

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR **CULVERT 95167**

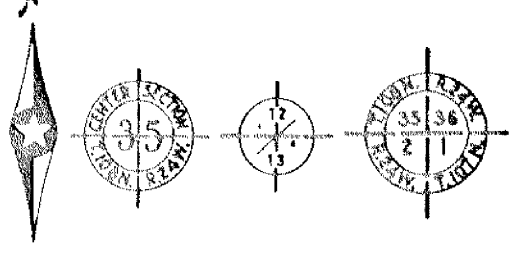
County State Aid Highway No. **22**

LOCATED 0.4 MILES EAST OF JUNCTION COUNTY ROAD 67  
38C-27 T33N R24W

GROSS LENGTH 100.00 FEET 0.019 MILES  
BRIDGES-LENGTH            FEET            MILES  
EXCEPTIONS-LENGTH 100.00 FEET            MILES  
NET LENGTH 100.00 FEET 0.019 MILES

INDEX OF SHEETS  
Sheet No. Title Sheet & Layout Map  
1-3 CULVERT PLANS

- CONVENTIONAL SIGNS**
- STATE LINE
  - COUNTY LINE
  - TOWNSHIP OR RANGE LINE
  - SECTION LINE
  - QUARTER LINE
  - SIXTEENTH LINE
  - RIGHT-OF-WAY LINE
  - PRESERVATION RIGHT-OF-WAY LINE
  - CONTROL OF ACCESS LINE
  - PROPERTY LINE (EXCEPT LINDS)
  - VACATED PLATTED PROPERTY
  - CORPORATE OR CITY LIMITS
  - TRUNK HIGHWAY CENTER LINE
  - RETAINING WALL
  - RAILROAD
  - RAILROAD RIGHT-OF-WAY LINE
  - RIVER OR CREEK
  - DRY RUN
  - DRAINAGE DITCH
  - ELECTRIC POWER LINE
  - TELEPHONE OR TELEGRAM LINE
  - JOINT TELEPHONE AND POWER
  - CONDUIT
  - TELEPHONE CABLE AERIAL
  - TELEPHONE CABLE UNDERGROUND
  - POWER CABLE UNDERGROUND
  - GAS MAIN
  - CULVERT
  - DROP INLET
  - GUARD RAIL
  - BARBED WIRE FENCE
  - WOVEN WIRE FENCE
  - CHAIN LINK FENCE
  - RAILROAD SNOW FENCE
  - STONE WALL OR FENCE
  - WEIR
  - WATER PIPE
  - SEWER PIPE
  - DRAIN TILE
  - SPRINGS
  - MARSH
  - TIMBER
  - ORCHARD
  - BRUSH
  - NURSERY
  - CATCH BASIN
  - MANHOLE
  - FIRE HYDRANT
  - STREET LIGHT
  - RAILROAD CROSSING SIGN
  - RAILROAD CROSSING BELL
  - ELECTRIC WARNING SIGN
  - CROSSING GATE
  - CATTLE GUARD
  - OVERPASS (Highway Over)
  - UNDERPASS (Highway Under)
  - BRIDGE
  - BUILDING (One Story Frame)
  - F FRAME
  - S STONE
  - T TILE
  - B BRICK
  - ST STUCCO
  - IRON PIPE OR ROD
  - MONUMENT (STONE, CONCRETE, OR METAL)
  - WOODEN HUB
  - GRANITE PIT
  - SAND PIT
  - GRAVEL PIT
  - ROCK QUARRY
  - MEANDER CORNER



CULVERT NO. 95167  
STA. 10+00.00

**DESIGN DESIGNATION**

ADT (CURRENT YEAR) \_\_\_\_\_

ADT (FUTURE YEAR) \_\_\_\_\_

T (HEAVY COMMERCIAL) \_\_\_\_\_

\_\_\_\_\_ Ton Design Soil Factor \_\_\_\_\_

Design Speed \_\_\_\_\_ MPH

Design Speed not achieved at:

STA \_\_\_\_\_ TO STA \_\_\_\_\_ MPH \_\_\_\_\_

STA \_\_\_\_\_ TO STA \_\_\_\_\_ MPH \_\_\_\_\_

SPECIFICATIONS  
THE "STANDARD" SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, DATED JAN. 1, 1978, SHALL GOVERN

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

PLANS & R/W APPROVED \_\_\_\_\_ DATE 2-11-80

Paul K. Rusk COUNTY ENGINEER

\_\_\_\_\_ COUNTY REG. NO. 6549

RECOMMENDED FOR APPROVAL \_\_\_\_\_ 19\_\_\_\_

DISTRICT STATE AID ENGINEER

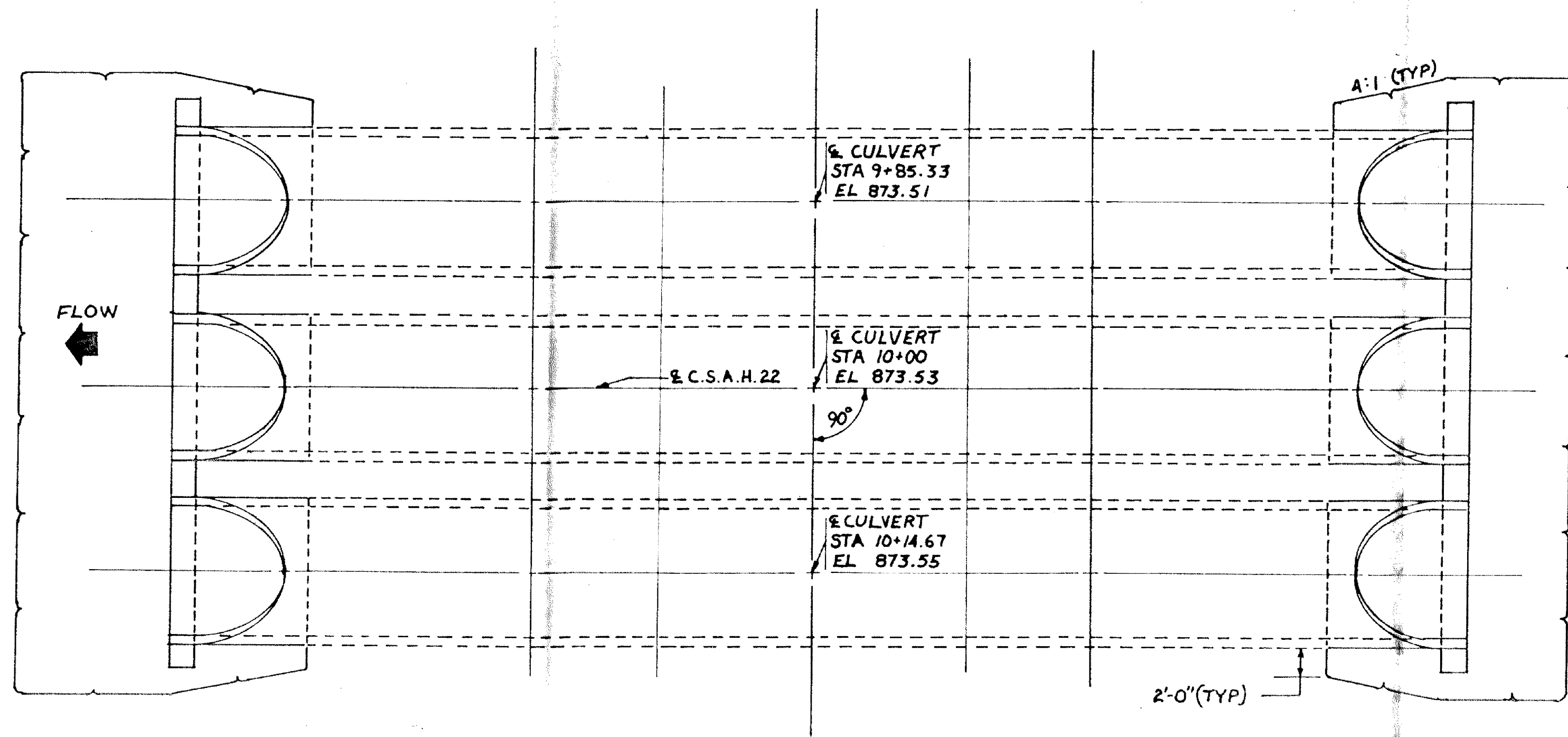
RECOMMENDED FOR APPROVAL \_\_\_\_\_ 19\_\_\_\_

APPROVED \_\_\_\_\_ 19\_\_\_\_

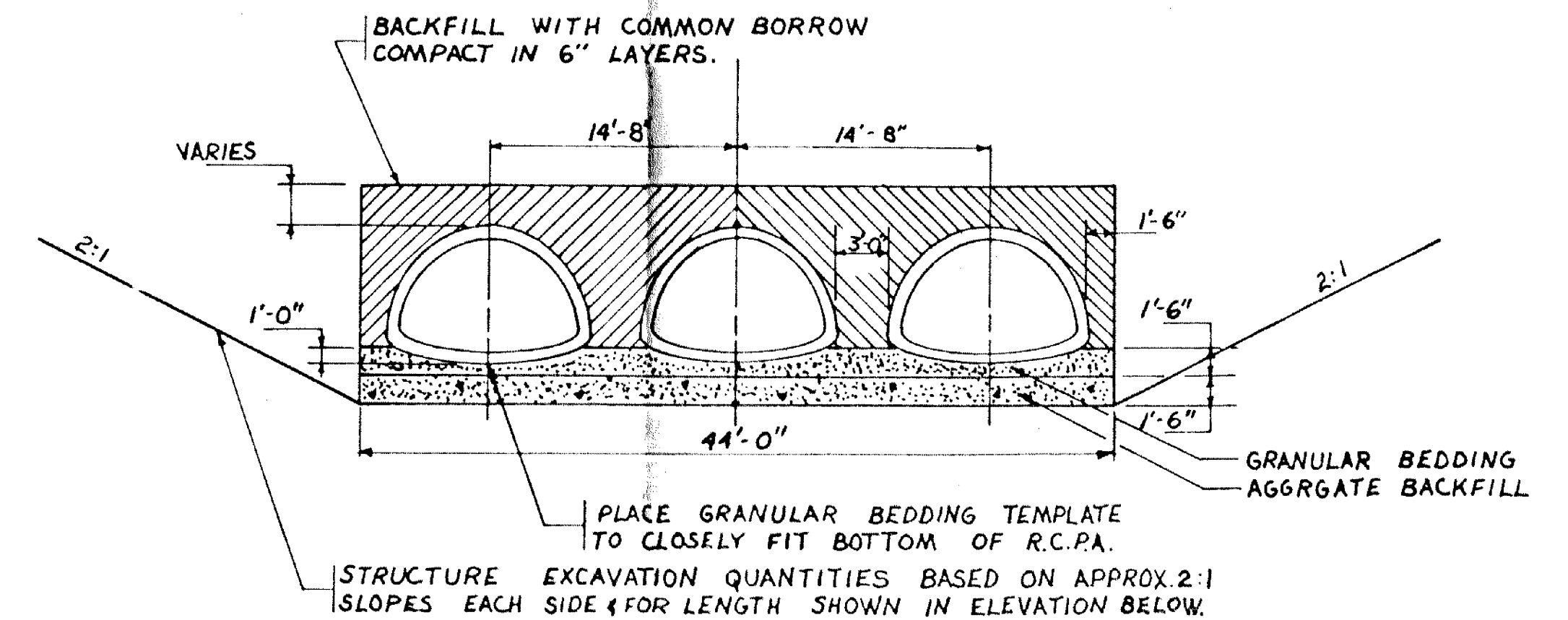
STATE AID ENGINEER

Minn. Proj. No. \_\_\_\_\_ County Proj. No. \_\_\_\_\_

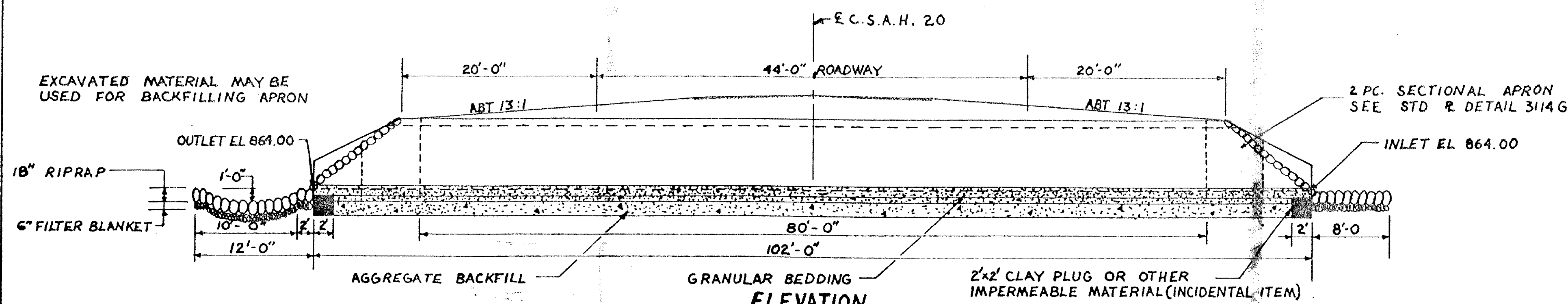
State Proj. No. 02-622-18 S.A.P. \_\_\_\_\_



PLAN  
SCALE 1/8" = 1'-0"



SECTION THRU CULVERT  
SCALE 1/8" = 1'



ELEVATION  
SCALE 1/8" = 1'-0"

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

APPROVED: *Paul K. Lund*  
COUNTY ENGINEER  
ANOKA COUNTY  
DATE: \_\_\_\_\_

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

*Robert K. Torgler*  
DATE: 7-2-72 REG. NO. 5224

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

C.S.A.H. 22 ANOKA COUNTY  
MINNESOTA DEPARTMENT  
OF TRANSPORTATION

CULVERT NO. 95167  
LOCATED ON C.S.A.H. 22 0.4 MILES  
EAST OF JCT OF CR. 67

IDENT. NO. 115  
SEC. 27 TWP 33N R 24W  
TOWNSHIP: OAK GROVE COUNTY: ANOKA  
APPROVED: \_\_\_\_\_  
BRIDGE ENGINEER

GENERAL PLAN & ELEVATION  
S.A. 02-622-18 R5637(1)  
SHEET NO. 1 OF 3 SHEET

THE PLACING OF THE FILTER BLANKET MAY BE ELIMINATED IF IN THE OPINION OF THE ENGINEER THE MATERIAL IN PLACE WILL DRAIN PROPERLY WITHOUT SCOURING.

LIMITS OF RANDOM RIPRAP AS SHOWN ARE APPROX. ONLY EXACT LIMITS ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

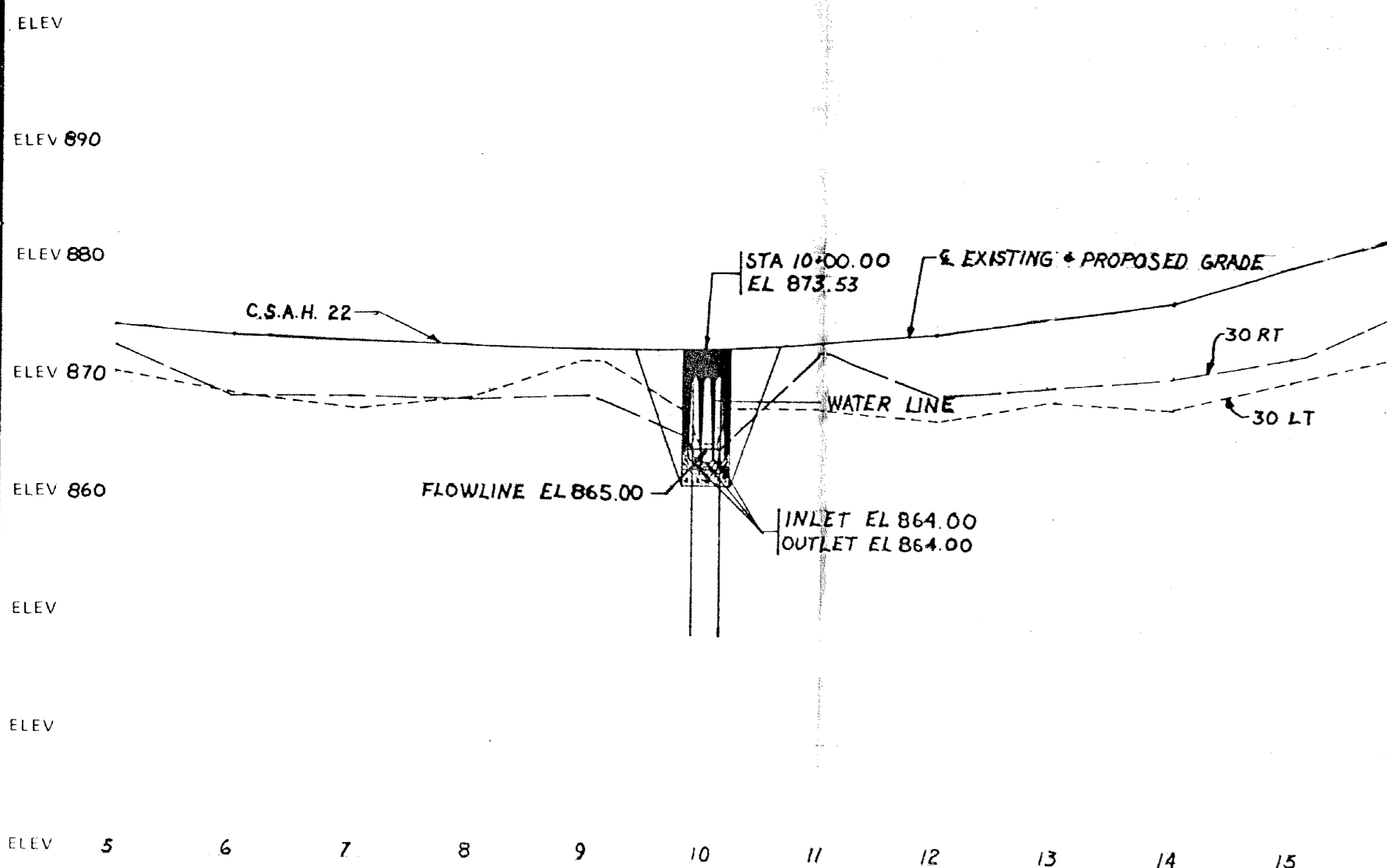
ESTIMATED QUANTITIES					
ITEM NO.	ITEM	UNIT	PARTICIPATING	NON-PARTICIPATING	TOTAL
2105.523	COMMON BORROW (C.V.)	CU. YD.	1000	200	1200
2451.501	STRUCTURE EXCAVATION CLASS U	CU. YD.	900		900
2442.501	REMOVE OLD BRIDGE #90719	LUMP SUM.		1	1
2451.505	AGGREGATE BACKFILL (C.V.)	CU. YD.	240		240
2451.507	GRANULAR BEDDING (C.V.)	CU. YD.	170		170
2501.521	F41 122" SPAN R.C.P.A. CULVERT	LIN. FT.	240		240
2501.525	F41 122" SPAN R.C.P.A. APRONS	EACH	6		6
2511.501	RANDOM RIPRAP CLASS B	CU. YD.	80		80
2511.504	FILTER BLANKET TYPE 1	CU. YD.	20		20

NOTE:  
AN APPROVED AGGREGATE MAY BE SUBSTITUTED FOR AGGREGATE BACKFILL PENDING APPROVAL OF THE ENGINEER IN THE FIELD.

STANDARD PLATES AS APPROVED BY F.H.W.A. SHALL APPLY STANDARD PLATES	
0002A	SPECIFICATION REFERENCES TO STANDARD PLATES.
3014 H	REINFORCED CONCRETE PIPE-ARCH DETAIL.
3114 G	SECTIONAL CONCRETE APRON FOR R.C.P.A.
3145 A	CONCRETE PIPE JOINT TIES.
8000 F	STANDARD BARRICADES.

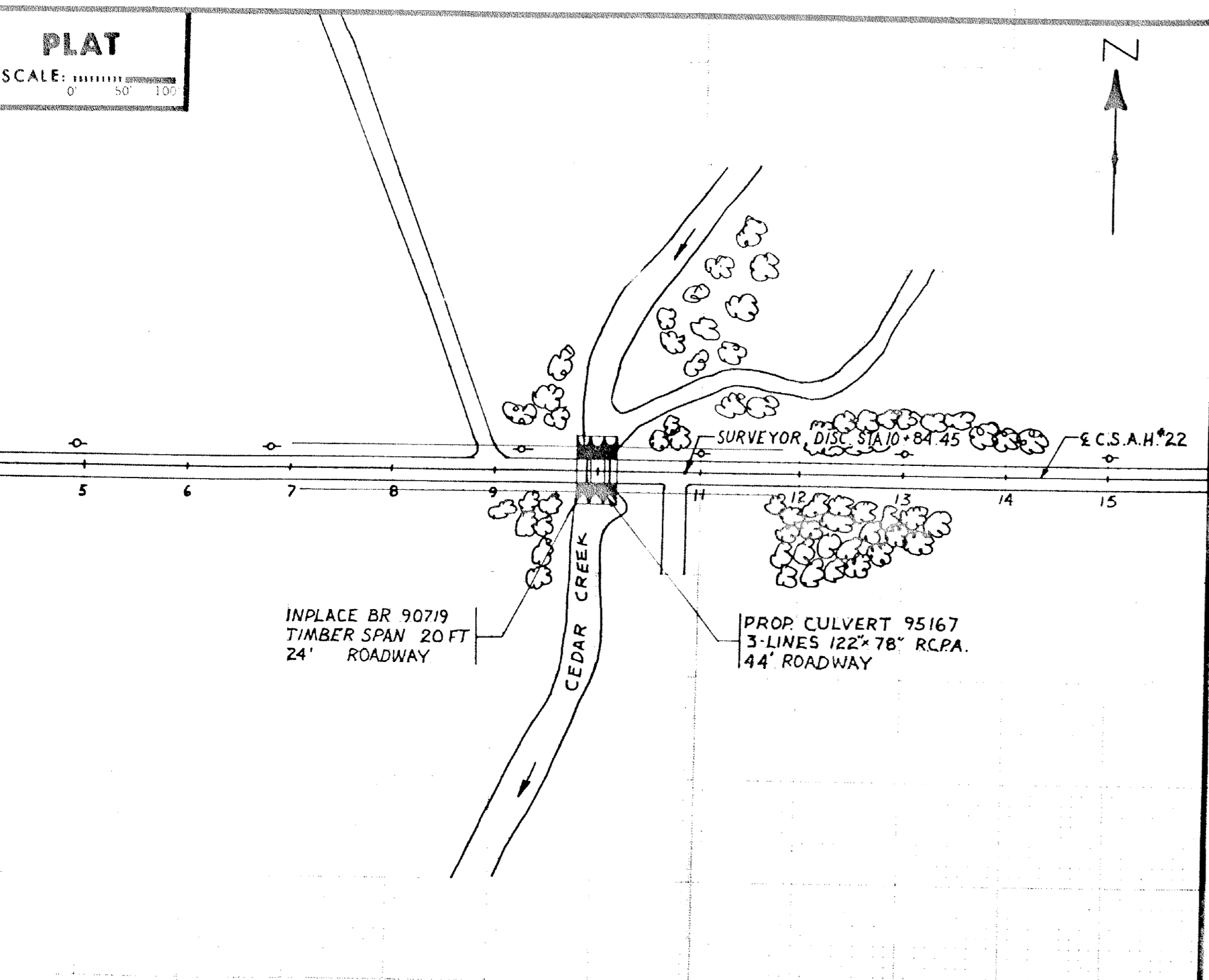
**CONTRACTED PROFILE**

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



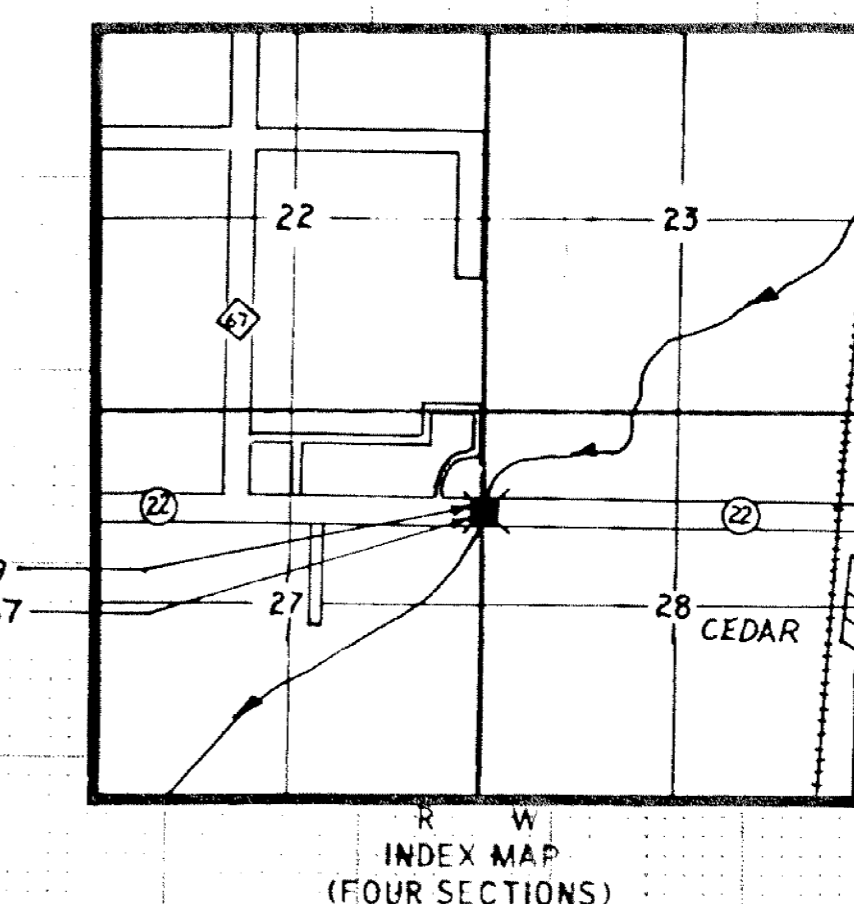
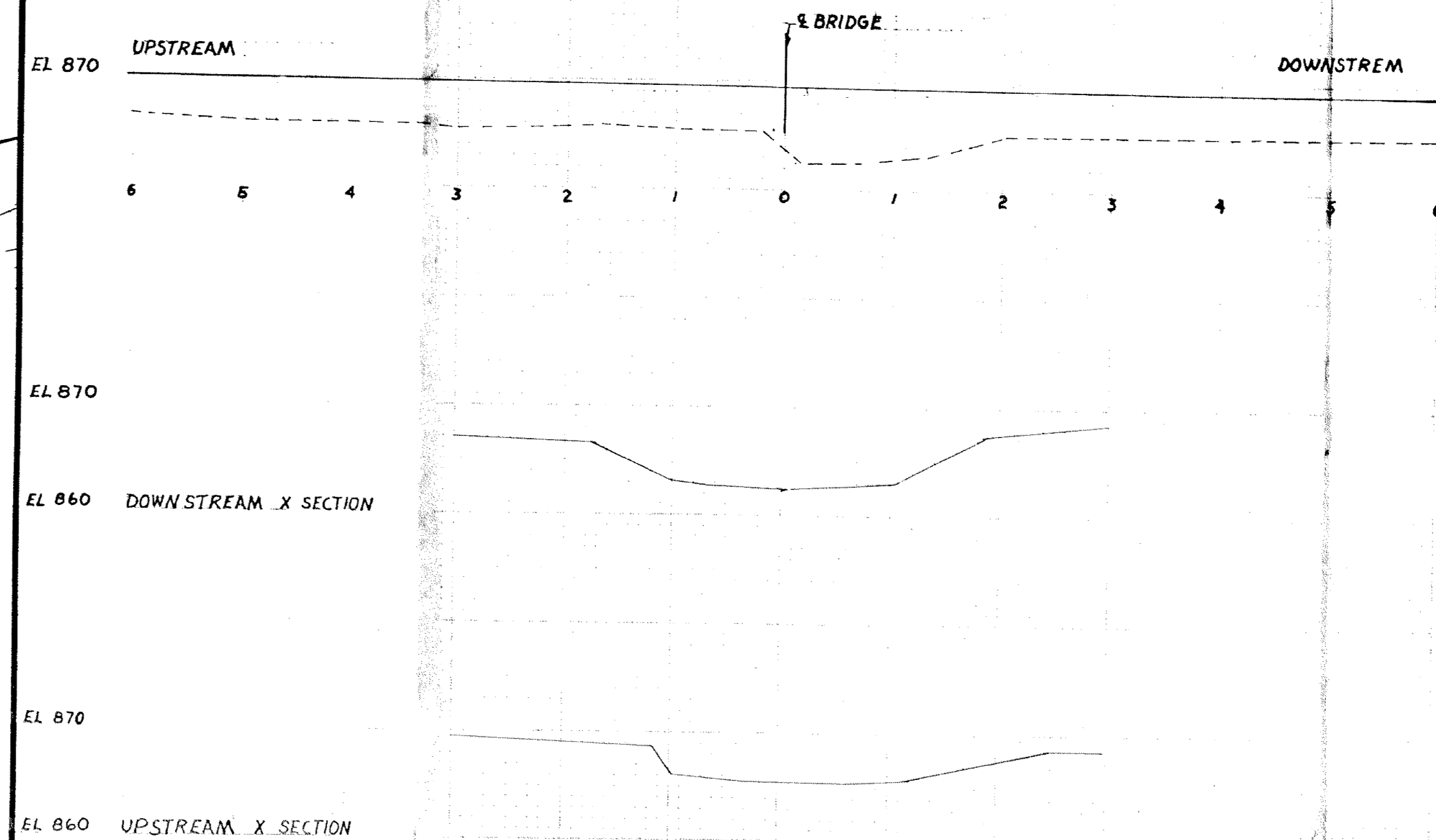
**PLAT**

SCALE: 1" = 100'



**TYPICAL SECTIONS & PERTINENT DATA**

SCALES AS SHOWN



Fed. Proj. No. *RS 6371( )*

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.
- Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway): Given location, type, length, height above high water, cross sectional area etc.
- Apparent highwater elevation ..... Obtained from .....
- Other data: Approx. velocity of water at time of survey .....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE .....

Stream or ditch designation *.. CEDAR CREEK ..*  
 Drainage area *.. 68 SQ. MI. ..*  
 Max. flood on record *.. UNK. ..* Design flood ( *.. 50 ..* yr. freq.) *.. 834 ..* C.F.S.  
 Max. observed highwater elevation *.. UNK. ..* Design highwater elevation ..  
 Design mean velocity through structure *.. 3.2 ..* F.P.S.  
 Low superstructure at or above elevation ..  
 Flowline elevation *.. 865.00 ..* Skew angle *.. NONE ..*  
 Waterway area req'd. below elevation .. Sq. Ft. at Rt. angles to channel:  
*.. INLET EL 864.00 ..*  
 In the interest of flood plain zoning the regional flood (100 yr. freq.) is *.. 1000 ..* C.F.S. at stage *.. 872.30 ..* and mean velocity of *.. 6.7 ..* F.P.S. with *.. 1:1 ..* Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

*3-LINES 122"x78" RCPA  
 44' ROADWAY  
 PROJ. ADT FOR 1999 = 2409*

Bridge survey sheets made from: *NOTES BY ERICKSON ENGINEERING*

Bench mark elevation *.. 872.36 ..* (M.S.L. 1929 Adj.)  
 Location *.. SIKE IN N.E. ABUT CURB ..*

MINNESOTA  
 DEPARTMENT OF TRANSPORTATION

**BRIDGE SURVEY**

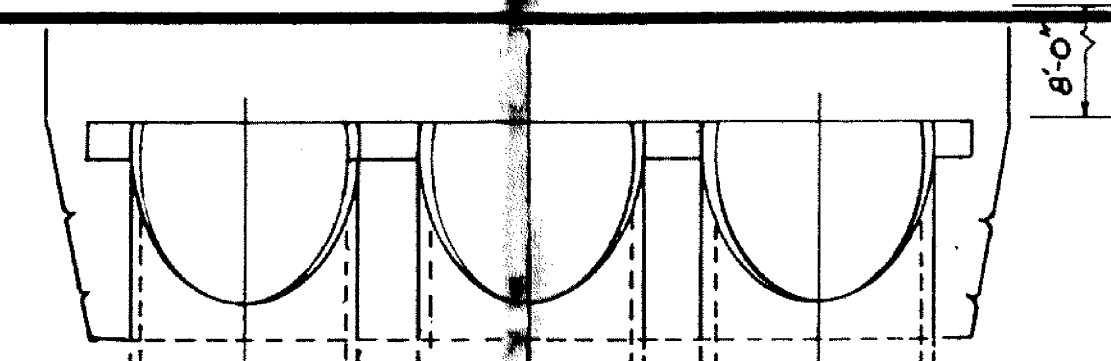
AT MILE POINT ..... ON *.. C.S.A.H. 22 ..*  
 (T.H. C.S.A.H. CR etc.)  
 PROPOSED BRIDGE LOCATED *.. 0.4 ..* MILES EAST ... OF  
*.. JCT CR 67 ..*  
 SEC. *.. 27 ..* TWP. *.. 33 N ..* R. *.. 24 W ..*  
 TOWNSHIP *.. OAK GROVE ..* COUNTY *.. ANDOKA ..*

BRIDGE NO. *.. 95167 ..*

Area No. Job No.

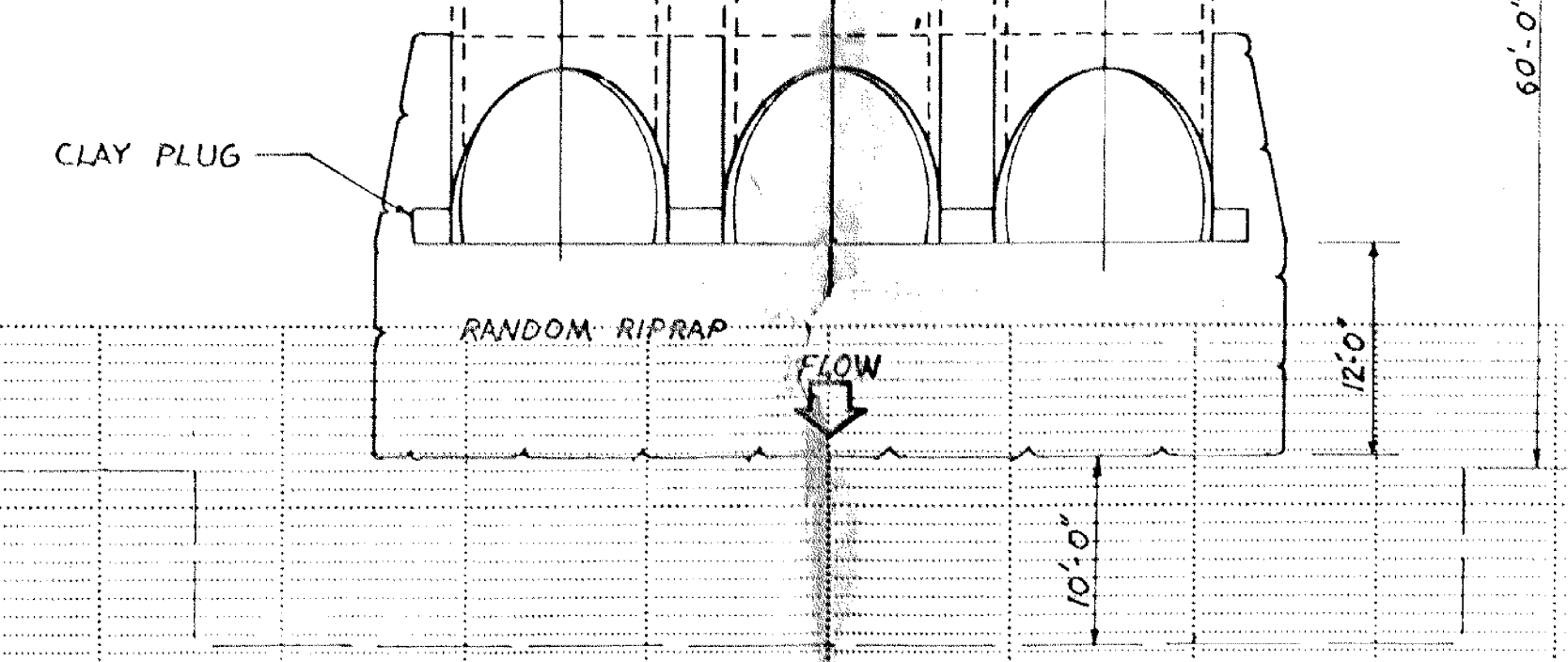
State Proj. No. *02-622-18*

Sheet No. 2 of 3 Sheets



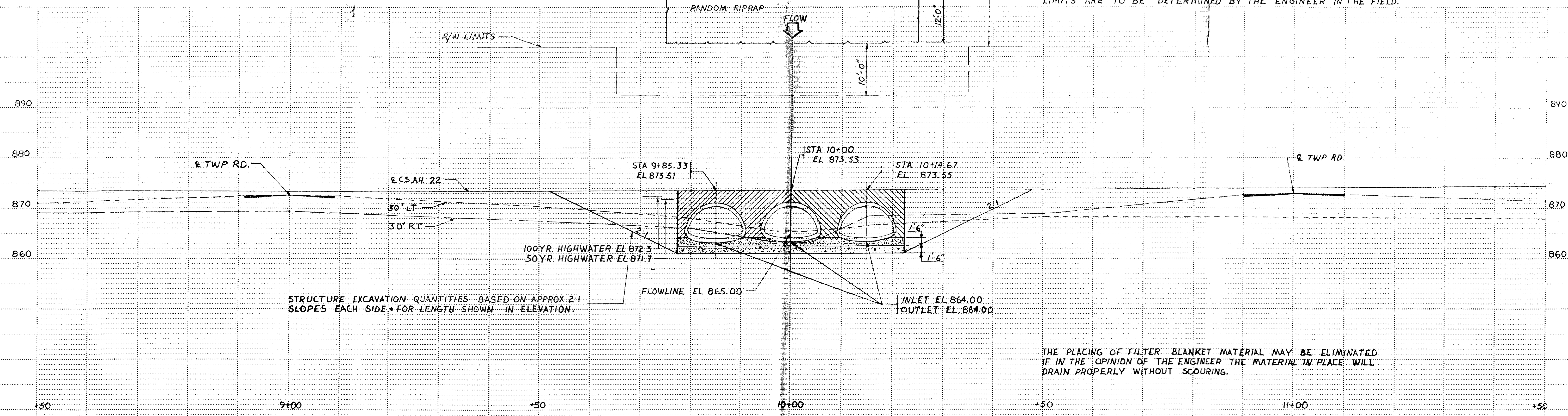
3 CULVERTS  
STA 10+00.00  
EL 873.53

± C.S.A.H. 22



LIMITS OF RANDOM RIPRAP AS SHOWN ARE APPROX. ONLY. EXACT LIMITS ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

R/W LIMITS



BRIDGE SURVEY PLAN AND PROFILE		DES:	DR:	APPROVED:	Bridge No. 95167
State Proj. No. <i>02-622-1B</i>		CHK:	CHK:		
Sheet No. 3 of 3 Sheets					