LIST OF SHEETS	
NO.	TITLE
1	GENERAL PLAN & ELEVATION
2	SOUTH ABUTMENT DETAILS
3	SOUTH ABUT. REINFORCEMENT
4	DETAILS
5	BRIDGE SURVEY
6	BRIDGE SURVEY - PLAN & PROFILE

DESIGN DATA

1977 & INTERIM A.A.S.H.T.O DESIGN SPECIFICATIONS.

H15 LOADING

REINFORCED CONCRETE:

$f'c$ = 4000 P.S.I. n = 8

$f'y$ = 60000 P.S.I. REINFORCEMENT

STRUCTURAL STEEL

$f'y$ = 36000 P.S.I. SPEC. 3306

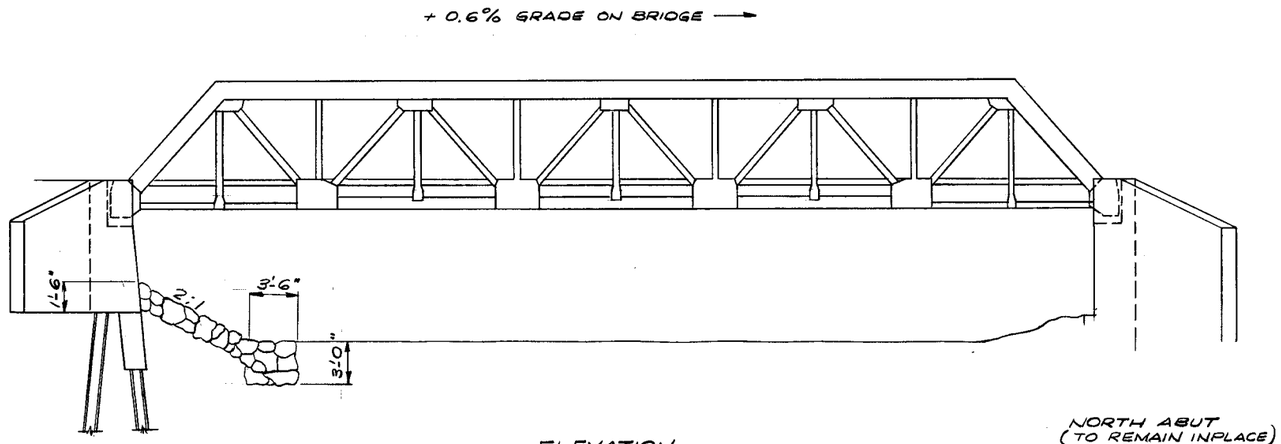
CONSTRUCTION NOTES

THE 1978 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION " STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION " SHALL GOVERN.

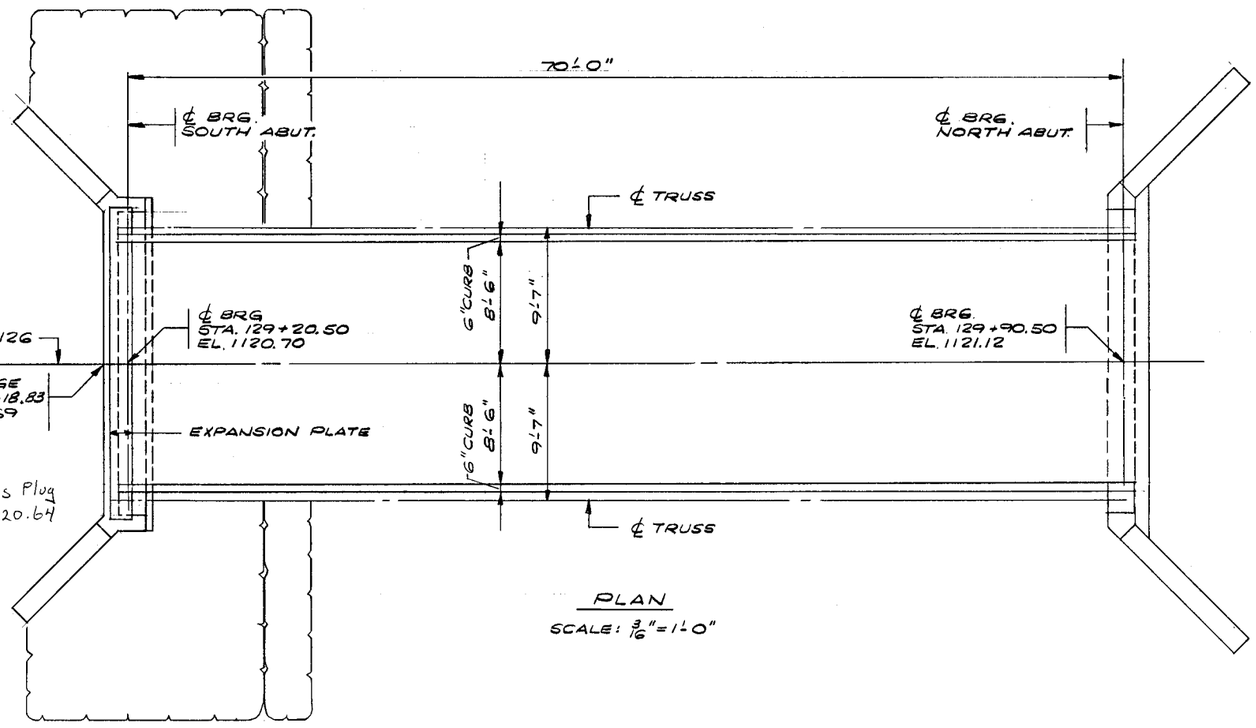
BRIDGE CONTRACTOR TO REMOVE TRUSSES WITH DECK INTACT, PLACE TRUSSES ON BLOCKS THAT HAVE BEEN LEVELED TO THE SAME ELEVATION, CHECK ALL DIMENSIONS NEEDED FOR CORRECT ABUTMENT LOCATION & PROPER CLEARANCES BETWEEN TRUSS & WALLS.

ALL ELEVATIONS SHOWN ON PLAN ARE APPROXIMATE ONLY. EXACT ELEVATIONS ARE TO BE DETERMINED BY THE ENGINEER IN FIELD.

CONTRACTOR TO FURNISH ANCHOR BOLTS OF PROPER SIZE AND LENGTH FOR THE SOUTH AND NORTH ABUTMENTS.

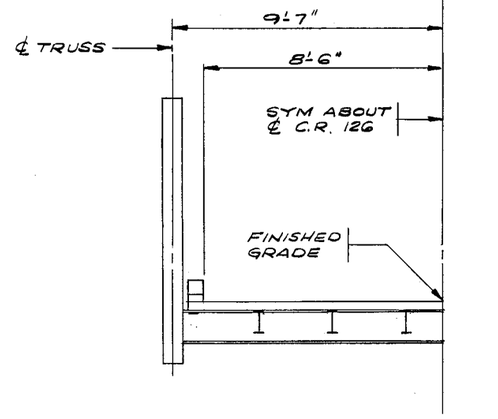


ELEVATION



PLAN

SCALE: $\frac{3}{16}$" = 1'-0"



HALF TRANSVERSE SECTION

APPROVED: J. K. Dolan
COUNTY ENGINEER
OLMSTED COUNTY

DATE: 4/4/79

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Robert A. Erickson
REG. NO. 6924

DATE: 3-16-79

PLANS PREPARED BY
ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE.
ST. LOUIS PARK, MINN. 55426

C.R. 126 OLMSTED COUNTY
MINNESOTA DEPARTMENT
OF TRANSPORTATION

BRIDGE NO. 2902

1.5 MILES S.W. OF JCT. C.S.A.H. 15 & C.R. 126 ON C.R. 126 OVER SOUTH FORK ZUMBRO RIVER.

SOUTH ABUTMENT REPLACEMENT FOR 70 FT LOW TRUSS SPAN WITH 17 FT ROADWAY

GENERAL PLAN & ELEVATION

SEC. 3 TWP. 105 N R 15 W

ROCK DELL TWP.

OLMSTED COUNTY

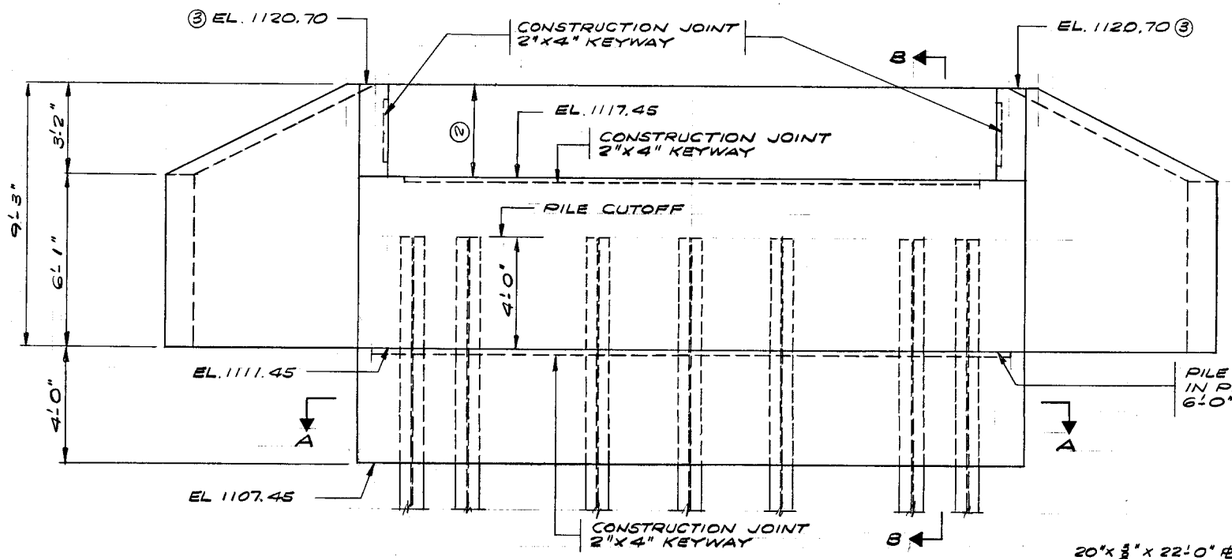
APPROVED:

(P) DENOTES PLAN QUANTITY PAY ITEMS PER SPEC. 1901.

SCHEDULE OF QUANTITIES FOR REPLACING SOUTH ABUTMENT

ITEM NO.	2401.501	2401.541	2402.521	2452.520	2452.511	2452.510	2511.501	401.601	2433.507	2433.507	2433.512					
ITEM	CONCRETE MIX. NO. 3Y43	REINFORCEMENT BARS	STRUCTURAL STEEL, (330G)	STEEL H-TEST PILES 25 FEET LONG.	STEEL H-PILING DELIVERED	STEEL H-PILING DRIVEN	RANDOM RIPRAP, CLASS B	STRUCTURE EXCAVATION	REMOVE SOUTH ABUTMENT	REMOVE SUPERSTRUCTURE (TRUSS W/DECK)	PLACE USED SUPERSTRUCTURE (TRUSS W/DECK)					
QUANTITY	36	3005	620	1	90	90	42	1	1	1	1					
UNIT	CU.YD.	POUND	POUND	EACH	LIN. FT.	LIN. FT	CU.YD.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM					

2902 WNJ



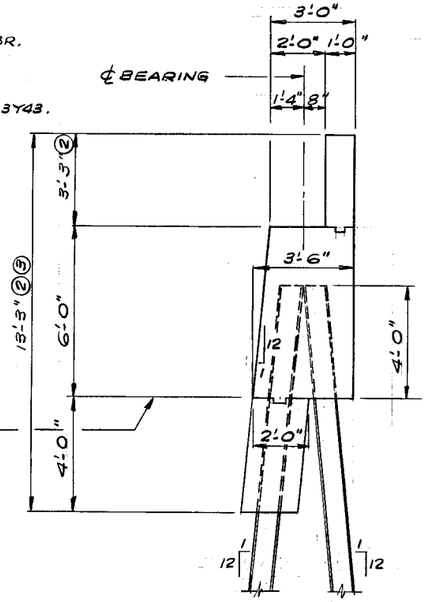
ELEVATION

② PARAPET WALL HEIGHT TO BE VERIFIED IN FIELD BEFORE POURING - SLOPE TO GRADE ON BR.

③ TOP OF WING TO BE FORMED TO TOP OF DECK.

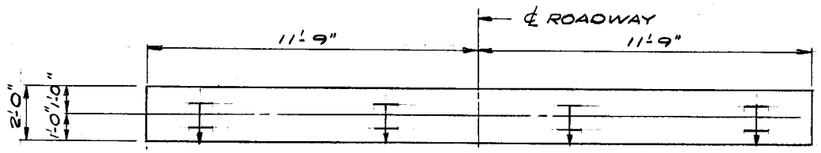
NOTE: ALL CONCRETE FOR SOUTH ABUT. SHALL BE MIX. NO 3Y43.

PILE SPACING DIMENSIONS SHOWN IN PLAN VIEW ARE AT BASE OF 6'-0" ABUTMENT WALL



SECTION B-B

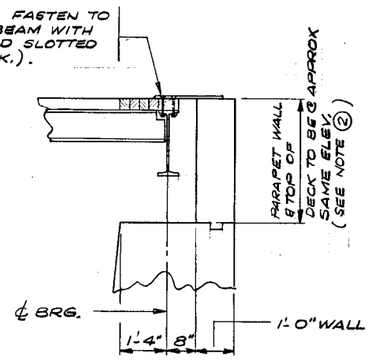
SCALE: $\frac{3}{8}$"=1'-0"



NOTE:
PILE SPACING SHOWN IN PLAN VIEW - SEE NOTE ABOVE

SECTION A-A

SCALE: $\frac{3}{8}$"=1'-0"

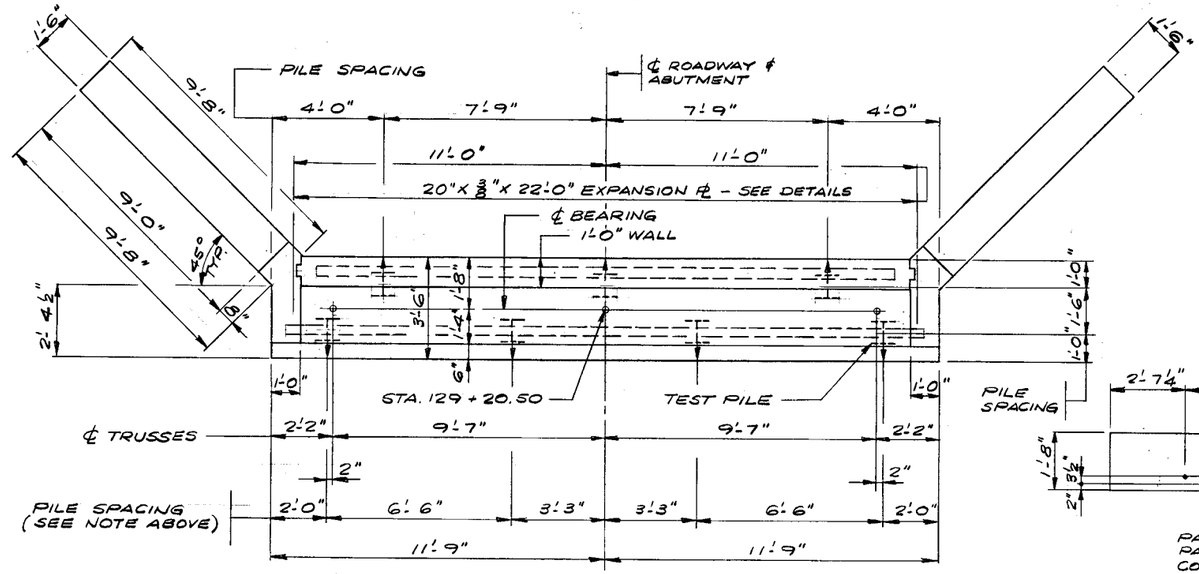


DETAIL SHOWING EXPANSION DEVICE

SUMMARY OF QUANTITIES FOR SOUTH ABUTMENT		
CONCRETE MIX NO. 3Y43	36	CU.YD.
REINFORCEMENT BARS	3005	POUND
STRUCTURE EXCAVATION	1	LUMP SUM
STEEL H-TEST PILE 25 FT. LG.	1	EACH
① STEEL H- PILING DELIVERED	90	LIN. FT.
① STEEL H- PILING DRIVEN	90	LIN. FT.
STRUCTURAL STEEL, (3306)	620	POUND
② 20"x 3/8"x 22'-0" EXPANSION PLATE	ONE	
② 14- 1/2" ϕ x 6 1/2" FLAT HD SLOTTED CAP SCREWS W/NUTS		

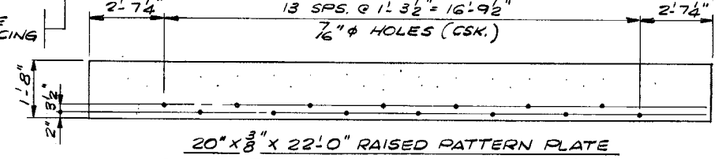
① DOES NOT INCLUDE TEST PILE

② INCLUDED IN PRICE BID FOR STRUCTURAL STEEL 3306.



PLAN

SCALE: $\frac{3}{8}$"=1'-0"



20"x 3/8" x 22'-0" RAISED PATTERN PLATE

PATTERN TO BE SIMILAR TO INLAND STEEL CO'S LARGE PATTERN, U.S. STEEL SECTION S-300, OR ALAN WOOD CO'S SUPER DIAMOND. GALV. SPEC. 3394.

PILE NOTES

1- STEEL H- TEST PILE 25 FT. LG.

6- " " PILES EST. LENGTH 15 FT.

7- " " " REQ'D FOR SOUTH ABUTMENT.

ALL PILES TO BE HP 10 X 42

PILE SPACING SHOWN IS AT BOTTOM OF 6'-0" PORTION OF ABUTMENT WALL.

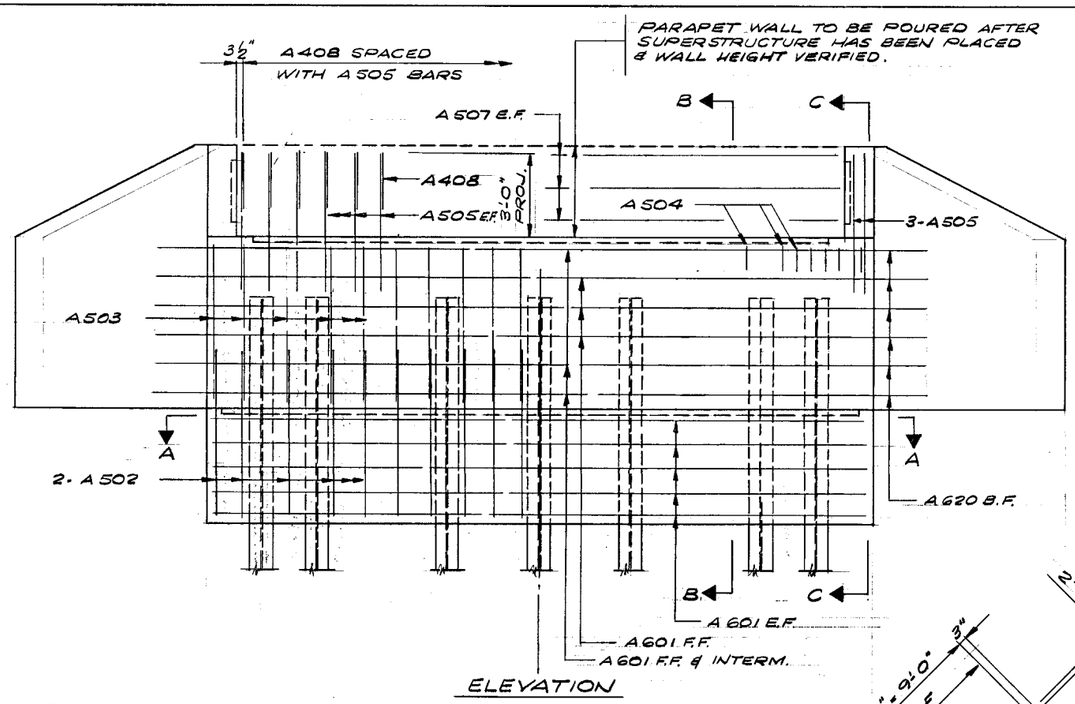
PILES MARKED THUS H► TO BE BATTERED 1" PER FT. IN DIRECTION SHOWN.

ALL PILES SHALL BE TIP REINFORCED INCLUDING TEST PILE - SEE DETAIL 8202.

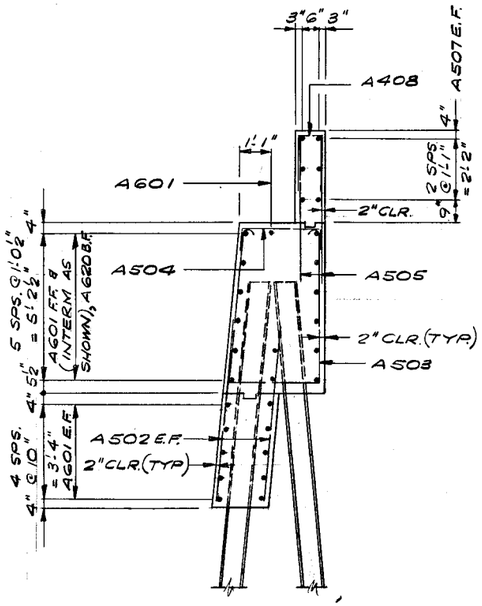
② COMPUTED ABUTMENT PILE LOADS - TONS PER PILE	
DEAD LOAD + EARTH PRESSURE	10.0
LIVE LOAD	3.0
DESIGN LOAD	13.0

② PILES TO BE DRIVEN TO REFUSAL IN BEDROCK

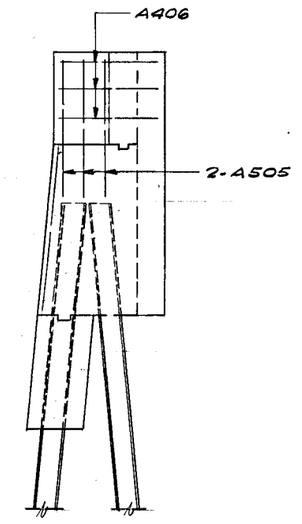
SOUTH ABUTMENT DETAILS	DRAWN W.N.J.	CHECKED R.R.T.	APPROVED	BRIDGE NO. 2902
	SHEET 2 OF 6 SHEETS			



ELEVATION

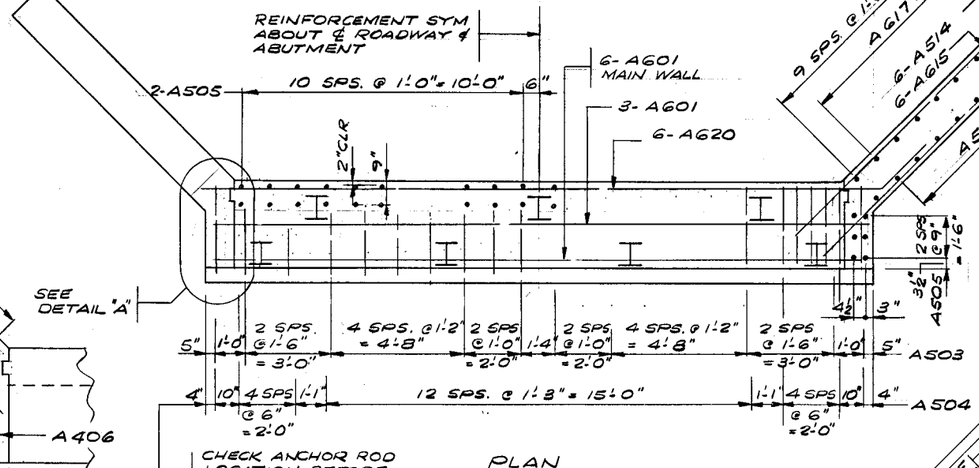


SECTION B-B

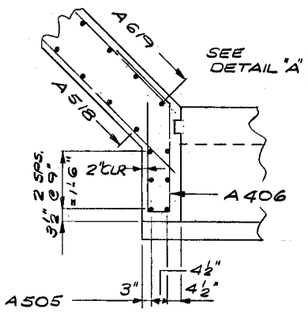


SECTION C-C

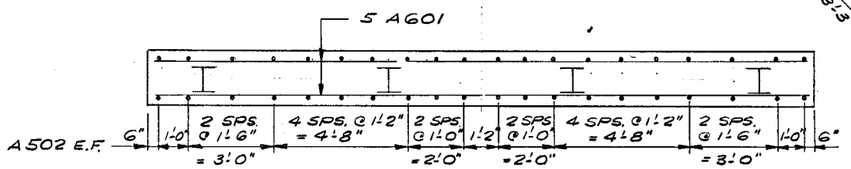
NOTE:
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE



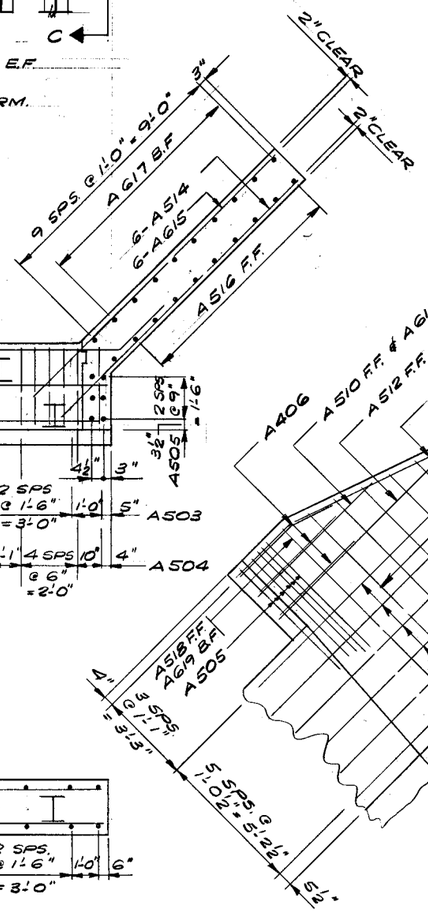
PLAN



DETAIL "A"

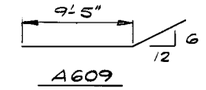


SECTION A-A

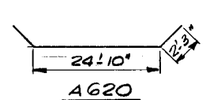


BILL OF REINFORCEMENT FOR SOUTH ABUTMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
A601	19	23'-2"	STR	LOWER & MID. WALL — LONG
A502	40	6'-0"	"	" " " — VERT.
A503	20	15'-1"	⊓	MID. WALL — STIRRUPS
A504	25	4'-2"	⊓	" " — TIES
A505	56	5'-3"	STR.	" " — VERT
A406	6	8'-2"	▱	" " — TIES
A507	6	21'-4"	STR.	PARAPET " — LONG.
A408	22	5'-0"	⊏	" " — VERT.
A609	4	9'-10"	◺	WINGWALL
A510	2	5'-2"	STR.	"
A611	2	4'-0"	"	"
A512	2	8'-2"	"	"
A613	2	7'-0"	"	"
A514	12	11'-9"	"	"
A615	12	12'-0"	"	"
① A516	9	14'-5"	"	"
① A617	9	14'-5"	"	"
A518	2	8'-11"	"	"
A619	2	8'-11"	"	"
A620	6	29'-4"	◡	"

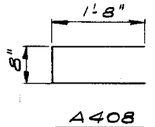
① CUT 2 FROM 1



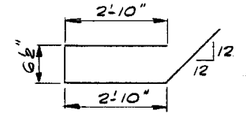
A609



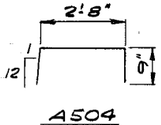
A620



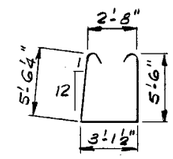
A408



A406

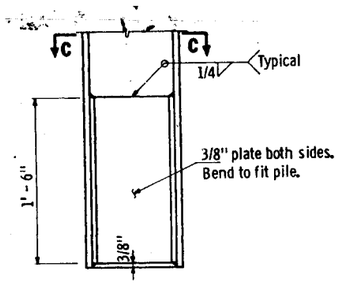


A504

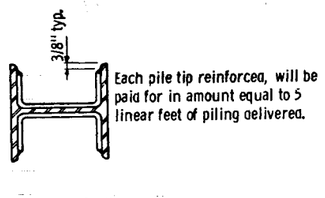


A503

SOUTH ABUTMENT REINFORCEMENT	DRAWN W.N.J.	CHECKED R.M.T.	APPROVED	BRIDGE NO. 2902
	SHEET 3 OF 6 SHEETS			



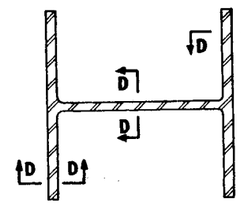
ELEVATION



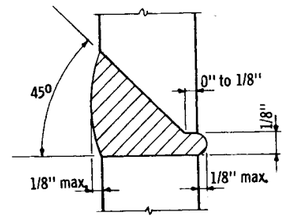
Each pile tip reinforced, will be paid for in amount equal to 5 linear feet of piling delivered.

SECTION C - C

DETAIL OF PILE TIP REINFORCEMENT



SECTION AT JOINT



SECTION D - D

100% BUTT WELDED PILE SPLICE

NOTES:

A. W. S. Type E7016 or E7018 (low-hydrogen) electrodes shall be used for 100% butt welded splices.

A. W. S. Type E6010, E6011 electrodes, or E7016 or E7018 (low-hydrogen) electrodes, shall be used for the alternate plate type pile splice.

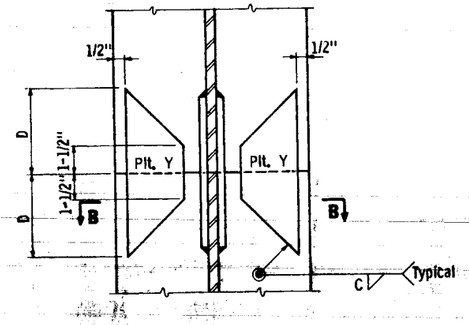
Low-hydrogen electrodes shall be supplied in hermetically (air-tight) sealed containers.

Low-hydrogen electrodes shall be stored in holding ovens at a temperature of not less than 250° F.

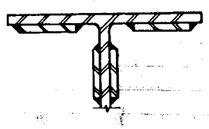
Low-hydrogen electrodes shall be placed in a holding oven for at least 8 hours, after having been exposed to the atmosphere for more than 2 hours.

Any type electrode which has become wet, soiled, or damaged shall not be used.

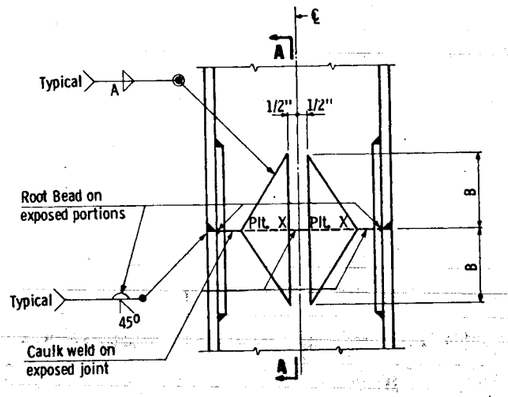
Welding shall not be done when the ambient temperature is lower than 0° F. or when the pile is wet or exposed to falling rain or snow. When the pile metal temperature is below 32° F., the pile metal in the area of the weld shall be heated to a minimum temperature of 70° F. and maintained at this temperature during welding.



SECTION A - A



SECTION B - B



ELEVATION

PILE SECTION	PLATE X			PLATE Y		
	Size	A	B	Size	C	D
HP10 x 42	2-1/2 x 3/8	1/4	4	3 x 3/8	5/16	4
HP10 x 57	2-1/2 x 1/2	5/16	4	3 x 1/2	5/16	5
HP12 x 53	3-1/2 x 3/8	1/4	5	4 x 3/8	5/16	5
HP12 x 74	3-1/2 x 1/2	5/16	6	4 x 1/2	5/16	6
HP14 x 73	4-1/2 x 3/8	1/4	7	5 x 3/8	5/16	6
HP14 x 89	4-1/2 x 7/16	5/16	7	5 x 1/2	5/16	7
HP14 x 102	4-1/2 x 1/2	5/16	7	5 x 9/16	3/8	7
HP14 x 117	4-1/2 x 9/16	3/8	7	5 x 5/8	3/8	8

ALTERNATE PILE SPLICE

APPROVED July 21, 1972

Douglas Dibbet
Engineering Standards Engineer
RESEARCH AND STANDARDS DIVISION

MINNESOTA DEPARTMENT OF

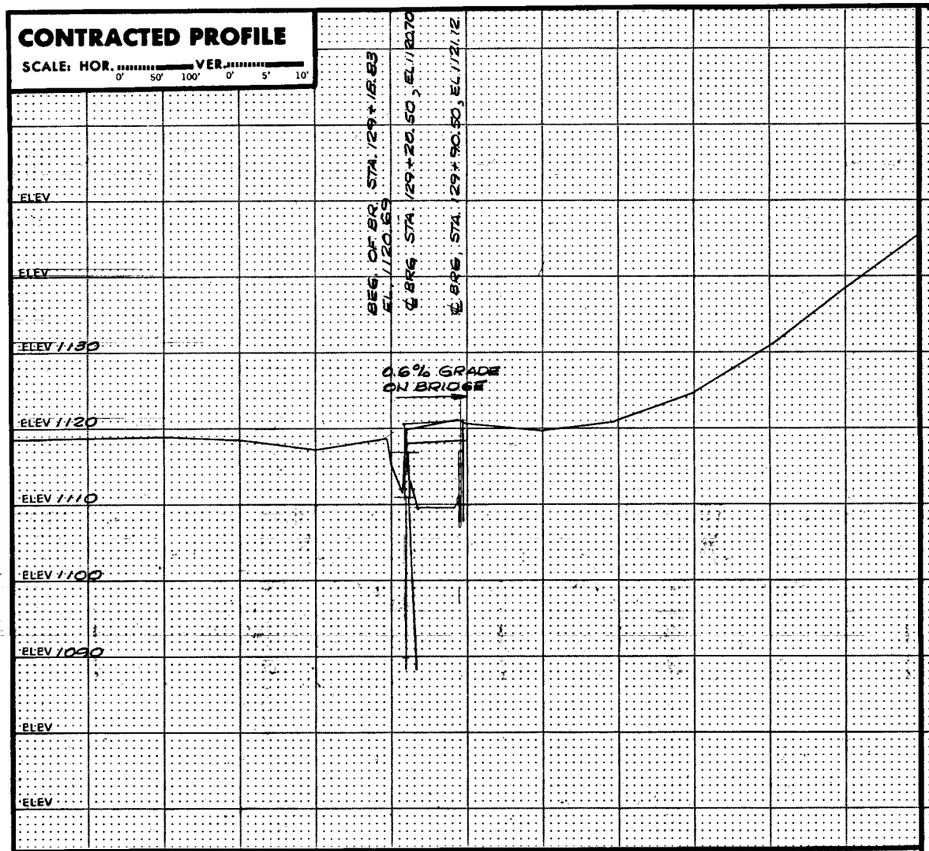
PILE SPLICE and TIP REINFORCEMENT
STEEL H BEARING PILES 10" TO 14"

DETAIL NO.

B202

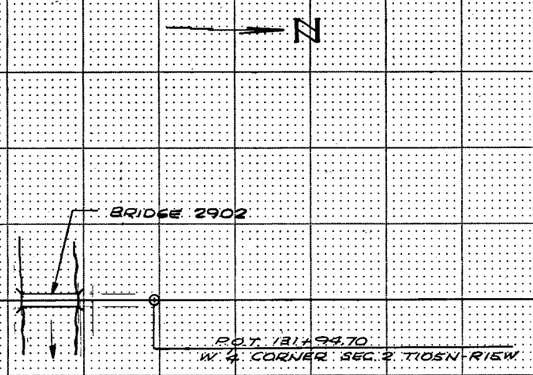
CONTRACTED PROFILE

SCALE: HOR. 0' 50' 100' VER. 0' 5' 10'



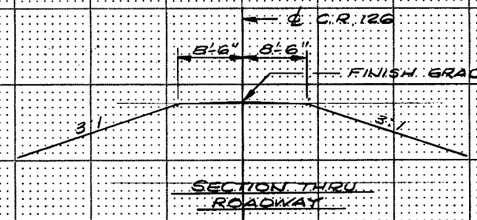
PLAT

SCALE: 0' 50' 100'



TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN



Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) :Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation..... Obtained from.....

4. Other data: Approx. velocity of water at time of survey.....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE .....

Stream or ditch designation .....

Drainage area .....

Max. flood on record..... Design flood (..... yr. freq.) .....C.F.S.

Max. observed highwater elevation ..... Design highwater elevation.....

Design mean velocity through structure .....F.P.S.....

Low superstructure at or above elevation .....

Flowline elevation ..... Skew angle.....

Waterway area req'd. below elevation ..... = ...Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr. freq.) is.....C.F.S. at stage.....and mean velocity of.....F.P.S. with.....Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION

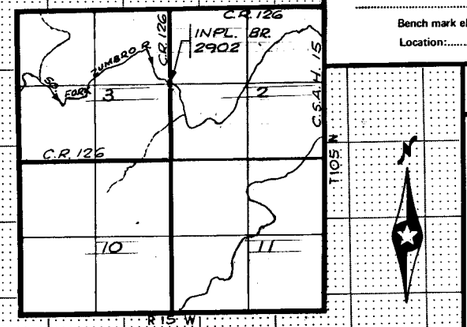
DATE .....

SOUTH ABUTMENT REPLACEMENT

Bridge survey sheets made from: .....

Bench mark elevation..... (M.S.L. 1929 Adj.)

Location:.....



MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT..... ON C.R. 126 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 1.5 MILES S.W. OF JUNCTION C.S.A.H. 15 & C.R. 126

SEC. 3 TWP 105 N. R 15 W.

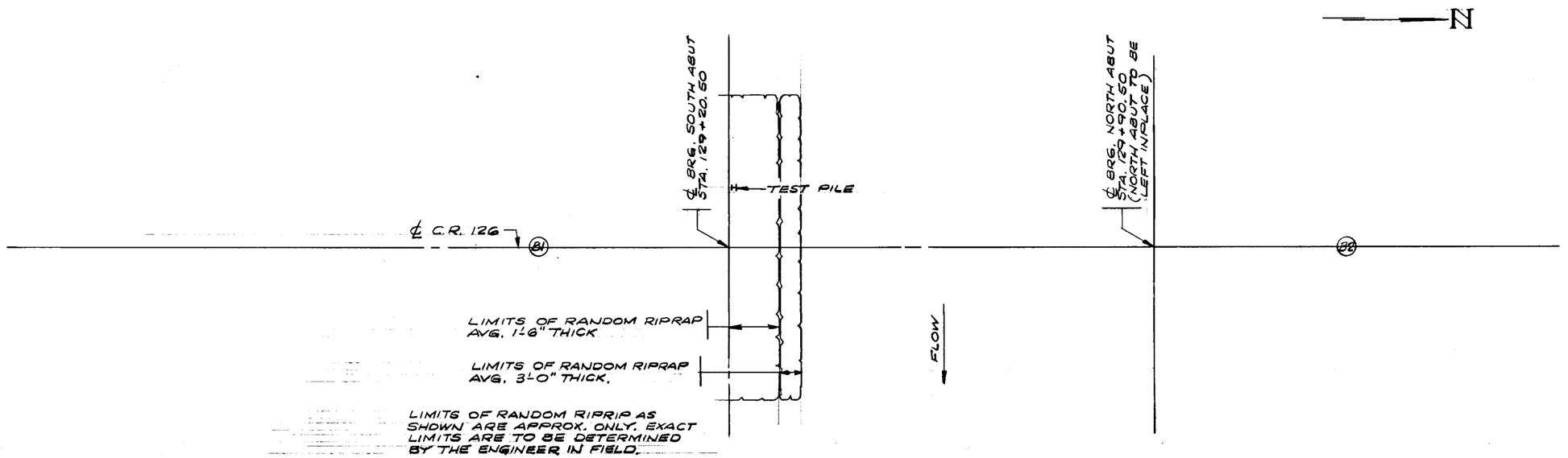
TOWNSHIP ROCK DELL COUNTY OLMSTED

BRIDGE NO. 2902

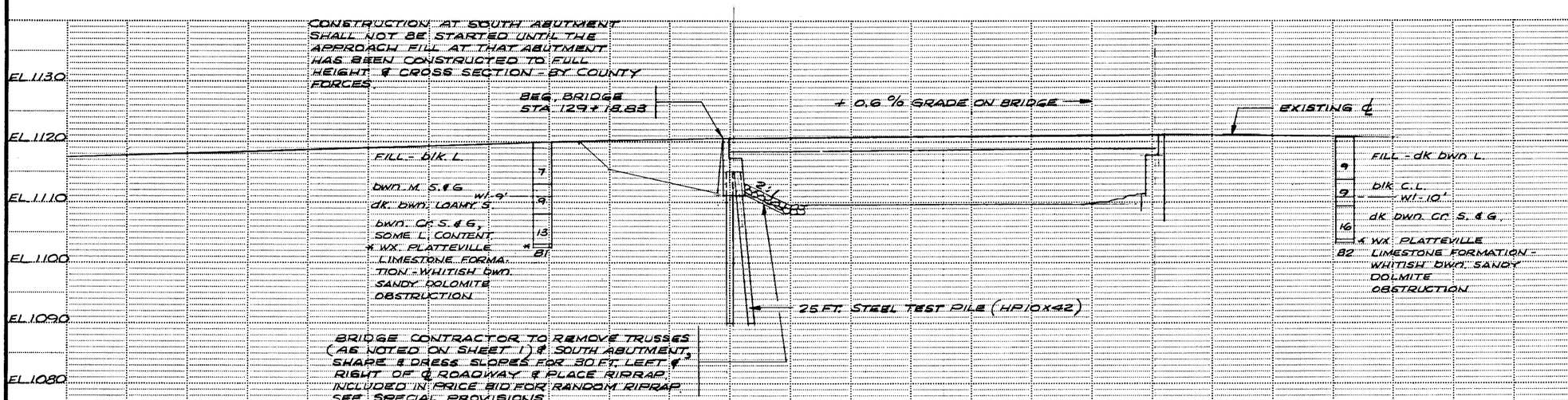
Area No. Job No. | State Proj. No. | Sheet No. 5 of 6 Sheets

TELEDYNE POST BRIDGE SURVEY 15C-2 9/76

Fed. Proj. No.



CONSTRUCTION AT SOUTH ABUTMENT SHALL NOT BE STARTED UNTIL THE APPROACH FILL AT THAT ABUTMENT HAS BEEN CONSTRUCTED TO FULL HEIGHT & CROSS SECTION - BY COUNTY FORCES.



BRIDGE CONTRACTOR TO REMOVE TRUSSES (AS NOTED ON SHEET 1) & SOUTH ABUTMENT, SHAPE & DRESS SLOPES FOR 30 FT. LEFT ℄ RIGHT OF ℄ ROADWAY & PLACE RIPRAP. INCLUDED IN PRICE BID FOR RANDOM RIPRAP. SEE SPECIAL PROVISIONS.

BORINGS SHOWN [T] TAKEN WITH
STD 140 LB HAMMER
30 INCH DROP
2 INCH O.D. SAMPLER

BRIDGE SURVEY PLAN AND PROFILE	DES:	DR:	APPROVED:	Bridge No.
	CHK:	CHK:		2902
State Proj. No.	Sheet No. 6 of 6 Sheets			

IBC-1 9 76