICAL SECTION - PILES
Scale: 1" = 1'-0"

PILE CAP DETAILS
STEEL BEAM ALTERNATE

MARICOPA COUNTY HIGHWAY DEPARTMENT

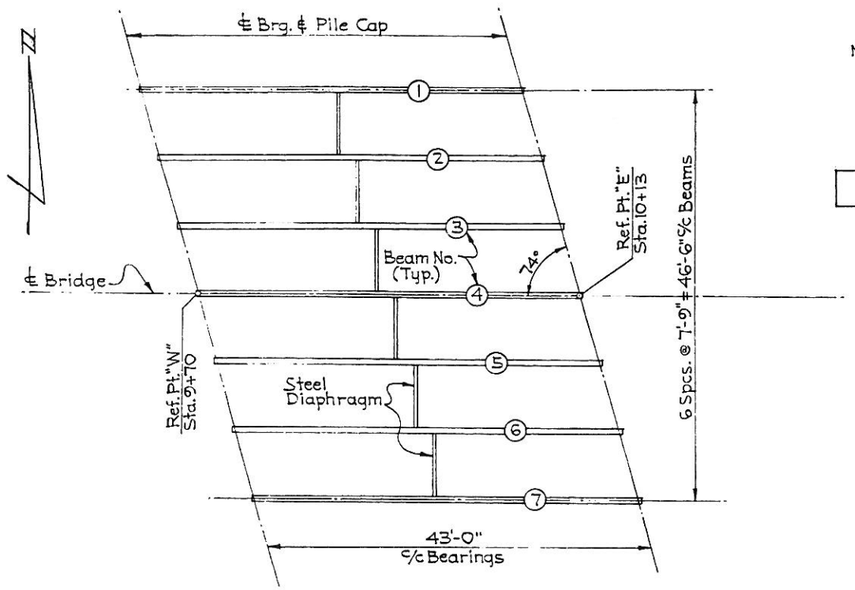
SCALE As Shown	APPROVED BY:	DRAWN BY: H.C.M.
DATE: 4-18-90		CHECKED: P.E.

WOODS ROAD-GILA BEND CANAL

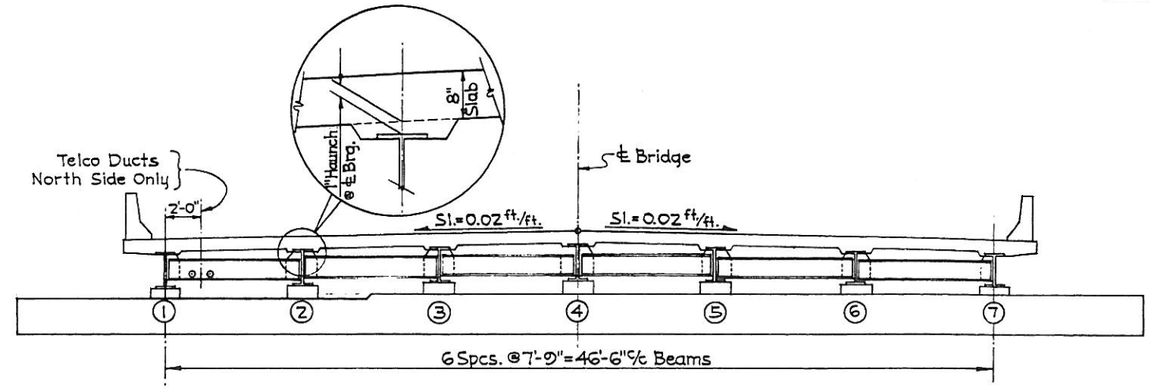
M.C.H.D. Project No. 68504

9

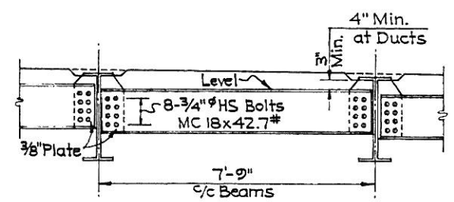
	STATE	PROJECT NO.			NO. BUILT
9	ARIZONA	68504	10	12	



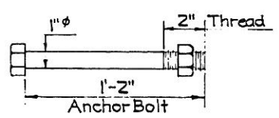
ERECTION PLAN
Scale: 1/8" = 1'-0"



TYPICAL SECTION THRU DECK
Scale: 1/4" = 1'-0"



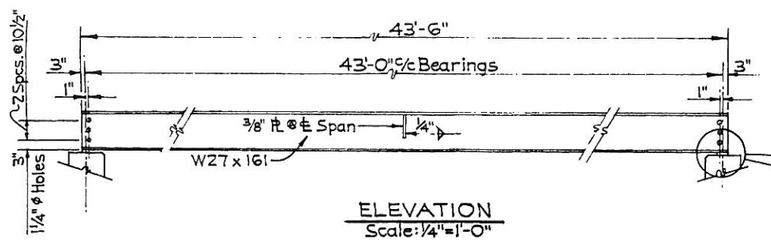
DIAPHRAGM DETAIL
Scale: 1/2" = 1'-0"



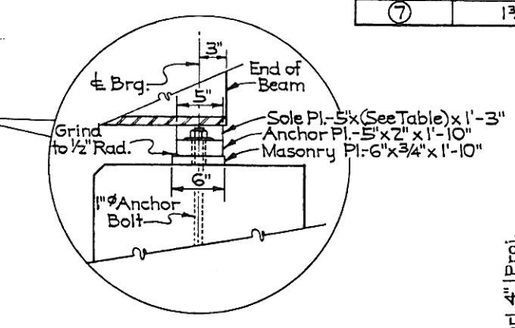
SOLE PLATE THICKNESS		
Beam No.	West	East
1	1 1/2"	1 1/2"
2	4"	3 7/8"
3	2 7/8"	3"
4	5 3/8"	5 1/2"
5	4 1/8"	4 1/8"
6	3"	2 7/8"
7	1 3/4"	1 3/4"

NOTES

Structural Steel-ASTM A-36.
Welding-All welds shall conform to the current American Welding Society Specs.
Field Connections-All field connections shall be bolted with high-strength bolts as shown on plans.
Painting: Shop paint-1 coat paint, No. 1
Field paint-1 coat paint, No. 2 (ADOT.)
Final coat of paint No. 10
Camber: 1" at center of span.
Sole Plates 3" or more in thickness may be fabricated from thinner plates, end welded and ground smooth.



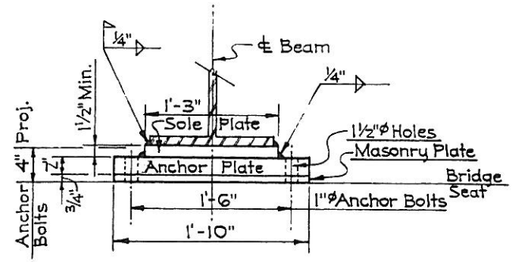
ELEVATION
Scale: 1/4" = 1'-0"



QUANTITIES

Structural Steel_____53,460 Lbs.

NOT BUILT



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

STRUCTURAL STEEL DETAILS

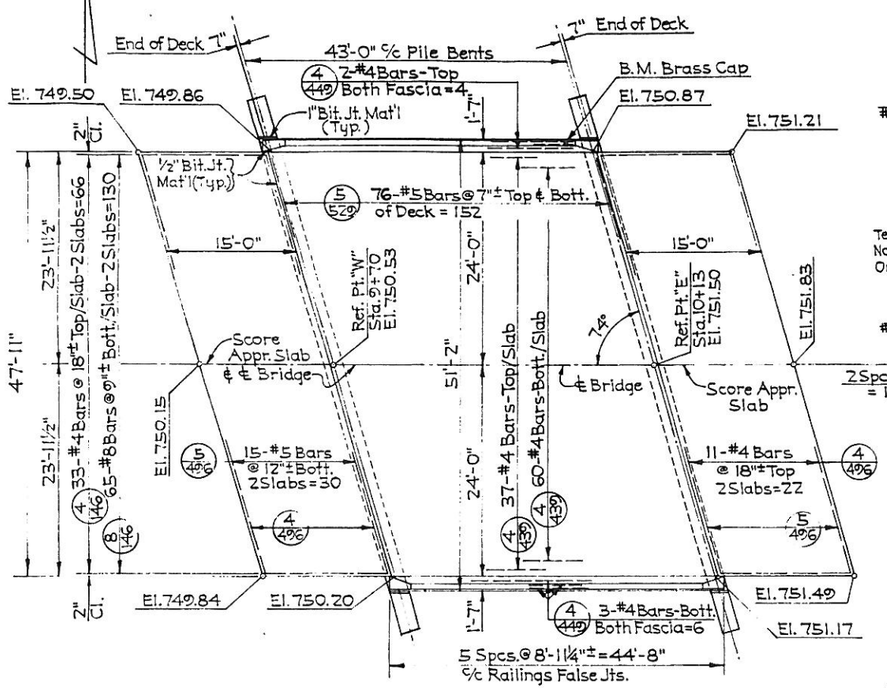
MARICOPA COUNTY HIGHWAY DEPARTMENT

SCALE: As Shown | APPROVED BY: | DRAWN BY: H.C.M.
DATE: 4-25-90 | CHECKED: P.E.

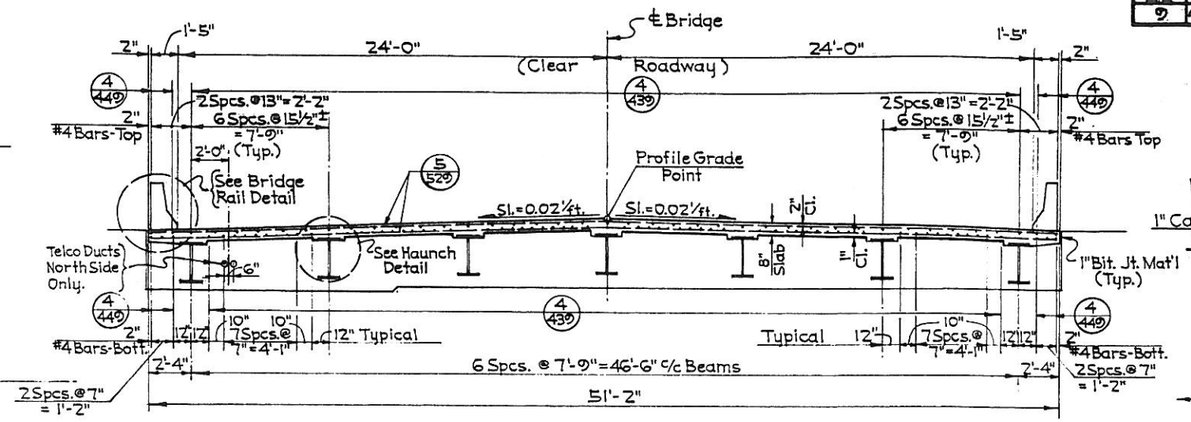
WOODS ROAD-GILA BEND CANAL

M.C.H.D. Project No. 68504 | 10

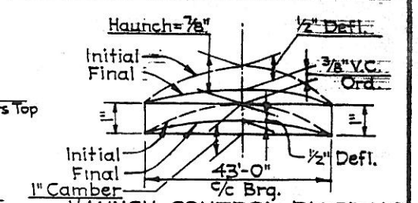
FED. RD. DIST. NO.	STATE	PROJECT NO	SHEET NO.	TOTAL SHEETS	GS DULY
9	ARIZONA	68504	11	12	



PLAN
Scale: ⅛" = 1'-0"

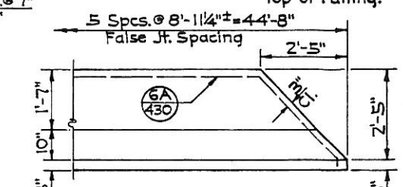


TYPICAL SECTION THRU DECK
Scale: ¼" = 1'-0"

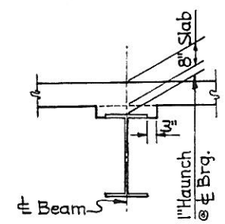


HAUNCH CONTROL DIAGRAM
Not to Scale

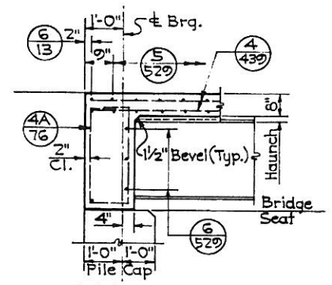
*Note: False Jt.-Sawcut, 1" Deep-Both Sides and Top of railing.



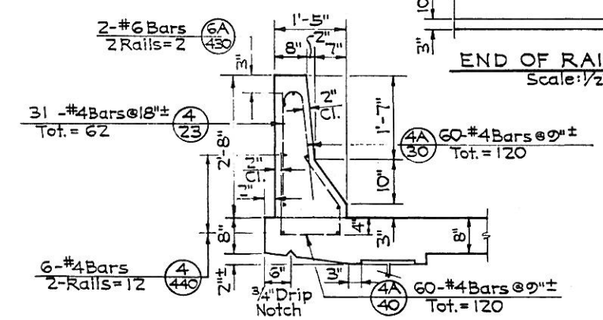
END OF RAIL DETAIL
Scale: ½" = 1'-0"



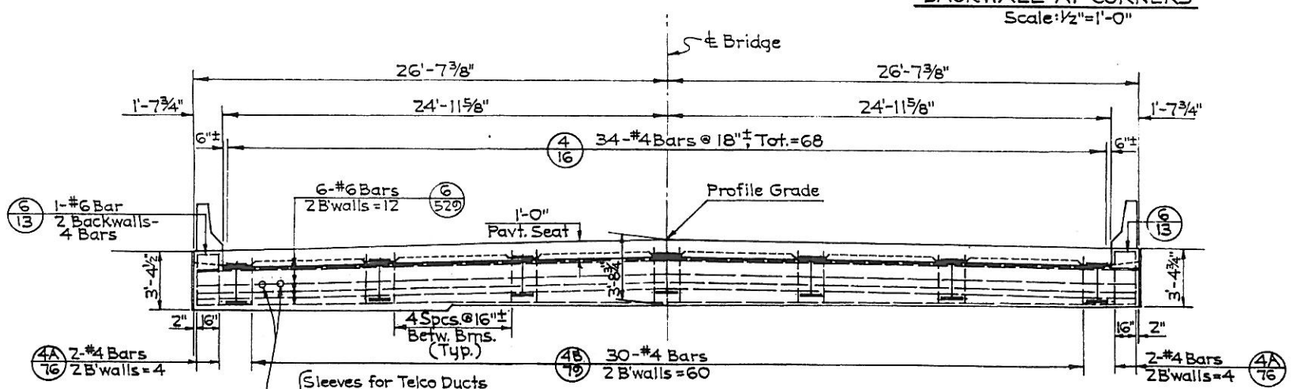
HAUNCH DETAIL
Scale: ½" = 1'-0"



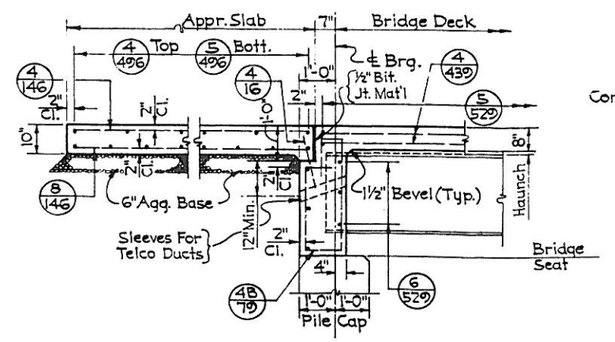
TYPICAL SECTION
BACKWALL AT CORNERS
Scale: ½" = 1'-0"



BRIDGE RAIL DETAIL
Scale: ½" = 1'-0"



BACKWALL ELEVATION
Scale: ¼" = 1'-0"
Dimensions shown on ℄ Pile Bent.



TYPICAL SECTION
BACKWALL & APPROACH SLAB
Scale: ½" = 1'-0"

NOTES

Concrete: Class "A". All exposed corners shall be beveled ¾" unless otherwise noted.
Reinforcing Steel: ASTM A-615, Grade 60.

QUANTITIES

Class "A" Concrete	125 C.Y.
Aggregate Base	50 Tons
Reinforcing Steel	21,960 Lbs.

NOT BUILT

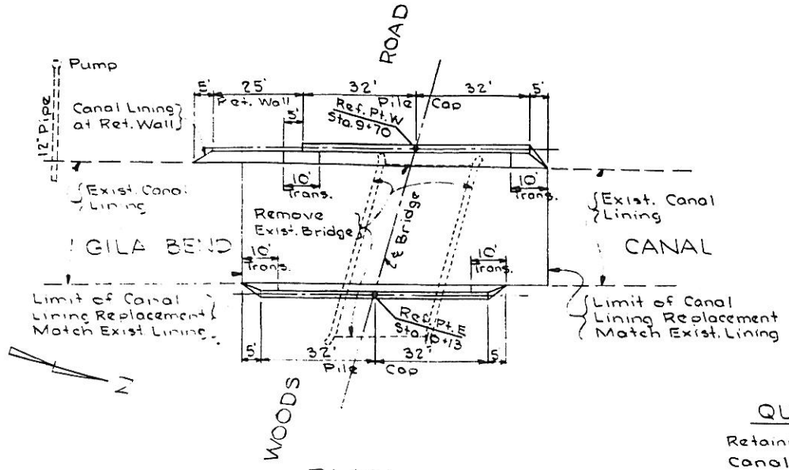
CONCRETE DECK DETAILS (Steel Bm. Alt.)

MARICOPA COUNTY HIGHWAY DEPARTMENT

SCALE As Shown	APPROVED BY:	DRAWN BY H.C.M.
DATE 5-2-90		CHECKED P.E.

WOODS ROAD-GILA BEND CANAL

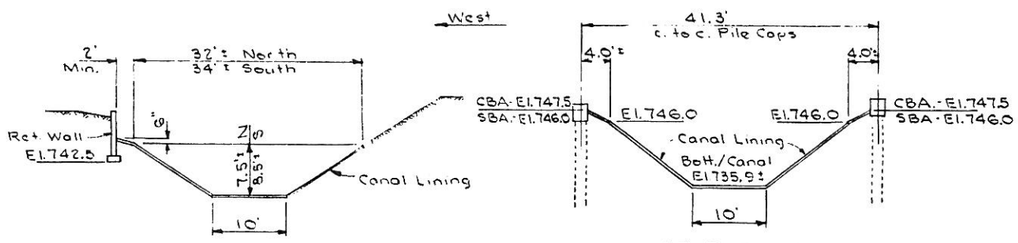
M.C.H.D. Project No. 68504 — DRAWING NUMBER 11



PLAN
Scale: 1" = 20'

QUANTITIES

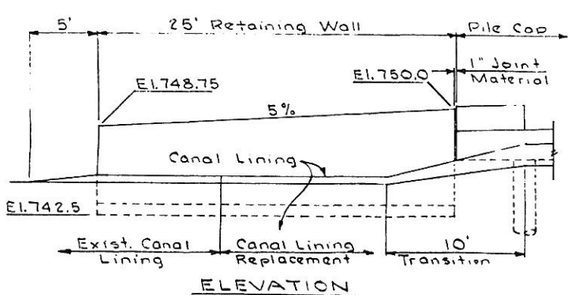
Retaining Wall _____ 170 S.F.
Canal Lining _____ 440 S.Y.



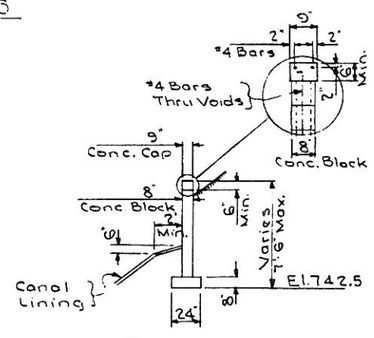
AT END OF LINING

AT PILE CAPS

CANAL SECTIONS
Scale: 1" = 10'



ELEVATION



SECTION

RETAINING WALL DETAILS
Scale: 1" = 5'

NOTES

Existing Bridge - Remove Deck, Curbs, Railing, Abutments, Pier and Piles. Cut-off Piles at El. 743.0, West Abutment; El. 735.0, Pier; and El. 747.0, East Abutment.

Concrete - Class A
All exposed corners shall be beveled ¾".

Retaining Wall - Fill all voids with Class A Concrete. For Details not shown, see MAG Std. 501.

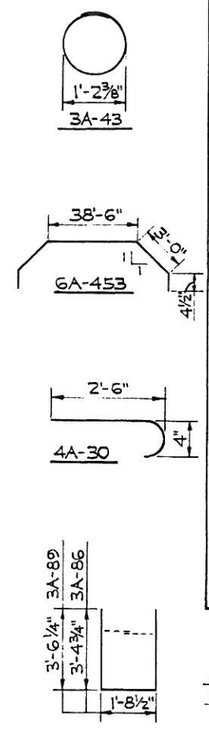
Canal Lining - 3" thick hand placed concrete or 1½" thick pneumatically placed mortar, both reinforced with welded wire fabric, 6" × 6" - 1.4/1.4. Tie to existing canal lining.

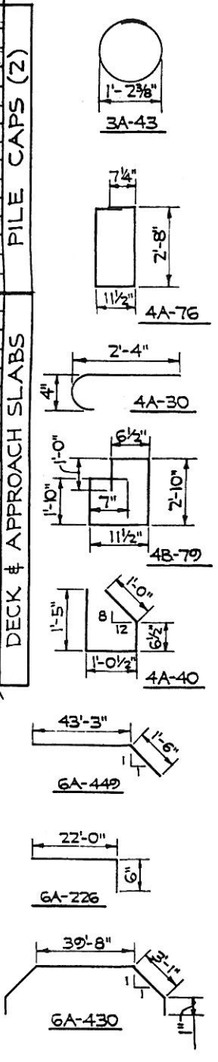
Center Pier of Old Bridge remains in canal. See sh. no. 5

RETAINING WALL & CANAL LINING DETAILS

BILL OF REINFORCING BARS

CONCRETE BEAM ALT.					STEEL BEAM ALT.				
Mark	No.	Size	Length	Remarks	Mark	No.	Size	Length	Remarks
PILE CAPS (2)					**PILE CAPS (2)**				
8-26	26	8	2'-6"	Straight	6-323	16	6	32'-3"	Straight
					6-200	10	6	20'-0"	"
6-329	36	6	32'-9"	Straight	6A-449	10	6	44'-9"	Bent
6A-229	84	6	22'-9"	Bent	6A-226	84	6	22'-6"	"
4-280	8	4	28'-0"	Straight	4-319	8	4	31'-9"	Straight
4-189	8	↓	18'-9"	"	4-46	12	4	4'-6"	"
4-63	4		6'-3"	"	4-40	44	4	4'-0"	"
4-59	4		5'-9"	"	4A-79	104	4	7'-9"	Bent
4-46	4		4'-6"	"	4A-73	48	4	7'-3"	"
4-40	4		4'-0"	"					
4-29	38	↓	2'-9"	"	3A-43	308	3	4'-3"	Bent
4-23	68	4	2'-3"	"					
3A-89	120	3	8'-9"	Bent					
3A-86	92	3	8'-6"	"					
3A-43	322	3	4'-3"	"	8-146	130	8	14'-6"	Straight
DECK & APPROACH SLABS					**DECK & APPROACH SLABS**				
8-146	132	8	14'-6	Straight	6-529	12	6	52'-9"	Straight
					6-13	4	6	1'-3"	"
6A-453	2	6	45'-3"	Bent	6A-430	2	6	43'-0"	Bent
5-503	30	5	50'-3"	Straight	5-529	152	5	52'-9"	Straight
					5-496	30	5	49'-6"	"
4-503	22	4	50'-3"	Straight					
4-430	8	↓	43'-0"	"	4-496	22	4	49'-6"	Straight
4-26	60		2'-6"	"	4-449	10	↓	44'-9"	"
4A-160	68		16'-0"	Bent	4-440	12		44'-0"	"
4A-30	118	4	3'-0"	"	4-439	97		43'-9"	"
					4-146	66		14'-6"	"
					4-23	62		2'-3"	"
					4-16	68		1'-6"	"
					4B-79	60		7'-9"	Bent
					4A-76	8		7'-6"	"
					4A-40	120	↓	4'-0"	"
					4A-30	120	4	3'-0"	"





BENT BAR DETAILS
No Scale
Dimensions are center to center.

Size of Bar (#4)
4A 40 — Bend Detail (No Letter - No Bend.)
Length of Bar in Feet and inches (4'-0")

BAR MARK LEGEND

STEEL REINFORCEMENT DETAILS

MARICOPA COUNTY HIGHWAY DEPARTMENT

SCALE As Shown	APPROVED BY:	DRAWN BY H.C.M.
DATE 6-22-90		CHECKED: P.E.

WOODS RD. - GILA BEND CANAL

M.C.H.D. Project No. 68504 — SHEET 12