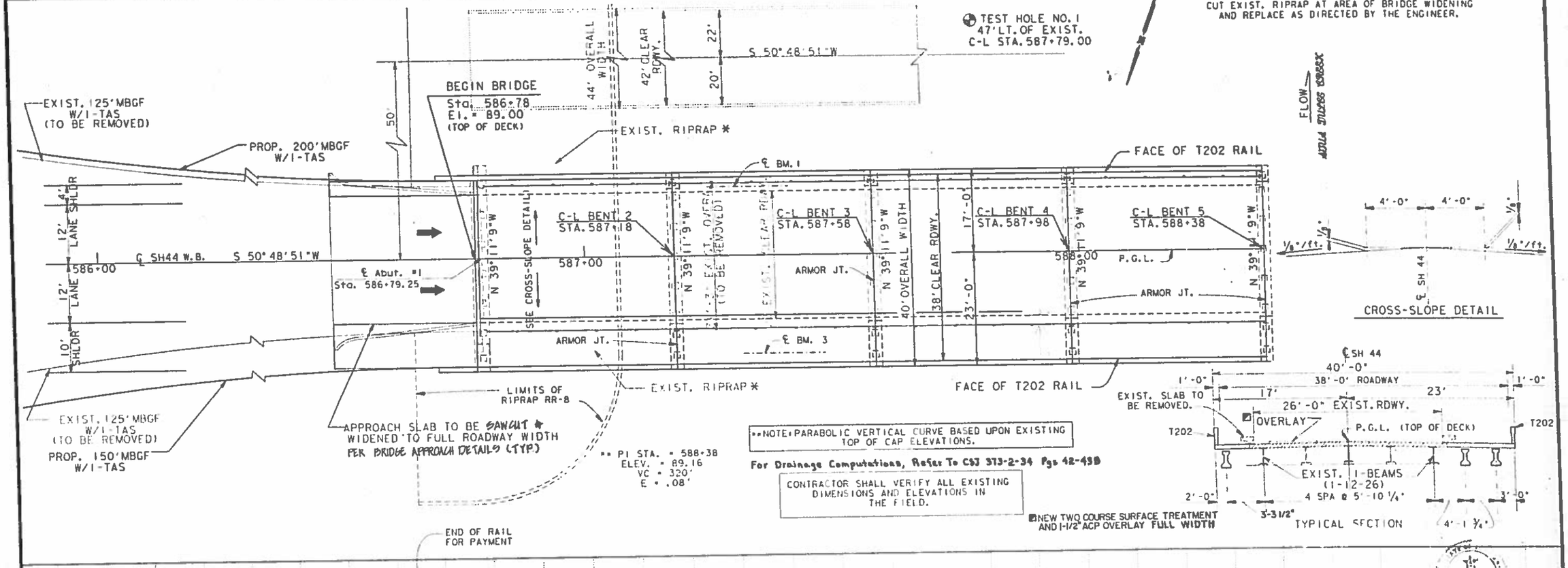


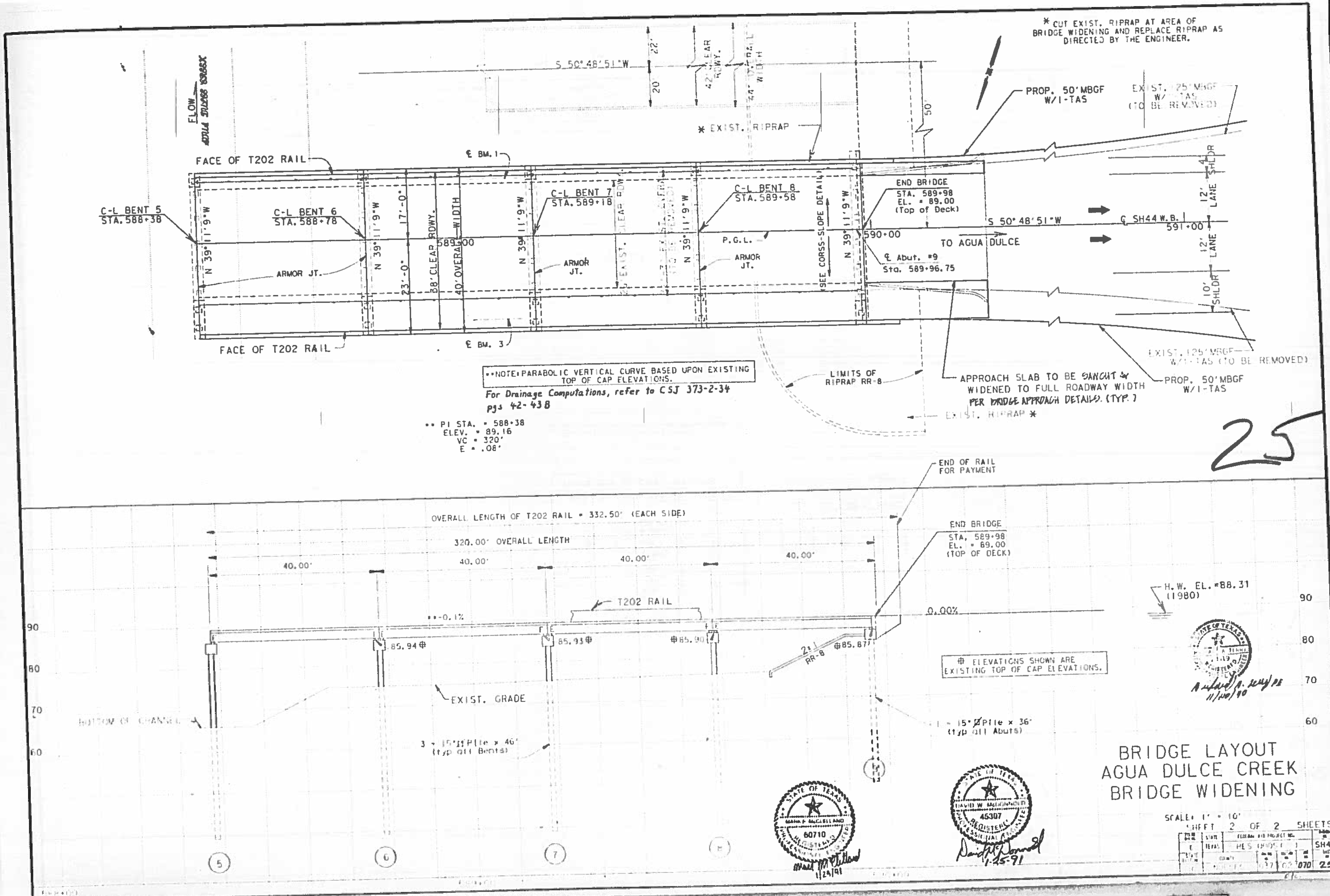
24

BRIDGE LAYOUT AGUA DULCE CREEK BRIDGE WIDENING

SCALE: 1"=10'

SHEET 1 OF 2 SHEETS

DIST.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.
6	TEXAS	HES 0005( )	SH44
COUNTY			
NUECES			070 24



* CUT EXIST. RIPRAP AT AREA OF BRIDGE WIDENING AND REPLACE RIPRAP AS DIRECTED BY THE ENGINEER.
FLOW
AGUA DULCE CREEK
S 50° 48' 51" W
22'
20'
42' CLEAR RDWY.
44' OVERALL WIDTH
50'
* EXIST. RIPRAP
PROP. 50' MBGF W/I-TAS
EXIST. 125' MBGF W/I-TAS (TO BE REMOVED)
FACE OF T202 RAIL
℄ BM. 1
C-L BENT 5 STA. 588+38
C-L BENT 6 STA. 588+78
C-L BENT 7 STA. 589+18
C-L BENT 8 STA. 589+58
N 39° 11' 9" W
17'-0"
23'-0"
38' CLEAR RDWY.
40' OVERALL WIDTH
589+00
ARMOR JT.
P.G.L.
SEE CORSS-SLOPE DETAIL
END BRIDGE STA. 589+98 EL. = 89.00 (Top of Deck)
590+00
℄ Abut. #9 Sta. 589+96.75
TO AGUA DULCE
S 50° 48' 51" W
℄ SH44 W.B.
591+00
4' SHLDR
12' LANE
12' LANE
10' SHLDR
FACE OF T202 RAIL
℄ BM. 3
**NOTE: PARABOLIC VERTICAL CURVE BASED UPON EXISTING TOP OF CAP ELEVATIONS.
For Drainage Computations, refer to CSJ 373-2-34 pgs 42-43B
** PI STA. = 588+38
ELEV. = 89.16
VC = 320'
E = .08'
LIMITS OF RIPRAP RR-8
APPROACH SLAB TO BE SAWCUT & WIDENED TO FULL ROADWAY WIDTH PER BRIDGE APPROACH DETAILS. (TYP.)
PROP. 50' MBGF W/I-TAS
EXIST. RIPRAP *
25
END OF RAIL FOR PAYMENT
OVERALL LENGTH OF T202 RAIL = 332.50' (EACH SIDE)
320.00' OVERALL LENGTH
40.00'
40.00'
40.00'
40.00'
END BRIDGE STA. 589+98 EL. = 89.00 (TOP OF DECK)
T202 RAIL
**-0.1%
0.00%
H.W. EL. =88.31 (1980)
85.94 ⊕
85.93 ⊕
⊕ 85.90
2:1 RR-8
⊕ 85.87
⊕ ELEVATIONS SHOWN ARE EXISTING TOP OF CAP ELEVATIONS.
EXIST. GRADE
BOTTOM OF CHANNEL
3 - 15" ⌀ Pile x 40' (typ all Bents)
1 - 15" ⌀ Pile x 36' (typ all Abuts)
90
80
70
60
5
6
7
8
9
STATE OF TEXAS MARK P. McCLELLAND 60710 REGISTERED PROFESSIONAL ENGINEER
1/24/91
STATE OF TEXAS DAVID W. McDONNOLD 45307 REGISTERED PROFESSIONAL ENGINEER
1-25-91
11/20/90
BRIDGE LAYOUT
AGUA DULCE CREEK
BRIDGE WIDENING
SCALE: 1" = 10'
SHEET 2 OF 2 SHEETS
SH44
070
25

SUMMARY OF ESTIMATED QUANTITIES

ITEM / DESCRIPTION	Concrete Piling	Reinf. Conc. Slab	CLASS 'S' CONC. FOR EXTENDING STRS. (SLAB)	Class C Concrete for Extending Struct.		Prestr. Conc. Bm.	Riprap (Conc.)	Structural Steel	Structural Steel		Railing	◩ Remove Old Structure (Large)	Conc. Repair	Adjust Steel Shoes	
	15" sq.			Abut.	Bent	Ty. A	(Cl. B)	(Armor Jt.)	(Stud Conn.)		Ty. T202				
	LF.	S.F.	S.F.	C.Y.	C.Y.	L.F.	C.Y.	Lbs.	Lbs.		LF.	Ea.	S.F.	Ea.	
2 ~ Abutments	72			6.0							25.0		12		
7 ~ Interior Bents	966				18.9								16	7	
8 ~ 40' Prestr. Conc. Bm. Spans		9600	3200			949.5		6510	3200		640.0	1			
TOTAL	1038	9600	3200	6.0	18.9	949.5	34.0	6510	3200		665.0	1	28	7	

◩ Quantity shown includes approximately 250 C.Y. of Existing Bridge Deck & Diaframs.

BEARING SEAT ELEVATIONS

	Bm. 1	Bm. 2	Bm. 3
Abut. 1	⊕ 85.870	⊕ 85.870	85.823
Bent 2	85.905	85.896	85.853
Bent 3	85.935	85.926	85.883
Bent 4	85.945	85.936	85.893
Bent 5	85.955	85.946	85.903
Bent 6	85.945	85.936	85.893
Bent 7	85.935	85.926	85.883
Bent 8	85.905	85.896	85.853
Abut. 9	⊕ 85.870	⊕ 85.870	85.823

⊕ Bearing pads for these beams are to be placed directly on existing caps.

LOCATION OF CONC. REPAIR		
BENT NO.	LOCATION	S.F.
1	Cap	4
2	Cap	2
3	Cap & Piling	2
4	Cap	3
6	Cap & Diaf.	3
7	Cap	1
8	Cap	8
9	Cap	8

LOCATION OF STEEL SHOE ADJUSTMENT	
BENT NO.	NO. OF SHOES
2	1
3	1
6	2
8	3

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H 20 LOADING

STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

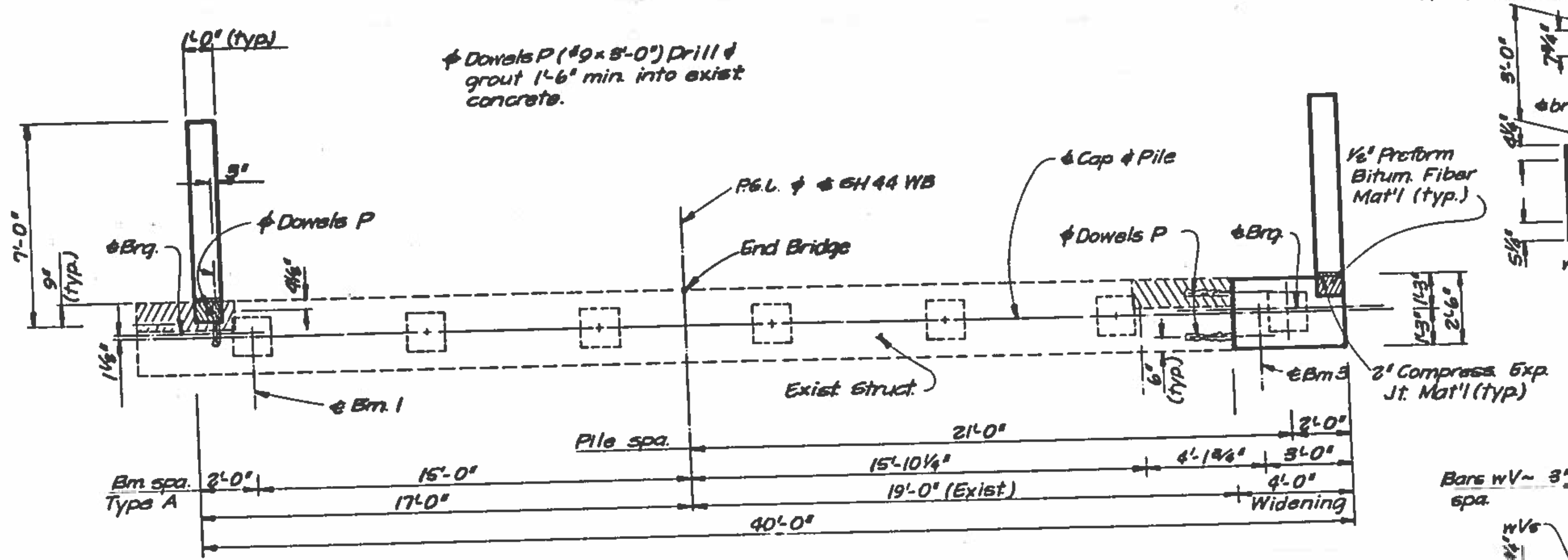
AGUA DULCE CREEK BRIDGE WIDENING

DAVID W. McDONNOLD 45397 REGISTERED PROFESSIONAL ENGINEER

David McDonnold 1-25-91

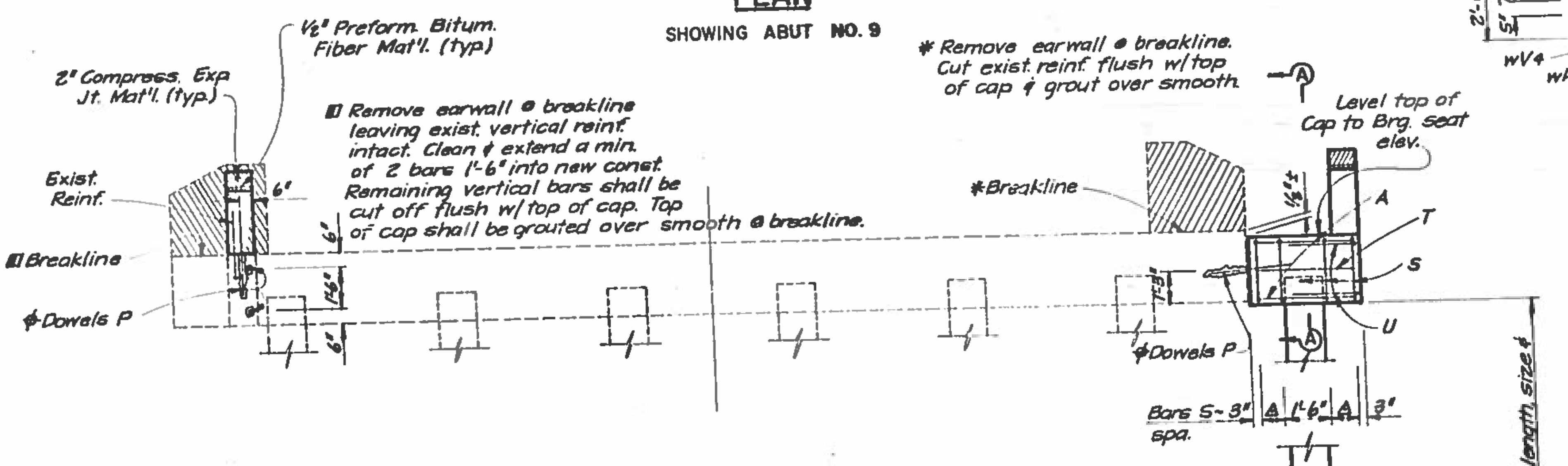
HEG 0005( ) 26

070



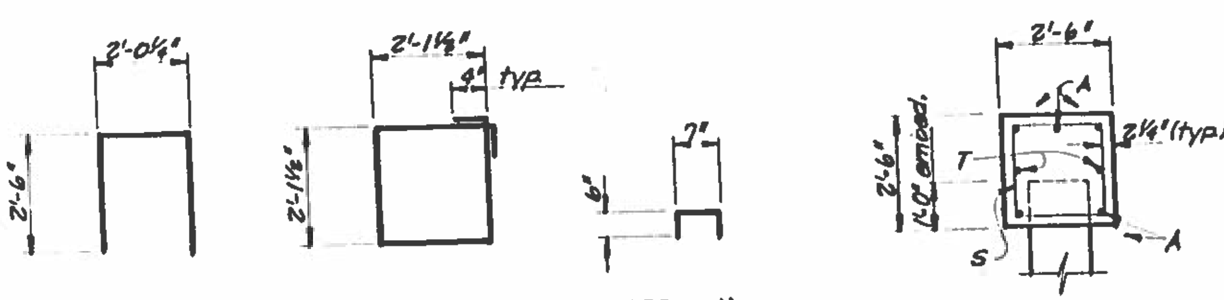
PLAN

SHOWING ABUT NO. 9



ELEVATION

Δ 2ES = 1'-0"

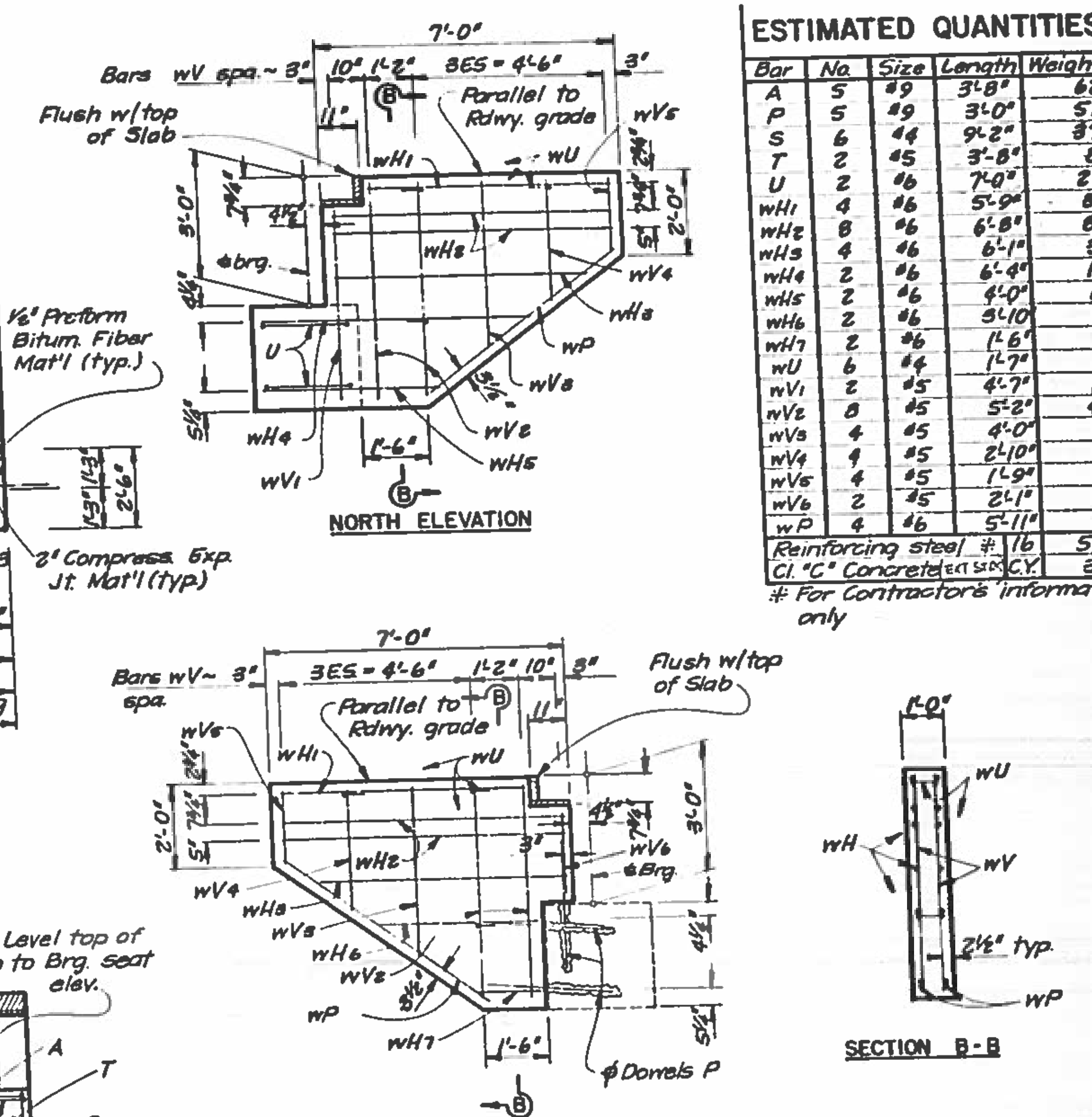


BARS U — BARS S — BARS U — SECTION A-A

ESTIMATED QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#9	3'-8"	62
P	5	#9	3'-0"	51
S	6	#4	9'-2"	37
T	2	#5	3'-8"	8
U	2	#6	7'-0"	21
wH1	4	#6	5'-9"	35
wH2	8	#6	6'-8"	80
wH3	4	#6	6'-1"	37
wH4	2	#6	6'-4"	19
wH5	2	#6	4'-0"	12
wH6	2	#6	3'-10"	12
wH7	2	#6	1'-6"	5
wU	6	#4	1'-7"	6
wV1	2	#5	4'-7"	10
wV2	8	#5	5'-2"	43
wV3	4	#5	4'-0"	17
wV4	4	#5	2'-10"	12
wV5	4	#5	1'-9"	7
wV6	2	#5	2'-1"	4
wP	4	#6	5'-11"	36
Reinforcing steel #			lb	514
Cl. "C" Concrete (Ext Str)			C.Y.	3.0

For Contractor's information only



WINGWALL DETAILS

GENERAL NOTES:
Designed in accordance with AASHTO 1989 Standard Specifications.
Calculated Pile load: 28 T/pile

H 20 LOADING

STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

ABUTMENTS NO. 1 OR 9

AGUA DULCE CREEK BRIDGE WIDENING

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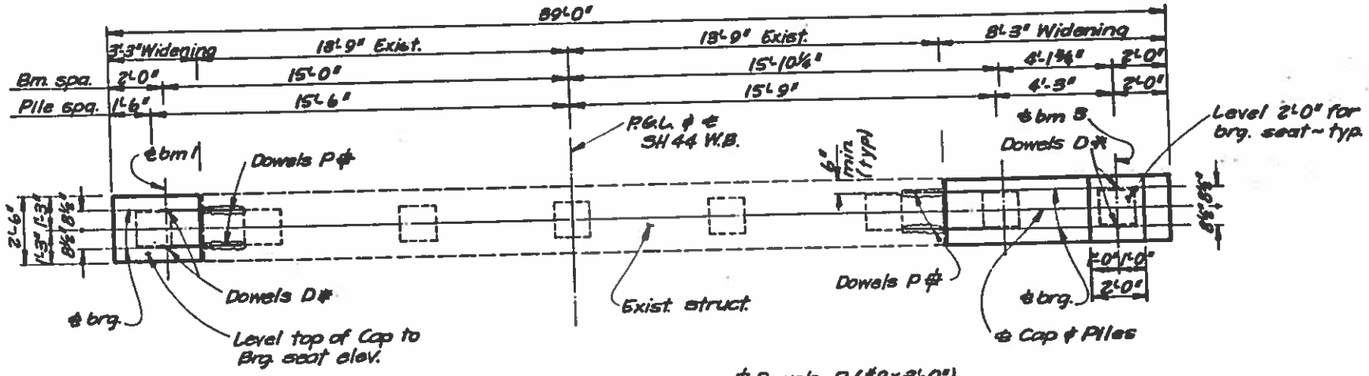
OCTOBER 1990

NKF — JGG — ADK — NKF

16 — 6 — HES 000S ( )

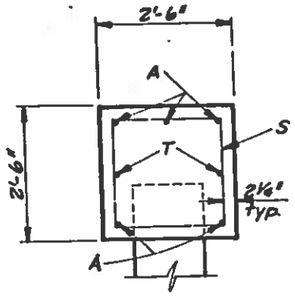
NUECES — 373 — 02 — 170

1-25-91



PLAN

Dowels P (#9×3'-0") Drill # grout 1'-6" min. into exist struct.



SECTION A-A

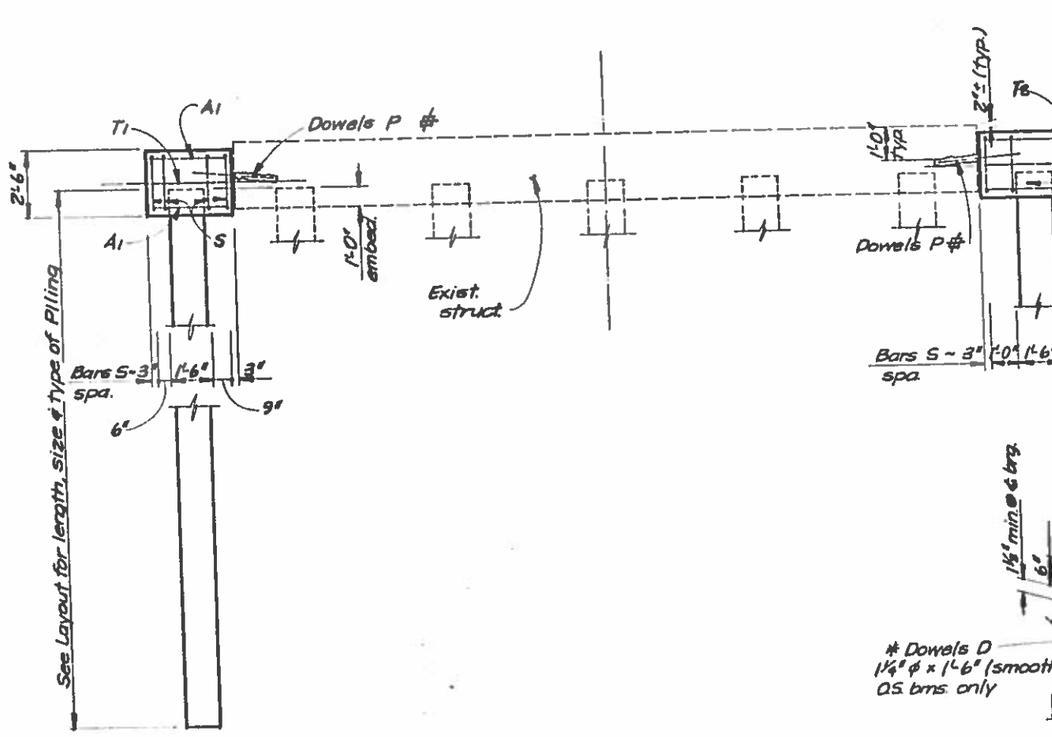
TABLE OF ◈

ESTIMATED QUANTITIES

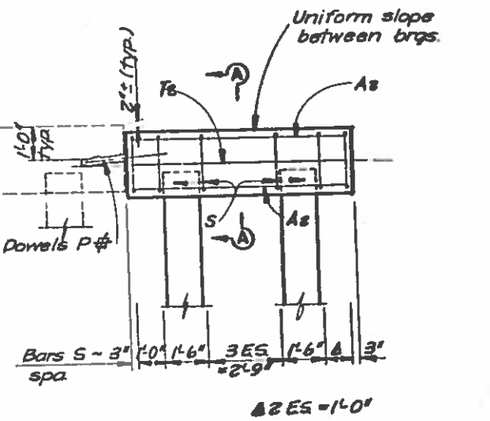
Bar	No.	Size	Length	Weight
A1	5	#8	2'-11"	39
A2	5	#8	7'-11"	106
D	4	1¼"ϕ	1'-6"	25
P	4	#9	3'-0"	41
S	13	#4	9'-2"	80
T1	2	#4	2'-11"	4
T2	2	#4	7'-11"	11
Reinforcing Steel #			lb	306
Cl."C" Conc. for Ext. Str.			C.Y.	2.7

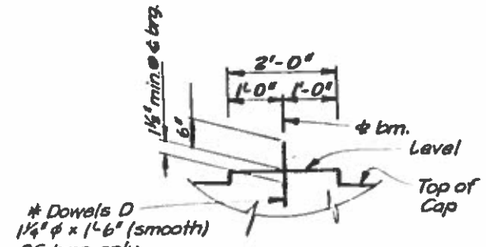
For Contractor's Information only

◈ Quantities shown are for one bent only.



ELEVATION





BEARING SEAT DETAIL

BARS S

GENERAL NOTES:
Designed in accordance with A.A.S.H.T.O. 1989 Standard Specifications
Calculated Pile load = 38 T/pile

H 20 LOADING

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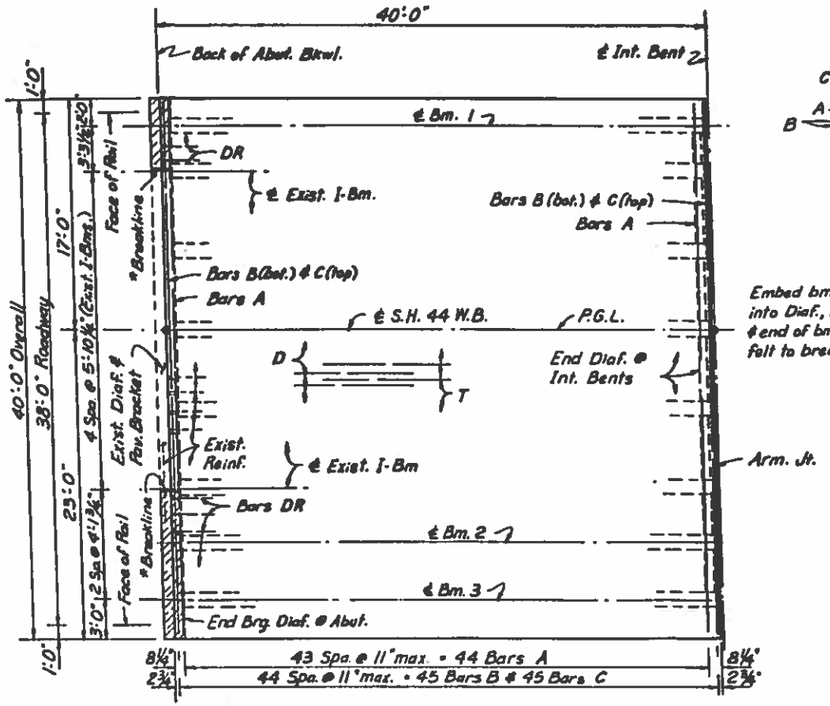
STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

INTERIOR BENTS NO. 2 - 8

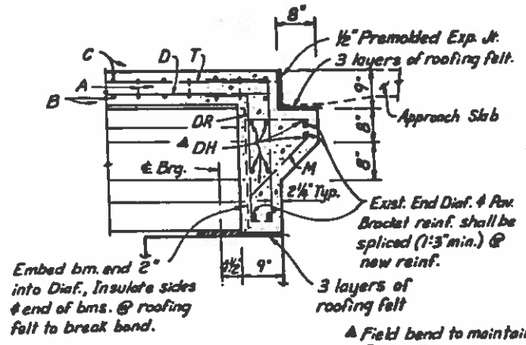
AGUA DULCE CREEK BRIDGE WIDENING

OCTOBER 1990	STATE DIST.	FEDERAL PROJECT					SHEET
NKP	16	6	HES 0005(C)				28
JBB	COUNTY			CONTROL	SECTION	JOB	HIGHWAY
	NUECES			051	02	770	SH 44

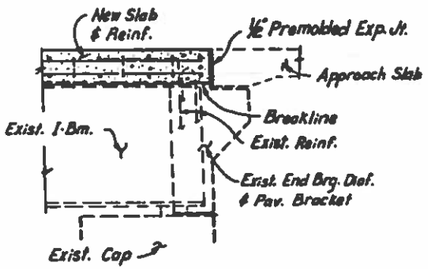
1-25-91



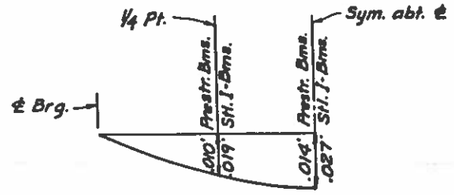
PLAN
(Showing Span 1)



SEC. A-A

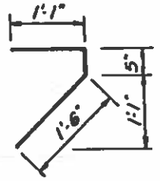


SEC. B-B

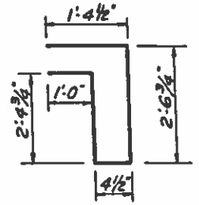


DEAD LOAD DEFLECTION DIAGRAM

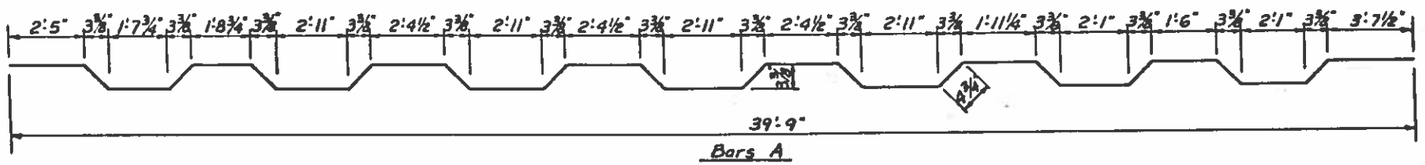
Deflections shown are due to cast-in-place concrete only. (E = 5 x 10⁶ p.s.i.)



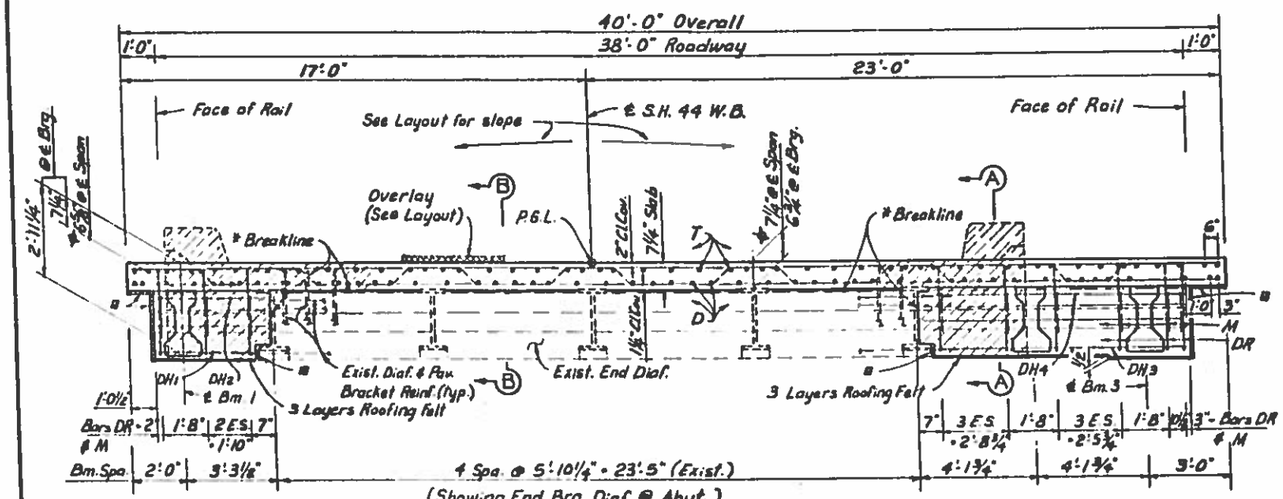
Bars M



Bars DR



Bars A



(Showing End Brg. Diaf. @ Abut.)

TRANSVERSE SECTION

◆ Theoretical value for information only.

* Remove crosshatched area of exist. end brg. diaf. & slab leaving exist. reinf. intact. Clean & extend transverse diaf. & paving bracket reinf. a min. of 1'-3" into new const. Clean & bend vertical diaf. reinf. completely into new slab as shown.

▫ ½" Premolded Expansion Joint Material.

NOTE: See Spans 2-7 sheet for Details for End Diaf. @ Int. Bent, related bar details & notes and Stud Connector Details.

● TABLE OF ESTIMATED QUANTITIES

Bar	No.	Size	Length	Weight
A	44	#5	41'-4"	1897
B	45	#4	39'-9"	1195
C	45	#5	39'-9"	1866
D	52	#5	39'-8"	2152
DH1	2	#5	3'-6"	7
DH2	6	#5	3'-11"	25
DH3	2	#5	9'-6"	20
DH4	6	#5	9'-11"	62
DN	2	#6	35'-11"	108
DR	14	#4	7'-9"	72
DS	31	#4	4'-8"	97
M	14	#4	3'-0"	28
T	53	#4	39'-8"	1404

Reinforcing Steel	Lb.	▲ 8933
Prestr. Conc. Bms. (Ty. A)	L.F.	‡ 1175
Struct. Steel (Stud Conn)	Lb.	400
Struct. Steel (Arm. Jt.)	Lb.	‡ 465

Span No.	Reinf. Conc. Slab for Ext. Str. - S.F.	Cl. S Conc. for Ext. Str. - C.Y. ▲ Diaf.	Slab
1 or 8	1600	2.6	35.8
Total	1600	38.4	

▲ For Contractors information only.
● Quantities shown are for one span only.
‡ Quant. is for ½ Arm. Jt. only.
* Quantity shown includes bottom flange lengths with adjustments made for beam slope. Each Bm. = 39.25'

GENERAL NOTES:

Designed in accordance with A.A.S.H.T.O. 1989 Standard Specifications.

Design f'c = 1200 p.s.i.

The use of optional end diaframs shall not be permitted.

The use of PCP's shall not be permitted.

No concrete shall be placed in the bridge slab until the diafram are in place, the diafram conc. has reached a minimum flexural strength of 300 psi, and the nuts of Bars DN have subsequently been firmly tightened, and threads burred.

H 20 Loading

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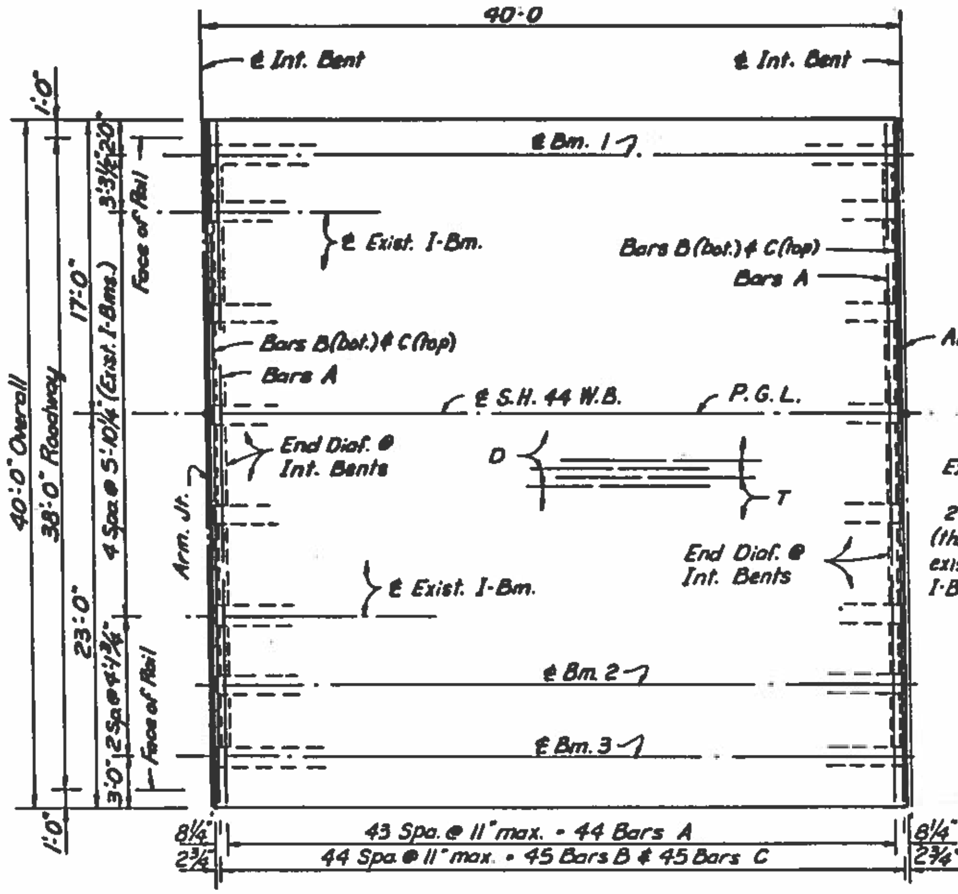
STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

40' PRESTR. CONC. BM. SPANS NO. 1 OR 8

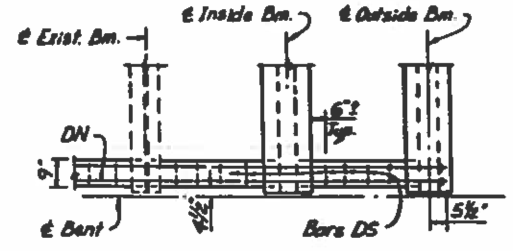
AGUA DULCE CREEK BRIDGE WIDENING

DESIGNED	DETAILED	QUANTITIES	CHECKED	DATE
NKF	JGG	LOS	NKF	Oct., 1990

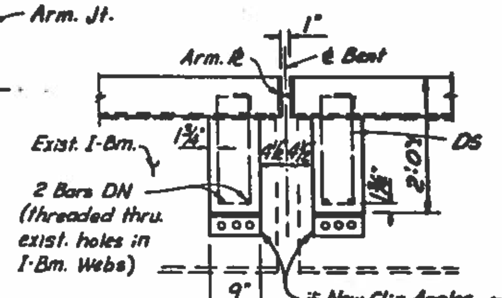
STATE	DISTRICT	COUNTY	HIGHWAY	SHEET NO.
16	6	NUECES	375	29



PLAN



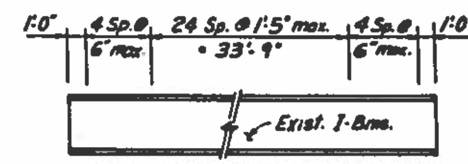
PLAN



New Clip Angles ~ Provide 2-L3"x3"x5/16"x9" new angles on outside face of ea. exterior I-bm. Remove exist. rivets from exist. clip angles on exist. I-bms. & replace ea. w/3/4"x2" bolt w/nut & std. washer. Holes in new clip angles shall match existing.

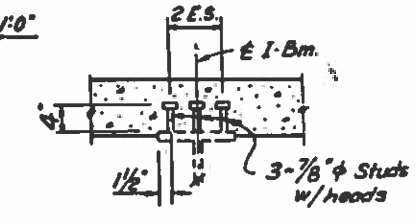
Clip angle & connection shall be subsidiary to Reinf. Conc. Slab.

ELEV.
(END DIAF. AT INT. BENTS)



STUD CONNECTOR SPACING

NOTE: Studs shall be electric arc end welded to exist. I-Beam flanges with complete fusion.



STUD CONNECTOR DETAIL

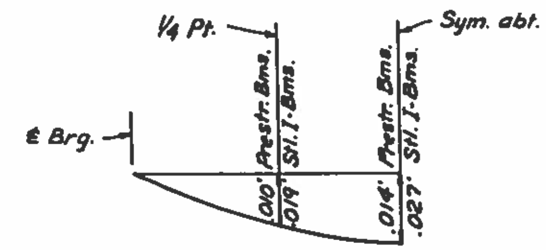
TABLE OF ESTIMATED QUANTITIES

Bar	No.	Size	Length	Weight
A	44	#5	41'-4"	1897
B	45	#4	39'-9"	1195
C	45	#5	39'-9"	1866
D	52	#5	39'-8"	2152
DN	4	#6	35'-11"	216
DS	62	#4	4'-8"	193
T	53	#4	39'-8"	1404

Item	Unit	Quantity
Reinforcing Steel	Lb.	▲ 8923
Prestr. Conc. Bms. (Ty. A)	L.F.	■ 119.00
Struct. Steel (Stud Conn)	Lb.	400
Struct. Steel (Arm. Jt.)	Lb.	‡ 930

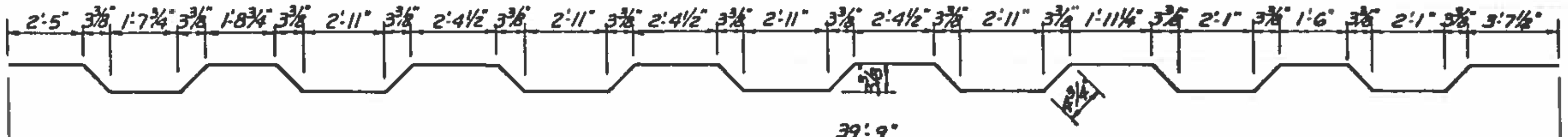
Span No	Reinf. Conc. Slab ~ S.F.	Cl. S Conc. ~ C.Y. ▲	
		Diaf.	Slab
2-7	1600	2.6	35.8
Total	1600	38.4	

▲ For Contractors information only.
‡ Quant. is for one complete Arm. Jt.
■ Quantity shown includes bottom flange lengths with adjustments made for beam slope. Each Bm. = 39.67'



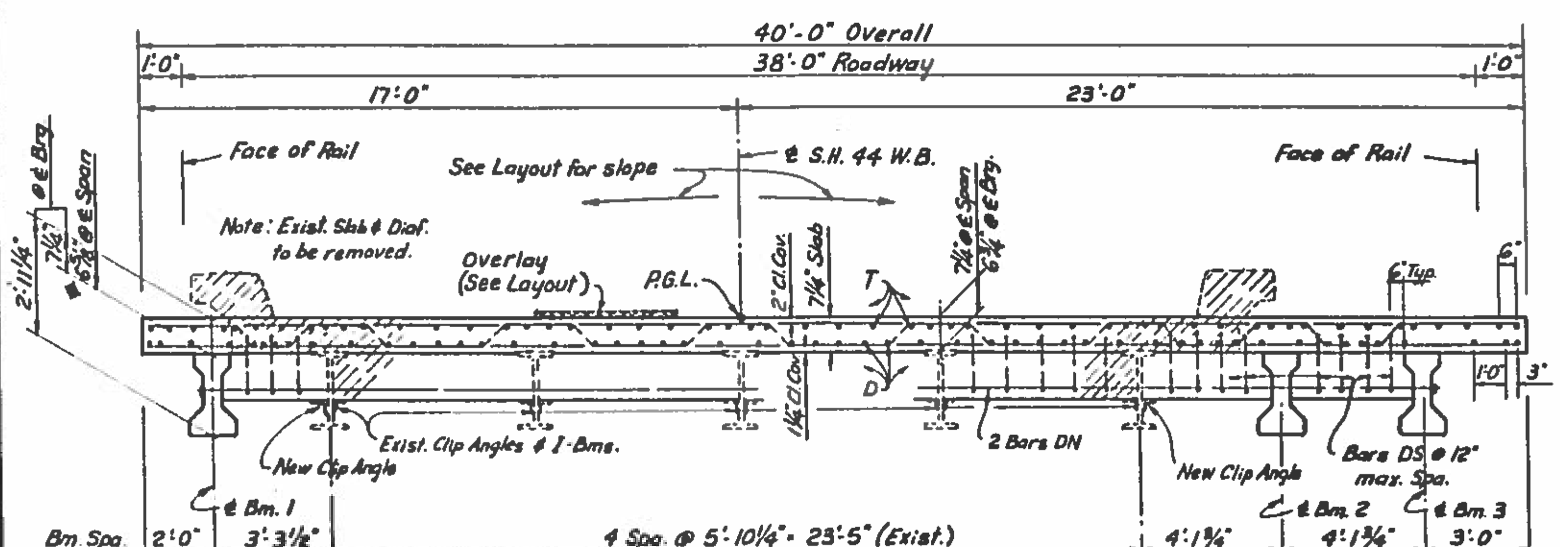
DEAD LOAD DEFLECTION DIAGRAM

Deflections shown are due to cast-in-place concrete only. (E = 5 x 10⁶ p.s.i.)



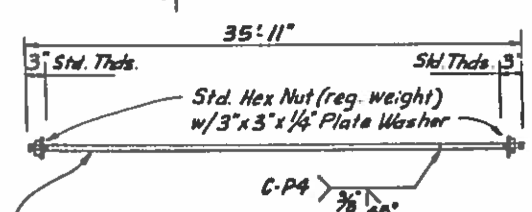
Bars A

GENERAL NOTES:
Designed in accordance with A.A.S.H.T.O. 1989 Standard Specifications.
Design fc = 1200 p.s.i.
The use of optional end diaframs shall not be permitted.
The use of PCP's shall not be permitted.
No concrete shall be placed in the bridge slab until the diaframs are in place, the diafram conc. has reached a minimum flexural strength of 300 psi, and the nuts of Bars DN have subsequently been firmly tightened, and threads burred.



(SHOWING END DIAF. AT INT. BENTS)
TRANSVERSE SECTION

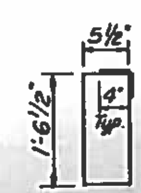
♦ Theoretical value for information only.



3/4" ϕ Threaded Steel Rod or #6 bar w/3/4" ϕ x 1'-0" galv. threaded steel rods or bolts welded to bar.

NOTE: After fabrication, the nuts, plates, sleeves & not less than 10" of ea. end of the threaded bar shall be galvanized. Plate washers & nuts are to be considered subsidiary to reinforcing steel.

Bars DN



Bars DS

H 20 Loading

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STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

40' PRESTR. CONC. BM. SPANS NO. 2 - 7

AGUA DULCE CREEK BRIDGE WIDENING

Oct. 1990 | NKF | J66 | LDS | NKF | 16 | 6 | HES 000S( ) | 30 | NUECES | 373 | 2 | 2?? | ???

1-25-91