

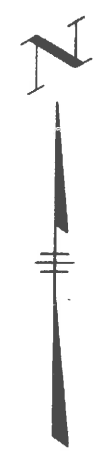
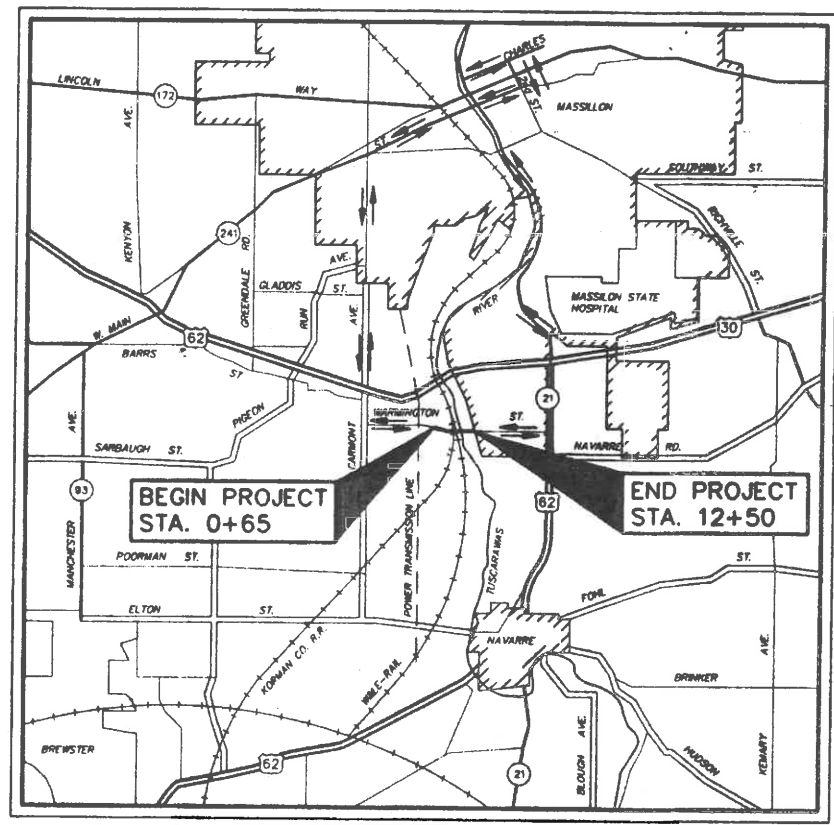
# STARK COUNTY WARMINGTON STREET(T-335A) BRIDGE REPLACEMENT OVER THE TUSCARAWAS RIVER PERRY TOWNSHIP BRIDGE NO. PE-30-3

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT  
BRIDGE NO. PE-30-3

**INDEX OF SHEETS**

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LINE DATA	
BEGIN PROJECT	STA. 0+65
END PROJECT	STA. 12+50
PROJECT LENGTH	1185 L.F. OR 0.22 MI.



BOARD OF COMMISSIONERS  
STARK COUNTY

*Max M. Cuelli* Jan 22, 1993  
*Joseph A. Jackson* 1-22-93  
*W. H. Wether* 1-22-93

**1991 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON THE PLANS.

APPROVED: *Francis V. Fischer*  
 FRANCIS V. FISCHER, COUNTY ENGINEER  
 DATE: Jan 14, 1993

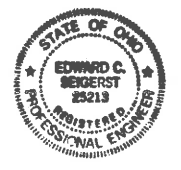
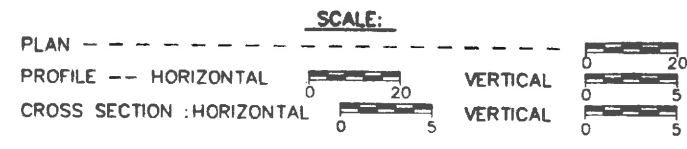
**CONVENTIONAL SYMBOLS**

- |   |  |
|---|--|
| <p>COUNTY LINE ————</p> <p>TOWNSHIP LINE - - - - -</p> <p>SECTION LINE - - - - -</p> <p>CORPORATION LINE - - - - -</p> <p>FENCE LINE EXIST. x-x-x-x PROP. x-x-x-x</p> <p>TREES STUMPS (TO BE REMOVED) [Symbol]</p> <p>CENTERLINE 10+00 11+00</p> <p>SANITARY SEWER SAN. ————</p> <p>MANHOLES: MH [Symbol] EXISTING [Symbol] CATCH BASIN OR INLET [Symbol]</p> <p>[Symbol] ADJUSTED [Symbol]</p> <p>[Symbol] PROPOSED [Symbol]</p> | <p>POLES: TELEPHONE [Symbol] POWER [Symbol] LIGHT [Symbol]</p> <p>RIGHT-OF-WAY ———— R/W</p> <p>EXIST. RIGHT-OF-WAY ———— R/W</p> <p>PROPERTY LINE ————</p> <p>RAILROAD [Symbol] OR [Symbol]</p> <p>GUARDRAIL: EXIST. [Symbol] PROP. [Symbol]</p> <p>WATER LINE ———— W ———— W</p> <p>GAS LINE ———— G ———— G</p> <p>STORM SEWER ———— S ———— S</p> <p>FIRE HYDRANT: EXIST. [Symbol] PROP. [Symbol]</p> |
|---|--|

**DETOUR AND LOCATION MAP**



- DETOUR - - - - -
- PORTION TO BE IMPROVED - - - - -
- STATE ROUTES - - - - -
- TOWNSHIP ROADS - - - - -
- COUNTY ROADS - - - - -
- FEDERAL ROUTES - - - - -



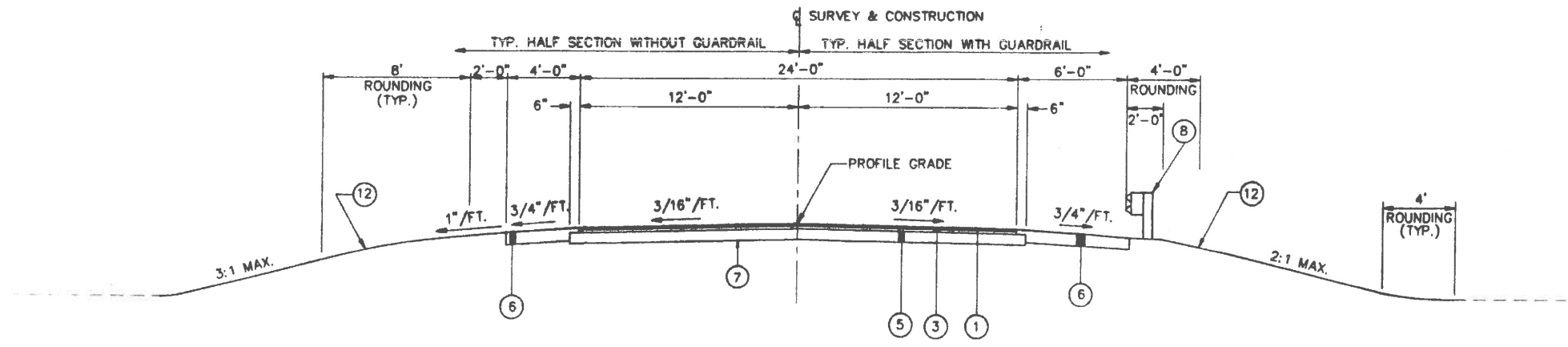
PLANS PREPARED BY:  
 FINKBEINER, PETTIS & STROUT, LTD.  
 Consulting Engineers  
 Akron, Toledo & Greensboro

**UNDERGROUND UTILITIES**  
 TWO WORKING DAYS  
 BEFORE YOU DIG  
 CALL  
 OHIO UTILITIES PROTECTION SERVICE  
 1-800-362-2764 (TOLL FREE)  
 NON-MEMBERS  
 MUST BE CALLED DIRECTLY

PROJECT : \_\_\_\_\_  
 DATE OF LETTING \_\_\_\_\_ 19\_\_\_\_, CONTRACT No. \_\_\_\_\_

**TYPICAL SECTIONS**

TYPE 404 ON 301



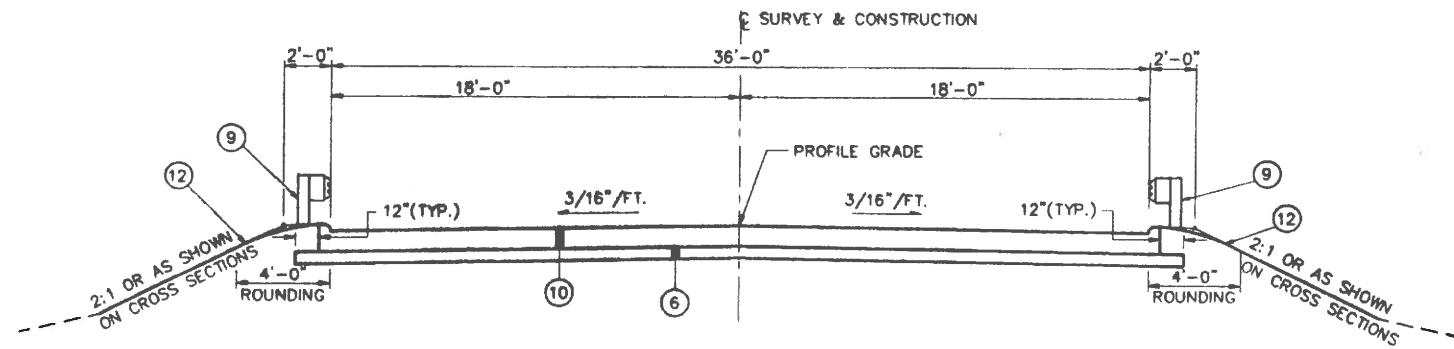
STA. 0+65 TO STA. 1+37.5 = 72.50 L.F.  
 STA. 1+46.5 TO STA. 3+20.38 = 173.88 L.F.  
 STA. 3+29.38 TO STA. 9+01 = 571.62 L.F.  
 STA. 11+43 TO STA. 12+50 = 107.00 L.F.  
 TOTAL = 925.00 L.F.

**NORMAL TYPICAL SECTION**  
N.T.S.

**PROPOSED LEGEND**

- ① ITEM 404 - 1 1/4" ASPHALT CONCRETE, AC-20
- ② ITEM 404 - 2" ASPHALT CONCRETE, AC-20 (DRIVEWAYS)
- ③ ITEM 402 - 1 3/4" ASPHALT CONCRETE, AC-20
- ④ ITEM 408 - BITUMINOUS PRIME COAT @ 0.40 GAL. PER SQ. YD.
- ⑤ ITEM 301 - 6" BITUMINOUS AGGREGATE BASE
- ⑥ ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN
- ⑦ ITEM 203 - SUBGRADE COMPACTION
- ⑧ ITEM 606 - GUARDRAIL, TYPE 5
- ⑨ ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE AA
- \* ⑩ ITEM 611 - REINFORCED CONCRETE APPROACH SLABS, T=12"
- ⑫ ITEM 659 - SEEDING AND MULCHING

\* COST FOR ITEM 611 REINFORCED CONCRETE SLAB SHALL INCLUDE THE COST FOR TYPE 4-A CONCRETE CURB AS PER STANDARD BRIDGE DRAWING AS-1-81



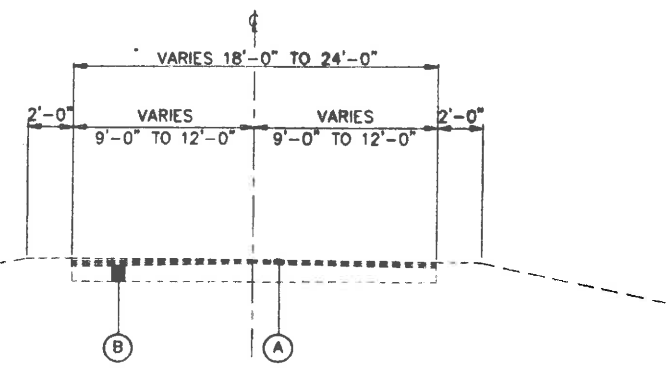
STA. 9+01.00 TO STA. 9+16.00 = 15.00 L.F.  
 STA. 11+28.00 TO STA. 11+43.00 = 15.00 L.F.  
 30.00 L.F.

**PROPOSED APPROACH SLAB SECTION**  
N.T.S.

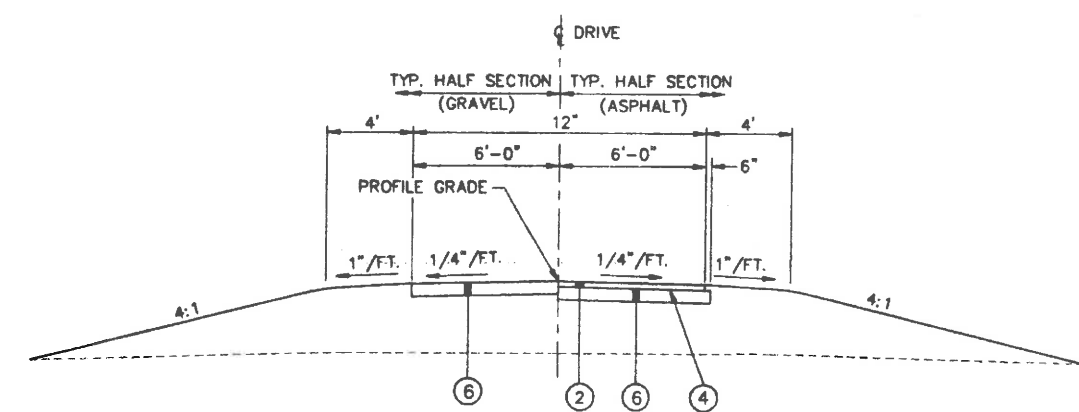
**EXISTING LEGEND**

- Ⓐ 2" TO 9" ASPHALT PAVEMENT
- Ⓑ 6" TO 7" CINDER BASE

N.T.S. = NOT TO SCALE



**EXISTING TYPICAL SECTION**  
N.T.S.



**PROPOSED DRIVE TYPICAL SECTION**  
N.T.S.

CAD FILE: WARTYRSC  
 DATE: 07/08/01  
 SCALE: 1/4" = 1'-0"

# GENERAL SUMMARY

**QUANTITIES**  
 CALC. BY: J.M.R. CHKD. BY: D.L.B.  
 DATE: 10/8/90 DATE: 11/9/91

STARK COUNTY  
 WARMINGTON STREET  
 BRIDGE REPLACEMENT

3  
34

\* FROM PAVEMENT CALCULATION SHEETS

ITEM	SHEET NUMBER										ITEM	ITEM EXT.	TOTAL QUANTITY	UNIT	DESCRIPTION
	4	6	12	*	14	15									
<b>ROADWAY</b>															
201											201	38000		LUMP	CLEARING AND GRUBBING
201		500									201	38000	500	LIN. FT.	GUARDRAIL REMOVED
203			254			2		19			203	11000	275	CU. YD.	EXCAVATION NOT INCL. EMBANKMENT CONSTRUCTION
203			12703			26		1049			203	20000	13778	CU. YD.	EMBANKMENT
203				608							203	50000	608	SQ. YD.	SUBGRADE COMPACTION
203	1580										203	10001	1580	CU. YD.	EXCAVATION, AS PER PLAN
203	1580										203	20001	1580	CU. YD.	EMBANKMENT, AS PER PLAN
SPEC.	1										SPECIAL		1	EACH	BENCHMARK RESET
606		4									606	25000	4	EACH	ANCHOR ASSEMBLY, TYPE A
606		850									606	13000	850	LIN. FT.	GUARDRAIL, TYPE 5
606		4									606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1
<b>EROSION CONTROL</b>															
207	50										207	70000	50	EACH	STRAW OR HAY BALES
207	50										207	40000	50	LIN. FT.	TEMPORARY SLOPE DRAIN
207	200										207	50000	200	CU. YD.	TEMPORARY BENCHES, DIKES, DAMS AND SEDIMENT BASINS
207	200										207	30000	200	LIN. FT.	FILTER FABRIC FENCE
601		1121				83		885			601	34100	1121	CU. YD.	ROCK CHANNEL PROTECTION, TYPE B WITHOUT FILTER
659			6095								659	10000	7063	SQ. YD.	SEEDING & MULCHING
<b>DRAINAGE</b>															
603		174									603	06100	174	LIN. FT.	15" CONDUIT, TYPE C
<b>PAVEMENT</b>															
301				428							301	10002	428	CU. YD.	BITUMINOUS AGGREGATE BASE, AC-20
304			99		130						304	20000	229	CU. YD.	AGGREGATE BASE
402					120						402	20000	120	CU. YD.	ASPHALT CONCRETE, AC-20
404					86						404	20000	86	CU. YD.	ASPHALT CONCRETE, AC-20
404			8								404	25000	8	CU. YD.	ASPHALT CONCRETE, AC-20 (DRIVEWAYS)
408			56								408	10000	56	GALLON	BITUMINOUS PRIME COAT
611		124									611	10000	124	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB (T=12")
<b>TRAFFIC CONTROL</b>															
404	5										404	35000	5	CU. YD.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
410	50										410	12000	50	CU. YD.	TRAFFIC COMPACTED SURFACE, TYPE A OR B
616	5										616	20000	5	TON	CALCIUM CHLORIDE
614											614	11000		LUMP	MAINTAINING TRAFFIC
619											619	10000		LUMP	FIELD OFFICE
623											623	10000		LUMP	CONSTRUCTION LAYOUT STAKES
624											624	10000		LUMP	MOBILIZATION
STRUCTURES 20 FT. SPAN AND OVER (FOR QUANTITIES SEE SHEET No. 17)															

CAD FILE : SENSUM1  
 DATE : 5/29/91  
 DRAWN BY : J.M.R.  
 CHECKED BY : D.L.B.

# GENERAL NOTES

QUANTITIES	
CALC. BY: ECS'	CHKD. BY: DLB
DATE: 1/3/91'	DATE: 1/3/91'

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT

4  
34

## FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING 300 SQUARE FEET OF FLOOR SPACE. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619 FIELD OFFICE.

## ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

## LOCATION OF GUARDRAIL

THE LOCATION OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

## SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, OR TO THE RIGHT-OF-WAY LINE, IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

## TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207	STRAW OR HAY BALES	50 EACH
ITEM 207	TEMPORARY SLOPE DRAINS	50 LIN. FT.
ITEM 207	TEMPORARY BENCHES, DIKES, DAMS AND SEDIMENT BASINS	200 CU. YD.
ITEM 207	FILTER FABRIC FENCE	200 LIN. FT.

## EROSION CONTROL

ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

## ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON THE USGS DATUM.

## CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER.

A CONTINGENCY ITEM IN THE AMOUNT OF \$50,000 IS INCLUDED IN THE CONTRACT. THE CONTINGENCY OR ANY PART THEREOF MAY ONLY BE USED UPON THE WRITTEN AUTHORIZATION OF THE COUNTY. THE PURPOSE OF THE CONTINGENCY IS TO INSURE THE COMPLETION OF THE PROJECT. THE CONTINGENCY ITEM MAY ONLY BE AUTHORIZED BY THE COUNTY IN THE EVENT THAT THE ESTIMATED QUANTITIES OF FILL AND REMOVAL ARE INSUFFICIENT TO COMPLETE THE PROJECT. IN THAT EVENT, THE COUNTY MAY, AT ITS SOLE DISCRETION, AUTHORIZE THE CONTRACTOR TO COMPLETE THE PROJECT AT THE UNIT PRICES BID IN THE CONTRACT PROVIDED THE PROJECT CAN BE COMPLETED WITHIN THE LIMITS OF THE CONTINGENCY FUND. AT THE TIME OF THE PROJECT CLOSEOUT, ANY UNUSED AMOUNTS REMAINING IN THE CONTINGENCY FUND SHALL BE CREDITED TO THE COUNTY. THE CONTINGENCY ITEM IS SOLELY FOR THE BENEFIT OF THE COUNTY.

## CONSTRUCTION METHODS

THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 203.09 OF THE CMS WHICH REQUIRES BENCHING OF SLOPES STEEPER THAN 8:1.

## CONNECTION TO EXISTING CONDUIT

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS.

## CROWN AT RAILROAD CROSSING

THE CROWN SHALL BE WORKED OUT OF THE PROPOSED FULL-DEPTH PAVEMENT ON EACH SIDE OF THE RAILROAD CROSSING, BEGINNING 50 FEET FROM THE CROSSING, BY RAISING THE EDGE OF THE NEW PAVEMENT TO MEET THE RAIL ELEVATION.

## RAILROAD CROSSING

THE PROPOSED ASPHALT CONCRETE RESURFACING COURSE(S) SHALL BE FEATHERED PER STANDARD CONSTRUCTION DRAWING BP-5 TO MEET THE RAILROAD GRADES, IF NECESSARY.

## CONDUIT END TREATMENT

IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE RIPRAP, ROCK CHANNEL PROTECTION, SODDING, ETC.

## REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE COUNTY, REPRESENTATIVES OF THE COUNTY AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE COUNTY.

ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE COUNTY.

ALL EXISTING SEWERS SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT WHICH EXISTED PRIOR TO ANY WORK BEING PERFORMED. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE PERTINENT 603 CONDUIT ITEMS OF THE CONTRACT.

## TREES OR STUMPS REMOVED

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE RIGHT-OF-WAY LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE UNIT PRICE BID FOR, ITEM 201 CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	13	0	13
30"	0	0	0
48"	0	0	0
60"	0	0	0

## SPECIFICATIONS

UNLESS OTHERWISE STATED, THE CONSTRUCTION AND MATERIAL SPECIFICATIONS ISSUED BY THE OHIO DEPARTMENT OF TRANSPORTATION 1991 EDITION SHALL BE FOLLOWED FOR THE CONSTRUCTION OF THE PROJECT.

## STAGE CONSTRUCTION

IN ORDER TO PROVIDE ACCESS AT ALL TIMES TO THE TRUCKING FIRM LOCATED RIGHT OF STA. 3+00 AND TO THE RESIDENTIAL DRIVES, THE CONTRACTOR SHALL CONSTRUCT THIS PROJECT IN PHASES. PHASE I SHALL CONSIST OF THE IMPROVEMENT OF WARMINGTON ROAD FROM STA. 0+65 TO STA. 3+20.38 DURING THIS TIME ACCESS FROM THE TRUCKING SITE SHALL BE MAINTAINED AT ALL TIMES. ALL TRAFFIC WILL USE THE EXISTING BRIDGE AND ROADWAY TO THE EAST. ONCE THE FIRST PHASE IS COMPLETED, ALL TRAFFIC SHALL BE DIRECTED WEST OVER THE PORTION THAT WAS COMPLETED UNDER PHASE I. NO CHANGE IN THE METHOD OF CONSTRUCTION PLANS SHALL BE PERMITTED WITHOUT THE WRITTEN PERMISSION OF THE STARK COUNTY ENGINEER.

## MAINTENANCE OF TRAFFIC

THRU TRAFFIC WILL BE DETOURED AS INDICATED ON SHEET No. 1 LOCAL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AS NOTED UNDER "STAGE CONSTRUCTION" NOTE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED TO ALLOW ACCESS TO THE PRIVATE DRIVES DURING THE TIME RECONSTRUCTION OF THE ROADWAY IS TAKING PLACE AND TO PROVIDE A TEMPORARY ROADWAY.

ITEM 410	TRAFFIC COMPACTED SURFACE TYPE A OR B	50 C.Y.
ITEM 616	CALCIUM CHLORIDE	5 TONS
ITEM 404	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	5 C.Y.

## SPECIAL EMBANKMENT SURCHARGE

THE PROPOSED PAVEMENT AREA BETWEEN STATION 4+75 AND STATION 8+25 SHALL BE PRELOADED WITH ADDITIONAL FILL MATERIAL. THIS ADDITIONAL PRELOAD FILL SHALL EXTEND A MINIMUM OF 3 FEET VERTICALLY ABOVE THE PROPOSED PROFILE AND OUT HORIZONTALLY 5 FEET BEYOND THE PROPOSED PAVEMENT FOR A MINIMUM WIDTH OF 34 FEET. THE PRELOADED FILL SHALL BE PLACED IN 12 TO 18 INCH LIFTS AND COMPACTED FOR THE PURPOSE OF NOT RETAINING WATER AND SHALL REMAIN IN PLACE FOR A MINIMUM OF 5 WEEKS. FILL SETTLEMENT IS TO BE MONITORED USING SURVEY HUBS EXTENDING 3 TO 4 FEET INTO THE FILL AT 50 TO 100 FOOT INTERVALS ALONG THE PROPOSED ROADWAY CENTER LINE. SETTLEMENT MEASUREMENTS ARE TO BE TAKEN AT 24 TO 36 HOUR INTERVALS FOR THE FIRST 4 WEEKS AND AT 7 DAY MAXIMUM INTERVALS THEREAFTER. WRITTEN SETTLEMENT RESULTS ARE TO BE GIVEN TO THE ENGINEER AT A MINIMUM OF ONCE A WEEK. THE ENGINEER SHALL DETERMINE WHEN THE PRELOAD FILL MAY BE REMOVED BASED ON SETTLEMENT RESULTS. THE CROSS SECTIONS INDICATE THE APPROXIMATE LIMITS OF THIS SURCHARGE. THE COST FOR PERFORMING THE ABOVE WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE FOLLOWING BID ITEMS.  
203 - EMBANKMENT, AS PER PLAN. 1580 CU. YD.  
203 - EXCAVATION, AS PER PLAN. 1580 CU. YD.  
THESE BID ITEMS SHALL INCLUDE ALL WORK REQUIRED TO CONSTRUCT THE SURCHARGE, MONITOR THE SETTLEMENT, REMOVE AND DISPOSE OR REUSE AT THE CONTRACTOR'S OPTION OF THE ADDITIONAL EMBANKMENT AS OUTLINED ABOVE. THE EMBANKMENT SURCHARGE SHALL BE PERFORMED PRIOR TO THE BRIDGE CONSTRUCTION.

## MAINTAINING TRAFFIC

IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, AND SUBSEQUENTLY REMOVE THE REQUIRED CONSTRUCTION TRAFFIC CONTROL DEVICES SHOWN ON THE TRAFFIC CONTROL PLAN ON SHEET 4A OF 34 INCLUDING: THE WARNING SIGNS IN ADVANCE OF THE DETOUR POINTS, THE BARRICADES, LIGHTS AND SIGNS AT THE DETOUR POINTS, AND THE DETOUR TRAILBLAZING SIGNS ON THE DETOUR ROUTE.

ALL SIGNS REQUIRED TO BE INSTALLED BY THE CONTRACTOR SHALL BE INSTALLED ON THEIR OWN TEMPORARY POSTS.

THE COUNTY ENGINEER WILL PROVIDE TO THE CONTRACTOR THE NECESSARY STREET NAME PLAQUES TO INSTALL WITH THE OC-29 TRAILBLAZING SIGNS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE NECESSARY ARRANGEMENTS FOR ACQUIRING FROM AND RETURNING TO THE ENGINEERS FACILITY THESE PLAQUES.

THE CONTRACTOR SHALL PROVIDE A 24 Hr. TELEPHONE NUMBER FOR THE ENGINEER'S USE IN REPORTING CONSTRUCTION TRAFFIC CONTROL DEVICES WHICH MUST BE REPAIRED, OR REPLACED DURING NON-WORK HOURS.

THE CONTRACTOR SHALL PROVIDE AT LEAST TWO WEEKS NOTICE TO THE COUNTY ENGINEER PRIOR TO THE ROAD CLOSURE. THE COUNTY ENGINEER WILL PREPARE A NEWS RELEASE TO INFORM THE GENERAL PUBLIC OF THE CLOSURE AND WILL ALSO NOTIFY THE VARIOUS EMERGENCY SERVICES IN THE AREA.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

## ITEM SPECIAL - BENCHMARK TO BE RESET

THE EXISTING U.S.G.S. BENCHMARK NO. 4-68-13.18 DM ON THE N.E. BRIDGE WINGWALL IS TO BE REPLACED ACCORDING TO THE PROCEDURES FURNISHED BY THE STARK COUNTY ENGINEER.

## UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

## UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

### ELECTRIC

OHIO EDISON CO.  
P.O. BOX 387  
MASSILLON, OHIO 44648  
(216) 833-3141

### GAS

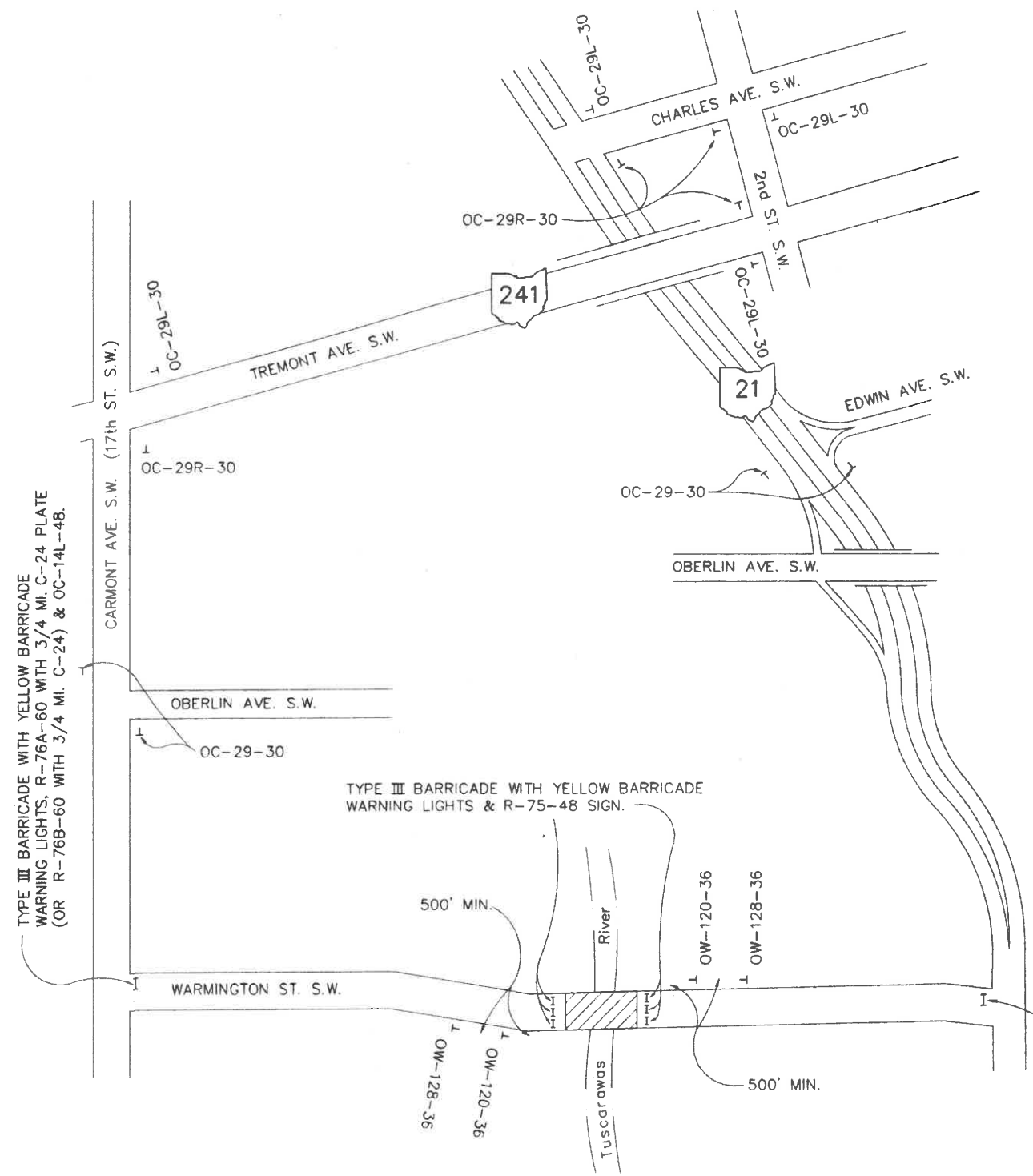
EAST OHIO GAS CO.  
4725 SOUTHWAY STREET S.W.  
CANTON, OHIO 44706  
(216) 478-3142

### TELEPHONE

OHIO BELL TELEPHONE  
832 MCKINLEY AVE. N.W.  
CANTON, OHIO 44703  
(216) 489-2636

### SANITARY

MASSILLON CITY ENGINEER  
ONE JAMES DUNCAN PLAZA  
MASSILLON, OHIO 44646  
(216) 830-1722



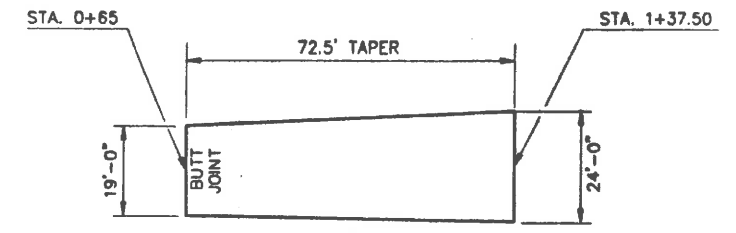
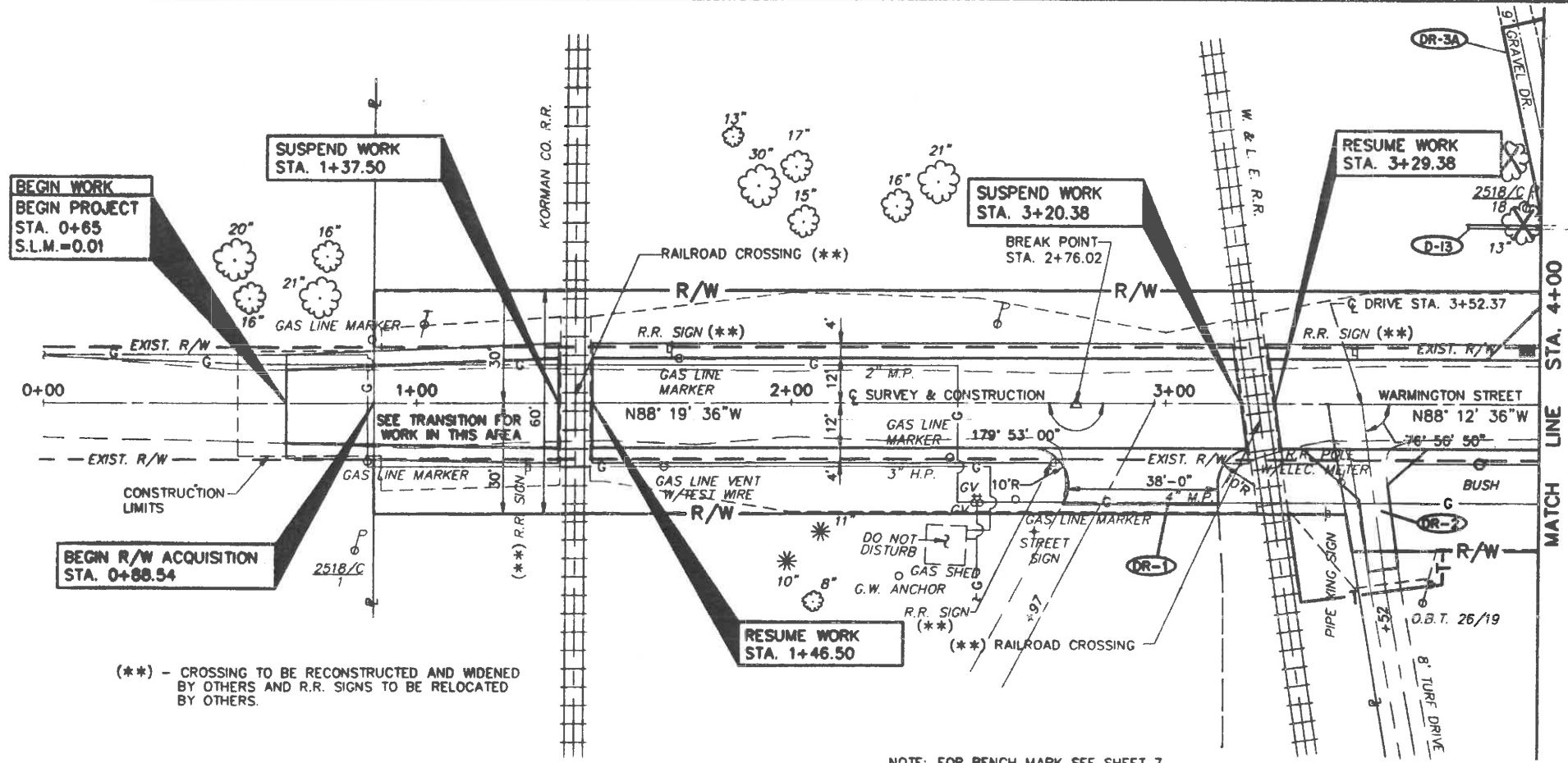
TYPE III BARRICADE WITH YELLOW BARRICADE  
WARNING LIGHTS, R-76A-60 WITH 3/4 MI. C-24 PLATE  
(OR R-76B-60 WITH 3/4 MI. C-24) & OC-14L-48.

TYPE III BARRICADE WITH YELLOW BARRICADE  
WARNING LIGHTS & R-75-48 SIGN.

TYPE III BARRICADE WITH YELLOW BARRICADE  
WARNING LIGHTS, R-76A-60 WITH 3/4 MI. C-24 PLATE  
(OR R-76B-60 WITH 3/4 MI. C-24) & OC-14R-48.

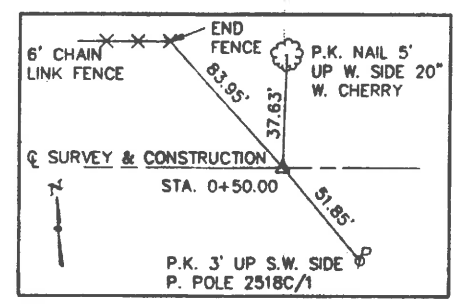
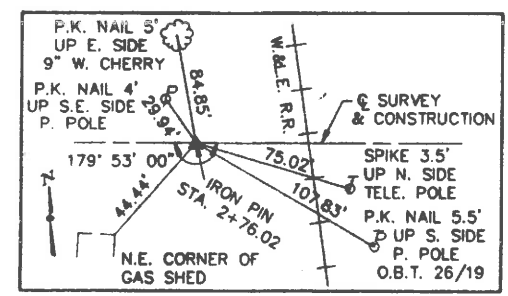
LEGEND

- ┌ TYPE III BARRICADE WITH LIGHTS AND SIGNS AS NOTED.
- └ POST MOUNTED SIGN, BOTTOM OF SIGN MIN. 5' ABOVE PAVEMENT.



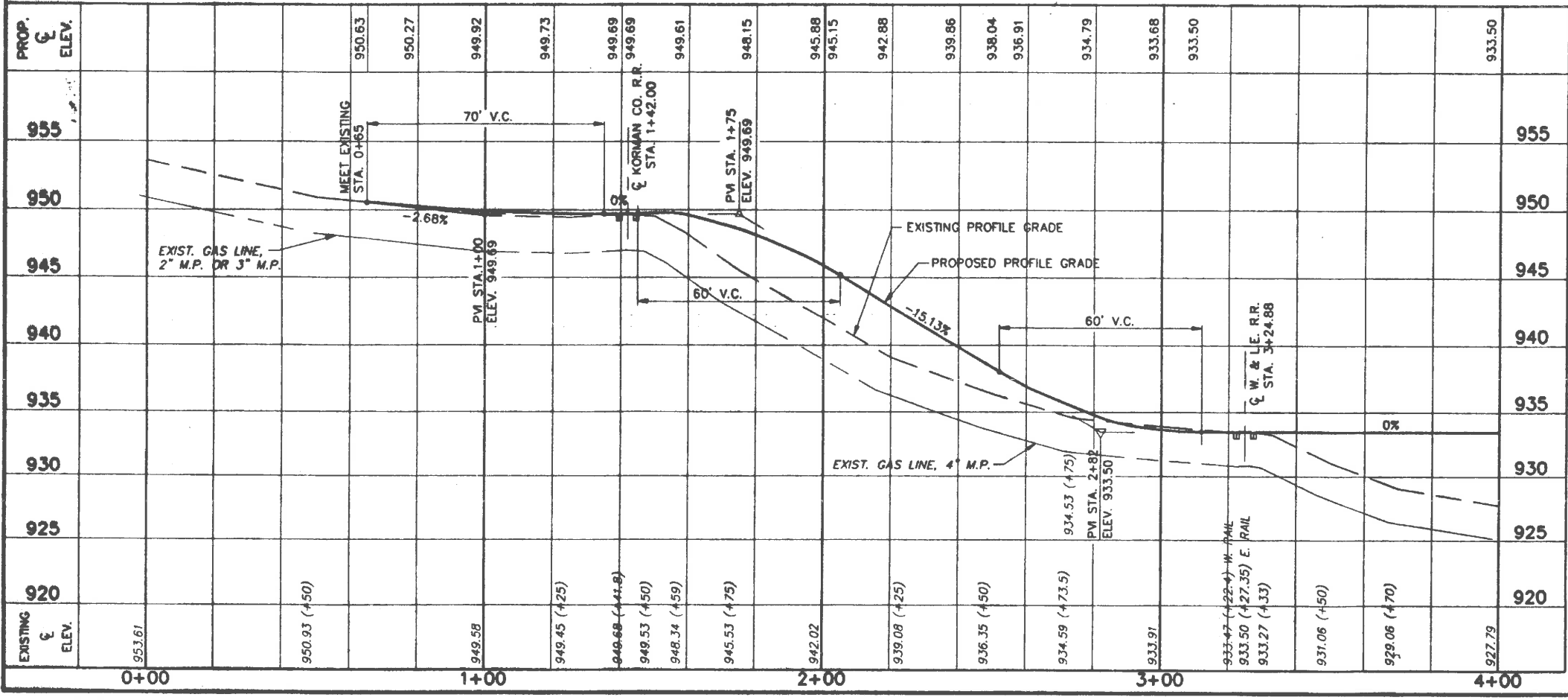
TRANSITION DETAIL

NOTE: FOR DRIVE QUANTITIES SEE SHT. #6.



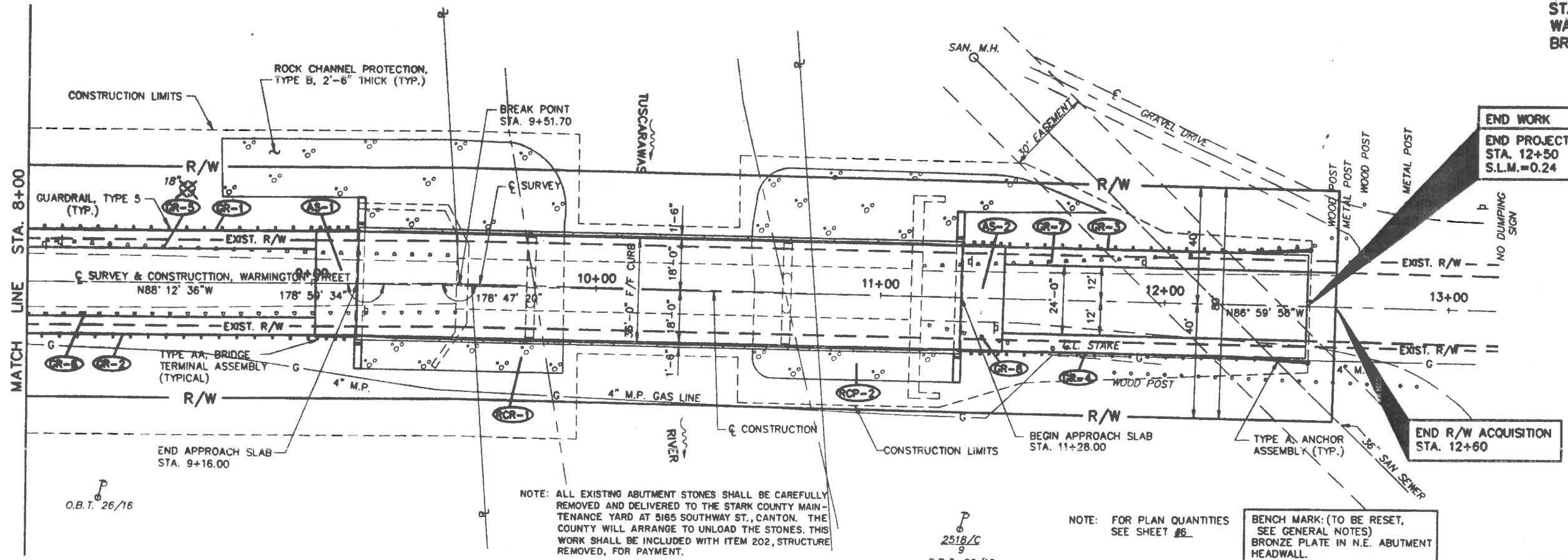
(\*\*) - CROSSING TO BE RECONSTRUCTED AND WIDENED BY OTHERS AND R.R. SIGNS TO BE RELOCATED BY OTHERS.

NOTE: FOR BENCH MARK SEE SHEET 7



CAD FILE: WARMPP1  
DATE: 07/09/01  
OPERATOR: PJP  
SCALE: 1"=20'





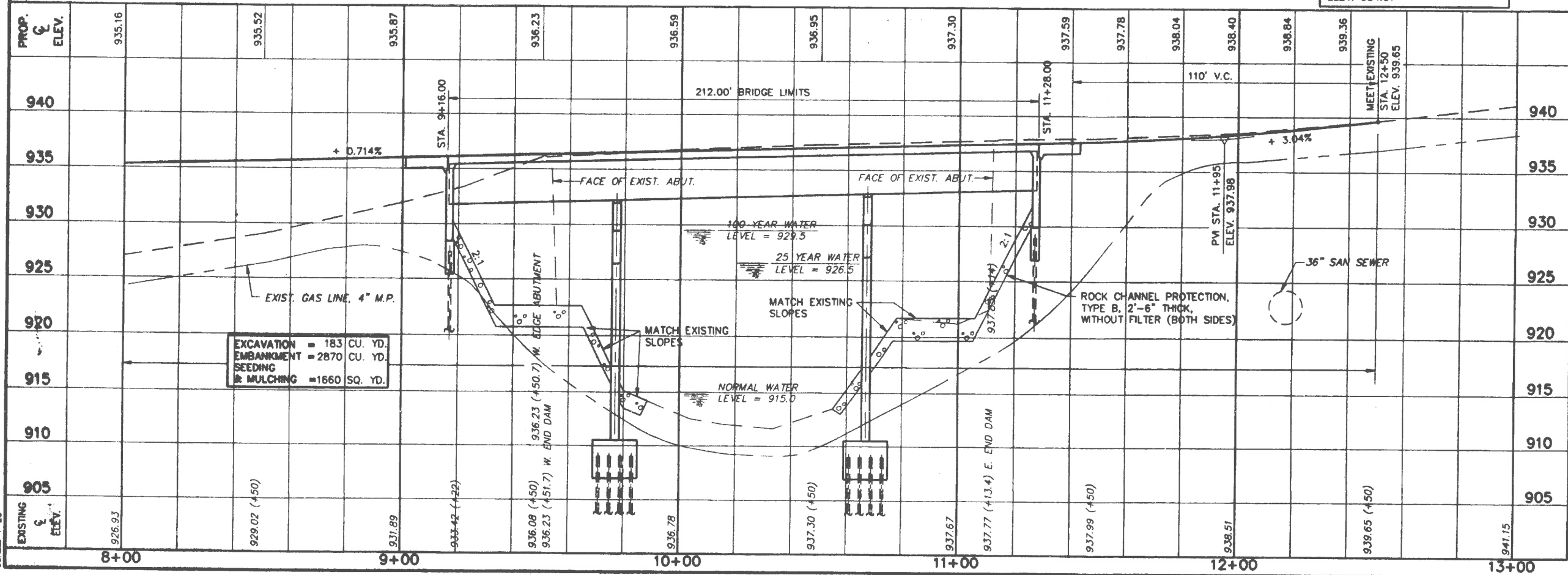
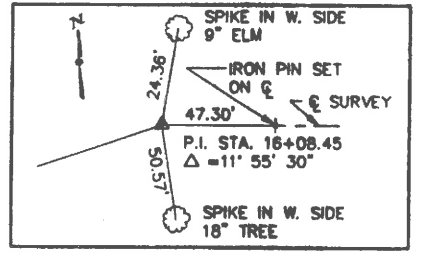
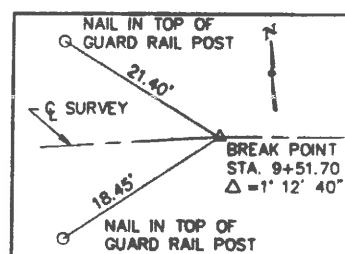
END WORK  
END PROJECT  
STA. 12+50  
S.L.M.=0.24

END R/W ACQUISITION  
STA. 12+60

NOTE: ALL EXISTING ABUTMENT STONES SHALL BE CAREFULLY REMOVED AND DELIVERED TO THE STARK COUNTY MAINTENANCE YARD AT 5165 SOUTHWAY ST., CANTON. THE COUNTY WILL ARRANGE TO UNLOAD THE STONES. THIS WORK SHALL BE INCLUDED WITH ITEM 202, STRUCTURE REMOVED, FOR PAYMENT.

NOTE: FOR PLAN QUANTITIES SEE SHEET #6

BENCH MARK: (TO BE RESET, SEE GENERAL NOTES)  
BRONZE PLATE IN N.E. ABUTMENT HEADWALL.  
U.S.G.S. 4-68-13.18 DM  
ELEV. 934.57



**EXISTING STRUCTURE**  
TYPE : STEEL THRU-TRUSS WITH STEEL DECKING SUPPORTED ON STONE ABUTMENTS  
SPAN : 158.67' C/C BRGS.  
ROADWAY : 17'-0"  
ALIGNMENT : TANGENT  
SKEW : NONE  
WEARING SURFACE : NONE  
APPROACH SLABS : NONE  
CONDITION : POOR  
STRUCTURE FILE NO: 7831877

**PROPOSED STRUCTURE**  
TYPE : 3-SPAN CONTINUOUS GALVANIZED STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE W/ INTEGRAL ABUTMENTS  
SPAN : 60'-0", 90'-0", 60'-0" C/C BEARINGS  
ROADWAY : 36'-0", TOE/TOE 3'-6" HIGH PARAPETS  
LOADING : HS20-44 (CASE II) AND ALTERNATE MILITARY LOADING  
ALIGNMENT : TANGENT  
SKEW : NONE  
WEARING SURFACE : 1" MONOLITHIC CONCRETE  
CROWN : 3/16"/FT.  
APPROACH SLABS : 15'-0" (ODOT STD. DWG. AS-1-B1)

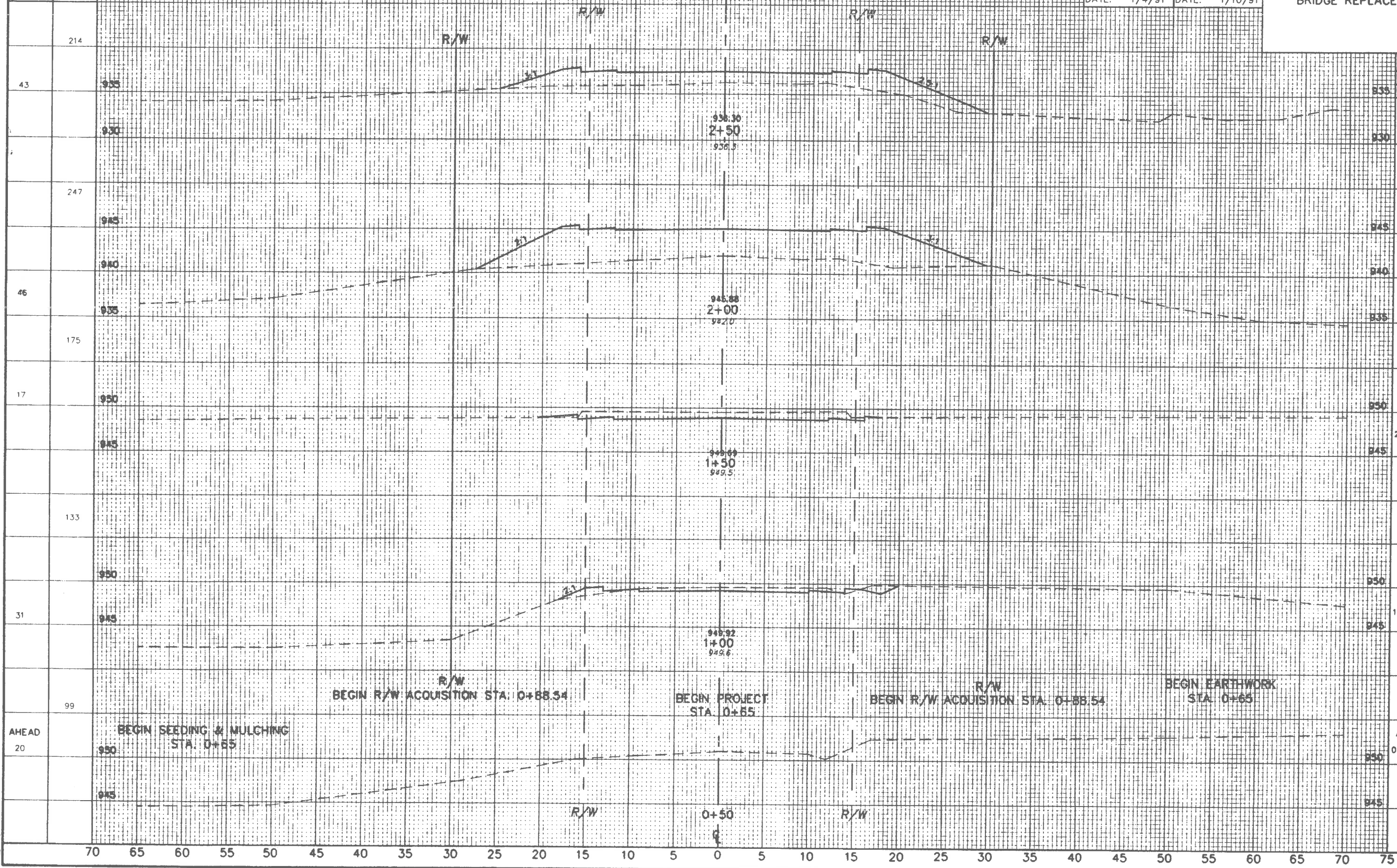
CAD FILE : WARMPP3  
DATE : 07/08/91  
OPERATOR : PJP  
SCALE : 1"=20'

SEEDING & MULCHING  
END WIDTH SQ. YDS.

QUANTITIES  
CALC. BY: D.L.B. CHKD. BY: T.A.B.  
DATE: 1/4/91 DATE: 1/10/91

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT

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QUANTITIES		END AREA		CU. YDS.	
CUT	FILL	CUT	FILL	CUT	FILL
0	75				
0.0	231				
0	174				
22	175				
24					
37	5				
16	4				
11	3				
0	0				

CROSS SECTIONS, STA. 0+50 TO STA. 2+50, WARMINGTON STREET

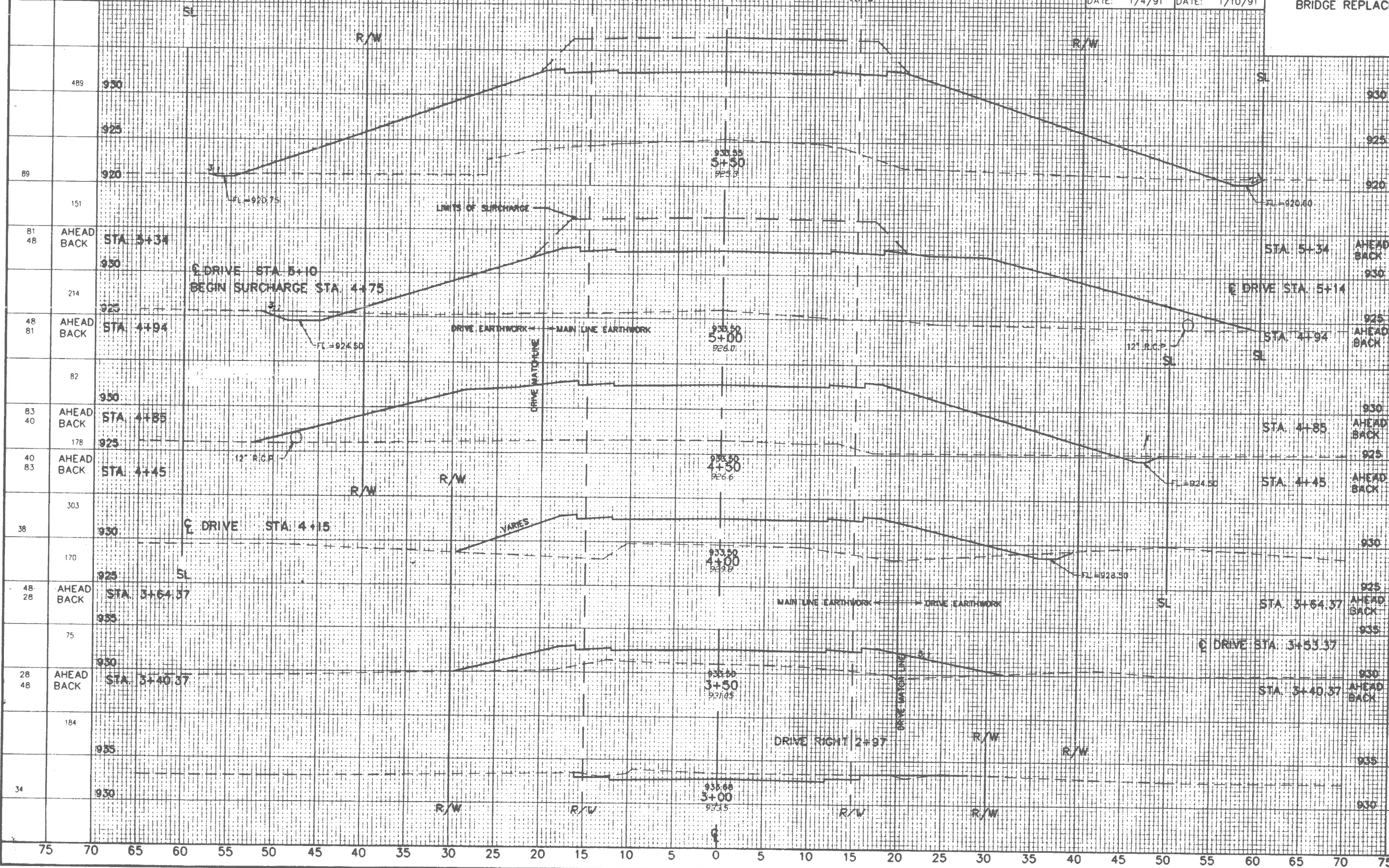
DATE: 1/4/91  
 OPERATOR: P.P.  
 SCALE: 1"=5'

SEEDING & MULCHING  
END WIDTH SQ. YDS.

QUANTITIES  
CALC. BY: D.L.B. CHKD. BY: T.A.B.  
DATE: 1/4/91 DATE: 1/10/91

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT

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QUANTITIES  
END AREA CU. YDS.  
CUT FILL CUT FILL

STATION	END WIDTH	AREA	CUT	FILL	CUT	FILL
489	930					
	925	2	702			
89	920					
151				2	372	
81	AHEAD BACK STA 5+34	5	554			
48	930	5	479			
214				9	710	
48	AHEAD BACK STA 4+94	7	479			
81	925	0	554			
82	930			0	170	
83	AHEAD BACK STA 4+85	0	464			
40	178	2	346			
40	AHEAD BACK STA 4+45	2	346			
83	925	2	464			
38	303			4	553	
	170	3	199			
48	AHEAD BACK STA 3+64.37	0	107			
28	75	0	96			
	935			0	43	
28	AHEAD BACK STA 3+40.37	0	96			
48	930	0	102			
184				18	77	
34	935					
	930	23	1			
				21	71	

CAO FILE: WABSECT7  
DATE: 3/31/91  
OPERATOR: J.D.P.  
SCALE: 1"=5'

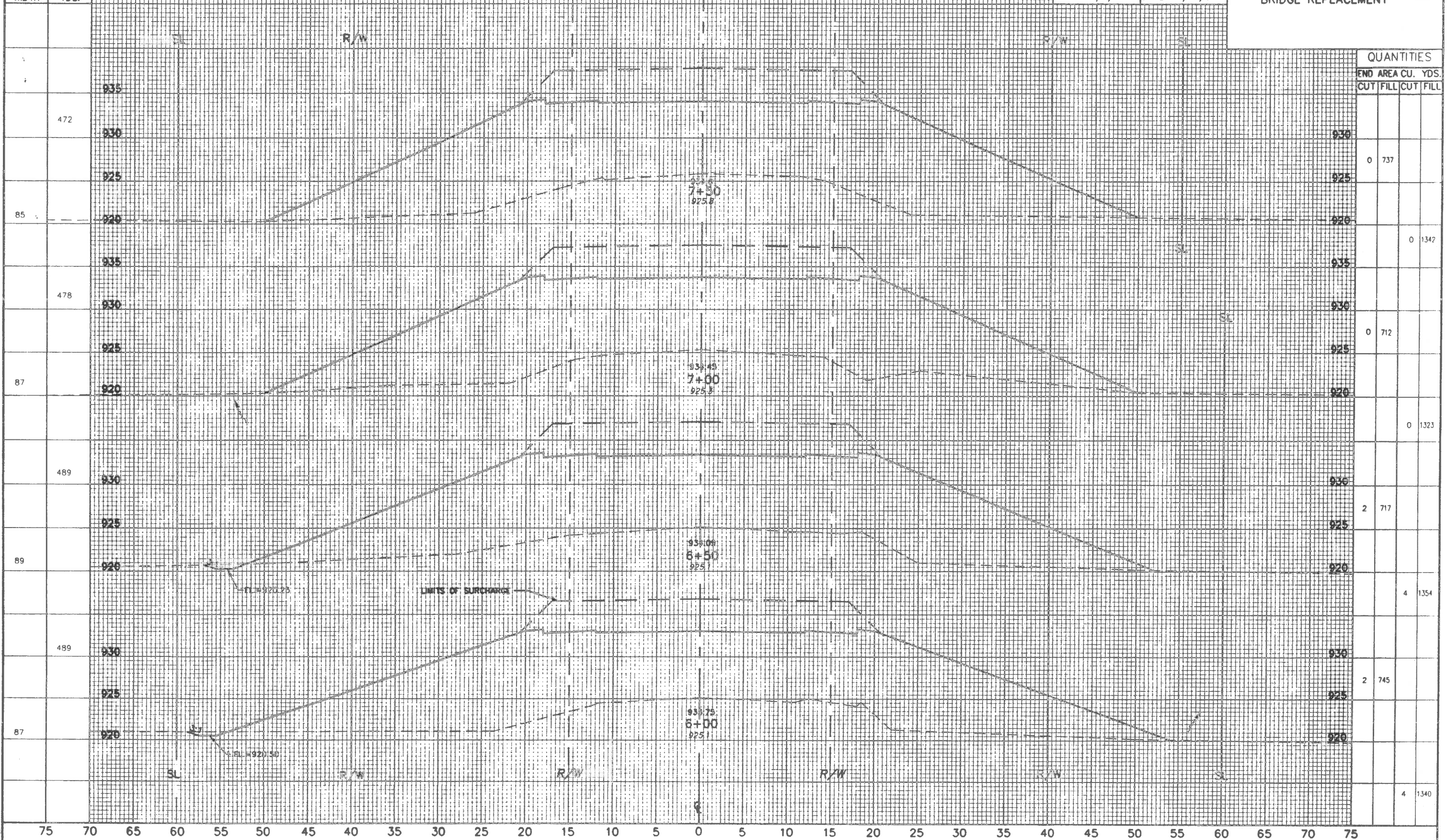
CROSS SECTIONS, STA. 3+00 TO STA. 5+50, WARMINGTON STREET

SEEDING &  
MULCHING  
END  
WIDTH SQ.  
YDS.

QUANTITIES  
CALC. BY: D.L.B. CHKD. BY: T.A.B.  
DATE: 1/4/91 DATE: 1/10/91

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT

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34



QUANTITIES  
END AREA CU. YDS.  
CUT FILL CUT FILL

Station	Cut	Fill	Cut	Fill
75	0	737		
472			0	1342
85				
478			0	712
87				
489			0	1323
89			2	717
489				
87			4	1354
489			2	745
87				
489			4	1340

CAD FILE: WAREC13  
DATE: 07/09/91  
OPERATOR: P.P.  
SCALE: 1"=5'

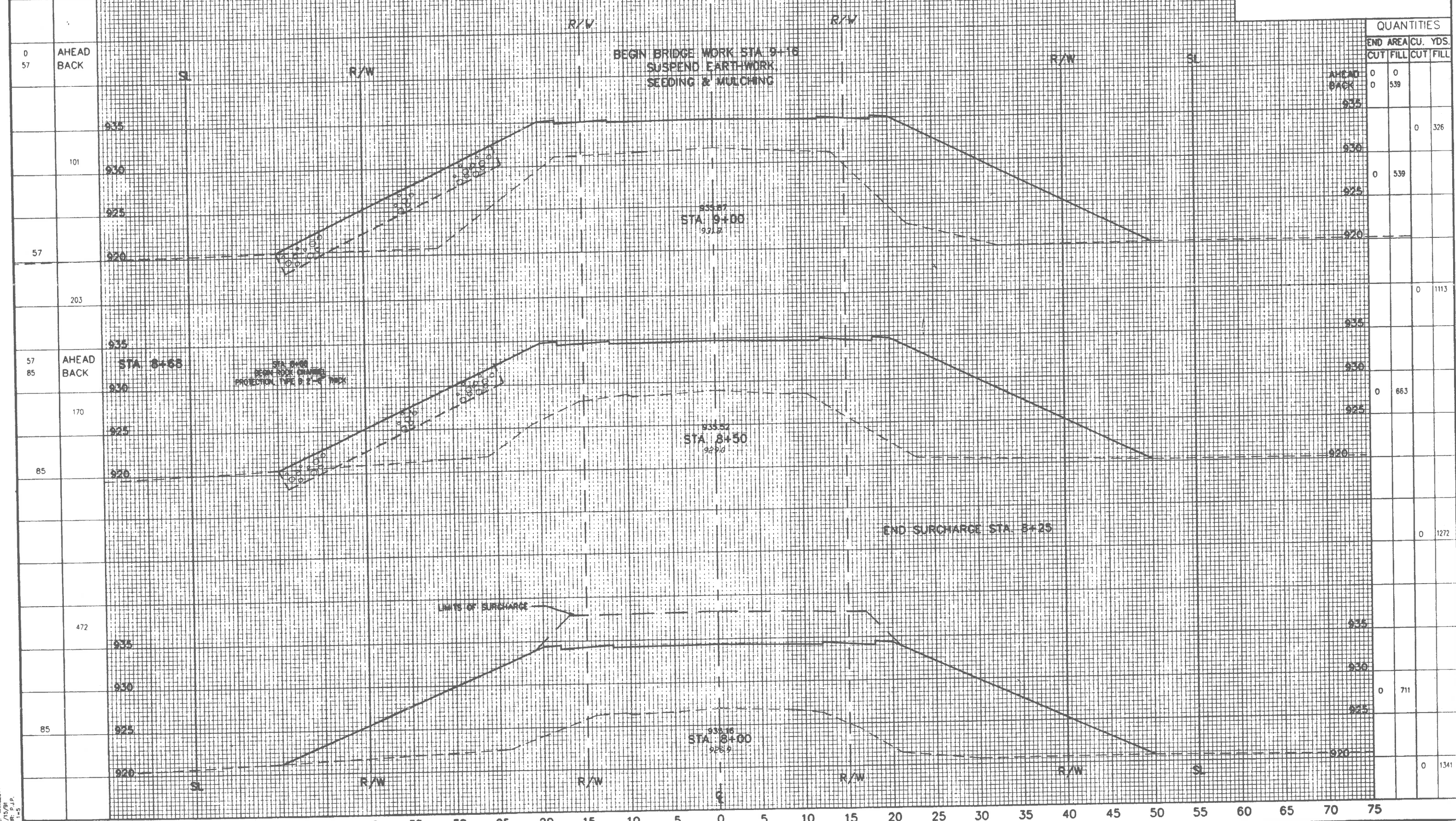
CROSS SECTIONS, STA. 6+00 TO STA. 7+50, WARMINGTON STREET

QUANTITIES  
 CALC. BY: D.L.B. CHKD. BY: T.A.B.  
 DATE: 1/4/91 DATE: 1/10/91

STARK COUNTY  
 WARMINGTON STREET  
 BRIDGE REPLACEMENT

SEEDING	
END WIDTH	SQ. YDS.

QUANTITIES			
END	AREA	CU.	YDS.
CUT	FILL	CUT	FILL



0	AHEAD	0	0		
57	BACK	0	539		
				0	326
				0	539
				0	1113
57	AHEAD				
85	BACK	0	663		
				0	1272
472					
				0	711
85					
				0	1341

CROSS SECTIONS, STA. 8+00 TO STA. 9+16, WARMINGTON STREET

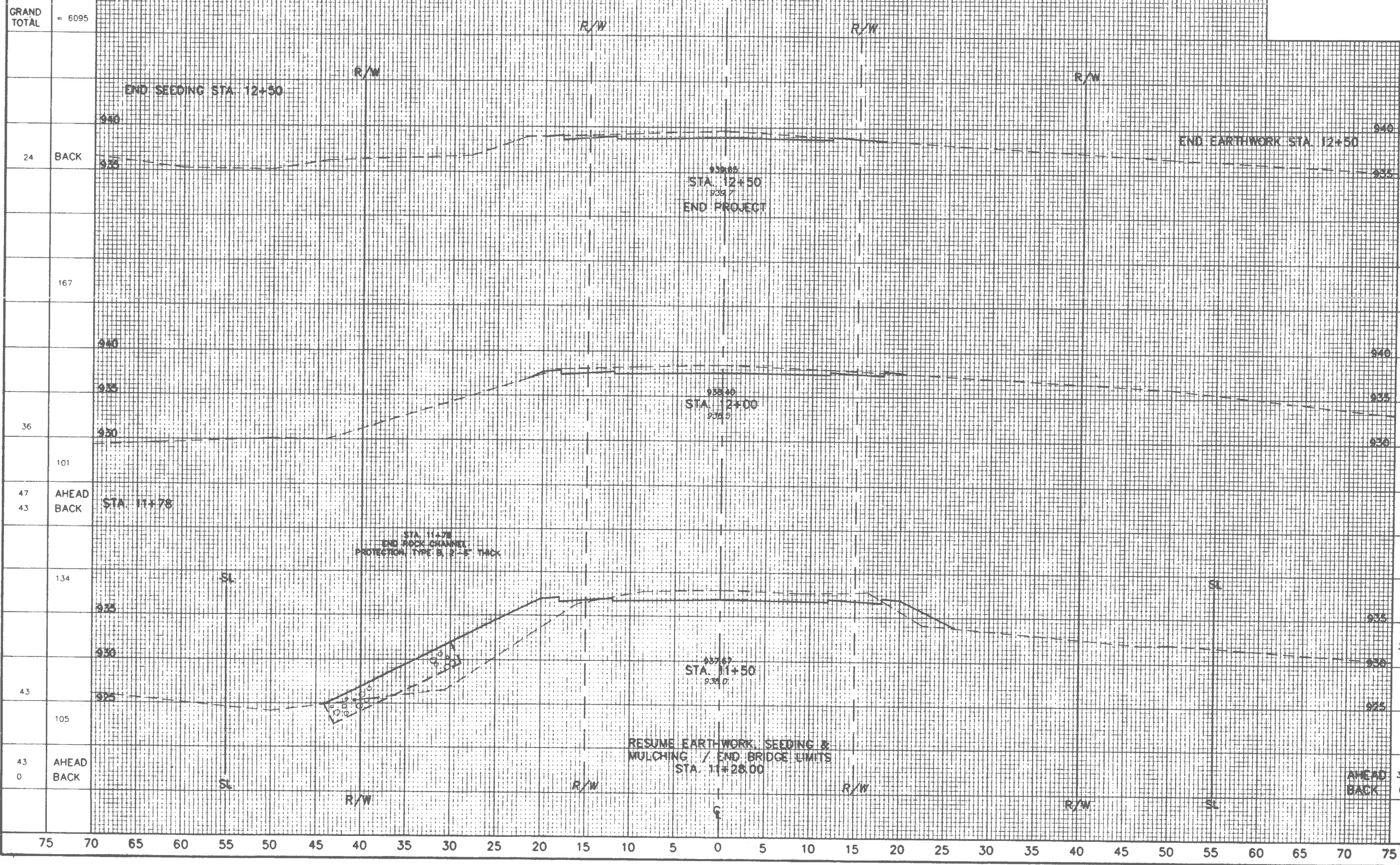
CAD FILE: WARSSECT4  
 DATE: 1/15/91  
 OPERATOR: P.J.P.  
 SCALE: 1"=20'

SEEDING & MULCHING  
END WIDTH SO. YDS.

QUANTITIES  
CALC. BY: D.L.B. CHKD. BY: T.A.B.  
DATE: 1/4/91 DATE: 1/10/91

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT

12  
34



QUANTITIES  
END AREA | CU. YDS.  
CUT | FILL | CUT | FILL

GRAND TOTAL = 254 12 70

16 1

40 2

27 1

53 88

30 94

24 77

30 94  
0 0

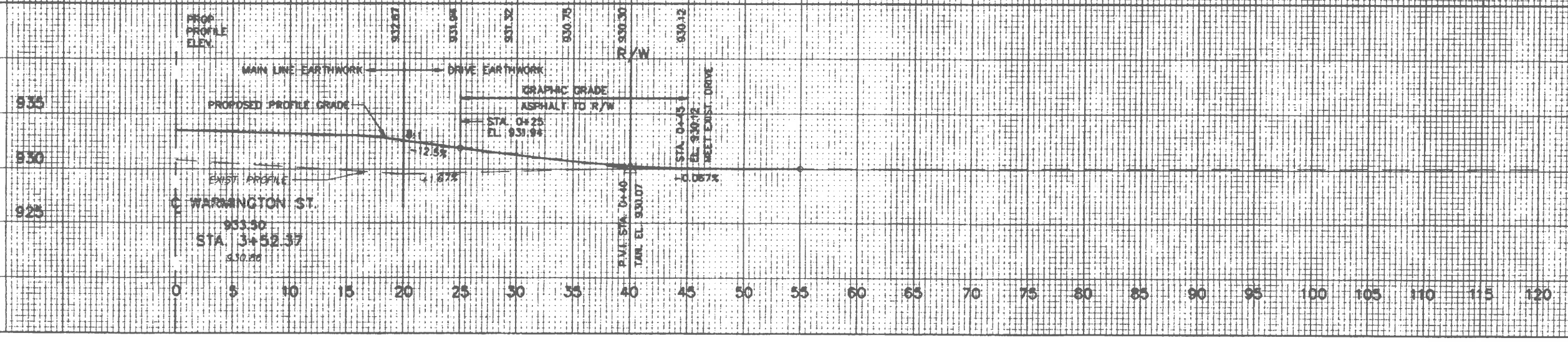
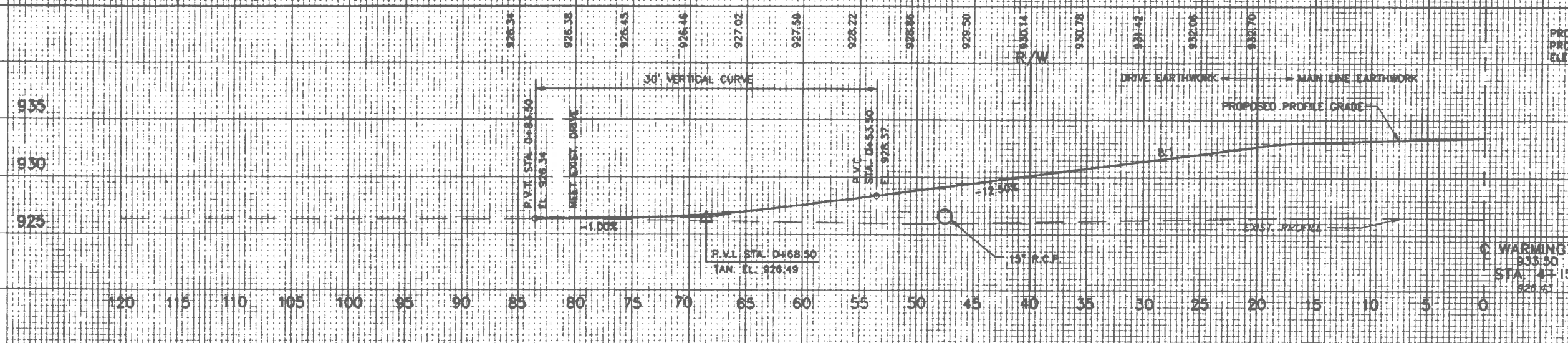
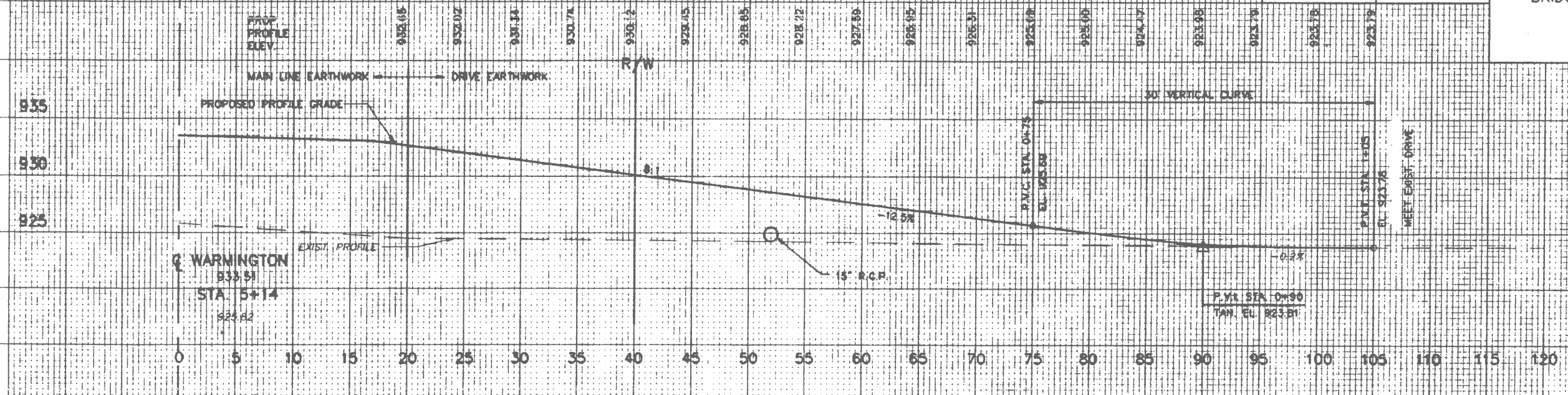
GRAND TOTAL = 6095  
24 BACK  
167  
36  
47 AHEAD  
43 BACK  
134  
43  
105  
43 AHEAD  
0 BACK

CAD FILE: WARMINGTON  
DATE: 07/09/91  
OPERATOR: P.P.P.  
SCALE: 1"=5'

CROSS SECTIONS, STA. 11+28 TO STA. 12+50, WARMINGTON STREET

QUANTITIES	
CALC. BY: D.L.B.	CHKD. BY: T.A.B.
DATE: 1/4/91	DATE: 1/10/91

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT



CAD FILE: DRVPROF  
OPERATOR: P.P./91  
SCALE: 1"=5'

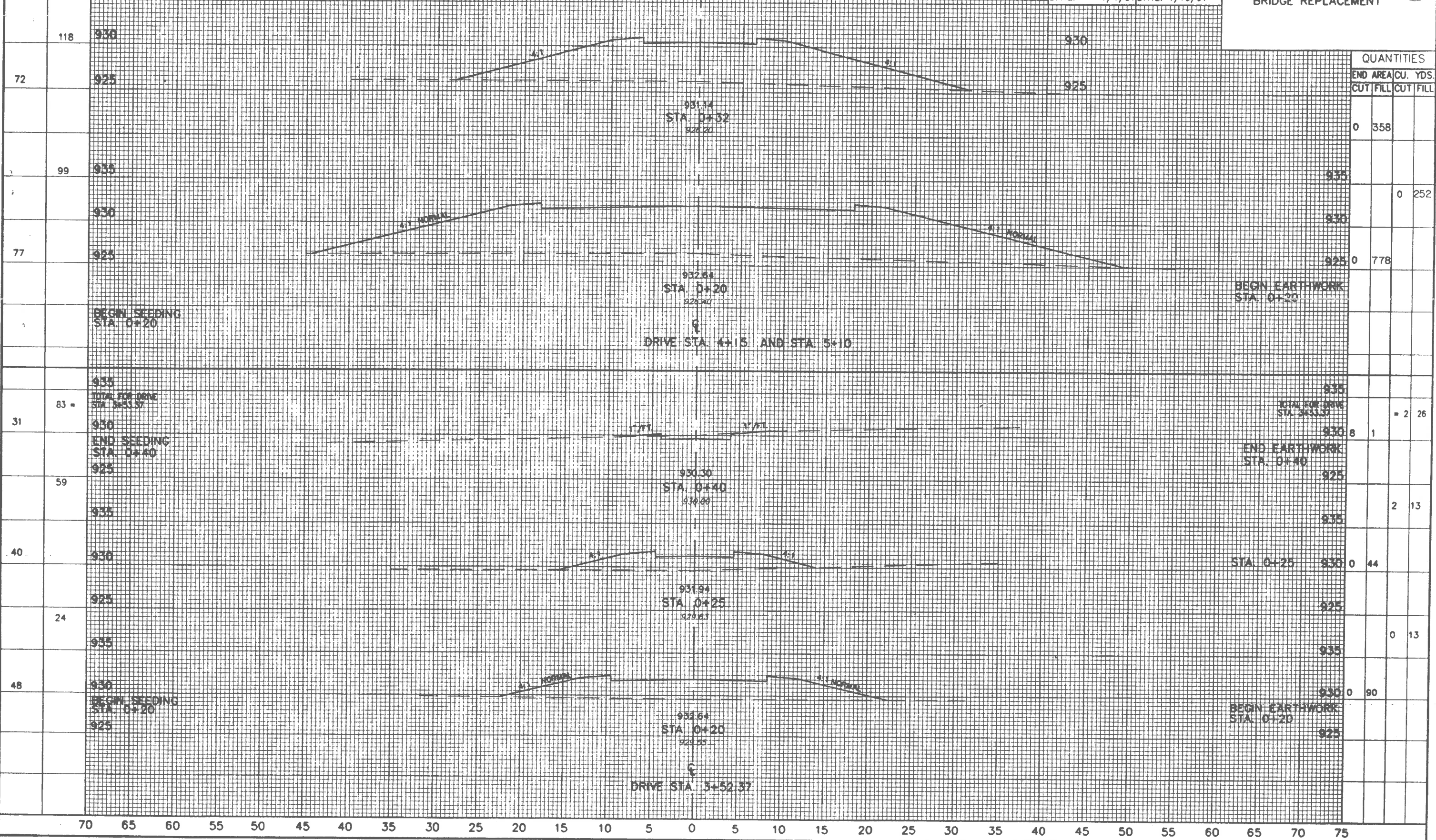
SEEDING & MULCHING  
END WIDTH SQ. YDS.

QUANTITIES

CALC. BY: D.L.B. CHKD. BY: T.A.B.  
DATE: 1/4/91 DATE: 1/10/91

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT

14  
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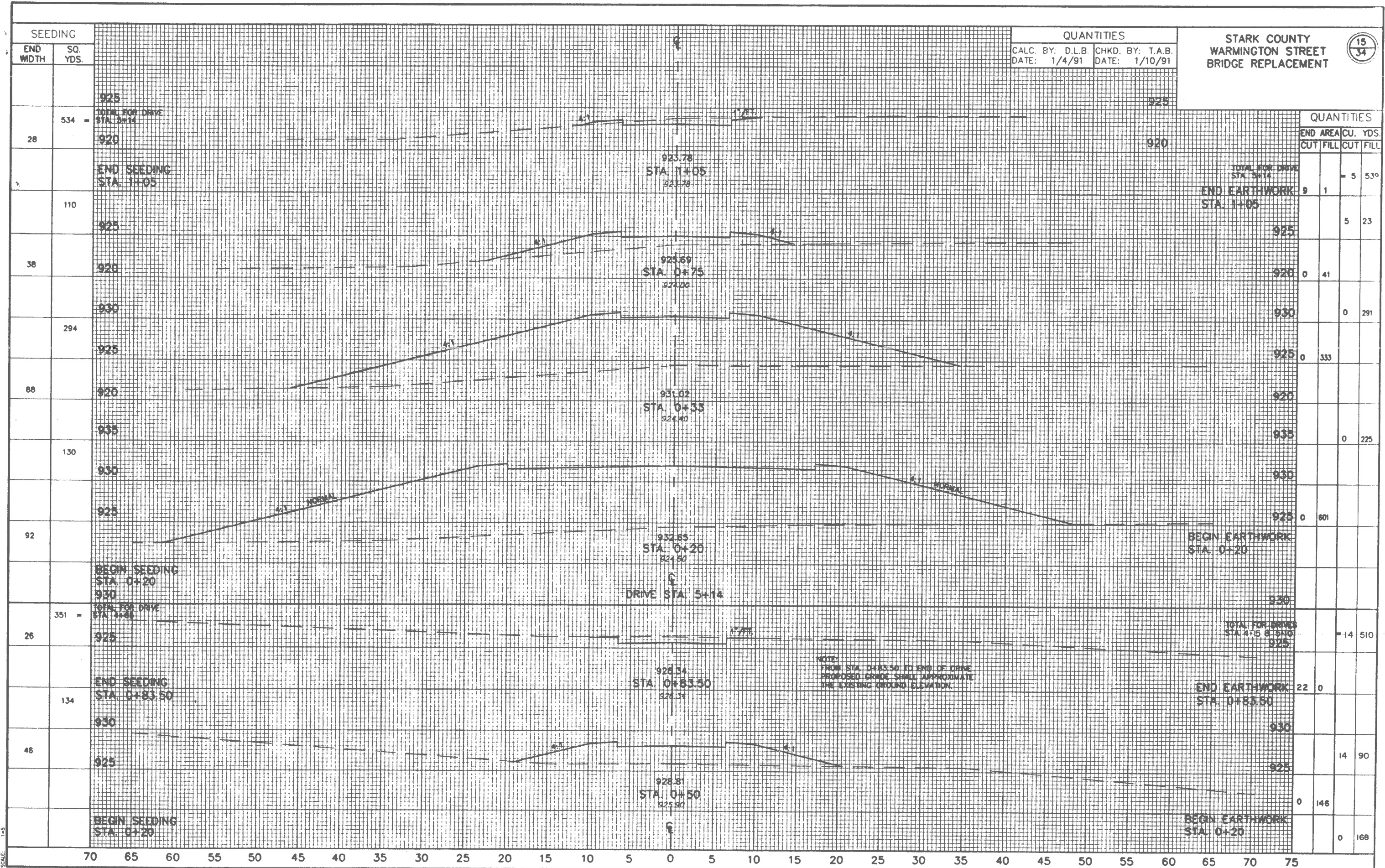


DRIVEWAY CROSS SECTIONS @ STA. 3+52.37, (0+20 TO STA. 0+40) & @ STA. 4+15, (0+20 TO STA. 0+32) & @ STA. 5+10 (0+20 TO STA. 0+32)

CAD FILE: UNRESST  
DATE: 5/31/91  
OPERATOR: J.D.P.  
SCALE: 1"=5'

QUANTITIES  
 CALC. BY: D.L.B. CHKD. BY: T.A.B.  
 DATE: 1/4/91 DATE: 1/10/91

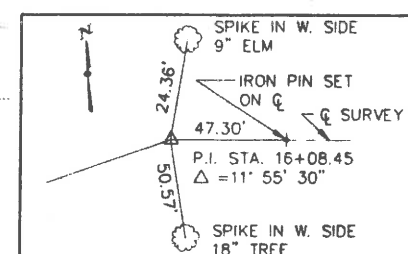
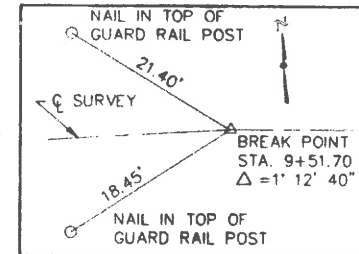
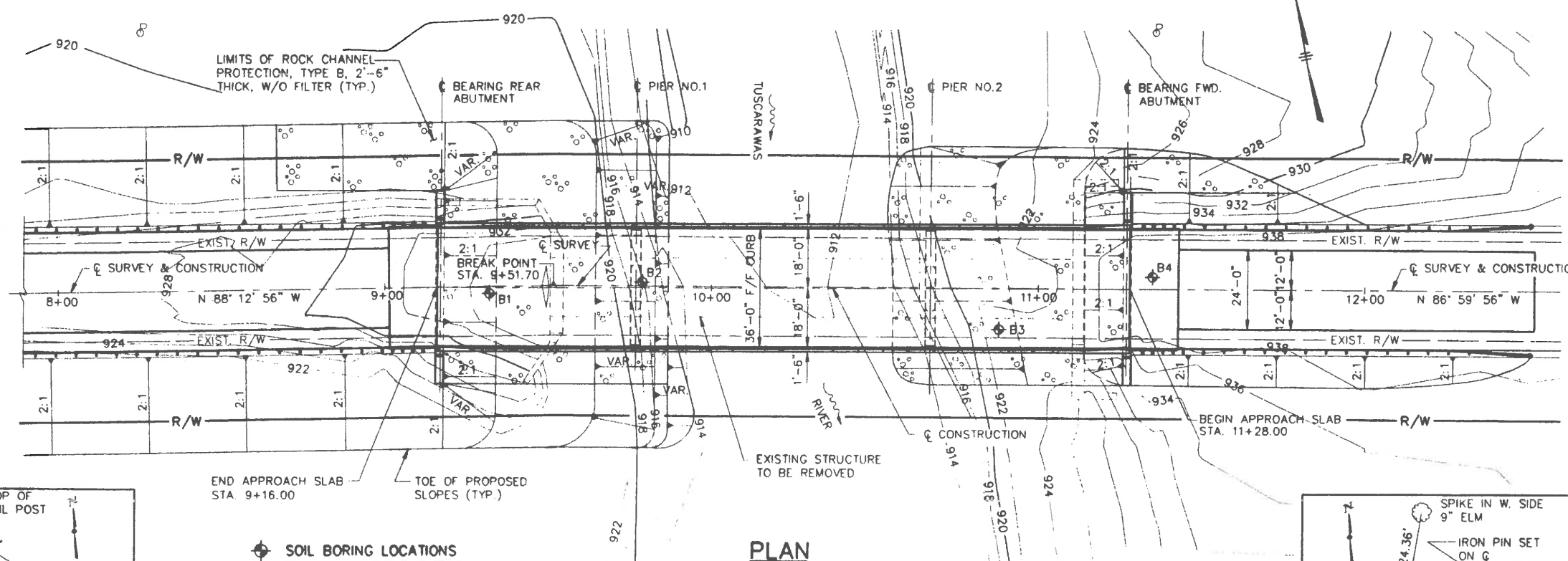
STARK COUNTY  
 WARMINGTON STREET  
 BRIDGE REPLACEMENT



QUANTITIES			
END CUT	AREA CUT	CU. YDS. CUT	YDS. FILL
925			5
920			23
925	9	1	539
920	0	41	
930		0	291
925	0	333	
920			225
930			
925	0	601	
930			
925			510
930	22	0	
925			90
925	0	146	
925			168

DRIVEWAY CROSS SECTIONS STA. 4-15, (STA. 0+50 TO STA. 0+83.5) & STA. 5-10, (STA. 0+20 TO STA. 1+05)

CAD FILE: DRNSECTZ  
 DATE: 07/09/91  
 OPERATOR: P.P.  
 SCALE: 1"=5'



FOR SOIL BORING LOGS SEE SHEET 12/12

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

BOTTOM OF PROPOSED BEAMS CLEAR ESTIMATED:  
25-YEAR HIGH WATER ELEVATION BY 5.3± FEET.  
100-YEAR HIGH WATER ELEVATION BY 2.3± FEET.

**DRAINAGE DATA**

DRAINAGE AREA = 530 SQ. MILES

Q25 = 14,400 CFS, ELEV.=926.5 V=8.5 FPS

Q100 = 17,500 CFS, ELEV.=929.5, V=7.6 FPS

NORMAL WATER SURFACE ELEV.=915.0±

EXISTING WATERWAY OPENING = 3,000 SQ. FT.

PROPOSED WATERWAY OPENING = 2,900 SQ. FT.

**EXISTING STRUCTURE**

TYPE : STEEL THRU-TRUSS WITH STEEL DECKING SUPPORTED ON STONE ABUTMENTS

SPAN : 158.67' C/C BRGS.

ROADWAY : 17'-0"

ALIGNMENT : TANGENT

SKEW : NONE

WEARING SURFACE : NONE

APPROACH SLABS : NONE

CONDITION : POOR

STRUCTURE FILE NO: 7631677

**PROPOSED STRUCTURE**

TYPE : 3-SPAN CONTINUOUS GALVANIZED STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE W/ INTEGRAL ABUTMENTS

SPAN : 60'-0", 90'-0", 60'-0" C/C BEARINGS

ROADWAY : 36'-0", TOE/TOE 3'-6" HIGH PARAPETS

LOADING : HS20-44 (CASE II) AND ALTERNATE MILITARY LOADING

ALIGNMENT : TANGENT

SKEW : NONE

WEARING SURFACE : 1" MONOLITHIC CONCRETE

CROWN : 3/16"/FT.

APPROACH SLABS : 15'-0" (ODOT STD. DWG. AS-1-81)

FINKBEINER, PETTIS & STROUT, LTD. 1/12

CONSULTING ENGINEERS

AKRON TOLEDO GREENSBORO

**SITE PLAN**

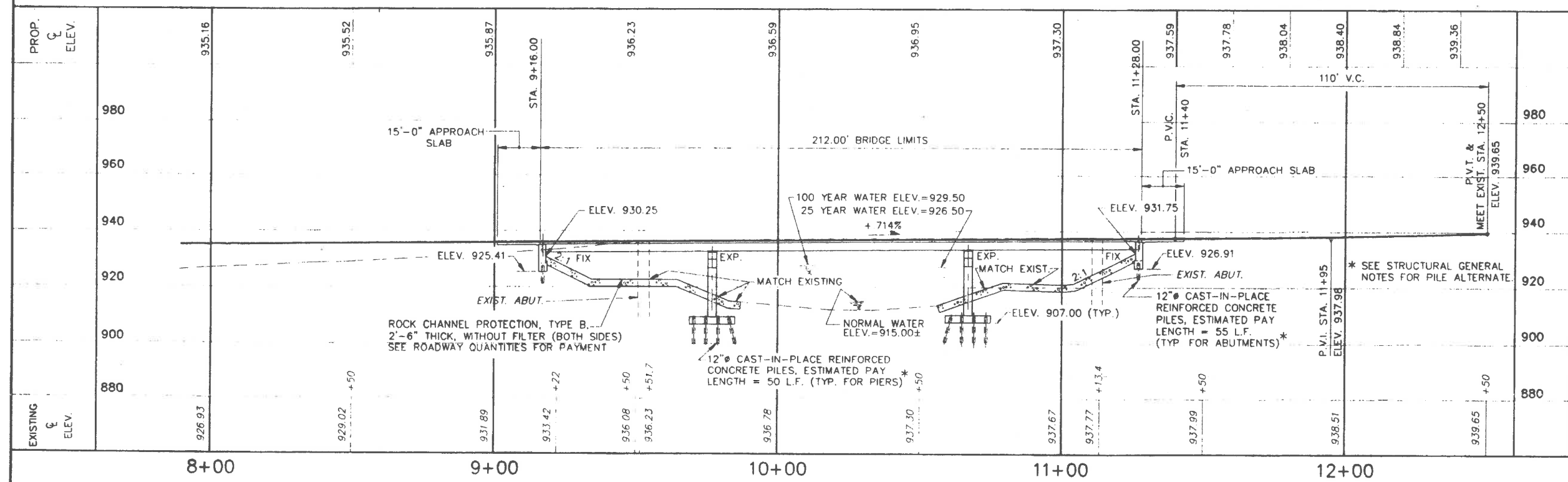
BRIDGE NO. PE-30-3

WARMINGTON STREET

OVER

TUSCARAWAS RIVER

STA. 9+16.00 TO STA. 11+28.00



CAD FILE: WARMINGT  
DATE: 7/17/91  
OPERATOR: F.P.W.  
SCALE: 1"=20'

SCALE 0 10 20		PRESENT TOPOGRAPHY		PROPOSED WORK	
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
C.A.	A.J.P.	T.A.B.	J.D.P.	R.A.H.	R.B.B.

# STRUCTURAL GENERAL NOTES

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT

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34

**REFERENCE:**

SHALL BE MADE TO O.D.O.T. STANDARD DRAWINGS:  
AS-1-81 DATED 11/27/81  
ICD-1-82 REVISED 8/1/84  
SD-1-69 DATED 6/12/69  
REFER TO SHEET'S 33 & 34 FOR COPIES  
OF THESE STANDARD DRAWINGS

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1989, INCLUDING THE 1990 AND 1991 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

**DESIGN DATA**

DESIGN LOADING - HS20-44, CASE II, AND THE ALTERNATE MILITARY LOADING  
CLASS S CONCRETE - COMPRESSIVE STRENGTH 4500 P.S.I.

CLASS C CONCRETE - COMPRESSIVE STRENGTH 4000 P.S.I.

REINFORCING STEEL(EPOXY COATED) - ASTM A615, A616 OR A617 GRADE 60,  
MINIMUM YIELD STRENGTH 60,000 P.S.I.

STRUCTURAL STEEL - ASTM A572, GALVANIZED, - YIELD STRENGTH 50,000 P.S.I.,  
UNIT STRESS 27,000 P.S.I.

DECK PROTECTION METHOD - EPOXY COATED REINFORCING STEEL,  
BOTH MATS.

MONOLITHIC WEARING SURFACE - FOR DESIGN PURPOSES IS ASSUMED TO  
BE 1" THICK

ABUTMENT PILING BENDING STRESS MAY APPROACH, REACH OR EXCEED YIELD STRESS.

**REMOVAL OF EXISTING STRUCTURE:**

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED. ALL SALVAGABLE STONES FROM EXISTING ABUTMENTS SHALL BE CAREFULLY REMOVED & DELIVERED TO THE STARK COUNTY MAINTENANCE YARD WHERE THEY WILL BE UNLOADED BY STARK COUNTY FORCES. SUITABLE WASTE MASONRY MAY BE PLACED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER.

**PILE DESIGN LOADS:**

THE DESIGN LOAD FOR THE ABUTMENT PILES IS 40 TONS PER PILE AND  
THE DESIGN LOAD FOR THE PIER PILES IS 35 TONS PER PILE.

**ITEM SPECIAL GALVANIZING OF NEW STRUCTURAL STEEL:**

ALL NEW STRUCTURAL STEEL INCLUDING BOLTS, NUTS, WASHERS AND STEEL LOAD PLATES SHALL BE GALVANIZED ACCORDING TO O.D.O.T. MATERIAL SPECIFICATION ITEM 711.02. ANY SPECIAL REQUIREMENTS OR FABRICATION OF THE BEAMS THAT MAY BE NEEDED TO FACILITATE GALVANIZING, NOT SPECIFICALLY NOTED IN THESE PLANS, SHALL BE APPROVED BY THE ENGINEER.

BOLT HOLES SHALL BE FULL SIZE PRIOR TO GALVANIZING. HIGH STRENGTH BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A-325. BOLTED CONTACT SURFACES SHALL BE LIGHTLY SCORED BY A HAND WIRE BRUSH OR SAND BLASTING AFTER GALVANIZING AND PRIOR TO ASSEMBLY. NEITHER TREATMENT SHALL BE SEVERE ENOUGH TO PRODUCE ANY BREAK OR DISCONTINUITY IN THE ZINC SURFACE. POWER WIRE BRUSHING SHALL NOT BE PERMITTED. ALL DAMAGED GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A-780.

**EMBANKMENT CONSTRUCTION:**

THE EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE.  
EXCAVATION MAY THEN BE MADE FOR THE ABUTMENTS AND PILES DRIVEN.

**UTILITY LINES:**

ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

**TAPERED PILE ALTERNATE:**

TAPERED PILES MANUFACTURED BY MONOTUBE PILE CORPORATION MAY BE USED IN LIEU OF 12" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES. PILE DESIGN OF THE TAPERED PILES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER.

**CONCRETE:**

COARSE AGGREGATE FOR CLASS C CONCRETE SHALL BE LIMESTONE.

**GALVANIZED REINFORCING STEEL ALTERNATE:**

GALVANIZED REINFORCING STEEL, GRADE 60 MAY BE USED IN LIEU OF EPOXY COATED REINFORCING STEEL. GALVANIZING SHALL MEET THE REQUIREMENTS OF O.D.O.T. MATERIAL SPECIFICATION ITEM 711.02.

**REBAR SPlicing ALTERNATE:**

LENTON REBAR SPlicing COUPLERS MANUFACTURED BY THE ERICO COMPANY FROM SOLON, OHIO, MAY BE USED IN LIEU OF LAP SPICES ON THIS PROJECT. THE PAY ITEM FOR REINFORCING STEEL WILL REMAIN THE SAME.

**ESTIMATED QUANTITIES**

CALC. BY: T.A.B. DATE 12/90  
CHK'D BY: R.A.H. DATE 12/90

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT'S	PIER'S	GENERAL	AS BUILT		
									SUPER	ABUT'S	PIER'S
202		LUMP SUM	LUMP SUM	STRUCTURES REMOVED				LUMP SUM			
503		LUMP SUM	LUMP SUM	COFFERDAMS, CRIBS AND SHEETING		LUMP SUM					
503		523	CU. YD.	UNCLASSIFIED EXCAVATION		123	400				
505		LUMP SUM	LUMP SUM	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP SUM			
507		3680	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN		880	2800				
509		111,869	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60	71,700	12,628	27,541				
511		112	CU. YD.	CLASS C CONCRETE, ABUTMENTS (LIMESTONE)		112					
511		80	CU. YD.	CLASS C CONCRETE, PIERS ABOVE FOOTINGS (LIMESTONE)			80				
511		116	CU. YD.	CLASS C CONCRETE, FOOTINGS (LIMESTONE)			116				
511		301	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE	301						
513		243,000	LBS.	STRUCTURAL STEEL (AISC CATEGORY I)	243,000						
516		115	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		115					
516		82	SQ. FT.	1/2" PREFORMED EXPANSION JOINT FILLER		82					
516		10	EACH	LAMINATED ELASTOMERIC BEARINGS (11 1/2"x 18"x2 3/8" ELASTOMERIC PAD WITH 1 1/2"x19" STEEL LOAD PLATE), AS PER PLAN			10				
516		106	LIN. FT.	PVC WATERSTOP, AS PER PLAN		106					
518		41	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC		41					
518		122	LIN. FT.	6" PERFORATED, HELICAL CORRUGATED STEEL PIPE, 707.01		122					
518		20	LIN. FT.	6" NON-PERFORATED, HELICAL CORRUGATED STEEL PIPE INCLUDING SPECIALS, 707.01		20					
SPEC.		243,000	LBS.	GALVANIZING OF NEW STRUCTURAL STEEL	243,000						
SPEC.		5173	SQ. FT.	SEALING OF CONCRETE SURFACES, (SEE CONTRACT DOCUMENTS)	5173						
SPEC.		2688	SQ. FT.	SEALING OF CONCRETE SURFACES, (EPOXY), (SEE CONTRACT DOCUMENTS)		1068	1620				

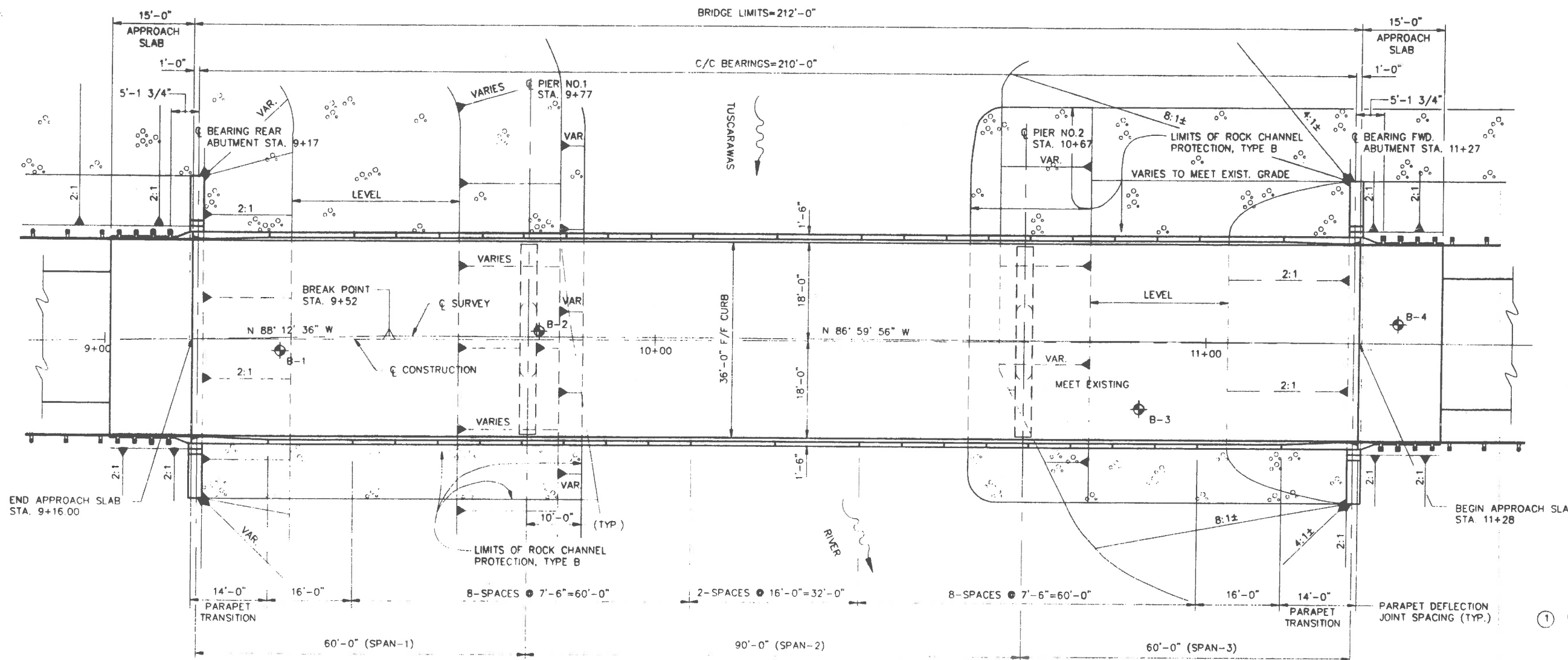
FINKBEINER, PETTIS & STROUT, LTD. 2 / 12  
CONSULTING ENGINEERS  
AKRON TOLEDO GREENSBORO

**STRUCTURAL GENERAL NOTES  
AND ESTIMATED QUANTITIES**

BRIDGE NO. STA-PE-30-3  
WARMINGTON STREET OVER  
TUSCARAWAS RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90	

CAD FILE: WARMINGTON  
DATE: 7/17/90  
OPERATOR: J.P.M.  
SCALE: 1"=1'

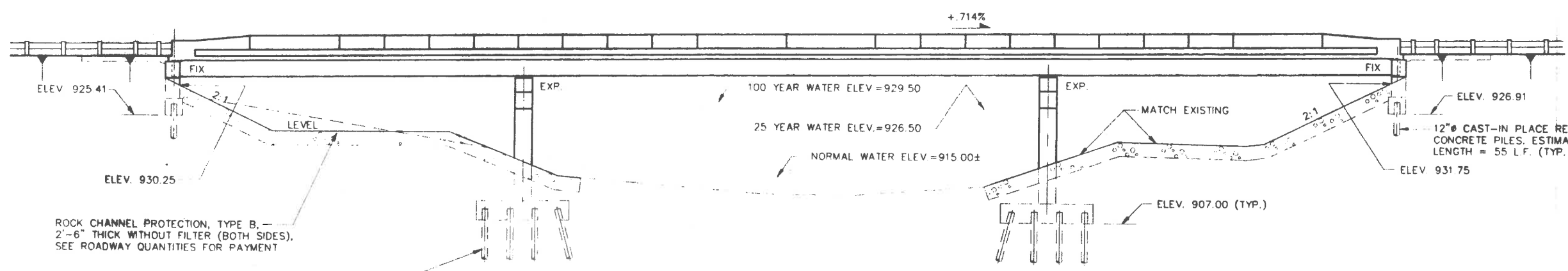


BORING LOCATIONS		
BORING NO.	STATION	OFFSET
B-1	9+32	2' RT.
B-2	9+79	1.5' LT.
B-3	10+88	12.5' RT.
B-4	11+35	3.5' LT.

**NOTES:**

- 1 FOR BORING LOGS SEE SHEET 12/12

**PLAN**



**ELEVATION**

\* SEE STRUCTURAL GENERAL NOTES FOR PILE ALTERNATE.

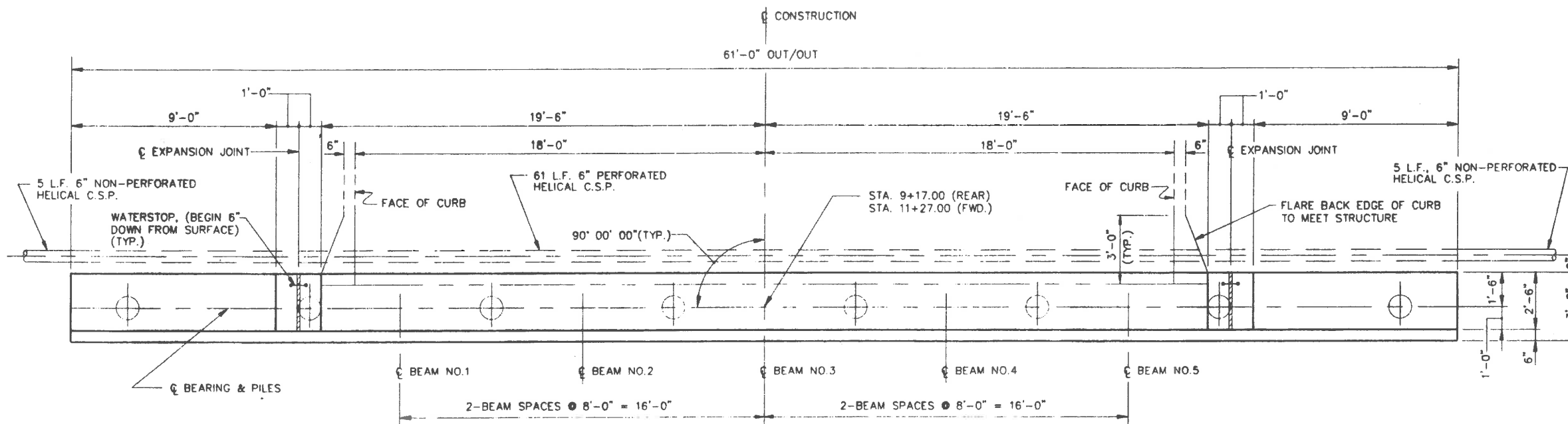
FINKBEINER, PETTIS & STROUT, LTD. 3/12  
CONSULTING ENGINEERS  
AKRON TOLEDO GREENSBORO

**GENERAL PLAN & ELEV.**

BRIDGE NO. PE-30-3  
WARMINGTON STREET  
OVER  
TUSCARAWAS RIVER

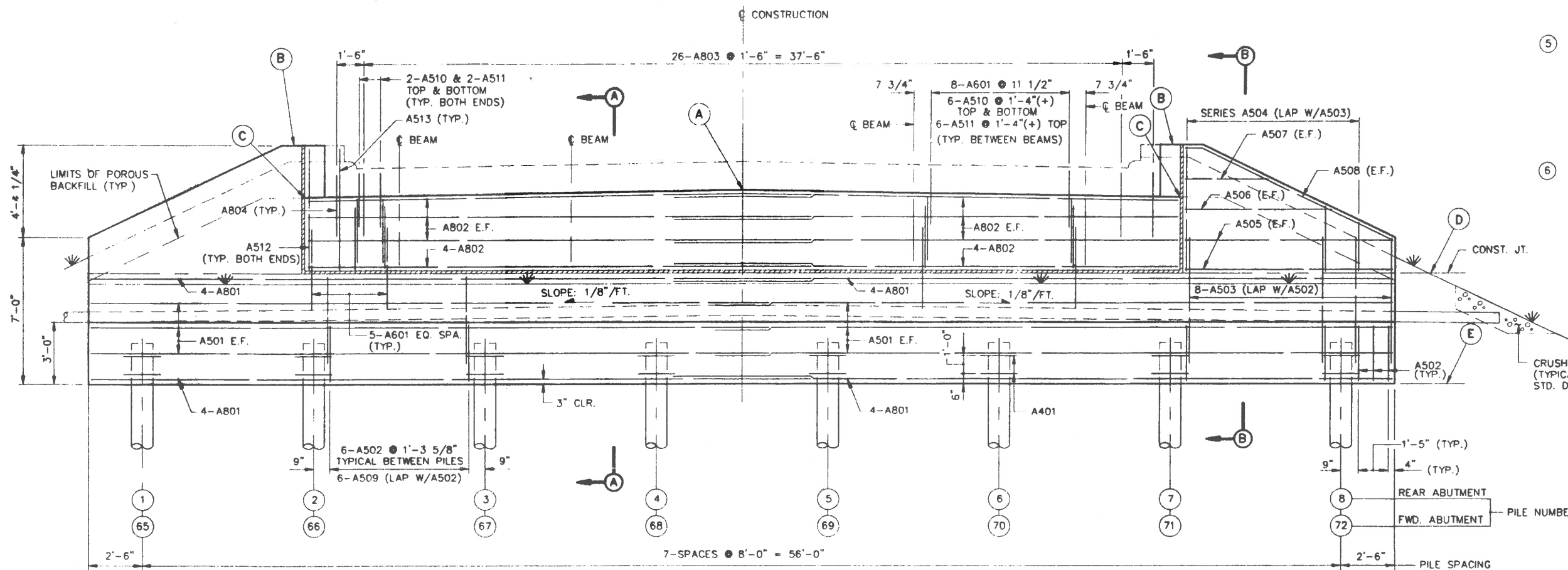
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90	

CAD FILE WARMINGPLAN  
DATE 4/29/91  
SCALE 1"=10'

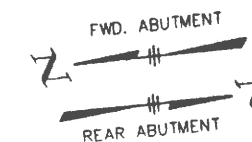


PLAN

ELEVATION TABLE					
LOCATION	A	B	C	D	E
REAR ABUT.	934.64	936.76	934.32	930.75	925.41
FWD. ABUT.	936.13	938.28	935.81	932.25	926.91



ELEVATION



NOTES

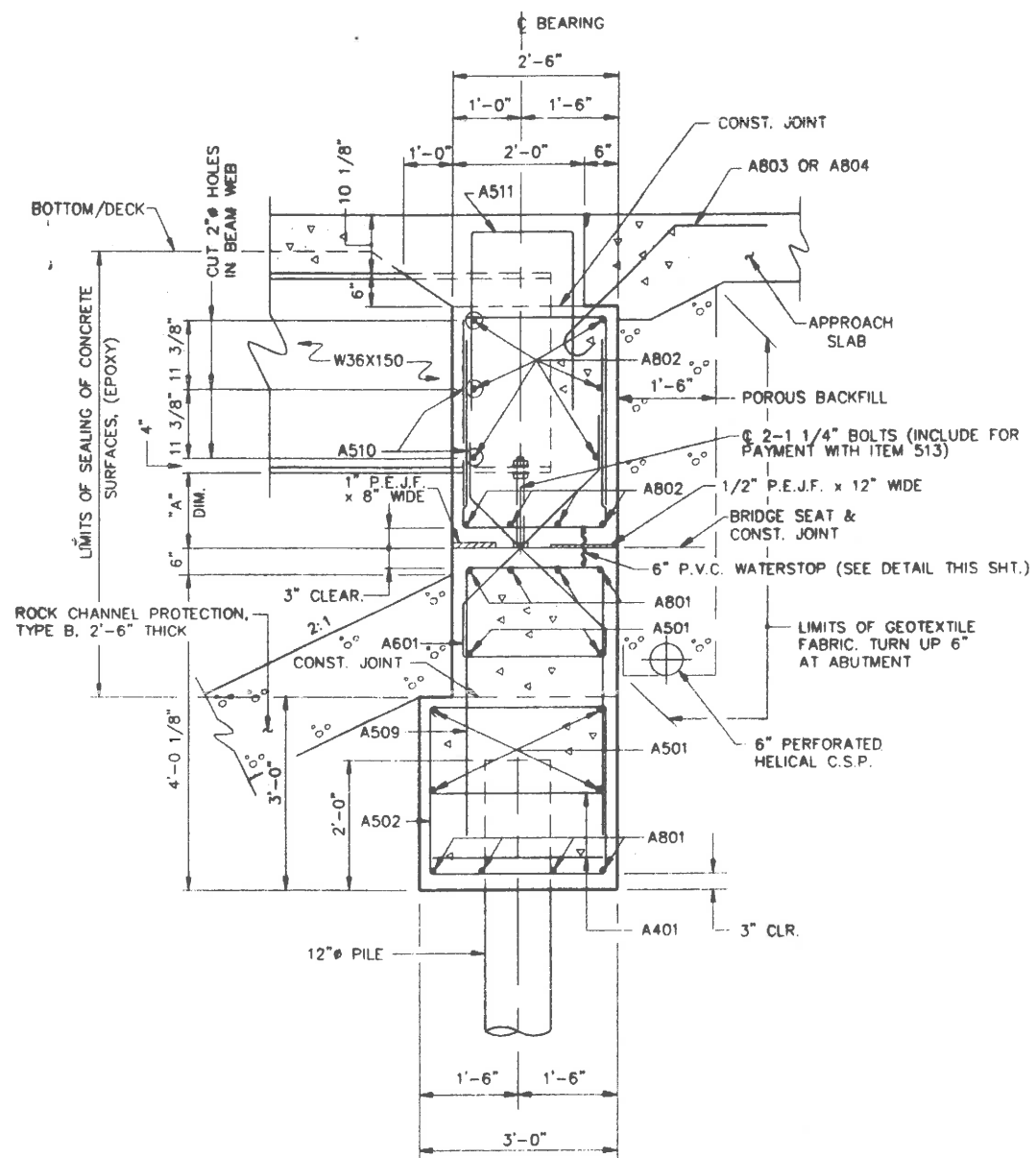
- POROUS BACKFILL SHALL EXTEND TO THE PLANE OF THE SUBGRADE AND Laterally TO THE ENDS OF THE WINGWALLS.
- MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE NOTED.
- FOR SECTIONS A-A & B-B & ADDITIONAL DETAILS, SEE SHEET 5 / 12.
- MINIMUM BAR LAPS:  
#5 BAR = 32 INCHES  
#8 BAR = 64 INCHES  
UNLESS NOTED OTHERWISE.
- ABBREVIATIONS:  
N.F. = NEAR FACE  
F.F. = FAR FACE  
E.F. = EACH FACE  
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- FOR ADDITIONAL DETAILS AND NOTES REFER TO STD. DWG. ICD-1-82 ON SHEET 34.

FINKBEINER, PETTIS & STROUT, LTD. 4 / 12  
CONSULTING ENGINEERS  
AKRON TOLEDO GREENSBORO

ABUTMENT DETAILS

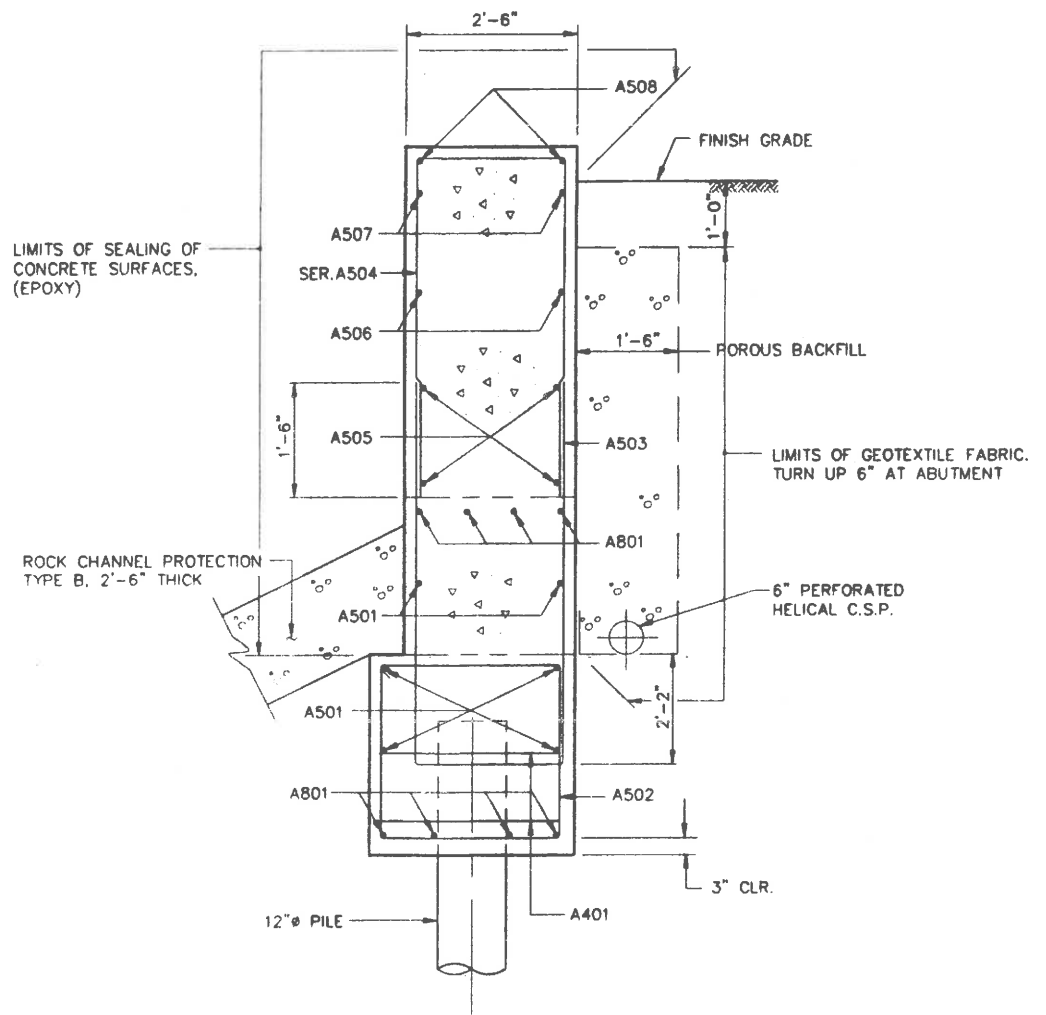
BRIDGE NO. PE-30-3  
WARMINGTON STREET  
OVER  
TUSCARAWAS RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90	

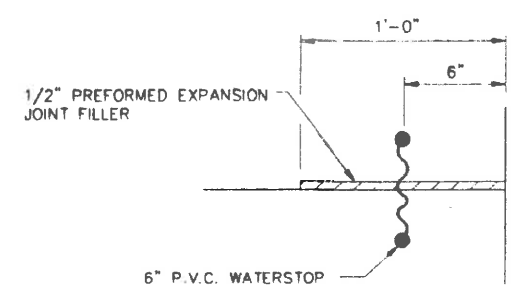


**SECTION A-A**

BEAM	DIMENSION "A"
1	1'-1 7/8"
2	1'-3 3/8"
3	1'-4 7/8"
4	1'-3 3/8"
5	1'-1 7/8"



**SECTION B-B**



**WATERSTOP DETAIL**

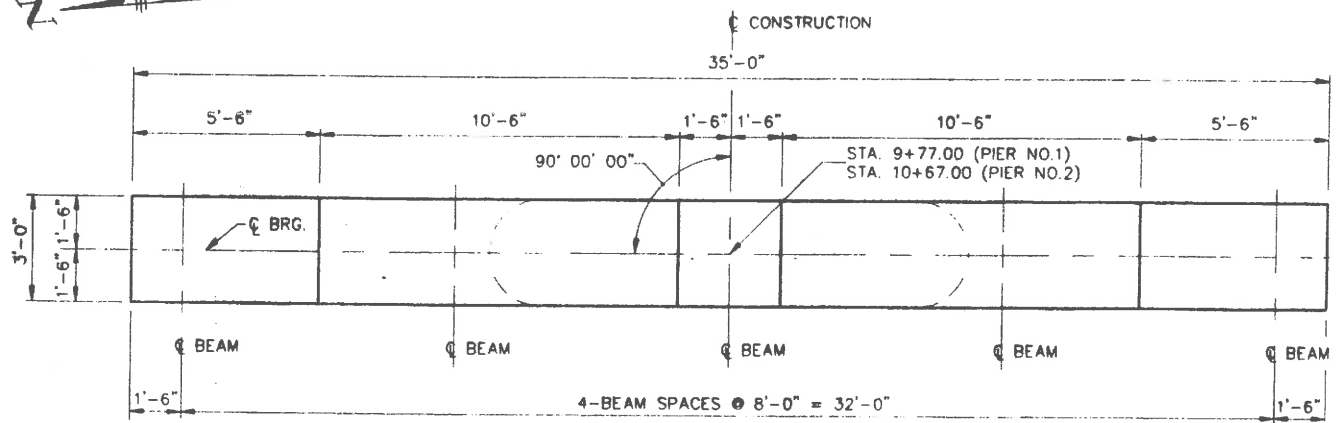
N.T.S.

**NOTES:**

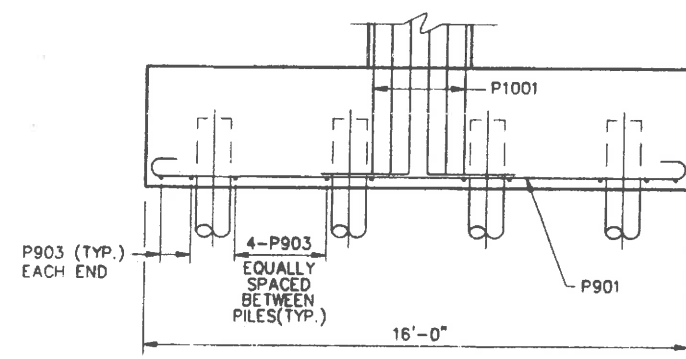
- ① FOR ADDITIONAL NOTES AND DETAILS SEE SHEET 4/12.
- ② TYPE A WATERPROOFING SHALL BE PLACED TO THE LIMITS AS DESCRIBED IN STD. DWG. AS-1-B1 AND SHALL BE INCLUDED WITH APPROACH SLAB FOR PAYMENT.

CAD FILE: WARMINGTON  
 DATE: 7/17/91  
 OPERATOR: F.P.M.

FINKBEINER, PETTIS & STROUT, LTD. 5/12					
CONSULTING ENGINEERS					
AKRON	TOLEDO	GREENSBORO			
<b>ABUTMENT DETAILS</b>					
BRIDGE NO. PE-30-3 WARMINGTON STREET OVER TUSCARAWAS RIVER					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90



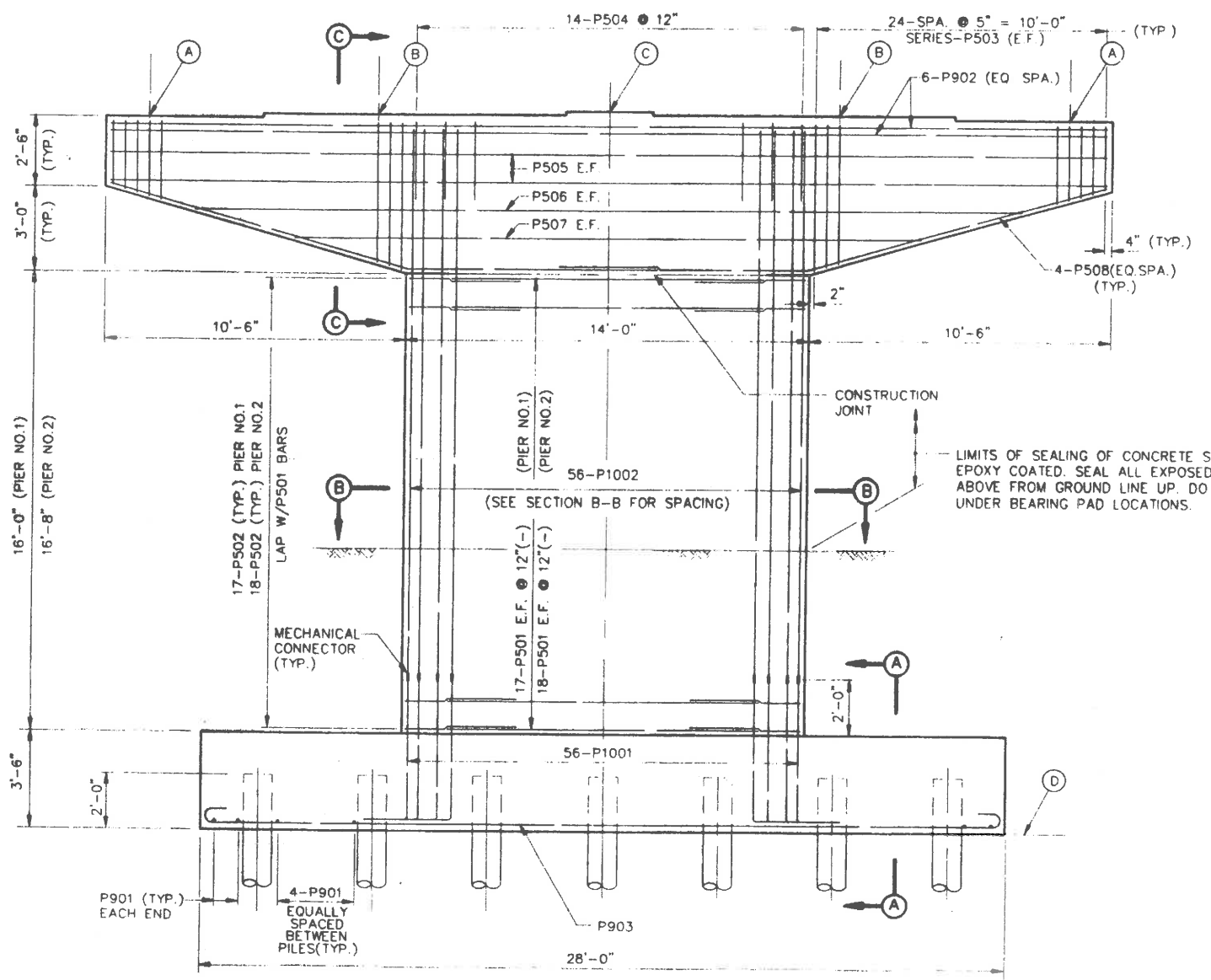
PLAN



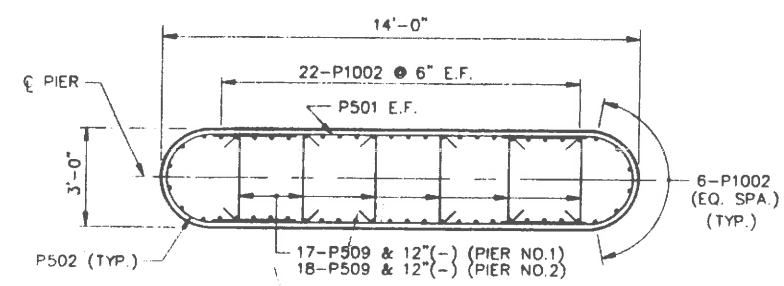
SECTION A-A

NOTES:

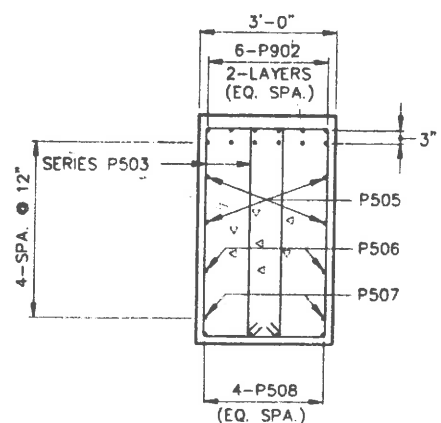
- 1 THE CLOSED STIRRUPS, SERIES P503 SHALL HAVE THE HOOKED CORNER PLACED AT THE BOTTOM.
- 2 AS PER ITEM 509, MECHANICAL CONNECTORS SHALL BE CAPABLE OF DEVELOPING 125% OF THE YIELD STRENGTH OF THE BARS CONNECTED. BAR MARKS P1001 & P1002 SHALL HAVE MECHANICAL CONNECTORS. MECHANICAL CONNECTORS SHALL ALSO BE EPOXY COATED.
- 3 INDICATES DIRECTION OF 1 IN 5 BATTER.



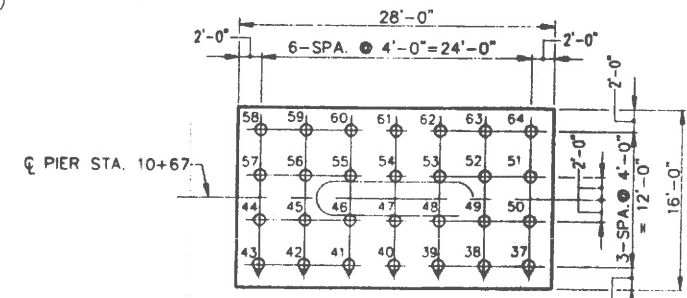
ELEVATION



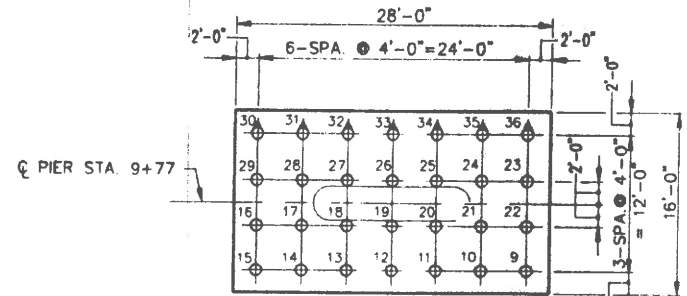
SECTION B-B



SECTION C-C



PIER NO.2 PILE PLAN



PIER NO.1 PILE PLAN

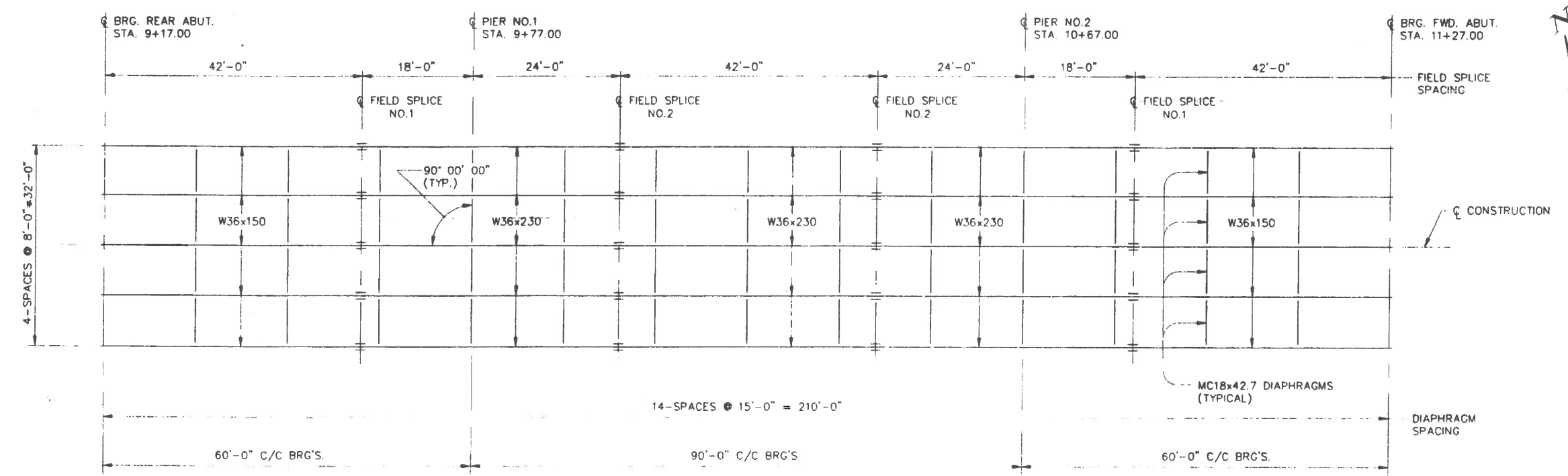
ELEVATION TABLE				
LOCATION	A	B	C	D
PIER NO 1	932.02	932.14	932.27	907.00
PIER NO 2	932.66	932.78	932.91	907.00

FINKBEINER, PETTIS & STROUT, LTD. 6 / 12  
CONSULTING ENGINEERS  
AKRON TOLEDO GREENSBORO

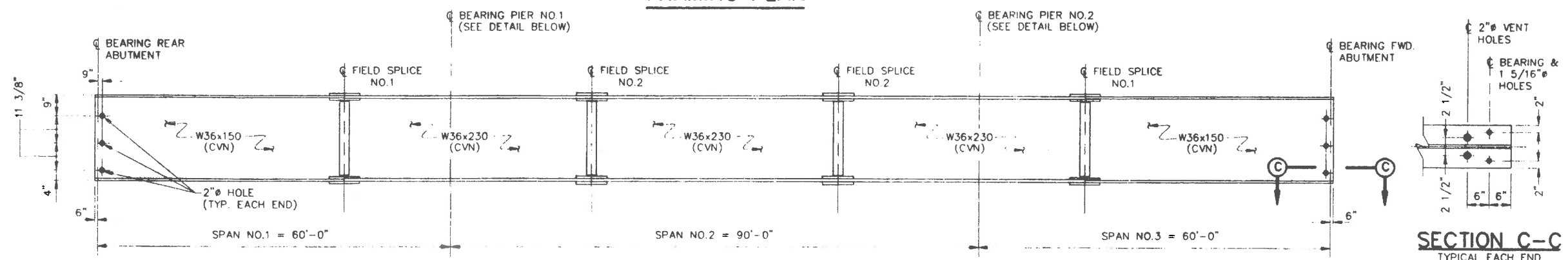
**PIER DETAILS**  
BRIDGE NO. PE-30-3  
WARMINGTON STREET  
OVER  
TUSCARAWAS RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90	

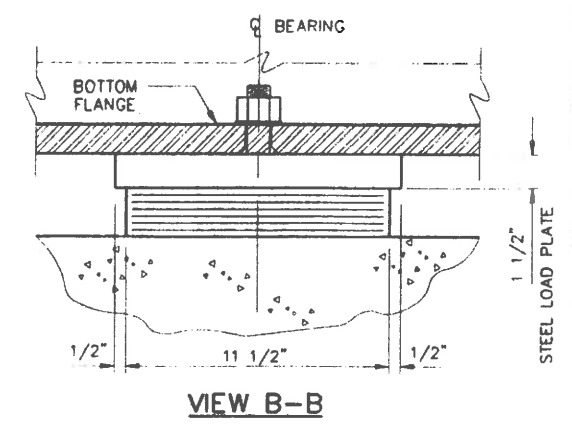
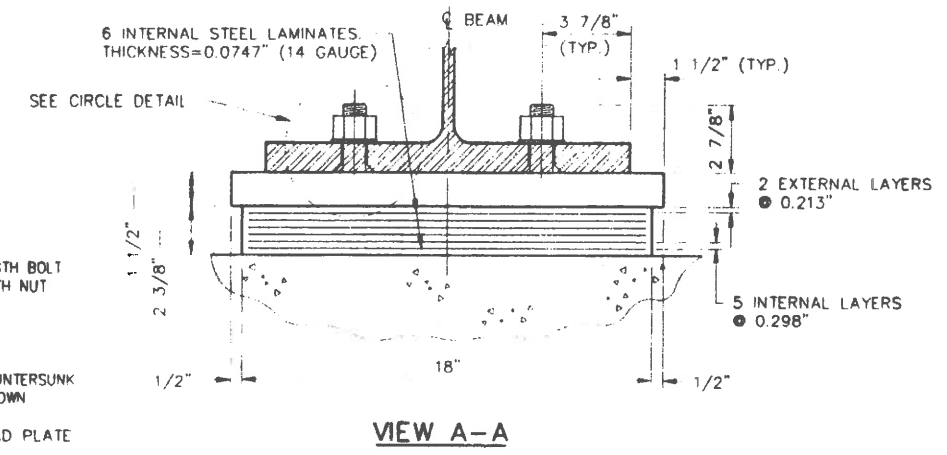
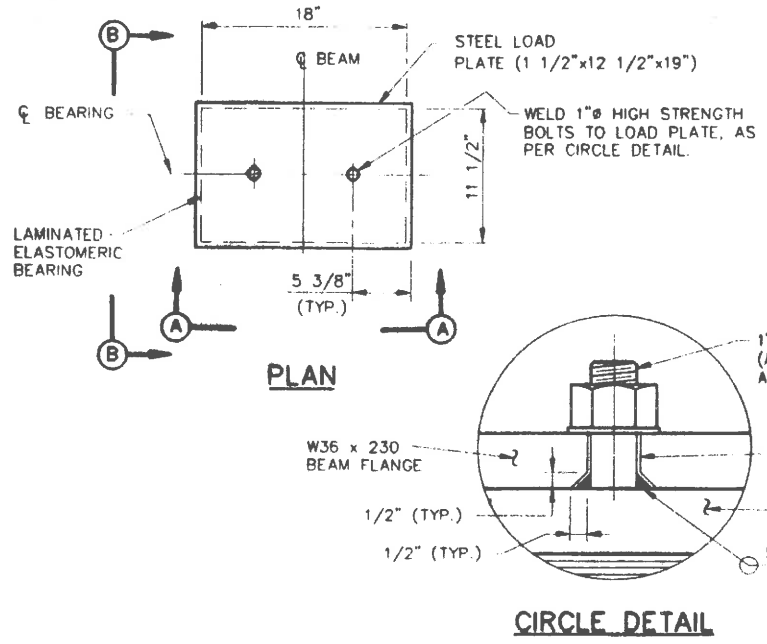
CAD FILE NUMBER: 1/14/91  
DATE: 1/14/91  
OPERATOR: J.D.P.



**FRAMING PLAN**



**BEAM ELEVATION**



**PIER BEARING DETAILS**

DEAD LOAD = 138 (KIPS)  
LIVE LOAD = 61 (KIPS)  
50 DUROMETER HARDNESS  
(SEE NOTE 4)

DESIGN LOAD=199 (KIPS)

**NOTES**

- 1 ALL STRUCTURAL STEEL SHALL BE ASTM A572 & GALVANIZED UNLESS NOTED OTHERWISE.
- 2 WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF THE SPECIFICATIONS. ALL FIELD SPLICE MATERIAL EXCEPT FILL PLATES SHALL BE (CVN).
- 3 ALL FIELD SPLICES SHALL BE MADE WITH 1" DIAMETER HIGH STRENGTH BOLTS CONFORMING TO ASTM A-325. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF THE EXTERIOR BEAM, ON THE BOTTOM OF THE BOTTOM FLANGE PLATES AND TOP OF THE TOP FLANGE PLATES.
- 4 LAMINATED ELASTOMERIC BEARINGS:  
THE ELASTOMERIC BEARING MANUFACTURER SHALL SUPPLY A PLAIN ELASTOMERIC PAD FOR TESTING PURPOSES. THE PAD SHALL BE FURNISHED FROM THE SAME BATCH OF NEOPRENE THAT IS USED IN THE FABRICATION OF THE LAMINATED ELASTOMERIC BEARING AND THE FABRICATOR SHALL CERTIFY THE IDENTITY OF THE ELASTOMER. THE PAD SHALL HAVE A 1/2 INCH THICKNESS, AND SHALL HAVE MINIMUM LENGTH AND WIDTH DIMENSIONS OF 6 INCHES. PAYMENT FOR THE TEST PAD WILL BE INCLUDED IN THE PRICE BID FOR THE BEARINGS.

LOAD PLATE: THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. STEEL LOAD PLATES SHALL BE ASTM A572 GALVANIZED.

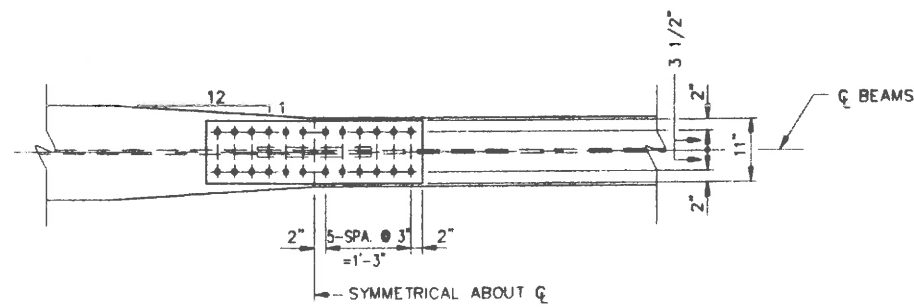
BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, LAMINATED ELASTOMERIC BEARINGS, AS PER PLAN.

FINKBEINER, PETTIS & STROUT, LTD. 7/12						
CONSULTING ENGINEERS						
AKRON		TOLEDO		GREENSBORO		
<b>FRAMING PLAN &amp; BEAM ELEVATION</b>						
BRIDGE NO. PE-30-3 WARMINGTON STREET OVER TUSCARAWAS RIVER						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90	

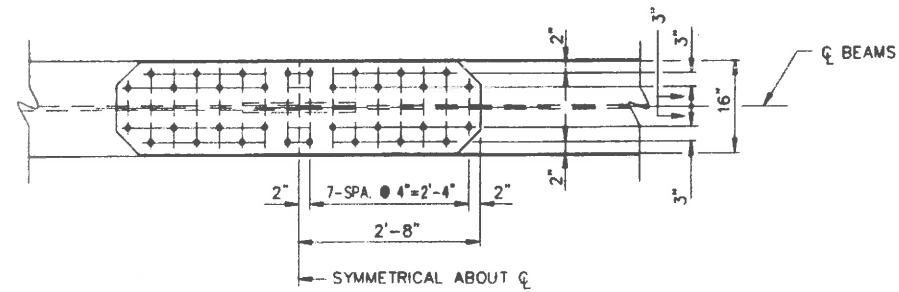
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DATE: 7/17/01  
OPERATOR: F.P.W.  
SCALE: 1"=4'

NOTES

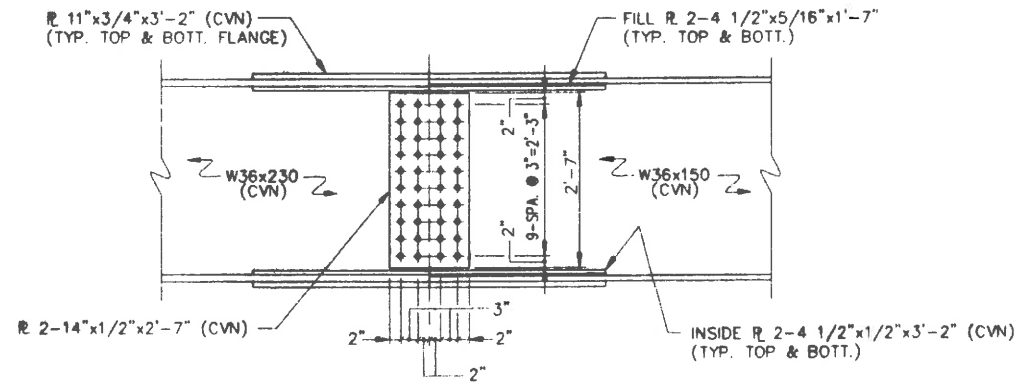
- 1 ALL CAMBER VALUES ARE POSITIVE. EACH BEAM LINE, AFTER BEING GALVANIZED, SHALL BE PLACED IN LAYDOWN WITH JOINTS PINNED TO VERIFY THE CHANGES IN CAMBER AND ALIGNMENT HAVE NOT EXCEEDED CAMBER TOLERANCES OF PLUS 1", MINUS 0" AT EACH 1/2 POINT (MIDSPAN) POINT AND PLUS 1/8", MINUS 1/8" AT EACH SUPPORT.
- 2 FOR ADDITIONAL DETAILS AND NOTES SEE SHEET 7/12.
- 3 ALL BOLTS SHALL BE HIGH STRENGTH BOLTS, 1" DIAMETER, A325 UNLESS OTHERWISE NOTED.



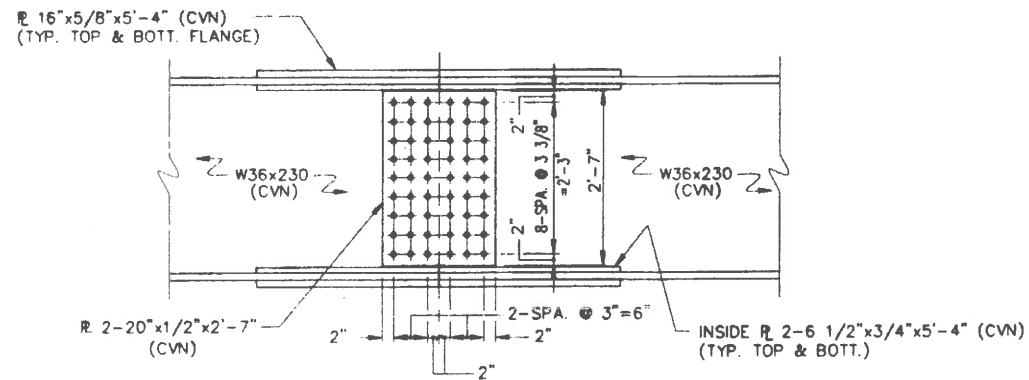
PLAN



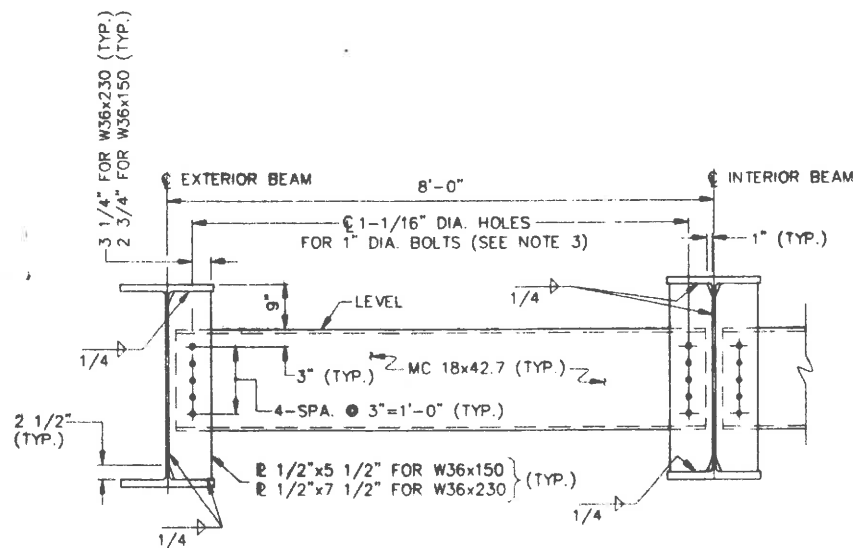
PLAN



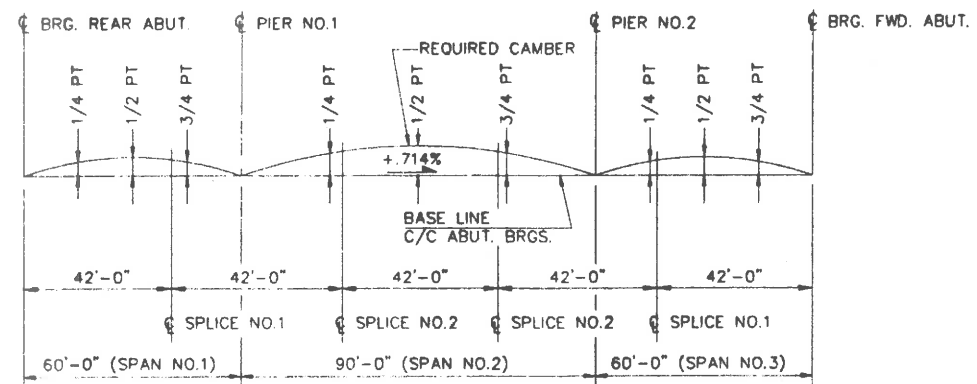
BEAM SPLICE NO.1 DETAIL



BEAM SPLICE NO.2 DETAIL



INTERMEDIATE DIAPHRAGM



CAMBER DIAGRAM

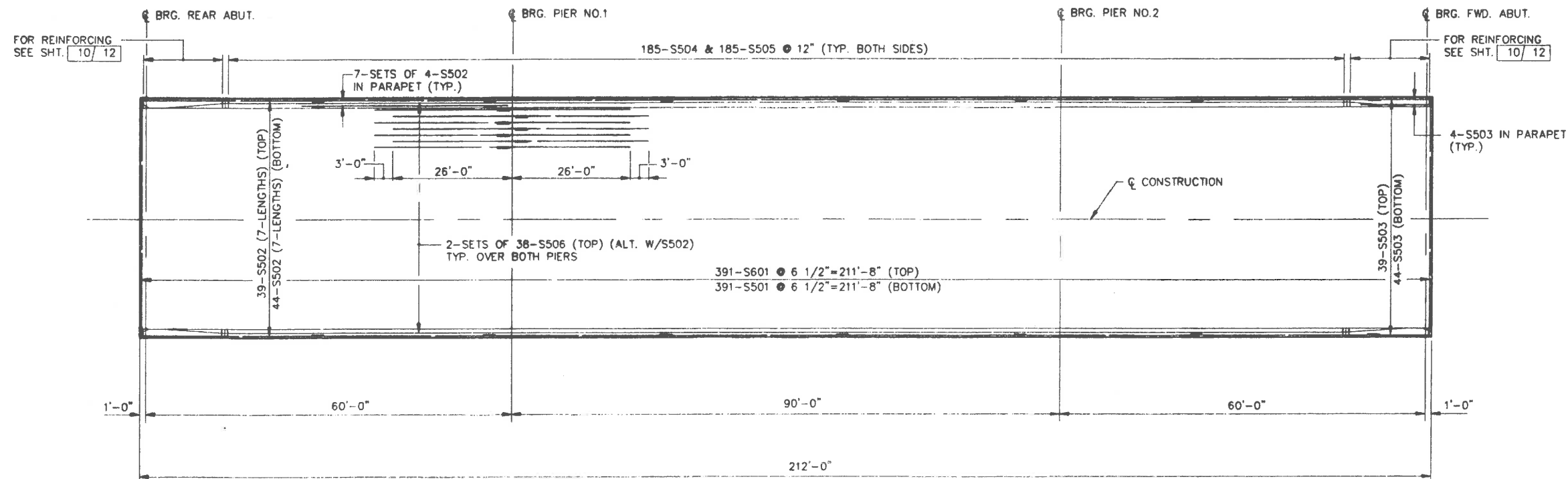
DEFLECTION AND CAMBER (SEE NOTE 1)													
LOCATION (POINT)	SPAN NO.1				SPAN NO.2				SPAN NO.3				
	1/4	1/2	SPL.	3/4	1/4	SPL.	1/2	SPL.	3/4	1/4	SPL.	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	3/16"	3/16"	1/4"	3/16"	3/16"	0	0	0	0
DEFLECTION DUE TO REMAINING DEAD LOAD	1/4"	1/4"	1/8"	1/16"	9/16"	5/8"	15/16"	5/8"	9/16"	1/16"	1/8"	1/4"	1/4"
REQUIRED SHOP CAMBER	1/4"	1/4"	1/8"	1/16"	3/4"	13/16"	1 3/16"	13/16"	3/4"	1/16"	1/8"	1/4"	1/4"

FINKBEINER, PETTIS & STROUT, LTD. 8/12  
CONSULTING ENGINEERS  
AKRON TOLEDO GREENSBORO

**FRAMING DETAILS**  
BRIDGE NO. PE-30-3  
WARMINGTON STREET  
OVER  
TUSCARAWAS RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90	

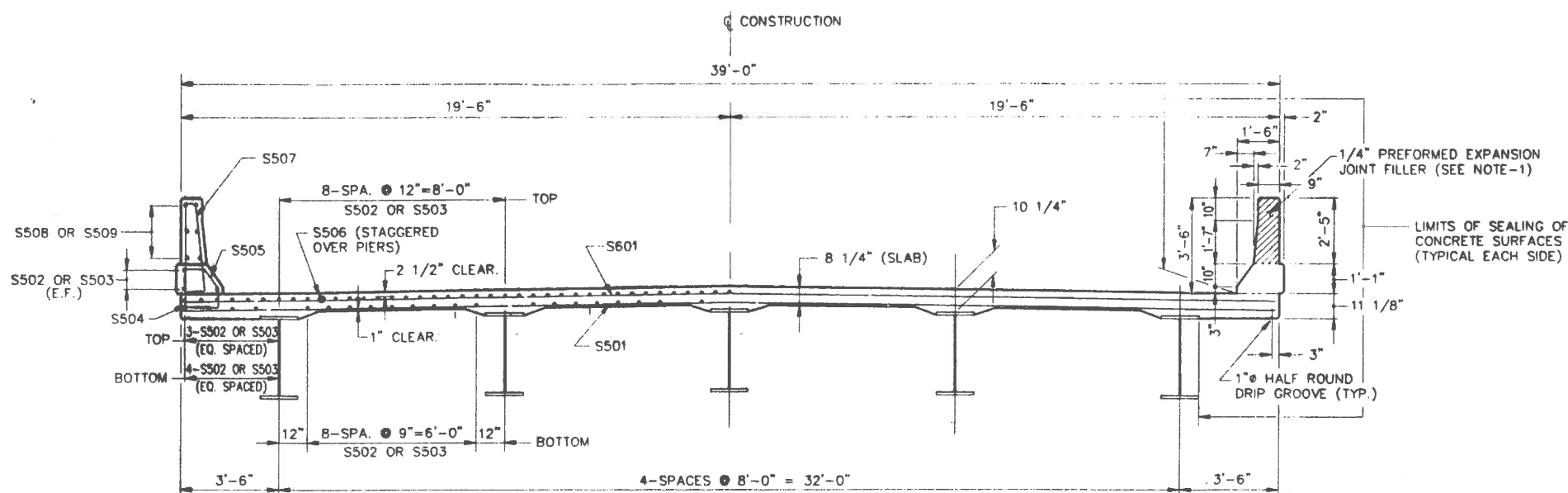
CAD FILE: WARMPT  
DATE: 7/17/91  
OPERATOR: P.P.R.



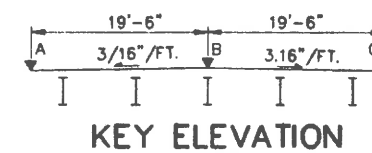
**DECK SLAB PLAN**

**NOTES:**

- ① PREFORMED EXPANSION JOINT FILLER IN THE PARAPET DEFLECTION JOINTS MAY BE EITHER 1/4" GRAY SPONGE RUBBER OR 1/4" GRAY CELLULER POLYVINYL CHLORIDE (PVC) SPONGE. SPONGE RUBBER FILLER SHALL CONFORM TO AASHTO M-153, TYPE-1. DENSITY OF PVC SPONGE SHALL NOT BE LESS THAN 20 LBS. PER CU. FT.
- ② MINIMUM BAR LAPS ARE AS FOLLOWS:  
#5 BAR = 32"  
UNLESS OTHERWISE NOTED:
- ③ FOR SUPERSTRUCTURE DETAILS SEE SHEET 10/12.
- ④ A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" (PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" WIDTH).



**TRANSVERSE SECTION**



SCREED ELEVATIONS			
LOCATION	POINT-A	POINT-B	POINT-C
☉ ABT. BRG.	935.69	935.99	935.69
1/4	935.81	936.11	935.81
1/2	935.93	936.23	935.93
3/4	936.02	936.32	936.02
☉ PIER NO.1	936.12	936.42	936.12
1/4	936.33	936.63	936.33
1/2	936.52	936.82	936.52
3/4	936.65	936.95	936.65
☉ PIER NO.2	936.76	937.06	936.76
1/4	936.87	937.17	936.87
1/2	937.00	937.30	937.00
3/4	937.10	937.40	937.10
☉ ABT. BRG.	937.19	937.49	937.19

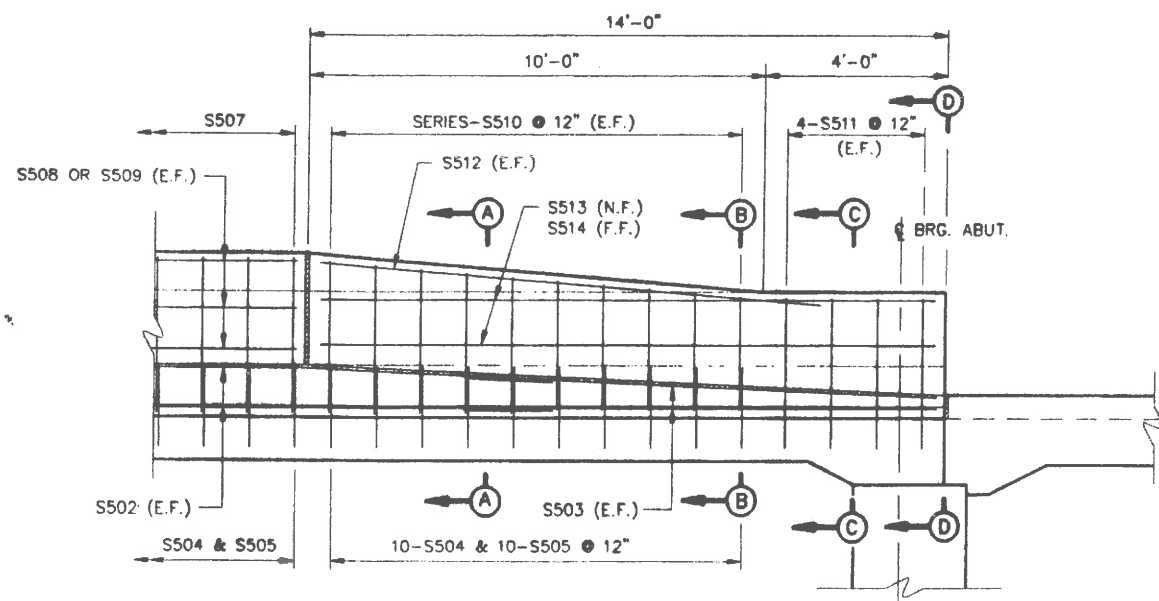
THE ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTION CAUSED BY THE WEIGHT OF THE CONCRETE.

FINKBEINER, PETTIS & STROUT, LTD. 9/12

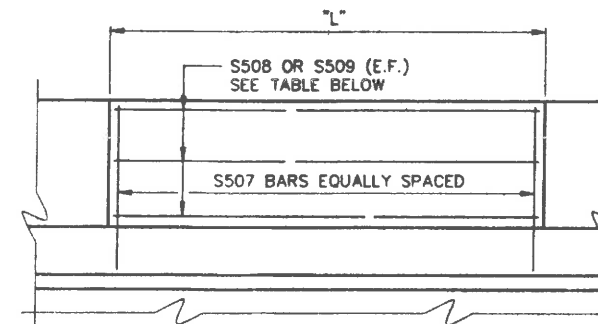
CONSULTING ENGINEERS  
AKRON TOLEDO GREENSBORO

**TRANSVERSE SECTION  
AND SLAB PLAN**  
BRIDGE NO. PE-30-3  
WARMINGTON STREET  
OVER  
TUSCARAWAS RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90	



**PARAPET TRANSITION**

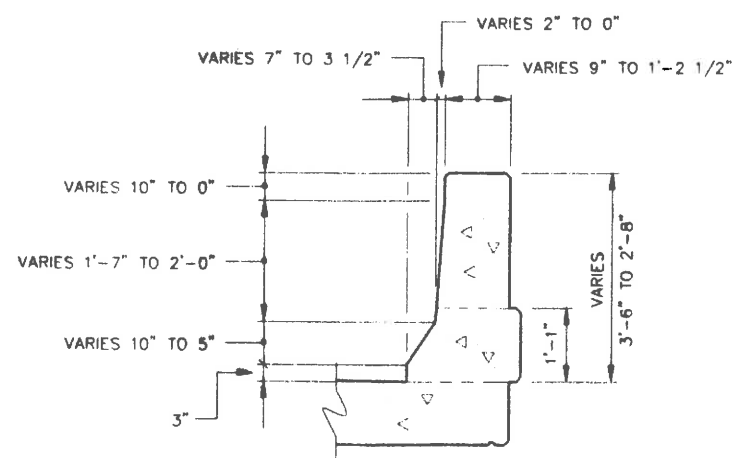


**TYPICAL PARAPET PANEL**

PANEL LENGTH "L"	NO. OF PARAPET PANELS	BAR MARK	NO. OF S507 BARS PER PANEL
7'-6"	32	S509	8
16'-0"	8	S508	16

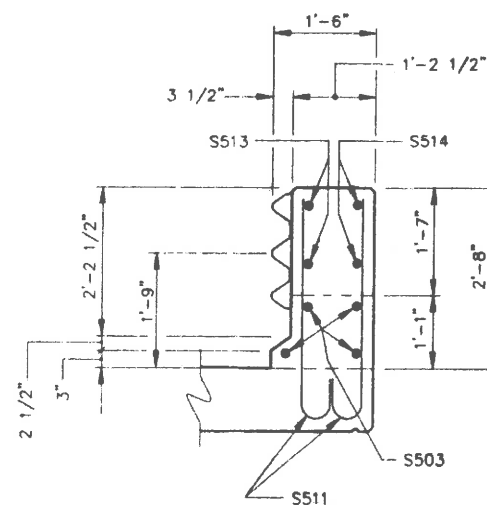
**NOTES:**

- 1 CONCRETE PARAPETS ABOVE UPPER CONSTRUCTION JOINT SHALL BE PLACED IN ALTERNATE SECTIONS BY THE USE OF BULKHEADS. CLOSING SECTIONS SHALL BE PLACED AFTER REMOVAL OF BULKHEADS AND AFTER PLACEMENT OF EXPANSION JOINT FILLER. EXPOSED EDGES OF THE FILLER SHALL BE FLUSH WITH THE SURFACE OF CONCRETE AND SHALL BE FREE OF MORTAR.
- 2 FOR PARAPET PANEL SPACING SEE SHEET 3 / 12

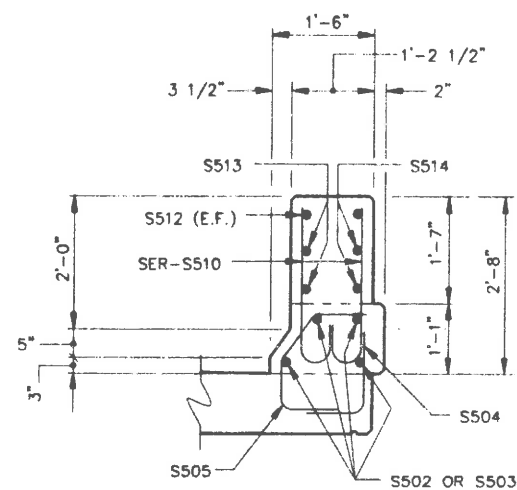


**SECTION A-A**

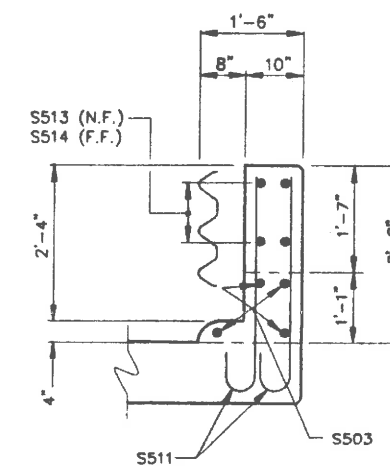
SEE SECTION B-B, FOR REINFORCING



**SECTION C-C**



**SECTION B-B**



**SECTION D-D**

CAD FILE: WARMINGTON  
DATE: 11/11/09  
OPERATOR: J.D.P.

FINKBEINER, PETTIS & STROUT, LTD. 10/12					
CONSULTING ENGINEERS					
AKRON		TOLEDO		GREENSBORO	
<b>SUPERSTRUCTURE DETAILS</b>					
BRIDGE NO. PE-30-3 WARMINGTON STREET OVER TUSCARAWAS RIVER					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90

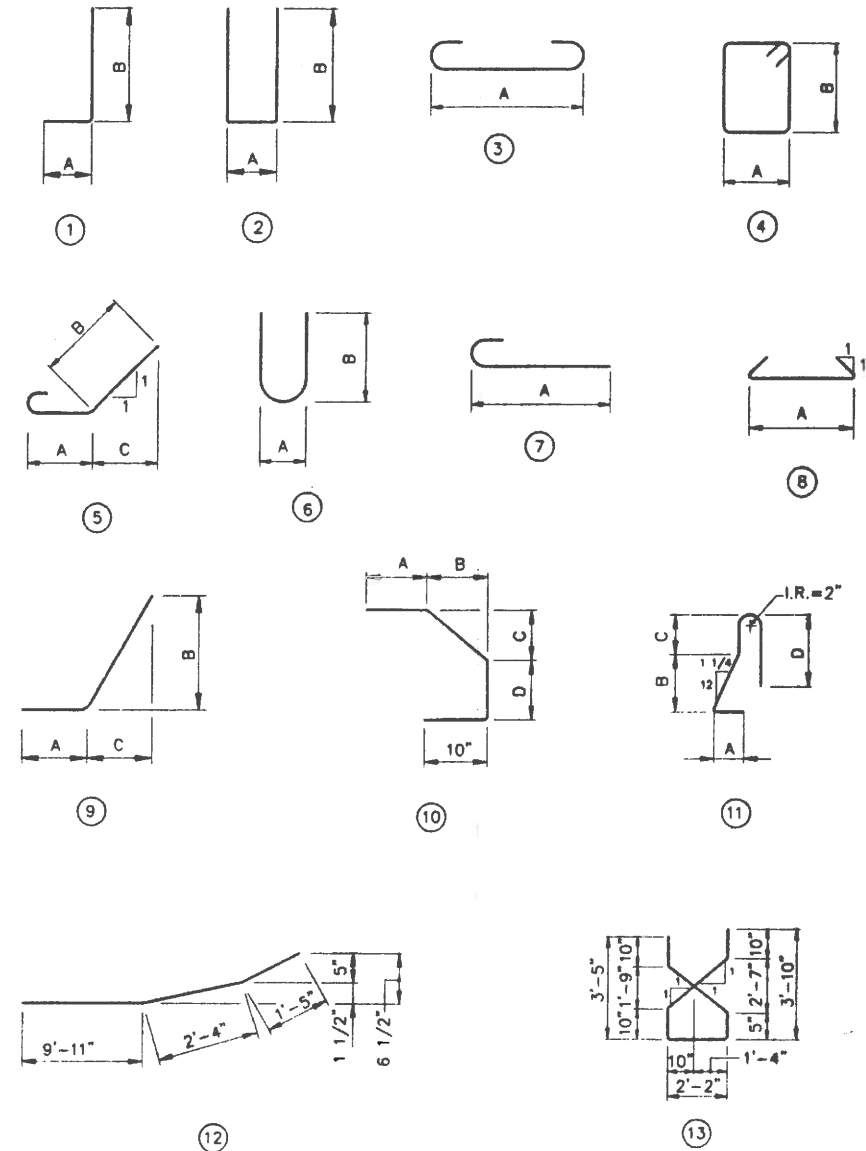
# REINFORCING BAR SCHEDULE

STARK COUNTY  
WARMINGTON STREET  
BRIDGE REPLACEMENT

26  
34

MARK	NO. REQUIRED			LENGTH	TYPE	DIMENSIONS					WEIGHT LBS.
	REAR	FWD.	TOTAL			A	B	C	D	INCR.	
	A801	16	16			32	33'-0"	ST			
A802	20	20	40	23'-0"	ST						2456
A803	26	26	52	4'-7"	5	2'-3"	1'-5"	1'-0"			636
A804	2	2	4	7'-2"	5	2'-3"	4'-0"	1'-0"			77
A601	42	42	84	10'-9"	13						1356
A501	12	12	24	31'-8"	ST						793
A502	48	48	96	11'-0"	4	2'-8"	2'-7"				1101
A503	16	16	32	13'-3"	2	2'-2"	5'-8"				442
SERIES A504	2 SETS OF 7 BARS	2 SETS OF 7 BARS	4 SETS OF 7 BARS	6'-3" 10 13'-3"	2	2'-2"	5'-1" 10 13'-4"			14"	285
A505	8	8	16	9'-7"	ST						160
A506	4	4	8	6'-8"	ST						56
A507	4	4	8	3'-8"	ST						31
A508	4	4	8	10'-6"	9	9"	4'-3"	8'-10"			88
A509	30	30	60	11'-3"	2	2'-2"	4'-8"				704
A510	56	56	112	7'-11"	2	2'-2"	2'-11"				925
A511	28	28	56	6'-9"	2	1'-8"	2'-8"				394
A512	2	2	4	13'-3"	2	2'-2"	5'-8"				55
A513	2	2	4	12'-9"	2	1'-8"	5'-8"				53
A401	16	16	32	9'-2"	4	1'-9"	2'-7"				196
TOTAL ABUTMENTS											12,628

MARK	No. REQUIRED	LENGTH	TYPE	DIMENSIONS					WEIGHT LBS.	
				A	B	C	D	INCR.		
				S601	391	38'-8"	ST			
S501	391	38'-8"	ST						15,769	
S502	637	30'-0"	ST						19,932	
S503	91	15'-6"	ST						1471	
S504	410	2'-4"	1	10"	1'-8"				998	
S505	410	3'-0"	10	9"	6"	9"	9"		1283	
S506	152	28'-0"	ST						4439	
S507	384	6'-8"	11	8"	2'-7"	8"	3'-0"		2670	
S508	48	15'-7"	ST						780	
S509	128	7'-1"	ST						946	
SERIES S510	8 SETS OF 10 BARS	2'-9" 10 3'-7"	7	2'-2" 10 3'-0"				7/8"	264	
S511	32	3'-7"	7	3'-0"					120	
S512	8	11'-0"	ST						92	
S513	8	13'-8"	12						114	
S514	8	13'-8"	ST						114	
TOTAL PIERS										71,700
GRAND TOTAL										111,869



MARK	NO. REQUIRED			LENGTH	TYPE	DIMENSIONS					WEIGHT LBS.
	REAR	FWD.	TOTAL			A	B	C	D	INCR.	
	P1001	56	56			112	6'-9"	1	1'-10"	5'-3"	
P1002	56	56	112	19'-4"	ST						9317
P901	28	28	56	18'-2"	3	15'-8"					3459
P902	12	12	24	34'-8"	ST						2829
P903	16	16	32	29'-0"	3	27'-8"					3155
P501	34	36	70	10'-10"	ST						791
P502	32	36	68	10'-2"	6	2'-8"	3'-0"				721
SERIES P503	4-SETS OF 25-BARS	4-SETS OF 25-BARS	8-SETS OF 25-BARS	8'-0" 10 14'-0"	4	1'-8"	2'-1" 10 5'-1"			1 1/2"	2295
P504	14	14	28	9'-3"	2	2'-8"	3'-5"				270
P505	4	4	8	34'-8"	ST						289
P506	2	2	4	28'-9"	ST						120
P507	2	2	4	21'-9"	ST						91
P508	8	8	16	13'-3"	9	8'-8"	2'-11"	10'-4"			221
P509	102	108	210	3'-4"	8	2'-8"					730
TOTAL PIERS											27,541

NOTE:  
ALL REINFORCING IS TO BE EPOXY COATED.  
AS PER 509 10

FINKBEINER, PETTIS & STROUT, LTD. 11/12  
CONSULTING ENGINEERS  
AKRON TOLEDO GREENSBORO

**REINFORCING BAR SCHEDULE**  
BRIDGE NO. PE-30-3  
WARMINGTON STREET  
OVER  
TUSCARAWAS RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.A.B.	J.D.P.		R.A.H.	R.B.B.	12/90	

**LOG OF BORING NO. B-1**  
DATE OF BORING: 4/24/90  
SURFACE ELEVATION: 934.5±  
STA. 9+32 2' RT.

DEPTH	SAMPLE	NO.	W <sub>c</sub>	W <sub>p</sub>	W <sub>L</sub>	REMARKS
SURFACE						
						8" Pavement
5	SS-1	6-7			10.5	MISCELLANEOUS FILL CONSISTING PRIMARILY OF GRAY CLAYEY SILT, SOME BROWN SILTY SAND AND GRAVEL. SOME SHALE AND ROCK FRAGMENTS. MOIST.
		-4				
	SS-2	9-5			12.8	
		-7				
10	SS-3	4-6			11.8	BROWN FINE TO MEDIUM SILTY SAND AND GRAVEL. SOME COBBLES. POSSIBLE FILL. LOOSE. WET. (A-1-b)
		-3				
15	SS-4	4-5			8.4	GRAY CLAYEY SILT. SOME FINE SAND. TRACE ORGANICS. MEDIUM MOIST TO WET. (A-4a)
		-5				
20	SS-5	2-2			29.6	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-7				
25	SS-6	4-4			27.6	BROWN SAND AND GRAVEL. SOME COBBLES. TRACE SILT. MEDIUM DENSE. WET. (A-1-b)
		-7				
30	SS-7	10-18			3.4	BROWN SAND WITH GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-22				
35	SS-8	20-15			9.0	BROWN SAND AND GRAVEL. SOME COBBLES. TRACE SILT. MEDIUM DENSE. WET. (A-1-b)
		-14				
40	SS-9	8-11			13.1	BROWN SILTY SAND AND GRAVEL. TRACE TO SOME CLAY. SOME COBBLES. POSSIBLE FILL. MEDIUM DENSE. MOIST. (A-1-b)
		-9				
45	SS-10	6-14			13.3	GRAY CLAYEY SILTY SAND AND GRAVEL. SOME ROCK FRAGMENTS AND PIECES OF WOOD. POSSIBLE FILL. DENSE. (A-1-b)
		-14				
	SS-11	9-10			9.4	BROWN SILTY SAND AND GRAVEL. TRACE TO SOME CLAY. SOME COBBLES. POSSIBLE FILL. MEDIUM DENSE. MOIST. (A-1-b)
		-11				
BORING TERMINATED AT 50.0'						
						WATER ENCOUNTERED WATER AT COMPLETION

**LOG OF BORING NO. B-2**  
DATE OF BORING: 4/24/90  
SURFACE ELEVATION: 914.0±  
STA. 9+79 1.5' LT.

DEPTH	SAMPLE	NO.	W <sub>c</sub>	W <sub>p</sub>	W <sub>L</sub>	REMARKS
SURFACE						
						GRAY SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
5	SS-1	5-9			17.0	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-10				
	SS-2	9-12			11.9	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-12				
10	SS-3	5-9			11.4	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-10				
15	SS-4	10-15			16.1	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-12				
20	SS-5	12-12			21.7	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-15				
25	SS-6	9-12			12.7	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-12				
30	SS-7	9-10			10.9	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-15				
35	SS-8	12-12			-	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		12				
40	SS-8	9-10			-	BORING TERMINATED AT 40.0'
		-15				

**LOG OF BORING NO. B-3**  
DATE OF BORING: 4/23/90  
SURFACE ELEVATION: 921.5±  
STA. 10+88 12.5' RT.

DEPTH	SAMPLE	NO.	W <sub>c</sub>	W <sub>p</sub>	W <sub>L</sub>	REMARKS
SURFACE						
						8" Topsoil
5	SS-1	1-1			37.7	BROWN AND GRAY SANDY SILT WITH VEGETATION. VERY LOOSE. MOIST. (A-6a)
		-1				
10	SS-2	7-12			10.7	GRAY SILTY SAND AND GRAVEL. VERY LOOSE TO DENSE. MOIST. (A-1-b)
		-13				
15	SS-3	19-19			13.6	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-16				
20	SS-4	16-10			8.3	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-17				
25	SS-5	10-10			7.7	BROWN SAND AND GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-12				
30	SS-6	12-12			8.0	BROWN SAND WITH GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-12				
35	SS-7	9-11			7.6	BROWN SAND WITH GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-12				
40	SS-8	9-9			9.6	BROWN SAND WITH GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-9				
45	SS-9	9-9			-	BROWN SAND WITH GRAVEL. TRACE SILT. MEDIUM DENSE. MOIST. (A-1-b)
		-12				
50	SS-10	9-12			19.6	BORING TERMINATED AT 50.0'
		-18				

**LOG OF BORING NO. B-4**  
DATE OF BORING: 4/24/90  
SURFACE ELEVATION: 938.0±  
STA. 11+35 3.5' LT.

DEPTH	SAMPLE	NO.	W <sub>c</sub>	W <sub>p</sub>	W <sub>L</sub>	REMARKS
SURFACE						
						9" Topsoil
5	SS-1	7-7			12.8	BROWN SILTY SAND AND GRAVEL. TRACE TO SOME CLAY. SOME COBBLES. POSSIBLE FILL. MEDIUM DENSE. MOIST. (A-1-b)
		-7			14.3	
	SS-2	13-13			5.3	GRAY CLAYEY SILTY SAND AND GRAVEL. SOME ROCK FRAGMENTS AND PIECES OF WOOD. POSSIBLE FILL. DENSE. (A-1-b)
		-10				
10	SS-3	8-8			10.4	BROWN SILTY SAND AND GRAVEL. SOME COBBLES. MEDIUM DENSE. WET. (A-1-b)
		-5				
15	SS-4	6-13			12.0	GRAY FINE SANDY SILT. TRACE CLAY. TRACE ORGANICS. MEDIUM DENSE. WET. (A-4a)
		-23			11.7	
20	SS-5	6-6			8.3	BROWN SILTY SAND AND GRAVEL. SOME COBBLES. MEDIUM DENSE. WET. (A-1-b)
		-5				
25	SS-6	4-4			44.1	BROWN SILTY SAND AND GRAVEL. SOME COBBLES. MEDIUM DENSE TO DENSE. WET. (A-1-b)
		-7				
30	SS-7	7-10			6.7	BROWN SILTY SAND AND GRAVEL. SOME COBBLES. MEDIUM DENSE TO DENSE. WET. (A-1-b)
		-17				
35	SS-8	5-9			8.1	BROWN SILTY SAND AND GRAVEL. SOME COBBLES. MEDIUM DENSE TO DENSE. WET. (A-1-b)
		-11				
40	SS-9	10-9			6.4	GRAY MEDIUM TO COARSE SILTY SAND AND GRAVEL. MEDIUM DENSE. WET. (A-1-b)
		-12				
45	SS-10	13-16			9.0	BORING TERMINATED AT 50.0'
		-17				
50	SS-11	8-9			6.4	BORING TERMINATED AT 50.0'
		-11				
BORING TERMINATED AT 50.0'						
						WATER ENCOUNTERED WATER AT COMPLETION

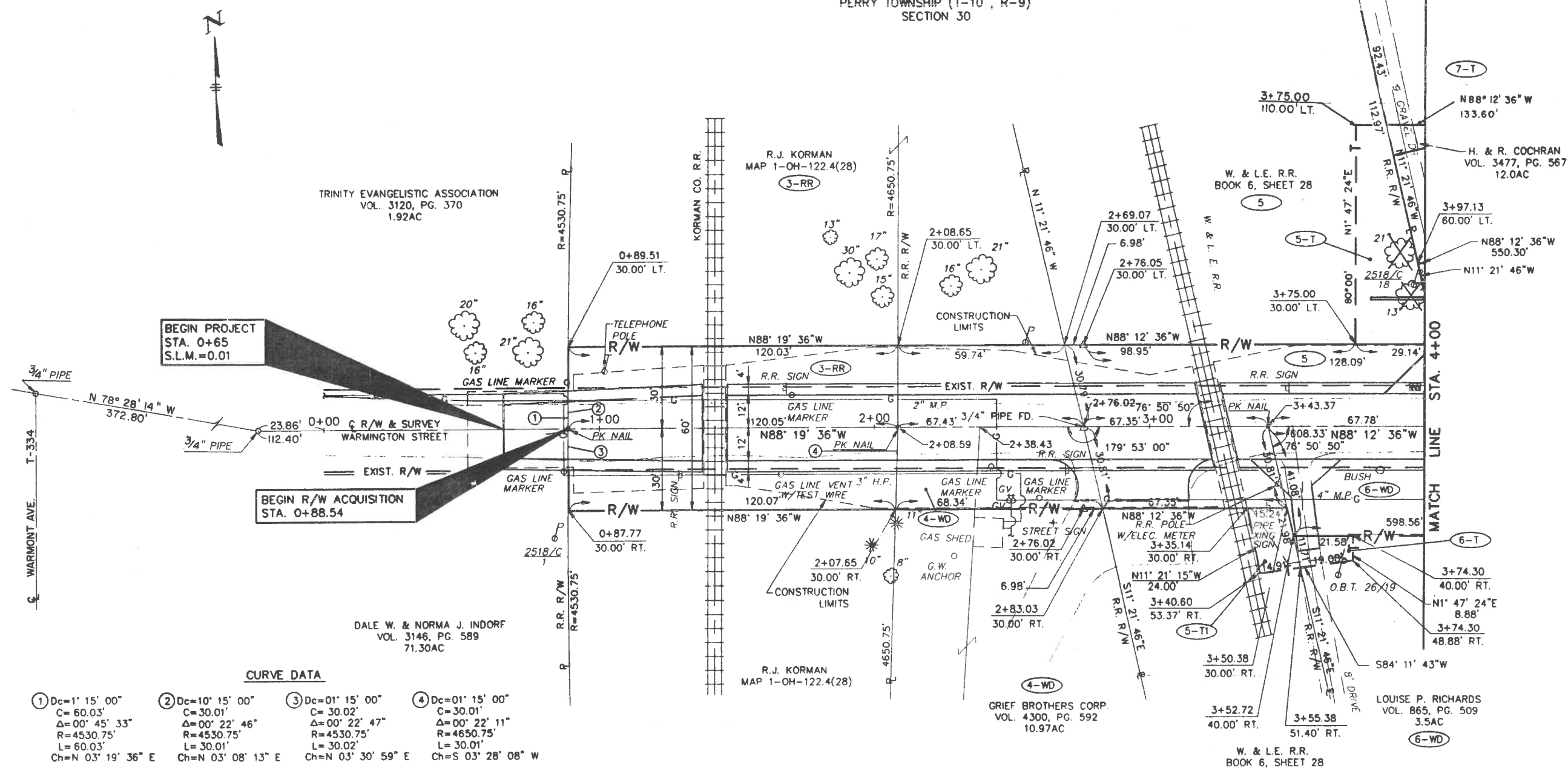
CAD FILE : WARMINGORE  
DATE : 1/17/91  
OPERATOR : J.D.P.

12 / 12  
PROFESSIONAL SERVICE INDUSTRIES INC.  
4616 NAVARRE ROAD S.W. CANTON, OH 44706

**SOIL BORING DATA**  
BRIDGE NO. STA-7-335A  
WARMINGTON STREET  
OVER  
TUSCARAWAS RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	J.D.P.		T.A.B.	R.B.B.	12/90	

PERRY TOWNSHIP (T-10, R-9)  
SECTION 30



BEGIN PROJECT  
STA. 0+65  
S.L.M.=0.01

BEGIN R/W ACQUISITION  
STA. 0+88.54

CURVE DATA

① Dc=1' 15" 00" C=60.03' Δ=00' 45" 33" R=4530.75' L=60.03' Ch=N 03' 19" 36" E	② Dc=10' 15" 00" C=30.01' Δ=00' 22' 46" R=4530.75' L=30.01' Ch=N 03' 08' 13" E	③ Dc=01' 15" 00" C=30.02' Δ=00' 22' 47" R=4530.75' L=30.02' Ch=N 03' 30' 59" E	④ Dc=01' 15" 00" C=30.01' Δ=00' 22' 11" R=4650.75' L=30.01' Ch=S 03' 28' 08" W
--	---	---	---

SUMMARY OF ADDITIONAL RIGHT OF WAY

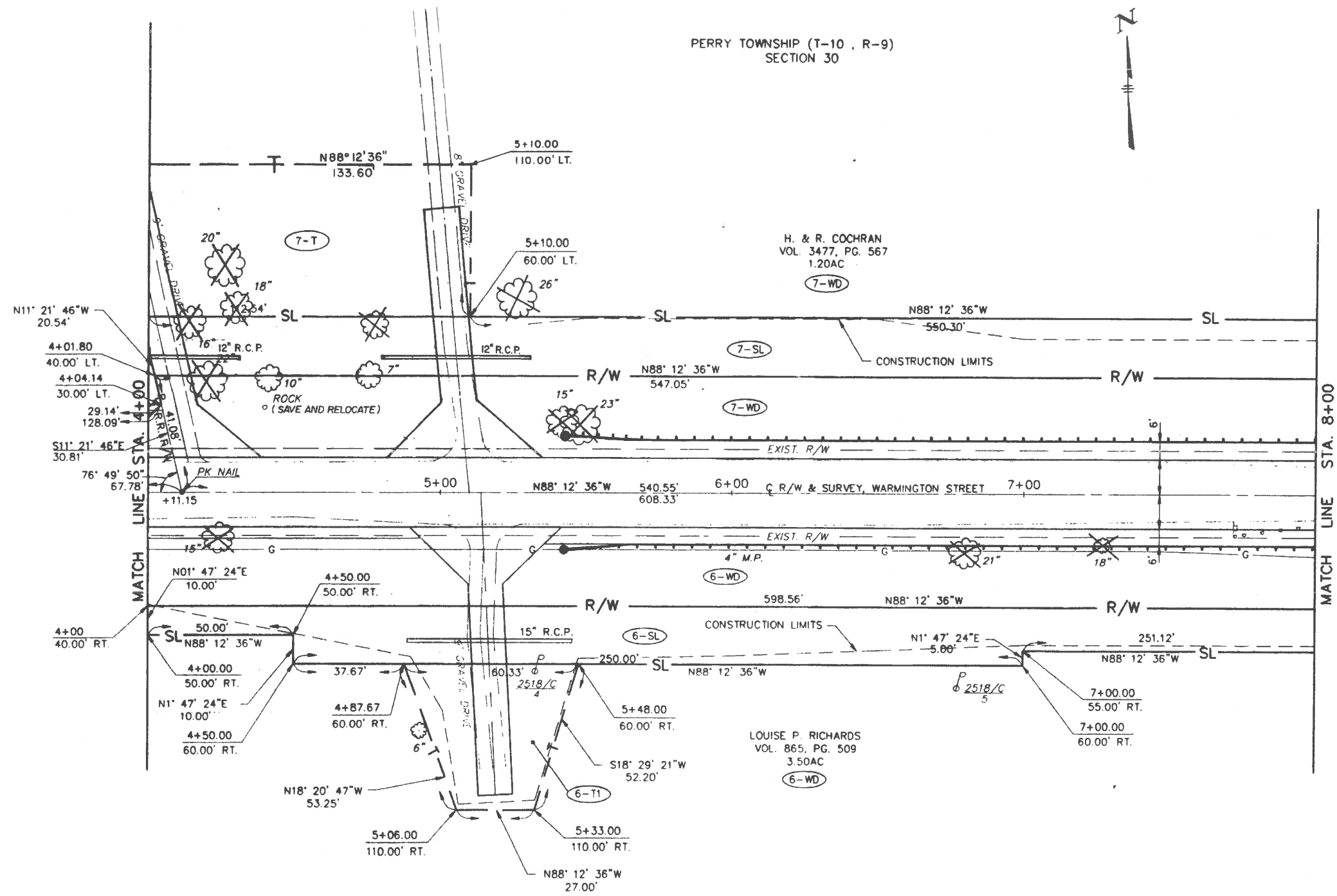
NOTE: ADDITIONAL RIGHT OF WAY SUMMARY CONTINUED ON SHEET 29 & 30 OF 34. STATE JOB No. PID.

PARCEL	OWNER	SHEET No.	OWNERS RECORD		RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE							LEFT	RIGHT			BOOK	PAGE
1-WD	TRINITY EVANGELISTIC ASSOCIATION		3120	370	1.92AC	0.343 AC.	0.035 AC.	0.013 AC.	0.022 AC.	NONE	1.898 AC.	71.278 AC.	COUNTY			
2-WD	DALE W. & NORMA J. INDORF		3146	589	71.30AC	0.640 AC.	0.035 AC.	0.013 AC.	0.022 AC.							
3-RR	R.J. KORMAN		MAP 1-OH-122A(28)			0.082 AC.	0.209 AC.	0.082 AC.	0.127 AC.							
4-WD	GRIEF BROTHERS CORPORATION		4300	592	10.97AC	0.024 AC.	0.049 AC.	0.024 AC.	0.025 AC.		10.927 AC.					
5	WHEELING AND LAKE ERIE RAILWAY COMPANY		6	28	29.195AC	0.069 AC.	0.186 AC.	0.069 AC.	0.117 AC.		29.078 AC.					
5-T	WHEELING AND LAKE ERIE RAILWAY COMPANY								0.036 AC.							
5-T1	WHEELING AND LAKE ERIE RAILWAY COMPANY								0.008 AC.							

REV.	DATE	DESCRIPTION

CAD FILE: ROWDET1  
 DATE: 01/30/92  
 OPERATOR: MFB  
 SCALE: 1"=20'

PERRY TOWNSHIP (T-10, R-9)  
SECTION 30



SUMMARY OF ADDITIONAL RIGHT OF WAY

NOTE: ADDITIONAL RIGHT OF WAY SUMMARY  
CONTINUED ON SHEET 28 & 30 OF 34.

STATE JOB No

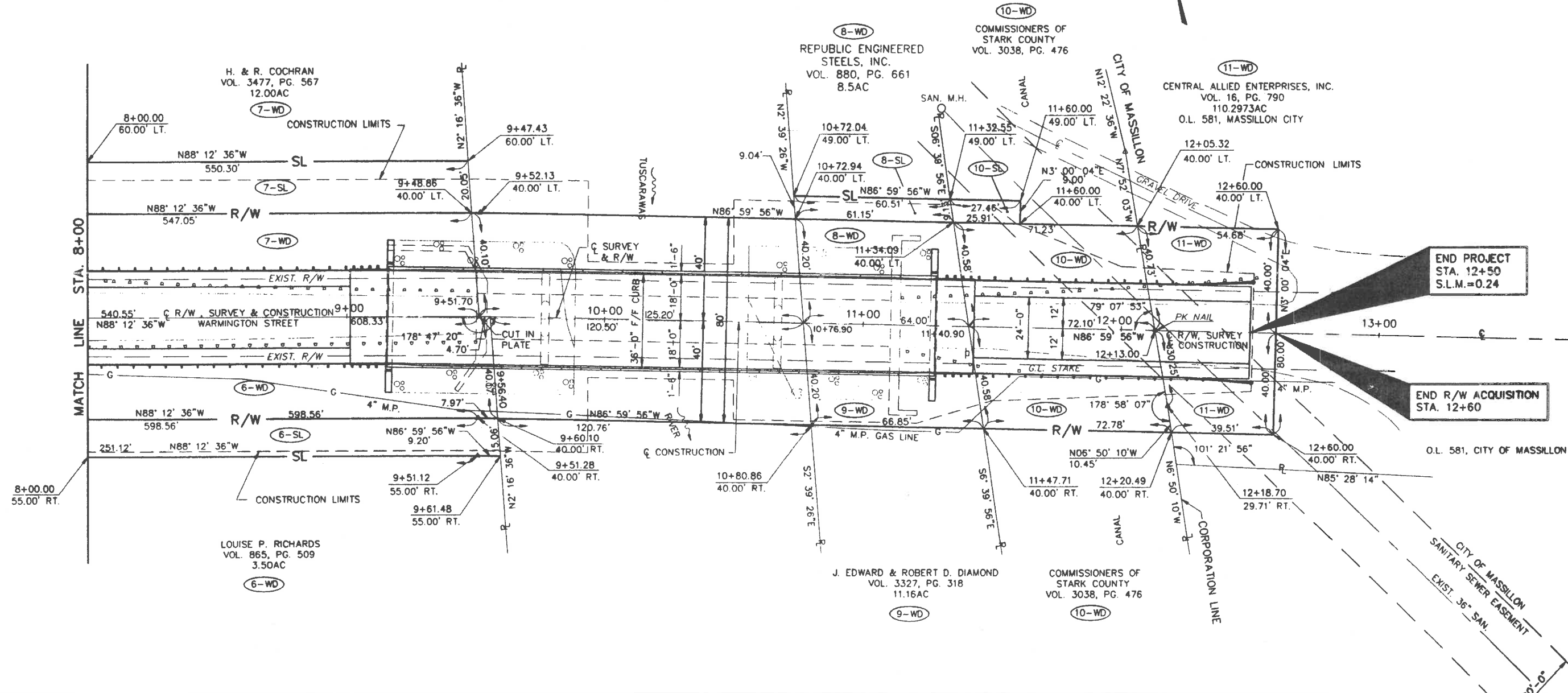
PID

PARCEL	OWNER	SHEET No.	OWNERS RECORD		RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE							LEFT	RIGHT			BOOK	PAGE
6-WD	LOUISE P. RICHARDS		865	509	3.50 AC.	0.221 AC.	0.560 AC.	0.221 AC.	0.339 AC.	NONE		3.154 AC.	COUNTY			
6-SL	LOUISE P. RICHARDS								0.213 AC.							
6-T	LOUISE P. RICHARDS								0.011 AC.							
6-T1	LOUISE P. RICHARDS								0.053 AC.							
7-WD	HARRY & RUTH L. COCHRAN		3477	567	12.00 AC.	0.186 AC.	0.499 AC.	0.186 AC.	0.313 AC.		11.687 AC.					
7-SL	HARRY & RUTH L. COCHRAN								0.224 AC.							
7-T	HARRY & RUTH L. COCHRAN								0.183 AC.							

CAD FILE : POWBETZ  
DATE : 01/20/92  
OPERATOR : MPB  
SCALE : 1"=20'

REV. DATE DESCRIPTION

PERRY TOWNSHIP (T-10, R-9)  
SECTION 30



SUMMARY OF ADDITIONAL RIGHT OF WAY

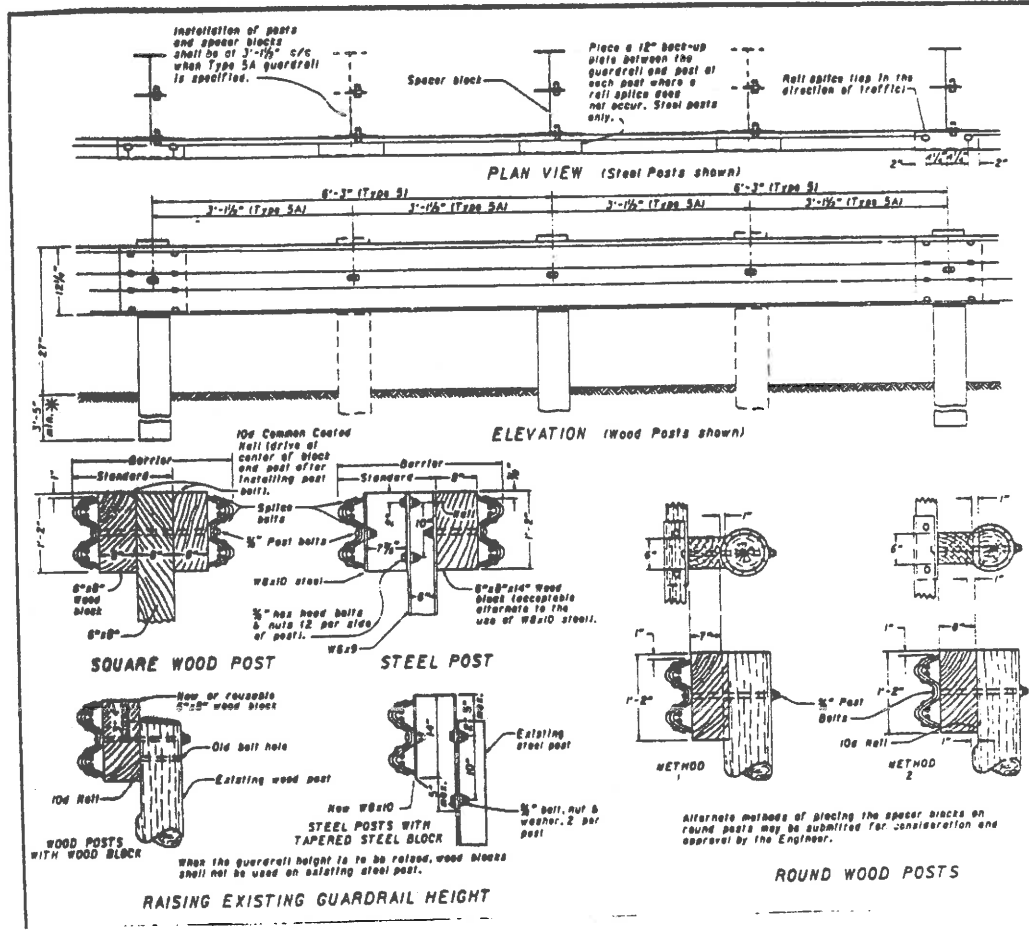
NOTE: ADDITIONAL RIGHT OF WAY SUMMARY  
CONTINUED ON SHEET 28 & 29 OF 34.

STATE JOB No \_\_\_\_\_ PID \_\_\_\_\_

PARCEL	OWNER	SHEET No.	OWNERS RECORD		RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE							LEFT	RIGHT			BOOK	PAGE
8-WD	REPUBLIC ENGINEERED STEELS, INCORPORATED		880	661	8.50 AC.	0.023 AC.	0.058 AC.	0.023 AC.	0.035 AC.	NONE	8.465 AC.		COUNTY			
8-SL	REPUBLIC ENGINEERED STEELS, INCORPORATED								0.028 AC.							
9-WD	J. EDWARD & ROBERT D. DIAMOND		3327	318	11.16 AC.	0.022 AC.	0.060 AC.	0.022 AC.	0.038 AC.		11.121 AC.					
10-WD	CANAL - COMMISSIONERS OF STARK COUNTY		3038	476	24.39 AC.	0.050 AC.	0.133 AC.	0.050 AC.	0.083 AC.		24.307 AC.					
10-SL	CANAL - COMMISSIONERS OF STARK COUNTY								0.013 AC.							
11-WD	CENTRAL ALLIED ENTERPRISES		16	790	110.29 AC.	2.269 AC.	0.086 AC.	0.025 AC.	0.061 AC.		110.229 AC.					

REV. DATE DESCRIPTION





**NOTES**

**POSTS:** Post may be round (single rail only) or 6" x 6" square-sawn pressure-treated wood or W6 x 6 galvanized steel. The same type post shall be used throughout the length of project unless otherwise required by the plans or permitted by the Engineer. Round posts shall be 6" dia. or 6 1/8" dia. at the top and not more than 3" larger at the butt with a uniform taper. Post may be set in drilled holes or may be driven to grade.

Wood posts shall be fabricated with square ends. Posts and spacer blocks shall be pressure-treated as per T10.4. Butt holes shall be bored and tops of posts trimmed as shown, if required, after posts are set.

**SPACER BLOCKS:** When wood spacer blocks are used with the steel post, a 10# nail shall be driven through the hole in the adjacent flange to prevent blocks from turning.

**WASHERS:** All washers indicated are standard galvanized steel of the appropriate size.

**WELDED BEAMS:** Welded beam guardrail posts and spacer blocks may be used for Item 606, Guardrail, provided the web and flange sizes are as shown herein. Welding of the web to the flanges shall conform to ASTM A785. Class 1 using Grade 36 steel with the following exceptions:

1. Test reports of tensile properties for each lot shall accompany each shipment.
2. Beams which have imperfections resulting from welding shall not be accepted for use in item 606.
3. Random samples shall be tested by the Department from materials delivered to the project site or other locations designated by the Laboratory.

**\* FOR SPECIFIC POST** embedment depth requirements see Std. Const. Draw. GR-1.2.

Size	Beam depth	Flange width	Flange thickness	Web thickness
Round W 6x6.5	5.9"	3.94"	.194"	.170"
Round W 6x6	5.50"	3.94"	.215"	.170"
Round W 6x6.5	7.25"	3.94"	.205"	.170"
Welded 6x6.5	6.0"	3.94"	.194"	.170"
Welded 6x6	6.0"	3.94"	.215"	.170"
Welded 6x6.5	8.0"	3.94"	.205"	.170"

**MISCELLANEOUS:** For details not shown see Standard Construction Drawings GR-1.1 and GR-1.2.

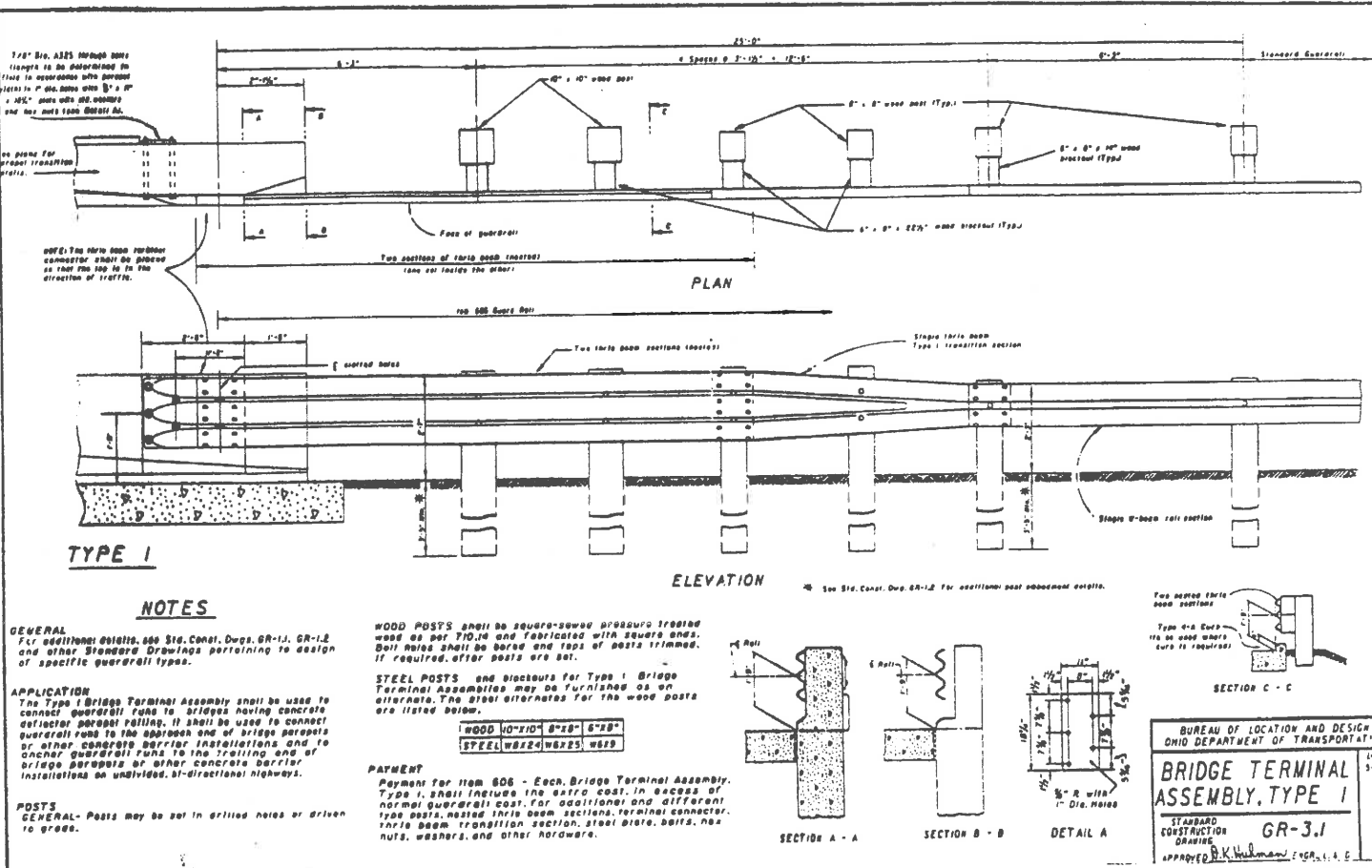
BUREAU OF LOCATION AND DESIGN  
OHIO DEPARTMENT OF TRANSPORTATION

**GUARDRAIL  
TYPE 5 & 5A**

DATE: 5-4-51

STANDARD CONSTRUCTION DRAWING: GR-2.1

APPROVED: [Signature]



**NOTES**

**GENERAL:** For additional details, see Std. Const. Draw. GR-1.1, GR-1.2 and other Standard Drawings pertaining to design of specific guardrail types.

**APPLICATION:** The Type 1 Bridge Terminal Assembly shall be used to connect guardrail runs to bridges having concrete deflector parapet railing. It shall be used to connect guardrail runs to the approach and of bridge parapets or other concrete barrier installations and to anchor guardrail runs to the trailing end of bridge parapets or other concrete barrier installations on unidirectional highways.

**POSTS:** GENERAL - Posts may be set in drilled holes or driven to grade.

**WOOD POSTS:** shall be square-sawn pressure-treated wood as per T10.4 and fabricated with square ends. Butt holes shall be bored and tops of posts trimmed, if required, after posts are set.

**STEEL POSTS:** and blocks for Type 1 Bridge Terminal Assembly may be fabricated as an alternate. The steel alternatives for the wood posts are listed below.

**PAYMENT:** Payment for Item 606 - Each Bridge Terminal Assembly, Type 1, shall include the extra cost, in excess of normal guardrail cost, for additional and different type posts, welded splice beam sections, vertical connectors, splice beam transition section, steel plate, bolts, hex nuts, washers, and other hardware.

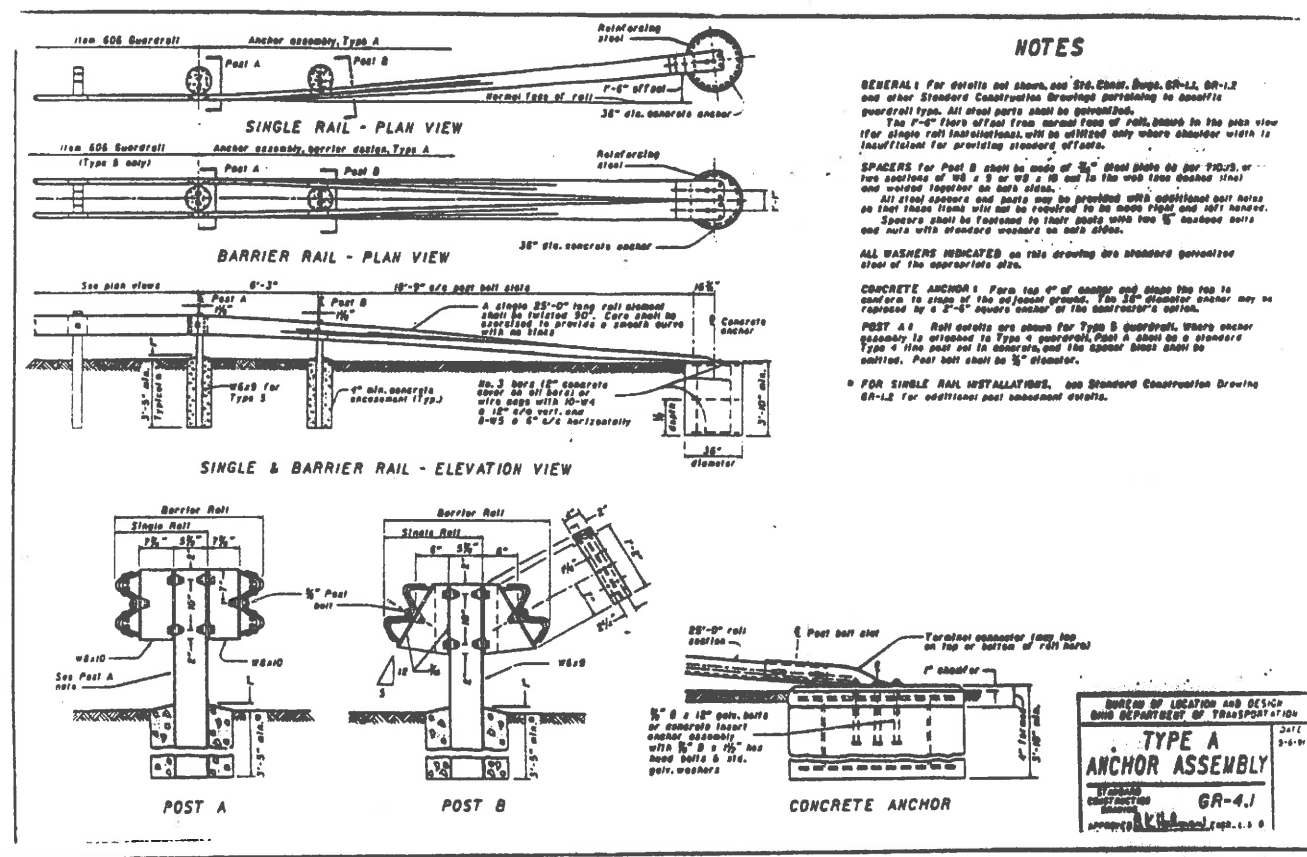
BUREAU OF LOCATION AND DESIGN  
OHIO DEPARTMENT OF TRANSPORTATION

**BRIDGE TERMINAL  
ASSEMBLY, TYPE 1**

DATE: 5-4-51

STANDARD CONSTRUCTION DRAWING: GR-3.1

APPROVED: [Signature]



**NOTES**

**GENERAL:** For details not shown, see Std. Const. Draw. GR-1.1, GR-1.2 and other Standard Construction Drawings pertaining to specific guardrail types. All steel parts shall be galvanized.

The 7'-6" flare of steel from normal face of rail, shown in the plan view for single rail installations, will be utilized only where shoulder width is insufficient for providing standard offsets.

**SPACERS:** For Post B shall be made of 3/4" steel plate 60 per T10.5, or two sections of 1/2" x 8 or 1/2" x 10 and to the web face of the rail and welded together on both sides.

All steel spacers and posts may be provided with additional butt holes so that holes from one end be required to be made from the other end.

Spacers shall be fastened to their posts with two 1/2" diameter bolts and nuts with standard washers on both sides.

**ALL WASHERS INDICATED** on this drawing are standard galvanized steel of the appropriate size.

**CONCRETE ANCHORS:** Form top 4" of center and slope the top to conform to slope of the adjacent ground. The 3/4" diameter anchor may be replaced by a 2" x 6" square anchor of the contractor's choice.

**POST A:** Bolt details are shown for Type B guardrail. Where anchor assembly is attached to Type A guardrail, Post A shall be a standard Type 4 line post set in concrete, and the spacer block shall be omitted. Post butt shall be 3" diameter.

**FOR SINGLE RAIL INSTALLATIONS,** see Standard Construction Drawing GR-1.2 for additional post embedment details.

BUREAU OF LOCATION AND DESIGN  
OHIO DEPARTMENT OF TRANSPORTATION

**TYPE A  
ANCHOR ASSEMBLY**

DATE: 5-4-51

STANDARD CONSTRUCTION DRAWING: GR-4.1

APPROVED: [Signature]



