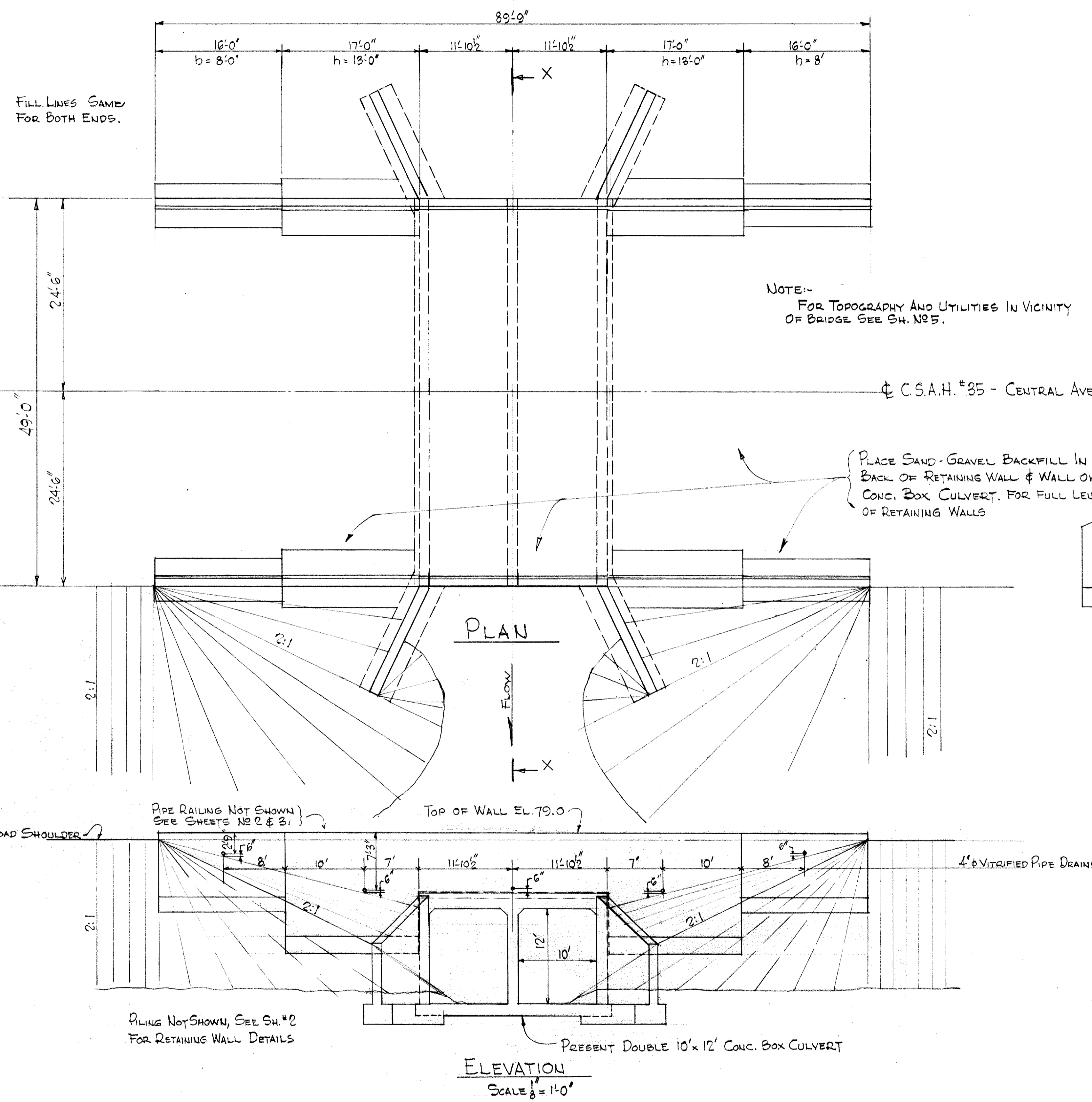


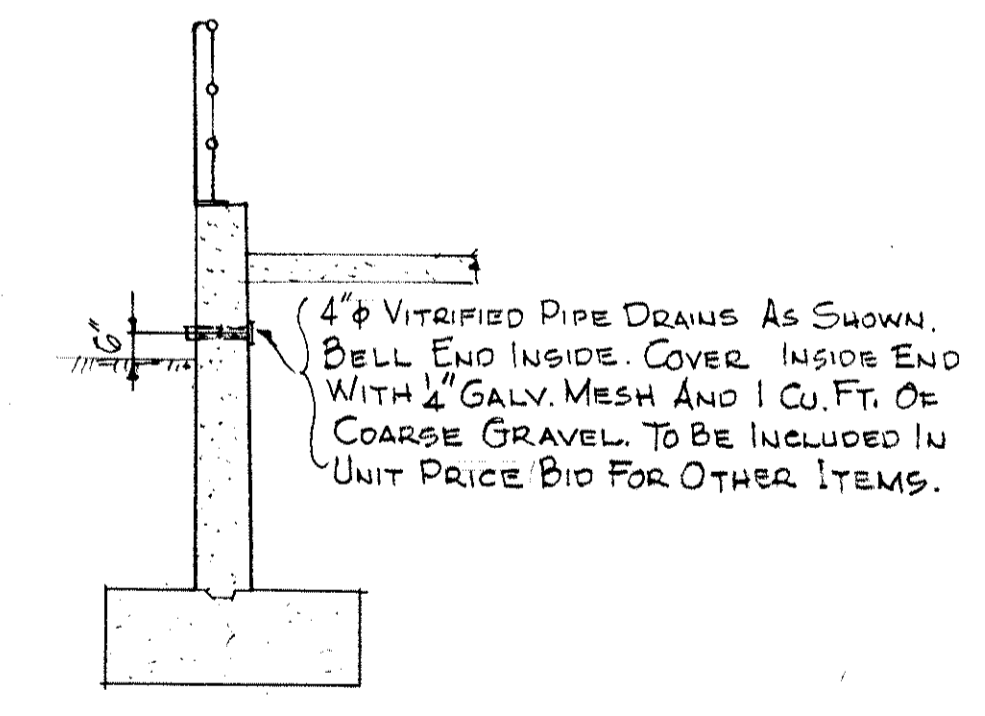
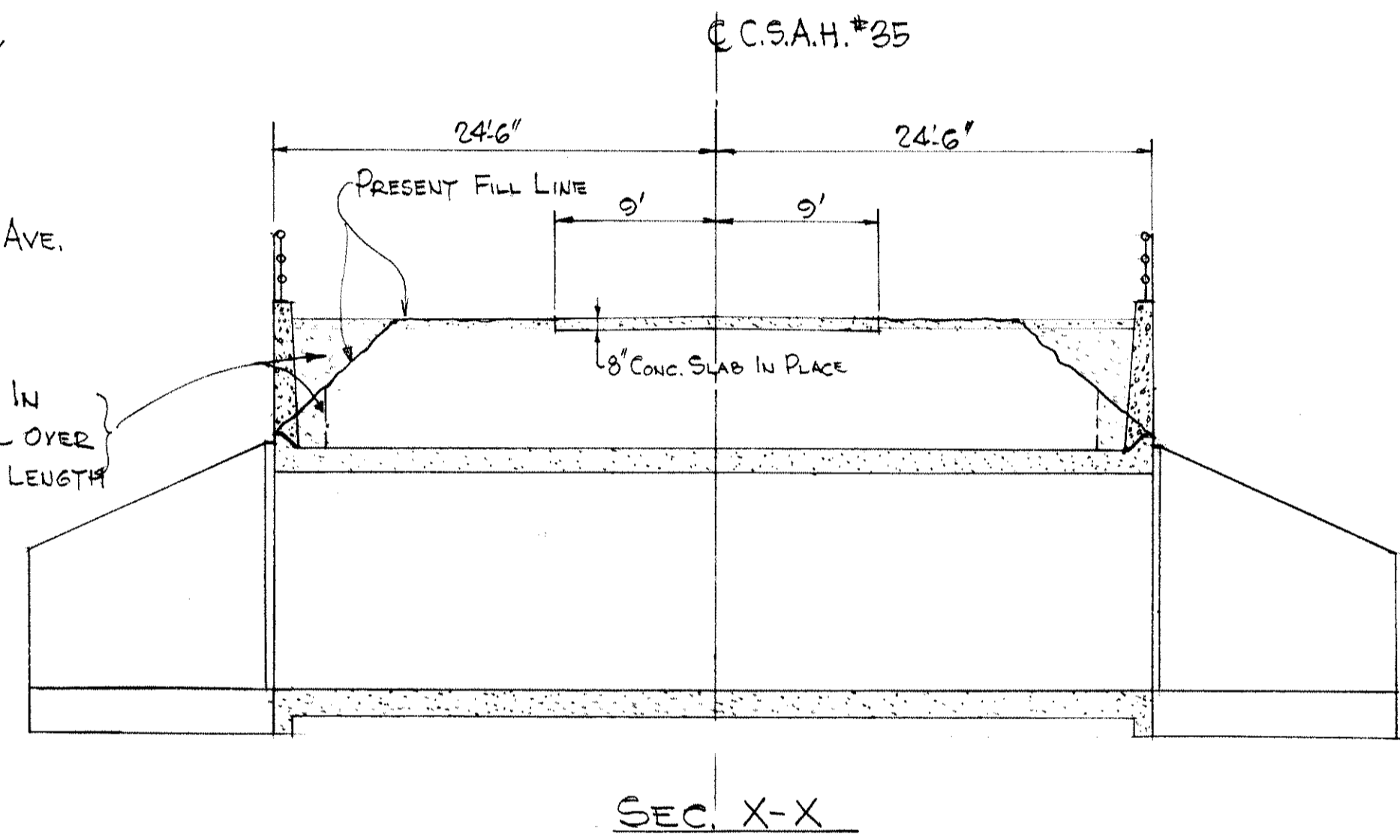
DESIGN DATA
 1961 A.A.S.H.O. DESIGN SPECIFICATIONS
 $f_c = 1600$ P.S.I. $n = 8$
 $f_s = 20000$ P.S.I. INTERM. GRADE REINF.



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.

FILL IN BACK OF WALL MUST BE PLACED IN HORIZONTAL LAYERS AND TAMPED. BARS TO BE LAPPED 30 DIAMETERS MINIMUM SPLICES. ALL REINFORCEMENT SHALL BE INTERMEDIATE GRADE DEFORMED BARS. ALL HOOKS TO BE C.R.S.I. STANDARD. EDGES OF CONCRETE ON ALL EXPOSED CONTRACTION OR EXPANSION JOINTS SHALL BE FORMED WITH 2" V. STRIPS UNLESS OTHERWISE NOTED. FOOTINGS TO BE 1AG CONCRETE. STEM TO BE 3YG CONCRETE. ALL REINFORCEMENT BARS TO HAVE 1/2" MINIMUM COVER UNLESS OTHERWISE NOTED. ALL PILES TO BE DRIVEN TO A MINIMUM BEARING OF 22 TONS PER PILE.

NOTE:-
 FOR TOPOGRAPHY AND UTILITIES IN VICINITY OF BRIDGE SEE SH. NO 5.



LIST OF SHEETS	
SH. NO	DESCRIPTION
1	GENERAL PLAN OF RETAINING WALLS
2	DETAILS OF RETAINING WALLS
3	DETAILS OF PIPE RAILING
4	BRIDGE SURVEY
5	TOPOGRAPHY & UTILITIES
6	DETAILS-C.I. FLOOR DRAIN & EXT.

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

C.S.A.H. NO 35 ANOKA COUNTY
 STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

BRIDGE NO 3310
 OVER RICE CREEK
 CITY OF FRIDLEY
 RETAINING WALLS
 @ DOUBLE 10' x 12' REINF. CONC. CULVERT

IN SEC. 13-T. 30-R. 24
 FRIDLEY TWP. ANOKA COUNTY
 DATE _____ ASST. BRIDGE ENGR.

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 8-27-63 *John P. Lundheim* REG. NO 3452

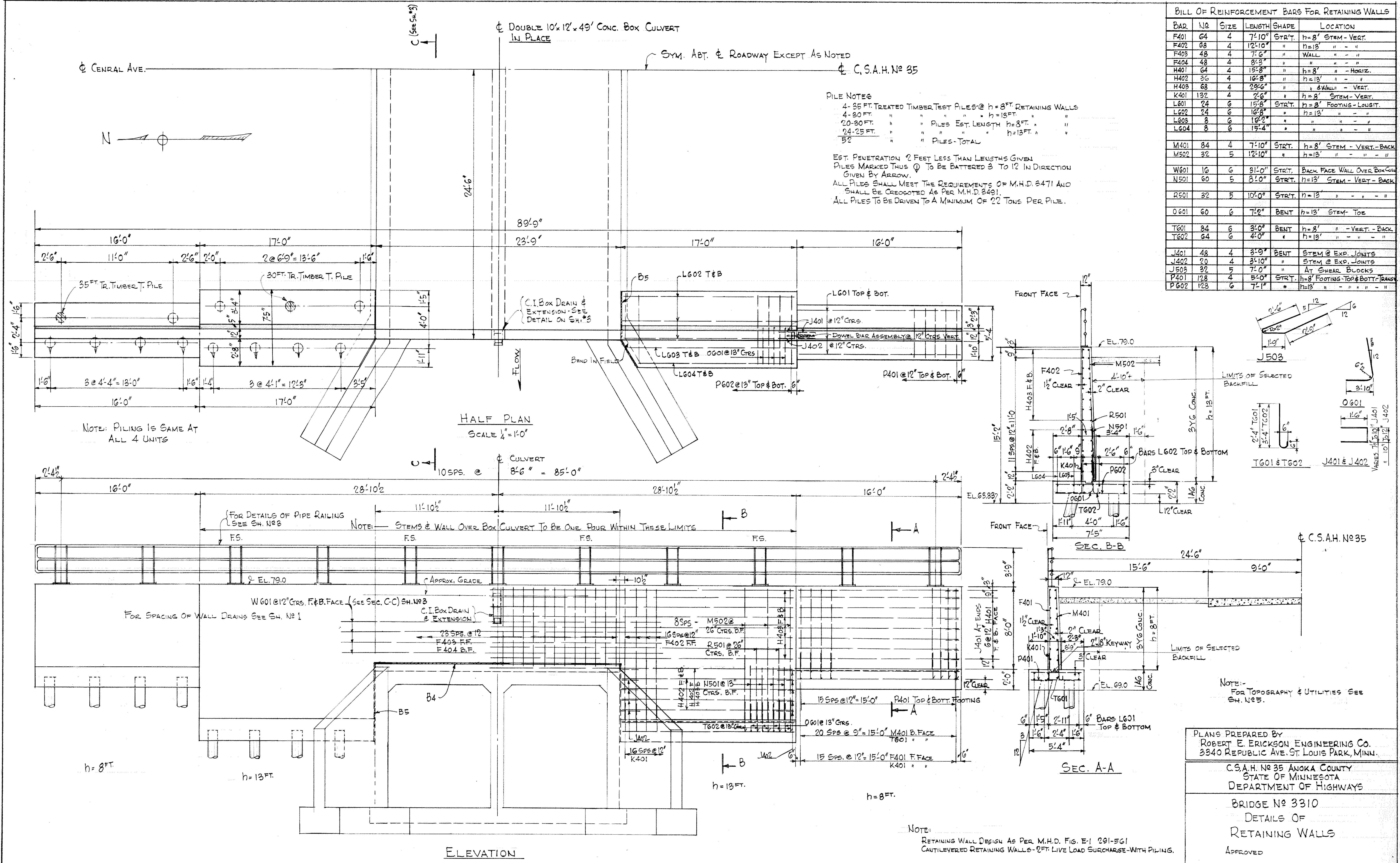
APPROVED
 DATE 8-27-63 *John P. Lundheim* COUNTY ENGINEER ANOKA COUNTY

SCHEDULE OF QUANTITIES FOR RETAINING WALLS.												
ITEM	2401.501	2401.501	2401.541	2452.517	2452.517	2452.503	2452.504	2402.583	2401.521	2451.513	2481.501	2402.546
UNIT	CONC. MIX NO 1AG	CONC. MIX NO 3YG	REINFORCEMENT BARS	TREAT. TIMB. TEST PILES IN PL. 35 FT.	TREAT. TIMB. TEST PILES IN PL. 30 FT.	TREAT. TIMB. PILING DELIVERED	TREATED TIMB. PILING DRIVEN	ORNAMENTAL METAL RAILING	CLASS DE EXCAVATION	SELECTED BACKFILL	3 PLY JOINT WATERPROOFING	FLOOR DRAINS WITH EXT. TYPE II
QUANTITY	CU. YD.	CU. YD.	POUND	PILE	PILE	LIN. FT.	LIN. FT.	LIN. FT.	CU. YD.	CU. YD. (V.M.)	LIN. FT.	UNIT
	66	77	11820	4	4	1200	1112	180	1335	260	32	2

BILL OF REINFORCEMENT BARS FOR RETAINING WALLS						
BAR	NO	SIZE	LENGTH	SHAPE	LOCATION	
F401	64	4	7'-10"	STR.T.	h=8' STEM - VERT.	
F402	68	4	12'-10"	"	h=13' " - " "	
F403	48	4	7'-6"	"	WALL " - " "	
F404	48	4	8'-3"	"	" - " - " "	
H401	64	4	15'-8"	"	h=8' " - HORIZ.	
H402	36	4	16'-8"	"	h=13' " - " "	
H403	68	4	29'-6"	"	" & WALL " - VERT.	
K401	132	4	2'-6"	"	h=8' STEM - VERT.	
L601	24	6	15'-8"	STR.T.	h=8' FOOTING - LOUSET.	
L602	24	6	16'-8"	"	h=13' " - " "	
L603	8	6	16'-2"	"	" - " - " "	
L604	8	6	15'-4"	"	" - " - " "	
M401	84	4	7'-10"	STR.T.	h=8' STEM - VERT. - BACK	
M502	32	5	12'-10"	"	h=13' " - " - " "	
N501	60	6	3'-0"	STR.T.	BACK FACE WALL OVER BOX CULV.	
N501	60	5	8'-0"	STR.T.	h=13' STEM - VERT. - BACK	
R501	32	5	10'-0"	STR.T.	h=13' " - " - " "	
O601	60	6	7'-2"	BENT	h=13' STEM - TOE	
T601	84	6	3'-0"	BENT	h=8' " - VERT. - BACK	
T602	64	6	4'-0"	"	h=13' " - " - " "	
J401	48	4	3'-9"	BENT	STEM @ EXP. JOINTS	
J402	20	4	3'-10"	"	STEM @ EXP. JOINTS	
J503	32	5	7'-0"	"	AT SHEAR BLOCKS	
P401	128	4	5'-0"	STR.T.	h=8' FOOTING - TOP & BOT. - TRANS.	
P602	128	6	7'-1"	"	h=13' " - " - " - " "	

PILE NOTES
 4-35 FT. TREATED TIMBER TEST PILES @ h=8' RETAINING WALLS
 4-30 FT. " " " " " " " " h=13 FT.
 20-30 FT. " " " " " " " " PILES EST. LENGTH h=8 FT.
 24-25 FT. " " " " " " " " " " " " h=13 FT.
 52 " " " " " " " " " " " " PILES - TOTAL

EST. PENETRATION 2 FEET LESS THAN LENGTHS GIVEN
 PILES MARKED THUS \odot TO BE BATTERED 3 TO 12 IN DIRECTION GIVEN BY ARROW.
 ALL PILES SHALL MEET THE REQUIREMENTS OF M.H.D. 3471 AND SHALL BE CROSOATED AS PER M.H.D. 3491.
 ALL PILES TO BE DRIVEN TO A MINIMUM OF 22 TONS PER PILE.



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

C.S.A.H. NO 35 ANOKA COUNTY
 STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

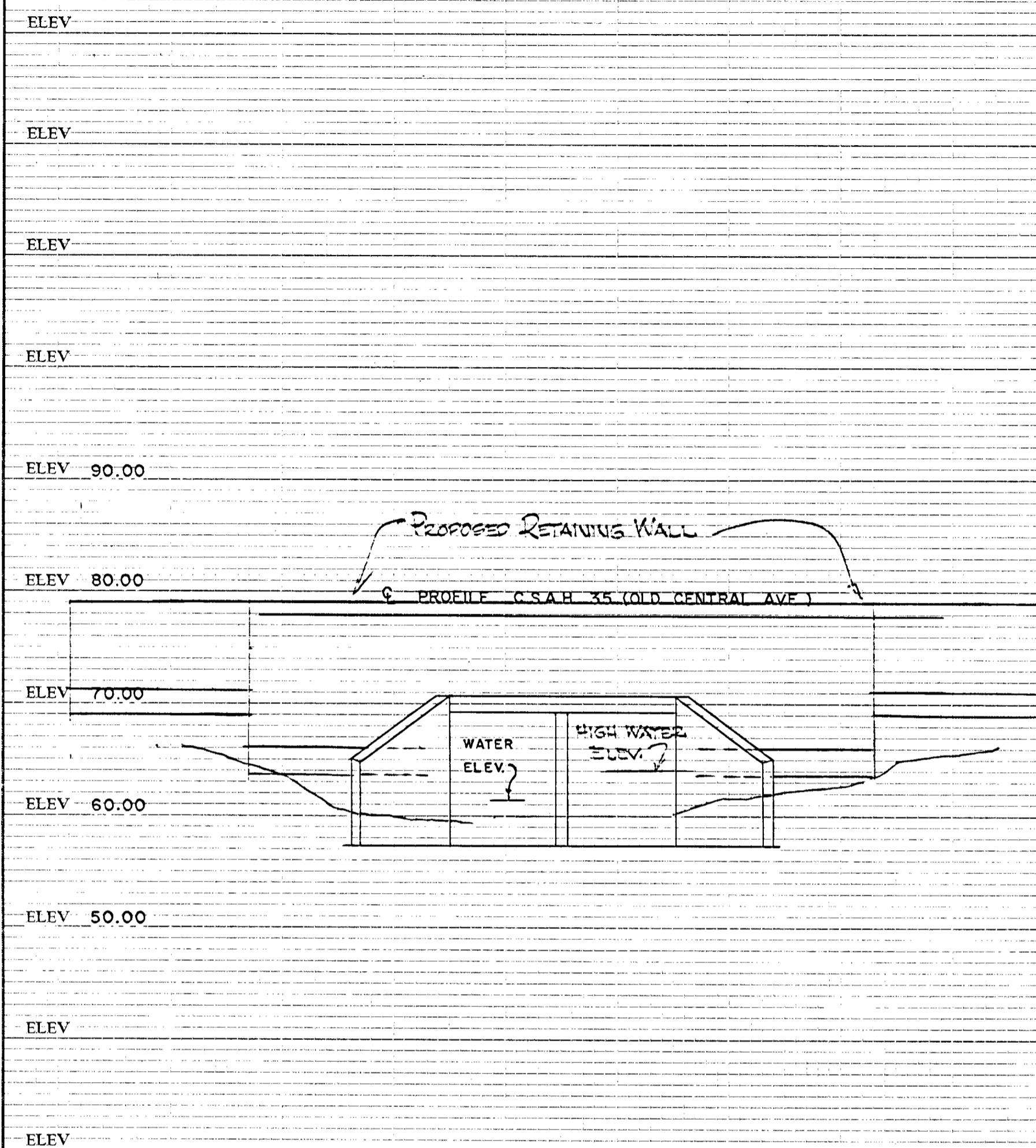
BRIDGE NO 3310
 DETAILS OF
 RETAINING WALLS

APPROVED

NOTE:
 RETAINING WALL DESIGN AS PER M.H.D. FIG. E-1 291-561
 CAULVERTED RETAINING WALLS - 2 FT. LIVE LOAD SURCHARGE - WITH PILING.

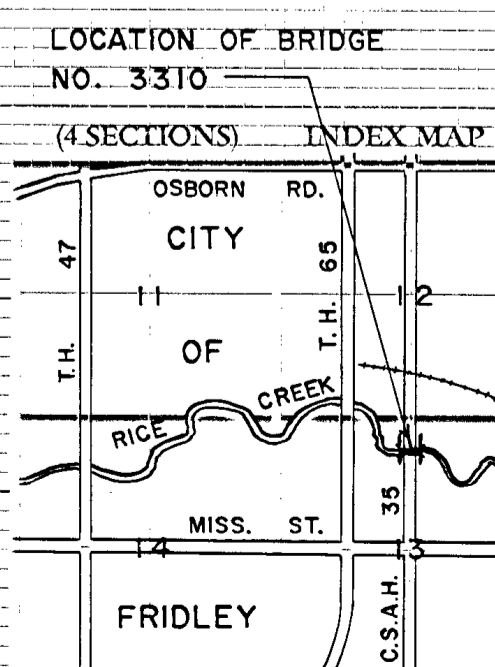
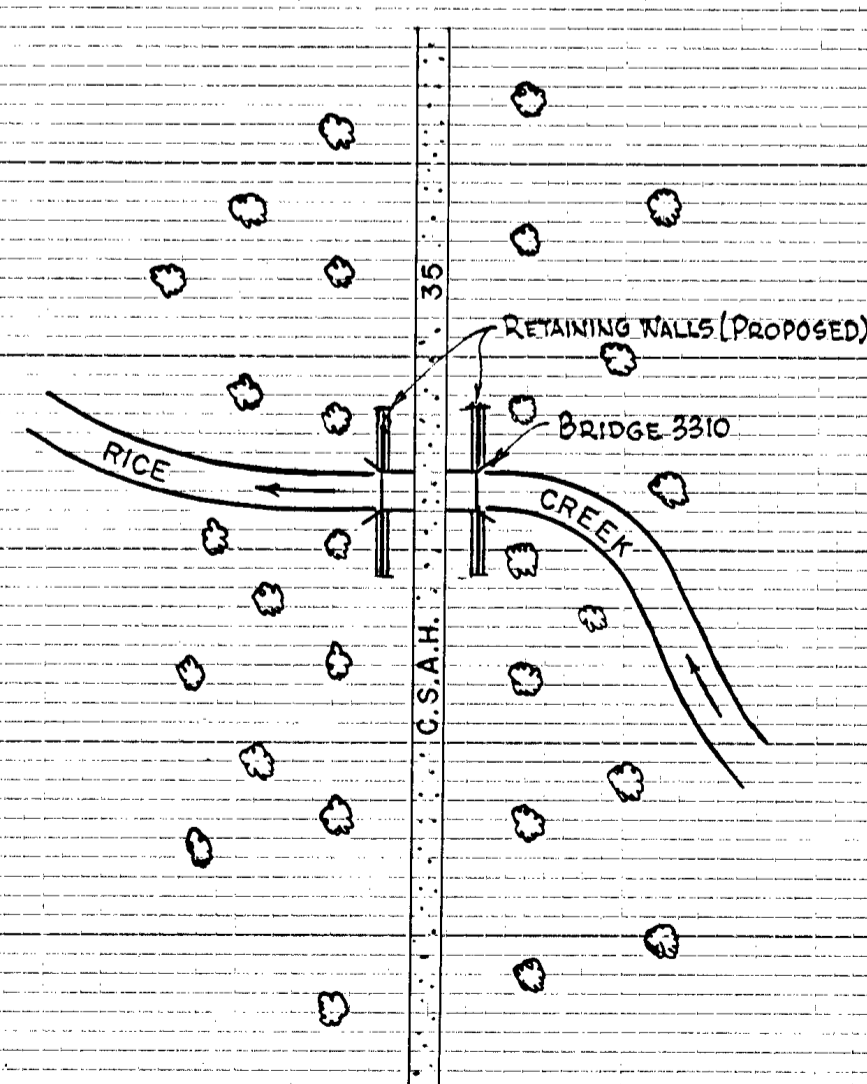
CONTRACTED PROFILE

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



PLAT

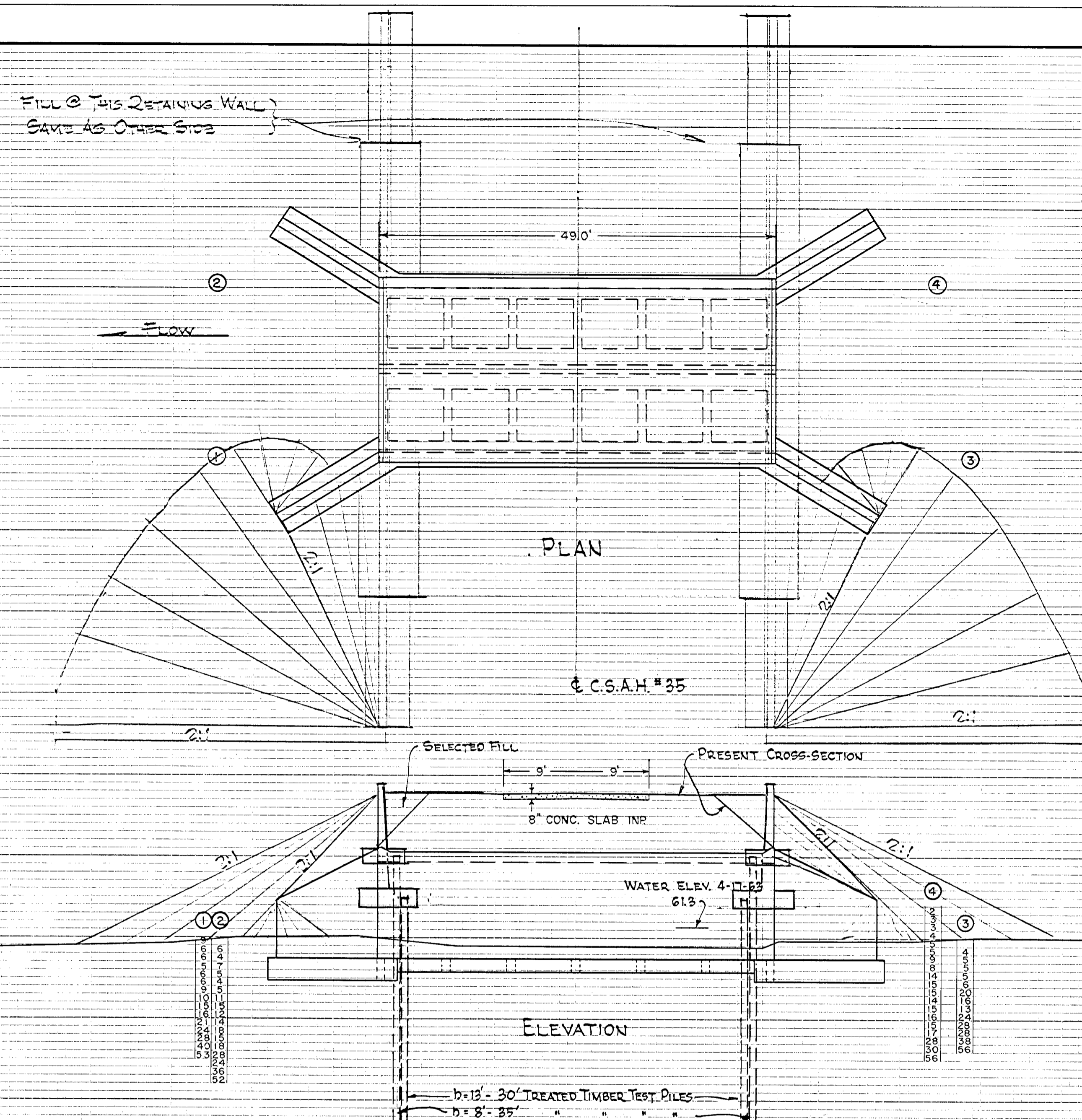
SCALE: 1" = 100'



PLAN AND PROFILE

SCALE: 1" = 10'

CENTER LINE OF LAYOUT



ELEV

ELEV

ELEV 80.00

ELEV 70.00

ELEV 60.00

ELEV 50.00

ELEV

ELEV

ELEV

B. M. ELEV. 64.00
SPIKE IN 8" ELM.
40' W.S.W. OF S.W. COR. CULV.

NOTE: SOUNDINGS TAKEN WITH 50 LB. HAMMER, 2' DROP, 1/2" STD. ROD

NOTE:
FOR TOPOGRAPHY & UTILITIES SEE
SH. 225

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

DATA

- Preliminary recommendations of Engineer in charge of Bridge Survey:
 - Net span length and type of bridge.
 - Width of roadway on bridge.
 - Number and width of sidewalks, if any.
 - Locate center of bridge at station.
 - If a skew bridge is recommended, the angle of skew should be.
 - Is piling required?
- Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
- Changes: In height or length from that of old bridge, and reasons why.

DATA (Contd.)

- Other bridges in vicinity:
 - 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.
 - Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age.
 - Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be.
- If structure is over a drainage ditch, is ditch gradient liable to be altered?
- Navigation clearances required, if any.
- Information and evidence in regard to high water stages was obtained as follows.
- Must contractor provide for traffic during construction of proposed bridge? If so, by what means?

HIGH AND LOW WATER ELEVATIONS

Data obtained from..... reflects highest water elevation in the area of this construction to be..... and the lowest water elevation to be..... The above figures are for informational purposes only. The state neither warrants nor represents that these figures for high water or low water are in any way indicative of the high water or low water to be expected or encountered during this construction.

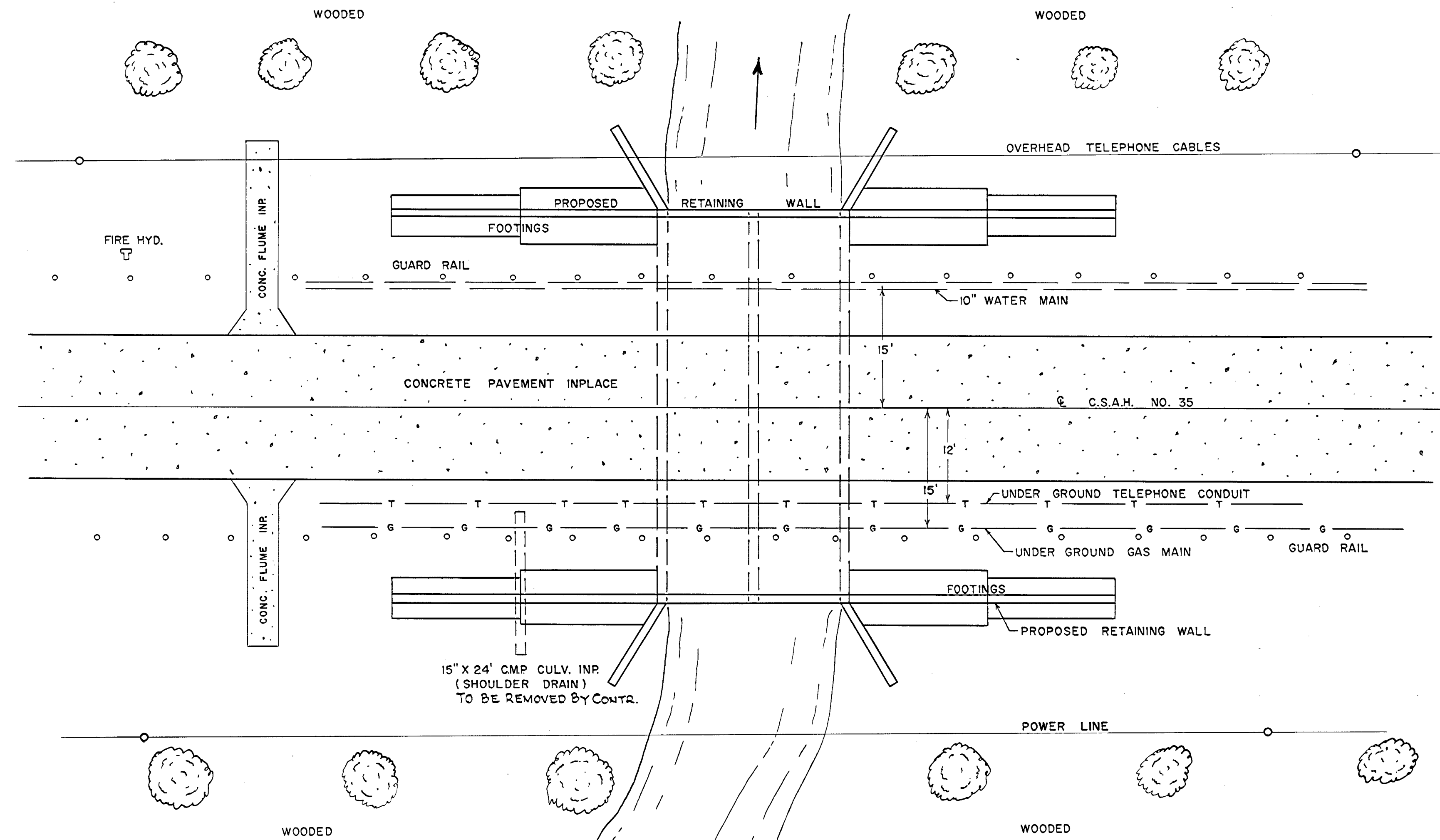
SHIPPING POINT

Proposed Bridge is..... miles..... of..... which is the nearest Railroad shipping point.
*(Give name of town, station or siding)

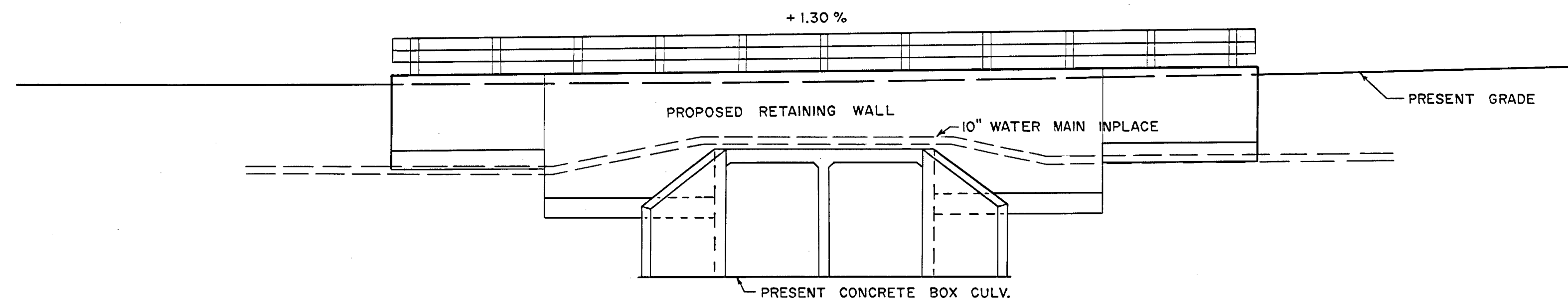
8-27-68
Date
E. Lundheim
Project or County Engineer
District Engineer

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
BRIDGE SURVEY
FOR
PROPOSED RETAINING WALL AT BRIDGE #3310 @
FRIDLEY ON C.S.A.H. #35
(TOWN OR CITY) (T.H., S.A.R. OR C.A.R. NUMBER)
SEC. 13 TWP. 30 R. 24
TOWNSHIP FRIDLEY COUNTY ANOKA
SURVEY MADE DURING MONTH OF..... 19.....
SURVEY MADE BY.....
BRIDGE No. 3310

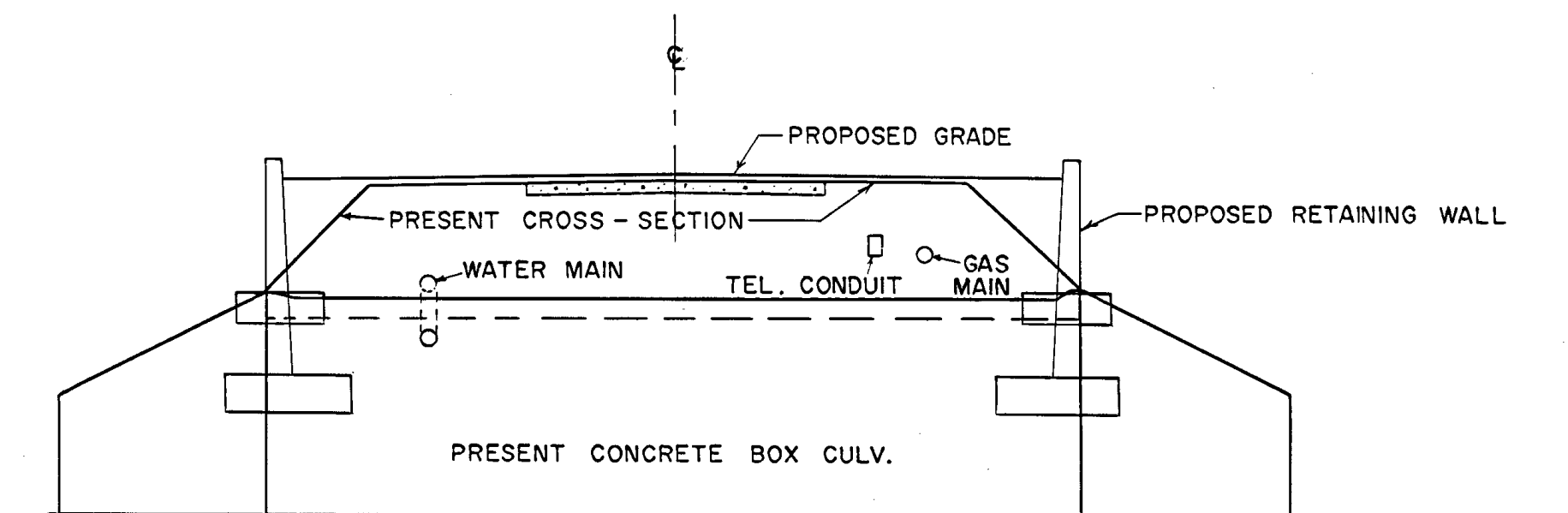
TOP VIEW



SIDE VIEW

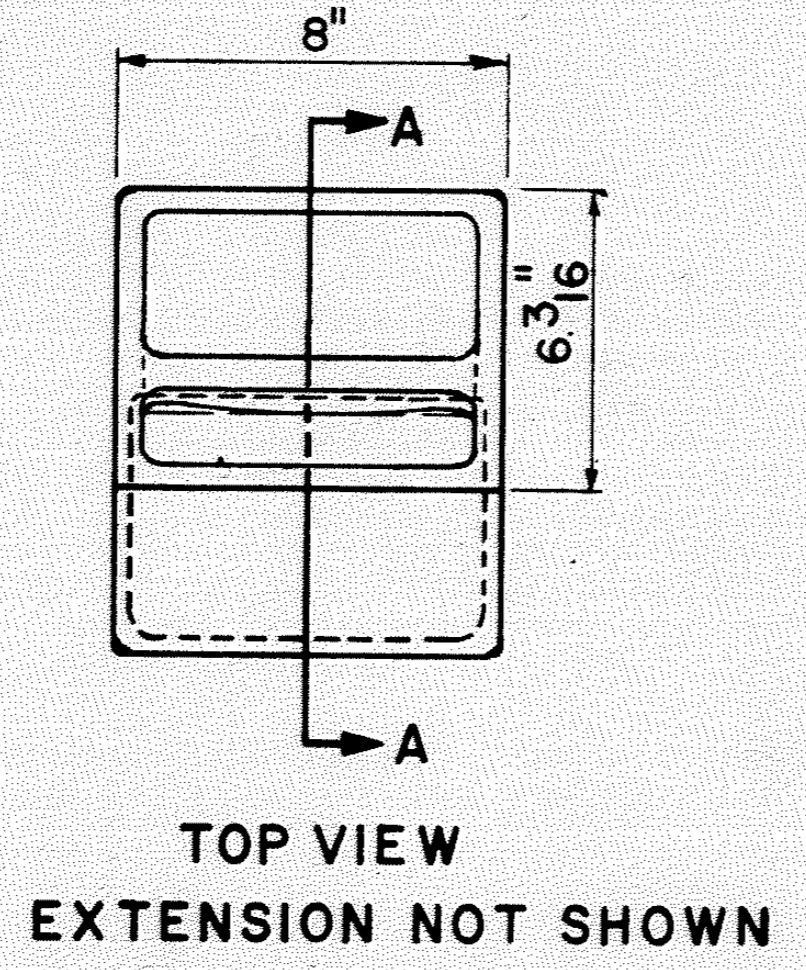
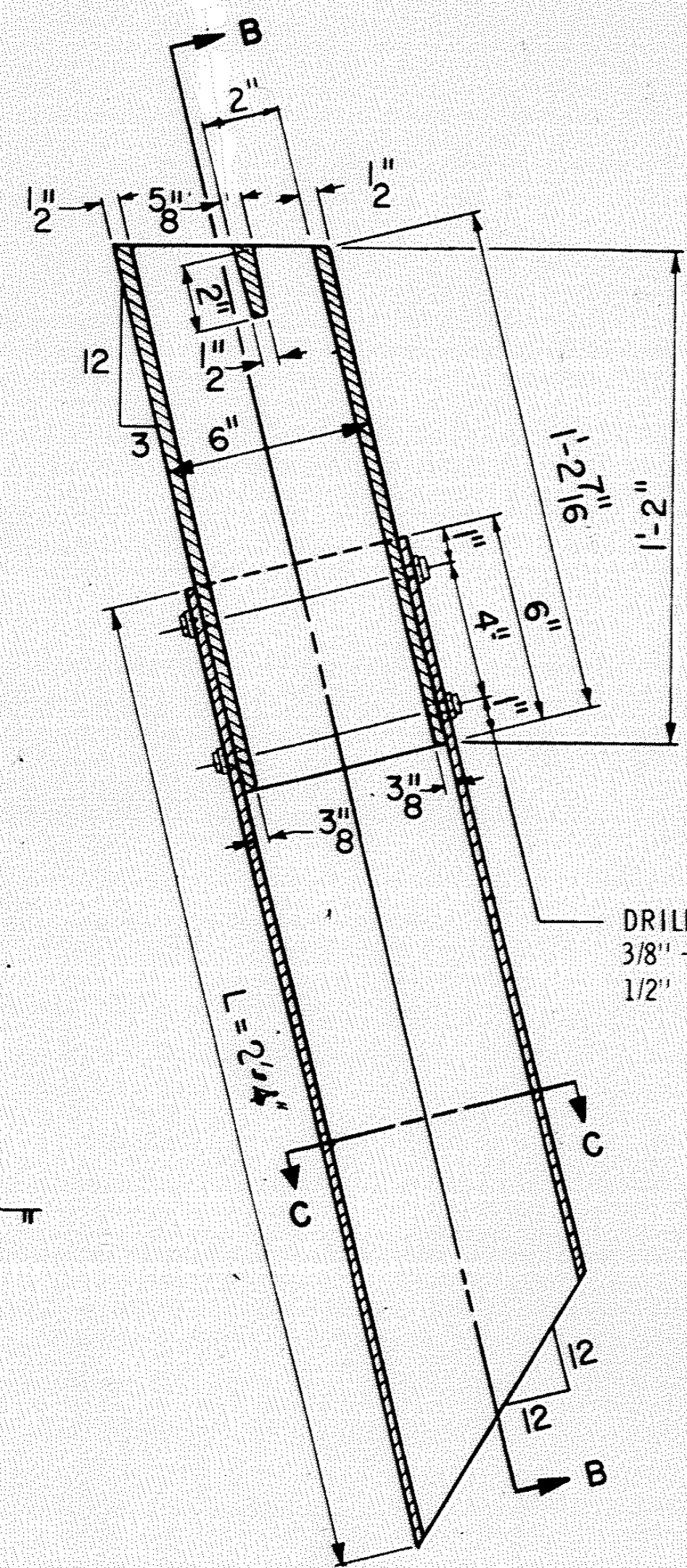


CROSS SECTION

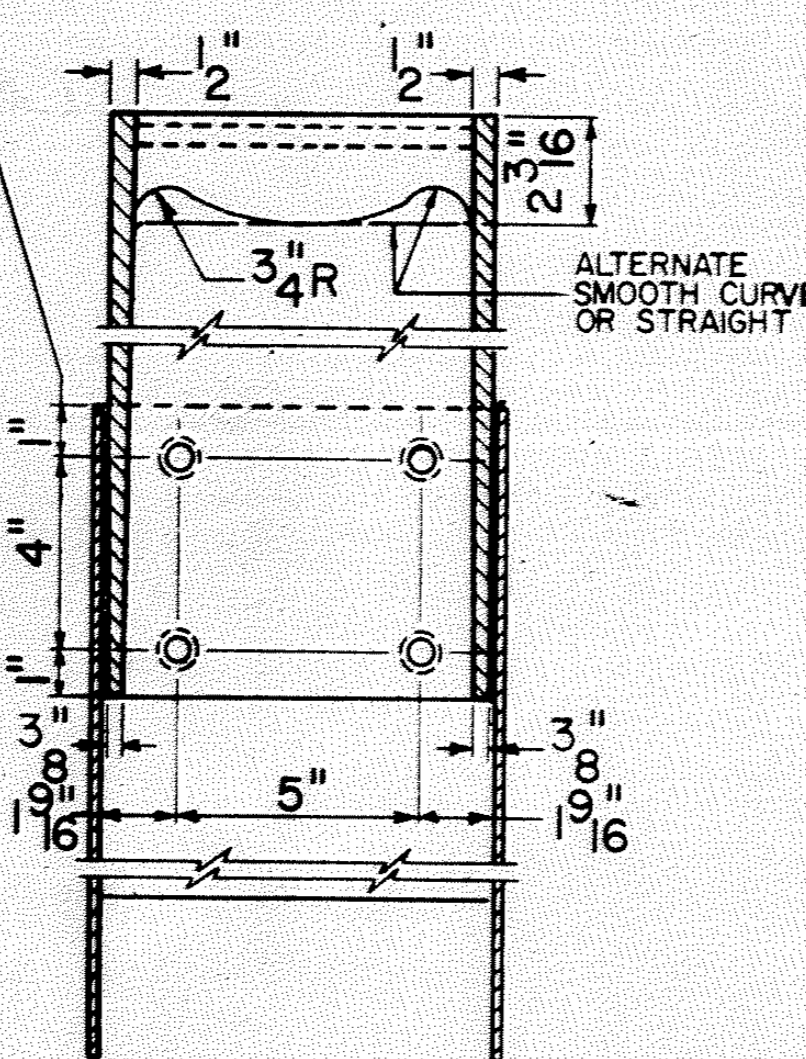


BRIDGE NO. 3310
TOPOGRAPHY & UTILITIES

SCALE 1"=10'



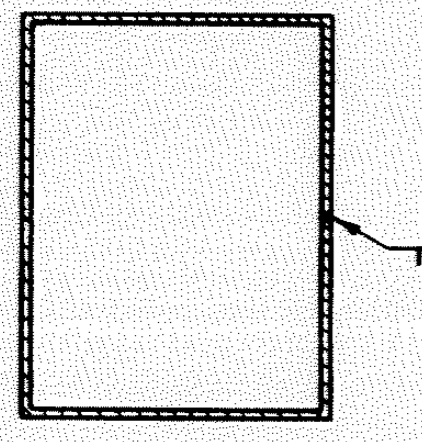
TOP VIEW
EXTENSION NOT SHOWN



SECTION B-B

DRILL AND TAP FOR
3/8" - 16 N.C. CAP SCREW
1/2" LONG 8 HOLES

ALTERNATE
SMOOTH CURVE
OR STRAIGHT



SECTION C-C

SECTION A-A

MATERIAL:
CASTING:
GRAY IRON CASTING PER M.H.D. 3321, CLASS 25.
HOT-DIP GALVANIZE AS PER M.H.D. 3394.
EXTENSION:
12 GA. STEEL PLATE.
HOT-DIP GALVANIZE AS PER M.H.D. 3394
AFTER FABRICATION.
8 - 3/8" - 16 N.C. HEX HEAD STAINLESS STEEL CAP
SCREWS, 1/2" LONG WITH GALVANIZED WASHERS.
SHOP INSPECTION BY M.H.D. BEFORE AND AFTER
GALVANIZING. NO PAINT.
ALL MATERIAL SHOWN ON THIS DETAIL SHALL BE
INCLUDED IN PRICE BID FOR "FLOOR DRAINS (TYPE II)"

DEPTH OF GIRDER	L
24"	1'-4"
27" 0/8"	1'-7"
30"	1'-10"
33"	2'-1"
36"	2'-4"
45"	3'-0"
54"	3'-11"

TYPE II

APPROVED 12-29-59
A. P. Van Bente
BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
CAST IRON FLOOR DRAIN AND EXTENSION
FOR BRIDGES.

REVISIONS
9/7/62 - A
9/17/62 - B
DETAIL NO
B16B

PLANS PREPARED BY
ROBERT E. ERICKSON ENGINEERING CO.
2340 REPUBLIC AVE. ST. LOUIS PARK, MINN.
CSA.H. NO 85 ANOKA COUNTY
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
BRIDGE NO 8310
DETAIL - C. I. FLOOR DRAIN
WITH EXT. TYPE II
APPROVED