FORM 100-A '65

Fed. Proj. No.

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR BRIDGE 55518

COUNTY STATE AID HIGHWAY NO. 20

IN PLEASANT GROVE TOWNSHIP

SECTION 19, T105N, R13W

Give proper reference to Sections, Township and Range

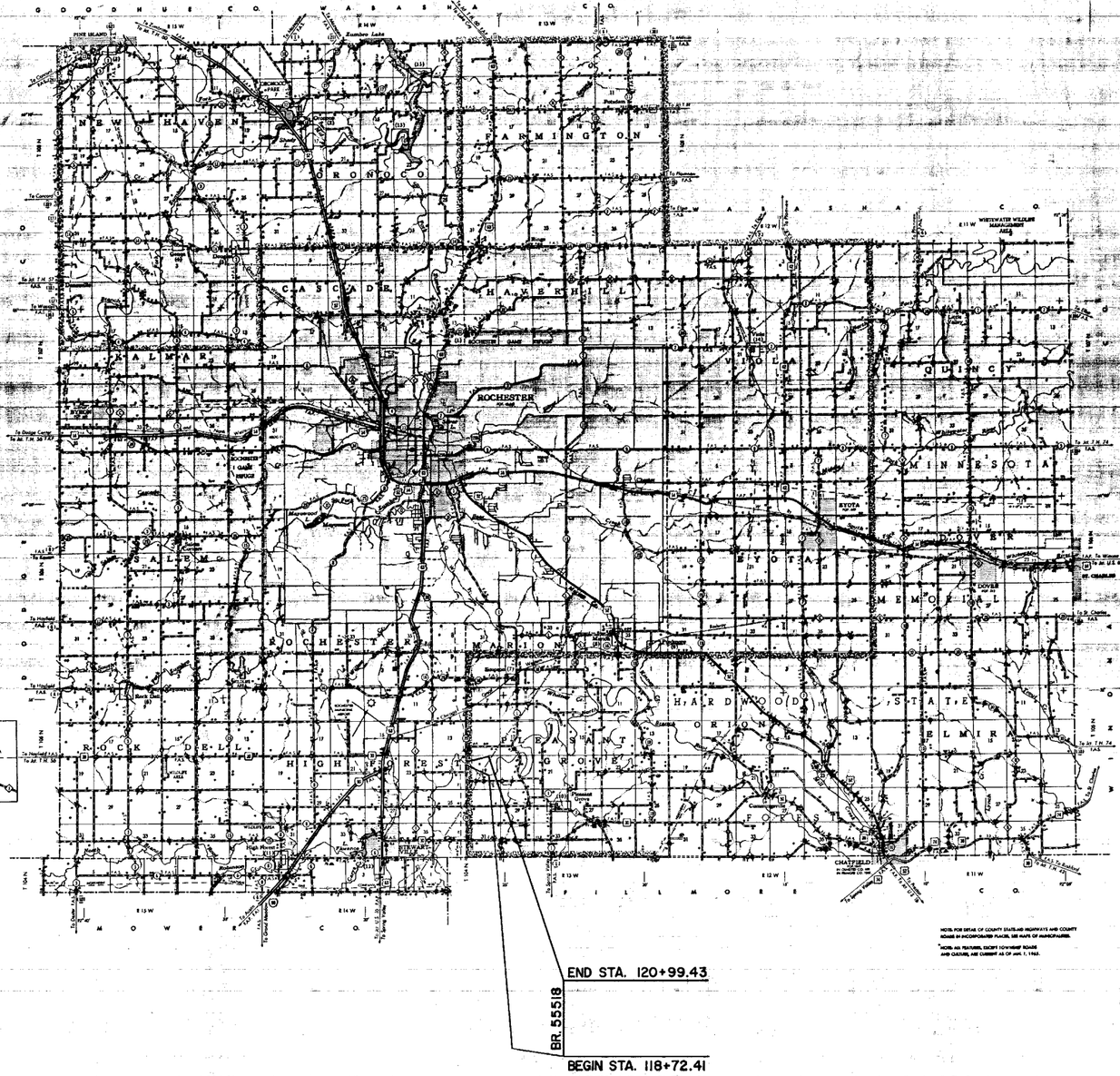
GROSS LENGTH ____ FEET ____ MILES
BRIDGES-LENGTH 227.02 FEET .043 MILES
EXCEPTIONS-LENGTH ____ FEET ____ MILES
NET LENGTH ____ FEET ____ MILES

PLANS SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY LINE
RIVER OR CREEK (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER (TIMBER)
ORCHARD
BRUSH
NURSERY
CATCH BASIN C.B.
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) 1-S-F-18 75'
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT G
SAND PIT S
BORROW PIT B
ROCK QUARRY Q

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER OR POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN G—G
WATER MAIN W—W
CONDUIT
TELEPHONE CABLE IN CONDUIT T
ELECTRIC CABLE IN CONDUIT P
TELEPHONE MANHOLE T
ELECTRIC MANHOLE P
BURIED TELEPHONE CABLE T-BUR
BURIED ELECTRIC CABLE P-BUR
AERIAL TELEPHONE CABLE T-AE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE



DESIGN SPEED 50 M.P.H.

PROJECTED A.D.T. 133

____ TON DESIGN

SOIL FACTOR ____

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

A. C. Schellhammer COUNTY ENGINEER DATE 6-6-68

OLMSTED COUNTY REG. NO. 8284

RECOMMENDED FOR APPROVAL G. Lamon DISTRICT STATE AID ENGINEER 6/12 1968

RECOMMENDED FOR APPROVAL T. E. Swenson BRIDGE DESIGN AND PLANNING ENGINEER 2-4- 1970

APPROVED 2/4 1970 Milton M. Zeg STATE AID ENGINEER

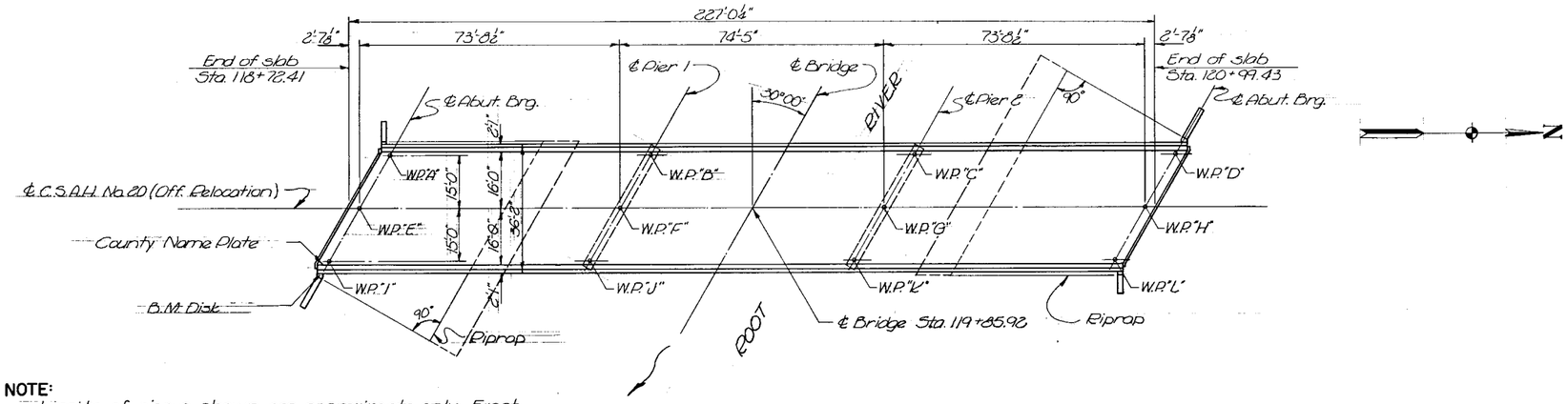
~~SPECIFICATIONS~~

~~STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JANUARY 1, 1968 SHALL GOVERN~~

Minn. Project No. ____ S.A.P. 55-620-01 State Project No. ____

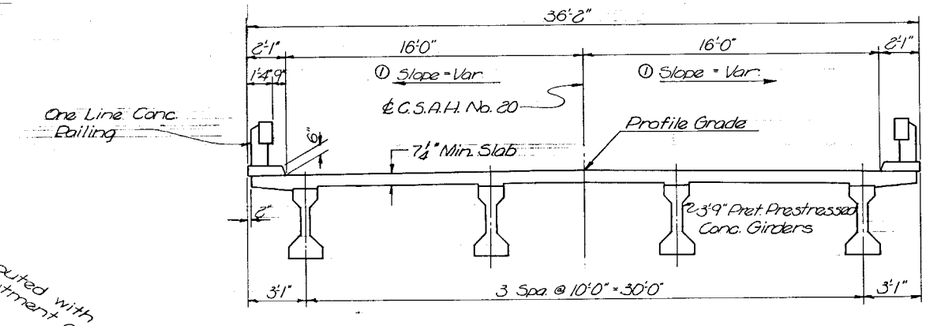
Olmsted County, Minnesota. County Proj. No. ____ Plan No. ____ Sheet 1 of 17 Sheets

ALBINSON, INC.
MINNEAPOLIS, MINN. 55419



PLAN
Scale: 1"=20'0"

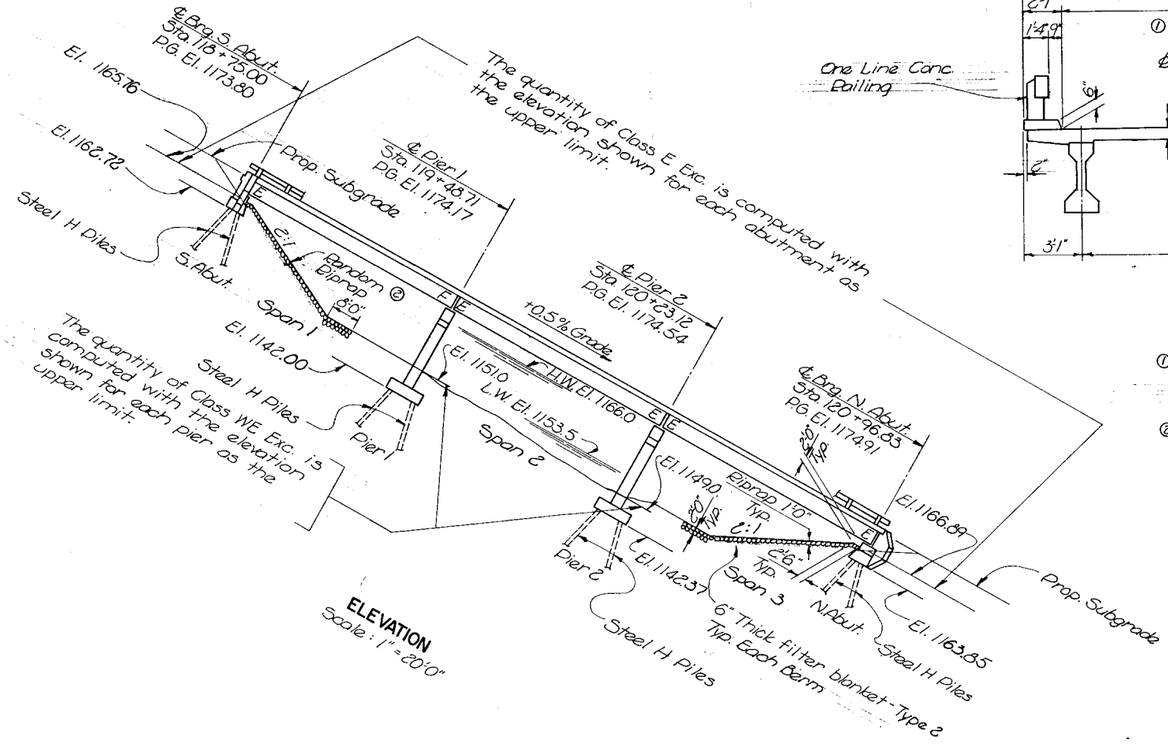
NOTE:
Limits of riprap shown are approximate only. Exact limits to be determined by the Engineer in the field.
Construction at each abutment shall not be started until the approach fill at that abutment has been constructed to the full height and cross section. The approach fills are included in grading quantities. See Sheet 9 for deck drain locations.



TRANSVERSE SECTION
Scale: ¼"=1'0"

① Bridge has superelevation transition on end spans. See Sheets 3 and 7 for slab elevations, transitions and crown data.

② Random rip-rap shall be placed as shown on each abutment berm.



ELEVATION
Scale: 1"=20'0"

B.M. ELEV. 1163.11
Spk. in P.P. 12' Rt.
Sta. 115+24

B.M. ELEV. 1162.82
Spk. in P.P. 33' Lt.
Sta. 122+01

APPROVED

6-6-68 DATE

Cole Schlemmer
COUNTY ENGINEER
OLMSTED COUNTY

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 4-18-68

Gene E. Gustafson
REG. NO. 8586

FED. PROJ. NO.

DESIGN DATA

1965 A.A.S.H.O. Design Specifications
H20 Loading

Maximum Allowable Design Stresses:
f_c = 1600 p.s.i. n=8
f_s = 20,000 p.s.i. Intermediate Grade Reinf.
f_s = 20,000 p.s.i. Structural Steel M.H.D. 3306

Deck Area 8,211 Sq. Ft.

LIST OF SHEETS

NO.	DESCRIPTION
1	Title Sheet
2	General Plan & Elevation
3	Bridge Layout
4	Abutment
5	Abutment
6	Pier
7	Superstructure
8	Superstructure
9	Framing Plan
10	Prestressed Beams
11	Handrail
12	Name Plate & PILE SPLICE
13	Bearing Assemblies & Girder Sole Plates
14	Protection Angle & CONTRACTION JOINT
15	Floor Drains
16	Bridge Survey
17	Bridge Survey

CONSTRUCTION NOTES

The "Standard Specifications for Highway Construction", dated January 1, 1968, as amended by "Supplemental Specifications" dated July 1, 1969 shall govern.

Curbs shall not be placed until entire roadway slab has been placed.

The first number in bar marks indicates the size of the bar.

Minimum bar laps at splices shall be 30 diameters.

~~Existing bridge will be removed by others after construction under this contract is completed.~~

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2401.501	2401.501	2401.501	2401.521	2401.521	2401.541	2402.581	2402.546	2402.577	2123.506	2402.593	2442.501	2402.594		2405.501	2452.510	2452.511	2452.520	2452.520	2511.501	2511.504
ITEM	Concrete Mix No. 1A43	Concrete Mix No. 3Y43	Concrete Mix No. 3Y46A	Structure Excavation (Class E)	Structure Excavation (Class WE)	Reinforcement Bars	Structural Steel-20,000	Floor Drains Type 1	Standard Name Plates	3/4 Cu.Yd. Dragline	Fixed Bearing Assemblies (Type 1)	Remove Old Bridge	Expansion Bearing Assemblies (Type 2)		Prestressed Concrete Girders Type(45-73)	Steel H Piling Driven	Steel H Piling Delivered	Steel H Test Piles 35 Feet Long	Steel H Test Piles 60 Feet Long	Random Riprap Class A	Filter Blanket Type 2
UNIT	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Pound	Pound	Unit	Unit	Hour	Unit	Bridge	Unit		Girder	Lin. Ft.	Lin. Ft.	Pile	Pile	Cu. Yd.	Cu. Yd.
QUANTITY	106.0	405.8	36.8	56	187	104,768	531	24	1	24	4	1	20		18	1600	1600	4	4	242	81

C.S.A.H. NO. 20 OLMSTED CO.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518
4.3 MI. N.E. OF STEWARTVILLE
C.S.A.H. NO. 20 OVER N. BRANCH OF ROOT RIVER
74'-74'-74' PRESTRESSED GIRDER SPANS
32' RDWY., BRUSH CURBS, 30° SKEW

GENERAL PLAN & ELEVATION

SEC. 19 T105N R13W
PLEASANT GROVE TWP. OLMSTED COUNTY

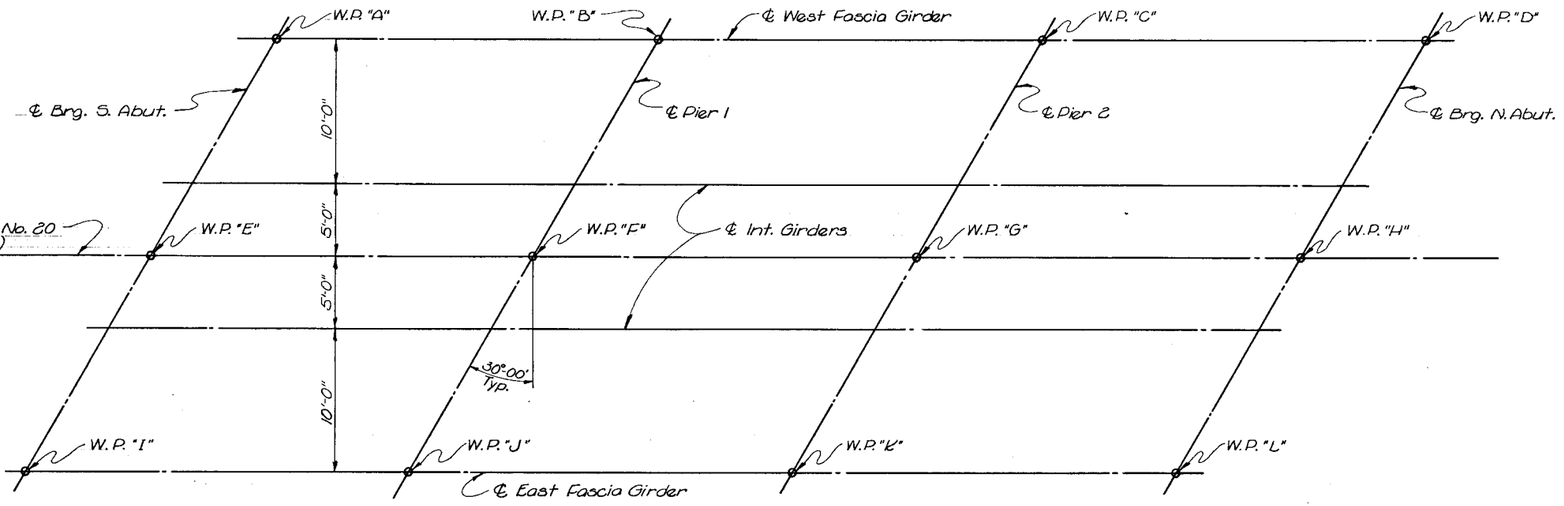
BRIDGE DESIGN & PLANNING ENGR. DATE

SHEET NO. 2 OF 17 SHEETS | 55518

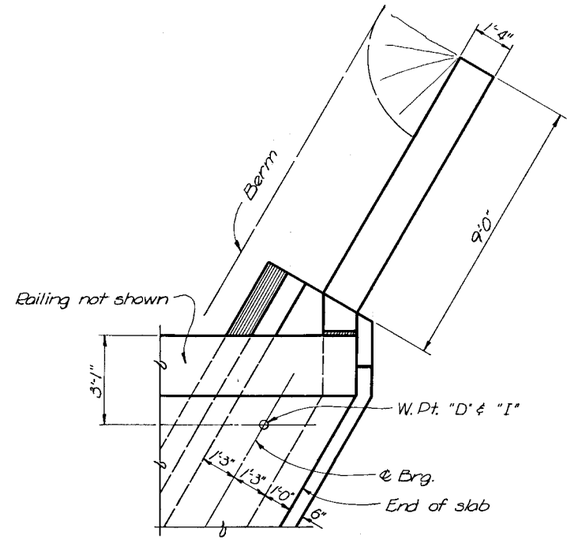
STATE AID PROJ. NO. 55-620-01

WALLACE HOLLAND KASTLER & SCHMITZ
CONSULTING ENGINEERS AND PLANNERS
MASON CITY, IOWA ROCHESTER, MINNESOTA

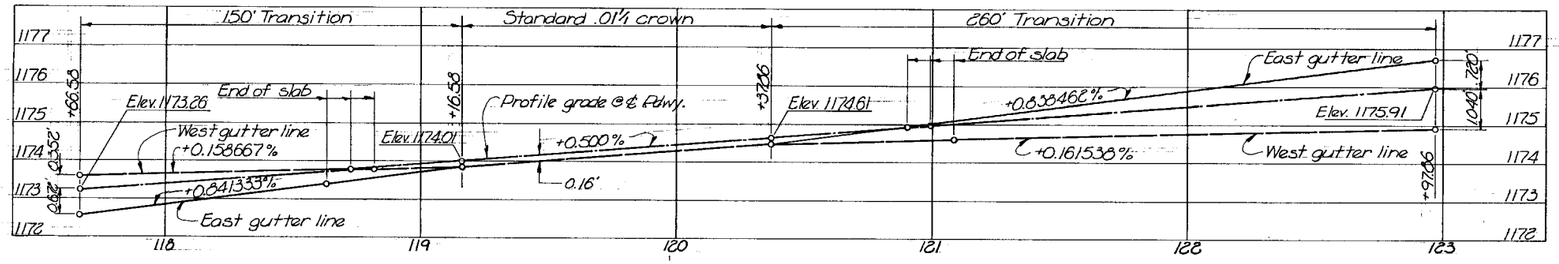
FED. PROJ. NO.



LAYOUT PLAN

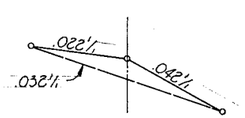


N.W. & S.E. CORNER

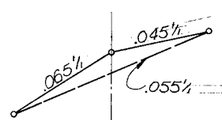


SUPERELEVATION TRANSITIONS

Grade lines shown are for bridge deck elevations only and elevations of the extensions beyond end of slab are not necessarily correct for the approach roadways.



Sta. 117+66.58



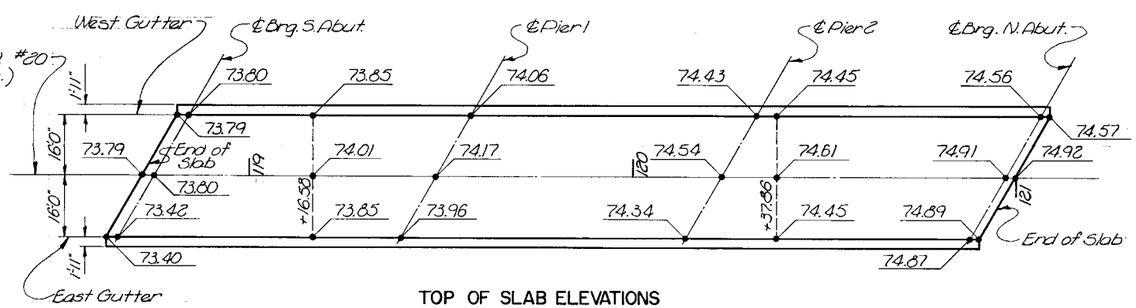
Sta. 122+97.14

ROADWAY SLOPES

(Not to scale - Looking North)

N.E. & S.W. CORNER

DISTANCE BETWEEN WORKING POINTS													ELEVATIONS		
WP	Station	A	B	C	D	E	F	G	H	I	J	K	Top of Slab	Slab to Br. Seat	Bridge Seat
A	118+83.66												1173.80	4.83'	1168.97
B	119+57.37	73.71											1174.06	4.73'	1169.33
C	120+31.78		74.42			157.50							1174.43	4.73'	1169.70
D	121+05.49			73.71			157.50						1174.58	4.73'	1169.85
E	118+75.00	17.32	83.12										1173.80	—	—
F	119+48.71	66.76	17.32	84.42		73.71							1174.17	—	—
G	120+23.12		67.45	17.32	83.12		74.42						1174.54	—	—
H	120+96.83			66.76	17.32			73.71					1174.91	—	—
I	118+66.34					17.32	83.12						1173.45	4.73'	1168.72
J	119+40.05					66.76	17.32	84.42		73.71			1173.98	4.73'	1169.25
K	120+14.46					140.27	67.45	17.32	83.12		74.42		1174.35	4.73'	1169.62
L	120+88.17						140.27	66.76	17.32			73.71	1174.88	4.89'	1169.99



TOP OF SLAB ELEVATIONS

Add 1100 to all elevations shown.

WALLACE HOLLAND KASTLER & SCHMITZ
CONSULTING ENGINEERS AND PLANNERS
MASON CITY, IOWA ROCHESTER, MINNESOTA

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518

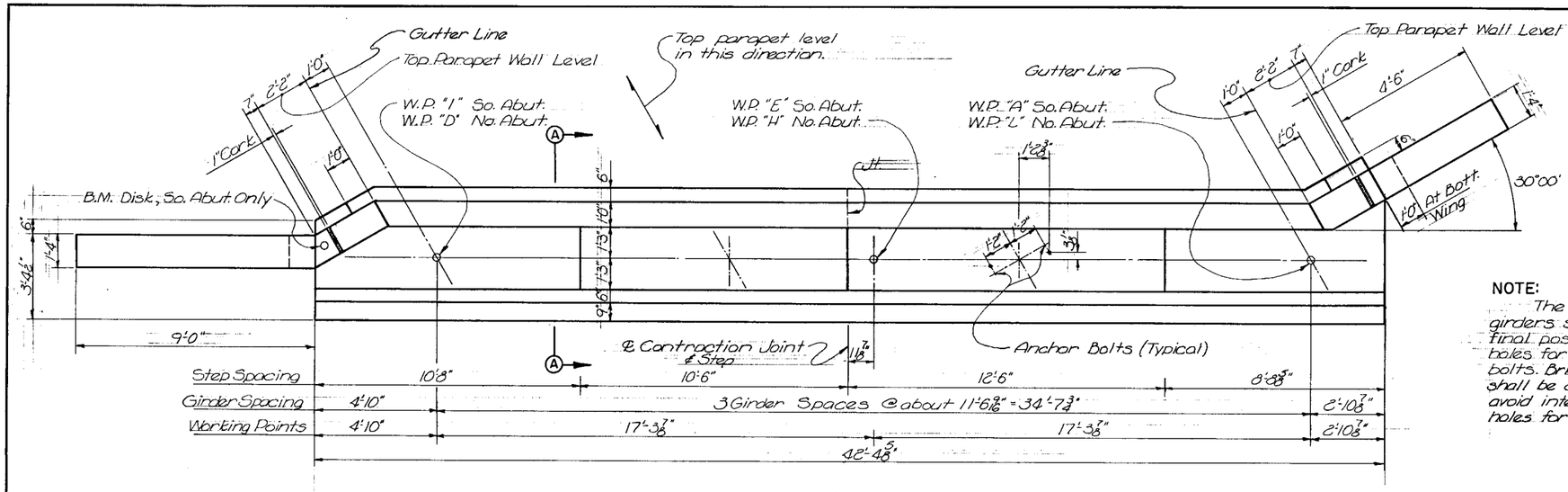
BRIDGE LAYOUT

APPROVED: 2-4-70

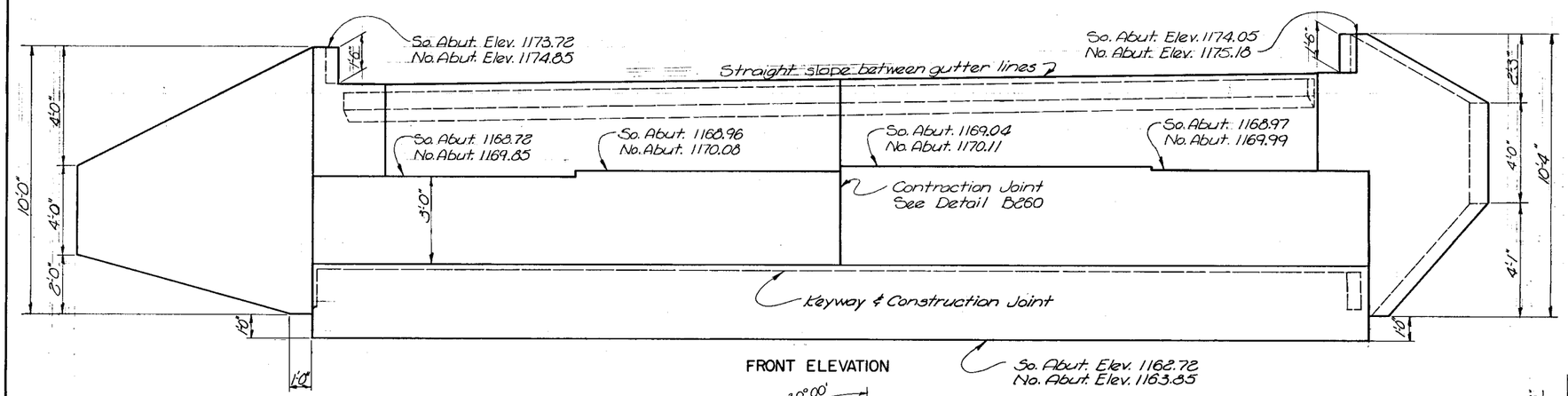
DES. GEG	DR. GEG	55518
CHK. CEW	CHK. CEW	

STATE AID PROJ. NO.

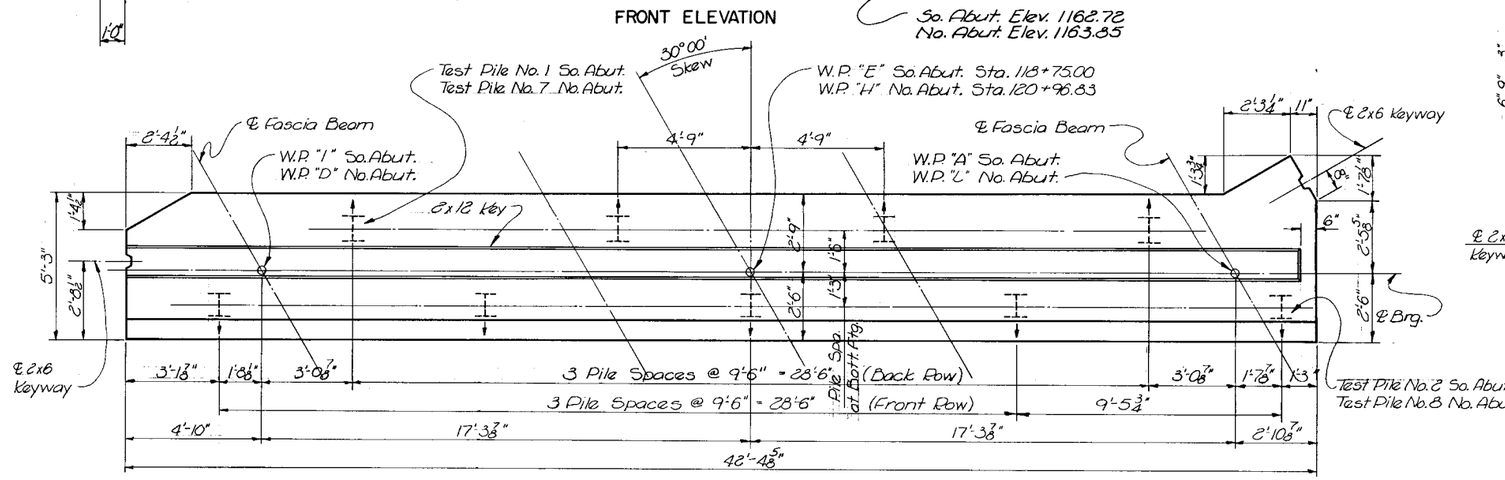
SHEET NO. 3 OF 17 SHEETS



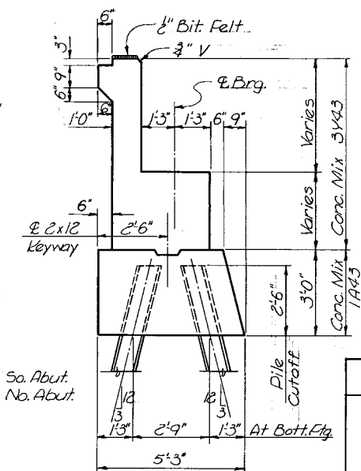
PLAN



FRONT ELEVATION



FOOTING PLAN



SECTION A-A

FED. PROJ. NO.		
SUMMARY OF QUANTITIES TWO ABUTMENTS		
STRUCTURE EXCAVATION (Cl. E)	56	C.Y.
CONCRETE MIX NO. 1A43	46.0	C.Y.
CONCRETE MIX NO. 3Y43	58.3	C.Y.
REINFORCEMENT BARS	7389	L.B.
10BP42 STEEL H-TEST PILES 60 FT. LONG	4	
① 10BP42 STEEL H PILING	700	L.F.
② ONE BENCH MARK DISK	1	

NOTE:
The superstructure girders shall be erected in final position prior to drilling holes for and placing anchor bolts. Bridge Seat Reinforcement shall be carefully placed to avoid interference with drilling holes for anchor bolts.

① Does not include test piles.
② State will furnish disk. Payment for placing to be included in the price bid for other items. See std plate No. 9301 for placing.

PILE NOTES:
2 Steel Test Piles 60 ft. long.
7 Steel Piles est. length 50 ft.
9 Steel Piles req'd for South Abutment.
2 Steel Test Piles 60 ft. long.
7 Steel Piles est. length 50 ft.
9 Steel Piles req'd for North Abutment.
All Piles to be 10BP42 Steel H Bearing Piles.
Piles marked thus H ← to be battered 3 in. per ft. in direction shown.
Pile spacing shown is at bottom of footing.
For splices and tip reinforcement see detail B221.

COMPUTED PILE LOADS	TONS/PILE
D.L. + Earth Pressure	31.3
Live Load	7.4
Total	38.7

WALLACE HOLLAND KASTLER & SCHMITZ
CONSULTING ENGINEERS AND PLANNERS
MASON CITY, IOWA ROCHESTER, MINNESOTA

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518

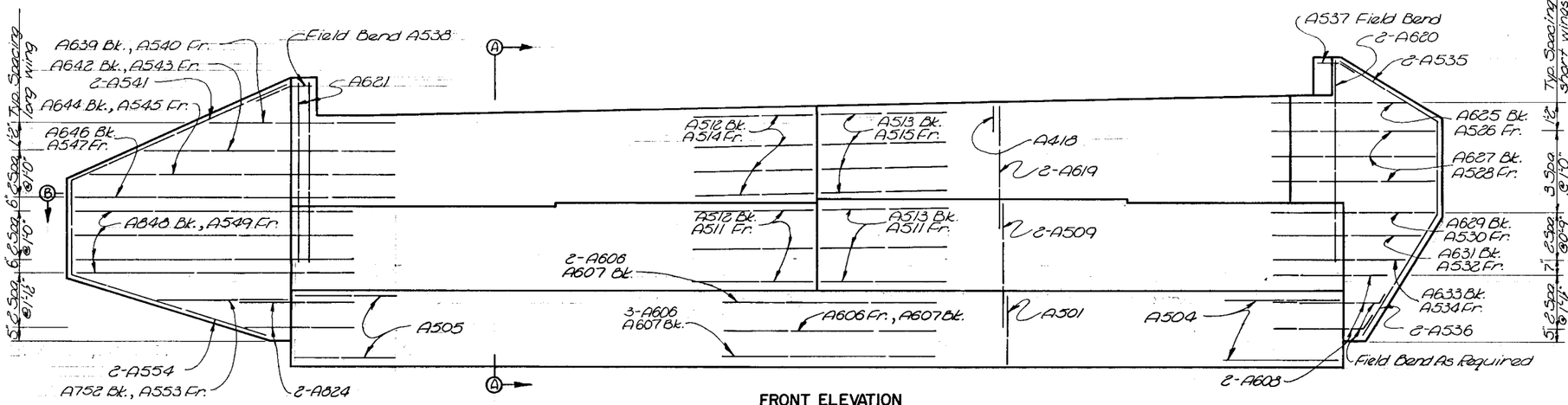
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APPROVED: 2-4-70

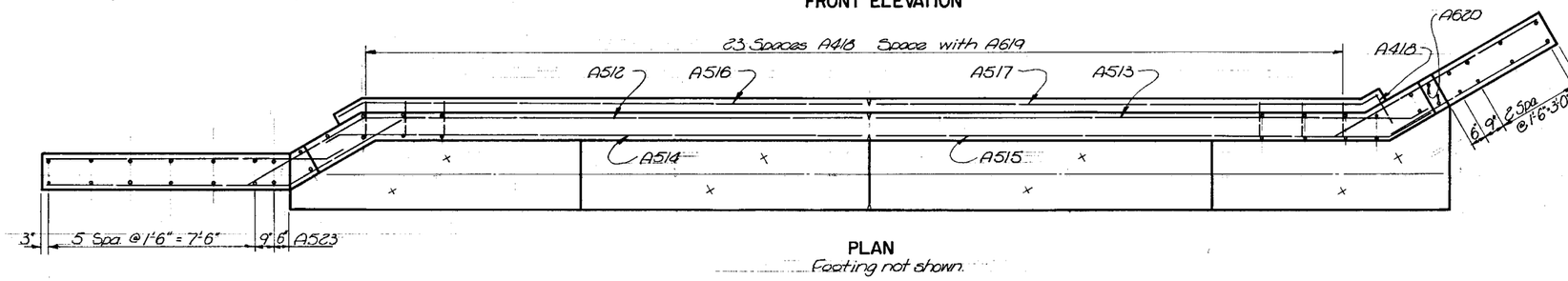
DES. DLF	DR. DLF	55518
CHK. CEW	CHK. CEW	

STATE AID PROJ. NO.

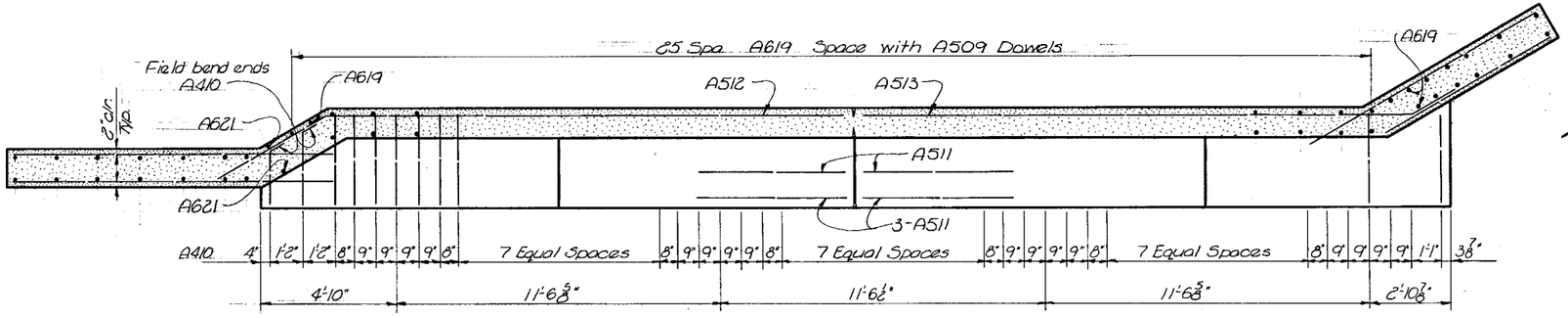
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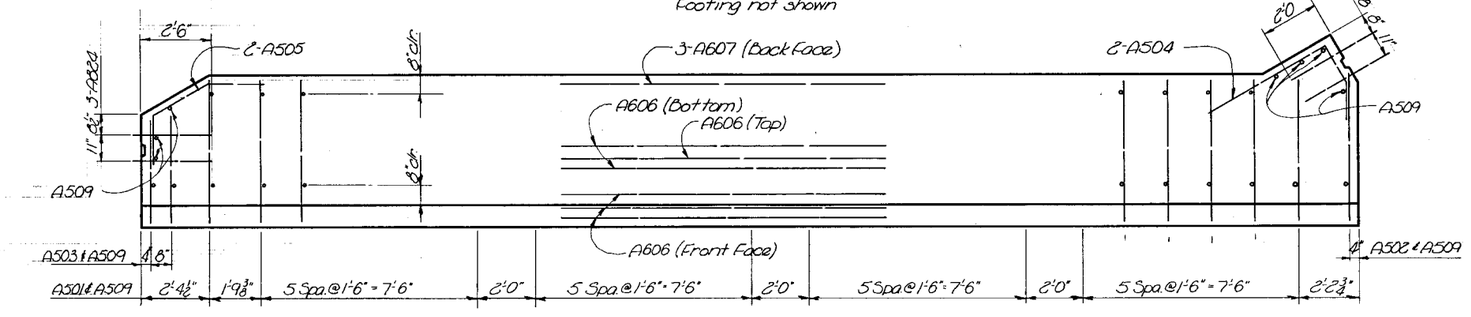
FRONT ELEVATION



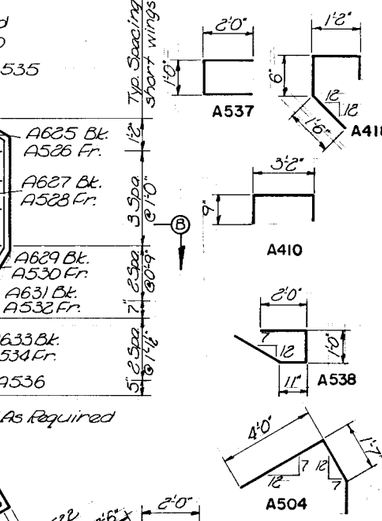
PLAN
Footing not shown.



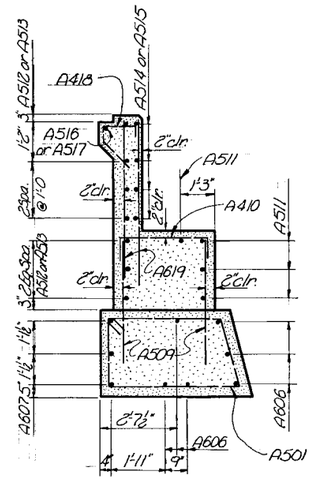
SECTION B - B
Footing not shown



FOOTING PLAN



BENT BAR DETAILS



SECTION A-A

FED. PROJ. NO.					
BILL OF REINFORCING TWO ABUTMENTS					
Bar	No	Size	Length	Shape	Location
A501	50	5	15'-2"		Ftg. Ties
A502	2	5	14'-8"		" "
A503	4	5	12'-8"		" "
A504	4	5	7'-7"		" Corner
A505	4	5	6'-3"		" "
A606	12	6	42'-0"		" Long.
A607	6	6	39'-8"		" "
A608	12	6	4'-0"		" Dowels
A509	118	5	4'-9"		" "
A410	198	4	4'-8"		Br. Seat Ties
A511	16	5	20'-10"		" " Long.
A512	14	5	22'-6"		" " "
A513	14	5	21'-2"		" " "
A514	8	5	19'-8"		Para. Long.
A515	8	5	20'-5"		" "
A516	2	5	19'-7"		Paving Brkt.
A517	2	5	18'-3"		" "
A418	50	4	3'-11"		" " Ties
A619	110	6	6'-5"		Para. Vert.
A620	4	6	7'-2"		Corner "
A621	4	6	6'-10"		" "
① A522	16	5	Varies		Wing "
① A523	28	5	Varies		" "
A824	8	8	5'-0"		Ftg. Dowels
A625	2	6	6'-9"		Wing Horiz.
A526	2	5	5'-4"		" "
A627	6	6	8'-1"		" "
A528	6	5	6'-8"		" "
A629	2	6	9'-0"		" "
A530	2	5	6'-8"		" "
A631	2	6	8'-8"		" "
A532	2	5	5'-7"		" "
A633	2	6	8'-0"		" "
A534	2	5	4'-11"		" "
A535	4	5	4'-10"		" Slope
A536	4	5	5'-4"		" "
A537	2	5	5'-0"		" Lap
A538	2	5	5'-8"		" "
A639	2	6	5'-3"		" Horiz.
A540	2	5	7'-6"		" "
A541	4	5	9'-6"		" Slope
A642	2	6	7'-11"		" Horiz.
A543	2	5	10'-2"		" "
A644	2	6	10'-2"		" "
A545	2	5	12'-5"		" "
A646	2	6	11'-3"		" "
A547	2	5	13'-6"		" "
A848	8	8	11'-7"		" "
A549	8	5	10'-8"		" "
A752	2	7	5'-4"		Wing Horiz.
A553	2	5	5'-4"		" "
A554	4	5	8'-0"		" Slope

① A522: 4 @ 10'-0", 4 @ 9'-2", 4 @ 6'-8", 4 @ 4'-1"

① A523: 4 @ 9'-7", 4 @ 9'-2", 4 @ 8'-1", 4 @ 7'-0", 4 @ 6'-0", 4 @ 4'-10", 4 @ 3'-10"

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518

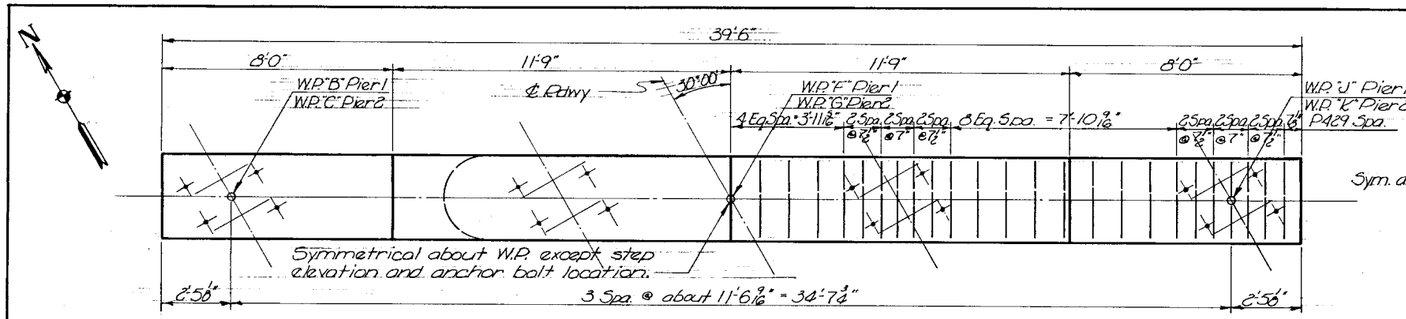
ABUTMENT DETAILS

APPROVED: 2-4-10

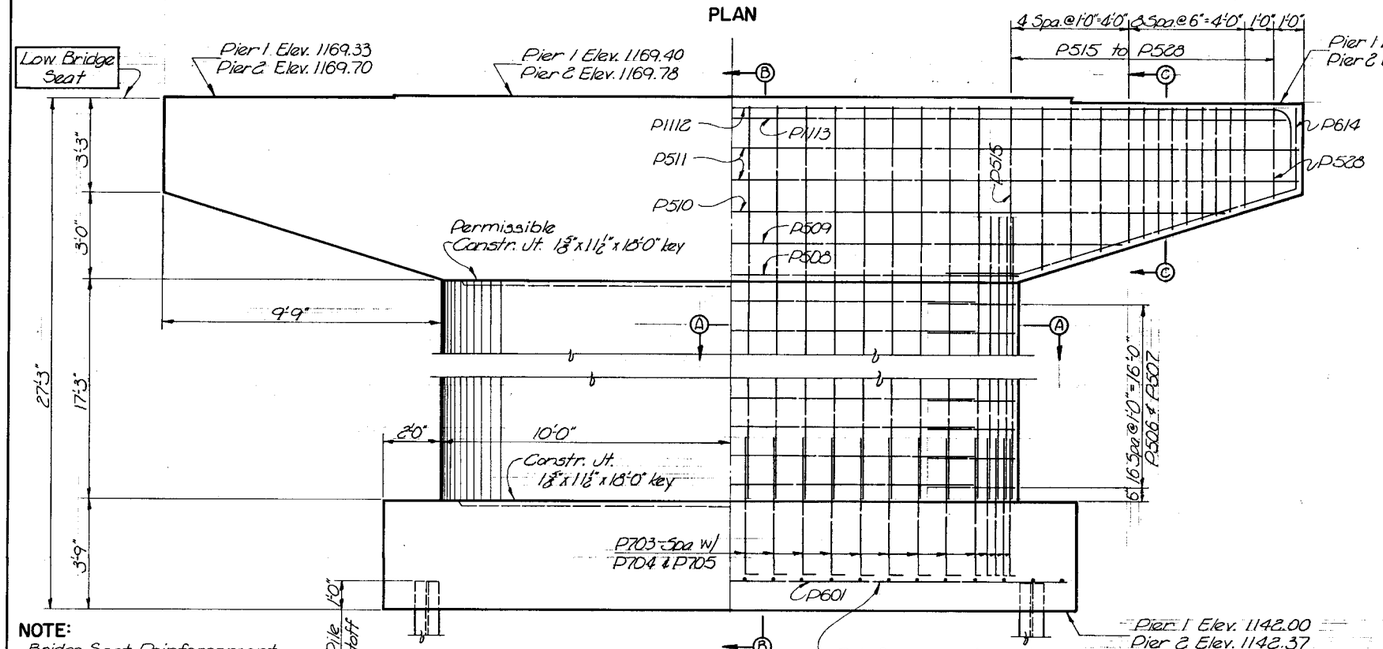
DES. DLF	DR. DLF	55518
CHK. CEW	CHK. CEW	

WALLACE HOLLAND KASTLER & SCHMITZ
CONSULTING ENGINEERS AND PLANNERS
MASON CITY, IOWA ROCHESTER, MINNESOTA

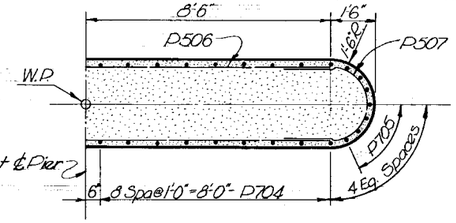
STATE AID PROJ. NO.



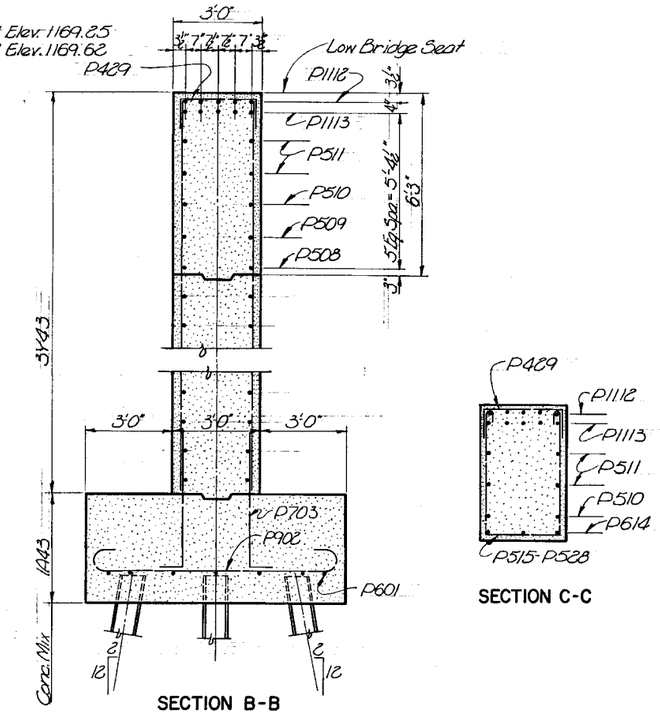
PLAN



ELEVATION



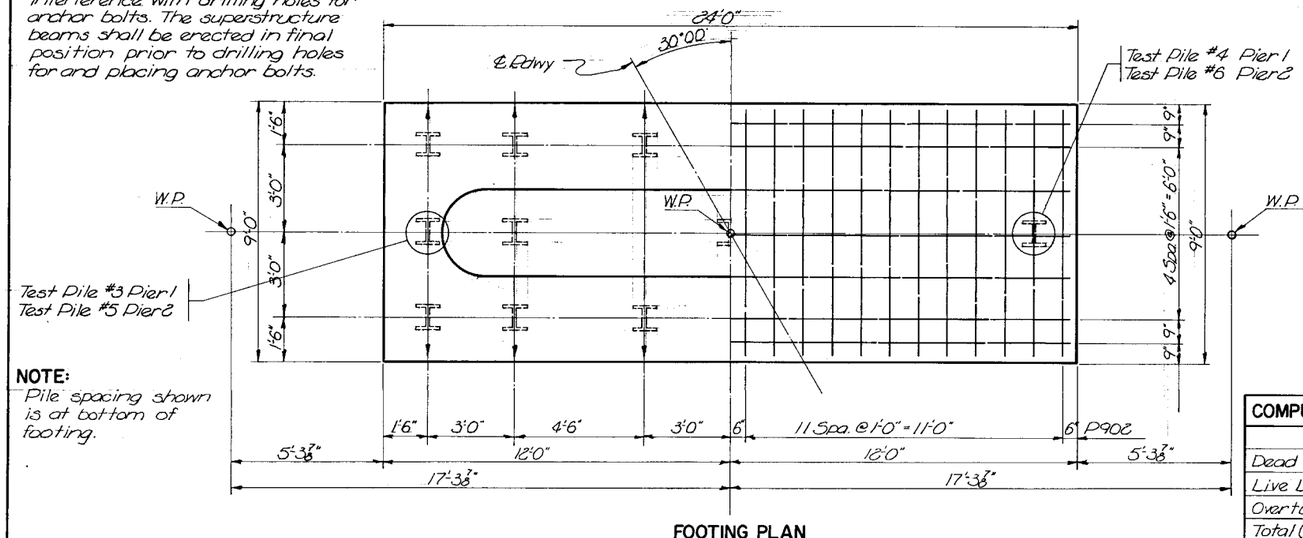
SECTION A-A



SECTION B-B

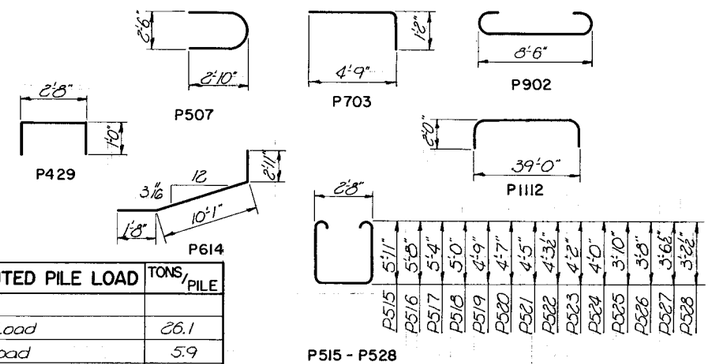
SECTION C-C

NOTE:
Bridge Seat Reinforcement shall be carefully placed to avoid interference with drilling holes for anchor bolts. The superstructure beams shall be erected in final position prior to drilling holes for and placing anchor bolts.



FOOTING PLAN

NOTE:
Pile spacing shown is at bottom of footing.



P515 - P528

COMPUTED PILE LOAD	TONS/PILE
Dead Load	26.1
Live Load	5.9
Overturning	27.6
Total (Gr. III)	59.6
Total ÷ 1.25	47.7

FED. PROJ. NO.

BILL OF REINFORCING FOR TWO PIERS

Mark	No.	Size	Length	Shape	Location
P601	14	6	23'-6"	—	Ftg. Long.
P902	48	9	11'-0"	⊂⊃	" Transv.
P703	100	7	5'-11"	⌐	" Dowel
P704	72	7	23'-4"	—	Shaft Vert.
P705	28	7	19'-6"	—	" " (Ends)
P506	68	5	17'-0"	—	" Hor.
P507	68	5	7'-1"	⊃	" "
P508	4	5	20'-0"	—	Cap Hor.
P509	4	5	27'-0"	—	" "
P510	4	5	34'-0"	—	" "
P511	8	5	39'-2"	—	" "
P1112	10	11	43'-0"	⌐¬	" "
P1113	10	11	38'-6"	—	" "
P614	12	6	14'-8"	⌐	" Ends
P515	4	5	15'-8"	⊏	Cap-Stirrups
P516	4	5	15'-2"	"	" "
P517	4	5	14'-6"	"	" "
P518	4	5	13'-10"	"	" "
P519	4	5	13'-4"	"	" "
P520	4	5	13'-0"	"	" "
P521	4	5	12'-8"	"	" "
P522	4	5	12'-5"	"	" "
P523	4	5	12'-2"	"	" "
P524	4	5	11'-10"	"	" "
P525	4	5	11'-6"	"	" "
P526	4	5	11'-2"	"	" "
P527	4	5	10'-11"	"	" "
P528	4	5	10'-3"	⊏	Cap-Stirrups
P429	98	4	4'-8"	⌐¬	Cap-Transv.

SUMMARY OF QUANTITIES FOR TWO PIERS

Structure Excavation, Cl. WE	187	C.Y.
Concrete Mix No. 1A43	60.0	C.Y.
Concrete Mix No. 3Y43	123.5	C.Y.
Reinforcement Bars	16,067	LB.
Steel Test Piles (10BP42) 35' Long	4	Pile
Steel H Piling (10BP42)	900	L.F.

PILE NOTES

Pier 1
2 Steel Test Piles 35 ft. long.
15 Steel Piles est. length 30 ft.
17 Steel Piles req'd for Pier 1.

Pier 2
2 Steel Test Piles 35 ft. long.
15 Steel Piles est. length 30 ft.
17 Steel Piles req'd for Pier 2
All piles to be 10BP42.
Estimated penetration 1 ft. less than length given.
Piles marked thus H⁻ to be battered 2" per foot in direction shown.
For splice and tip reinforcement see detail B221.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518

PIER DETAILS

APPROVED: 2-4-70

DES. GEG	DR. GEG	55518
CHK. DLF	CHK. CEW	

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MASON CITY, IOWA ROCHESTER, MINNESOTA

STATE AID PROJ. NO.

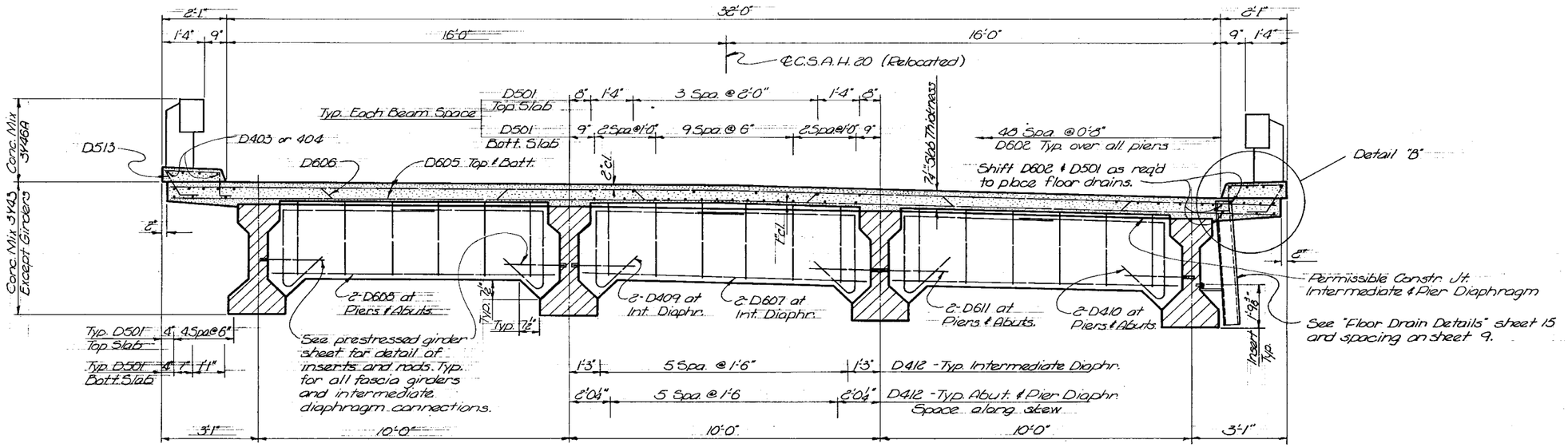
SHEET NO. 6 OF 17 SHEETS

FED. PROJ. NO.

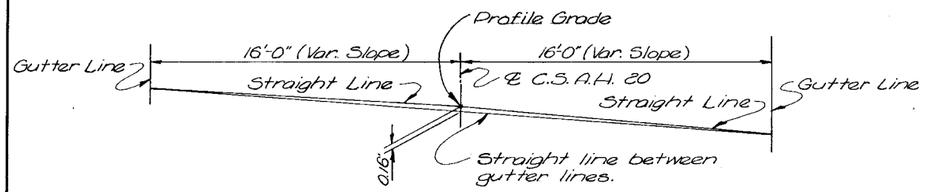
BILL OF REINFORCEMENT FOR SUPERSTRUCTURE

Bar	No	Size	Length	Shape	Location
D501	304	5	57'-10"	—	Slab Long.
D602	98	6	16'-0"	—	Slab over Piers
D403	64	4	18'-9"	—	Curb Long.
D404	32	4	18'-3"	—	" "
D605	538	6	35'-6"	—	Slab Trans.
D606	226	6	36'-4"	Bent	" "
D607	36	6	9'-1"	—	Int. Diaphr. Long.
D608	36	6	10'-6"	—	Pier&Abut. " "
D409	72	4	9'-9"	⌐	Int. " "
D410	72	4	10'-3"	⌐	Pier&Abut. " "
D611	24	6	4'-6"	—	" " " "
D412	216	4	7'-0"	⊔	Diaphr. Ties
D513	792	5	4'-2"	⊏	Curb Ties
D714	4	7	40'-6"	⌐	Slab Ends Trans.
D715	98	7	7'-0"	—	" " Long.
D416	44	4	6'-1"	⌐	" " "

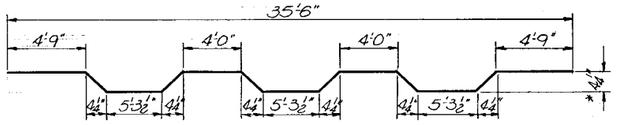
See Sheet 11 for Rail bar list.



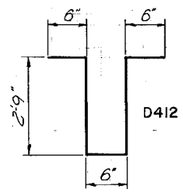
TRANSVERSE SECTION
Looking North- South end of bridge
Looking South- North end of bridge



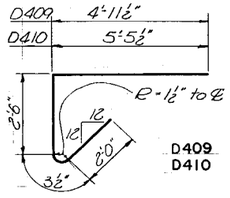
TOP SLAB CROWN
Vary gutter line elevations as shown on sheet 3 .



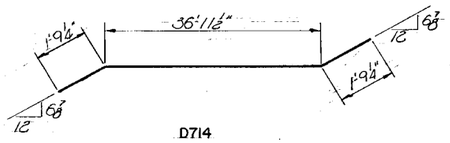
D606



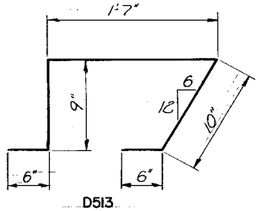
D412



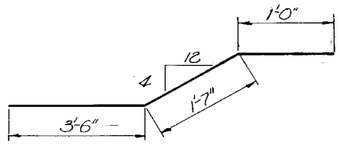
D409
D410



D714

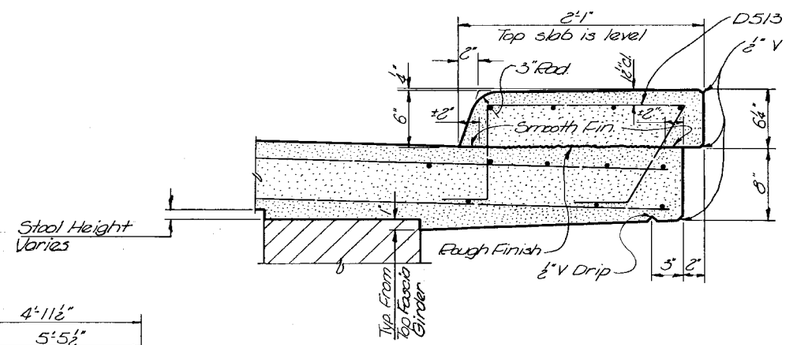


D513



D416

BENT BAR DETAILS



DETAIL "B"
Typical both curbs

*A tolerance of ±¼" will be permitted.

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MASON CITY, IOWA ROCHESTER, MINNESOTA

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518

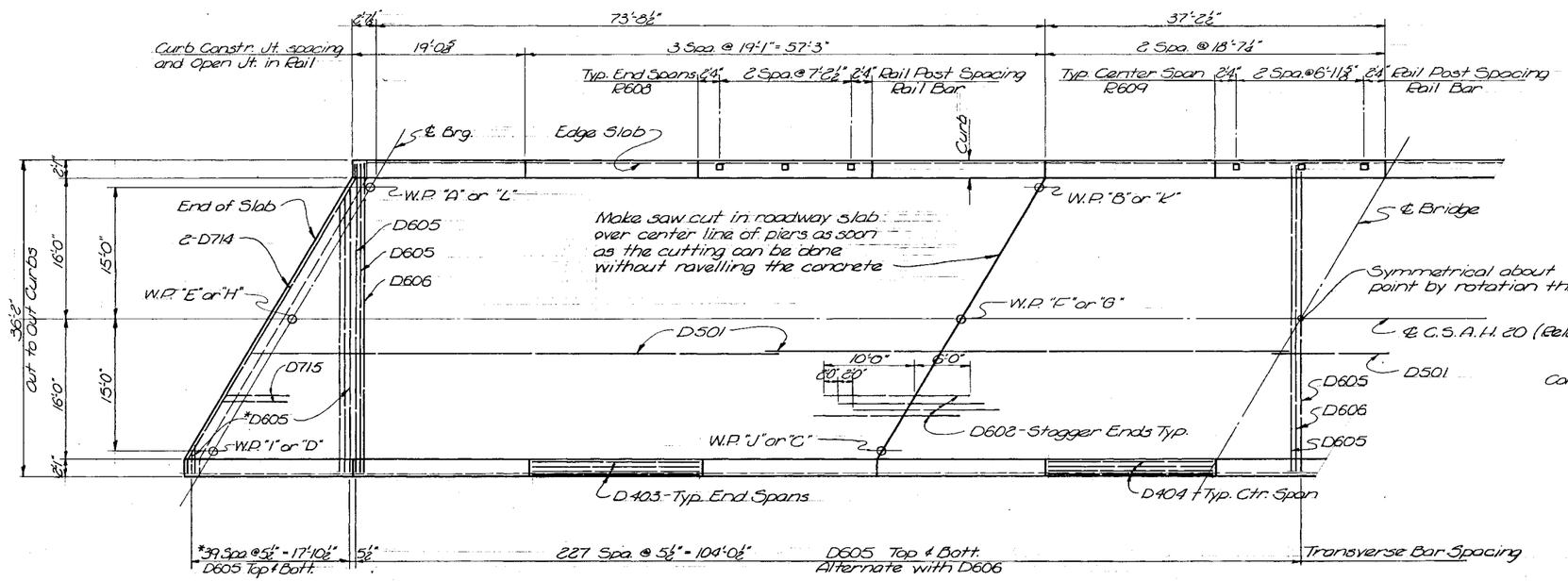
SUPERSTRUCTURE DETAILS

APPROVED: 2-4-70

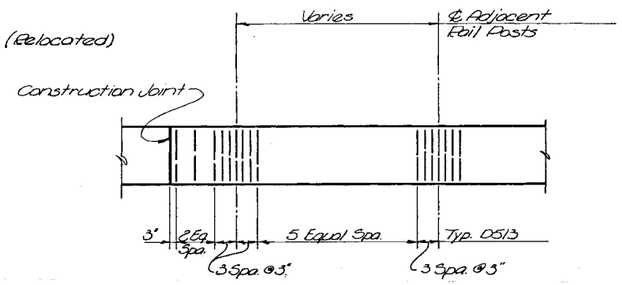
DES. GEG	DR. CEW	55518
CHK. CEW	CHK. GEG	

STATE AID PROJ. NO.

FED. PROJ. NO.



HALF DECK PLAN



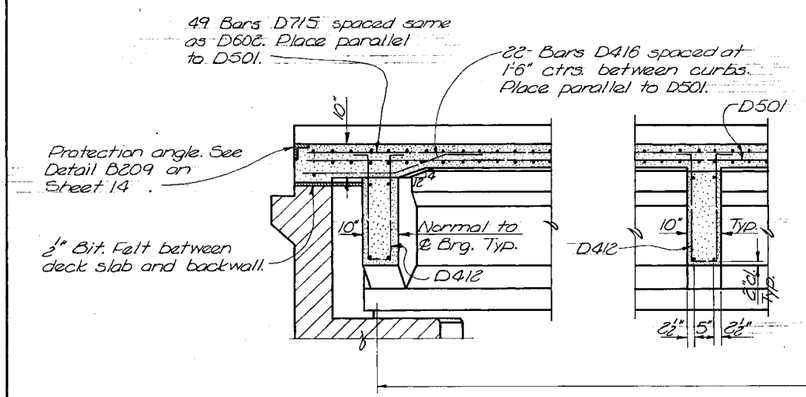
PLAN OF TYPICAL CURB SECTION

*Cut two from one, one long and one short, to fit skewed ends of bridge.

NOTE:

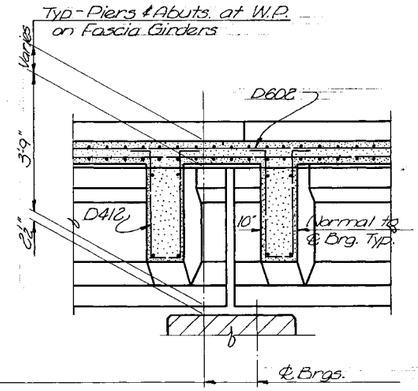
Finish top of all curb joints with small radius edger and vertical edges with ¼" V strips. Seal top and front face of all joints in curb with concrete joint sealer. Paint joint with asphalt or approved equal to break bond. No reinforcing bars shall extend thru the curb joints.

Seal all saw cuts with concrete joint sealer.



NORTH OR SOUTH ABUTMENT

INTERMEDIATE DIAPHRAGM



PIER 1 OR 2

WALLACE HOLLAND KASTLER & SCHMITZ
CONSULTING ENGINEERS AND PLANNERS
MASON CITY, IOWA ROCHESTER, MINNESOTA

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518

SUPERSTRUCTURE DETAILS

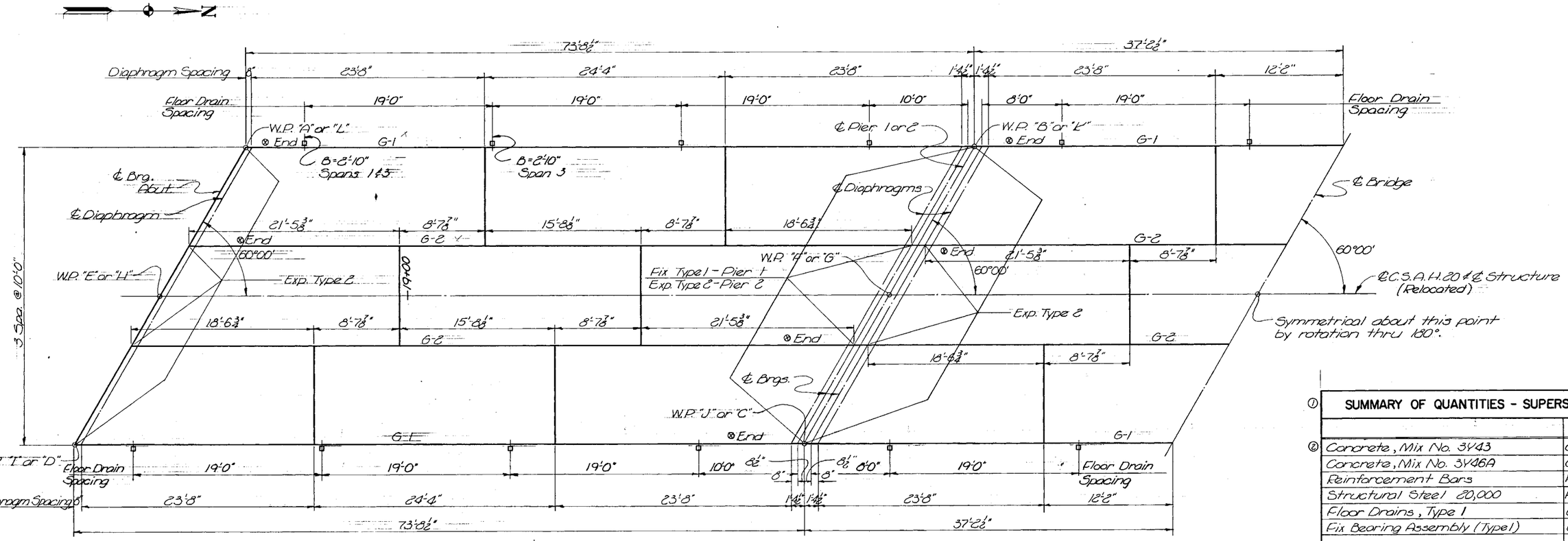
APPROVED: 2-4-70

DES. GEG	DR. CEW	55518
CHK. CEW	CHK. GEG	

STATE AID PROJ. NO.

SHEET NO. 8 OF 17 SHEETS

FED. PROJ. NO.



FRAMING PLAN

① SUMMARY OF QUANTITIES - SUPERSTRUCTURE

	Unit	Quantity
② Concrete, Mix No. 3Y43	Cu.Yd.	223.4
Concrete, Mix No. 3Y46A	Cu.Yd.	36.8
Reinforcement Bars	Pound	81,312
Structural Steel 20,000	Pound	531
Floor Drains, Type 1	Unit	24
Fix Bearing Assembly (Type 1)	Unit	4
Exp. Bearing Assembly (Type 2)	Unit	20
Prestressed Girders Type (45-73)	Girders	12
③ Protection Angle	Unit	2
⑤④ Standard Name Plates (B103)	Unit	1
③ 8-1½ ϕ Pipe Sleeves		
⑤ Preformed Exp. Jt. Filler (See List)		

⑥ PREFORMED EXPANSION JOINT FILLER

⑦ Cork Type Per AASHO M-153 Type 1
2 pcs. 1'-6" x 1'-4" x 1" Between Slab & Wings
2 pcs. 1'-6" x 1'-1⅞" x 1" " " & "
Bit. Type Per M.H.D. 3701
2 pcs. 11¼" x ½" x 38'0" Top of Parapet
2 pcs. 1'-4" x ½" x 2'-1"
2 pcs. 1'-1⅞" x ½" x 2'-1"

① Includes railing quantities.
② The volume of deck concrete for payment is computed using an average stool height of 1½".
③ Included in weight of Structural Steel 20,000.
④ For Bridge No. 55518 ~~Project No.~~ Dated 1971
⑤ To be included in price bid for other items.
⑥ The joint filler list is for the contractor's convenience only. Any additional joint filler required, as shown on the plans, shall be furnished by the contractor with no additional compensation.
⑦ Secure cork joint filler with 2½" long, 11 ga. copper nails at about 18" ctrs. Cork and nails to be included in price bid for other items. Trim joint filler to face of concrete or to depth of Vee where the corners have been Veed.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518

FRAMING PLAN

APPROVED: 2-4-70

DES. CEW	DR. CEW	55518
CHK. GEG	CHK. GEG	

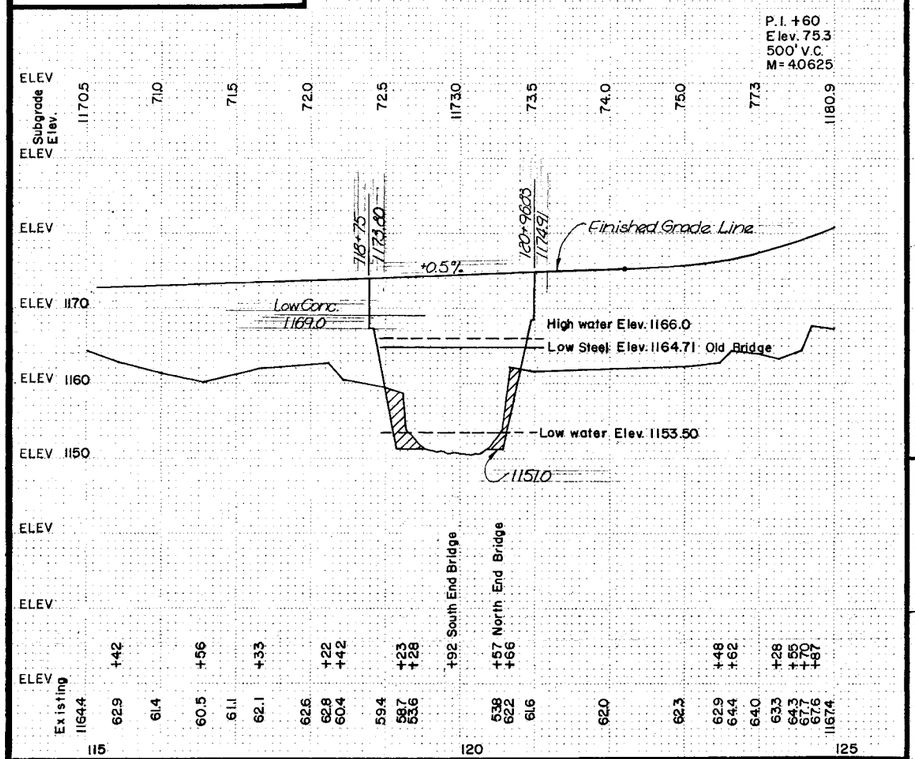
STATE AID PROJ. NO.

SHEET NO. 9 OF 17 SHEETS

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MASON CITY, IOWA ROCHESTER, MINNESOTA

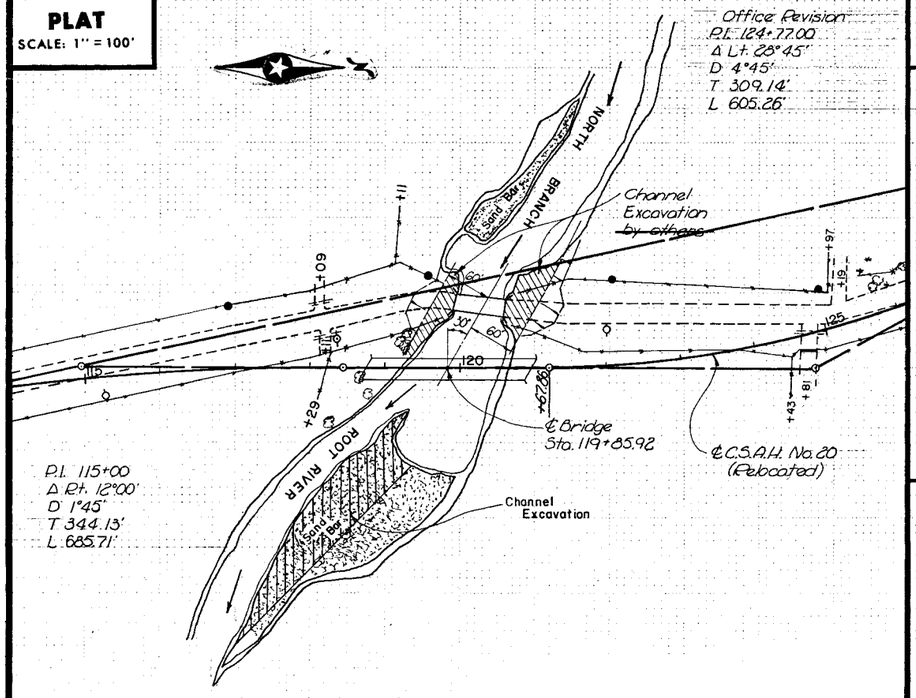
CONTRACTED PROFILE

SCALE: HOR. 1" = 100' VER. 1" = 10'



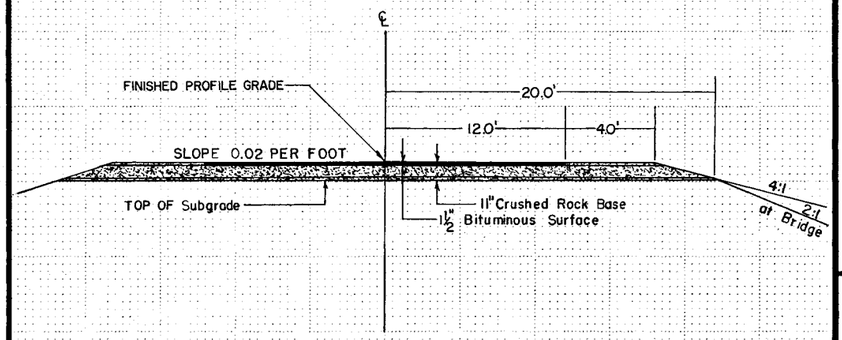
PLAT

SCALE: 1" = 100'

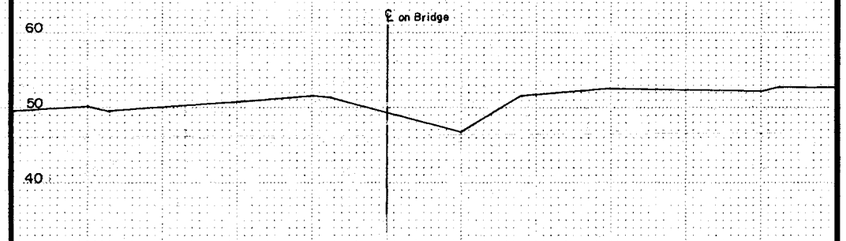


TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN

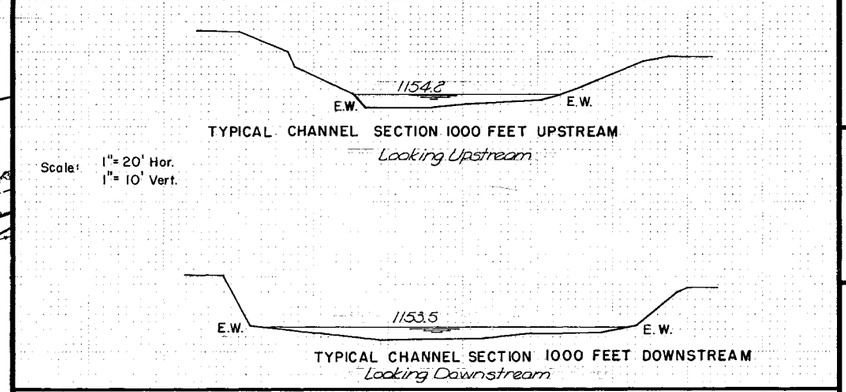


TYPICAL HIGHWAY SECTION



RIVER BOTTOM PROFILE

Scale 1"=100' Hor.
1"=10' Vert.



TYPICAL CHANNEL SECTION 1000 FEET UPSTREAM
Looking Upstream

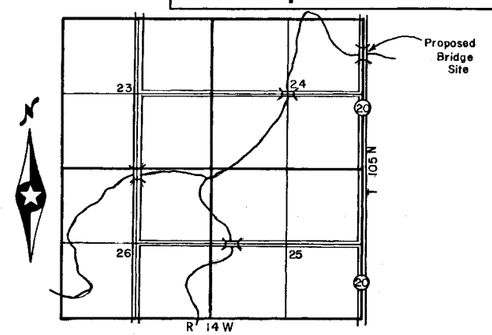
Scale: 1"= 20' Hor.
1"= 10' Vert.

TYPICAL CHANNEL SECTION 1000 FEET DOWNSTREAM
Looking Downstream

B.M. ELEV 1163.11 (M.S.L. 19 ADJ.)
Spk. in PP 12' Rt.
Sta. 115+24

SEE SHEET OF SHEETS FOR PLAN AND PROFILE

Fed. Proj. No.



INDEX MAP
(FOUR SECTIONS)

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.....
   b. Width of roadway on bridge..... 32 feet curb to curb
   c. Number and width of sidewalks, if any..... None
   d. Locate center of bridge at station..... ℄
   e. If a skew bridge is recommended, the angle of skew should be.....
   f. Is piling required?.....
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
   Subject to driftwood and ice jams.
3. Changes: In height or length from that of old bridge, and reasons why. Bridge must be raised to obtain a 3 foot clearance to low steel. Must be lengthed to increase waterway and reduce velocity.
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. Upstream 1 1/2 miles 65' span. Upstream 1/2 mile 70' span. Downstream 1 1/2 miles 169' span.
   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. The two bridges upstream and the one bridge downstream are all inadequate during periods of extreme high water.
5. If structure is over a drainage ditch, is ditch gradient liable to be altered?.....
6. Navigation clearances required, if any..... None
7. Information and evidence in regard to high water stages was obtained as follows. Observation during extreme high water March 29, 1962 & March 1, 1965
8. Must contractor provide for traffic during construction of proposed bridge? No
   If so, by what means? Old bridge will be used as by-pass during construction.

HYDRAULIC ENGINEERS RECOMMENDATION

HIGH AND LOW WATER ELEVATIONS

Data obtained from Observation reflects highest water elevation in the area of this construction to be 1166.0 and the lowest water elevation to be 1153.50. 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.

SHIPPING POINT

Proposed Bridge is Approx. 4.3 miles N.E. of * Stewartville which is the nearest Railroad shipping point.

*(Give name of siding)

12/28/67 Date — C. O. Schuldhammer, Project or County Engineer

..... Date — ..... District Engineer

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE SURVEY

FOR

PROPOSED BRIDGE LOCATED 4.3 MILES NE OF Stewartville (TOWN OR CITY) ON C.S.A.H. No. 20 (C.S.A.H. OR [redacted] NUMBER)

SEC. 19 TWP. 105 N R. 13 W

TOWNSHIP PLEASANT GROVE COUNTY OLMSTED

SURVEY MADE DURING MONTH OF April 19 67

SURVEY MADE BY D.N. Goodman

BRIDGE NO. 55518

Area No. | Job No. | STATE AID PROJ. NO. 55-620-01 | Sheet No. 16 of 17 Sheets

Bridge Survey Sheet (Sheet 1 of 2)

Fed. Proj. No.

SCALE: 1" = 10'

221'-10" ℄-℄ Abut. Brg.

74'-5"

73'-8½"

73'-8½"

30°

Red River

CENTER LINE OF LAYOUT

B-1

B-2

118+75

119

119+48.71

119+75.98

120

120+96.03

121

℄ Abut. Brg.

℄ Abut. Brg.

℄ C.S.A.H. No. 20 (Relocated)

Test Pile #1

Test Pile #2

Test Pile #3

Test Pile #4

Test Pile #5

Test Pile #6

Test Pile #7

Test Pile #8

Roadway

Berm

℄ Pier

℄ Bridge

℄ Pier

North Branch

PLAN

Profile Grade Sta. 118+75
1173.80

Profile Grade

Profile Grade Sta. 120+96.03
1174.91

Conc. Rail & Post

ELEV 1170

ELEV 1160

ELEV 1150

ELEV 1140

ELEV 1130

ELEV 1120

ELEV 1110

Top Berm 1167.0

Bott. Ftg. 1162.72

℄ Profile 1160.0 N

2:1 Normal

Low Conc. 1169.0

Common Excavation

20' Left

20' Right

Exp.

Exp.

Fix

Exp.

Exp.

H.W. 1166.0

L.W. 1153.5

Common Excavation

Exp.

Exp.

2:1 Normal

℄ 1162.8

Top Berm 1168.1

Bott. Ftg. 1163.85

Bit. to brn. silty clay loam 9

Brn. med. sand with gravel (wet) 8 16

Blue-green clay loam 22 40

Bl.-gr. clay loam to clay - very hard 60

Dense gravelly clay 76

6"-12" Very dense gravel & boulders Weathered bedrock 100

60' Test Pile

4'-0"

El. 1119.0

Bedrock

B-1

1151.0

6" Filter Blanket

Bott. ftg. El. 1142.00

Bott. ftg. El. 1142.37

35' Test Pile

℄ SECTION

1151.0

1:0" Random Riprap Berm Slopes

6" Filter Blanket

4'-6"

El. 1119.5

Bedrock

B-2

Bit. to brn. silty clay loam 9

Brn. med. to coarse sand w/ gravel 14 17 23

Blue-green clay loam to clay gravels & boulders mixed in the soil. 36 61 81 77

Weathered bedrock

60' Test Pile

NOTE: All piles are 10BP42 Steel H bearing piles. Maximum allowable load per pile is 55 tons. ~~Common excavation is included in grading quantities.~~

119

120

121

B.M. ELEV. 1163.11 (M.S.L. 19 ADJ.)
Spk. in P.P. 12' Rt.
Sta. 115+24

B.M. ELEV. 1162.82
Spk. in P.P. 33' Lt.
Sta. 122+01

PRELIMINARY DESIGN DATA

1. 4 lines of Girders at 10'-0" centers.
2. Prestr. Girders - Type 45-73.

HYDRAULIC DATA

Drainage Area	138.5 Sq. Mi.
Area below H.W. El.	2,190 Sq. Ft.
Q at H.W. El.	11,870 c.f.s.
Ave. Velocity	5.4 f.p.s.
Stream slope at site	3.1 ft/mile

DATA FOR 25 YR. FLOOD

Water El.	1164.3
Area below 1164.3	1897 Sq. Ft.
Q	9,600 c.f.s.
Ave. Velocity	5.1 f.p.s.

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN

For the design of the structure foundation, to obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing with the log of such exploration data as interpreted for such design purpose as shown. The explorations were made by ordinary and conventional methods and care deemed adequate for such purpose. However, since it is a matter of common knowledge that the exact character of any material and its reaction is difficult to determine from such subsurface exploration and that the kind and character of material at the site where the foundations are built may vary substantially from that indicated by the log they are made available to the bidders simply for what they are worth, without any warranty expressed or implied that the material to be encountered in building the foundation will conform therewith. If the log is used by the contractor in making his bid, it is hereby expressly stipulated that the Highway Department accepts no responsibility for said use.

TRUNK HIGHWAY NO.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55518

BRIDGE SURVEY

PLAN AND PROFILE

SEE SHEET NO. 17 FOR ADDITIONAL INFORMATION

STATE AID PROJ. NO. 55-620-01

Sheet No. 17 of 11 Sheets

Bridge Survey Sheet (Sheet 2 of 2)