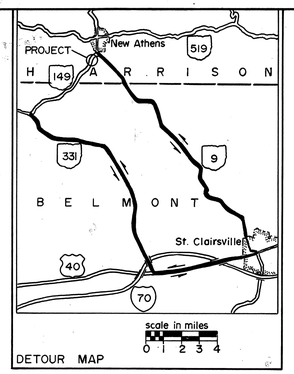


DETOUR MAP

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HAS-149-(1.20)
HARRISON COUNTY
BRIDGE NO. HAS-149-0120
ATHENS TOWNSHIP

	OHIO	
	FHWA REGION 5	1/4
SR-1208 (3)	FEDERAL PROJECT	

BR-5-83

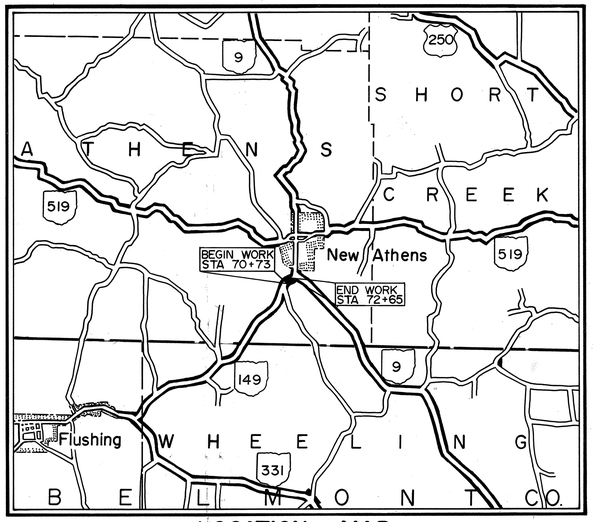
CULVERT REPLACEMENT

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line 352 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light.

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 or
Guardrail (existing) (proposed)

INDEX OF SHEETS



LOCATION MAP

SCALE IN MILES
0 1 2 3 4

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan
Profile: Horizontal, Vertical
Cross Section: Horizontal, Vertical

LINE DATA

BEGIN WORK - STA 70+73
END WORK - STA 72+65
NET LENGTH OF WORK = 192 Lin.Ft. = 0.04 Mi.
PROJECT LENGTH = 0.00 Ft. = 0.00 Mi.

UNDERGROUND UTILITIES
48 HOURS
BEFORE YOU DIG
Call ··· 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

SUPPLEMENTAL SPECIFICATIONS	
939 6-28-82	
955 6-3-78	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS					
BP-1	6-1-65				
BP-2	12-6-76				
GR-1	2-5-82				
GR-2B	2-5-82				
GR-3	2-5-82				
GR-4	2-5-82				
GR-4A	2-5-82				
HW-4A	4-1-80				
MC-3	6-1-73				
DBR-2-73	4-10-73				
MC-4	7-26-76				

1983 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be set forth on the plan.

Approved Robert M Short
Date 12-20-82 District Deputy Director of Transportation

Approved Robert B Pfeifer P.E. & S.
Date 2-8-83 Engineer, Bureau of Bridges and Structural Design

Approved James R. Longenecker
Date 3/11/83 Chief Engineer, Operations

Approved Warren J Smith
Date 3-14-83 Director, Department of Transportation

Plan Prepared By:

SEAL

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

Project:
Date of Letting 19__, Contract No.

LD0300 Rev. 1-1-81

GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

2
4

HAS-149-(1.20)

PLAN NO. BR-5-83

WORK REQUIRED:

1. Remove existing structure, as per plan.
2. Install structural plate corrugated steel arch, as per plan.
3. Build headwalls.
4. Install 12" conduit, as per plan.
5. Backfill around arch.
6. Perform excavation and embankment work.
7. Build concrete pavement to match existing.
8. Install guardrail, as per plan.
9. Clean up and seed.

DESIGN DATA:

Design loading - HS-20-44
Concrete - Class C - Unit stress 1333 p.s.i.

STRUCTURES REMOVED, AS PER PLAN:

This item shall include the removal of the superstructure, entire rear abutment and wingwalls, portions of the forward abutment and wingwalls as per 202.03, bituminous pavement, 12" v.s.p., and other materials necessary to complete the work as directed by the Engineer. The Contractor shall saw cut the pavement at Sta. 71+70 and Sta. 72+0. Waste masonry shall be used as directed by the Engineer. Payment for the above shall be included in the unit price bid for Item 202, Structures removed, as per plan.

ITEM 603 - 11'-5"x 7'-3" CONDUIT (707.03) TYPE A OR 10'x7' P.R.C. SECTIONS (as per SS 955, C850 TABLE 2) as per plan:

The assembly shall be as recommended by the manufacturer. The backfill material shall be brought up uniformly on both sides of the conduit to within 15"± of finished grade. Heavy compaction equipment or methods that produce horizontal or vertical earth pressures which cause excessive distortion or damage to the structure shall not be used. Class B bedding shall be placed six (6) inches below the bottom of the arch. Payment for excavating, furnishing and placing the conduit and class B bedding shall be included in the unit price bid for Item 603 - 11'-5"x 7'-3" Conduit (707.03) Type A or 10'x7' P.R. Concrete sections, as per plan.

ITEM 451 - REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT:

Due to the short length of pavement, no transverse joints of any type will be required. The new concrete pavement may be poured without forming against existing pavement. The grade of the new pavement shall match existing pavement. Pavement width shall be 18'-0" radial. Begin pavement at Sta. 71+70 and end at Sta. 72+00.

ITEM SPECIAL - RESHAPING BERMS:

Berms at locations where guardrail is removed or new guardrail is erected shall be reshaped as directed by the Engineer to assure a smooth surface free of irregularities. Excess excavation shall be disposed as directed by the Engineer. Payment shall be included in the contract bid price per lineal foot for Item Special - Reshaping berms.

ITEM 603 - 12" CONDUIT, TYPE F - 50' LONG:

Conduit shall be galvanized steel and shall be placed as follows:

	ELEVATION	STATION	
INLET	1090.0	71+29	27' LEFT
OUTLET	1083.5	71+82	29' LEFT

MAINTAINING TRAFFIC:

When no longer needed to maintain traffic the existing structure shall be removed, as per plan. The road can be closed to traffic for a period not to exceed 30 calender days.

LOCATION OF GUARDRAIL:

The location of guardrail run as shown on this plan are subject to adjustment by the Engineer to assure that the planned installation will afford maximum protection for traffic.

EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN:

This item shall cover any additional fill material needed to fill between the arch and the forward abutment of the existing structure. It also covers excavation and embankment work on each end of the arch as per plan and directed by the Engineer.

ESTIMATED QUANTITIES:

Specific location and usage of the 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.

FIELD OFFICE:

The Contractor shall provide a suitable field office having a minimum of 150 sq. ft. of floor space and in addition to the requirements of Item 619, he shall provide and maintain sanitary provisions as per 107.06. All of the above is included in the lump sum price bid for Item 624 - Mobilization, as per plan.

UTILITIES:

All expense involved in relocating any affected utilities shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging any work in a manner that inconvenience to either will be held to a minimum. Following are Owners known to be within the work limits:

Ohio Power Company
301 Cleveland Avenue S.W.
P.O. Box 400
Canton, Ohio 44701
Phone (216) 456-8173

General Telephone Company of Ohio
921 Steubenville Avenue
Cambridge, Ohio 43725
Phone (614) 432-5549

Village of New Athens
City Building
Water Department
New Athens, Ohio 43981
Attn. Tom Henderson
Phone: (614) 968-6181

Columbia Gas of Ohio, Inc.
99 North Front Street
Columbus, Ohio 43215
Phone: (614) 460-2400

ITEM 202 - GUARDRAIL REMOVED:

All guardrail and posts that are removed shall become property of the State and shall be neatly stacked on State right of way to be removed by State forces.

ITEM 601 - ROCK CHANNEL PROTECTION WITH FILTER:

Where this item is called for on the plans, the quantities shown are based on the dimensions of the rock only and do not include the volume of a 6" stone filter bed. The cost of the filter (either fabric or stone) shall be included in the unit price bid for Item 601 - Rock Channel Protection with Filter.
Where the fabric filter option is used the fabric shall meet the requirements of Supplemental Specification 939 Type B.
The surface to receive the fabric shall be prepared to a relatively smooth surface free of obstruction and and debris. The fabric shall be placed with the long dimension parallel to the direction of flow and shall be laid loosely but without wrinkles and no creases. Where joints are necessary, strips shall be placed to provide a 12" minimum overlap with the upstream strip overlapping the downstream strip. Securing pins with washers shall be placed at 2' minimum intervals along joints and at (2', 3', or 5')* intervals elsewhere to prevent slippage of the fabric. The securing pins shall be 3/16" diameter of steel pointed at one end and fabricated with a head to retain a steel washer having an outside diameter not less than 1-1/2". Pin lengths shall be greater than or equal to 18".

* 2' for flow direction slopes steeper than 3:1, 3' for slopes 3:1 to 4:1, and 5' for slopes less steep than 4:1.

UTILITIES NOTIFICATION:

The locations of the underground utilities shown on the plans are as obtained from the Owners of the utility as required by Section 153.64 O.R.C. The Contractor shall notify the Owner of the underground utility facility who shall within forty-eight hours, excluding Saturdays, Sundays, and Legal Holidays, after notice is received, stake, mark or otherwise designate the location of the underground utility facilities in the construction area in such a manner as to indicate their course together with the approximate depth at which they were installed. The marking or locating shall be coordinated to stay approximately two days ahead of the planned construction.

GENERAL SUMMARY OF QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION
202	LUMP	SUM	Structure removed, as per plan
202	300	Lin.Ft.	Guardrail removed
203	LUMP	SUM	Excavation, including embankment construction, as per plan
310	10	Cu.Yds.	Subbase
451	60	Sq.Yds.	Reinforced portland cement concrete pavement (9" thick)
517	37.5	Lin.Ft.	Railing - Deep beam w/tubular backup, as per plan
601	7.88	Cu.Yds.	Rock channel protection, Type B with filter, 30" thick
602	12	Cu.Yds.	Concrete masonry
603	50	Lin.Ft.	11'-5"x 7'-3" Conduit (707.03) Type A, as per plan, or
			10'x7' Precast reinforced concrete box section (as per SS 955)
			C850 Table 2, as per plan
606	187.5	Lin.Ft.	Guardrail, Type 5
606	4	Each	Bridge terminal assembly, Type B
606	3	Each	Anchor assembly, Type A
606	1	Each	Anchor assembly, Type T
614	LUMP	SUM	Maintaining traffic
623	LUMP	SUM	Construction layout stakes
624	LUMP	SUM	Mobilization, as per plan
659	100	Sq.Yds.	Seeding and mulching
659	0.05	Tons	Commercial fertilizer
659	0.01	Tons	Agricultural liming
603	50	Lin.Ft.	12" Conduit, Type F
203	225	Lin.Ft.	Reshaping berms

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

GENERAL NOTES & SUMMARY
BRIDGE NO. HAS-149-0120
OVER CAMPBELL'S RUN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WRG			JLO			

FHWA REGION	STATE	PROJECT	
5	OHIO		

3/4

HAS-149-(1.20)

PLAN NO. BR-5-83

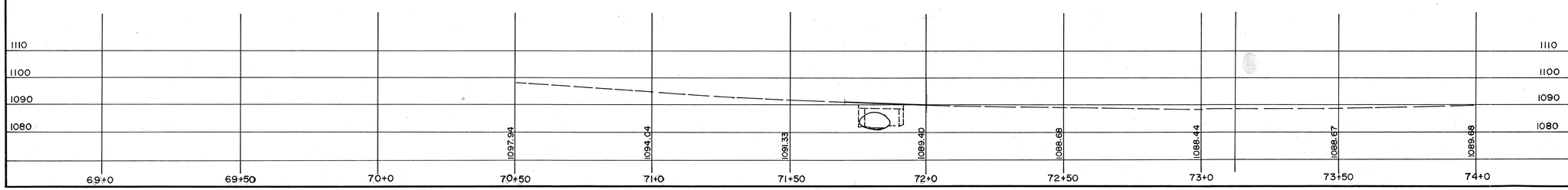
B.M. Mine Spike in Telephone pole
Elevation 1091.38 @ Sta. 74+44
23.0' Right.

R/W
TO FLUSHING
℄ SR 149
69+0
FRAME RES.
FRAME RES.
FRAME RES.
12"v.s.p.
12" CHERRY
70+0
GRAVEL DRIVE
12" Conduit, as per plan
RUN
12"v.s.p.
71+0
Sta. 71+82
72+0
113°37'40"*
DIRT LANE
Rock channel protection Type B with filter, 30" thick
4+50
CAMPBELL'S
4+00
11¼" Gas Line in a 2" Casing
6+00
5+50
24" ELM
P.T. 73+10.49
74°56'40"*
5+0 ℄ = 72+50℄
73+0
12"v.s.p.
C.B.
GAS ⊙FILLER
20" CATALPA
4" P.V.C. Water Line 3'-0"± in Depth
RES. & GAS STATION
CONC. BLOCK GARAGE
FRAME BARN
10"v.s.p.
74+0
6"v.s.p.
C.B.
30" ELM
℄ SR 9
75+0
TO NEW ATHENS
R/W
TO ST. CLAIRSVILLE
30'-0"
30'-0"
R/W
℄ S.R. 9
R/W

*Angle turned from PT @ Sta. 73+10.49.

CURVE DATA:
R = 277.2398
D_c = 20° 39' 59"
Δ = 89° 47' 38"
L = 434.49'
T = 276.2443
C = 391.3705
M = 80.8494
E = 114.1332

11° L.F.



EXISTING STRUCTURE

TYPE: Concrete Slab Simple
SPAN LENGTH: 12'-6"
ROADWAY WIDTH: 26'-0" f/f Guardrail
LOADING: H-15
ALIGNMENT: 22° 30' L.C. SKEW: 13° 37' L.F.
WEARING SURFACE: Bituminous

PROPOSED STRUCTURE

TYPE: 11'-5" x 7'-3" Conduit (steel) or 10' x 7' Precast R.C. Box (Both 50'-0" Long)
ROADWAY WIDTH: 26'-0" f/f of Guardrail
LOADING: HS-20-44
SKEW: 11° L.F.
WEARING SURFACE: Reinforced portland cement concrete pavement.

DRAINAGE AREA = 1.606 sq. mi.
Q_{25} = 374 c.f.s.
Q_{50} = 459 c.f.s.

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

SITE PLAN

BRIDGE NO. HAS-149-0120
OVER CAMPBELL'S RUN

HARRISON COUNTY

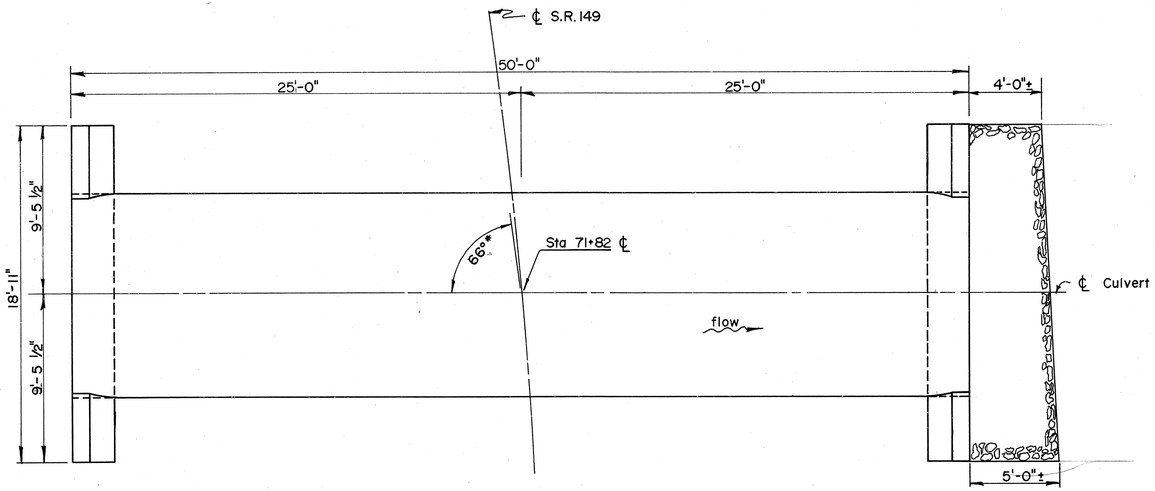
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Dist. 11	*	WRG	*	JLO	

FHWA REGION	STATE	PROJECT	
5	OHIO		

HAS-149-(1.20)

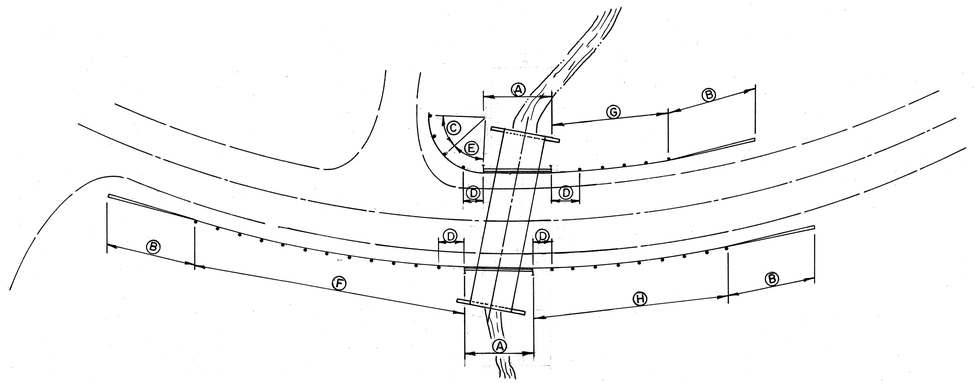
4/4

PLAN NO. BR-5-83



*Angle turned from P.T.=Sta. 73+10.49

PLAN



GUARDRAIL DETAILS

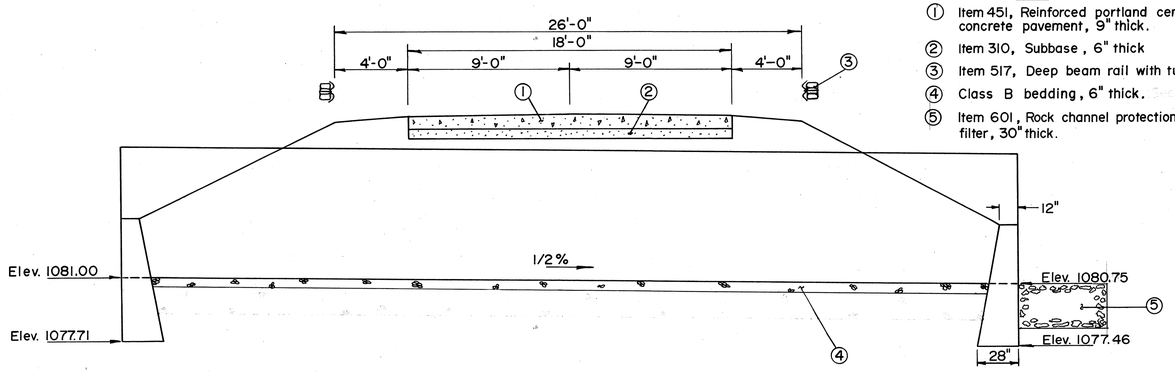
Ⓐ - 18'-9" Deep Beam Rail w/ Tubular Backup** (Centered with arch)
Ⓑ - Anchor assembly, Type A
Ⓒ - Anchor assembly, Type T (On 15' Radius) & 12'-6" Type 5 Guardrail
Ⓓ - Bridge terminal assembly, Type B
Ⓔ - 12'-6" Type 5 Guardrail (On 15' Radius)
Ⓕ - 75'-0" Type 5 Guardrail
Ⓖ - 31'-3" Type 5 Guardrail
Ⓗ - 56'-3" Type 5 Guardrail

** Posts on each end of the D.B.R. shall be W8x24's, and tubes shall be 8"x4"x ½" in size.

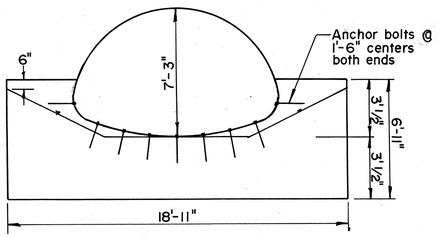
NOTE: For details not shown see Standard Drawings: DBR-2-73, GR-1, GR-2B, GR-3, GR-4, or GR-4A.

KEY

① Item 451, Reinforced portland cement concrete pavement, 9" thick.
② Item 310, Subbase, 6" thick
③ Item 517, Deep beam rail with tubular backup
④ Class B bedding, 6" thick.
⑤ Item 601, Rock channel protection, Type B with filter, 30" thick.



ELEVATION AND TYPICAL SECTION



END VIEW

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

GENERAL PLAN OF STRUCTURE

BRIDGE NO. HAS-149-0120
OVER CAMPBELL'S RUN

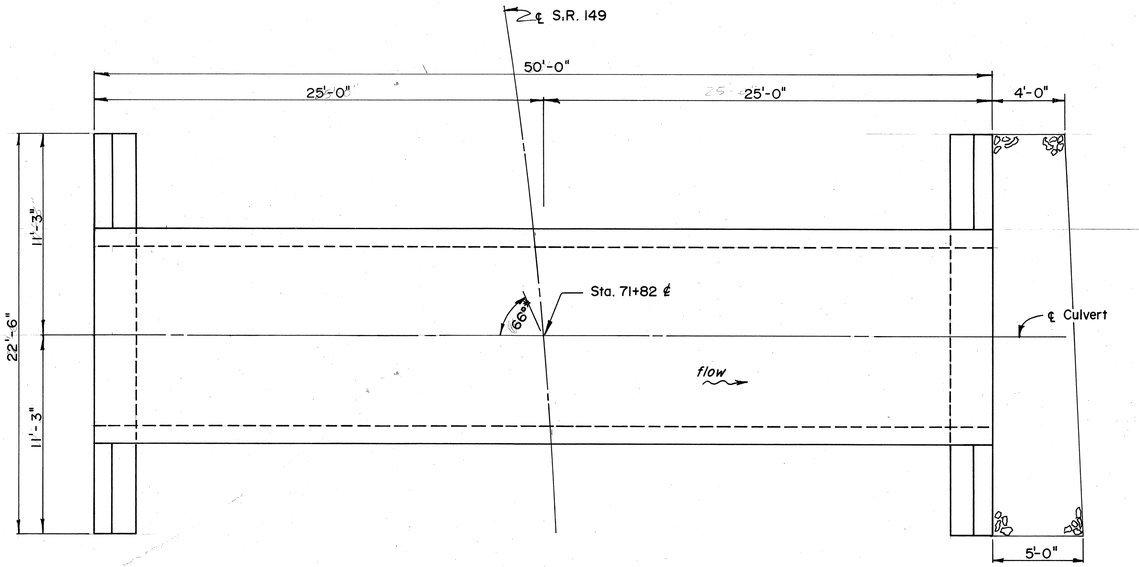
11'-5" x 7'-3" Conduit, Type A, (707.03)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.R.G.	"		JLO			

FHWA REGION	STATE	PROJECT	
5	OHIO		

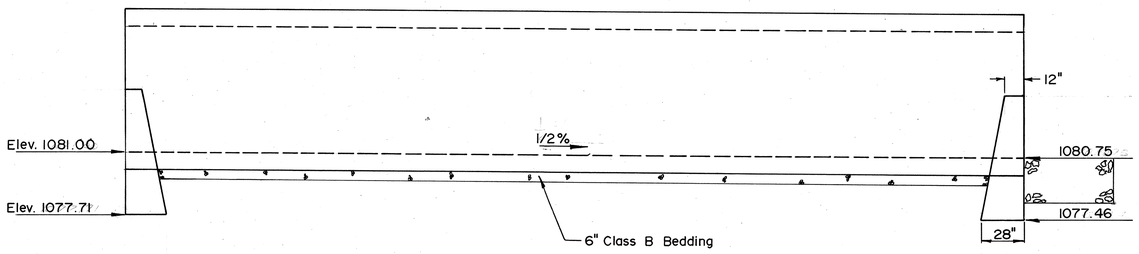
HAS-149-(01.20)

4A / 4

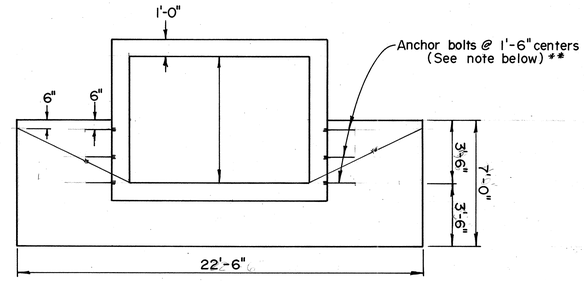


*Angle turned from P.T. = Sta. 73+10.49

PLAN



ELEVATION



END VIEW
(Typical for both ends)
10'x7' Precast reinforced concrete box sections as per Supplemental Specification 955 C850 Table 2, as per plan.

**Anchor bolts are typical as per Std. Dwg. HW-4A, except that bolts need not be galvanized and, instead of the nuts, the bolts shall be connected with anchor inserts cast into the end sections. All costs to be included in Item 603- 10'x7' Precast reinforced concrete box sections.

If concrete box sections are used there will be an additional 1.4 Cu.Yds. of masonry concrete needed for the headwalls and an additional 1.5 Cu.Yds. of 601 rock channel protection, both of which will be included in the cost of Item 603-10'x7' P.R.C. box sections.

NOTE:
For typical section and other details not shown see sheet 4 of 4.

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

ALTERNATE STRUCTURE

BRIDGE NO. HAS-149-0120
OVER CAMPBELL'S RUN
10'x7' Precast Reinforced Concrete Box Sections

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WRG			JLO			