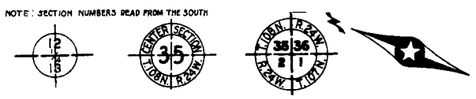
Conventional Signs

- STATE LINE
- COUNTY LINE
- TWP OR RANGE LINE
- SECTION LINE
- RIGHT OF WAY LINE
- CORPORATE OR CITY LIMITS
- ROAD CENTER LINE
- RETAINING WALL
- RAILROADS
- CREEK
- DRY RUN
- DRAINAGE DITCH
- POWER POLE LINE
- TELEPHONE OR TELEGRAPH LINE
- CULVERTS - PLAIN
  - WITH ENDWALLS
  - WITH WINGWALLS
- DROP INLET
- FENCE LINE
- GRAVEL PIT (G)
- SAND PIT (S)
- CLAY PIT (C)
- ROCK QUARRY (R)
- SPRINGS
- MARSH
- BRUSH OR TIMBER
- HEDGE
- ROCK LEDGE
- SAND
- EDGE OF CUT
- TOE OF EMBANKMENT
- RAILROAD R/W LINE
- BUILDING (One Story Frame)

Abbreviations

EXCAVATION	EXC.
EARTH	E.
LOOSE ROCK	L.R.
SOLID ROCK	S.R.
EMBANKMENT	F.
OVERHAUL	H.
SURFACING	S.
HAND DITCHING	H.D.
SPECIAL EXCAVATION	S.E.
SPECIAL PLOWING	S.P.
GUARD RAIL	G.R.
CORRUGATED METAL CULVERT	C.M.CULV.
SECTIONAL CONCRETE CULVERT	R.CULV.
SECTIONAL CONCRETE CULVERT (Heavy Type)	R.CULV.
TON MILES	T.M.
TELEPHONE POLE	TEL. P.
POWER POLE	P.P.
PLACE	P.
INPLACE	INP.
REPLACE	REP.
RIGHT	RT.
LEFT	LT.
INTERSECTION ANGLE	Δ
RADIUS	R.
TANGENT	T.
LENGTH OF CURVE	L.
POINT OF CURVE	P.C.
POINT OF TANGENT	P.T.
POINT OF INTERSECTION	P.I.
VERTICAL CURVE	V.C.
BENCH MARK	B.M.
ELEVATION	EL.
ACRES	A

NOTE: SECTION NUMBERS READ FROM THE SOUTH



End S.A.P. 55-603-01
Sta. 27+84.0

Bridge No. 7212
STA. 17+89.00 TO 19+17.00

Begin S.A.P. 55-603-01
Sta. 0+00

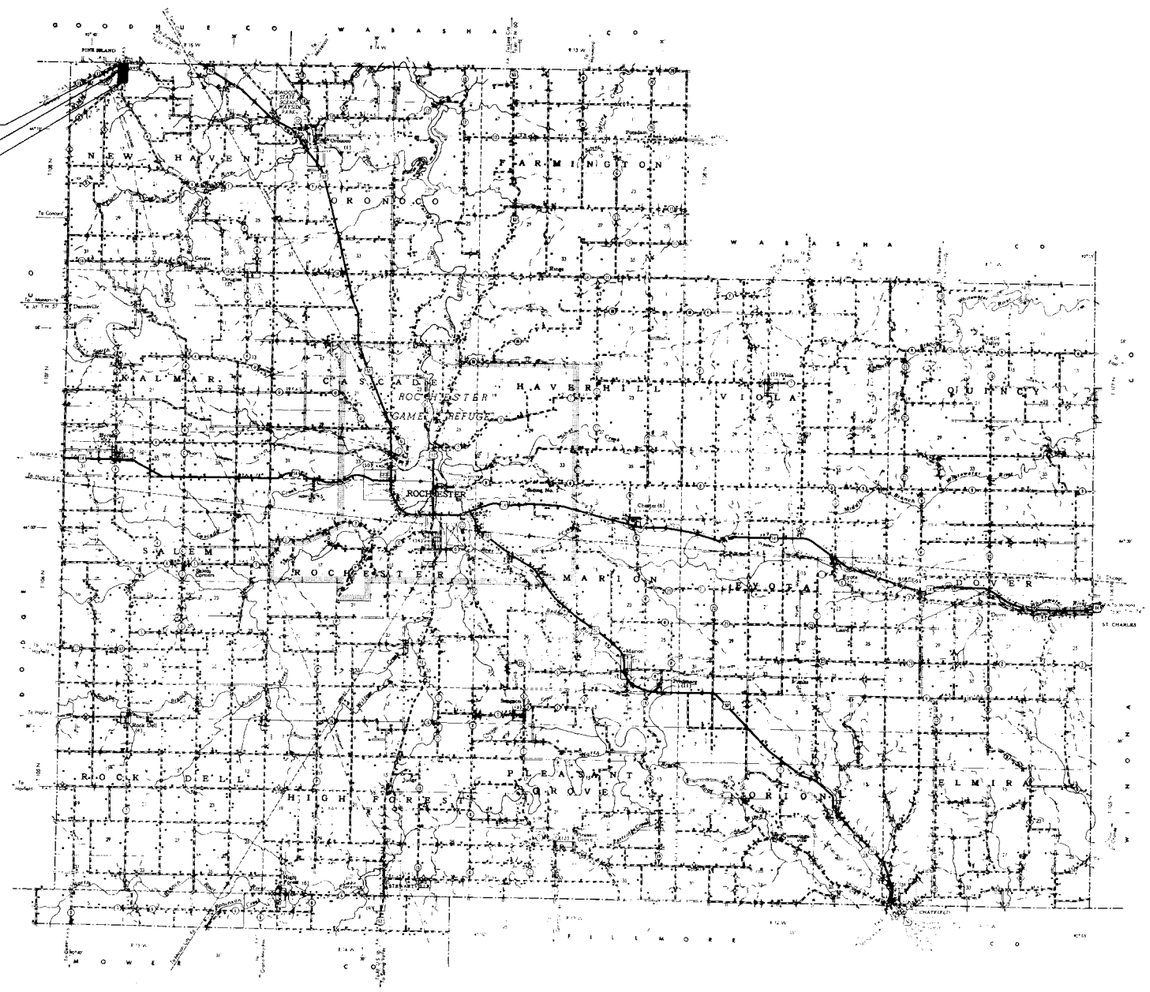
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
Plan and Profile of C.S.A.H. No. 3 AND BR. NO. 7212

From Center Sec. 5 T.108 N. R.15 W. **To** 50 feet East of North Quarter Corner Sec. 5 T.108 N. R.15 W.
Give proper reference to Sections, Township and Range

GROSS LENGTH- 2784.0 FEET 0.5272 MILES
LENGTH OF BRIDGE 128.0 FEET 0.024 MILES
NET LENGTH 2784.0 FEET 0.5272 MILES

SCALES
- PLAN, 1 Inch = 100 Feet.
- PROFILE, Horz. 1 Inch = 100 Feet. Vert. 1 Inch = 10 Feet
- WORKING PLANS: Horz. 1 Inch = 100 Feet; Vert. 1 Inch = 10 Feet; Cross-Section, 1 Inch = 10 Feet

LAYOUT
Scale, 1 Inch = 10560 Feet



INDEX OF SHEETS

Sheet No. 1. Title Sheet and Layout Map
" No. 2. Typical Cross-Sections and Statement
" No. 3. Location of Borrow Pit
" No. 4. Plan and Profile, Sta. 0+0.0 to Sta. 27+84
" No. 5 & 6 Cross Sections
" No. 1 TO 7 PLANS BRIDGE NO. 7212

SPECIFICATION REFERENCE:
The "specifications for highway construction" dated May 1, 1959, and submitted for approval by the Division Engineer of the Bureau of Public Roads on March 26, 1959, shall govern.

DETAIL PLATE REFERENCE:
Standard detail plates issued October 1, 1947 and approved by the Bureau of Public Roads April 1, 1948, with revisions approved February 24, 1949, shall govern.

Design Speed 50 MPH

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

OLMSTED COUNTY HIGHWAY ENGINEER

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.

DATE 4-8-59 REG. NO. 1007

Planned By

HIGHWAY ENGINEER FOR COUNTY.

Recommended for Approval
DISTRICT ENGINEER

Recommended for Approval 7-24-59
BRIDGE ENGINEER

Recommended for Approval 4-29-59
STATE AID ENGINEER

S.A.P. No. 55-603-01 (C.S.A.H. 3)

Olmsted County, Minnesota County Proj. No. Plan No. Sheet 1 of 6 Sheets

FORM 129 C - # 1 Rev. '46

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5N	MINN.					

ESTIMATED QUANTITIES

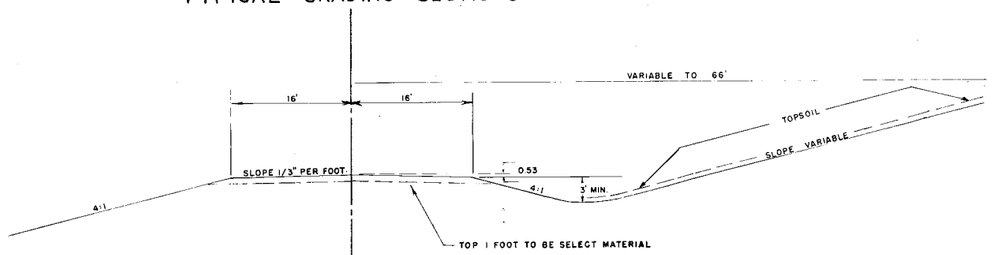
SPECIFICATION NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
2101.502	Clearing	Tree	7
2101.507	Grubbing	Tree	7
2104.501	Remove Portable Culverts	Linear Foot	294
2105.501	Class A Excavation	Cubic Yard	5558
2105.506	Borrow Excavation (Class A)	Cubic Yard	1104
2501.511-18"	F & I CMP Culverts 18"	Linear Foot	224
2501.511-24"	F & I CMP Culverts 24"	Linear Foot	64
2501.521-24"	F & I SCP Culverts 24" (Class 2)	Linear Foot	60
2501.521-30"	F & I SCP Culverts 30" (Class 2)	Linear Foot	52
2515.531-18"	F & I Metal Aprons for CMP 18"	Apron	14
2515.531-24"	F & I Metal Aprons for CMP 24"	Apron	4
2515.541-24"	F & I Conc. Aprons for SCP 24"	Apron	2
2515.541-30"	F & I Conc. Aprons for SCP 30"	Apron	2
2252.527	Crushed Rock Wearing Course inplace	Cubic	1205

STANDARD DETAIL PLATES

THE FOLLOWING STANDARD DETAIL PLATES, APPROVED BY THE BUREAU OF PUBLIC ROADS, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
2100B	Concrete Apron for Sec. Conc. Pipe
3123A	Metal Apron for Metal Pipe

TYPICAL GRADING SECTIONS



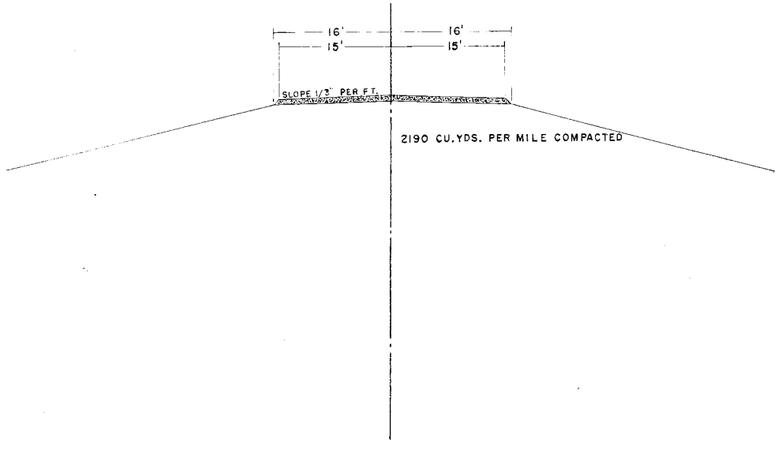
SPECIAL DETAILS

Note: Material from the top 1.0' of the natural topsoil shall not be used in the upper 1.0' of the roadway. Part of this material shall be spread uniformly on slopes and ditch bottoms to a depth of 3". No payment in addition to the contract price for Class A Excavation will be made for spreading the topsoil as above provided, nor will any undercutting made in excavation prior to placing the topsoil be measured for payment.

Note: Corrugated Metal and Sectional Concrete Pipe Culvert excavation shall be considered incidental and will be paid under unit price for Furnish and Install Culvert Pipe.

Note: Place sectional concrete pipe on class "C" Bedding

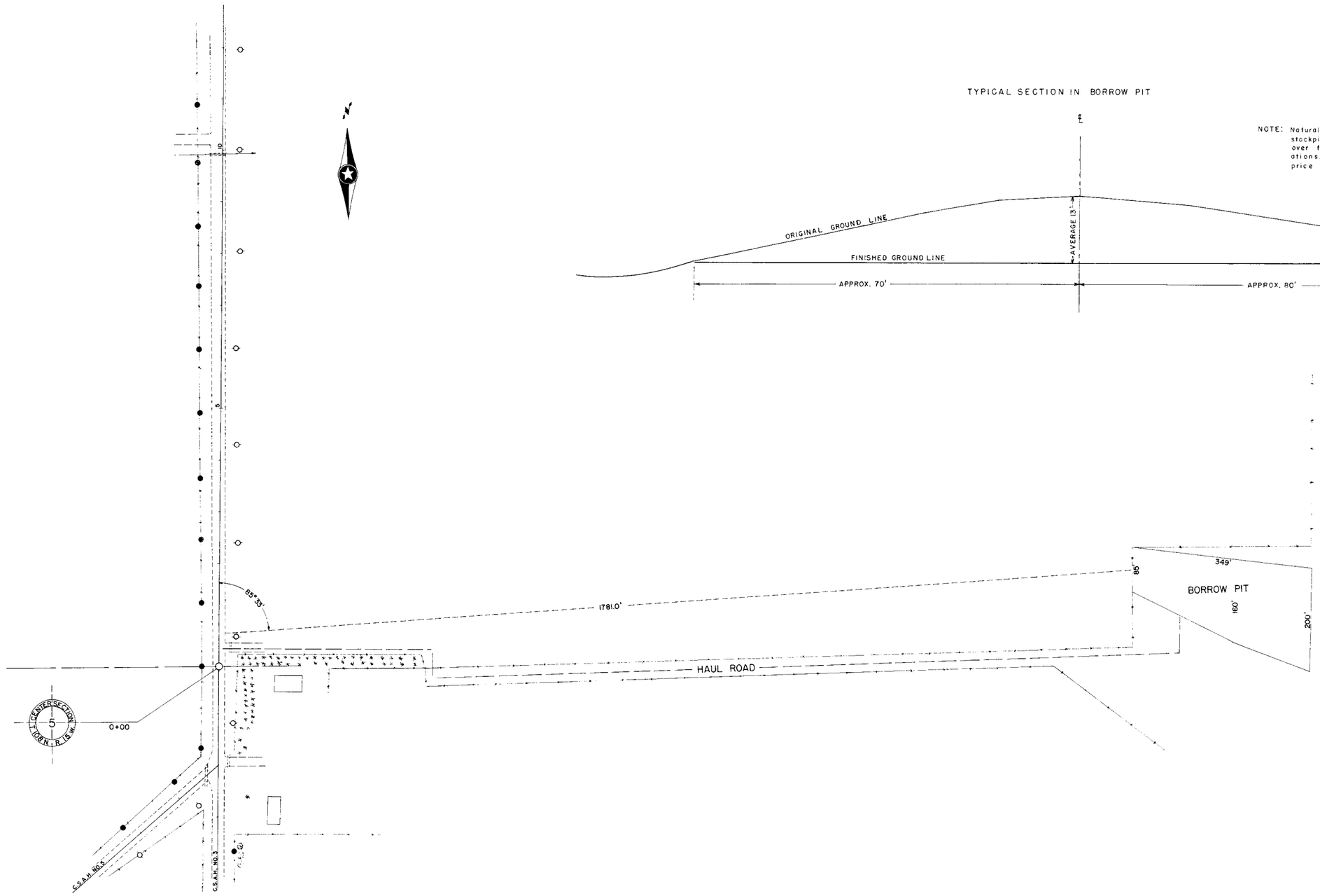
TYPICAL BASE & SURFACE SECTIONS



Olmsted County, Minn. Proj. No. _____ Plan No. _____ Sheet No. 2 of 6 Sheets

DAHMS PHOTO PRINT CO.
WINONA, MINN.

LOCATION OF BORROW PIT AND HAUL ROAD
S.P. 55- C.S.A.H. NO. 3



TYPICAL SECTION IN BORROW PIT

NOTE: Natural topsoil shall be removed from Borrow Pit and stockpiled. This material shall be spread uniformly over finished grade on completion of hauling operations. No payment in addition to the contract price will be made for spreading same.

PLAN — SURVEYED — PLOTTED — ALIGNMENT CHECKED — RT. OF WAY CHECKED — NOTE BOOK — NO. — BY — DATE

PROFILE — SURVEYED — PLOTTED — GRADES CHECKED — NOTE BOOK — NO. — STRUCTURE ELEVATIONS CHKD — BY — DATE

N

F.E. 10+20 Lt.
Inpl. 18"X24" C.M.P.
Remove
F&I 18"x 28' CMP
F&I 2-18" Metal Aprons

18+50 Lt.
Inpl. Low Truss Bridge
80' Span 16' Roadway

Sta. 17+89.0 to Sta. 19+17.0
Construct Bridge No. 7212

F.E. 19+95 Lt.
Inpl. 15"x26' C.M.P.
Remove
F&I 18"x 36' CMP
F&I 2-18" Metal Aprons

F.E. 21+38 Lt.
No Culv. Inpl.
F&I 18"x 32' CMP
F&I 2-18" Metal Aprons

F.E. 25+39 Lt.
Inpl. 15"x26' C.M.P.
Remove
F&I 18"x 32' CMP
F&I 2-18" Metal Aprons

F.E. 25+96 Lt.
Inpl. 15"x26' C.M.P.
Remove
F&I 18"x 32' CMP
F&I 2-18" Metal Aprons

F.E. 26+91 Lt.
Inpl. 15"x 36' C.M.P.
Remove
F&I 18"x 36' CMP
F&I 2-18" Metal Aprons

Zumbro River

Middle Branch

North

GOODHUE CO.

R.O.T. 27+37.9

0+35 Rt.
Inpl. 24"X24' S.C.P.
Remove
F&I 24"x28' CMP
F&I 2-24" Metal Aprons

9+92 E
Inpl. 24"X34' C.M.P.
Remove
F&I 30"x 52' SCP
F&I 2-30" Conc. End Sec.

13+81 E
Inpl. 24"X48' C.M.P.
Remove
F&I 24"x 60' SCP
F&I 2-24" Conc. End Sec.

EE. 16+28 Rt.
No Culv. Inpl.
F&I 24"x 36' CMP
F&I 2-24" Metal Aprons

22+09 Lt. Sidewalk & Steps
Inpl. 15"x 8' C.M.P.
Removed
No Culv Req'd

Sta. 21+00
F&I 18"x 28' CMP
F&I 2-18" Metal Aprons

27+46 E
Inpl. 24"X42' C.M.P.
Remove
No Culv Req'd

27+84 Lt. & Rt. S.A.R. No 13
No Culvs. Inpl.

BORROW PIT
200'
349

← Clear 7. Grub 7 →

P1 +00
Elev. 1001.5
600' V.C.
M = 0.75

P1 +00
Elev. 1006.5
600' V.C.
M = 0.3

Profile 75' Lt.
Profile 75' Rt.

Exc 2212
Borrow 11104
13316
Emb 9514

Exc 3346
Emb 2391

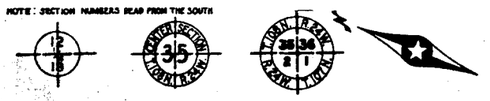
Conventional Signs

STATE LINE
COUNTY LINE
TWP OR RANGE LINE
SECTION LINE
RIGHT OF WAY LINE
CORPORATE OR CITY LIMITS
ROAD CENTER LINE
RETAINING WALL
RAILROADS
CREEK
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CULVERTS - PLAIN
WITH ENDWALLS
WITH WINGWALLS
DROP INLET
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GRAVEL PIT
SAND PIT
CLAY PIT
ROCK QUARRY
SPRINGS
MARSH
BRUSH OR TIMBER
HEDGE
ROCK LEDGE
SAND
EDGE OF CUT
TOE OF EMBANKMENT
RAILROAD R/W LINE
BUILDING (One Story Frame)

Abbreviations

EXCAVATION	EXC.
EARTH	E.
LOOSE ROCK	L.R.
SOLID ROCK	S.R.
EMBANKMENT	F.
OVERHAUL	M.
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TON MILES	T.M.
TELEPHONE POLE	TEL. P.
POWER POLE	P.P.
PLACE	P.
INPLACE	INP.
REPLACE	REP.
RIGHT	RT.
LEFT	LT.
INTERSECTION ANGLE	Δ
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POINT OF INTERSECTION	P.I.
VERTICAL CURVE	V.C.
BENCH MARK	B.M.
ELEVATION	EL.
ACRES	A.

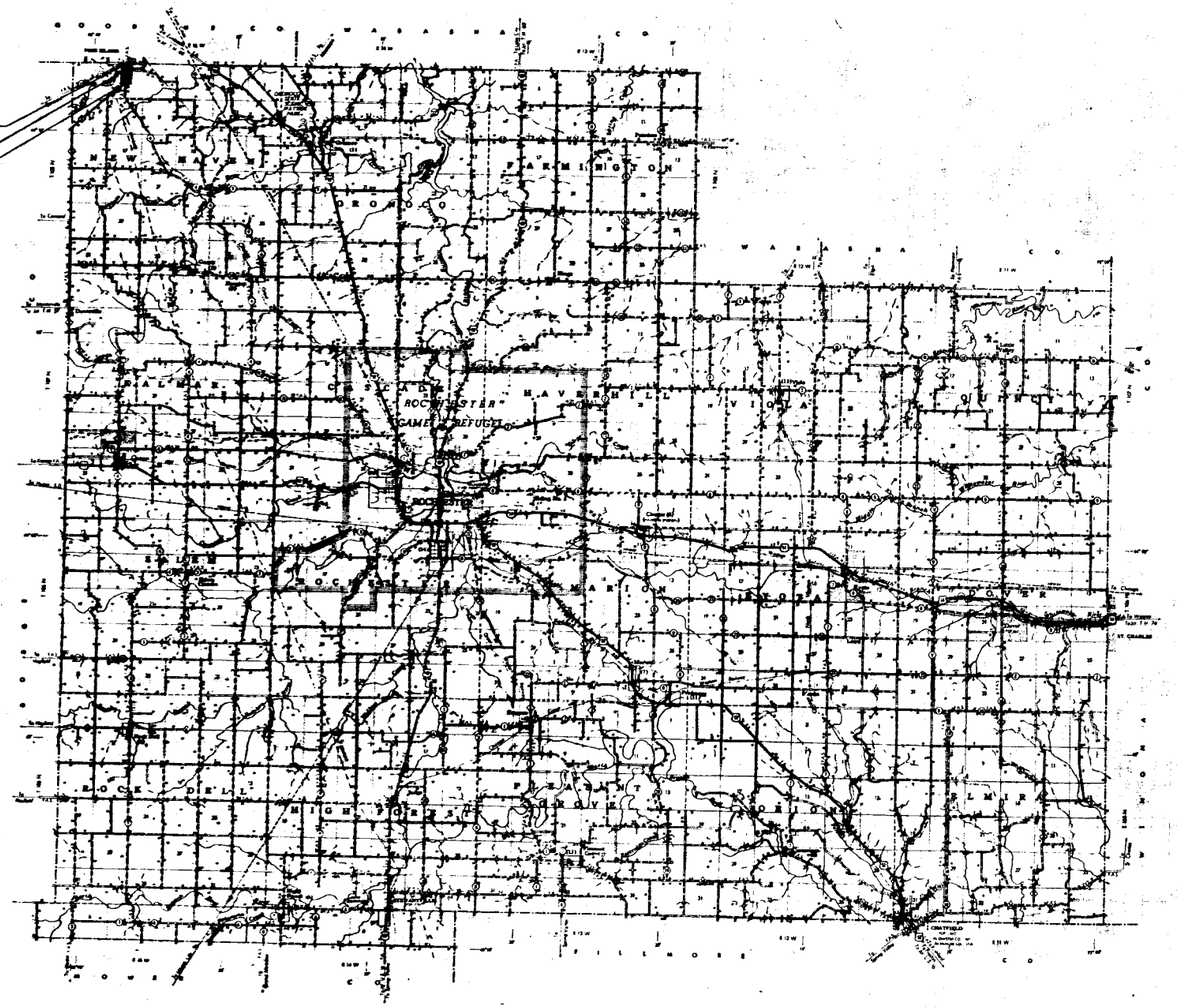
NOTE: SECTION NUMBERS READ FROM THE SOUTH



End S.A.P. 55-603-01
Sta. 27+84.0

Bridge No. 7212
STA. 17+89.00 TO 19+17.00

Begin S.A.P. 55-603-01
Sta. 0+00



STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
Plan and Profile of C.S.A.H. No. 3 AND BR. NO. 7212

From Center Sec. 5 T.108 N. R.15 W. To 50 feet East of North Quarter Corner Sec. 5 T.108 N. R.15 W.
Give proper reference to Section, Township and Range

GROSS LENGTH 2784.0 FEET 0.5272 MILES
LENGTH OF BRIDGE 128.0 FEET 0.024 MILES
NET LENGTH 2784.0 FEET 0.5272 MILES

SCALES
PLAN, 1 Inch = 100 Feet.
PROFILE, Horz. 1 Inch = 100 Feet. Vert. 1 Inch = 10 Feet
WORKING PLANS Horz. 1 Inch = 100 Feet
Vert. 1 Inch = 10 Feet
Cross-Section, 1 Inch = 10 Feet

LAYOUT
Scale, 1 Inch = 10560 Feet

INDEX OF SHEETS

Sheet No. 1. Title Sheet and Layout Map
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" No. 3. Location of Borrow Pit
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" No. 1 TO 7 PLANS BRIDGE NO. 7212

SPECIFICATION REFERENCE:
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DETAIL PLATE REFERENCE:
Standard detail plates issued October 1, 1947 and approved by the Bureau of Public Roads April 1, 1948, with revisions approved February 24, 1949, shall govern.

Design Speed 50 MPH

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

G. J. Sullivan
OLMSTED COUNTY HIGHWAY ENGINEER

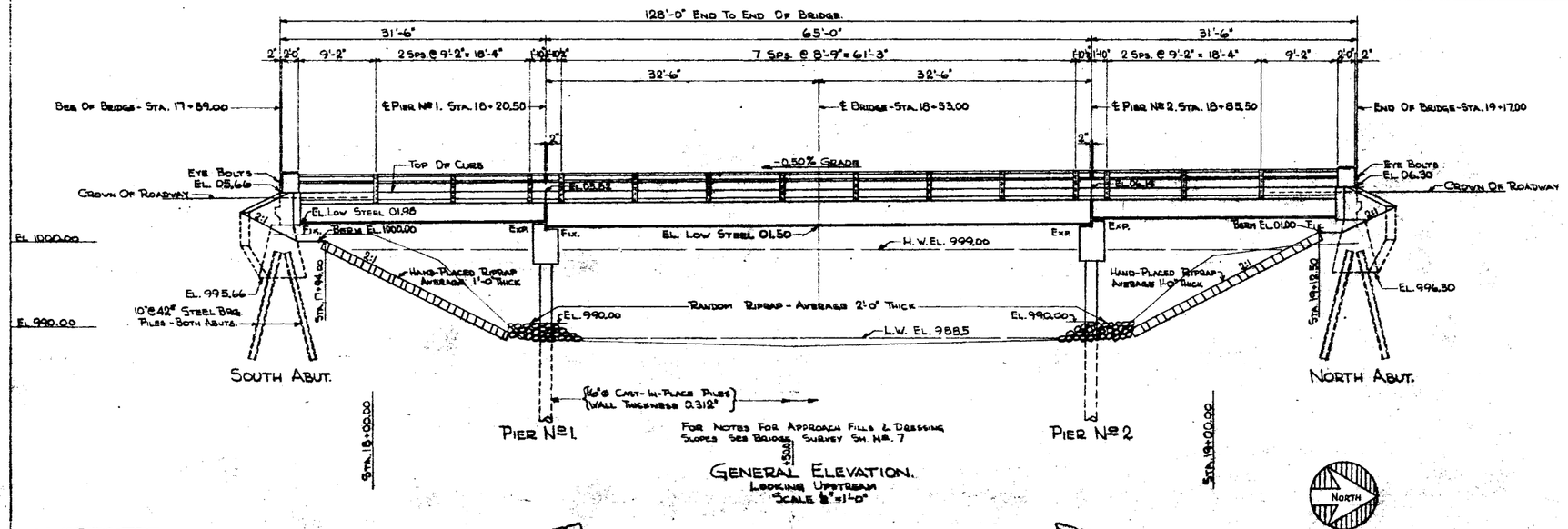
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
G. J. Sullivan
DATE 4-28-59 REG. NO. 1207

MICRO-FILMED

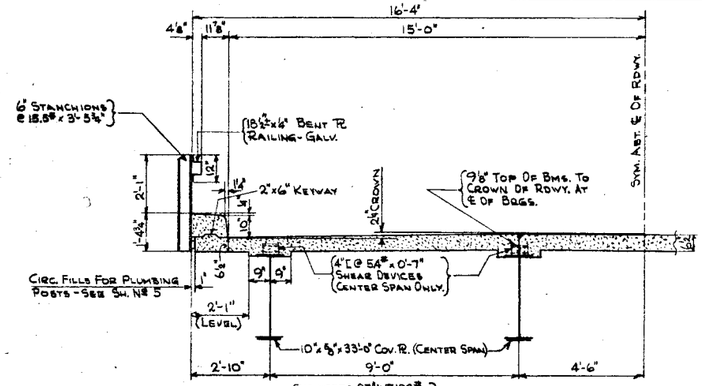
Planned By G. J. Sullivan
HIGHWAY ENGINEER FOR Olmsted COUNTY.
Recommended for Approval Claude Stone
DISTRICT ENGINEER
Recommended for Approval A. C. VanBonte 4-29-59
BRIDGE ENGINEER
Recommended for Approval O. J. 4-29-59
ASST. STATE AID ENGINEER

S.A.P. No. 55-603-01 (C.S.A.H. 3)

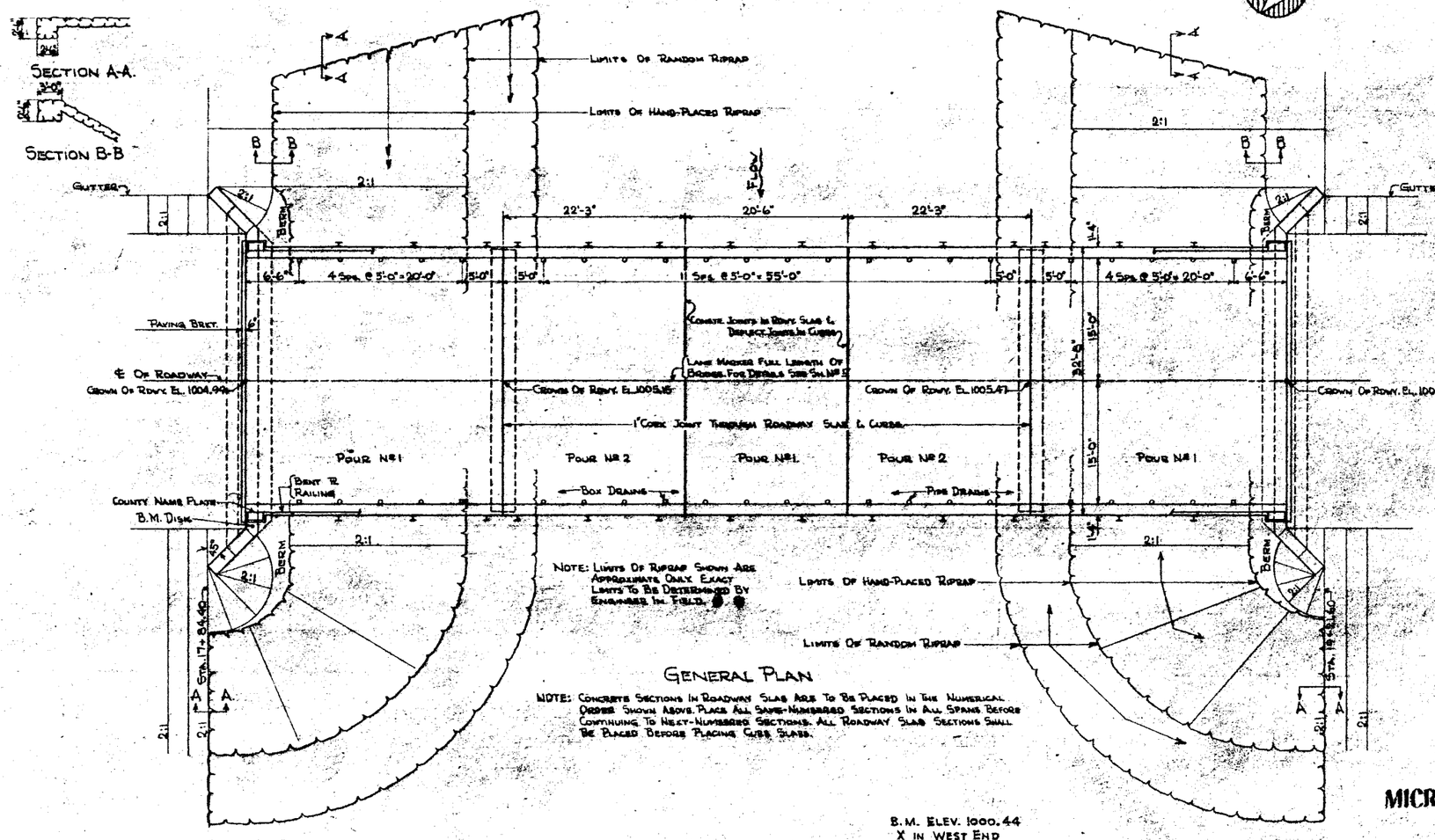
Olmsted County, Minnesota County Proj. No. Plan No. Sheet 1 of 6 Sheets



General Elevation.
Looking Upstream
Scale 3/8"=1'-0"



Half Transv. Sect. Thru Deck
(Scale 3/8"=1'-0")



General Plan

NOTE: Concrete Sections In Roadway Slab Are To Be Placed In The Numerical Order Shown Above. Place All Same-Numbered Sections In All Spans Before Continuing To Next-Numbered Sections. All Roadway Slab Sections Shall Be Placed Before Placing Curb Slabs.

B.M. Elev. 1000.44
X In West End
North Abutment

Design Data
1953 AASHO Specifications
2 Lanes H20-44 Loading With Impact
f_s = 20000 psi f_c = 1200 psi n = 10
f_s = 18000 psi Structural Steel

* See Special Provisions

Schedule of Quantities For Entire Structure

	Item №	Item	Unit	Quantity
	2401.521	Class DE Excavation	Cu. Yd.	180
	2401.501	Concrete Mix No. 1A6	Cu. Yd.	110.8
	2401.501	Concrete Mix No. 3Y6	Cu. Yd.	117.0
	2401.501	Concrete Mix No. 1Y2	Cu. Yd.	0.70
*	401.641	Furnishing Reinforcement Bars	Lb.	28160
*	401.741	Placing Reinforcement Bars	Lb.	28160
	2402.577	Standard Name Plates	Unit	ONE
	2481.501	Three-Ply Joint Waterproofing	Lin. Ft.	85
	2511.501	Random Rip Rap Class A	Cu. Yd	140
	2512.501	Hand-Placed Rip Rap	Cu. Yd.	170
	2452.520	Steel Test Piles In Place 35 Ft. Long	Pile	4
	2452.509	Steel Piling Delivered	Lb.	32760
	2452.510	Steel Piling Driven	Lin. Ft.	754
	2452.519	Cast-In-Place Concrete Test Piles In Place 35' Lg.	Pile	4
	2452.507	Cast-In-Place Concrete Piling Delivered	Lin. Ft.	300
	2452.508	Cast-In-Place Concrete Piling Driven	Lin. Ft.	290
	2402.511	Sheet Lead	Lb.	150
	2442.501	Remove Old Bridge	Bridge	ONE
*	402.621	Furnishing Structural Steel	Lb.	87830
*	402.721	Erecting Structural Steel	Lb.	87830
	2476.501	Painting Metal Structures	Structure	ONE

Construction Notes

The Minnesota Department Of Highways "Specifications For Highway Construction" Dated May 1, 1959 And Submitted For Approval By The Division Engineer Of The Bureau Of Public Roads On March 26, 1959 Shall Govern.

Reference To Specific Sections Of These Specifications Is Intended Whenever The Prefix M.H.D. Is Used In The Plans.

For Standard Plate Numbers Referred To In The Plans See "Book Of Standard Detail Plates" Issued October 1, 1947 By The Minnesota Highway Department, With Current Revisions.

All Reinforcement Bars Shall Be Intermediate Grade Deformed

Shop Drawings To Be Submitted To County For Approval.

List Of Sheets

No.	
1	General Plan & Elevation
2	Details Of Abutments
3	Details Of Piers
4	Details Of Superstructure
5	Details Of Superstructure
6	Details Of Superstructure
7	Bridge Survey

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.
Kenneth A Olson
Date: Oct. 7, 1957 Reg. No. 4824

C.S.A.H. №. 3
Bridge №. 7212
General Plan & Elevation
31.5-65'-31.5' Beam Spans - 30' Roadway
Over Zumbro River 4 Mile So. Of Pine Island.
Sec. 5 T 108 N R 15 W
New Haven Twp. Olmsted County.

Plan Prepared By:
Robert E. Erickson Engineering Co.
3340 Republic Ave. St. Louis Park, Minnesota

Approved:
Date: 12-5-1957
H. J. Sullivan
Olmsted County Engineer

Approved:
State Of Minnesota
Department Of Highways
Date: 4-29-59
A. C. LaBonte
Bridge Engineer

MICRO-FILMED

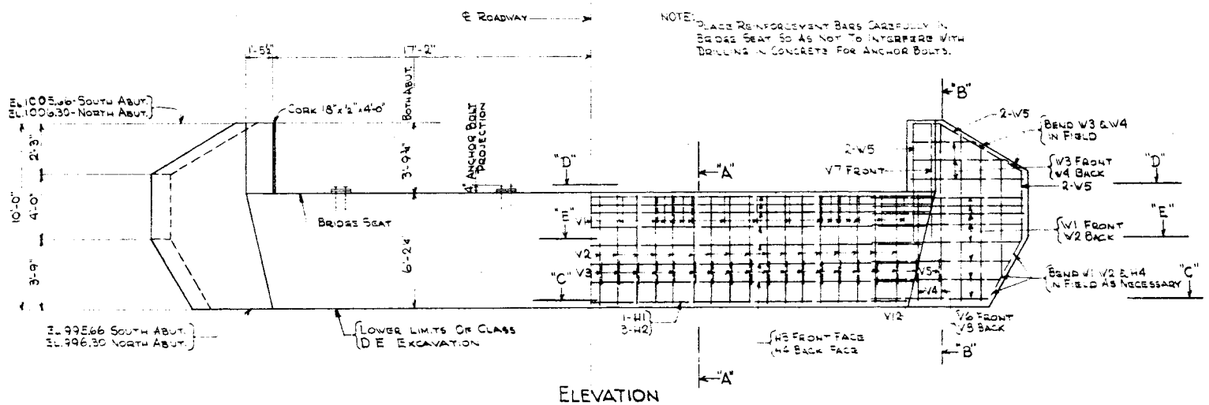
S.A.P. No. 55-603-01 (C.S.A.H. 3)

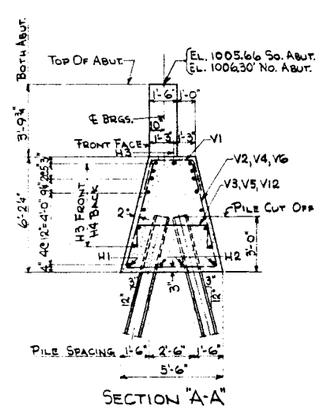
7212

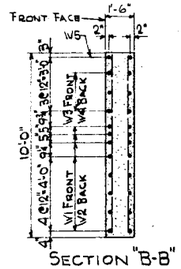
RA
KAO

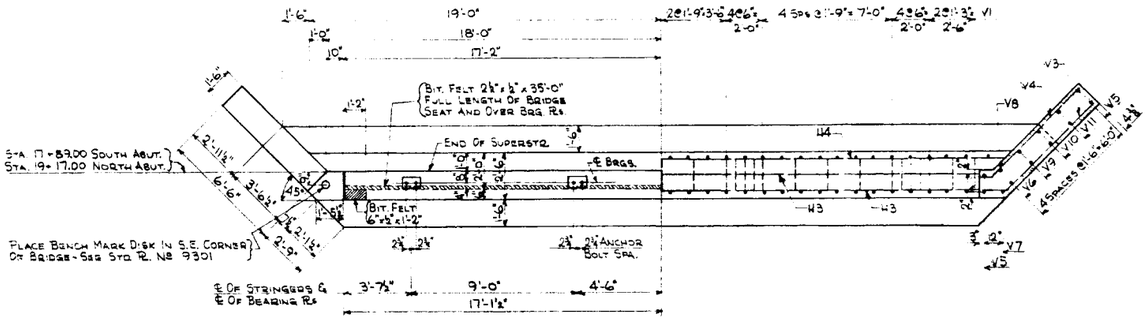
Bill Of Reinforcement Bars For Two Abutments

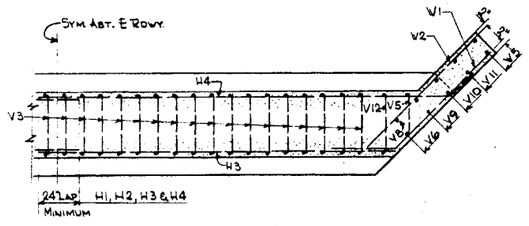
Bar	No.	Size	Length	Shape	Location
V1	66	4	5'-9"	Bent	Bridge Seat-Ties
V2	68	6	16'-3"	"	Wall Vertical
V3	68	8	6'-3"	"	Wall Ties
V4	4	6	15'-6"	"	Wall Vertical
V5	4	8	4'-9"	"	Wall Ties
V6	4	6	18'-6"	"	Wall Vertical
V7	4	5	6'-6"	Strt.	Wall Vertical
V8	4	5	9'-9"	"	Wing Wall Vertical
V9	8	5	9'-3"	"	Wing Wall Vertical
V10	8	5	8'-9"	"	Wing Wall Vertical
V11	8	5	6'-9"	"	Wing Wall Vertical
V12	4	8	6'-0"	Bent	Wall Ties
H1	4	6	18'-3"	Strt.	Wall Horizontal Bottom
H2	12	6	22'-0"	"	Wall Horizontal Bottom
H3	32	6	19'-6"	"	Wall Horizontal Front & Top
H4	28	6	24'-6"	Bent	Wall Horizontal Back
W1	32	5	9'-0"	Bent	Wing Walls Horizontal-Front
W2	32	5	9'-3"	"	Wing Walls Horizontal-Back
W3	12	5	8'-2"	"	Wing Walls Horizontal-Front
W4	12	5	7'-3"	"	Wing Walls Horizontal-Back
W5	8	5	19'-0"	Bend In Field	Wing Walls Horizontal-Top

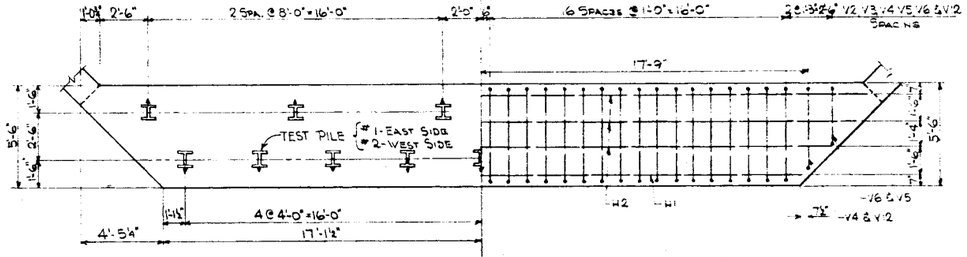


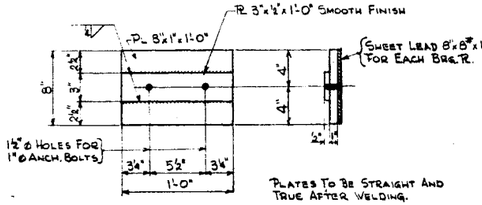


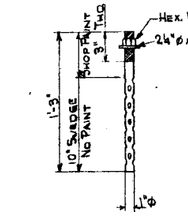












Summary Of Quantities For Two Abutments

Concrete Mix No. 1A6	80.6 Cu. Yds.
Reinforcement Bars	7010 Lbs.
Class DE Excavation	180 Cu. Yds.
Structural Steel (Brg. Rs & Anchor Bolts)	325 Lbs.
Steel Test Piles In Place 35' Long	4 Piles
Steel Piling (Exclusive Of Test Piles)	32 760 Lbs.
Req'd One Bench Mark Disk As Per M.H.D. Std. R. No. 9300	X
Sheet Lead	45 Lbs.
Preformed Bit. Joint Filler-Billed With Superstr.-Sh. No. 5	
Preformed Cork Joint Filler-Billed With Superstr.-Sh. No. 5	

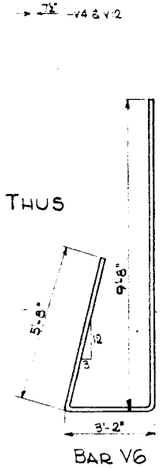
X State Will Furnish Disk-Payment For Placing Disk To Be Included In Prices Bid For Other Items.

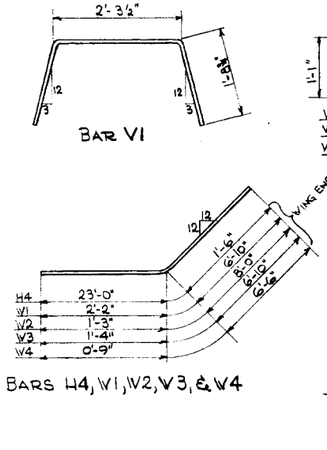
Δ Paint As Per Note Sheet No. 6

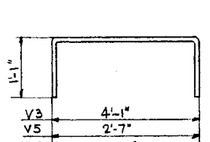
PILE NOTES:

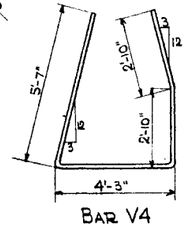
26-Steel Bearing Piles Req'd Est. Length 30 Ft. For Two Abutments
4-Steel Bearing Piles Req'd 35 Ft. Long For Two Abutments
30-Steel Bearing Piles Req'd For Two Abutments
All Piles To Be 10" H.B.P. 42# All Pile Webs To Be In Direction Normal To Abutment Faces As Shown In Half Pile Plan
Estimated Penetration 1 Ft. Less Than Lengths Given
Piles Marked Thus I To Be Battered 3" In 12" In The Direction Indicated By Arrows.
Required Minimum Bearings 20 Tons Per Pile
Computed Dead Load Plus Overturning 12.6 Tons Per Pile
Piles Shall Comply With Requirements Of M.H.D. 3372
Piles Shall Be Driven At Least 6 Ft. Into Hardpan

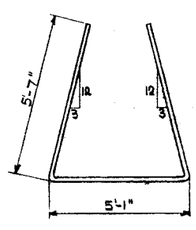
Make Two Abutments Thus
As Shown & Noted









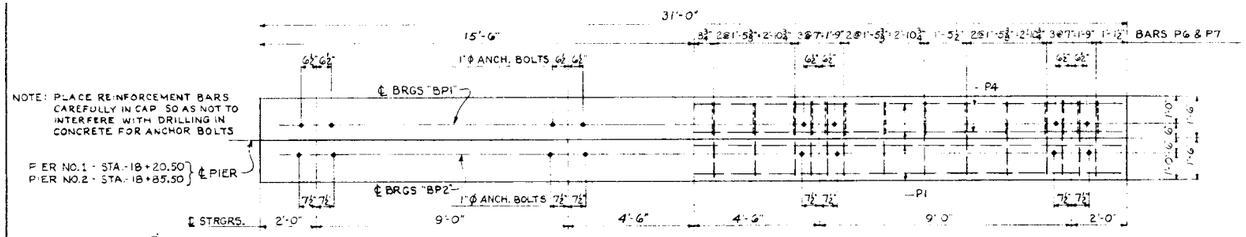


MICRO-FILMED

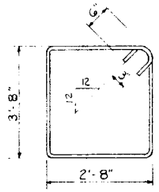
PLANS PREPARED BY:
ROBERT E. ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE. ST. LOUIS PARK, MINN.

C.S.A.H. NO. 3
BRIDGE NO. 7212
DETAILS OF ABUTMENTS
APPROVED: 4-29-59

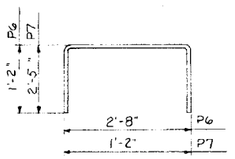
BILL OF REINFORCEMENT BARS FOR TWO PIERS					
BAR	NO.	SIZE	LENGTH	SHAPE	LOCATION
P1	16	8	30'-6"	STRT.	CAP - LONGIT - TOP & BOTT
P2	12	8	3'-0"	"	" " - BOTT
P3	8	6	30'-6"	"	" " - SIDES
P4	4	5	30'-6"	"	" " - TOP
P5	56	5	13'-6"	BENT	" STIRRUPS
P6	56	4	5'-0"	"	" TIES
P7	56	4	4'-0"	"	" "
P8	28	4	3'-8"	2-HOOKS	" "
P9	56	5	8'-0"	STRT.	" ANCHORS



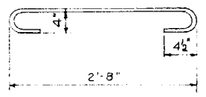
TOP VIEW SHOWING ANCHOR BOLT PLAN



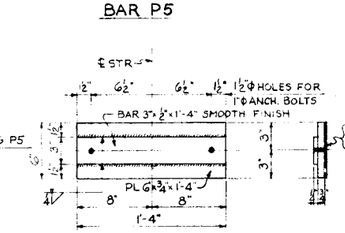
BAR P5



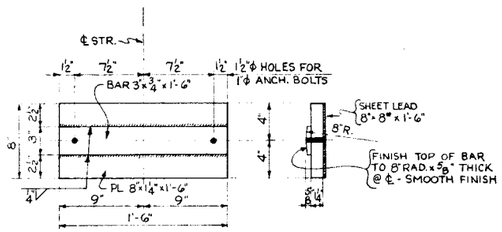
BARS P6 & P7



BAR P8



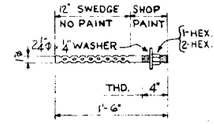
8 BRG. PLS. REQ'D THUS - MARK "BP1"



8 BRG PLS REQ'D THUS - MARK "BP2"

DETAILS OF BEARING PLATES

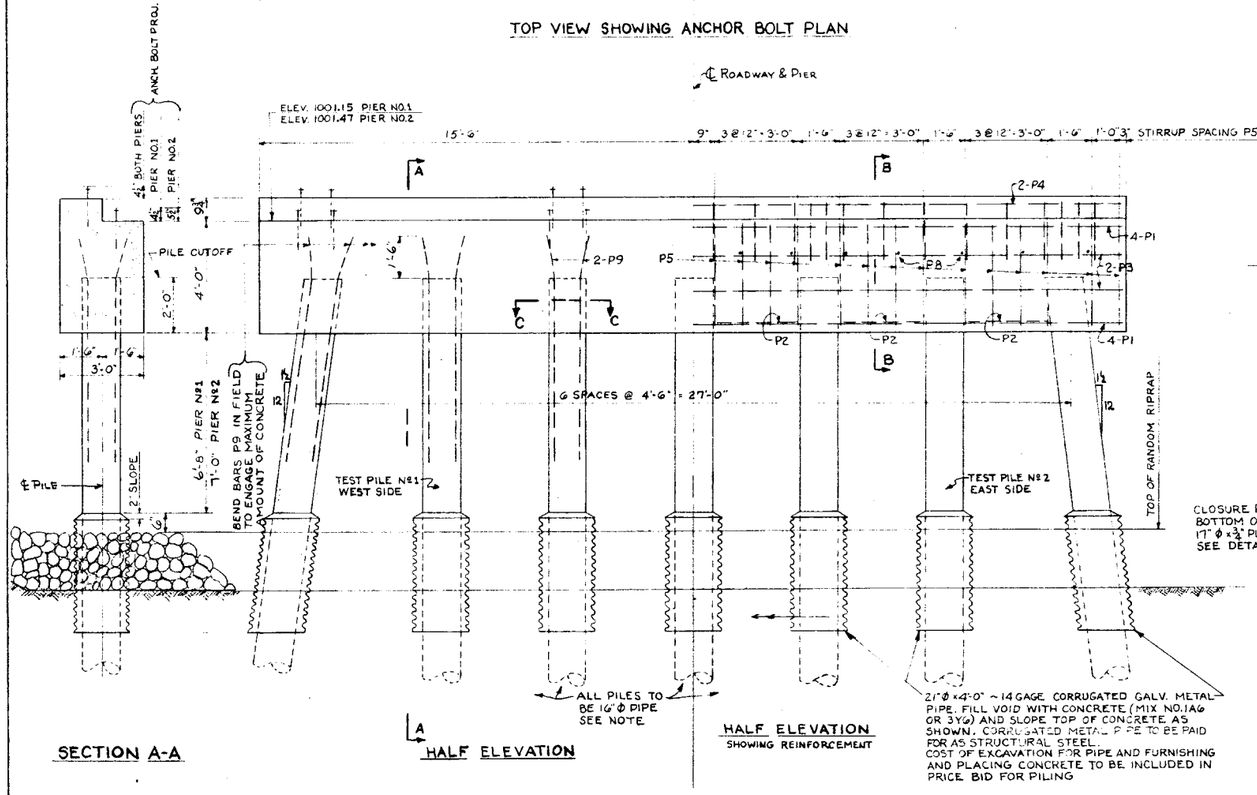
PLATES TO BE STRAIGHT AND TRUE AFTER WELDING



DETAILS OF ANCHOR BOLTS

8 - FIX. REQ'D AT PIER Nº 1
24 - EXP. REQ'D. AT PIERS Nº 1 & Nº 2

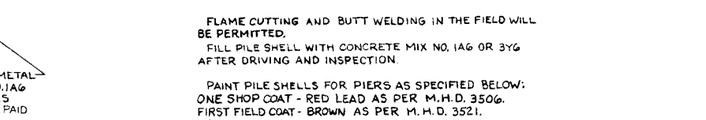
NOTE: LOCK 2 NUTS AND ALLOW ⅛" CLEARANCE AT EXP. ENDS.



SECTION A-A

HALF ELEVATION

HALF ELEVATION
SHOWING REINFORCEMENT



PILE SHELLS SHALL BE 16"Ø WITH A MINIMUM WALL THICKNESS OF 0.312". MATERIAL SHALL BE AS PER M.H.D. 3371.

FLAME CUTTING AND BUTT WELDING IN THE FIELD WILL BE PERMITTED.

FILL PILE SHELL WITH CONCRETE MIX NO. 1A6 OR 3Y6 AFTER DRIVING AND INSPECTION.

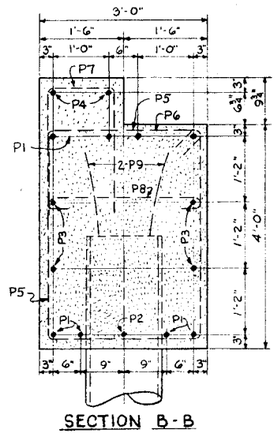
PAINT PILE SHELLS FOR PIERS AS SPECIFIED BELOW:
ONE SHOP COAT - RED LEAD AS PER M.H.D. 3506.
FIRST FIELD COAT - BROWN AS PER M.H.D. 3521.
SECOND FIELD COAT - GRAY AS PER M.H.D. 3522.
(SEE SPECIAL PROVISIONS).

EQUIVALENT PILE SHELLS OF OTHER TYPES MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER. COST OF CONCRETE TO FILL PILE SHELLS IS TO BE INCLUDED IN COST OF DRIVING PILES.

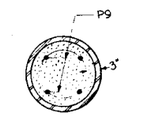
DETAIL OF CAST-IN-PLACE PILES

SUMMARY OF QUANTITIES FOR TWO PIERS		
	CONCRETE MIX Nº 1A6	30.2 CU.YD.
	REINFORCEMENT BARS	3630 LBS.
Δ	STRUCTURAL STEEL (BRG. PLS. - ANCH. BOLTS - PIPE)	2150 LBS.
	SHEET LEAD	107 LBS.
	CAST-IN-PLACE CONCRETE TEST PILES IN PLACE - 35 FT. LONG	4 PILES
o	CAST-IN-PLACE CONCRETE PILING	300 LIN. FT.

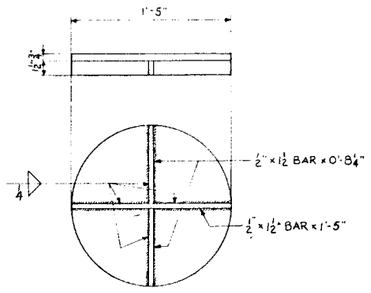
Δ PAINT BEARING PLATES AND ANCHOR BOLTS AS PER NOTE ON SHEET NO. 6
o DOES NOT INCLUDE TEST PILES.



SECTION B-B



SECTION C-C



CLOSURE PLATE
14 - REQUIRED
TO BE PAID FOR IN PRICE BID FOR PILING

PILE NOTES:
10-PILES 30 FT. LONG ESTIMATED LENGTH FOR PIER Nº 1 & Nº 2.
4-TEST PILES 35 FT. LONG FOR PIER Nº 1 & Nº 2.
14 - 16"Ø x 0.312 WALL THICKNESS CAST-IN-PLACE PILES FOR BOTH PIERS
ALL PIER PILES MAY BE DRIVEN AT THE SAME TIME THE TEST PILES ARE DRIVEN.

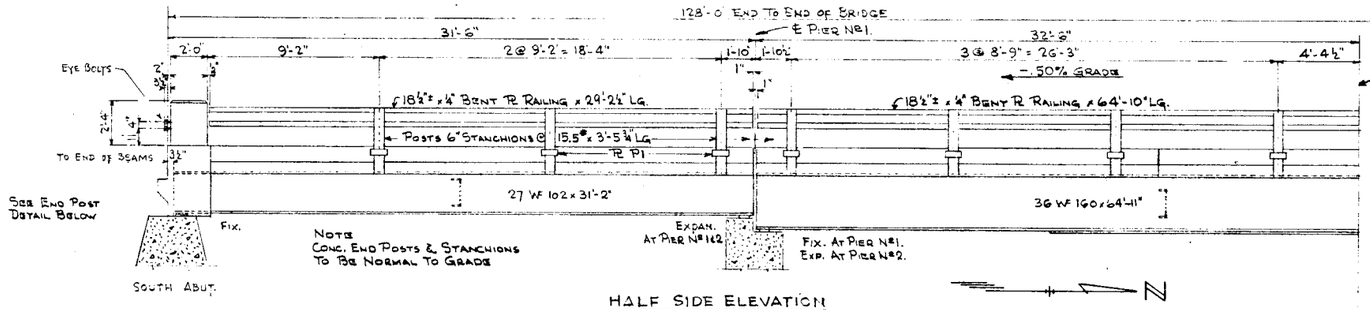
DRIVE TWO TEST PILES WHERE SHOWN IN EACH PIER.
PILES TO BE CAST-IN-PLACE.
MINIMUM BEARING 40 TONS PER PILE.
BEARING UNDER DEAD LOAD 238 TONS PER PILE.
ESTIMATED PENETRATION ONE FOOT LESS THAN LENGTH GIVEN.
FABRICATION, HANDLING AND DRIVING TO CONFORM TO M.H.D. 2452 EXCEPT AS NOTED. (SEE SPECIAL PROVISIONS)

MICRO-FILMED

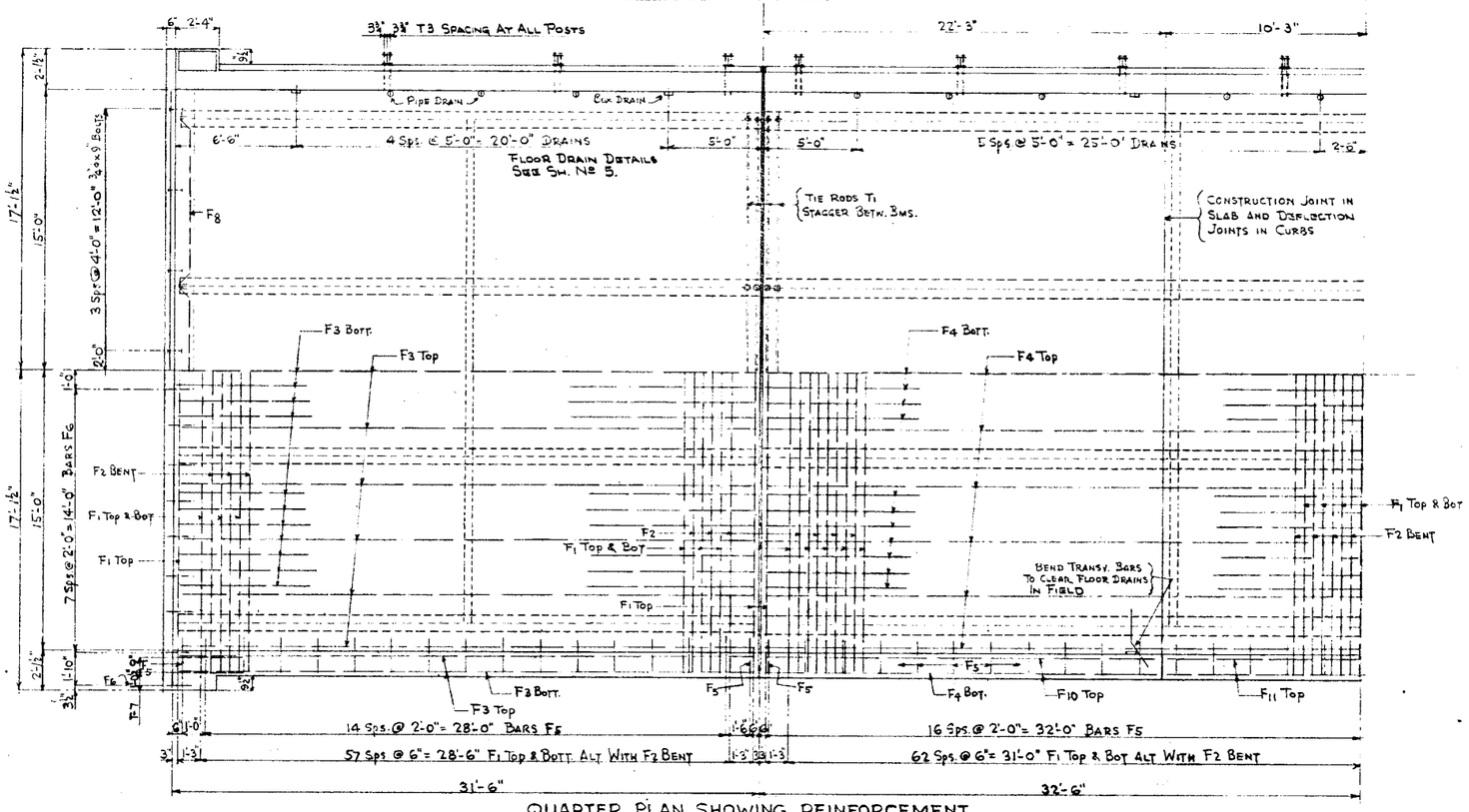
PLANS PREPARED BY:
ROBERT E. ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE. ST. LOUIS PARK, MINN.

C.S.A.H. NO. 3
BRIDGE NO. 7212
DETAILS OF PIERS

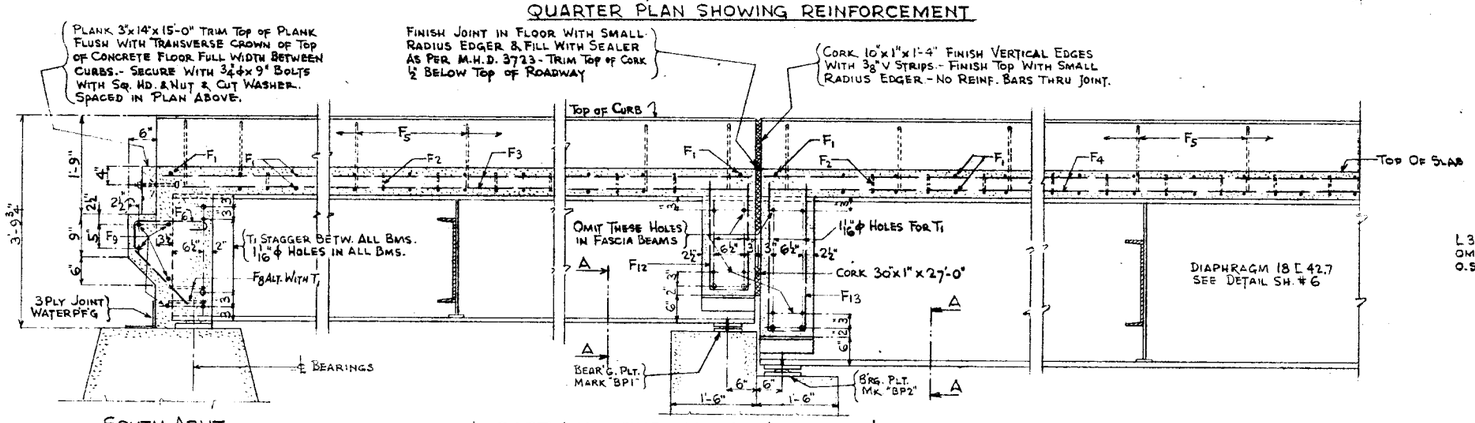
APPROVED: 4-29-59



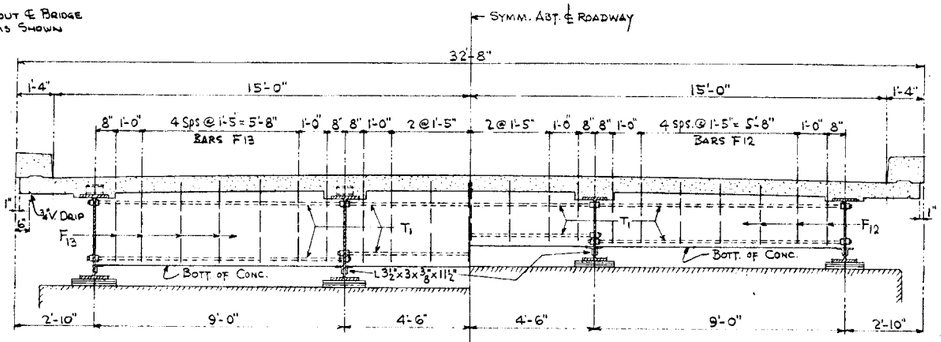
HALF SIDE ELEVATION



QUARTER PLAN SHOWING REINFORCEMENT

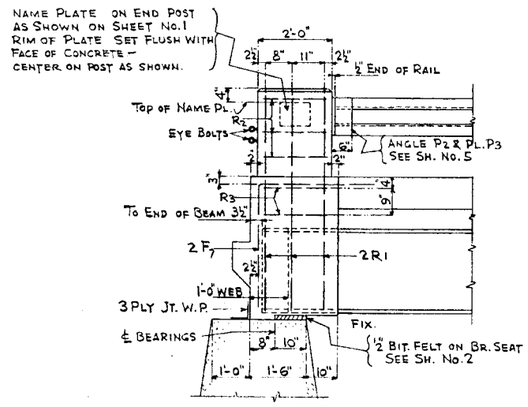


PART LONGITUDINAL SEC'N. NEAR ℄ ROADWAY

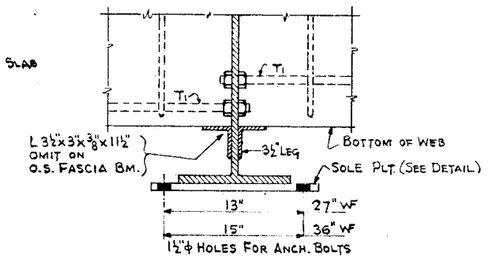


HALF TRANSV. SECTIONS THRU SLAB NEAR PIER

Railing Not Shown



END POST DETAIL



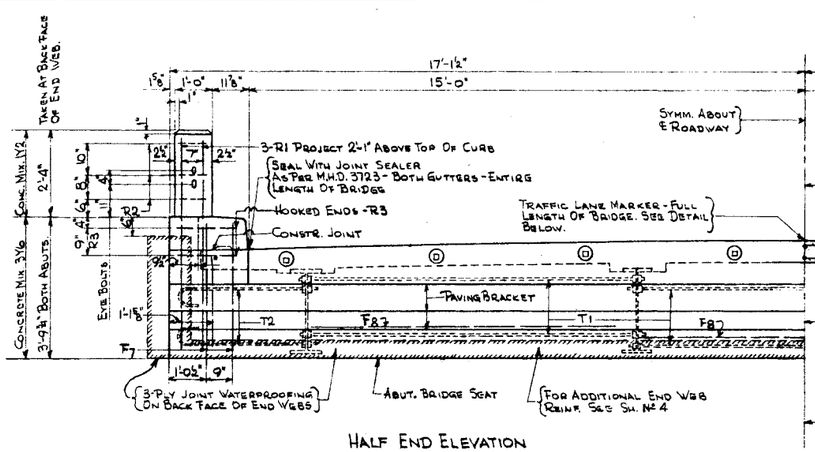
SECTION A-A

MICRO-FILMED

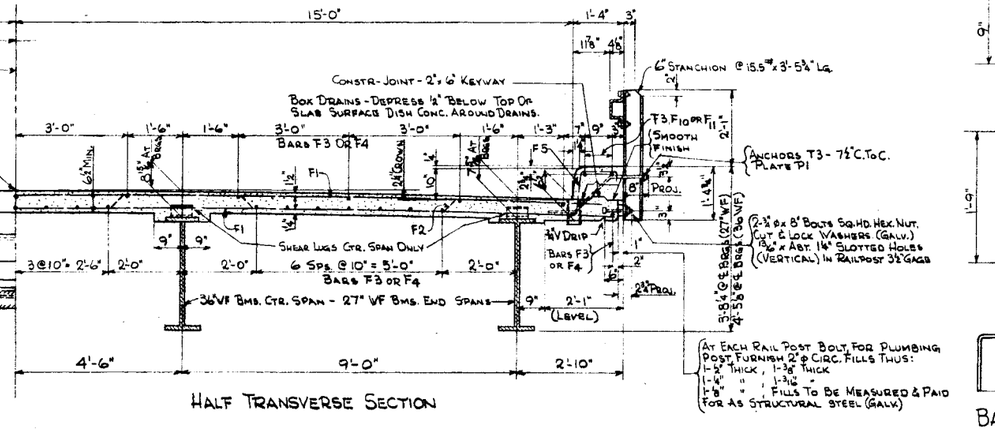
PLANS PREPARED BY
ROBERT E. ERICKSON ENGINEERING COMPANY
3340 REPUBLIC AVE. ST. LOUIS PARK, MINN.

C.S.A.H. NO. 3
BRIDGE NO. 7212
DETAILS OF SUPERSTRUCTURE

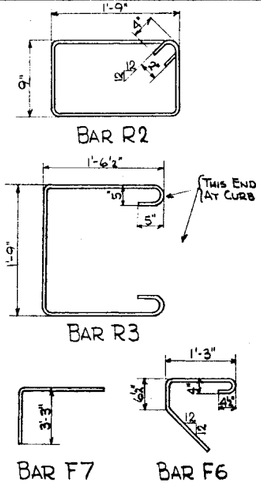
APPROVED: 4-29-59



HALF END ELEVATION



HALF TRANSVERSE SECTION

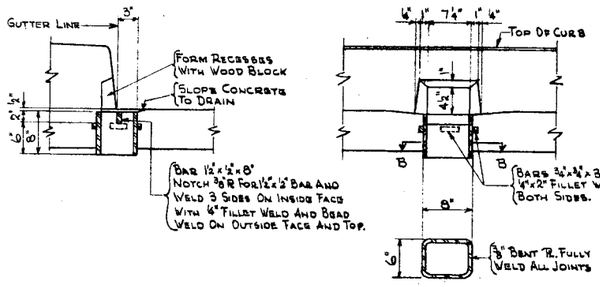


BILL OF REINFORCEMENT BARS FOR SUPERSTRUCTURE

Bar	No.	Size	Length	Shape	Location
F1	248	5	32'-3"	Strt.	Slab Transv.
F2	120	5	34'-3"	Bent	" "
F3	76	4	31'-3"	Strt	" Longit. End Spans
F4	68	4	33'-3"	"	" " Center Span
F5	134	4	3'-0"	Bent	Curb Transv.
F6	36	4	3'-6	"	Paving Bracket
F7	8	5	6'-6"	Bent	End Post Curbs
F8	6	6	10'-6"	"	Abut. Web - Betw. Bms.
F9	10	6	35'-3"	2 Hooks	Abut. Webs - Longitud.
F10	8	4	22'-0"	Strt.	Curb - Ctr. Span
F11	4	4	20'-3"	Strt.	Curb - Ctr. Span
F12	42	4	4'-9"	Bent	Pier Web - Stirrups
F13	42	4	6'-3"	Bent	" " "
R1	24	6	5'-9"	Strt.	End Posts - Vert.
R2	12	3	5'-9"	Bent	" " Ties
R3	8	5	6'-0"	"	" " Ties in Curb

SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE

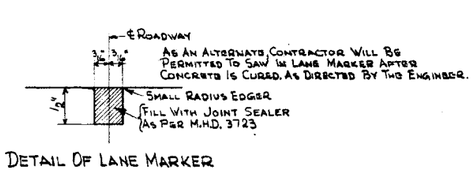
Concrete Mix. No. 3Y6	117.0 Cu. Yd.
Concrete Mix No. 1Y2	0.70 Cu. Yc
Reinforcement Bars	17520 Lb
3-Ply Joint Waterproofing	85 Lin. Ft.
Structural Steel	85355 Lb.
Bronze County Name Pl. (Std. Pl. #8225) Date 1959 One	



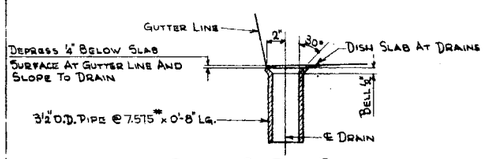
DETAILS OF BOX DRAINS

12 Req'd. Thus
Galvanize As Per M.H.D. 3394 After Fabrication
No Paint Req'd.
(Included In Struct. Steel)

DETAIL OF DEFLECTION JOINTS THRU CURBS

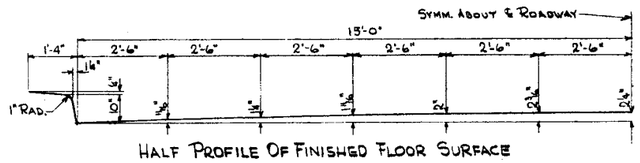


DETAIL OF LANE MARKER

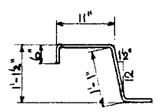


DETAIL OF PIPE DRAINS

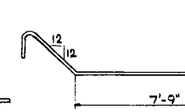
32 Req'd. Thus
Galvanize As Per M.H.D. 3394 After Fabrication
No Paint Req'd.
(Included In Struct. Steel).



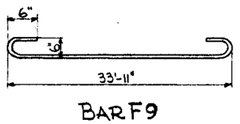
HALF PROFILE OF FINISHED FLOOR SURFACE



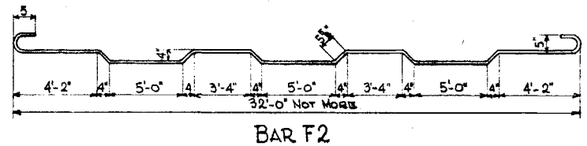
BAR F5



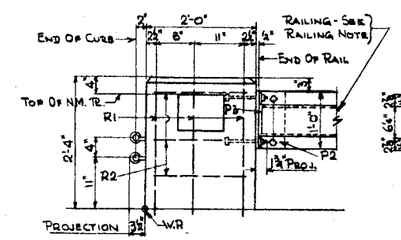
BAR F8



BAR F9



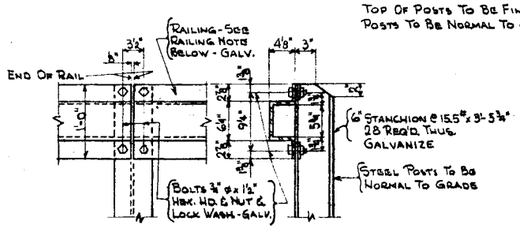
BAR F2



INSIDE ELEVATION — END VIEW — SECTION "A-A"

DETAILS OF END RAILPOST

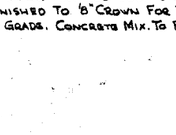
Vertical Edges Of Concrete End Posts To Be Finished To A ½" Radius Or A ½" Bevel Using Finished Wood Strips In Forms.
Top Of Posts To Be Finished To 6" Crown For Drainage.
Posts To Be Normal To Grade. Concrete Mix. To Be 1Y2.



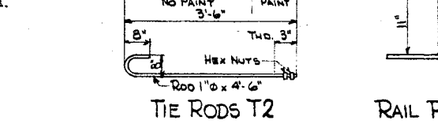
DETAIL OF RAILING CONNECTION TO STEEL INTERMED. POSTS

RAILING NOTE
Railing To Be Plate 18½" x ¼" Bent To Dimensions Shown, ½" Inside Radius Bends.
Railing To Be Continuous For A Minimum Of Two Panels And A Maximum Of Three Panels. Leave ⅛" Clear Opening At Joints Between Ends Of Rails.
The Fabricator Will Be Permitted To Splice Continuous Bent Plate Railings At The ℄ Of Railposts Using A Butt Weld, Ground Smooth. No Splice At End Of Span Posts At Piers.
Bent Plate Railing, Railposts, Railpost Plates And Connector Angles, Bolts And Fittings To Be Galvanized After Fabrication As Per M.H.D. 3394.

All Railings, Posts, Bolts And All Fittings To Be Measured And Paid For As Structural Steel.

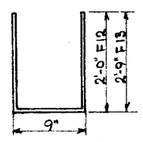


RAILPOST PLATES P1
28 Req'd Thus (Galvanize)

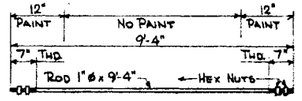


RAIL CONNECTOR ANGLE P2
4 Req'd Thus (Galvanize)

RAIL CONNECTOR PLATE P3
4 Req'd Thus (Galvanize)

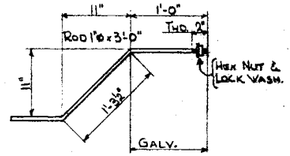


BARS F12 & F13



TIE RODS T1
48 Req'd Thus
Included In Struct. Steel)

TIE RODS T2
8 Req'd Thus
(Included In Struct. Steel)



RAIL POST ANCHORS T3
56 Req'd Thus
(Included In Struct. Steel)

+ Included In Weight Of Structural Steel.
○ To Be Included In Prices Bid For Other Items.
⊠ Preformed Cork Joint Filler As Per A.A.S.H.O. Spec. M 153 Type I.
□ Preformed Bituminous Joint Filler As Per A.A.S.H.O. Spec. M 33
Joint Filler Materials To Be Trimmed In Field As Necessary. Above List Of Joint Filler Material Is For The Contractors Convenience Only And Is Intended To Be Complete. Any Additional Joint Filler Material Required As Shown In The Plans Shall Be Furnished By The Contractor With No Additional Compensation. Joint Filler To Be Fastened With 11 Ga. 2½" Copper Nails Spaced At 18" Max. Ctrs. Or As Directed By The Engineer. Copper Nails To Conform To M.H.D. Specs. And Cost To Be Included In Prices Bid For Other Items.
× Name Plate To Be Dated 1959. For Standard Plate Numbers In These Plans See "Book Of Standard Detail Plates" Issued Oct. 1-1947 By The Minnesota Highway Department, With Current Revisions.

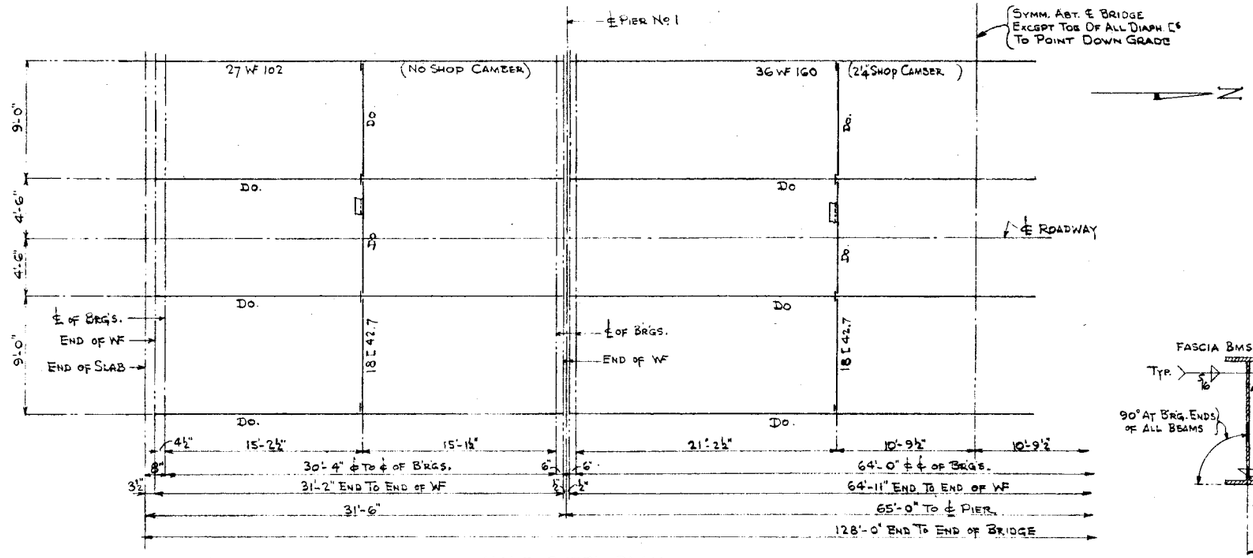
+	4-3"x14"x15'-0" PLANK
+	8 Bolts ¾"ø x 8" Sq. Hd. Hex Nut - Lock Washer (Galv.) End Post
+	16 Bolts ¾"ø x 9" Sq. Hd. & Nut - Cut Washer
+	56 Bolts ¾"ø x 8" Sq. Hd. Hex Nut - Cut & Lock Washer (Galv.)
+	8 Galv. Hubbard Eye Bolts 39982 or Approved Equal
□ ○	2 Pcs. Bit. Felt 2½" x 4" x 35'-0"
□ ○	4 Pcs. Bit. Felt 6" x 4" x 1'-2"
⊠ ○	2 Pcs. Preformed Cork Filler 30" x 1" x 27'-0"
⊠ ○	4 Pcs. Preformed Cork Filler 10" x 1" x 1'-4"
⊠ ○	4 Pcs. Preformed Cork Filler 8" x 1" x 2'-9"
⊠ ○	4 Pcs. Preformed Cork Filler 18" x 6" x 4'-0"

MICRO-FILMED

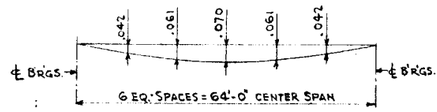
PLANS PREPARED BY:
ROBERT E. ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE. ST. LOUIS PARK, MINN.

C.S.A.H. NO. 3
BRIDGE NO. 7212
DETAILS OF SUPERSTRUCTURE

APPROVED: 4-29-59



HALF STEEL PLAN

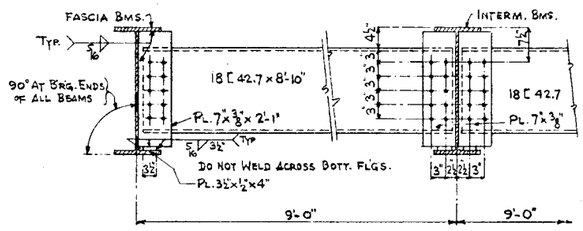


DEFLECTION DIAGRAM
FOR CONCRETE ROADWAY SLAB ONLY

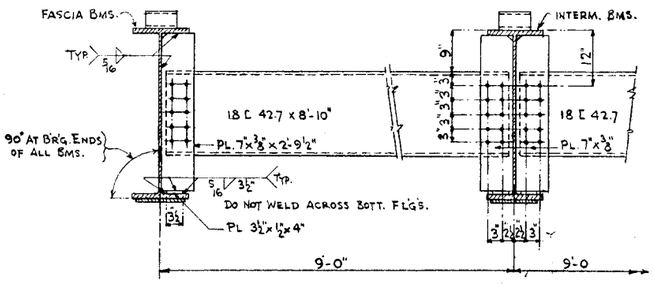
THE ENGINEER WILL TAKE ELEVATIONS AT POINTS SHOWN ABOVE ALONG TOP OF BEAMS AFTER ERECTION AND WILL ALLOW FOR DEFLECTIONS SHOWN ABOVE TO ENABLE CONTRACTOR TO BUILD FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS. ADDITION OF CURBS AND RAILINGS WILL INCREASE ABOVE DEFLECTIONS BY APPROXIMATELY 6%. DEFLECTIONS IN THE END SPANS MAY BE NEGLECTED BECAUSE OF THEIR SMALL MAGNITUDE (MAX. DEFLECTION FOR END SPAN .0185)

NOTES

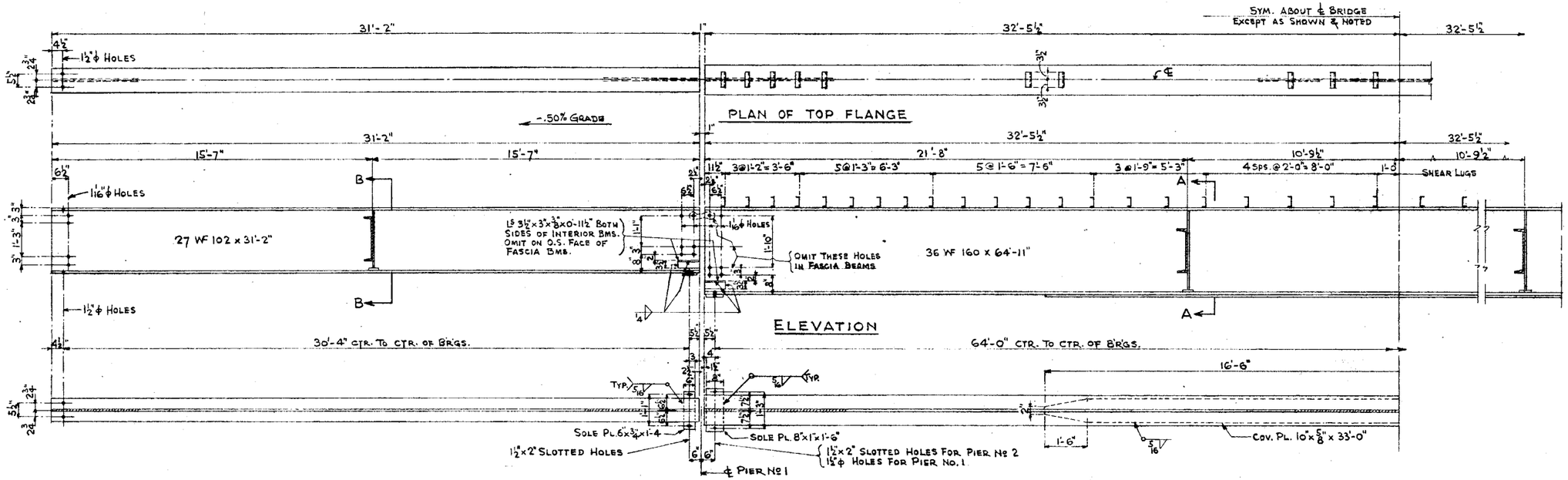
ALL HOLES TO BE $\frac{15}{16}$" ℄ UNLESS OTHERWISE NOTED.
ALL FIELD CONNECTIONS FOR DIAPHRAGMS SHALL BE $\frac{7}{8}$" ℄ HIGH TENSILE STRENGTH BOLTS.
PAINT ALL STRUCTURAL STEEL EXCEPT DRAINS AND RAILING AND EXCEPT AS NOTED BELOW FOR THREADED RODS AS FOLLOWS:
SHOP COAT - RED LEAD AS PER M.H.D. 3506
1ST FIELD COAT- GRAY AS PER M.H.D. 3522
2ND FIELD COAT- ALUMINUM AS PER M.H.D. 3528
END 12" OF ALL THREADED RODS TO BE GIVEN ONE COAT OF RED LEAD BEFORE PLACING IN CONCRETE.



SECTION "B-B"
INTERMEDIATE DIAPHRAGMS

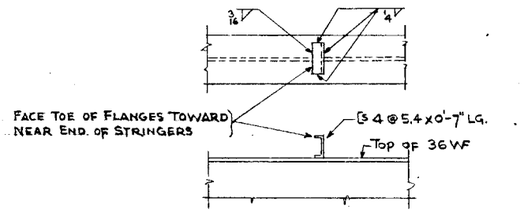


SECTION "A-A"
INTERMEDIATE DIAPHRAGMS



PLAN OF BOTTOM FLANGE

DETAILS OF STRINGERS



DETAIL OF SHEAR LUGS

MICRO-FILMED

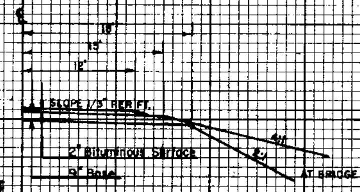
PLANS PREPARED BY
ROBERT E. ERICKSON ENGINEERING COMPANY
3340 REPUBLIC AVE. ST. LOUIS PARK, MINN.

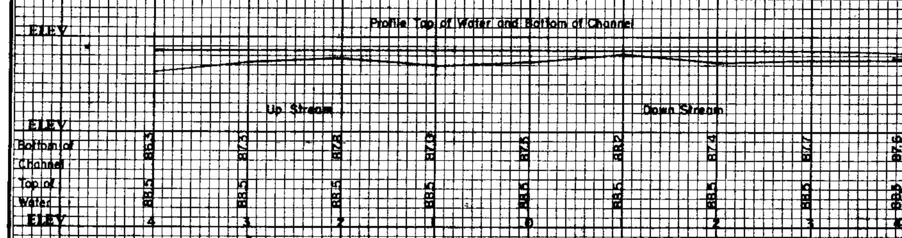
C.S.A.H. NO. 3
BRIDGE NO. 7212
DETAILS OF SUPERSTRUCTURE
APPROVED: 4-29-59

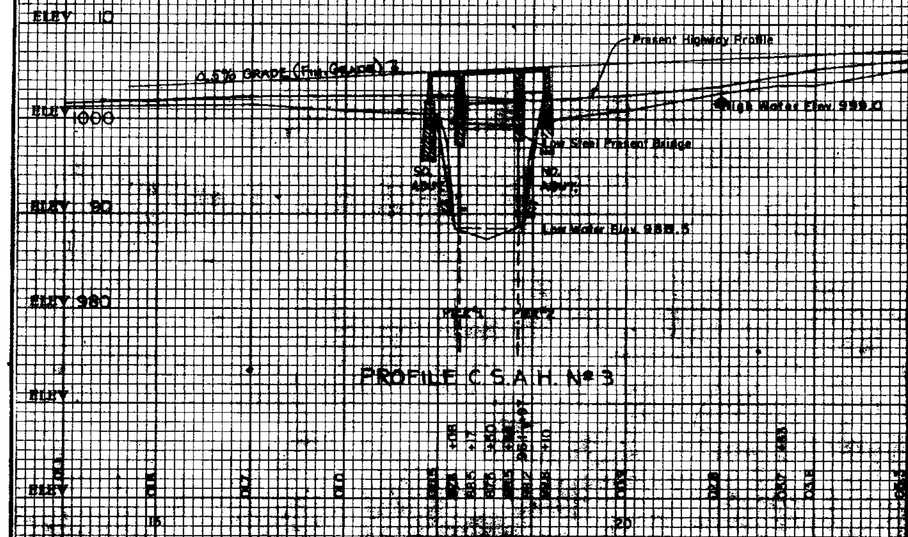
7212 HMJL RA

CONTRACTED PROFILE

SCALE: HOR. 1" = 100', VERT. 1" = 10'



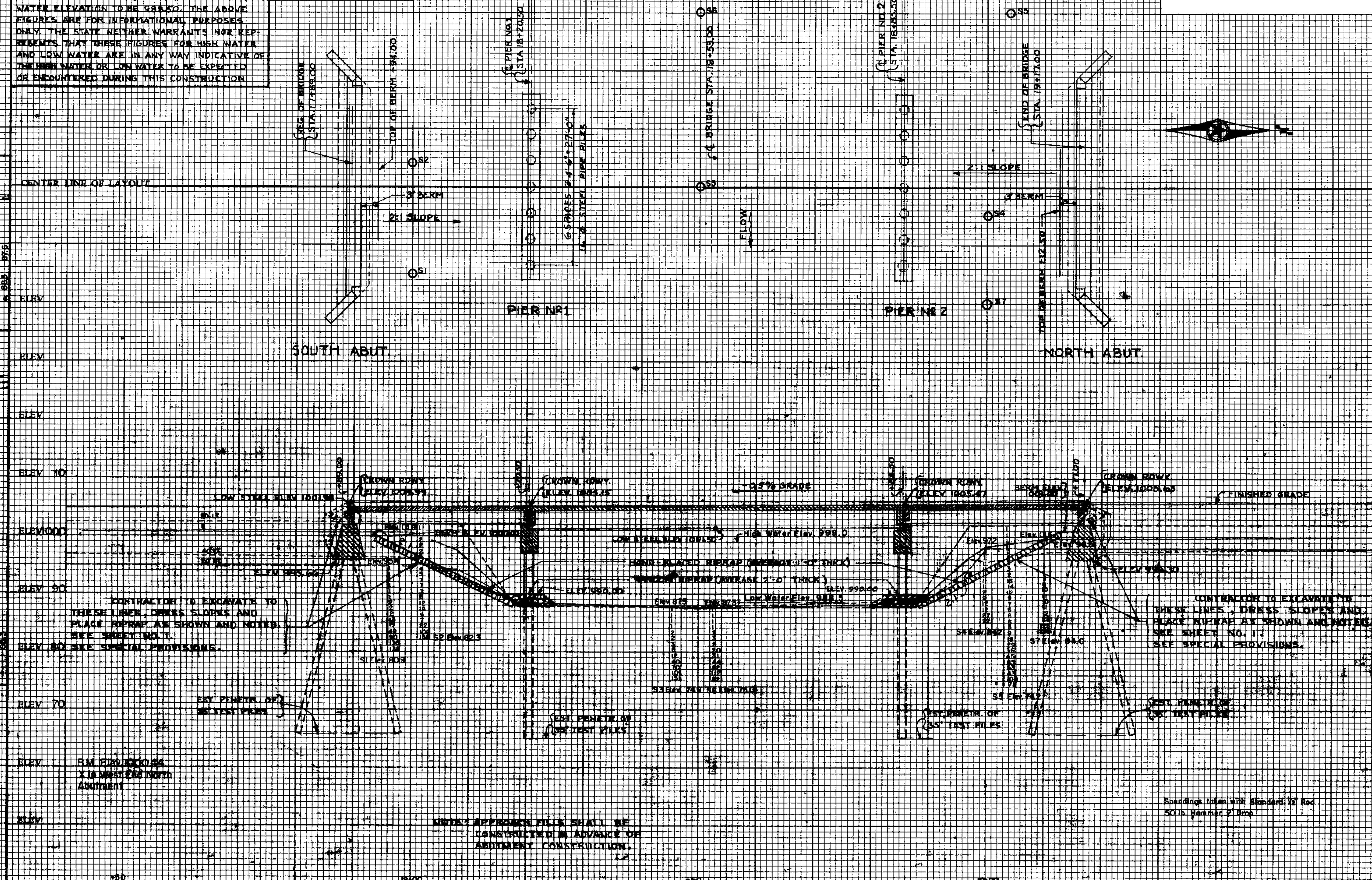




HIGH AND LOW WATER ELEVATIONS DATA OBTAINED FROM MR. G.J. SULLIVAN REFLECTS HIGHEST WATER ELEVATION IN THE AREA OF THIS CONSTRUCTION TO BE 999.00 AND THE LOWEST WATER ELEVATION TO BE 988.50. THE ABOVE FIGURES ARE FOR INFORMATIONAL PURPOSES ONLY. THE STATE NEITHER WARRANTS NOR REPRESENTS THAT THESE FIGURES FOR HIGH WATER AND LOW WATER ARE IN ANY WAY INDICATIVE OF THE HIGH WATER OR LOW WATER TO BE EXPECTED OR ENCOUNTERED DURING THIS CONSTRUCTION.

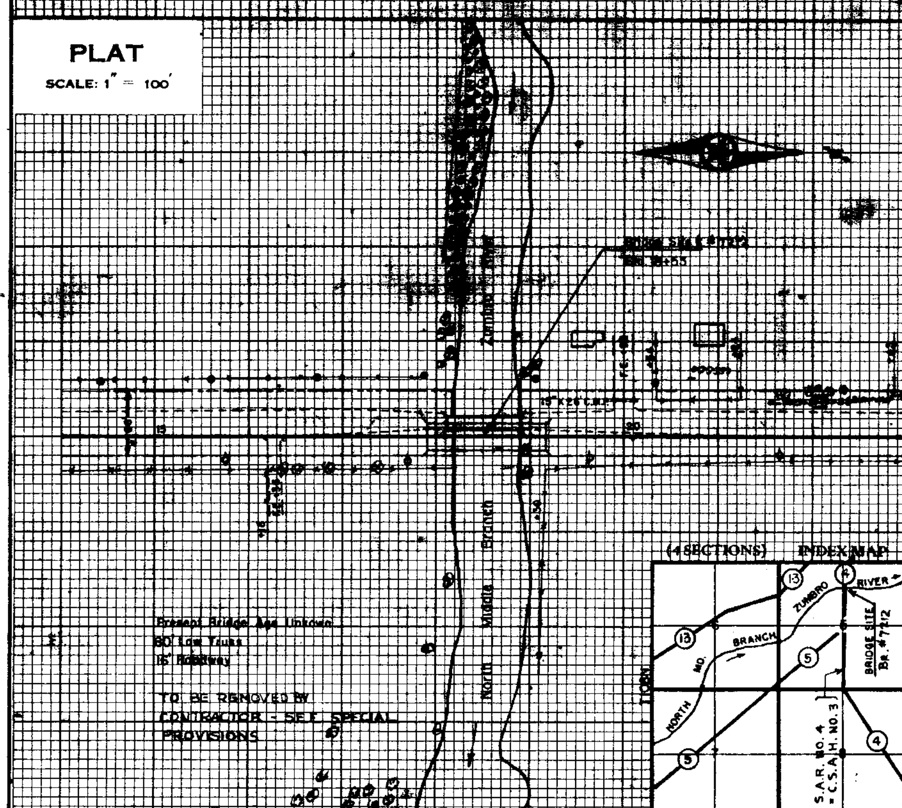
PLAN AND PROFILE

SCALE: 1" = 10'



PLAT

SCALE: 1" = 100'



FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

DATA

1. Preliminary recommendations of Engineer in charge of Bridge Survey:
   - *a.* Net Span Length and Type of Bridge 31.5' - 66' - 31.5'
   - *b.* Width of Roadway on Bridge 30'
   - *c.* Number and width of Sidewalks, if any NONE
   - *d.* Locate center of Bridge at Station 18+53
   - *e.* If a skew bridge is recommended, the angle of skew should be
   - *f.* Is piling required? YES
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc. NOTHING SERIOUS
3. Changes: In height or length from that of old bridge, and reasons why BRIDGE RAISED AND LENGTHENED TO IMPROVE WATERWAY

DATA (Contd.)

4. Other bridges in vicinity:
   - *a.* Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age
   - *b.* Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age
   - *c.* Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be?
5. If structure is over a drainage ditch, is ditch gradient liable to be altered?
6. State navigation or boating clearances required, if any: NONE
7. Information and evidence in regard to high water stages was obtained as follows INFORMATION BY G.J. SULLIVAN
8. Must contractor provide for traffic during construction of proposed bridge? If so, by what means? SEE SPECIAL PROVISIONS

MATERIAL

Proposed Bridge is 0.25 miles South of * Pine Island which is the nearest Railroad shipping point.

*(Give name of town, station or siding)

9-16-57 Date	G.J. Sullivan — Project or County Engineer
10/2/57 Date	[signature] — District Engineer
Date	Bridge Engineer

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

BRIDGE SURVEY

ON

C.S.A.H. NO. 3

(DESIGNATE COUNTY AID — STATE AID OR TRUNK HIGHWAY NUMBER)

SEC. N ½ Section 5 TWP. 108N R. 15W

New Haven TOWNSHIP

Olmsted COUNTY

SURVEY MADE DURING MONTH OF April 1957

SURVEY MADE BY G. J. Sullivan

BRIDGE NO. 7212

S.A.P. NO. 55-603-01 (C.S.A.H. 3)