

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE REPLACEMENTS
USING TWIN CONDUITS

Blue
527

OHIO
FHWA
REGION 5
FEDERAL
PROJECT

1
26

PLAN NO. BR-42-76

PRE-725-(13.92)(14.10)

PRE-503-08.71

WAR-123-01.51

GRATIS TOWNSHIP
PREBLE COUNTY

LANIER TOWNSHIP
PREBLE COUNTY

SALEM TOWNSHIP
WARREN COUNTY

PART 3 - PRE-503-08.71
PART 1 - PRE-725-13.92
PART 2 - PRE-725-14.10

CONVENTIONAL SIGNS

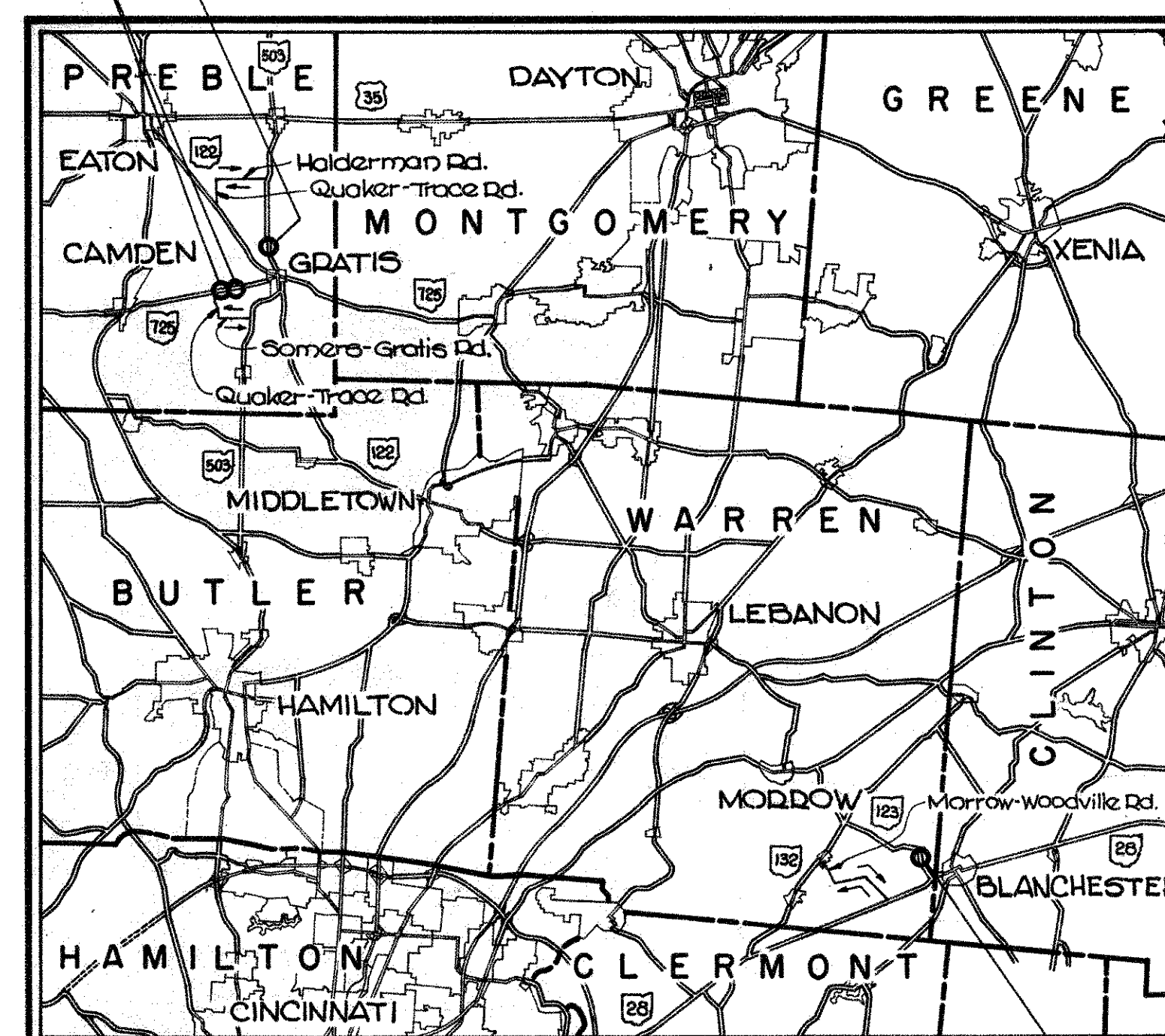
County Line -----
Township Line -----
Section Line -----
Corporation Line ----- or -----
Fence Line (existing) -x- (proposed) -x-
Center Line ----- 352 ----- 353 -----
Trees (to be removed) (to be removed)
Utility Poles: Telephone ϕ , Power ϕ , Light ϕ .
Limited Access (only) ----- LA -----
Right of Way (only) ----- RW -----
Limited Access & Right of Way ----- LA & RW -----
Existing Right of Way -----
Property Line ----- (in existing fence) -x- -----
Railroad ----- or -----
Guardrail (existing) ----- (proposed) -----

INDEX OF SHEETS

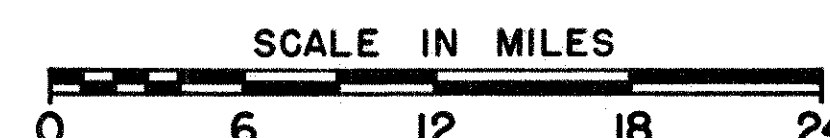
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LINE DATA

PRE-725-13.92	Begin Work Sta. 733+50	End Work Sta. 736+50	Length of Work 300 Lin. Ft. or 0.057 Mi.
PRE-725-14.10	Begin Work Sta. 743+00	End Work Sta. 745+25	Length of Work 225 Lin. Ft. or 0.043 Mi.
PRE-503-08.71	Begin Work Sta. 459+25	End Work Sta. 460+75	Length of Work 150 Lin. Ft. or 0.028 Mi.
WAR-123-01.51	Begin Work Sta. 79+00	End Work Sta. 80+50	Length of Work 150 Lin. Ft. or 0.028 Mi.
	Total Length of Work 825 Lin. Ft. or 0.156 Mi.		
	Begin Project Sta. 734+80	End Project Sta. 735+30	Length of Project 50 Lin. Ft. or 0.009 Mi.
	Begin Project Sta. 743+50	End Project Sta. 744+50	Length of Project 100 Lin. Ft. or 0.019 Mi.
	Begin Project Sta. 459+55	End Project Sta. 460+35	Length of Project 80 Lin. Ft. or 0.015 Mi.
	Begin Project Sta. 79+00	End Project Sta. 80+50	Length of Project 150 Lin. Ft. or 0.028 Mi.
	Total Length of Project 380 Lin. Ft. or 0.072 Mi.		

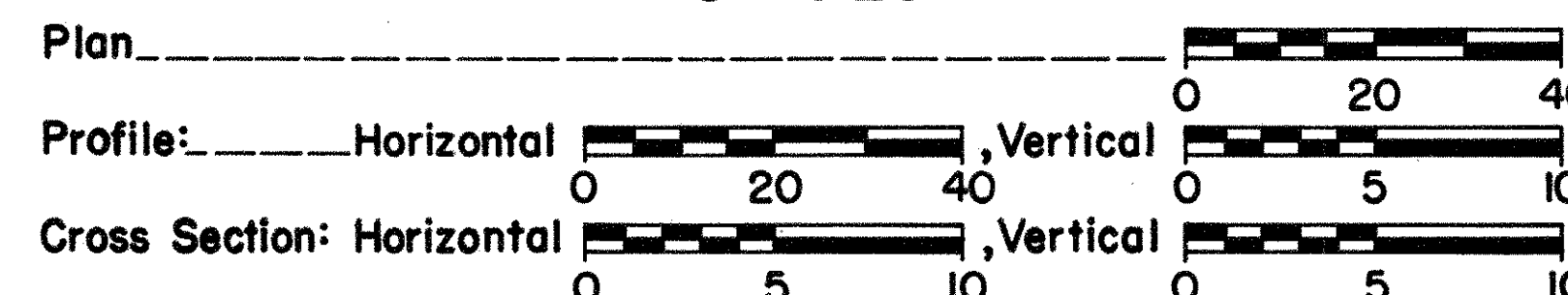


LOCATION MAP



Portion to be improved -----
State & Federal Routes -----
Other Roads -----
Detours -----

SCALES



WAR-123-01.51
PART 4

SUPPLEMENTAL SPECIFICATIONS	
803	1-22-76

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS				
BP-5	8-11-75			
F-2	5-1-76			
F-5	5-1-76			
GR-2B	11-9-71			
GR-4	11-9-71			
HW-3	6-1-65			
HW-4	1-1-70			
L-1	6-1-73			
MC-3	6-1-73			
MC-4	6-13-69			
MC-5	6-12-75			

1975 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.

The right of way for this improvement will be provided by the State of Ohio.

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.

MICROFILMED
JUL 15 1985

Approved _____
Date _____ District Deputy Director of Transportation

Approved Robert B. Pfeiffer
Date 5-17-76 Engineer of Bridges

Approved _____
Date _____

Approved _____
Date _____

g.p. Approved R. L. Cook
Date 5-19-76 Engineer of Maintenance

Approved _____
Date _____
Approved Howard E. Nolan
Date 5-19-76 Assist. Dep. Director for Program Development

Approved _____
Date _____ Chief Engineer, Design

Approved _____
Date _____ Chief Engineer, Construction

Approved Thomas M. Miller
Date 5-19-76 Chief Engineer, Operations

Approved David H. Miller
Date 5-20-76 Assist. Director, Department of Transportation

Approved Richard J. Jackson
Date 5-20-76 Director, Department of Transportation

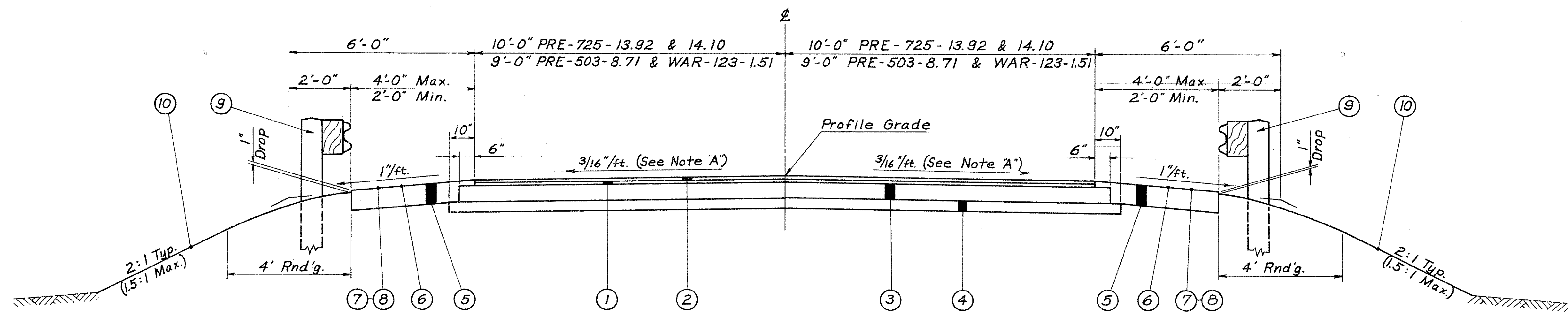
Project: _____
Date of Letting _____ 19____, Contract No. _____

Plan Prepared By: _____
District 8 Design Department

FHWA REGION	STATE	PROJECT	
5	OHIO		

2
26

PRE-725-13.92
PRE-725-14.10
PRE-503-8.71
WAR-123-1.51

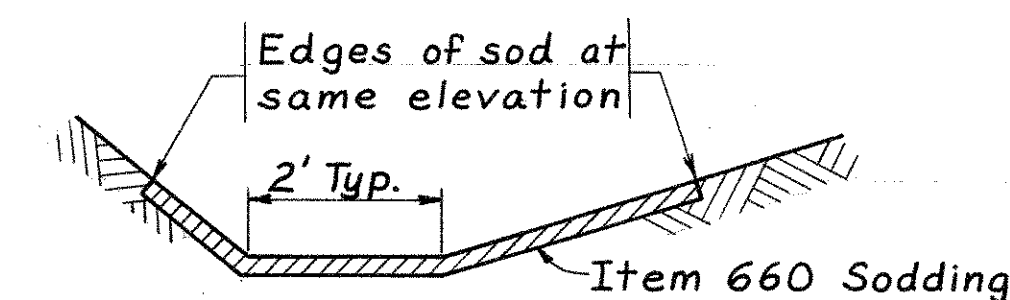


TYPICAL SECTION

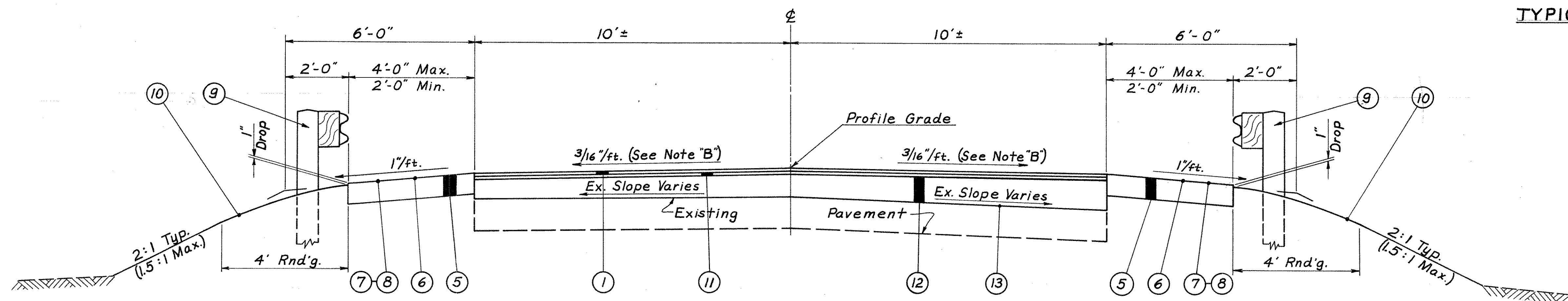
FULL DEPTH PAVEMENT

PRE-725-13.92 Sta. 734+80 to Sta. 735+30
PRE-725-14.10 Sta. 743+50 to Sta. 744+50
PRE-503-8.71 Sta. 459+55 to Sta. 460+35
WAR-123-1.51 Sta. 79+00 to Sta. 80+50

Note 'A': Or as required to meet existing pavement.
Note 'B': Cross slope varies between 733+50 to 734+00
and 736+00 to 736+50 to meet existing.



TYPICAL SOD DITCH



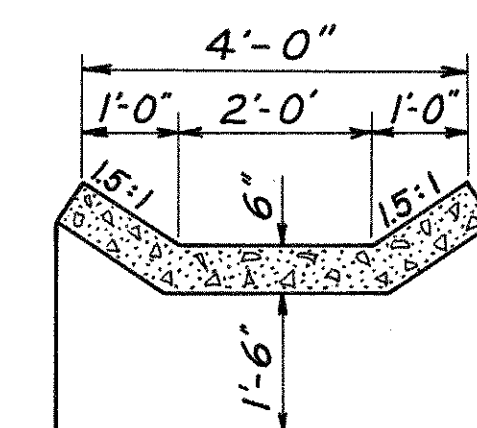
TYPICAL SECTION

CONSTRUCTION OVER EXISTING PAVEMENT

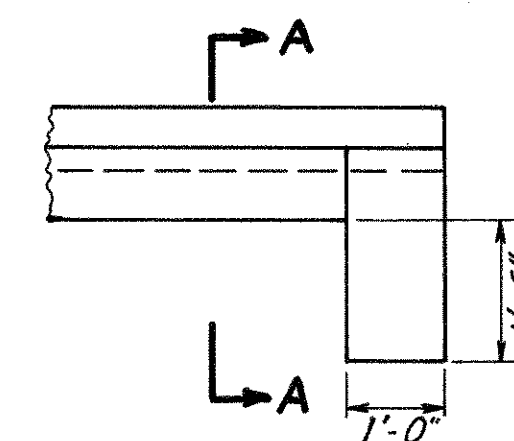
PRE-725-13.92 Sta. 733+25 to Sta. 736+25
(Feathering 733+50 to 733+75 & 736+25 to 736+50)

LEGEND

- | | |
|---|--|
| ① Item 404 1/4" Asphalt Concrete AC-20 | ⑦ Item 409 Seal Coat Cover Aggregate No. 8 at .008 Cu. Yd./Sq. Yd. |
| ② Item 402 1/4" Asphalt Concrete AC-20 | ⑧ Item 409 Seal Coat Bituminous Material 702.09, RT-9 or RT-10;
or 702.02, MC-800 or MC-3000 at 0.30 Gal./Sq. Yd. |
| ③ Item 301 6" Bituminous Aggregate Base, 702.01
AC-20 or 702.09 RT-11 or RT-12 | ⑨ Item 606 Guard Rail, Type 5 |
| ④ Item 310 4" Subbase, Grading B | ⑩ Item 659 Seeding and Mulching |
| ⑤ Item 304 8" Aggregate Base | ⑪ Item 402 1/4" Max., 0" Min. Asphalt Concrete AC-20 |
| ⑥ Item 408 Bituminous Prime Coat: 702.09, RT-2 or
RT-3; 702.02, MC-30 or MC-70; or
702.03, Primer 20 at 0.40 Gal./Sq. Yd. | ⑫ Item 301 11" Max., 0" Min. Bit. Aggr. Base (Specifications Same As Above) |
| | ⑬ Item 407 Tack Coat: 702.04 MS-2 or RS-1; or 702.02, RC-70 or RC-250
at 0.10 Gal./Sq. Yd. and Cover Aggregate |



SECTION A-A



SIDE VIEW

PAVED GUTTER TYPE 1-2
MODIFIED AS PER PLAN

TYPICAL SECTIONS

PRE-725-13.92
PRE-725-14.10
PRE-503-8.71
WAR-123-1.51

GENERAL NOTES

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE, HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE AND IN ADDITION TO THE REQUIREMENTS OF ITEM 619, HE SHALL PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. ALL THE ABOVE IS 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.

GUARD RAIL OVER CULVERTS

WHEN SUFFICIENT POST DEPTH IS NOT AVAILABLE DUE TO A CULVERT, THE GUARD RAIL POSTS DIRECTLY OVER THE CULVERT SHALL NOT BE DRIVEN BUT SET IN HOLES. IF THE DISTANCE BETWEEN THE GROUND LINE AND THE TOP OF THE CULVERT IS LESS THAN 3 FT., THE POST SHALL BE ENCASED IN A MINIMUM OF 4" THICKNESS OF CLASS C CONCRETE FOR THE FULL DEPTH OF THE POST. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 606, GUARD RAIL TYPE 5.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE RIGHT-OF-WAY LINES AND WITHIN THE WORK AREA LIMITS MARKED ON THE PLANS.

EROSION CONTROL

ITEMS 601 AND 660 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OR TURF 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.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

ITEM 607 FENCE, TYPE-47, AS PER PLAN

WHERE AN EXISTING FENCE IS SHOWN TO BE REPLACED, THE CONTRACTOR SHALL REMOVE THE FENCE AND SUBSEQUENTLY RESTORE THE FENCE USING STANDARD TYPE-47 WOVEN WIRE FENCE WITH END POST AND CORNER POST AS SHOWN ON THE PLANS. A TEMPORARY STOCK-TIGHT FENCE SHALL BE PROVIDED IF REQUIRED AS DIRECTED BY THE ENGINEER.

PAYMENT FOR REMOVAL OF THE FENCE, FURNISHING AND INSTALLING TEMPORARY FENCE, AND FURNISHING AND INSTALLING REPLACEMENT FENCE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607, FENCE TYPE-47, AS PER PLAN.

SALVAGED FENCE AND POST REMOVED FROM THE PROJECT SHALL BE RETURNED TO THE PROPERTY OWNER.

EXAGGERATED PAVEMENT CROSS SECTIONS

EXAGGERATED PAVEMENT CROSS SECTIONS AT 25 FEET INTERVALS IN THE AREAS OF PAVEMENT RESURFACING FOR PRE-725-13.92 ARE AVAILABLE UPON REQUEST BY THE ENGINEER AND THE CONTRACTOR AT THE DISTRICT EIGHT DESIGN OFFICE.

ITEM 614 MAINTAINING TRAFFIC (SEQUENCE OF CONSTRUCTION)

THE CONTRACTOR WILL NOT BE PERMITTED TO CLOSE THE ROAD TO TRAFFIC BETWEEN THE PROJECTS ON PRE-725-13.92 AND 14.10 SO THAT HE MAY WORK AT BOTH LOCATIONS AT THE SAME TIME UNLESS A SUITABLE ACCESS DRIVE, AS APPROVED BY THE ENGINEER, IS PROVIDED TO THE RESIDENCE LOCATED BETWEEN THE TWO STRUCTURES. THIS DRIVE SHALL BE MAINTAINED AT ALL TIMES AND SHALL BE SUFFICIENT TO CARRY ANY EMERGENCY VEHICLES.

NO ADDITIONAL COMPENSATION WILL BE PROVIDED TO THE CONTRACTOR IF HE ELECTS TO FURNISH THE TEMPORARY ACCESS DRIVE AND PERFORM THE TWO PROJECTS SIMULTANEOUSLY.

ALSO, THE CONTRACTOR WILL BE REQUIRED TO COMPLETE THE WORK AND PERMANENTLY REOPEN THE STATE ROUTE TO TRAFFIC AT ONE OF THE PROJECT SITES LOCATED IN PREBLE COUNTY PRIOR TO CLOSING THE STATE ROUTE TO TRAFFIC AT THE OTHER PREBLE COUNTY PROJECT SITE.

ITEM 614 MAINTAINING TRAFFIC (CONTINUED)

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY OF THE CONTRACTOR AND THE TRAVELLING PUBLIC. ANY VARIANCES FROM THESE MAINTENANCE OF TRAFFIC NOTES MUST BE APPROVED IN ADVANCE IN WRITING BY THE ENGINEER. THE STATE OF OHIO FORCES WILL CLOSE THE AFFECTED ROADS TO TRAFFIC WHEN REQUESTED SEVEN (7) DAYS IN ADVANCE BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE BARRICADES, AS SHOWN IN STANDARD DRAWING MC-3, AT THE WORK LIMITS OF THE PROJECTS. PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING ALL LIGHTS, SIGNS, AND BARRICADES SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 203 EMBANKMENT, AS PER PLAN

THIS MATERIAL SHALL CONSIST OF GRANULAR MATERIALS AS DEFINED UNDER 203.02. PAYMENT FOR THIS ITEM SHALL INCLUDE THE COST OF EXCAVATION. THE GRANULAR MATERIAL SHALL BE THOROUGHLY COMPACTED.

ITEM 601 PAVED GUTTER, TYPE 1-2, MODIFIED AS PER PLAN

FOR DETAILS SEE TYPICAL SECTION ON SHEET TWO.

ITEM 601 PAVED GUTTER, AS PER PLAN

FOR DETAILS SEE TYPICAL SECTION AND DIMENSION TABLE ON SHEET THIRTEEN.

REMOVAL OF TREES AND STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS
18"	4	0
30"	0	0
48"	0	0
60"	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING.

UTILITIES

FOR PROJECTS IN PREBLE COUNTY

GENERAL TELEPHONE COMPANY OF OHIO
6464 WEST BROOK ROAD
CLAYTON, OH 45315

THE DAYTON POWER & LIGHT COMPANY (ELECTRIC)
25 NORTH MAIN STREET
DAYTON, OH 45401

FOR PROJECTS IN WARREN COUNTY

GENERAL TELEPHONE COMPANY
241 NELSON ROAD
WILMINGTON, OH 45177

THE CINCINNATI GAS & ELECTRIC COMPANY (ELECTRIC)
FOURTH AND MAIN STREETS
CINCINNATI, OH 45202

FARM DRAINS

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 6" CONDUIT, TYPE F 50 LIN. FT.
ITEM 601, ROCK CHANNEL PROTECTION TYPE B WITH BEDDING (18" THICK) 4 CU. YDS.

NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM. NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE

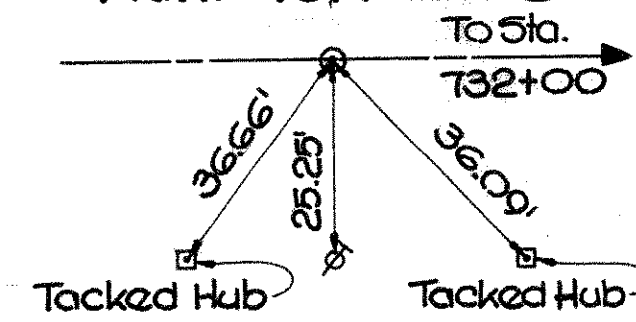
ENGINEER.

PRE-725-13.92
PRE-725-14.10
PRE-503-8.71
WAR-123-1.51

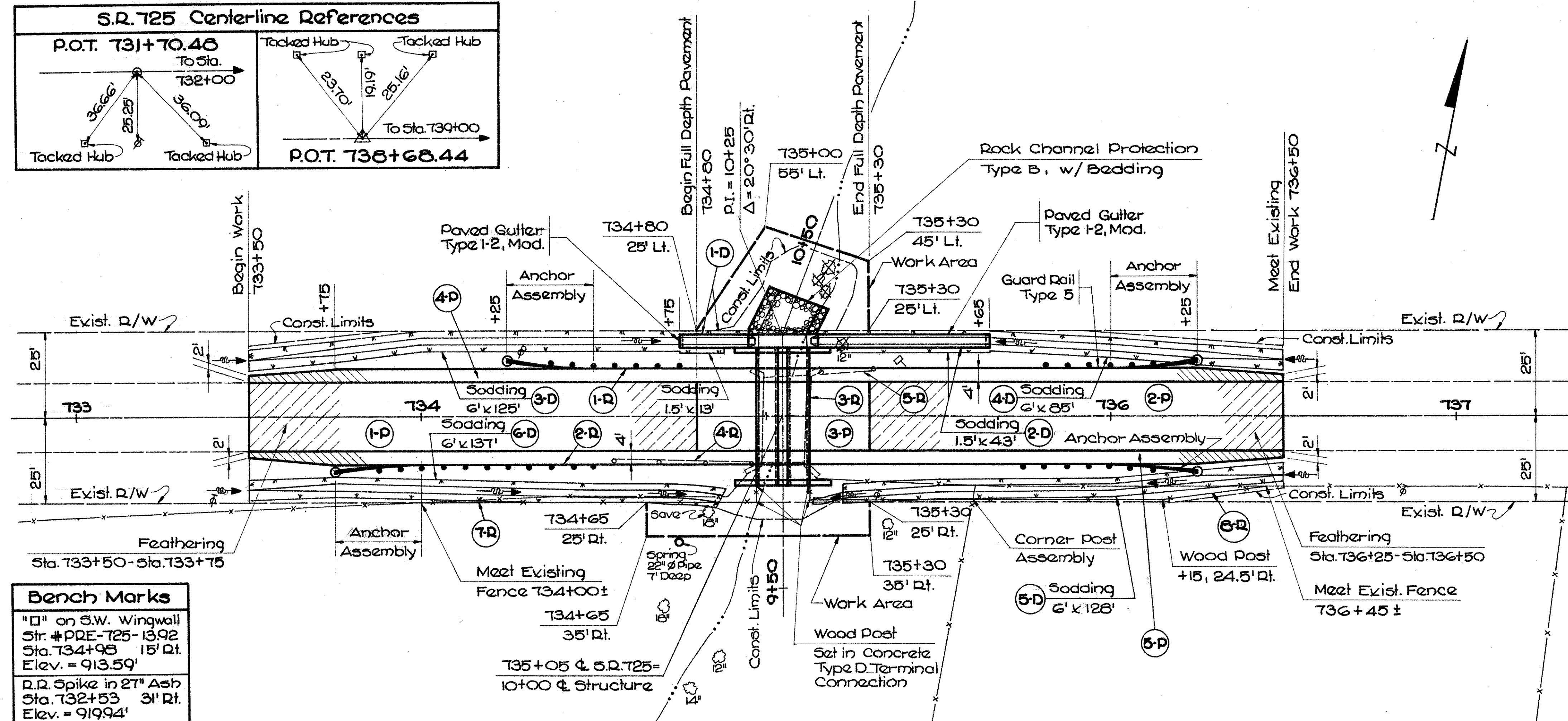
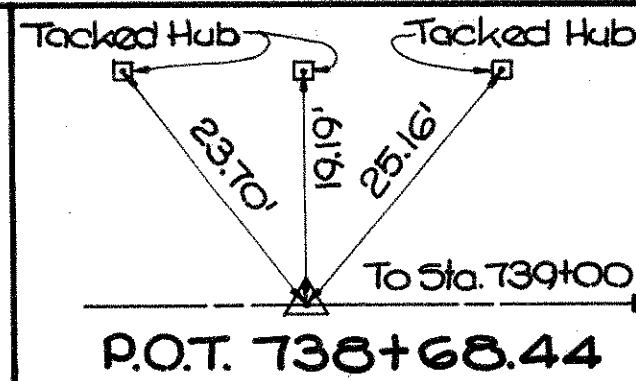
GENERAL SUMMARY

S.R. 725 Centerline References

P.O.T. 731+70.48



P.O.T. 738+68.44



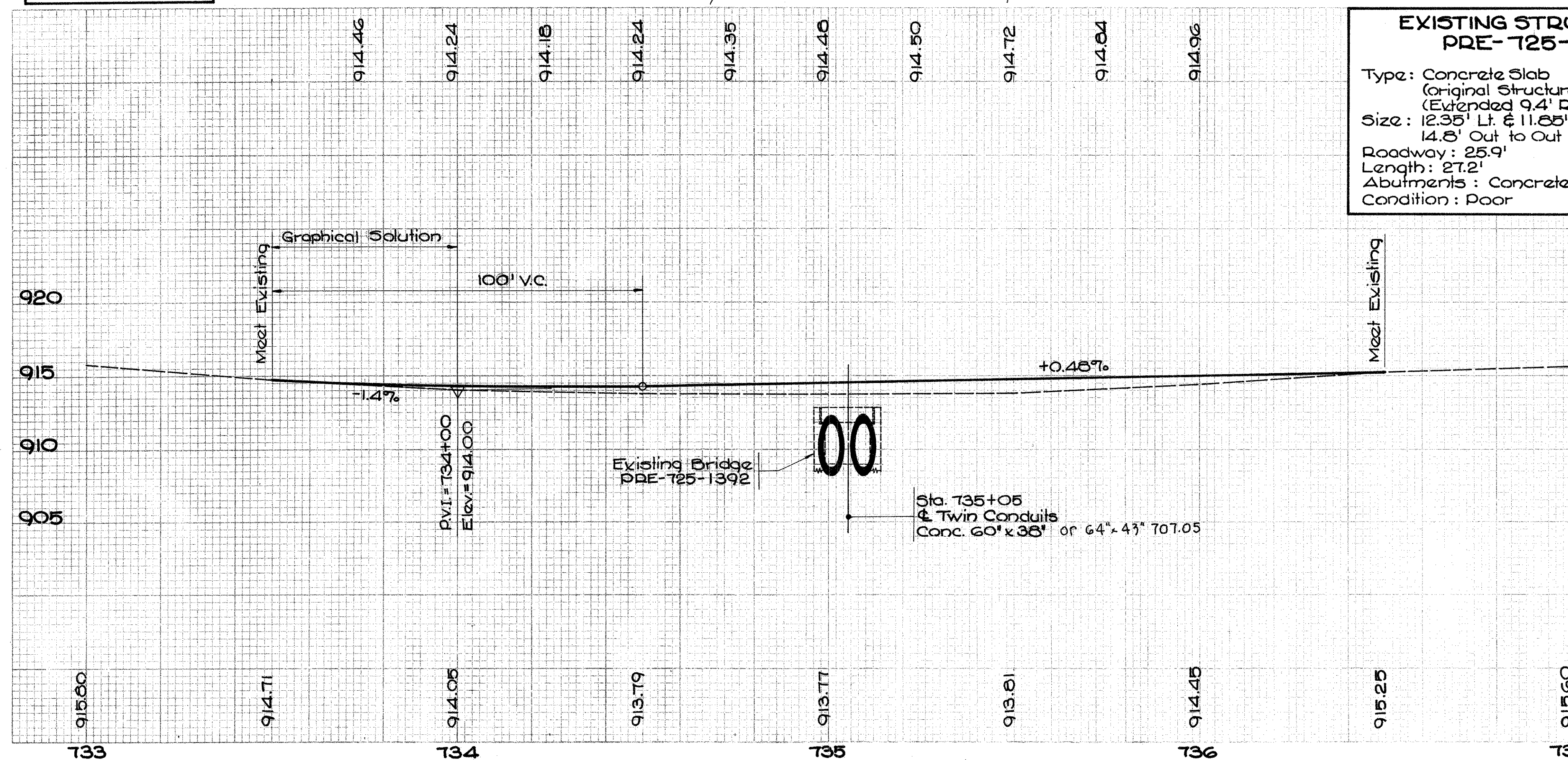
Bench Marks

"O" on S.W. Wingwall
Sta. #PRE-725-13.92
Sta. 734+98 15' Rt.
Elev. = 913.59'

R.R. Spike in 27" Ash
Sta. 732+53 31' Rt.
Elev. = 919.94'

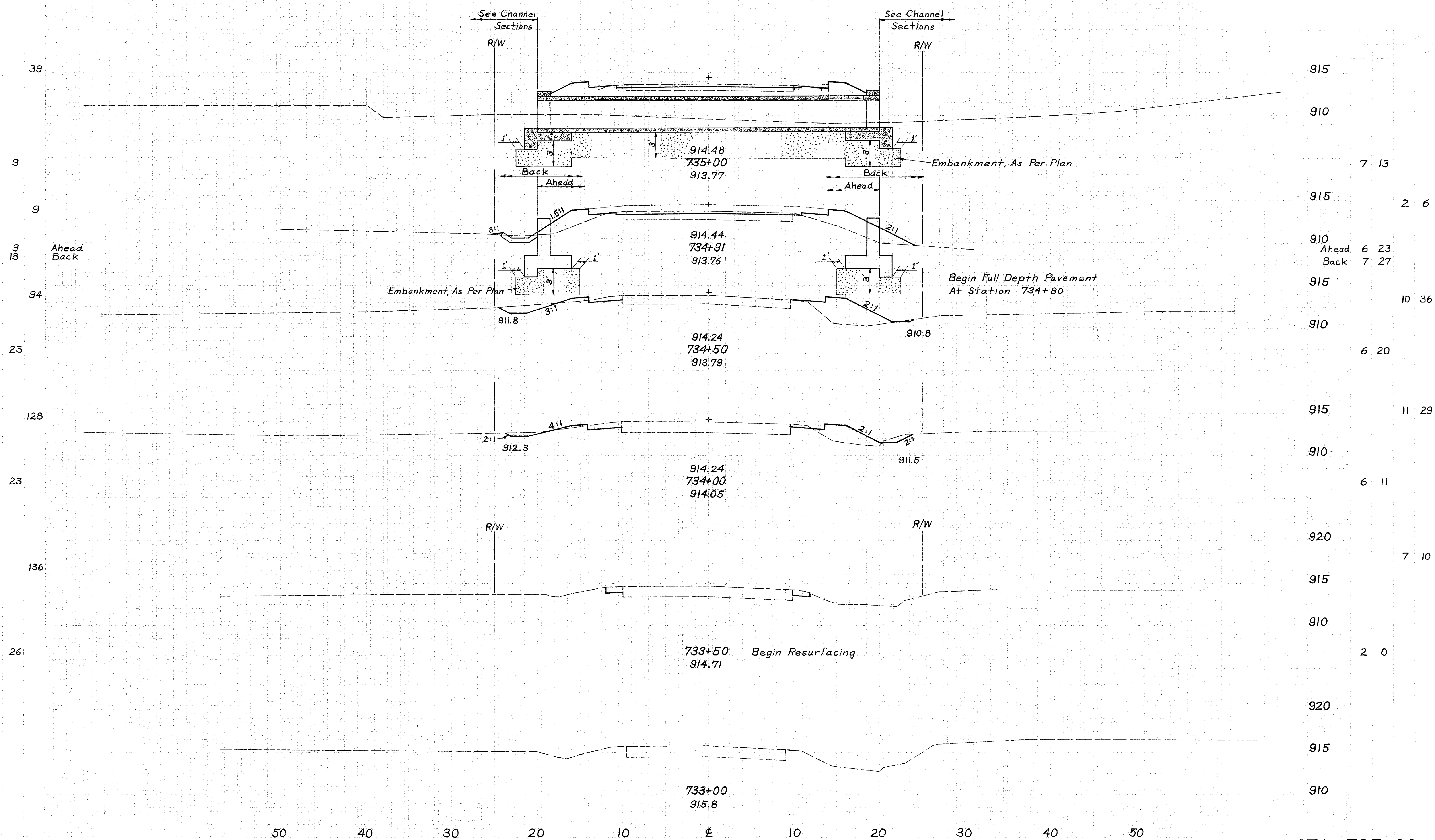
EXISTING STRUCTURE
PRE-725-1392

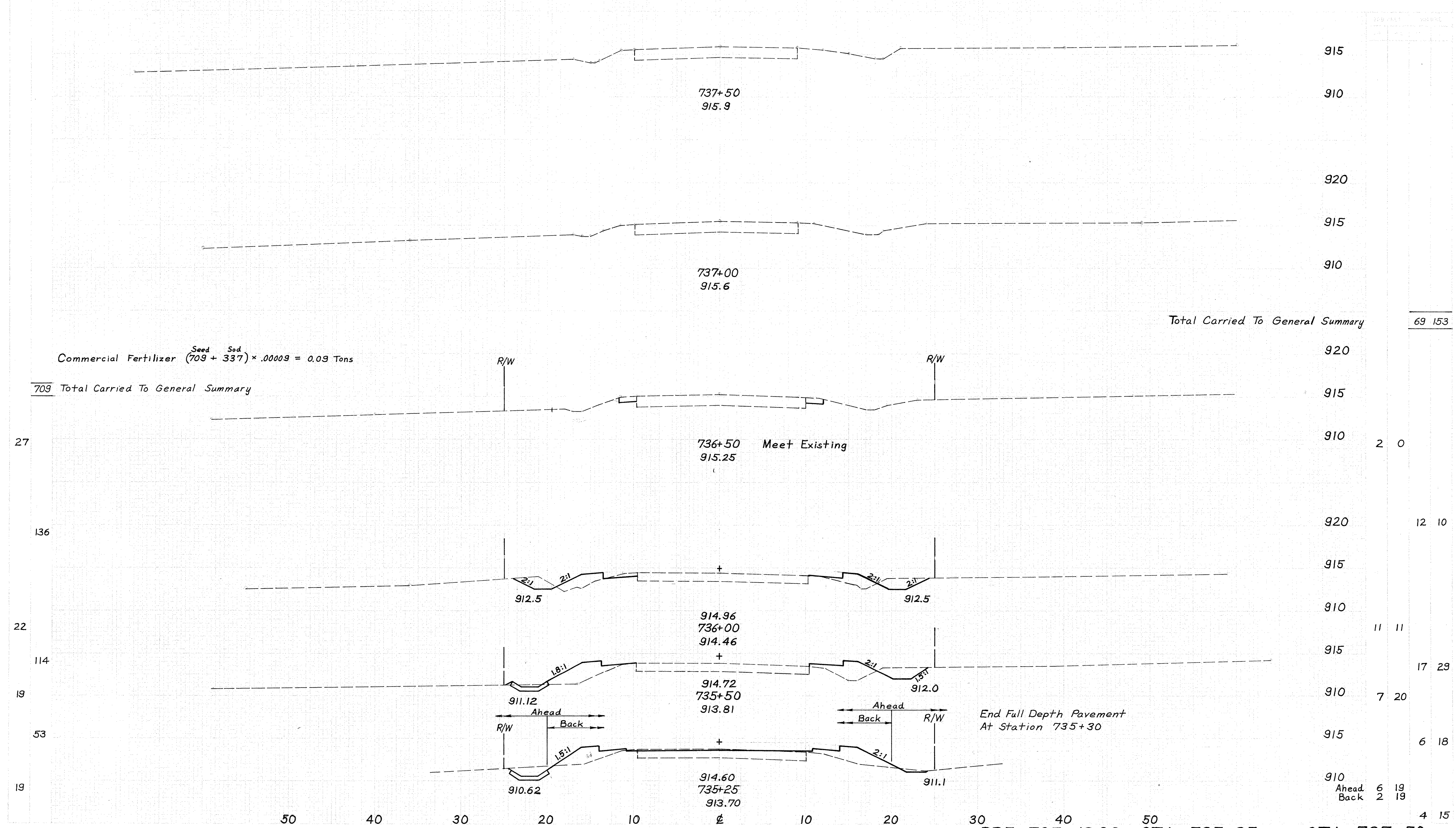
Type: Concrete Slab 11" Lt.
(Original Structure), 12" Rt.
(Extended 9.4' Rt.)
Size: 12.35' Lt. & 11.85' Rt. Clear Span
14.8' Out to Out of Floor
Roadway: 25.9'
Length: 27.2'
Abutments: Concrete
Condition: Poor



ESTIMATED QUANTITIES

[illegible]

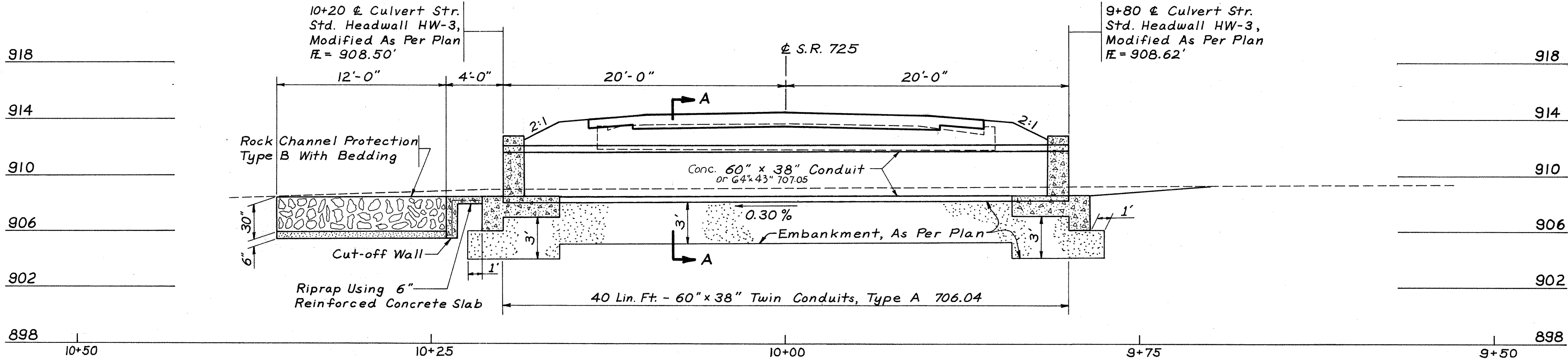
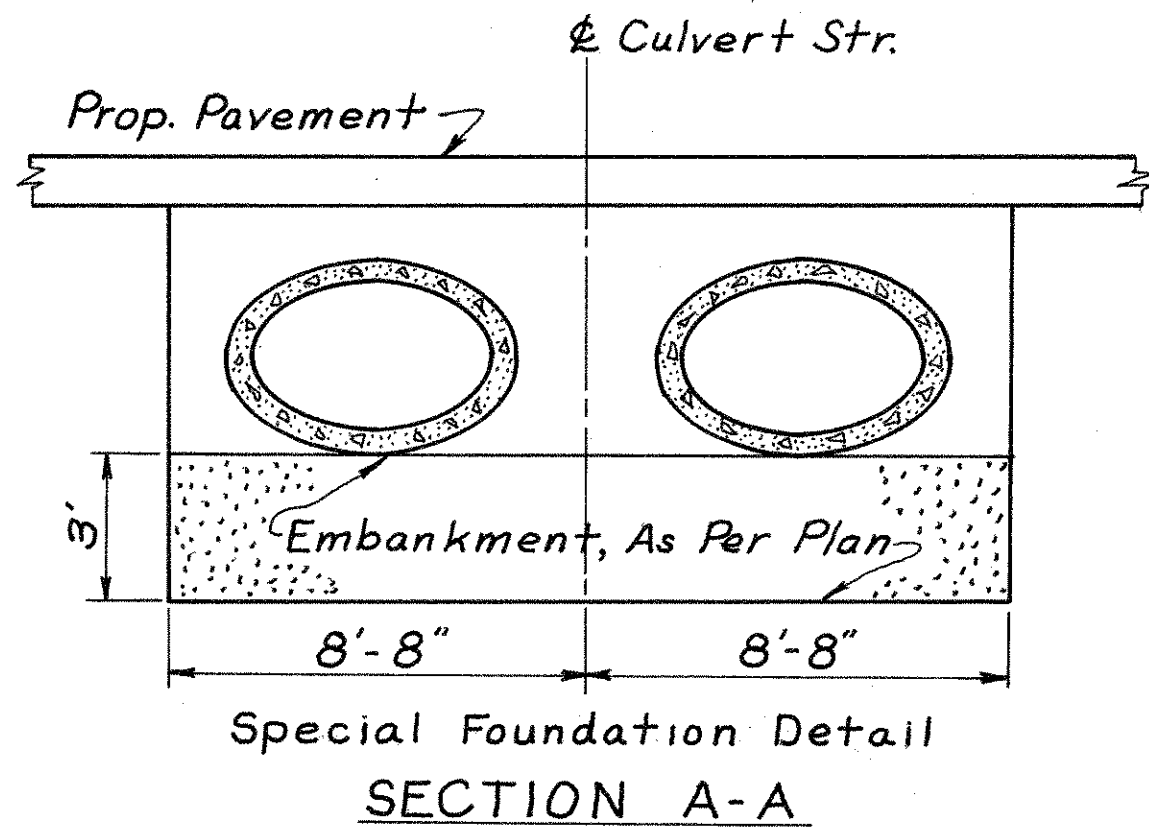




DRAINAGE DATA

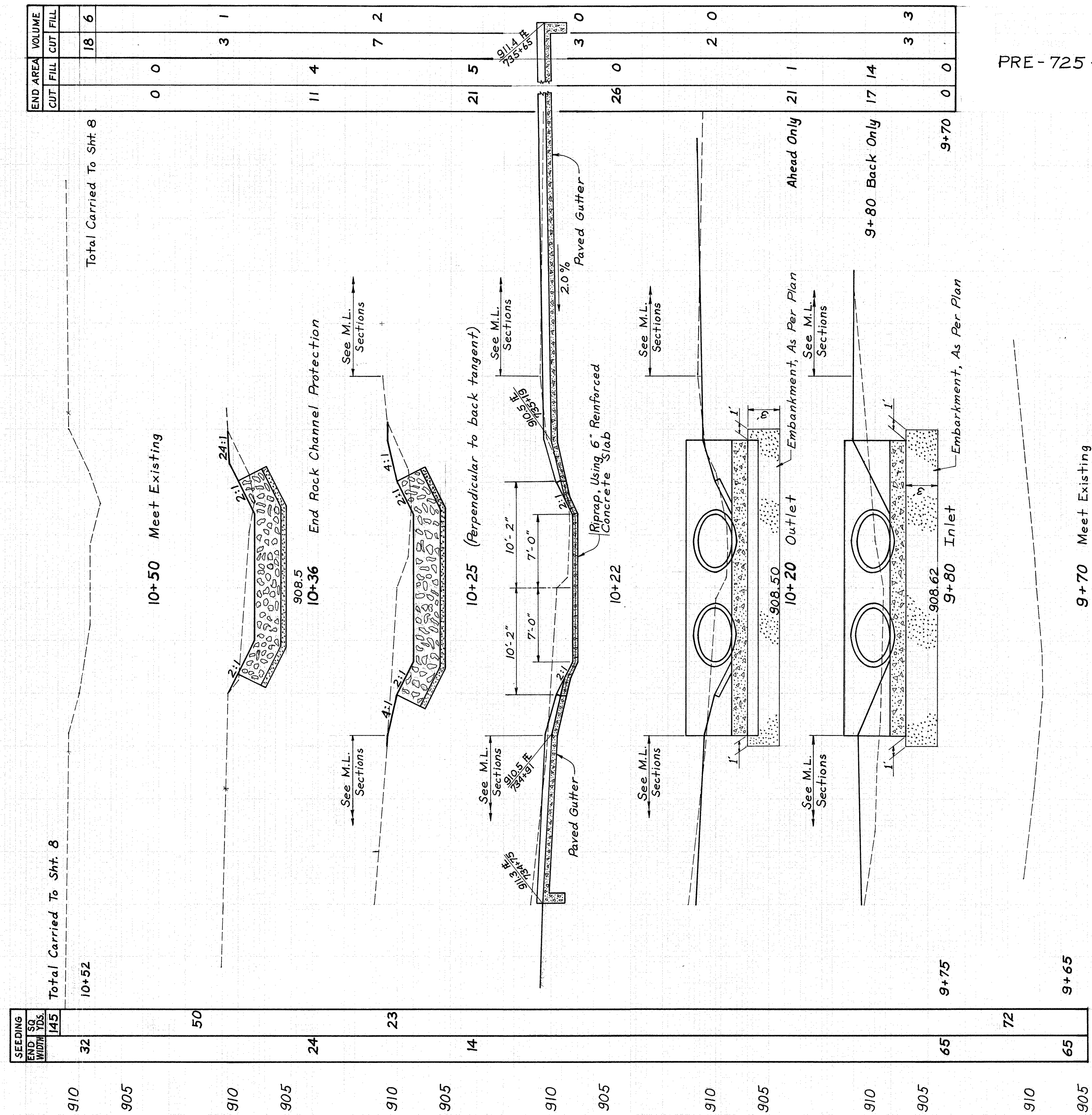
Drainage Area 162 Acres

Q₂₅ 193 CFS.



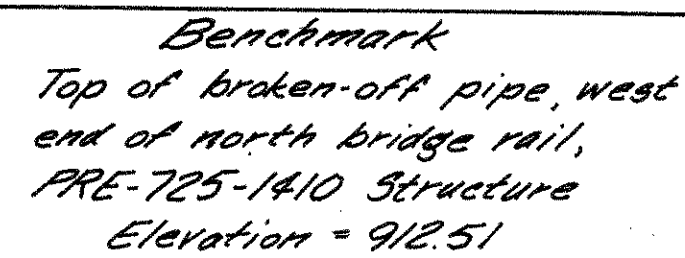
ESTIMATED QUANTITIES PART I		
203	Excavation Not Including Embankment Construction	18 C.Y.
203	Embankment	6 C.Y.
203	Embankment, As Per Plan	99 C.Y.
601	Riprap Using 6" Reinforced Concrete Slab	7 S.Y.
601	Rock Channel Protection, Type B With Bedding	27 C.Y.
602	Concrete Masonry	29.44 C.Y.
603	38" x 60" Conduit, Type A 706.04 Class HE II or 72" x 44" 707.07 Conduit	80 Lin. Ft.
659	Seeding and Mulching	145 S.Y.
659	Commercial Fertilizer (12-12-12)	0.02 Tons
660	Sodding	51 S.Y.

* Estimated quantity of reinforcing steel in the headwalls for bidding purposes is 2598 lbs.

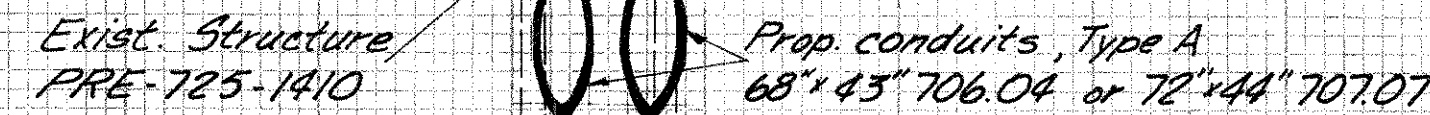




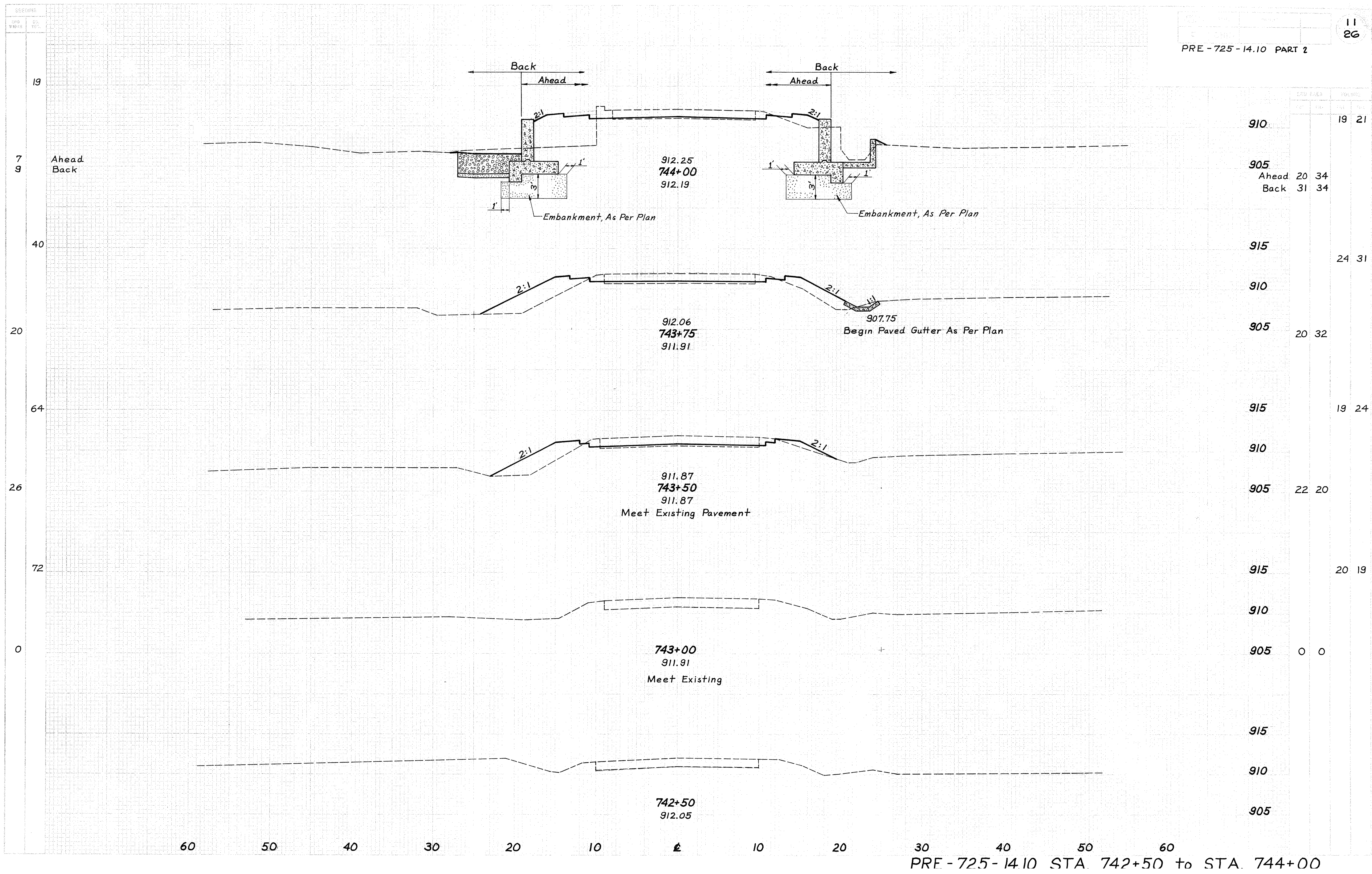
Begin Work

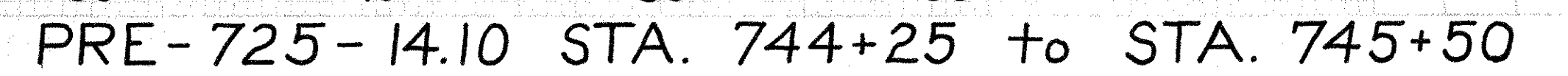


Type: Concrete Slab
Size: Span 16.75 Lt., 11.65' Rt.
Floor Length: 21.6 Lt., 16' Rt.
Skew: 0°
Rwy. Width: 20'
Length: 21.7'
Abutments: Stone
Wing Walls: 4-8' Long, Stone
Bridge Condition: Poor

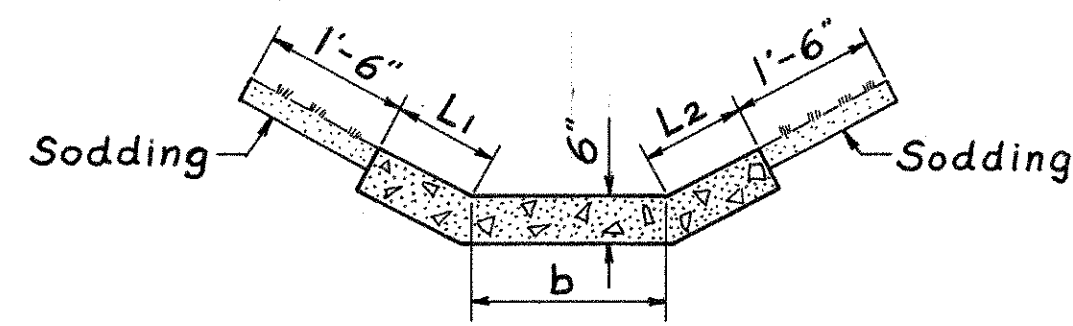


PRE-725-14.10 STA. 742+50 TO STA. 745+50

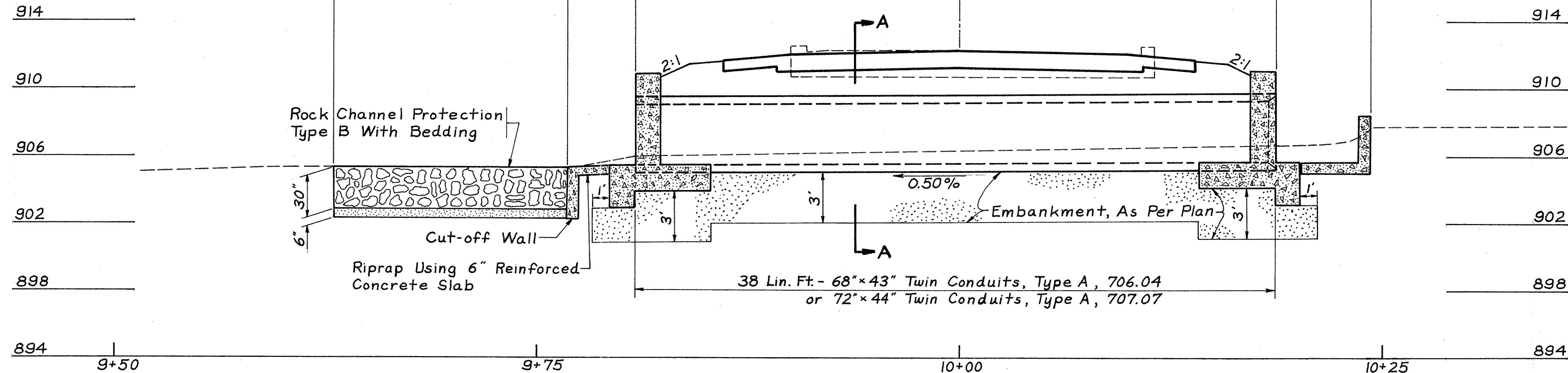
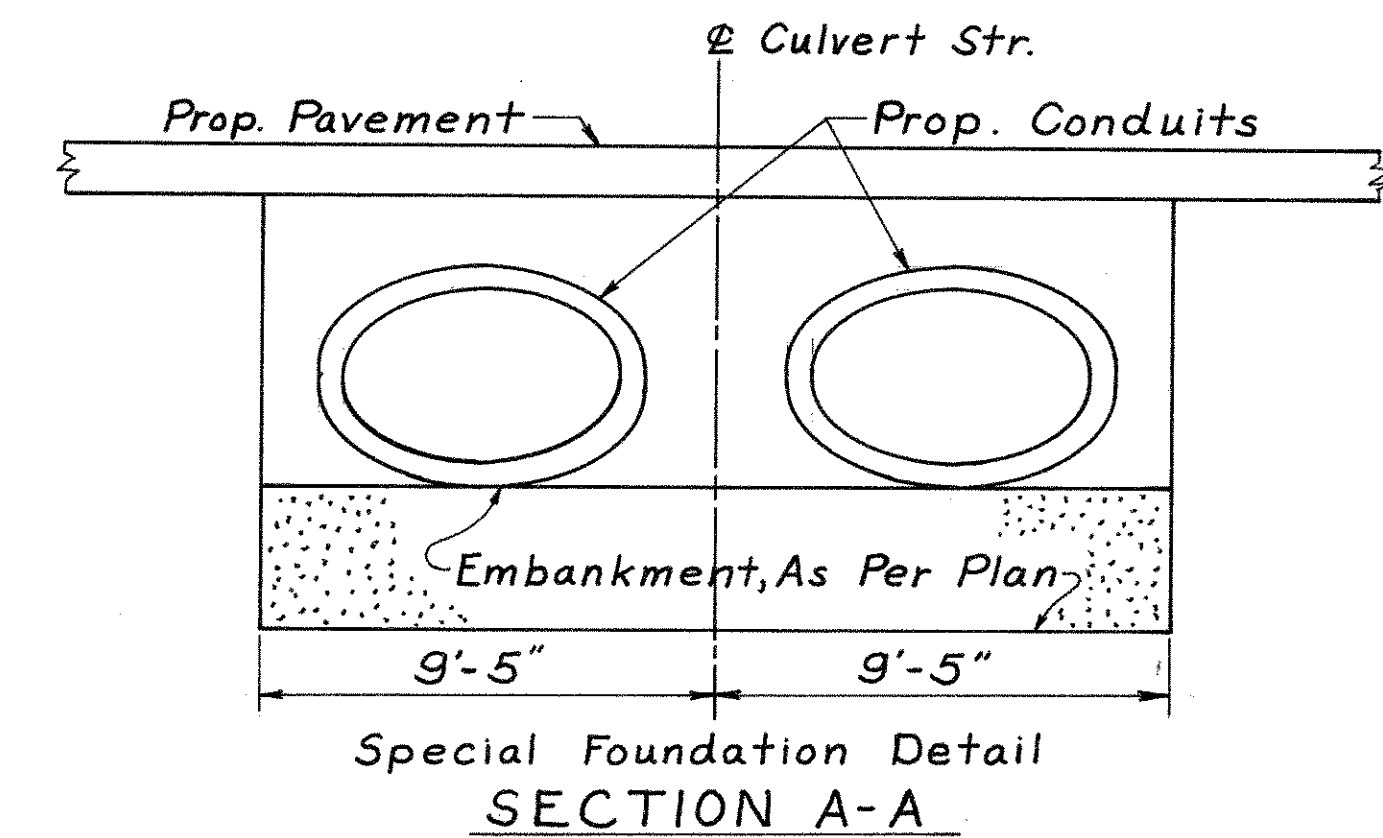




ITEM 601 PAVED GUTTER,
AS PER PLAN



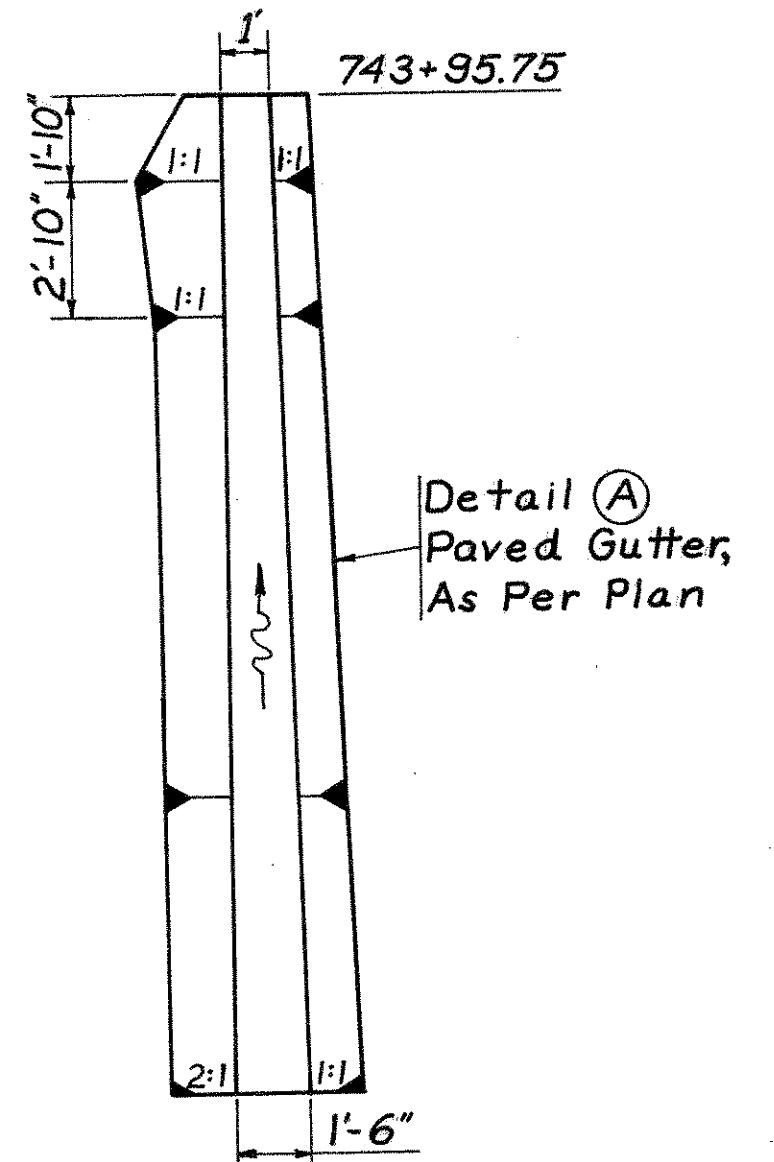
REF.	STATION	b	L1 SLOPE	L2 SLOPE
(A)	743+75	1'-6"	1'-8 1/8" 2:1	1'-0 3/4" 1:1
	743+91.09	1'-0"	2'-1 1/2" 1:1	1'-0"
	743+93.92	1'-0"	2'-7 3/8" 1:1	1'-0"
	743+95.75	1'-0"	1'-3 3/4" 1:1	1'-3 3/4" 1:1
(B)	744+24.25	2'-0"	1'-3" 15.6:1	1'-3" 15.6:1
	744+25	2'-0"	1'-6 3/4" 2:1	1'-6 3/4" 2:1
	744+50	2'-0"	1'-10 5/8" 2.5:1	1'-6 3/4" 2:1
(C)	744+21.35	2'-0"	2'-3 1/8" 1.8:1	1'-7 1/2" 1.5:1
	744+25	2'-0"	1'-6 3/4" 2:1	1'-0" 1:1
	744+50	2'-0"	1'-8 1/8" 2:1	1'-8 1/8" 2:1



FHWA REGION	STATE	PROJECT
5	OHIO	

PRE-725-14.10 PART 2

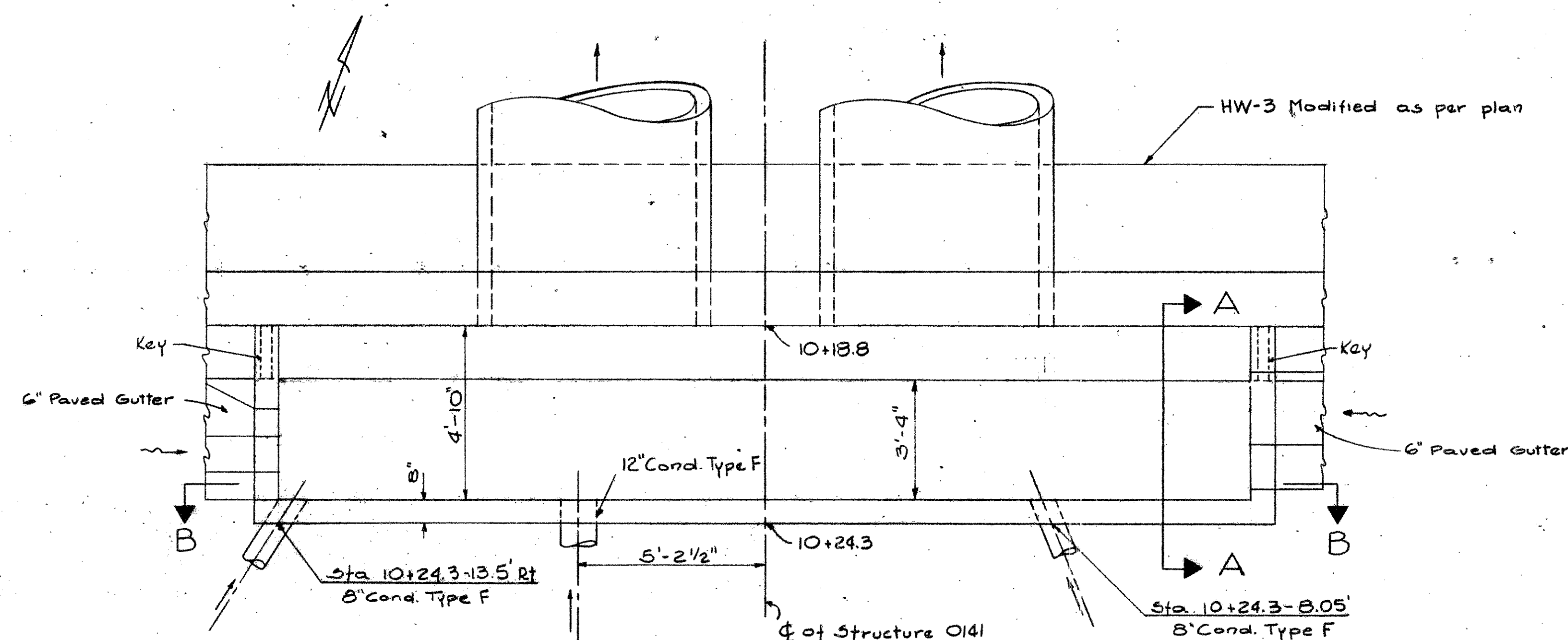
13
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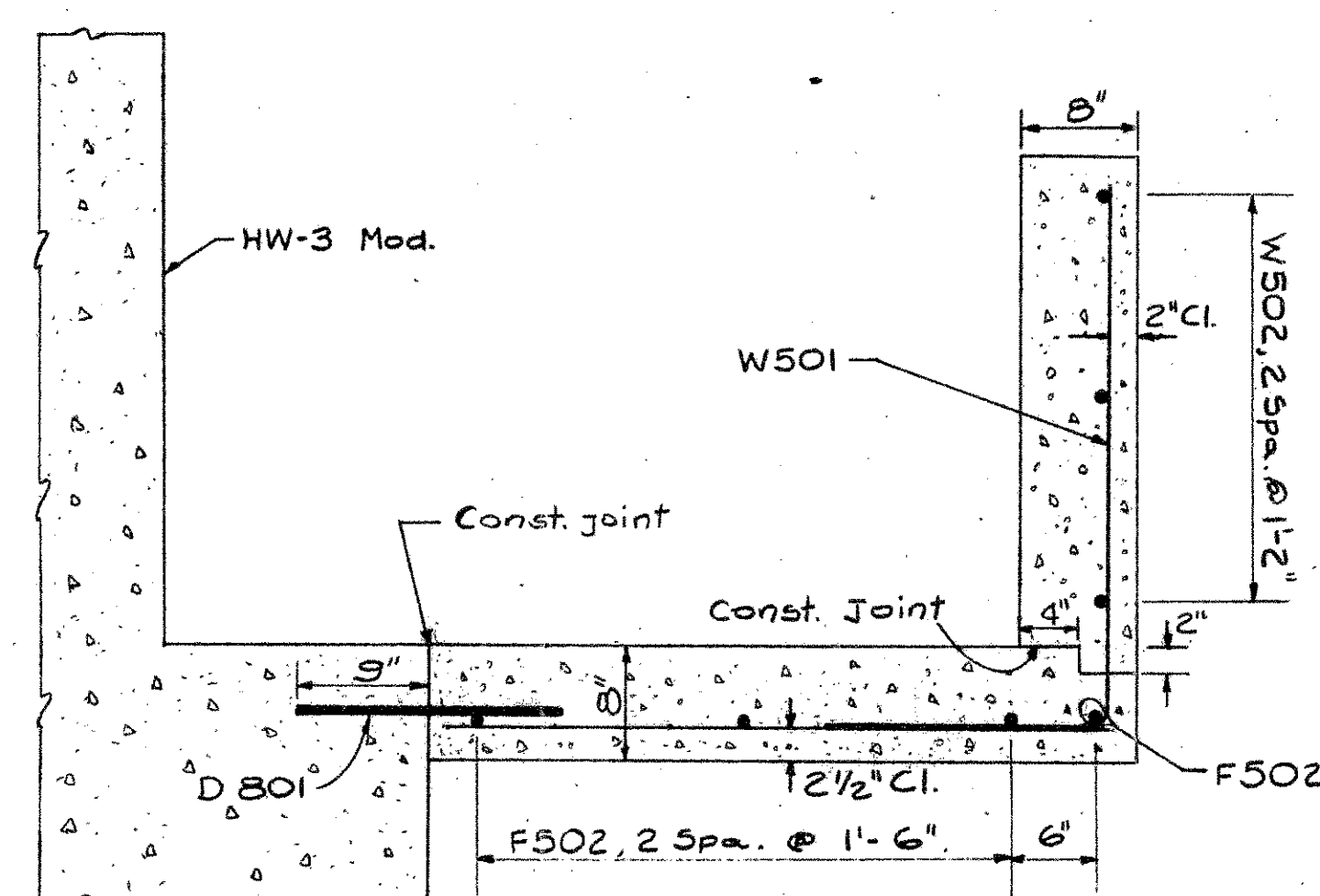
DRAINAGE DATA	
Drainage Area =	118 Acres
Q25 =	156 C.F.S.

ITEM	DESCRIPTION	QUANT.	ESTIMATED QUANTITIES PART 2
203	Excavation Not Including Embankment Construction	15 C.Y.	
203	Embankment	5 C.Y.	
203	Embankment, As Per Plan	108 C.Y.	
601	Riprap Using 6" Reinforced Concrete Slab	8 S.Y.	
601	Rock Channel Protection, Type B With Bedding	34 C.Y.	
601	Paved Gutter, As Per Plan	76 Lin. Ft.	
602	Concrete Masonry	46.2 C.Y.	
603	68"x43" Conduit, Type A 706.04; or 72"x44" Conduit, Type A 707.07	76 Lin. Ft.	
603	12" Conduit, Type F	2 Lin. Ft.	
603	8" Conduit, Type F	8 Lin. Ft.	
659	Seeding and Mulching	138 S.Y.	
659	Commercial Fertilizer (2-12-12)	0.02 Tons	
660	Sodding	64 S.Y.	
Sub-Summary			
Concrete Masonry		41.28	
Reinforcing Steel*		4156	
Totals		46.2 C.Y.	
Inlet Box		4.89	
Totals		516	

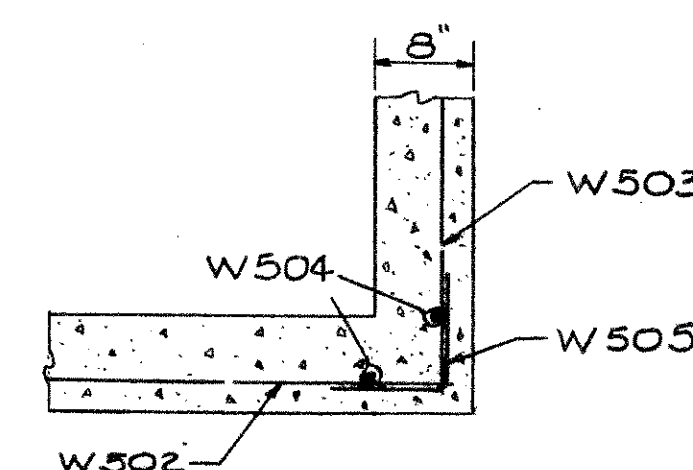
* Reinforcing steel included in unit price bid for Item 602 Concrete Masonry



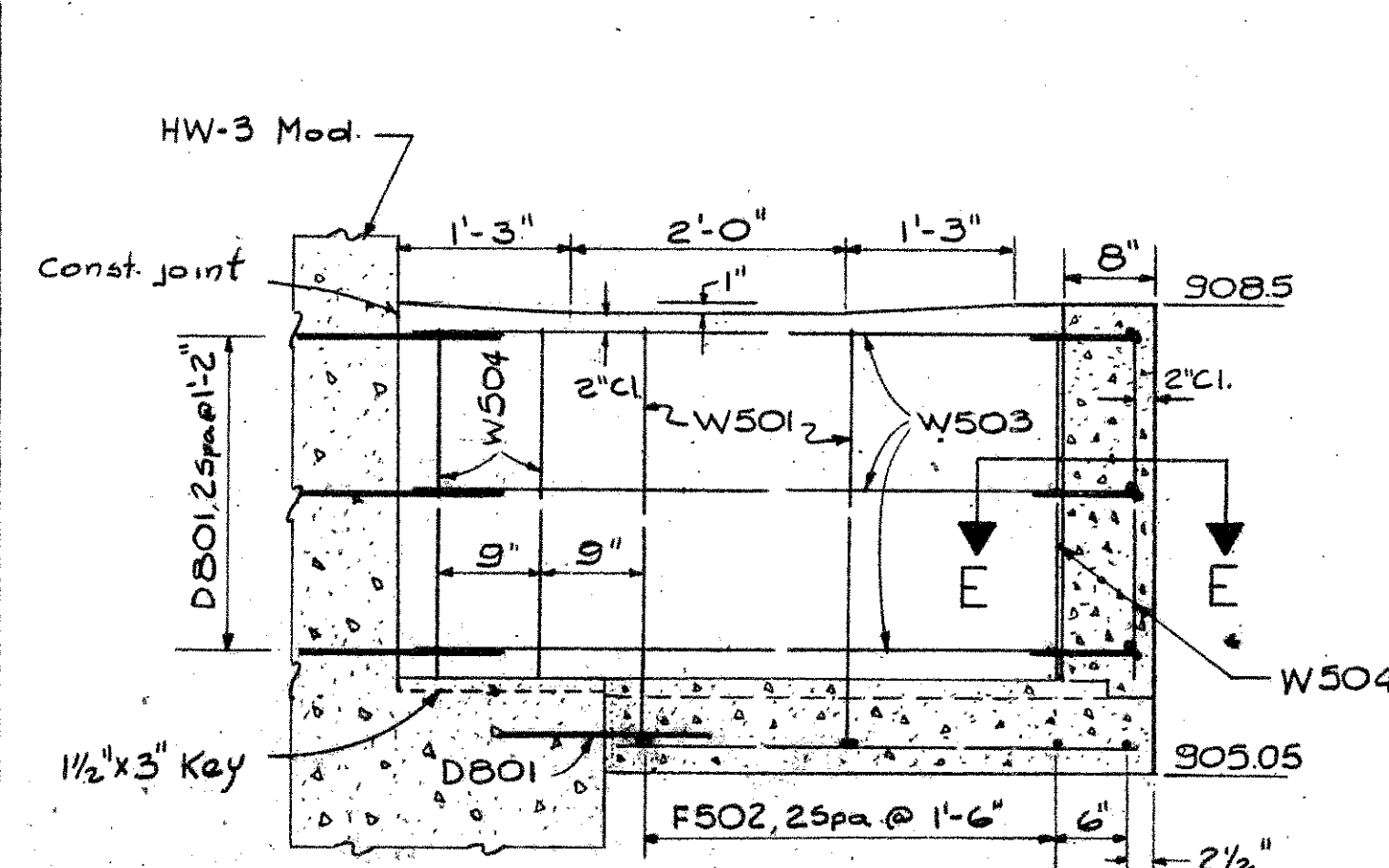
LAYOUT PLAN



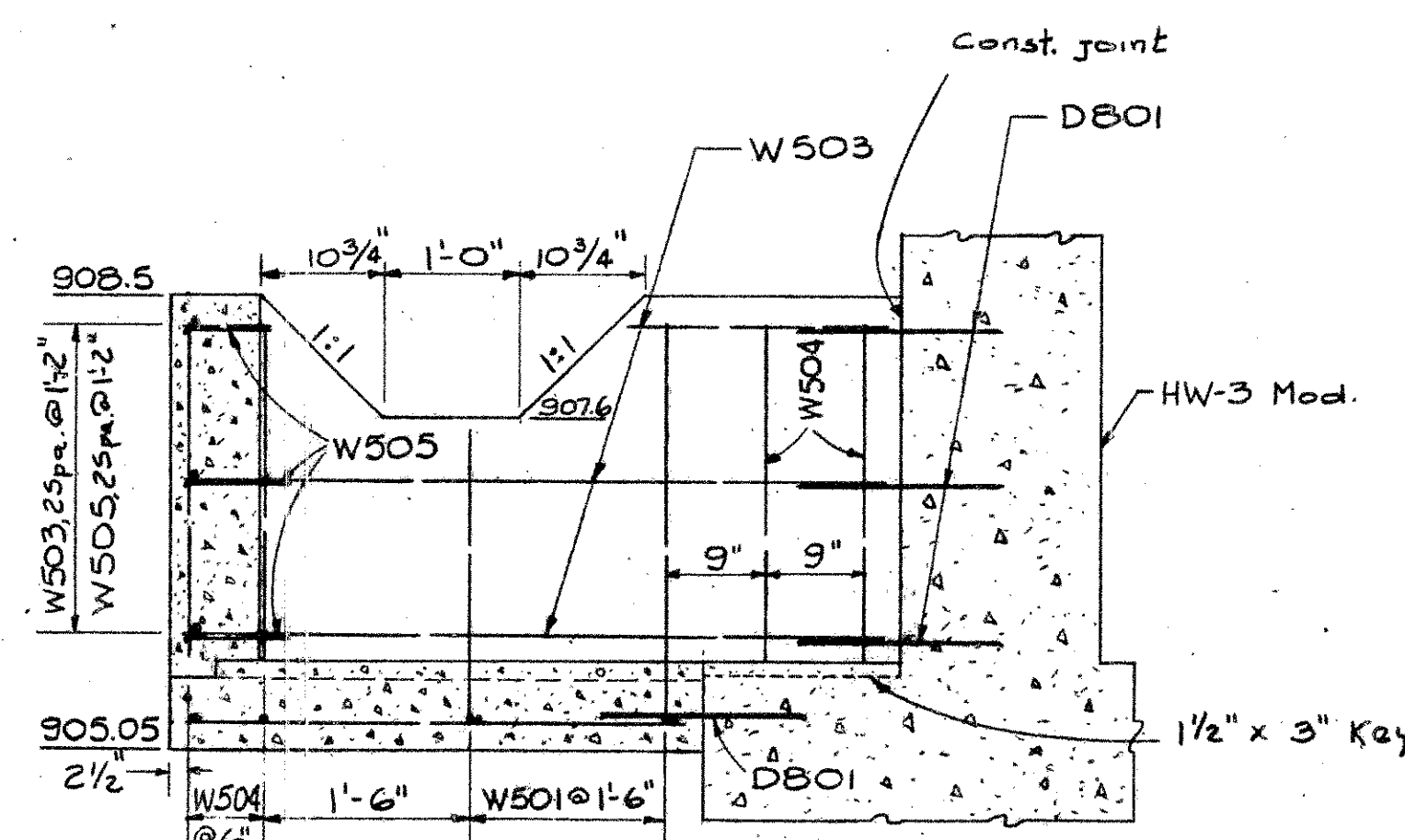
SECTION A-A



SECTION E-E
(corner detail)

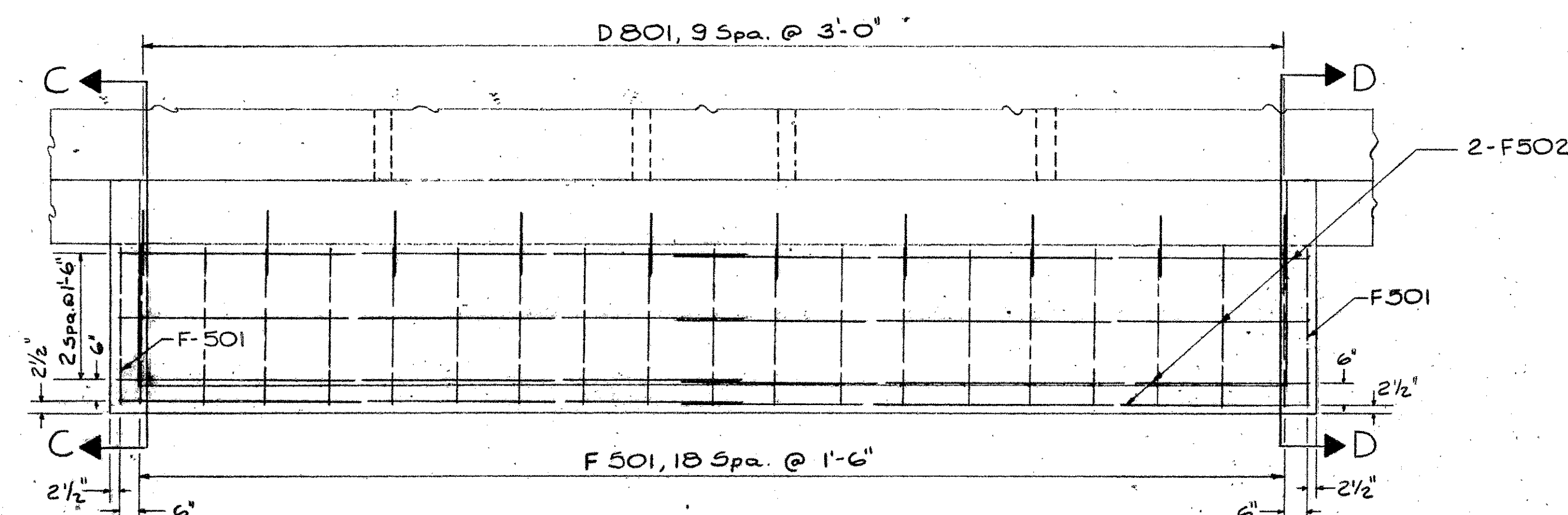


SECTION D-D

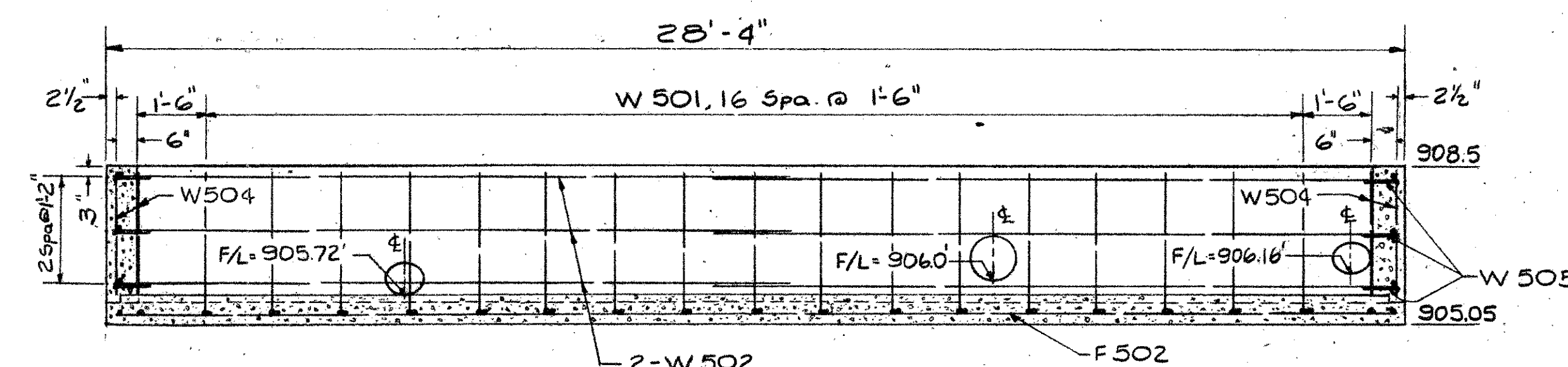


NOTE: Shift or cut reinf. steel to fit paved ditch

SECTION C-C



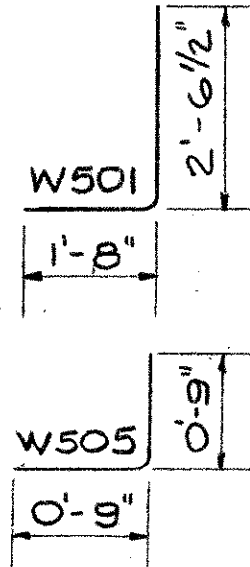
SLAB REINFORCING STEEL



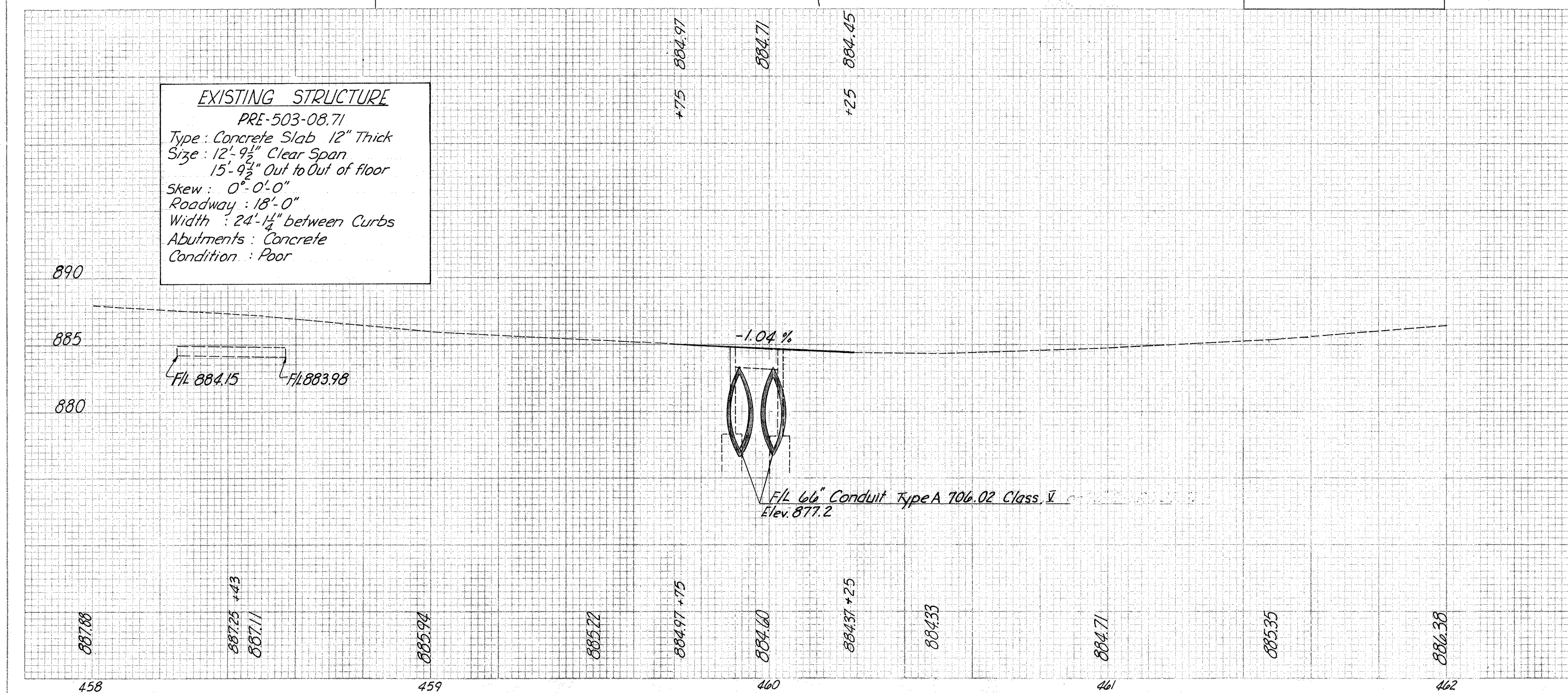
SECTION B-B

NOTE: Shift or cut reinforcing steel where necessary to clear conduits.

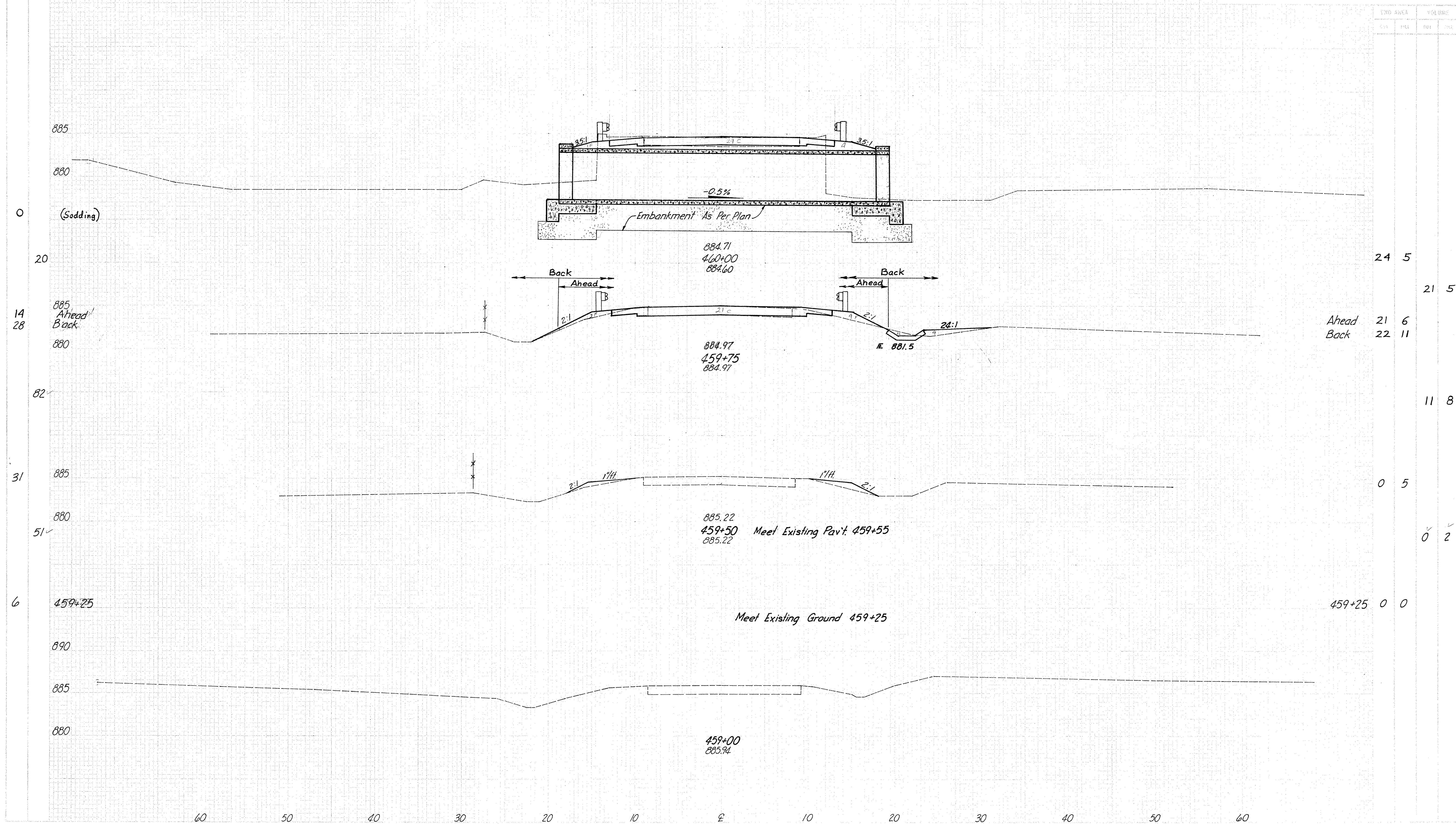
*Reinf. steel will be included in price bid for 602 masonry.

REINFORCING STEEL LIST *					
MARK	Nº	LENGTH	WEIGHT	SHAPE	BENDING DIAGRAM
WALLS					
W501	21	4'-1 1/2"	90	B	
W502	6	14'-10"	93	S	
W503	6	5'-2"	32	S	
W504	8	2'-6"	21	S	
W505	6	1'-7"	10	B	
FLOOR					
F501	21	3'-9"	82	S	
F502	8	14'-10"	124	S	
DOWELS (WALLS and FLOOR)					
D801	16	1'-6"	64	S	

Total = 516 #



ESTIMATED QUANTITIES															
REF. NO.	STATION TO STATION	SIDE	404 Asphalt Concrete AC-20 Cu.Yd.	402 Asphalt Concrete AC-20 Cu.Yd.	301 Bit. Aggr. Cu.Yd.	304 Base Cu.Yd.	310 Subbase Grading B Cu.Yd.	408 Bit. Prime Coat Gal.	202 Structure Removed Lump	409 Seal Coat Bit. Cover Mail Aggr. Gal.	606 Guard Rail Type Cu.Yd.	607 Fence Type Lin.Ft.	601 Gutter Type-1-2 Mod. Lin.Ft.	660 Sodding Sq.Yd.	SEE SHEET NO.
1-P	459+55 to 460+35	Lt	5.33	5.33	28.15	12.12	19.23	24.36		18.27	0.49				
2-P	459+55 to 460+35	Lt													
1-R	459+96	Lt							Lump						
2-R	459+81± to 460+18.5±	Lt													
3-R	459+52.25 to 460+39.75	Lt													
4-R	459+75 to 460+25	Lt										75	50		
1-D	459+45 to 459+83	Rt													
2-D	460+09 to 460+50	Rt											18 41	4.8 12.5	
TOTALS			5.33	5.33	28.15	12.12	19.23	24.36	Lump	18.27	0.49	75	50	54 17.3	

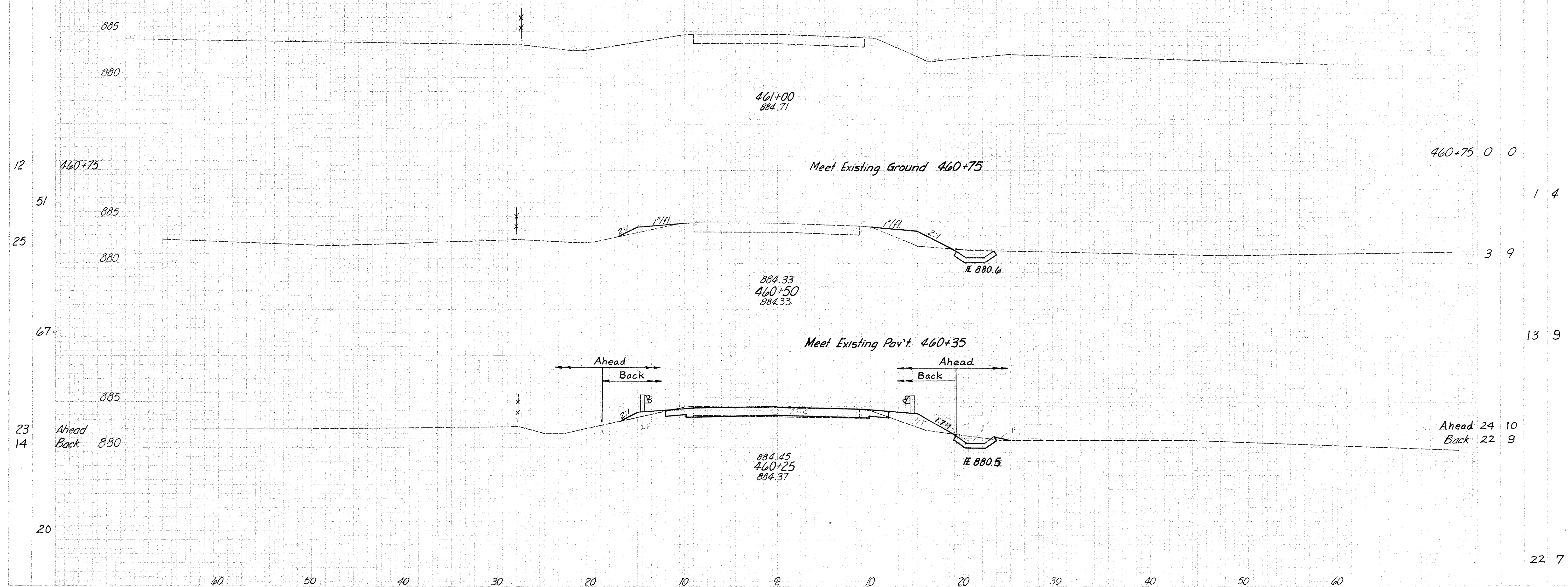


$$\text{Commercial Fertilizer} = \left(\frac{\text{Seed}}{291} + \frac{\text{Sod}}{17} \right) \times .00009 = 0.03 \text{ Tons}$$

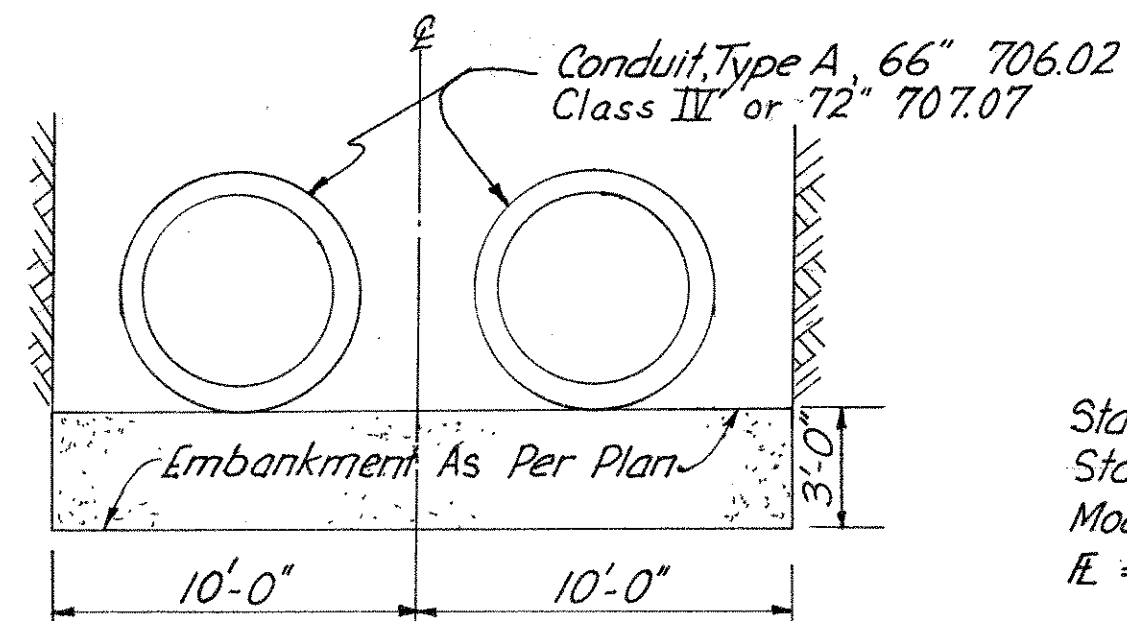
Total 291 Carried to General Summary

*Total Carried to General Summary

*Total 68 35



DRAINAGE	DATA
Drainage Area	= 280.07 Acres.
Q 25 Years	= 341.00 C.F.S.



DETAIL - SPECIAL FOUNDATION
SECTION A-A

886

882

878

874

Note: Embankment As Per Plan to be placed under the full length of each headwall.

Sta. 459+96, 18.8' Lt.
Std. HW-3 Headwall
Modified As Per Plan
E = 877.29'

Sta. 459+96, 19.2' Rt.
Std. HW-3 Headwall Modified As Per Plan
E = 877.10'

Elev. 883.79'

Elev. 883.60'

Riprap Using 6"
Reinforced Concrete Slab
See Std. Drwg. HW-4

Rock Channel
Protection, Type B with Bedding

38 Lin. Ft. Conduit Type A, 66", 706.02 Class IV

Cutoff
Wall

9+75

10+00

10+25

10+39

ESTIMATED QUANTITIES PART 3			
Item	DESCRIPTION	QUANTITY	UNIT
203	Excavation Not Including Embankment Construction	35	Cu. Yd.
203	Embankment	6	Cu. Yd.
601	Riprap, Using 6" Reinforced Concrete Slab	9	Sq. Yd.
601	Rock Channel Protection, Type B with Bedding	43	Cu. Yd.
602	Concrete Masonry	45.6	Cu. Yd.
603	Conduit Type A, 66", 706.02 Class IV	76	Lin. Ft.
659	Seeding and Mulching	223	Sq. Yd.
659	Commercial Fertilizer (12-12-12)	0.02	Ton
203	Embankment As Per Plan	113	Cu. Yd.
660	Sodding	60	Sq. Yd.

Quantities carried to General Summary

Note: Estimated Quantity Of Reinforcing Steel In Headwalls
For Bidding Purposes Only Is 4650 lbs.

886

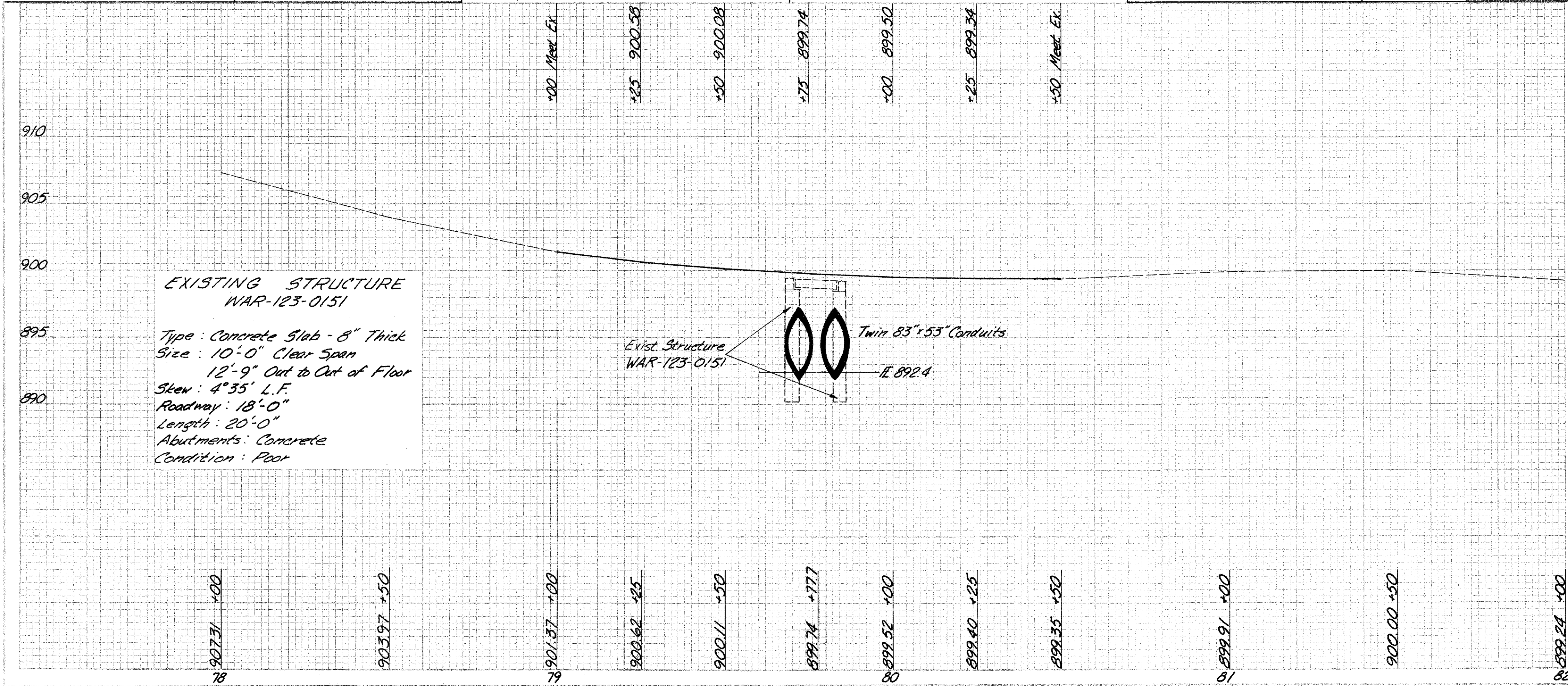
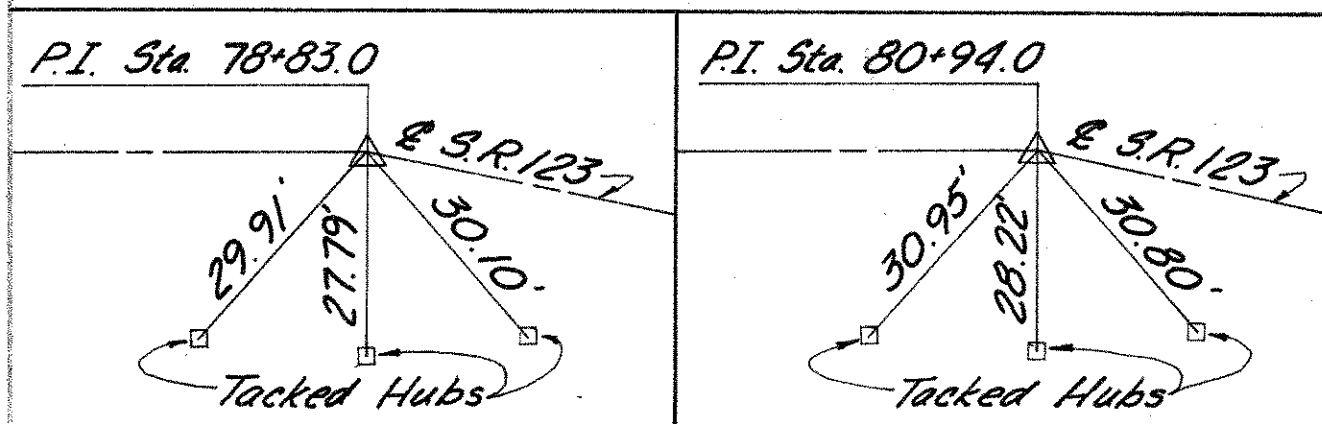
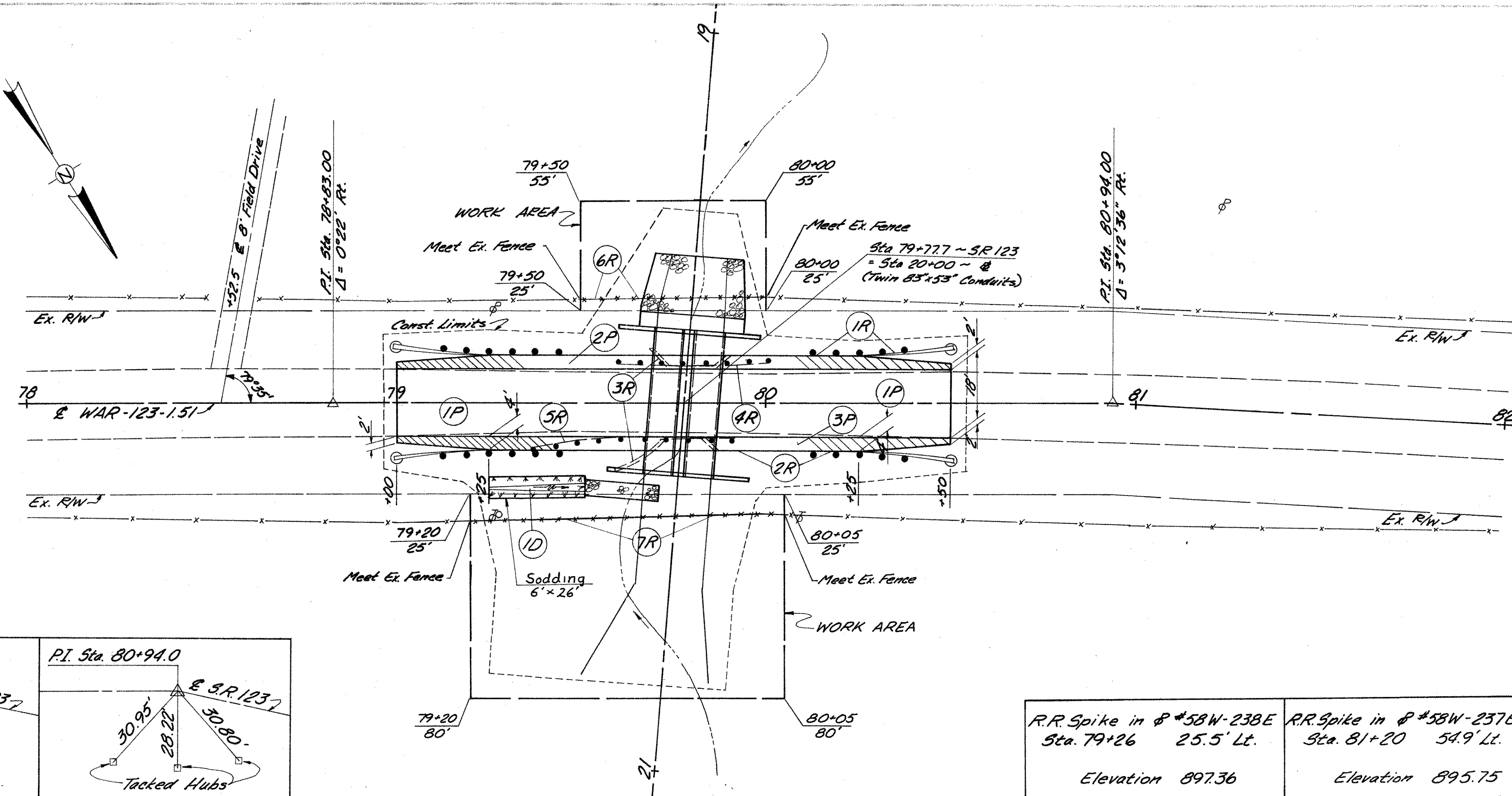
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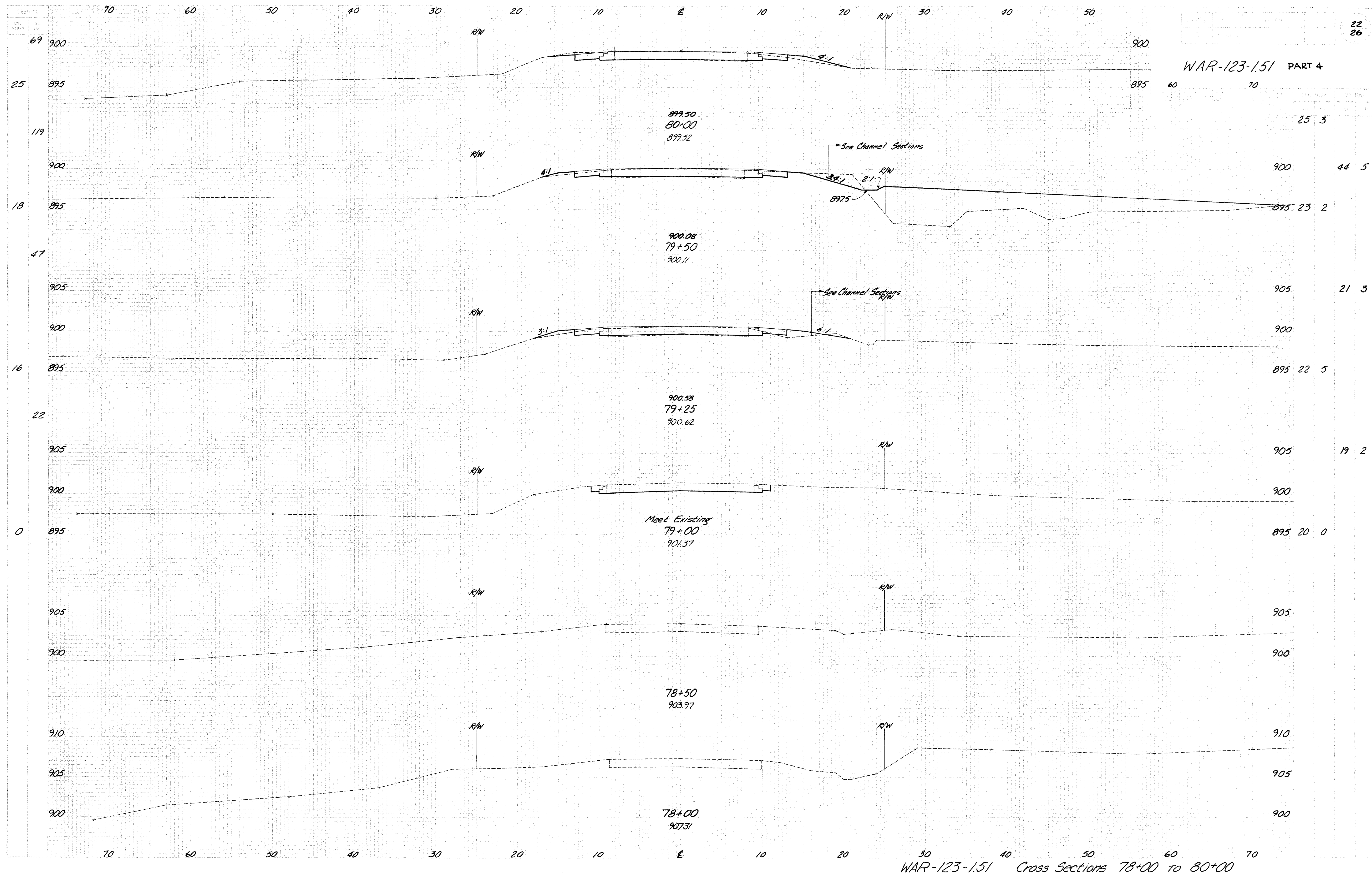
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PRE-503-0871 CHANNEL SECTIONS

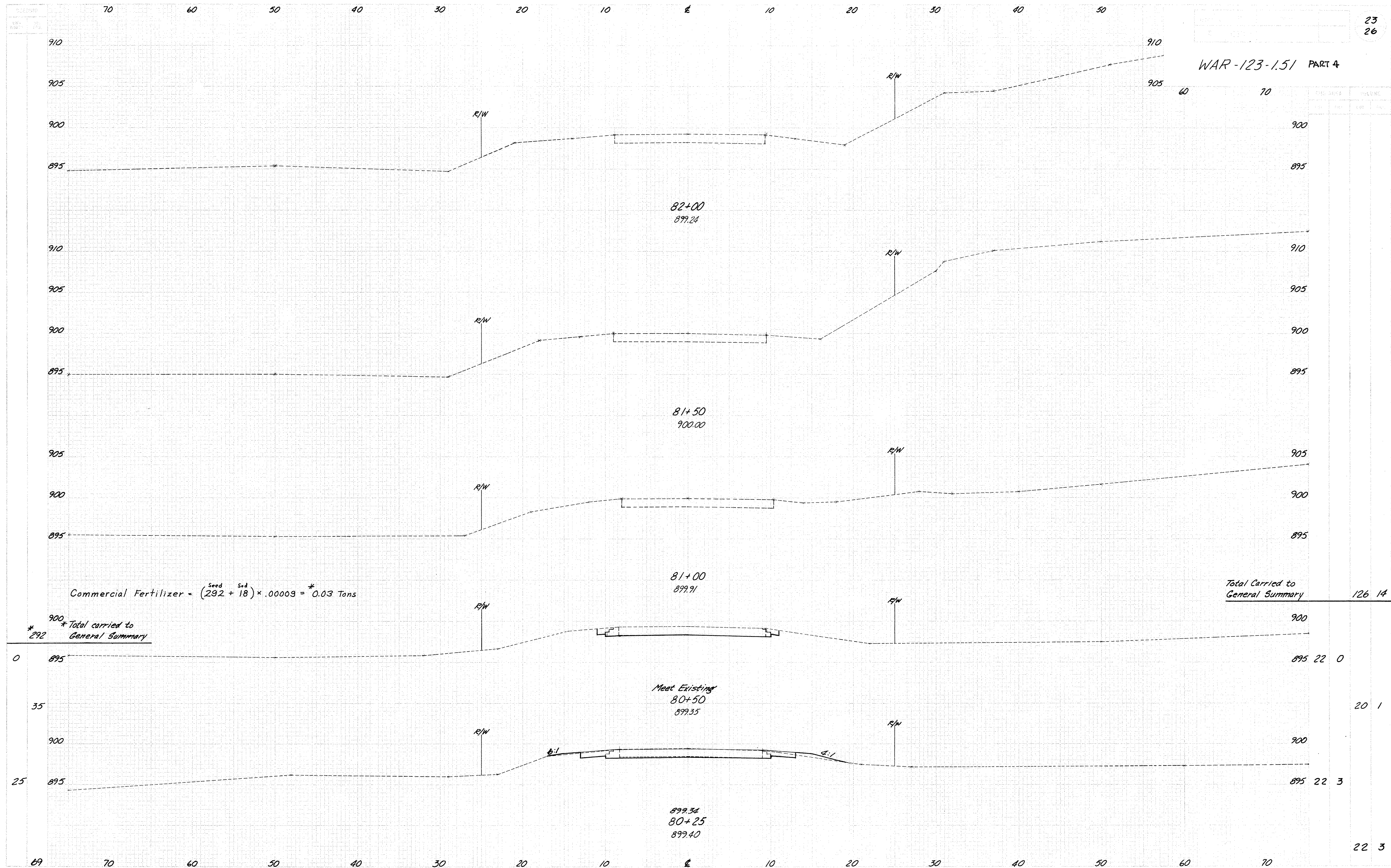
MICROFILMED
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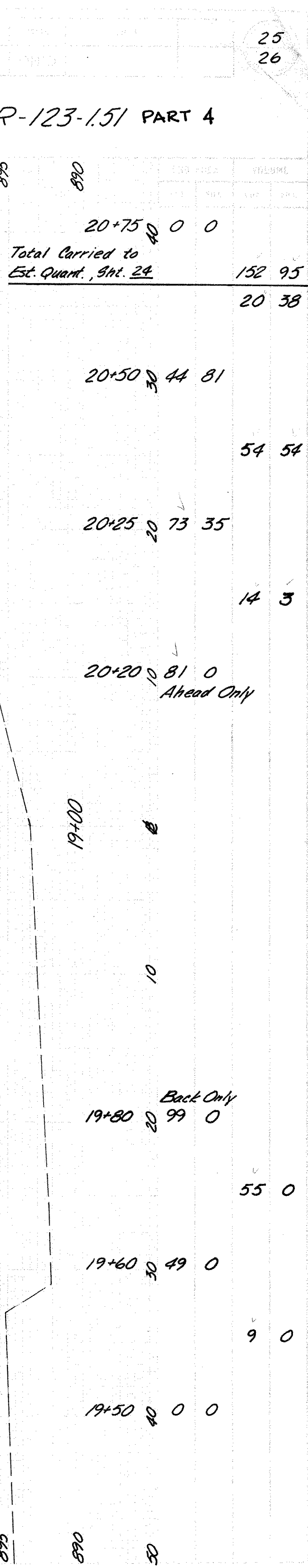
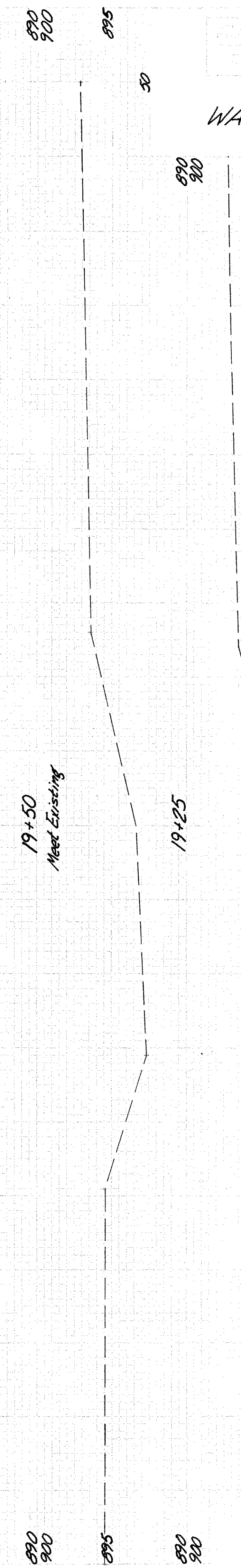
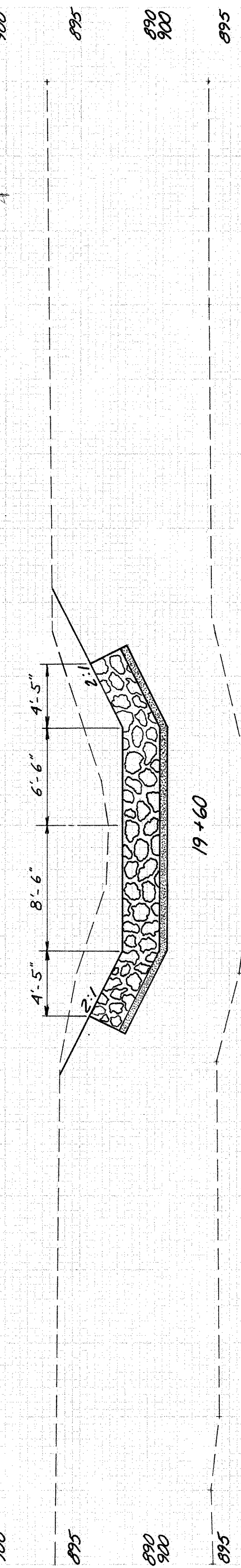
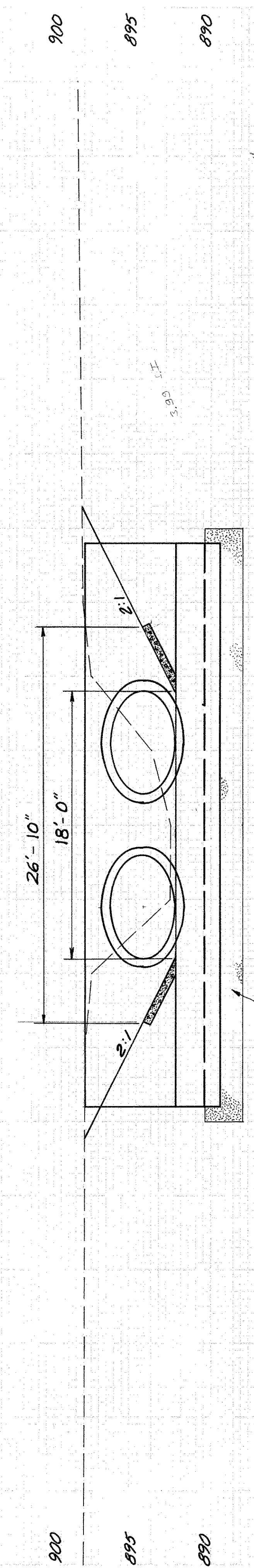
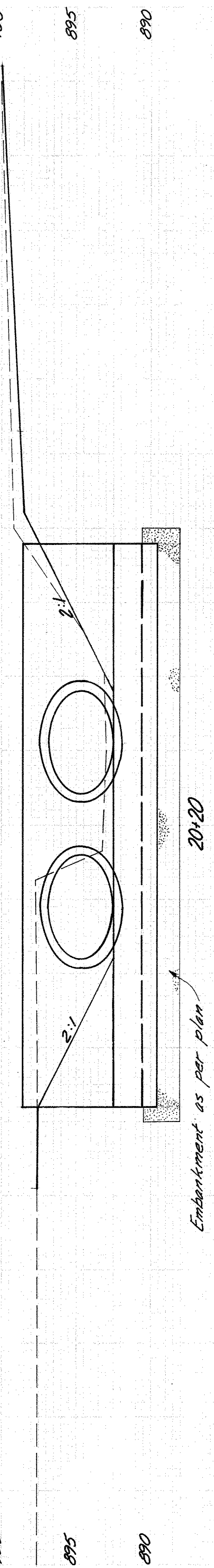
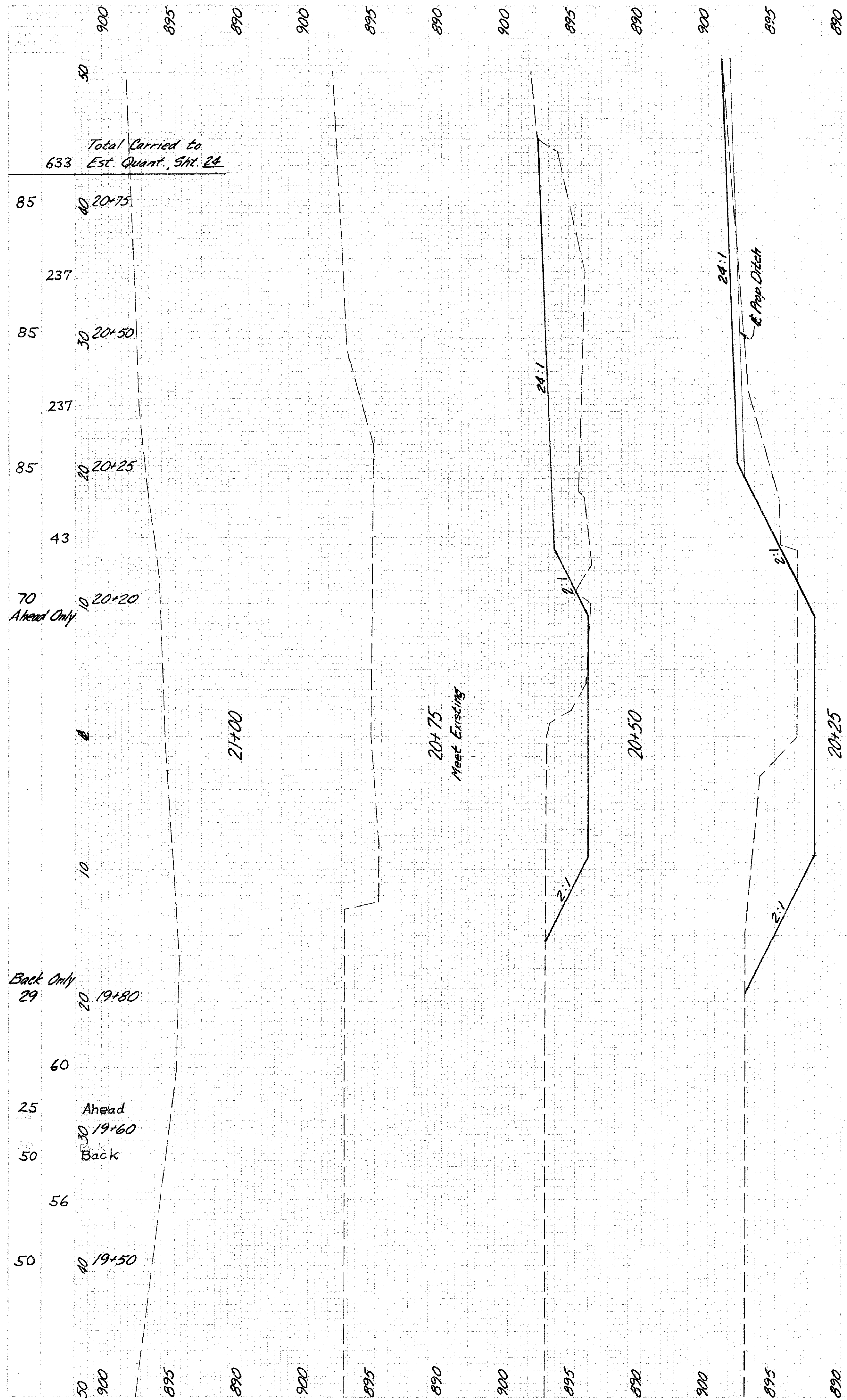
REF. NO.	STATION TO STATION	SIDE	404	402	301	304	310	408	202	409	606	607	660	SEE SHEET (REF.)
1-P	79+00 to 80+50	Lt. Rt.	11	11	53	12	37	25		19				
2-P	79+00 to 80+50	Lt.				12		25		19				
3-P	79+00 to 80+50	Rt.				12		25						
1-R	79+25 to 80+25	Lt.												
2-R	79+25 to 80+25	Rt.												
3-R	79+25 to 80+25	Lt.												
4-R	79+50 to 80+01	Lt.												
5-R	79+50 to 80+01	Rt.												
6-R	79+50 to 80+00	Lt.												
7-R	79+50 to 80+05	Rt.												
1-D	79+25 to 79+51	Rt.												
202	Guard Rail Removed	Lin. Ft.												
408	Prime Coat	Gal.												
310	Subbase	Cu. Yd.												
408	Bit. Prime Coat	Gal.												
202	Struct. Removal	Lump												
409	Soil Cont. Guard Rail Bit. Coat Type Aggr. 5' Asson. Gal. Ch. 16 Lin. Ft. Each													
606	Soil Cont. Guard Rail Bit. Coat Type Aggr. 5' Asson. Gal. Ch. 16 Lin. Ft. Each													
607	Fence Type 47	Lin. Ft.												
660	660' 11' 5'	Sq. Yd.												



WAR-123-1.51 PART 4



WAR-123-151 CULVERT STRUCTURE DETAILS



WAR-123-151 PART 4

20+75	40	0	0
Total Carried to Est. Quant., 5ht. 24	152	95	20 38

20+50	30	44	81
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20+25	20	73	35
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20+20	10	81	0
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20+20	10	81	0
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20+20	10	81	0
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20+20	10	81	0
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20+20	10	81	0
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20+20	10	81	0
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20+20	10	81	0
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20+20	10	81	0
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20+20	10	81	0
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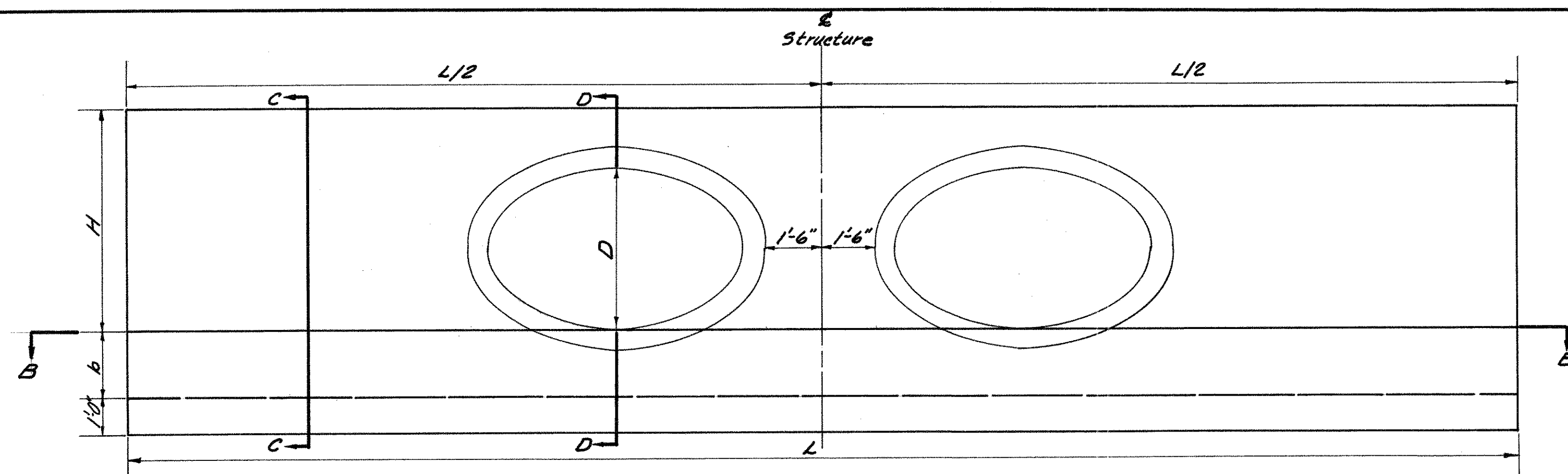
20+20	10	81	0
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20+20	10	81	0
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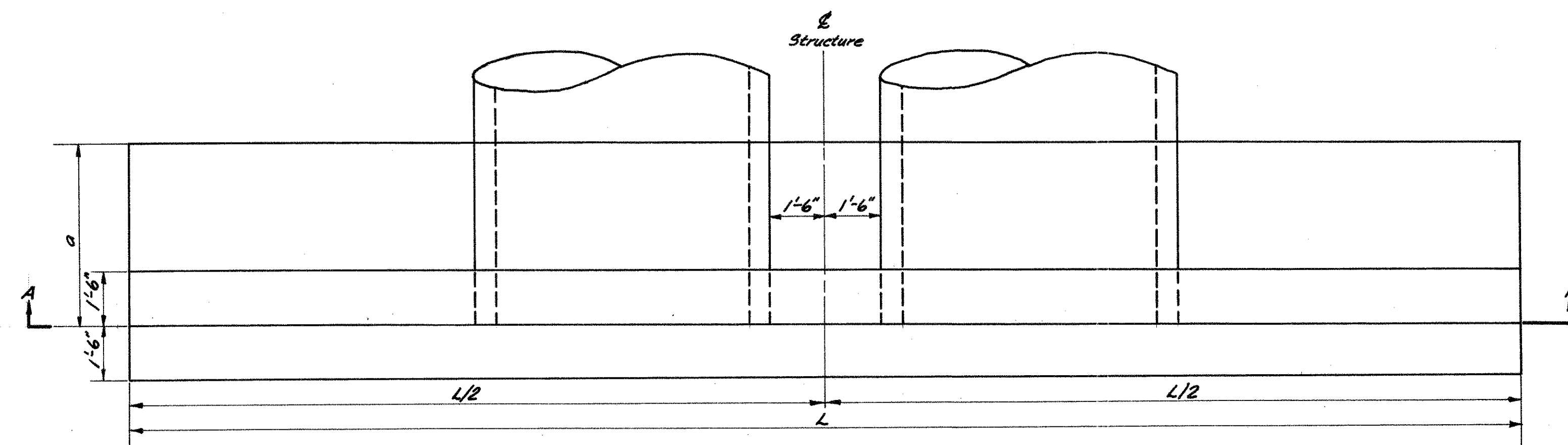
20+20	10	81	0
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20+20	10	81	0
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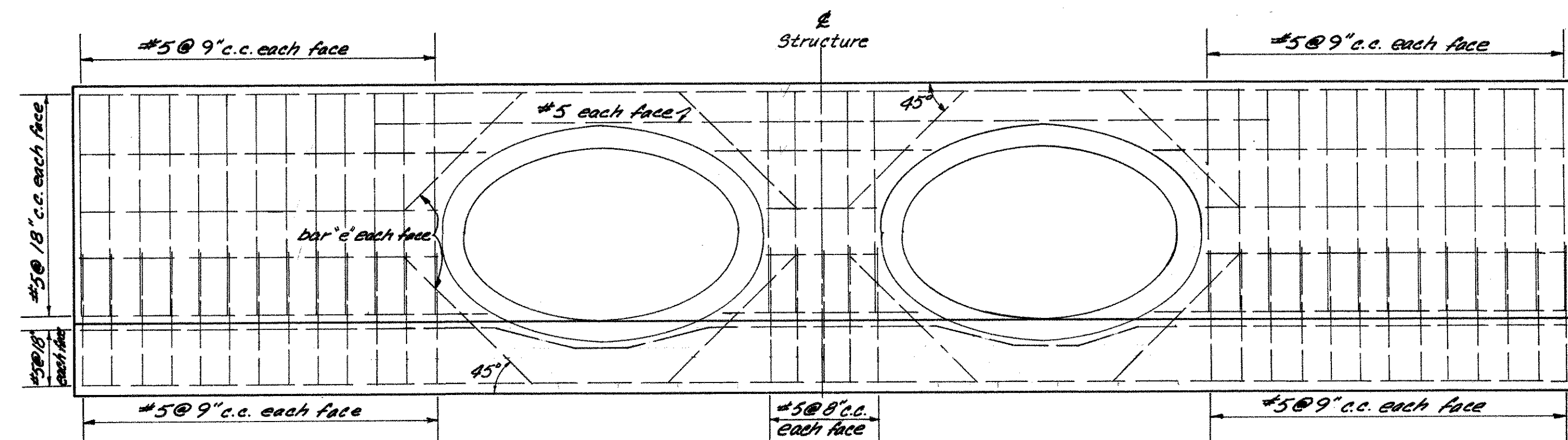
PRE-725-13.92 PART 1
 PRE-725-14.10 PART 2
 PRE-503-8.71 PART 3
 WAR-123-1.51 PART 4



TYPICAL ELEVATION
 scale : $\frac{3}{8}'' = 1'-0''$



TYPICAL PLAN
 scale : $\frac{3}{8}'' = 1'-0''$



SECTION A-A
 scale : $\frac{3}{8}'' = 1'-0''$

size	a	b	bar "d"	bar "e"	D	H	L	
83" x 53"	5'-0"	1'-10"	#8	#8	53"	6'-1"	38'-0"	WAR-123-1.51
66" Conc.	4'-3"	1'-7"	#7	#7	66"	6'-6"	34'-0"	PRE-503-8.71
72" C.M.P.	4'-6"	1'-7"	#7	#7	72"	6'-6"	34'-0"	
60" x 38"	4'-0"	1'-6"	#5	#5	38"	4'-3 1/2"	28'-0"	PRE-725-13.92
68" x 43"	4'-6"	1'-7"	#7	#7	43"	5'-4 3/4"	32'-0"	PRE-725-14.10
72" x 44"	4'-6"	1'-7"	#7	#7	44"	5'-4 3/4"	32'-0"	

Note : For details not shown, refer to
 Standard Drawing HW-3.