MICROFILMED
JUN 2 '80

DESIGN DESIGNATION

Current A.D.T. (1980)	2050
Design Year A.D.T. (2000)	2870
D.H.V.	123
D. (directional distribution)	55-45
T. (percent B&C Trucks)	4 %
V. (design speed)	50MPH

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
ROS-772-7.78
HUNTINGTON TOWNSHIP
ROSS COUNTY

BRS-1041 (2)

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-1041 (2)	

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ROS-772-7.78
ROSS COUNTY

MICROFILMED
SEP 23 1987

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line ——— or ———
Fence Line (existing) —×—×— (proposed) —×—×—
Center Line —+—+—
Trees, Stumps
Utility Poles: Telephone ø, Power ø, Light ø

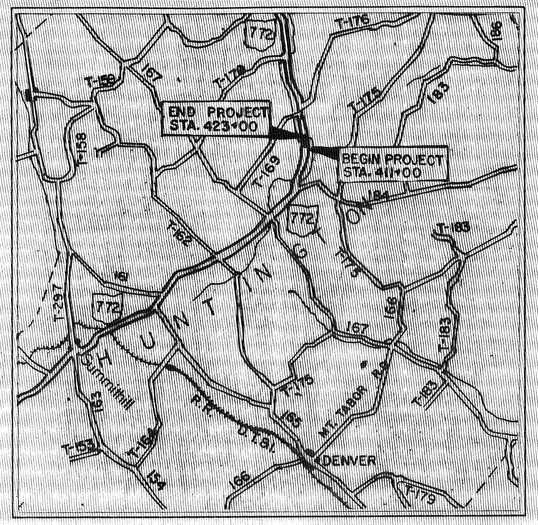
Limited Access (only) ——— LA ———
Right of Way (only) ——— RW ———
Limited Access & Right of Way ——— LA&RW ———
Existing Right of Way
Property Line —℄— (in existing fence) —×—℄—×—
Railroad
Guardrail (existing) —o—o—o— (proposed) —•—•—•—

INDEX OF SHEETS

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LINE DATA

Begin Project	Sta. 411+00
End Project	Sta. 423+00
Net Length of Project	1200 Lin. Ft. or 0.227 Miles
Begin Work	Sta. 409+44
End Work	Sta. 424+00
Net Length of Work	1456 Lin. Ft. or 0.275 Miles



LOCATION MAP

SCALE OF MILES
1 0 1 2 3

Portion to be improved
State Roads
Other Roads

SCALES

Plan 50 0 50
Profile: Horizontal 50 0 50
Profile: Vertical 5 0 5

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-6	6-1-65	BP-2	12-6-76
CB-2-2A&B	5-1-79	BR-5	4-16-78
GR-2B	12-6-76	LA-1	6-1-78
GR-3	12-6-76	DBR-2-73	4-10-73
GR-4	12-6-76	GR-1	12-6-76
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MC-1	6-13-69	BP-3	12-6-76
MC-3	6-1-73	MC-11	8-1-78
MC-4	7-26-76		
LBC-45	9-18-47		

1979 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 **not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.**

Approved Gerald E. Hann
Date 7-28-76 District Deputy Director of Transportation

DWI Approved Robert B. Pfeifer HPB
Date 11-26-79 Engineer, Bureau of Bridges and Structural Design

Approved R. E. Gaither
Date 1-4-80 Chief Engineer, Planning and Design

Approved David L. Mason
Date 1-4-80 Director, Department of Transportation

SUPPLEMENTAL SPECIFICATIONS	
1001	1-3-77

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:

DIVISION ADMINISTRATOR DATE

Rev. 1-18-80

Project: ROSS COUNTY ROS-7 72-7.78
Date of Letting 19 , Contract No.

LD 0300 3-1-72

TYPICAL SECTION

404 on 301

0 1' 2' 3' 4' 8'

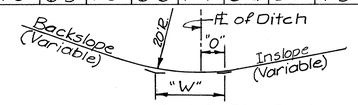
Scale

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

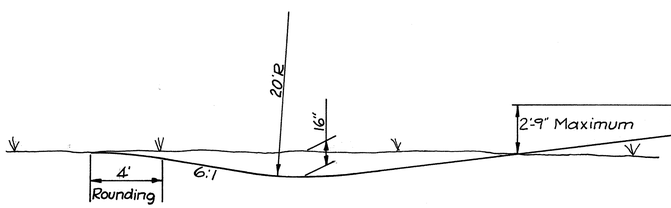
2 / 37

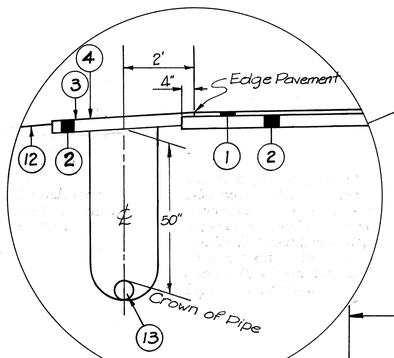
ROS-772-7.78

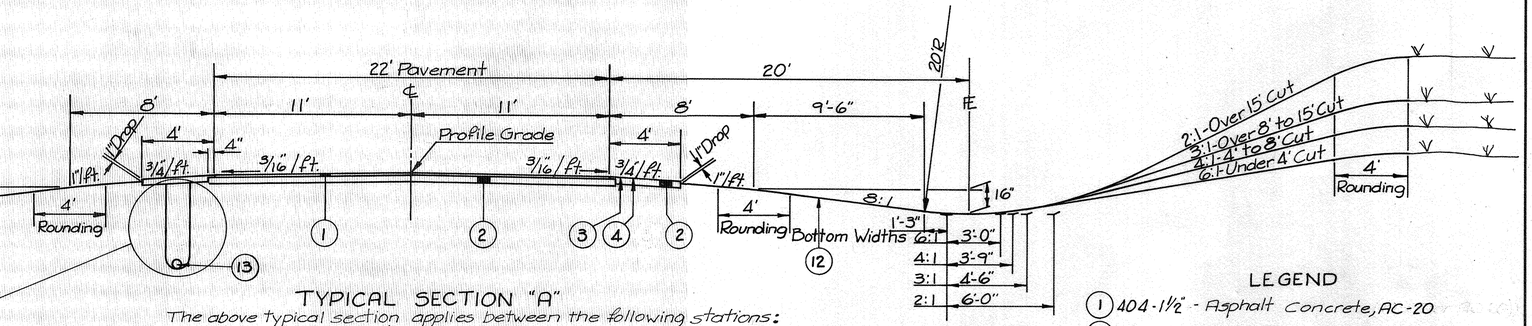
BACK SLOPE	INSLOPE											
	8:1		7:1		6:1		5:1		4:1		3:1	
	W	O	W	O	W	O	W	O	W	O	W	O
6:1	3'-0"	1'-3"	3'-3"	1'-6"	3'-6"	1'-9"	3'-9"	2'-0"	4'-3"	2'-6"	5'-0"	3'-3"
5:1	3'-3"		3'-6"		3'-9"		4'-0"		4'-6"		5'-3"	
4:1	3'-9"		4'-0"		4'-3"		4'-6"		5'-0"		5'-9"	
3:1	4'-6"		4'-9"		5'-0"		5'-3"		5'-9"		6'-6"	
2:1	6'-0"	1'-3"	6'-3"	1'-6"	6'-6"	1'-9"	6'-9"	2'-0"	7'-3"	2'-6"	8'-0"	3'-3"



DIMENSIONS OF 20 FT. RADIUS DITCHES

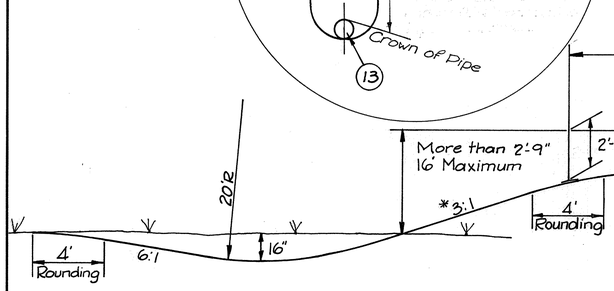


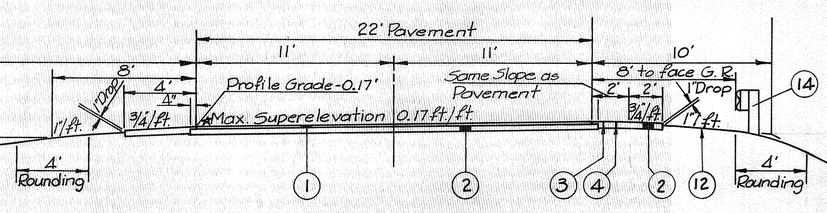




TYPICAL SECTION "A"

The above typical section applies between the following stations:
Sta. 419+00 to Sta. 423+00 ——— 400 Lin. Ft.



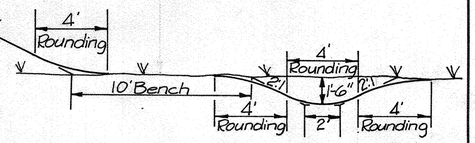


TYPICAL SECTION "B"

The above typical section applies between the following stations:
Sta. 411+00 to Sta. 415+81 ——— 481.00 Lin. Ft.
Sta. 417+28.17 to Sta. 419+00 ——— 171.83 Lin. Ft.
Total 652.83 Lin. Ft.

Bridge Limits & App. Slabs
Sta. 415+81 to Sta. 417+28.17
147.17 Lin. Ft.

*Unless Otherwise Shown on Plans
★ For Superelevation Tables, see Sheet No. 5



LEGEND

1. 404 - 1½" - Asphalt Concrete, AC-20
2. 301 - 4" - Bituminous Aggregate Base: AC-20, RT-11 or RT-12
3. 409 - Seal Coat Cover Aggregate, No. 8 @ .008 Cu. Yd. per Sq. Yd.
4. 409 - Seal Coat Bituminous Material: RT-9, RT-10, MC-800, MC-3000, RS-1, RS-2, CRS-1, CRS-2 OR CBAE-800 @ 0.3 Gal per Sq. Yd.
5. 611 - Approach Slab (T=15")
7. 404 - 1" - Asphalt Concrete, AC-20 (Driveways)
8. 304 - 6" - Aggregate Base
9. 304 - 8" - Aggregate Base
10. 452 - 6" - Plain Portland Cement Concrete Pavement
11. 407 - Tack Coat: SS-1, SS-1h, MS-2, RS-1 OR RC-250 @ .16 Gal/Sq. Yd.
12. 659 - Seeding and Mulching (See General Note)
13. 605 - 6" DEEP PIPE UNDERDRAINS
14. 606 - GUARDRAIL, Type 5
15. 202 - Wearing Course Removed
16. 407 - Cover Aggregate

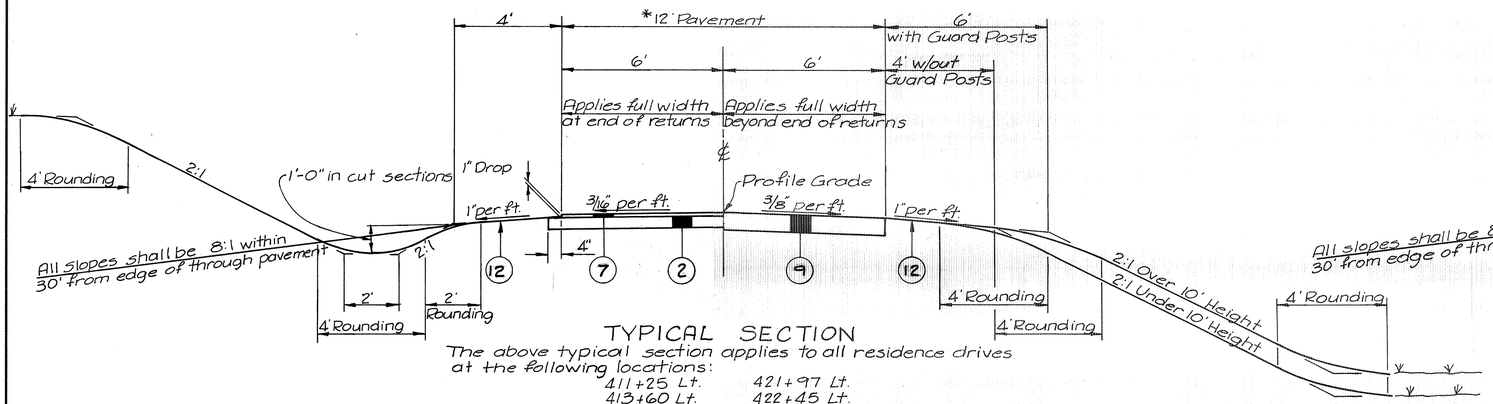
TYPICAL SECTIONS

TYPICAL SECTION & DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

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ROS-772-7.78

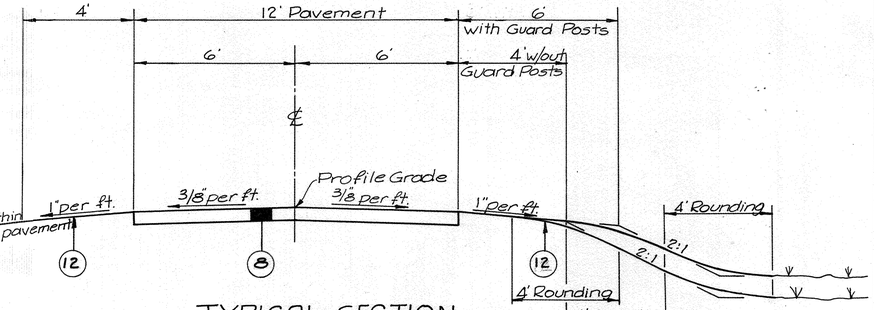


TYPICAL SECTION

The above typical section applies to all residence drives at the following locations:

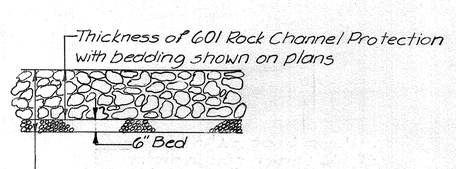
411+25 Lt. 421+97 Lt.
413+60 Lt. 422+45 Lt.
419+00 Lt.

See Sheet No. 2 For Legend

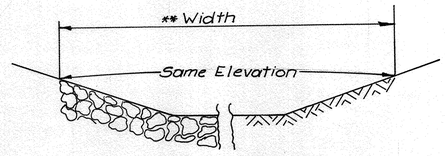


TYPICAL SECTION

The above typical section applies to all field drives on this Project.

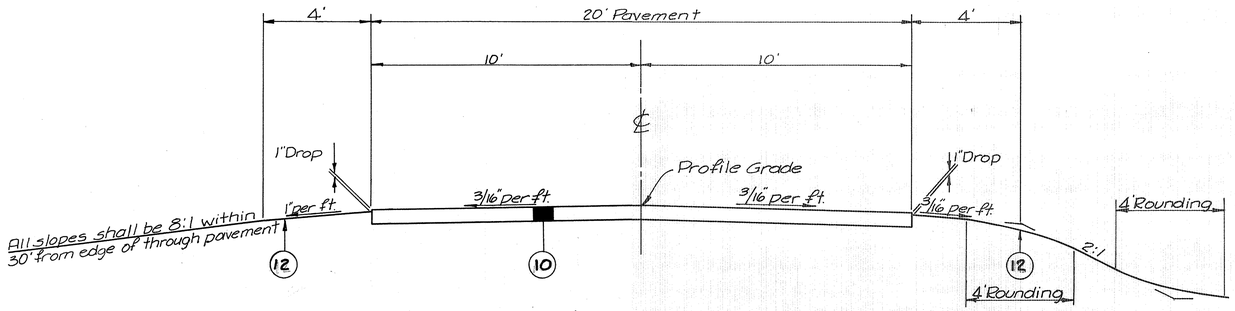


601 - ROCK CHANNEL PROTECTION WITH BEDDING



**Note: The widths of 601 Rock Channel Protection and 660 Sodding as shown throughout this Plan shall be measured along the slope section of the ditch.

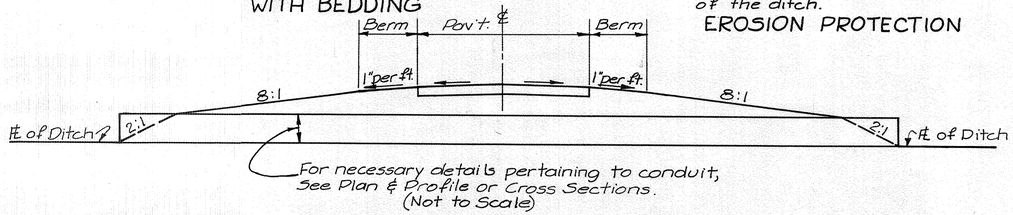
EROSION PROTECTION



TYPICAL SECTION

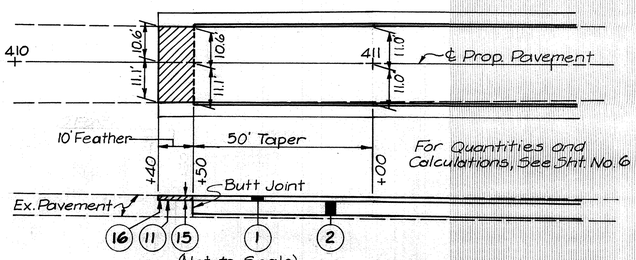
The above typical section applies to all residence drives at the following locations:

414+16 Lt.



TYPICAL SECTION

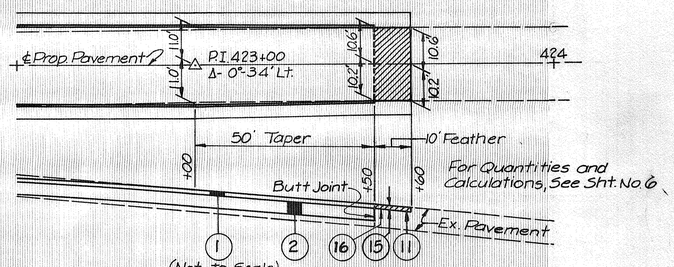
The above typical section applies to all drives having a drainage conduit located 30' from the edge of the mainline pavement.



(Not to Scale)

FEATHER & TAPER

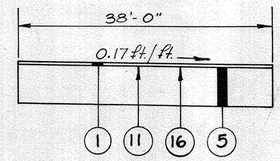
STA. 410+40 TO STA. 411+00



(Not to Scale)

FEATHER & TAPER

STA. 423+00 TO STA. 423+60



611 APPROACH SLAB (T=15")

(Not to Scale)

GENERAL NOTES & DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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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.

CONTRACTOR'S MAINTENANCE RESPONSIBILITY

On this project, the Contractor's responsibility for maintenance of the existing pavement per Item 614 shall be limited to those portions of the existing pavement lying within the proposed work limits.

REMOVAL OF EXISTING PIPE

The removal of all existing pipe drains which would normally be removed in various excavation items shall be included for payment in the unit prices bid for the respective excavation items, unless otherwise itemized in the plans.

EROSION CONTROL

Items 601 ..... are 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.

~~AGRICULTURAL~~ LIMING, AS PER PLAN

~~The location and need for agricultural liming will be determined by laboratory tests, after rough grading operations have been performed. Quantities of agricultural liming as shown on the plans, are sufficient for the entire project, but will be non-performed for the areas where tests show that the liming is not required.~~

MONUMENTS

Monuments shall be constructed in accordance with details shown on Standard Drawing MC-1. For locations, see Sht. No. 34

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"	101	0
30"	37	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.

TEMPORARY STREAM CROSSINGS

When the Contractor elects to construct temporary equipment crossings in streams on this project, such crossings shall consist of clean, non-toxic granular or rock material. Provisions shall be made to convey anticipated high stream flows and the crossings shall be properly maintained to prevent erosion. Further, any such crossings shall meet the requirements of Part 323.4-3, paragraph a, subparagraph 3 of the Corp of Engineers regulations as published July 19, 1977 in the Federal Register, Volume 42, No. 138, page 37147.

FIELD OFFICE

The Contractor shall provide a suitable field office having a minimum of 300 sq. ft. of floor space.

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.

SEEDING

Quantities for seeding are calculated for the soil areas between the work limits, as shown on the cross sections.

ITEM SPECIAL, DRILLED WATER WELL ABANDONED

The existing concrete or stone slab well cover and pumping equipment shall be removed and disposed of. The casing shall be cut off at least one foot below the proposed finished grade outside proposed pavement areas or at least one foot below the proposed subgrade elevation inside proposed pavement areas. The well shall be filled from bottom to top with clean puddled clay or concrete.

The unit price bid per each for Item Special, Drilled WATER Well Abandoned shall include payment for all for all labor, tools, materials and incidentals necessary to complete this item.

ESTIMATED QUANTITIES

Specific locations and usage of estimated quantities set up on this plan to be used "as directed by the Engineer" shall be made a matter of record by incorporation into the final change order governing completion of this project. Estimated quantities of materials shall not be ordered for delivery to the project unless authorized by the Engineer.

SPRING DRAINS

Reference is made to the detailed drawing on standard drawing MC-1 showing the method of draining any spring that may be shown on the plan or encountered as determined by the Engineer. The following estimated quantities have been included in the general summary for this purpose:

Item 605-6" Unclassified Pipe Underdrain, 707.01 Type III or 707.12, TYPE III, AS PER PLAN ..... 60 Lin. Ft.

Item 605-Aggregate Drains for Springs ..... 10 Lin. Ft.

The Contractor shall not order materials for "Spring Drains" until authorized by the Engineer and in the event no springs are encountered, the item shall be non-performed.

LOCATIONS OF GUARDRAIL

The locations of guardrail runs as shown in these plans are subject to adjustment to assure that the planned installations will afford

WATERING AND MOWING PERMANENT SEEDED AREAS.

The following estimated quantities are to be used as directed by the Engineer to promote growth and to care for the permanent seeded areas, as per 659.09.

659	Water	25 M.Gal.

WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL

The following estimated quantities are to be used as directed by the Engineer for erosion and siltation control measures. For details see the note in the Proposal.

207, Temporary Seeding and Mulching	3000 Sq.Yd.
659, Commercial Fertilizer	0.2 Ton
659, Water	10 M.Gal.
207, Temporary Slope Drains	100 Lin.Ft.
207, Temporary Benches, Dikes, Dams, and Sediment Basins	10 Cu.Yd.
659, Repair Seeding and Mulching	800 Sq.Yd.
207, Mowing	40 M.Sq.Ft.
207, Straw or Hay Bales	50 Each

In addition to the above, the Contractor shall take all feasible precautions to avoid increasing turbidity or siltation in Ralston Run channel.

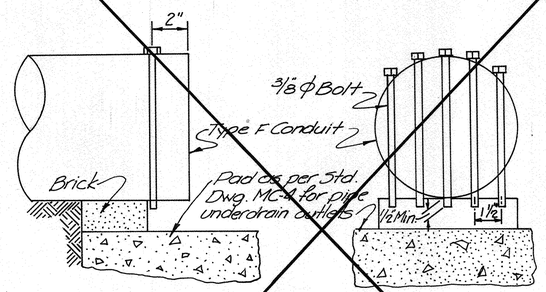
APPROACH SLAB JACKING HOLES

The Jacking Holes as called for on Std. Dwg. AS-1-72 will not be required on this project.

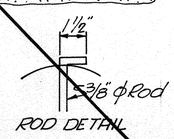
~~ANIMAL GUARD FOR PIPE OUTLETS~~

Animal guards shall be provided at the outlet end of all pipe underdrains and farm drains except when they outlet into a drainage structure. The animal guard shall comply with the detail shown on this sheet.

Payment for all material, labor and installation shall be included in the unit price bid per each item 603 Animal Guard for Pipe Outlet.



BOLT OR ROD TABLE							
Conduit Size	4"	6"	8"	10"	12"	15"	18"
No. of Bolts or Rods	2	3	5	6	7	9	11



ROD DETAIL

The steel bolts or rods shall be galvanized in accordance with ASTM A 153. The holes in the pipe shall be 1/2" diameter. In lieu of drilling or punching holes into the pipe, a metal collar meeting all the above requirements may be clamped on the end of the pipe if, in the opinion of the Engineer, it will provide the same results.

When a pad as shown on Std. Dwg. MC-4 is required at the outlet end of the pipe, a brick may be placed between the pad and the pipe to provide clearance for the bolts or rods.

ANIMAL GUARD FOR PIPE OUTLET

BRUNING 44-560 10943

NOTES & SUPERELEVATION TABLES

FHWA REGION	STATE	PROJECT	
5	OHIO		

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ROS-772-7.78

TRAFFIC NOTE

Two-way traffic shall be maintained at all times by use of the existing pavement, proposed pavement and/or temporary roadways paved with 615 Temporary Pavement, Class B, as per plan, except that one-way traffic will be permitted for minimum periods of time consistent with the requirements of the specifications for protection of completed asphalt concrete courses and, as outlined below, the minimum time required to complete the proposed pavement at the proposed bridge and in the vicinity of the end of project. It is not intended that temporary roads be used exclusively for maintaining traffic on this project, but that maximum usage be made of existing and proposed pavements. The limits and duration of use of temporary roads and one-way traffic areas shall be held to an absolute minimum, and in all cases shall be subject to the approval of the Engineer.

The following is a suggested sequence of construction operations to facilitate the maintenance of traffic:

1. Maintain the existing traffic pattern (one-way at the existing bridge, Two-way on the balance of the existing pavement) while the upstream end of the structure at Station 411+90 is built to the construction joint, the right half of the proposed bridge at Station 416+00 is constructed and, subsequently while a temporary road, as shown on the plans, is constructed on the left from Stations 409+44 to 416+00 and 419+85 to 423+81.

2. Maintain two-way traffic on the above temporary road while the proposed pavement is constructed from Stations 410+40 to approximately 415+00 and approximately 417+50 to 423+00 and while the right half of the proposed pavement is constructed from Stations 415+00 to 417+50 and 423+00 to 423+60.

3. Maintain two-way traffic on the completed proposed pavement. Maintain one-way traffic, signed and marked as outlined in the Ohio Manual of Traffic Control Devices, on the right half of the proposed bridge and pavement while the left half of the bridge and pavement are constructed from Stations 415+00 to 417+50. While the taper area at the end of project is constructed, the existing and proposed pavements and berm areas will be used to maintain two-way traffic, except that one-way traffic controlled by flagmen will be permitted during the hours when construction work is actually being performed in the area.

4. Maintain two-way traffic on the proposed pavement while the balance of the work is completed.

The Contractor shall furnish, erect, maintain and, subsequently, remove all traffic control signs and devices as required by the Construction and Material Specifications and the Ohio Manual of Uniform Traffic Control Devices.

The Contractor's responsibility for maintenance of the existing pavement per 614 shall be limited to those areas of existing pavements lying within the roadway work limits and not the limits as required only for signing.

Payment for all of the above operations except 615 Temporary Roads and 615 Temporary Pavement shall be included in the lump sum price bid for 614 Maintaining Traffic.

615 Temporary Pavement, Class B, as per plan, shall conform to all requirements of 615 except that the course compositions and thicknesses shall be as follows:

1½"-404 Asphalt Concrete
4" - 301 Bituminous Aggregate Base

The following estimated quantity for the temporary pavement has been included in the General Summary:

615 Temporary Pavement, Class B, as per plan ———— 1860 Sq. Yd.

P.I. STA. 415+00
P.C. STA. 412+25.21 P.T. STA. 417+74.38
Δ-5°29'-30"RT. D=1°00' Lc-549.17' T-274.79

LT. EDGE EL.	WIDTH	STATION	CENTER EL.	WIDTH	RT. EDGE EL.
775.93	11'	411+00	776.10	11'	775.93
775.94		+25	776.04		775.87
775.96		+50	775.98		775.81
775.97		+75	775.92		775.75
775.99		412+00	775.86		775.69
775.99		+25			775.63
775.99		+25.21			775.63
775.94		+50			775.57
775.88		+75			775.51
775.82		413+00			775.45
775.76		+25			775.39
775.70		+50			775.33
775.64		+75			775.27
775.62		+83			775.25
775.58		414+00			775.21
775.55		+16			775.18
775.54		+25			775.17
775.54		+50			775.17
775.57		+75			775.20
775.65		415+00			775.28
775.76		+25			775.39
775.91		+50			775.54
776.10		+75			775.73
776.33		416+00			775.96
776.59		+25			776.22
776.90		+50			776.53
777.24		+75			776.87
777.62		417+00			777.25
778.02		+25			777.65
778.42		+50			778.05
778.81		+74.38			778.44
778.80		+75			778.45
779.14		418+00	779.02		778.85
779.48		+25	779.42		779.25
779.81		+50	779.82		779.65
780.15		+75	780.22		780.05
780.49	11'	419+00	780.62	11'	780.45

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

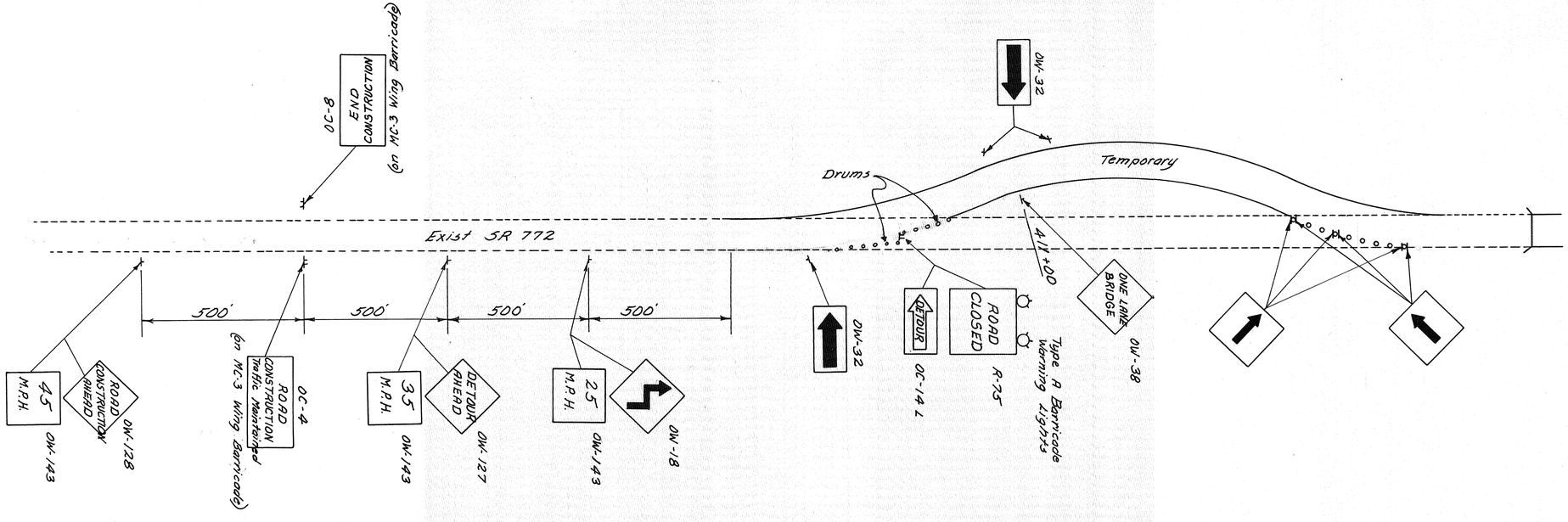
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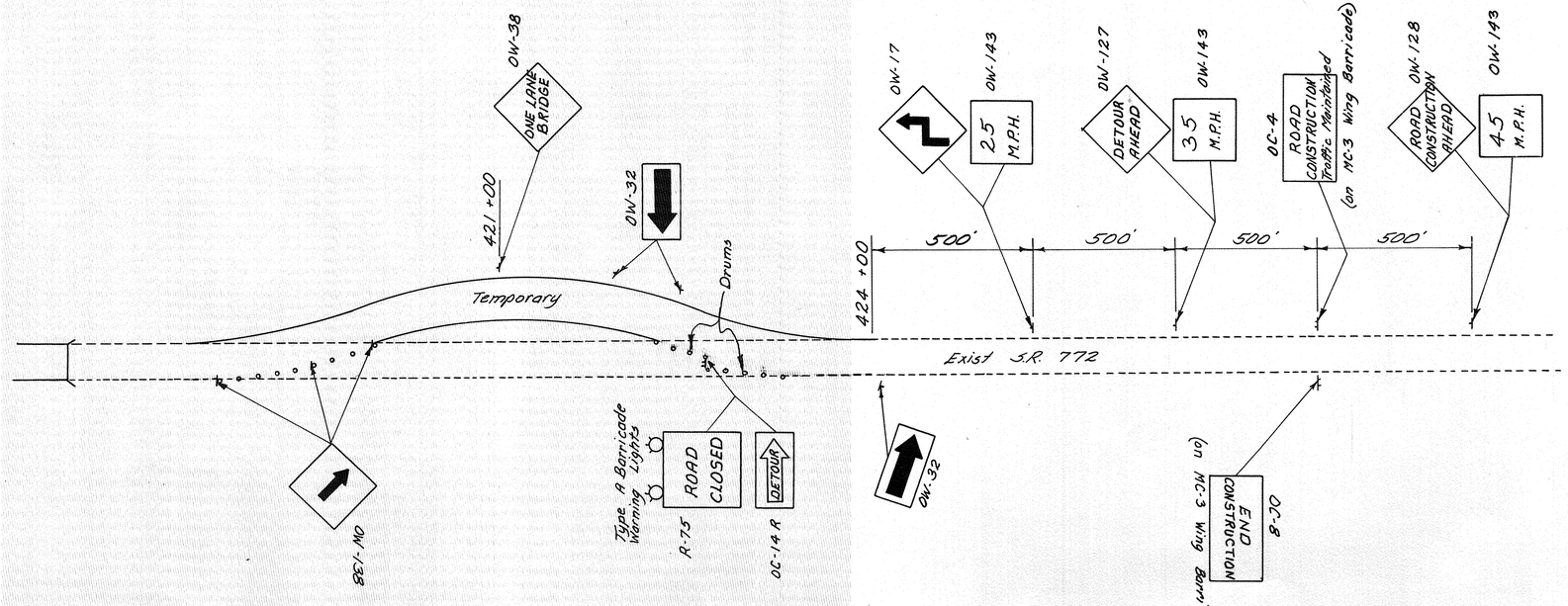
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SIGNING DETAIL FOR EXIST S.R. 772 TEMPORARY DETOUR

Not to Scale

(Temporary Nº 1)



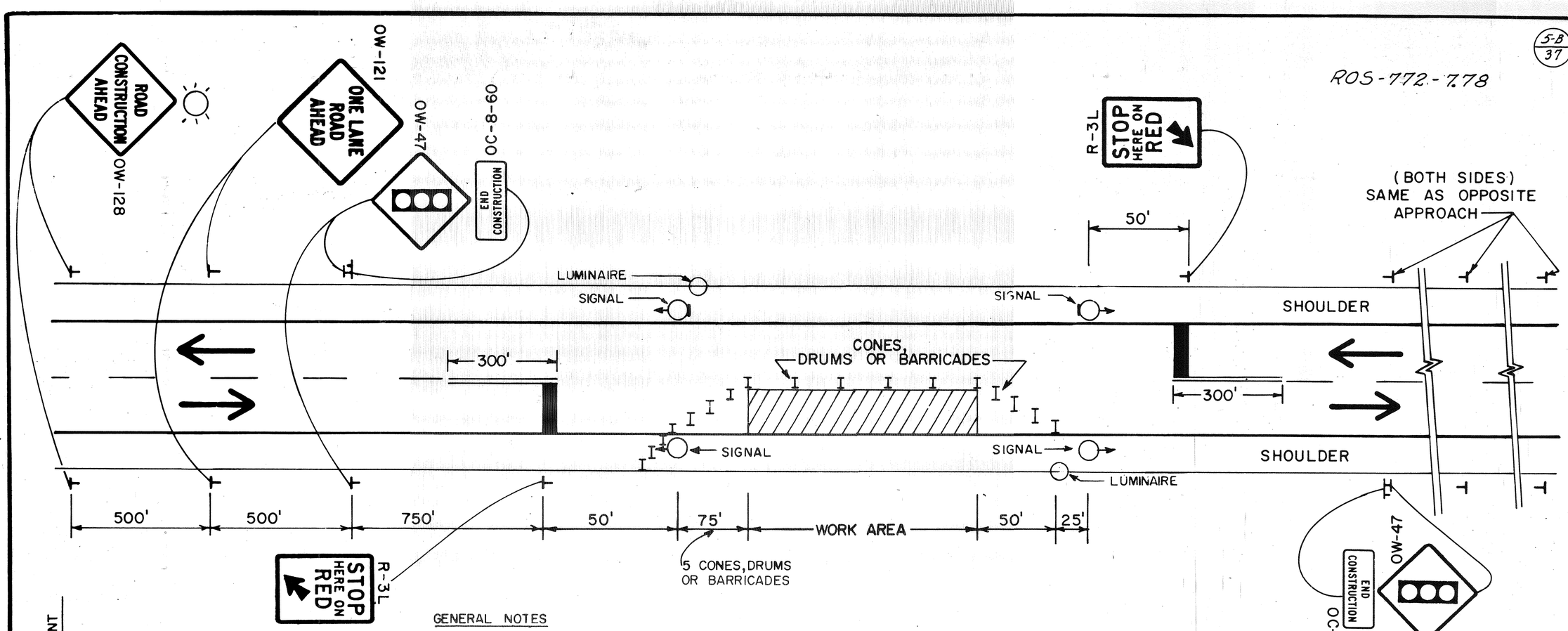


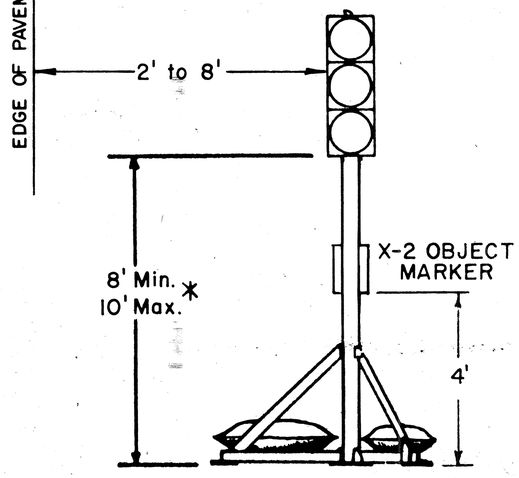
NOTES

1. Provide X-8 delineators per C-24 of the Ohio Manual except where temporary guardrail may be required.
2. Any conflicting existing center or edge lines crossed by the temporary road shall be removed by the Contractor and temporary pavement markings shall be removed as soon as the temporary road is removed from service.
3. OC-4, OC-8 and OW-128 with OW-143 signs are to remain in the indicated locations during entire period of construction.
4. Sign locations are approximate and may be field adjusted.

MAINTAINING TRAFFIC

ROS-772-778





TYPICAL POLE SUPPORTED SIGNAL

* Above grade of roadway centerline

GENERAL NOTES

1. THE MAXIMUM LENGTH OF WORK AREA FOR ONE WAY TRAFFIC SIGNAL CONTROL IS DETERMINED BY THE CAPACITY REQUIRED TO HANDLE THE PEAK HOUR DEMAND. PRACTICAL MAXIMUM LENGTH IS 400 FEET. SIGNAL TIMING SHALL BE APPROVED BY THE ENGINEER.

2. SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

3. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS WITHIN THE WORK AREA. CONES MAY BE SUBSTITUTED FOR BARRICADES OR STEEL DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.

4. ADEQUATE AREA ILLUMINATION TO CLEARLY IDENTIFY THE BEGINNING OF THE TRANSITION AT NIGHT SHALL BE PROVIDED BY USE OF A 175 WATT MINIMUM LUMINAIRE LOCATED ADJACENT TO ONE SIGNAL FOR EACH DIRECTION OF TRAFFIC AS SHOWN ABOVE.

5. TEMPORARY NO PASSING LINES AND STOP LINES SHALL BE INSTALLED. EXISTING PAVEMENT MARKING BETWEEN THE WORK AREA AND THE STOP LINES SHALL BE REMOVED OR COVERED.

6. THE TYPE B HIGH INTENSITY BARRICADE WARNING LIGHT SHOWN ON THE "ROAD CONSTRUCTION AHEAD" SIGN IS REQUIRED WHENEVER NIGHT LANE CLOSURE IS NECESSARY.

7. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 100' CENTER TO CENTER WITHIN THE WORK AREA.

OHIO DEPARTMENT OF TRANSPORTATION

SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY	DATE 4/77
DR. GBD	CK. RLB

MAINTAINING TRAFFIC

QUANTITY CALCULATIONS

FHWA REGION	STATE	PROJECT	
5	OHIO		

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See Sheet NO.	Location and Desription	Side	404 Asphalt Concrete AC-20 Driveways 1" Sq.Yd.	404 Asphalt Concrete AC-20 1½" Sq.Yd.		301 Bituminous Aggregate Base 4" Sq.Yd.	304 Aggregate Base 6" Sq.Yd.	304 Aggregate Base 8" Sq.Yd.		407 Tack Coat @0.1 Gal. per. sq. yd. Sq.Yd.	407 Cover Aggregate Sq.Yd.	202 Wearing Course Removed Sq.Yd.	409 Seal Coat Bituminous Material @0.3 Gal. per sq. Yd. Sq.Yd.	409 Seal Coat Cover Aggregate @0.008 Cu.Yd/Sq.Yd. Sq.Yd.	203 Subgrade Compaction Sq.Yd.	452 Plain Port-land Cement Concrete Pavement 6" Sq.Yd.	611 Approach Slab (T=15") Sq.Yd.			
2	Typical Section "A"																			
	400x22'x1/9	℄		977.8											977.8					
	400x22.67'x1/9	℄				1007.6														
	400'x4'x2 x1/9	Lt&Rt				355.6							355.6	355.6	355.6					
2	Typical Section "B"																			
	652.83x22'x1/9	℄		1595.8											1595.8					
	652.83x22.67x1/9	℄				1644.4														
	652.83x4'x2x1/9	Lt&Rt				580.3							580.3	580.3	580.3					
	Plan & Profile																			
9	405+00 to 415+00		201.7			88.6		72.0					-126.4	-126.4		162.03				
10	415+00 to 425+00		209.4			188.5	517.8	437.7					-130.9	-130.9						
3	Taper & Feather Areas																			
	410+40 to 411+00	℄																		
	21.7x10x1/9			24.1						24.1	24.1	24.1								
	Av.Width 21.85x50x1/9			121.4											121.4					
	Av.Width 22.52x50x1/9					125.1														
	60x4x2x1/9					53.3							53.3	53.3	53.3					
	423+00 to 423+60	℄																		
	Av.Width 21.40x50x1/9			118.9											118.9					
	Av.Width 22.07x50x1/9					122.6														
	20.8x10x1/9			23.1						23.1	23.1	23.1								
	60x4x2x1/9					53.3							53.3	53.3	53.3					
3	Approach Slabs	℄																		
	(25x38x1/9)2			211.1						211.1	211.1				211.1		211.12			
	Sub-Total		501.1	3072.20		4219.3	517.8	507.7		258.3	258.3	47.2	777.2	777.2	4067.5	162.03	211.12			
	Convert to Cu.Yd, Gal, Tons, Etc.		13.9	128.0		468.8	86.3	113.3		25.8	.904		233.2	6.2						
	Total		.14	128.0		469	200			26	.91	48	234	7	4068	163	212			

659-COMMERCIAL FERTILIZER
(14,095)9 x 29/1000 x 1/2000 = 1.27 Tons
659-AGRICULTURAL LIMING
(14,095)9 x 109/1000 x 1/2000 = 6.34 Tons

PLAN & PROFILE STA. 405+00 TO 415+00

(D-1) 601-Rock Channel Protection w/o Bedding - 411+48 - 411+81 - 2'x6'x34'x1/27 = 15.11 Cu.Yd.

(D-2) 601-Rock Channel Protection w/o Bedding - 411+99 - 412+50 - 2'x6'x51'x 1/27 = 22.67 Cu.Yd.

(D-3) Prop. 12' Res. Dr. Lt. 411+25
1" 404-Chart 70.03 Sq.Yd. 4" 301-[(26x62)-(4x62)-(22x11.16)-(24.67²π) 126.19°/360°] 1/9 = 49.8 Sq.Yd.
8" 304- 12x28x1/9 = 37.33 Sq.Yd. 409-[(62x4)+(22x11.87)-(25²π x 56.72°/360°)] 1/9 = 22.2 Sq.Yd.

(D-3a) Prop. 12' Res. Dr. Lt. 413+60
1"-404-Chart-70.03 *11/9 = 68.81 Sq.Yd. 4"-301-[(26x62)-(4x62)-(22x11.16)-(24.67² 126.19°/360°)] 1/9 = 49.8 Sq.Yd.
8"-304-12x26x1/9 = 34.67 Sq.Yd. 409-[(62x4)+(22x11.87)-(25²π x 56.72°/360°)-1] 1/9 = 21.0 Sq.Yd.

(D-3) Prop. Mail Box Turnout Rt. 413+89
1"-404- 30.8+1.3 = 32.1 Sq.Yd. 4"-301-[(47.64+15)½ x 2.33] 1/9 = 8.1 Sq.Yd. 409-[85+3(85+43/2)] 1/9 = 30.8 Sq.Yd.

(D-4) Prop. 20' Res. Dr. Lt. 414+16
6"-452-[(70x26)-π 25²/2] + (20x31) x 1/9 = 162.03 Sq.Yd. 202-*630 x 1/9 = 70 Sq.Yd.
409 & 4"-301- *22.21 + 4x8/9 = 25.8 Sq.Yd. *Planimetered Area.

PLAN & PROFILE STA. 415+00 TO STA. 425+00

(D-1) 601 Rock Channel Protection Type B w/Bedding-415+00-416+28 Lt. 130x6x2x1/27 = 57.78 Cu.Yd.

(D-2) 601 Rock Channel Protection Type B w/o Bedding-416+00-416+22 Rt.-22'x6'x2'x1/27 = 9.78 Cu.Yd.

(D-3) 601 Rock Channel Protection Type B w/Bedding 416+88-418+50 Lt.- 164'x6'x2'x1/27 = 72.9 Cu.Yd.

(D-4) 601 Rock Channel Protection Type B w/o Bedding 416+80-418+00 Rt.- 120'x6'x2'x1/27 = 53.33 Cu.Yd.

(D-5) 601 Rock Channel Protection Type B w/o Bedding 2+05-421+39 Rt.- 283'x6'x2'x1/27 = 125.78 Cu.Yd.

(D-6) 601 Rock Channel Protection Type B w/o Bedding 0+37-1+45 - 123'x6'x2'x1/27 = 54.67 Cu.Yd.

(D-7) 601 Rock Channel Protection Type B w/Bedding 421+99-424+00 Rt.- 204'x6'x2'x1/27 = 90.66 Cu.Yd.

(D-8) Prop. 20' Res. Dr. Lt. 419+00
1"-404-Chart- 93.1 Sq.Yd. 4"-301-*19.8 + 8x22/9 = 69.45 Sq.Yd.
8"-304-*2488 x 1/9 = 276.4 Sq.Yd. 409-*22.2 + 4x8/9 = 25.8 Sq.Yd.

(D-8a) Prop. Mail Box Turnout Rt. 419+00
1"-404-30.8 + 1.3 = 32.1 Sq.Yd. 4"-301-[(47.64+15)½ x 2.33] 1/9 = 8.11 Sq.Yd.
409-[85+3(85+43/2)] 1/9 = 30.8 Sq.Yd.

(D-8b) Prop. 12' Fld. Dr. Rt. 420+50
6"-304-Chart-(70.03-*22.2)+[(240.5-37) 12/9] = 319.2 Sq.Yd.

(D-8a) Prop. 12' Fld. Dr. Rt. 421+50
6"-304-Chart- 96.6 + (94.34x12x1/9) - [(66x4)-48.12] 1/9 = 198.4 Sq.Yd.

(D-8) Prop. 12' Res. Dr. Lt. 421+97
1"-404-Chart 70.03 Sq.Yd. 4"-301-*49.8 Sq.Yd. 409-*22.2 Sq.Yd.
8"-304-36'x12'x1/9 = 48.0 Sq.Yd.

(D-8a) Prop. 12' Res. Dr. Lt. 422+45
1"-404-Planimeter Area *649 x 1/9 = 72.1 Sq.Yd. 4"-301-*478 x 1/9 = 53.1 Sq.Yd.
8"-304-(12x73)+(12x12) 1/9 = 113.33 Sq.Yd. 409-*792 x 1/9 = 21.3 Sq.Yd.

(2-1) 202-*954 x 1/9 = 106 Sq.Yd.

Calc. by F.G.G. 11/14/74
Chkd. by D.E.H. 3/27/75

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ROS-772-7.78

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CODE 6203 EXCEPT AS NOTED

| ITEM | SHEET NUMBER | | |

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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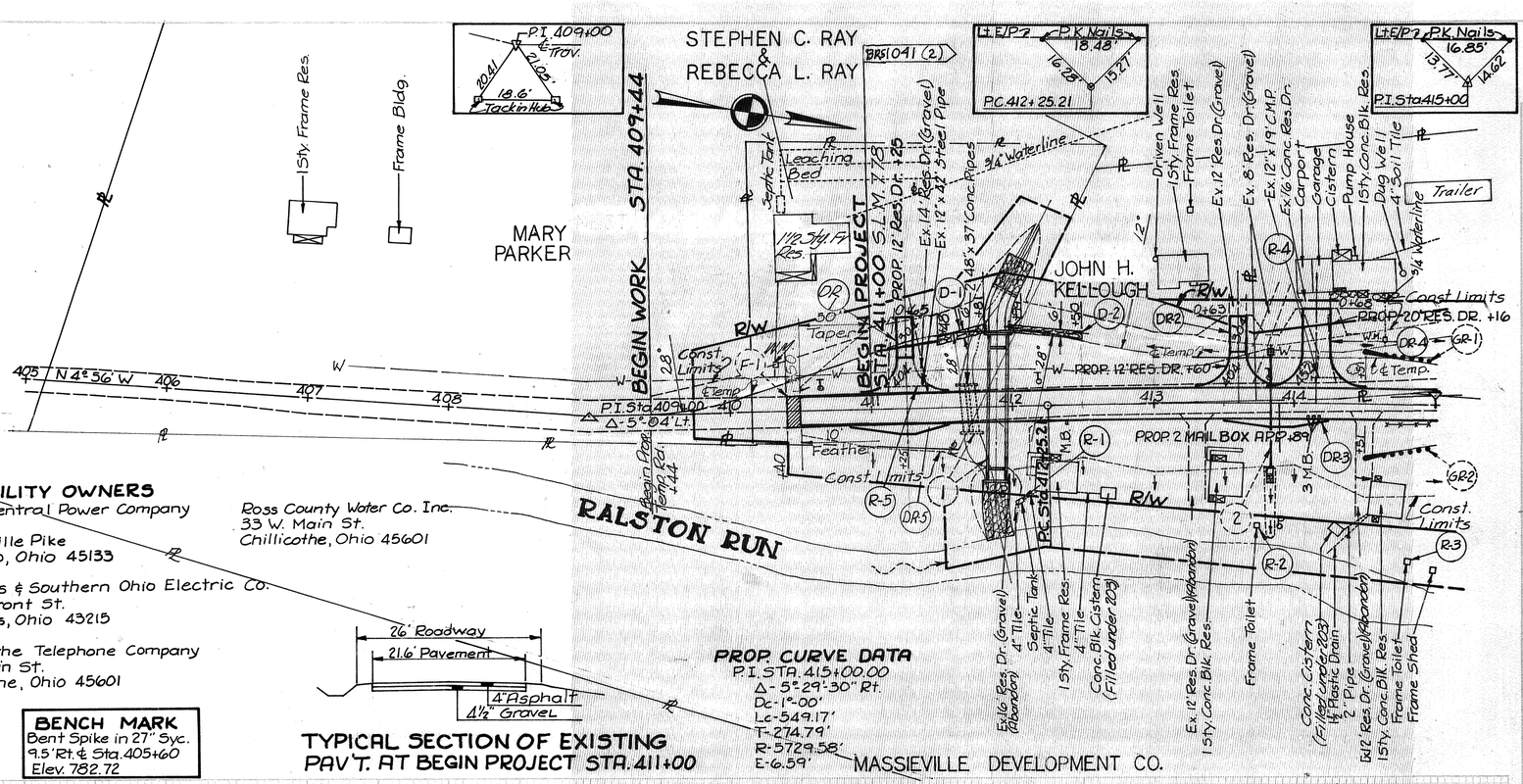
CODE 6203

| ITEM | SHEET NUMBER | | |

ROS-772-7.78

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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UTILITY OWNERS

South Central Power Company
Box 278
110 Danville Pike
Hillsboro, Ohio 45133

Columbus & Southern Ohio Electric Co.
215 N. Front St.
Columbus, Ohio 43215

Chillicothe Telephone Company
58 E. Main St.
Chillicothe, Ohio 45601

Ross County Water Co. Inc.
33 W. Main St.
Chillicothe, Ohio 45601

BENCH MARK
Bent Spike in 27" Syc.
9.5' Rt. & Sta. 405+60
Elev. 782.72

TYPICAL SECTION OF EXISTING PAV'T. AT BEGIN PROJECT STA. 411+00

PROP. CURVE DATA
P.I. STA. 415+00.00
Δ - 5°29'30" Rt.
Dc - 1°00'
Lc - 549.17'
T - 274.79'
R - 5729.58'
E - 6.59'

Note: All elevations are in reference to U.S.G.S. Datum

The proposed profile shown is the centerline of the proposed pavement, except in areas of superelevation. For Superelevation Tables, See Sht. No. 5

405	406	407	408	409	410	411	412	413	414	415
782.76	782.06	781.22	780.60	780.21	779.53	778.67	777.89	777.23	776.67	776.36
776.16	776.10	775.98	775.86	775.74	775.62	775.56	775.50	775.44	775.38	775.34
775.34	775.37	775.45								

Sta. 409+44 to Sta. 415+00

203 - Excavation -	800 Cu. Yd.
203 - Embankment -	2006 Cu. Yd.
659 - Seeding -	3770 Sq. Yd.

Calc. by: F.G.G. 11/24/74 Chk. by: B.L.H. 11/31/75

Calc. by: F.G.G. 11/14/74 Checked by: D.E.H. 3/27/75

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	See Sheet No.	404 Asphalt Bit. Conc. 1" Driveway Sq. Yd.	301 Bit. Agg. Base 4" Sq. Yd.	304 Agg. Base 8" Sq. Yd.	452 Plain Portland Cement Conc. Pvt. 6" Sq. Yd.	601 24" R.C.P. Type B w/90 Bed. Cu. Yd.	603 Conduit Type D 12" Lin. Ft.	202 Septic Tank Removed Each	202 Privy Vault Removed Each	202 Pipe Removed 8"-14" Under 24" Lin. Ft.	202 Pavement Removed Sq. Yd.	409 Seal Coat + 999 Sq. Yd.	SEE SHEET NO.
D-1	411+48 - 411+81	Lt.						16							
D-2	411+99 - 412+50	Lt.						23							
DR1	411+26	Lt.		700	49.8	37.3			44						
DR2	413+60	Rt.		68.8	19.8	34.7									
DR3	413+68	Lt.		32.1	8.1										
DR4	414+16	Rt.			25.8		162.03								
DR5	411+25	Lt.			6.7										
E1	410+40 - 410+50	Rt.	3	30.8											
GR1	414+51 - 415+00	Lt.	10												
GR2	414+51 - 415+00	Rt.	10												
1	411+88.80	℄	19								1				
2	413+83	℄	23								1				
R1	412+00	Rt.													
R2	413+75	Rt.													
R3	414+30	Lt.													
R5	411+25	Lt.													
				404	301	304	452	601	603	202	202	202	202	409	
				Asphalt Bit. Conc. 1" Driveway Sq. Yd.	Bit. Agg. Base 4" Sq. Yd.	Agg. Base 8" Sq. Yd.	Plain Portland Cement Conc. Pvt. 6" Sq. Yd.	24" R.C.P. Type B w/90 Bed. Cu. Yd.	Conduit Type D 12" Lin. Ft.	Septic Tank Removed Each	Privy Vault Removed Each	Pipe Removed 8"-14" Under 24" Lin. Ft.	Pavement Removed Sq. Yd.	Seal Coat + 999 Sq. Yd.	
				-22.2	-22.2									409	
				-22.8	-22.8									Coat	
				-30.8	-30.8									+ 999	
				-25.8	-25.8									Sq. Yd.	
				-254	-254										
				70											
				*201.7	*88.6	*12.0	*182.03	39	44	1	1	2	61	70	*126.4 *126.4

* Quantities Carried to Quantity Calc. Sht. No. 6
All Other Quantities to General Summary

Rev. 1-18-80

STA. 405+00 TO STA. 415+00

R05-772-7.78

FED. RD. DIVISION	STATE	PROJECT	
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PROP. STRUCTURE
Type: Prestressed Conc. Box Beams w/Reinf. Conc. Substructure
Spans: 32.0'-32.0'-32.0'
Rdwy: 38'-0"
Loading: HS-20-44
Skew: 0°-00'
W. Surface: 2½" Asph. Conc.
App. Slabs: AS-1-72 (25' Long)
Align.: 1°00' Curve Lt.
Super.: .017 Ft/Ft.
℄ Temp. 107° 12' off CBGirder from Sta. 414+50 to Sta. 415+50

Sta. 415+50 Prop. ℄
Sta. 10+00 Prop. ℄

Ex. BRIDGE DATA
Bridge No. R05-772-0788
Loading - S-10.2
Type - Low Truss
Span - 71'
Roadway - 14'-3½"
Condition - Poor
Skew - 0°-00'
Abutments - Stone & Conc.
W. Surface - 2" Bit.
Reduction - 25%
Suff. Rating - 50

BENCH MARK
□ Cut in S.W. Wingwall of Bridge, 355' Lt. & Sta. 415+96. Elev. 770.84

BENCH MARK
□ Cut on Pump Island 27.8' Lt. & Sta. 424+00.5 Elev. 776.86

ELMON R. & RUTH I. POSEY
ANTHONY & JOY LIMITE
RALSTON
MARSHA K. WATKINS
GARY L. DAVIS & SHIRLEY M. DAVIS
VIOLA NEWSOME
WALTER R. & EVELYN J. ELLIOTT
OVA L. & MARY E. DILLON
DAVID K. & JUDY M. GREENE
JUANITA M. & DENNIS L. & DARLENE M. WARD
JUANITA M. WARD
ROBERT DAVIDSON

BRS-1041 (2)

END PROJECT STA 423+00
END WORK & TEMP. STA. 424+00

Run
Pond
Prop. 2 Mail Box Apt.
Prop. 12' Fld. Dr.
Prop. 14' Res. Dr.
Prop. 16' Res. Dr.
Prop. 12' Res. Drive
Resume Temp. 41'
Ex. 18'x 20' C.M.P.
Ex. 12'x 24' C.M.P. (Removed under 223)
Ex. 12'x 33' C.M.P. (Removed under 223)
Ex. 12'x 36' C.M.P. (Removed under 223)
Ex. 8' Res. Dr. (Abandon)
Ex. 8 Res. Dr. (Gravel)
Ex. 13' Fld. Dr. (Dirt)
Ex. 14' Res. Dr. (Gravel)
Ex. 12' Res. Dr. (Gravel)
Ex. 10' Res. Dr. (Gravel)
Ex. 8' Res. Dr. (Gravel)
Ex. 10' Res. Dr.
Ex. Res. Dr. (Gravel)
Ex. Fld. Dr. (Gravel)
Ex. Chain Link Fence
Ex. Trailer
Ex. Shed
Ex. Frame Barn
Ex. Frame Garage
Ex. Privy
Ex. Cistern
Ex. Driven Well
Ex. Dug Well
Ex. Septic Tank
Ex. Leach Bed
Ex. Toilet
Ex. Trailer House
Ex. Leaching Pit
Ex. Pump House
Ex. Air Compressor
Ex. Gas Pumps
Ex. Kerosene Pump
Ex. Frame Store
Ex. 1½ Sty. Frame Res.
Ex. 2 Sty. Frame Res.
Ex. 1 Sty. Frame Res.
Ex. 1½ Sty. Frame Res.
Ex. Frame Res.
Ex. Frame Shop
Ex. Frame Tenant House
Ex. Frame Res.
Ex. Frame Res. Under Fr. Garage
Ex. Basement Drain
Ex. 4" Tile
Ex. 4" Sewer Pipe
Ex. 3/4" Waterline
Ex. 1000 Gal. Tank
Ex. 500 Gal. Tank
Ex. Septic Tank
Ex. Cistern
Ex. Driven Well
Ex. Leach Bed
Ex. Fr. Shed
Ex. Fr. Garage
Ex. Fr. Res.
Ex. Fr. Shed
Ex. Fr. Pump House
Ex. Fr. Driven Well
Ex. Fr. Cistern
Ex. Fr. Frame Res.
Ex. Fr. Frame Res.
Ex. Fr. Frame Res.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

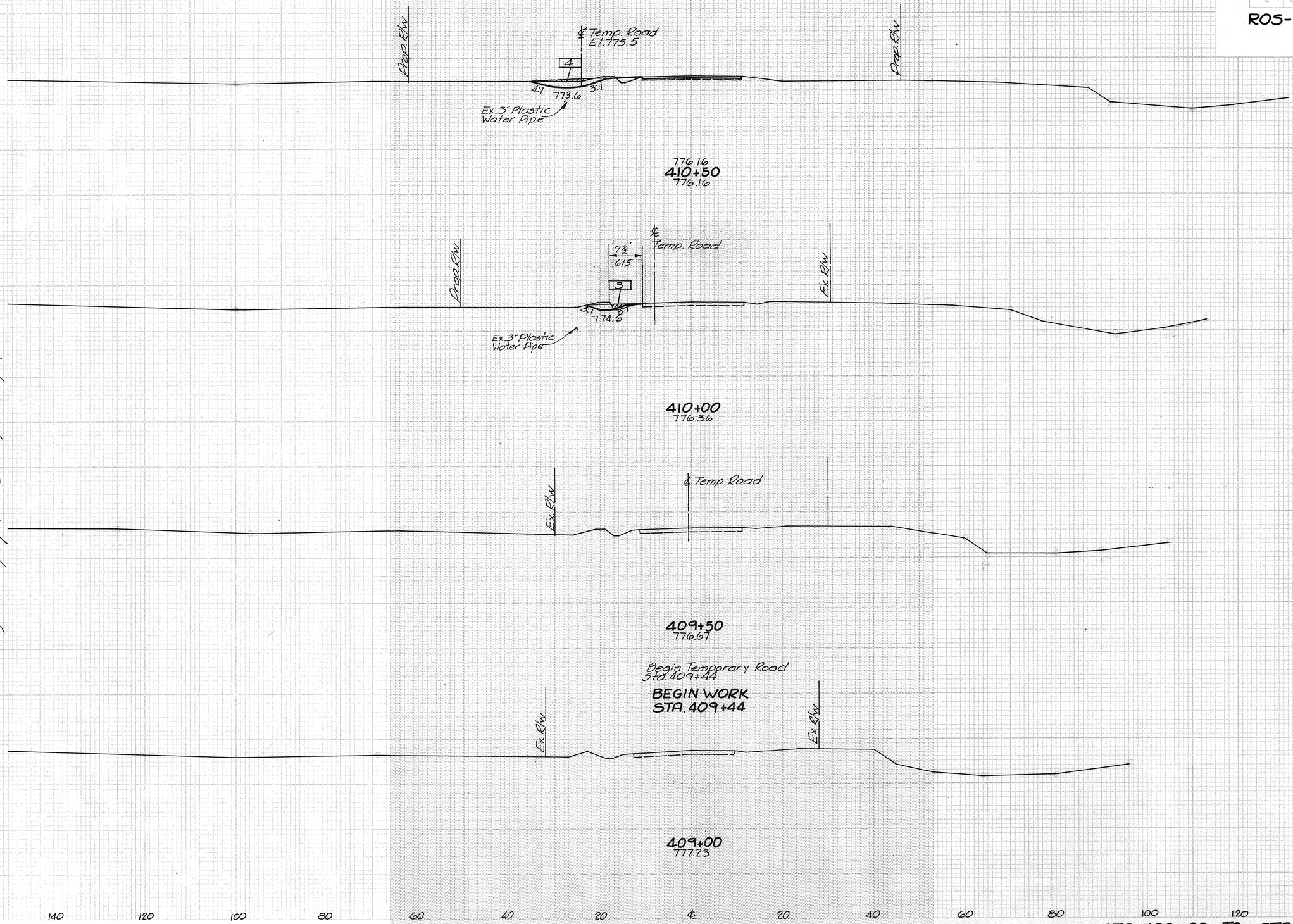
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SEEDING

END WIDTH	SQ. YDS.
27	
	117
15	
42	
0	

Calc. by F.G.G. 11/21/74 Chkd. by B.L.H. 1/27/75



END AREA		VOLUME	
CUT	FILL	CUT	FILL
Ahead 28	5		
Sta. 410+50			
Back 17	5		
		22	8
		7	3
		0	0

Calc. by F.G.G. 11/21/74 Chkd. by B.L.H. 1/27/75

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

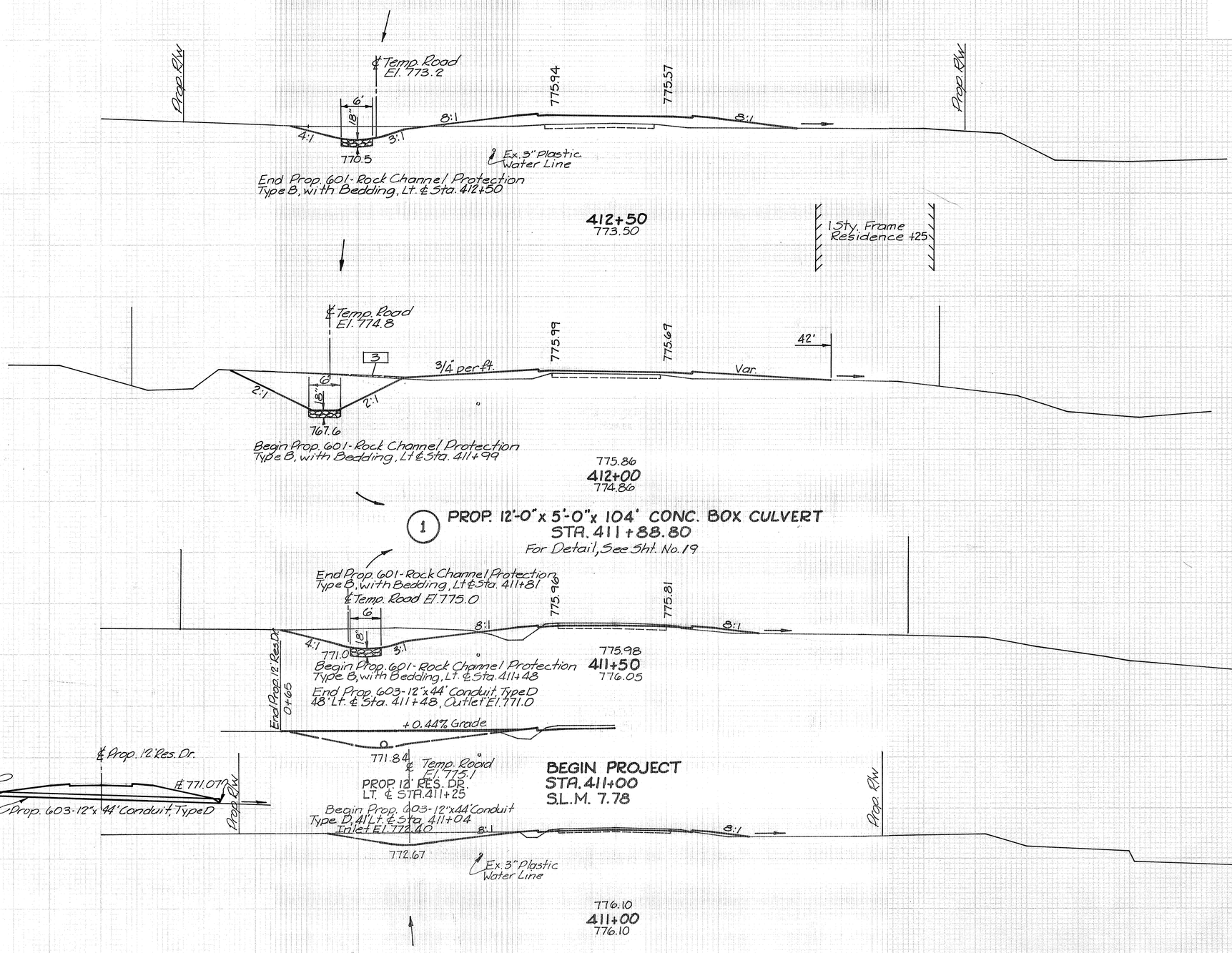
STA. 409+00 TO STA. 410+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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END AREA		VOLUME	
CUT	FILL	CUT	FILL



| | | |

FED. RD. DIVISION	STATE	PROJECT	
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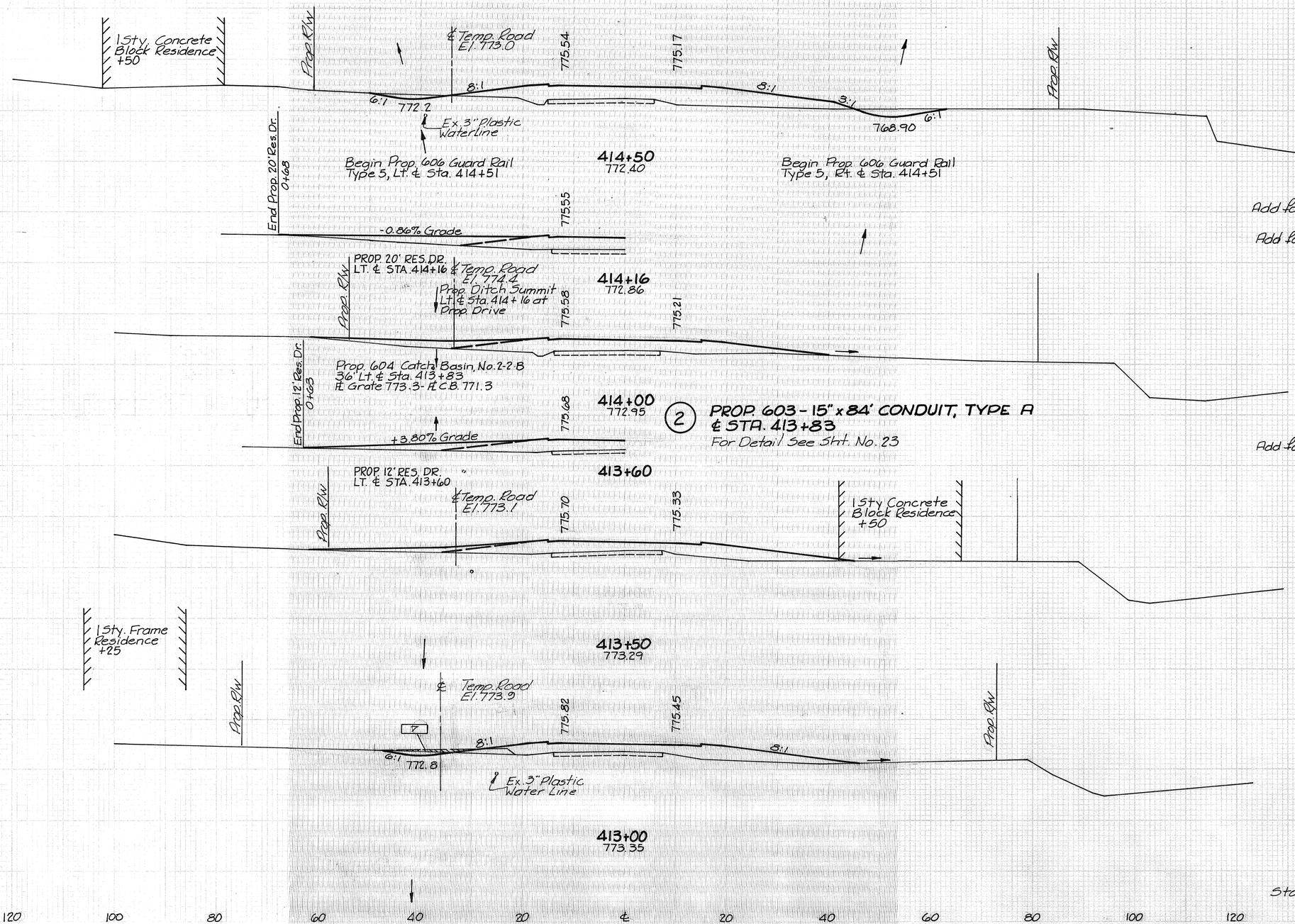
SEEDING

END WIDTH	CU. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
27	192		
Add for Cistern +25			11
Add for Res. Dr.			52
		25	303
		0	135
Add for Res. Dr.			28
		0	264
		0	150
		5	274
		5	146
		37	234
		35	106

Calc. by F.G.G. 11/21/74 Chk. by B.L.H. 1/28/75

Calc. by F.G.G. 11/21/74 Chk. by B.L.H. 1/27/75



Sta. 412+50 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 Sta. 412+50

STA. 413+00 TO STA. 414+50

SEEDING

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

14
37

ROS-772-7.78

BRIDGE NO.: ROS-772-7.88

Prop. R/W

Ex. 3" Plastic Water Line

Prop. R/W

END AREA CUT	END AREA FILL	VOLUMES CUT	VOLUMES FILL	
				Sta. 416+28
0	0			
			24	9
57	22			Ahead
				Sta. 416+06.00
57	474			Back
			13	107
57	474			Ahead
				416+00
				Back
122	794			
74	383			
108	643			
42	317			
64	472			
27	192			Sta. 414+50

Calc. by F.B.G. 11/21/74 Chk. by B.L.H. 11/28/75

Calc. by F.B.G. 11/21/74 Chk. by B.L.H. 11/28/75

416+50
762.38

PROP. BRIDGE LIMITS
STA. 416+06.00

End Prop. 601-Rock Channel Protection Type B, with Bedding, Lt. & Sta. 416+28

Suspend Temporary Road Sta. 416+00

℄ Temp. Road

776.33

775.96

6'

2:1

12:1

3:1

3:1

763.0

2:1

End Prop. 601-Rock Channel Protection Type B, without Bedding, Rt. & Sta. 416+22

6'

12:1

3:1

3:1

2:1

763.3

Begin Prop. 601-Rock Channel Protection, Type B without Bedding, Rt. & Sta. 416+00

416+00
765.33

℄ Temp. Road

9'

8:1

775.91

775.54

8:1

8:1

6'

18"

2½:1

3:1

12:1

3:1

707.0

2½:1

12:1

3:1

3:1

764.5

415+50
770.78

Prop. R/W

℄ Temp. Road El. 771.9

775.65

775.28

6'

18"

3:1

8:1

8:1

4:1

4:1

770.0

3:1

766.7

Prop. R/W

Ex. 3" Plastic Water Line

Begin Prop. 601-Rock Channel Protection Type B, with Bedding, Lt. & Sta. 415+00

415+00
771.41

1 Sty. Concrete Block Residence +65

Sta. 414+50

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA. 415+00 TO STA. 416+50

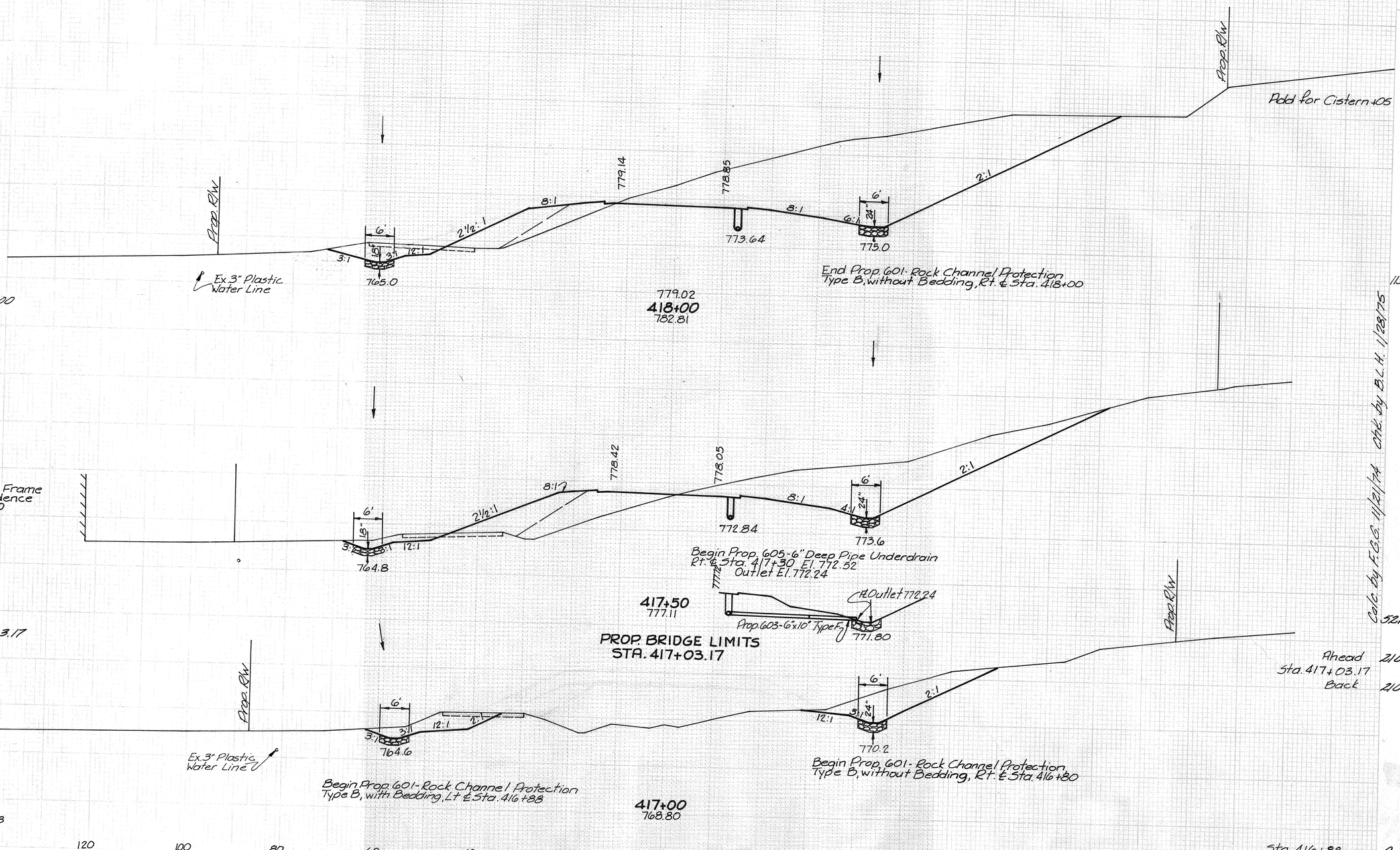
SEEDING	
END WIDTH	SQ. YDS.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

15
37

R05-772-7.78

END AREA		VOLUME	
CUT	FILL	CUT	FILL



144 Ahead Sta. 418+00
138 Back

Calc. by F.G.G. 11/21/74 Chk. by B.L.H. 11/28/74

41

1134 175

745

1533 355

130

604

102 Ahead Sta. 417+03.17
66 Back

521 208

634 535

210 208

210 0

56

59 0

0 Sta. 416+88

140 120 100 80 60 40 20 ℄ 20 40 60 80 100

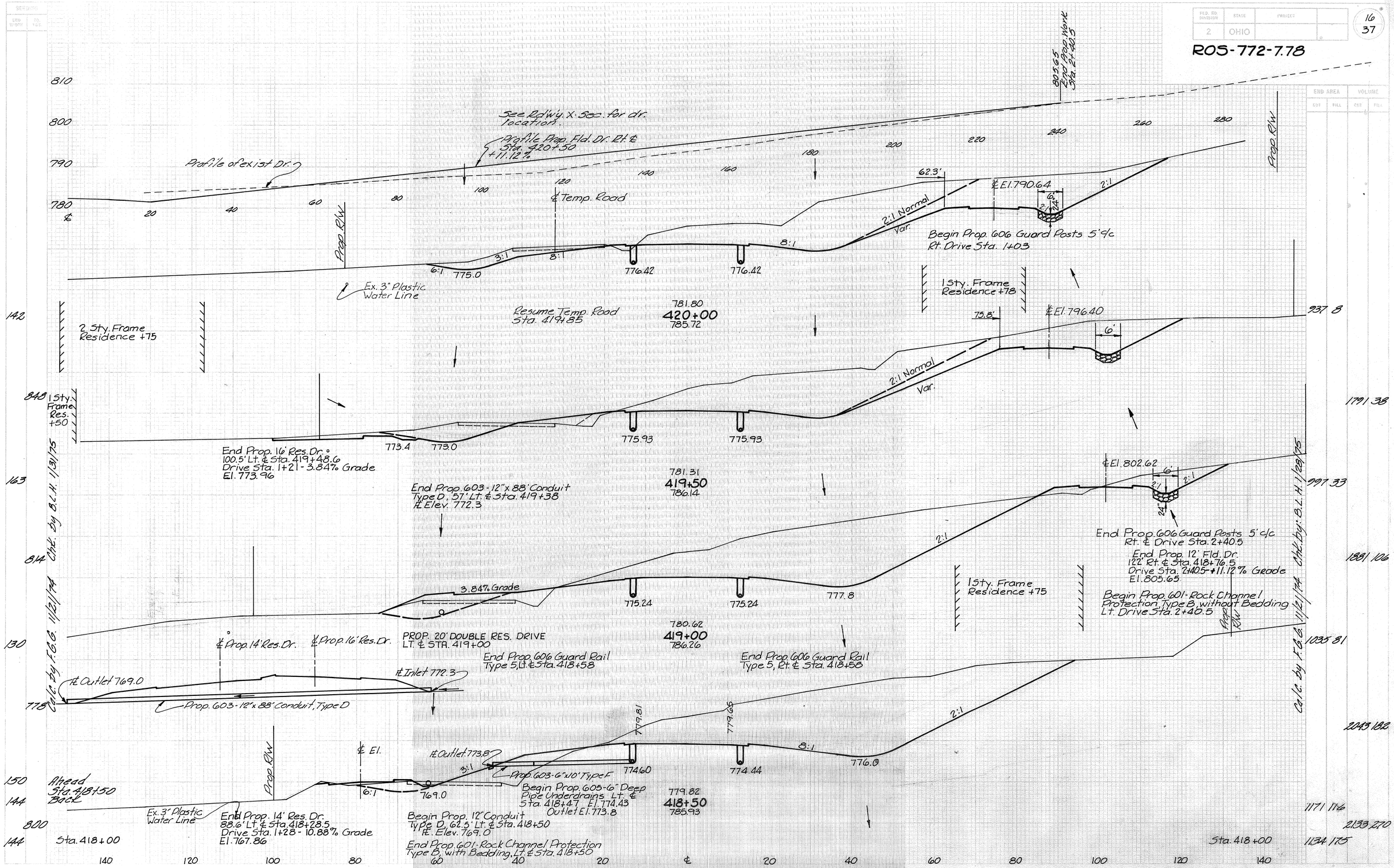
Sta. 416+88 0 0

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

16
37

ROS-772-7.78

END AREA		VOLUME	
CUT	FILL	CUT	FILL



STA. 418+50 TO STA. 420+00

FED. ROD. DIVISION	STATE	PROJECT	
2	OHIO		

17
37

R05-772-7.78

SEEDING

ENG.	DIST.	CO.	SHEET NO.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

Profile of exist. dr.

Profile Prop. Fld. Dr. Rt. ℄ Sta. 421+50 +10%

790
780

℄ 0 20 40 60 80 100 120 140

End Work Sta. 1+45

Prop. R/W

℄ 12' Fld. Dr. El. 788.51

6' 24" 2:1 2:1

787.20

End Prop. 12' Res. Dr. 0+73

Prop. R/W

℄ Temp. Road El. 778.3

4

8:1

12.5% Grade

℄ Ex. 3" Plastic Water Line

776.30 776.30 778.25

PROP. 12' RES. DR. Lt. ℄ STA. 422+00

781.68
422+00
782.24

Begin Prop. 601-Rock Channel Protection, Type B with Bedding Rt. ℄ Sta. 421+99

End Prop. 603-34"x53"x60' Conduit Type D, 706.04-41' Rt. ℄ Sta. 421+99
℄ Outlet 778.31

Add for Res. Dr. 21

119

1½ Sty. Frame Residence +75

℄ Temp. Road El. 779.5

9

776.65 776.65 778.60

6' 24" 2:1

781.30

℄ Prop. 12' Fld. Dr.

℄ Outlet 778.31 ℄ Inlet 778.73

Prop. 603-34"x53"x60 Conduit, Type D

PROP. 12' FLD. DR. Rt. ℄ STA. 421+50 10.00% Grade

Begin Prop. 601-Rock Channel Protection, Type B without Bedding, Rt. Dr. Sta. 0+37

Frame Barn +00

650 115 570 90 523 98 667 142

Calc. by F.G.G. 11/21/74 Chk. by B.L.H. 11/31/75

Calc. by F.G.G. 11/27/74 Chk. by B.L.H. 11/29/75

625 48 1062 135 522 98 826 116 370 27 1074 25 790 0 1599 7 937 8

782.03
421+50
782.93

Begin Prop. 603-53"x34"x60' Conduit Type D, 706.04-41' Rt. ℄ Sta. 421+39
℄ Inlet 778.73

End Prop. 601-Rock Channel Protection Type B without Bedding Rt. ℄ Sta. 421+39

House Trailer +15

68

℄ Temp. Road El. 782.0

5:1

776.82 776.82 779.23

6' 24" 2:1

782.16
421+00
783.63

Prop. R/W

23

℄ Temp. Road El. 781.0

3:1 6:1 8:1 5:1

+11.12% Grade

2:1 Normal 2:1

6' 24"

783.80

PROP. 12' FLD. DR. Rt. ℄ STA. 420+50

Prop. R/W

Ex. 3" Plastic Water Line

775.40 776.71 776.71

Prop. Ditch Summit Rt. ℄ Sta. 420+50 at Prop. Drive

782.09
420+50
783.50

Sta. 420+00 Sta. 420+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA. 420+50 TO STA. 422+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ROS-772-7.78

18
37

Ex. R/W

Prop. R/W

℄ Temp

6'

18"

777.34

Ex. 3" Plastic Water Line

End Prop. 601 - Rock Channel Protection Type B, with Bedding, Rt. ℄ Sta. 424+00

424+00
778.20

END WORK & TEMPORARY
STA. 424+00

Prop. R/W

4

6'
6:15

℄

6'

18"

3:1

8:1

777.65

END AREA

CUT	FILL	VOLUME
0	0	
		194 2

Ahead
Sta. 423+50
Back

201	2
211	2

423+50
779.45

END PROJECT
STA. 423+00
S.L.M. 8.01

1½ Sty. Frame Residence +00

Add for Cisterns

16

℄ El. 799.8

7½'

6:15

8"

3:1

℄ Outlet
773.98

774.48

775.00

777.85

Prop. 603-6"x 10' Conduit, Type F

Prop. 605-6"x 25' Deep Pipe Underdrain

Prop. 603-6"x 26' Conduit, Type B

	50
	593 35

780.38
423+00
780.35

Prop. R/W

℄ Temp. Road
El. 778.2

3

3:1

8:1

6'

18"

End Prop. 12' Res. Dr. 1+10

Prop. R/W

592

1 Sty. Frame Res. +25

10% Grade

775.76

775.76

778.05

End Prop. 12' Fld. Dr.
98' Rt. ℄ Sta. 422+45
Drive Sta. 1+45, 10.00% Grade
Elev. 793.63

Add for Res. Dr.

End Prop. 601 - Rock Channel Protection, Type B, without Bedding - Rt. Dr. Sta. 1+45

	429 35
	782 89
	92

PROP. 12' RES. DR.
LT. ℄ STA. 422+45

Ex. 3" Plastic Water Line

781.14
422+50
781.39

	416 61
	964 101

631

119

Sta. 422+00

Sta. 422+00

625 48

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA. 422+50 TO STA. 424+00

Calc. by F.G.G. 11/21/74 Chk. by: B.L.H. 11/31/75

Calc. by F.G.G. 11/21/74 Chk. by: B.L.H. 11/29/75

4

164

55

445

105

108

MICROFILMED
JUN 27 1980

FHWA REGION	STATE	PROJECT		19/37
5	OHIO			

ROSS COUNTY
ROS-772-7.78

DRAINAGE AREA = 205 Ac.
Q25 = 411 C.F.S.
V25 = 17 F.P.S.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1977, including the 1978 and 1979 interim specifications and the Ohio Supplement to these specifications.

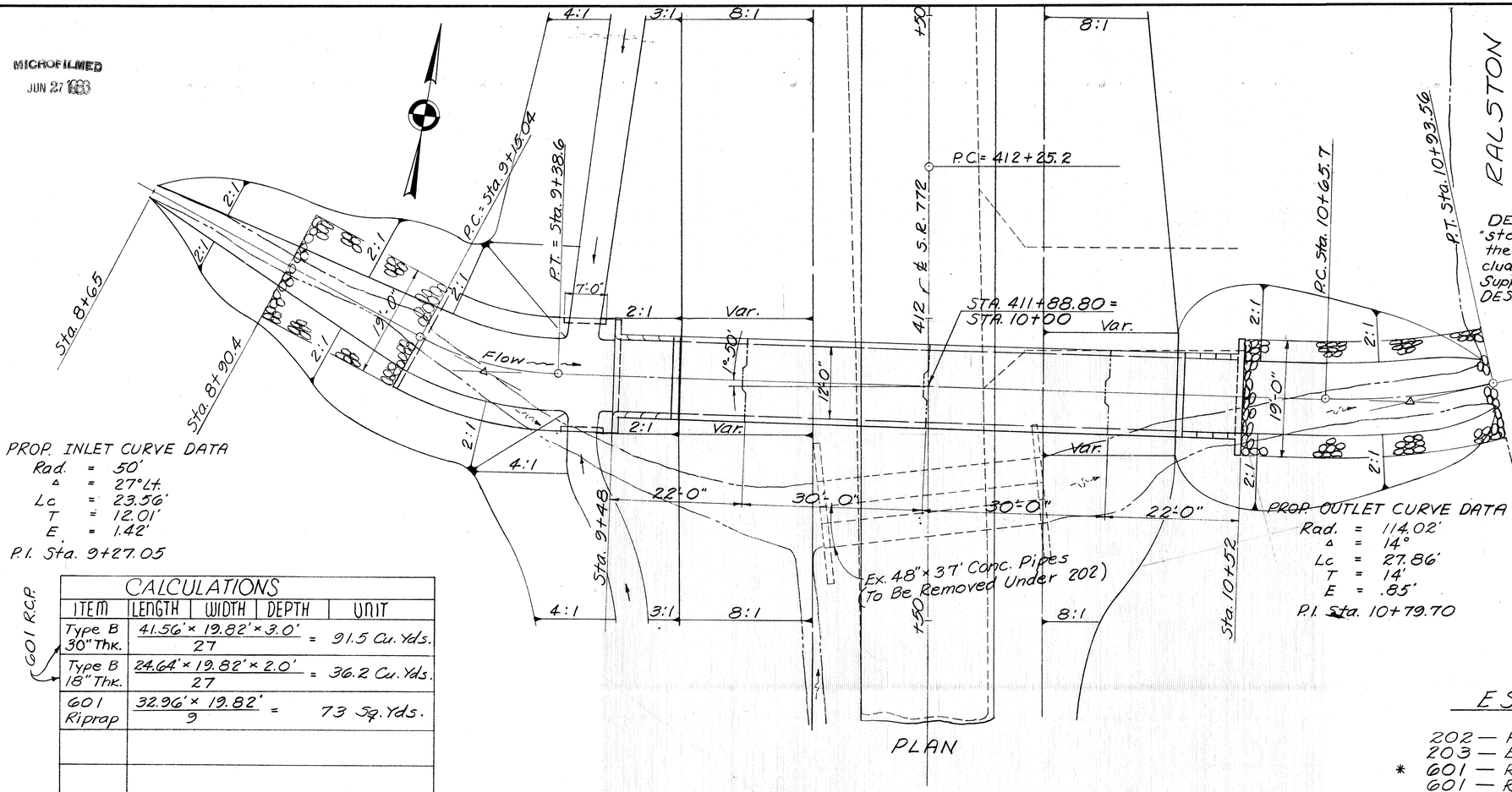
DESIGN DATA: Design Loading - HS 20-44
Concrete Class C - Unit Stress 1,333 p.s.i.
Reinforcing steel - ASTM A615, A616 or A617. Unit stress 20,000 p.s.i.

EMBANKMENT shall be placed symmetrically on both sides of the culvert after the top slab is in place.

FOUNDATION BEARING PRESSURE: The bottom slab is designed for a bearing pressure of 0.5 tons per sq. ft.

POROUS BACKFILL full length of box and wings extending from 6" below the weepholes to the top of the top slab or surface of approach embankment. Bagged aggregate used at each weephole shall be included with Porous backfill for payment.

REFERENCE shall be made to standard drawings LBC-45 dated 9-18-47 and MC-4 revised 7-26-76.



PLAN

PROP. INLET CURVE DATA
Rad. = 50'
Δ = 27°Lt.
Lc = 23.56'
T = 12.01'
E = 1.42'
P.I. Sta. 9+27.05

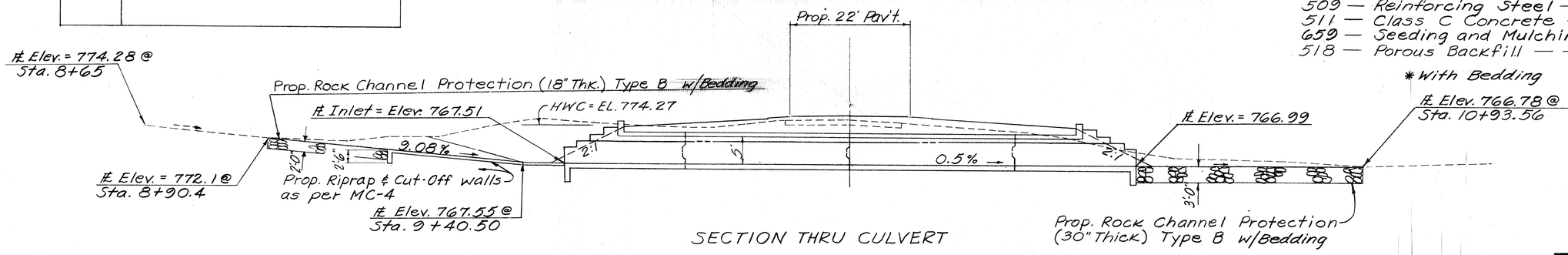
PROP. OUTLET CURVE DATA
Rad. = 114.02'
Δ = 14°
Lc = 27.86'
T = 14'
E = .85'
P.I. Sta. 10+79.70

CALCULATIONS				
ITEM	LENGTH	WIDTH	DEPTH	UNIT
601 RCP. Type B 30" Thk.	41.56'	19.82'	3.0' / 27 =	91.5 Cu. Yds.
601 RCP. Type B 18" Thk.	24.64'	19.82'	2.0' / 27 =	36.2 Cu. Yds.
601 Riprap	32.96'	19.82' / 9 =		73 Sq. Yds.

ESTIMATED QUANTITIES

202	Pipe Removed Over 24"	74 Lin. Ft.
203	Exc. not including embankment Const.	695 Cu. Yds.
* 601	Rock Channel Protection Type B	128 Cu. Yds.
601	Riprap Using 6" Reinforced Conc. Slab	73 Sq. Yds.
503	Unclassified Excavation	101 Cu. Yds.
509	Reinforcing Steel	21,432 Lbs.
511	Class C Concrete	160.5 Cu. Yds.
659	Seeding and Mulching	202 Sq. Yds.
518	Porous Backfill	55 Cu. Yds.

* With Bedding



SECTION THRU CULVERT

Datum Line = EL. 740.0

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 9, HYDRAULICS

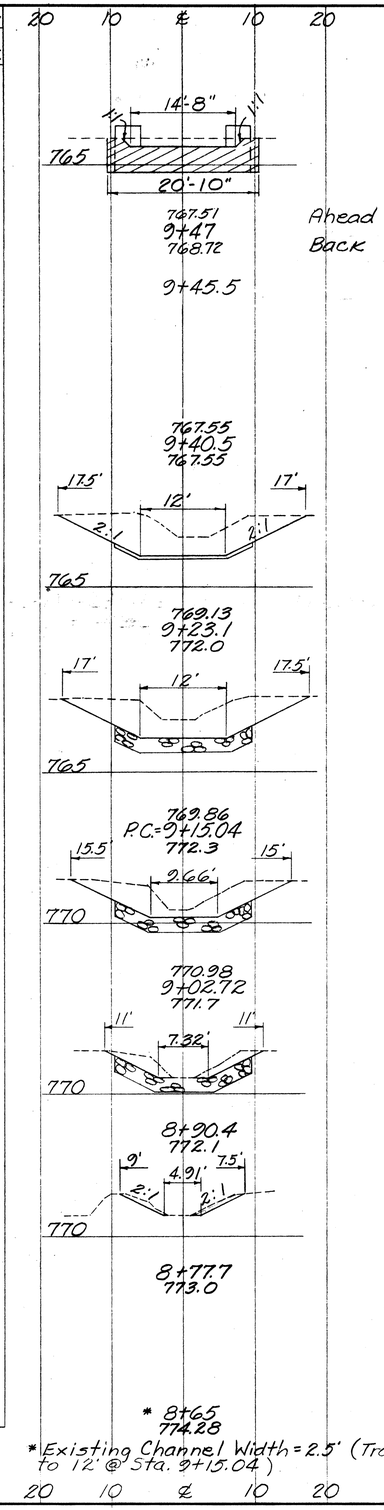
1 | 4

ROS-772-0780
STA. 411+88.80 (1)
PROPOSED 12'-0" x 5'-0"
CONCRETE BOX CULVERT

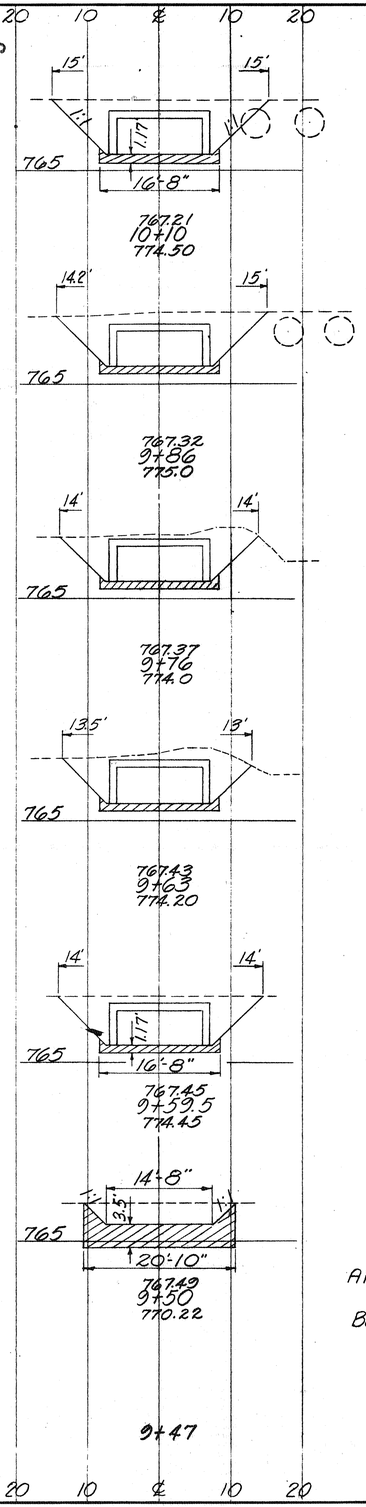
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.W.S. 10-3-73	D.W.S. 10-3-73		J.R.P. 3-13-74	J.B.K.	6-11-74	

MICROFILMED
JUN 27 1975

SEEDING END WDH.	SEEDING SQ. YDS.	203 Exc. END AREA Cut	203 Exc. VOLUME Cut	503 Exc. END AREA Cut	503 Exc. VOLUME Cut
		17		79	
			1		
		0		0	
0		0			
	21		34		
22		104			
	20		31		
22		101			
	27		38		
17		64			
	17		19		
8		21			
	18		7		
18		8			
	13		2		
0		0			



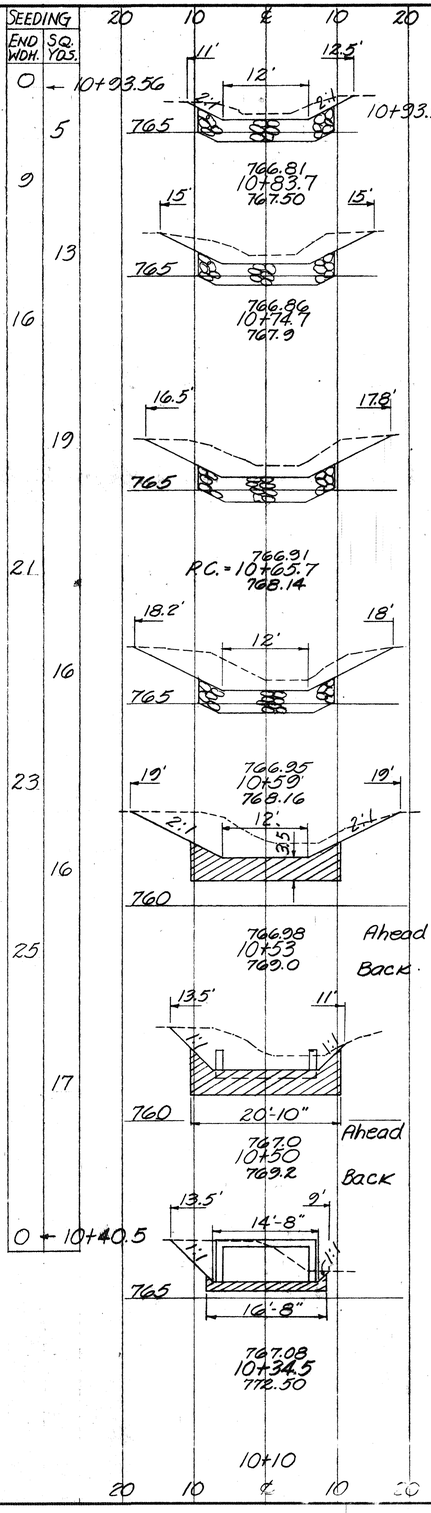
*Existing Channel Width = 2.5' (Transition to 12' @ Sta. 9+15.04)



203 Exc. END AREA Cut	203 Exc. VOLUME Cut	503 Exc. END AREA Cut	503 Exc. VOLUME Cut
163		22	
	144		19
162		22	
	56		8
142		22	
	69		11
145		22	
	19		3
144		22	
	35		8
53		22	
	4	85	
			9
17		79	

Ahead
Back

SEEDING END WDH.	SEEDING SQ. YDS.	203 Exc. END AREA Cut	203 Exc. VOLUME Cut	503 Exc. END AREA Cut	503 Exc. VOLUME Cut
0	← 10+93.56	0		0	
	5		4		
9		24		0	
	13		12		
16		48		0	
	19		20		
21		72		0	
	16		18		
23		74		0	
	16		18		
25		85		0	0
	17		86		
		9		10	
		70		85	
			22		
	44			13	
82		22			
	111		20		
163		22			
0	← 10+40.5				



FHWA REGION	STATE	PROJECT	
5	OHIO		

20
37

ROSS COUNTY
ROS-772-7.78

**Total 650 Seeding this sheet = 202 Sq. Yds.
**Total 203 Excavation this sheet = 695 Cu. Yds.
**Total 503 Excavation this sheet = 101 Cu. Yds.

▨ = 503 Exc.

** Quantities carried to Sheet 1 of 4.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 9, HYDRAULICS

2 | 4

ROS-772-0780
STA. 411+88.80
PROPOSED 12'-0" x 5'-0"
CONCRETE BOX CULVERT
(STRUCTURE & CHANNEL EXC.)

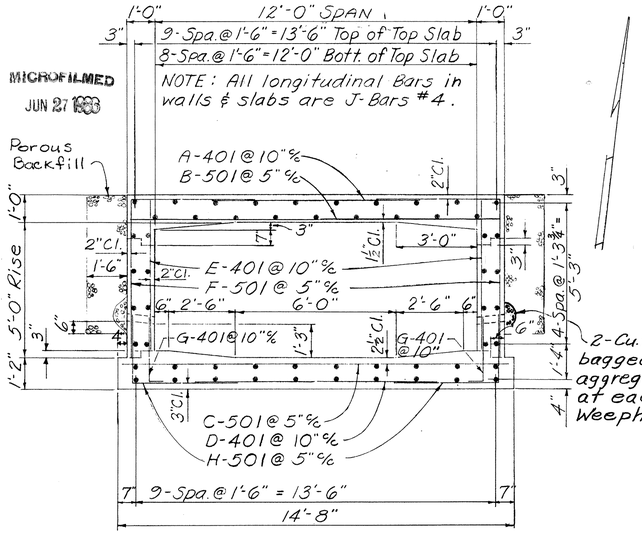
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DAN 3-1-74	MM 3-1-74		T.P.P. 3-8-74	JBK	6-11-74	

FHWA REGION	STATE	PROJECT	
5	OHIO		

21/37

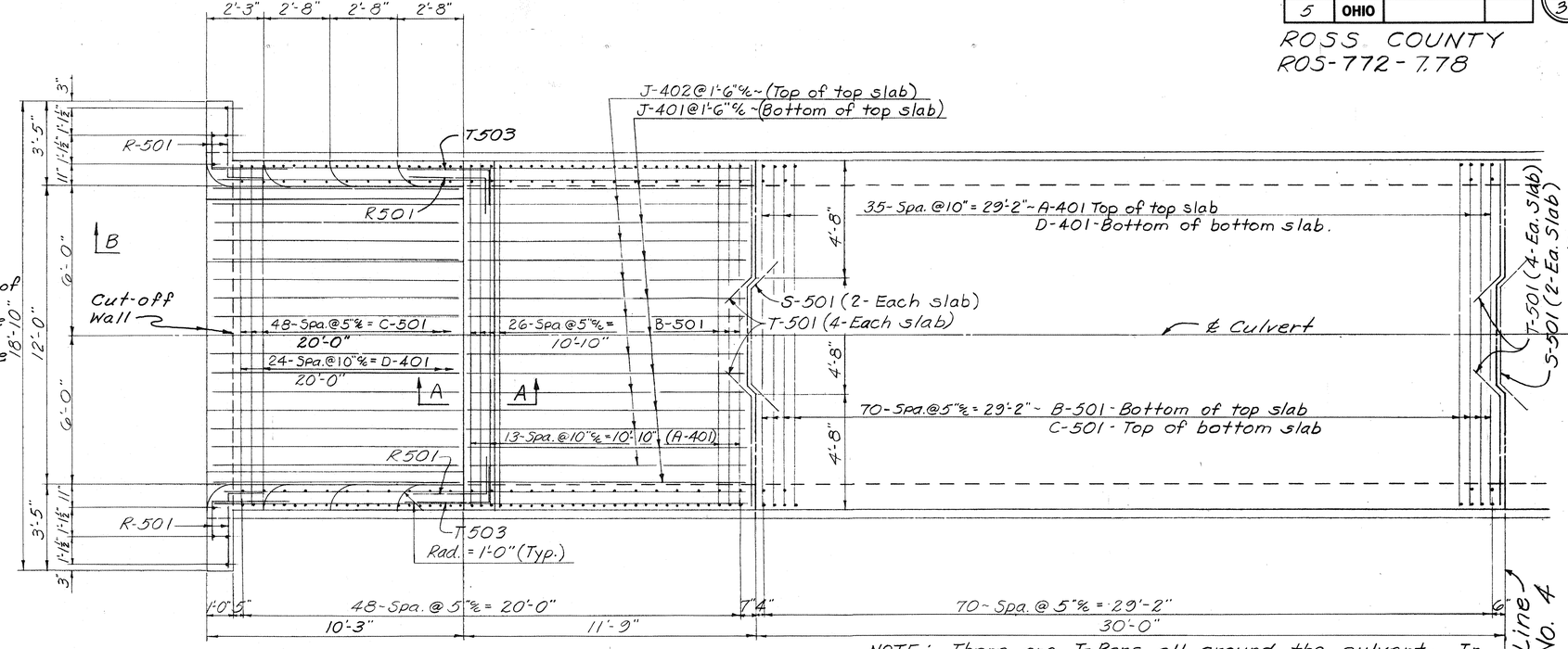
ROSS COUNTY
ROS-772-7.78

MICROFILMED
JUN 27 1978



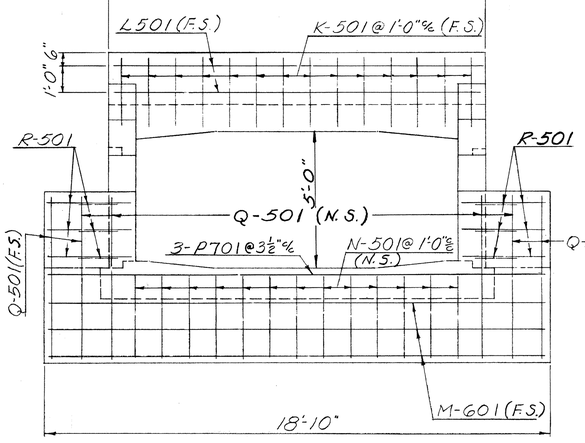
TYPICAL SECTION THRU CULVERT BARREL

For additional details, see Standard Drawing LBC-45.

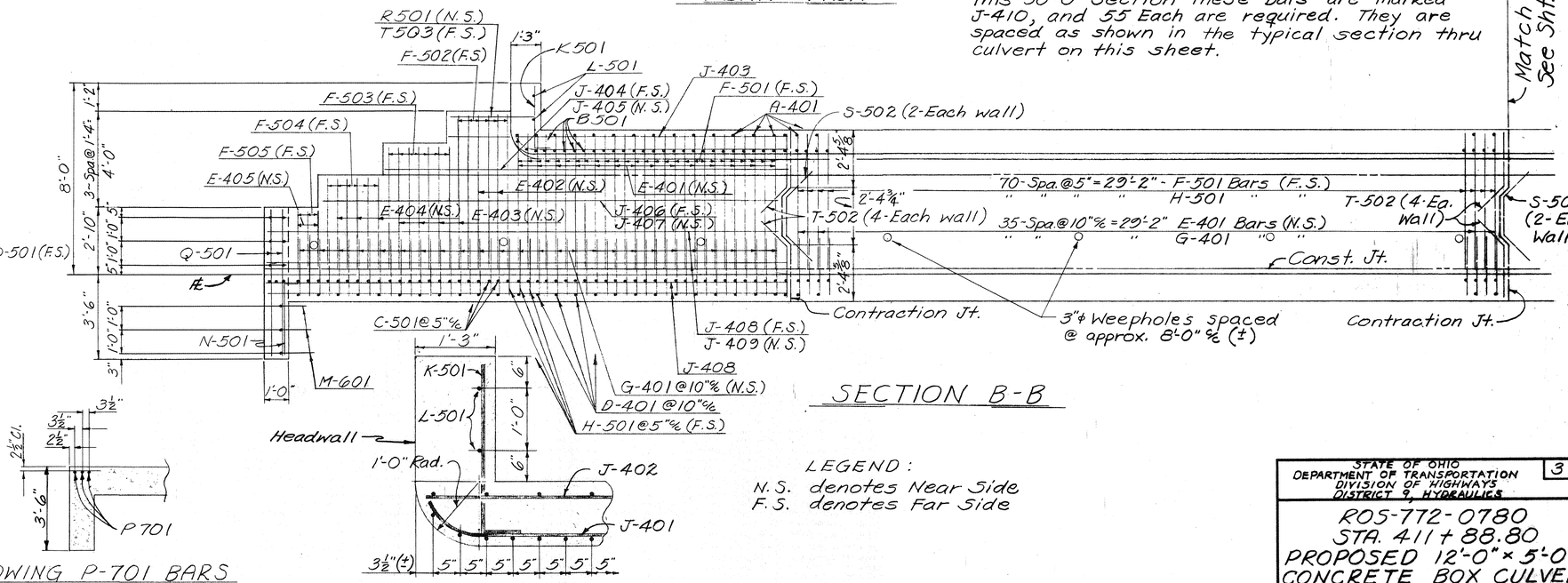


PLAN VIEW

NOTE: There are J-Bars all around the culvert. In this 30'-0" section these bars are marked J-410, and 55 Each are required. They are spaced as shown in the typical section thru culvert on this sheet.



END VIEW



SECTION B-B

SECTION A-A (Enlarged)

Underside curved as shown (Entrance only).

DETAIL SHOWING P-701 BARS IN CUT-OFF WALL

LEGEND:
N.S. denotes Near Side
F.S. denotes Far Side

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 9, HYDRAULICS

3/4

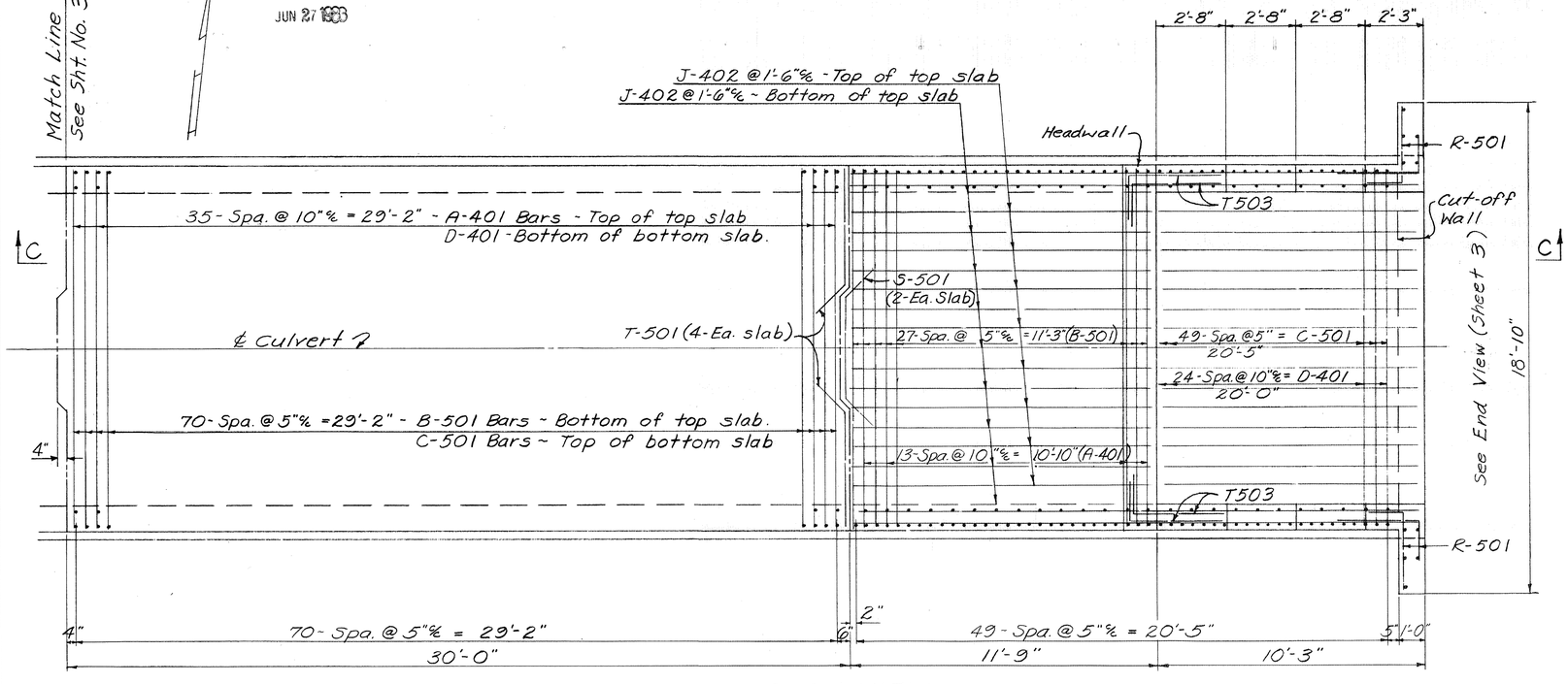
ROS-772-0780
STA. 411+88.80
PROPOSED 12'-0" × 5'-0"
CONCRETE BOX CULVERT

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.T.F.	[illegible]		J.R.P.	J.B.K.	6-11-74	
A.Y.J.	1-28-74		3-1-74			

MICROFILMED
JUN 27 1983

FHWA REGION	STATE	PROJECT		22 / 37
5	OHIO			

ROSS COUNTY
ROS-772-7.78

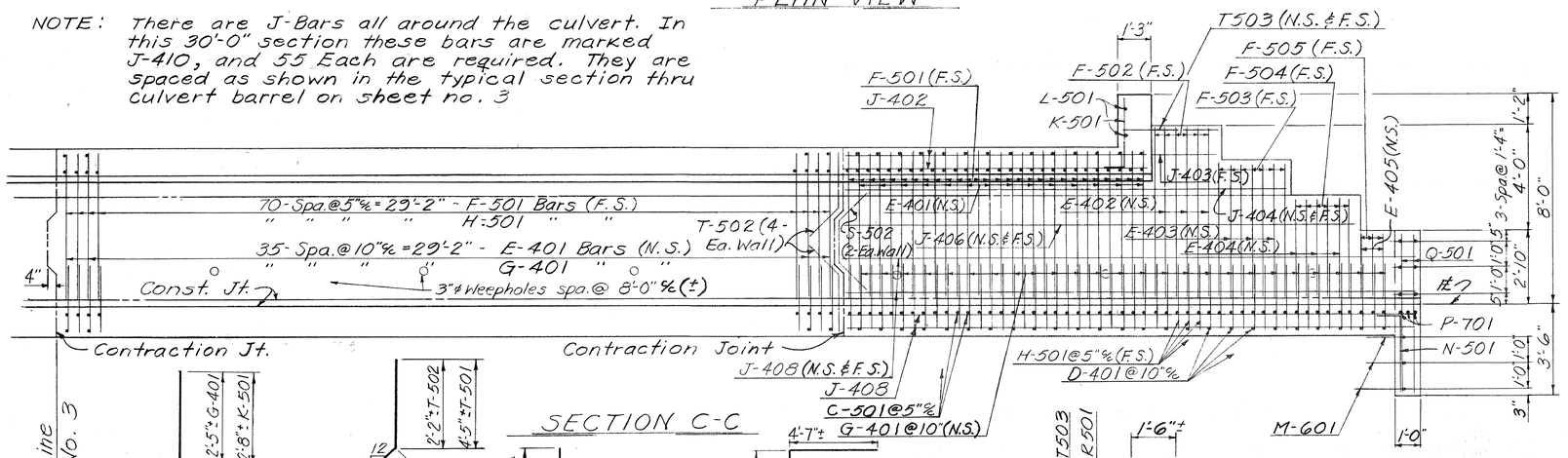


PLAN VIEW

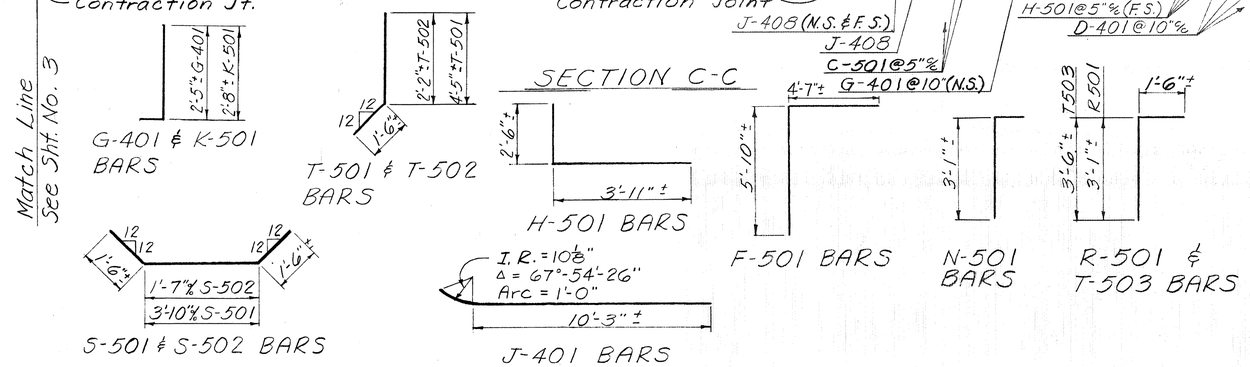
NOTE: There are J-Bars all around the culvert. In this 30'-0" section these bars are marked J-410, and 55 Each are required. They are spaced as shown in the typical section thru culvert barrel on sheet no. 3

MARK	N°	LENGTH	WEIGHT	SH'P.	SPACING	Top Slab & Hdw'ls. Sht. 3	Top Slab & Hdw'ls. Sht. 4	Bott. Slab & Cut-Off Walls Sht. 3	Bott. Slab & Cut-Off Walls Sht. 4	Culvert Walls Sht. 3	Culvert Walls Sht. 4	Culvert End & Wing Walls Sht. 3	Culvert End & Wing Walls Sht. 4
A-401	100	7'-0"	468	S	10"%	50	50						
B-501	197	13'-8"	2808	S	5"%	98	99						
C-501	241	14'-4"	3603	S	5"%			120	121				
D-401	122	8'-4"	679	S	10"%			61	61				
E-401	200	5'-7"	746	S	10"%					100	100		
E-402	10	6'-5"	43	S	10"%							4	6
E-403	14	5'-1"	48	S	10"%							8	6
E-404	12	3'-9"	30	S	10"%							6	6
E-405	8	2'-5"	13	S	10"%							4	4
F-501	394	10'-3"	4212	B	5"%					196	198		
F-502	24	6'-8"	167	S	5"%							12	12
F-503	28	5'-4"	156	S	5"%							14	14
F-504	24	4'-0"	100	S	5"%							12	12
F-505	12	2'-8"	33	S	5"%							6	6
G-401	244	2'-10"	462	B	10"%					100	100	22	22
H-501	482	6'-3"	3142	B	5"%					196	198	44	44
J-401	9	11'-3"	68	B	1'-6"%	9							
J-402	25	11'-3"	188	S	1'-6"%	8	17						
J-403	4	13'-11"	37	S	As Shn.	2	2						
J-404	6	16'-7"	66	S	As Shn.							2	4
J-405	2	16'-1"	21	S	As Shn.							2	
J-406	6	19'-1"	76	S	As Shn.							2	4
J-407	2	18'-7"	25	S	As Shn.							2	
J-408	52	21'-4"	741	S	As Shn.			20	20			4	8
J-409	4	20'-10"	56	S	As Shn.							4	
J-410	110	29'-8"	2180	S	As Shn.	23	23	20	20	12	12		
K-501	28	3'-2"	92	B	1'-0"%	14	14						
L-501	4	13'-8"	57	S	1'-0"%	2	2						
M-601	6	18'-6"	167	S	1'-0"%			3	3				
N-501	26	3'-7"	97	B	1'-0"%			13	13				
P-701	6	18'-6"	227	S	3½"%			3	3				
Q-501	16	6'-0"	100	S	As Shn.							8	8
R-501	26	4'-5"	120	B	As Shn.							14	12
S-501	12	6'-8"	83	B	As Shn.	4	2	4	2				
S-502	12	4'-5"	55	B	As Shn.					8	4		
T-501	24	5'-10"	146	B	As Shn.	8	4	8	4				
T-502	24	3'-7"	90	B	As Shn.					16	8		
T503	6	4'-10"	30	B	As Shn.							2	4

TOTAL STEEL (Lbs.) = 21,432



Match Line
See Sht. No. 3



Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 9 HYDRAULICS

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ROS-772-0780
STA. 411+88.80
PROPOSED 12'-0" × 5'-0"
CONCRETE BOX CULVERT

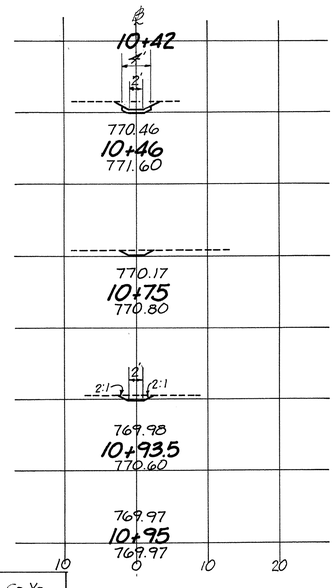
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W.T.F. D.W.S.	D.W.S. 2-11-74		J.R.P. 3-1-74	J.B.K.	6-11-74	

FHWA REGION	STATE	PROJECT	
5	OHIO		

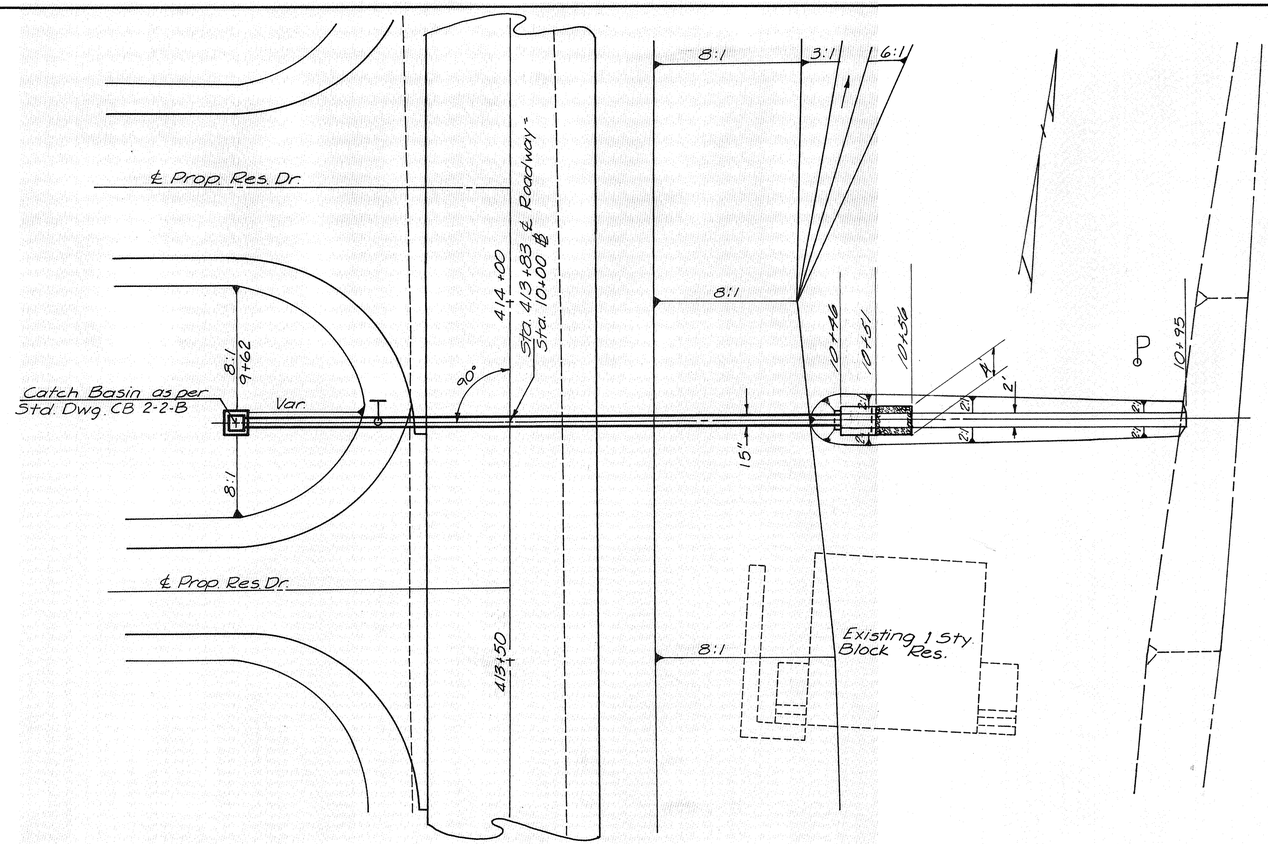
23
37

R05-772-7.78

SEEDING	
END WIDTH	AREA
0	
	2
8	
	24
7	
	13
6	
	1
0	
	40 Sq Yd.



EARTHWORK	
END AREA	VOL.
0	
	1
5	
	4
3	
	2
3	
	0
0	
	7 Cu Yd.



PLAN

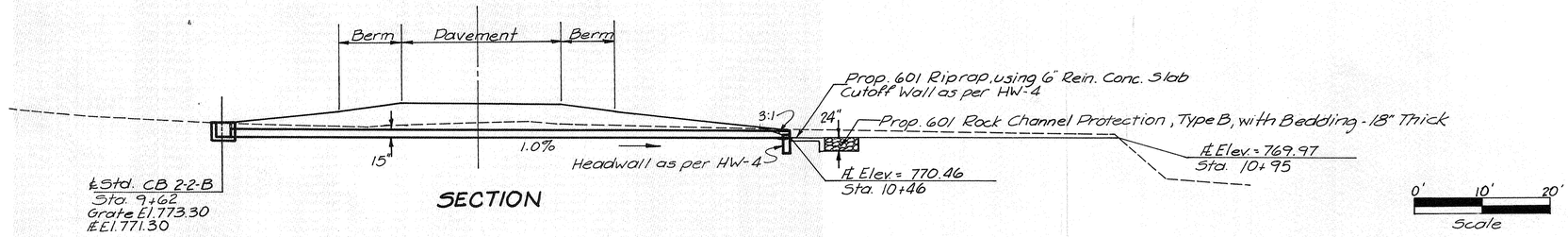
DRAINAGE AREA = 0.5 AC.
Q = 2 CFS

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANT.	UNIT
203	Excavation	7	Cu.Yd.
601	Rock Channel Protection, Type B. With Bedding	2.0	Cu.Yd.
601	Riprap, using 6" Reinf. Conc. Slab	3.0	Sq.Yd.
602	Concrete Masonry 0.27 Use .3		Cu.Yd.
603	15" Conduit, Type A, 706.01, 706.02 or 707.05	84	Lin.Ft.
604	Catch Basin, Std. CB-2-2-B	1	Each
659	Seeding & Mulching	40	Sq.Yd.

CALCULATIONS

601 Riprap 6"	5' x 4' ÷ 9 = 2.22 Sq.Yd.
601 RCP Type B	5' x 4' x 2' ÷ 27 = 1.48 Cu.Yd.



SECTION

Datum Line = Elev. 750.0

CALC. BY	CHK'D BY	TRACED	REVIEWED
JRP 1-3-74	D.B.B. 6-14-74	F.G.G. 9-4-74	

R05-772-0783 STA. 413+83
PROP. 603 CONDUIT TYPE A

2

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JUN 27 1983

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ROSS COUNTY
ROS-772-7.78

7.5± miles S.W. Chillicothe

Lt. E/P 2 (P.K. Nails) — 16.85' — 15.77' — 14.62'
P.I. Sta. 415+00

Survey Tack 17" Elm — 8.10' — 11.13' — 10.95' — Survey Tack 10" Elm
P.T. Sta. 417+74.38

Frame Garage

1 Story Fr. Res.

1 Story Conc. Blk. Res.

1 Story Conc. Blk. Res.

1 Story Fr. Res.

1 Story Conc. Blk. Res.

1 Story Frame Res.

RUN

RALSTON

Exist. S.R. 772

Clean out channel bottom do not disturb high banks.

Elev. 758.0

Elev. 759.0

Elev. 760.0

Elev. 760.0

Transition 2:1 to roadway slope at all four corners

2'-6" Thick Dumped Rock Fill, Type A 601.07

Existing Bridge 770.93

Begin Appr. Slab Sta. 417+03.17

End Approach Slab Sta. 416+06.00

Transition 2:1 to existing slope

	Elev.	Velocity
Q_{10} = 2190	765.4	7.8 f.p.s.
Q_{25} = 2750	765.8	8.9 f.p.s.
Q_{50} = 3175	766.2	9.4 f.p.s.
Q_{100} = 3600	767.2	9.0 f.p.s.

PROP. CURVE
P.I. 415+00.00
R = 5729.58'
Δ = 5°-29'-30" Rt.
D = 1°-00'
T = 274.79'
E = 6.59'
L = 549.17'

BENCH MARK
□ Cut in S.W. Wingwall of Bridge, 35.5' Lt. & Sta. 415+96 Elev. 770.84

Bridge Limits = 97.17'

Sta. 416+06.00 — Sta. 417+03.17

P.T. Sta. 417+74.38

℄ Prop. S.R. 772

Design Traffic
1970 — 860
1990 — 1120

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections

DRAINAGE AREA = 5.5 Sq. Mi.

EXISTING BRIDGE DATA

Bridge No.	ROS-772-0788
Loading	S-10.2
Type	Low Truss
Span	71' Clear
Roadway	14'-3½"
Condition	Poor
Skew	0°-00'
Abuts.	Stone & Conc.
W. Surface	2" Bit.
Reduction	25%
Suff. Rating	50

PROPOSED STRUCTURE

TYPE: Prestressed concrete box beams with reinforced concrete substructure
SPANS: 32.0'-32.0'-32.0
ROADWAY: 38'-0" f/f guardrails
LOADING: HS 20-44
SKEW: 0°
WEARING SURFACE: 2½" Asphalt concrete
APPROACH SLABS: AS-1-72 (25' long)
ALIGNMENT: 1° curve right
SUPERELEVATION: .017 ⅊

300' V.C.

10 Yr. H.W. Elev. 765.4
25yr. H.W. Elev. 765.8
Top of slope Elev. 772.6±
Top of slope Elev. 773.9±
+1.60% ℄
-0.24% ℄
Prop. Profile
2:1 (Norm.)
Footing Elev. 761.80
Footing Elev. 763.20
Ordinary High Water 763.50
Elev. 756.00
Excavate channel through structure to Elev. 760.0
Clears 10 yr. H.W. by 8.3'
Elev. 775.02

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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SITE PLAN

BRIDGE NO. ROS-772-0788
OVER RALSTON RUN
ROSS COUNTY

SEC.
STA. 416+06.00
417+03.17
SCALE 1" = 20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
AERIAL SURVEY	AERIAL SURVEY	JM	JM	FPK	D.H.S.

BFG 8-15-75

MICROFILMED
JUN 27 1983

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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ROS-772-7.78

GENERAL NOTES

REFERENCE shall be made to Standard Drawings PSBD-1-71 Sheets 1,2 & 3 Dated 9-1-71, DBR-2-73 Dated 4-10-73

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1973, including the Ohio "Supplement" to these specifications.

DESIGN DATA:

Design Loading - HS 20-44 (and the Interstate Alternate Loading)

Concrete Class C - unit stress 1,200 p.s.i. for superstructure
unit stress 1,333 p.s.i. for substructure

Concrete for Prestressed
Concrete Beams - unit stress 2,200 p.s.i. compression
unit stress 445 p.s.i. tension

Prestressing
Strands - ASTM A416, f'_s = 270,000 p.s.i.
Initial Tension = 0.7 f'_s

Reinforcing Steel - ASTM A615, A616 or A617
Unit Stress 20,000 p.s.i.

REMOVAL OF STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed.

EMBANKMENT CONSTRUCTION: After the pedestals have been built the embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutment crossbeams.

FOUNDATION BEARING PRESSURE: All footings are designed for a bearing pressure of 6 tons per sq. ft.

FOOTINGS shall be placed in bedrock at the elevation shown.

MAINTENANCE OF TRAFFIC: One lane of traffic shall be maintained on S.R. 772 at all times.

STAGE CONSTRUCTION shall be accomplished as follows: Portions of the Substructure labeled STAGE 1 shall be constructed. Then the 23' section of superstructure labeled STAGE 1 will be placed beginning at the ℄ and working outward. This will then be waterproofed and and paved as shown and the temporary and permanent guard rail installed and necessary approach slab constructed to allow STAGE 1 to be opened to traffic. When STAGE 1 is fully completed and opened to traffic the existing structure shall be removed and the portions of substructure labeled STAGE 2 shall be constructed. Temporary guardrail will then be removed and STAGE 2 beams placed as shown, approach slab constructed and then STAGE 2 shall be waterproofed and paved and guard rail erected, and the entire structure shall then be opened to traffic.

BRIDGE SEAT REINFORCING steel in the vicinity of the bearing lines on the piers and abutments shall be accurately placed to avoid interference with the drilling of anchor dowel holes.

ASPHALT CONCRETE SURFACE COURSE shall consist of a variable thickness of 403 and 1¼" thickness of 404. The 403 shall be placed in two operations. The first course shall be of 1¼" uniform thickness. The second course shall be feathered to place the surface parallel to and 1¼" below final pavement surface elevation.

BEAM CAMBER: Calculated camber at time of paving, including allowance for camber growth due to creep, is 1.06". Adjustment of .09" at ends of spans is required for sag vertical curve. Net final camber of beams is 1.06" plus .09" adjustment for the vertical curve equals 1.15" This amount shall be compensated for by thickening the 403 leveling course from 1¼" at center of spans to 2½" at the end of spans.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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GENERAL NOTES
ROS - 772-0788
OVER RALSTON RUN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS			J.O.R. 8-14-75	BFG	8-15-75	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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ROS-772-7.78

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Bridge Limits = 97.17'

Measured Along ℄ Survey Proposed S.R. 772 or along Reference Line

31'-9" | 32'-6" | 31'-9"

31'-0" % Brgs. | 31'-0" % Brgs. | 31'-0" % Brgs.

N.

2:1

℄'s Rear Pier Brgs

℄'s Forward Pier Brgs.

25'-0" Approach Slab (Typical)

Limits of Dumped Rock Fill (Item 601.07)

End Approach Slab Sta. 416+06.00

℄ Rear Pier Sta. 416+38.33

℄ Bridge & ℄ Span 2 Sta. 416+54.58

2'8"

℄ Prop S.R. 772

℄ Forward Pier Sta. 416+70.84

2'8"

2'8"

Reference Line (Chord between faces of abutments)

Face of Rear Abutment Sta. 416+07.33

Face of Forward Abutment Sta. 417+01.84

Begin Approach Slab Sta. 417+03.17

9"

7"

℄ Rear Abutment Brgs.

℄ Rear Pier

℄ Forward Pier

℄ Forward Abutment Brgs.

RALSTON RUN

38'-0" % Concrete Box Beams (Nominal)

19'-0" (Nominal)

38'-0" % Guard Rail

19'-0" (Nominal)

Limits of Dumped Rock Fill (Item 601.07)

Guard Rail, See Half Deck Plan on sheet 7/8 for post locations

GENERAL PLAN

Vertical Curve Data:
L.V.C.=300', P.I. Sta. 415+50, Elev.=775.02
G_1 = -.24 %, G_2 = +1.60 %

G = VERTICAL CURVE

Guard Rail

Expansion

Top of slope Elev. 772.6±

Fixed

Fixed

Expansion

Top of Slope Elev. 773.9±

100 Year H.W. Elev. 767.2

25 Year H.W. Elev. 765.8

10 Year H.W. Elev. 765.4

Ordinary High Water-763.50

Dumped Rock Slope Protection, 2'-6" Thick

Dumped Rock Slope Protection, 2'-6" Thick

Footing Elev. 761.80

Excavate channel thru structure to Elev. 760.0±

Footing Elev. 763.20

Footing Elev. 756.00

Footing Elev. 756.00

ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

3/9

GENERAL PLAN and ELEVATION

BRIDGE NO. ROS-772-0788
OVER RALSTON RUN

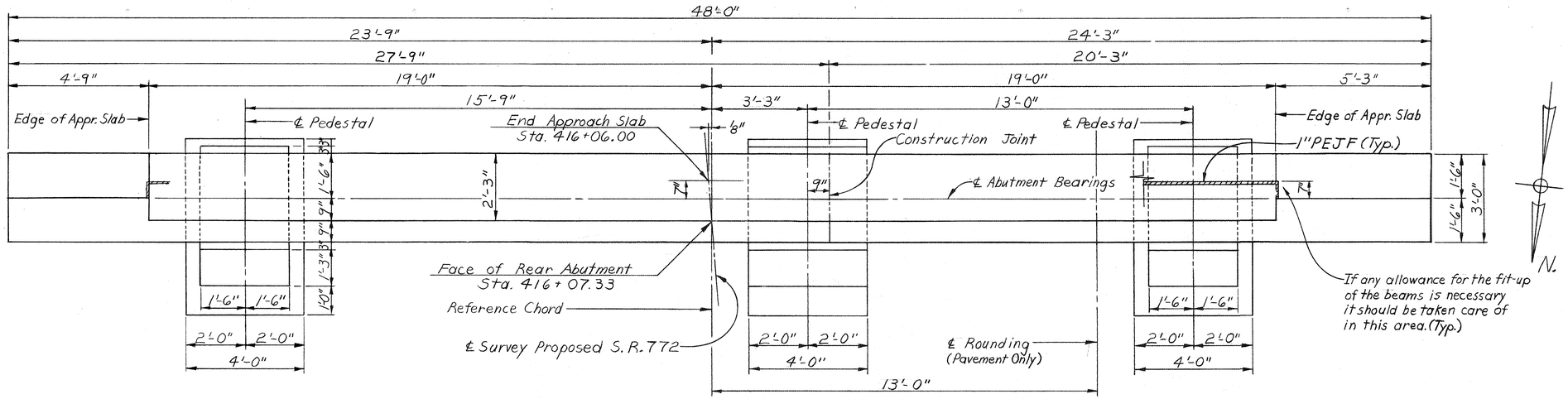
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JGS	JGS		J.D.R.	BFG	8-15-75	

MICROFILMED
JUN 27 1983

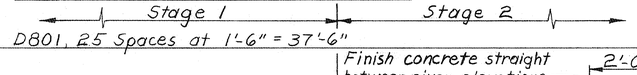
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

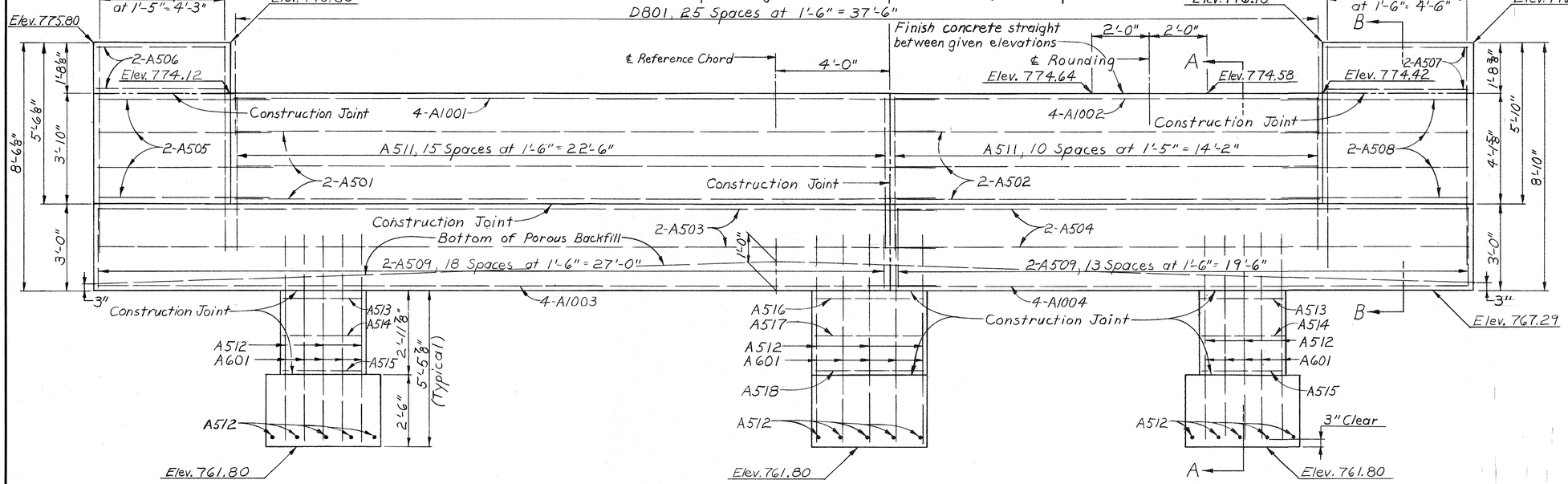
26/37

ROS-772-7.78



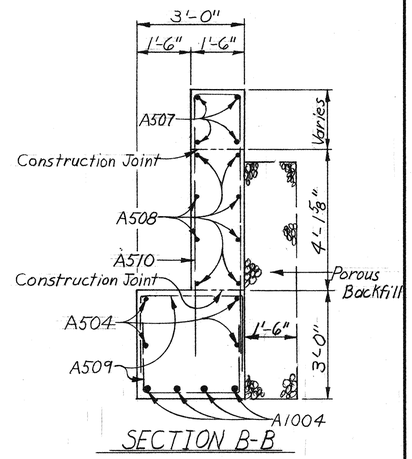
REAR ABUTMENT PLAN



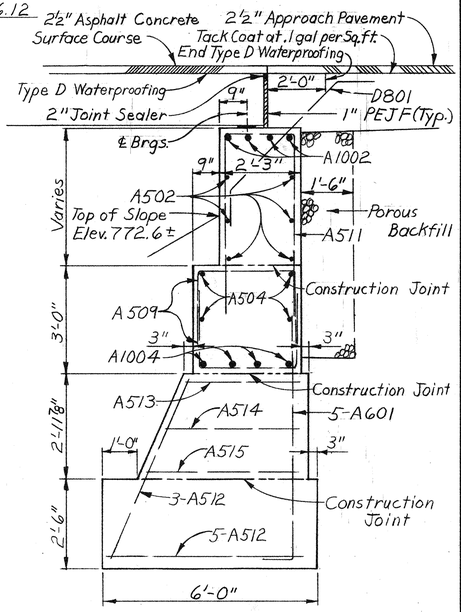


REAR ABUTMENT ELEVATION

POROUS BACKFILL shall extend upward to the plane of the subgrade, and laterally to the surface of the embankment slopes.



SECTION B-B



SECTION A-A

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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REAR ABUTMENT PLAN and ELEVATION

BRIDGE NO. ROS-772-0788
OVER RALSTON RUN

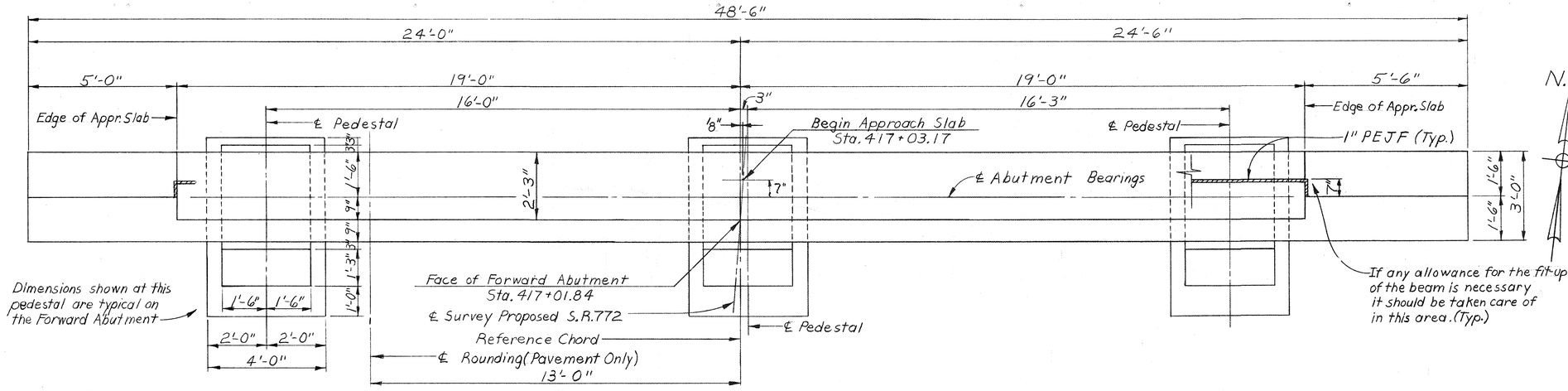
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JGS	JGS		J.O.R.	BFG	8-15-75	

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JUN 27 1988

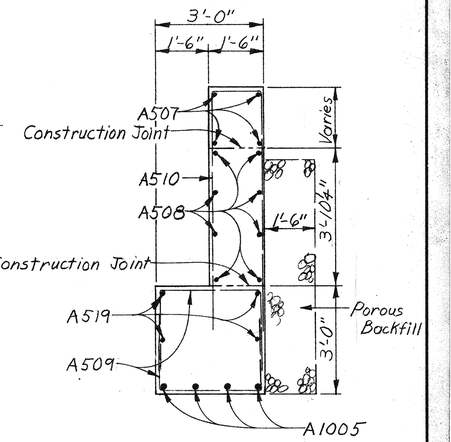
FED. RD. DIVISION	STATE	PROJECT	
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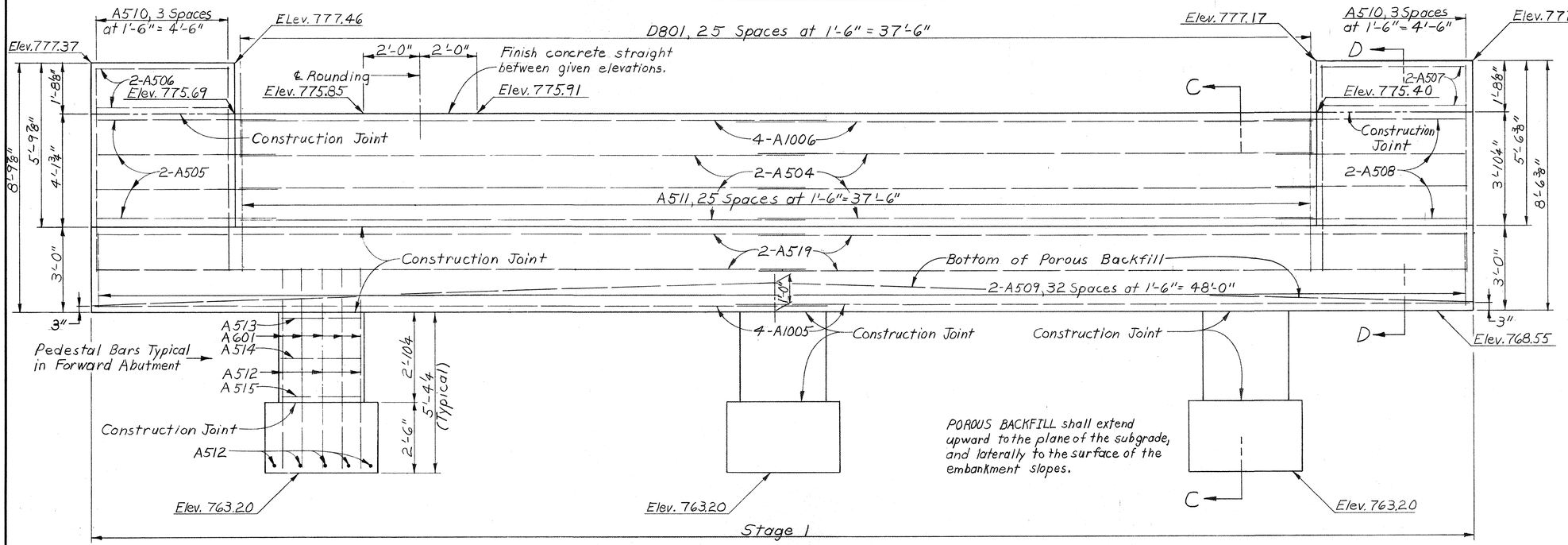
ROS-772-7.78



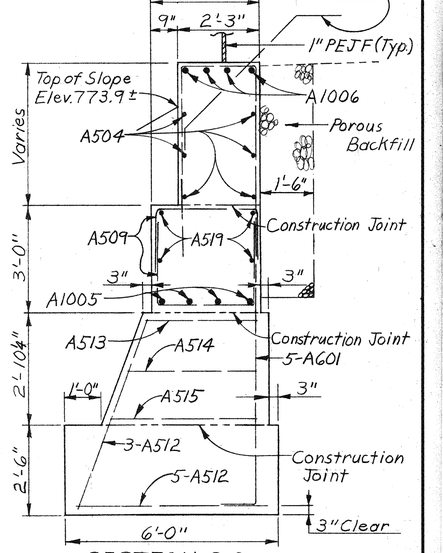
FORWARD ABUTMENT PLAN



SECTION D-D



FORWARD ABUTMENT ELEVATION



SECTION C-C

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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FORWARD ABUTMENT PLAN and ELEVATION

BRIDGE NO. ROS-772-0788
OVER RALSTON RUN

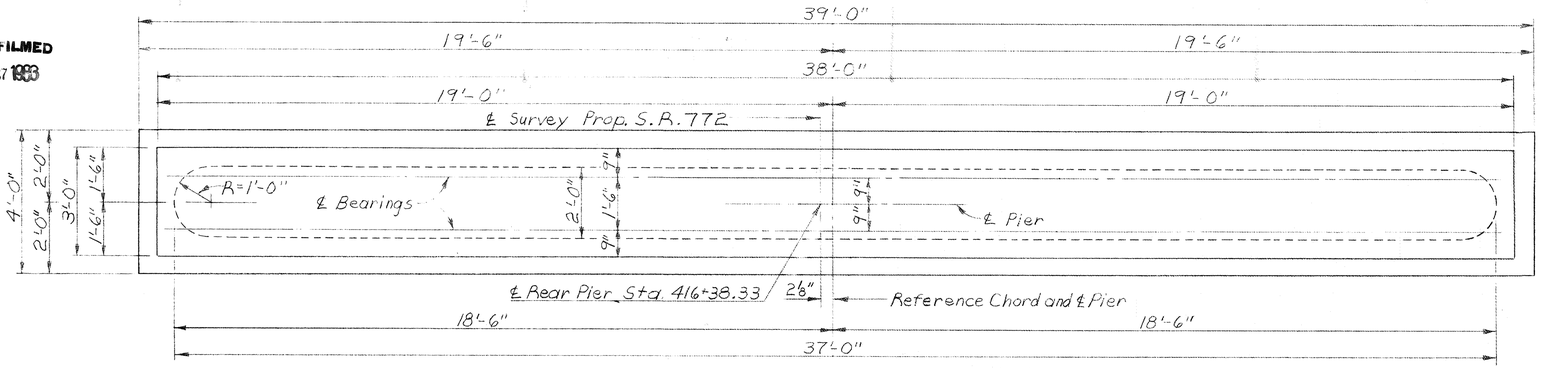
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JGS	JGS		J.O.R.	BFG	8-15-75	

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JUN 27 1983

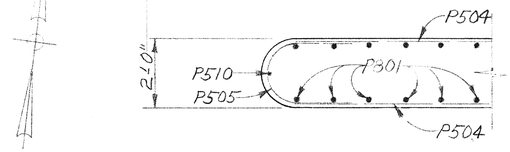
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2	OHIO		

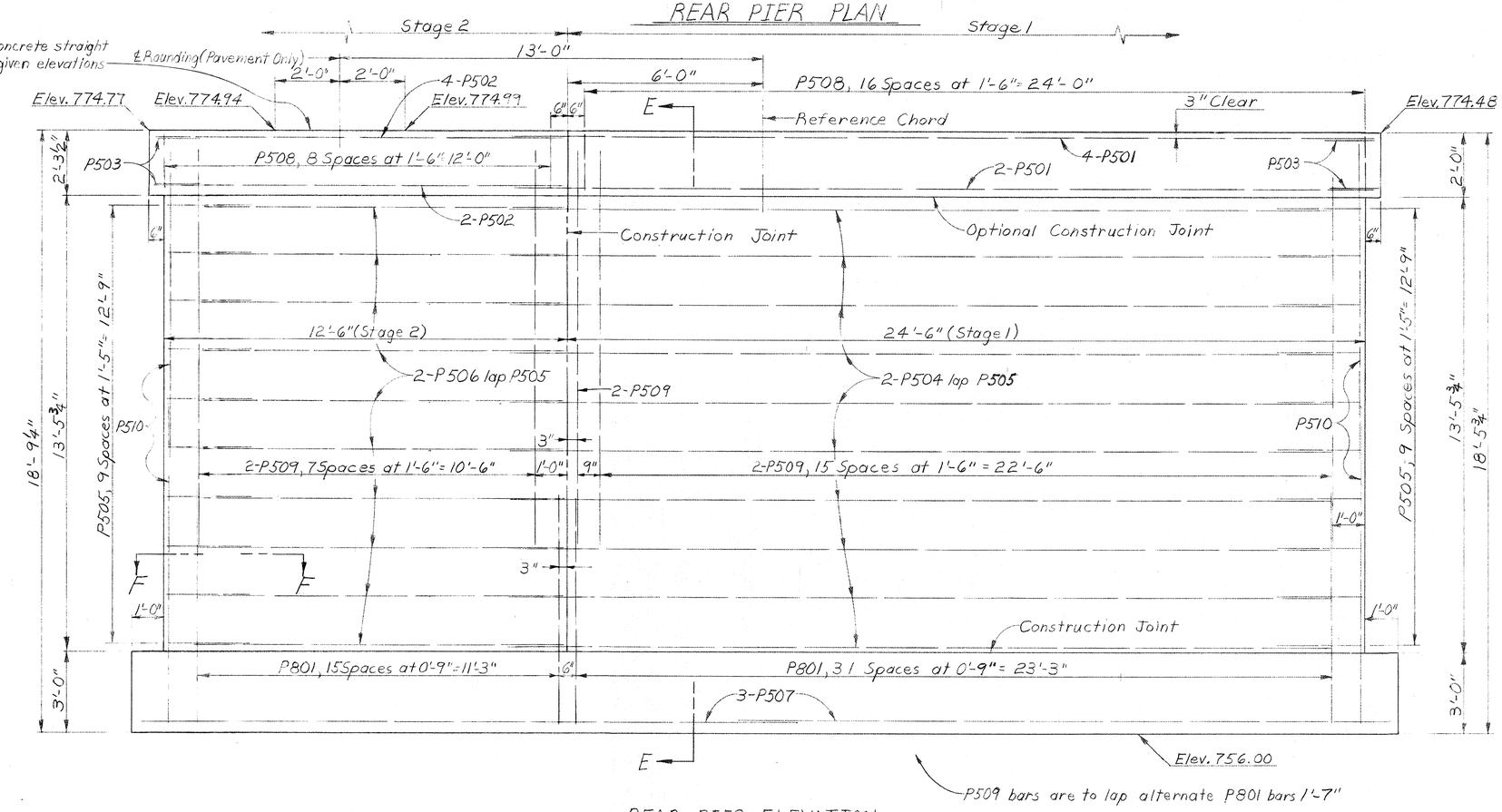
28/37

ROS-772-7.78

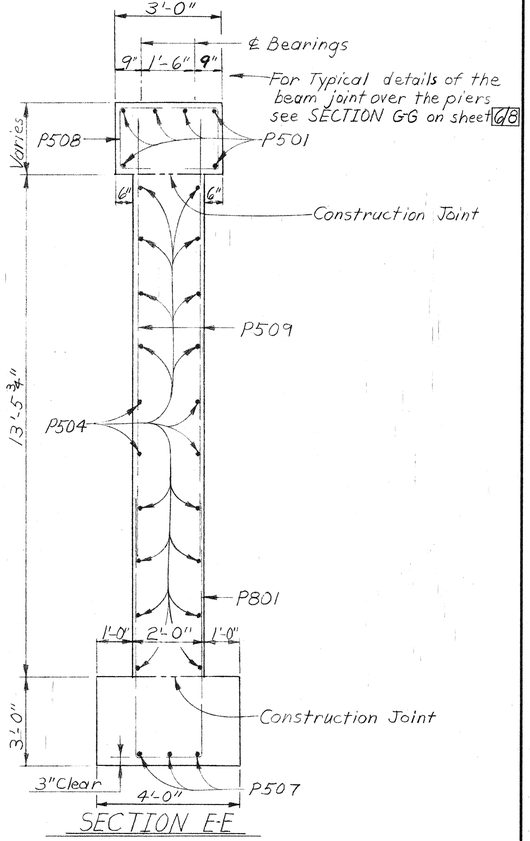


REAR PIER PLAN





REAR PIER ELEVATION



SECTION E-E

SECTION F-F

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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REAR PIER PLAN
and ELEVATION

BRIDGE NO. ROS-772-0788
OVER RALSTON RUN

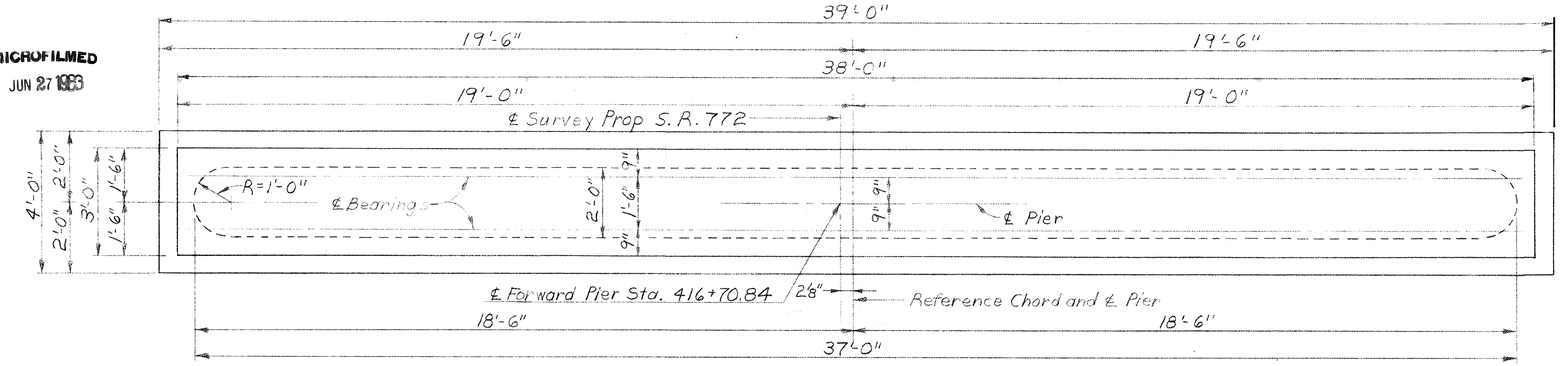
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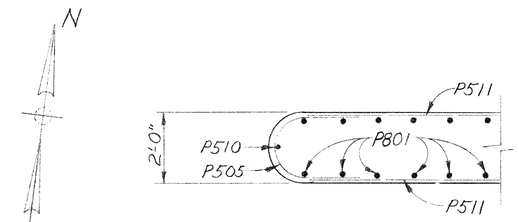
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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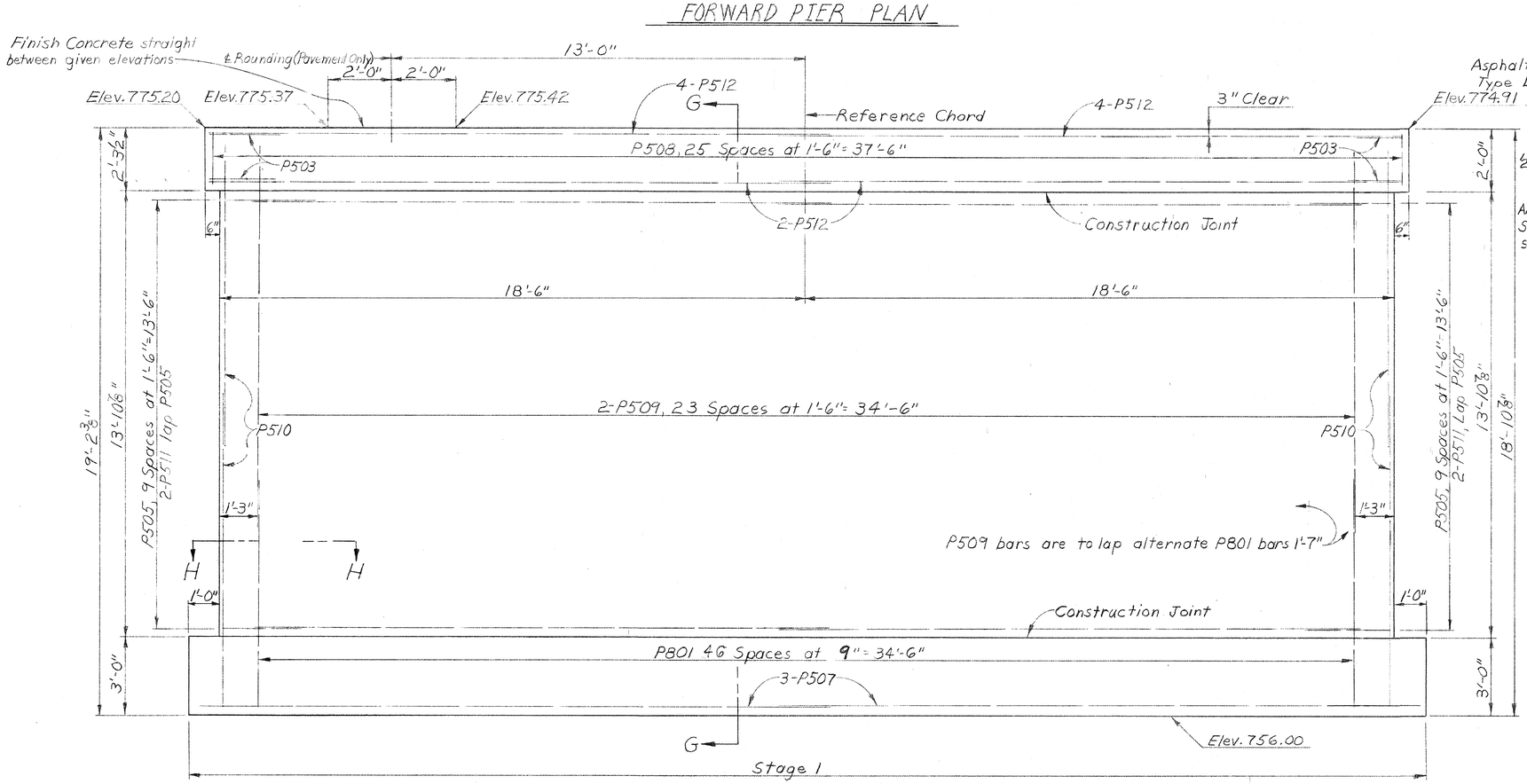
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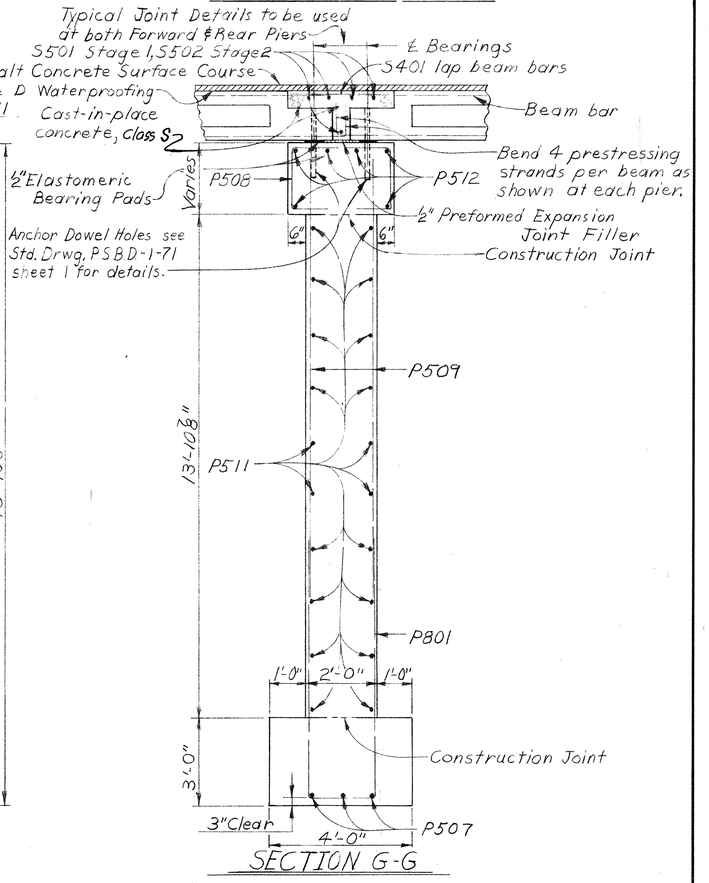
FORWARD PIER PLAN



SECTION H-H



FORWARD PIER ELEVATION



SECTION G-G

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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FORWARD PIER PLAN
and ELEVATION

BRIDGE NO. ROS-772-0788
OVER RALSTON RUN

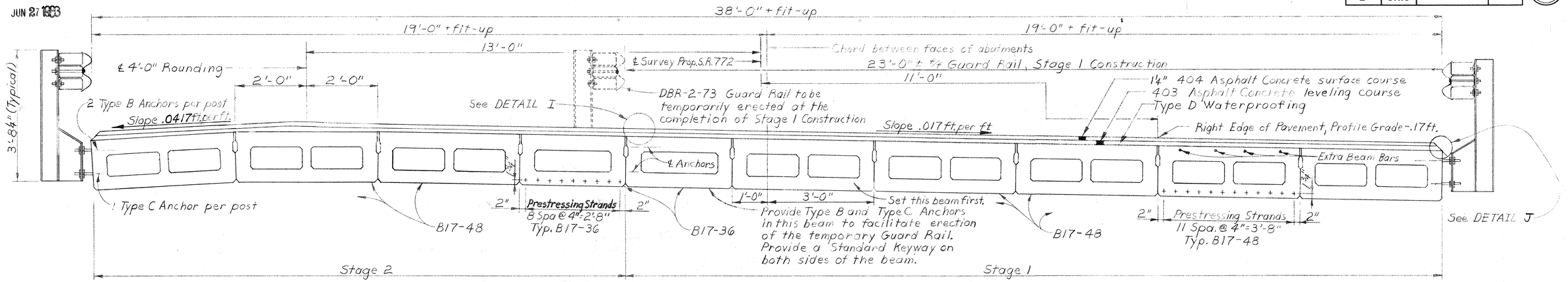
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JGS	JGS		J.D.R.	BFG	8-15-75	

MICROFILMED
JUN 27 1988

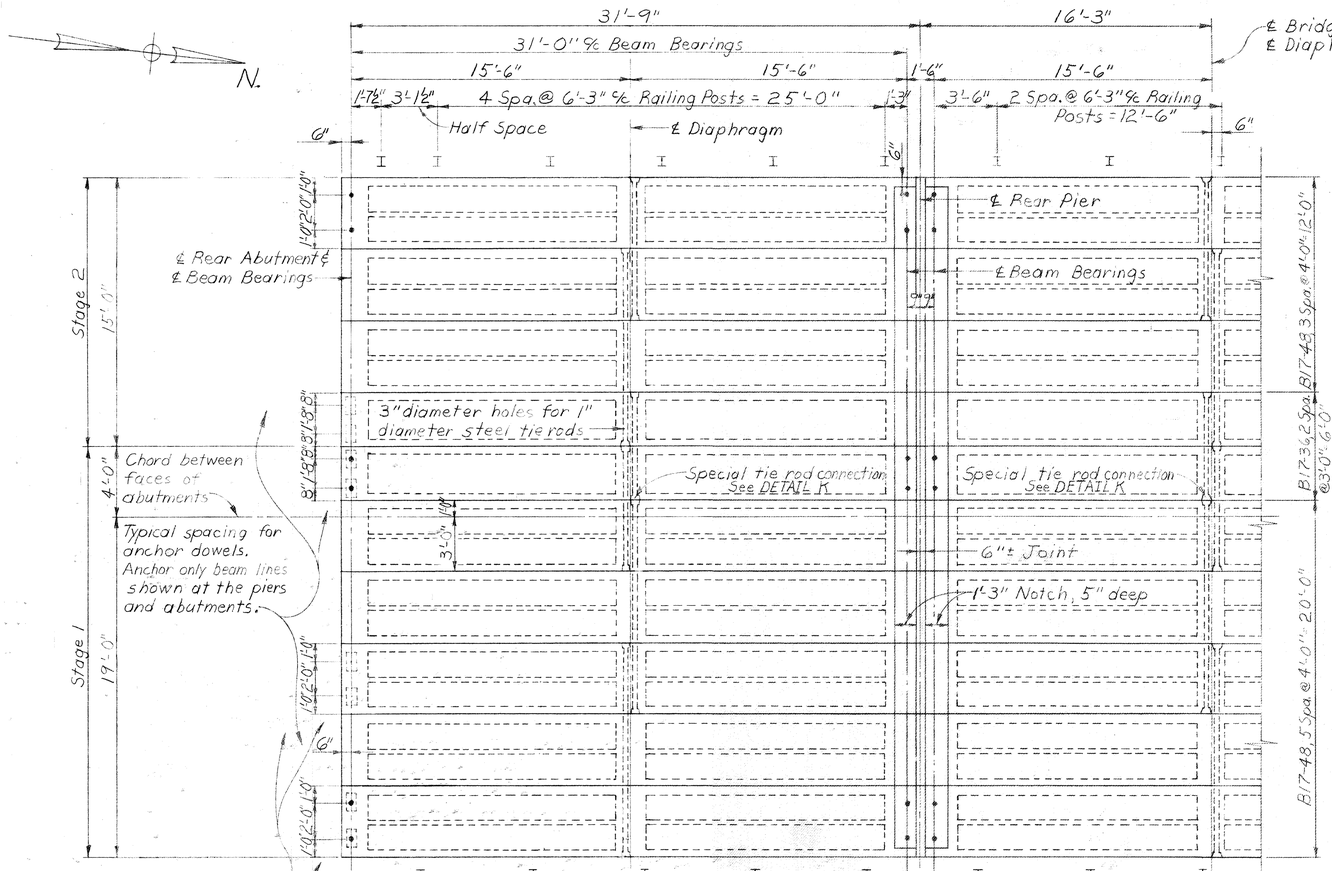
ROS-772-7.78

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

30
37

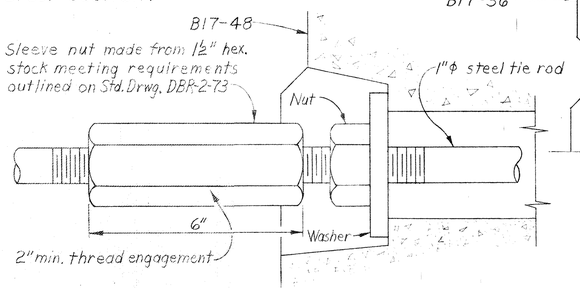


TRANSVERSE SECTION



HALF DECK PLAN

ROUNDING OF THE PAVEMENT is to be accomplished by increasing the asphalt concrete thickness to the extent necessary to achieve the required roadway cross section.

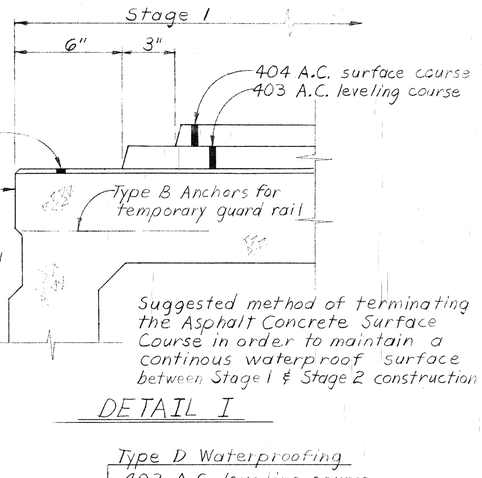


DETAIL K

ASPHALT CONCRETE shall be 2½" thick at midspan of the beams. The thickness at the abutments and piers is anticipated to be 3¾" depending on camber. The actual thickness required shall be determined in the field. Variations in the thickness shall be made in the 403 leveling course. Pay quantity is based on an average total thickness of 3".

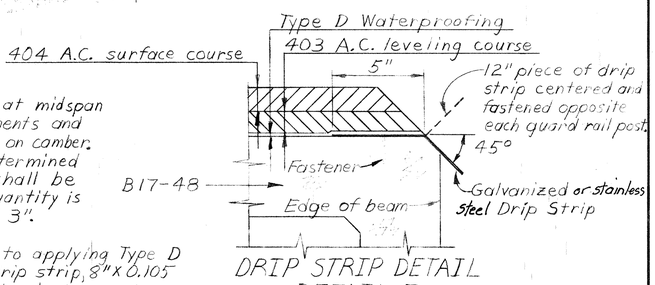
STEEL DRIP STRIP: Prior to applying Type D waterproofing a bent steel drip strip, 8" x 0.105" shall be installed along the edges of the deck as shown. The strips shall be fastened at 1'-6" ℅ maximum with 1¼" x 5/32" x ¼" flat head drive pins and washers or #10 galvanized expansion screws, subject to the approval of the Engineer. The strips shall be placed the full length of the deck. Where splices are required a 3" (min.) lap shall be used, with a fastner through the lap. Steel shall meet the requirements of ASTM A568 and galvanizing shall be in accordance with 711.02.* Payment shall be at the contract price bid for Item Special, Sq.Ft., steel drip strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.

* Stainless steel shall be 20 gauge ASTM A167, Type 304, mill finish.



Suggested method of terminating the Asphalt Concrete Surface Course in order to maintain a continous waterproof surface between Stage 1 & Stage 2 construction

DETAIL I



DRIP STRIP DETAIL
DETAIL J

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

8 | 9

TRANSVERSE SECTION and HALF DECK PLAN

BRIDGE NO. ROS-772-0788 OVER RALSTON RUN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS	JGS		J.G.R.	BFG.	8-15-75	

MICROFILMED
JUN 27 1983

REINFORCING STEEL LIST

ABUTMENTS

MARK	Forward	Rear			TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	R
A 1001		4			4	26'-1"	449	Str.					
A 1002		4			4	14'-9"	254	STR.					
A 1003		4			4	30'-9"	529	STR.					
A 1004		4			4	19'-11"	343	STR					
A 1005	8				8	25'-8"	884	STR.					
A 1006	8				8	20'-6"	706	STR.					
A 601	15	15			30	8'-0	360	4	7'-4"				
A 501		6			6	24'-6"	153	STR.					
A 502		6			6	14'-9"	92	STR.					
A 503		4			4	29'-2"	122	STR.					
A 504	12	4			16	19'-11"	332	STR.					
A 505	8	8			16	6'-0"	100	STR.					
A 506	4	4			8	4'-2"	35	STR.					
A 507	4	4			8	4'-8"	39	STR					
A 508	8	8			16	6'-6"	108	STR					
A 509	66	66			132	6'-9"	929	2	2'-8"	2'-2"	2'-2"		
A 510	8	8			16	16'-3"	271	2	1'-2"	7'-2"	8'-2"		
A 511	26	27			53	12'-10"	709	2	1'-11"	5'-7"	5'-7"		
A 512	24	24			48	5'-6"	275	STR					
A 513	3	2			5	12'-1"	63	1	2'-8"	3'-2"			
A 514	3	2			5	13'-3	69	1	2'-8"	3'-9			
A 515	3	2			5	14'-5	75	1	2'-8"	4'-4			
A 516		1			1	14'-1"	15	1	3'-8	3'-2"			
A 517		1			1	15'-3	16	1	3'-8"	3'-9"			

ABUTMENTS (Cont.)

MARK	Forward	Rear			TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	R
A 518		1			1	16'-5"	17	1	3'-8	4'-4			
A 519	8				8	24'-10	207	STR					
D 801	26	26			52	5'-10	810	6	1'-1"	4'-4"	6"		

PIERS

P 801	47	48			95	17'-4"	4397	2	1'-8"	8'-0"	8'-0"		
P 501		6			6	26'-5"	165	STR.					
P 502		6			6	12'-10"	80	STR					
P 503	4	4			8	5'-7"	47	2	2'-8"	1'-7"	1'-7"		
P 504		20			20	24'-11	520	STR					
P 505	20	20			40	5'-10"	243	5	1'-7"	1'-8"			9 STD"
P 506		20			20	11'-4	236	STR.					
P 507	6	6			12	20'-2"	252	STR.					
P 508	26	26			52	6'-10"	371	3	2'-8"	1'-8"	8"		
P 509	48	52			100	12'-1	1260	STR.					
P 510	4	4			8	10'-0"	83	STR.					
P 511	40				40	18'-4	765	STR.					
P 512	12				12	20'-5"	256	STR					

SUPERSTRUCTURE

MARK					TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	R
S 401					176	2'-8"	314	STR					
S 501					10	26'-7"	277	STR.					
S 502					10	13'-0"	136	STR.					

REFER TO CMS SECTIONS 106.03, 700, 709.01 THRU 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

"STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.
BAR DIMENSIONS SHOWN ARE OUT TO OUT, UNLESS OTHERWISE INDICATED.

ESTIMATED QUANTITIES

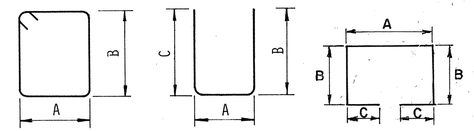
ITEM	TOTAL	UNIT	DESCRIPTION	ABUT	PIER	SUPER	GENERAL	AS-BUILT	
202	LUMP		STRUCTURE REMOVED				LUMP		
403	20	CU. YD.	ASPHALT CONCRETE, AC 20				20		
404	15	CU. YD.	ASPHALT CONCRETE, AC 20				15		
503	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP		
503	173	CU. YD.	UNCLASSIFIED EXCAVATION INCLUDING ROCK OR SHALE	100	73				
509	17,364	lb.	REINFORCING STEEL	7962	8675	727			
510	36	EACH	DOWEL HOLES	12	24				
511	57	CU. YD.	CLASS C CONCRETE, FOOTINGS	22	35				
511	65	CU. YD.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	65					
511	92	CU. YD	CLASS C CONCRETE, PIERS ABOVE FOOTINGS		92				
511	5	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE			5			
512	411	SQ. YD.	TYPE D WATERPROOFING			411			
515	24	EACH	PRESTRESSED CONCRETE BRIDGE MEMBERS(48" WIDE)			24			
515	6	EACH	PRESTRESSED CONCRETE BRIDGE MEMBERS (36" WIDE)			6			
516	76	SQ. FT	½" PREFORMED EXPANSION JOINT FILLER		76				
516	114	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	114					
516	120	EACH	6" X 12" X ½" ELASTOMERIC BEARING PADS			120			
516	80	LIN. FT	JOINT SEALER			80			
517	194.34	LIN. FT.	RAILING (DEEP BEAM RAIL WITH TUBULAR BACKUP STEEL POST AND BOLTS)			194.34			
518	37	CU. YD.	POROUS BACKFILL	37					
SPECIAL	152	SQ. FT.	STEEL DRIP STRIP			152			

FHWA REGION	STATE	PROJECT	
5	OHIO		

31/37

ROS-772-7.78

BENDING DIAGRAMS



STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF BRIDGES

9/9

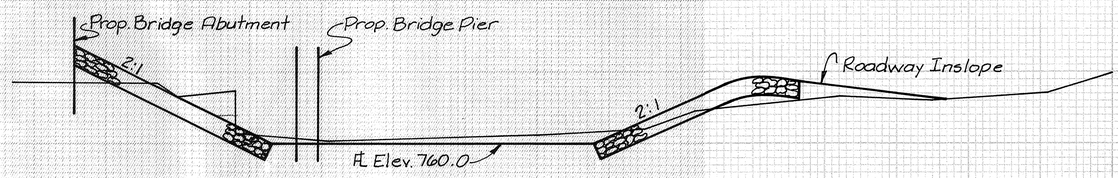
REINFORCING STEEL LIST
ROS 772-0788
OVER RALSTON RUN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JGS		SKE	J.D.R. 8-14-75	BFG	8-15-75	

FED. HIG. DIVISION	STATE	PROJECT	
2	OHIO		

32
37

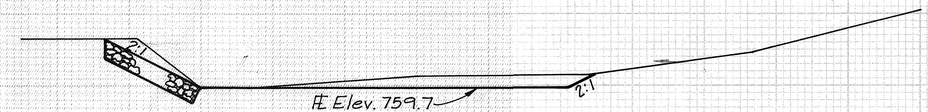
ROS-772-7.78



Dumped Rock Fill, Type A

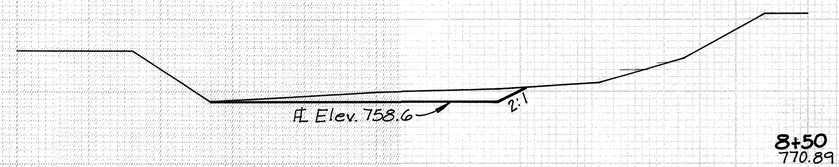
Begin Prop. 601, Dumped Rock Fill, Type A
Rt. Side, Sta. 9+41

9+50
769.86



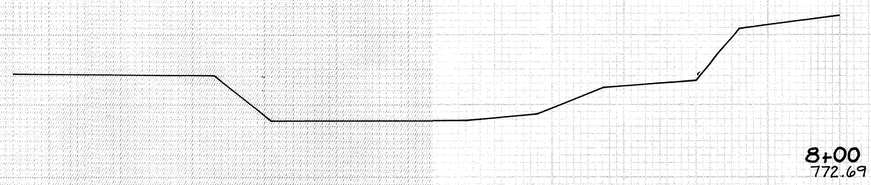
9+00
770.57

Begin Prop. 601 Dumped Rock Fill, Type A
Lt. Side, Sta. 8+89



8+50
770.89

BEGIN WORK
STA. 8+25
℄ Elev. 758.00



8+00
772.69

160 140 120 100 80 60 40 20 ℄

	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
Sta. 8+25 to Sta. 10+75				
203-Excavation 605 Cu.Yd.				
203-Embankment 104 Cu.Yd.				
601-Dumped Rock Fill, Type A 486 Cu.Yd.				
Calc. By: F.G.G. 11/24/14 Checked By: B.L.H. 3/12/15				
Sta. 8+25	0	0		
	45	0	91	0
Sta. 8+89			13	
	53	0	11	
Ahead Sta. 9+41			38	
Back			89	
	107	3		
	78			
	135			
	62	3	49	
	155			

CHANNEL SECTIONS STA. 8+00 TO STA. 9+50

SHEET	
EX. PIPES	

SHEET NUMBER	STATE	PROJECT	
2	OHIO		

33
37

ROS-772-7.78

END AREA		VOLUME	
CUT	FILL	CUT	FILL

Dumped Rock Fill, Type A

11+00
766.68

10+75
767.45

END WORK
STA. 10+75
Ft. Elev. 761.0

Ft. Elev. 760.7

End Prop. 60' Dumped Rock Fill, Type A
Rt. Side, Sta. 10+30

10+50
768.20

End Prop. 60' Dumped Rock Fill, Type A
Lt. Side, Sta. 10+21

Sta. 10+21

Prop. Bridge Abutment

Roadway Slope

2:1

2:1

Ft. Elev. 760.0

10+00
770.71

Sta. 9+50

200 180 160 140 120 100 80 60 40 20 ℄

Calc. by F.S.B. 11/22/74 Chk. by B.L.H. 3/12/75

0 0

23 0

10 0

13

13

176 49

57

133 53

140

267 52

187

155 3

62

CHANNEL SECTIONS STA. 10+00 TO STA. 11+00

LOCATION PLAN

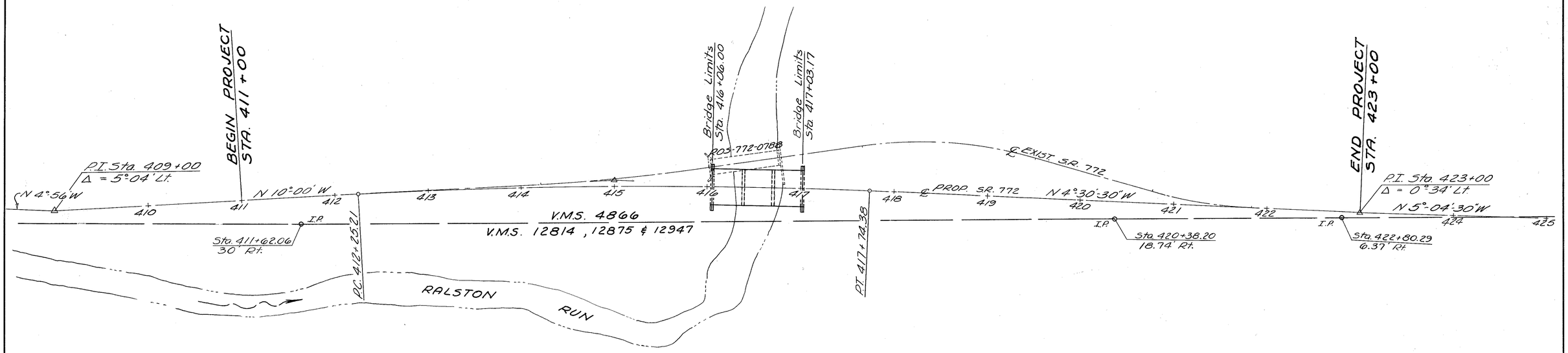
STATE OF OHIO DEPARTMENT OF TRANSPORTATION
ROS-772-7.78
V.M.S. Nº 4866, 12814, 12875 & 12947
HUNTINGTON TOWNSHIP
ROSS COUNTY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	RS-1257(S)	

34/37

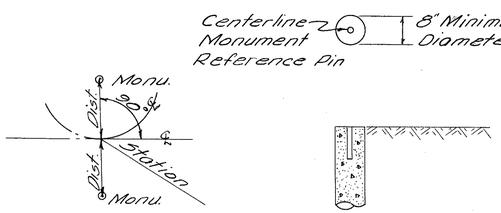
1/4

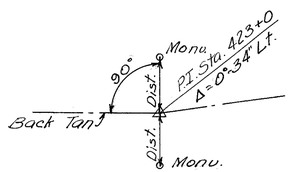
0 50' 100' 150' 200'



PROP. CURVE DATA
P.I. 415+00
Δ = 5°-29'-30" Rt
Dc = 1°00'
Lc = 549.17'
T = 274.79'
R = 5729.58'
E = 6.59'

~ DETAIL FOR SETTING MONUMENTS ~





SPECIAL DETAIL

REFERENCE MONUMENTS TO BE SET AFTER CONSTRUCTION

Station	Dist. fr. ℄ Lt.	Rt.	Station	Dist. fr. ℄ Lt.	Rt.
	18				
410+0	18	18	420+0	18	18
P.C. 412+25.21	18	18	423+0	18	18
415+0	18	18			
P.T. 417+74.38	18	18			

Recorded in the Ross County Record of Plats; Book____ Page____
Date____

I hereby certify that this plat is a true delineation of a survey made by the Ohio Department of Transportation.
Date 3/6/75 Carl J. Smith P.S. 5406

LOCATION PLAN

SUMMARY OF ADDITIONAL R/W REQUIRED

STATE JOB Nº	FED. RD. DIVISION	STATE	PROJECT	
09041(0)	2	OHIO	RS-1257(5)	

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R/W PLAN
ROS-772-7.78

2/4

TOTAL Nº OWNERS 14 — TOTAL Nº COMPLETE TAKES 0 — TOTAL OWNERS WITH STRUCTURES 4

PARCEL Nº	OWNER	SHEET Nº	DEED RECORD BOOK	DEED RECORD PAGE	DEED RECORD AREA	NET TAKE	PRO IN TAKE	GROSS TAKE	TOTAL PRO	RESIDUE LEFT	RESIDUE RIGHT	BLDG'S TO BE ACQ'D	REMARKS
1	MARY PARKER	3	405	545	3.97	0.02	0.05	0.07	0.56	3.39			
			274	346				0.06					
2	JOHN H. KELLOUGH	3	409	381	0.79	0.16	0.13	0.29	0.13	0.50			
2-T	" " "	3						0.02					Required to build drive
3	MASSIEVILLE DEVELOPMENT COMPANY	3	364	190	4.99	0.48	0.26	0.74	0.40		4.11	Yes	
3-X	" " "	3						0.08					Required to build channel
3-T	" " "	3						0.28					Required to remove out buildings
4	ELMON R. POSEY & RUTH I. POSEY	3	324	457	1.21	0.18	0.21	0.39	0.21	0.82			
4-T	" " " " " " "	3						0.05					Required to build drive
4-X	" " " " " " "	3						0.11					Required to build channel
5	ANTHONY LIMLE & JOY LIMLE	3&4	378	351	0.64	0.05	0.10	0.15	0.10	0.49			0.02 Ac is from the 0.14 Ac. Tract 0.13 Ac is from 0.50 Ac Tract
5-X	" " " " "	3						0.07					Required to build channel (Take is from 326 Pg. 256)
6	GARY L. DAVIS & SHIRLEY M. DAVIS	3&4	400	259	3.07	0.53	0.44	0.97	0.44		2.09		0.60 Ac Take from Tract #2 & All of Tract #3
6-A	" " " " " " "	4				0.01	0	0.01	0				Take is from Tract #1
7	VIOLA NEWSOME	4	371	4	1.28	0.35		0.35	0		0.93	Yes	
8	OVA LAWRENCE DILLON JR & MARY ELIZABETH DILLON	4	361	7	1.89	0.13	0.20	0.33	0.20	1.56			
8-T	" " " " " " "	4						0.03					Required to build drive
9	WALTER R. ELLIOTT & EVELYN J. ELLIOTT	4	310	230&228	0.81	0.08	0.08	0.16	0.08	0.65		P	
9-T	" " " " " " "	4						0.02					Required to build drive
10	DAVID K. GREENE & JUDY M. GREENE	4	368	24	0.98	0.09	0.07	0.16	0.07	0.82			
10-T	" " " " " " "	4						0.09					Required to build drive
11	JUANITA M. WARD, DENNIS L. WARD & DARLENE	4	344	499&497	0.77	0.03	0.11	0.14	0.11	0.63			
	M. WARD		417	177&389									
11-A	JUANITA M. WARD	4	416	696	6.42	0.49	0.15	0.64	0.28		5.65	Yes	
11-A-T	" " "	4						0.27					Required to build drive, 0.25 Ac. from Tract #1 & 0.02 Ac. from Tract #2
12	STEPHEN C. RAY & REBECCA L. RAY	3	406	93	1.03	0.20	0.21	0.41	0.21	0.62			
12-X	" " " " " " "	3						0.06					Required to build channel
13	MARSHA K. WATKINS	3&4	405	702	1.00	0.56	0	0.56	0		0.44	Yes	

SYMBOLS
□' = Square Feet
P = Personal Property

NOTE: All R/W acquired by State Funds

Completion Date 3-26-75		
Revised	Revision Description	By
5-17-78	Completed	LLF
11-10-78	Area Change Par# 1	LLF
8-29-79	Lease removed Par# 11	LLF

R/W SUMMARY

HUNTINGTON TWP.
V.M.S. Nº 4866, 12814, 12875 & 12947

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	RS-1257(5)	

36/37

R/W PLAN
ROS-772-7.78

3/4

UTILITY OWNERS
Chillicothe Telephone Co.
58 E. Main St.
Chillicothe, Ohio 45601
Columbus & Southern Ohio Electric Co.
215 N. Front St.
Columbus, Ohio 43215
South Central Power Co.
Box 278, 110 Danville Pike
Hillsboro, Ohio 45133
Ross County Water Co. Inc.
33 W. Main St.
Chillicothe, Ohio 45601

PROP. CURVE DATA
P.I. Sta 415+00.00
Δ = 5°29'30" Rt.
Dc = 1°00'
Lc = 549.17'
T = 274.79'
R = 5729.58'
E = 6.59'

EXISTING CURVE DATA
Δ = 5°16'33" Lt. | Δ = 24°37'47" Rt.
Dc = 2°52'40" | Dc = 13°
R = 1990.97' | R = 440.74'
T = 91.73' | T = 96.22'
Lc = 183.33' | Lc = 189.46'
E = 2.11' | E = 10.38'

STEPHEN C. RAY & REBECCA L. RAY (12)

MARY DARKER (1)

JOHN H. KELLOUGH (2)

ELMON R. POSEY & RUTH I. POSEY (4)

ANTHONY LIMLE & JOY LIMLE (5)

MASSIEVILLE DEVELOPMENT COMPANY (3)

MARSHA K. WATKINS (13)

GARY L. DAVIS & SHIRLEY M. DAVIS (6)

BEGIN ACQUISITION STA. 409+75

BEGIN PROJECT STA. 411+00

RALSTON RUN

STA. 405+00 TO STA. 418+00

Completion Date 3-26-75		
Revised	Revision Description	By

HUNTINGTON TWP.
V.M.S. Nº 4866, 12814, 12875 & 12947

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	RS-1257(5)	

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R/W PLAN
ROS-772-7.78

4/4

EXISTING CURVE DATA
Δ = 13°51'44" Lt.
Dc = 13°00'
R = 440.74'
T = 53.58'
Lc = 106.63'
E = 3.25'

DAVID K. GREENE & JUDY M. GREENE

WALTER R. ELLIOTT & EVELYN J. ELLIOTT

OVA LAWRENCE DILLON JR. & MARY ELIZABETH DILLON

JUANITA M. WARD
DENNIS L. WARD
& DARLENE M. WARD

ROBERT DAVIDSON

MARSHA K. WATKINS

GARY L. DAVIS & SHIRLEY M. DAVIS

VIOLA NEWSOME

JUANITA M. WARD

JUANITA M. WARD
DENNIS L. WARD
& DARLENE M. WARD

Vol. 416 Page 696
Tract 1 Tract 2

V.M.S. 4866
V.M.S. 12814, 12875 & 12947

Prop. R/W 1 S 8°32'24" E 295.59'

Prop. R/W 2 S 0°41'14" E 295.59'

END PROJECT
STA. 423+00

END ACQUISITION
STA. 424+00

MATCH LINE

MATCH LINE

Completion Date 3-26-75		
Revised	Revision Description	By
5-17-78	Completed	LLF

STA. 418+00 TO STA. 425+00

TE-93
900-7-68

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF 0.23 MILE OF PROPOSED SR 772, LOCATED APPROXIMATELY 0.3 MILE SOUTH OF THE SR 772-TURNER ROAD INTERSECTION.

PROPOSED GRADE INDICATES MAXIMUM PROPOSED 18-FOOT CUTS AND 15-FOOT FILL EMBANKMENTS.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

THE PROJECT IS LOCATED ON THE FLOODPLAIN OF RALSTON RUN, IN AN AREA WHERE THIN GLACIAL DRIFT OVERLIES SHALE AND SANDSTONE BEDROCK, OF MISSISSIPPIAN AND DEVONIAN AGES. BEDROCK WAS OBSERVED AND MEASURED IN RALSTON RUN.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED MECHANICAL SOIL AUGER AND HAND AUGER (IN DIFFICULT ACCESS AREAS), ON JULY 19, 1973. INCLUDED IN THIS REPORT ARE LOGS OF BORINGS MADE FOR THE STRUCTURE FOUNDATION INVESTIGATION ON THE PROJECT.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4a), THAT HAVE LOW MOISTURE CONTENTS.

BEDROCK IS ANTICIPATED IN THE EXCAVATION AREA BETWEEN STATIONS 417+50 AND 422+00.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 4 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL WITH SAND	A-1-b(0)	A-1-b	57	16	7	15	5	NP	NP	15	-
SANDY SILT	A-4(2)	A-4a	45	6	6	29	14	NP	NP	11	4
SILT AND CLAY	A-6(9)	A-6a	16	5	5	44	30	32	13	24	-
SHALE			VISUAL CLASSIFICATION								-
SANDSTONE			VISUAL CLASSIFICATION								-
COBBLES			VISUAL CLASSIFICATION								-
VARIOUS OTHER MATERIALS			VISUAL CLASSIFICATION								-

SOD=X=APPROXIMATE DEPTH.

BERM MATERIAL.

AUGER BORING-PLAN VIEW.

DRIVE SAMPLE-CORE BORING-PLAN VIEW.

AUGER BORING PLOTTED TO VERTICAL SCALE ONLY.

DRIVE SAMPLE-CORE BORING PLOTTED TO VERTICAL SCALE ONLY.

NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST.
X=NUMBER OF BLOWS FOR FIRST 6 INCHES.
Y=NUMBER OF BLOWS FOR SECOND 6 INCHES.

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. E.G. 15

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
*DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM	TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS
413+50 30'Lt	0.0	4.0	40	10	6	29	15	NP	NP	9	A-4a*
415+30 5'Rt	0.2	5.5	48	9	7	26	10	NP	NP	13	A-4a
417+50 CL	0.0	1.0	SILT CLAY AND LARGE STONE FRAGMENTS								VISUAL*
419+00 40'Rt	0.2	6.0	45	3	7	31	14	NP	NP	11	A-4a
422+00 10'Rt	0.3	4.5	45	4	6	31	14	NP	NP	12	A-4a*

DRIVE SAMPLE SOIL TEST DATA

416+00 10'Rt	2.5	3.5	57	16	7	15	5	NP	NP	15	A-1-b
417+05 27'Lt	2.5	3.5	6	3	5	53	33	32	12	27	A-6a
	5.0	6.0	26	6	5	35	28	32	13	21	A-6a

SOIL PROFILE
ROSS COUNTY
ROS-772-7.78

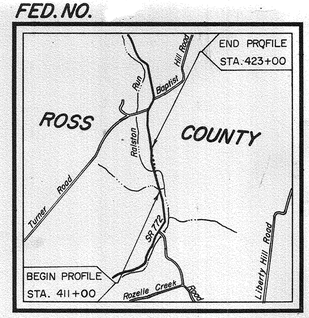
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1620 W. BROAD ST. COLUMBUS, OHIO 43223

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NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

FED. NO.



LOCATION MAP

Recon – J.S.M. – 6/20/73

Drilling – J.A.G – 7/19/73

Drafting – R.A.W. – 8/29/73

"SOIL INFORMATION" - ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVIENTLY SHOWN ON THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF ROADWAY DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET."

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SOIL PROFILE

ROSS COUNTY

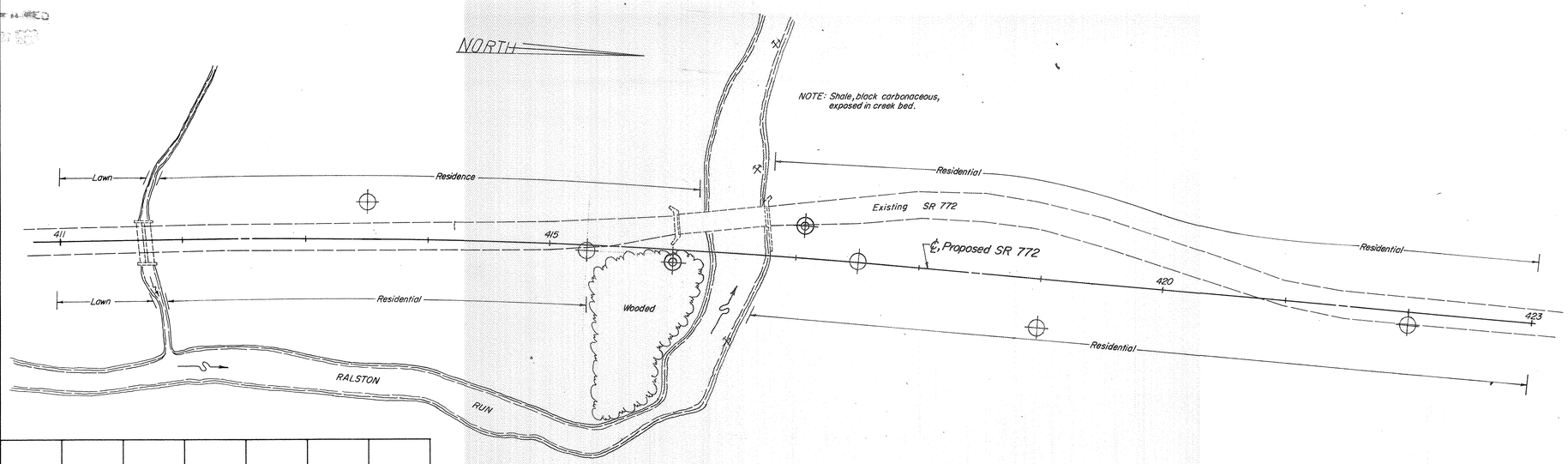
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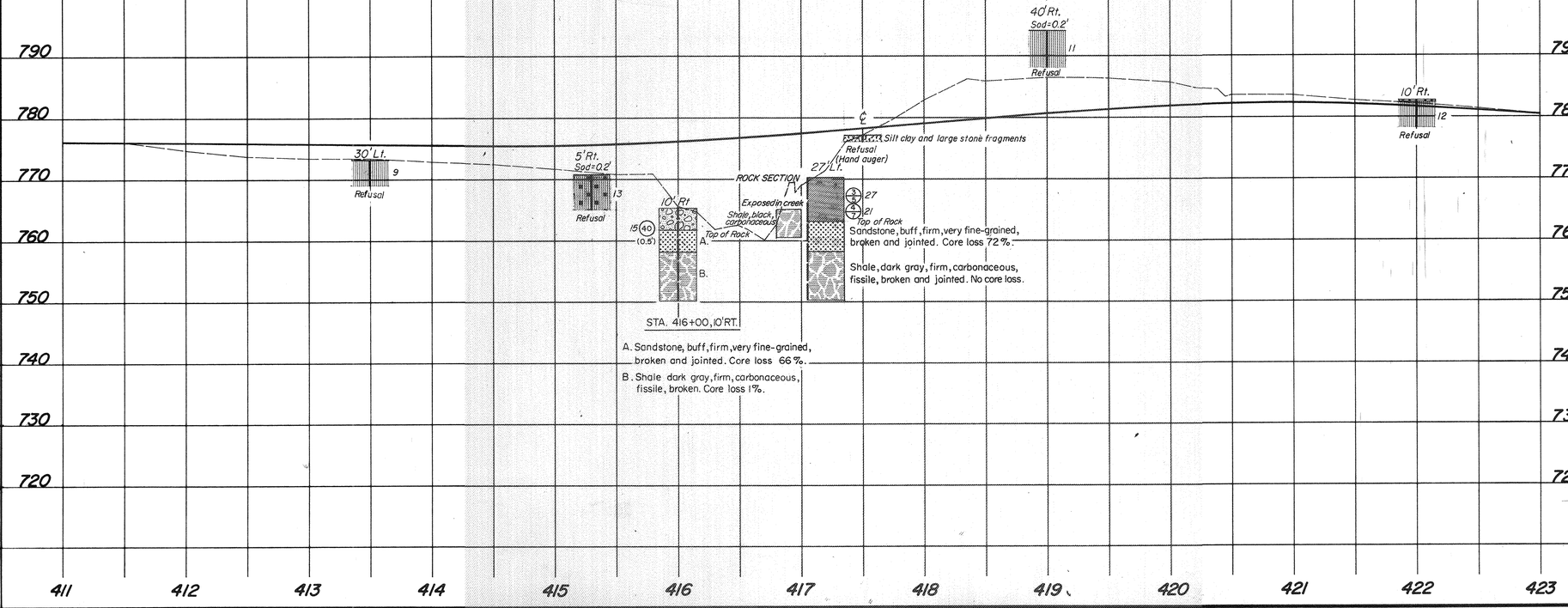
OHIO STATE HIGHWAY TESTING LABORATORY

1600 W. BROAD ST. COLUMBUS, OHIO 43223

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GEOLOGY AND OBSERVATIONS OF THE SITE

THE STRUCTURE SITE IS LOCATED ON THE RATHER NARROW PORTION OF THE FLOODPLAIN AND OVER RALSTON RUN, IN AN AREA WHERE SHALLOW ALLUVIUM OVERLIES SANDSTONE AND SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS AND SEVEN HAND DRIVEN PROBES, MADE BETWEEN AUGUST 6 AND 8, 1973.

INVESTIGATIONAL FINDINGS

BORINGS DISCLOSED THAT RELATIVELY FLAT-LYING BEDROCK SURFACE, ENCOUNTERED AT 4 AND 7-FOOT DEPTHS, ELEVATIONS 763 AND 762 FEET, IS OVERLAIN BY SILTS, SANDS AND GRAVELS. THE BORINGS WERE TERMINATED AT 15 AND 20-FOOT DEPTHS, ELEVATION 750 FEET, AFTER PENETRATING 11 AND 13 FEET BELOW BEDROCK SURFACE.

THE HAND PROBESENCOUNTERED RAPID INCREASE IN PENETRATION RESISTANCE WITH INCREASE IN DEPTH, AND WERE TERMINATED UPON ENCOUNTER WITH REFUSAL TO PENETRATION AT 2 TO 7-FOOT DEPTHS, ELEVATIONS 763 TO 757 FEET, CONSIDERED TO BE UPON ENCOUNTER WITH BEDROCK SURFACE, AS DISCLOSED BY THE BORINGS.

NO FREE WATER WAS ENCOUNTERED IN ANY OF THE HAND PROBES.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test. X = Number of Blows for First 6 inches. Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
12"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)		0.005mm

LOG OF BORING

Date Started 8-6-73 | Sampler Type SS | Dia 1 3/8" | Water Elev.
Date Completed 8-7-73 | Casing: Length 5' | Dia 3 1/2"
Boring No. B-2 | Station & Offset 416+00, 10' LT. (REAR ABUTMENT) | Surface Elev 765.3'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
765.3	0														
762.8	2				TOP OF ROCK										
761.8	4	40/			BROWN SILTY SANDY GRAVEL	1	57	16	7	15	5	NP	NP	15	A-1-b
	6		1.2	0.3	SANDSTONE, BUFF, FIRM, VERY FINE-GRAINED, BROKEN AND JOINTED. CORE LOSS: 66%										
758.3	8		2.9	1.1											
	10				SHALE, DARK-GRAY, FIRM, CARBONACEOUS, FISSILE, BROKEN. CORE LOSS: 1%										
	12		5.0	0.0											
	14														
750.3					BOTTOM OF BORING										

LOG OF BORING

Date Started 8-8-73 | Sampler Type SS | Dia 1-3/8" | Water Elev.
Date Completed 8-8-73 | Casing: Length 10' | Dia 3-1/2"
Boring No. B-7 | Station & Offset 417+05', 27' LT (FORWARD ABUTMENT) | Surface Elev. 770.2'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
770.2	0														
767.7	2	3/5			BROWN SILT & CLAY	1	6	3	5	53	33	32	12	27	A-4a
765.2	4	4/7			BROWN CLAY WITH SHALE FRAGMENTS	2	26	6	5	35	28	32	13	21	A-6a
763.2	6				TOP OF ROCK										
	8		1.2	1.8	SANDSTONE, BUFF, FIRM, VERY FINE-GRAINED, BROKEN AND JOINTED. CORE LOSS: 72%										
758.2	10														
	12		3.2	1.8											
	14				SHALE, DARK-GRAY, FIRM, CARBONACEOUS, FISSILE, BROKEN AND JOINTED. NO CORE LOSS.										
	16														
	18		5.0	0.0											
750.2	20				BOTTOM OF BORING										

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

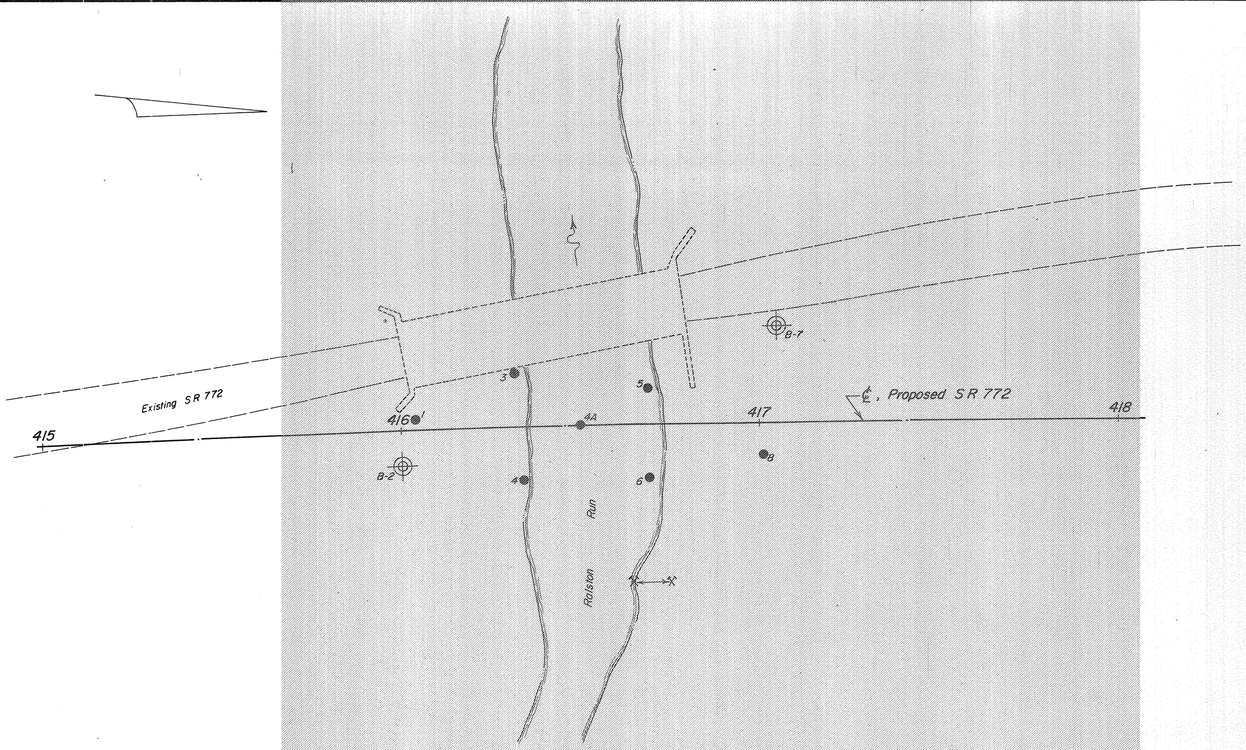
OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS — TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

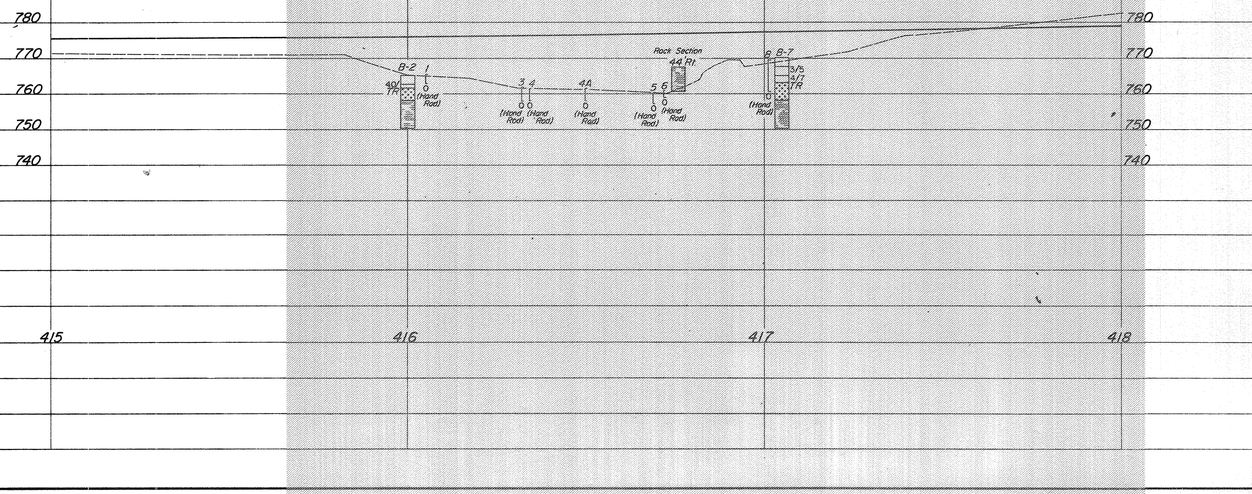
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. ROS-772-0788
OVER RALSTON RUN
SEC. ROS-772-7.78

CHECKED BY	REVIEWED BY	DATE
R. D. R.	R. D. R.	8/28/73

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SCALE: 1" = 20'

OHIO DEPARTMENT OF HIGHWAYS TESTING LABORATORY 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223			
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. ROS - 772-0788 OVER RALSTON RUN SEC. ROS-772-7.78			
PLAN AND PROFILE			
DRAWN BY L. N. L.	CHECKED BY R. D. R.	REVIEWED BY R. D. R.	DATE 8/28/73

RECEIVED
JUN 27 1988

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ROS-772-7.78 3/3

Test Location No. —
Station & Offset —
Surface Elev. — Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —

Test Location No. 1
Station & Offset 416+04.3 LT REAR ABUTMENT
Surface Elev. 765.5 Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —
HAND ROD

Test Location No. 3
Station & Offset 416+32.15 LT REAR PIER
Surface Elev. 761.9 Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —
HAND ROD

Test Location No. 4
Station & Offset 416+34.15 RT REAR PIER
Surface Elev. 761.6 Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —
HAND ROD

Test Location No. AA
Station & Offset 416+50.0 C L REAR PIER
Surface Elev. 761.4 Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —
HAND ROD

Test Location No. 5
Station & Offset 416+69.10 LT FORWARD PIER
Surface Elev. 760.4 Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —
HAND ROD

Test Location No. 6
Station & Offset 416+69.15 RT FORWARD PIER
Surface Elev. 760.9 Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —
HAND ROD

Test Location No. 8
Station & Offset 417+01.9 RT FORWARD ABUTMENT
Surface Elev. 769.7 Water Elev. —
Piling —
Hammer —
Formula —
Reference —
Rod Condition —
HAND ROD

774 770 766 762 758 754

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

OHIO STATE HIGHWAY TESTING LABORATORY
1600 WEST BROAD ST. COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. ROS-772-0788 OVER RALSTON RUN
SEC. ROS-772-7.78

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R. C.	R. D. R.	R. D. R.	8/28/73

ROS-772-7.78
BIN 24

SCOTT GRAPHICS 1M 4-72 50823M