FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	STATE		1 / 169

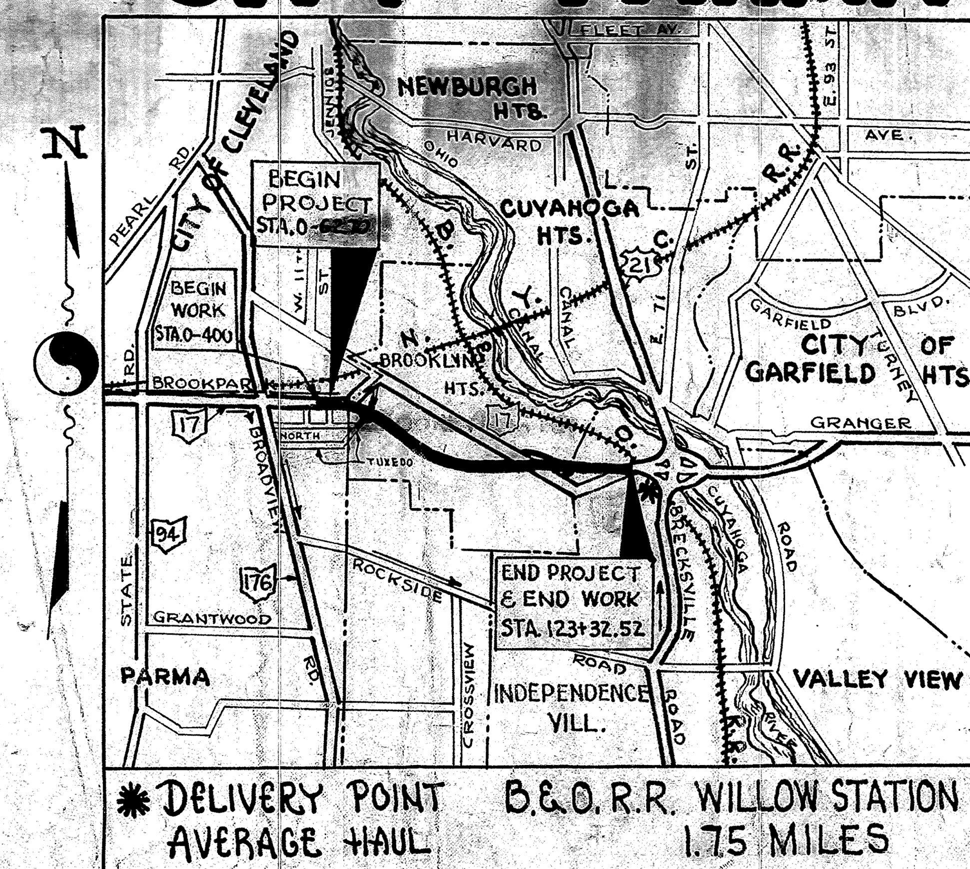
CUY. - 17 - 14.99
CUYAHOGA COUNTY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
CUY-17-14.99
CUYAHOGA COUNTY
VILLAGE of BROOKLYN HTS.
VILLAGE of INDEPENDENCE
CITY of CLEVELAND
CITY of PARMA

CONVENTIONAL SIGNS

CORPORATION LINE
CENTER LINE
PROPERTY LINE
LINE
LINE
RAIL
ROAD

INDEX OF SHEETS



✱ DELIVERY POINT B.&O.R.R. WILLOW STATION
AVERAGE HAUL 1.75 MILES

LOCATION PLAN

SCALE OF MILES
1" = 1 MILE

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER HIGHWAYS
DETOURS

The standard specifications of The State of Ohio Department of Highways, 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—Except as noted in MAINTAINING TRAFFIC Item of GENERAL NOTES, Sheet № 9—and that provisions for the maintenance and safety of Traffic will be as set forth on the plans and estimates.

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

Approved ___ Arthur A. Indre ___
Date 12/20/54 Division Deputy Director.

Approved ___ John J. Heuer ___
Date 3-23-55 Deputy Director of Planning and Programming

Approved ___ Richard Ort ___
Date 3-7-55 Engineer of Bridges

Approved ___ K. L. Roth ___
Date 3-12-55 Engineer of Location & Design

Approved ___ H. F. Gould ___
Date 3-17-55 Deputy Director of Design and Construction

Approved ___ L. F. Laughlin ___
Date 3-23-55 First Assistant Director

Approved ___ S. O. Linzell ___
Date 3-23-55 Director of Highways.

BOARD OF CUYAHOGA COUNTY COMMISSIONERS.

Date 12/20/54 ___
Date 12/20/54 ___
Date ___

LINE DATA

... OF PRO... BEGIN PROJECT STA. 0-...
END PROJECT STA. ...32.52 ... ADDITIONS & DEDUCTIONS = ...
NET LENGTH OF PROJECT = 12,395... LIN. FT. = 2.347 MILES

LENGTH OF WORK

LOCATION	LIMITS	NET LENGTH OF WORK
BROOKPARK RD. MERGER	STA. 0-400 TO STA. 0-62.70	337.30 LIN. FT.
SCHAAF RD. RELOCATION	STA. 0-62.70 TO STA. 123+32.52	12,395.22 LIN. FT.
MARENGO DRIVE (RT. & LT.	SEE SHEETS № 135 & 137	1,136.00 LIN. FT.
TUXEDO ROAD	SEE SHEET № 25 & 32	670.53 LIN. FT.
EXISTING SCHAAF RD.	STA. 113+00 TO STA. 12[illegible]50	750.00 LIN. FT.
	TOTAL LENGTH OF WORK	15,289.05 LIN. FT. or 2.895 MILES

REVIEWED & APPROVED ___
DATE 1-5-55 ENGINEER OF TRAFFIC & SAFETY

SCALES

PLAN		1 = 50'
PROFILE	VER. 1 = 5' &	1 = 10'
PROFILE	HOR.	1 = 50'

STANDARD DRAWINGS			
BT-50-70 TIE № 1	10-1-47	S-27 P.C. 4	1-4-54
B-T-71R	3-2-53	T.J. № 1	3-2-53
I-1,2,3,4, & 5	2-20-45	T.J. № 2	3-2-53
I-8 CB 1-2A & B	5-1-52	T.J. № 3	10-1-54
I-8 CB 1-3 & 1-4	5-1-52	AS-44-S	4-2-45
I-8 CB 2-5 & 2-6	5-1-52	T-35	10-1-52
I-8 M.H. № 1	5-1-52	L.J. № 1	3-2-53
I-8 M.H. № 1-A	1-3-55	RI-1	6-1-53
I-8 I. № 2 / I-12	12-1-54 / 7-1-54	G-7.07	1-2-53
I-14-G	1-22-52	L-1	4-1-50
I-15 № 1	12-1-54	L-3	4-1-50
I-15 № 2	12-1-54	L-3-A	4-1-50
I-21-23	12-1-54	AS-1-54	12-1-54
S-27 P.C. 1	5-1-52	SP-53	7-21-53
S-27 P.C. 3	2-20-45	LBC-45 2 SHEETS	9-18-47
		RB-1-47	7-27-49

SUPPLEMENTAL SPECIFICATIONS			
M-106.6(d)	11-30-54		
M-110.27	9-9-55		
L-209.12	7-17-54		
M-109.23	R-5-28-54		

FILE №	CUY-17-14.99 VILL. of BROOKLYN HTS. - VILL. of INDEPENDENCE
	CUYAHOGA COUNTY CITY of CLEVELAND & CITY of PARMA
	DATE of LETTING ___ 195
	CONTRACT № ___

Revised 4-19-55

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

2/169

LOCATION PLAN

SCALE 1"=200'

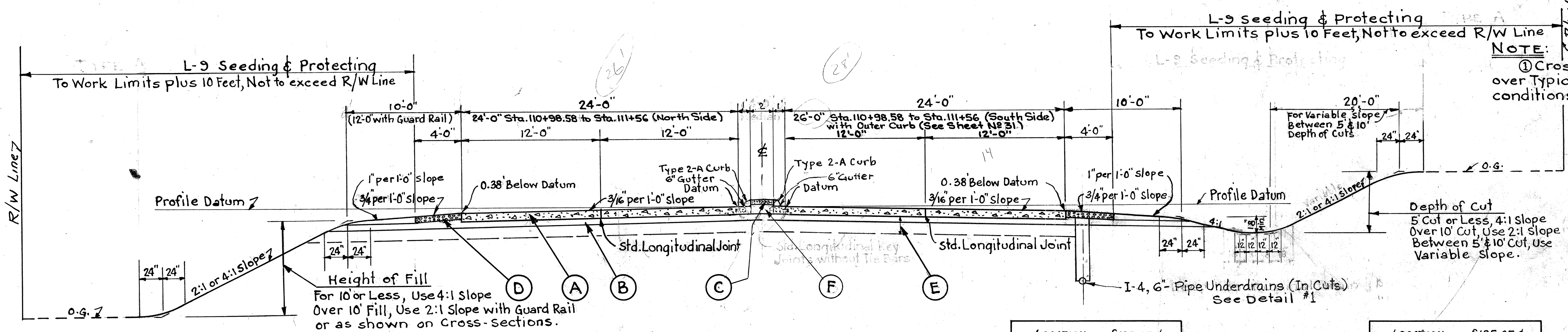
CUYAHOGA COUNTY
SEC. CUY-17-14.99

LOCATION PLAN SCHAAF ROAD RELOCATION

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	STATE	1984	3 / 169

CUY-17-14.99
CUYAHOGA COUNTY

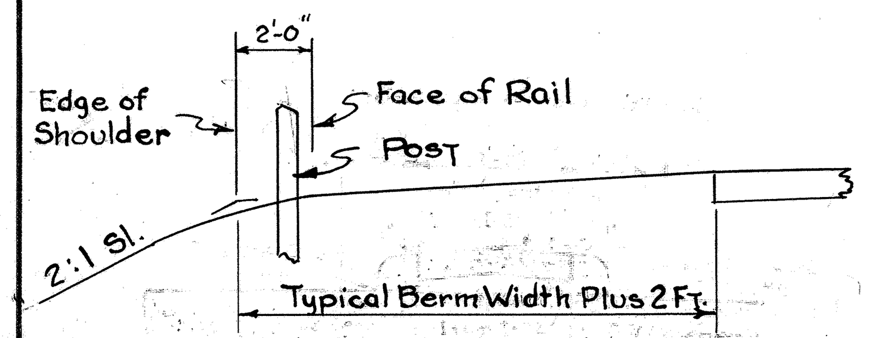
TYPICAL SECTIONS
2-24'-0" PAVEMENTS
TYPE T-71 REINFORCED CONCRETE PAVEMENT
SCALE 3/16" = 1'-0"



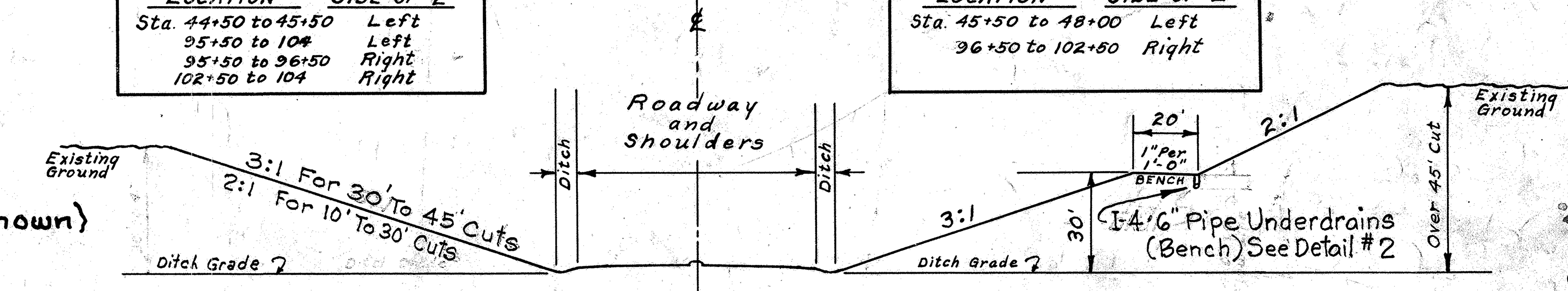
NOTE:
1. Cross Sections shall govern over Typical Sections, where variable conditions are encountered.
2. Use I-4 Drains in all Cut Sections.
3. On Part Cut, Part Fill Sections, The I-4 Drain should be omitted on the Fill side.
4. See NOTE under Detail #1 on this Sheet.

NORMAL SECTION

STA. 50+75 TO STA. 70+50
STA. 88+69.45 TO STA. 91+00
STA. 105+75 TO STA. 109+43.42
STA. 110+98.58 TO STA. 111+56 (as shown)
STA. 112+84 TO STA. 113+00



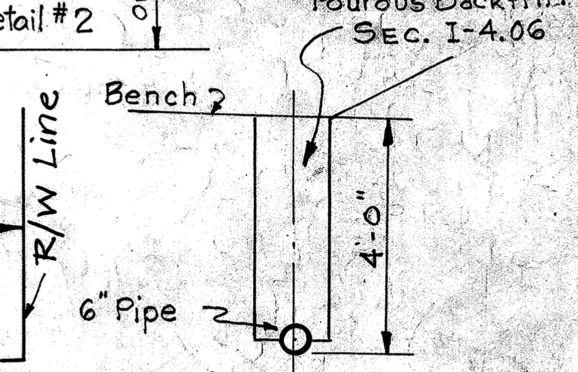
GUARD RAIL DETAIL



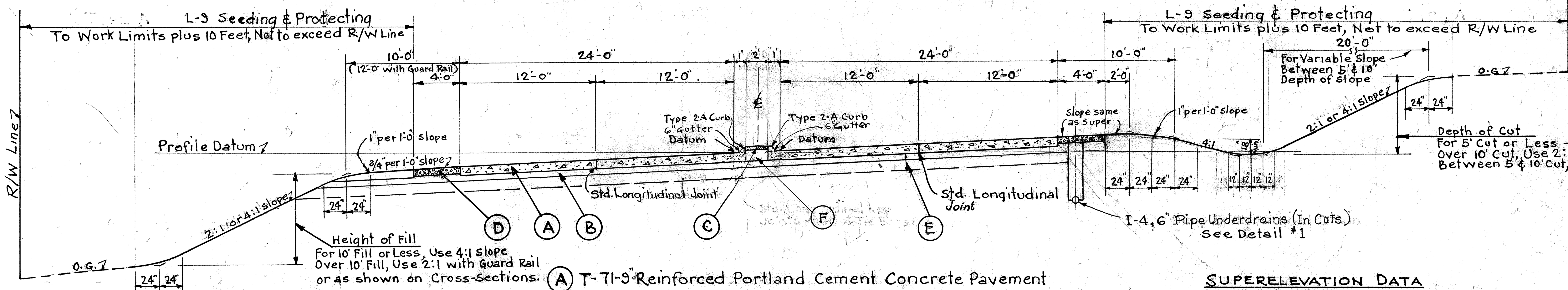
LOCATION	SIDE OF ℄
Sta. 44+50 to 45+50	Left
95+50 to 104	Left
95+50 to 96+50	Right
102+50 to 104	Right

LOCATION	SIDE OF ℄
Sta. 45+50 to 48+00	Left
96+50 to 102+50	Right

SLOPE DETAIL IN EXCESSIVE CUTS AS SHOWN ON CROSS-SECTIONS
Not to Scale



DETAIL #2
I-4 6" PIPE UNDERDRAINS (4 FEET DEEP)



(A) T-71-9" Reinforced Portland Cement Concrete Pavement
(B) I-22-6" Subbase, Grading A or B (F) I-22-11" Subbase, Grading A or B
(C) I-21-Portland Cement Concrete Median Pavement, Type I
(D) I-18-6" Stabilized Crushed Aggregate Shoulders
(E) I-22-18" Subbase, Grading A or B (Sta. 90+00 to Sta. 104+00 only)

SUPERELEVATED SECTION

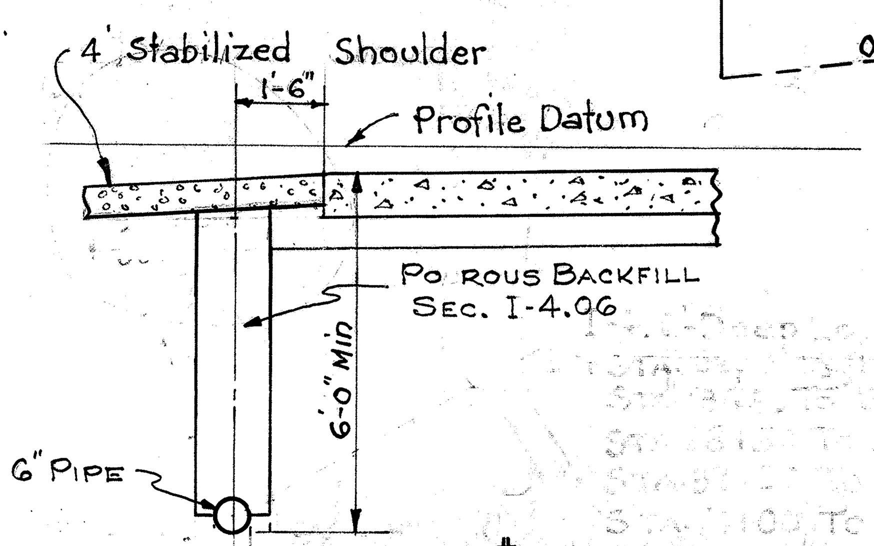
STA. 11+25 To STA. 24+00 (3° Curve)
STA. 33+75 To STA. 45+75 (3° Curve)
STA. 94+25 To STA. 102+25 (1° Curve)
STA. 117+75 To STA. 119+00 (2°-15' Curve)

TRANSITIONS

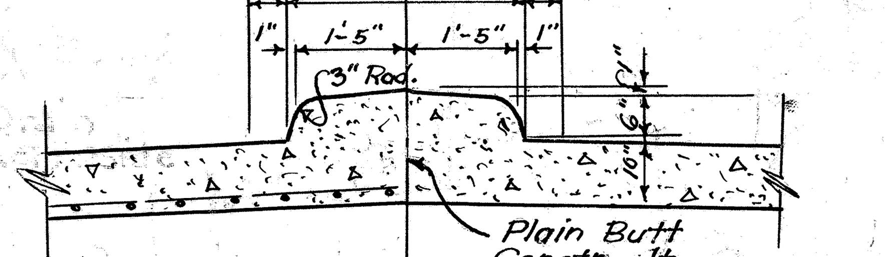
STA. 8+89 TO STA. 11+25
STA. 24+00 TO STA. 33+75
STA. 45+75 TO STA. 50+75
STA. 91+00 TO STA. 94+25
STA. 102+25 TO 105+25
STA. 113+00 TO STA. 117+75
STA. 119+00 TO STA. 123+32.52

SUPERELEVATION DATA

		Design Speed M.P.H.
3°-00' Curve - 1.70' Below and Above Datum	Sta. 33+50.26 To Sta. 47+16.99	60
2°-15' Curve - 1.27' Below and Above Datum	Sta. 116+48.43 To Sta. 121+68.43	60
1°-00' Curve - 0.58' Below and Above Datum	Sta. 93+60.81 To Sta. 103+06.59	60
3°-00' Curve - 0.77' Below and Above Datum	Sta. 10+73.54 To Sta. 25+34.29 (Acc't of Tuxedo Rd. Intersection)	40

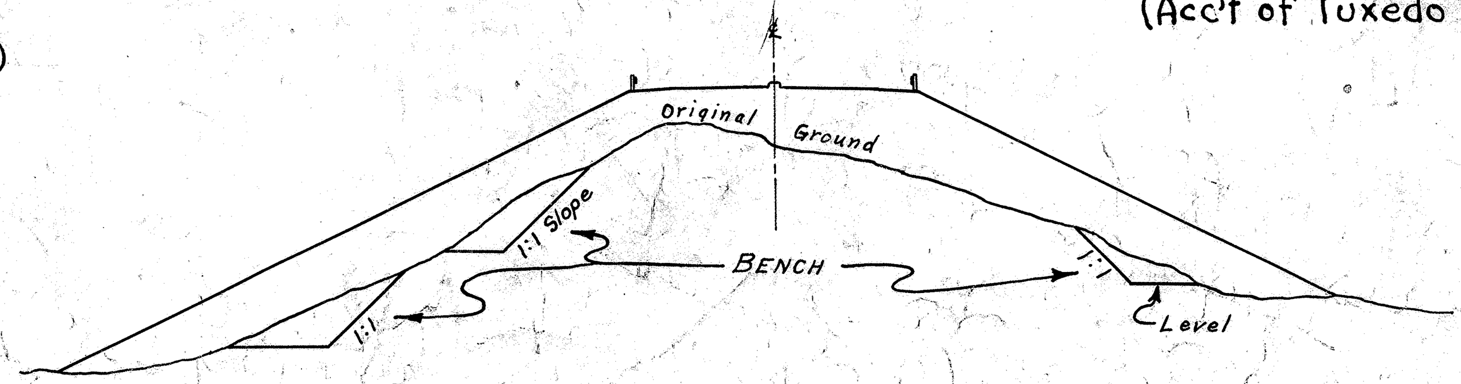


DETAIL #1
I-4, 6" PIPE UNDERDRAINS (6 FEET DEEP)
SCALE 3/8" = 1'-0"



NOTE: Cost of Median Area Included in Item I-7 for Payment

DETAIL OF MEDIAN ON APPROACH SLABS
STA. 109+43.42 to Sta. 109+58.42
STA. 110+83.58 To STA. 110+98.58



SLOPE DETAIL ON SIDE HILL FILLS AS SHOWN ON CROSS-SECTIONS
Not to Scale

NOTE:- IN AREAS WHERE I-4 UNDERDRAINS ARE TO BE PLACED ALONG THE PAVEMENT EDGE, THE I-22 SUBBASE SHALL BE PLACED ONLY TO THE POROUS BACKFILL OF THE I-4 EVEN THOUGH THE CROSS SECTIONS INDICATE THE I-22 EXTENDING THROUGH THE SHOULDERS TO THE DITCH SLOPE. A DEDUCTION IN QUANTITY OF I-22 IS ESTIMATED AND CARRIED IN THE CALCULATIONS FOR THESE AREAS, HOWEVER, EARTHWORK QUANTITIES SHALL BE ADJUSTED AT THE TIME OF FINAL MEASUREMENT.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	1954

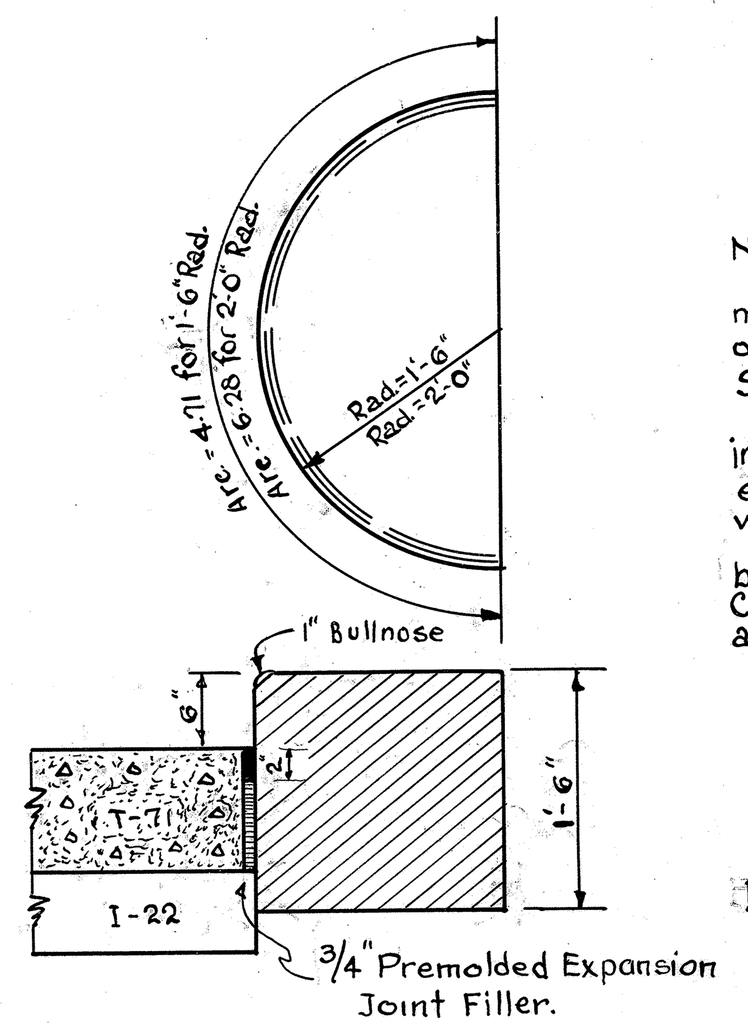
CUY. 17-14.99
CUYAHOGA COUNTY

TYPICAL SECTIONS
56'-0" TO 44'-0" PAVEMENTS
TYPE T-71 REINFORCED CONCRETE PAVEMENT

WEST MERGER
STA. 0-400 TO STA. 0-62.70 (See Extra Area Sheet Nº 30)
SCALE: 1/4"=1'-0"

NOTE:- Cross Sections Shall Govern over Typical Sections, where variable Conditions are encountered, except as noted on Sheet 3.

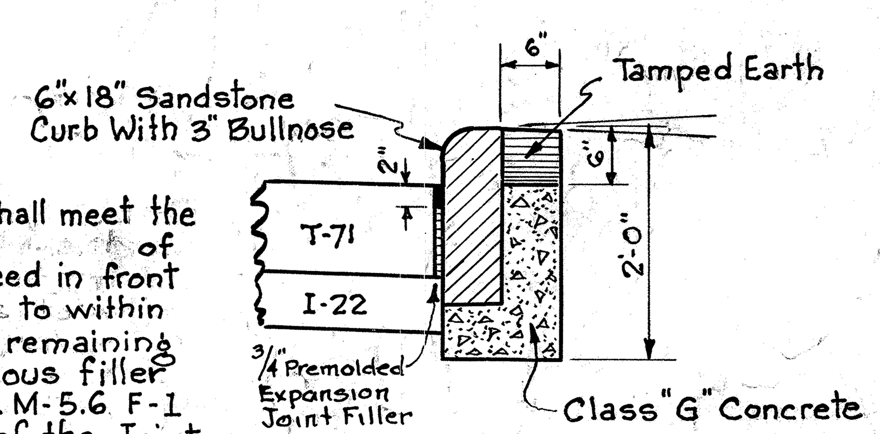
EAST MERGER
STA. 119+32.52 TO STA. 123+32.52 (See Extra Area Sheet Nº 35)
SCALE: 1/4"=1'-0"



BUMPER BLOCK DETAIL
SCALE 1"=1'-0"

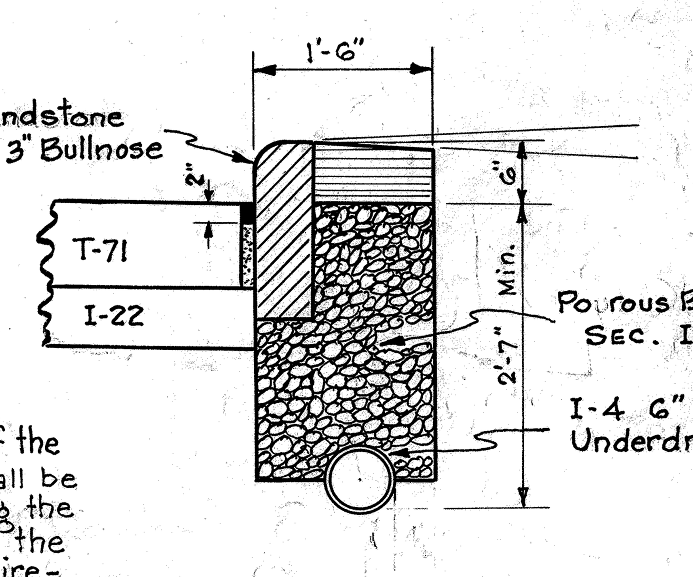
NOTE:- Bumper Block sandstone shall meet the requirements of Sec. I-11.02 of the Construction and Material Specifications.
The price bid per lineal foot shall include the furnishing, cutting, setting, excavating and backfilling in accordance with Item I-11.
Payment shall be made on the basis of lineal feet of Sandstone Curb (As per Plan) Item I-11, measured around the arc as shown in detail.

NOTE: The 3/4" Premolded Joint Material shall meet the requirements of Sec. M-10.01 of the Specifications. It shall be placed in front of the Radial and Bumper Blocks to within two (2) inches of the surface. The remaining space shall be filled with Bituminous filler meeting the requirements of Sec. M-5.6 F-1 of the Specifications. The cost of the Joint to be included in the unit price bid per lineal foot of curb.



DETAIL RADIAL CURB

NOTE: If pavement is built before Curb is placed it shall be built full width and any opening between Curb and pavement shall be filled with dry sand to within two (2) inches of the surface; the remaining space shall be filled with bituminous filler meeting the requirements of Sec. M-5.6 F-1 of the Specifications. Sand to meet requirements of Sec. M-2.1. The Cost of the Joint to be included in the unit price bid per lineal foot of curb.

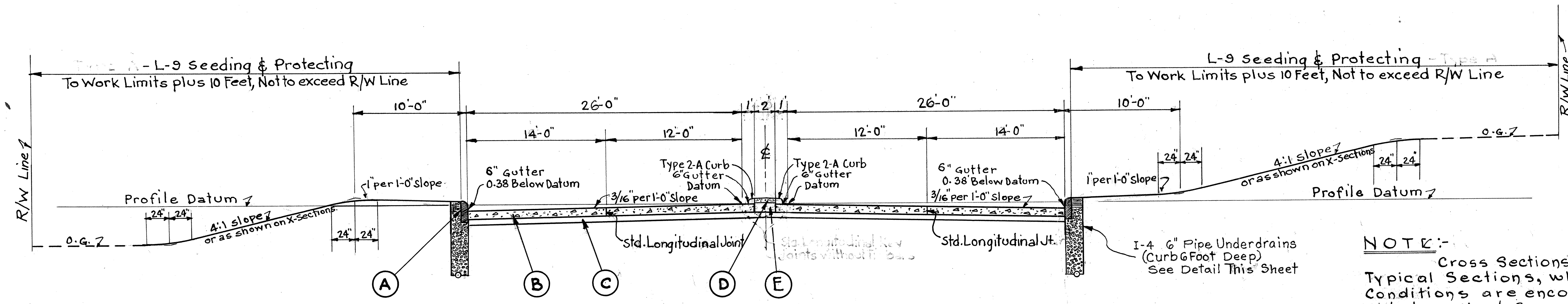


STRAIGHT CURB DETAIL
I-4, 6" PIPE UNDERDRAINS
(CURB-2'-7" DEEP).

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

CUY-17-14.99
CUYAHOGA COUNTY

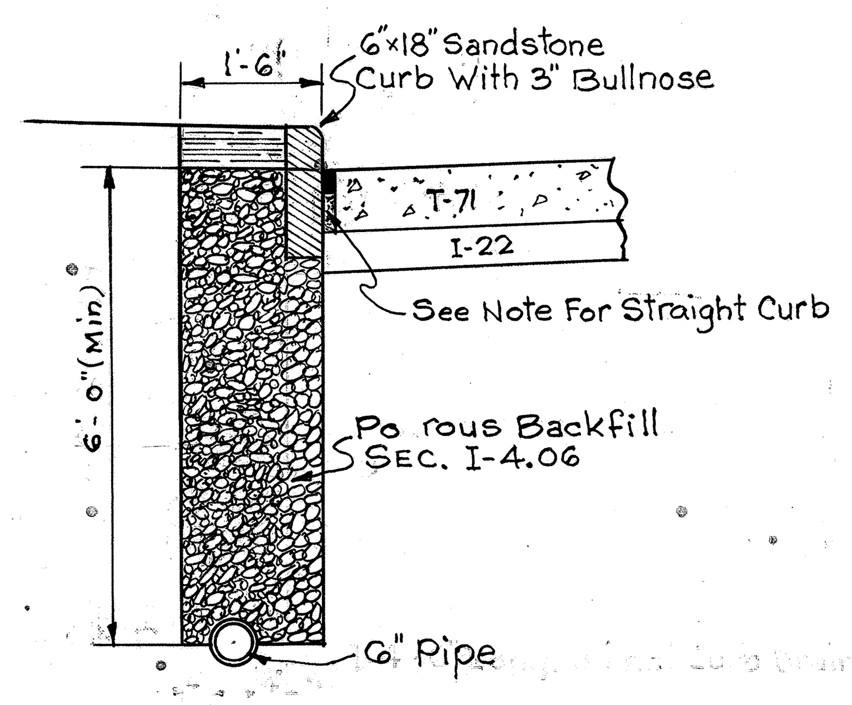
TYPICAL SECTIONS
24'-0" & TWO 26'-0" PAVEMENTS
TYPE T-71 REINFORCED CONCRETE PAVEMENT



NOTE:-
Cross Sections Shall Govern over Typical Sections, where variable conditions are encountered, except as noted on Sheet 3.

See Sheet № 30-31 & 36

SCHAAF RD. RELOCATION (WITH CURB)
Station 0+62.13 To Station 7+50
Scale 3/16" = 1'-0"
TRANSITION
STA. 7+50 TO STA. 8+89



DETAIL 6" PIPE UNDERDRAINS (CURB 6 FEET DEEP)
Sta. 0+62.15 To Sta. 8+89 (SCHAAF RD.)
Sta. 0+00 To Sta. 0+42 (North Side Schaaf Road Reloc. Only)

- (A) I-11 6"x 18" Sandstone Curb
- (B) T-71-9" Reinforced Portland Cement Concrete Pavement
- (C) I-22-6" Subbase, Grading A or B
- (D) I-21-Portland Cement Concrete Median Pavement, Type 1
- (E) I-22-11" Subbase, Grading A or B

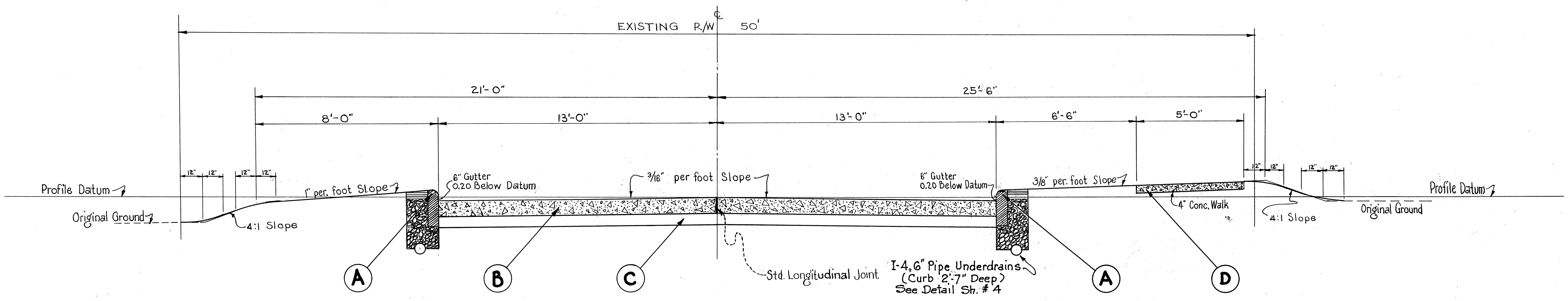
TUXEDO ROAD
Station 5+00 to Station 7+00 = 24' WIDTH
Scale 3/8" = 1'-0"
Station 7+00 to Station 12+26.53 See Extra Area Sheet # 32

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	[illegible]

6
169

CUY – 17 – 14.99
CUYAHOGA COUNTY

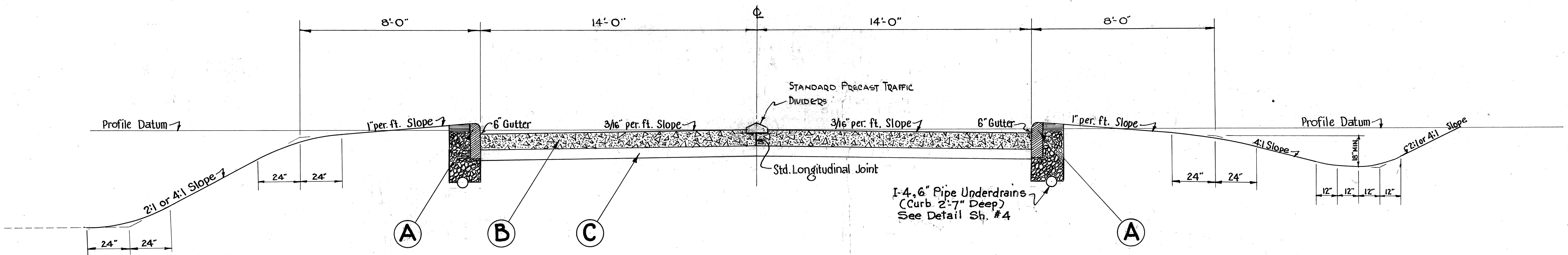
TYPICAL SECTIONS
26'-0" PAVEMENTS
TYPE T-71 REINFORCED CONCRETE PAVEMENT



W. 10TH STREET
STA. 1+05 TO STA. 1+85
SCALE 3/8"=1'-0"

Ⓐ I-11-6"x18" Sandstone Curb
Ⓑ T-71-9" Reinforced Concrete Portland Cement Concrete Pavement
Ⓒ I-22-6" Subbase Grading A or B
Ⓓ I-13-4" Concrete Sidewalk

NOTE:-
Cross Sections Shall Govern over Typical Sections, where variable Conditions are encountered, except as noted on Sheet 3.



EAST & WEST CONNECTIONS
STA. 8+25 & STA. 112+20
SCALE 3/8"=1'-0"

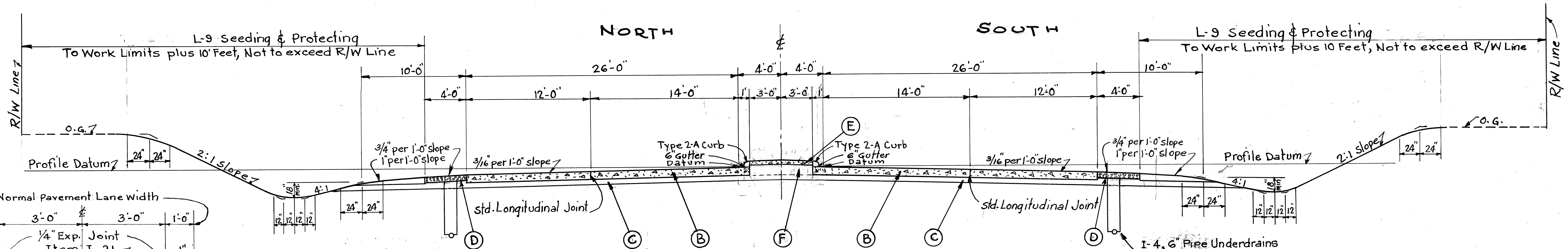
Ⓐ I-11-6"x18" Sandstone Curb
Ⓑ T-71-9" Reinforced Portland Cement Concrete Pavement
Ⓒ I-22-6" Subbase Grading A or B

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	1954

CUY. 17 - 14.99
CUYAHOGA COUNTY

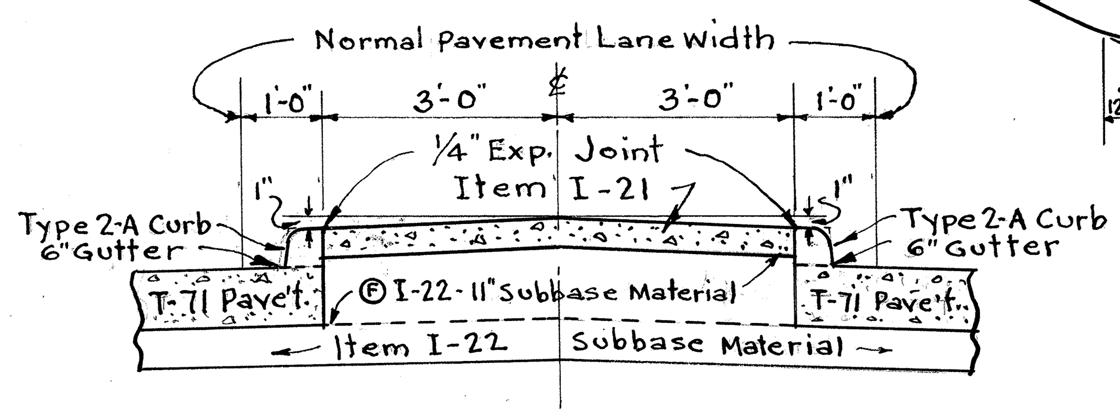
TYPICAL SECTIONS
26'-0" AND 28'-0" PAVEMENTS
TYPE T-71 REINFORCED CONCRETE PAVEMENT
SCALE 3/16" = 1'-0"

NOTE:
Cross Sections shall govern over Typical Sections, where variable conditions are encountered, except as noted on Sheet 3.

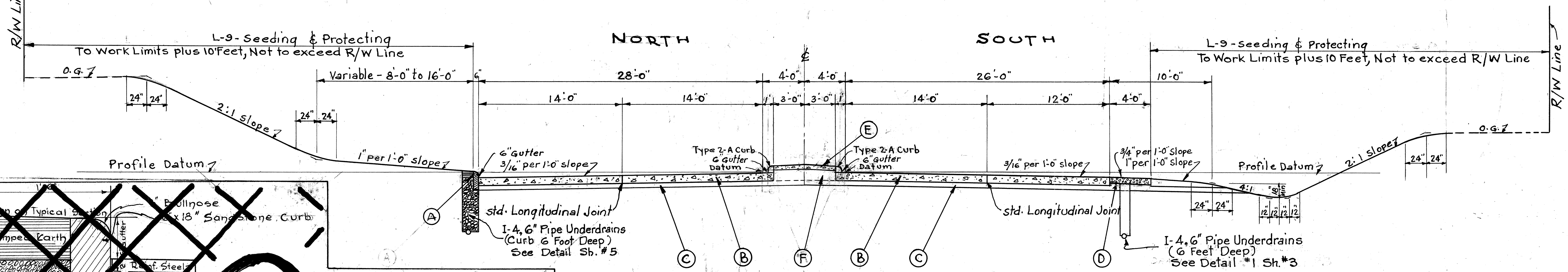


THIS SECTION FROM STA. 75+82.00 TO STA. 77+50.00

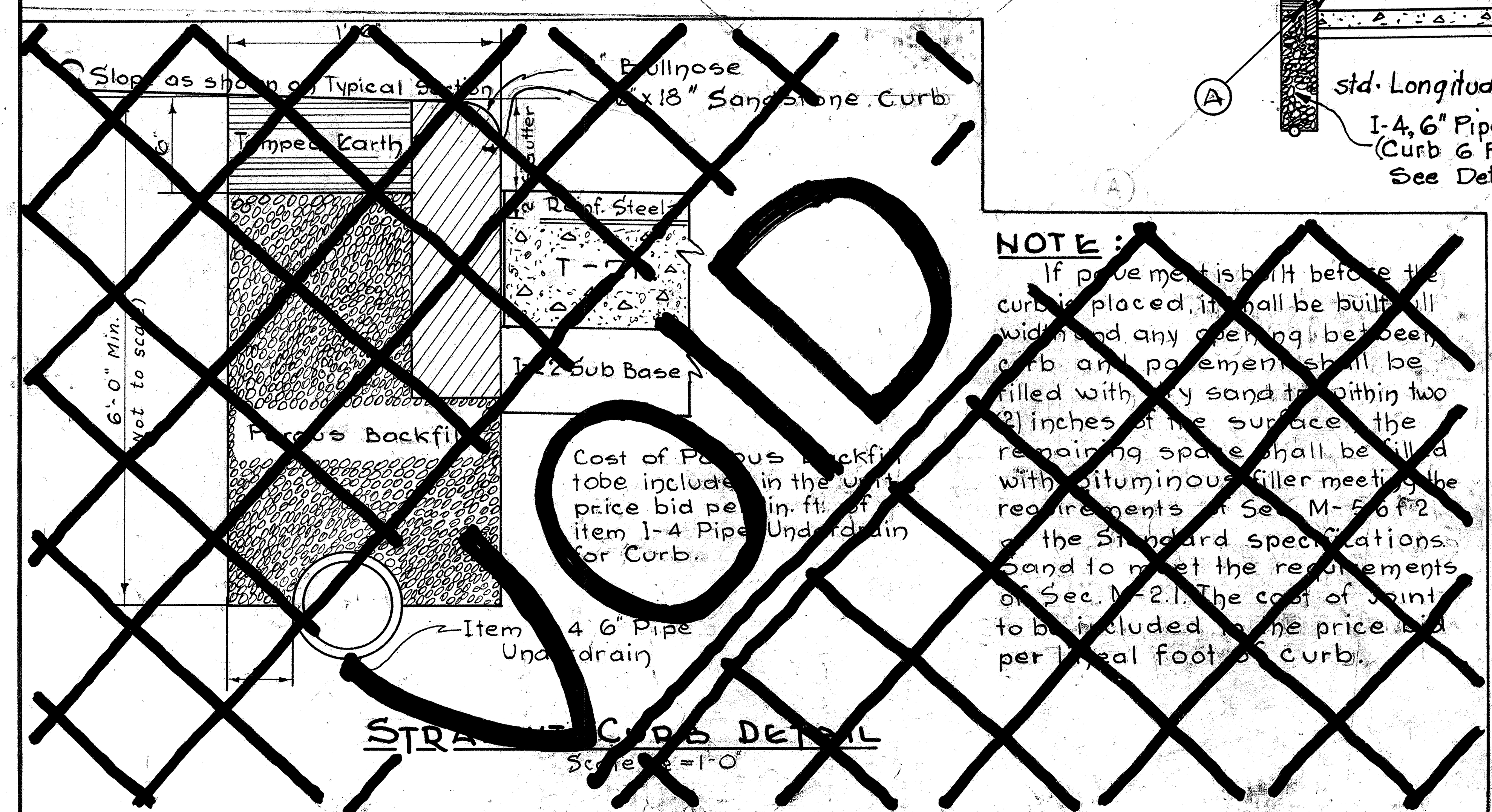
Ⓐ I-11 - 6" x 18" SANDSTONE CURB
Ⓑ T-71 - 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
Ⓒ I-22 - 6" SUBBASE, GRADING A OR B Ⓕ I-22 - 11" Subbase, Grading A or B
Ⓓ I-18 - 6" STABILIZED CRUSHED AGGREGATE SHOULDERS
Ⓔ I-21 - 4" PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT



DETAIL MEDIAN
SCALE 1/2" = 1'-0"



THIS SECTION FROM STA. 74+25.00 TO STA. 75+82.00

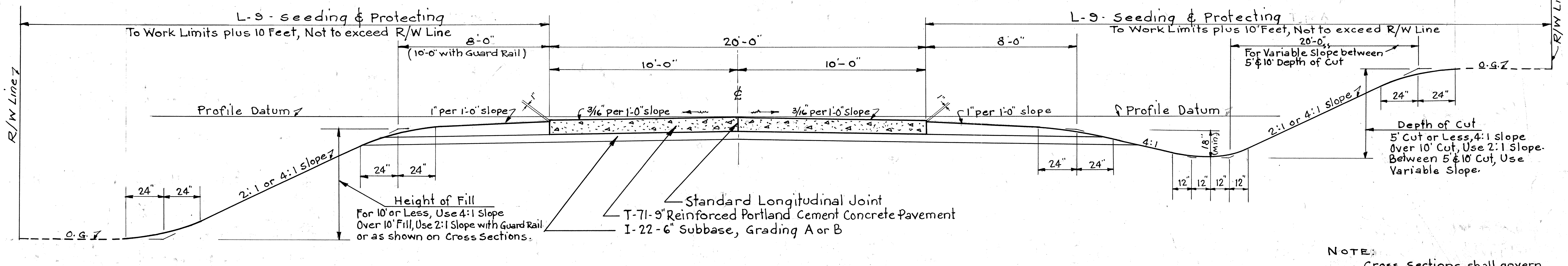


TYPICAL SECTIONS
20'-0" & 30'-0" PAVEMENTS
TYPE T-71 REINFORCED CONCRETE PAVEMENT
SCALE 3/8"=1'-0"

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	[illegible]

8 / 169

CUY-17-14.99
CUYAHOGA COUNTY



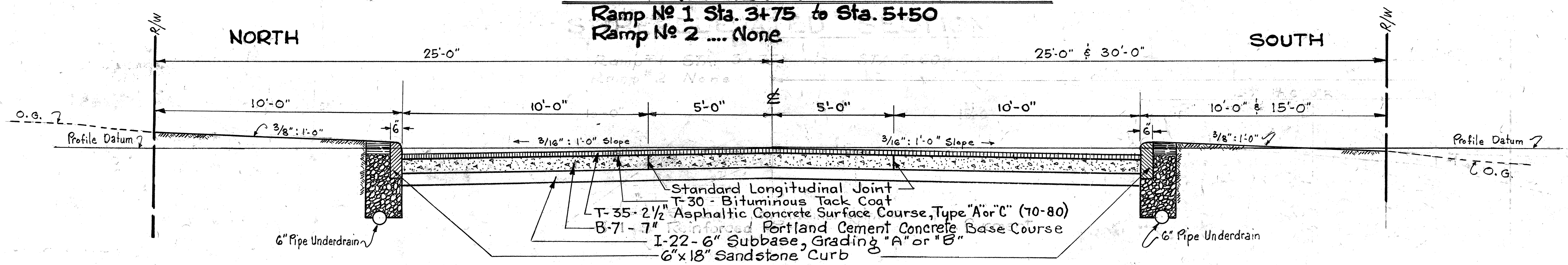
NORMAL SECTION

Ramp #1 @ STA. 2+50 and STA. 6+50
Ramp #2 @ STA 2+20.38 to STA. 4+23.17

NOTE:
Cross Sections shall govern over Typical Sections, where variable conditions are encountered, except as noted on Sheet 3.

SUPERELEVATED SECTION

Ramp No 1 Sta. 3+75 to Sta. 5+50
Ramp No 2 .... None



NORMAL SECTION - EXIST. SCHAAF RD.

STA. 113+00 to STA. 114+18.25 & STA. 117+78.31 to STA. 120+50

TYPICAL SECTION — EXISTING SCHAAF ROAD - RAMP No 1 AND 2

GENERAL NOTES

CUY-17-14.99
CUYAHOGA COUNTY

DESIGN SPEED :~

The Design Speed for Schaaf Road Relocation Section Cuy. 17-14.99 is 60 Miles Per Hour, excepting the 3° Curve from P.C. Sta. 10+73.54 To P.T. Sta. 25+34.29 which has a modified Pavement Superelevation for a Design Speed of 40 Miles Per Hour; in order to obtain a suitable Pavement intersection of Schaaf Road with Tuxedo Road.

FIELD OFFICE :~

The contractor shall provide a suitable "Field Office" in accordance with Sec. S-0.01 (b) having a minimum of Four Hundred (400) Square Feet of floor space for this Project Cuy. 17 - 14.99.

The contractor shall install and Maintain a telephone, sink, toilet, running water, study work table and desks for the duration of the project.

CO-OPERATION WITH OTHER CONTRACTORS:~

Adjustments, relocations and revisions of existing utilities, construction of new utilities will have to proceed concurrently with this construction. Therefore it is the contractors obligation to co-operate with the other contractors, or agencies carrying on their respective operations during the construction of this Project, so as not to interfere with their normal procedure.

TREE REMOVAL :~

Payment for Removal of trees and stumps is included in the Unit Price Bid for Item E-1 Excavation.

Approximately Fifteen Hundred and Ninety Eight (1598) Trees 12 inches or over in Diameter are listed for the benefit of the Contractor only, and the State of Ohio does not guarantee the accuracy thereof.

REMOVAL & DISPOSAL OF EXISTING PAVE., WALKS, ETC.

The cost of removal and disposal of all Concrete, Brick, Stone or Macadam Pavements, Sidewalks, Steps, Basement or Garage Floors, Foundation Walls, Retaining Walls, Driveways and Aprons, and any other miscellaneous Structures and Obstructions within or outside of the Right of Way, shall be included in the Unit Price Bid for Item E-1 Roadway Excavation, unless otherwise noted on the Plans.

When Embankment Material is to be superimposed upon such Material and the depth of the embankment, exclusive of new pavement exceeds three (3) feet, the material shall be broken up into portions, whose area does not exceed one (1) square foot, but need not be removed. If the depth of the embankment is not in excess of three (3) feet, the material shall be entirely removed, disposed of and paid for as stated above.

RIGHT OF WAY :~

For Limits of Right of Way Required see sheets Numbers 38-39-40-40A-41-42 and 42A.

UTILITY ADJUSTMENT :~

Any and all work required for Public or Private Utilities will be done by and at the expense of their respective owners, unless otherwise noted in these plans.

TEMPORARY WATER MAINS :~ see sheet #29

1st Stage:— 600 feet of Temporary 6" Water Main has been provided, to use while Bridge Nº Cu-17-164 is being constructed. Pipe to be installed along Temporary Roadway on surface, or as directed by the Engineer.

2nd Stage:— 500 feet of Temporary 6" Water Main has been provided to use while Temporary Roadway area is being removed. Pipe to be installed along the surface of the newly completed Schaaf Road Bridge Nº Cu-17-164, or as directed by the Engineer.

The Contractor shall be responsible for any breakage in aforesaid Temporary Water Mains and shall provide adequate protection in freezing weather to maintain continuous 24 hour service during construction. The Contractor may use pipe other than Standard Galvanized Steel Pipe called for in the Plans, if accepted by the Engineer. The Contractor shall remove said Temporary Water Mains and the salvaged pipe shall become the property of the Contractor.

WATER MAIN :~

All materials and workmanship required to complete the special Items listed under this Heading in the General Summary shall meet the requirements of, and be performed in accordance with the Construction and Material Specifications of the "Water Department of the City of Cleveland - on file in Office of the Water Department. (Location of the Service Connections and other Water Installations may be obtained from the City of Cleveland Water Department.) Pipe, fittings and all other materials required to complete the various items of water line work shall be furnished by the contractor.

BERMS AND SLOPES :~

Berms and Slopes shall be finished in accordance with the Typical Sections, except where otherwise shown in the Cross-Sections. While the Cross-Sections as drawn show straight lines and angles, in construction all corners shall be Rounded as shown on the Typical Sections.

FINISHING CONCRETE PAVEMENT :~

All concrete pavement shall be Ordinary Finish in accordance with Sec. T-71.212 except inaccessable portions so designated by the Engineer, which shall be hand finished in accordance with Sec. T- 71.211.

JOINT DETAILS :~

For spacing and details of Joint see Standard Drawings and Extra Area Sheets Numbers, 30-31-32-33-34-35 and 35A.

TRAFFIC DIVIDERS :~

Spacing of Traffic Dividers shall be as shown on Extra Area Sheets 31 and 35.

EARTHWORK :~

During the excavation and embankment construction operations, the Roadway Section shall be maintained at all times in such shape that no concentration of water will take place and be discharged in a concentrated flow over the slopes.

The moisture content of all embankment material shall be less than optimum at the time of compaction. Embankment material placed on fill containing or exceeding optimum moisture, whether caused by rain or from the state of the material as it is received shall be aerated by discing, or other approved methods for the full depth of the course to reduce the moisture content to below optimum at the time of compaction.

FINAL CROSS SECTIONS :~

Final payment for Roadway Excavation shall be based on the Quantities as shown on this Plan except, as modified by changes of original ground since development of Construction Plans, changes in Design covered by approved change orders, or to correct errors found in Plans, Staking-Out or Construction operations. Cross-Sections must be retaken at the Sand-Pit approximately in the area between Station 92+00 to Station 100+00 of Schaaf Road Relocation.

ADDITIONAL DRIVEWAYS :~

For any additional Driveways built at the direction of the Engineer, other than those shown on these Plans, quantities shall be provided and paid for under the Unit Price Bid for all Driveway Items Required.

MAINTAINING TRAFFIC :~

Two way traffic shall be maintained at all times on existing Schaaf Road and Brookpark Road except during the construction of the mergers between the new and existing pavements at the easterly and westerly ends of the project.

During construction of the mergers the contractor shall so arrange his work that westbound traffic can be maintained at all times. Eastbound traffic shall be detoured as shown on the plans, via Broadview Rd., Rockside Rd. and Brecksville Rd.

The length of time permitted the Detour shall be held to an absolute minimum, as directed by the Engineer.

The item of "MAINTAINING TRAFFIC" shall include furnishing suitable lights, reflector signs, barricades and watchmen, necessary to secure the flow of Traffic Twenty-four (24) hours daily. The Contractor shall co-operate with the City of Cleveland, City of Parma, Village of Brooklyn Heights and Village of Independence Traffic Departments in the performance of his work, in order to conform to the above mentioned requirements.

TEMPORARY ROADWAY :~

Guard Rail provided for Temporary Roadway as shown on Sheet Nº 29 of these Plans shall be kept visible at night by installing caution lights of a minimum Sixty (60) Wattage Amber Light Bulbs on every third (3rd) Guard Rail Post or as directed by the Engineer. Cost shall be included in the lump sum price bid for Item S-15, Temporary Runaround Road.

T-30 TACK COAT :~

Bituminous Tack Coat shall be applied at the rate of 0.10 Gal. per Square yard. (See note proposal)

L-9 SEEDING AND PROTECTING :~

The Grass Seed Mixture shall be composed of the following type of Grasses for Shoulders and Roadway Ditches unless otherwise directed:

20 % Kentucky Bluegrass (Poa Pratensis)
20 % Meadow Fescue (Festuca Elatior)
40 % Creeping Red Fescue (Festuca Rubra)
15 % Red Top (Agrostis Alba)
5 % White Dutch Clover (Trifolium Repens)

The above Mixture shall be Seeded at the rate of Three (3) Pounds per One Thousand (1000) Square Feet.

Slopes and all other areas except those previously mentioned, unless otherwise directed, shall be seeded with the following mixture:

15 % Kentucky Bluegrass (Poa pratensis)
45 % Kentucky 31 Fescue (Festuca elatior, var. ky. 31) or Alta Fescue (Festuca elatior, var. arundinacea)
15 % Red Top (Agrostis alba)
25 % Yellow Blossom Sweet Clover (Melilotus officinalis)

The above Mixture shall be Seeded at the rate of Three (3) Pounds per One Thousand (1000) Square Feet.

If Meadow Fescue seed is not available, Kentucky Bluegrass may be substituted therefor at no additional cost to the State.

L-9 AGRICULTURAL GROUND LIMESTONE :~

Agricultural Ground Limestone shall be used in connection with the Seeding at the rate of One Hundred (100) Pounds per One Thousand (1000) Square Feet.

L-9 FERTILIZER (10-6-4) :~

Fertilizer shall be used in connection with all Seeding and shall be applied at the rate of Twenty (20) Pounds per One Thousand (1000) Square Feet.

SEEDING QUANTITIES :~

Quantities for seeding are calculated for the soil areas between lines ten feet (10) outside the construction limits as shown on the cross sections or to the R/W line if such line is less than ten feet from the construction limits. All areas outside these limits where the vegetative growth has been injuriously disturbed or destroyed by the Contractor shall be restored and seeded in accordance with the provisions of Item L-9 by the Contractor at his own expense.

GENERAL NOTES [CONTINUED]

PIPES EXPOSED IN CONSTRUCTION:~
Any Pipe Exposed in Construction that is to be covered within the limits of Embankment shall be shortened or extended as directed by the Engineer.

CASTINGS AT ABANDONED AND REBUILT STRUCTURES:~
Castings at abandoned and rebuilt Structures shall be carefully Salvaged and Reused where called for in the Plans.

MANHOLES AND CATCH BASINS REBUILT:~
The work to be performed under this Item shall consist of the removal of the corbelled portion of the Structure to a minimum depth of 4 feet or as directed by the Engineer, and reconstructed to grade. All work to be in accordance with Item I-8. Existing Castings to be salvaged and used on rebuilt Structures.

PAVED GUTTERS, ITEM I-14:~
Paved Gutters where called for on the Plans shall be Type #1 as per Standard Drawing #1-14G except as noted otherwise. Cutoff walls to be provided at beginning and end of Paved Gutters. See Cross Sections for Grade Line.

RIPRAP ITEM I-10:~
Riprap where called for on the Plans shall be Type "A" Grouted or where Contractor elects to use "The Reinforced Concrete Slab" Alternate, Cutoff Walls shall be provided at the beginning and end of Riprapped Area as shown on Standard Drawing I-14G Paved Gutters". The cost of the Cutoff Walls to be included in the unit price bid for Riprap.

DUMPED ROCK FILL:~
Dumped Rock Fill where called for in the plans shall be 3.0' in thickness. The Contractor may use removed Quantities from Items E-8, Removal of Existing Pavement and Curb" and S-22 "Removal of Portions of Existing Structures," in lieu of Item I-10 "Dumped Rock Fill". Providing that it shall conform to Sec. I-10.05 and be acceptable to the Engineer.

PIPE UNDERDRAIN (4 FEET DEEP) ITEM I-4:~
An estimated 500 Lin. Feet of Item I-4 "6" Pipe Underdrains (4 feet deep)" in addition to the Quantity required by the Plans, has been set up to be used as directed by the Engineer to drain Springs that may be uncovered in Foundation Areas.

RUBBISH:~
That Portion of the Rubbish Dump shown on Sheet #15 north of Station 14+0 that will be within the limits of the Proposed Embankment shall be removed in accordance with the Provisions of Item E-1.03.

ITEMS E-2 & S-27:~
See notes in Proposal regarding granular bedding and backfill for pipe culverts 36" or less in diameter. Necessary adjustments in quantities of structure excavation due to modified bedding requirements will be made at the time of final measurement

ITEM I-2:~
See note in Proposal for the bedding and backfilling of pipe with granular material as an alternate to the requirements of Sec. I-2.06

ITEM I-2:~
If Sectional corrugated metal structure pipe, Sec. M-6.4(g) is used for the 72" an 84" storm sewers, it shall be furnished and erected as prescribed in Item S-28 and Standard Drawing SP-53.

GUARD RAIL ON TEMPORARY ROAD (SEE SH. 29):~
If the steel beam type (deep) guard rail, when no longer needed on the temporary road is, in the opinion of the Engineer, suitable for re-use as permanent rail on the project, the contractor may use all or a part of same in place of a like amount of new rail as set up in the plans. The cost of the removing and rebuilding of the rail for re-use shall be included in the cost per lin. ft. of Item I-15, Guard Rail, Steel Beam Type (Deep), As Per Plan.

Should the guard rail on temporary road not be re-used, it shall become the property of the contractor.

STOP SIGN APPROACH RADII:~
The radius shall be 40 feet at each of the following stop sign approaches with adjustments of affected quantities handled at the time of final measurement.

(a) N.W. Corner Brookpark Road Connection
(b) S.W. Corner Fuhrmeyer Road & Old Brecksville Road.
(c) At Sta. 112+20, S.E. Corner.
(d) N.E. Corner Tuxedo Road.
(e) S.W. Corner West 10th Street.

SCHEDULE OF OPERATIONS
The contractor's attention is directed to the fact that a four (4) inch pipe line owned by The Sinclair Pipe Line Company will require lowering in the vicinity of station 98+00. In order to accomplish the lowering of the pipe line, a temporary runaround line must first be installed so that no interruption of flow will occur.

The contractor shall complete his excavation to the approximate lines indicated on plan and profile sheet № 22 after temporary line is in operation so that permanent line can be placed in its final position.

Inasmuch as all of the above pipe line work will be performed by others, the contractor shall cooperate with the Sinclair Pipe Line Company or its contractor and so conduct his operations to facilitate the work and not unnecessarily interfere with the pipe line construction.

The contractor's attention is also directed to the fact that existing high pressure gas lines cross the proposed centerline of construction at approximate stations 94 and 106. Reconstruction of both the 20" line and the 30" line near station 106 will be performed by others prior to the construction of embankment in this area.

In order to facilitate the lowering of the 20" line near station 94, it is proposed to perform roadway excavation in this area during summer months, at which time interruption of use of the line will be permitted. The contractor shall therefore schedule his operations so that all excavation in this area will be performed prior to Sept. 1, 1955 or after May 1, 1956 unless otherwise directed by the Division Engineer.

The contractor shall cooperate with the East Ohio Gas Co. or their contractor and so conduct his operations to facilitate the work and not unnecessarily interfere with the pipe line construction.

SUMMARY OF QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
SEC. CUY. 17-14.99

* WEDGE EMBANKMENT AREAS

Stations Left ℄ From	Stations Left ℄ To	Lin. Ft.	Stations Right ℄ From	Stations Right ℄ To	Lin. Ft.
8+89	10+10	121	8+89	16+36	747
16+74	17+27	53	17+93	30+00	1207
28+00	74+25	4625	49+50	90+00	4050
75+82	90+00	1418	104+00	111+56	756
104+00	122+21	1821	112+84	114+50	166
			121+00	122+21	121
TOTALS		8038			7047

EXTRA AREA QUANTITIES

Extra Area Sheet No	Locations	B-70 7" Concrete Base (Sq. Yds.)	E-8 Removal & Disposal of Exist. Pavt. (Sq. Yds.)	E-8 Removal & Disposal of Exist. Curb (Lin. Ft.)	I-22 Subbase A or B (Cu. Yds.)	I-18 Stabilized Aggregate Shoulder (Cu. Yds.)	T-71 9" Reinf. Concrete Pavement (Sq. Yds.)	I-21 Portland Cement Conc. Median Pav't (Sq. Yds.)	I-11 6"x18" Sandstone Curb (Lin. Ft.)	I-11 1.5' Rad. Sandstone Bull Nose (Lin. Ft.)	I-11 2' Rad. Sandstone Bull Nose (Lin. Ft.)	I-11 5' Rad. Sandstone Curb (Lin. Ft.)	I-11 6' Rad. Sandstone Curb (Lin. Ft.)	I-11 27' Rad. Sandstone Curb (Lin. Ft.)	I-11 35' Rad. Sandstone Curb (Lin. Ft.)	I-12 Type 2-A Integral Conc. Curb (Lin. Ft.)	I-23 Precast Port. Cement Conc. Traffic Dividers (Each)	T-35 Asph. Conc. Surface Course (Cu. Yds.)	T-30 Bituminous Tack Coat @ 0.10 Gal. per Sq. Yd. (Gal.)
30	West Merger of Brookpark Rd. Also West 10th St.		2321.0	1096.0	486.7		2913.00	1.25	805.32							41.32			
31	West Connection To Brookpark Road				240.5	9.6	1412.89	11.00	424.52							100.56	11		
31	East Connection To Existing Schaaf Rd.		6.7	133.9	261.4		1538.63	10.10	398.60							91.14	9	13.4	
32	Tuxedo Road		1772.9	1023.0	646.7	22.0	3573.37	33.77	1064.19		8.64		12.58			309.42			
33	New Schaaf & Ramp 1 & 2 Connect. To Exist. Schaaf	1312.0	1303.3	786.0	884.0	55.6	2862.33	152.00	761.11	19.69		7.85		28.27	111.47	750.00		91.1	131
34	New Schaaf & Ramp 1 & 2 Connect. To New Schaaf				1751.8	159.6	8075.35	307.32								2530.35			
35	New Schaaf Merger With Existing Schaaf		1957.0	800.4	475.0	42.6	2147.19		224.00								33		
35A	Exist. Schaaf - Fuhrmeyer Rd. Reloc.		1954.4		599.2	84.6	2444.40		527.30										
	TOTALS	1312.0	9315.3	3839.3	5345.3	374.0	24967.16	515.44	4205.04	19.69	8.64	7.85	12.58	28.27	111.47	3822.79	53	104.5	131

EARTHWORK

Stations From	Stations To	Excavation Cu. Yds.	Embankment Cu. Yds.	Emb. + 22 % Cu. Yds.
0-400	10+10	2601	9958	12149
10+10	20+35	2994	85810	104688
20+35	30+00	8506	144797	176652
30+00	40+00	16219	139696	170429
40+00	50+00	125955	29784	36336
50+00	60+00	2889	128266	156485
60+00	69+94	1420	118491	144559
69+94	80+00	62125	74534	90931
80+00	90+00	61152	37672	45960
90+00	100+00	229295	0	0
100+00	110+02	79284	41470	50593
110+02	123+32.52	6500	17343	21158
Tuxedo Ave. 5+00 to 8+64 & 9+40 to 12+26.53		1523	6314	7703
W. 10th St. 1+05 to 1+85		32	98	120
Driveways - See Sheet No 10		10456	13589	16579
* Shaded Areas on X-Sections (8038+7047) x 1.75/27		0	977	1192
TOTALS		610,951	848,799	1,035,534

EARTHWORK RECAP

Items	Excavation Cu. Yds.	Emb. + 22 % Cu. Yds.
Earthwork Totals	610, 951	1 035 534
Excavation for Structures (See Sheet No 10 & 11)	2 153	
Channel Excavation (See Summaries on X-sections)	6218	
Estimated Unsuitable Mat'l (Excess Moisture)	-186 600	
Suitable Fill Material	432 722	
Pavement Removal (Extra Areas) 9315.3 x 10/36	2588	
Pavement Removal (Plan Sheets) 6727.99 x 10/36	1869	
Pavement Removal (Driveways) (359.7+298.0) x 6/36	110	
Sidewalk Removal (See Sheet No 10) 8345.0 x 4/(12x27)	103	
Curb Removal (See Sheet No 11-B) 6990.58 x 6x18/(144x27)	194	
Available from Temporary Road (Sheet 29)	3162	
TOTAL AVAILABLE EMB. MAT'L	440,748	
TOTAL BORROW		594 786

USE 595,000

SUMMARY OF DRIVEWAY QUANTITIES

Plan Sheet No	Drive Detail Sheet No	Item	E-1 Excavation (Cu. Yds.)	E-1 Excavation Deduction (Cu. Yds.)	Embankment (Cu. Yds.)	Embankment Deduction (Cu. Yds.)	E-8 Removal of Black Top Pavement (Sq. Yds.)	E-8 Removal of Existing Conc. Pav't (Sq. Yds.)	T-70 7" Concrete (Sq. Yds.)	T-70 8" Concrete (Sq. Yds.)	T-71 9" Reinforced Concrete (Sq. Yds.)	I-21 4" Concrete Median Deduction (Sq. Yds.)	I-22 Subbase Deduction (11") (Cu. Yds.)	I-12 Type 2-A Conc. Curb Deduction (Lin. Ft.)	I-18 Stabilized Aggregate Shoulder Deduction (Cu. Yds.)	L-9 Seeding (Sq. Yds.)	I-15 Guard Rail (Lin. Ft.)	I-1 Pipe For Driveways 12" (Lin. Ft.)	I-1 Pipe For Driveways 18" (Lin. Ft.)	I-10 Riprap Type "A" (Sq. Yds.)	S-1 Class "C" Concrete (Cu. Yds.)	S-4 Reinforcing Steel (Lbs.)	E-2 Excavation For Structures (Cu. Yds.)	I-18 Stabil. Aggr. Pave. (Cu. Yds.)
13	128	1-A to 6-A	23.5		0.6	45.5		298.0		286.7														
14	128	1-A & 2-A	40.1			13.5				174.9														
14	129	3-A to 6-A 12-A & 13-A	149.8			69.3	304.7			476.4	55.8	55.8	18.1	503.0										
14	130	7-A to 10-A	110.1			95.7				539.9	61.9	61.9	19.8	558.0										
14	131	11-A & 14-A to 16-A	57.6				55.0		124.4	40.6														
14	132	17-A & 18-A	3.4		105.5	51.3				221.1	13.8	13.8	4.2	124.0	3.1									
18	135	1-A	1856.0	150.0	605.0					1367.8	20.3	20.3	6.4	177.4	5.1	2357.8	352.0							
18	137	2-A	1225.0		7675.0	5.2				757.9					5.1	2986.2	288.0							
26	139	1-A to 5-A	77.1						391.1								64.0							
23	143	1-A	125.0		3801.0	2.9				692.0	13.4	13.4	4.2	112.0	4.0	1763.8	384.0		116.0	13.5	1.0	26.0	2.0	
25	133	1-A, 2-A & 4-A	6.8			17.9				107.1														
25	134	3-A & 5-A	40.0		2.5	17.1				168.5														
21	140	1-A	43.6	21.5						87.6	9.1	9.1	2.9	80.0	2.7			60.0						
24	140	1-A	5.2	4.2	55.3	11.1				222.0	12.6	12.6	3.9	118.0	3.3									
21 & 22	141	2-A & 1-A	6868.0		1674.0											1898.0	96.0							230.0
TOTALS			10631.2	175.7	13918.9	329.5	359.7	298.0	515.5	5142.5	186.9	186.9	59.5	1672.4	23.3	9005.8	1184.0	60.0	116.0	13.5	1.0	26.0	2.0	230.0

WATER MAINS

	Sheet	4" Branch and Reset 4" Hydrant (Each)	4" Hydrant Branch Extend (Each)	4" Hydrant Branch ~~Pipe~~ (~~Lin. Ft.~~)	Take Out Hydrant (Each)	Reset Valve Box (Each)	Reset 6" Hdt. to Grade (Each)	Reset Meter Vault Ring & Cover (Each)	Re-Set 5/8" Meter Vault (Each)	Re-Set 2" Meter (Each)	Rebuild 5/8" Meter Vault (Each)	Rebuild 2" Meter (Each)	Re-Set Curb Cock Box (Each)	Extend 5/8" Water Con. (Each)	Extend 1" Water Conn. (Each)	Install & Remove Temp. Galv. Steel Pipe 6" (Lin. Ft.)	Install C.I. Water Main 8" (Lin. Ft.)	Install C.I. Water Main 12" (Lin. Ft.)	Install 12" W.I. Water Main (Lin. Ft.)	Install 8" Valve & Box (Each)	Lower 5/8" Water Conn. (Each)	Install Flushing Pipe (Each)	Install 6" Valve & Box (Each)	Install 12" Valve & Box (Each)	Install 5/8" Connection (Each)	Reconnect 5/8" Conn. (Each)	Install 4"-1/8 Bend (Each)	Rebuild 4" Meter Vault (Each)	Install 6"x4" Tee (Each)	Install 8"x4" Tee (Each)	Install 90° Ell 4" (Each)	Install 45° Ell 6" (Each)	Install 45° Ell 12" (Each)
Total for City of PARMA	13	** 1				3							4																				
		** 1				3							4																				
Total for City of CLEVELAND	13							1						2																			
	14					2			2	1	2	1		3	1																		
						2		1	2	1	2	1		5	1																		
Total for Village of BROOKLYN HEIGHTS	14		3	~~42~~		2								1	2												1				1		
	25	1	1	~~18~~	1	1							12				450			1	1						1			1	1		
	26	1			1													480	120			1	3	2	1	1			1				2
	29															1100																8	
		2	*4	~~60~~	2	3							12	1	2	1100	450	480	120	1	1	1	3	2	1	1	2		1	1	2	8	2
Tot. for Vill. of INDEPENDENCE	23					3	1																					1					
						3	1																					1					
GRAND TOTAL		** 2	*4	~~60~~	2	11	1	1	2	1	2	1	16	6	3	1100	450	480	120	1	1	1	3	2	1	1	2	1	1	1	2	8*	2

* Install & Remove Temp. 6"-45° Ells

* Includes 60' of 4" Pipe
** Includes 4" Pipe & 90° Ell.

MONUMENT BOXES

Sheet No	Reference	I-8 Type "A" (Each)	I-8 Type "B" (Each)	Reset (Each)
13	1-M to 2-M			2
14	1-M to 5-M		1	4
15	1-M to 2-M		2	
17	1-M to 3-M	1	2	
20	1-M		1	
22	1-M & 2-M		2	
23	1-M & 2-M		1	1
24	1-M & 2-M		2	
25	1-M to 4M		3	1
24A	1-M & 2-M		2	
	TOTALS	1	16	8

SIDEWALKS

Sheet No	Ref. No.	Stations	Side	I-13 4" Conc. Walk (Sq. Ft.)	E-8 Removal & Disposal of Exist. Walk (Sq. Ft.)
13	1-W	0-150 Reloc. to 1+85 W. 10th St.	South	1511.0	1552.0
13	2-W	0-134 to 0-116	North	104.0	
25	1-W	5+19 to 8+44	East	1590.0	
25	2-W	5+09 to 11+73	East		3220.0
25	3-W	9+25 to 11+73	East	1194.0	
25	4-W	5+08 to 9+00	West	1799.0	
25	5-W	5+00 to 11+99	West		3395.0
25	6-W	9+62 to 9+93	West	150.0	
25	7-W	10+17 to 11+99	West	885.0	
26	1-W	113+54 Exist.	North	160.0	178.0
		TOTALS		17393	8345

L-9 ROADSIDE IMPROVEMENT

Location	Station From	Station To	Seeding Sq. Yds.
Schaaf Rd. Reloc.	0-400	123+32.52	206,823
Tuxedo Ave.	1+05	12+26.53	4,821
Additional for Driveways			9,006
TOTALS			220,650

Total Commercial Fertilizer 220,650 X 9 = 1,985,850 Sq. Ft. $\frac{1,985,850 \times 20}{1000 \times 2000}$ = 19.858 Tons.

Total Agricultural Ground Limestone 220,650 X 9 = 1,985,850 Sq. Ft. $\frac{1,985,850 \times 100}{1000 \times 2000}$ = 99.292 Tons.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO			11 / 169

SUMMARY OF QUANTITIES

CUY - 17 - 14.99
CUYAHOGA COUNTY

SUMMARY OF SEWERS

Item I-2 Pipe – Lin. Feet

Sheet No	Ref. From	Ref. To	12" Cl."A"	15" Cl."A"	15" Cl."B"	18" Cl."A"	21" Cl."B"	24" Cl."B"	27" Cl."B"	30" Cl."B"	18" Cl."B"	12" Cl."B"	15" Cl."A" M-6.6(b) or M-6.4(d)	18" Cl."A" M-6.6(c) or M-6.4(d)	24" Cl."A" M-6.6(c) or M-6.4(d)	72" Cl."A" M-106.6(d) or M-6.4(g) 10-8 Ga.	84" Cl."A" M-106.6(d) or M-6.4(g) 10-8 Ga.	72" Cl."A" M-6.6(b) or M-6.4(g) 10-10 Ga.	Under Pavement 12" Cl."A"	Under Pavement 12" Cl."B"	Under Pavement 15" Cl."B"	Under Pavement 18" Cl."A"	Under Pavement 24" Cl."A"
13	1-S	6-S										30								216			
14	1-S	5-S										86								183			
15	1-S	12-S	138		25									46		525		142	32	496	17		
16	1-S	2-S	98															18		30			
17	1-S	5-S											158		124		155		90	151			64
18	1-S										30									52		94	
20	1-S	3-S										86							76	146			
21	1-S	4-S	394	297		85													270				
22	1-S	4-S	115			212	322	197	101		297								165	226			
23	1-S	4-S	22						101	410										196			
24	1-S	4-S										44								50			
25	1-S	20-S																		50			
26	1-S	4-S										36								54			
24-A	1-S	5-S	36									56											
TOTALS			803	297	25	297	322	197	202	410	327	338	158	46	124	525	155	160	633	1850	17	94	64

Item I-8 Each; Item I-5 Each; Item I-16 Each; E-12 Lin. Ft.; Item S-1; S-4; E-2; S-29 Lin. Ft.

Sheet No	Spec. C.I. #1	Spec. C.I. #2	Spec. C.I. #1 Salv. Cstg.	Spec. C.I. #4 Salv. Castg.	Std. M.H. #1 Salv. Castg.	Std. M.H. #1	Rebuild San. M.H.	Rebuild St. M.H.	Rebuild C.B.	Adj. to Grade San. M.H.	Adj. to Grade C.B.	Adj. to Grade St. M.H.	Std. C.B. #1-2A	Std. C.B. #2-6	Std. C.B. #1-3	Std. Inlets #2-6	Std. Inlets #2-10	I-5 Pipe Specials 72"	I-5 Pipe Specials 84"	12"×6" Tee	12"×6" Wye	I-16 Abandon C.B.	I-16 Abandon St. M.H.	I-16 Abandon San. M.H.	E-12 12" Pipe Removed	S-1 Concrete Class "E" Cu. Yds.	S-1 Concrete Class "C" Cu. Yds.	S-4 Reinf. Steel Lbs.	E-2 Excav. for Structures Cu. Yds.		S-29 6" Std. W.I. Pipe Including Specials
13		2	3				1⊗	1		1⊗		1										5			47						
14			2		1	1						1								1		4	1		84						
15						2							1	1			3	1						1✡			1.0	26.0	3.0		
16						1										1										6.0			13.0		
17													2			3	1		1							11.8			34.0		
18						1																					2.0	52.0	6.0		
20	1												2							3	1										28
21													5		2					6											
22													5		4		4														
23				2											2	1						2					1.9	38.0	6.0		
24					1						2	1				1						5									
25				2			4*	4	4	1*	2	1										2									
26				2																		6	1		182						
24-A				1		1		1					2												109						
TOTALS	1	2	5	7	2	6	5*	6	4	2*	4	4	17	1	8	6	8	1	1	10	1	24	2	1*	422	17.8	4.9	116	62		28

* No State Participation
⊗ City of Parma
✡ Village of Brooklyn Heights.

STRUCTURES 20 FT. & UNDER

Sheet No	Ref. No	Detail Sheet No	E-2 Cofferdams, Cribs, & Sheeting Lump Sum	E-2 Excavation Cu. Yds.	E-2 Excavation with Gran. Backfill Cu. Yds.	E-3 Channel Excavation Cu. Yds.	S-1 Concrete for Structures Class "C" Cu. Yds.	S-1 Concrete for Structures Class "E" Cu. Yds.	S-4 Reinforcing Steel Lbs.	S-22 Removal of Portion of Exist. Culvert Lump Sum	S-23 Dowel Holes Each	S-27 with Granular Bedding 18" M-106.6(d) or M-6.4(d) Lin. Ft.	S-27 18" M-6.4(d) Lin. Ft.	S-27 24" M-106.6(d) or M-6.4(d) 12 Ga. Lin. Ft.	S-27 12" Lin. Ft.	S-27 18" Lin. Ft.	S-27 30" Lin. Ft.	S-28 84" Sect. Corr. Str. M-6.4(g) 8-7 Ga. Lin. Ft.	S-28 84" Sect. Corr. Str. M-6.4(g) 8-5 Ga. Lin. Ft.	I-5 Pipe Specials 24×6 Cross Each	S-27 with Gran. Bedding 18" M-6.6(c) or M-6.4(d) Lin. Ft.	S-27 18" M-6.6(b) or M-6.4(d) Lin. Ft.	S-27 24" M-6.4(d) 12 Ga. Lin. Ft.
13	1-C & 2-C	144			109		113.4		18,992.0	Lump Sum	80												
15	1-C	145		46	660	65	1.0	16.5	26.0				34					410					
15	2-C	146		334				0.7						222									
16	2-C	147		41			0.3					214											
16-17	1-C	148			606			10.0											330				
18	1-C to 3-C	—		18			6.0		156.0			204									168	158	
19	1-C & 2-C	—		43			4.0		104.0			434											
20	1-C	149		48			2.8		64.0											2			256
23	1-C	—		24				0.5							114								
24	1-C	—		12				0.5									18						
25	1-C	150	Lump Sum				20.0		2985.0	Lump Sum	36												
25	1-C	151-153	Lump Sum		140		118.5		21,848.0	Lump Sum	30												
24-A	1-C	—		8				0.3								16							
TOTALS			Lump Sum	574	1515	65	266.0	28.5	44,175	Lump Sum	146	852	34	222	112	16	18	410	330	2	168	158	256

GUARD RAIL

Sheet No.	Ref. No.	I-15 Guard Rail Steel Beam Type (Deep) Lin. Ft.	I-15 Guard Rail Removed & Disposed Of Lin. Ft.	Lin. Ft.
13	1-D,2-D	125.00	107	
14	1-D,2-D	173.54		
15	1-D,4-D	2287.71		
16	1-D,3-D	1272.00		
17	1-D,3-D	1279.48		
18	1-D,3-D	2200.00		
19	1-D,2-D	2400.0		
20	1-D,3-D	162.50		
22	1-D,2-D	109.00		
23	1-D,5-D	1191.00		
24	1-D,2-D	1062.50		
25	1-D,4-D	436.54	565	
27	1-D,3-D	658.90		
28	1-D,2-D	325.00		
10	Drive Quan.	1184.00		
TOTALS		14,867.17	672	

TYPE "A" RIPRAP & DUMPED ROCK FILL

Sheet No	Reference No From	Reference No To	Detail Sheet No	Item I-10 Riprap Sq. Yds.	Item I-10 Rock Fill Cu. Yds.
15	1-R	3-R	—	32	15
15	1-C		145		125
15	2-C		146	21	
16	1-R	2-R	—	1388	
16	2-C		147	15	
17	1-R	7-R	—	523	90
18	1-R	5-R	—	88	
19	1-R	3-R	—	145	
20	1-R		—	22	
20	1-C		149		18
10	Driveway Table		143	13.5	
TOTALS				2247.5	248

SUMMARY PAVED GUTTERS

Sheet No.	Reference No From	Reference No To	I-14 Lin. Feet Type #1	I-14 Lin. Feet Type #3
15	1-G	6-G	1520	
16	1-G	4-G	533	
17	1-G	4-G	311	
18	1-G	3-G	538	
19	1-G	2-G	435	
20	1-G	3-G	470	
21	1-G	5-G	200	
22	1-G	10-G	634	
23	1-G	2-G	222	100
TOTALS			4863	100

6" PIPE UNDERDRAINS

Sheet No.	Reference No.	I-4 Lin. Ft. 2'-7" Deep Curb	I-4 6'-0" Deep Curb	I-4 4'-0" Deep	I-4 6'-0" Deep	Outlets for Underdrains	I-5 Pipe Specials-Each 6" Elbow	6" Tee	6"-45° Elbow
13	1-F To 4-F	1262							
14	1-F To 5-F	324	1548			56	1	1	
17	1-F To 4-F			234	1336	196	1	1	2
18	1-F				225	32			1
20	1-F To 6-F		155		1212	14			1
21	1-F To 2-F				1712				
22	1-F To 4-F			560	2066	68	1	1	
23	1-F To 2-F	396							
24	1-F To 2-F	220							
25	1-F To 5-F	1431				20	6	3	
26	1-F To 4-F	611				28	1	1	
24-A	1-F To 2-F	570				18		1	
149	1-C Sh. #20			200					
General Notes				500					
TOTALS		4814	1703	1494	6551	432	10	8	4

OVERHEAD SIGN ASSEMBLY
(See Sheet 2 & 143-A)

CALCULATIONS

T-71 - 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

Sta. 74+25	to	Sta. 75+82 (56' Wide)		157.00 Ft.	
		157.00 × 56 ÷ 9			976.89 Sq. Yds.
Sta. 0+62.13	to	Sta. 7+61 (54' Wide)	=	698.87 Ft.	
Sta. 75+82	to	Sta. 77+50 (54' Wide)	=	168.00 Ft.	
				866.87 Ft.	
		866.87 X 54 ÷ 9	=		5201.22 Sq. Yds.
Sta. 8+89	to	Sta. 16+11 (50' Wide)	=	722.00 Ft.	
Sta. 19+00	to	Sta. 70+50 (50' Wide)	=	5150.00 Ft.	
Sta. 88+69.45	to	Sta. 109+43.42 (50' Wide)	=	2073.97 Ft.	
Sta. 110+98.58	to	Sta. 111+56 (50' Wide)	=	57.42 Ft.	
Sta. 112+84	to	Sta. 119+32.52 (50' Wide)	=	648.52 Ft.	
				8651.91 Ft.	
		8651.91 X 50 ÷ 9	=		48066.17 Sq. Yds.
Sta. 5+00 (Tuxedo)	to	Sta. 7+00 (24' Wide)	=	200.00 Ft.	
		200 X 24 ÷ 9	=		533.33 Sq. Yds.
Sta. 1+05 (W. 10th)	to	Sta. 1+85 (26' Wide)	=	80.00 Ft.	
		80 X 26 ÷ 9	=		231.11 Sq. Yds.
Ramp #1 - Sta. 2+50	to	Sta. 6+50 (20' Wide)	=	400.00 Ft.	
Ramp #2 - Sta. 2+20.38	to	Sta. 4+00 (20' Wide)	=	179.62 Ft.	
				579.62 Ft.	
		579.62 X 20 ÷ 9	=		1288.04 Sq. Yds.
Sta. 111+11.58	to	Sta. 111+56	=	44.42 Ft.	
		44.42 X 2 ÷ 9	=		9.87 Sq. Yds.
Summary of Extra Area Quantities Table					24967.16 Sq. Yds.
Summary of Driveway Quantities Table					186.90 Sq. Yds.
				Total =	81460.69 Sq. Yds.
					Use 81461 Sq. Yds.

I-18 - 6" STABILIZED CRUSHED AGGREGATE SHOULDERS.

Sta. 8+89	to	Sta. 16+11 (8' Wide)	=	722.00 Ft.	
Sta. 19+00	to	Sta. 70+50 (8' Wide)	=	5150.00 Ft.	
Sta. 75+82	to	Sta. 77+50 (8' Wide)	=	168.00 Ft.	
Sta. 88+69.45	to	Sta. 109+58.42 (8' Wide)	=	2088.97 Ft.	
Sta. 110+83.58	to	Sta. 111+56 (8' Wide)	=	72.42 Ft.	
Sta. 112+84	to	Sta. 119+32.52 (8' Wide)	=	648.52 Ft.	
				8849.91 Ft.	
		8849.91 X 8 X .500 ÷ 27	=		1311.09 Cu. Yds.
Sta. 74+25	to	Sta. 75+82 (4' Wide)	=	157.00 Ft.	
		157.00 X 4 X .500 ÷ 27	=		11.63 Cu. Yds.
Summary of Extra Area Quantities Table			=		374.00 Cu. Yds.
				Sub-Total =	1696.72 Cu. Yds.
Summary of Driveway Quantities Table (230.0 - 23.3)			=		206.70 Cu. Yds.
				Total =	1903.42 Cu. Yds.
					Use 1904 Cu. Yds.

I-12 STANDARD CONCRETE CURB TYPE 2-A

Sta. 0+62.13	to	Sta. 7+61	=	698.87 Ft.	
Sta. 8+89	to	Sta. 16+11	=	722.00 Ft.	
Sta. 19+00	to	Sta. 70+50	=	5150.00 Ft.	
Sta. 74+25	to	Sta. 77+50	=	325.00 Ft.	
Sta. 88+69.45	to	Sta. 109+43.42	=	2073.97 Ft.	
Sta. 110+38.58	to	Sta. 119+32.52	=	833.94 Ft.	
				9803.78 Ft.	
		2 X 9803.78	=		19607.56 Ft.
Summary of Extra Area Quantities Table			=		3822.79 Ft.
				Sub-Total =	23430.35 Ft.
Summary of Driveway Quantities Table - Deduction			=		1672.40 Ft.
				Total =	21757.95 Ft.
					Use 21758 Ft.

I-22 - 6" SUBBASE GRADING "A" OR "B"

Sta. 0+62.13	to	Sta. 7+61	=	698.87 Ft.	
		698.87 X 56 X .5 ÷ 27	=		724.75 Cu. Yds.
Sta. 8+89	to	Sta. 9+50	=	61.00 Ft.	
		61.60 X 74 X .5 ÷ 27	=		83.59 Cu. Yds.
Sta. 9+50	to	Sta. 16+11	=	661.00 Ft.	
		661.00 X 64 X .5 ÷ 27	=		783.41 Cu. Yds.
Sta. 19+00	to	Sta. 27+50	=	850.00 Ft.	
		850.00 X 64 X .5 ÷ 27	=		1007.41 Cu. Yds.
Sta. 27+50	to	Sta. 29+75	=	225.00 Ft.	
		225.00 X 74 X .5 ÷ 27	=		308.33 Cu. Yds.
Sta. 29+75	to	Sta. 49+25	=	1950.00 Ft.	
		1950.00 X 64 X .5 ÷ 27	=		2311.11 Cu. Yds.
Sta. 49+25	to	Sta. 70+50	=	2125.00 Ft.	
		2125.00 X 74 X .5 ÷ 27	=		2912.04 Cu. Yds.
Sta. 74+25	to	Sta. 75+82	=	157.00 Ft.	
		157.00 X 73 X .5 ÷ 27	=		212.24 Cu. Yds.
Sta. 75+82	to	Sta. 77+50	=	168.00 Ft.	
		168.00 X 82 X .5 ÷ 27	=		255.11 Cu. Yds.
Sta. 88+69.45	to	Sta. 90+00	=	130.55 Ft.	
		130.55 X 74 X .5 ÷ 27	=		178.90 Cu. Yds.
Sta. 104+00	to	Sta. 109+58.42	=	558.42 Ft.	
		558.42 X 74 X .5 ÷ 27	=		765.24 Cu. Yds.
Sta. 110+83.58	to	Sta. 111+56	=	72.42 Ft.	
		72.42 X 74 X .5 ÷ 27	=		99.24 Cu. Yds.
Sta. 112+84	to	Sta. 114+75	=	191.00 Ft.	
		191.00 X 74 X .5 ÷ 27	=		261.74 Cu. Yds.
Sta. 114+75	to	Sta. 119+32.52	=	457.52 Ft.	
		457.52 X 64 X .5 ÷ 27	=		542.25 Cu. Yds.
				6" Total =	10,445.36 Cu. Yds.

I-22 - 18" SUBBASE GRADING "A" OR "B"

Sta. 90+00	to	Sta. 104+00	=	1400.00 Ft.	
		1400.00 X 54 X 1.5 ÷ 27	=	18" Total =	4200.00 Cu. Yds.

I-22 - 11" SUBBASE GRADING "A" OR "B"

Sta. 0+62.13	to	Sta. 7+61	=	698.87 Ft.	
		698.87 X 2 X .916 ÷ 27	=		47.42 Cu. Yds.
Sta. 8+89	to	Sta. 16+11	=	722.00 Ft.	
		722.00 X 2 X .916 ÷ 27	=		48.99 Cu. Yds.
Sta. 19+00	to	Sta. 70+50	=	5150.00 Ft.	
		5150.00 X 2 X .916 ÷ 27	=		349.44 Cu. Yds.
Sta. 74+25	to	Sta. 77+50	=	325.00 Ft.	
		325.00 X 6 X .916 ÷ 27	=		66.16 Cu. Yds.
Sta. 88+69.45	to	Sta. 109+58.42	=	2088.97 Ft.	
		2088.97 X 2 X .916 ÷ 27	=		141.74 Cu. Yds.
Sta. 110+83.58	to	Sta. 111+56	=	72.42 Ft.	
		72.42 X 2 X .916 ÷ 27	=		4.90 Cu. Yds.
Sta. 112+84	to	Sta. 119+32.52	=	648.52 Ft.	
		648.52 X 2 X .916 ÷ 27	=		44.00 Cu. Yds.
				11" Sub-Total =	702.65 Cu. Yds.
Summary of Driveway Quantities Table - Deduction			=		59.50 Cu. Yds.
				11" Total =	643.15 Cu. Yds.
Summary of Extra Area Quantities Table 6" & 11"			=		5345.30 Cu. Yds.
Deduct for Areas of I-4 (See Note on Sheet 3)			=		470.00 Cu. Yds.
				GRAND TOTAL =	20,163.81 Cu. Yds.
					Use 20,164 Cu. Yds.

CALCULATIONS

I-21 - 4" Portland Cement Concrete Median Pavement - Type 1

Same As 11" I-22 9380.78 Lin. Ft. (2 Wide) & 325 Lin. Ft. (6' Ft. Wide)
9380.78 X 2 ÷ 9 = 2084.62 Sq. Yds.
325.00 X 6 ÷ 9 = 216.66 Sq. Yds.
Summary of Extra Area Quantities Table = 515.44 Sq. Yds.
Sub Total = 2816.72 Sq. Yds.
Summary of Driveway Quantities Table - Deduction = 186.90 Sq. Yds.
Total = 2629.82 Sq. Yds.
Use 2630 Sq. Yds.

E-8 - Removal and Disposal of Existing Pavement

Sta. 0+62.13 to Sta. 8+96.17 (Exist. Brookpark) = 834.04 Ft.
834.04 X 40 ÷ 9 = 3706.84 Sq. Yds.
Sta. 157+70.55 (Exist Schaaf) to Sta. 119+32.52 (New Schaaf) = 461.60 Ft.
461.60 X 44 ÷ 9 = 2256.71 Sq. Yds.
Sta. 5+00 (Tuxedo Rd.) to Sta. 7+00 (Tuxedo Rd.) = 200.00 Ft.
200.00 X 24 ÷ 9 = 533.33 Sq. Yds.
Sta. 1+05 (W. 10th) to Sta. 1+85 (W. 10th) = 80.00 Ft.
80.00 X 26 ÷ 9 = 231.11 Sq. Yds.
Sub Total = 6727.99 Sq. Yds.
Summary of Extra Area Quantities Table = 9315.30 Sq. Yds.
Summary of Driveway Quantities Table = 657.70 Sq. Yds.
Total = 16700.99 Sq. Yds.
Use 16701 Sq. Yds.

I-11 - 6" x 18" Sandstone Curb

Sta. 0+62.13 to Sta. 7+61 = 698.87 Ft.
2 X 698.87 = 1397.74 (Minus Drive Deductions, - 526.00 Ft.) = 871.74 Ft.
W. 10th ST. Sta. 1+05 to Sta. 1+85 = 80.00 Ft
2 X 80.00 = 160.00 Ft.
Tuxedo Rd. Sta. 5+00 to Sta. 7+00 = 200.00 Ft.
2 X 200.00 = 400.00 (Minus Drive Deductions - 127.00 Ft.) = 273.00 Ft.
Summary of Extra Areas Quantities Table - Straight Curb = 4205.04 Ft.
6' Radius Curb = 12.58 Ft.
2' Radius Bumper Block = 8.64 Ft.
1.5' Radius Bumper Block = 19.69 Ft.
5' Radius Curb = 7.85 Ft.
27' Radius Curb = 28.27 Ft.
35' Radius Curb = 111.47 Ft.
Sta. 74+25 to Sta. 75+82 (North Side) = 157.00 Ft.
Sta. 111+11.58 to Sta. 111+56 (South Side) = 44.42 Ft.
Total = 5899.70 Ft.
Use 5900 Ft.

E-8 - Removal and Disposal of Existing Sandstone Curb

Sta. 0+62.13 (Exist. Brookpark) to Sta. 8+96.17 (Exist. Brookpark) = 834.04 Ft.
834.04 X 2 = 1668.08 Ft.
Sta 5+00 (Tuxedo Rd.) to Sta. 7+00 (Tuxedo Rd.) = 200.00 Ft.
200.00 X 2 = 400.00 Ft.
Sta. 1+05 (W. 10th ST.) to Sta. 1+85 (W. 10th St.) = 80.00 Ft.
80.00 X 2 = 160.00 Ft.
Summary of Extra Area Quantities Table = 3839.30 Ft.
Sta. 157+70.55 (Exist. Schaaf) to Sta. 119+32.52 (New Schaaf) = 461.60 Ft. x 2 = 923.20 Ft.
Total = 6990.58 Ft. Use 6991 Ft.

T-10 - Traffic Compacted Surface Course (Temporary Pavements For Maintaining Traffic)

Sta. 0-400	to	Sta. 5+00 (Left Side) = 900' (12' Wide)	= 900 X 60 / 100 =	540 Cu. Yds.
Sta. 0-400	to	Sta. 6+50 (Right Side) = 1050' (12' Wide)	= 1050 X 60 / 100 =	630 Cu. Yds.
Sta. 109+50 (Schaaf	to	Sta. 6+00 (East Ohio Gas) = 300' (12' Wide)	= 300 X 60 / 100 =	180 Cu. Yds.
Sta. 117+80	to	Sta. 123+35 (Left Side) = 555' (12' Wide)	= 555 X 60 / 100 =	333 Cu. Yds.
Sta. 115+60	to	Sta. 123+50 (Right Side) = 890 (12' Wide)	= 890 X 60 / 100 =	534 Cu. Yds.
Sta. 5+00	to	Sta. 6+25 (Tuxedo Left) = 125' (12' Wide)	= 125 X 60 / 100 =	75 Cu. Yds.
Sta. 5+00	to	Sta 6+25 (Tuxedo Right) = 125' (12' Wide)	= 125 X 60 / 100 =	75 Cu. Yds
Sta. 10+10	to	Sta. 12+00 (Tuxedo Left) = 190' (12' Wide)	= 190 X 60 / 100 =	114 Cu. Yds.
Sta. 157+00 (Exist. Schaaf)	to	West Creek Road = 250 (12' Wide)	= 250 X 60 / 100 =	150 Cu. Yds.
			Total =	2631 Cu. Yds.

Use 2631 Cu. Yds.

E-11 - Water at 5 Gallons Per. Cubic Yard

Embankment From Earthwork Table, I-22 from Calculations, & I-18 from Calculations:
848799 + 20,164 + 1904 = 870,867 Cu. Yds. 870,867 X 5 Gals ÷ 1000 = 4354.34 M. Gals.
Use 4355 M. Gals.

M-10 - Calcium Chloride Furnished & Applied

T-10 - Traffic Compacted Surface Course = 2631 Cu. Yds. 2631 ÷ 50 = 52.62 Tons

I-7 - Reinforced Concrete Approach Slab

Sta. 109 + 43.42 to Sta. 109 + 58.42 = 15' 15 X 52 ÷ 9 = 86.67 Sq. Yds.
Sta. 110 + 83.58 to Sta. 110 + 98.58 = 15 15 X 54.5 ÷ 9 = 90.83 Sq. Yds.
(Exist. Schaaf Rd.) Sta. 114 + 18.25 to Sta. 114 + 33.25 = 15 15 X 30 ÷ 9 = 50.00 Sq. Yds.
(Exist. Schaaf Rd.) Sta. 117 + 63.31 to Sta. 117 + 78.31 = 15 15 X 30 ÷ 9 = 50.00 Sq. Yds.
Total = 277.50 Sq. Yds.
Use 278 Sq. Yds.

T-35 - Asphaltic Concrete Surface Course Type "A" or "C" (70-80)

(Exist. Schaaf Rd.) Sta. 114 + 18.25 to Sta. 114 + 33.25 = 15 15 x 30 x .208 ÷ 27 = 3.47 Cu. Yds.
(Exist. Schaaf Rd.) Sta. 117 + 63.31 to Sta. 111 + 78.31 = 15 15 x 30 x .208 ÷ 27 = 3.47 Cu. Yds.
Summary of Extra Area Quantities Table = 104.50 Cu. Yds.
Total = 111.44 Cu. Yds.
Use 112 Cu. Yds.

T-30 Bituminous Tack Coat (0.10 Gal. Per Square Yard.)

(Exist. Schaaf Rd.) Sta. 114 + 18.25 to Sta. 114 + 33.25 = 15 15 x 30 x 0.10 ÷ 9 = 5.0 Gals.
(Exist. Schaaf Rd.) Sta. 117 + 63.31 to Sta. 117 + 78.31 = 15 15 x 30 x 0.10 ÷ 9 = 5.0 Gals.
Summary of Extra Area Quantities Table = 131.0 Gals.
Total = 141.0 Gals.
Use 141 Gals

E-1 Compacted Subgrade

T-71 - 9" Reinforced Portland Cement Concrete Pavement = 81461 Sq. Yds.
B-70 - 7" Portland Cement Concrete Base Course = 1312 Sq. Yds.
I-7 - Reinforced Concrete Approach Slabs = 270 Sq. Yds
Total = 83043 Sq. Yds

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO			12 / 169

CUY. 17-14.99
CUYAHOGA COUNTY

ROADWAY

ITEM №		QUANTITY	UNIT	DESCRIPTION
E - 1		610,951	CU. YDS.	ROADWAY EXCAVATION, AS PER PLAN
E - 1		83,043	SQ. YDS.	COMPACTED SUBGRADE
E - 4		595,000	CU. YDS.	BORROW
E - 8		16,701	SQ YDS.	REMOVAL AND DISPOSAL OF EXISTING PAVEMENT
E - 8		8345.	SQ. FT.	REMOVAL AND DISPOSAL OF EXISTING SIDEWALK
E - 8		6991.	LIN. FT.	REMOVAL AND DISPOSAL OF EXISTING SANDSTONE CURB
E - 11		4355	M. GALS.	WATER
T - 10		2631	CU. YDS.	TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC
I - 8		1	EACH	MONUMENT BOX TYPE "A" AS PER PLAN
I - 8		16	EACH	MONUMENT BOXES TYPE "B" AS PER PLAN
I - 8		8	EACH	MONUMENT BOXES ADJUSTED TO GRADE
I - 13		7393	SQ. FT.	4" CONCRETE SIDEWALK
I - 15		14,867.17	LIN. FT.	GUARD RAIL STEEL BEAM TYPE (DEEP), As per plan.
I - 15		672	LIN. FT.	GUARD RAIL REMOVED AND DISPOSED OF
I - 18		1904	CU. YDS.	STABILIZED CRUSHED AGGREGATE SHOULDERS & APPROACHES.
L - 9		220650	SQ YDS.	SEEDING AND PROTECTING
L - 9		19.86	TONS	COMMERCIAL FERTILIZER (10-6-4)
L - 9		99.29	TONS	AGRICULTURAL GROUND LIME STONE
SPECIAL		1	EACH	TYPE 13 OVERHEAD SIGN ASSEMBLY, 68' SPAN
M - 10		53	TONS	CALCIUM CHLORIDE FURNISHED & APPLIED FOR MAINTAINING TRAFFIC
				PAVEMENT
B - 70		1312	SQ. YDS.	7" PORTLAND CEMENT CONCRETE BASE COURSE
T - 30		141	GALS.	BITUMINOUS TACK COAT AS PER PLAN
T - 35		112	CU. YDS.	ASPHALTIC CONCRETE SURFACE COURSE TYPE "A" OR "C" (70-80)
T - 70		516	SQ. YDS.	7" PORTLAND CEMENT CONCRETE PAVEMENT
T - 70		5143	SQ. YDS.	8" PORTLAND CEMENT CONCRETE PAVEMENT
T - 71		81,461	SQ. YDS.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
I - 7		278	SQ. YDS.	REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN
I - 11		5900	LIN. FT.	6"x18" SANDSTONE CURB AS PER. PLAN
I - 12		21,758	LIN. FT.	STANDARD CONCRETE CURB, TYPE 2-A
I - 21		2630	SQ. YDS.	4" PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT, TYPE 1
I - 22		20,164	CU. YDS.	SUBBASE, GRADING "A" OR "B"
I - 23		53	EACH	PRECAST WHITE PORTLAND CEMENT CONCRETE TRAFFIC DIVIDERS
				DRAINAGE
E - 2		574	CU. YDS.	EXCAVATION FOR STRUCTURES INCLUDING GRANULAR BACKFILL AS PER PLAN
E - 2		1579	CU. YDS.	EXCAVATION FOR STRUCTURES
E - 2		LUMP SUM	LUMP SUM	COFFERDAMS, CRIBS & SHEETING
E - 3		6218	CU. YDS.	CHANNEL EXCAVATION
E - 12		422	LIN. FT.	PIPE REMOVED, 15" AND UNDER
I - 1		60	LIN. FT.	12" PIPE FOR DRIVEWAYS
I - 1		116	LIN. FT.	18" PIPE FOR DRIVEWAYS
I - 2		338	LIN. FT.	12" CLASS "B" STORM SEWERS
I - 2		803	LIN. FT.	12" CLASS "A" STORM SEWERS
I - 2		297	LIN. FT.	15" CLASS "A" STORM SEWERS
I - 2		297	LIN. FT.	18" CLASS "A" STORM SEWERS
I - 2		322	LIN. FT.	21" CLASS "B" STORM SEWERS
I - 2		197	LIN. FT.	24" CLASS "B" STORM SEWERS
I - 2		202	LIN. FT.	27" CLASS "B" STORM SEWERS
I - 2		410	LIN. FT.	30" CLASS "B" STORM SEWERS
I - 2		25	LIN. FT.	15" CLASS "B" STORM SEWERS
I - 2		327	LIN. FT.	18" CLASS "B" STORM SEWERS

ITEM №		QUANTITY	UNIT	DESCRIPTION (DRAINAGE CONT.)
I - 2	✓	158	LIN. FT.	15" CLASS "A" STORM SEWERS, SEC. M-6.6(b) or SEC. M-6.4(d)
I - 2	✓	46	LIN. FT.	18" CLASS "A" STORM SEWERS, SEC. M-6.6(c) or SEC. M-6.4(d)
I - 2	✓	124	LIN. FT.	24" CLASS "A" STORM SEWERS, SEC. M-6.6(c) or SEC. M-6.4(d)
I - 2	✓	525	LIN. FT.	72" CLASS "A" STORM SEWERS, M-106.6(d) or SEC. M-6.4(g) 10-8 Ga.
I - 2	✓	155	LIN. FT.	84" CLASS "A" STORM SEWERS, M-106.6(d) or SEC. M-6.4(g) 10-8 Ga.
I - 2	✓	160	LIN. FT.	72" CLASS "A" STORM SEWERS, SEC. M-6.6(b) or SEC. M-6.4(g) 10-10 Ga.
I - 2	✓	633	LIN. FT.	12" CLASS "A" STORM SEWERS UNDER PAVEMENT OR APPROACHES
I - 2	✓	17	LIN. FT.	15" CLASS "B" STORM SEWERS UNDER PAVEMENT OR APPROACHES
I - 2	✓	94	LIN. FT.	18" CLASS "A" STORM SEWERS UNDER PAVEMENT OR APPROACHES
I - 2	✓	64	LIN. FT.	24" CLASS "A" STORM SEWERS UNDER PAVEMENT OR APPROACHES
I - 4	✓	4814	LIN. FT.	6" CURB UNDERDRAINS - 2'-7" DEEP
I - 4	✓	1703	LIN. FT.	6" CURB UNDERDRAINS - 6'-0" DEEP
I - 4	✓	1494	LIN. FT.	6" UNDERDRAINS - 4'-0" DEEP
I - 4	✓	6551	LIN. FT.	6" UNDERDRAINS - 6'-0" DEEP
I - 4	✓	432	LIN. FT.	6" PIPE OUTLETS FOR UNDERDRAINS
~~I - 2~~		~~1850~~	~~LIN. FT.~~	~~12" CLASS "B" STORM SEWERS UNDER PAVEMENT OR APPROACHES~~
I - 5		22	EACH	6" PIPE SPECIALS FOR UNDERDRAINS
I - 5		1	EACH	72" PIPE SPECIAL FOR STORM SEWERS
I - 5		1	EACH	84" PIPE SPECIAL FOR STORM SEWERS
I - 5		11	EACH	12" PIPE SPECIALS FOR STORM SEWERS
I - 5	✓	2	EACH	24" PIPE SPECIALS FOR ROADWAY CULVERTS
I - 8	✓	1	EACH	SPECIAL CURB INLET # 1
I - 8	✓	2	EACH	SPECIAL CURB INLETS # 2
I - 8	✓	5	EACH	SPECIAL CURB INLETS # 1 USING SALVAGED CASTINGS
I - 8	✓	7	EACH	SPECIAL CURB INLETS # 4 USING SALVAGED CASTINGS
I - 8	✓	2	EACH	STANDARD M.H. # 1 USING SALVAGED CASTINGS
I - 8	✓	6	EACH	STANDARD M.H. # 1
I - 8	✓	11	EACH	MANHOLES REBUILT AS PER PLAN
	✓			
I - 8	✓	4	EACH	CATCH BASINS REBUILT AS PER PLAN
I - 8	✓	6	EACH	MANHOLES ADJUSTED TO GRADE
I - 8	✓	4	EACH	CATCH BASINS ADJUSTED TO GRADE
I - 8	✓	17	EACH	STANDARD CATCH BASINS # 1-2 A
I - 8	✓	1	EACH	STANDARD CATCH BASIN # 2-6
I - 8	✓	8	EACH	STANDARD CATCH BASINS # 1-3
I - 8	✓	6	EACH	STANDARD INLETS # 2-6
I - 8	✓	8	EACH	STANDARD INLETS # 2-10
I - 10	✓	2248	SQ. YDS.	RIPRAP, TYPE "A" GROUTED
I - 10	✓	248	CU. YDS.	DUMPED ROCK FILL
I - 14	✓	4863	LIN. FT.	PAVED GUTTER (TYPE # 1)
I - 14	✓	100	LIN. FT.	PAVED GUTTER (TYPE # 3)
I - 16	✓	24	EACH	CATCH BASINS ABANDONED
I - 16	✓	3	EACH	MANHOLES ABANDONED
~~S - 28~~	✓	~~330~~	~~LIN. FT.~~	~~84" SECTIONAL CORRUGATED METAL STRUCTURE Sec. M-6.4(g) 8-5 Ga. as per plan~~
S - 1	✓	271.9	CU. YDS.	CONCRETE FOR STRUCTURES, CLASS "C"
S - 1	✓	46.3	CU. YDS.	CONCRETE FOR STRUCTURES, CLASS "E"
S - 4	✓	44,317	POUNDS	REINFORCING STEEL
S - 22	✓	LUMP SUM	LUMP SUM	REMOVAL OF PORTIONS OF EXISTING STRUCTURES
S - 23	✓	146	EACH	DOWEL HOLES
S - 27	✓	852	LIN. FT.	18" Pipe for Roadway Culverts, Sec. M-6.4(d) or M-106.6(d) with Granular Bedding, as per Plan
S - 27	✓	34	LIN. FT.	18" Pipe for Roadway Culverts, Sec. M-6.4(d) with Granular Bedding, as per plan
S - 27	✓	222	LIN. FT.	24" Pipe for Roadway Culverts, Sec. M-6.4(d) 12 Ga. or M-106.6(d) with Granular Bedding as per plan
S - 27	✓	112	LIN. FT.	12" Pipe for Roadway Culverts with Granular Bedding, as per plan
S - 27	✓	16	LIN. FT.	18" PIPE FOR ROADWAY CULVERTS with Granular Bedding, as per plan
S - 27	✓	18	LIN. FT.	30" PIPE FOR ROADWAY CULVERTS with Granular Bedding, as per plan
S - 28	✓	410	LIN. FT.	84" SECTIONAL CORRUGATED METAL STRUCTURE, Sec. M-6.4(g) 8-7 Ga. as per plan
S - 29	✓	28	LIN. FT.	6" STANDARD WT. WROUGHT IRON PIPE, SEC. M-6.10, INCLUDING SPECIALS
~~S - 27~~		~~168~~	~~LIN. FT.~~	~~18" Pipe for Roadway Culverts, Sec. M-6.6(c) or Sec. M-6.4(d) with Granular Bedding as per plan~~
~~S - 27~~		~~158~~	~~LIN. FT.~~	~~18" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.4(d) with Granular Bedding as per plan~~
~~S - 27~~		~~256~~	~~LIN. FT.~~	~~24" Pipe for Roadway Culverts, Sec. M-6.4(d) 12 Ga. w/ Granular Bedding as per plan~~
				WATER MAINS
SPECIAL		16	EACH	RESET CURB COCK BOXES
SPECIAL		11	EACH	RESET VALVE BOXES
SPECIAL		1	EACH	RESET METER VAULT RING & COVER
SPECIAL		2	EACH	RESET 5/8" METER VAULTS
SPECIAL		1	EACH	RESET 2" METER
SPECIAL		2	EACH	REBUILD 5/8" METER VAULTS
SPECIAL		1	EACH	REBUILD 2" METER
SPECIAL		6	EACH	EXTEND 5/8" WATER CONNECTIONS
SPECIAL		3	EACH	EXTEND 1" WATER CONNECTIONS

ITEM №	QUANTITY	UNIT	DESCRIPTION (WATER MAINS CONTINUED)
SPECIAL	2	EACH	4" BRANCHES AND RESET 4" HYDRANTS
SPECIAL	4	EACH	EXTEND 4" HYDRANT BRANCHES INCLUDING 4" PIPE
SPECIAL	1	EACH	TAKE OUT AND RESET 4" HYDRANT INCLUDING 4" PIPE AND 90° ELL
SPECIAL	2	EACH	TAKE OUT HYDRANTS
SPECIAL	1	EACH	RESET 6" HYDRANT TO GRADE
SPECIAL	1	EACH	REBUILD 4" METER VAULT
SPECIAL	1100	LIN. FT.	INSTALL & REMOVE TEMPORARY 6" GALVANIZED STEEL WATER MAIN
SPECIAL	450	LIN. FT.	INSTALL 8" CAST IRON WATER MAIN
SPECIAL	480	LIN. FT.	INSTALL 12" CAST IRON WATER MAIN
SPECIAL	120	LIN. FT.	INSTALL 12" WROUGHT IRON WATER MAIN
SPECIAL	1	EACH	INSTALL 8" VALVE AND BOX
SPECIAL	1	EACH	LOWER 5/8" WATER CONNECTION
SPECIAL	1	EACH	INSTALL FLUSHING PIPE
SPECIAL	3	EACH	INSTALL 6" VALVES AND BOXES
SPECIAL	2	EACH	INSTALL 12" VALVES AND BOXES
SPECIAL	1	EACH	INSTALL 5/8" CONNECTION
SPECIAL	1	EACH	RECONNECT 5/8" CONNECTION
SPECIAL	2	EACH	INSTALL 4"-1/8 BENDS
SPECIAL	1	EACH	INSTALL 6"x4" TEE
SPECIAL	1	EACH	INSTALL 8"x4" TEE
SPECIAL	2	EACH	INSTALL 4"-90° ELLS
SPECIAL	8	EACH	INSTALL & REMOVE TEMPORARY 6"-45° ELLS
SPECIAL	2	EACH	INSTALL 12"-45° ELLS

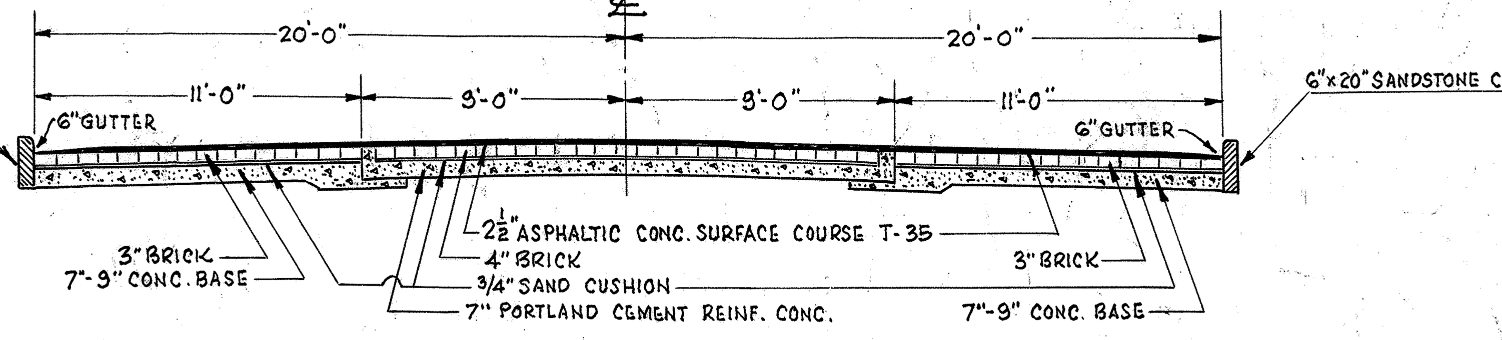
FOR QUANTITIES FOR STRUCTURES OVER 20 FT. SPAN SEE SHEETS NO. 155 & 164

2 OHIO

CUYAHOGA COUNTY
SEC. CUY-17-14.99

NOTE: Indicates Drop Curb at Driveways

B.M.#1 "O" Open F.H. 0-45 S.S.
Brookpark Rd. El. 766.124



TYPICAL SECTION ADJOINING PAVT.
EXIST. BROOKPARK ROAD
SCALE · 3/16" = 1'-0"

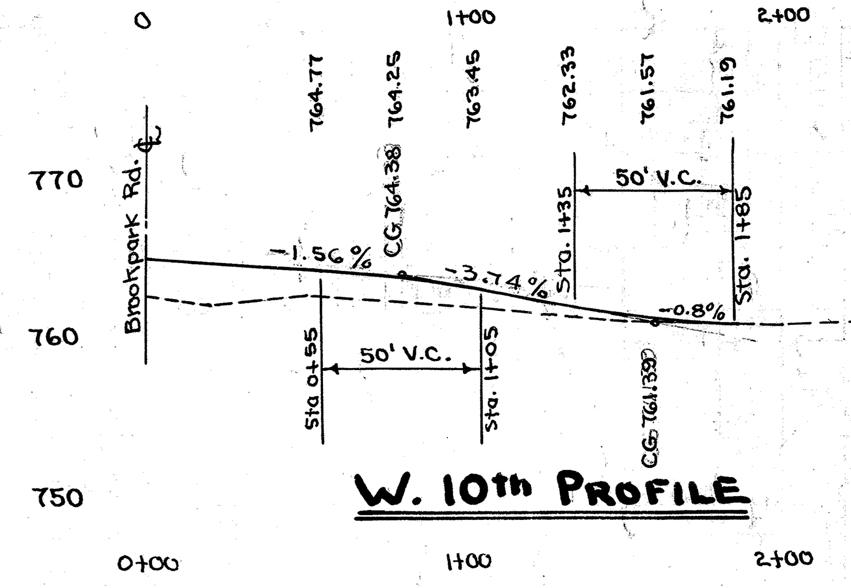
W. 10th PROFILE

STORM SEWERS																
Ref. No	Station		Side Left or Right	I-2 PIPE (LIN. FT.)	ITEM I-8 (EACH)								ITEM I-16 EACH		Item E-12	Location of Structure
					UNDER PAVT.		M.H. ADJ. TO GRADE		SPEC. C.I.		M.H. REBUILD				PIPE REMOVED & DISPOSED	
	From	To		12" Class B		12" Class B	SAN.	ST.	#1	#2	SAN.	ST.		C.B. ABANDON	LIN. FEET	STATION
1-S	0-350	0-325	L-R			52			2							1@0-350 1@0-325
2-S	0-325	0-285	L-R	30			1	1						2		1@0-295 1@0-291 2@0-285
3-S	0-70	0+14	R			80			1		1	1		1		1@0-70 1@0+08 1@0-40 1@0+14
4-S	0+14	1+00	R			27			SALV. CSTG.	1					47	0+85
5-S	0+40		L-R				1							2		2@0+40
6-S	0+85	1+00	L-R			57				1						1+00
TOTAL				30		216	1	1	3	2	1	1		5	47	

NOTE: - For Driveway Quantities See Sheet No 128

MONUMENT BOXES				
Item No	STATION	TYPE		
		"A"	"B"	Reset
1M	0-322.40			1
2M	0+'50 (W. 10th St)			1
TOTALS			–	2

SIDEWALK				
REF No	STATION	SIDE	ITEM I-13 4" CONC. WALK	ITEM E-8 REMOVAL & DISPOSAL OF EXIST. WALK
1-W	0-150 Reloc. to 1+85 W. 10th	South	1511 Sq. Ft.	1552 Sq. Ft.
2-W	0-134 to 0-116	North	104 Sq. Ft.	
Totals			1615 Sq. Ft.	1552 Sq. Ft.



6" PIPE UNDERDRAIN				
Ref. No	Station		SIDE LEFT OR RIGHT	I-4 LIN. FT.
	From	To		CURB 2'-7" DEEP
1-F	0-400	1+00	L	496
2-F	0-400	0-70	R	328
3-F	0-70	W. 10th 2+08	R	208
4-F	W. 10th 2+08	0+85	R	230
TOTAL				1262

GUARD RAIL					
Ref. No.	STATION		Side	I-15 Guard Rail Steel Beam Type (Deep) LIN. FT.	I-15 Guard Rail Removed & Disposed Of LIN. FT.
	From	To			
1-D	0+16	0+78.5	L	62.5	55
2-D	0+25	0+70	R	62.5	52
TOTAL				125.0	107

STRUCTURES 20 FT. & UNDER			
Ref. No	Station	New Structure	SEE DETAIL SHEET No
1-C	0+45.84 N.	REINF. CONC. CULVT. EXTN.	144
2-C	0+45.84 S.	REINF. CONC. CULVT. EXTN.	144

WATER MAINS

CITY OF PARMA
Take out & Reset 4" Hydt. ** 1 Each
Reset Valve Box 3 Each
Reset Curb Cock Box 4 Each

CITY OF CLEVELAND
Extend 5/8" Water Conn. 2 Each
Reset Meter Vault Ring & Cover 1 Each

** Includes 4" Pipe & 90° Ell.

PLAN & PROFILE SCHAAF RD. RELOC. STA. 0-1000 TO STA. 1+00 & W. 10th ST.

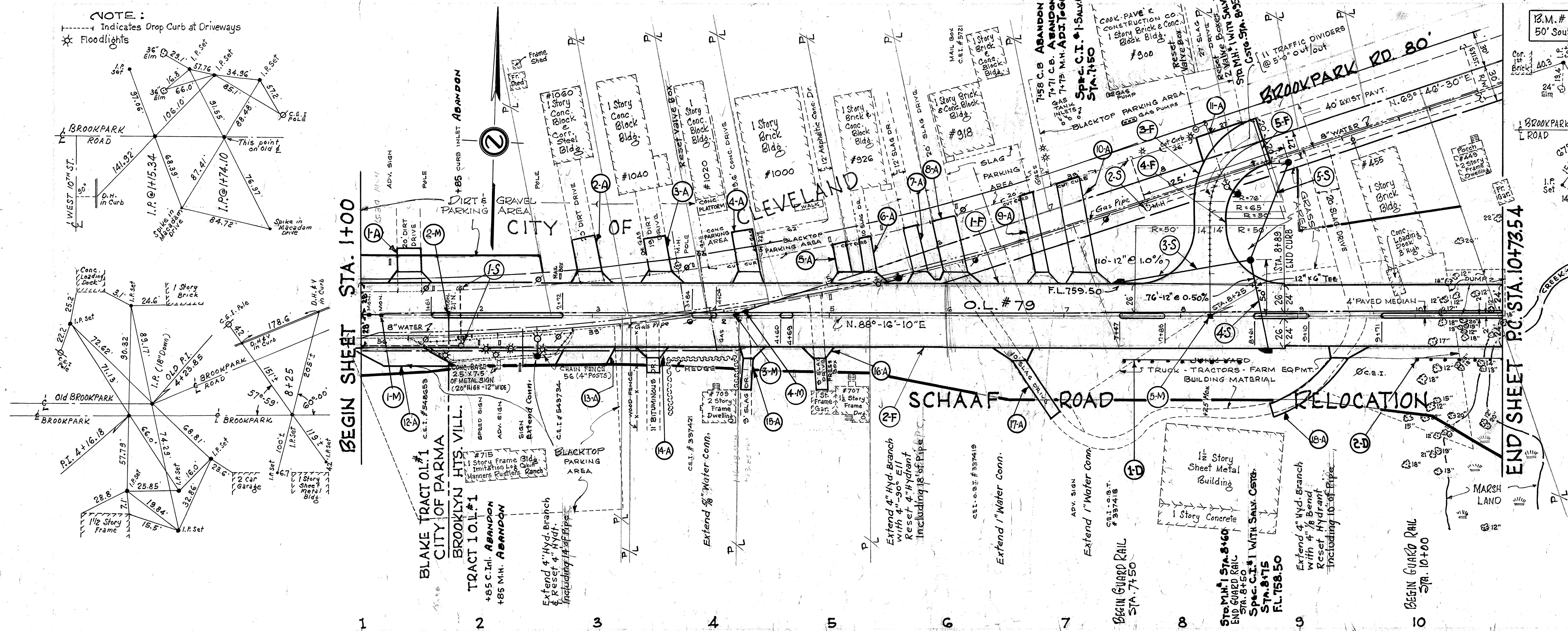
2 OHIO

CUYAHOGA COUNTY

SEC. CUY-17-14.99

NOTE:
- - - - - Indicates Drop Curb at Driveways
☼ Floodlights

B.M. #3 - Spike N.S. Light Pole Sta. 9+60 50' South of ℄ El. 757.146



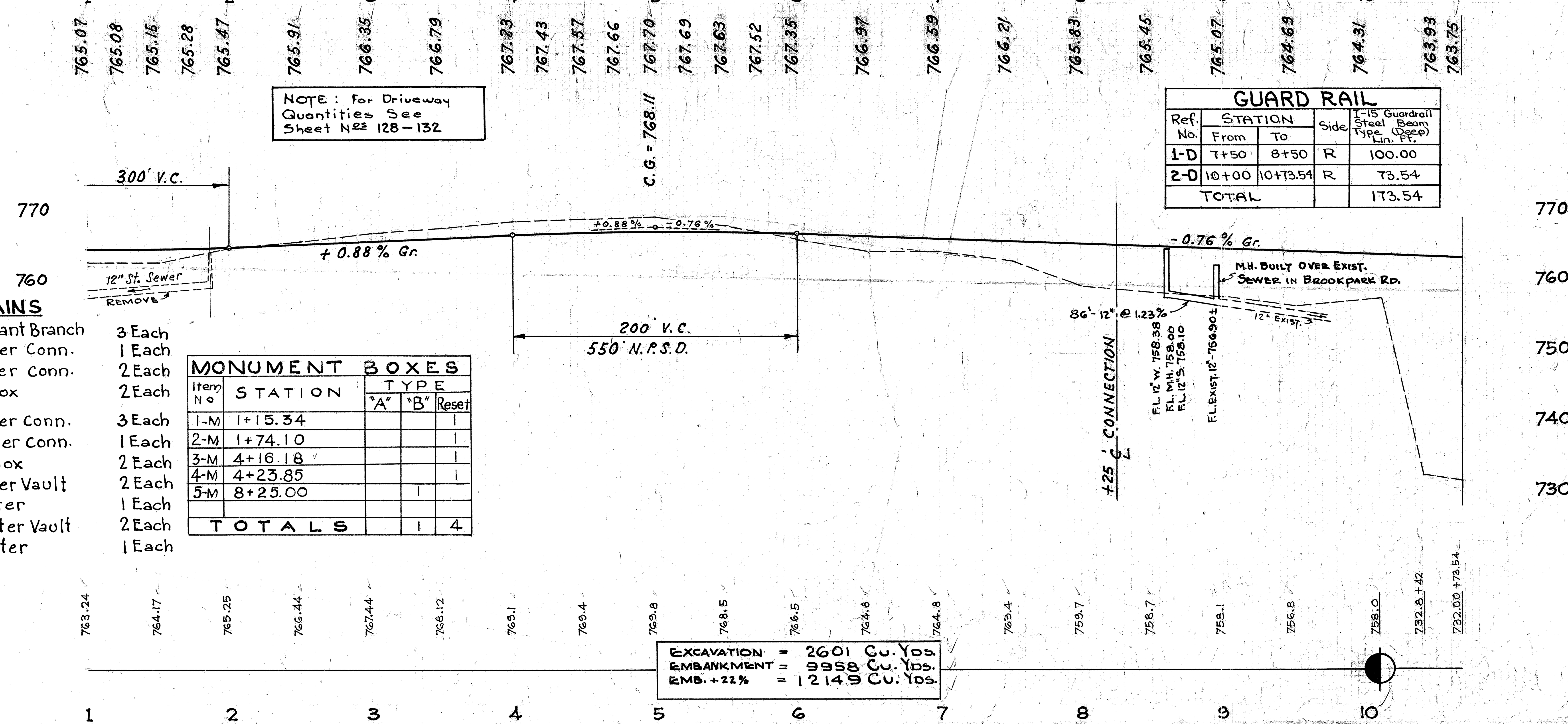
6" PIPE UNDERDRAIN

Ref. No	Station From	Station To	Side Left or Right	I-4 Lin. Feet Curb 6' Foot Deep	I-4 Lin. Feet Curb 2'-7" Deep	I-4 Lin. Feet Outlet for Under-Drains	I-5 Each Pipe Specials 6" Elbow	I-5 Each Pipe Specials 6" Tee
1-F	1+00	8+65±	L	760				
2-F	0+85	8+75	R	788				
3-F	7+61	Brookpark 8+92	L		182			
4-F	8+89	Brookpark 8+92	L		142			
5-F	Brookpark 8+92	Brookpark 9+00	L			56	1	1
TOTAL				1548	324	56	1	1

NOTE: For Driveway Quantities See Sheet N^os 128 - 132

GUARD RAIL

Ref. No.	Station From	Station To	Side	I-15 Guardrail Steel Beam Type (Deep) Lin. Ft.
1-D	7+50	8+50	R	100.00
2-D	10+00	10+73.54	R	73.54
TOTAL				173.54



WATER MAINS

BROOKLYN HEIGHTS VILL.	Extend 4" Hydrant Branch	3 Each
	Extend 5/8" Water Conn.	1 Each
	Extend 1" Water Conn.	2 Each
	Reset Valve Box	2 Each
CITY OF CLEVELAND	Extend 5/8" Water Conn.	3 Each
	Extend 1" Water Conn.	1 Each
	Reset Valve Box	2 Each
	Reset 5/8" Meter Vault	2 Each
	Reset 2" Meter	1 Each
	Rebuild 5/8" Meter Vault	2 Each
	Rebuild 2" Meter	1 Each

MONUMENT BOXES

Item No	STATION	Type "A"	Type "B"	Reset
1-M	1+15.34			1
2-M	1+74.10			1
3-M	4+16.18			1
4-M	4+23.85			1
5-M	8+25.00		1	
TOTALS			1	4

EXCAVATION = 2601 Cu. Yds.
EMBANKMENT = 9958 Cu. Yds.
EMB. + 22% = 12149 Cu. Yds.

STORM SEWER

Ref. No	Station from	Station to	Side Left or Right	I-2 Pipe (Lin. Feet) 12" Class "B"	I-2 Pipe (Lin. Feet) Under Pavt. 12" Class "B"	Item I-8 (Each) Std. M.H. #1	Item I-8 (Each) #1 Salv. Castg.	Item I-8 (Each) M.H. Adj. to Grade	Item I-8 (Each) Spec. C.I. #1 Salv. Cstg.	Item I-16 (Each) Abandon C.B.	Item I-16 (Each) Abandon M.H.	Item E-12 Remove and Dispose 12" Pipe Lin. Ft.	Item I-5 Spec. 12"x6" Tee	Location of Structure Station
1-S	1+00	1+85	L-R							2	1	84		3@1+85
2-S	7+58	7+73	L					1		2				1@7+58-1@7+71 1@7+73
3-S	7+50	8+60	L		110	1			1					1@7+50 1@8+60
4-S	8+60	8+75	L-R		73				1				1	8+75
5-S	8+60	8+95±	L	86			1							8+95±
TOTAL				86	183	1	1	1	2	4	1	84	1	

PLAN & PROFILE SCHAAF RD. RELOC. STA. 1+00 to P.C. STA. 10+73.54

FILL ADDITION 1963

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO		1955	15 / 169

CUYAHOGA COUNTY
SEC. CUY-17-14.99

KOESTER'S FILL
KOESTER'S SLOPE

B.M. #G Spike E. Root Twin Wild Cherry 63' South of ℄ Schaaf Rd. Reloc. Sta. 22+95 El. 699.152

STORM SEWERS

For Summary Tables of this Sheet SEE FOLLOWING SHEET No 16

GUARD RAIL

Ref No.	Station From	Station To	Side Left or Right	I-15 Guardrail Steel Beam Type Deep Lin. Ft.
1-D	10+73.54	17+27.5	L	643.96
2-D	18+51.3	25+34.3	L	682.99
3-D	10+73.54	14+50	R	376.46
4-D	19+50	25+34.3	R	584.30
TOTAL				2287.71

RIP RAP & DUMPED ROCK FILL

Ref. No	Station From	Station To	Side Left or Right	Item I-10 Riprap Sq. Yds.	Item I-10 Rock Fill Cu. Yds.
1-R	20+32		L	8	
2-R	21+10		R	15	15
3-R	21+0		L	9	
TOTALS				32	15

PAVED GUTTER

Ref. No	Station From	Station To	Side Left Right	Item I-14 Lin. Feet
1-G	11+00	13+00	L	215
2-G	11+09	12+25	R	117
3-G	18+50	20+32	L	206
4-G	21+00	22+50	L	169
5-G	19+00	25+34.29	R	624
6-G	23+00	25+34.29	L	189
TOTALS				1520

STRUCTURES 20' & UNDER

Ref. No	Station	New Structure	See Detail Sheet No
1-C	12+83.5	84" Pipe	145
2-C	23+53.5	24" Pipe	146
3-C	16+50±	8x6 Box	151

MONUMENT BOXES

Item No	Station	Type "A"	Type "B"	Reset
1-M	P.C. Sta. 10+73.54		1	
2-M	P.T. Sta. 25+34.29		1	
TOTALS		-	2	-

EXCAVATION = 2994 Cu. Yds.
EMBANKMENT = 85810 Cu. Yds.
EMB. + 22% = 104688 Cu. Yds.

HIGHWAY PLAN-PROFILE PLATES THE H. COLE CO. COLUMBUS, OHIO

PLAN & PROFILE SCHAAF RD. RELOC. P.C. STA. 10+73.54 TO P.T. STA. 25+34.29

2 OHIO

CUYAHOGA COUNTY
Sec. CUY-17-14.99

B.M. #G Spike E. Root Twin Wild Cherry 63' South of ℄ Schaaf Rd. Reloc. Sta. 22+95 El. 699.152

PAVED GUTTER

Ref. No	Station From	Station To	Side Left Right	Item I-14 Lin. Feet
1-G	11+00	13+00	L	215
2-G	11+09	12+25	R	117
3-G	18+50	20+32	L	206
4-G	21+00	22+50	L	169
5-G	19+00	25+34.29	R	624
6-G	23+00	25+34.29	L	189
TOTALS				1520

MONUMENT BOXES

Item No	STATION	TYPE "A"	TYPE "B"	Reset
1-M	P.C. Sta. 10+73.54		1	
2-M	P.T. Sta. 25+34.29		1	
TOTALS		-	2	-

STORM SEWERS

For Summary Tables of this Sheet SEE FOLLOWING SHEET No 16

GUARD RAIL

Ref No.	Station From	Station To	Side Left or Right	I-15 Guardrail Steel Beam Type Deep Lin. Ft.
1-D	10+73.54	17+27.5	L	643.96
2-D	18+51.3	25+34.3	L	682.99
3-D	10+73.54	14+50	R	376.46
4-D	19+50	25+34.3	R	584.30
TOTAL				2287.71

RIP RAP & DUMPED ROCK FILL

Ref. No	Station From	Station To	Side Left or Right	Item I-10 Riprap Sq. Yds.	Item I-10 Rock Fill Cu. Yds.
1-R	20+32		L	8	
2-R	21+10		R	15	15
3-R	21+0		L	9	
TOTALS				32	15

STRUCTURES 20' & UNDER

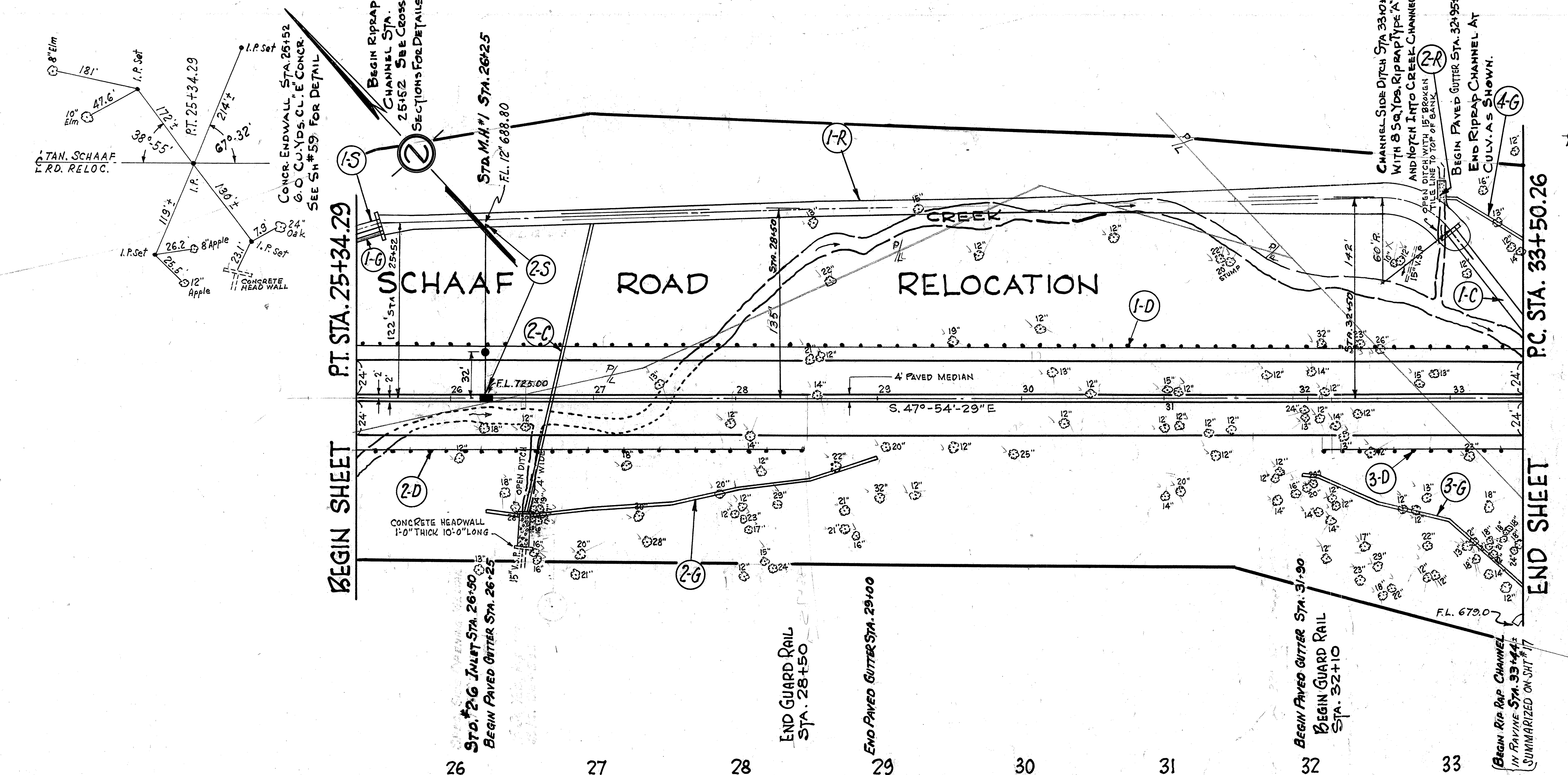
Ref. No	Station	New Structure	See Detail Sheet No
1-C	12+83.5	84" Pipe	145
2-C	23+53.5	24" Pipe	146
3-C	16+50±	8x6 Box	151

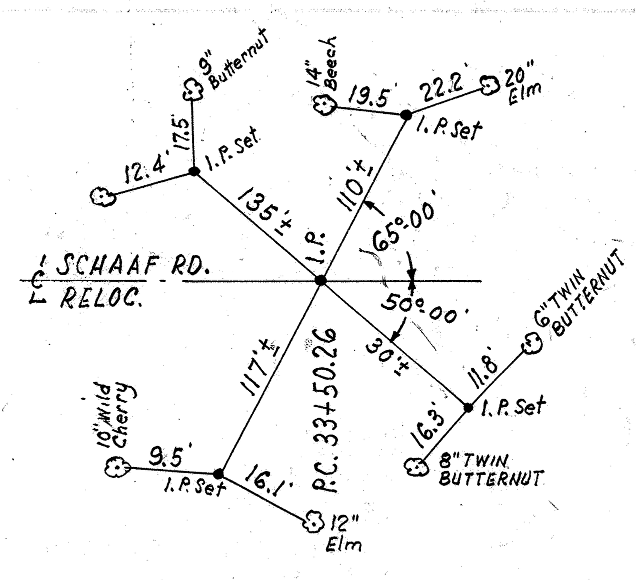
EXCAVATION = 2994 Cu. Yds.
EMBANKMENT = 85810 Cu. Yds.
EMB. + 22% = 104688 Cu. Yds.

PLAN & PROFILE SCHAAF RD. RELOC. -- P.C. STA. 10+73.54 to P.T. STA. 25+34.29

2 OHIO

CUYAHOGA COUNTY
SEC. CUY.-17-14.99





STORM SEWERS

Ref. Nº	Station From	Station To	Side Left or Right	I-2 Pipe (Lin. Ft.) 12" Class "A"	72" Cl. A	Under Pavt. 12" Cl. "B"	Item I-8 Each Std. M.H. #1	Std. #2-G Inlet	E-2 Excav. for Structure Cu. Yds.	S-1 Class "E" Concr. Cu. Yds.	Location of Structure Station
1-S	25+34.29	25+52	L		18A				13.0	6.0	25+52
2-S	26+25		¢-L	98B		30B	1	1			2@ 26+25
TOTAL				98B	18A	30B	1	1	13.0	6.0	

STORM SEWER SUMMARY FOR SHEET Nº 15

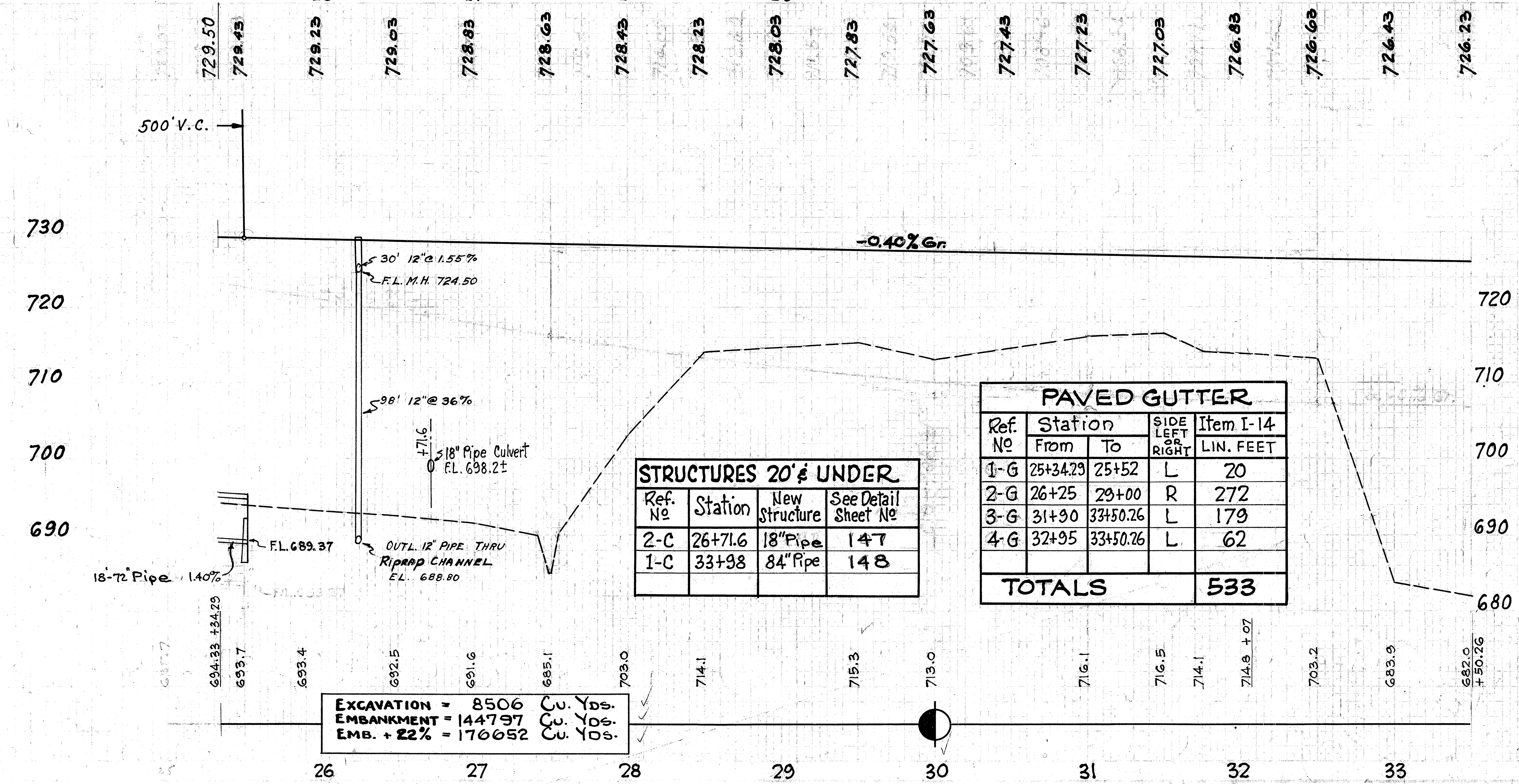
Ref. Nº	Station from	Station to	Side Left or Right	I-2 Pipe (Lin. Feet) 12" Cl. "A"	15" Cl. "B"	18" Cl. "A"	72" Cl. "A"	72" Cl. "A" 10-10 Ga.	Under Pavt. 12" Cl. "A"	Under Pavt. 12" Cl. "B"	Under Pavt. 15" Cl. "B"	Item I-8 Each Std. #2-10 Inlet	Std. M.H. #1	Std. C.B. #1-2A	Std. C.B. #2-6	Item I-5 72" Pipe Special Each	Item I-16 Abandon San. M.H. Each	S-1 Class "C" Conc. Cu. Yds.	S-4 Reinforcing Steel Lbs	E-2 Excavation for Structures Cu. Yds.	Location of Structure Station
1-S	13+50	16+75	¢-R							322		2									
2-S	16+75	17+00	¢-R							42			1								17+00
3-S	17+0	17+44	R		25						17										
4-S	15+70	17+00	R	94					32					1							15+70
5-S	16+95		L														1				16+95
6-S	20+32		L													1					20+32
7-S	20+32		L			46												1.0	26.0	3.0	20+32
8-S	18+90	24+00	L				525														
9-S	24+00		L												1						24+00
10-S	24+00	25+34.29	L					142													
11-S	24+00		L	54									1								24+00
12-S	22+70	24+00	¢-L							132		1									22+70
TOTALS				138	25	46	525	142	32	496	17	3	2	1	1	1	1	1.0	26.0	3.0	

RIP RAP

Ref. Nº	Station From	Station To	Side Left or Right	Item I-10 Sq. Yds.
1-R	25+52	33+13±	L	1380
2-R	33+00±		L	8
TOTAL				1388

GUARD RAIL

Ref. Nº	Station From	Station To	Side Left or Right	I-15 Guard Rail Steel Beam Type Lin. Feet
1-D	25+34.29	33+50.26	L	815.97
2-D	25+34.29	28+50	R	315.71
3-D	32+00	33+50.26	R	140.26
TOTAL				1272



STRUCTURES 20' & UNDER

Ref. Nº	Station	New Structure	See Detail Sheet Nº
2-C	26+71.6	18" Pipe	147
1-C	33+98	84" Pipe	148

PAVED GUTTER

Ref. Nº	Station From	Station To	Side Left or Right	Item I-14 Lin. Feet
1-G	25+34.29	25+52	L	20
2-G	26+25	29+00	R	272
3-G	31+90	33+50.26	L	179
4-G	32+95	33+50.26	L	62
TOTALS				533

EXCAVATION = 8506 CU. YDS.
EMBANKMENT = 144797 CU. YDS.
EMB. + 22% = 176652 CU. YDS.

PLAN & PROFILE SCHAAF RD. RELOC. -- P.T. STA. 25+34.29 to P.C. STA. 33+50.26

OHIO
CUYAHOGA COUNTY
SEC. CUY-17-14.99

STRUCTURES 20' & UNDER

Ref. No	Station	New Structure	See Detail Sheet No
1-C	33+98	84" Pipe Culvt.	148

PAVED GUTTER

Ref. No	Station From	Station To	Side Left or Right	Item I-14 Lin. Feet
1-G	33+50.26	34+75	L	131'
2-G	33+50.26	34+20	R	82'
3-G	42+75	43+40	L	73'
4-G	43+50	43+75	L	25
TOTAL				311

MONUMENT BOXES

Ref. No	Station	Type A	Type B	Reset
1-M	P.C. 33+50.26		1	
2-M	P.I. of Curve	1		
3-M	P.T. 47+16.99		1	
TOTAL		1	2	

GUARD RAIL

Ref. No	Station From	Station To	Side Left or Right	I-15 Guard Rail Steel Beam Type Lin. Feet
1-D	33+50.26	34+80	L	129.74
2-D	33+50.26	44+75	R	1124.74
3-D	48+25	48+50	R	25.00
TOTAL				1279.48

RIP RAP & DUMPED ROCK FILL

Ref. No	Station From	Station To	Side Left or Right	Item I-10 Riprap Sq. Yds.	Rock Fill Cu. Yds.
1-R	33+44	34+38	R	95.0	
2-R	35+00	36+20	R	248.0	
3-R	37+70	38+00	R	60.0	90.0
4-R	38+76	39+18	R	35.0	
5-R	43+07	43+55	L	48.0	
6-R	43+34	43+43	R	7.0	
7-R	40+10	40+35	R	30.0	
TOTAL				523.0	90.0

STORM SEWERS

Ref. No	Station From	Station To	Side Left or Right	I-2 Pipe 15" Cl. A M-6.6(b) or M-6A(d)	I-2 Pipe 24" Cl. A M-6.6(c) M-6A(d)	I-2 Pipe 84" Cl. A M-166.6(d) M-6.4(a) 10-8 GA.	Under Pavt. 12" Cl. A	Under Pavt. 12" Cl. B	Under Pavt. 24" Cl. A	I-8 Std. C.B. #1-2A	I-8 Std. #2-6 Inlet	I-8 Std. #2-10 Inlet	Item I-5 84" Pipe Special Each	E-2 Excav. for Struc. Cu. Yds.	Item S-1 Class "E" Concrete Cu. Yds.	Location of Structure Station
1-S	37+00		L-R	158			46			1	1					2@37+00
2-S	36+20	37+70	R			155							1	30	11.0	
3-S	43+38	43+50	L-R		124				64		1			4	0.82	43+50
4-S	47+00	48+25	℄-R				44	123		1		1				2@47+00
5-S	48+25	48+50	℄-R					28			1					48+25
TOTAL				158	124	155	90	151	64	2	3	1	1	34	11.82	

6" PIPE UNDERDRAIN

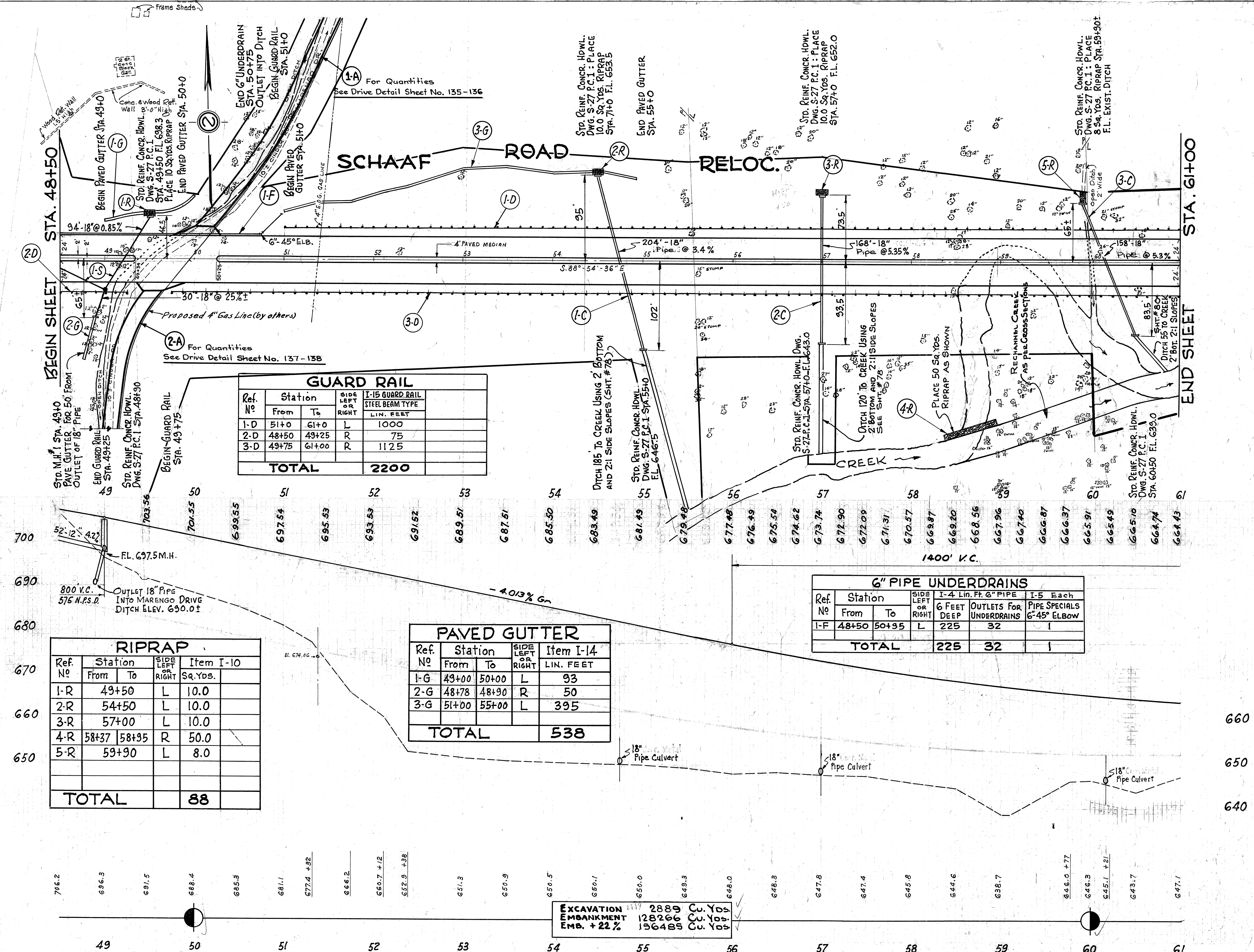
Ref. No	Station From	Station To	Side Left or Right	I-4 Lin. Ft. 6" Pipe 6 Feet Deep	4 Feet Deep	Outlets for Underdrains	I-5 Each Pipe Specials 6"-45° Elbow	6" Tee	6" Elbow
1-F	37+50	43+50	L	562		34	1		
2-F	44+25	48+50	L	422				1	
3-F	44+50	48+25	R	352		34	1		
4-F	45+50	48+0	L		234	128			1
TOTAL				1336	234	196	2	1	1

EXCAVATION = 16219 Cu. Yds.
EMBANKMENT = 139696 Cu. Yds.
EMB. +22% = 170429 Cu. Yds.

EXCAVATION = 125955 Cu. Yds.
EMBANKMENT = 29784 Cu. Yds.
EMB. +22% = 36336 Cu. Yds.

PLAN & PROFILE SCHAAF RD. RELOC. P.C. STA. 33+50.26 to STA. 48+50

CUYAHOGA COUNTY
SEC. CUY. - 17 - 14.99



GUARD RAIL

Ref. Nº	Station From	Station To	Side Left or Right	I-15 Guard Rail Steel Beam Type Lin. Feet
1-D	51+0	61+0	L	1000
2-D	48+50	49+25	R	75
3-D	49+75	61+00	R	1125
TOTAL				2200

RIPRAP

Ref. Nº	Station From	Station To	Side Left or Right	Item I-10 Sq. Yds.
1-R	49+50		L	10.0
2-R	54+50		L	10.0
3-R	57+00		L	10.0
4-R	58+37	58+95	R	50.0
5-R	59+90		L	8.0
TOTAL				88

PAVED GUTTER

Ref. Nº	Station From	Station To	Side Left or Right	Item I-14 Lin. Feet
1-G	49+00	50+00	L	93
2-G	48+78	48+90	R	50
3-G	51+00	55+00	L	395
TOTAL				538

6" PIPE UNDERDRAINS

Ref. Nº	Station From	Station To	Side Left or Right	I-4 Lin. Ft. 6" Pipe 6 Feet Deep	I-4 Outlets for Underdrains	I-5 Each Pipe Specials 6"-45° Elbow
1-F	48+50	50+95	L	225	32	1
TOTAL				225	32	1

STORM SEWERS

Ref. Nº	Station From	Station To	Side Left or Right	I-2 Pipe (Lin. Ft.) 18" Cl. "B"	I-2 Under Pavt. 12" Cl. "B"	I-2 Under Pavt. 18" Cl. A	I-8 Std. M.H. #1 Each	E-2 Excav. for Struct. Cu. Yds.	S-1 Class "C" Conc. Cu. Yds.	S-4 Reinf. Steel Lbs.	Location of Structure Station
1-5	48+50	49+50	L-R	30	52	94	1	6.0	2.0	52	49+00
TOTAL				30	52	94	1	6.0	2.0	52	

STRUCTURES 20 FT. & UNDER

Ref. Nº	Station From	Station To	Side Left or Right	S-27 with Gran. Bedding (Lin. Feet) 18" M-6.4(d) or M-106.6(d)	18" M-6.6(c) or M-6.4(d)	18" M-6.6(b) or M-6.4(d)	E-2 Excav. Incl. Gran. Backfill Cu. Yds.	S-1 Class "C" Concrete Cu. Yds.	S-4 Reinf. Steel Lbs.
1-C	54+75		L-R	204			24.0	2.0	52
2-C	57+00		L-R		168		18.0	2.0	52
3-C	60+17		L-R			158	16.0	2.0	52
TOTAL				204	168	158	58.0	6.0	156

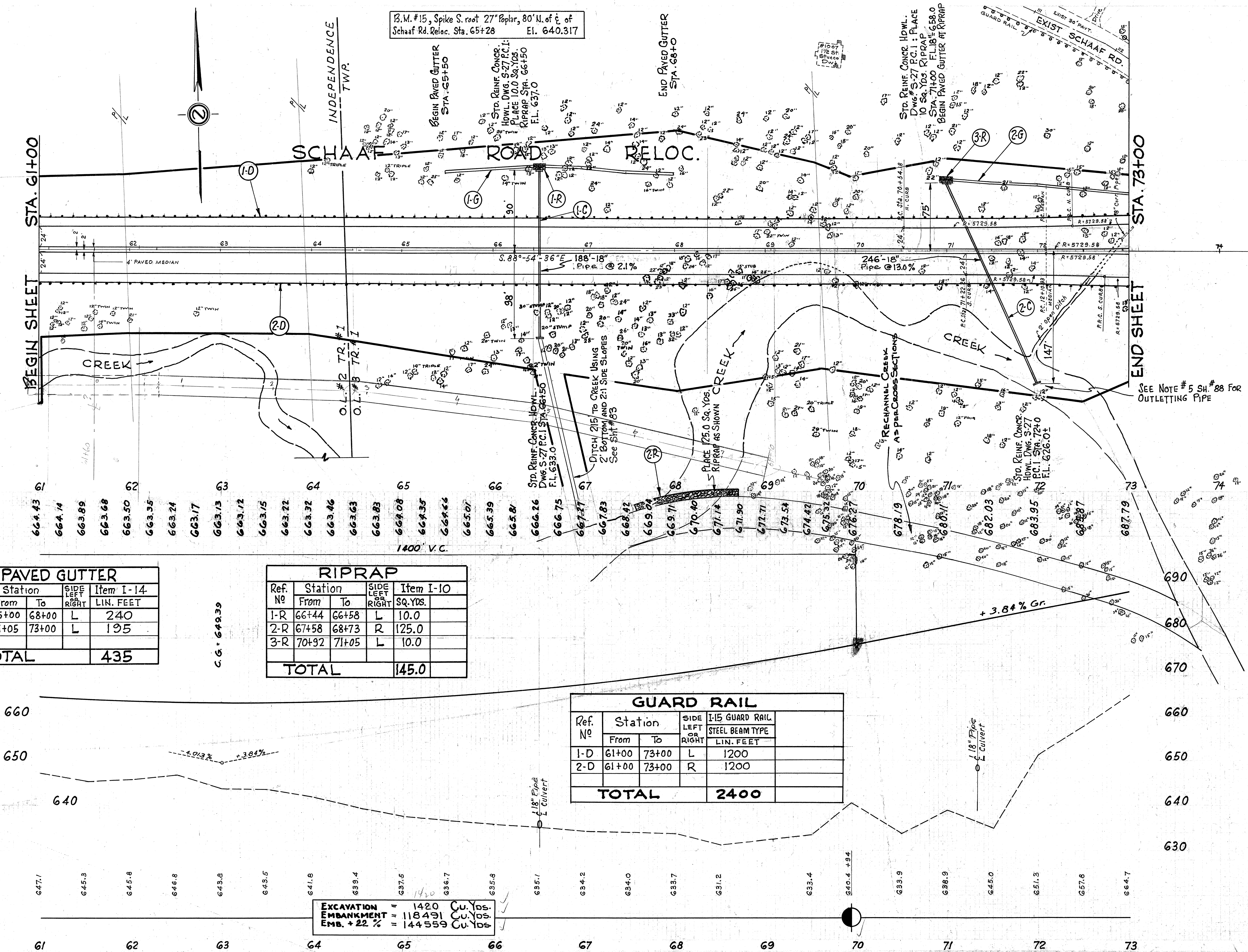
EXCAVATION	2889	CU. YDS.
EMBANKMENT	128266	CU. YDS.
EMB. + 22%	156485	CU. YDS.

Rev. 3-24-55 E.M.R.

PLAN & PROFILE SCHAAF RD. RELOC. STA. 48+50 to STA. 61+00

2 OHIO

CUYAHOGA COUNTY
Sec. CUY-17-14.99



PAVED GUTTER				
Ref. No	Station From	Station To	Side Left or Right	Item I-14 LIN. FEET
1-G	65+00	68+00	L	240
2-G	71+05	73+00	L	195
TOTAL				435

RIPRAP				
Ref. No	Station From	Station To	Side Left or Right	Item I-10 SQ. YDS.
1-R	66+44	66+58	L	10.0
2-R	67+58	68+73	R	125.0
3-R	70+92	71+05	L	10.0
TOTAL				145.0

GUARD RAIL				
Ref. No	Station From	Station To	Side Left or Right	I-15 GUARD RAIL STEEL BEAM TYPE LIN. FEET
1-D	61+00	73+00	L	1200
2-D	61+00	73+00	R	1200
TOTAL				2400

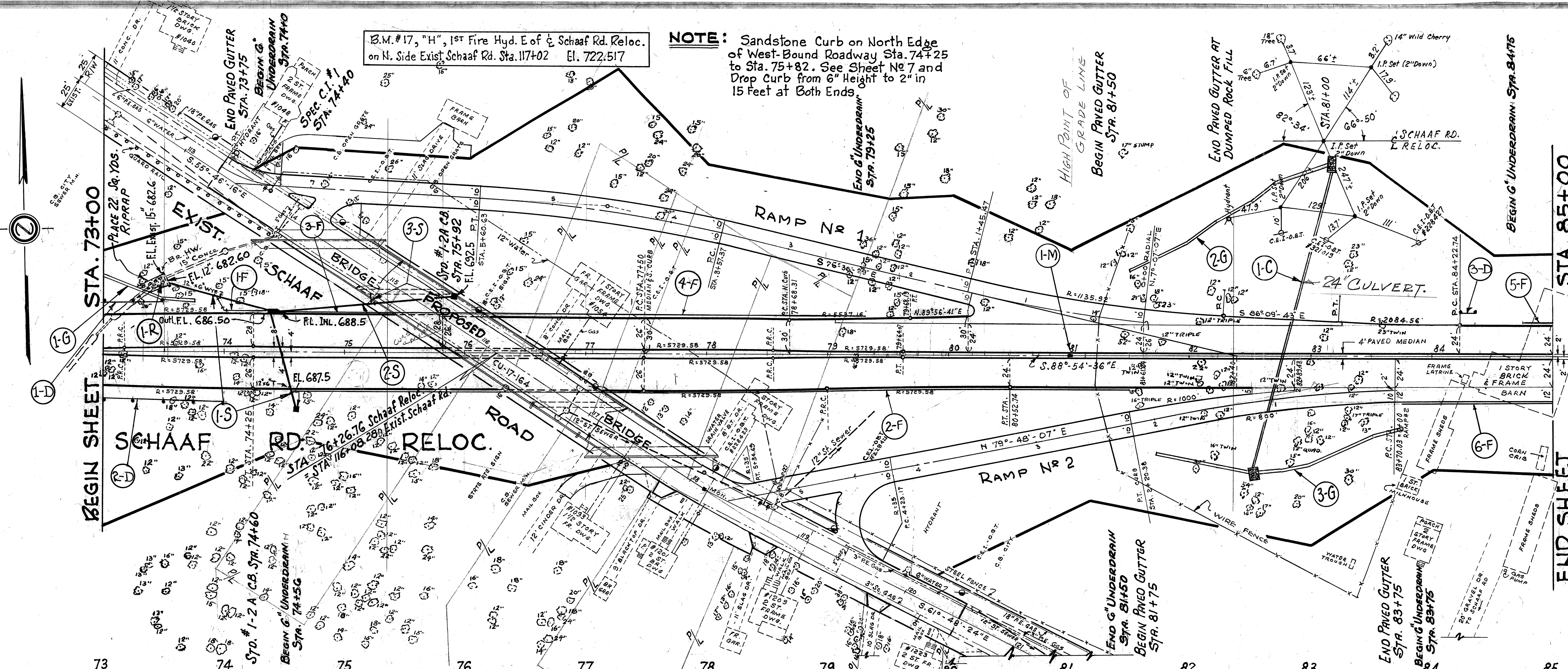
Excavation	= 1420 Cu. Yds.
Embankment	= 118491 Cu. Yds.
Emb. + 22 %	= 144559 Cu. Yds.

STRUCTURES 20 FT. & UNDER

Ref. No	Station	Side Left or Right	S-27 with Gran. Bedding (Lin. Feet) 18" M6.4 (d) or M106.6 (d)	E-2 EXCAV. INCL. GRAN. BACKFILL CU. YDS	Item S-1 Class "C" CONCRETE CU. YDS.	S-4 REINF. STEEL LBS.
1-C	66+50	L-R	188	25.0	2.0	52
2-C	71+33	L-R	246	18.0	2.0	52
TOTAL			434	43.0	4.0	104

PLAN & PROFILE ·· SCHAAF RD. RELOC ·· STA. 61+00 to STA. 73+00

2 OHIO
CUYAHOGA COUNTY
Sec. CUY.-17-14.99

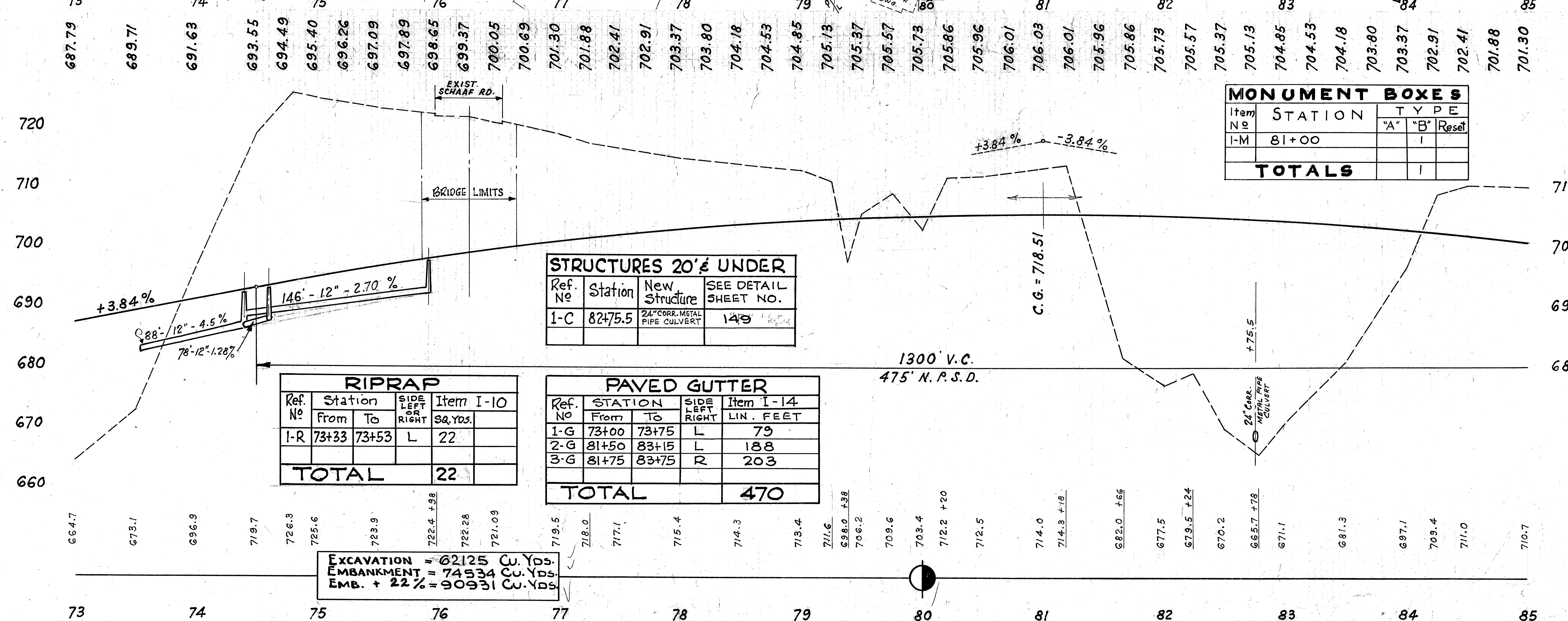


NOTE: Sandstone Curb on North Edge of West-Bound Roadway Sta. 74+25 to Sta. 75+82. See Sheet № 7 and Drop Curb from 6" Height to 2" in 15 Feet at Both Ends.

6" PIPE UNDERDRAINS							
Ref. №	Station From	Station To	Side Left or Right	I-4 Lin. Feet 6 Feet Deep	I-4 Lin. Feet 6 Feet Deep Curb	6" Pipe Outlets for Underdrains	I-5 Each Pipe Specials 6"-45 Elbow
1-F	73+93	74+38	L	25	13	14	1
2-F	74+56	81+50	R	694			
3-F	74+40	75+82	L		142		
4-F	75+82	79+25	L	343			
5-F	84+75	85+00	L	25			
6-F	83+75	85+00	R	125			
TOTALS				1212	155	14	1

NOTE
SEE CROSS SECTION SHEET # 86/169 FOR REVISION OF PLAN WORK BY CHANGE ORDER. THIS CONCERNS THE 24" CULVERT SHOWN ON THIS SHEET.

PROPOSED STRUCTURE CU-17-164
TYPE: Continuous Steel Pl. Girders with Conc. Deck & Conc. Substructure.
SPAN: 76'-94'-80'-70' c/c bearings.
LOAD FREQUENCY RATING: CF-400-51
ROADWAY: 30' f/f curbs
SIDEWALKS: 2 @ 4.5'
ALIGNMENT: Tangent
SKEW: 56°-51'-40" L.F.
SURFACE COURSE: Bituminous
APPROACH SLABS: AS-44S-Type II



MONUMENT BOXES				
Item №	STATION	TYPE "A"	TYPE "B"	TYPE Reset
1-M	81+00		1	
TOTALS			1	

STRUCTURES 20' & UNDER			
Ref. №	Station	New Structure	SEE DETAIL SHEET NO.
1-C	82+75.5	24" CORR. METAL PIPE CULVERT	149

RIPRAP				
Ref. №	Station From	Station To	SIDE LEFT OR RIGHT	Item I-10 SQ. YDS.
1-R	73+33	73+53	L	22
TOTAL				22

PAVED GUTTER				
Ref. №	STATION From	STATION To	SIDE LEFT OR RIGHT	Item I-14 LIN. FEET
1-G	73+00	73+75	L	79
2-G	81+50	83+15	L	188
3-G	81+75	83+75	R	203
TOTAL				470

EXCAVATION = 62125 CU. YDS.
EMBANKMENT = 74534 CU. YDS.
EMB. + 22% = 90931 CU. YDS.

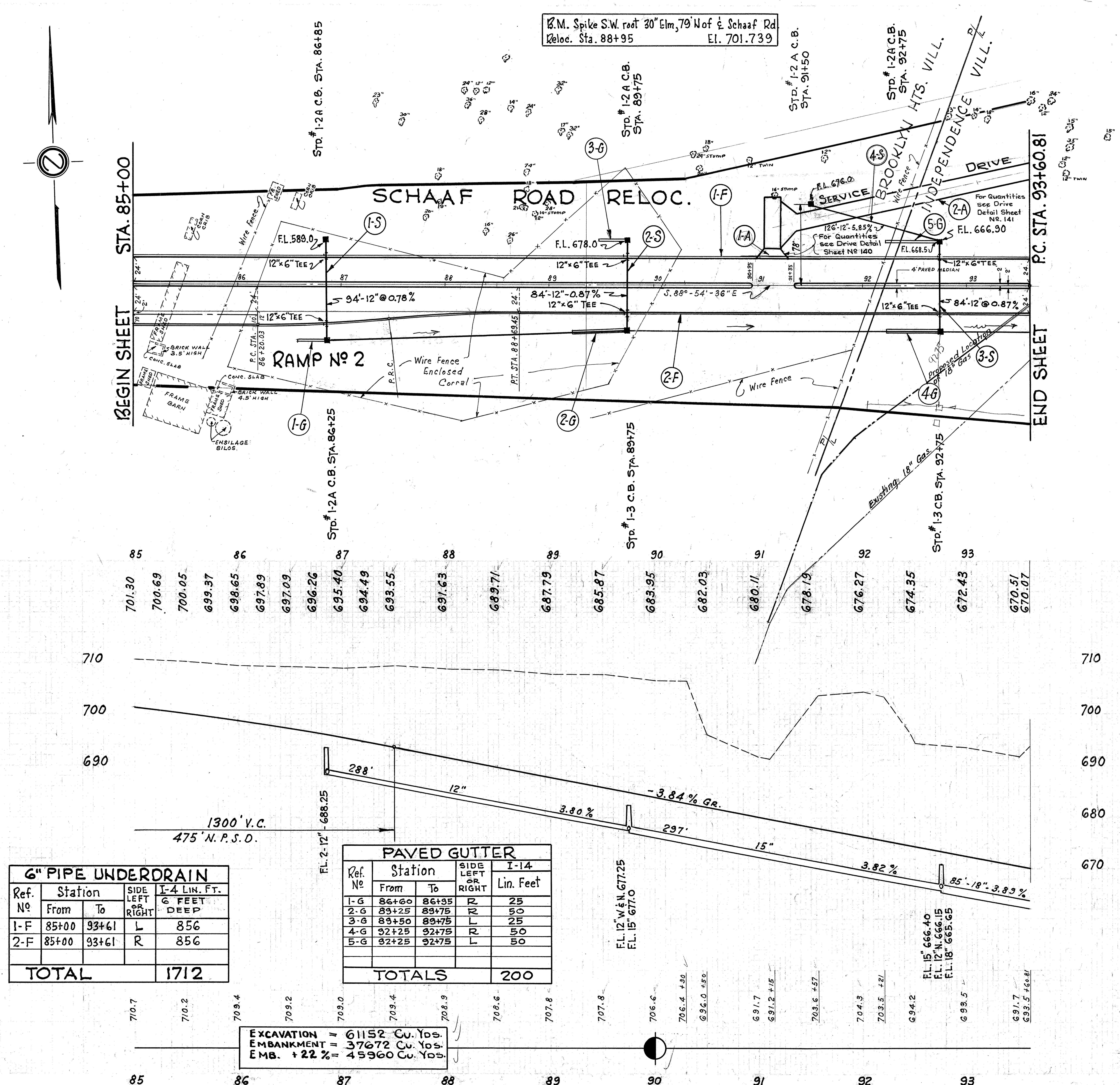
STORM SEWERS												
Ref. №	Station From	Station To	Side Left or Right	I-2 PIPE (Lin. Feet) 12" Cl. "B"	I-2 PIPE UNDER PAVT. 12" Cl. "A"	I-2 PIPE UNDER PAVT. 12" Cl. "B"	S-29 Lin. Ft. 6" STD. W.I. PIPE INCLUDING SPECIALS	Item I-8 (Each) STD. # I-2A C.B.	Item I-8 (Each) SPEC. C.I. #1	I-5 Each PIPE SPECIALS 12"x6" TEE	I-5 Each PIPE SPECIALS 12"x6" WYE	Location of Structure STATION
1-S	73+55	74+60	L-R	86	76			1	1	1	1	1 @ 74+40 1 @ 74+60
2-S	74+40	75+92	L			146		1		2		75+92
3-S	75+20	75+80	L				28					OUTL. BRIDGE DRAINS
TOTAL				86	76	146	28	2	1	3	1	

GUARD RAIL				
Ref. No.	STATION From	STATION To	Side Right or Left	I-15 Guardrail Steel Beam Type (Deep) Lin. Ft.
1-D	73+00	73+50	5L	50.00
2-D	73+00	74+00	R	100.00
3-D	84+22.74	84+35.24	L	12.50
TOTAL				162.50

PLAN & PROFILE SCHAAF RD. RELOC. STA. 73+00 to STA. 85+00

2 OHIO

CUYAHOGA COUNTY
SEC. CUY.-17-14.99



6" PIPE UNDERDRAIN				
Ref. Nº	Station From	Station To	Side Left or Right	I-4 Lin. Ft. 6 Feet Deep
1-F	85+00	93+61	L	856
2-F	85+00	93+61	R	856
TOTAL				1712

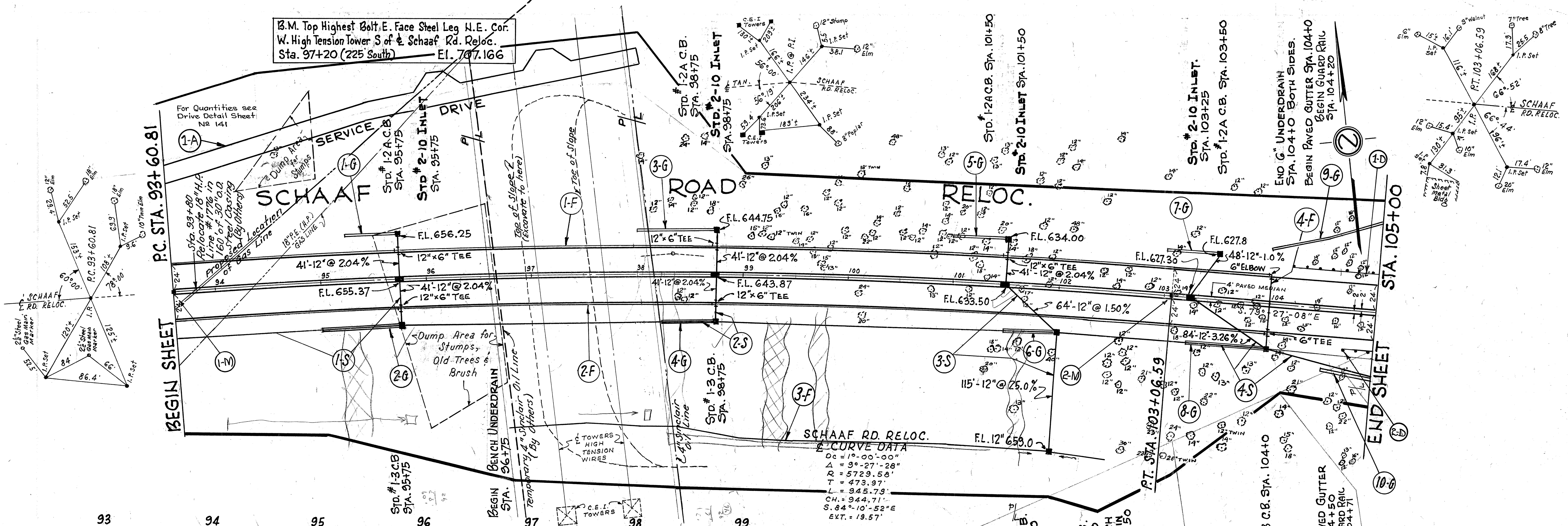
PAVED GUTTER				
Ref. Nº	Station From	Station To	Side Left or Right	I-14 Lin. Feet
1-G	86+60	86+85	R	25
2-G	89+25	89+75	R	50
3-G	89+50	89+75	L	25
4-G	92+25	92+75	R	50
5-G	92+25	92+75	L	50
TOTALS				200

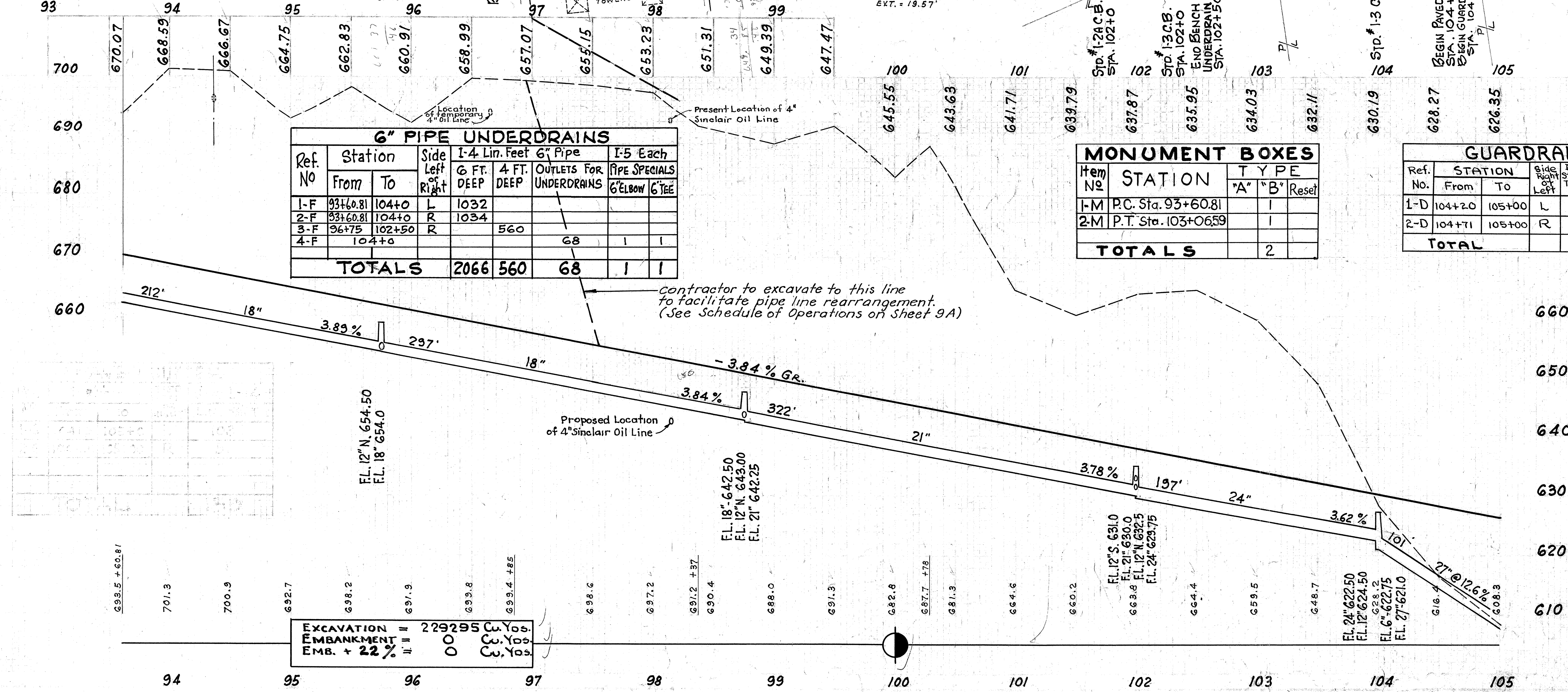
EXCAVATION = 61152 Cu. Yds.
EMBANKMENT = 37672 Cu. Yds.
EMB. + 22% = 45960 Cu. Yds.

STORM SEWERS																	
Ref. Nº	Station From	Station To	Side Left or Right	I-2 Pipe Lin. Feet 12" Cl. "A"	15" Cl. "A"	18" Cl. "A"		Under Pavt. 12" Cl. "A"				I-8 Each Std. C.B. #1-2A	#1-3		I-5 Each Pipe Specials 12"×6" Tee		Location of Structure Station
1-S	86+85	89+75	L-R	288				90				2			2		86+85
2-S	89+75	92+75	L-R		297			80				1	1		2		89+75
3-S	92+75	93+60.81	L-R			85		80				1	1		2		92+75
4-S	91+50	92+75	L	106				20				1					91+50
TOTAL				394	297	85		270				5	2		6		

PLAN & PROFILE SCHAAF RD. RELOC. STA. 85+00 to P.C. STA. 93+60.81

2 OHIO
CUYAHOGA COUNTY
SEC. CUY.-17-14.99





PAVED GUTTER

Ref. №	Station From	Station To	Side Left or Right	I-14 Lin. Feet
1-G	95+25	95+75	L	50
2-G	95+0	95+75	R	75
3-G	98+0	98+75	L	75
4-G	98+25	98+75	R	50
5-G	101+0	101+50	L	50
6-G	101+50	102+0	R	50
7-G	103+0	103+50	L	50
8-G	103+25	104+0	R	75
9-G	104+0	105+0	L	108
10-G	104+50	105+0	R	51
TOTALS				634

6" PIPE UNDERDRAINS

Ref. No	Station From	Station To	Side Left or Right	I-4 Lin. Feet 6" Pipe: 6 FT. DEEP	4 FT. DEEP	OUTLETS FOR UNDERDRAINS	I-5 Each Pipe Specials: 6" ELBOW	6" TEE
1-F	93+60.81	104+0	L	1032				
2-F	93+60.81	104+0	R	1034				
3-F	96+75	102+50	R		560			
4-F	104+0					68	1	1
TOTALS				2066	560	68	1	1

MONUMENT BOXES

Item №	STATION	TYPE "A"	"B"	Reset
1-M	P.C. Sta. 93+60.81		1	
2-M	P.T. Sta. 103+06.59		1	
TOTALS			2	

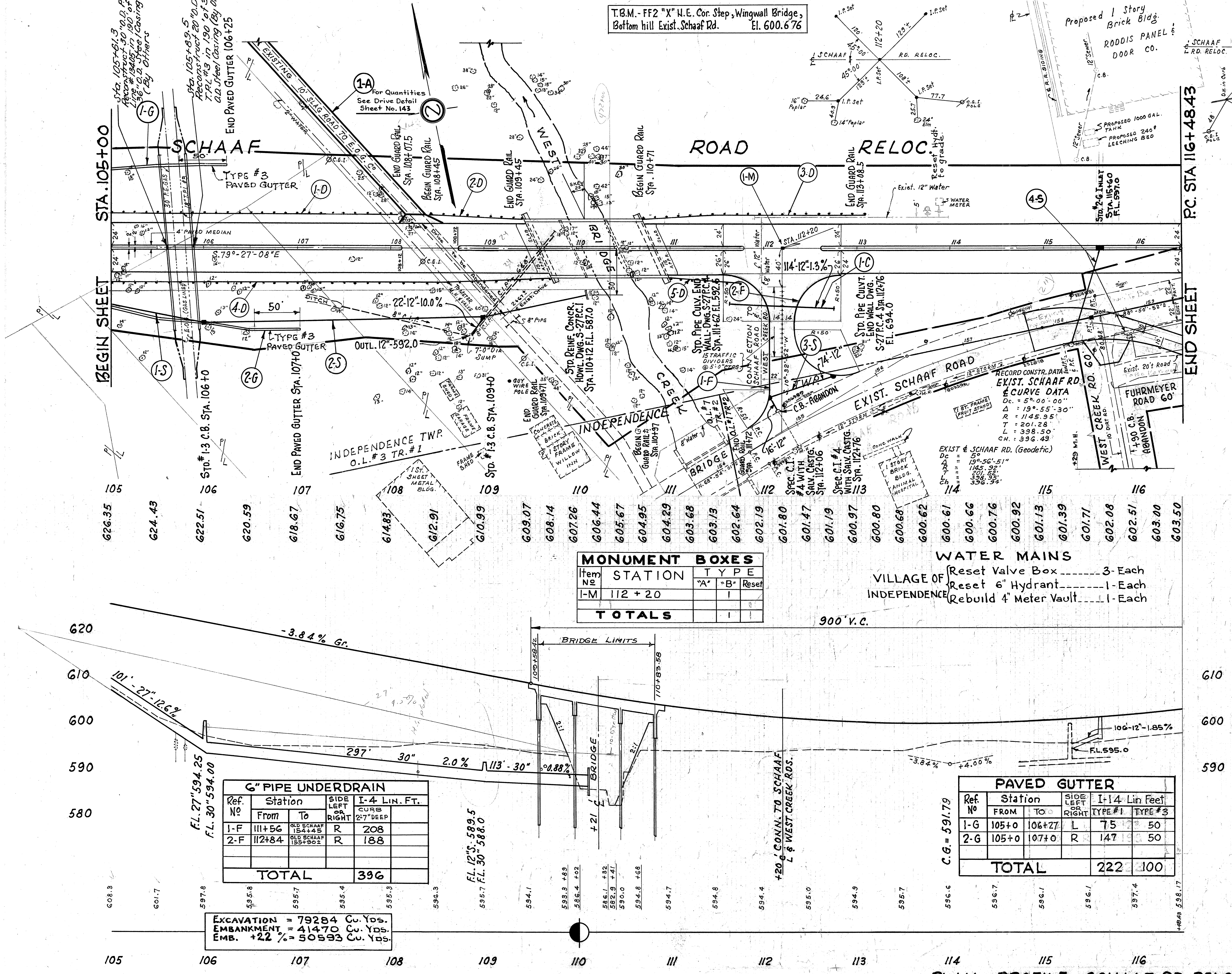
GUARDRAIL

Ref. No.	STATION From	To	Side Right or Left	I-15 Guardrail Steel Beam Type (Deep) LIN. FT.
1-D	104+20	105+00	L	80.0
2-D	104+71	105+00	R	29.0
TOTAL				109.0

STORM SEWER

Ref. №	Station From	Station To	Side Left or Right	I-2 Pipe Lin. Feet: 12" Cl. "A"	18" Class "A"	18" Class "B"	21" Cl. "B"	24" Cl. "B"	27" Cl. "B"	Under Pavt. 12" Cl. "A"	Under Pavt. 12" Cl. "B"	Item I-8 Each: Std. C.B. #1-2A	Std. C.B. #1-3	Std. #2-10 Inlet	Location of Structure: Station
1-S	93+60.81	95+75	L-R		212					39	39	1	1	1	3 @ 95+75
2-S	95+75	98+75	L-R			297				39	39	1	1	1	3 @ 98+75
3-S	98+75	102+0	L-R	115			322			39	64	2	1	1	2 @ 101+50, 2 @ 102+00
4-S	102+0	105+0	L-R					197	101	48	84	1	1	1	1 @ 103+25, 1 @ 103+50, 1 @ 104+00
TOTAL				115	212	297	322	197	101	165	226	5	4	4	

2 OHIO
CUYAHOGA COUNTY
SEC. CUY-17-14.99



GUARD RAIL

Ref. No	Station From	Station To	Side Left or Right	I-15 Guard Rail Steel Beam Type Lin. Feet
1-D	105+0	108+07.5	L	307.5
2-D	108+45	109+45	L	100.0
3-D	110+71	113+08.5	L	237.5
4-D	105+0	109+71	R	471.0
5-D	110+97	111+72	R	75.0
TOTAL				1191

PROPOSED STRUCTURE

TYPE : Cont. Reinf. Conc. Slab with Capped Pile Substructure.
SPANS : 38' - 47.5' - 38' c/c bearings.
ROADWAY : 56'-0" f/f curbs with two 3'-0" Sidewalks.
LOAD FREQUENCY RATING : C.F. 2000
SKEW : 25°-00' R.F.
WEARING SURFACE : 1" Monolithic Concrete.
APPROACH SLABS : AS-1-54
ALIGNMENT : Tangent

MONUMENT BOXES

Item No	STATION	TYPE "A"	TYPE "B"	Reset
I-M	112 + 20		1	
TOTALS			1	

WATER MAINS

VILLAGE OF INDEPENDENCE
Reset Valve Box 3-Each
Reset 6" Hydrant 1-Each
Rebuild 4" Meter Vault 1-Each

6" PIPE UNDERDRAIN

Ref. No	Station From	Station To	Side Left or Right	I-4 Lin. Ft. Curb 2'-7" Deep
1-F	111+56	Old Schaaf 154+45	R	208
2-F	112+84	Old Schaaf 155+90?	R	188
TOTAL				396

PAVED GUTTER

Ref. No	Station From	Station To	Side Left or Right	I-14 Lin Feet Type #1	I-14 Lin Feet Type #3
1-G	105+0	106+27	L	75	50
2-G	105+0	107+0	R	147	50
TOTAL				222	100

EXCAVATION = 79284 Cu. Yds.
EMBANKMENT = 41470 Cu. Yds.
EMB. +22% = 50593 Cu. Yds.

STRUCTURES 20 FT. & UNDER

Ref. No	Station From	Station To	Side Left or Right	S-27 with Gran Bedding Lin. Ft. 12"	E-2 Excavation Incl. Gran. Backfill Cu. Yds.	S-1 Class "E" Concrete Cu. Yds.
1-C	111+63	112+77	R	114	24	.46
TOTAL				114	24	.46

STORM SEWERS

Ref. No	Station From	Station To	Side Left or Right	I-2 Pipe Lin. Ft. 12" Cl."A"	I-2 Pipe 27" Cl."B"	I-2 Pipe 30" Cl."B"	Under Pav't 12" Cl."B"	I-8 Each Std. #2-G Inlet	I-8 Std. #1-3 C.B	I-8 Spec. C.I.#4 Salv. Castg.	E-2 Excav. for Struc. Cu. Yd.	I-16 C.B. Abandon (Each)	S-4 Reinf Steel Lbs.	S-1 Class "C" Concrete Cu. Yds.	Location of Structure Station
1-S	105+0	106+0	R		101				1						106+00
2-S	106+0	110+12	R	22		410			1		6.0		38	1.9	1 @ 109+00, 1 @ 110+12
3-S	112+06	112+76	R				90			2		1			1@112+06 & +76, 1 @ 112+16
4-S	115+29	115+90	R				106	1				1			115+60, 115+90
TOTAL				22	101	410	196	1	2	2	6.0	2	38	1.9	

PLAN & PROFILE ·· SCHAAF RD. RELOC. ·· STA. 105+00 to P.C. STA. 116+48.43

T.B.M.- FF1-"X" N.E. Wingwall B&O.R.R. Bridge 5.5' N. of Curb Line Exist. Schaaf Rd. El. 627.595

NOTE: For Driveway Quantities See Sheet No. 140

MONUMENT BOXES				
Item No	STATION	TYPE "A"	TYPE "B"	Reset
1-M	P.C. Sta.116+48.43		1	
2-M	P.T. Sta.121+68.43		1	
			2	
TOTALS				

6" PIPE UNDERDRAINS					
Ref. No.	STATION From	STATION To	Side Right or Left	I-4 Lin. Ft. Curb 2'-7" Deep	
1-F	122+20	123+15	L	94	
2-F	122+20	123+48	R	126	
TOTALS				220	

GUARD RAIL				
Ref. No.	STATION From	STATION To	Side Right or Left	I-15 Guardrail Steel Beam Type (Deep) Lin. Ft.
1-D	118+52.5	123+40	L	487.5
2-D	117+99	123+74	R	575.0
TOTAL				1062.5

STORM SEWERS													
				I-2 Lin. Ft. Pipe			I-8 Each				I-16 Each		
Ref. No.	Station From	Station To	Side Right or Left	12" Cl."B"	Under Pavt. 12" Cl."B"		Adjust To Grade C.B.	Adjust To Grade M.H.	Std. #2-6 Inlet	Std. M.H.#1 Salv. Cstg.	Abandon C.B.		Location of Structure
1-S	117+19	117+34	R					1			1		117+19 : 117+34
2-S	117+34	118+10	R	44	50				1		2		117+84,+88 : 118+10
3-S	119+87	119+92	R&L								2		119+87 : 119+92
4-S	122+20		R&L				2						2@122+20
5-S	120+21									1			120+21
TOTALS				44	50		2	1	1	1	5		

STRUCTURES 20 FT. & UNDER						
Ref. No.	Station	Side Right or Left.	S-27 30" Lin. Ft.		E-2 Excav. For Struc Cu. Yds.	S-1 Class "E" Concr. Cu. Yds.
1-C	120+21	L	18		12	0.5
TOTALS			18		12	0.5

EXCAVATION = 6500 Cu. Yds.
EMBANKMENT = 17343 Cu. Yds.
EMB. + 22% = 21158 Cu. Yds.

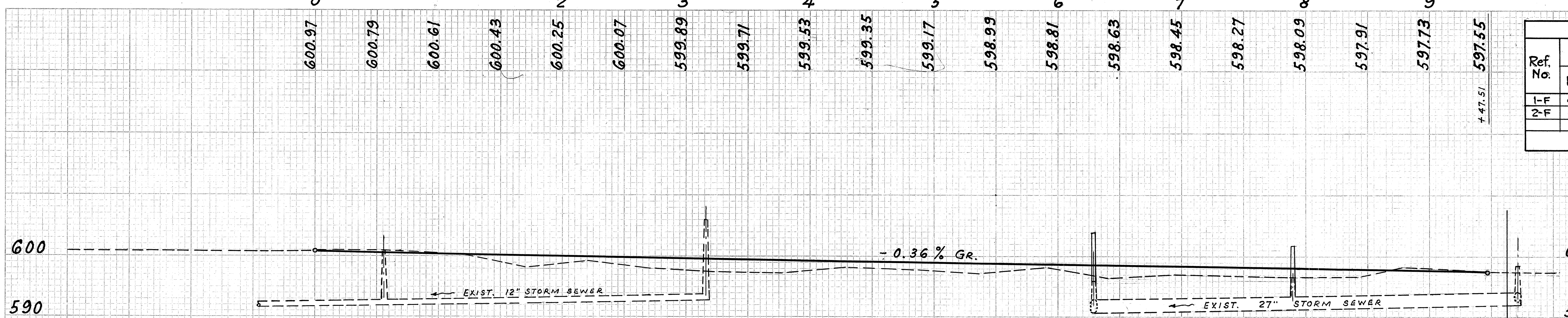
PLAN & PROFILE -- SCHAAF RD. RELOC. -- P.C. STA. 116+48.43 to STA. 123+32.52

T.B.M.- FF1-"X" N.E. Wingwall B&O.R.R. Bridge 5.5' N. of Curb Line Exist. Schaaf Rd. EL. 627.595

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

24-A
169

CUYAHOGA COUNTY
SEC. CUY-17-14.99



6" PIPE UNDERDRAINS				I-4 Lin. Ft.		I-5 Each
Ref. No.	Station From	Station To	Side Right or Left	2'-7" Deep Curb	Outlets For Underdrains	Pipe Specials. 6" Tee
1-F	0+0	2+88	L	290		
2-F	0+0	2+88	R	280	18	1
TOTALS				570	18	1

MONUMENT BOXES				
Item №	STATION	TYPE "A"	TYPE "B"	RESET
1-M	2+43.26		1	
2-M	9+10.16		1	
TOTALS			2	

STORM SEWERS				I-2 Lin. Ft.		I-8 Each					E-12 Lin. Ft.		
Ref. No.	Station From	Station To	Side Right or Left	12" Cl. "A"	12" Cl. "B"	Std. M.H. #1	Rebuild Storm M.H.	Std. #1-2A C.B.	Spec. C.I. #4 Salv. Cstg.		12" Pipe Removed		Location of Structures
1-S	0+50	1+13	R	16				1			37		0+68
2-S	2+55	2+75	L		56				1				2+75
3-S	4+0	4+30	R								40		
4-S	6+20	6+56	L			1					32		6+39
5-S	7+90	8+0	L	20			1	1					2 @ 7+90
TOTALS				36	56	1	1	2	1		109		

STRUCTURES 20 FT. & UNDER				S-27	S-1	E-2		
Ref. No.	Station From	Station To	Side Right or Left	18" Lin. Ft.	Class "E" Concr. Cu. Yds.	Excav. Incl. Gran. Backfill Cu. Yds.		Location of Structure
1-C	6+15	6+20	R	16	0.3	8		6+15
TOTALS				16	0.3	8		

PLAN & PROFILE SCHAAF RD. - FUHRMEYER RD. RELOCATION

2 OHIO

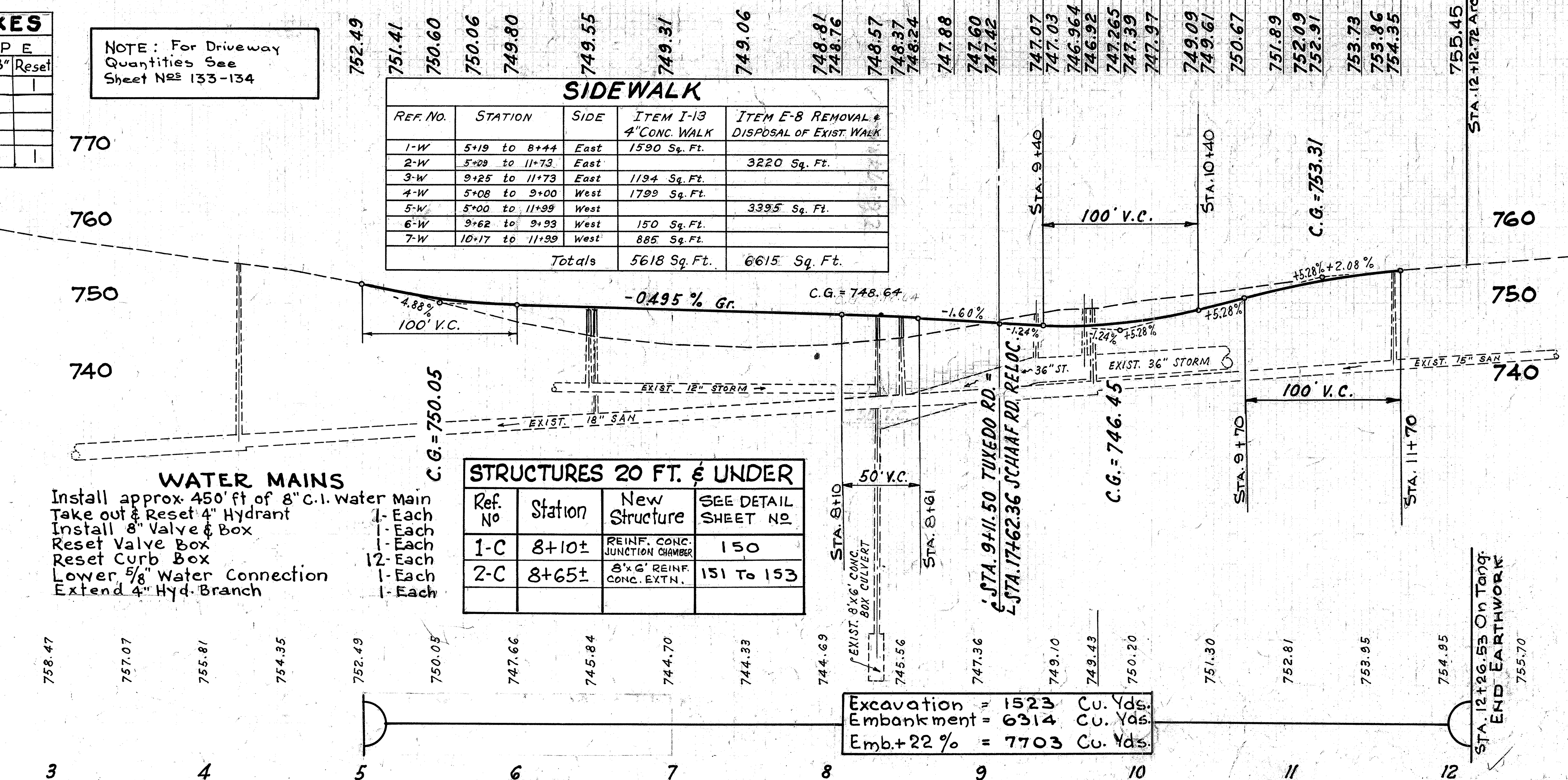
CUYAHOGA COUNTY
Sec. CUY-17-14.99

GUARD RAIL					
Ref. No.	STATION From	STATION To	Side Right or Left	I-15 Guard Rail Steel Beam Type (Deep) Lin. Ft.	I-15 Guard Rail Removed & Disposed Of Lin. Ft.
1-D	6+60 Tuxedo	18+51.3 (Schaaf)	L	209.24	
2-D	6+50	9+25	L		275.00
3-D	6+60 Tuxedo	17+27.5 Schaaf	R	227.24	
4-D	6+50	9+40	R		290.00
TOTAL				436.54	565.00

MONUMENT BOXES				
Item No	STATION	TYPE "A"	TYPE "B"	TYPE Reset
1-M	P.C. Sta. 7+54.55			1
2-M	P.I. Schaaf Rd. Reloc.		1	
3-M	P.T. Sta. 11+40.74		1	
4-M	P.R.C. Sta. 10+43.07		1	
TOTALS			3	1

NOTE: For Driveway Quantities See Sheet Nos 133-134

SIDEWALK				
REF. NO.	STATION	SIDE	ITEM I-13 4" CONC. WALK	ITEM E-8 REMOVAL & DISPOSAL OF EXIST. WALK
1-W	5+19 to 8+44	East	1590 Sq. Ft.	
2-W	5+09 to 11+73	East		3220 Sq. Ft.
3-W	9+25 to 11+73	East	1194 Sq. Ft.	
4-W	5+08 to 9+00	West	1799 Sq. Ft.	
5-W	5+00 to 11+99	West		3395 Sq. Ft.
6-W	9+62 to 9+93	West	150 Sq. Ft.	
7-W	10+17 to 11+99	West	885 Sq. Ft.	
		Totals	5618 Sq. Ft.	6615 Sq. Ft.



6" PIPE UNDERDRAIN								
Ref No	Station From	Station To	SIDE LEFT OR RIGHT	I-4 LIN. FEET CURB 2'-7" DEEP	I-4 LIN. FEET	I-4 LIN. FEET OUTLET FOR UNDER-DRAIN	I-5 EACH PIPE SPECIALS 6" TEE	I-5 EACH PIPE SPECIALS 6" ELBOW
1-F	5+0	SCHAAF REL. 18+51	L	400		2	1	
2-F	5+0	SCHAAF REL. 17+27	R	404				
3-F	ISLAND		R	95		14	1	6
4-F	SCHAAF REL. 16+36	12+07	R	266				
5-F	SCHAAF REL. 17+93	11+76	L	266		4	1	
TOTAL				1431		20	3	6

WATER MAINS

Install approx. 450' ft of 8" C.I. Water Main	
Take out & Reset 4" Hydrant	1- Each
Install 8" Valve & Box	1- Each
Reset Valve Box	1- Each
Reset Curb Box	12- Each
Lower 5/8" Water Connection	1- Each
Extend 4" Hyd. Branch	1- Each

STRUCTURES 20 FT. & UNDER			
Ref. No	Station	New Structure	SEE DETAIL SHEET No
1-C	8+10±	REINF. CONC. JUNCTION CHAMBER	150
2-C	8+65±	8'x6' REINF. CONC. EXTN.	151 To 153

Excavation	= 1523 Cu. Yds.
Embankment	= 6314 Cu. Yds.
Emb. + 22 %	= 7703 Cu. Yds.

STORM SEWERS

Ref. No	Station From	Station To	Side Left or Rt.	I-12 Lin. Ft.	I-12 Lin. Ft.	I-12 Lin. Ft. Under Pavt. 12" Cl. "B"	I-8 Each Adj. to Grade San. M.H.	I-8 Each Adj. to Grade M.H.	I-8 Each Adj. to Grade C.B.	I-8 Each Spec. C.I. #4 Salv. Castg	I-8 Each Rebuild M.H.	I-8 Each Rebuild C.B.	I-8 Each Rebuild San. M.H.	I-16 Abandon Each	Location of Structure Station
1-S		5+91	L									1			5+91
2-S		5+93	R									1			5+93
3-S		6+46	L								1				6+46
4-S		6+50	L										1		6+50
5-S		6+67	R										1		6+67
6-S		7+49	L									1			7+49
7-S		7+49	R									1			7+49
8-S		8+33	L								1				8+33
9-S		8+50	℄										1		8+50
10-S		9+35	L								1				9+35
11-S	9+66	9+83	L			20				1				1	9+83
12-S		9+66	R								1				9+66
13-S		9+72	R										1		9+72
14-S		9+85	R											1	9+85
15-S		10+10	R							1					10+10
16-S	9+77	10+10	R			30									
17-S		11+74	℄				1								11+74
18-S		11+78	R					1							11+78
19-S		11+95	R						1						11+95
20-S		12+04	L						1						12+04
TOTALS						50	1	1	2	2	4	4	4	2	

PLAN & PROFILE -- TUXEDO ... STA. 1+00 to STA. 13+79

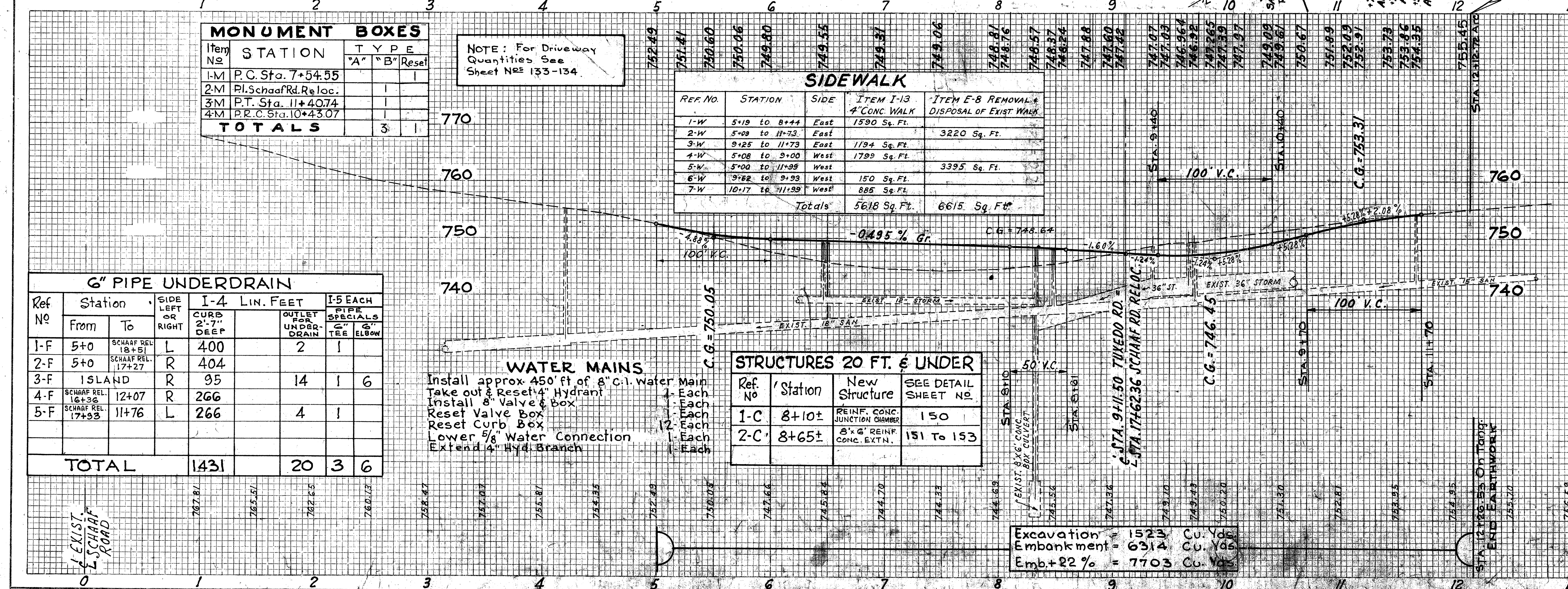
FILL ADDITION 1963

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR	
2	OHIO		1955	25 / 169

CUYAHOGA COUNTY
Sec. CUY-17-14.99

GUARD RAIL

Ref. No.	STATION From	STATION To	Side Right or Left	I-15 Guard Rail Steel Beam Type (Deep) Lin. Ft.	I-15 Guard Rail Removed & Disposed of Lin. Ft.
1-D	6+60 Tuxedo	18+51.3 (Schaaf)	L	209.24	
2-D	6+50	9+25	L		275.00
3-D	6+60 Tuxedo	17+27.5 Schaaf	R	227.24	
4-D	6+50	9+40	R		290.00
TOTAL				436.54	565.00



MONUMENT BOXES

Item №	STATION	TYPE "A"	TYPE "B"	Reset
1-M	P.C. Sta. 7+54.55			1
2-M	PI. Schaaf Rd. Reloc.		1	
3M	P.T. Sta. 11+40.74		1	
4-M	P.R.C. Sta. 10+43.07		1	
TOTALS			3	1

NOTE: For Driveway Quantities See Sheet Nos 133-134.

SIDEWALK

REF. NO.	STATION	SIDE	ITEM I-13 4" CONC. WALK	ITEM E-8 REMOVAL & DISPOSAL OF EXIST. WALK
1-W	5+19 to 8+44	East	1590 Sq. Ft.	
2-W	5+09 to 11+73	East		3220 Sq. Ft.
3-W	9+25 to 11+73	East	1194 Sq. Ft.	
4-W	5+08 to 9+00	West	1799 Sq. Ft.	
5-W	5+00 to 11+99	West		3395 Sq. Ft.
6-W	9+62 to 9+93	West	150 Sq. Ft.	
7-W	10+17 to 11+99	West	885 Sq. Ft.	
	Totals		5618 Sq. Ft.	6615 Sq. Ft.

6" PIPE UNDERDRAIN

Ref №	Station From	Station To	Side Left or Right	I-4 Lin. Feet Curb 2'-7" Deep	I-4 Lin. Feet	Outlet for Underdrain	I-5 Each Pipe Specials 6" Tee	I-5 Each Pipe Specials 6" Elbow
1-F	5+0	SCHAAF REL. 18+51	L	400		2	1	
2-F	5+0	SCHAAF REL. 17+27	R	404				
3-F	ISLAND		R	95		14	1	6
4-F	SCHAAF REL. 16+36	12+07	R	266				
5-F	SCHAAF REL. 17+93	11+76	L	266		4	1	
TOTAL				1431		20	3	6

WATER MAINS

Install approx. 450' ft of 8" C.I. Water Main	
Take out & Reset 4" Hydrant	1-Each
Install 8" Valve & Box	1-Each
Reset Valve Box	1-Each
Reset Curb Box	12-Each
Lower 5/8" Water Connection	1-Each
Extend 4" Hyd. Branch	1-Each

STRUCTURES 20 FT. & UNDER

Ref. №	Station	New Structure	SEE DETAIL SHEET №.
1-C	8+10±	REINF. CONC. JUNCTION CHAMBER	150
2-C	8+65±	8'x6' REINF. CONC. EXTN.	151 To 153

Excavation	= 1523	Cu. Yds.
Embankment	= 6314	Cu. Yds.
Emb. + 22 %	= 7703	Cu. Yds.

STORM SEWERS

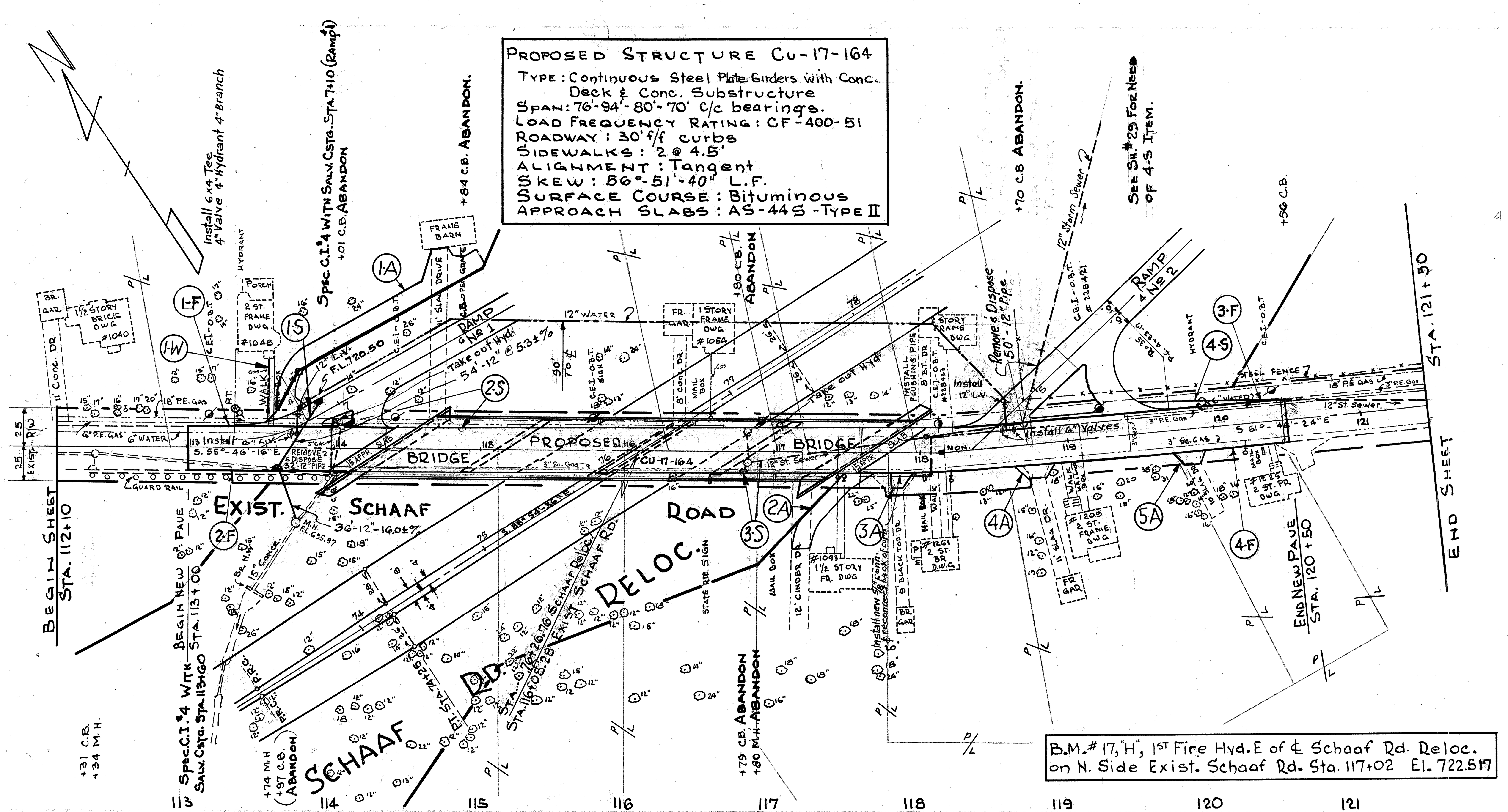
Ref №	Station From	Station To	Side Left or Rt.	I-12 Lin. Ft.	I-12 Lin. Ft.	I-12 Lin. Ft. Under Pavt. 12" Cl. "B"	I-8 Each Adj. to Grade San. M.H.	I-8 Each Adj. to Grade M.H.	I-8 Each Adj. to Grade C.B.	I-8 Each Spec. C.I.#4 Salv. Castg.	I-8 Each Rebuild M.H.	I-8 Each Rebuild C.B.	I-8 Each Rebuild San. M.H.	I-16 Abandon Each	Location of Structure Station
1-S	5+91	5+91	L									1			5+91
2-S	5+93	5+93	R									1			5+93
3-S	6+46	6+46	L								1				6+46
4-S	6+50	6+50	L										1		6+50
5-S	6+67	6+67	R										1		6+67
6-S	7+49	7+49	L									1			7+49
7-S	7+49	7+49	R									1			7+49
8-S	8+33	8+33	L								1				8+33
9-S	8+50	8+50	℄										1		8+50
10-S	9+35	9+35	L								1				9+35
11-S	9+66	9+83	L			20				1				1	9+83
12-S	9+66	9+66	R								1				9+66
13-S	9+72	9+72	R										1		9+72
14-S	9+85	9+85	R											1	9+85
15-S	10+10	10+10	R							1					10+10
16-S	9+77	10+10	R			30									
17-S	11+74	11+74	℄				1								11+74
18-S	11+78	11+78	R					1							11+78
19-S	11+95	11+95	R						1						11+95
20-S	12+04	12+04	L						1						12+04
TOTALS						50	1	1	2	2	4	4	4	2	

HIGHWAY PLAN-PROFILE PLATES
THE H. COLE CO. COLUMBUS, OHIO

PLAN & PROFILE - TUXEDO - STA. 1+00 to STA. 13+79

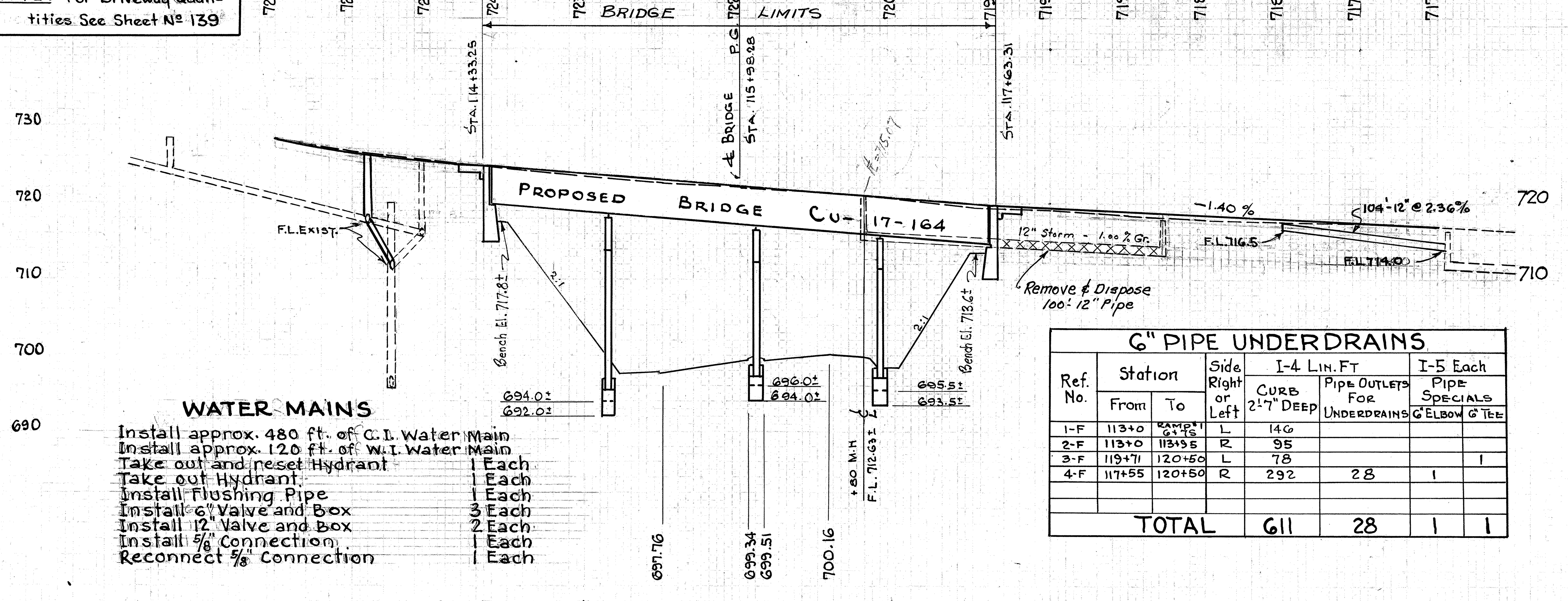
CUYAHOGA COUNTY
Sec. CUY. -17- 14.99

PROPOSED STRUCTURE CU-17-164
TYPE: Continuous Steel Plate Girders with Conc. Deck & Conc. Substructure
SPAN: 76'-94'-80'-70' c/c bearings.
LOAD FREQUENCY RATING: CF-400-51
ROADWAY: 30' f/f curbs
SIDEWALKS: 2 @ 4.5'
ALIGNMENT: Tangent
SKEW: 56°-51'-40" L.F.
SURFACE COURSE: Bituminous
APPROACH SLABS: AS-44S -Type II



B.M.# 17, "H", 1st Fire Hyd. E of ℄ Schaaf Rd. Reloc. on N. Side Exist. Schaaf Rd. Sta. 117+02 El. 722.517

NOTE: For Driveway Quantities See Sheet No 139



WATER MAINS

Install approx. 480 ft. of C.I. Water Main	
Install approx. 120 ft. of W.I. Water Main	
Take out and reset Hydrant	1 Each
Take out Hydrant	1 Each
Install Flushing Pipe	1 Each
Install 6" Valve and Box	3 Each
Install 12" Valve and Box	2 Each
Install 5/8" Connection	1 Each
Reconnect 5/8" Connection	1 Each

SIDEWALK

REF. No.	STATION	SIDE	ITEM I-13 4" CONC. WALK	ITEM E-8 REMOVAL & DISPOSAL OF EXIST. WALK
1-W	113+54 Exist.	North	160 Sq. Ft.	178 Sq. Ft.
		Totals	160 Sq. Ft.	178 Sq. Ft.

STORM SEWERS

Ref. No	Station From	Station To	Side Left or Right	I-2 PIPE (Lin. Feet) 12" Cl. "B"	I-2 PIPE Under Pavt. 12" Cl. "B"	Item I-8 (Each) Spec. C.I.#4 Salv. Castg.	Item I-16 (Each) Abandon C.B.	Item I-16 (Each) Abandon M.H.	Item E-12 Lin. Feet 12" Pipe Remov'd	Location of Structure Station
1-S	113+60	113+74	L-R	36	54	2				1@ 7+10 RAMP #1 1@ 113+60
2-S	113+97	114+84	L-R				3		32	1@ 113+97 - 1@ 114+01 1@ 114+84
3-S	116+79	118+75	L-R				3	1	150	118+70; 116+79 2@ 116+80
4-S	119+50	120+56	L	104 (Included in S-15 for Payment)					104	Outlet Temporary Road Ditch.
TOTAL				*36	54	2	6	1	*182	

* Does not include quantities for 4-S.

6" PIPE UNDERDRAINS

Ref. No.	Station From	Station To	Side Right or Left	I-4 Lin. Ft Curb 2'-7" Deep	I-4 Lin. Ft Pipe Outlets for Underdrains	I-5 Each Pipe Specials 6" Elbow	I-5 Each Pipe Specials 6" Tee
1-F	113+0	Ramp #1 6+75	L	146			
2-F	113+0	113+95	R	95			
3-F	119+71	120+50	L	78			1
4-F	117+55	120+50	R	292	28	1	
TOTAL				611	28	1	1

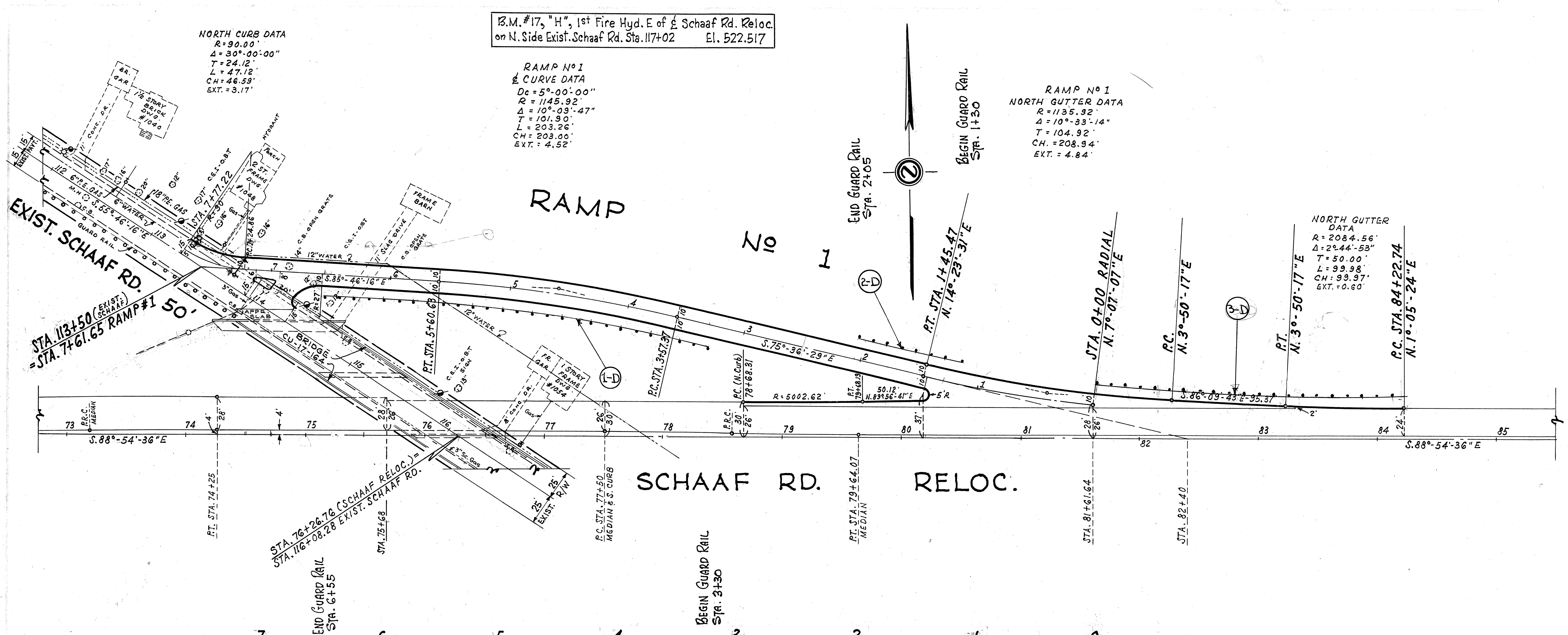
113		114		115		116		117		118		119		120		121
728.16	726.50	725.15	724.89	723.75		722.39		720.95	719.90	719.55	719.01	718.53	718.03	717.54	717.06	
728.2	726.88	725.62	724.51	723.52	722.77	722.12	721.54	720.64	719.72	719.15	718.61	718.17	717.82	717.59	717.16	716.48

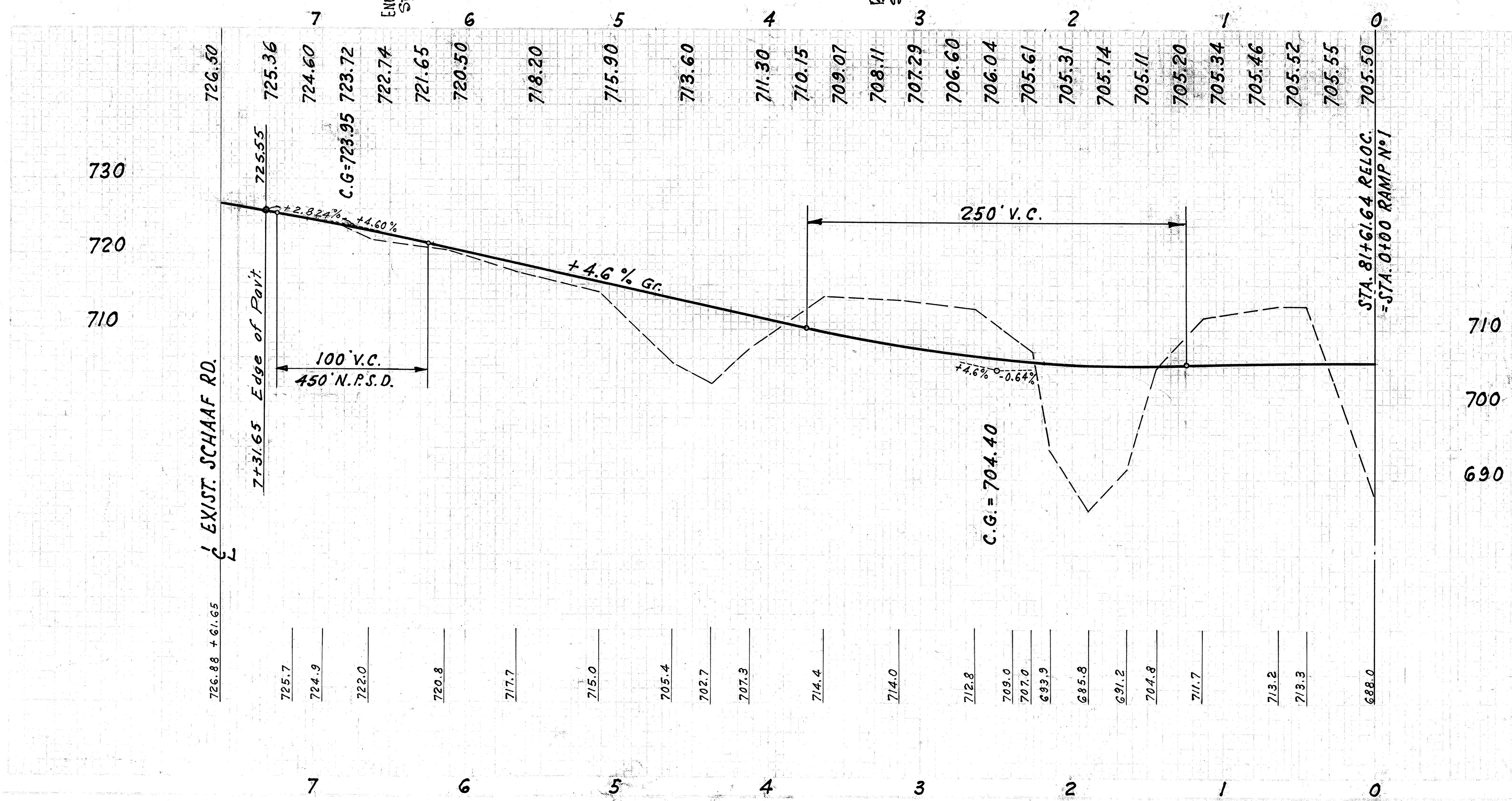
697.16 699.34 699.51 700.16

PLAN & PROFILE EXISTING SCHAAF ROAD STA. 112+10 TO STA. 121+45

2 OHIO

CUYAHOGA COUNTY
Sec. CUY-17-14.99



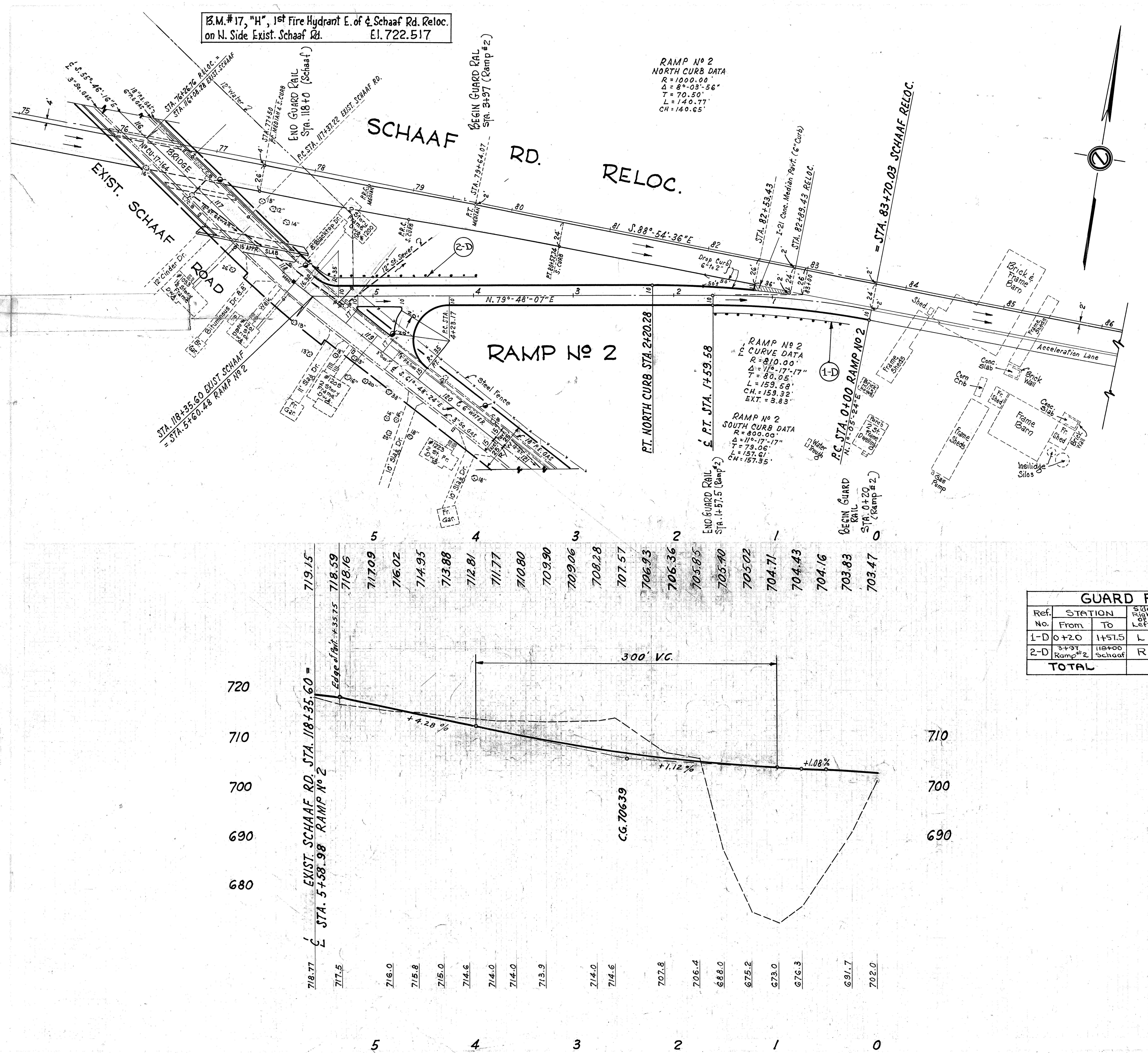


GUARD RAIL				
Ref. No.	STATION From	STATION To	Side Right or Left	I-15 Guardrail Steel Beam Type (Deep) Lin. Ft.
1-D	3+30	6+55	L	325
2-D	1+30	2+05	R	75
3-D	0+00 Ramp #1	84+22.74 (Schaaf)	R	258.9
TOTAL				658.9

SCHAAF RD. RELOC. · · PLAN & PROFILE RAMP Nº 1

2 OHIO

CUYAHOGA COUNTY
SEC. CUY-17-14.99

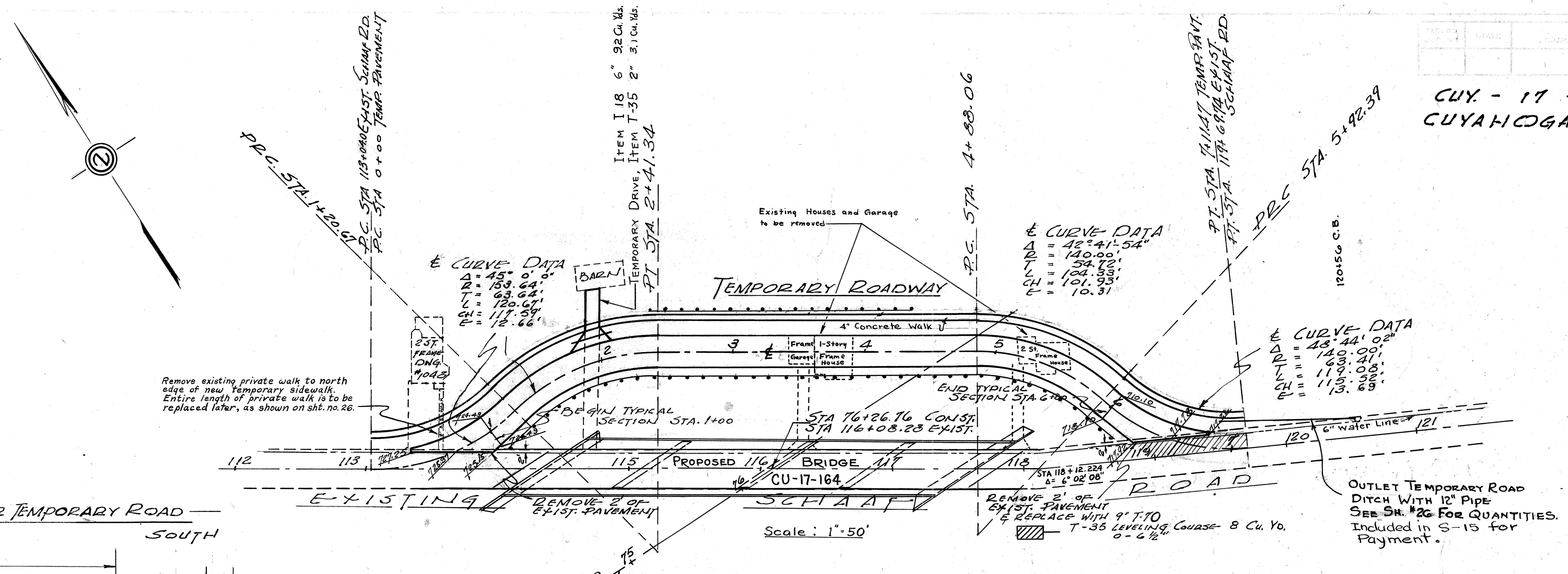


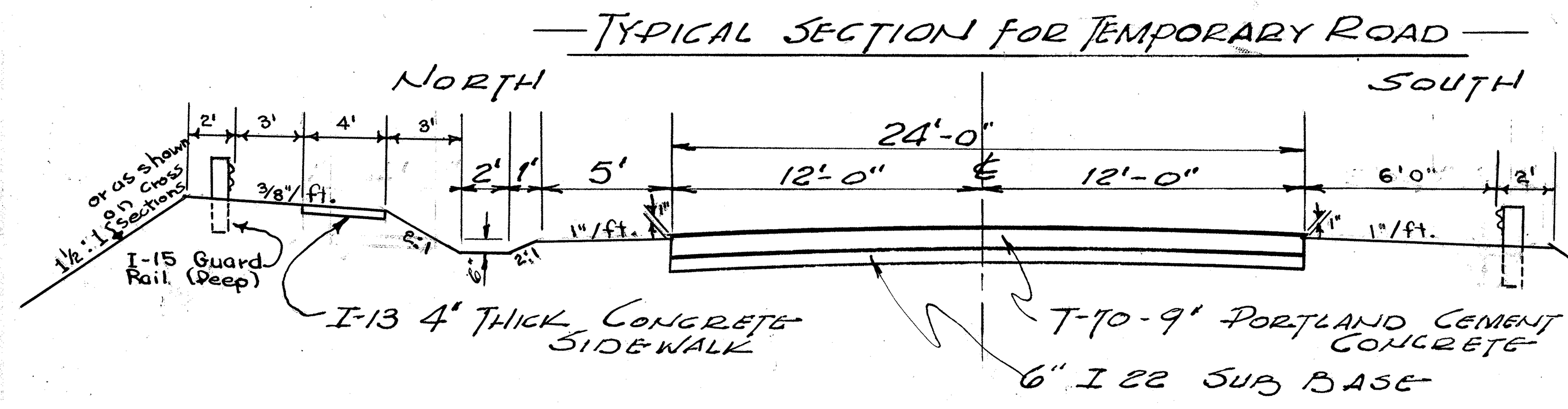
Ref. No.	Station From	Station To	Side Right or Left	I-15 Guardrail Steel Beam Type (Deep) Lin. Ft.
1-D	0+2.0	1+57.5	L	137.5
2-D	3+97 Ramp #2	118+00 Schaaf	R	187.5
TOTAL				325.0

GUARD RAIL

SCHAAF RD. RELOC. ··· PLAN & PROFILE ·· RAMP Nº 2

CUY. - 17 - 14.99
CUYAHOGA COUNTY



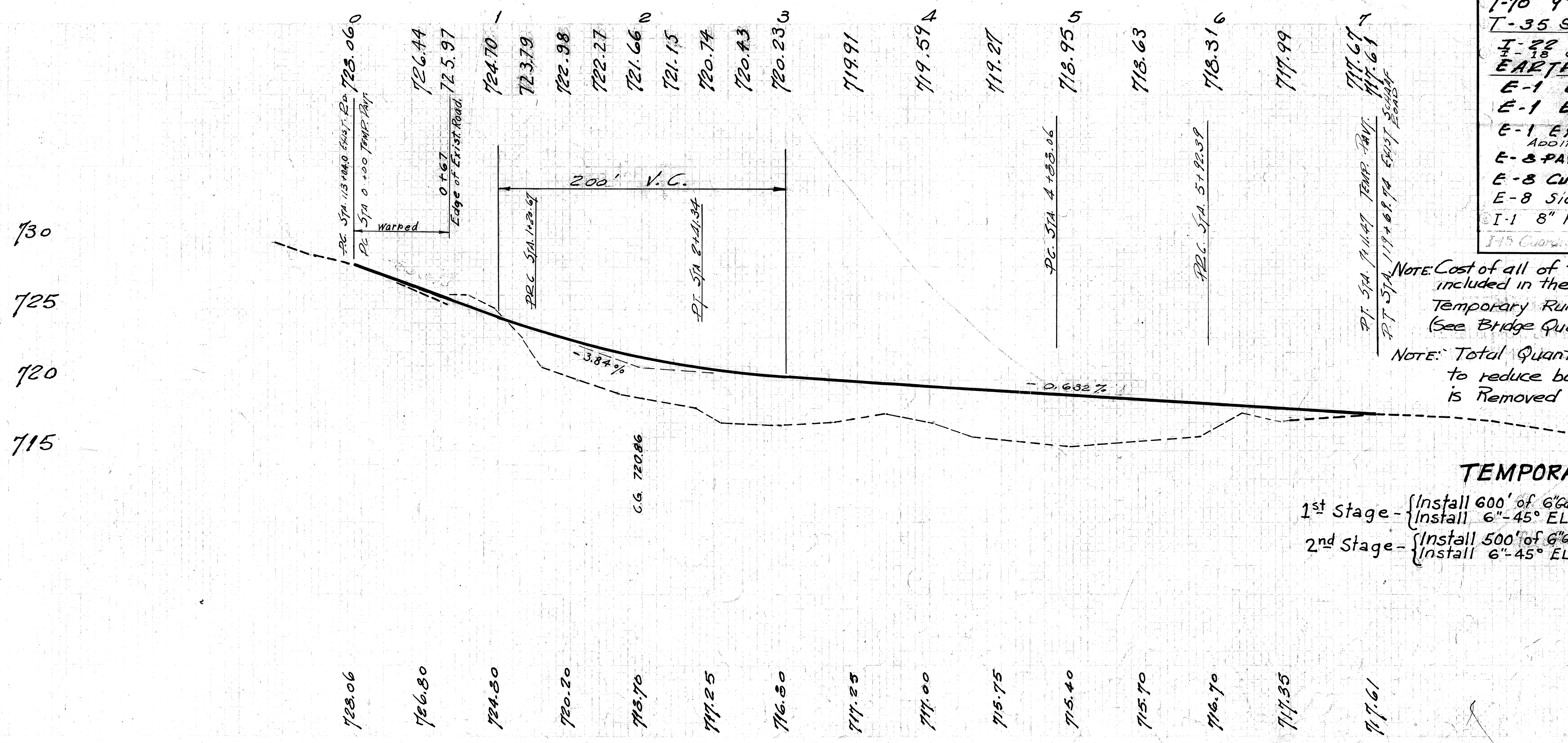


Note: Item No. (1)-(7) Quantities are taken directly into General Summary

APPROXIMATE QUANTITIES		
I-15 Guardrail Steel Beam (Deep)	687.5	Lin. Ft.
I-13 4" SIDEWALK	2836	Sq. Ft.
T-70 9" ROADWAY	1573	Sq. Yd.
T-35 SURFACE COURSE	11.1	Cu. Yd.
I-22 SUB BASE	262	Cu. Yd.
I-18 6" STABILIZED AGGREGATE	9.2	Cu. Yd.
EARTHWORK:		
E-1 EXCAVATION	136	Cu. Yd.
E-1 EMBANKMENT	2543	Cu. Yd.
E-1 EXCAVATION ADDITIONAL FILL FROM TEMP. ROADWAY	2543	Cu. Yd.
E-8 PAVEMENT REMOVAL	1600	Sq. Yd.
E-8 CURB REMOVAL	120	Lin. Ft.
E-8 Side Walk Removal	2836	Sq. Ft.
I-1 8" Pipe For Driveway	25	Lin. Ft.
~~I-15 Guardrail Removed and Rebuilt~~	~~687.5~~	~~Lin. Ft.~~

NOTE: Cost of all of the above quantities shall be included in the lump Sum bid for Item S-15 Temporary Runaround Road. (See Bridge Quantities on Sheet 155.)

NOTE: Total Quantity of Material Available to reduce borrow when Temp. Road is Removed = 3162 Cu. Yds.



TEMPORARY WATER MAINS

1st Stage - Install 600' of 6" Galv. Steel Pipe along Temp. Pavement; Install 6"-45° ELL - 4 Each

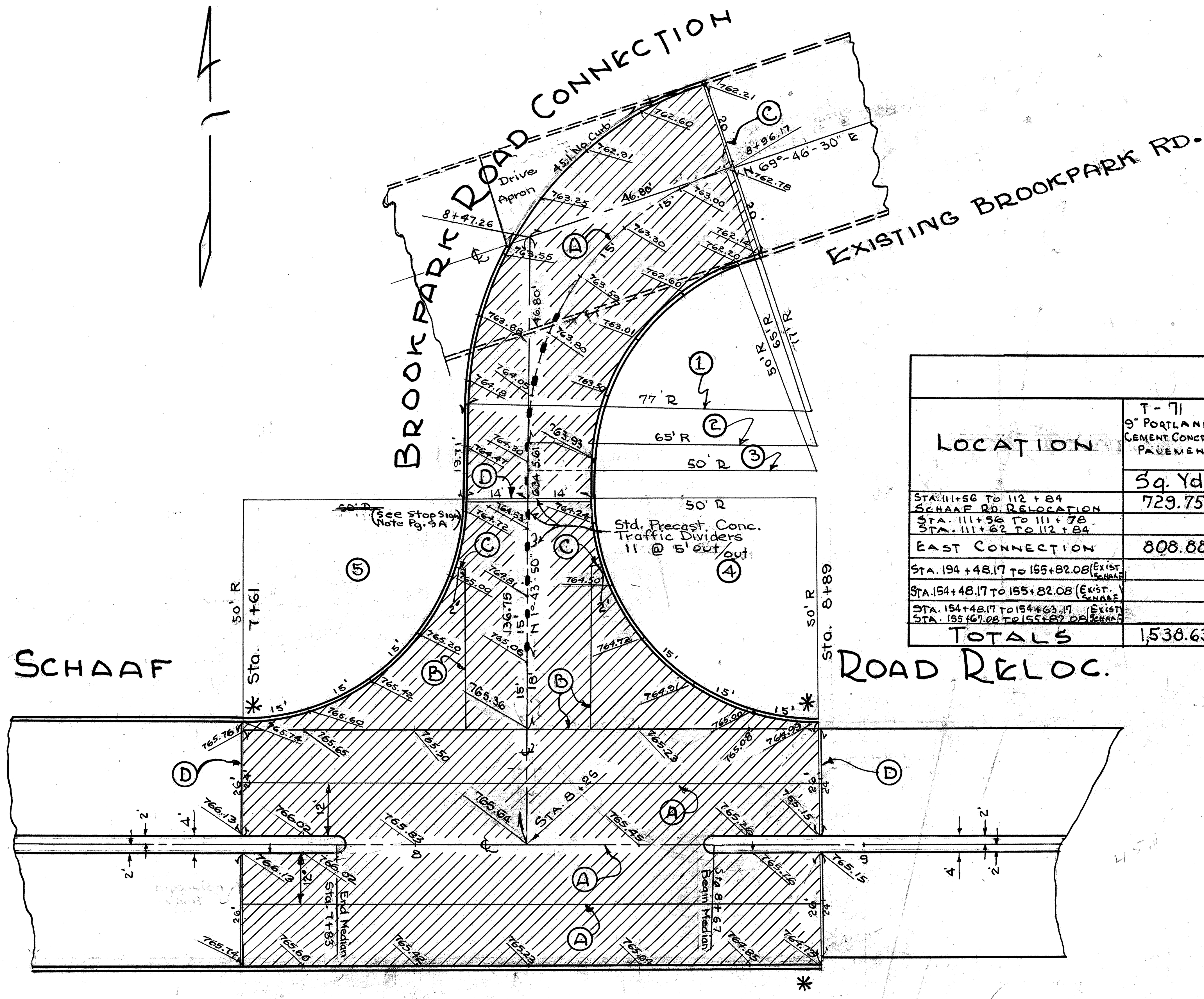
2nd Stage - Install 500' of 6" Galv. Steel Pipe along completed Bridge.; Install 6"-45° ELL - 4 Each

TEMPORARY PAVEMENT ~ SCHAAF RD.

EXTRA AREA
SCHAAF ROAD RELOCATION

SCALE : 1" = 20'

①	②	③	④ & ⑤
Δ = 71° 30' 20"	Δ = 71° 30' 20"	Δ = 71° 30' 20"	Δ = 90°
R = 77'	R = 65'	R = 50'	R = 50'
T = 55.437	T = 46.798'	T = 36.00'	T = 50'
L = 96.096	L = 81.120'	L = 62.40'	L = 78.54'
Ch. = 89.980	Ch = 75.957'	Ch. = 58.43'	Ch. = 70.71'



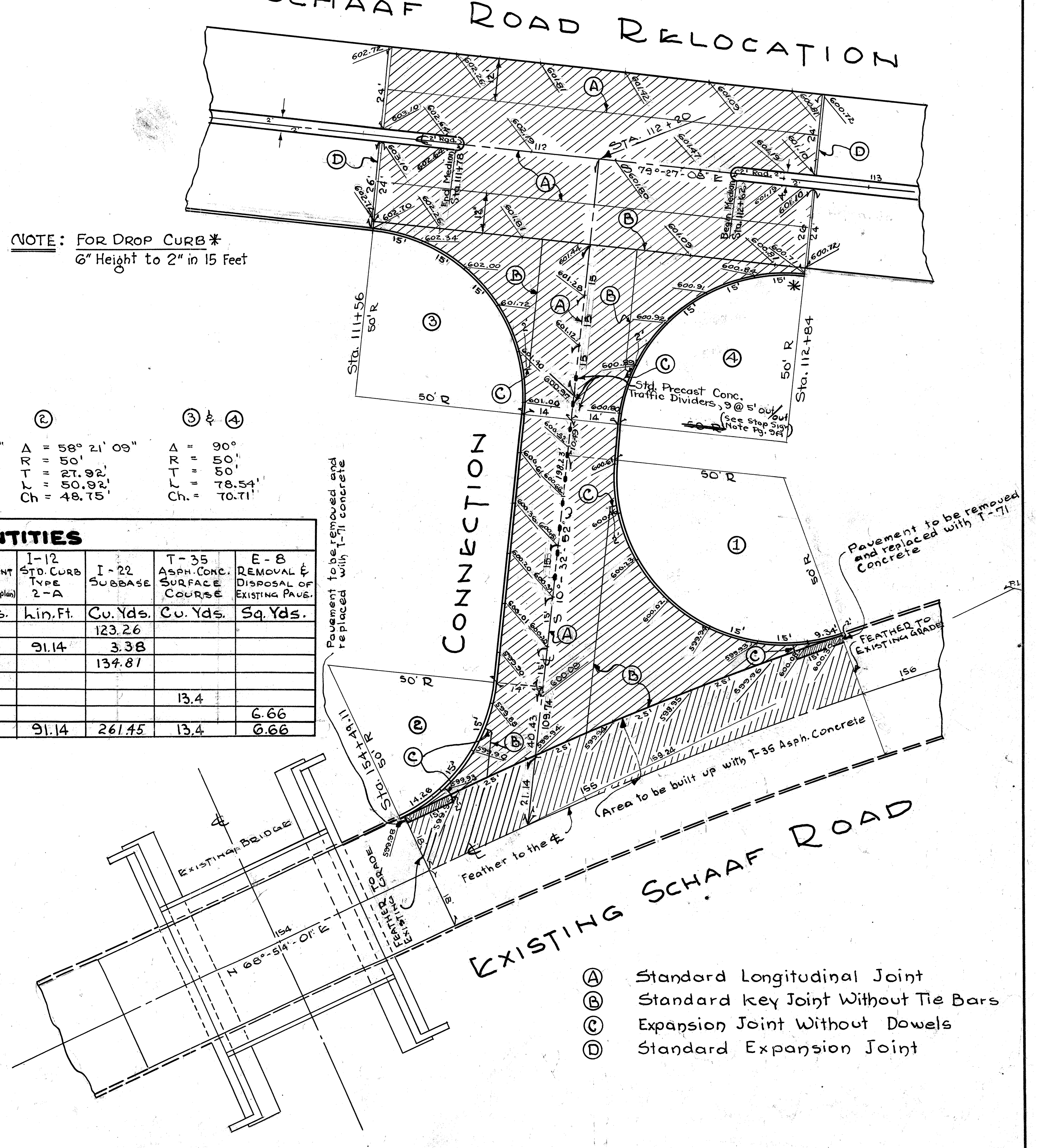
LOCATION	T-71 9" Reinf. Port. Cement Concrete Pavement	I-11 6" x 18" Sand Stone Curb	I-23 Precast Concrete Traffic Dividers	I-12 Std. Curb Type 2-A	I-22 Subbase	I-21 Portland Cement Concrete Median (as per plan)	I-18 Stabilized Aggregate Shoulder.
	Sq. Yds.	Lin. Ft.	Each	Lin. Ft.	Cu. Yds	Sq. Yds.	Cu. Yds.
Sta. 7+61 to 8+89 (Schaaf Rd. Reloc.)	757.34	128.00			128.0		
Sta. 7+61 to 7+83 Sta. 8+67 to 8+89				100.56	3.26	11.00	
West Connection	655.55	296.52	11		109.26		
Sta. 111+56 to 112+84 (Schaaf Rd. Reloc.)							9.6
TOTALS	1412.89	424.52	11	100.56	240.52	11.00	9.6

NOTE: FOR DROP CURB *
6" Height to 2" in 15 Feet

①	②	③ & ④
Δ = 114° 57' 06.5"	Δ = 58° 21' 09"	Δ = 90°
R = 50'	R = 50'	R = 50'
T = 78.411'	T = 27.92'	T = 50'
L = 100.314'	L = 50.92'	L = 78.54'
Ch. = 84.316'	Ch = 48.75'	Ch. = 70.71'

EXTRA AREA QUANTITIES

LOCATION	T-71 9" Portland Cement Concrete Pavement	I-11 6" x 18" Sand Stone Curb	I-23 Precast Concrete Traffic Dividers	E-8 Removal & Disposal Exist. Curb	I-21 Port. Cement Concrete Median (as per plan)	I-12 Std. Curb Type 2-A	I-22 Subbase	T-35 Asph. Conc. Surface Course	E-8 Removal & Disposal of Existing Pave.
	Sq. Yds.	Lin. Ft.	Each	Lin. Ft.	Sq. Yds.	Lin. Ft.	Cu. Yds.	Cu. Yds.	Sq. Yds.
Sta. 111+56 to 112+84 Schaaf Rd. Relocation	729.75						123.26		
Sta. 111+56 to 111+78 Sta. 111+62 to 112+84					10.1	91.14	3.38		
East Connection	808.88	398.60	9				134.81		
Sta. 194+48.17 to 155+82.08 (Exist. Schaaf)				133.91					
Sta. 154+48.17 to 155+82.08 (Exist. Schaaf)								13.4	
Sta. 154+48.17 to 154+63.17 Sta. 155+67.08 to 155+82.08 (Exist. Schaaf)									6.66
TOTALS	1,538.63	398.60	9	133.91	10.1	91.14	261.45	13.4	6.66



Ⓐ Standard Longitudinal Joint
Ⓑ Standard Key Joint Without Tie Bars
Ⓒ Expansion Joint Without Dowels
Ⓓ Standard Expansion Joint

EXTRA AREAS - WEST & EAST CONNECTIONS TO BROOKPARK ROAD & EXST. SCHAAF RD.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

30
169

CUY.- 17- 14.99
CUYAHOGA COUNTY

EXTRA AREA
SCHAAF ROAD RELOCATION
SCALE : 1" = 20'

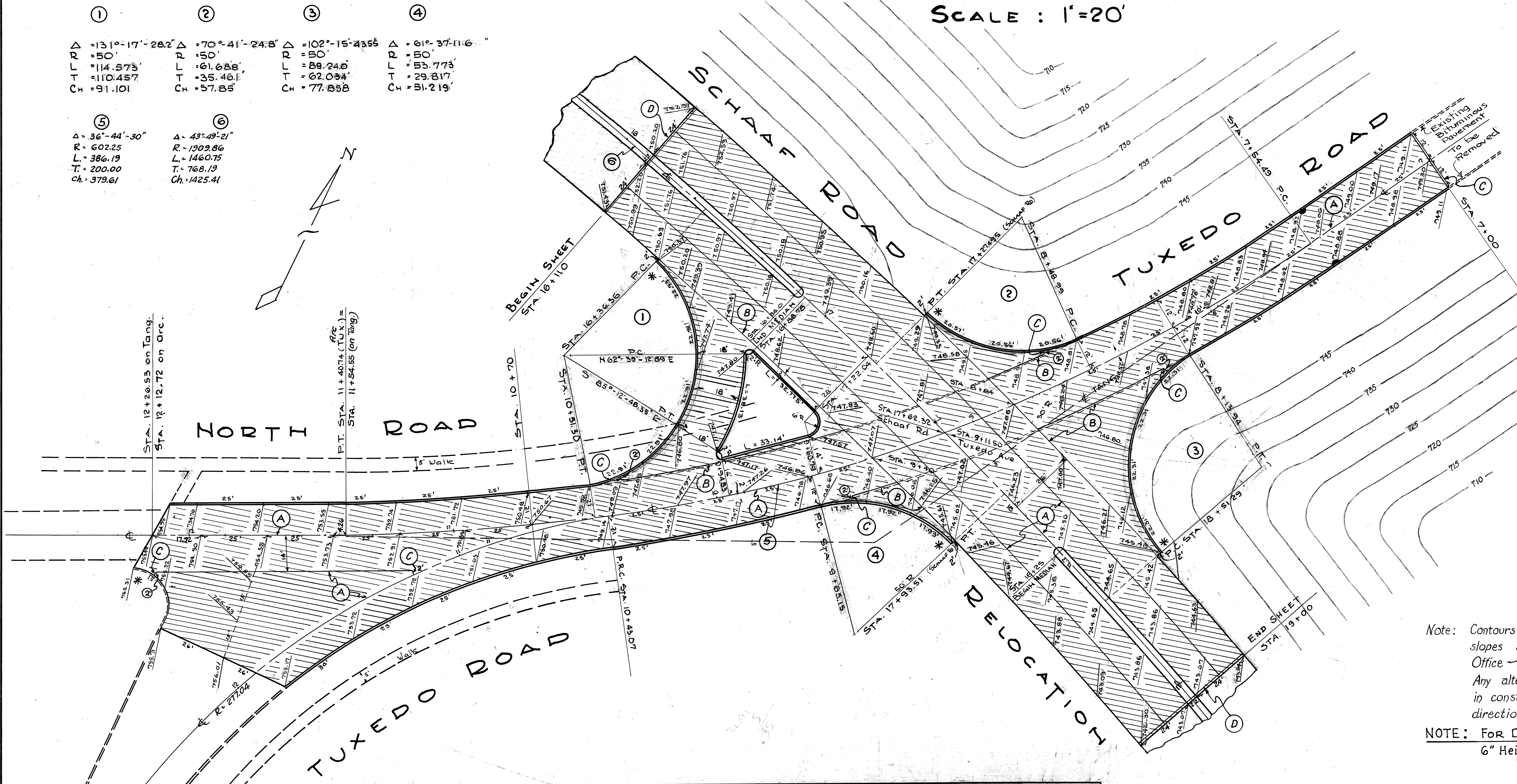
LOCATION	T-71 9" REINF. CONCRETE PAVEMENT	I-11 6"x18" SAND STONE CURB	I-21 PORT. CEMENT CONC. MEDIAN (AS PER PLAN)	E-8 REMOVAL and DISPOSAL of EXISTING PAVEMENT	E-8 REMOVAL & DISPOSAL of EXISTING CURB	I-12 STD. CURB TYPE-2A	I-22 SUB-BASE
	Sq. Yds.	LIN. Ft.	Sq. Yds.	Sq. Yds.	LIN. Ft.	LIN. Ft.	Cu. Yds.
STA. 0-4+00 to 0+62.13	2568.00	595.43		2054.0	856.00		485.50
W. 10th 0+28 to 1+05 L&R		209.89					
W. 10th 0+28 to 1+05	345.00			267.0	240.0		
STA 0+42 to 0+62.13			1.25			41.32	1.16
TOTAL	2913.00	805.32	1.25	2321.0	1096.0	41.32	486.66

WEST MERGER OF BROOKPARK ROAD ALSO WEST 10th ST.

CUY. - 17 - 14.99
CUYAHOGA COUNTY

EXTRA AREA
SCHAAF ROAD RELOCATION

SCALE : 1" = 20'



Note: Contours indicate final grading of slopes as determined in the Planning Office —
Any alteration that may be encountered in construction shall be made at the direction of the Engineer.

NOTE: FOR DROP CURB *
6" Height to 2" in 15 Feet

Ⓐ STANDARD LONGITUDINAL JOINT
Ⓑ STANDARD KEY JOINT WITHOUT TIE BARS
Ⓒ EXPANSION JOINT WITHOUT DOWELS
Ⓓ STANDARD EXPANSION JOINT

EXTRA AREA QUANTITIES

LOCATION	T-71 9" REINF. PORTLAND CEMENT CONCRETE PAVEMENT	I-11 6"x18" SANDSTONE CURB			I-12 Std. Curb TYPE 2-A	E-8 REMOVAL & DISPOSAL OF EXISTING PAVEMENT	I-21 PORTLAND CEMENT CONCRETE MEDIAN (AS PER PLAN)	I-22 SUBBASE	E-8 REMOVAL & DISPOSAL of EXISTING CURB	I-18 STABILIZED AGGREGATE SHOULDER
		STRAIGHT	6' Radius curb	2" Radius Bumper Block						
	Sq. Yds.	LIN. Ft.	LIN. Ft.	LIN. Ft.	LIN. Ft.	Sq. Yds.	Sq. Yds.	Cu. Yds.	LIN. Ft.	Cu. Yds.
STA. 16+11 to 19+00 (Schaaf)	1602.33							300.21		22.0
STA. 7+00 to Schaaf. (Tux.)	640.84	412.81						113.60		
Schaaf to 12+26.53 (North Rd.)	1330.2	547.33						221.70		
16+11 to 16+36 (Schaaf) 18+25 to 19+00 (Schaaf)					309.42		33.77	11.14		
Traffic Island		10405	12.58	8.64						
STA. 7+00 to 12+26.53 (North Rd.)						1772.85			1023.0	
TOTALS	3573.37	1064.19	12.58	8.64	309.42	1772.85	33.77	646.65	1023.0	22.0

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUY. - 17- 14.99
CUYAHOGA COUNTY

S.R.17. SCHAAF ROAD RELOCATION
PLAN OF UNDERPASS AT EXISTING SCHAAF ROAD
SCALE = 1:20

ALL ELEVATIONS SHOWN ARE FINISHED PAVEMENT ELEVATIONS.

① R = 5729.58, Δ = 1°-51'-16", T = 92.73, L = 185.45, CH = 185.44, EXT = 0.75

② R = 5729.58, Δ = 1°-30'-50", T = 75.70, L = 151.39, CH = 151.38, EXT = 0.50

③ R = 5729.58, Δ = 1°-04'-14", T = 53.53, L = 107.05, CH = 107.05, EXT = 0.25

④ R = 90.00', Δ = 30°-00'-00", T = 24.12', L = 47.12', CH = 46.59', EXT = 3.17

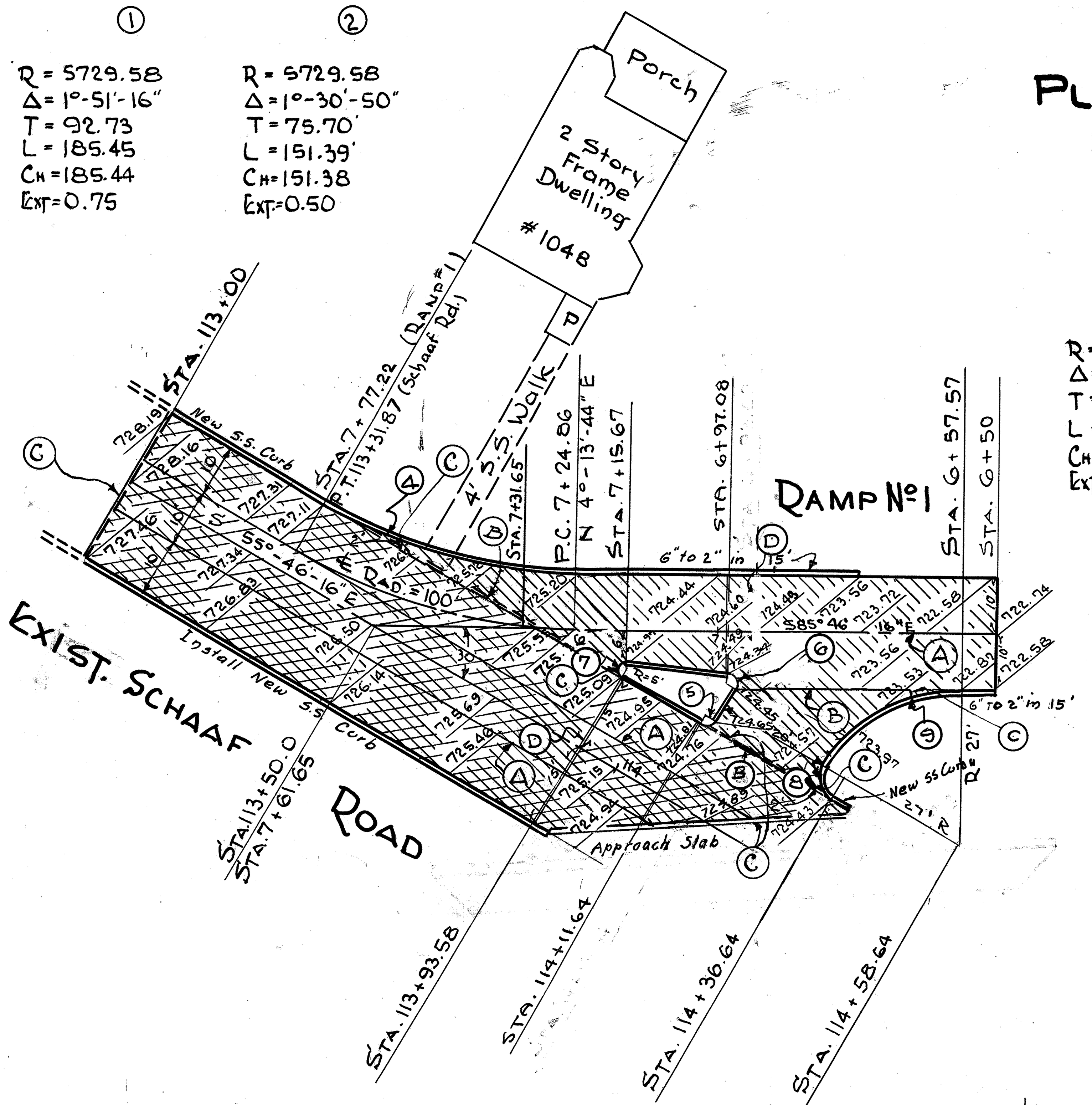
⑧ R = 5.00', Δ = 90°-00'-00", T = 5.00', L = 7.85, CH = 7.07, EXT = 2.07

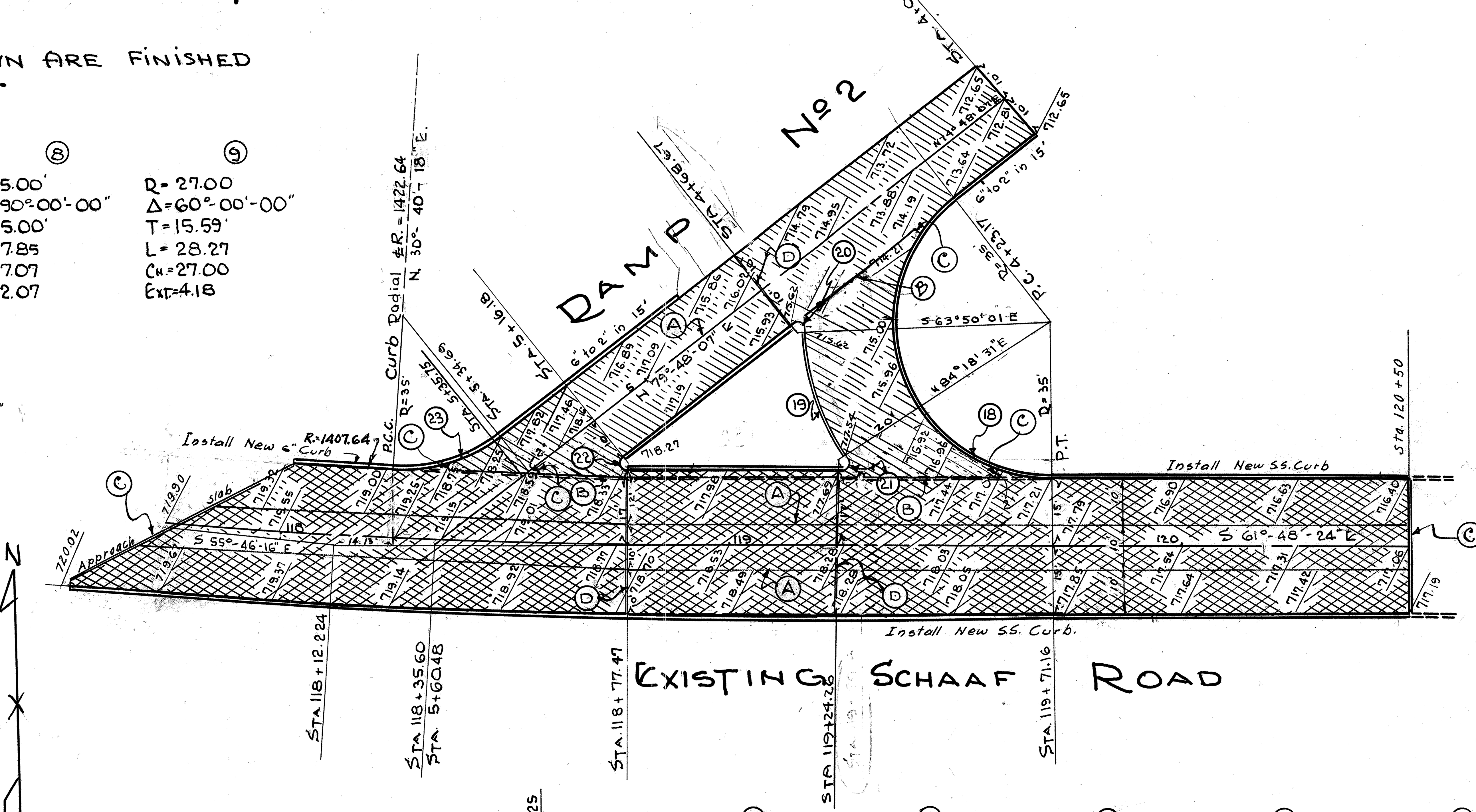
⑨ R = 27.00, Δ = 60°-00'-00", T = 15.59', L = 28.27, CH = 27.00, EXT = 4.18

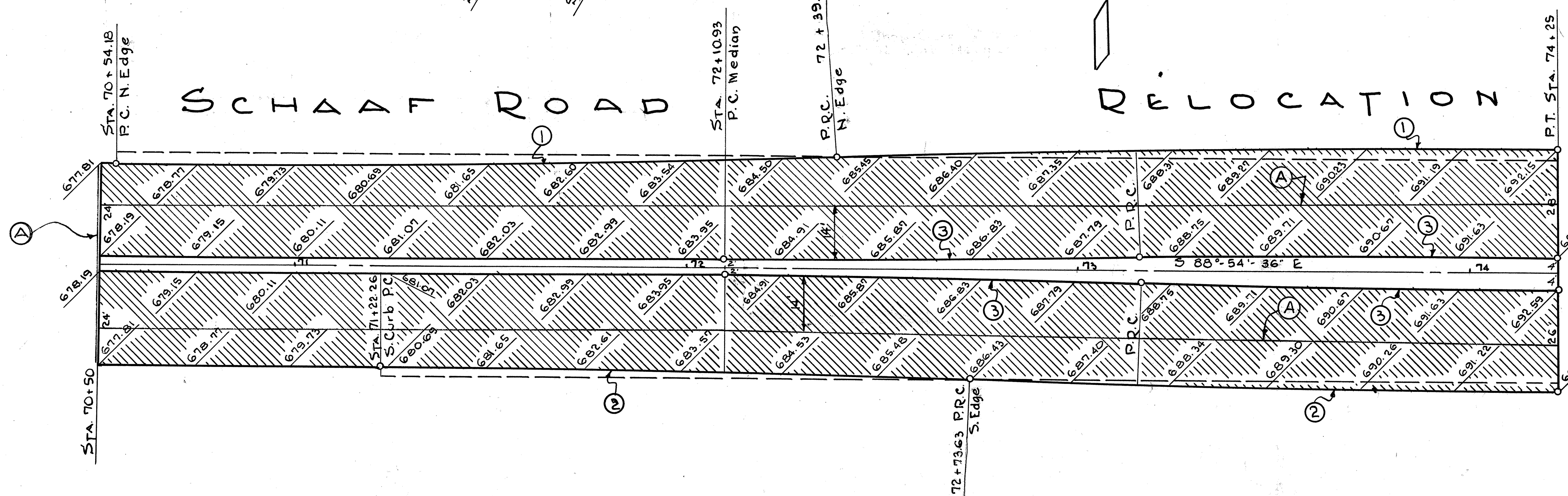
⑱ R = 35.00, Δ = 141°-36'-31", T = 100.53', L = 86.50, CH = 66.11

⑲ R = 55.00, Δ = 31°51'28", T = 15.70', L = 30.58', CH = 30.18'

㉓ R = 35.00', Δ = 40°-52'-11", T = 13.04, L = 24.97, CH = 24.44







⑦ Bullnose	⑥ Bullnose	⑤ Bullnose	⑳ Bullnose	㉑ Bullnose	㉒ Bullnose
R = 1.50'	R = 1.50'	R = 1.50	R = 1.50	R = 1.50	R = 1.50
Δ = 155°-03'-35"	Δ = 114°-56'-25"	Δ = 90°-00'-00"	Δ = 126°-21'-52"	Δ = 123°-53'-05"	Δ = 141°-36'-31"
L = 4.06'	L = 3.01	L = 2.36'	L = 3.31'	L = 3.24	L = 3.71'

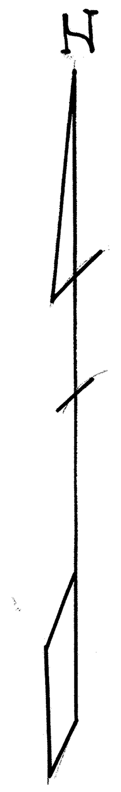
EXTRA AREA QUANTITIES															
LOCATIONS	North or South Side	I-22 Subbase A or B	I-12 Type 2-A Integral Conc. Curb	I-18 Stabilized Aggregate Shoulder	T-71 9" Reinf. Concrete Pavement	I-11 6"x18" S. Stone Curbs	I-11 1.5' Radius Sandstone Bullnose	I-11 5' Rad. Sandstone Curb	I-11 27' Rad. Sandstone Curb	I-11 35' Rad. Sandstone Curb	E-8 Removal & Disposal of Existing Curb	E-8 Removal & Disposal of Existing Pavt.	I-21 4" Concrete Median Pavement Type 1	T-35 2½" Asph. Conc. Surf. Course Type "A" or "C"	T-30 Bituminous Tack Coat @ 0.10 Gal. per Sq. Yd.	B-70 7" Concrete Base
		Cu. Yds.	Lin. Ft.	Cu. Yds.	Sq. Yds.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Yds.	Sq. Yds.	Cu. Yds.	Gals.	Sq. Yds.
Schaaf Road 70+50 to 74+25	North	277.62	375.00	27.8	1125.00											
Schaaf Road 70+50 to 74+25	South	219.74	375.00	27.8	1083.33											
Ramp Nº 1 & Exist. Schaaf		103.96			210.00	257.20	9.43	7.85	28.27		236.00	393.33				
Ramp Nº 2 & Exist Schaaf		236.00			444.00	503.91	10.26			111.47	550.00	910.00				
Median 70+50 to 74+25		46.68											152.00			
Sta. 113+00 to 114+18.25 Sta. 117+78.31 to 120+50														91.10	131	1312
TOTAL		884.00	750.00	55.6	2862.33	761.11	19.69	7.85	28.27	111.47	786.00	1303.33	152.00	91.10	131	1312

Ⓐ Standard Longitudinal Joint
Ⓑ Standard Key Joint Without Tie Bars
Ⓒ Expansion Joint Without Dowels
Ⓓ Standard Expansion Joints
7" B-70 Base with 2½" T-35 Surface Course

EXTRA AREA
SCHAAF RELOCATION - STA. 70+50 TO STA. 74+25
RAMP Nº 1 & Nº 2, CONNECTION TO EXIST. SCHAAF ROAD

EXTRA AREA
SCHAAF ROAD RELOCATION
SCALE : 1" = 20'

CUY. - 17 - 14.99
CUYAHOGA COUNTY



EXTRA AREA QUANTITIES							
LOCATION	T-71 9" PORT. CEMENT REINF. CONC. PAVEMENT	E-8 REMOVAL & DISPOSAL OF EXISTING PAVEMENT	E-8 REMOVAL & DISPOSAL OF EXISTING CURB	I-23 STANDARD PRECAST. CONC. TRAFFIC DIVIDERS	I-11 6"x 18" SAND STONE CURB (AS PER PLAN)	I-22 SUBBASE	I-18 STABILIZED AGGREGATE SHOULDER
	Sq. Yds.	Sq. Yds.	LIN. Ft.	EACH	LIN. Ft.	Cu. Yds.	Cu. Yds.
STA. 119+32.52 to 123+32.52	2147.19	1957	800.4			475.0	42.59
STA. 119+39.32 to 120+99.32				33			
STA. 122+65 to 123+49					224.0		
TOTALS	2147.19	1957	800.4	33	224.0	475.0	42.59

①
Δ = 6°-00'-23"
R = 2272.38'
T = 119.217'
L = 238.217'
CH = 238.107'

②
Dc = 2°-15'-00"
R = 2546.48'
Δ = 11°-42'-00"
T = 260.91'
L = 520.00'
CH = 519.10'
S 85°-18'-08" E
EXT. = 13.33'

③
Δ = 4°-36'-35"
R = 2903.392'
T = 116.859'
L = 233.592'
CHD = 233.528'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

S.R. 17 Schaaf Road Relocation

Plan of Underpass at Existing Schaaf Road

Scale = 1:20

Cuy.-17-14.99
Cuyahoga County

LOCATIONS	North or South Side	I-22 Subbase A or B	I-21 Port. Cement Conc. Med. Pavement	I-18 Stabilized Aggregate Shoulder	T-71 9" Reinf. Concrete Pavement	I-12 Type 2-A Integral Conc. Curb
		Cu. Yds.	Sq. Yds.	Cu. Yds.	Sq. Yds.	Lin. Ft.
77+50 to 83+72.74 ℄ Ramp.	North	555.80	196.64	46.13	2643.96	1534.21
77+50 to 83+70.03 ℄ Ramp.	South	461.38		39.67	2144.37	
83+72.74 to 88+69.45	North	284.28		36.79	1379.75	
83+70.03 to 88+69.45	South	450.32	110.68	36.99	1907.27	996.14
TOTALS		1751.78	307.32	159.58	8075.35	2530.35

㉔
R = 1299.07
Δ = 5°-30'-32"
T = 62.50'
L = 124.90'
Ch. = 124.86'
Ext. = 1.51'

Ⓐ Standard Longitudinal Joint
Ⓑ Standard Key Joint Without Tie Bars
Ⓒ Expansion Joint Without Dowels
Ⓓ Standard Expansion Joints

Extra Area - Schaaf Relocation - Sta. 77+50 to Sta. 88+69.45

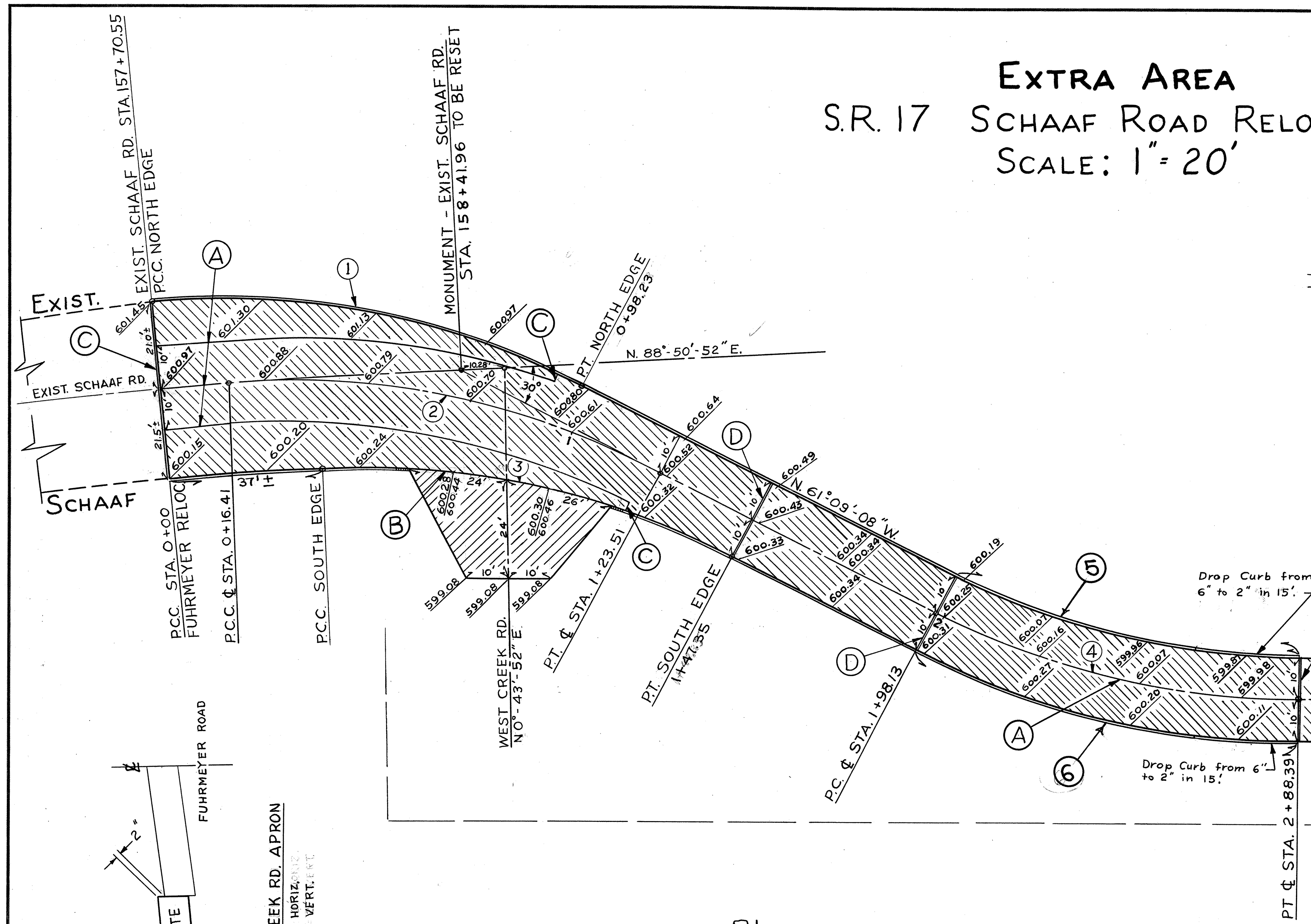
Extra Area - Ramp No 1 & No 2 Connections to Schaaf Rd. Relocation

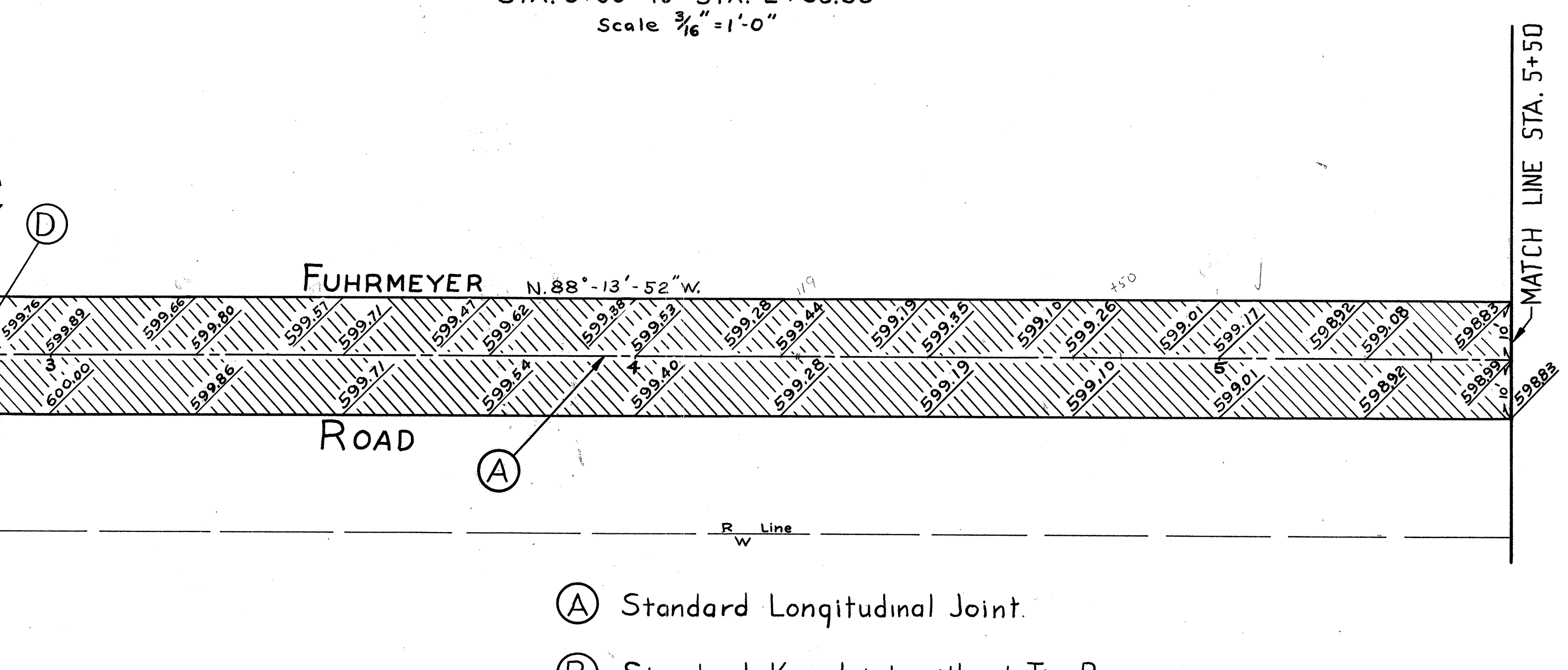
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

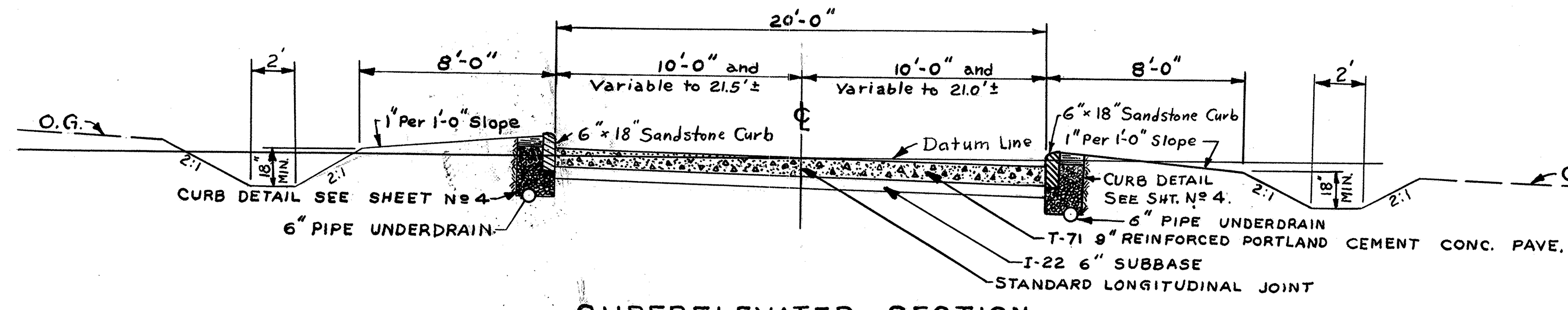
35A
169

Cuy-17-14.99
Cuyahoga County

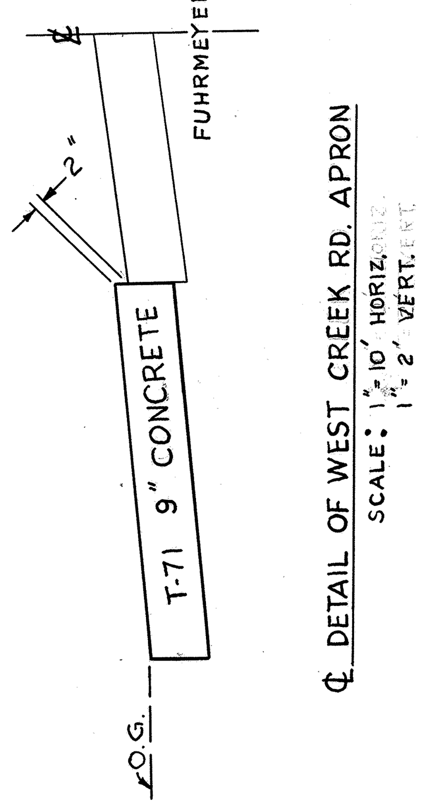
Extra Area
S.R. 17 Schaaf Road Relocation
Scale: 1" = 20'







SUPERELEVATED SECTION
Schaaf @ Fuhrmeyer Road
STA. 0+00 to STA. 2+88.39
Scale 3/16" = 1'-0"



℄ DETAIL OF WEST CREEK RD. APRON
SCALE: 1" = 10' HORIZ.; 1" = 2' VERT.

(A) Standard Longitudinal Joint.
(B) Standard Key Joint without Tie Bars.
(C) Expansion Joint without Dowels.
(D) Standard Expansion Joint.

① & ②
Δ = 32° 07' 48"
R = 190.99'
D = 30° 00' 00"
T = 55.00'
L = 107.10'
Ch = 105.70

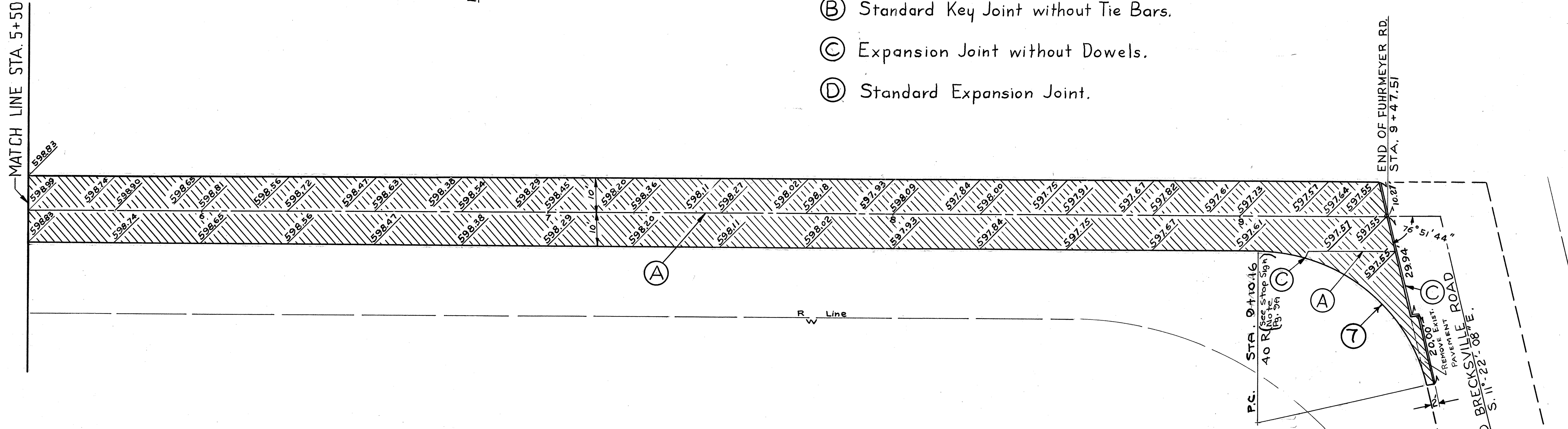
③
Δ = 30° 00' 00"
R = 194.70'
D = 29° 25' 40"
T = 52.17'
L = 101.94'
Ch = 100.78'

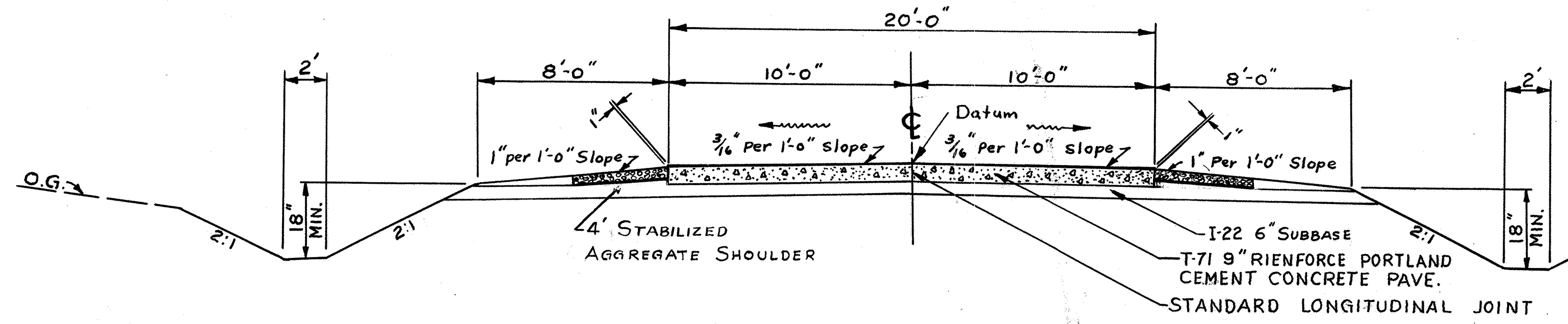
④
Δ = 27° 04' 44"
R = 190.99'
D = 30° 00' 00"
T = 45.99'
L = 90.26'
Ch = 89.43'

⑤
Δ = 27° 04' 44"
R = 180.99'
D = 31° 39' 25"
T = 43.58'
L = 85.53'
Ch = 84.74'

⑥
Δ = 27° 04' 44"
R = 200.99'
D = 28° 30' 24"
T = 48.40'
L = 94.99'
Ch = 94.11'

⑦
Δ = 76° 51' 44"
R = 50'
D = 114° 35' 30"
T = 39.67'
L = 67.08'
Ch = 62.16'



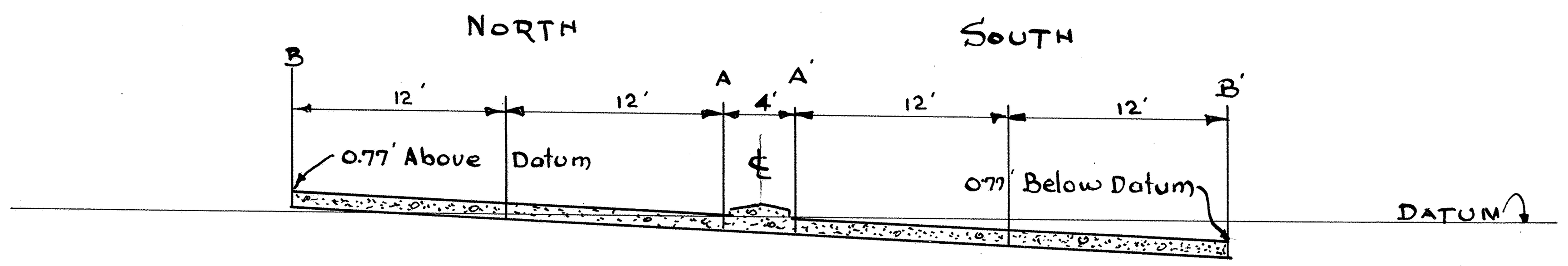


NORMAL SECTION
Fuhrmeyer Road
STA. 4+25.00 to STA. 8+50.00
Scale 3/16" = 1'-0"

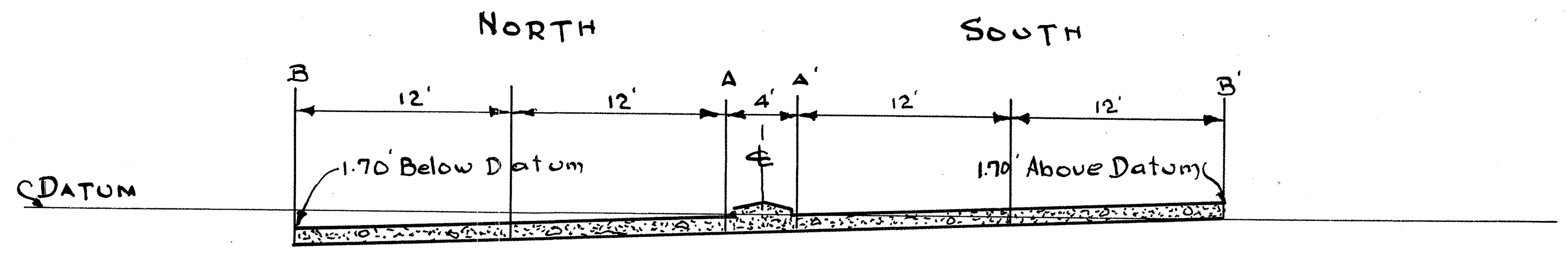
EXTRA AREA QUANTITIES					
LOCATION	E-8 Removal & Disposal of Exist. Pave.	T-71 9" Port Cement Reinforced Conc. Pave.	I-11 6"×18" Sand-stone Curb	I-18 Stabilized Aggregate Shoulder	I-22 Subbase "A" or "B"
	Sq. Yds.	Sq. Yds.	Lin. Ft.	Cu. Yds.	Cu. Yds.
STA. 0+00 to 1+47.35		532.0	245.2		88.7
STA. 1+47.35 to 2+88.39		313.4	282.1		52.2
STA. 2+88.39 to 9+47.51		1501.6		84.6	458.3
WEST CREEK RD. APRON		93.0			
OLD BRECKSVILLE RD.	4.4	4.4			
EXIST. FURHMEYER RD.	1950.0				
TOTALS	1954.4	2444.4	527.3	84.6	599.2

EXTRA AREA - EXIST. SCHAAF-FUHRMEYER RELOCATION

SUPERELEVATION TABLE



FULL - STA. 11+50.00 TO STA. 24+50.00 - SUPER



FULL - STA. 35+00.00 TO STA. 45+75.00 - SUPER

3°-00' CURVE RIGHT P.C. STA. 10+73.54 P.T. STA. 25+34.29 DESIGN SPEED 40 MPH

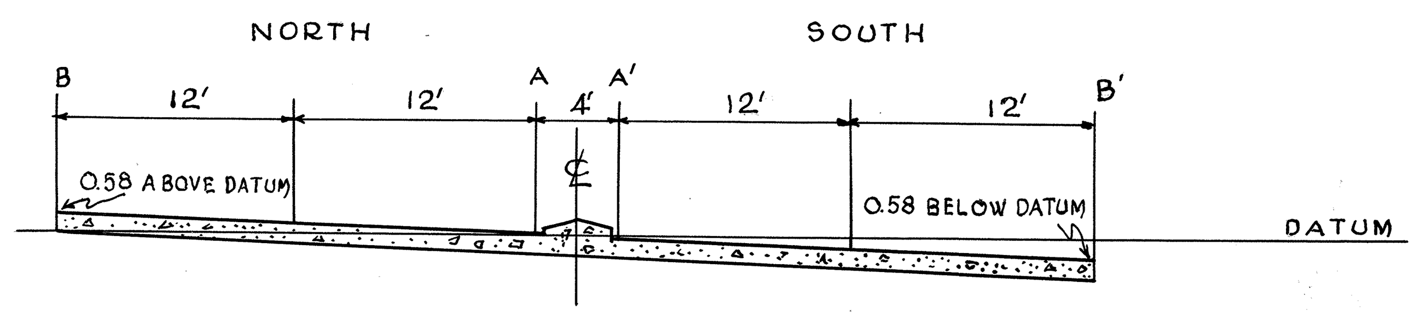
STATION	% GRADE	B	A AND A'	B'	STATION	% GRADE	B	A AND A'	B'
7+50	-0.76 % / TRANSITION	765.80	766.21	765.80	18+25	-3.16 % / FULL SUPERELEVATION	746.21	745.44	744.67
+75		765.65	766.02	765.60	+50		745.22	744.65	743.88
8+00		765.50	765.83	765.43	+75		744.63	743.86	743.09
+25		765.36	765.44	765.22	19+00		743.84	743.07	742.30
+50		765.23	765.45	765.04	+25		743.05	742.28	741.51
+75		765.08	765.26	764.85	+50		742.26	741.49	740.72
9+00		764.95	765.07	764.69	+75		741.47	740.70	739.93
+25		764.83	764.88	764.50	20+00		740.68	739.91	739.14
+50		764.73	764.69	764.31	+25		739.89	739.12	738.35
+75		764.64	764.50	764.12	+50		739.10	738.33	737.56
10+00		764.55	764.31	763.92	+75	500' VERTICAL CURVE	738.33	737.56	736.79
+25		764.48	764.12	763.69	21+00		737.59	736.82	736.05
+50		764.41	763.93	763.43	+25		736.89	736.12	735.35
+75		764.34	763.74	763.14	+50		736.22	735.45	734.68
11+00		764.25	763.55	762.85	+75		735.58	734.81	734.04
+25	400' VERTICAL CURVE / FULL SUPERELEVATION	764.08	763.34	762.58	22+00		734.98	734.21	733.44
+50		763.87	763.10	762.33	+25		734.42	733.65	732.88
+75		763.58	762.87	762.04	+50		733.88	733.11	732.34
12+00		763.26	762.49	761.72	+75		733.39	732.62	731.85
+25		762.90	762.13	761.36	23+00		732.93	732.16	731.39
+50		762.51	761.74	760.97	+25		732.50	731.73	730.96
+75		762.07	761.30	760.53	+50		732.10	731.33	730.56
13+00		761.60	760.83	760.06	+75		731.75	730.98	730.21
+25		761.09	760.32	759.55	24+00		731.42	730.65	729.88
+50		760.55	759.78	759.01	+25	TRANSITION	731.10	730.36	729.60
+75		759.96	759.19	758.42	+50		730.80	730.11	729.38
14+00		759.34	758.57	757.80	+75		730.56	729.89	729.19
+25		758.68	757.51	757.14	25+00		730.36	729.70	728.92
+50		757.99	757.22	756.45	+25		730.29	729.55	728.88
+75		757.25	756.48	755.71	+50		730.21	729.43	728.75
15+00		756.48	755.71	754.94	+75		729.84	729.33	728.68
+25	-3.16 %	755.69	754.92	754.15	26+00	-4.00 %	729.66	729.23	728.60
+50		754.90	754.13	753.36	+25		729.49	729.13	728.53
+75		754.11	753.34	752.57	+50		729.32	729.03	728.45
16+00		753.32	752.55	751.78	+75		729.14	728.93	728.37
+25		752.53	751.76	750.99	27+00		728.97	728.83	728.29
+50		751.74	750.97	750.20	+25		728.79	728.73	728.22
+75		750.55	750.18	749.41	+50		728.62	728.63	728.14
17+00		750.16	749.39	748.62	+75		728.45	728.53	728.06
+25		749.37	748.60	747.83	28+00		728.27	728.43	727.98
+50		748.58	747.81	747.04	+25		728.10	728.33	727.91
+75		747.79	747.02	746.25	+50		727.92	728.23	727.83
18+00		747.00	746.23	745.46	+75		727.75	728.13	727.75

3°-00' CURVE LEFT P.C. STA. 33+50.26 P.T. STA. 47+16.99 DESIGN SPEED 60 M.P.H.

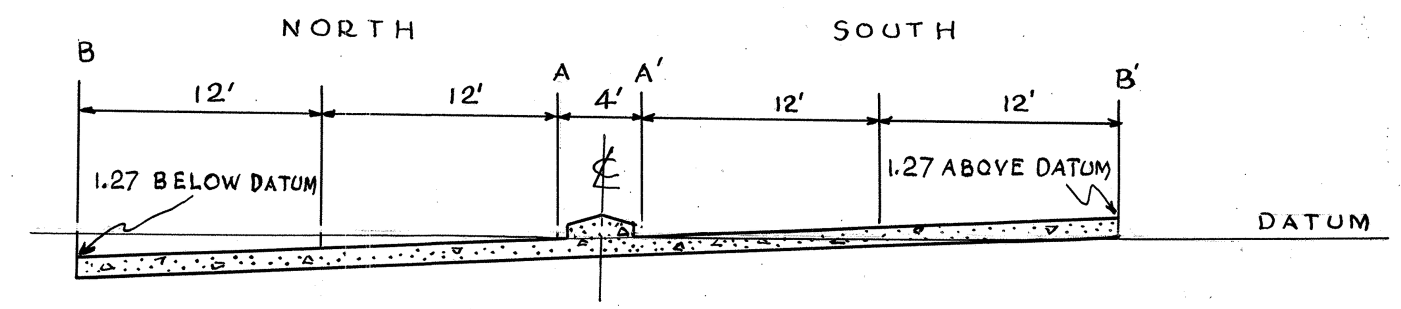
STATION	% GRADE	B	A AND A'	B'	STATION	% GRADE	B	A AND A'	B'	STATION	% GRADE	B	A AND A'	B'
28+75	-4.00 % / TRANSITION	727.75	728.13	727.75	38+00	-4.00 % / FULL SUPERELEVATION	722.73	724.43	726.13	47+25	800' V.C. / TRANSITION	710.94	711.91	712.86
29+00		727.58	728.03	727.76	+25		722.63	724.33	726.03	+50		710.34	711.09	711.90
+25		727.42	727.93	727.77	+50		722.53	724.23	725.93	+75		709.69	710.25	710.90
+50		727.25	727.83	727.77	+75		722.43	724.13	725.83	48+00		708.95	709.37	709.84
+75		727.08	727.73	727.78	39+00		722.33	724.03	725.73	+25		708.10	708.46	708.78
30+00		726.91	727.63	727.79	+25		722.23	723.93	725.63	+50		707.15	707.53	707.72
					+50		722.13	723.83	725.53					
+25		726.75	727.53	727.80	+75		722.03	723.73	725.43	+75		706.15	706.57	706.66
+50		726.58	727.43	721.81	40+00		721.93	723.63	725.33	49+00	-4.013 %	705.16	705.58	705.60
+75		726.41	727.33	721.82	+25		721.83	723.53	725.23	+25		704.16	704.58	704.54
31+00		726.24	727.23	727.82	+50		721.73	723.43	725.13	+50		703.16	703.57	703.48
+25		726.08	727.13	727.83	+75		721.63	723.33	725.03	+75		702.17	702.57	702.42
+50		725.91	727.03	727.84	41+00		721.53	723.23	724.93	50+00		701.17	701.57	701.36
+75		725.74	726.93	727.85	+25	800' VERTICAL CURVE	721.42	723.12	724.82	+25		700.17	700.56	700.30
32+00		725.58	726.83	727.86	+50		721.27	722.97	724.67	+50		699.18	699.56	699.24
+25		725.41	726.73	727.87	+75		721.10	722.80	724.50	+75		698.18	698.56	698.18
+50		725.24	726.63	727.87	42+00		720.91	722.61	724.31					
+75		725.07	726.53	727.88	+25		720.68	722.38	724.08					
33+00		724.91	726.43	727.89	+50		720.42	722.12	723.82					
+25		724.74	726.33	727.90	+75		720.14	721.84	723.54					
+50		724.57	726.23	727.89	43+00		719.83	721.53	723.23					
+75		724.43	726.13	727.83	+25		719.49	721.19	722.89					
34+00	FULL SUPERELEVATION	724.33	726.03	727.73	+50		719.12	720.82	722.52					
+25		724.23	725.93	727.63	+75		718.72	720.42	722.12					
+50		724.13	725.83	727.53	44+00		718.30	720.00	721.70					
+75		724.03	725.73	727.43	+25		717.85	719.55	721.25					
35+00		723.93	725.63	727.33	+50		717.36	719.06	720.76					
+25		723.83	725.53	727.23	+75		716.85	718.55	720.25					
+50		723.73	725.43	727.13	45+00		716.32	718.02	719.72					
+75		723.63	725.33	727.03	+25		715.75	717.45	719.15					
36+00		723.53	725.23	726.93	+50		715.16	716.86	718.56					
+25		723.43	725.13	726.83	+75		714.54	716.24	717.94					
+50		723.33	725.03	726.73	46+00	TRANSITION	713.94	715.59	717.30					
+75		723.23	724.93	726.63	+25		713.34	714.91	716.47					
37+00		723.13	724.83	726.53	+50		712.74	714.20	715.62					
+25		723.03	724.73	726.43	+75		712.14	713.47	714.71					
+50		722.93	724.63	726.33	47+00		711.54	712.70	713.82					
+75		722.83	724.53	726.23										

CUY - 17 - 14.99
CUYAHOGA COUNTY

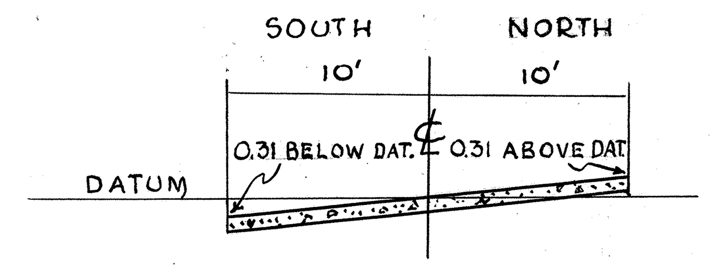
SUPERELEVATION TABLE



STA. 94+25.00 TO STA. 102+25.00 FULL-SUPER.



STA. 117+50 TO 119+00 FULL-SUPER.



FULL - SUPER.
STA. 3+75 TO 5+50
RAMP No 1.

1°-00' CURVE RIGHT P.C. STA. 93+60.81 P.T. STA. 103+06.59 DESIGN SPEED 60 M.P.H.

STATION	% GRADE	B	A AND A'	B'	STATION	% GRADE	B	A AND A'	B'
91+00		679.73	680.11	679.73	100+75		643.25	642.67	642.09
+25		678.79	675.15	678.77	101+00	FULL SUPER.	642.29	641.71	641.13
+50		677.87	678.19	677.81	+25		641.33	640.75	640.17
+75		676.97	677.23	676.85	+50		640.37	639.79	639.21
92+00		676.08	676.27	675.89	+75		639.41	638.83	638.25
+25	TRANSITION	675.18	675.31	674.93	102+00		638.45	637.87	637.29
+50		674.28	674.35	673.97	+25	-3.84 %	637.49	636.91	636.33
+75		673.40	673.39	673.01	+50		636.52	635.95	635.38
93+00		672.54	672.43	672.05	+75		635.52	634.99	634.47
+25		671.70	671.47	671.09	103+00		634.49	634.03	633.56
+50		670.85	670.51	670.10	+25		633.41	633.07	632.66
+75		670.00	669.55	669.08	+50		632.34	632.11	631.72
94+00		669.12	668.59	668.05	+75		631.26	631.15	630.77
+25		668.21	667.63	667.05	104+00	TRANSITION	630.21	630.19	629.81
+50		667.25	666.67	666.09	+25		629.16	629.23	628.85
+75		666.29	665.71	665.13	+50		628.14	628.27	627.89
95+00		665.33	664.75	664.17	+75		627.12	627.31	626.93
+25	-3.84 %	664.37	663.79	663.21	105+00		626.09	626.35	625.57
+50		663.41	662.83	662.25	+25		625.07	625.39	625.01
+75		662.45	661.81	661.29	+50		624.07	624.43	624.05
96+00		661.49	660.91	660.33	+75		623.09	623.47	623.09
+25	FULL SUPERELEVATION	660.53	659.95	659.37					
+50		659.57	658.99	658.41					
+75		658.61	658.03	657.45					
97+00		657.65	657.07	656.49					
+25		656.69	656.11	655.53					
+50		655.73	655.15	654.57					
+75		654.77	654.19	653.61					
98+00		653.81	653.23	652.65					
+25		652.85	652.27	651.69					
+50		651.89	651.31	650.73					
+75		650.93	650.35	649.77					
99+00		649.97	649.39	648.81					
+25		649.01	648.43	647.85					
+50		648.05	647.47	646.89					
+75		647.09	646.51	645.93					
100+00		646.13	645.55	647.97					
+25		645.17	644.59	644.01					
+50		644.21	643.63	643.05					

2°-15' CURVE LEFT DESIGN SPEED 60 M.P.H.
P.C. STA. 116+48.43 P.T. STA. 121+68.43

STATION	% GRADE	B	A AND A'	B'
113+00		600.59	600.97	600.59
+25		600.42	600.80	600.44
+50		600.30	600.68	600.36
+75		600.24	600.62	600.36
114+00		600.23	600.61	600.42
+25		600.28	600.66	600.53
+50	TRANSITION	600.38	600.76	600.69
+75		600.54	600.92	600.92
115+00		600.75	601.13	601.24
+25		600.01	601.39	601.62
+50	900' VERTICAL CURVE	601.32	601.71	602.05
+75		601.61	602.08	602.54
116+00		601.93	602.51	603.09
+25		602.31	603.00	603.69
+50		602.72	603.53	604.34
+75		603.19	604.12	605.05
117+00		603.73	604.77	605.81
+25		604.34	605.47	606.63
+50		605.02	606.23	607.46
+75		605.78	607.04	608.30
118+00	FULL SUPER.	606.63	607.90	609.17
+25		607.55	608.82	610.09
+50		608.52	609.79	611.06
+75	+4.00 %	609.52	610.79	612.06
119+00		610.52	611.79	613.06
+25		611.53	612.79	614.06

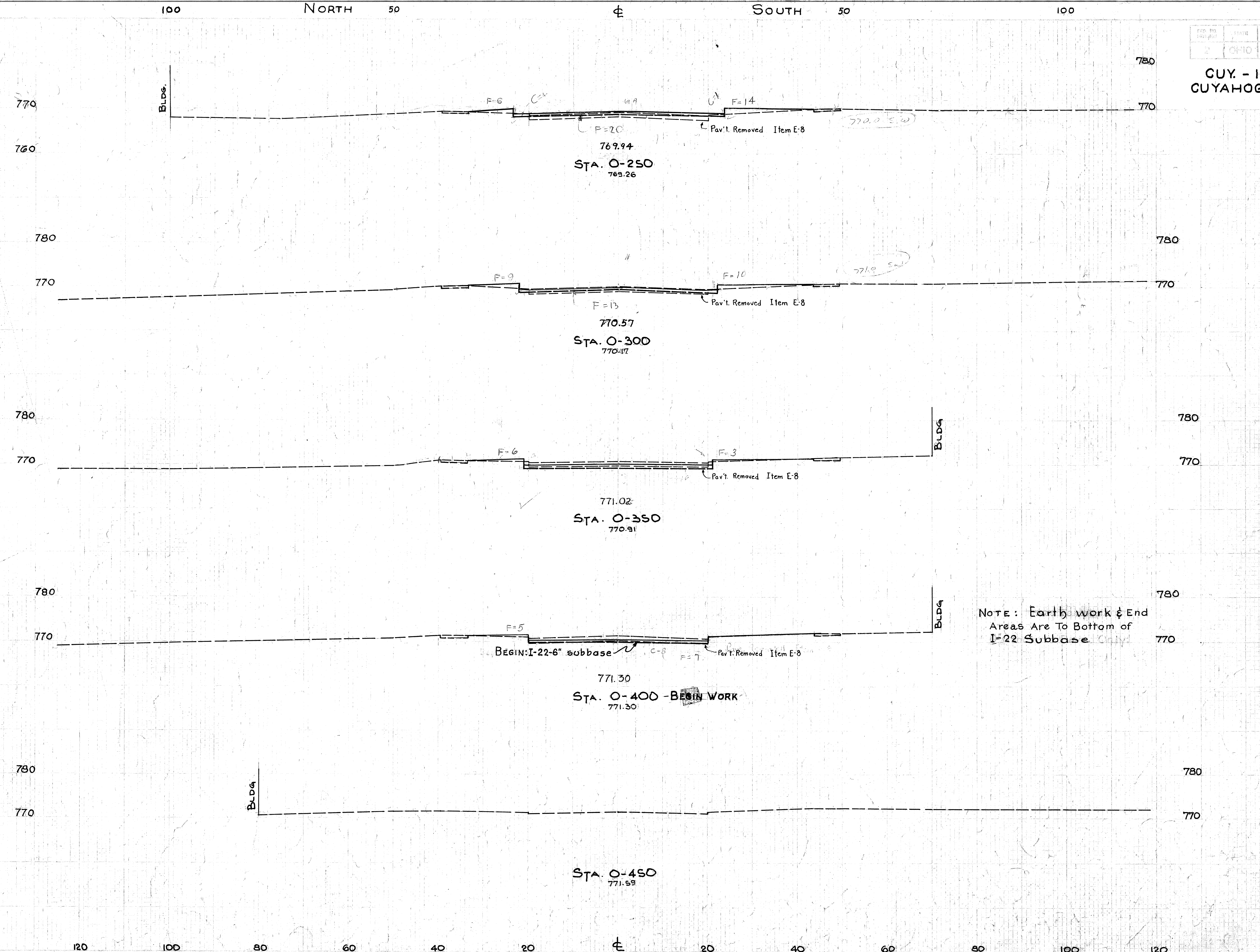
SEE EXTRA AREA SHEET FOR REMAINDER OF TRANSITION

5°00 CURVE LEFT RAMP #1
P.C. STA. 3+57.37 P.T. STA. 5+60.63

STATION	% GRADE	SOUTH	℄	NORTH
2+50	0.64 %	705.88	706.04	705.88
+75	TRANSITION	706.44	706.60	706.54
3+00	250' V.C.	707.13	707.29	707.26
+25		707.95	708.11	708.18
+50		708.90	709.07	709.32
+75		709.84	710.15	710.46
4+00	FULL SUPER	710.99	711.30	711.61
+25		712.14	712.45	712.76
+50		713.29	713.60	713.91
+75		714.44	714.75	715.06
5+00		715.59	715.90	716.21
+25	+4.60 %	716.74	717.05	717.36
+50		717.89	718.20	718.51
+75	TRANSITION	719.05	719.35	719.53
6+00		720.25	720.50	720.55
+25		721.49	721.65	721.57
+50		722.58	722.74	722.58

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
30	
	175
33	
	192
36	
	206
38	

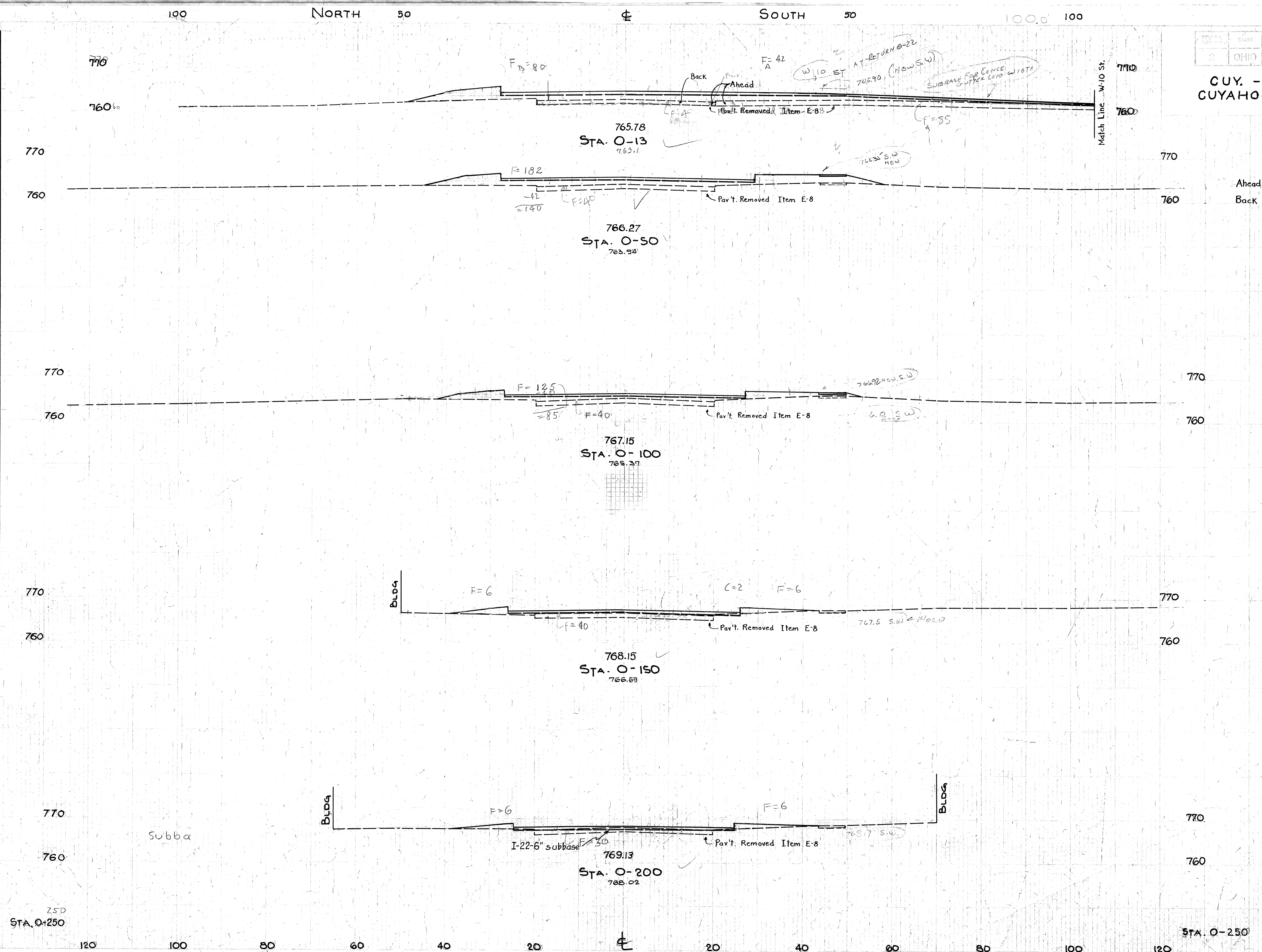


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
5	40		
		5	67
0	32		
		0	38
0	9		
		8	20
8	12		
0	0		

X-Section Sta. 0-450 to Sta. 0-250

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
21	
	127
41	
	231
42	
	200
30	
	178
34	
	178
39	

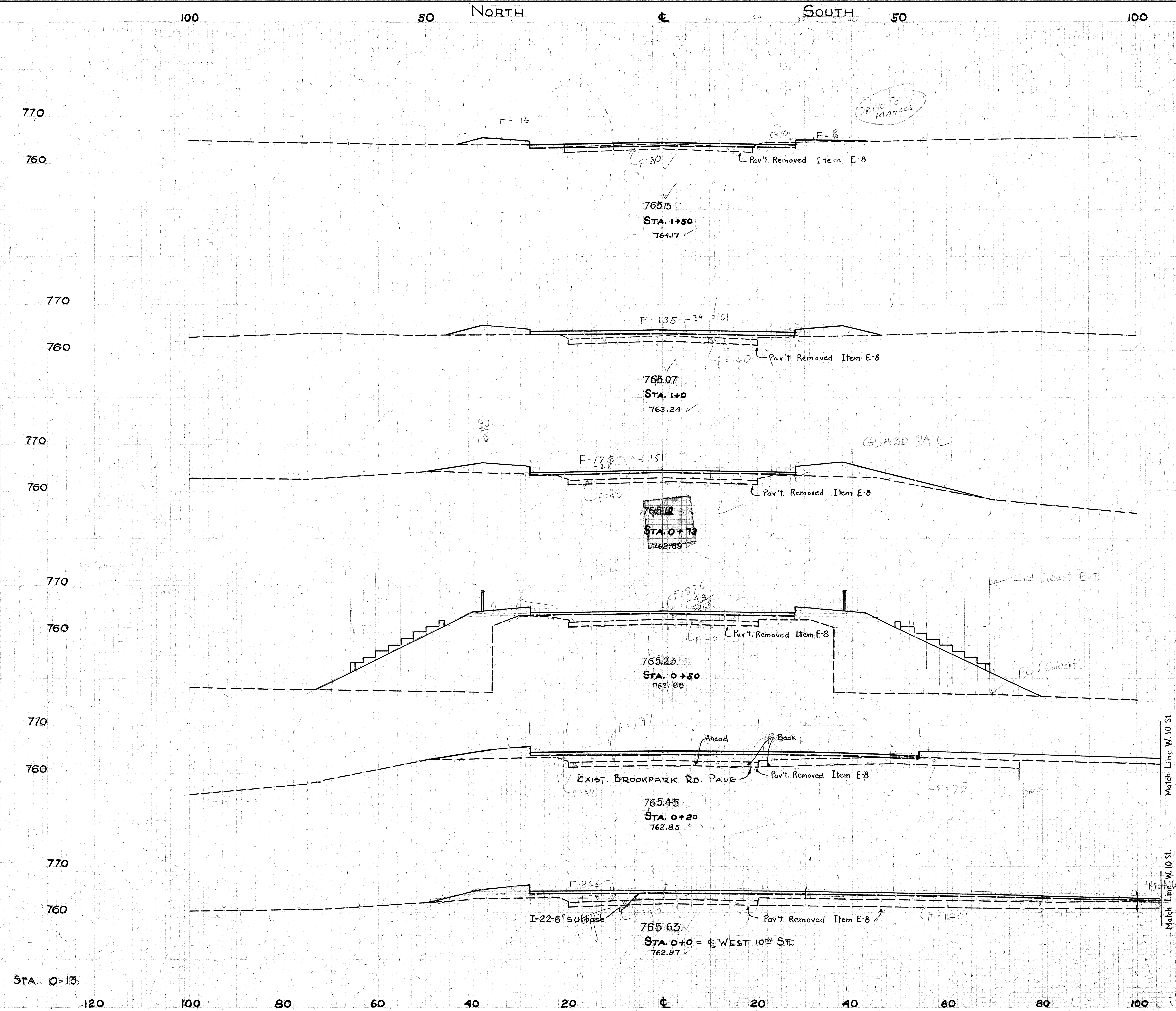


	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Ahead	0	247		
Back	0	120		
			0	278
	0	180		
			0	283
	0	125		
			2	164
	2	52		
			2	87
	0	42		
			5	76
Sta. 0-250	5	40		

X-Section Sta. 0-200 to Sta. 0-50

CUY.- 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
30	
	186
37	
	150
63	
	215
105	
	295
72	
	104
22	
	31
21	

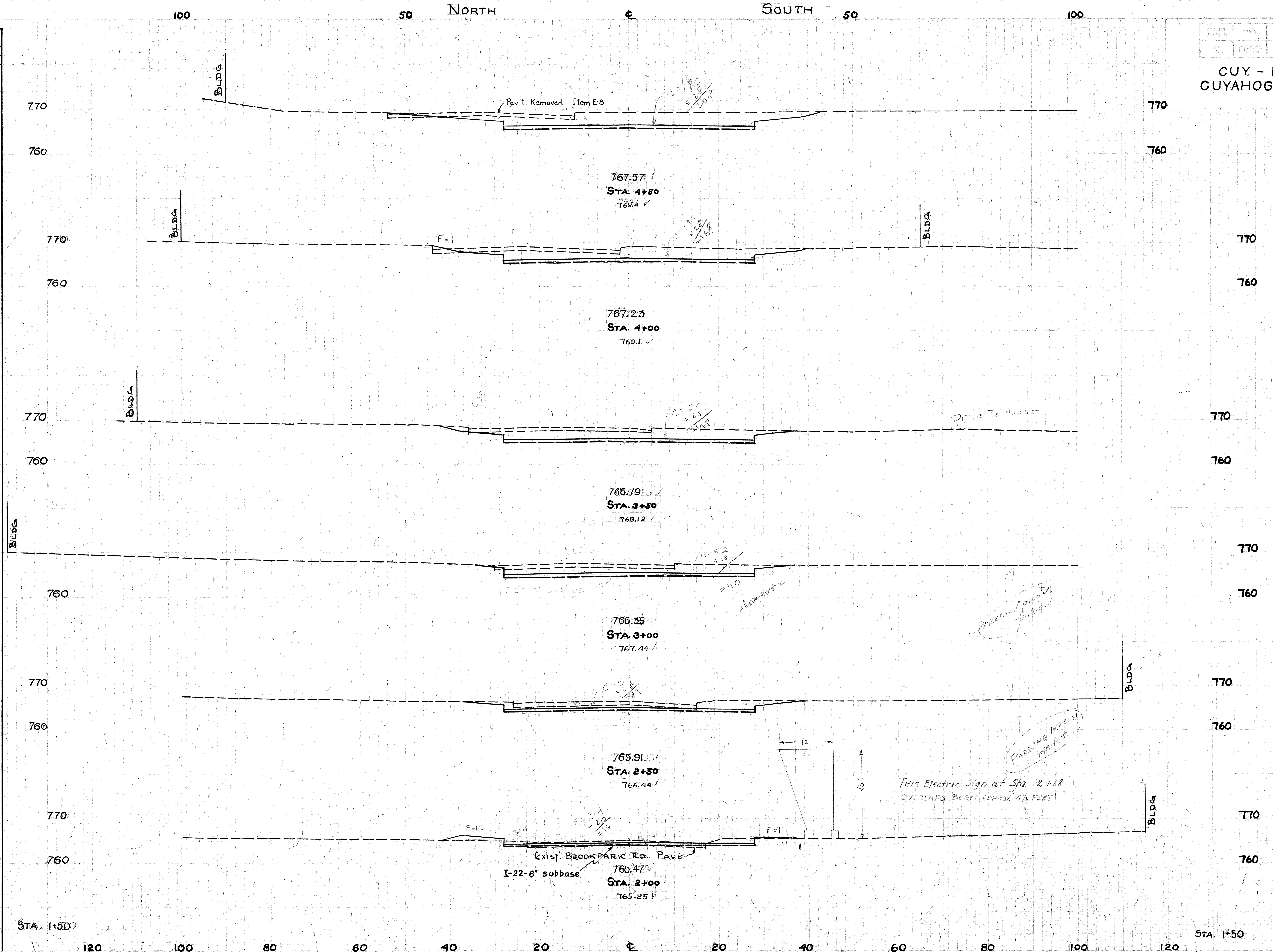


	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	10	54		
			10	181
	0	141		
			0	166
	0	191		
			0	451
	0	868		
			0	549
Ahead	0	120		
Back	0	250		
			0	214
	0	327		
			0	138
STA. 0-13	0	247		

X-SECTION STA. 0+0 TO STA. 1+50

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
52	
	222
28	
	144
24	
	111
16	
	100
20	
20	
	125
25	
	153
30	

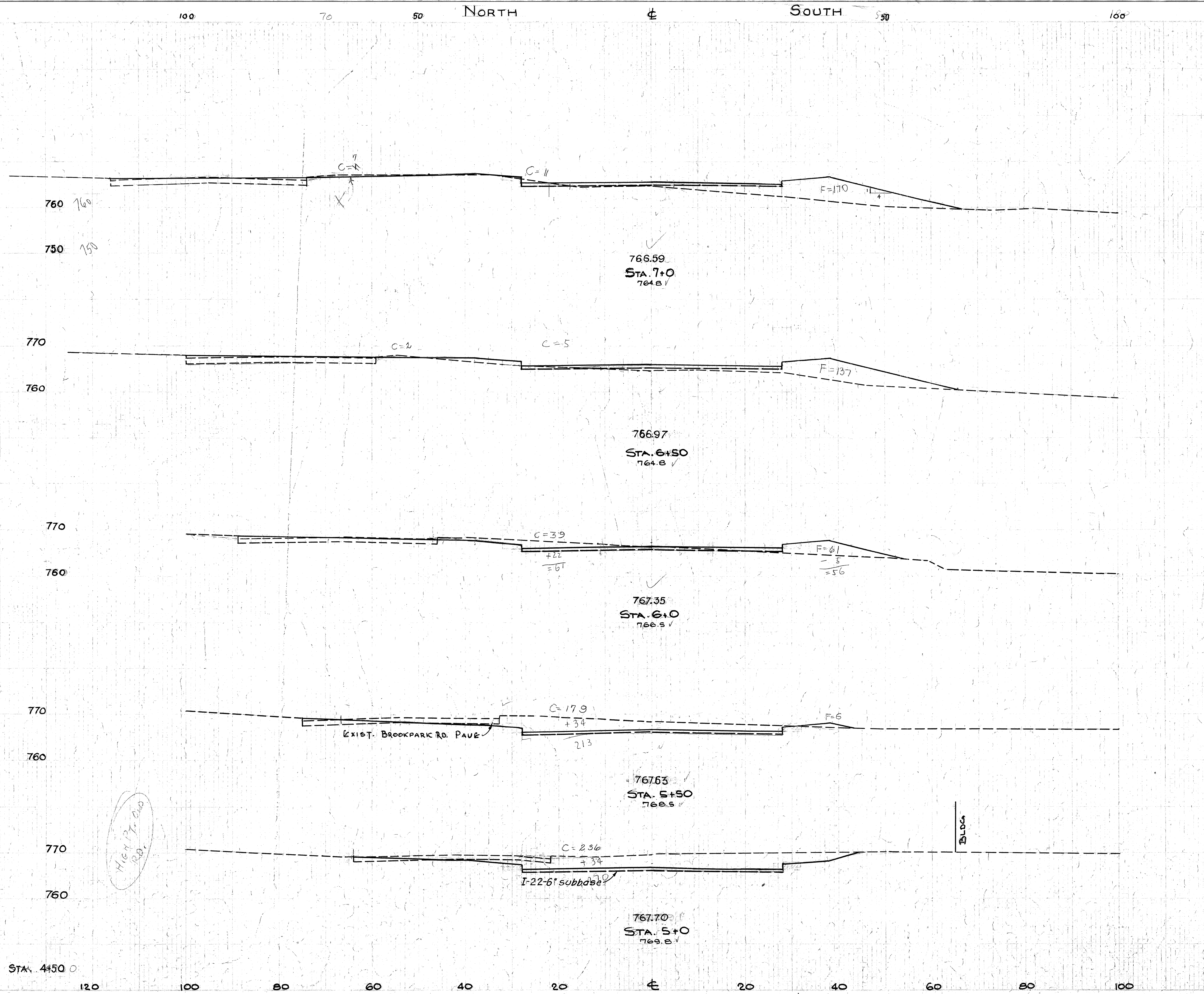


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
208	0		
		348	1
168	1		
		298	1
148	0		
		239	0
110	0		
		183	0
87	0		
		85	14
4	15		
		13	64
10	54		

X-SECTION STA. 2+00 TO STA. 4+50

CUY - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
128	
	661
110	
	550
88	
	419
63	
	325
54	
	294
52	



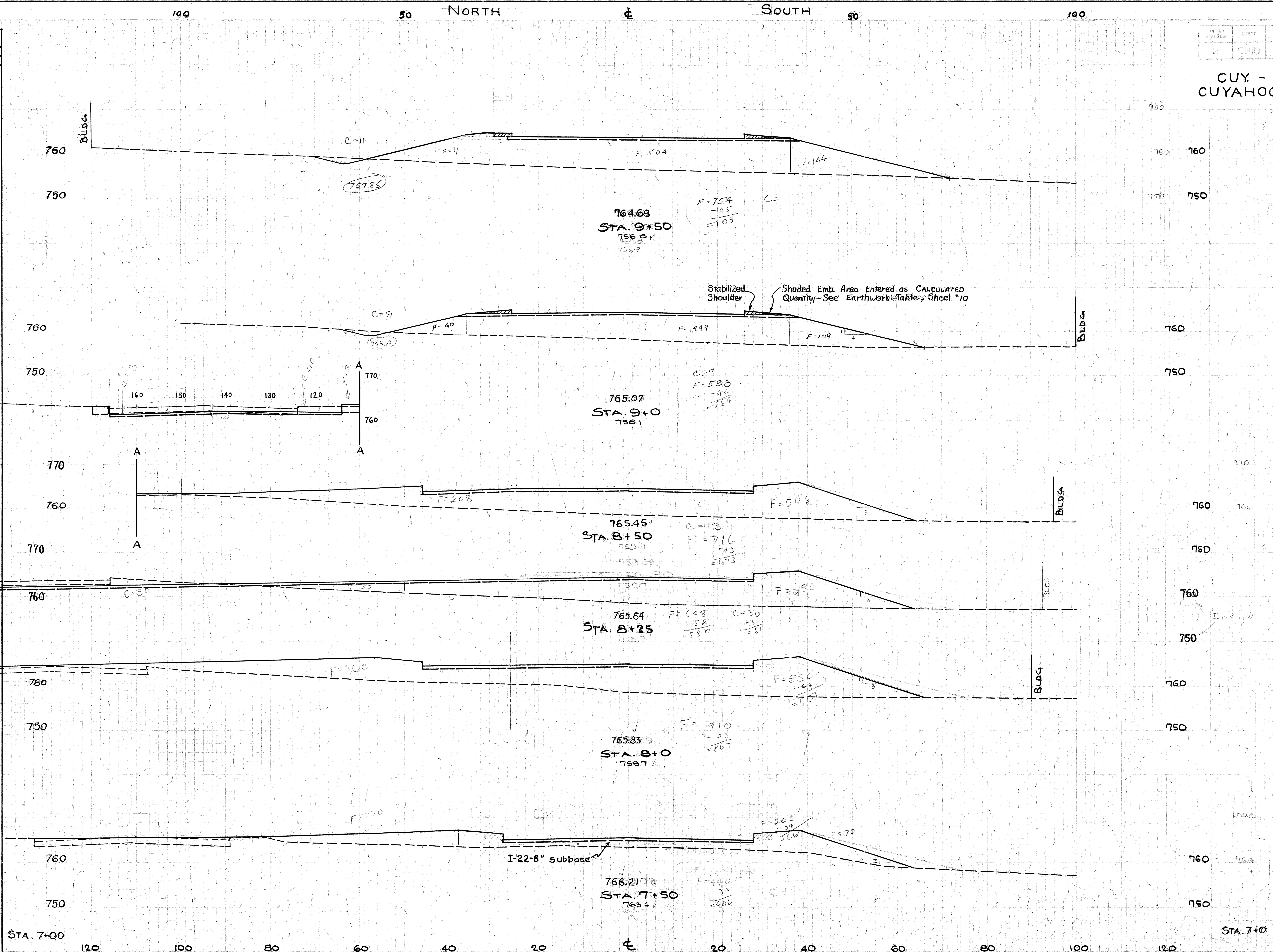
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
18	170		
		23	285
7	137		
		63	179
61	56		
		254	58
213	6		
		447	6
270	0		
		443	0
208	0		

EXCAVATION 2601 CU. YDS.
EMBANKMENT 9958 CU. YDS.
EMB. + 22% 12149 CU. YDS.

X-SECTIONS STA. 5+0 TO STA. 7+0

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
92	
	478
80	
	522
108	
	226
55	
	276
144	
	794
142	
	750
128	

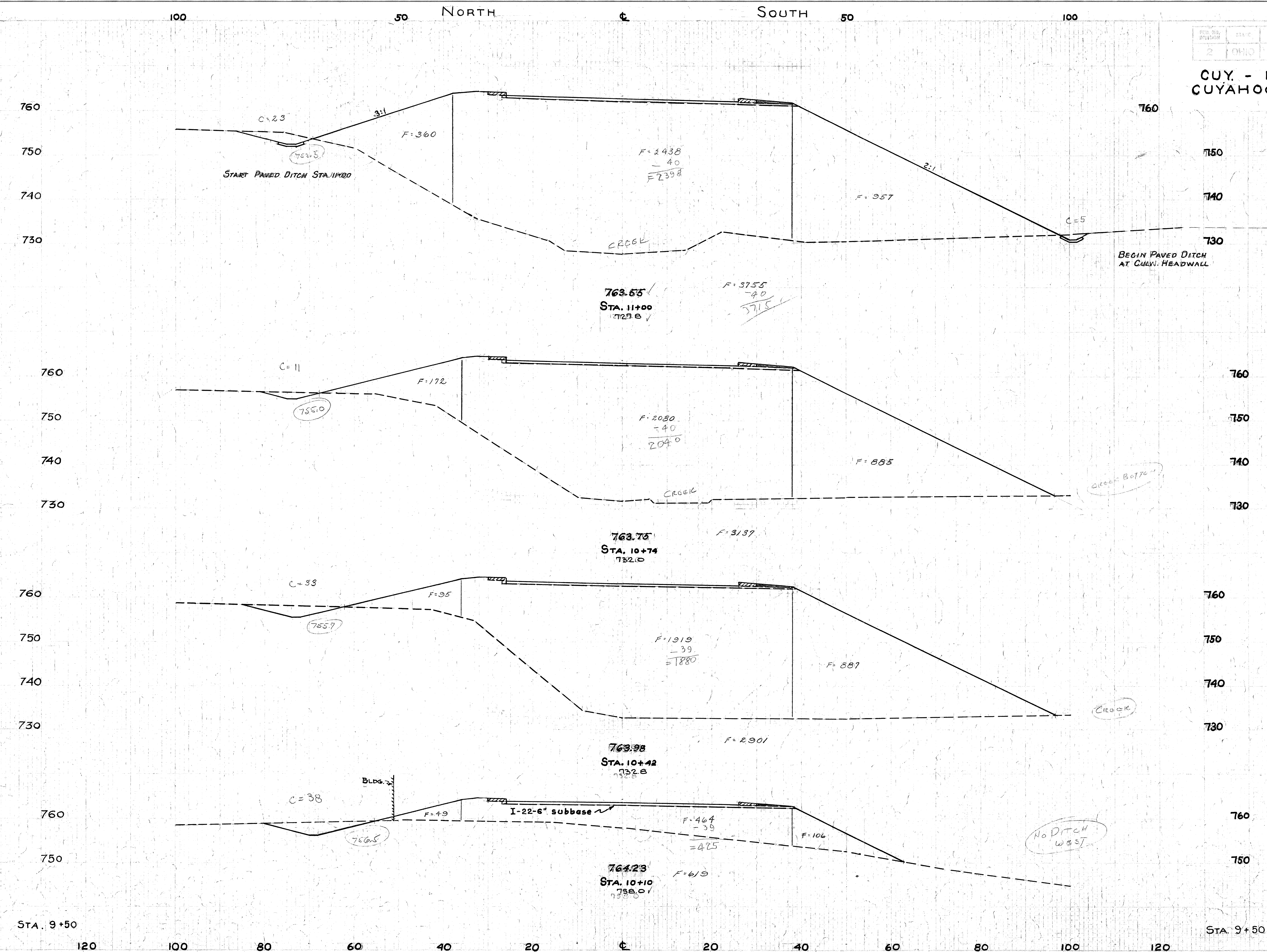


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
11	709		
		19	1,170
9	554		
		21	1136
13	673		
		34	585
61	590		
		28	674
0	867		
		0	1179
0	406		
		17	534
18	170		

X-SECTIONS STA. 7+50 TO STA. 9+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Station	Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
Sta. 11+00	131	
		373
Sta. 10+74	127	
		460
Sta. 10+42	132	
		391
Sta. 10+10	88	
		600
Sta. 9+50	92	

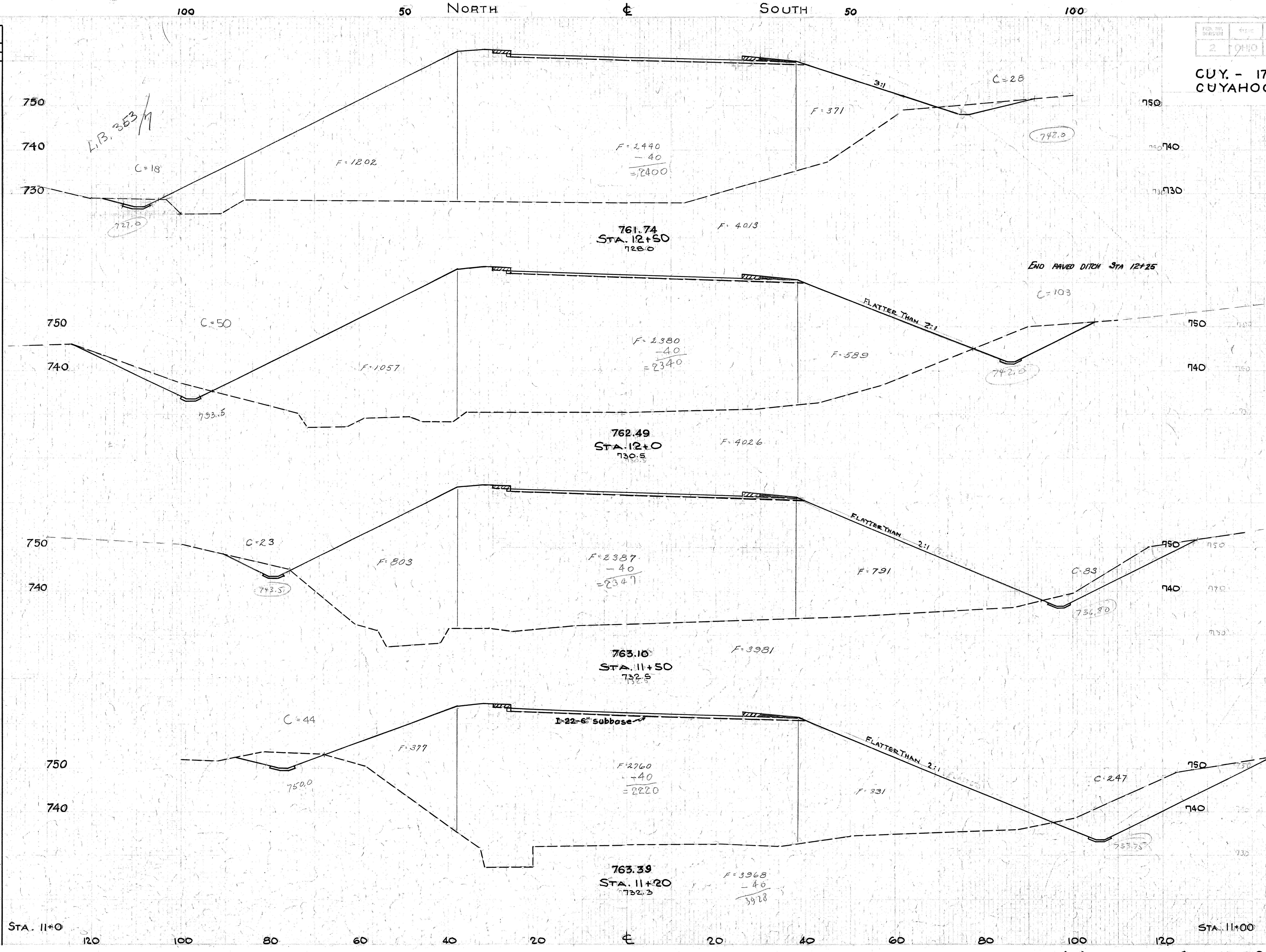


Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Sta. 11+00	28	3715		
			19	3280
Sta. 10+74	11	3097		
			26	3531
Sta. 10+42	33	2862		
			42	2040
Sta. 10+10	38	580		
			54	1432
Sta. 9+50	11	709		

X-SECTIONS STA. 10+10 TO STA. 11+00

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
156	
	925
177	
	947
164	
	565
175	
	340
131	

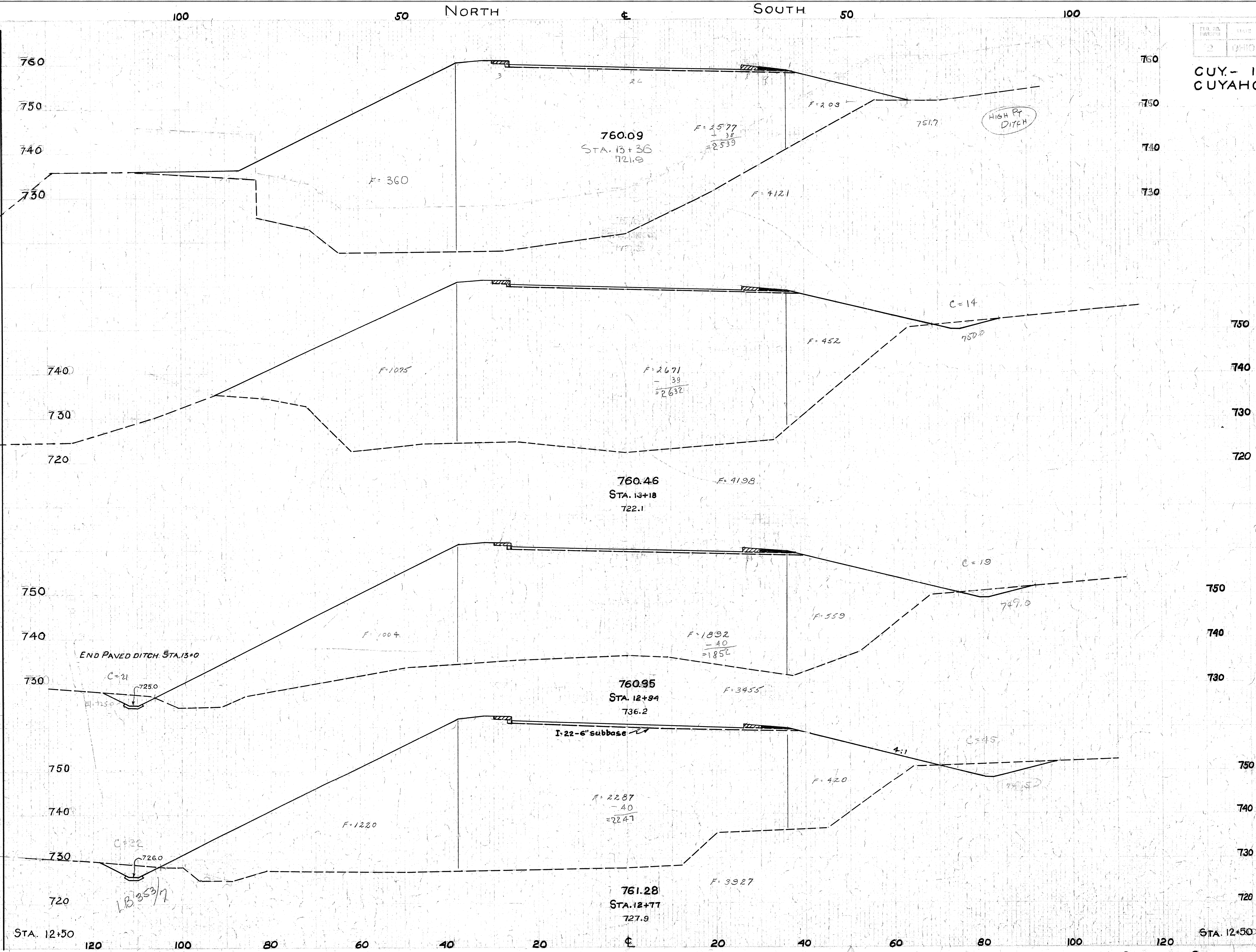


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
446	3973		
		185	7369
153	3986		
		240	7340
106	3941		
		221	4372
291	3928		
		118	2831
28	3715		

X-SECTIONS STA. 11+20 TO STA. 12+50

CUY.- 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Area Sq. Yds.
122	
	247
125	
	377
158	
	304
164	
	480
156	

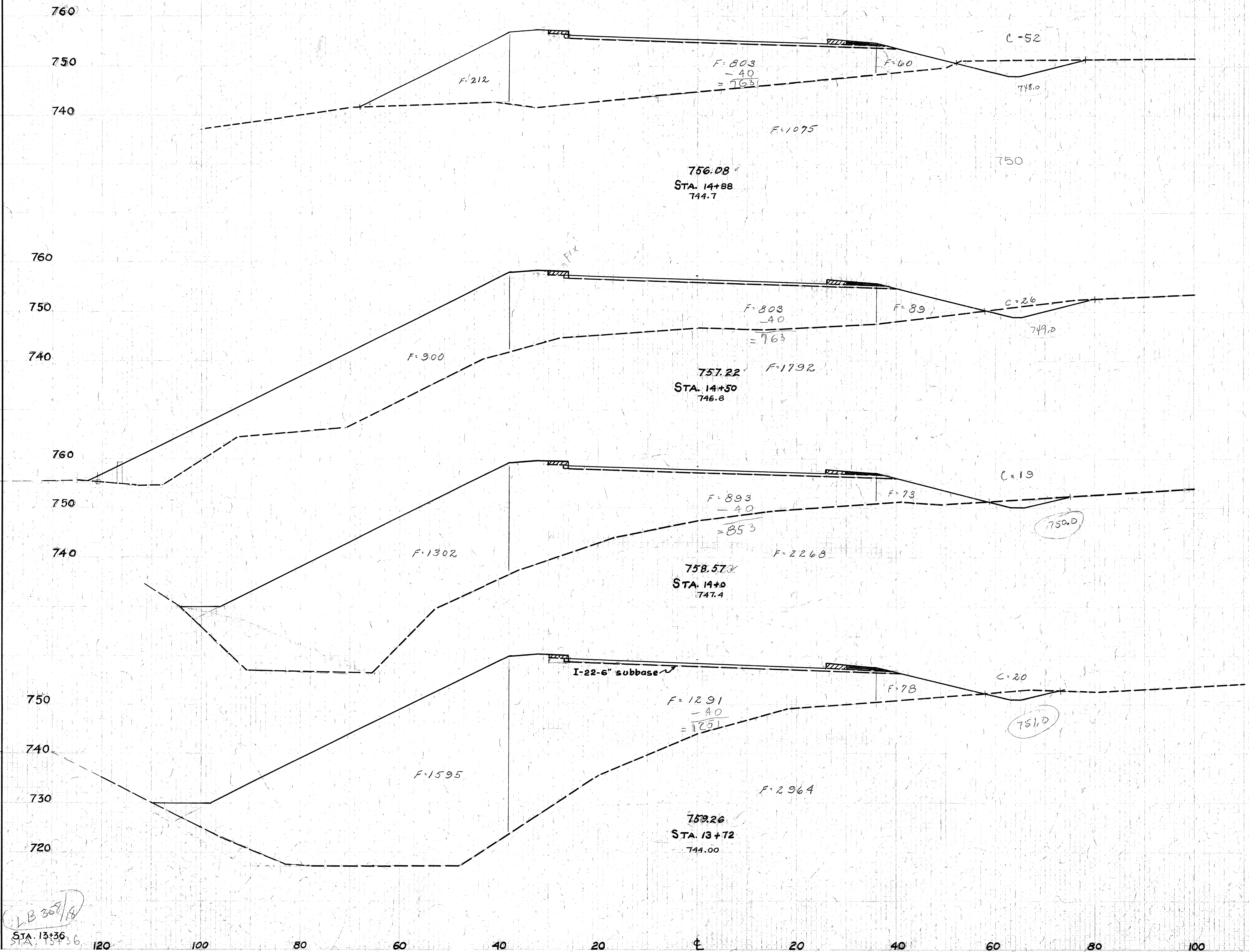


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
0	4083		
		5	2747
14	4159		
		24	3366
40	3415		
		34	2299
67	3887		
		56	3930
46	3973		

X-SECTIONS STA. 12+77 TO STA. 13+36

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding	
Width Lin. Ft.	Area Sq. Yds.
92	
	513
151	
	778
129	
	406
132	
	508
122	



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
52	1039		
		55	1961
226	1752		
		42	3685
199	2228		
		20	2671
220	2924		
		13	4671
0	4083		

EXCAVATION = 2994 Cu. Yds.
EMBANKMENT = 85810 Cu. Yds.
EMB. + 22% = 104688 Cu. Yds.

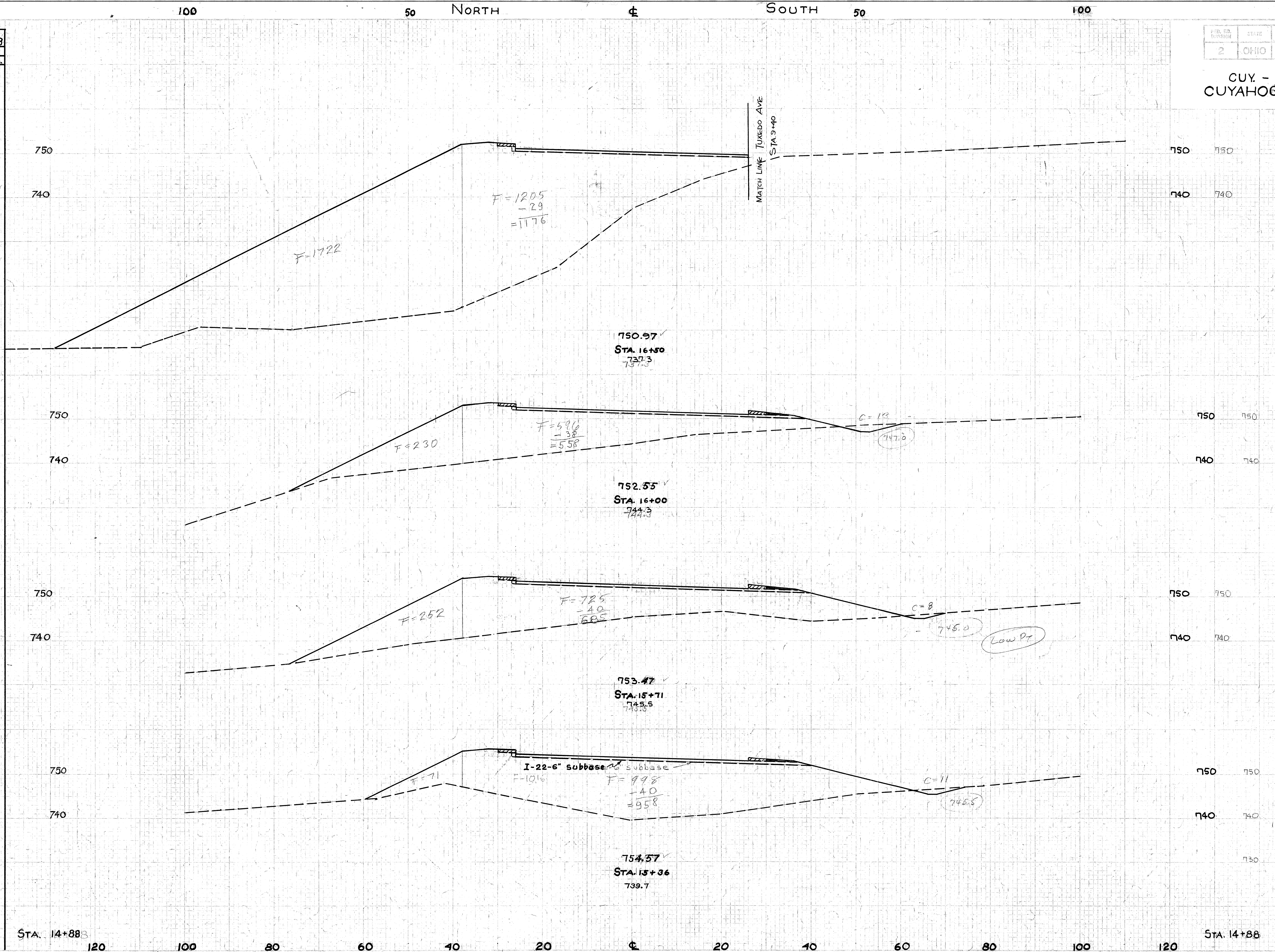
X-SECTIONS STA. 13+72 TO STA. 14+88

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		

53
169

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
1111	
	542
84	
	287
94	
	338
80	
	459
92	

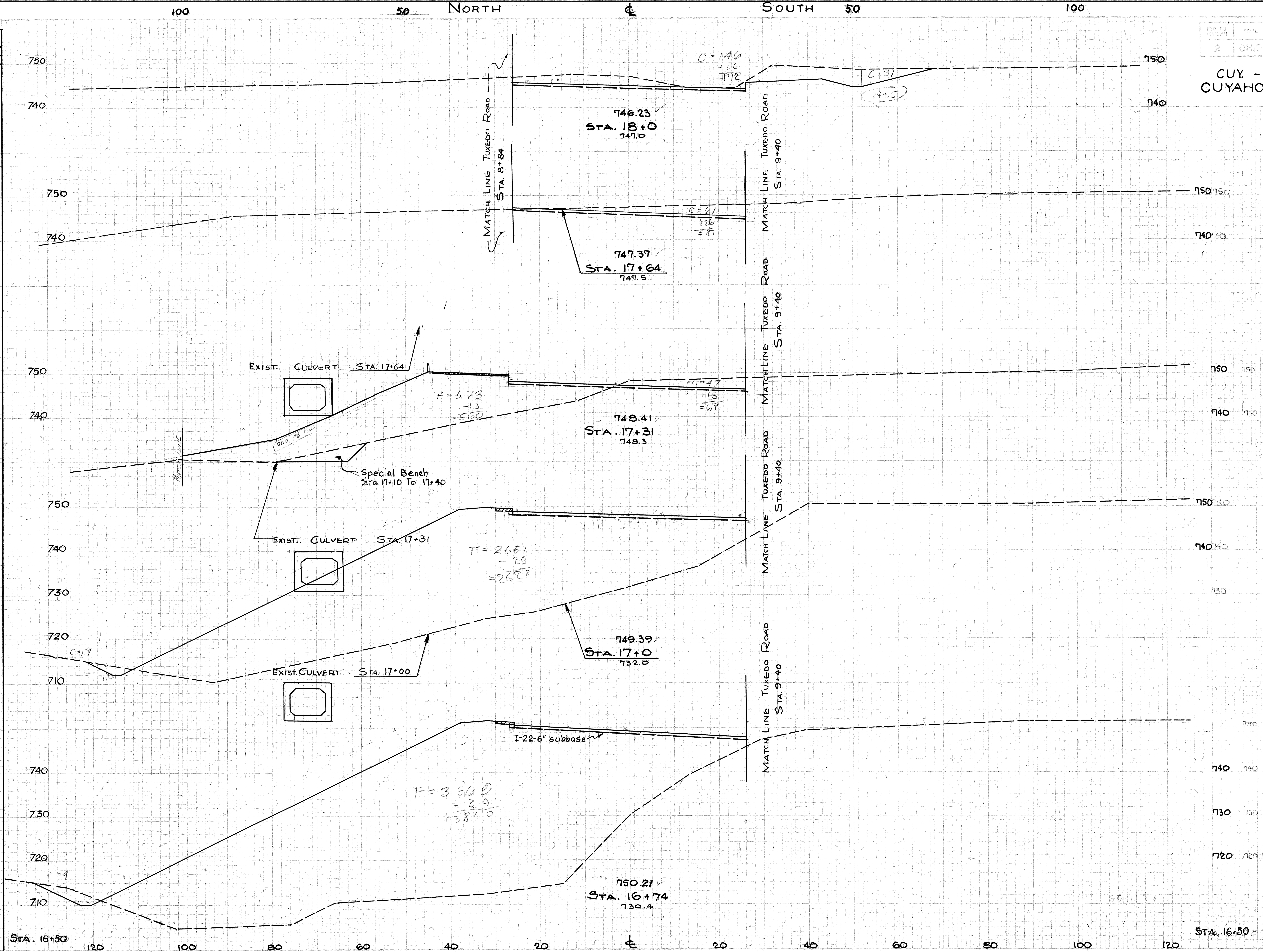


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
0	2898		
		12	3404
113	788		
		11	921
88	937		
		12	1274
111	1,029		
		56	1835
52	1,035		

X-SECTIONS STA. 15+36 TO STA. 16+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
0	
	0
0	
	110
60	
	279
102	
	313
115	
	301
1111	

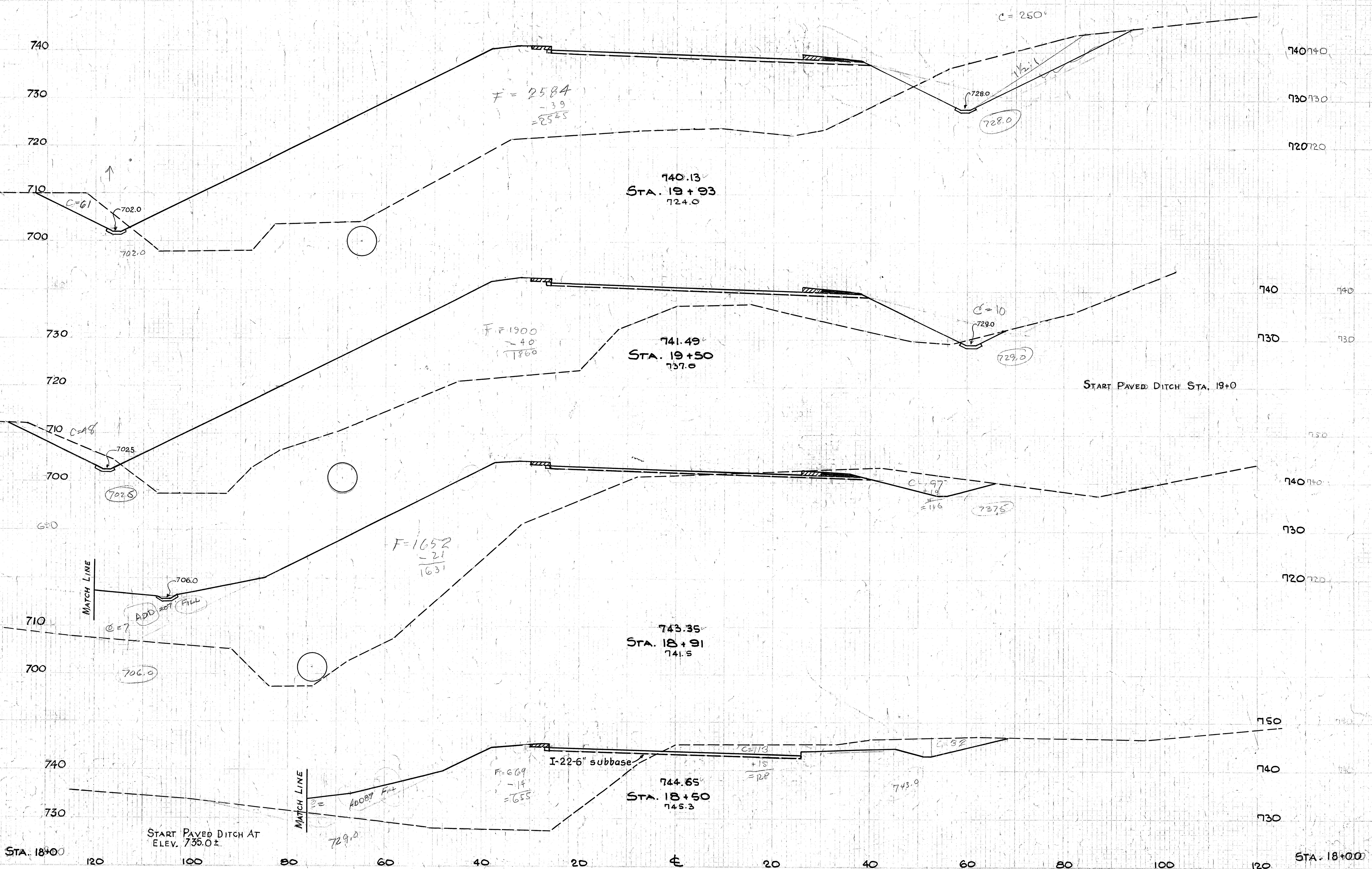


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
203	0		
		193	0
81	0		
		91	342
62	560		
		45	1830
17	2628		
		12	3140
9	3840		
		4	2995
0	2898		

X-SECTIONS STA. 16+74 TO STA. 18+00

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
177	
	791
154	
	619
135	
	517
92	
	256
0	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
311	2545		
		294	3508
58	1860		
		190	3814
116	1631		
		210	1736
160	655		
		336	607
203	0		

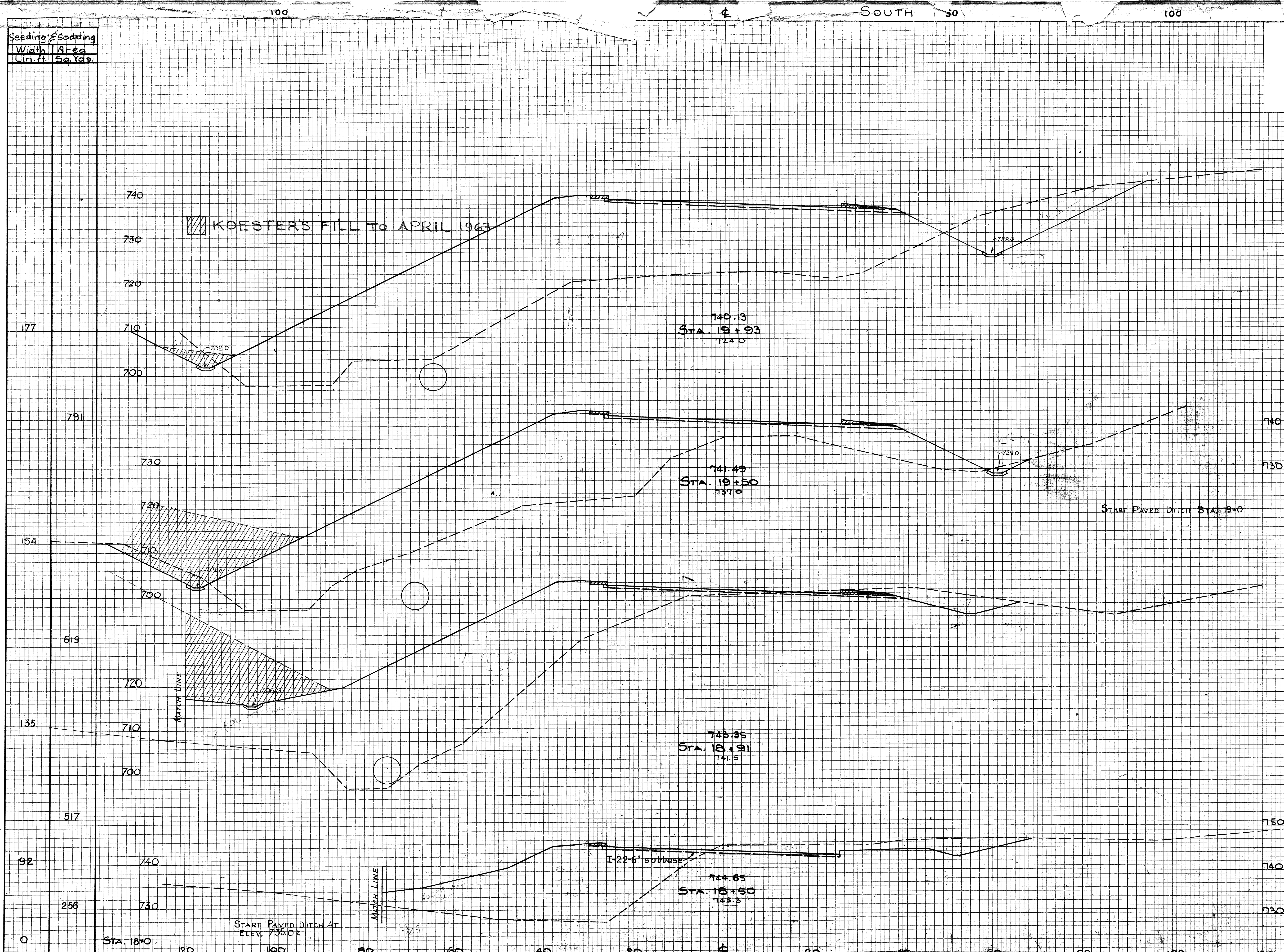
X-SECTIONS STA. 18+50 TO STA. 19+93

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

55
169

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding	
Width Lin. ft.	Area Sq. Yds.
177	
	791
154	
	619
135	
	517
92	
	256
0	

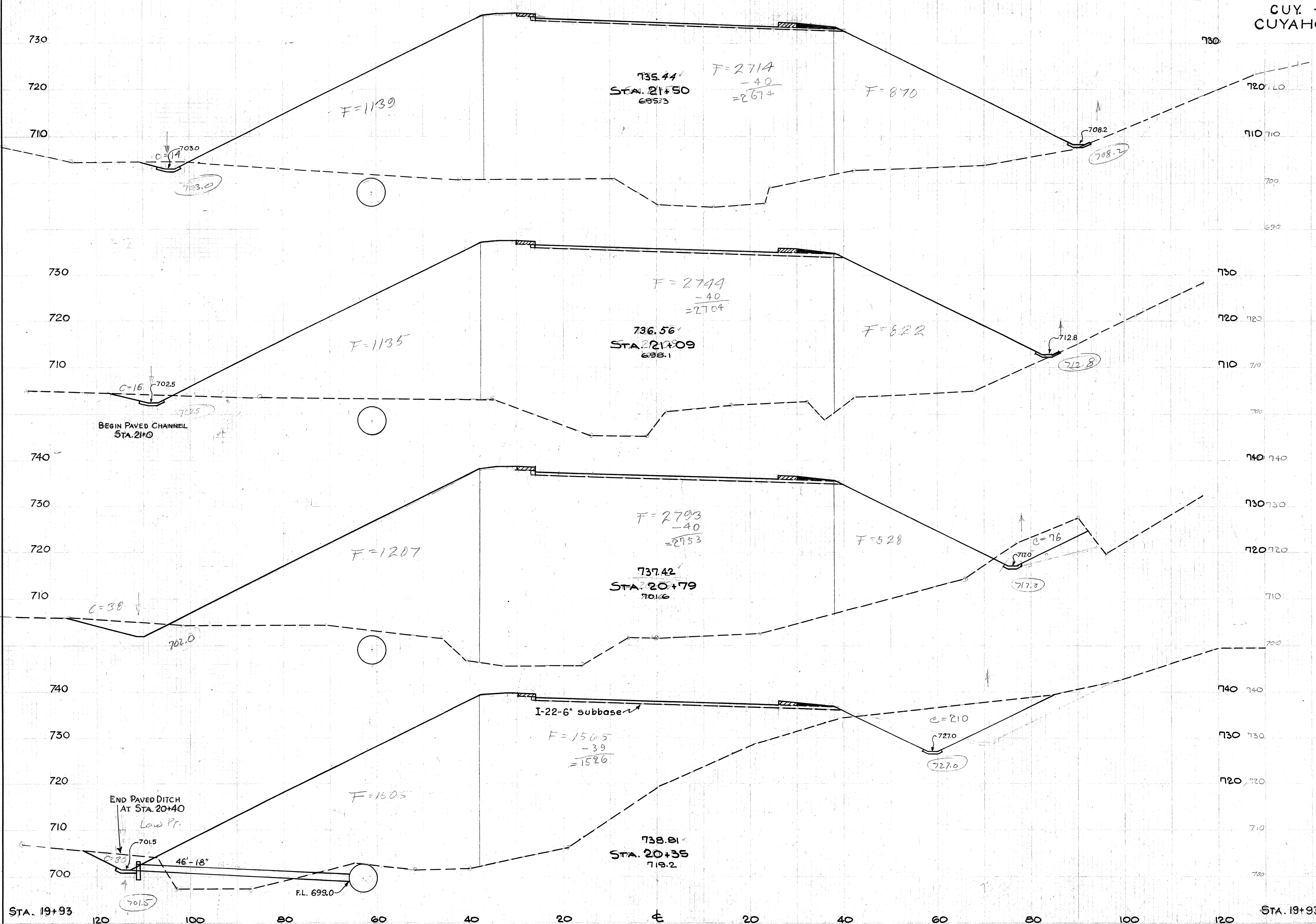


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
311	2545		
		294	3508
58	1860		
		190	3814
116	1631		
		210	1736
160	655		
		336	607
203	0		

X-SECTIONS STA. 18+50 TO STA. 19+93

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding	
Width Lin. ft.	Area Sq. Yds.
148	
	688
154	
	542
1171	
	809
1160	
	786
177	

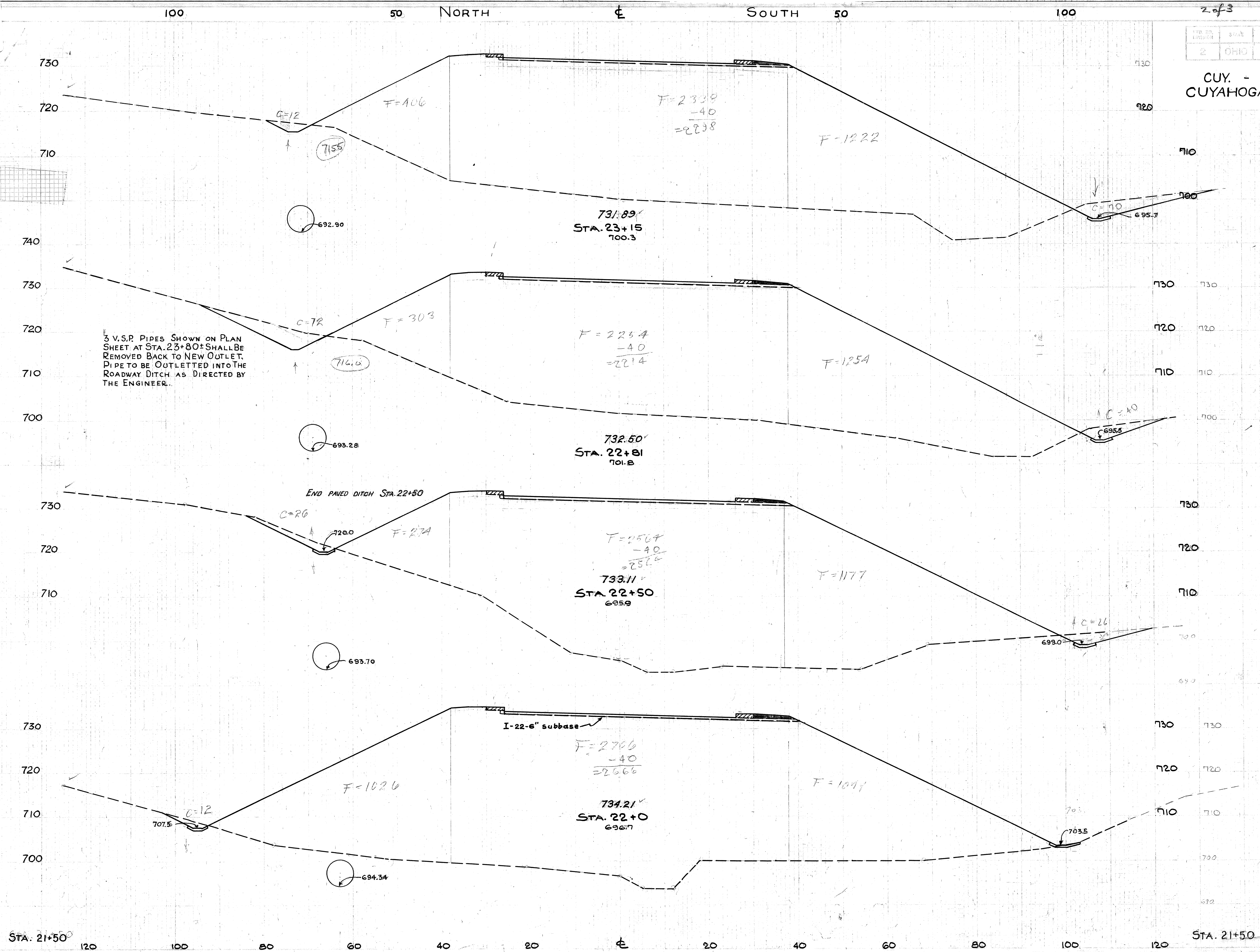


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
14	4683		
		23	7095
16	4661		
		72	5083
114	4488		
		289	5127
240	3031		
		428	4337
311	2545		

X-SECTIONS STA. 20+35 TO STA. 21+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding Width Lin. ft.	Area Sq. Yds.
164	
	631
170	
	548
148	
	828
150	
	828
148	



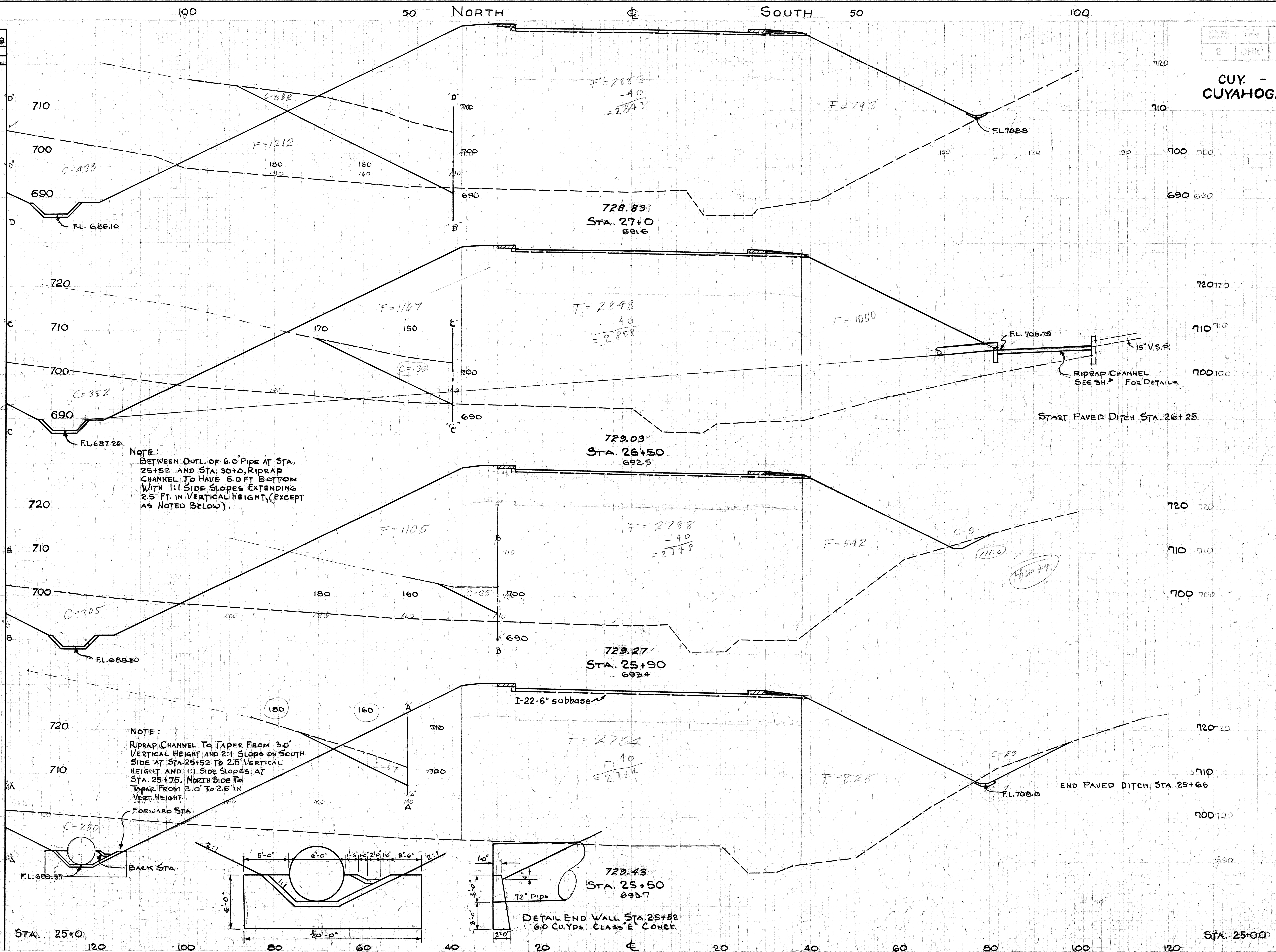
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
82	3926		
		122	4846
112	3771		
		94	4447
52	3975		
		60	8071
12	4741		
		24	8726
14	4683		

X-SECTIONS. STA. 22+00 TO STA. 23+15

X-SECTIONS. STA. 23+50 TO STA. 25+00

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
213	
	1150
201	
	1270
1180	
	853
204	
	994
154	



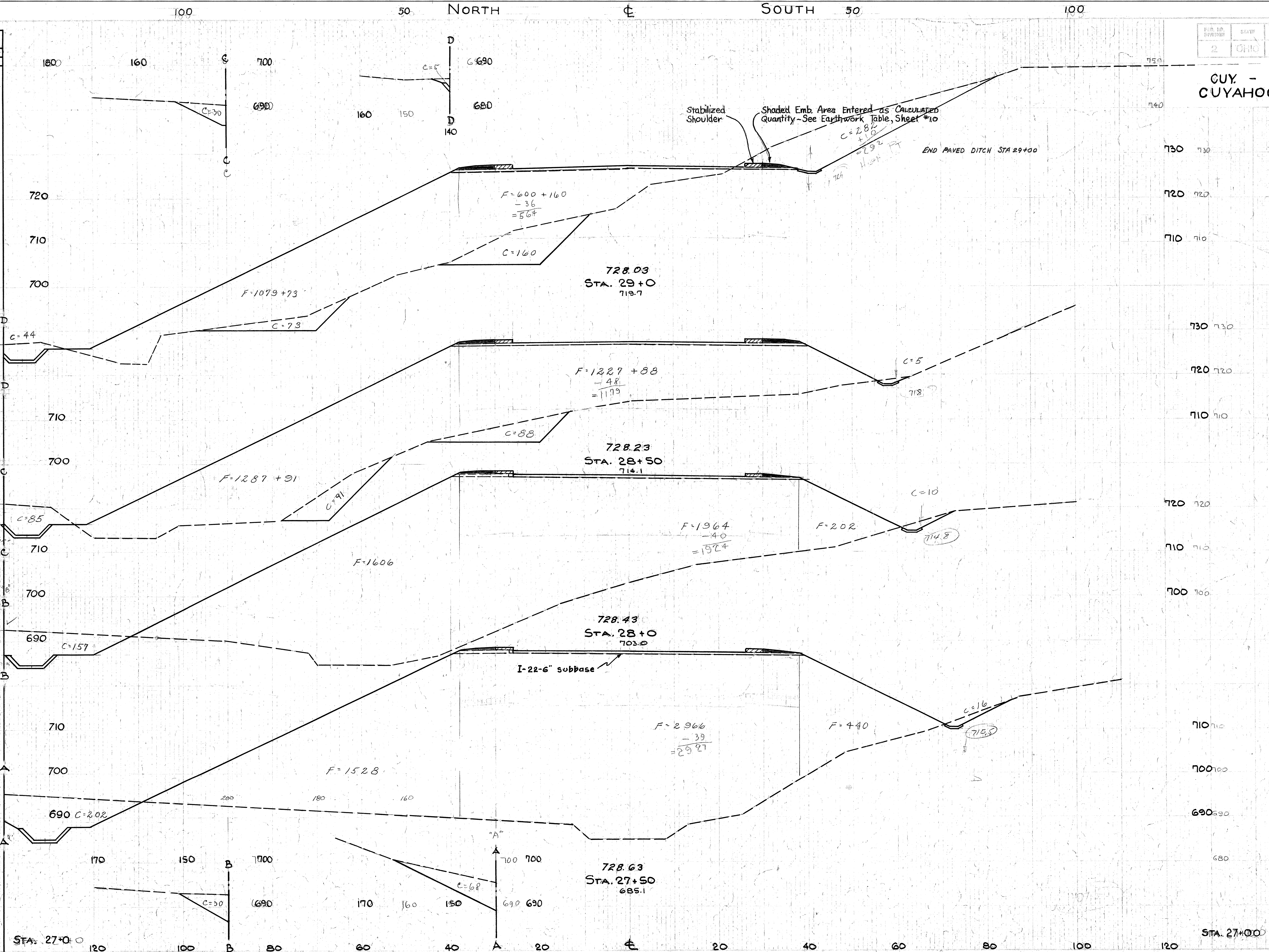
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
821	4848		
		1215	9142
491	5025		
		937	10467
352	4395		
		532	5887
366	3552		
		354	7726
16	4792		

X-Sections Sta. 25+50 to Sta. 27+00

FED. RD. DIVISION 2 | STATE OHIO | PROJECT | TYPE

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Area Sq. Yds.
167	
	895
155	
	892
1166	
	997
1193	
	1128
213	

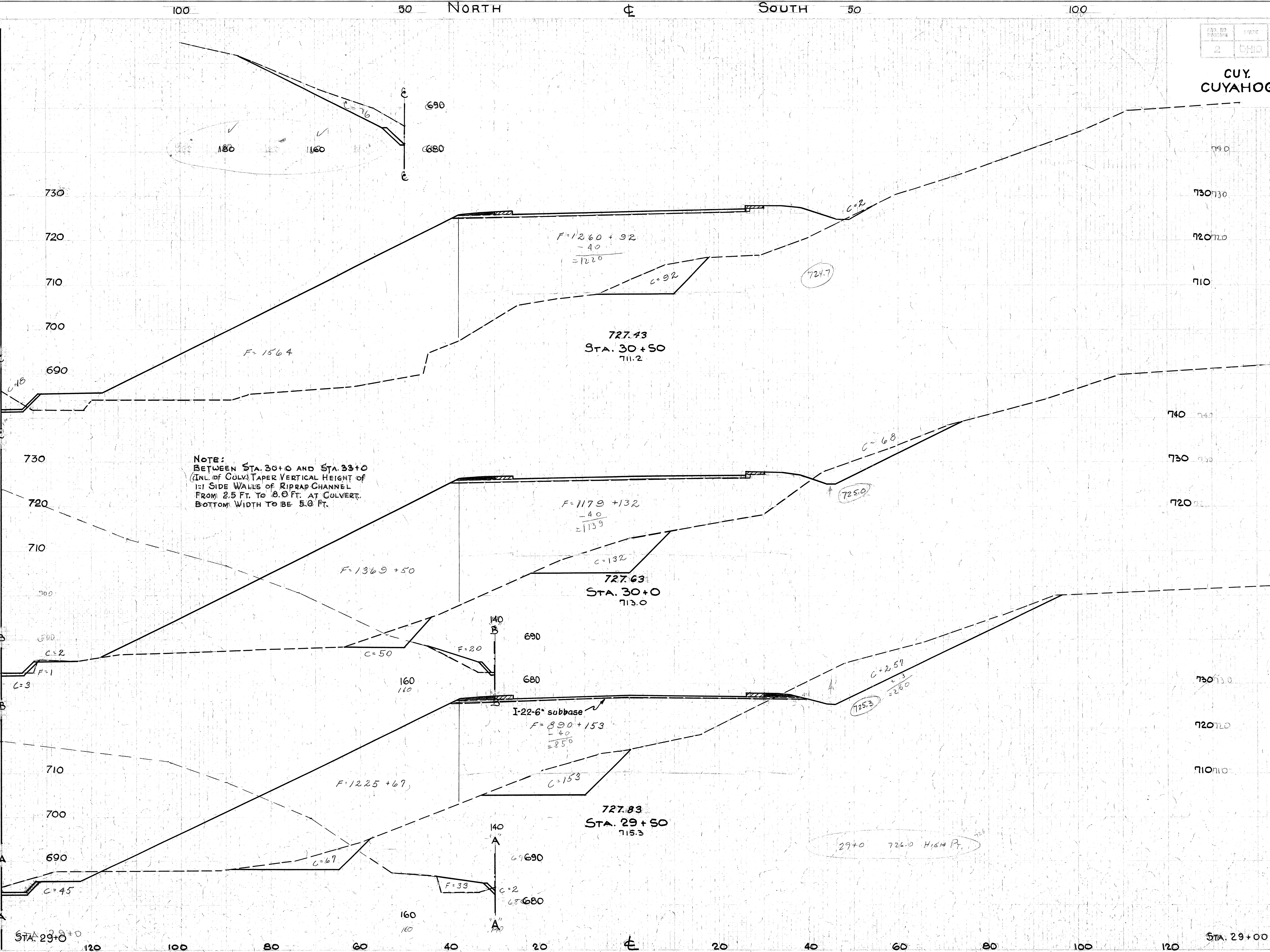


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
574	1876		
		809	4,186
299	2645		
		459	5,905
197	3732		
		447	7,988
286	4895		
		1025	9,022
821	4848		

X-SECTIONS STA. 27+50 TO STA. 29+00

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding	
Width Lin. Ft.	Area Sq. Yds.
175	
	969
174	
	1028
196	
	1008
167	

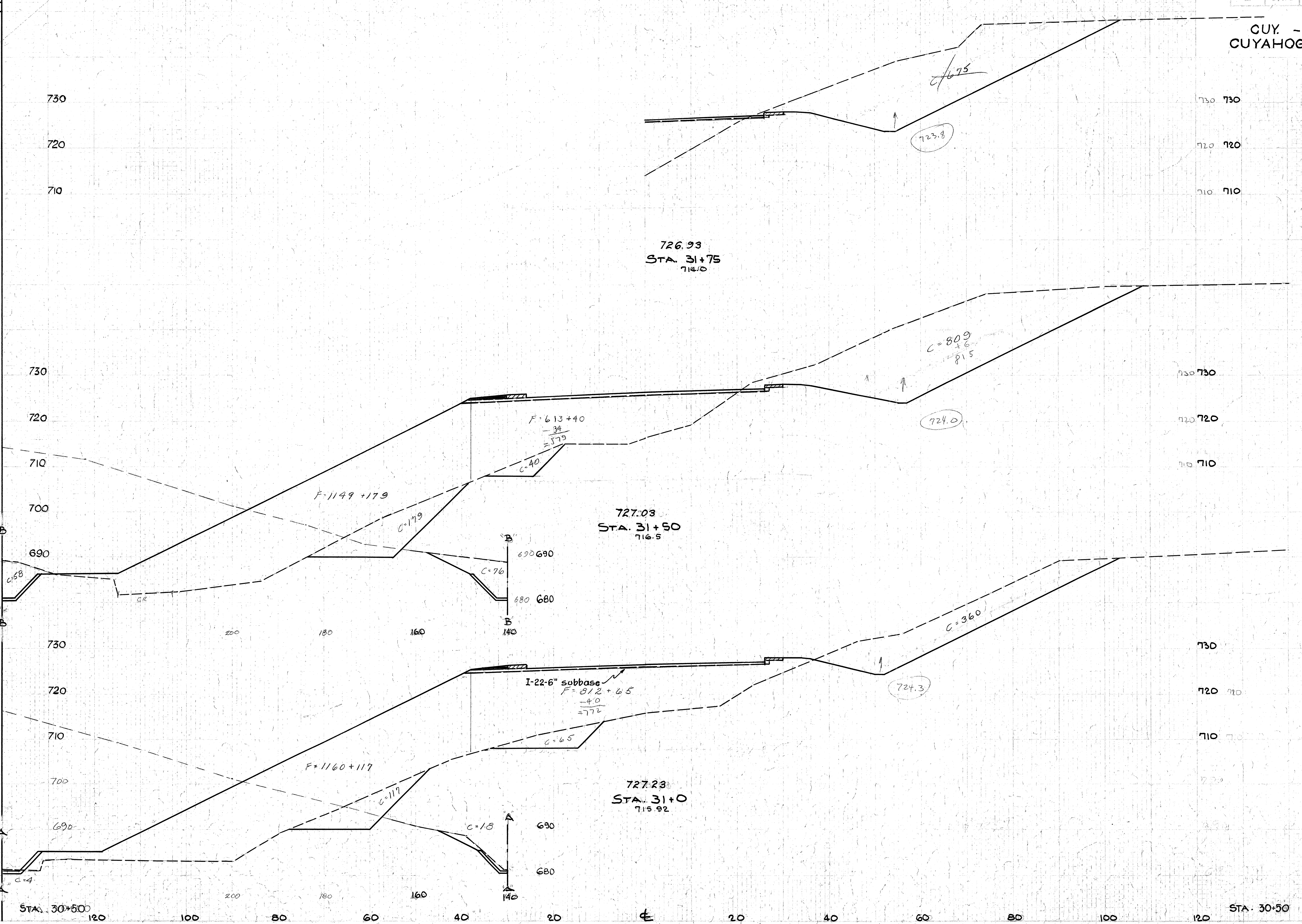


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
218	2876		
		438	5173
255	2711		
		753	4635
558	2295		
		1048	3862
574	1876		

X-SECTIONS STA. 29+50 TO STA. 30+58

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin.Ft.	Seeding & Sodding Area Sq. Yds.
80	
	400
208	
	1142
203	
	1050
175	



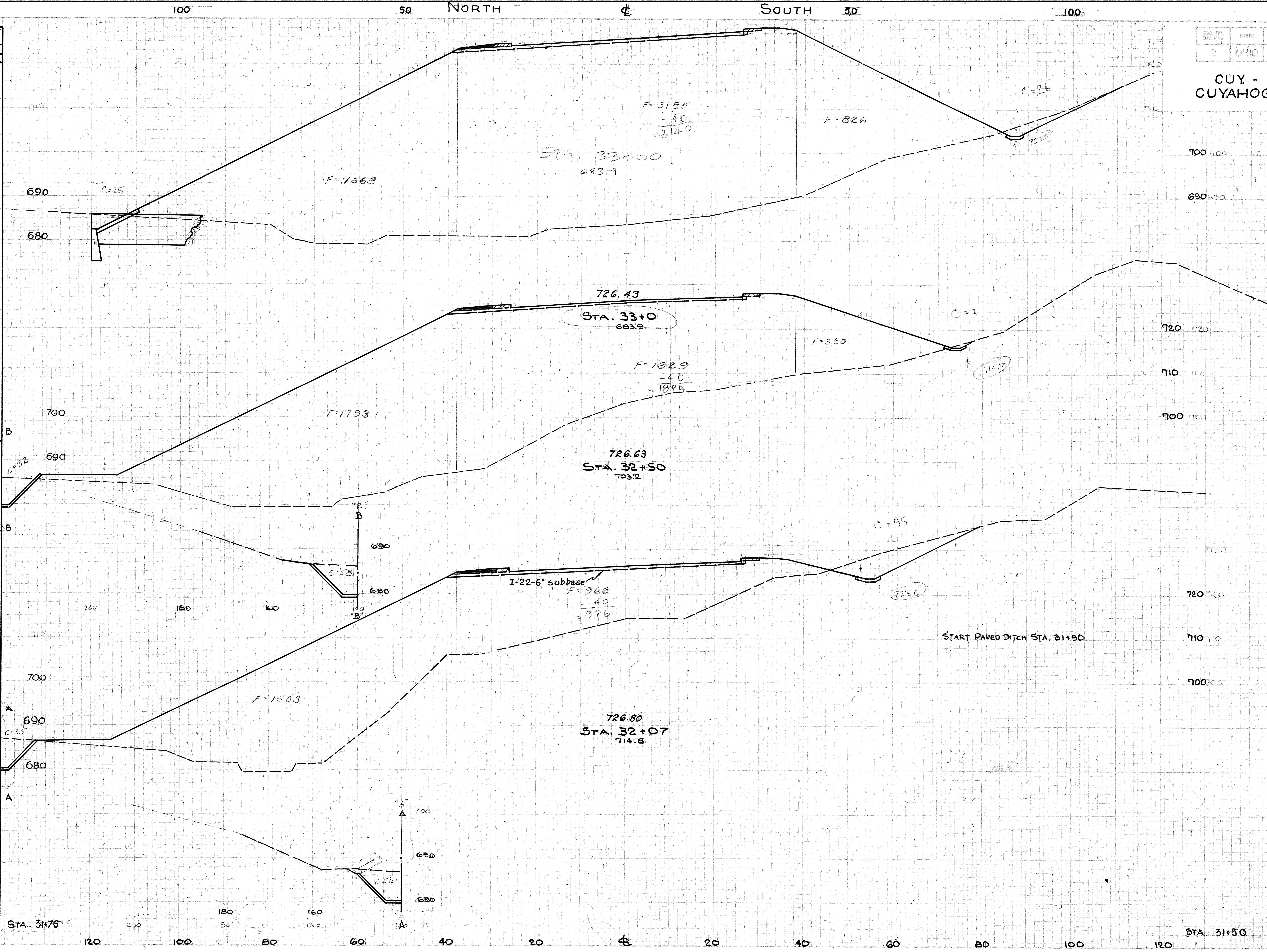
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
1168	1947		
		1604	3760
564	2114		
		724	4,620
218	2876		

STA. 30+50

X-SECTIONS STA 31+00 TO STA 31+75

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin.ft.	Seeding & Sodding Area Sq.Yds.
175	939
163	774
161	428
80	

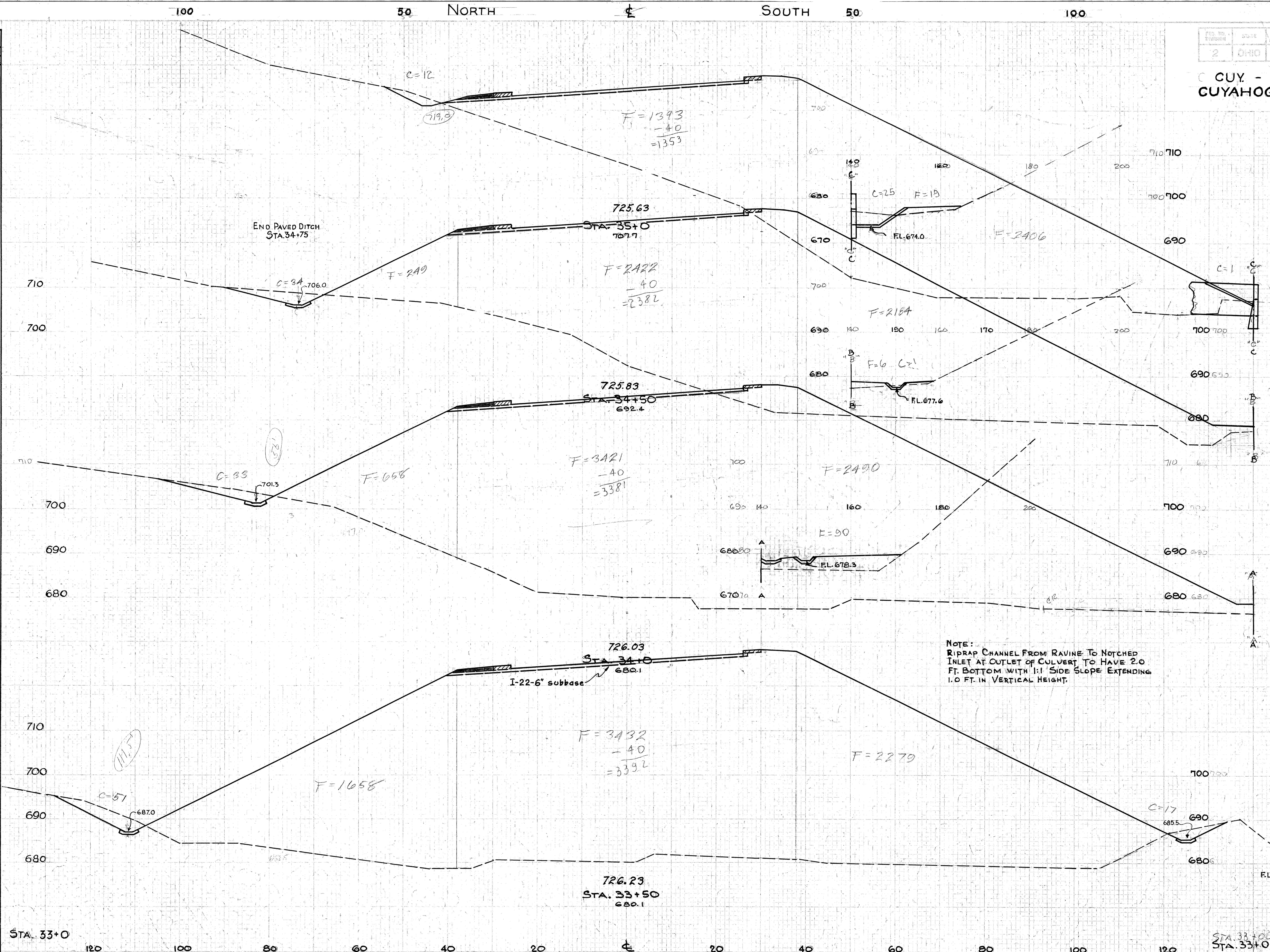


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
551	5634		
		134	8932
993	4012		
		222	5129
186	2429		
		1430	4619
1168	1947		

X-SECTIONS STA. 32+07 TO STA. 33+00

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
149	
	975
202	
	1192
227	
	1244
221	
	1100
175	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
38	3778		
		67	7,6
35	4821		
		63	10,593
33	6619		
		94	12,916
68	7329		
		110	12,003
51	5634		

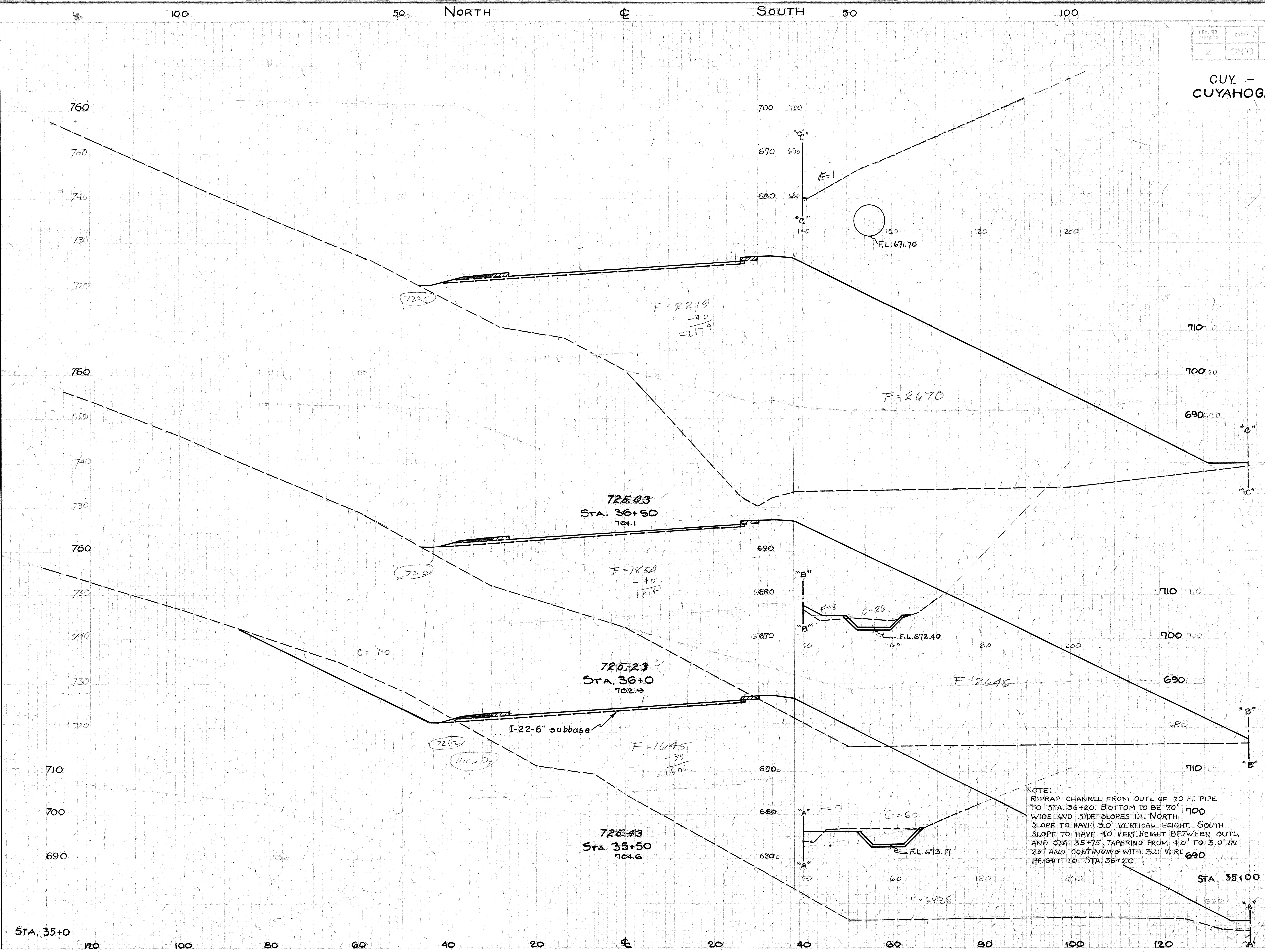
EXCAVATION = 16219 Cu. Yds.
EMBANKMENT = 139696 Cu. Yds.
EMB. +22% = 170429 Cu. Yds.

X-SECTIONS STA. 33+50 TO STA. 35+00

FED. RD. DIVISION	STATE	PROJECT	YEAR	SHEET NO.	TOTAL SHEETS
2	OHIO			65	169

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Area Sq. Yds.
140	806
150	969
199	967
149	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
0	4850		
		24	8628
226	4468		
		210	7882
200	4044		
		221	7243
338	3778		

X-SECTIONS STA. 35+50 TO STA. 36+50

CUY. - 17 - 1499
CUYAHOGA COUNTY

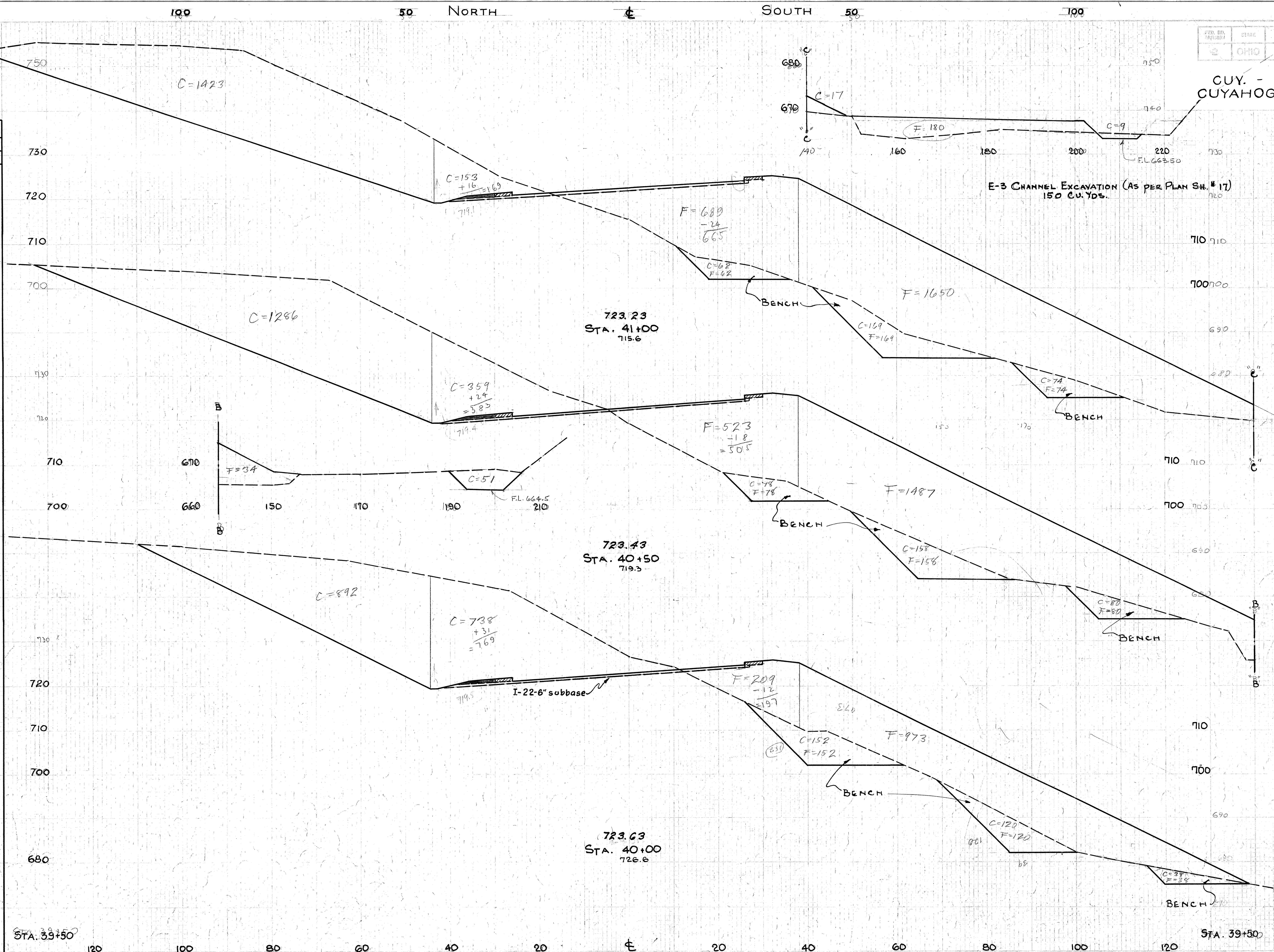
X-SECTIONS STA. 37+00 TO STA. 38+00

CUY. - 17 - 14.99
CUYAHOGA COUNTY

X-SECTIONS STA. 38+50 TO STA. 39+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding	
Width	Area
Lin. Ft.	Sq. Yds.
325	
	1606
253	
	1286
210	
	1103
187	



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
1923	2800		
		3666	4767
2036	2342		
		3710	3539
1971	1480		
		3607	2029
1924	711		

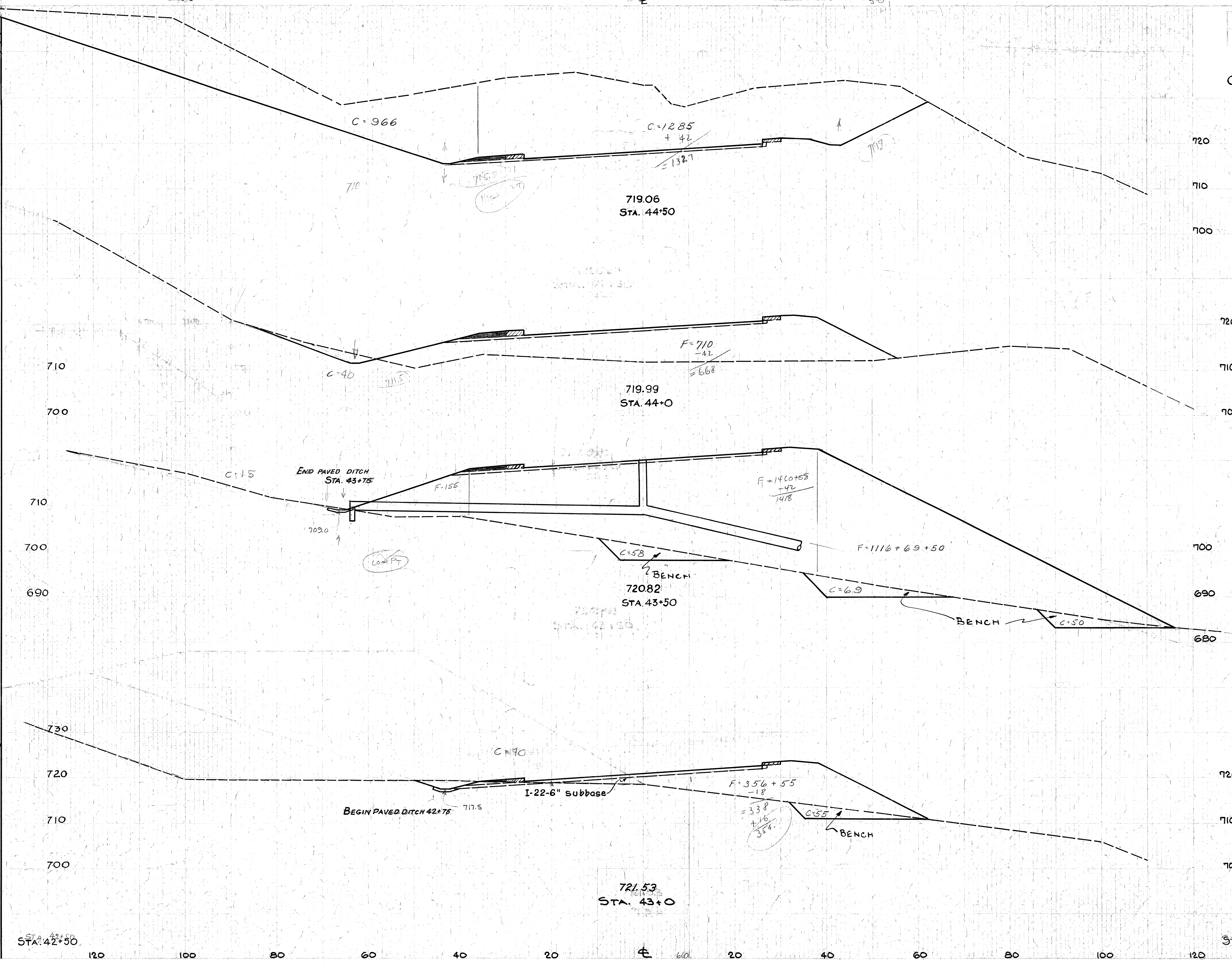
X-Section Sta. 40+00 to Sta. 41+00

CUY. - 17 - 14.99
CUYAHOGA COUNTY
69
169
2
OHIO
NORTH
SOUTH
Seeding & Sodding
Width Lin. ft.
Area Sq. Yds.
End Area
Cu. Yds.
Cut
Fill
100
861
210
1261
244
1581
325
2290 0
4729 393
2907 424
4697 2424
2166 2193
3786 4629
1923 2806
C=620
C=1552 +40 =1592
C=78
722.12
Sta. 42+50
C=1508
C=1106 +37 =1143
F=171
C=61 F=61
Bench
C=130 F=130
C=65 F=65
722.61
Sta. 42+0
C=1411
C=530 +24 =554
I-22-6" subbase
F=463 -17 =446
F=480
F=1076
C=47 F=47
C=56 F=56
C=88 F=88
722.97
Sta. 41+50
Sta. 41+0
X-Sections Sta. 41+50 to Sta. 42+50

70
169

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin.ft.	Seeding & Sodding Area Sq. Yds.
159	686
88	611
132	522
56	433
100	

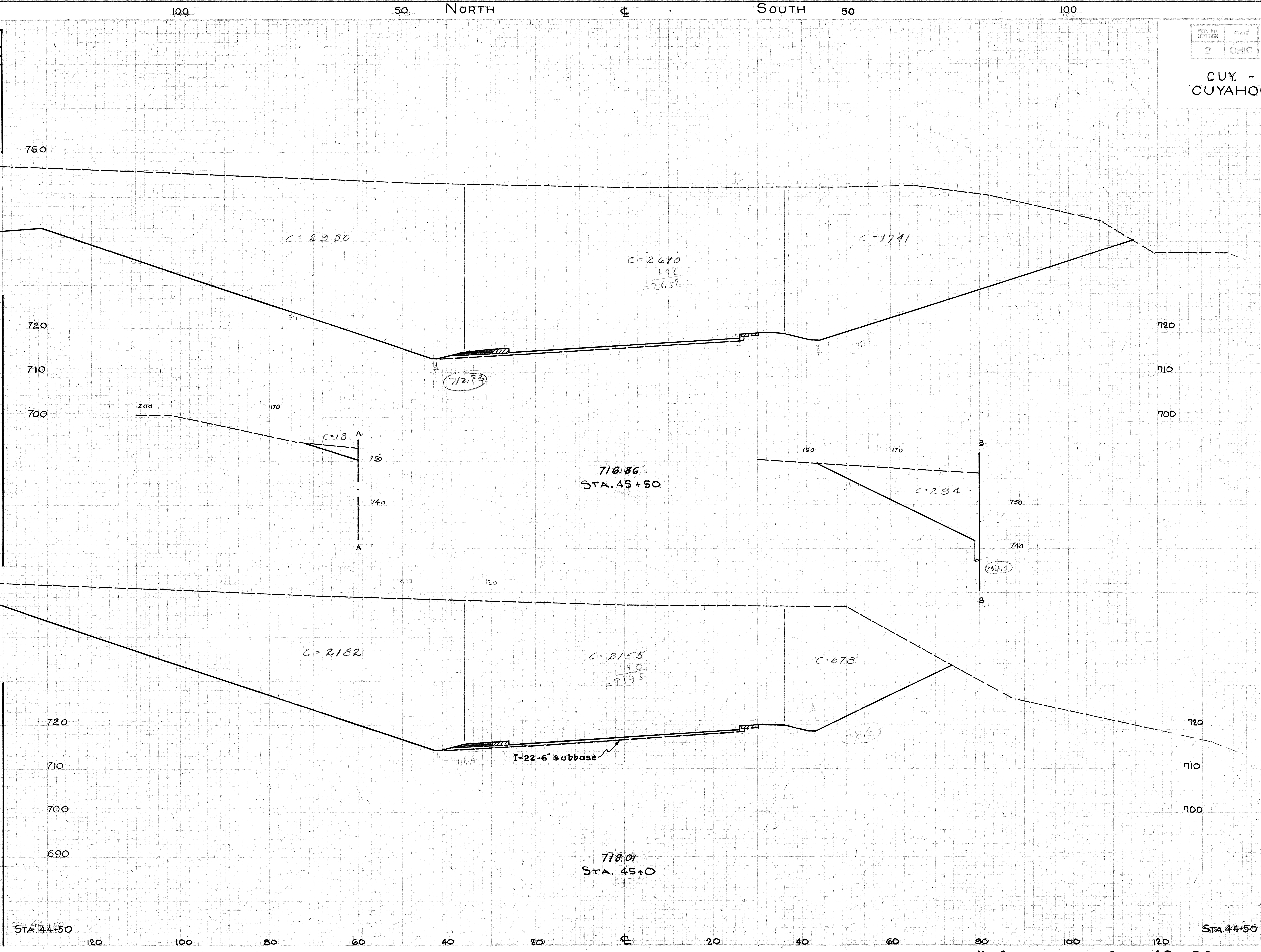


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
2293	0		
		2161	619
40	668		
		215	3273
192	2866		
		266	2982
95	354		
		2209	328
2290	0		

X-SECTIONS STA. 43+00 TO STA. 44+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Area Sq. Yds.
256	
	1233
188	
	964
159	



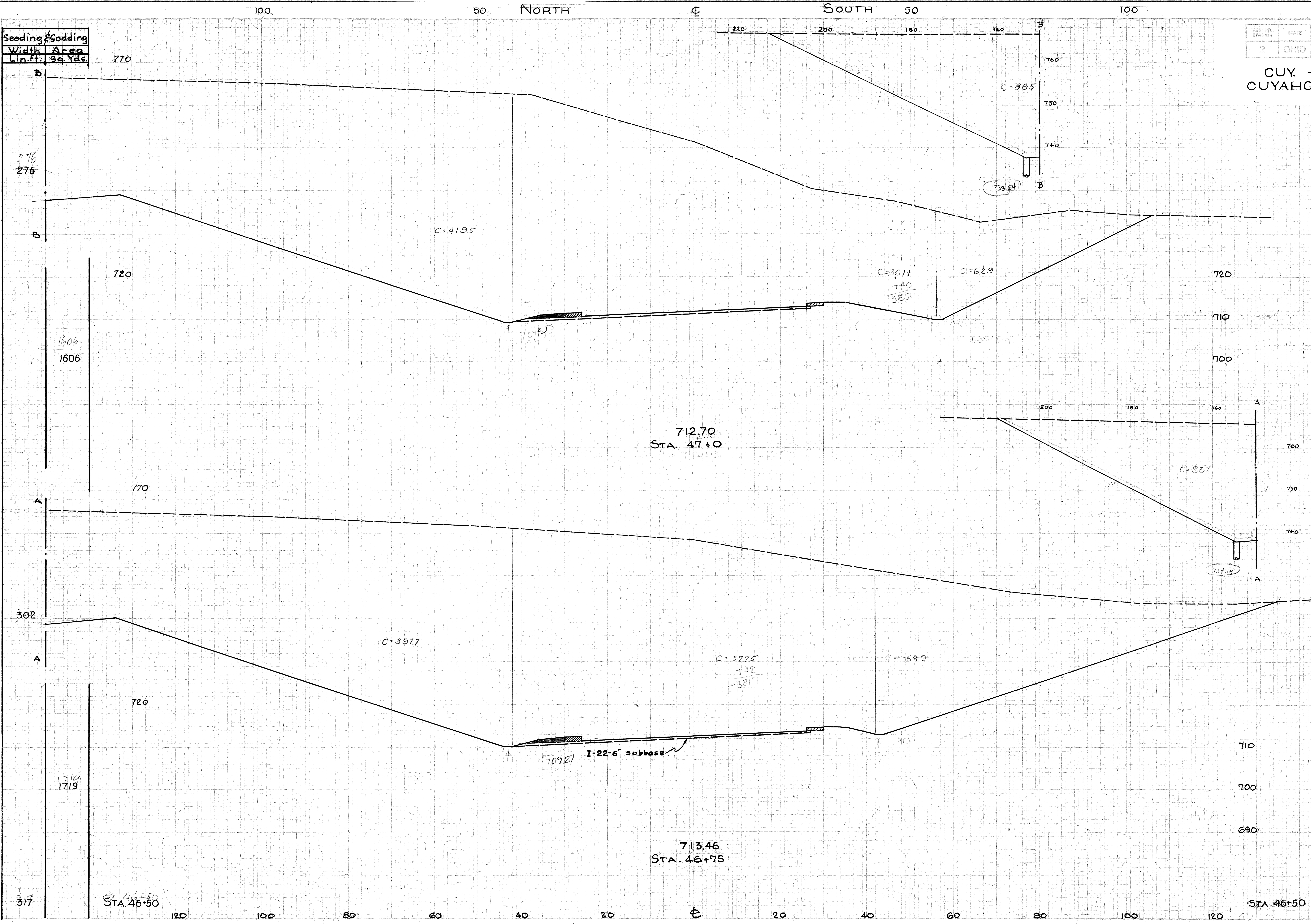
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
7617	0		
		11,751	0
5073	0		
		6793	0
2293	0		

EXCAVATION = 125955 Cu. Yds.
EMBANKMENT = 29784 Cu. Yds.
EMB. +22% = 36336 Cu. Yds.

X-SECTIONS STA. 45+00 TO STA. 45+50

X-Sections Sta. 46+00 to Sta. 46+50

Seeding & Sodding	
Width	Area
Lin. ft.	Sq. Yds.
276	
	1606
302	
	1719
317	



STATE	
2	OHIO

73
169

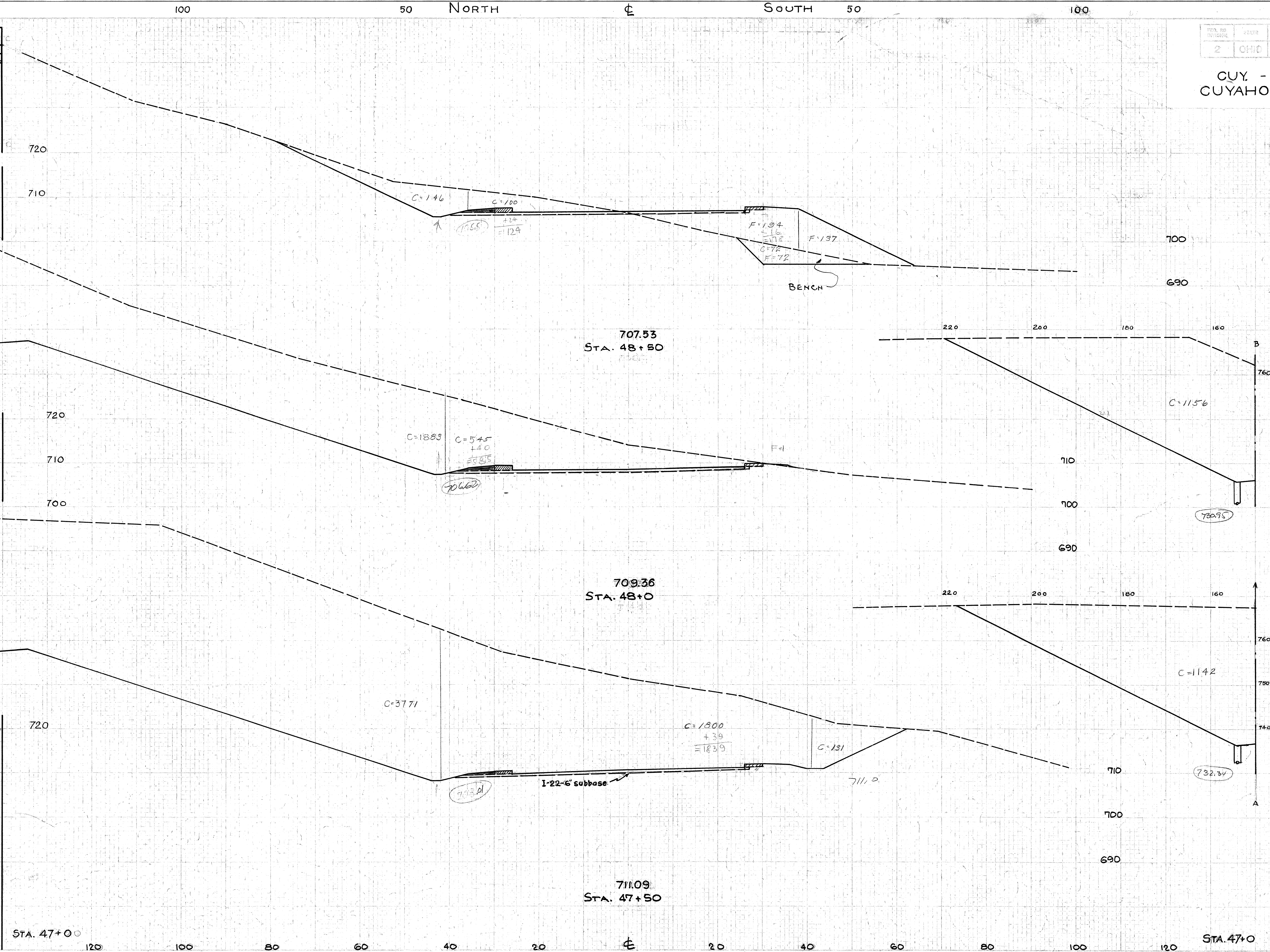
CUY. - 17 - 1499
CUYAHOGA COUNTY

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
9280	0		
		9017	0
10,196	0		
		9608	0
10556	0		

X-SECTIONS STA. 46+75 TO STA. 47+00

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
91	858
218	1261
236	1422
276	

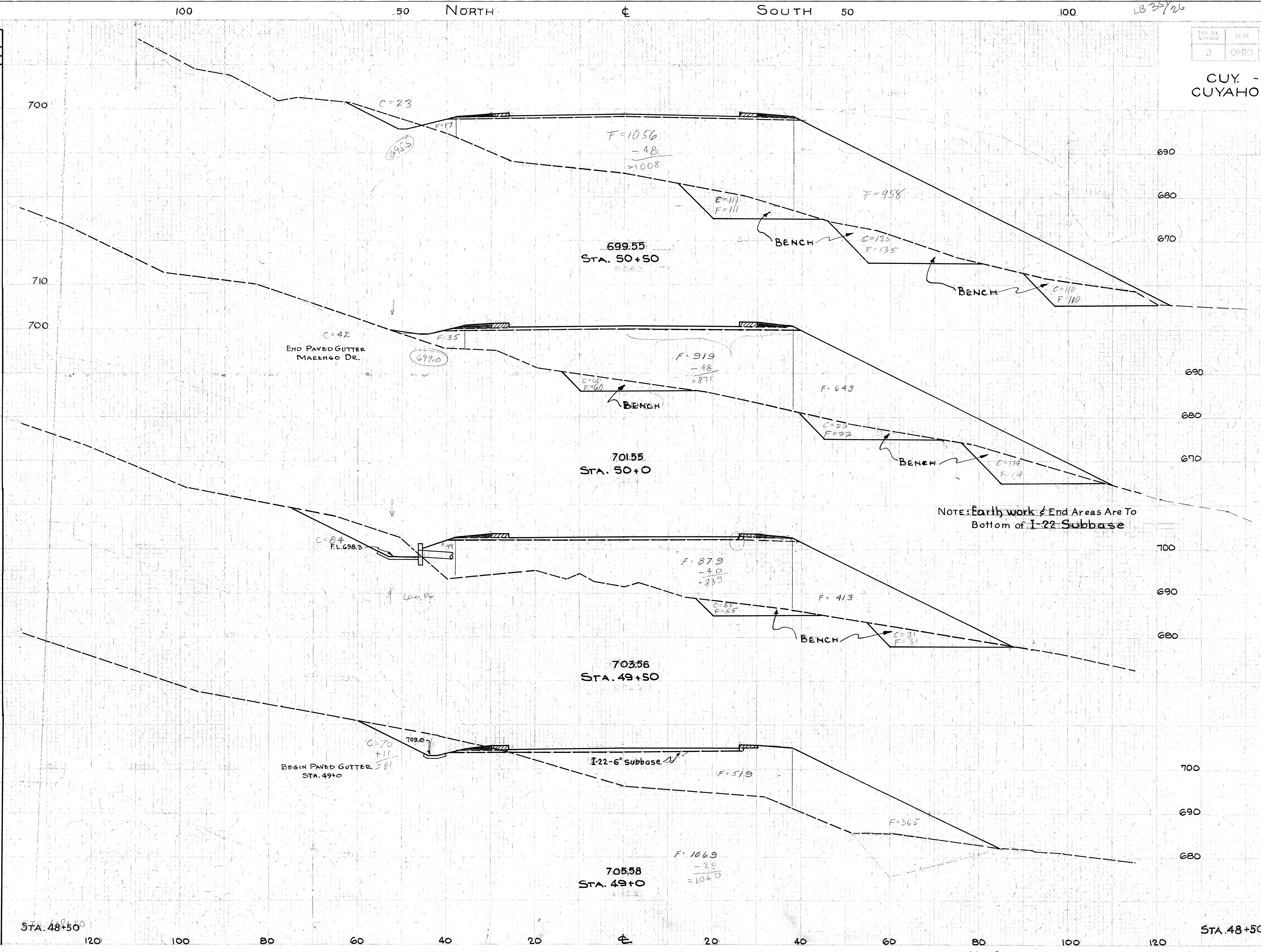


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
342	387		
		3674	359
3625			
		9730	
6883	0		
		14,966	0
9280	0		

X-SECTIONS STA. 47+50 TO STA. 48+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
134	
	744
134	
	683
112	
	567
92	
	508
91	

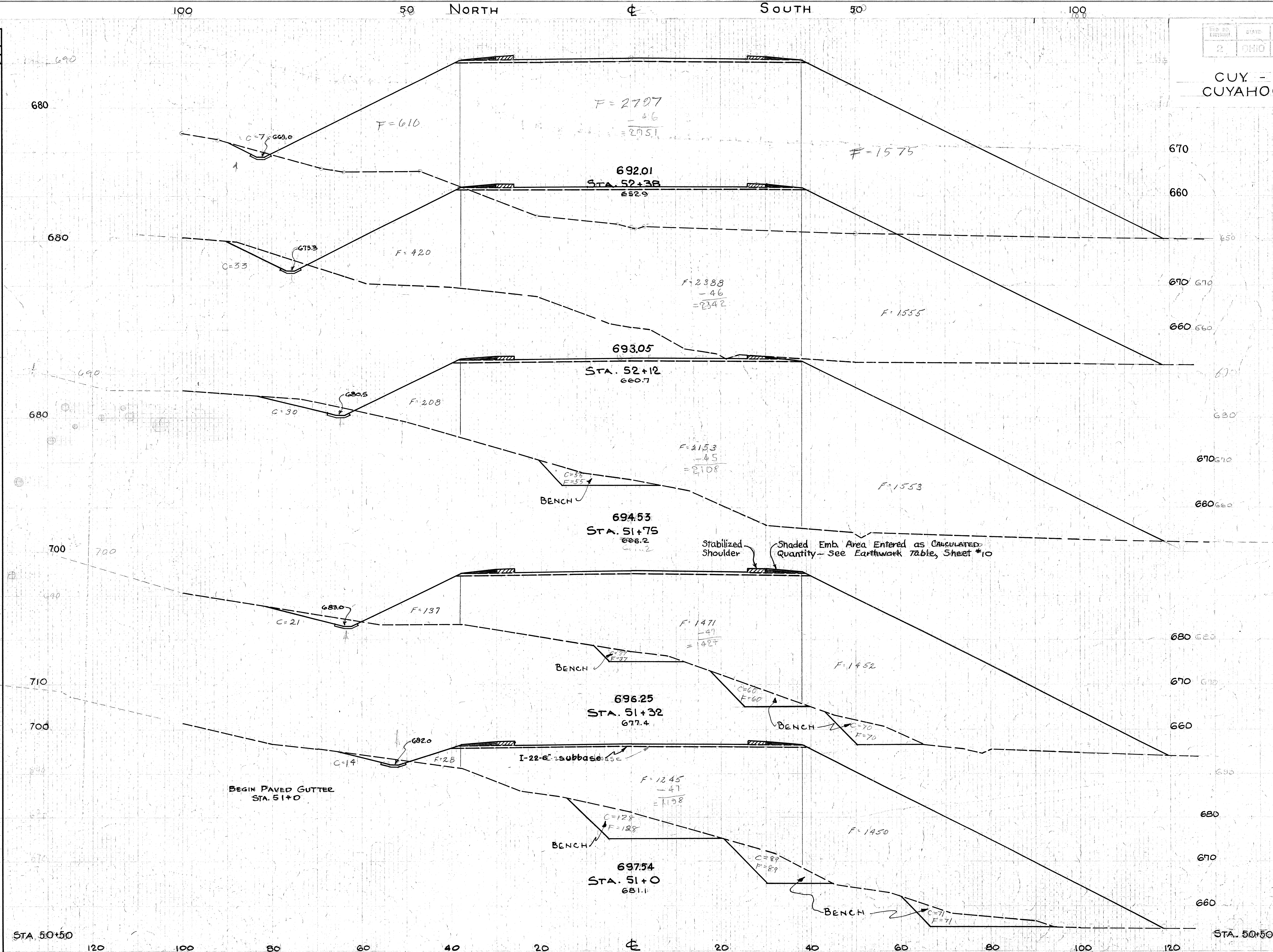


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
379	2339		
		578	3182
245	1745		
		385	2900
170	1387		
		233	2248
81	884		
		392	1322
STA. 48+50 342	387		

X-SECTIONS STA. 49+00 TO STA. 50+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
161	
	464
160	
	639
151	
	719
150	
	498
130	
	733
134	



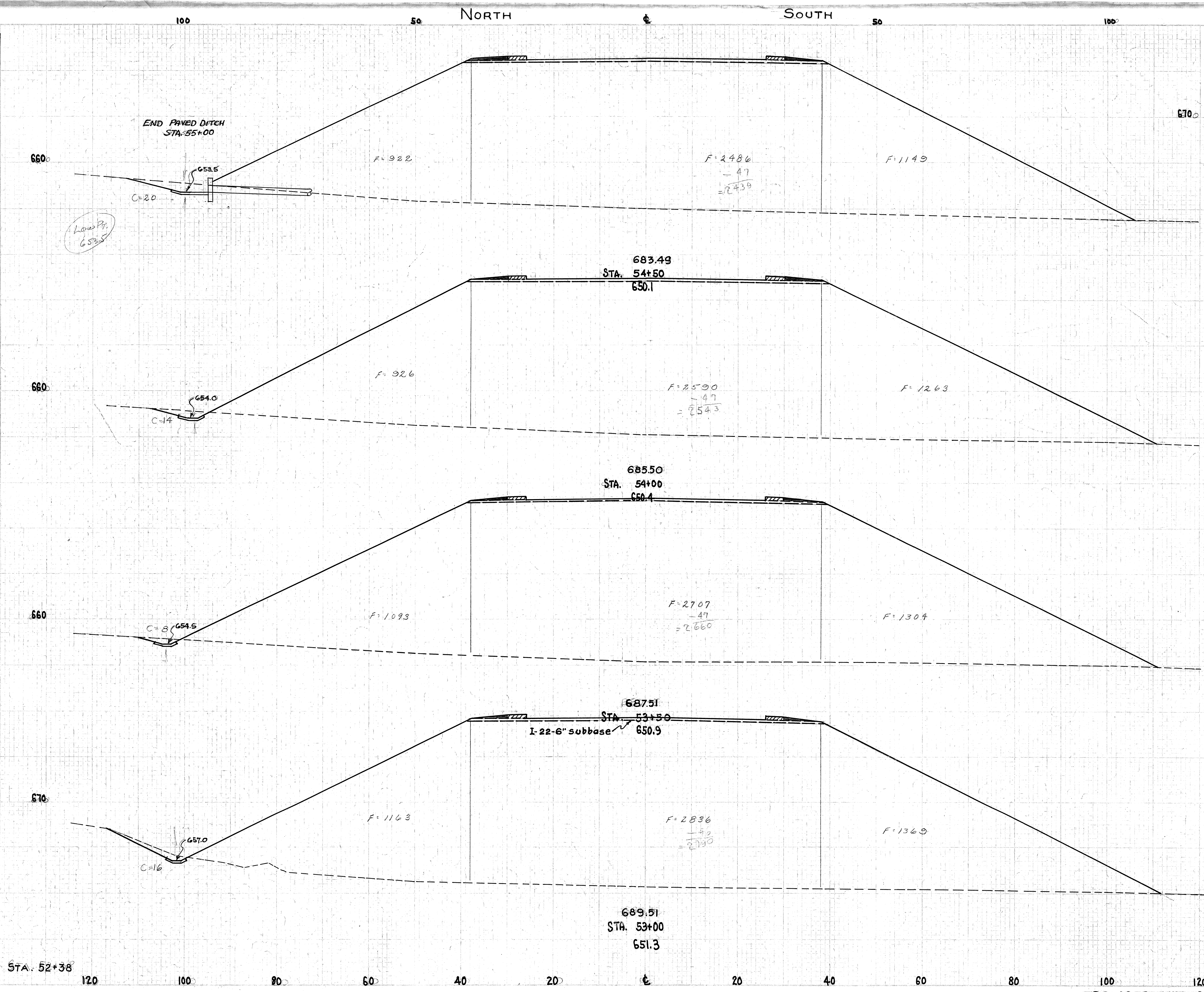
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
7	4,936		
		19	4455
33	4,317		
		81	5,647
85	3924		
		218	5,657
188	3180		
		290	3,635
302	2954		
		631	4901
379	2339		

X-Sections Sta. 51+00 to Sta.

FILE NO. DIVISION	STATE	PROJECT	TYPE	77 / 169
2	OHIO			

CUY-17-14.99
CUYAHOGA COUNTY

Seeding & Sodding	
Width	Area
Lin. Ft.	Sq. Yds.
170	
	994
170	
	958
175	
	1000
185	
	1192
161	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
20	4510		
		32	8558
14	4732		
		21	9138
8	5057		
		22	9685
16	5322		
		27	11,778
7	4936		

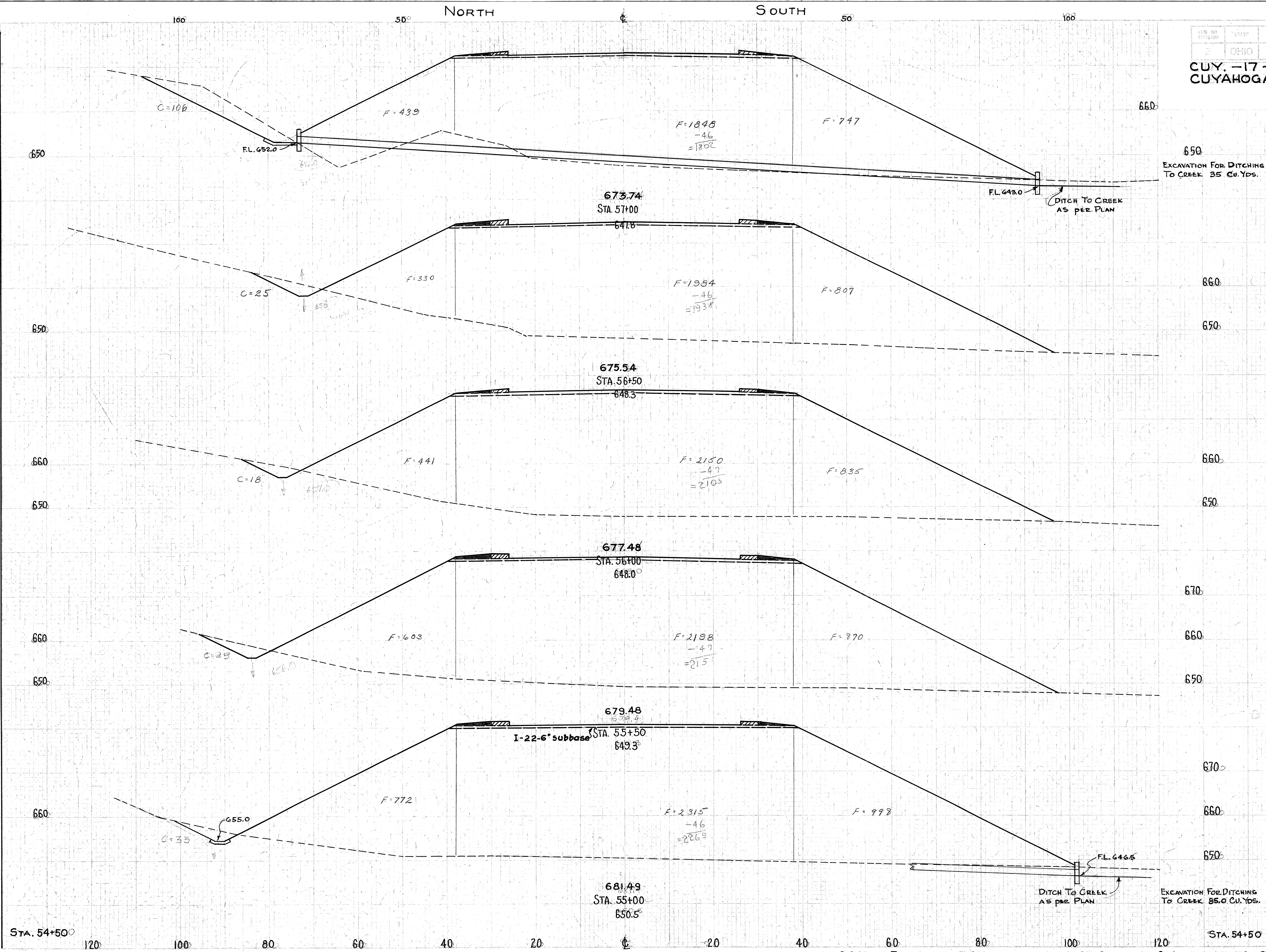
STA. 52+38

CROSS SECTIONS STA. 53+00 TO STA. 54+50

STATE
OHIO

CUY. -17-14.99
CUYAHOGA COUNTY

SEEDING & SODDING WIDTH LIN. FT.	SEEDING & SODDING AREA SQ. YDS.
158	
	811
134	
	750
136	
	789
148	
	864
163	
	925
170	



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		35	
106	2988		
		122	5614
25	3075		
		40	5976
18	3379		
		44	6485
29	3624		
		58	7046
33	4039		
		49	7916
		85	
20	4510		

EXCAVATION = 2889 CU. YDS.
EMBANKMENT = 128266 CU. YDS.
EMB. + 22% = 156485 CU. YDS.

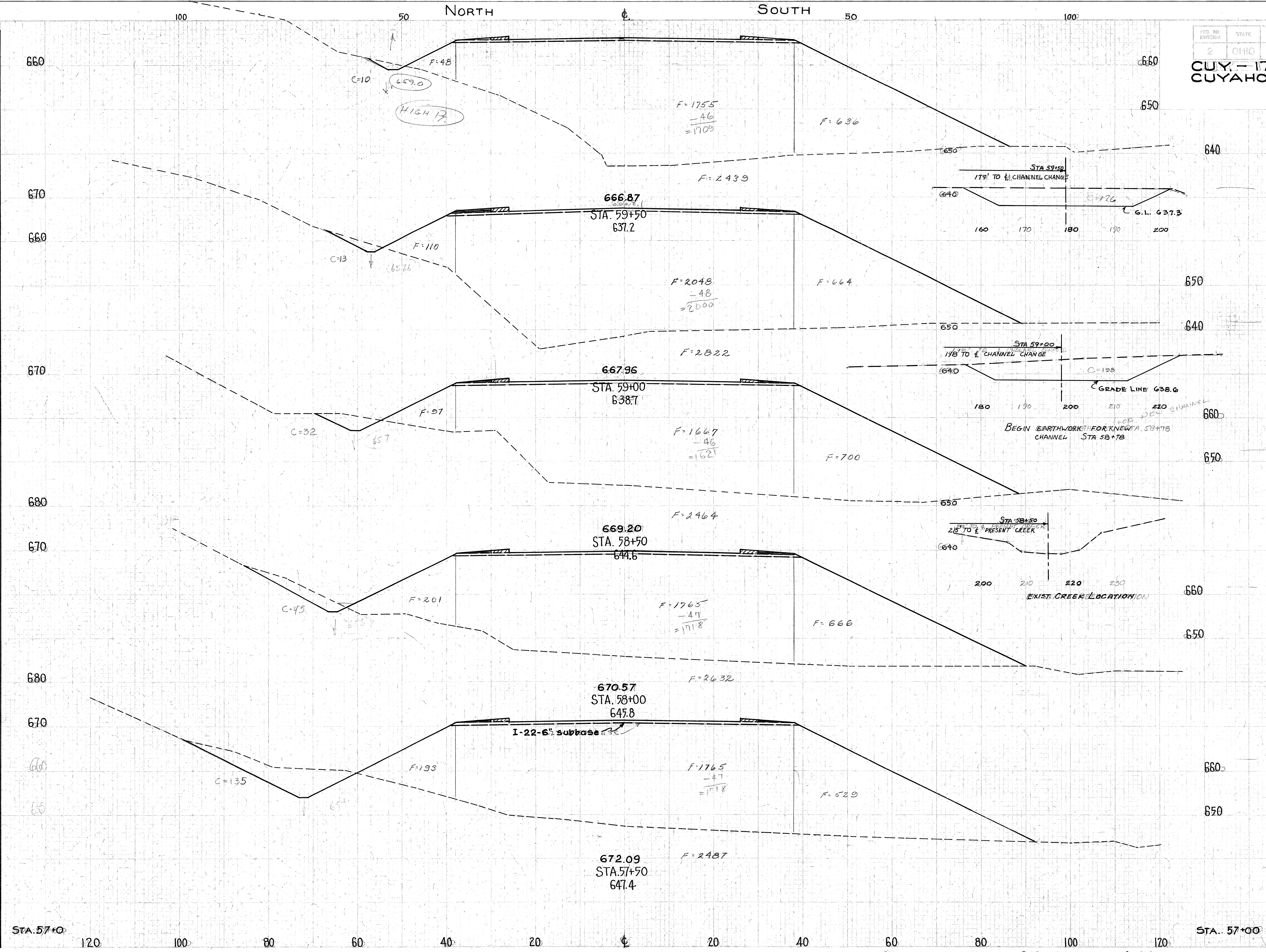
STA. 54+50

SCHAAF RD. RELOC. CROSS SECTIONS STA. 55+00 TO STA. 57+00

79
169

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
92	
	558
109	
	606
109	
	661
129	
	764
146	
	844
158	



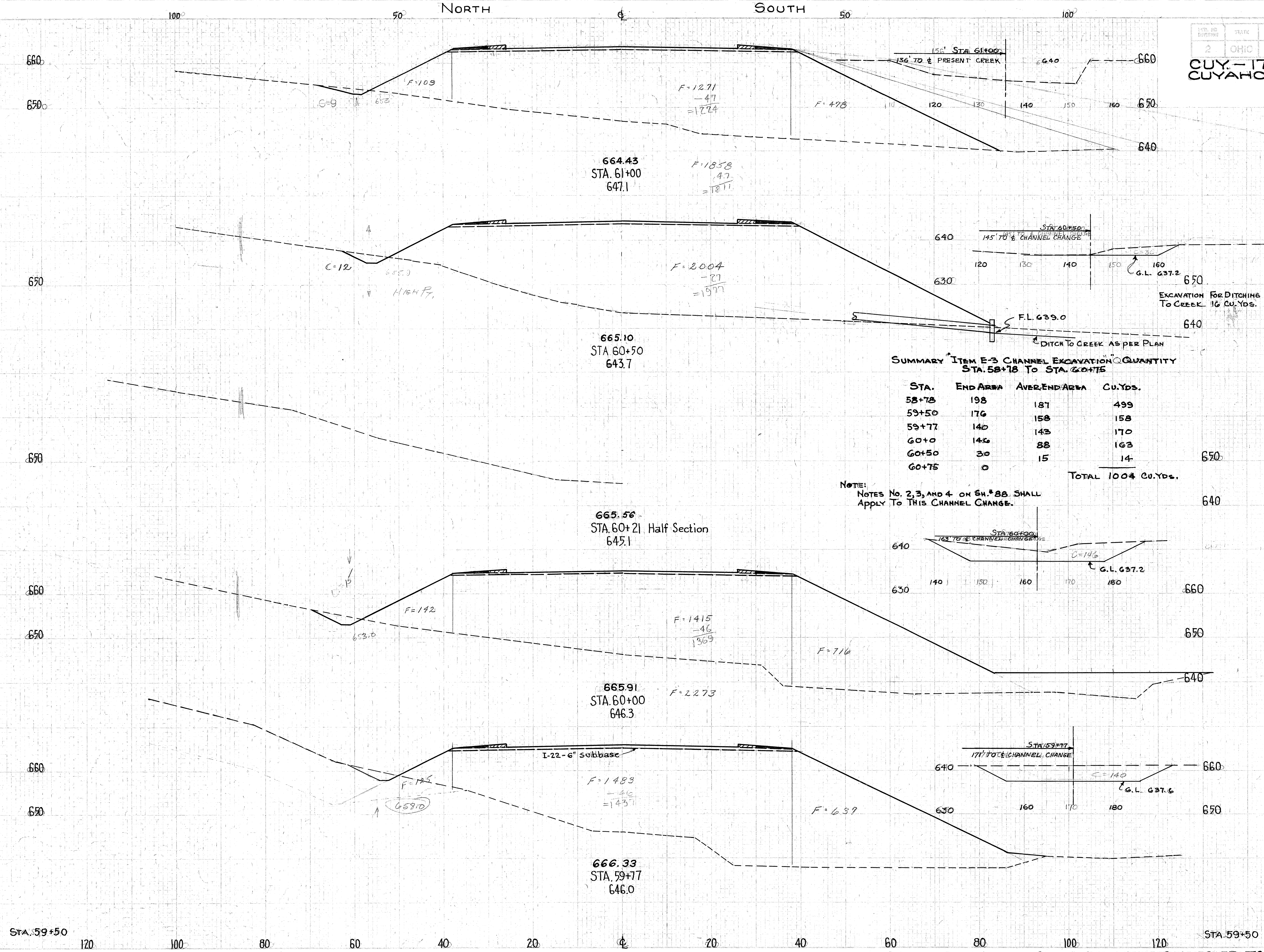
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
10	2,293		
		22	4,692
13	2,774		
		42	4,808
32	2,418		
		72	4,633
45	2,585		
		167	4,653
135	2,440		
		223	5,026
106	2,988		

SCHAAF RD. RELOC. CROSS SECTIONS STA. 57+50 TO STA. 59+50

STATE DIVISION	STATE	PROJECT	FISCAL YEAR	TOTAL SHEETS
2	OHIO			

CUY.-17-14.99
CUYAHOGA COUNTY

SEEDING & SODDING	
WIDTH	AREA
LIN. FT.	SQ. YDS.
102	
	550
96	
	575
	286
113	
	308
92	



SUMMARY "ITEM E-3 CHANNEL EXCAVATION" QUANTITY
STA. 58+78 TO STA. 60+75

STA.	END AREA	AVER. END AREA	CU. YDS.
58+78	198		
		187	499
59+50	176		
		158	158
59+77	140		
		143	170
60+0	146		
		88	163
60+50	30		
		15	14
60+75	0		
		TOTAL	1004 CU. YDS.

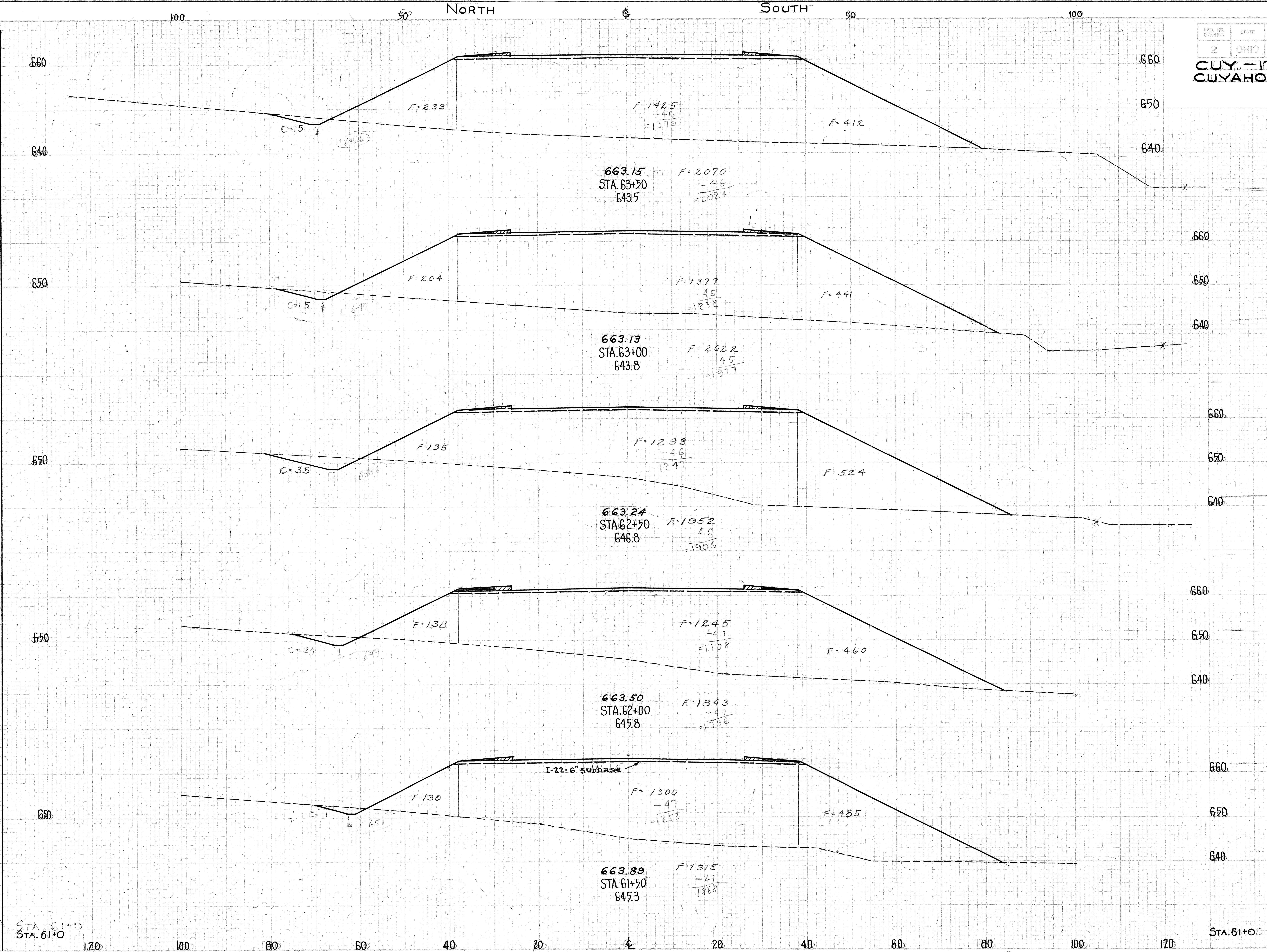
NOTE:
NOTES No. 2, 3, AND 4 ON SH. # 88 SHALL APPLY TO THIS CHANNEL CHANGE.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
9	1811		
		20	3,508
		16	
12	1977		
		25	3,893
15	2227		
		6	1,885
0	2,199		
		5	2,246
10	2293		

SCHAAF RD. RELOC. CROSS SECTIONS STA. 59+77 TO STA. 61+00

CUY.-17-14.99
CUYAHOGA COUNTY

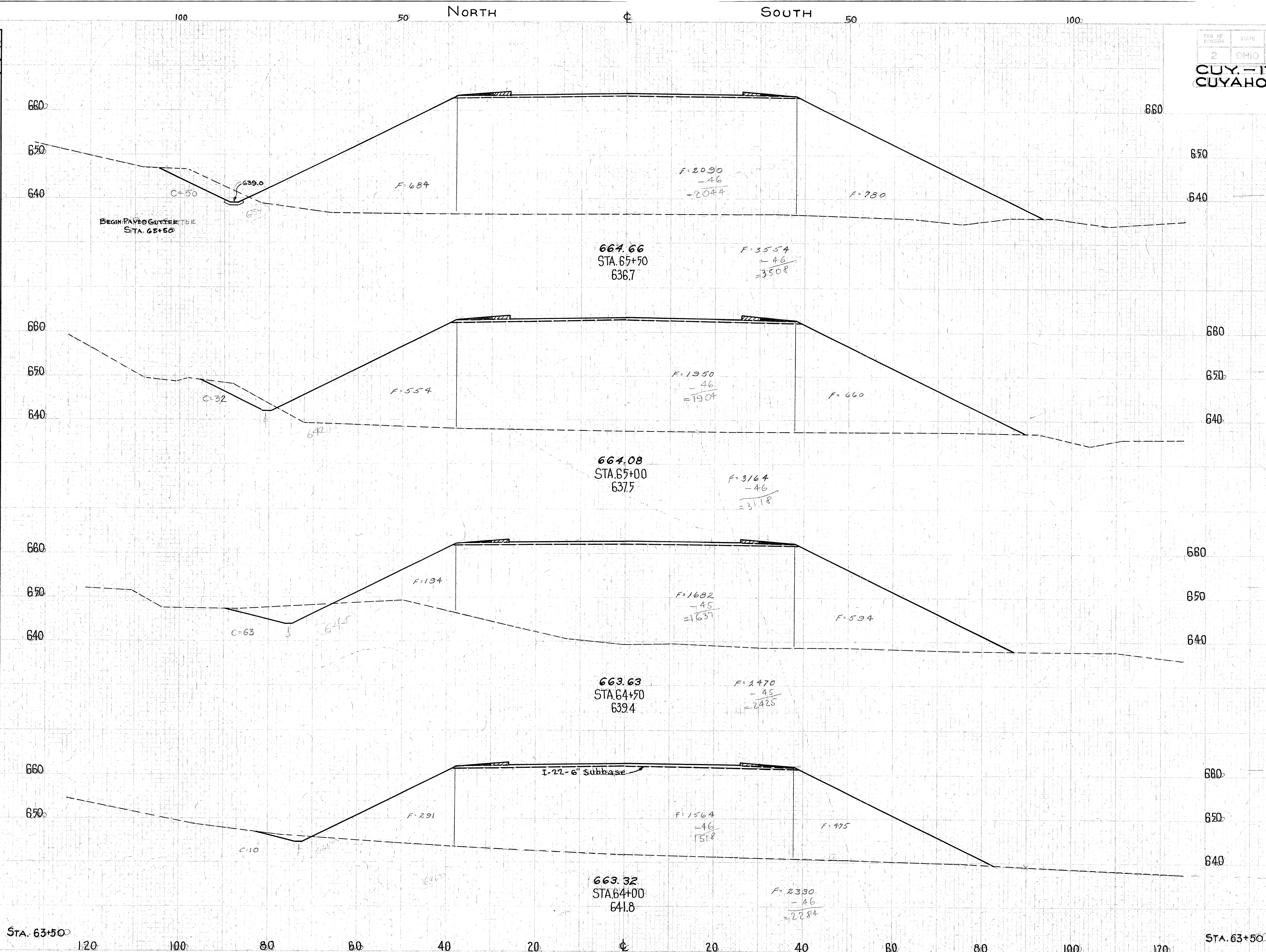
SEEDING & SODDING WIDTH LIN. FT.	AREA SQ. YDS.
108	
	611
112	
	636
117	
	628
109	
	586
102	
	567
102	



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
15	2,024		
		28	3705
15	1,977		
		47	3596
35	1,906		
		55	3428
24	1,796		
		33	3393
11	1,868		
		19	3407
9	1811		

SCHAAF RD. RELOC. CROSS SECTIONS STA. 61+50 TO STA. 63+50

Seeding & Sodding Width Lin. Ft.	Area Sq. Yds.
153	
	808
138	
	739
128	
	681
117	
	625
108	



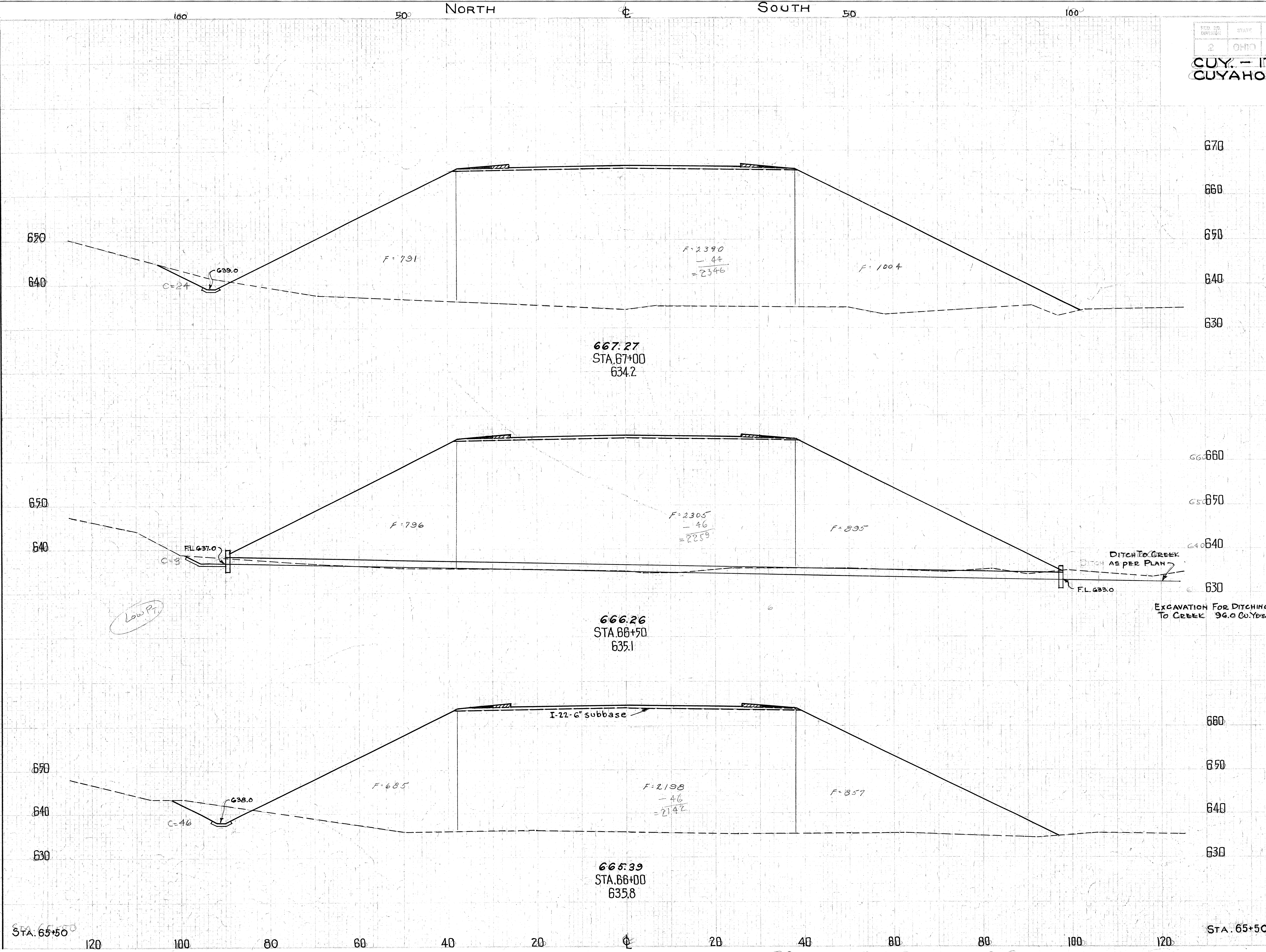
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
50	3508		
		76	6135
32	3118		
		88	5133
63	2425		
		68	4360
10	2284		
		23	3989
15	2024		

EXCAVATION = 1420 Cu. Yds.
EMBANKMENT = 118491 Cu. Yds.
EMB. + 22 % = 144559 Cu. Yds.

SCHAAF RD. RELOC. CROSS SECTIONS STA. 64+00 TO STA. 65+50

CUY. - 17-14.99
CUYAHOGA COUNTY

Station	Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
67+00	163	875
66+50	152	850
66+00	154	853
65+50	153	



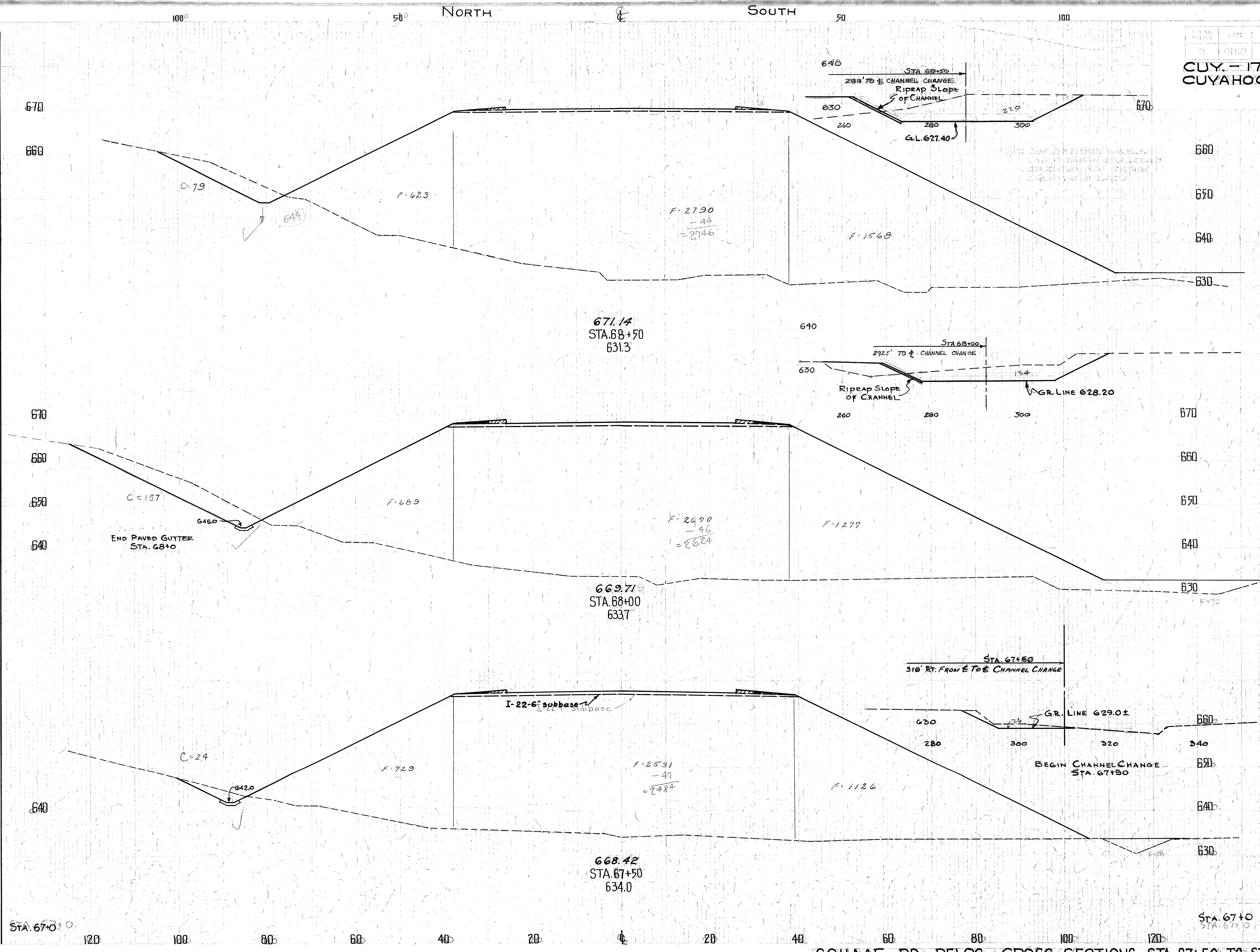
Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
67+00	24	4141		
			30	7492
66+50	9	3950		
			51	7069
			96	
66+00	46	3684		
			89	6659
65+50	50	3508		

EXCAVATION FOR DITCHING TO CREEK 96.0 CU. YDS.

SCHAAF RD. RELOC. CROSS SECTIONS STA. 66+00 TO STA. 67+00

CUY. - 17. - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
178	
	1050
200	
	1008
163	
	906
163	

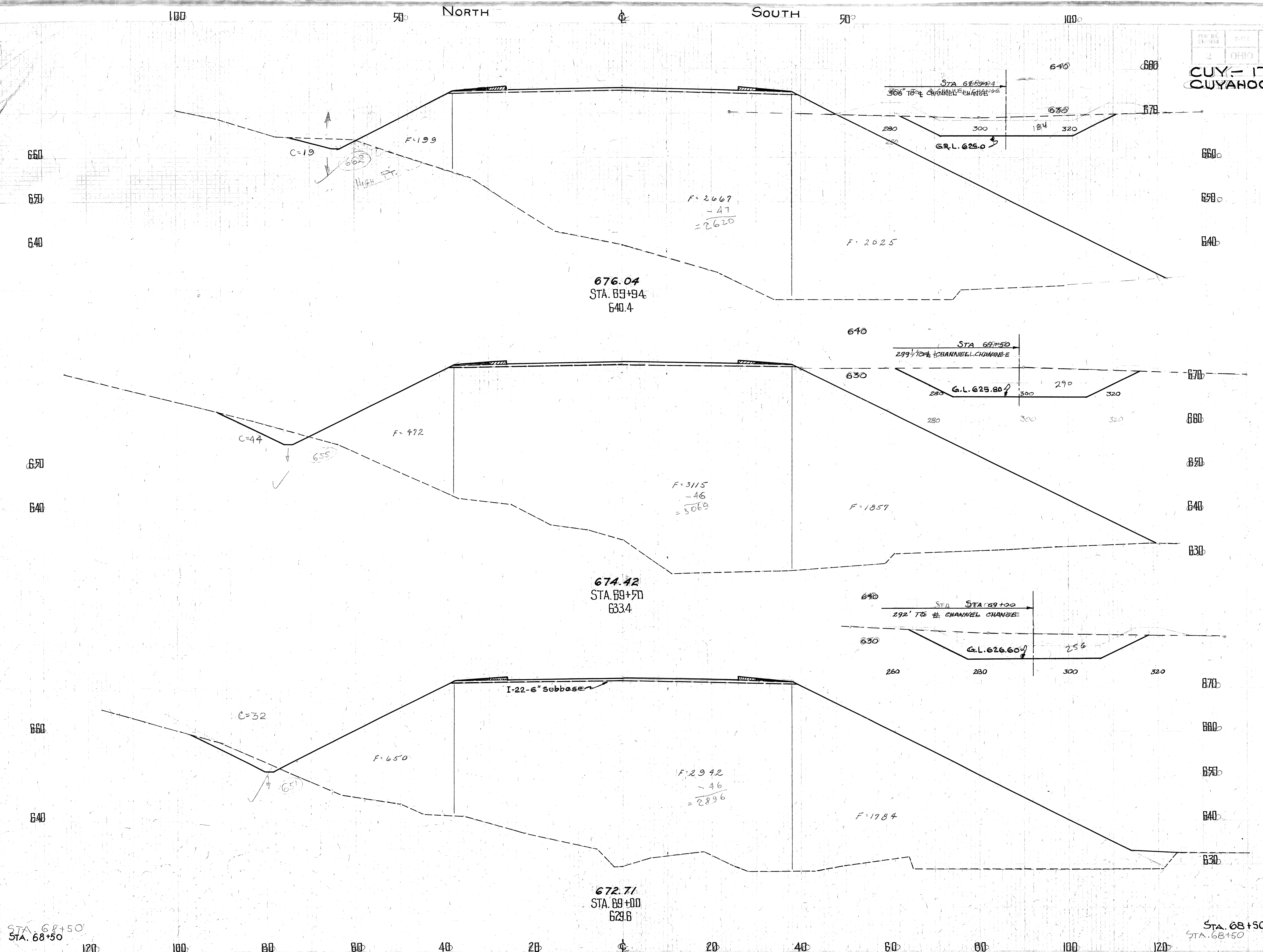


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
79	4937		
		218	8822
157	4662		
		168	8268
64	4367		
		44	7852
24	4141		

SCHAAF RD. RELOC. CROSS SECTIONS STA. 67+50 TO STA. 68+50

CUY.- 17-14.99
CUYAHOGA COUNTY

Station	Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
69+94	152	
		782
69+50	168	
		958
69+00	177	
		986
68+50	178	



Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
69+94	19	4844		
			52	8343
69+50	44	5396		
			71	9932
69+00	32	5330		
			103	9507
68+50	79	4937		

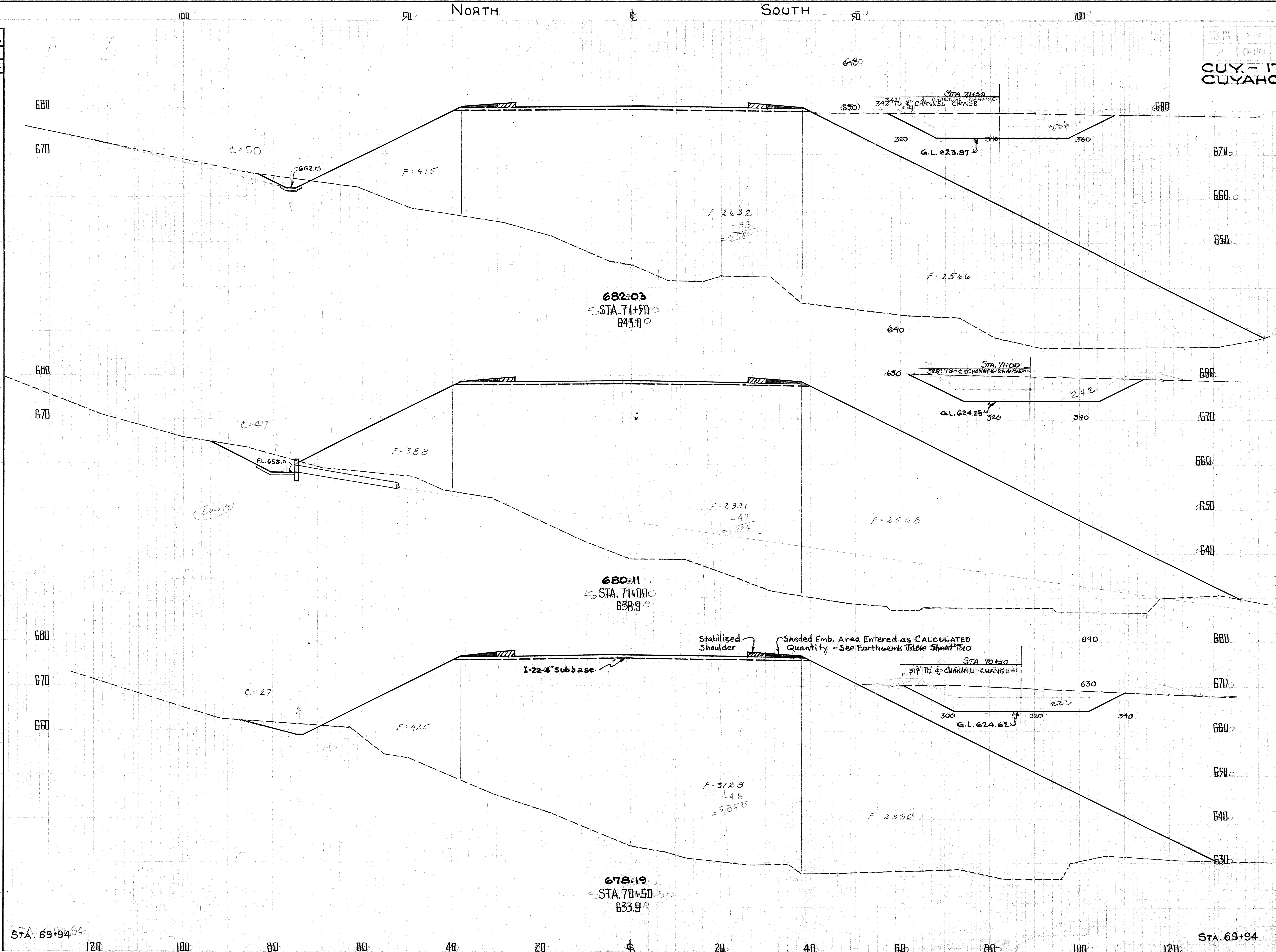
SCHAAF RD. RELOC. CROSS SECTIONS STA. 69+00 TO STA. 69+94

B-11 B.5

CUY. - 17 - 14.99
CUYAHOGA COUNTY

86
169

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
178	
	1011
186	
	1003
175	
	1017
152	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		90	10561
50	5565		
		69	10811
47	5840		
		48	11075
27	5835		
19	4844		

STA. 69+94

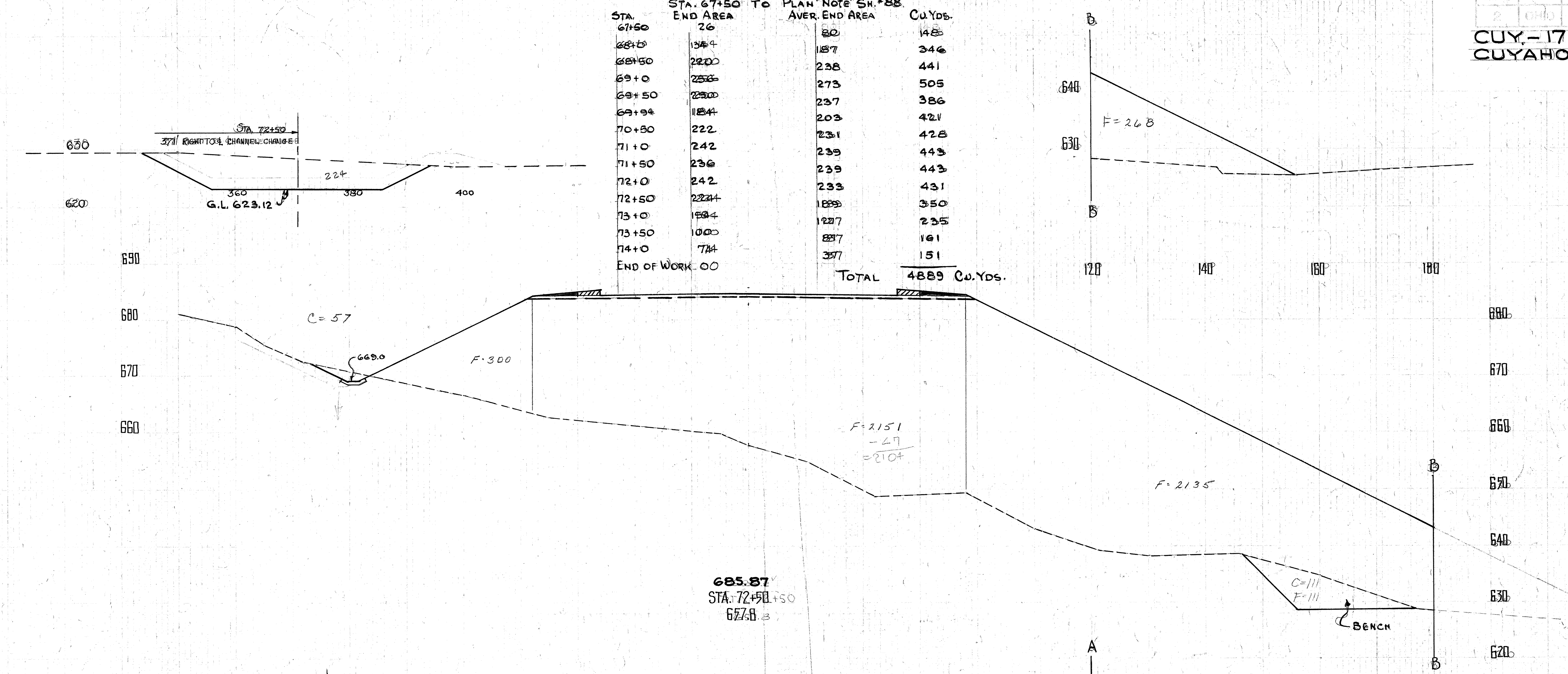
SCHAAF RD. RELOC. CROSS SECTIONS STA. 70+50 TO STA. 71+50

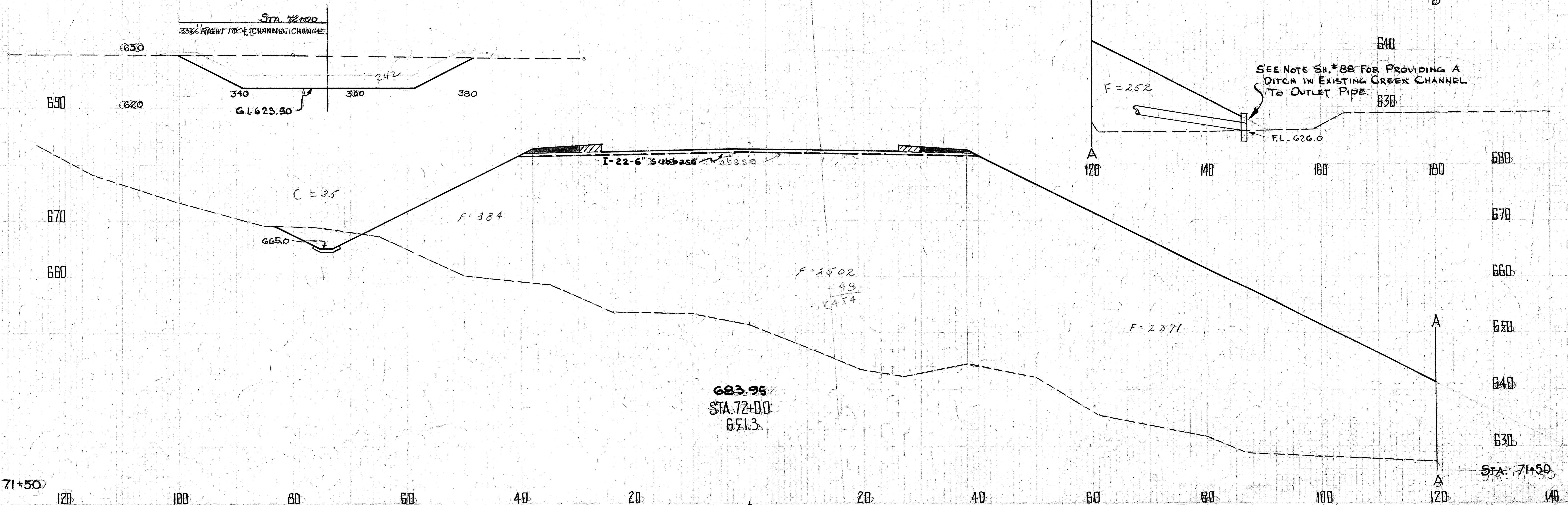
CUY.-17-14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Area Sq. Yds.
187	1044
189	1019
178	

Summary "Item E-3 Channel Excavation" Quantity
Sta. 67+50 to Plan "Note" Sh. #88.

Sta.	End Area	Aver. End Area	Cu. Yds.
67+50	26		
		80	148
68+0	134		
		187	346
68+50	220		
		238	441
69+0	256		
		273	505
69+50	290		
		237	386
69+94	184		
		203	421
70+50	222		
		231	428
71+0	242		
		239	443
71+50	236		
		239	443
72+0	242		
		233	431
72+50	224		
		189	350
73+0	154		
		127	235
73+50	100		
		87	161
74+0	74		
		37	151
End of Work	00		
		Total	4889 Cu. Yds.





End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
168	4918		
		188	9611
35	5461		
		79	10210
50	5565		

SCHAAF RD. RELOC. CROSS SECTIONS STA. 72+00 TO STA. 72+50

	STATE		
2	OHIO		

88
169

CUY.-17-14.99
CUYAHOGA COUNTY

NOTES FOR CHANNEL CHANGE

1) END CHANNEL EXCAVATION OF EXIST. CREEK AT ELEV. 621.5 APPROX 110 FT. FROM STA. 74+0 (℄ CHANNEL CHANGE).

2) CHANNEL SECTIONS SHOWN ARE AT RIGHT ANGLES TO ℄ OF CHANNEL CHANGE.

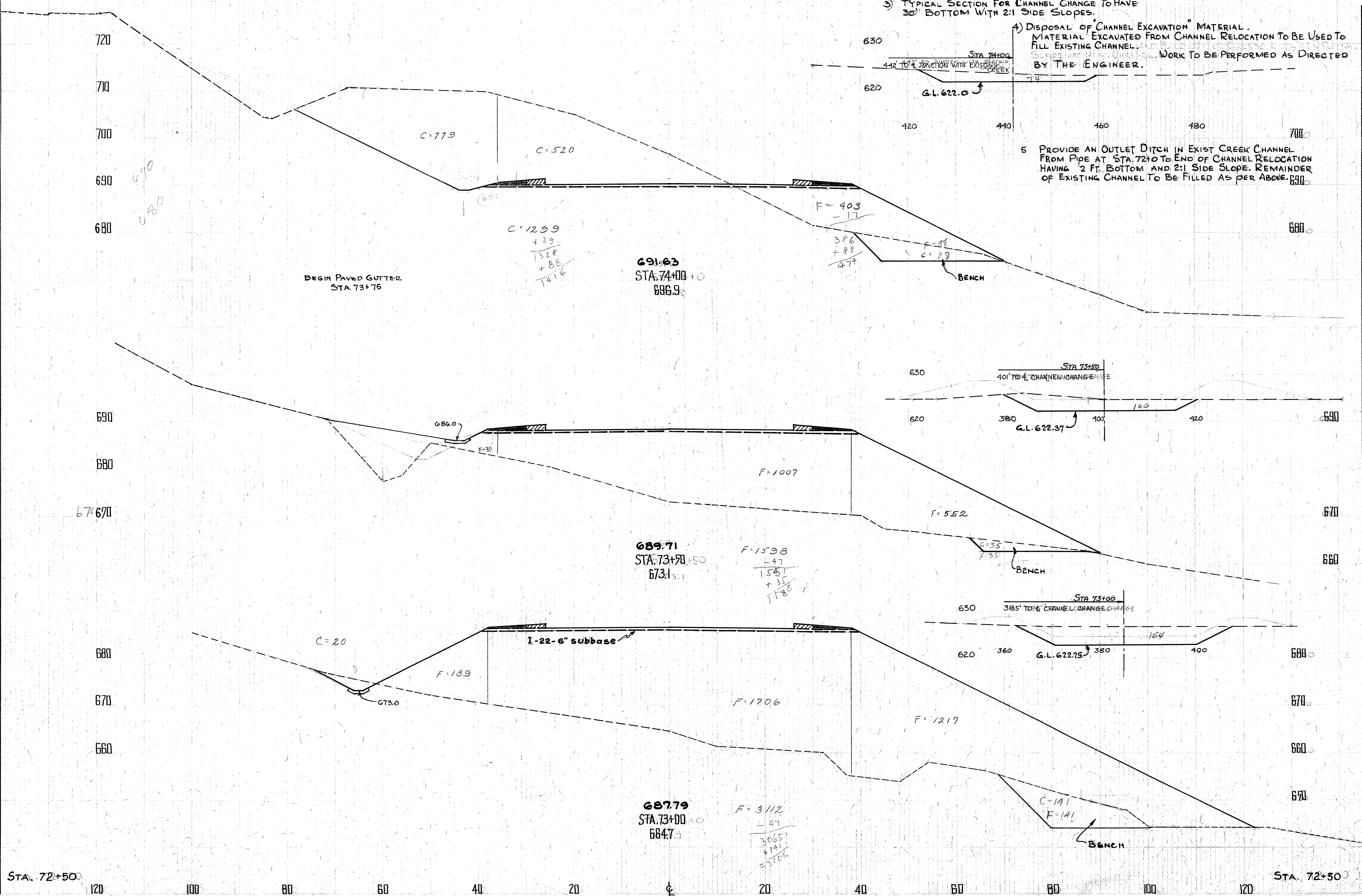
3) TYPICAL SECTION FOR CHANNEL CHANGE TO HAVE 30" BOTTOM WITH 2:1 SIDE SLOPES.

4) DISPOSAL OF "CHANNEL EXCAVATION" MATERIAL. MATERIAL EXCAVATED FROM CHANNEL RELOCATION TO BE USED TO FILL EXISTING CHANNEL. WORK TO BE PERFORMED AS DIRECTED BY THE ENGINEER.

5 PROVIDE AN OUTLET DITCH IN EXIST CREEK CHANNEL FROM PIPE AT STA. 72+0 TO END OF CHANNEL RELOCATION HAVING 2 FT. BOTTOM AND 2:1 SIDE SLOPE. REMAINDER OF EXISTING CHANNEL TO BE FILLED AS PER ABOVE.

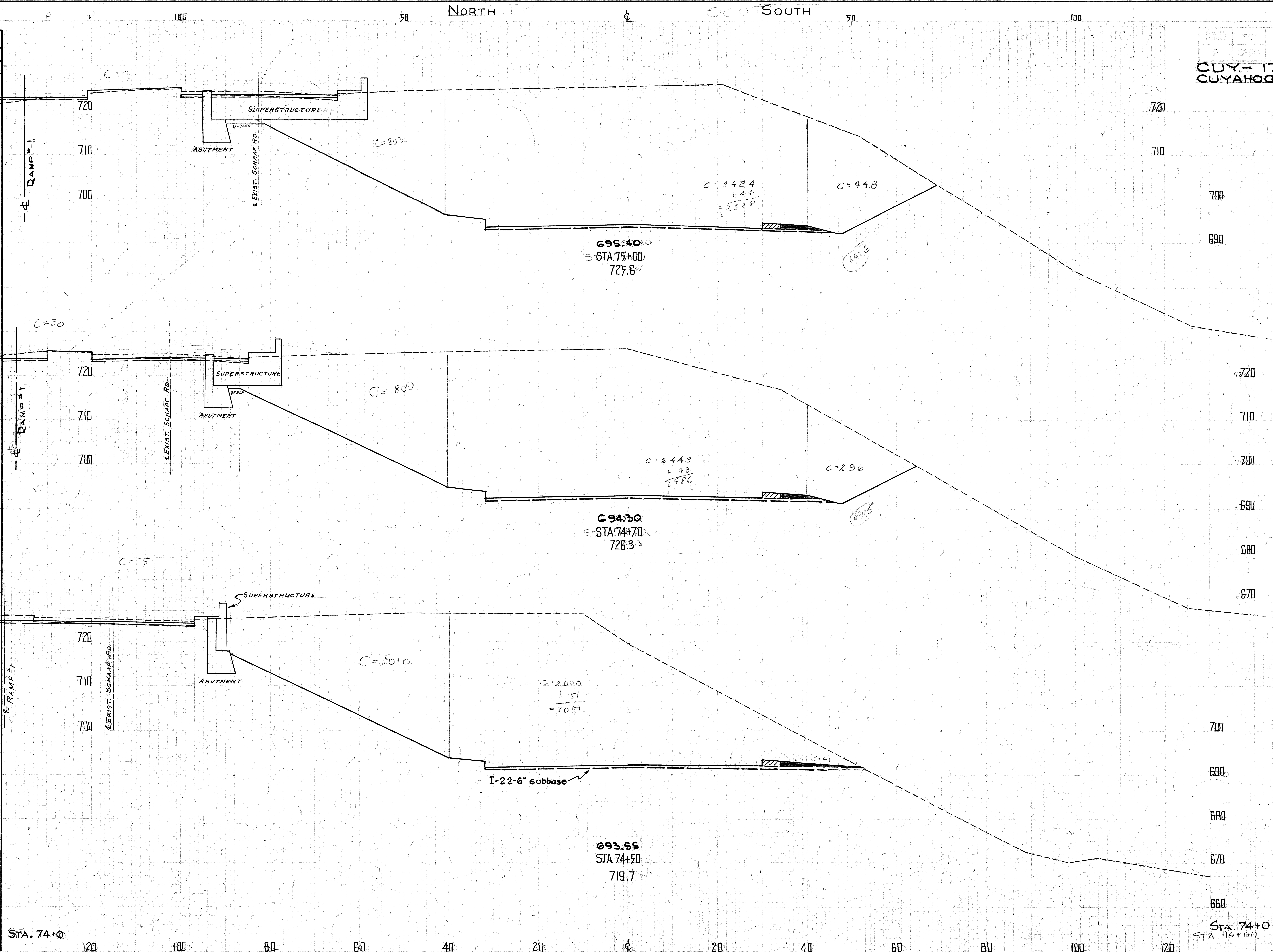
SEEDING & SODDING	
WIDTH LIN. FT.	AREA SQ. YDS.
137	
	619
86	
	647
147	
	928
187	

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
1416	474		
		1344	1908
35	1586		
		182	4437
161	3206		
		305	7523
168	4918		



SCHAAF RD. RELOC. CROSS SECTIONS STA. 73+00 TO STA. 74+00

CUY.- 17 - 14.99
CUYAHOGA COUNTY



Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
146	440
118	220
80	603
137	

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
3796	80		
		4112	50
3612	10		
		2514	4
3177	0		
		4253	439
416	474		

STA. 74+0

EXCAVATION = 62125 CU. YDS.
EMBANKMENT = 74534 CU. YDS.
EMB. +22% = 90931 CU. YDS.

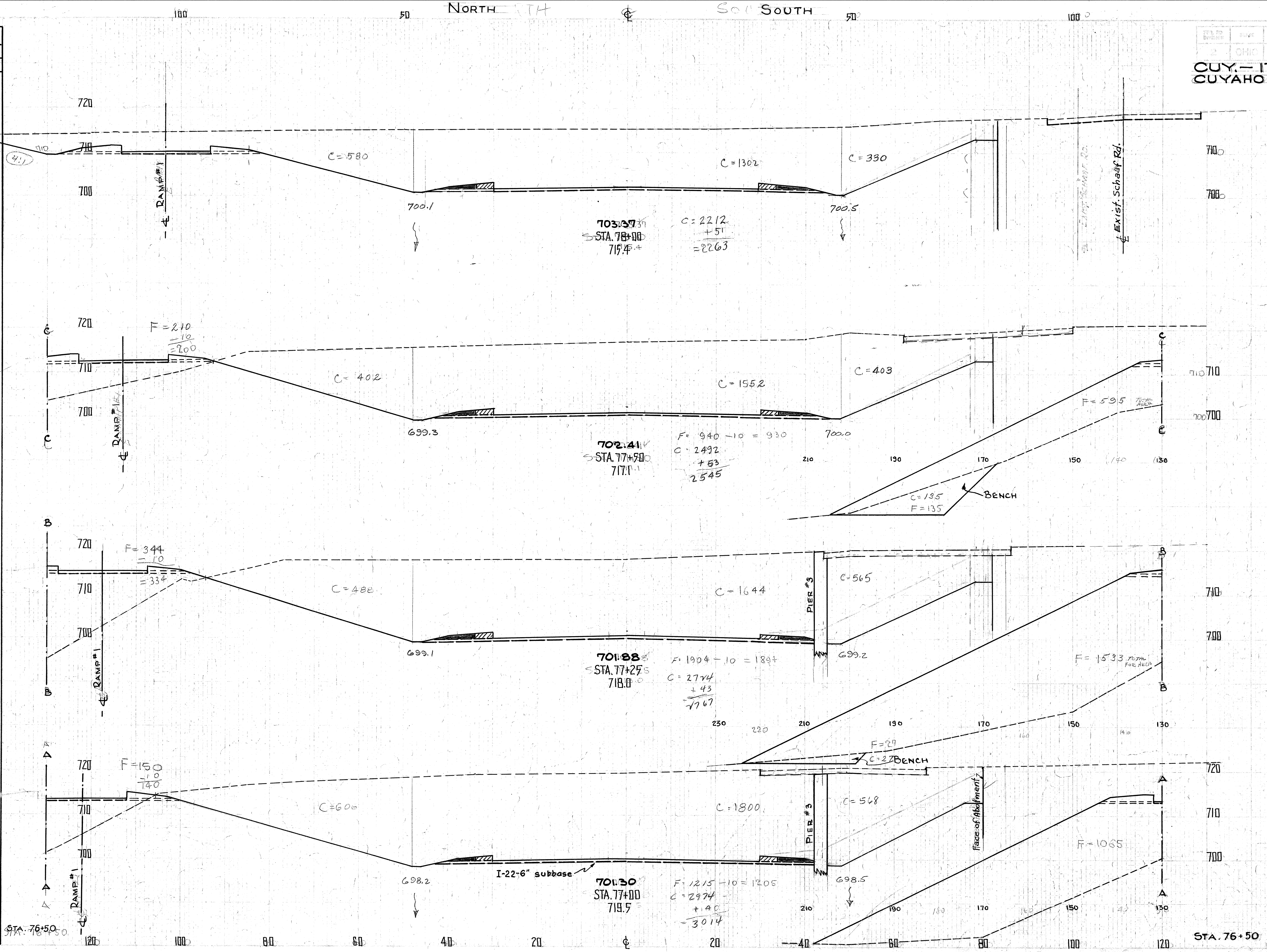
SCHAAF RD. RELOC. CROSS SECTIONS STA. 74+50 TO STA. 75+00

CUY. – 17 – 14.99
CUYAHOGA COUNTY

SCHAAF RD. RELOC. CROSS SECTIONS STA. 75+50 TO STA. 76+50

CUY.-17-14.99
CUYAHOGA COUNTY

SEEDING & SODDING WIDTH LIN. FT.	AREA SQ. YDS.
146	
	983
208	
	611
232	
	622
216	
	1142
195	



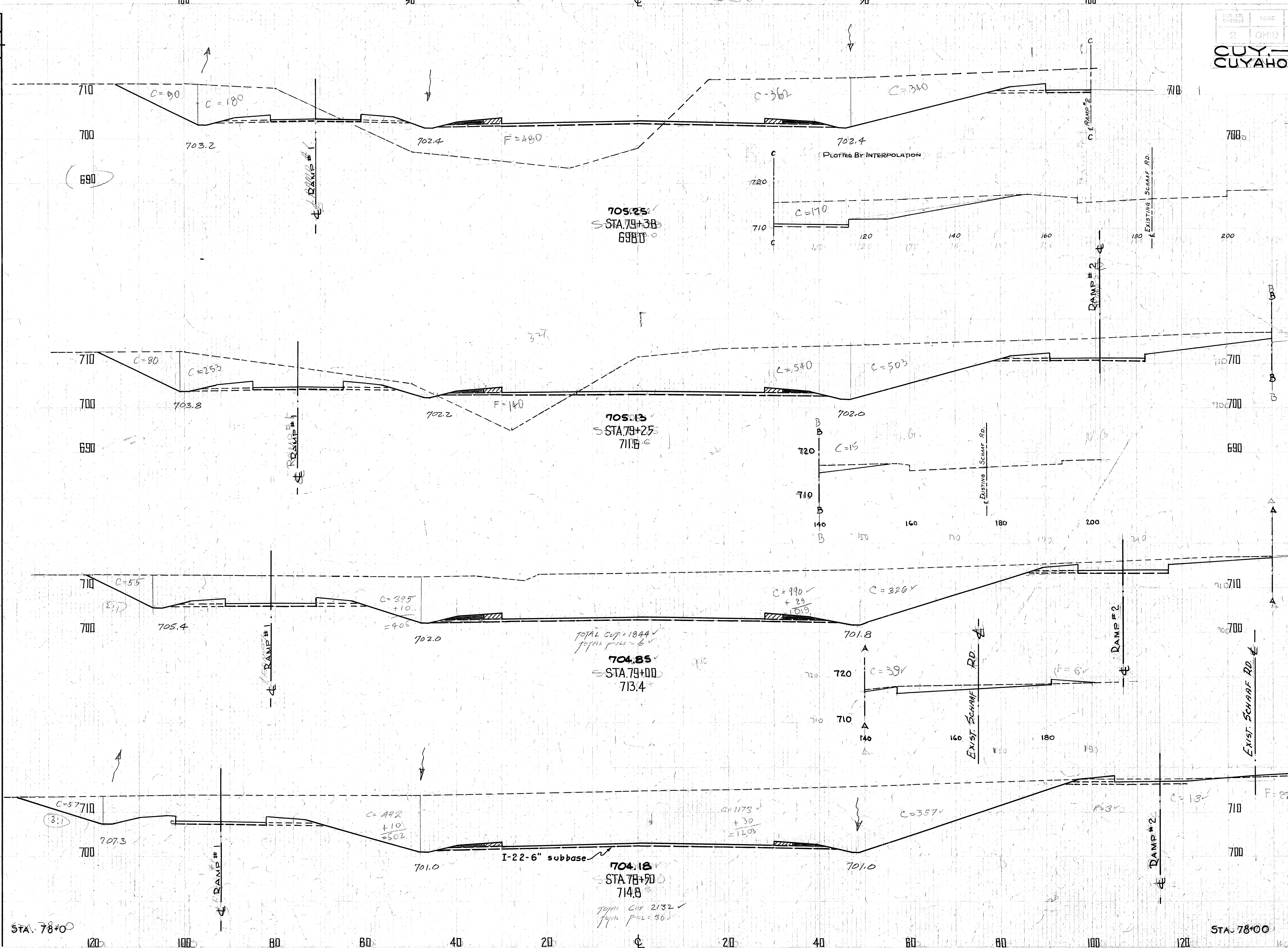
END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
2263	0		
		4452	861
2545	930		
		2457	1308
2767	1894		
		2674	435
3014	1205		
		6027	1233
3495	126		

STA. 76+50

SCHAAF RD. RELOC. CROSS SECTIONS STA. 77+00 TO STA. 78+00

CUY.—17—14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Area Sq. Yds.
172	
	254
180	
	510
187	
	1011
177	
	897
146	

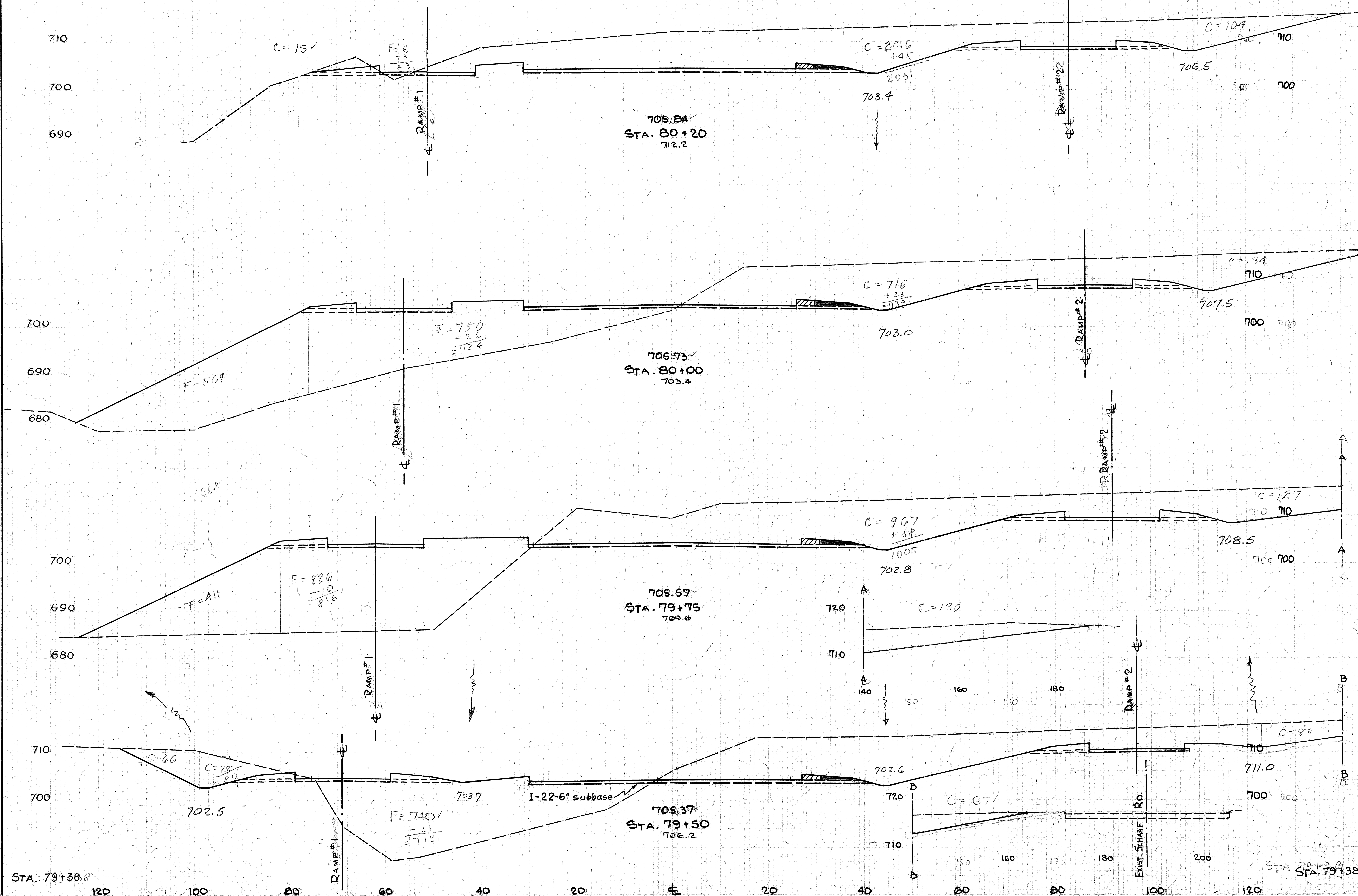


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
1142	480		
		610	149
1391	140		
		1499	68
1844	6		
		3682	34
2132	30		
		4069	28
2263	0		

SCHAAF RD. RELOC. CROSS SECTIONS STA. 78+50 TO STA. 79+38

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
116	
	331
182	
	561
222	
	569
188	
	240
172	

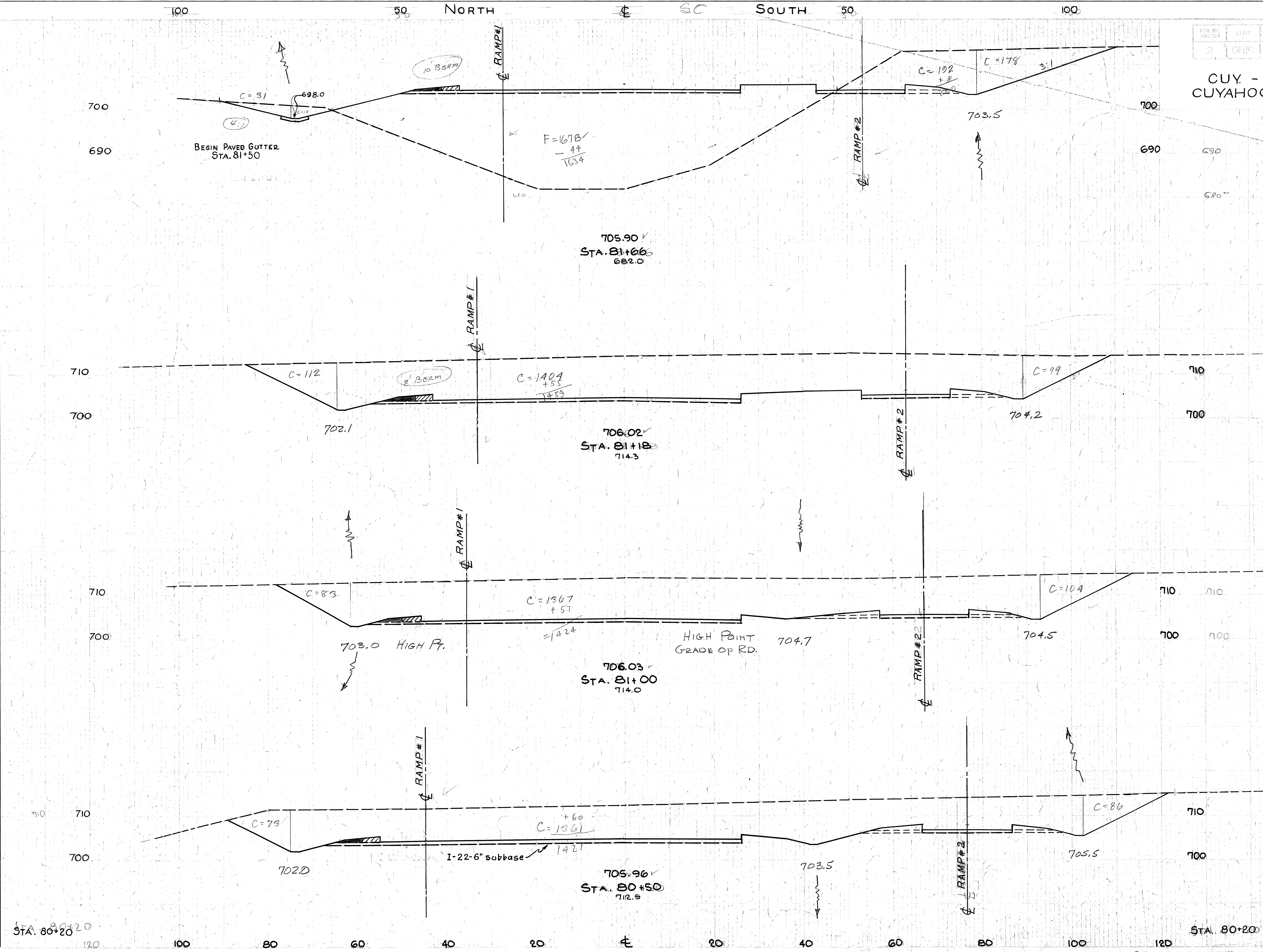


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
2180	3		
		1131	48
873	1293		
		989	1167
1262	1227		
		1090	922
1091	765		
		496	277
1142	480		

X-SECTION STA. 79+50 TO STA. 80+20

CUY. - 17 - 1499
CUYAHOGA COUNTY

SEEDING & SODDING WIDTH LIN. FT.	AREA SQ. YDS.
118	
	600
107	
	209
102	
	594
112	
	380
116	

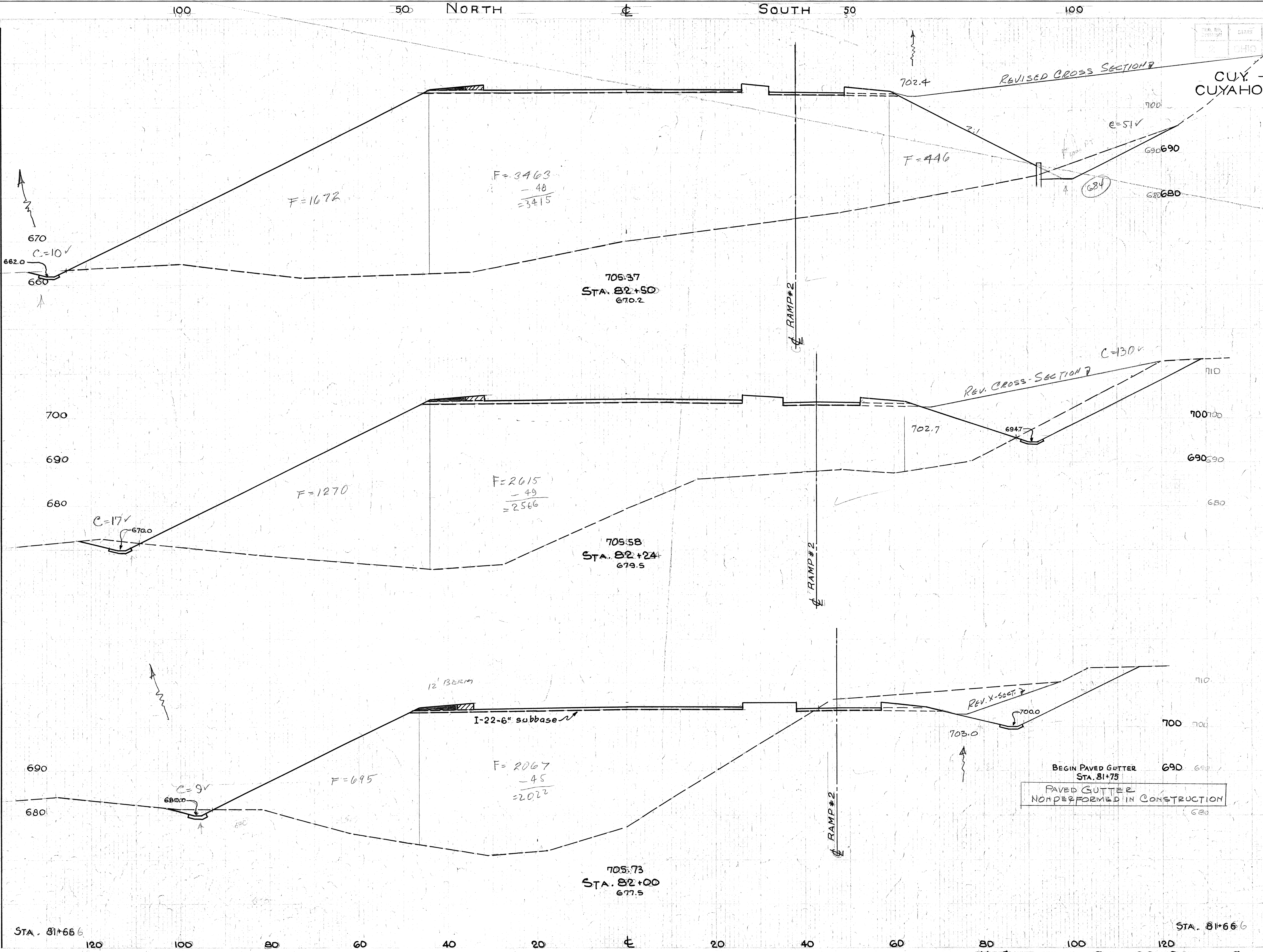


END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
427	1634		
		1864	1452
1670	0		
		1094	0
1611	0		
		2955	0
1580	0		
		2089	2
2180	3		

X-SECTION STA. 80+50 TO STA. 81+66

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
201	
	568
192	
	449
145	
	437
118	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
51	5533		
		95	4621
147	4064		
		215	3014
337	2717		
		481	2739
427	1634		

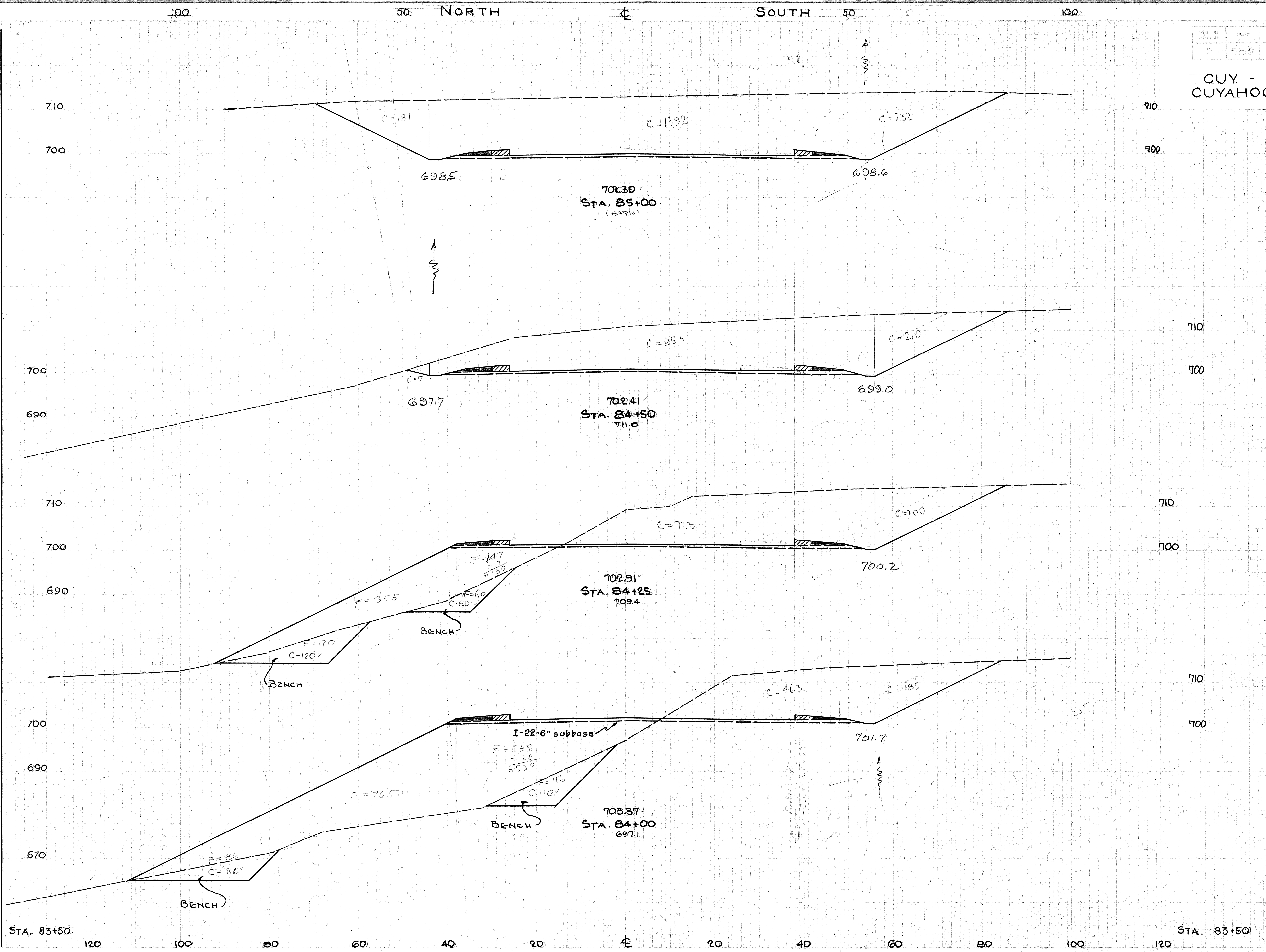
X-Section Sta. 82+00 to Sta. 82+50

SEEDING & SODDING WIDTH LIN. FT.	SEEDING & SODDING AREA SQ. YDS.
198	
198	1289
266	583
211	641
201	

Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
83+50	217	3,482		
			410	8595
83+00	225	5800		
			120	4835
82+78	69	6,067		
			62	6015
82+50	51	5533		

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
~~92~~	
	436
65	
	250
115	
	~~697~~
	348
136	
	928
~~198~~	



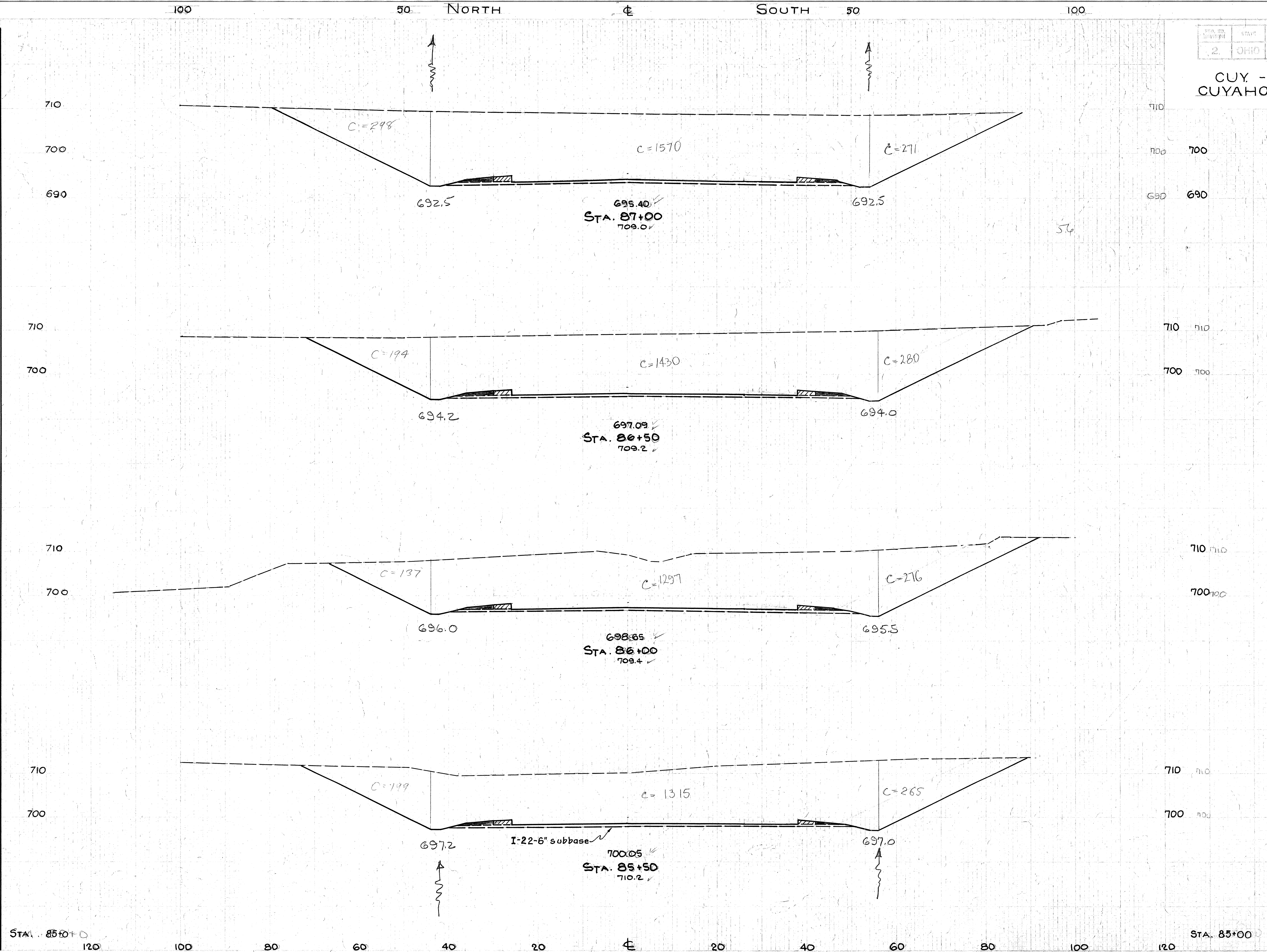
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
1805	0		
		2755	0
1170	0		
		1052	308
1103	665		
		904	1001
850	1497		
		988	4610
217	3482		

EXCAVATION = 61152 Cu. Yds.
EMBANKMENT = 37672 Cu. Yds.
EMB. + 22% = 45960 Cu. Yds.

X-SECTION STA. 84+0 TO STA. 85+00

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
106	
	564
97	
	522
91	
	525
98	
	528
92	

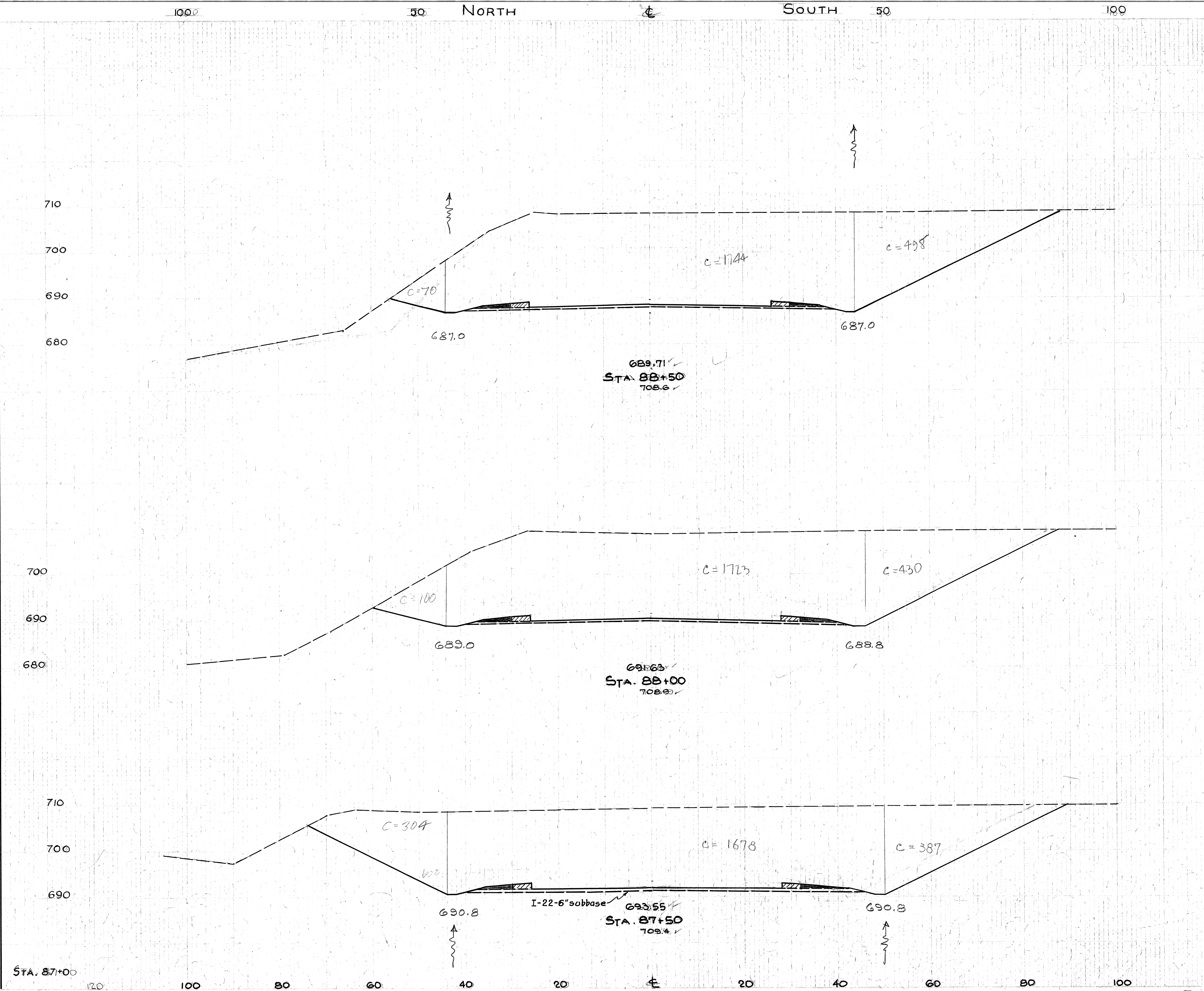


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
2139	0		
		3744	0
1904	0		
		3347	0
1710	0		
		3231	0
1779	0		
		3319	0
1805	0		

X-SECTION STA. 85+50 TO STA. 87+00

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Area Sq. Yds.
90	
	503
91	
	544
105	
	586
106	



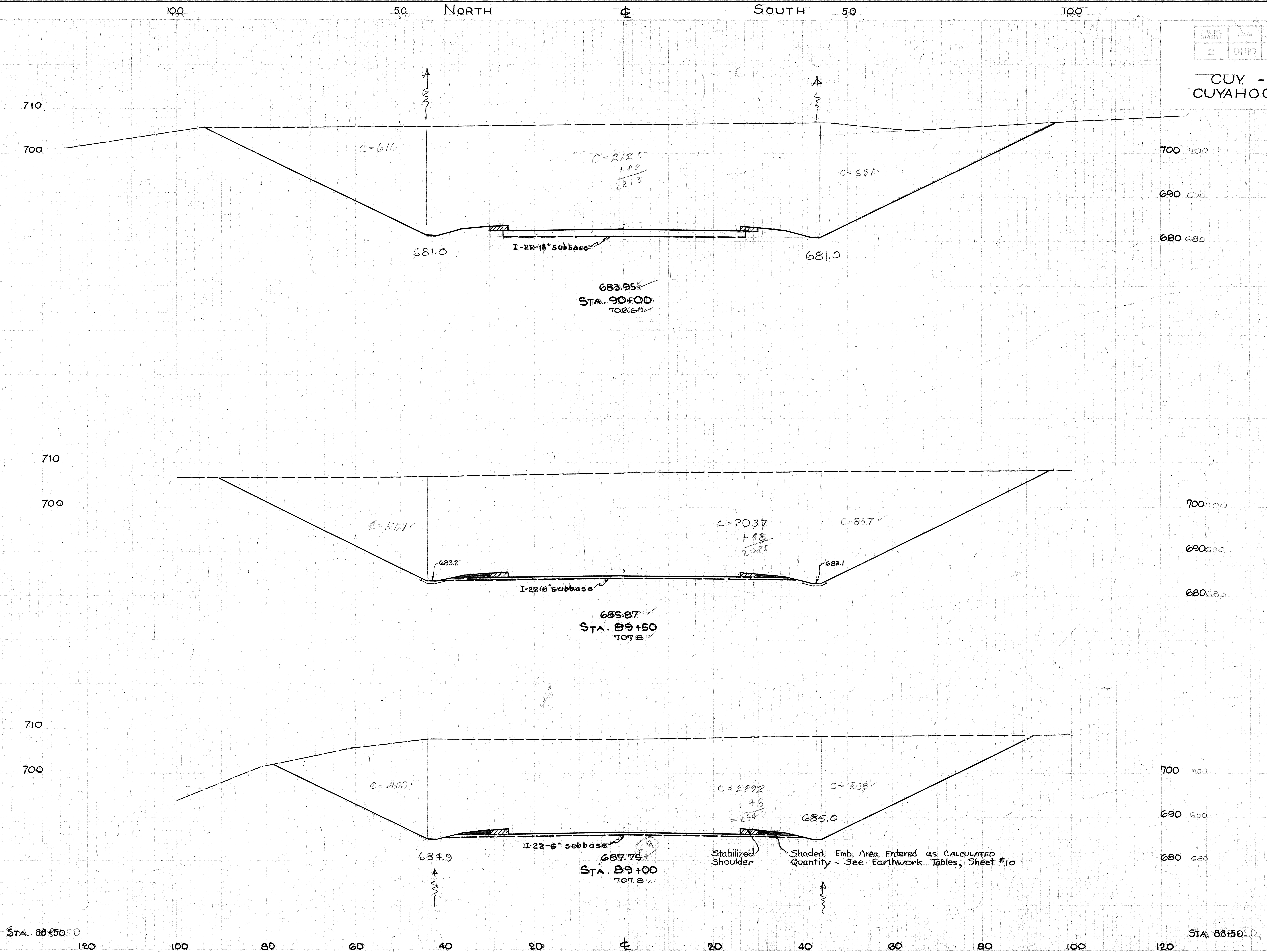
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
2312	0		
		4227	0
2253	0		
		4279	0
2369	0		
		4174	0
2139	0		

X-Section Sta. 87+50 to Sta. 88+50

2 OHIO

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
143	
	781
138	
	717
120	
	583
90	

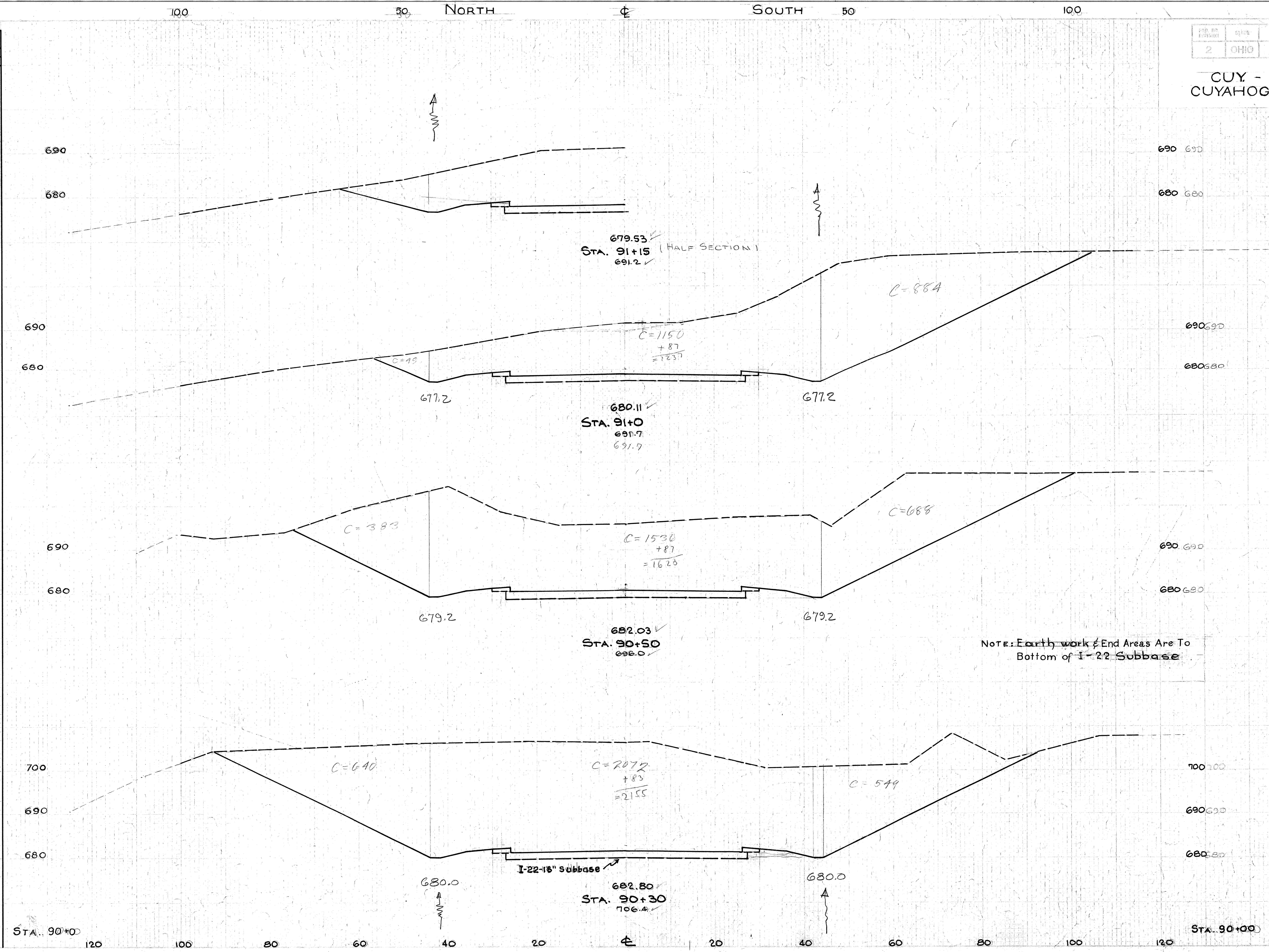


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
3480	0		
		6253	0
3273	0		
		6640	0
3898	0		
		5750	0
2312	0		

X-Section Sta. 89+00 to Sta. 90+00

2	OHIO		

CUY. - 17 - 14.99
CUYAHOGA COUNTY



Seeding & Sodding Width Lin.Ft.	Area Sq. Yds.
112	
	664
127	
	294
138	
	468
1143	

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
2,170	0		
		4504	0
2,694	0		
		2236	0
3,344	0		
		3791	0
3480	0		

Note: ~~Earth work~~ & End Areas Are To Bottom of ~~I-22 Subbase~~

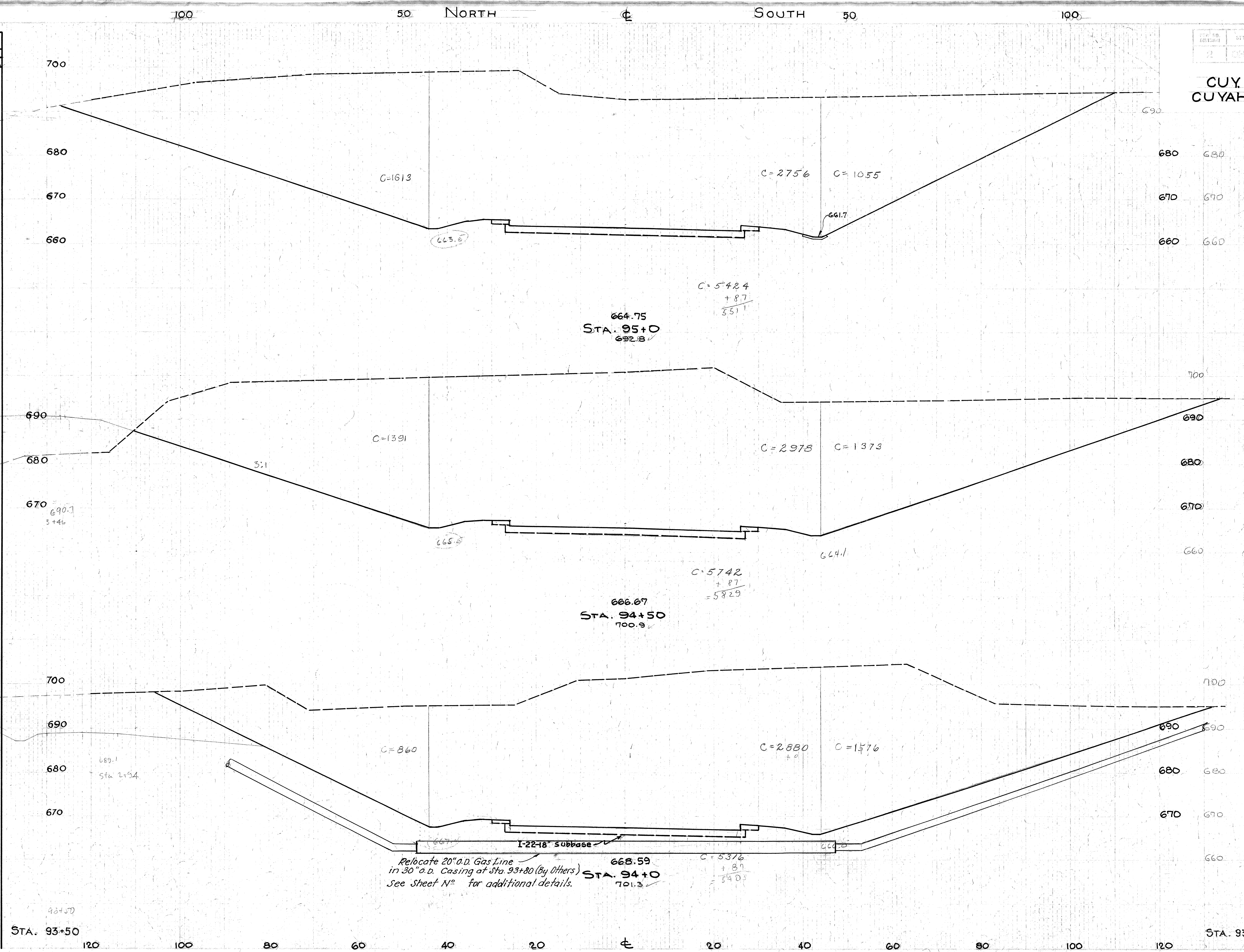
X-SECTIONS STA. 90+30 TO STA. 91+15

X-SECTIONS STA. 91+57 TO STA. 92+21

X-SECTIONS STA. 92+50 TO STA. 93+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
190	
	1067
194	
	1072
192	
	994
166	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
5511	0		
		10501	0
5829	0		
		10401	0
5403	0		
		9325	0
4667	0		

EXCAVATION = 229295 Cu. Yds.
EMBANKMENT = 0 Cu. Yds.
EMB. + 22% = 0 Cu. Yds.

X-SECTIONS STA. 94+00 TO STA. 95+00

CUY. - 17 - 1499
CUYAHOGA COUNTY

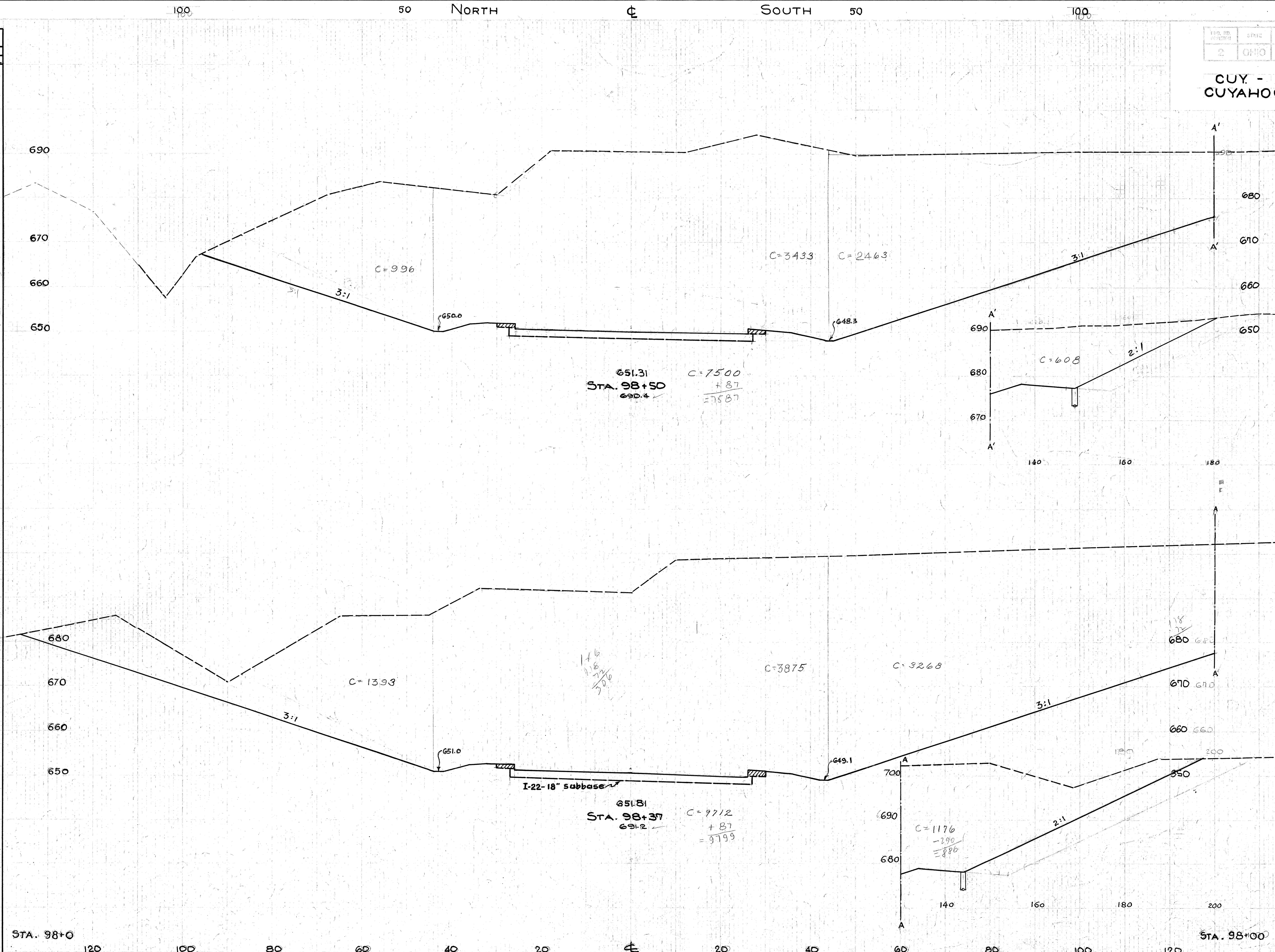
X-SECTIONS STA. 95+50 TO STA. 96+50

CUY. - 17 - 1499
CUYAHOGA COUNTY

X-SECTIONS STA. 96+85 TO STA. 98+00

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
240	384
291	1250
317	

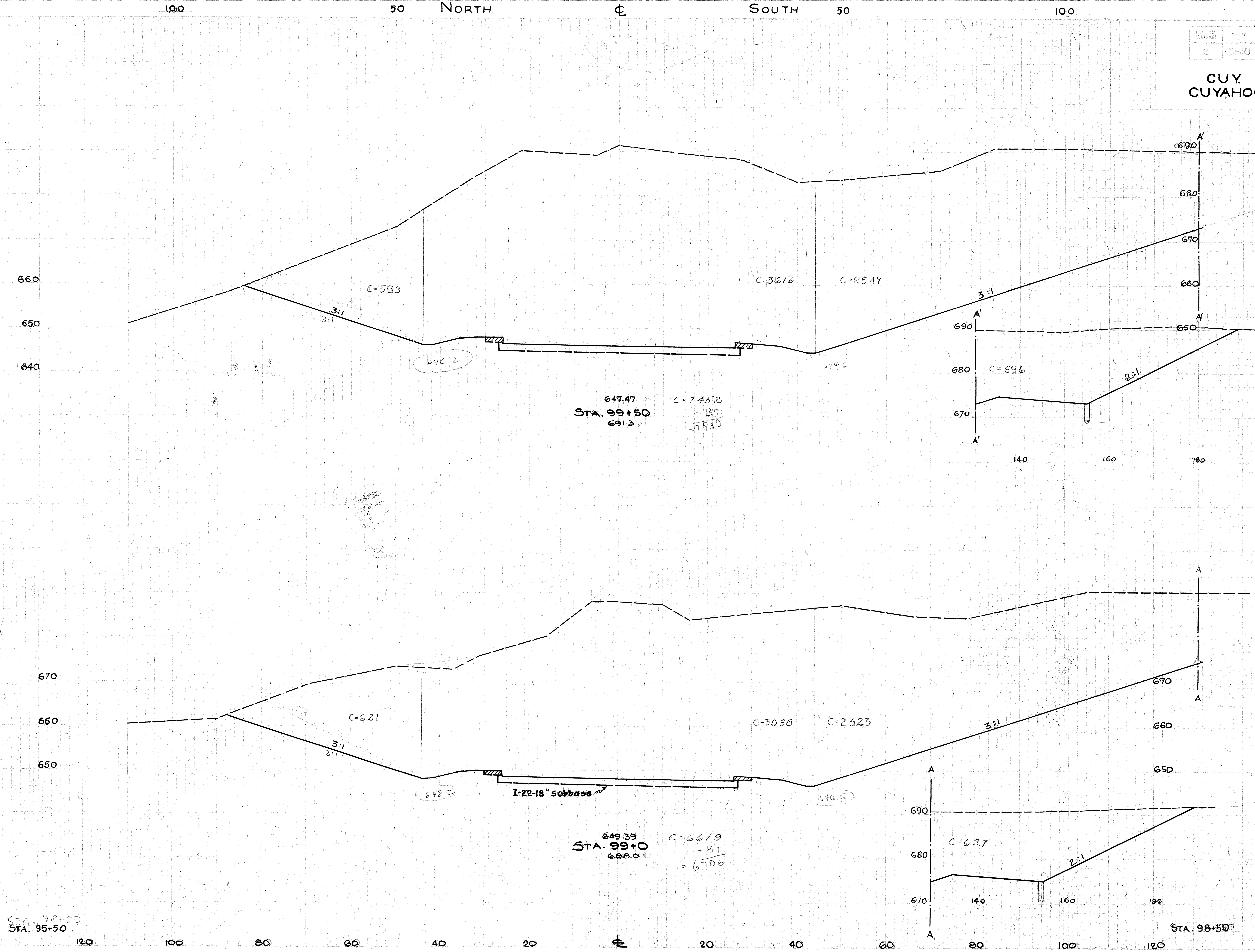


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
7587	0		
		4116	0
9509	0		
		13776	0
10596	0		

X-SECTIONS STA. 98+37 TO STA. 98+50

CUY. 17 - 14.99
CUYAHOGA COUNTY

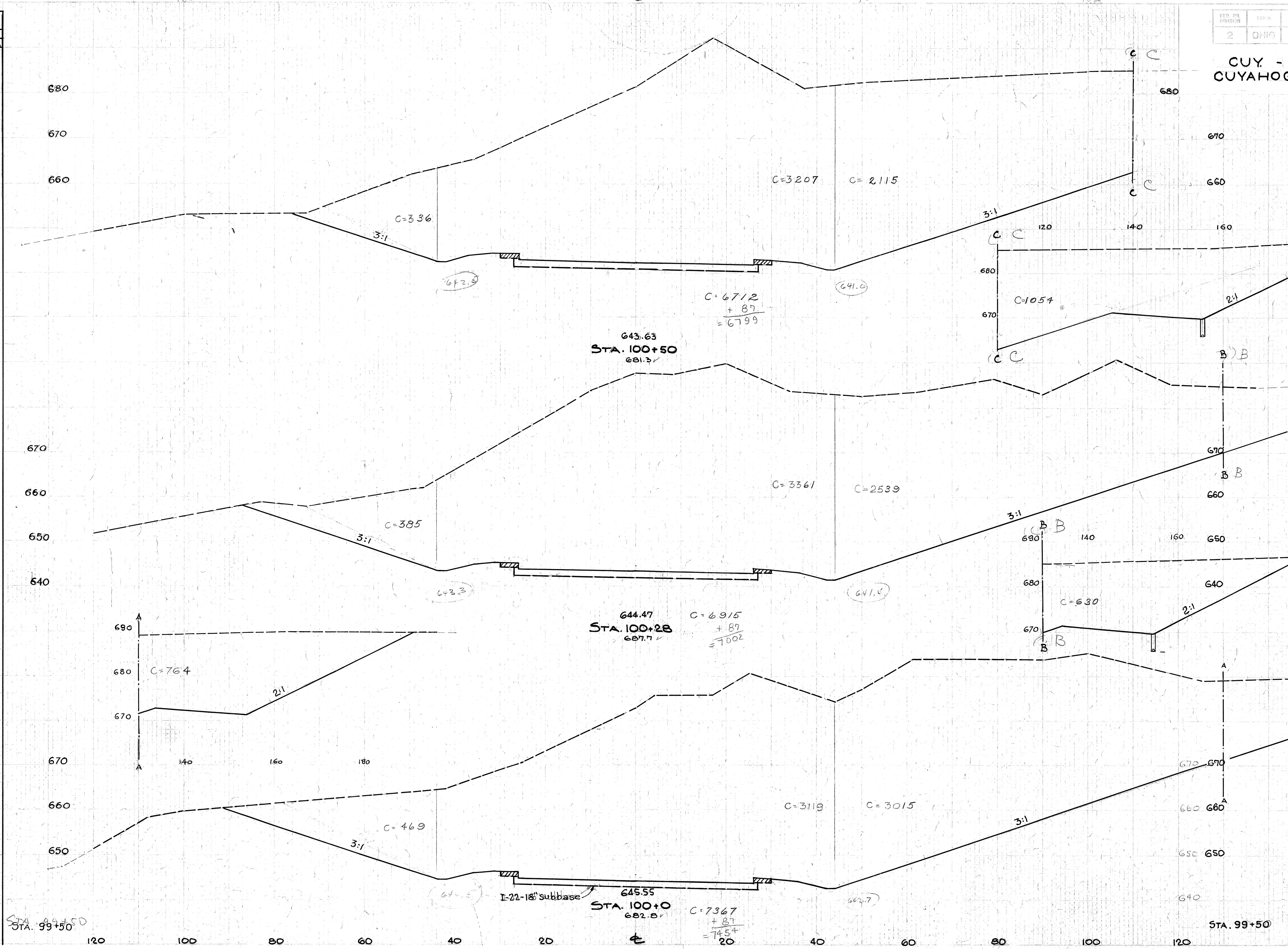
Seeding & Sodding	
Width Lin. Ft.	Area Sq. Yds.
225	
	1261
229	
	1003
240	



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
7539	0		
		13190	0
6706	0		
		13235	0
7587	0		

X-SECTIONS STA. 99+00 TO STA. 99+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY



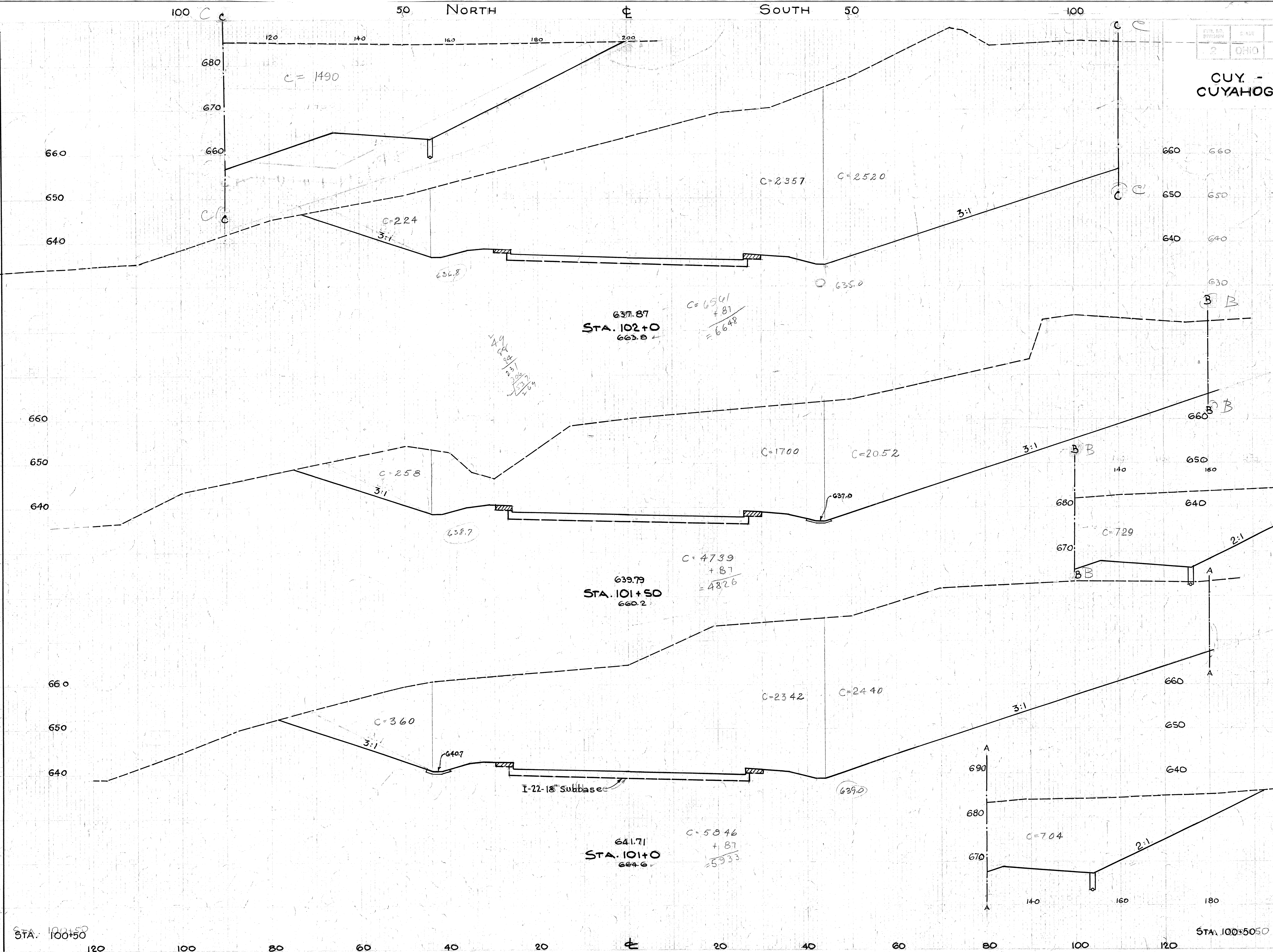
Seeding & Sodding Width Lin. ft.	Area Sq. Yds.
220	
	549
229	
	722
235	
	1278
225	

Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Sta. 100+50	6799	0		
			5623	0
Sta. 100+28	7,002	0		
			7496	0
Sta. 100+0	7454	0		
			13883	0
Sta. 99+50	7539	0		

X-SECTIONS STA. 100+00 TO STA. 100+50

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin.ft.	Area Sq.Yds.
218	
	1222
222	
	1236
223	
	1231
220	

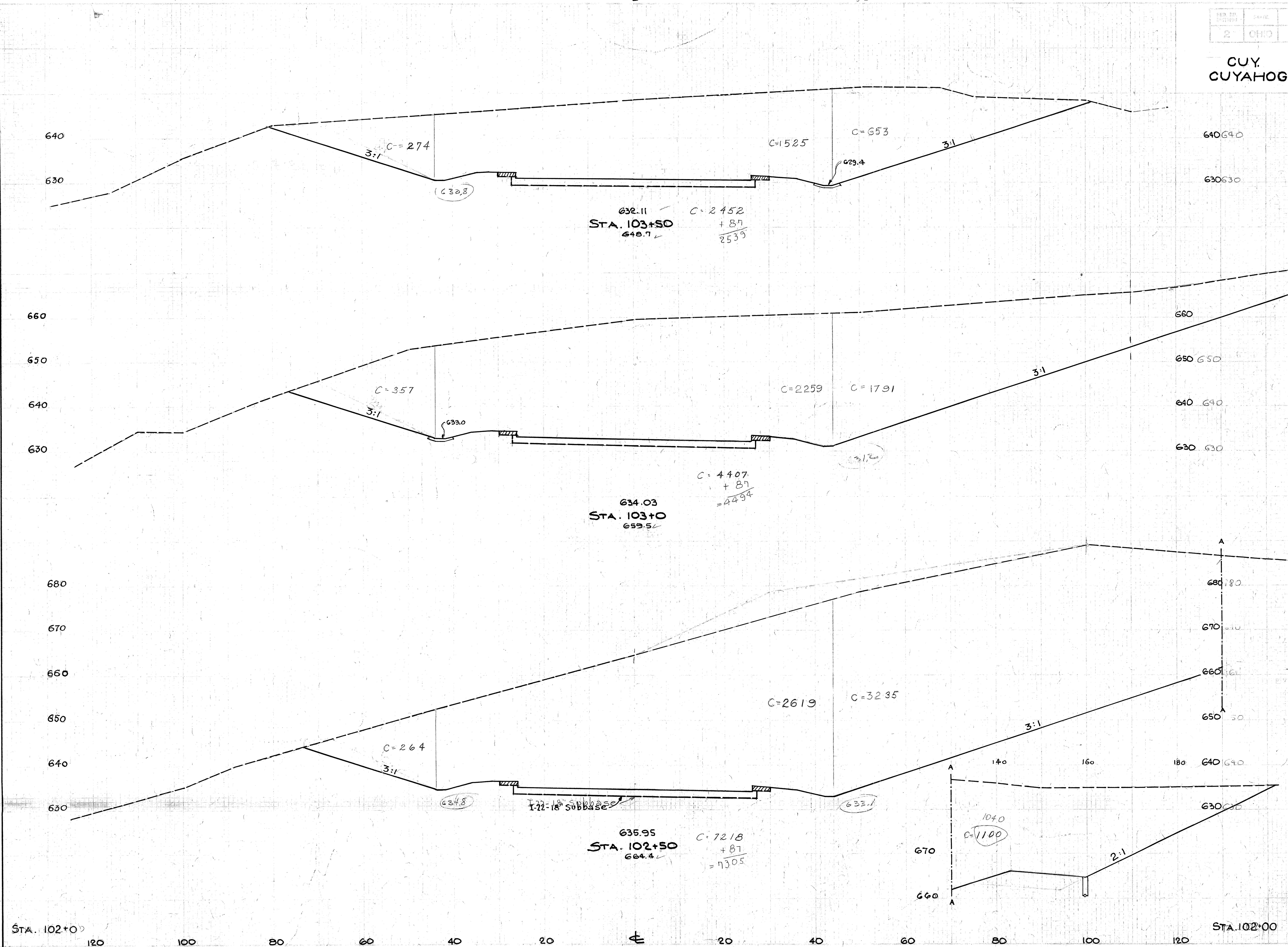


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
6678	0		
		10,652	0
4826	0		
		9963	0
5933	0		
		11790	0
6799	0		

X-SECTIONS STA. 101+00 TO STA. 102+00

CUY. 17 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
127	
	~~1464~~ 908
200	
	1189
228	
	1239
218	

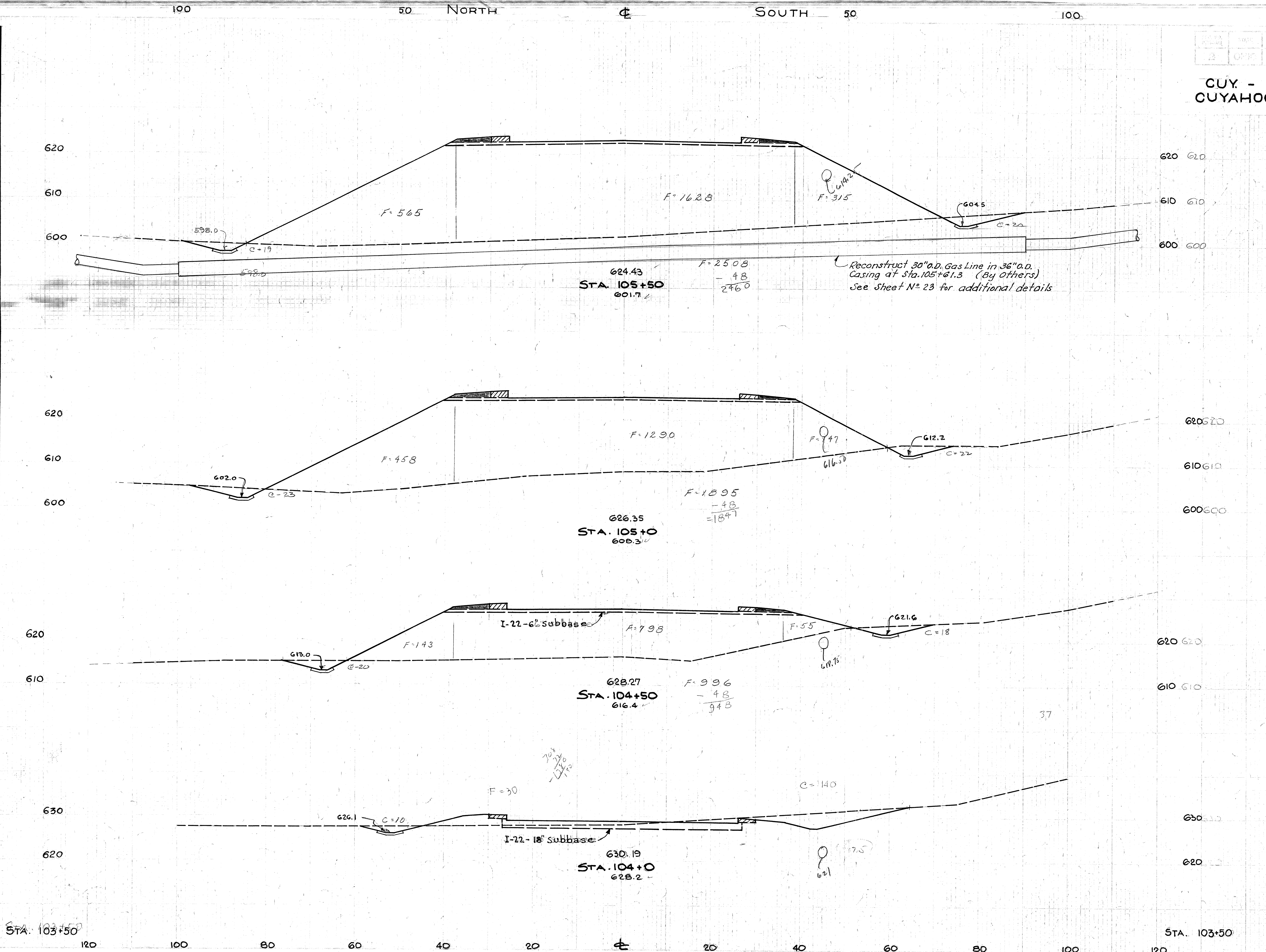


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
2539	0		
		6512	0
4494	0		
		10879	0
7245	0		
		12892	0
STA. 102+00 6678	0		

X-SECTIONS STA. 102+50 TO STA. 103+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin.ft.	Seeding & Sodding Area Sq.Yds.
141	
	725
120	
	589
92	
	436
65	
	533
127	



Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
105+50	39	2460		
			78	3,988
105+0	45	1847		
			77	2588
104+50	38	948		
			174	906
104+0	150	30		
			2240	28
103+50	2539	0		

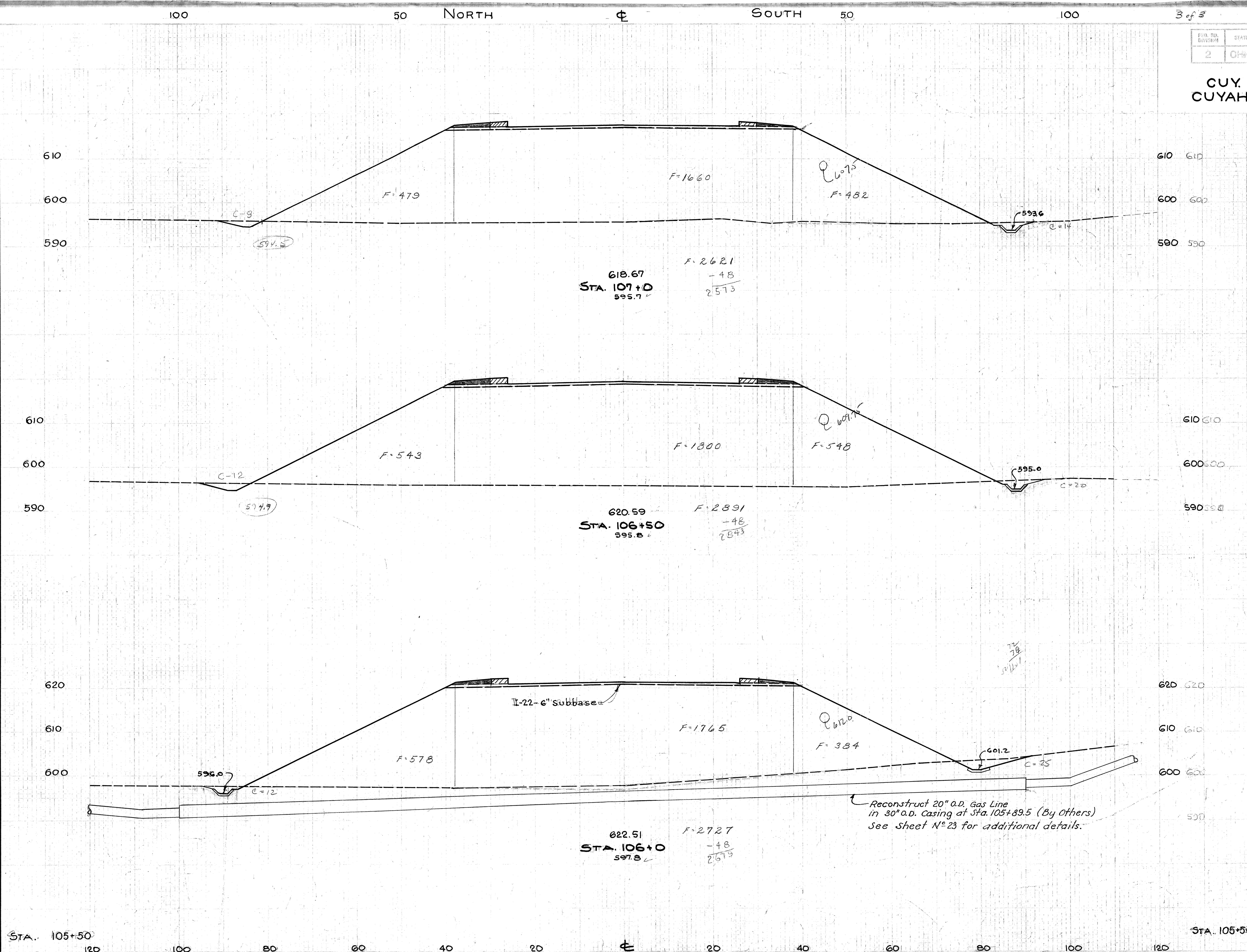
EXCAVATION = 119,284 Cu. Yds.
EMBANKMENT = 41,470 Cu. Yds.
EMB. + 22% = 50,593 Cu. Yds.

X-SECTIONS STA. 104+00 TO STA. 105+50

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
139	
	794
147	
	797
140	
	781
141	



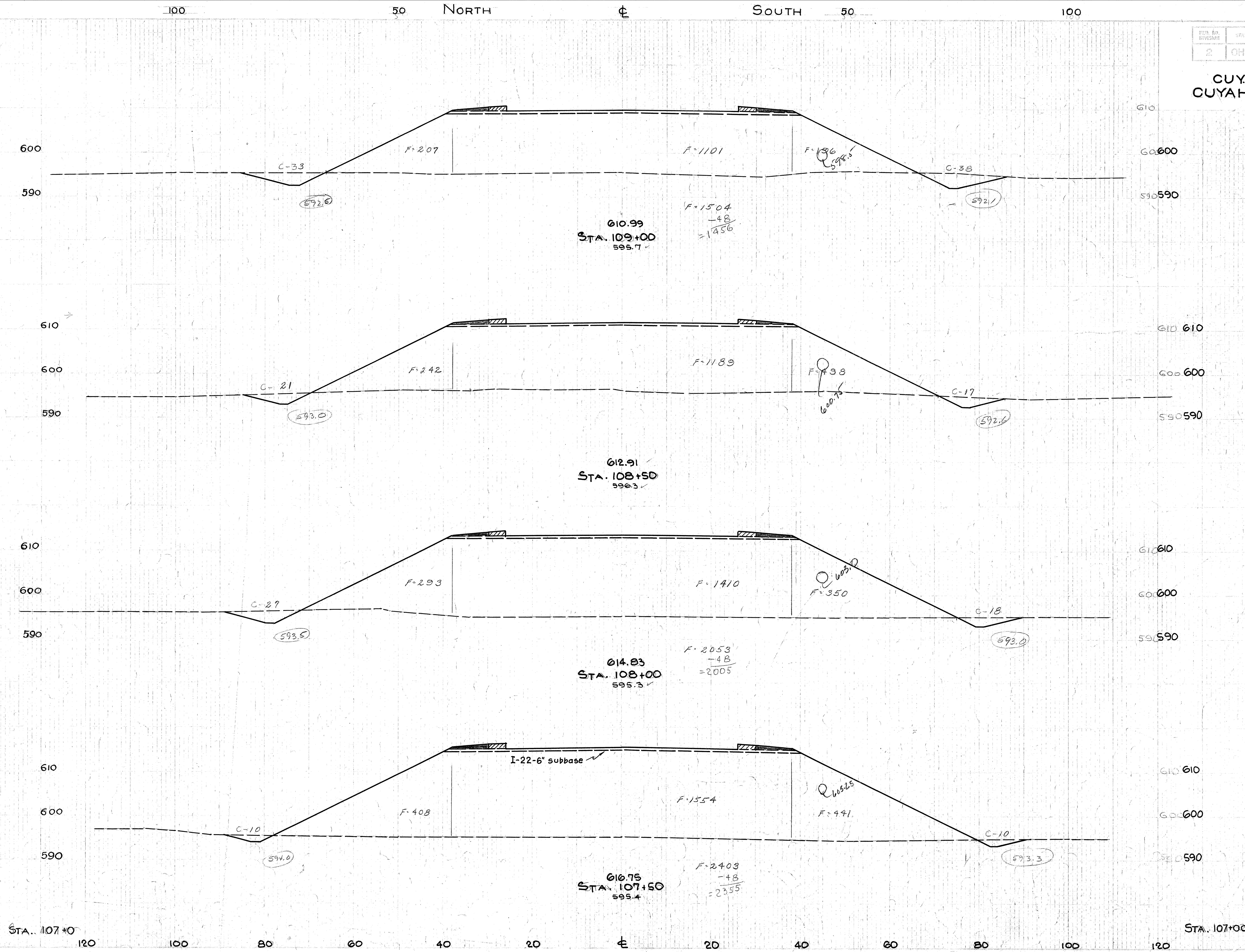
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
23	2573		
		51	5,015
32	2843		
		64	5,113
37	2679		
		71	4,758
39	2460		

STA. 105+50

X-SECTIONS STA. 106+00 TO STA. 107+00

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Area Sq. Yds.
121	
	672
121	
	697
130	
	725
1131	
	750
1139	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
71	1456		
		101	3,140
38	1881		
		77	3599
45	2005		
		60	4,037
20	2355		
		40	4,663
23	2573		

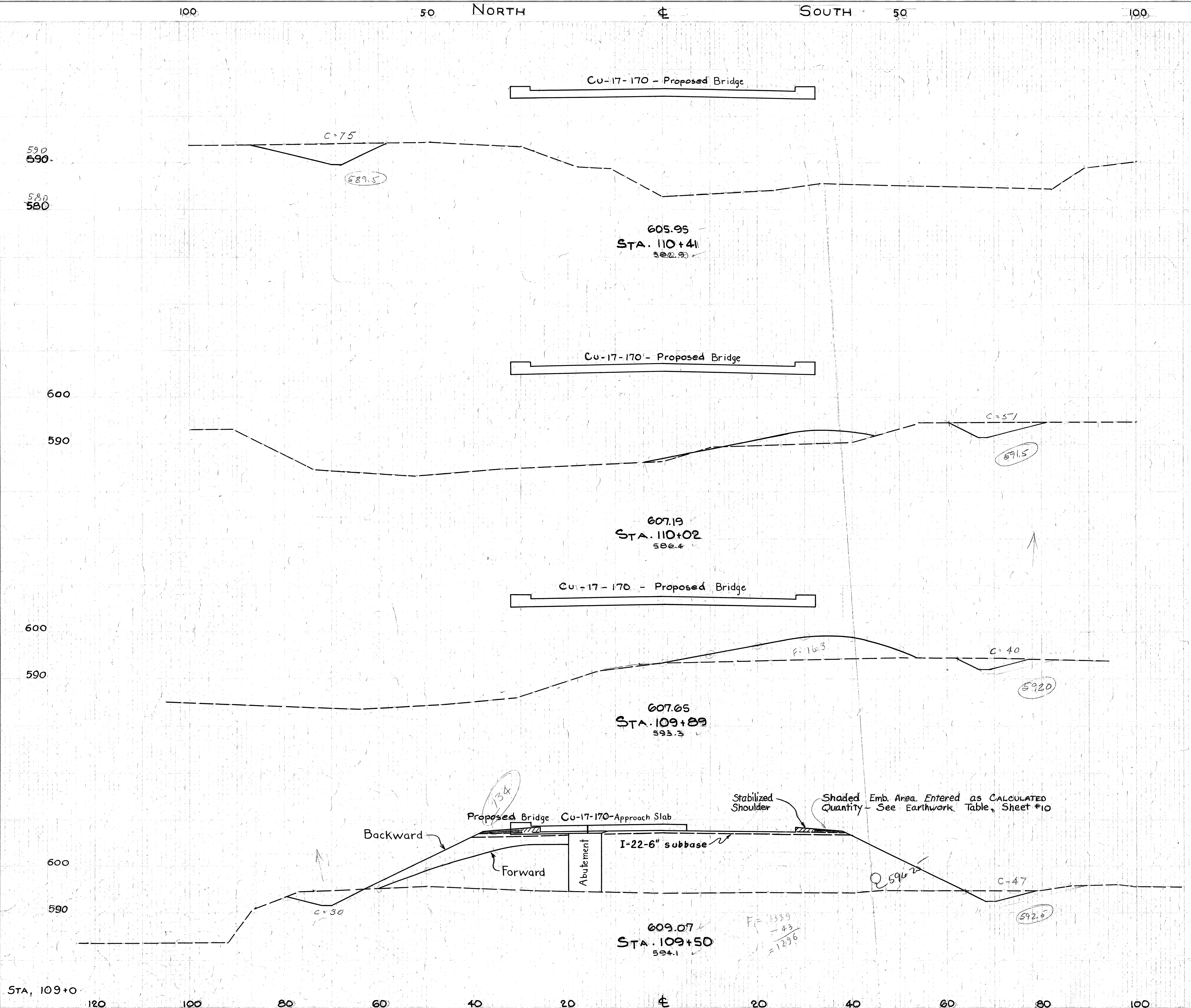
X-Section Sta. 107+50 to Sta. 109+00

115
169

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
31	
	234
77	
	111
77	
	412
113	
	650
1121	

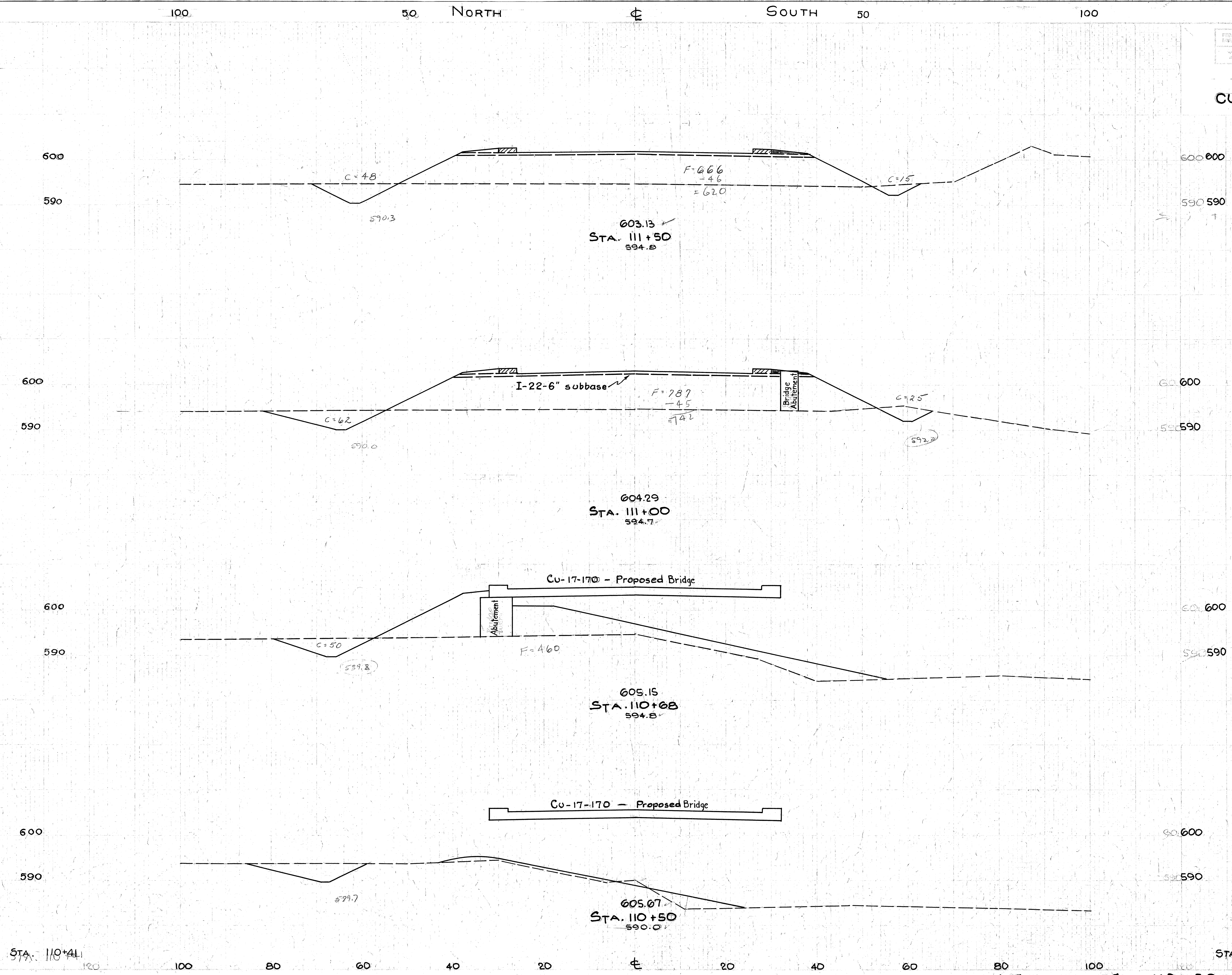
Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Sta. 110+41	75	0		
			91	43
Sta. 110+02	51	60		
			22	54
Sta. 109+89	40	163		
			85	1032
Sta. 109+50 Forward	77	1265		
Sta. 109+50 Backward	77	1296		
			137	2549
Sta. 109+00	71	1456		



X-SECTION STA. 109+50 TO STA. 110+41

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Area Sq. Yds.
80	
	486
95	
	412
137	
	234
97	
	64
31	



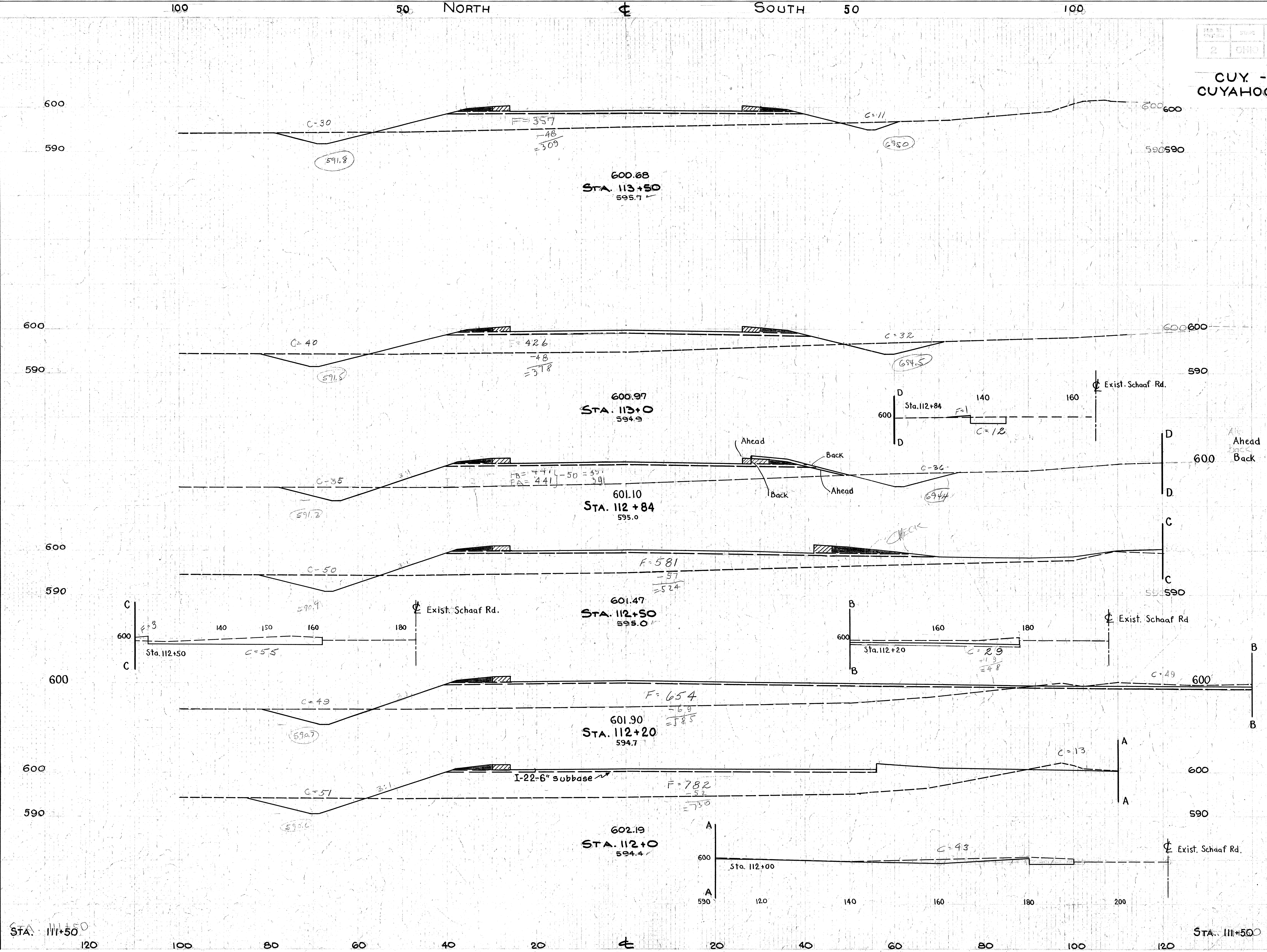
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
63	620		
		139	1261
87	742		
		54	712
5	460		
		23	173
64	58		
		152	63
75	0		

STA. 110+41

X-SECTION STA. 110+50 TO STA. 111+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft.	Seeding & Sodding Area Sq. Yds.
82	
	497
97	
	151
73	
	395
136	
	315
53	
	261
182	
	728
80	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
41	309		
		105	636
72	378		
		35	228
47 (Ahead)	391		
47 (Back)	397		
		96	580
105	524		
		140	616
146	585		
		94	487
107	730		
		157	1250
63	620		

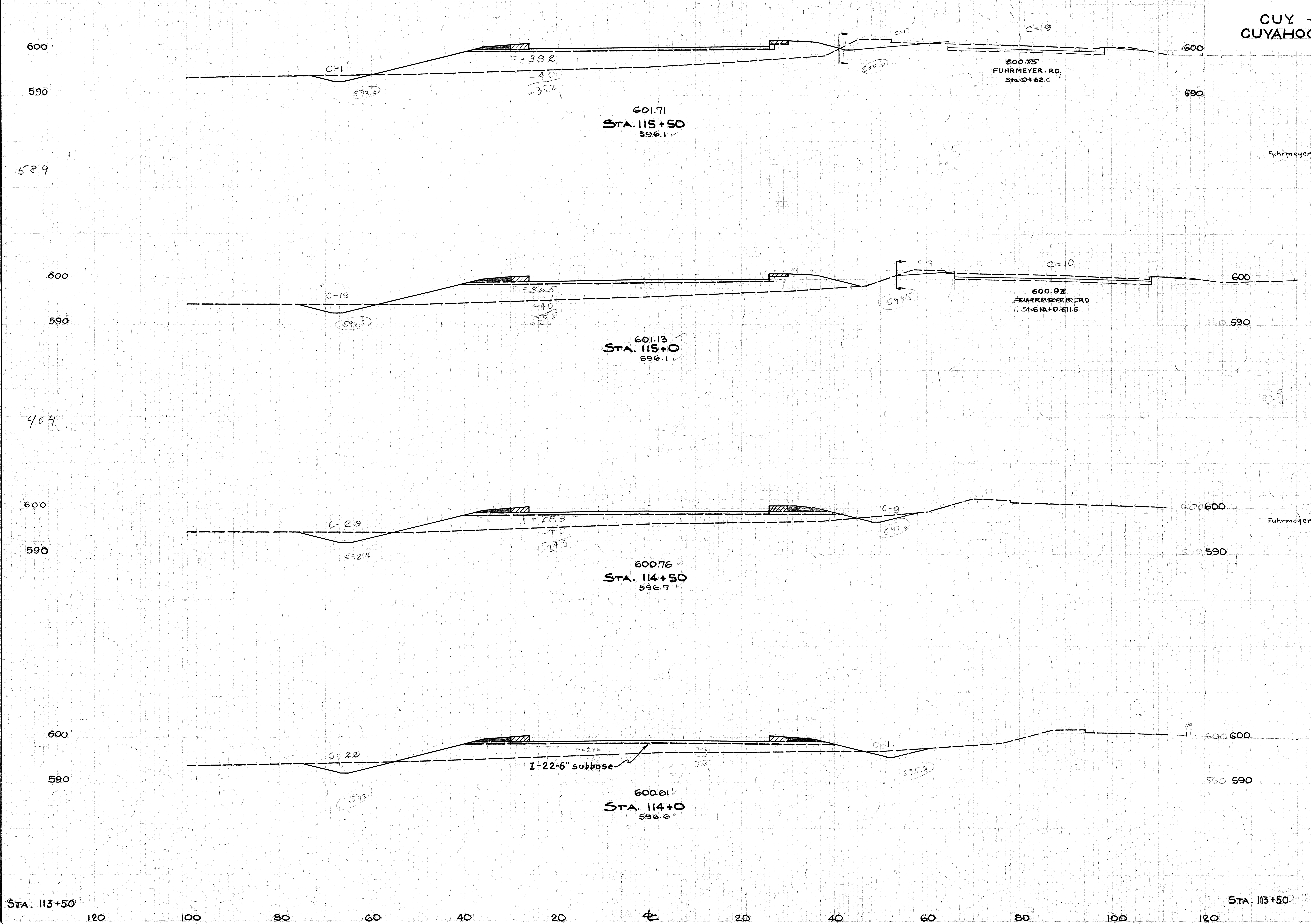
X- SECTIONS STA. 112+00 TO STA. 113+50

2 OHIO

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding	
Width Lin. ft.	Area Sq. Yds.
117	49
	589
80	16
	404
76	
	428
78	
	444
82	

was 1628
1865



	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	11	352		
Fuhrmeyer	19	0		
			18	627
			19	0
	19	325		
	10	0		
			53	532
			8	0
	38	249		
Fuhrmeyer	0	0		
			66	451
	33	238		
			69	507
	41	309		

EXCAVATION = 6500 Cu. Yds.
EMBANKMENT = 17343 Cu. Yds.
EMB. +22% = 21158 Cu. Yds.

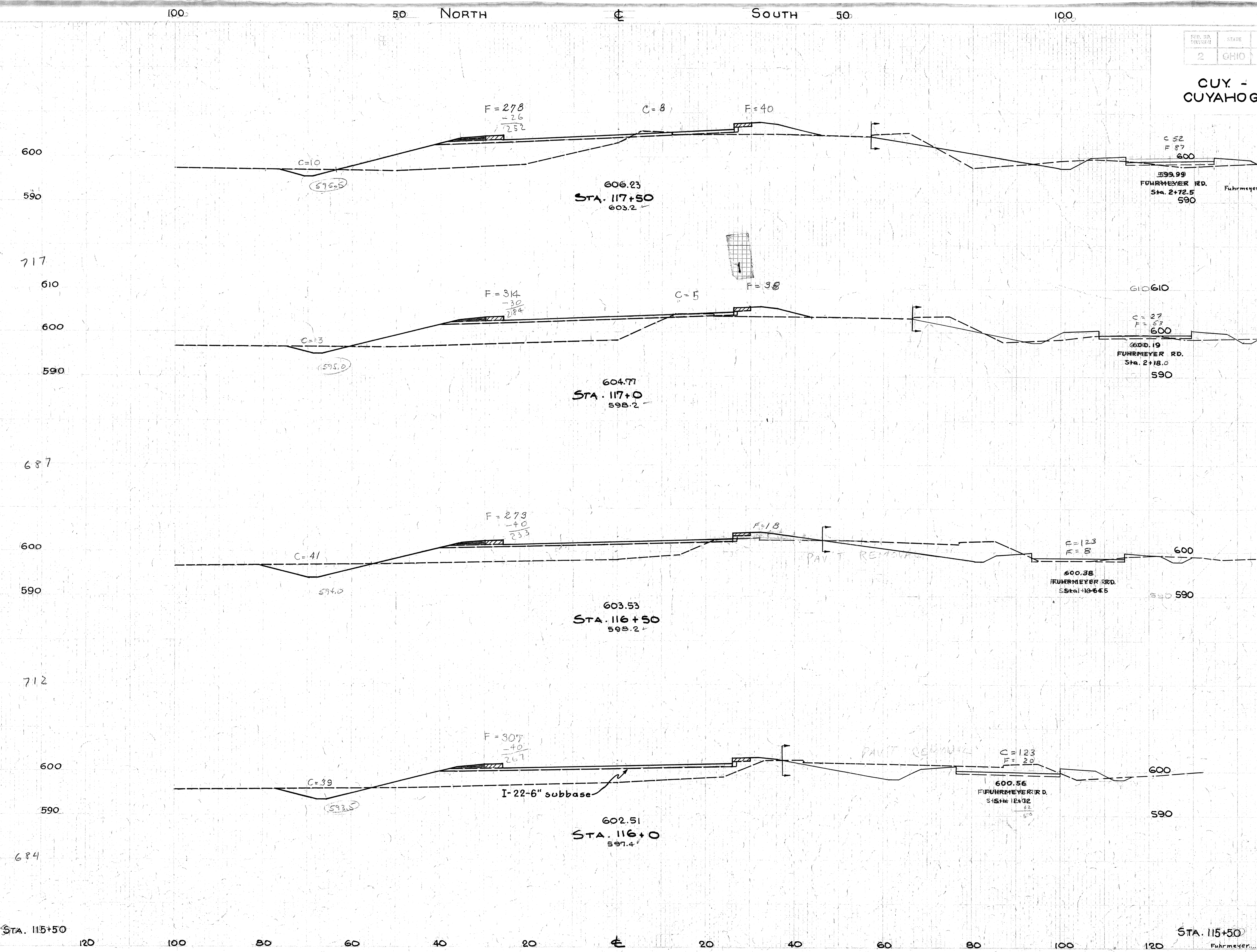
X-SECTIONS STA. 114+00 TO STA. 115+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

CUY. - 17 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin.ft.	Area Sq.Yds.
133	
68	
	717
	370
104	
44	
	687
	340
121	
56	
	712
	348
115	
49	
	684
	312
117	
49	

was 1430

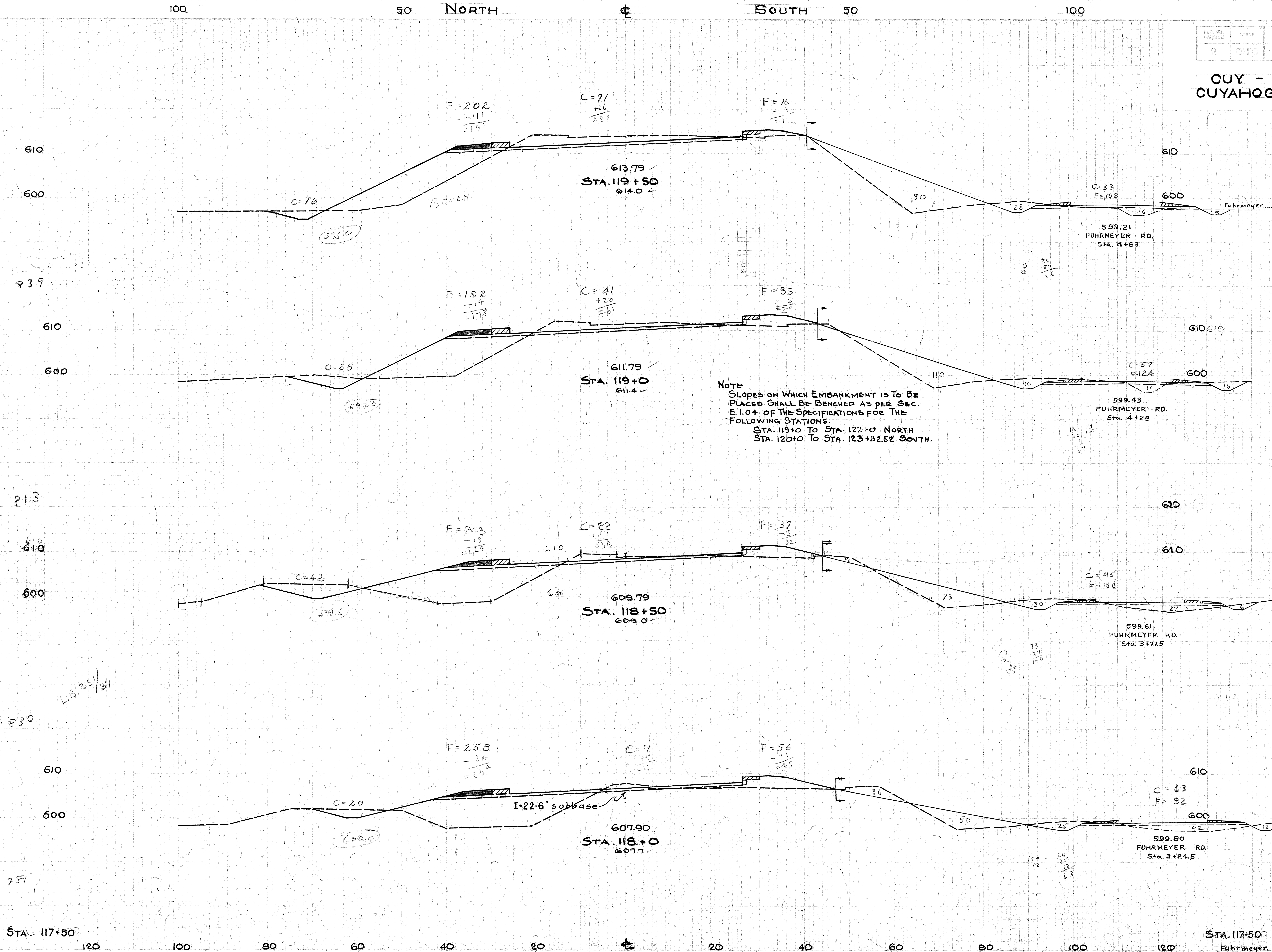


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
18	292		
52	87		
		34	569
		81	141
18	322		
27	53		
		72	574
		149	59
59	233		
123	8		
		92	463
		239	27
39	267		
123	20		
		47	573
		131	19
11	352		
19	0		

X-SECTIONS STA. 116+00 TO STA. 117+50

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. ft	Area Sq. Yds.
136 / 71	
	839 / 485
136 / 73	
	813 / 449
141 / 73	
	830 / 477
134 / 75	
	789 / 445
133 / 68	

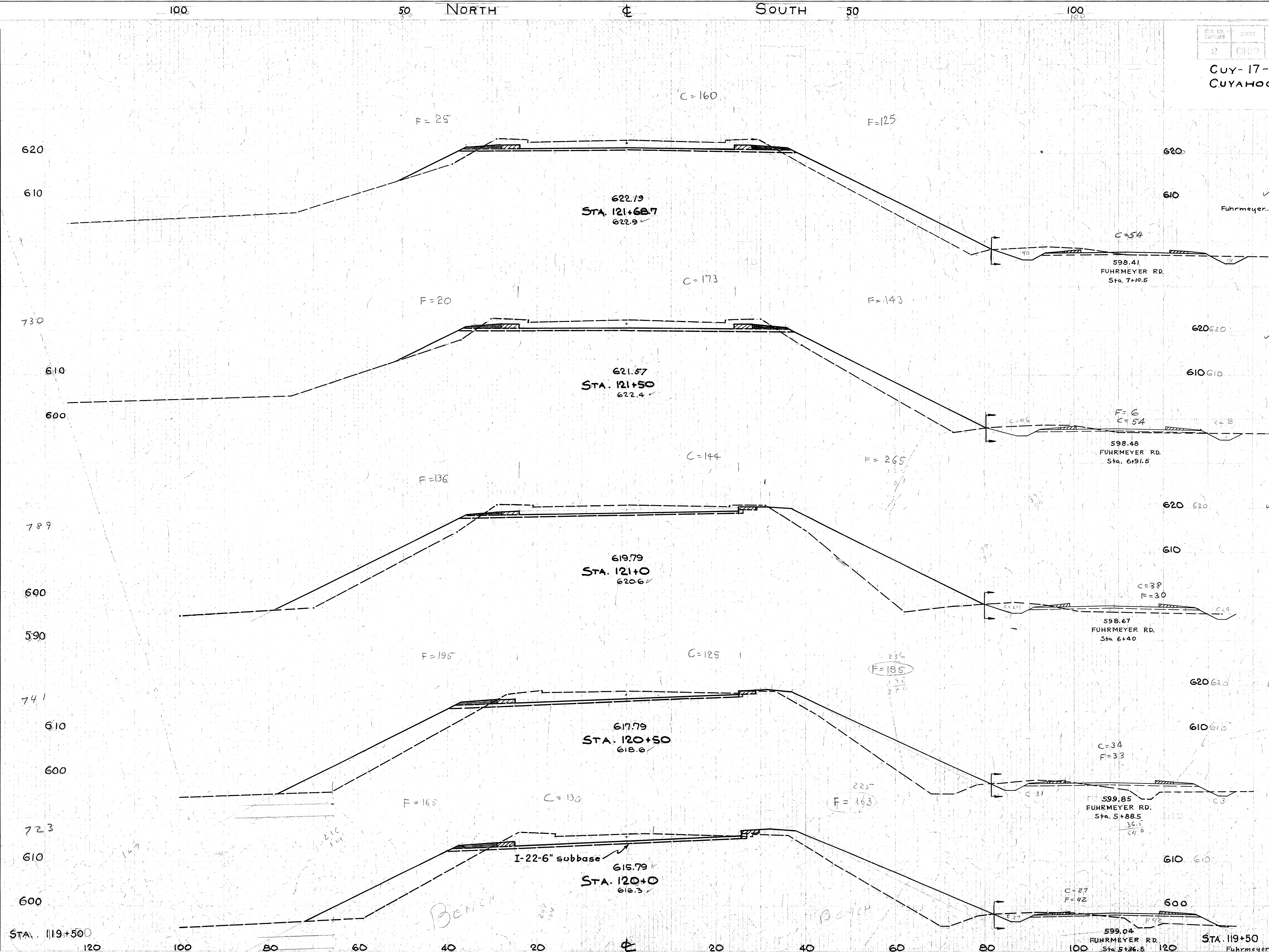


End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
113 / 33	204 / 106		
		187 / 92	381 / 336
89 / 57	207 / 124		
		158 / 95	429 / 210
81 / 45	256 / 100		
		105 / 106	496 / 188
32 / 63	279 / 92		
		47 / 109	529 / 173
18 / 52	292 / 87		

Was 1417 3271

X-SECTIONS STA. 118+00 TO STA. 119+50

Cuy- 17- 14.99
Cuyahoga County



Seeding & Sodding Width Lin.Ft.	Seeding & Sodding Area Sq.Yds.
120 / 36	
	730 / 186
143 / 31	
	789 / 175
139 / 30	
	741 / 160
126 / 26	
	723 / 156
131 / 104 / 27	
144 / 14	469

was 2197
2452

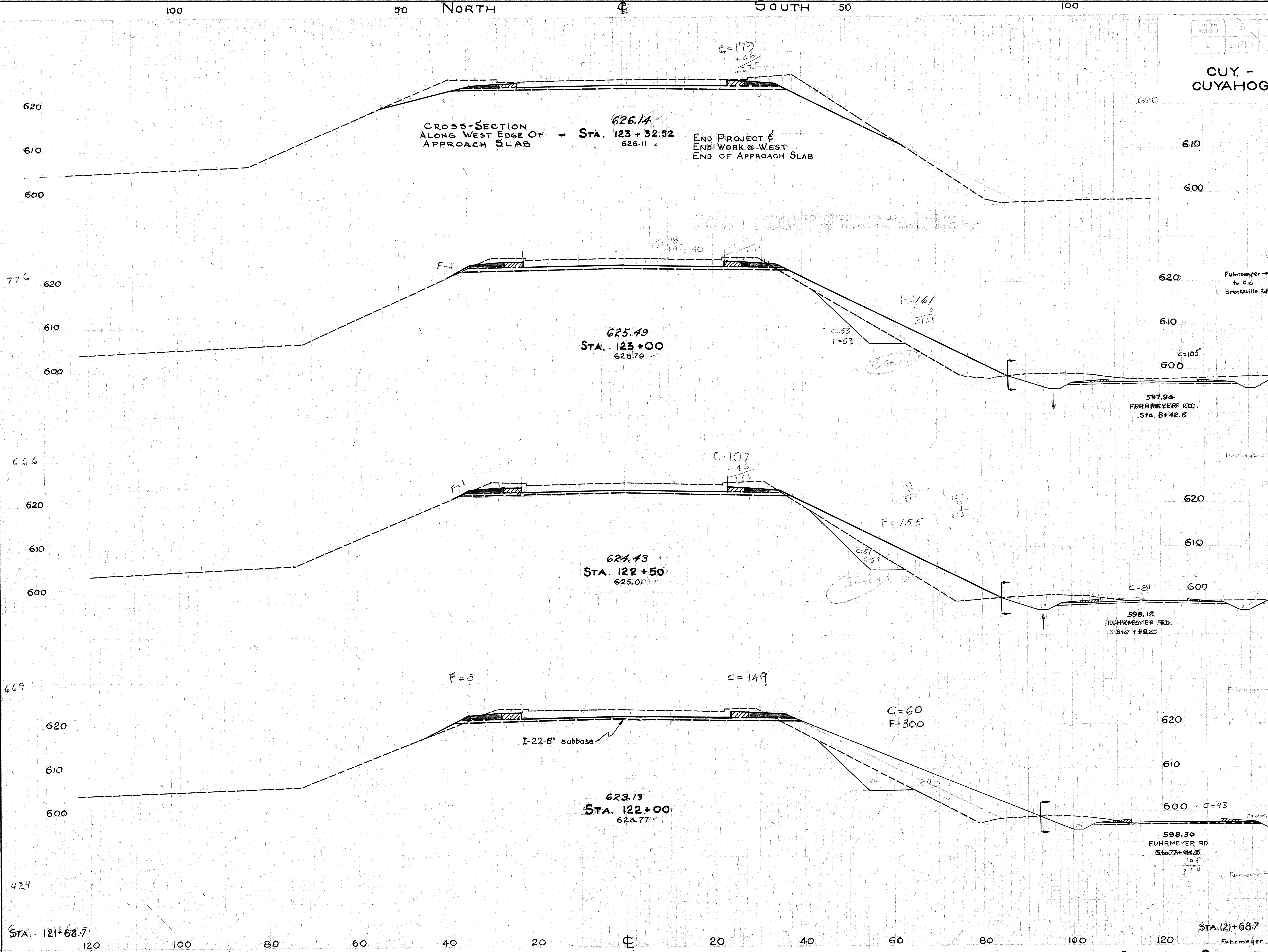
Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
121+68.7 (Fuhrmeyer)	160 / 54	150 / 0		
			115 / 39	109 / 2
121+50	173 / 54	163 / 6		
			294 / 85	522 / 33
121+0	144 / 38	401 / 30		
			249 / 67	723 / 52
120+50	125 / 34	380 / 33		
			236 / 59	712 / 713 / 72
120+0	130 / 27	390 / 42		
			225 / 58	493 / 139
119+50 (Fuhrmeyer)	113 / 33	204 / 106		

X-Sections Sta. 120+00 to Sta. 121+68.7

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
74	
	776 (500 / 276)
123 (44)	
	666 (238 / 428)
115 (41)	
	669 (238 / 431)
125 (45)	
	424 (139 / 285)
120 (36)	

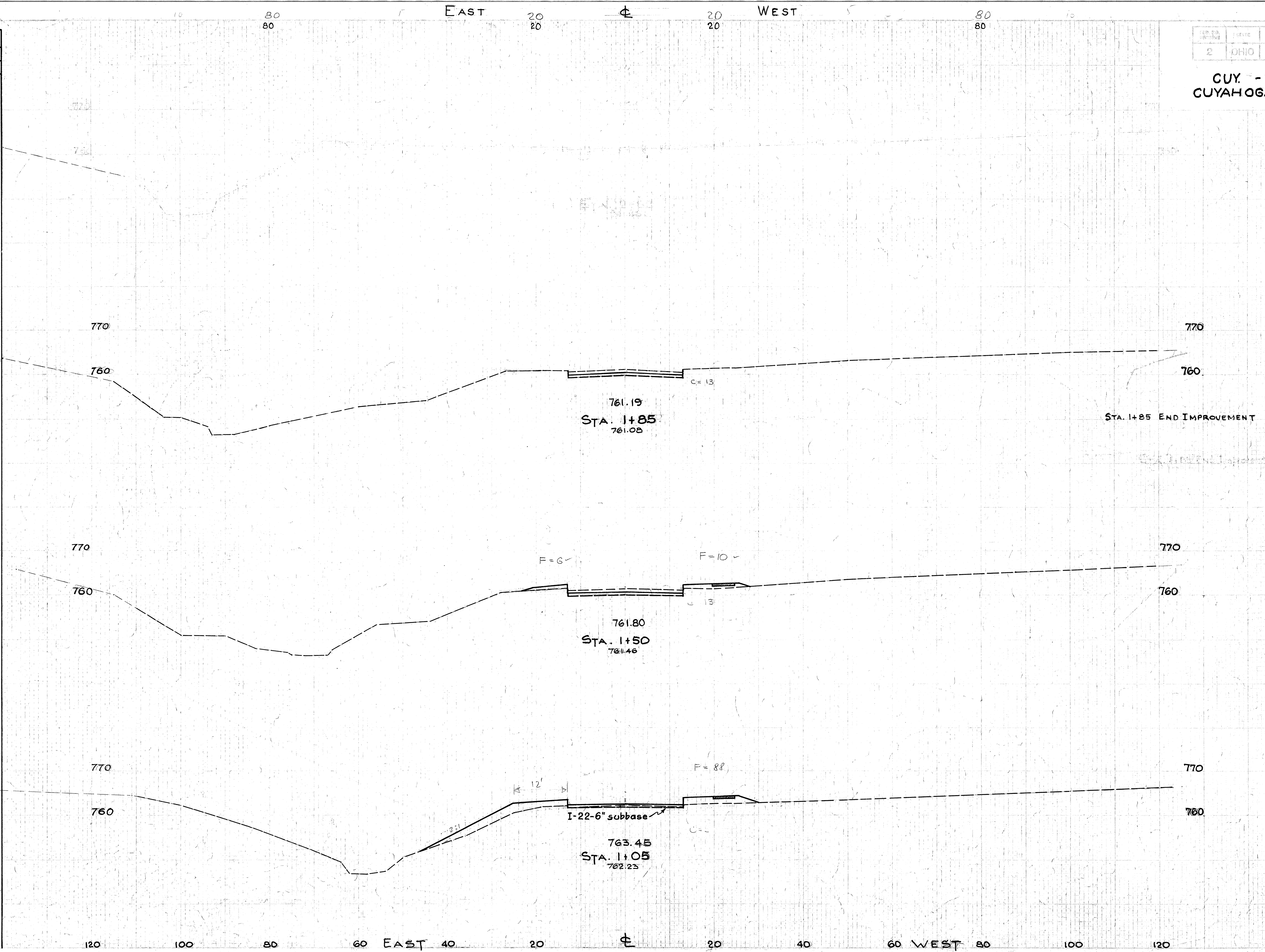
was 1420
2535



Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Sta. 123+32.52	225	0		
			270	137
			398	0
Sta. 123+00	193	212		
	105	0		
			372	392
			152	0
Sta. 122+50	210	213		
	81	0		
			388	482
			112	0
Sta. 122+00	209	308		
	43	0		
			258	87
			38	0
Sta. 121+68.7	160	150		
Fuhrmeyer	54	0		

CUY. - 17 - 1499
CUYAHOGA COUNTY

Seeding & Sodding Width Lin. Ft.	Seeding & Sodding Area Sq. Yds.
	43
22	
	1178
49	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
13.0	–		
		17	11
13	16		
		15	87
5	88		

End Work Sta. 1+85

Excavation = 32 Cu. Yds.
Embankment = 98 Cu. Yds.
Emb. + 22% = 120 Cu. Yds.

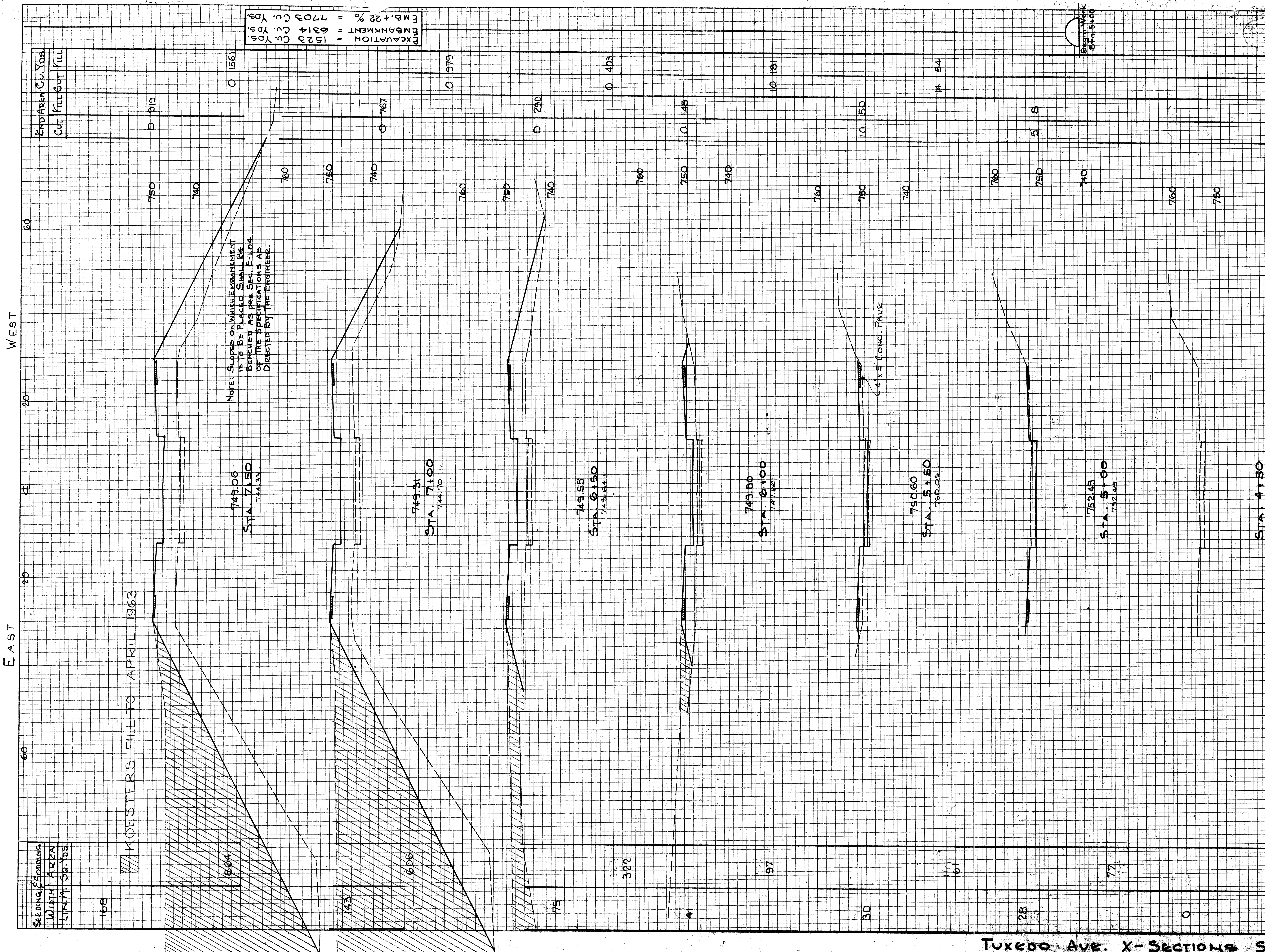
Begin Work Sta. 1+05

X-Sections W. 10th St. Sta. 1+00 to Sta. 2+50

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

124 / 169

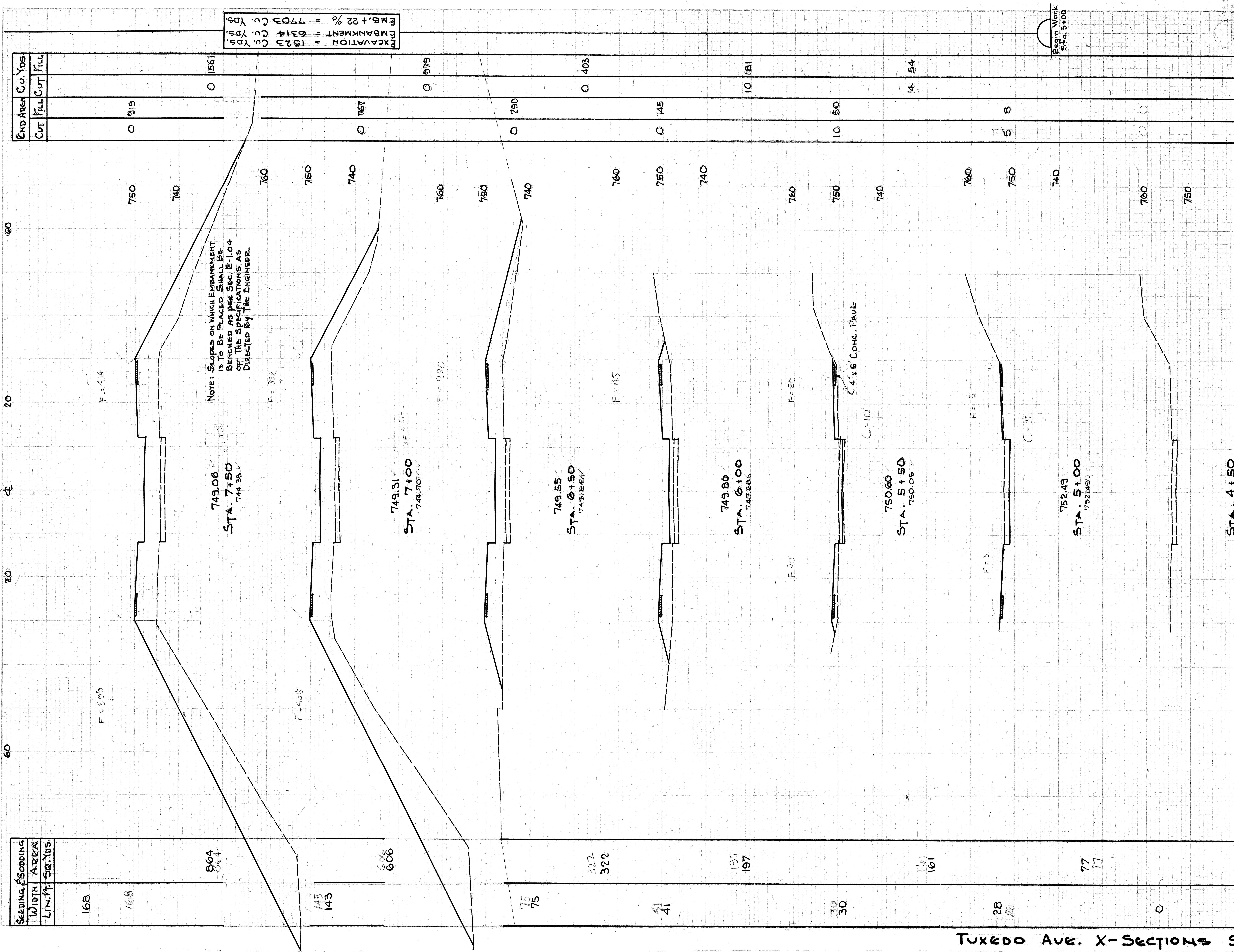
CUY. - 17 - 14.99
CUYAHOGA COUNTY



TUXEDO AVE. X-SECTIONS STA. 4+00 TO STA. 7+50

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		

CUY. - 17 - 14.99
CUYAHOGA COUNTY



TUXEDO AVE. X-SECTIONS STA. 4+00 TO STA. 7+50

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

125
169

CUY-17-14.99
CUYAHOGA COUNTY

Tuxedo Ave. X-Sections Sta. 8+00 to Sta 10+00

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	SHEET
2	OHIO			125 / 169

CUY-17-14.99
CUYAHOGA COUNTY

TUXEDO AVE. X-SECTIONS STA. 8+00 TO STA 10+00

FED. RD. DIVISION	STATE	PROJECT	TOTAL SHEETS
2	OHIO		

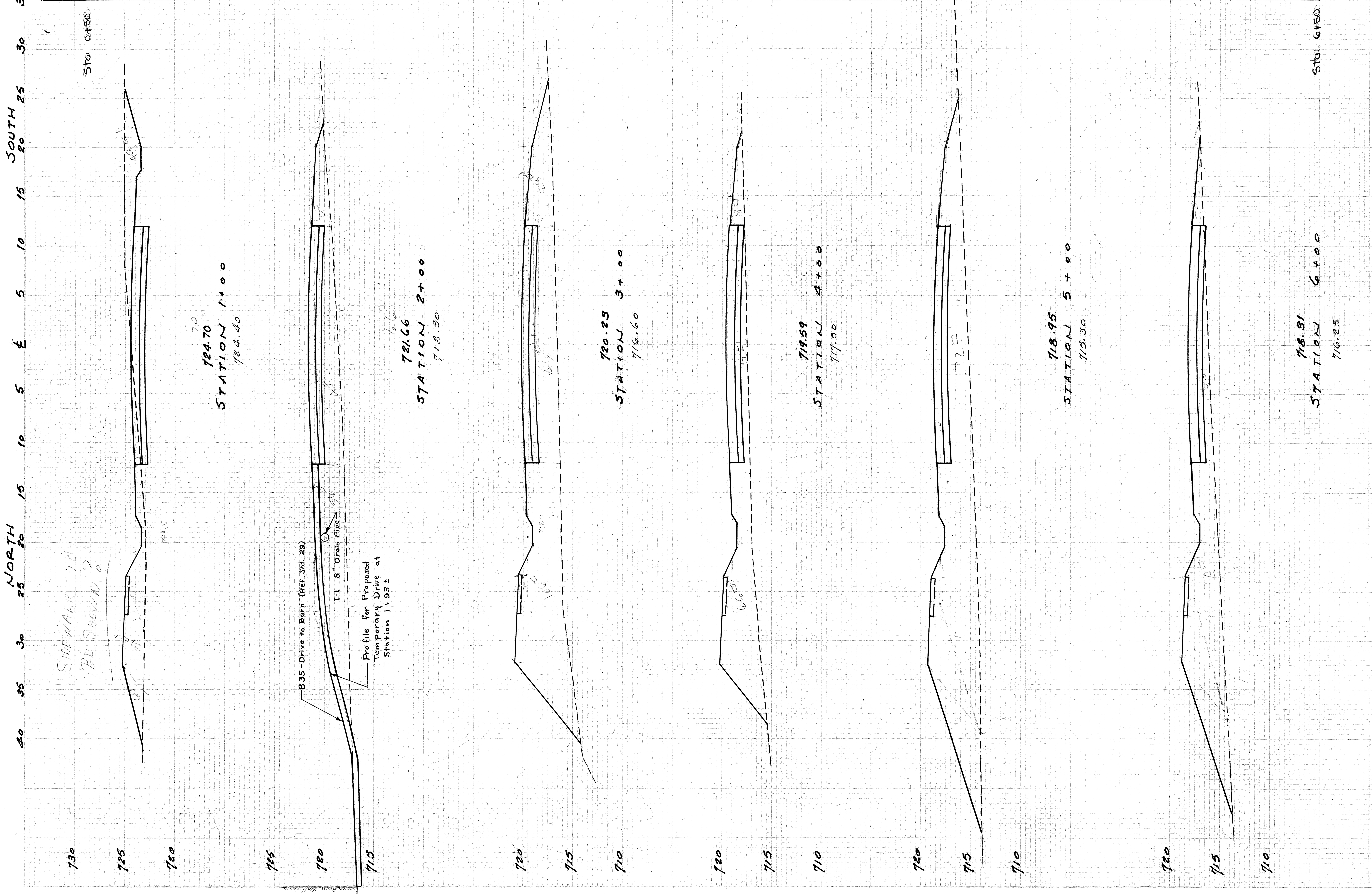
126
169

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Tuxedo Ave. X-Section Sta. 10+50 to Sta. 13+00

CUY. - 17 - 14.99
CUYAHOGA COUNTY

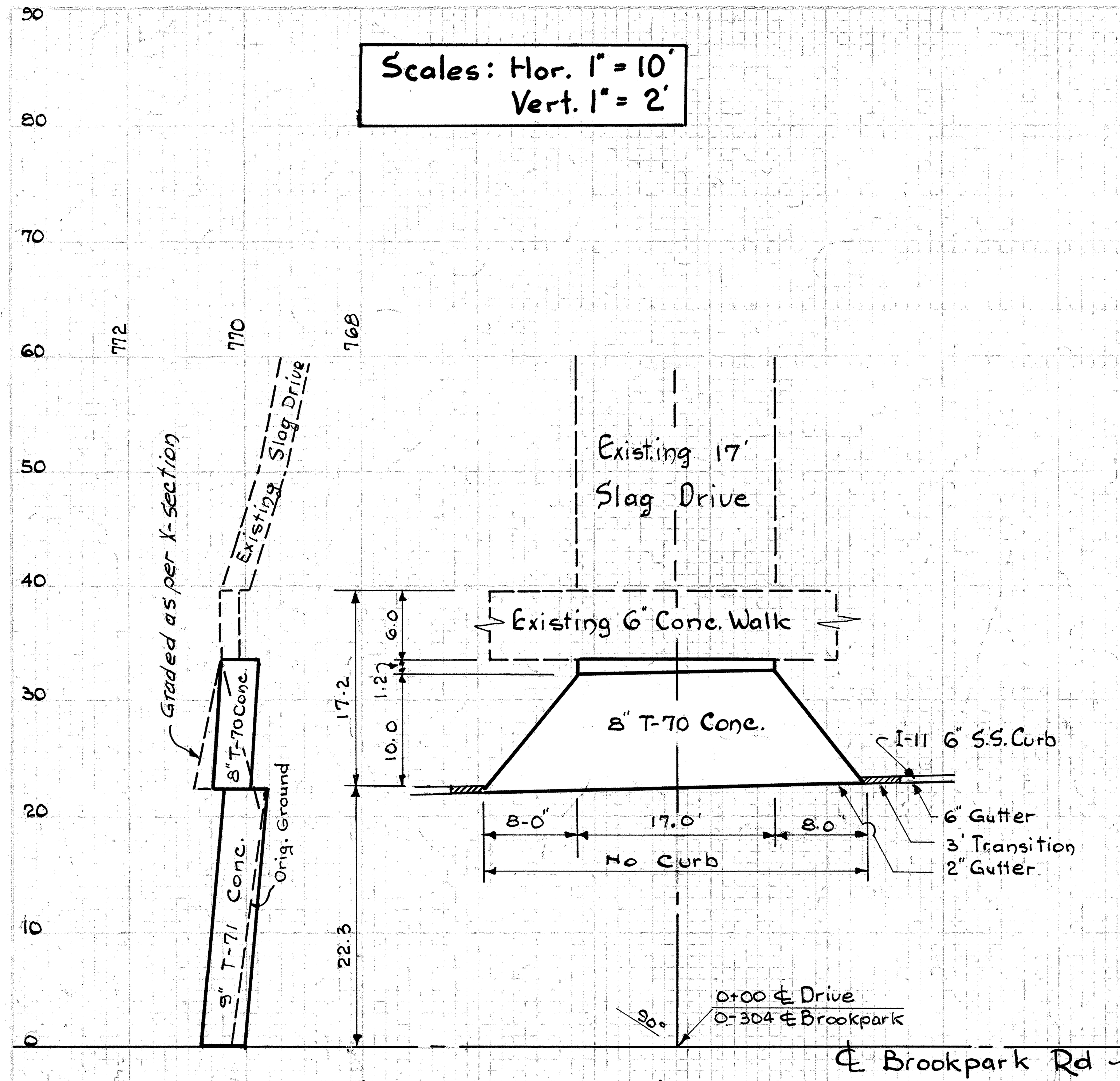
Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Sta. 0+50	0	0		
			45	69
1+00	49	37		
			91	263
2+00	0	105		
			0	528
3+00	0	180		
			0	493
4+00	0	86		
			0	526
5+00	0	198		
			0	565
6+00	0	107		
			0	99
Sta. 6+50	0	0		



X - SECTIONS TEMP. PAVEMENT - SCHAAF RD.

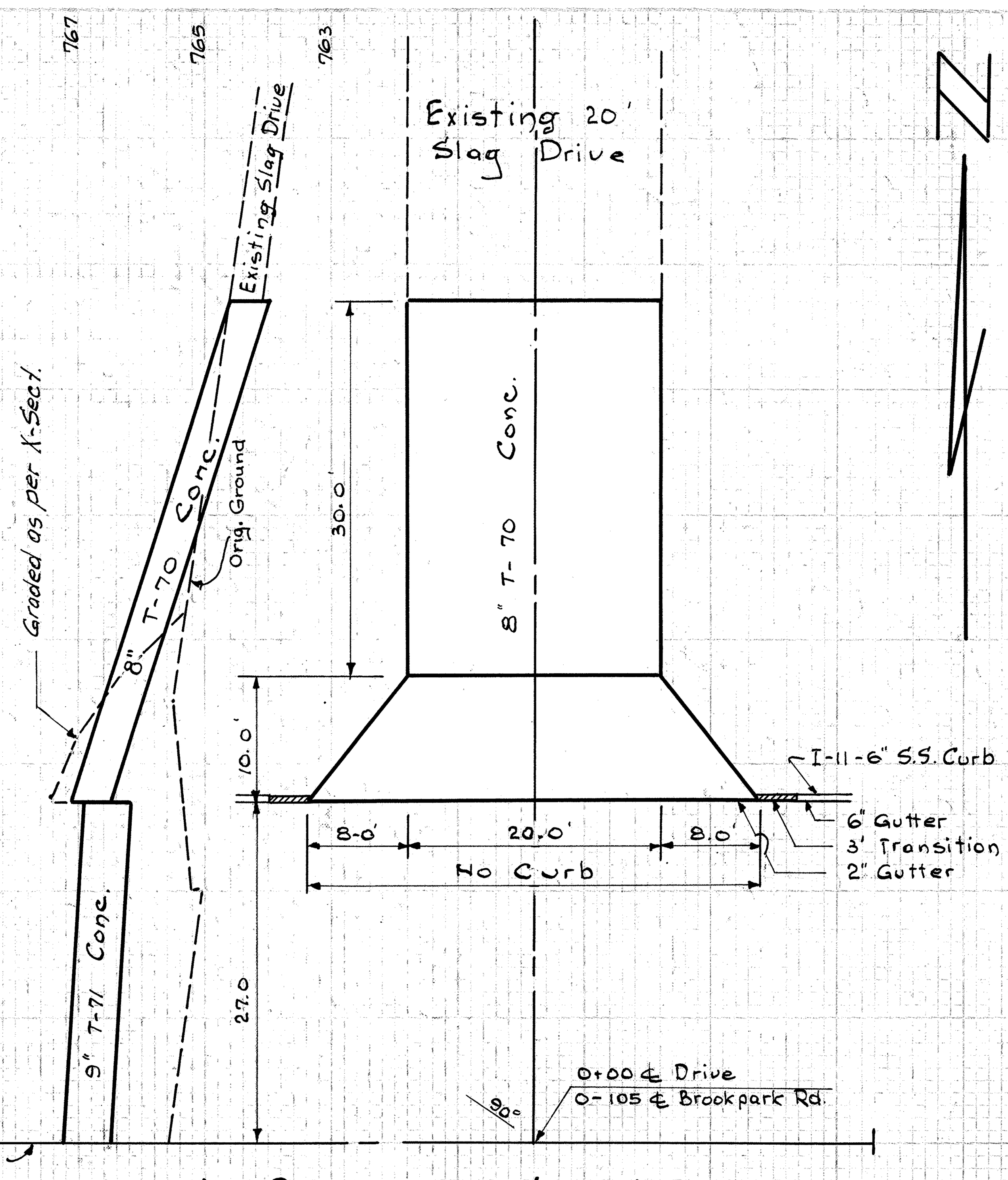
CUYAHOGA COUNTY
SEC. CUY.-17-14.99

Scales: Hor. 1" = 10'
Vert. 1" = 2'



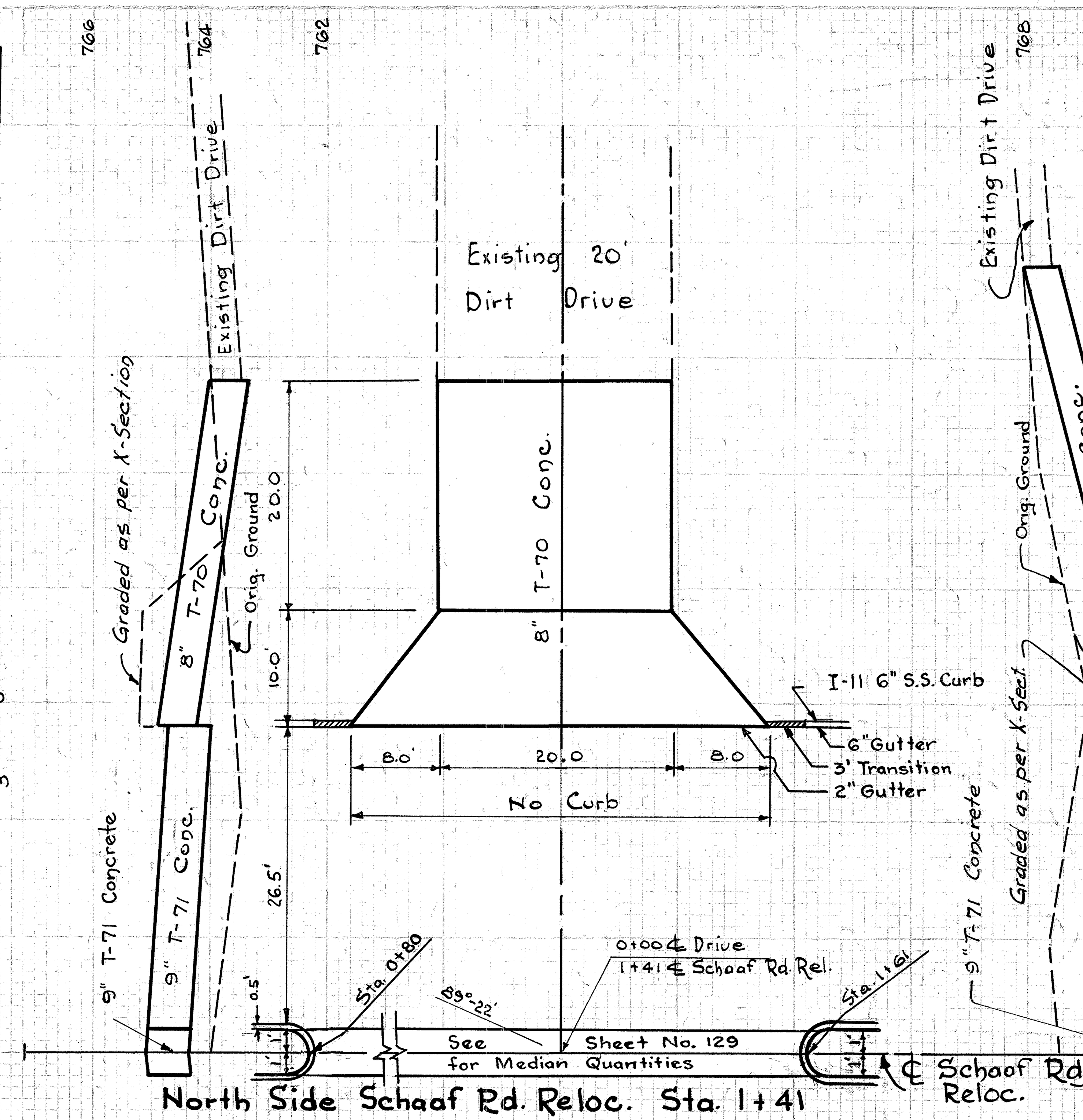
North Side Brookpark Rd. Sta. 0-304
Private Drive to Dust Control Co.
Item (1-A) Plan Sheet No. 13

T-70 8" Concrete	30.0	Sq. Yd.
E-1 Excavation	2.9	Cu. Yd.
E-1 Embankment - Deduction	5.1	Cu. Yd.
E-8 Removal of Existing Concr. Pave.	44.3	Sq. Yd.



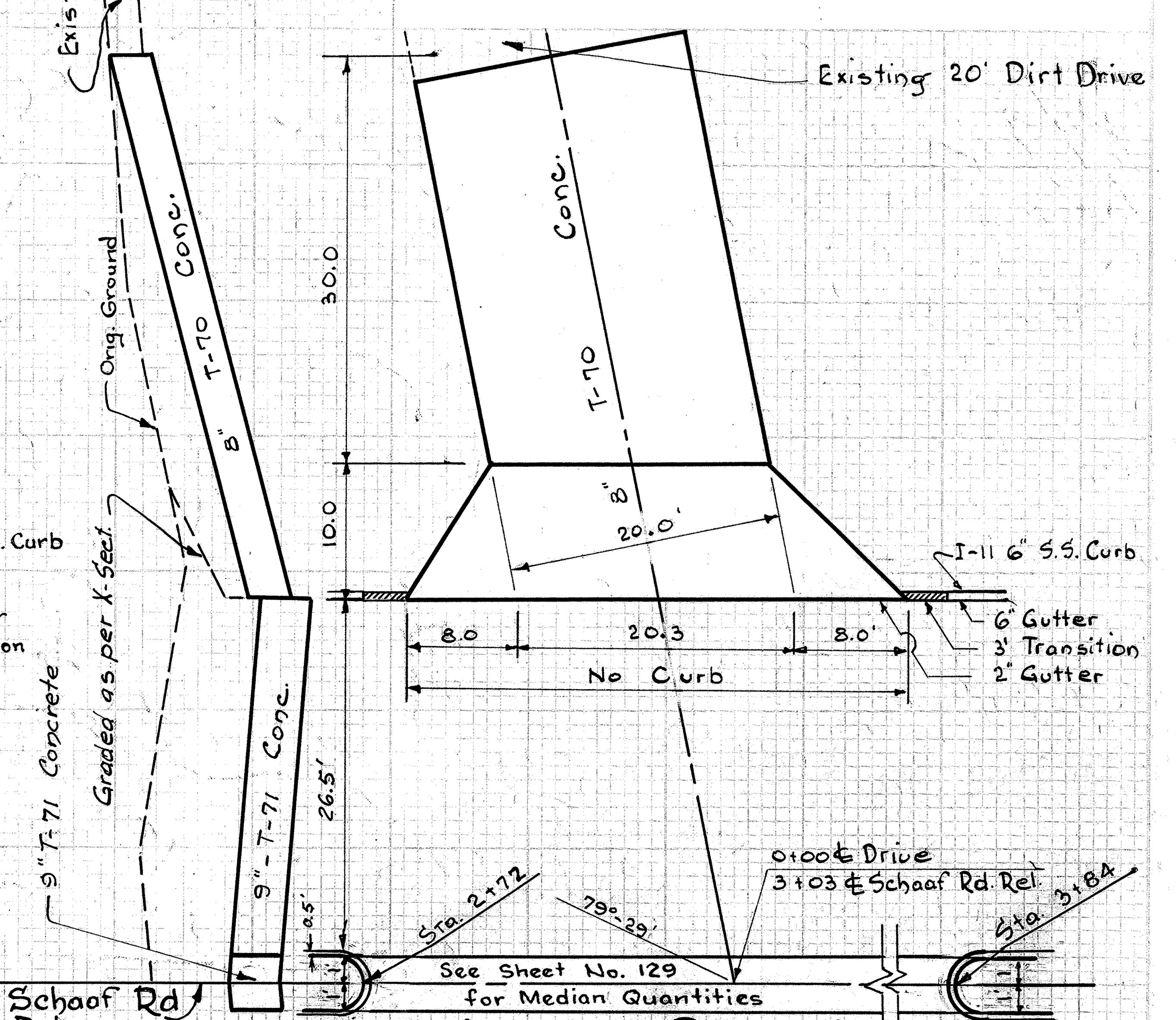
North Side Brookpark Rd. Sta. 0-105
Private Drive to Bede Products Co.
Item (2-A) Plan Sheet No. 13

T-70 8" Concrete	97.8	Sq. Yd.
E-1 Excavation	4.4	Cu. Yd.
E-1 Embankment	0.6	Cu. Yd.
E-1 Embankment - Deduction	9.4	Cu. Yd.
E-8 Removal of Existing Concr. Pave.	35.1	Sq. Yd.



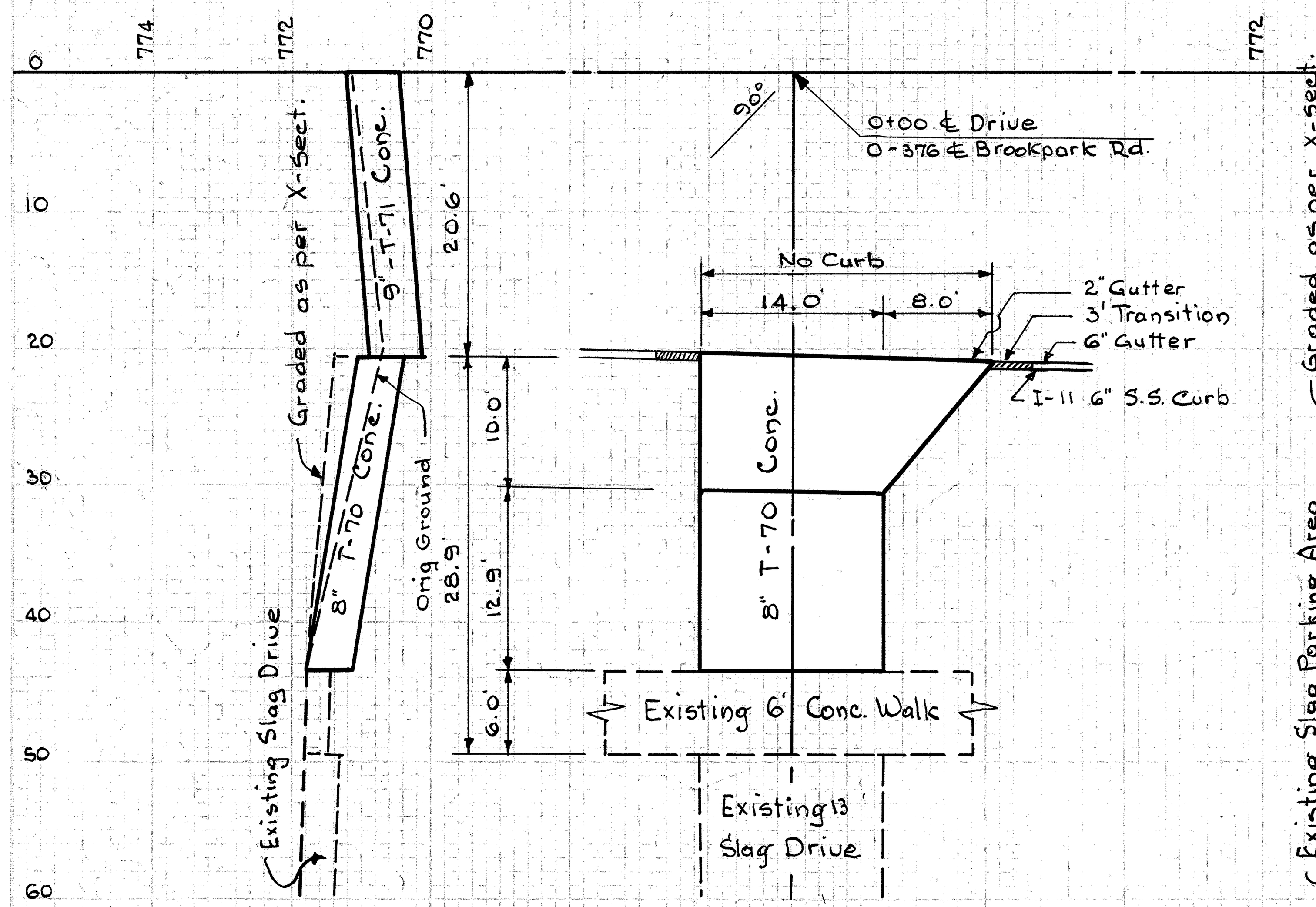
North Side Schaaf Rd. Reloc. Sta. 1+41
Private Drive to Freeway Realty Corp.
Item (1-A) Plan Sheet No. 14

T-70 8" Concrete	75.6	Sq. Yd.
E-1 Excavation	3.7	Cu. Yd.
E-1 Embankment - Deduction	13.5	Cu. Yd.



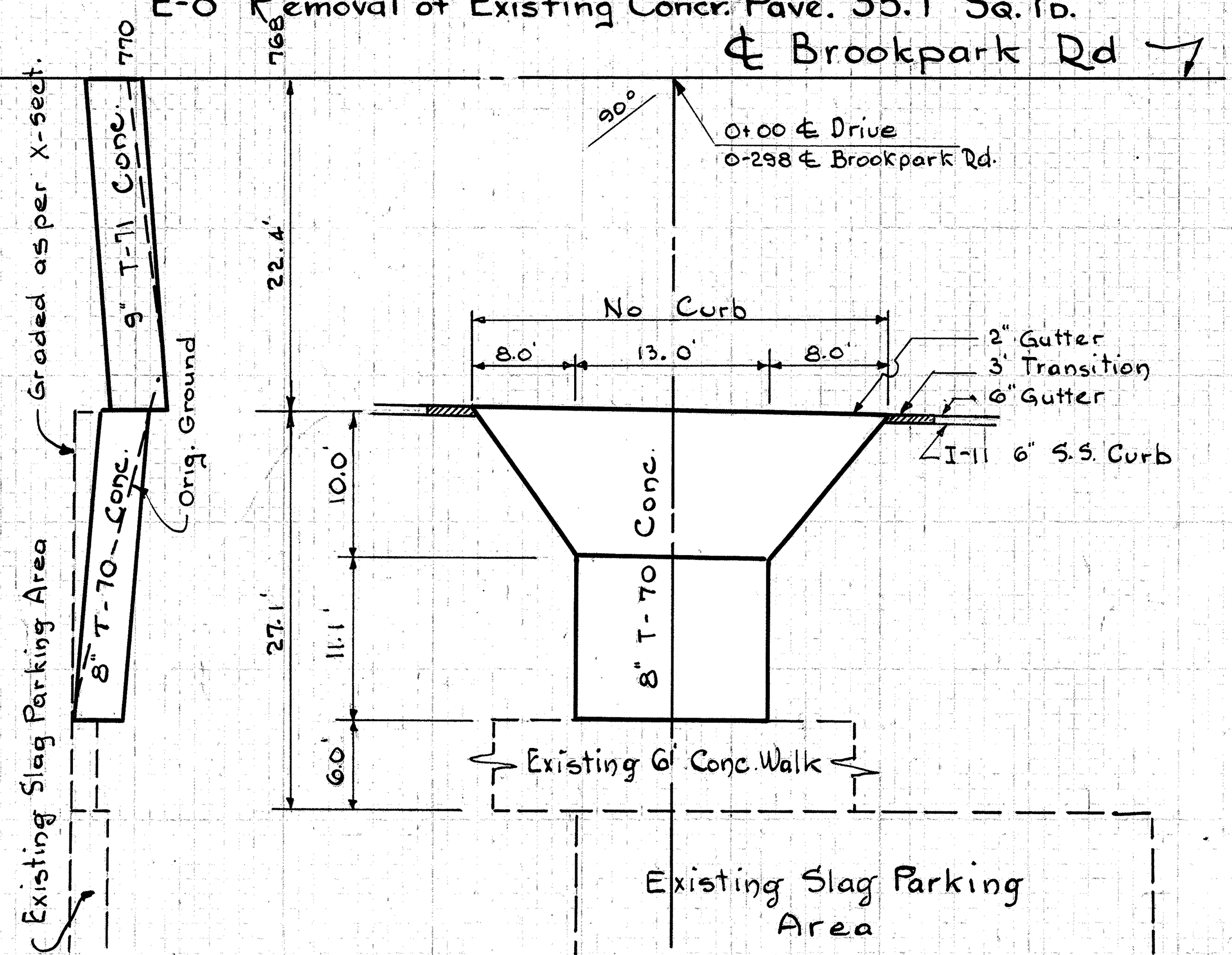
North Side Schaaf Rd. Reloc. Sta. 3+03
Private Drive to Walter T. & E.M. Zaleski
Item (2-A) Plan Sheet No. 14

T-70 8" Concrete	99.3	Sq. Yd.
E-1 Excavation	36.4	Cu. Yd.



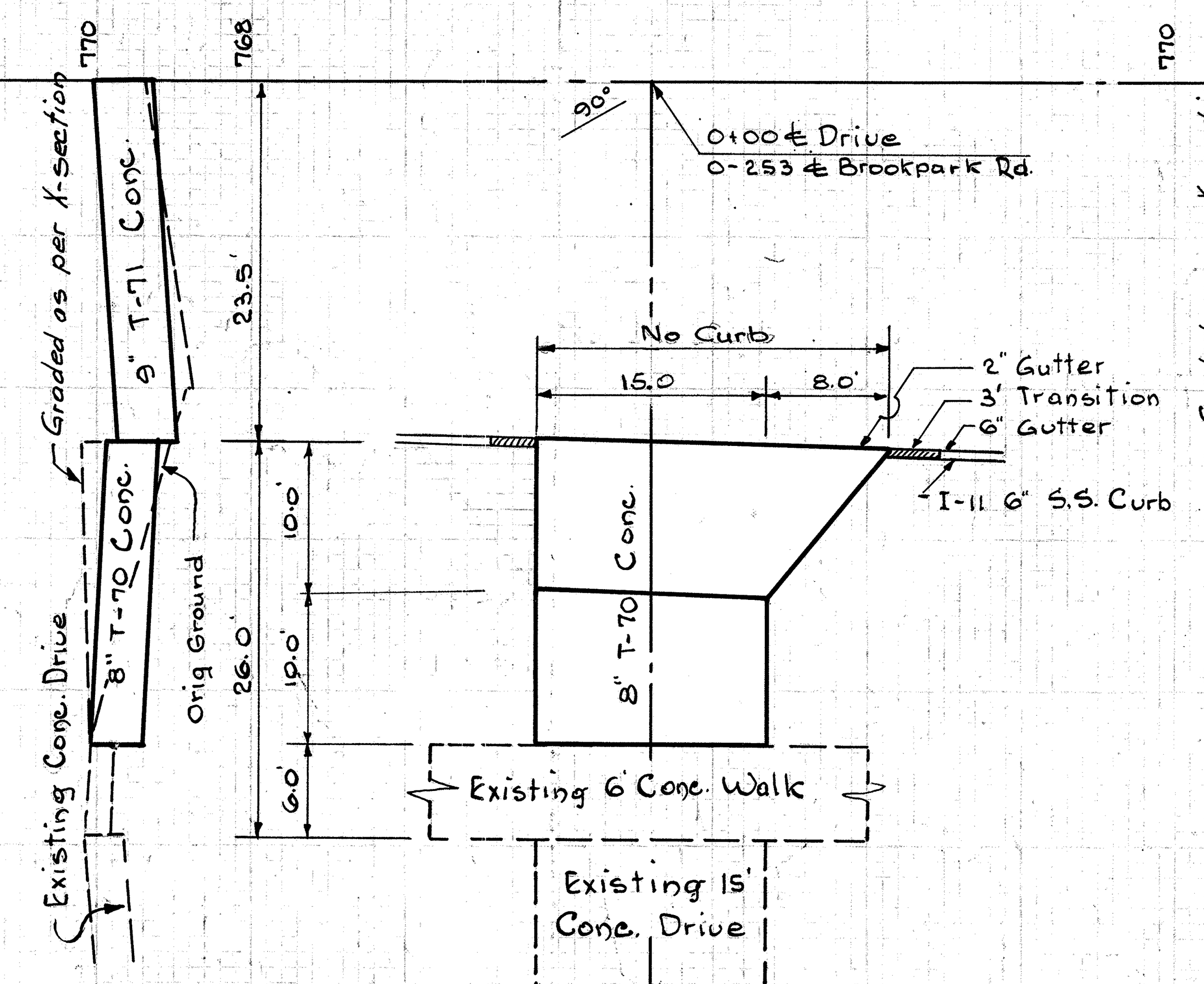
South Side Brookpark Rd. Sta. 0-376
Private Drive to Cleve. Fuel Equipment Co.
Item (3-A) Plan Sheet No. 13

T-70 8" Concrete	42.0	Sq. Yd.
E-1 Excavation	7.0	Cu. Yd.
E-1 Embankment - Deduction	6.0	Cu. Yd.
E-8 Removal of Existing Concr. Pave.	48.4	Sq. Yd.



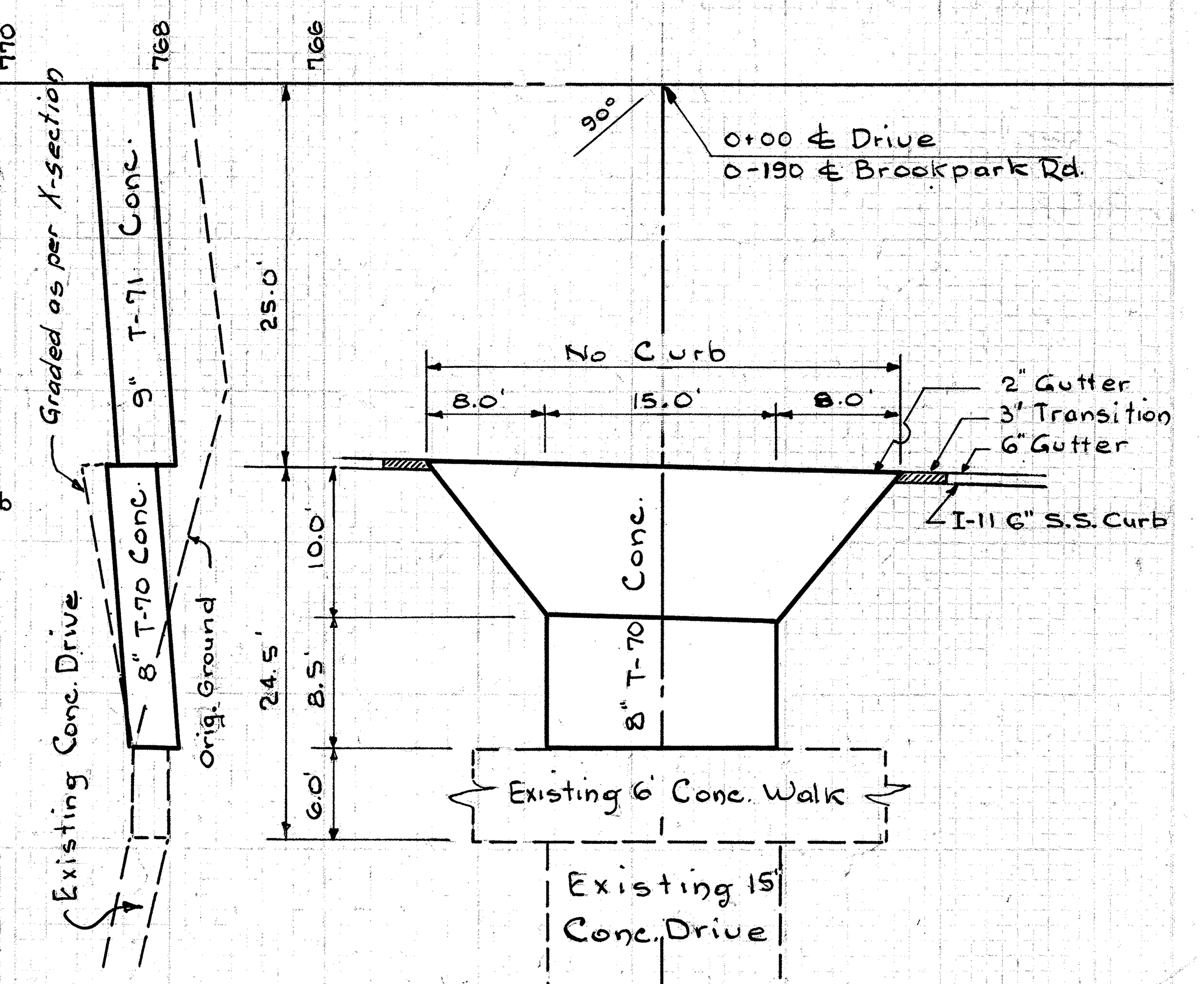
South Side Brookpark Rd. Sta. 0-298
Private Drive to Parking Area for
Cleve. Fuel Equipment Co.
Item (4-A) Plan Sheet No. 13

T-70 8" Concrete	39.4	Sq. Yd.
E-1 Excavation	3.7	Cu. Yd.
E-1 Embankment - Deduction	6.9	Cu. Yd.
E-8 Removal of Existing Concr. Pave.	42.5	Sq. Yd.



South Side Brookpark Rd. Sta. 0-253
Private Drive to Peters Construction Co.
Item (5-A) Plan Sheet No. 13

T-70 8" Concrete	37.8	Sq. Yd.
E-1 Excavation	3.6	Cu. Yd.
E-1 Embankment - Deduction	8.9	Cu. Yd.
E-8 Removal of Existing Concr. Pave.	62.2	Sq. Yd.



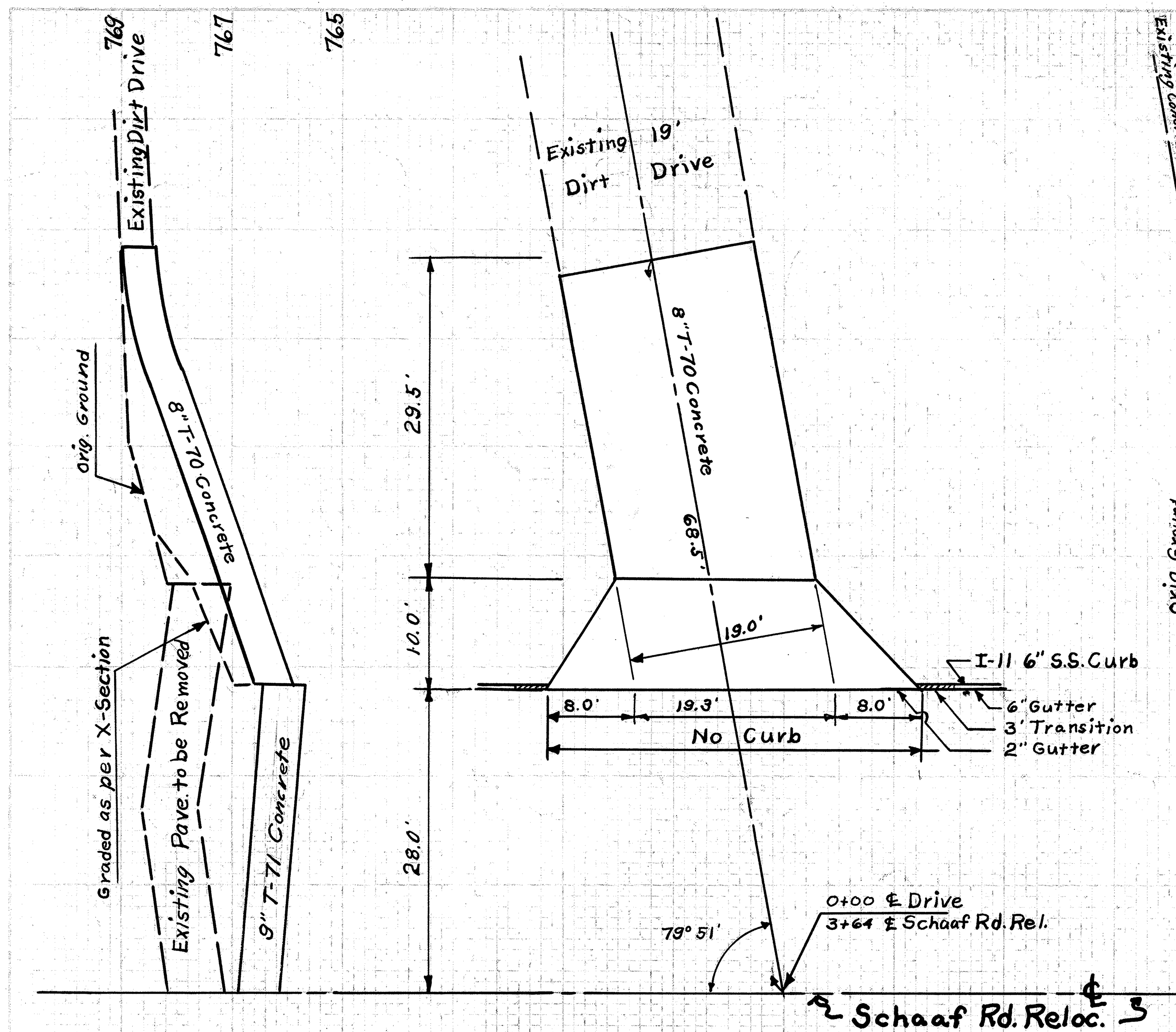
South Side Brookpark Rd. Sta. 0-190
Private Drive to Peters Construction Co.
Item (6-A) Plan Sheet No. 13

T-70 8" Concrete	39.7	Sq. Yd.
E-1 Excavation	1.9	Cu. Yd.
E-1 Embankment - Deduction	9.2	Cu. Yd.
E-8 Removal of Existing Concr. Pave.	65.5	Sq. Yd.

PRIVATE DRIVE DETAILS & QUANTITIES

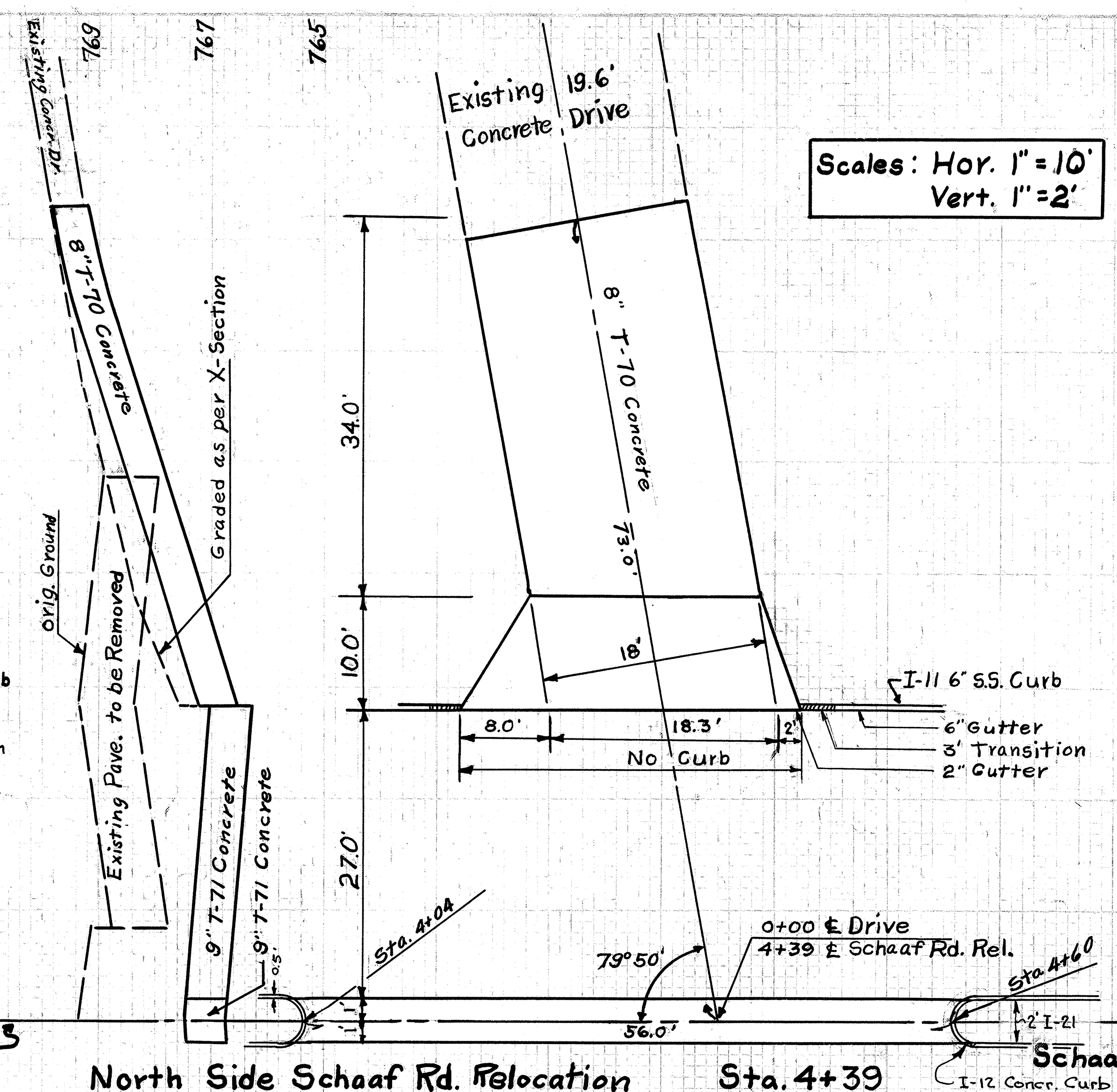
CUYAHOGA COUNTY
SEC. CUY.-17-14.99

Scales: Hor. 1" = 10'
Vert. 1" = 2'



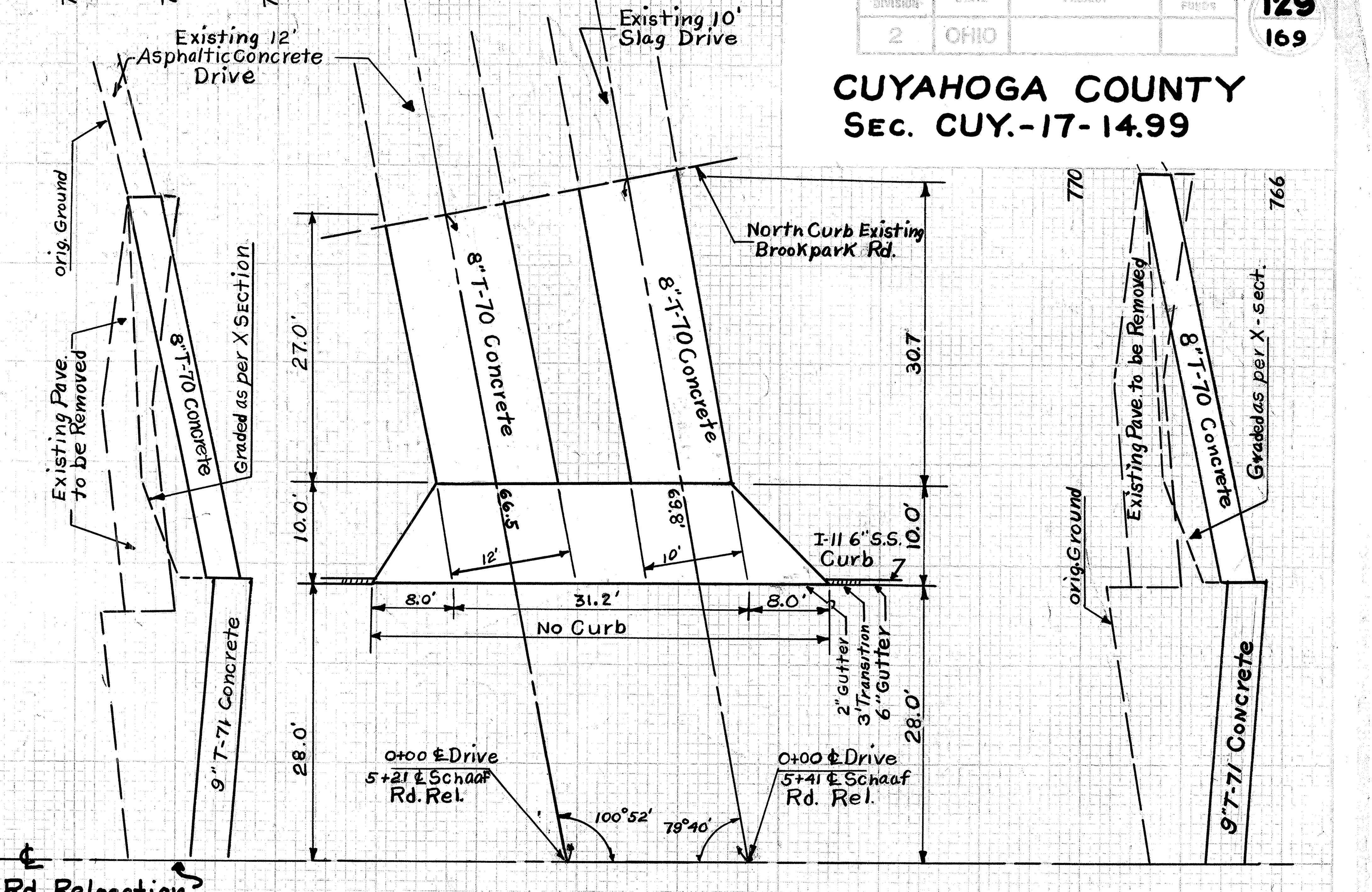
North Side Schaaf Rd. Relocation Sta. 3+64
Private Drive to General Tube Fabricators Inc.
Item (3A) Plan Sheet No 14

T-70	8" Concrete	93.7	Sq. Yd.
E-1	Excavation	36.0	Cu. Yd.
E-1	Embankment-Deduction	1.7	Cu. Yd.



North Side Schaaf Rd. Relocation Sta. 4+39
Private Drive to Jos. Veverka
Item (4A) Plan Sheet No. 14

T-70	8" Concrete	97.9	Sq. Yd.
T-71	9" Concrete	12.6	Sq. Yd.
I-21	4" Concrete Median-Deduction	12.6	Sq. Yd.
I-22	11" Subbase Material-Deduction	4.0	Cu. Yd.
I-12	Type 2-A Concrete Curb Deduction	113.0	Lin. Ft.
E-1	Excavation	37.1	Cu. Yd.
E-1	Embankment-Deduction	5.6	Cu. Yd.

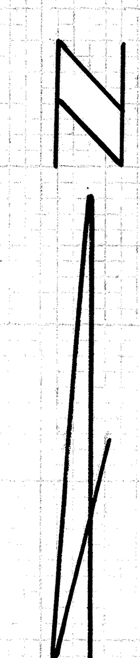


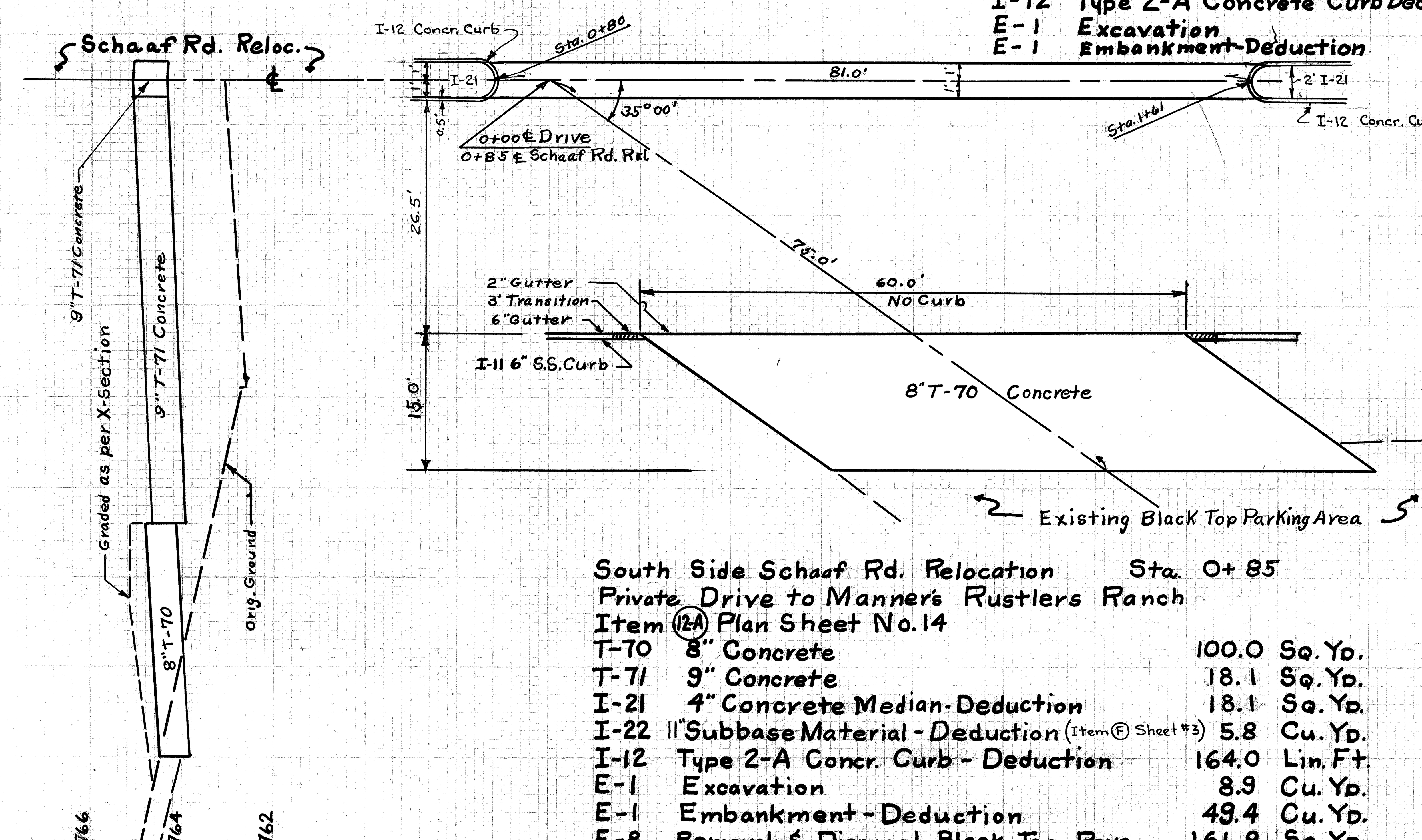
North Side Schaaf Rd. Relocation Sta. 5+21
Private Drive to Henry P. & L. Bock
Item (5A) Plan Sheet No. 14

T-70	8" Concrete	58.5	Sq. Yd.
E-1	Excavation	16.8	Cu. Yd.
E-1	Embankment-Deduction	7.4	Cu. Yd.

North Side Schaaf Rd. Relocation Sta. 5+41
Private Drive to Albert H. Froehlich
Item (6A) Plan Sheet No. 14

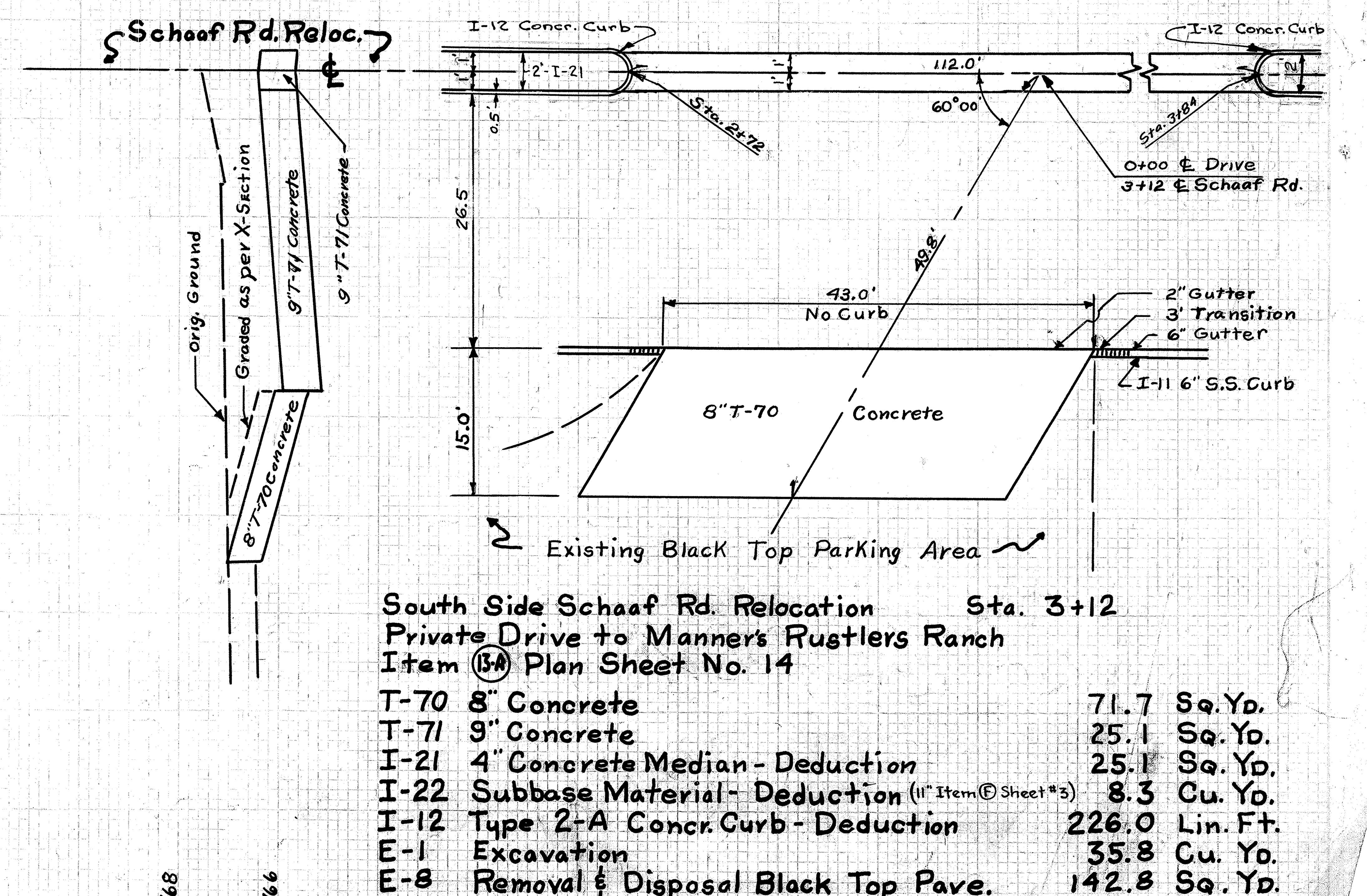
T-70	8" Concrete	54.6	Sq. Yd.
E-1	Excavation	15.2	Cu. Yd.
E-1	Embankment-Deduction	5.2	Cu. Yd.





South Side Schaaf Rd. Relocation Sta. 0+85
Private Drive to Manners Rustlers Ranch
Item (12A) Plan Sheet No. 14

T-70	8" Concrete	100.0	Sq. Yd.
T-71	9" Concrete	18.1	Sq. Yd.
I-21	4" Concrete Median-Deduction	18.1	Sq. Yd.
I-22	11" Subbase Material - Deduction (Item (F) Sheet #3)	5.8	Cu. Yd.
I-12	Type 2-A Concr. Curb - Deduction	164.0	Lin. Ft.
E-1	Excavation	8.9	Cu. Yd.
E-1	Embankment - Deduction	49.4	Cu. Yd.
E-8	Removal & Disposal Black Top Pave.	161.9	Sq. Yd.



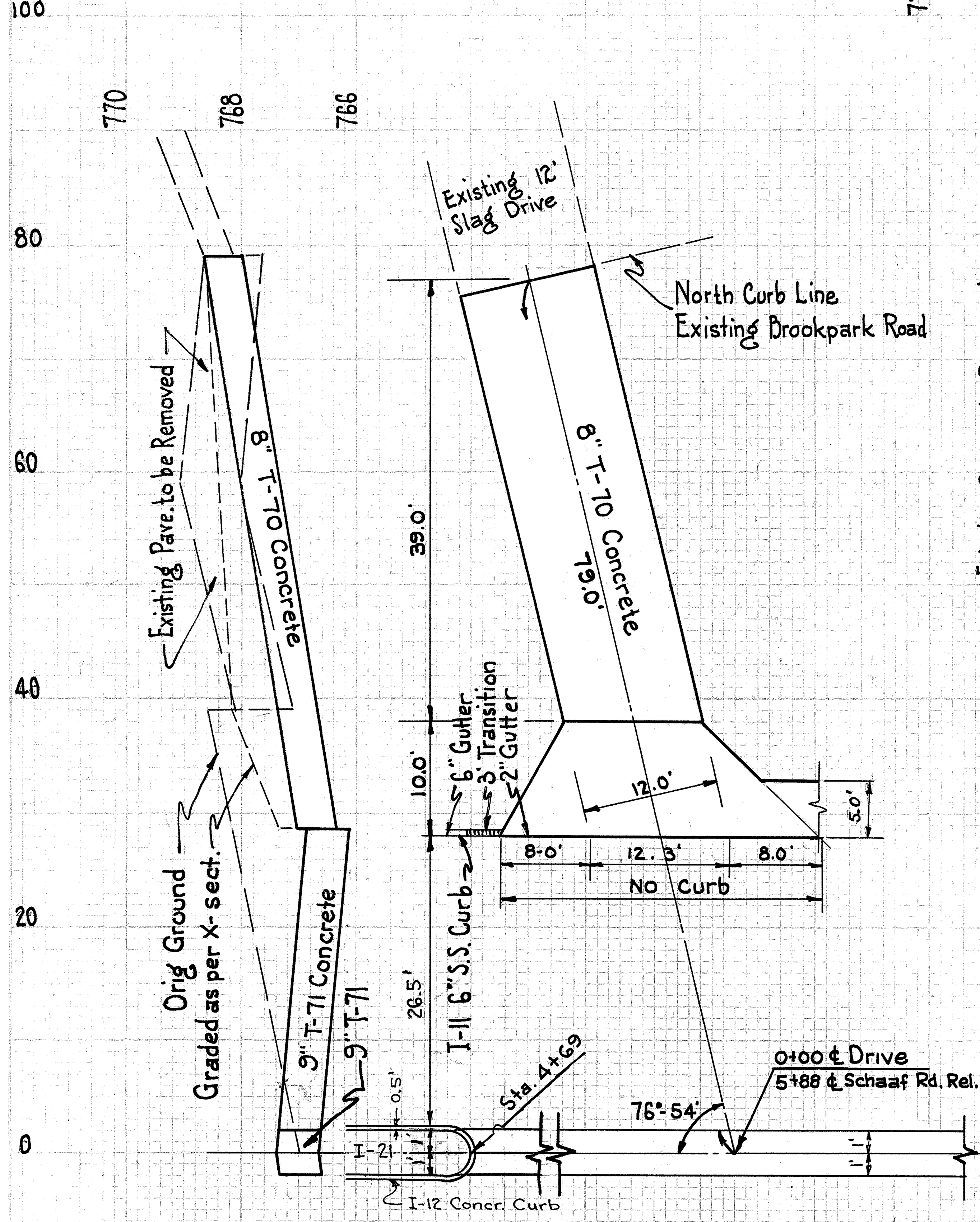
South Side Schaaf Rd. Relocation Sta. 3+12
Private Drive to Manners Rustlers Ranch
Item (13A) Plan Sheet No. 14

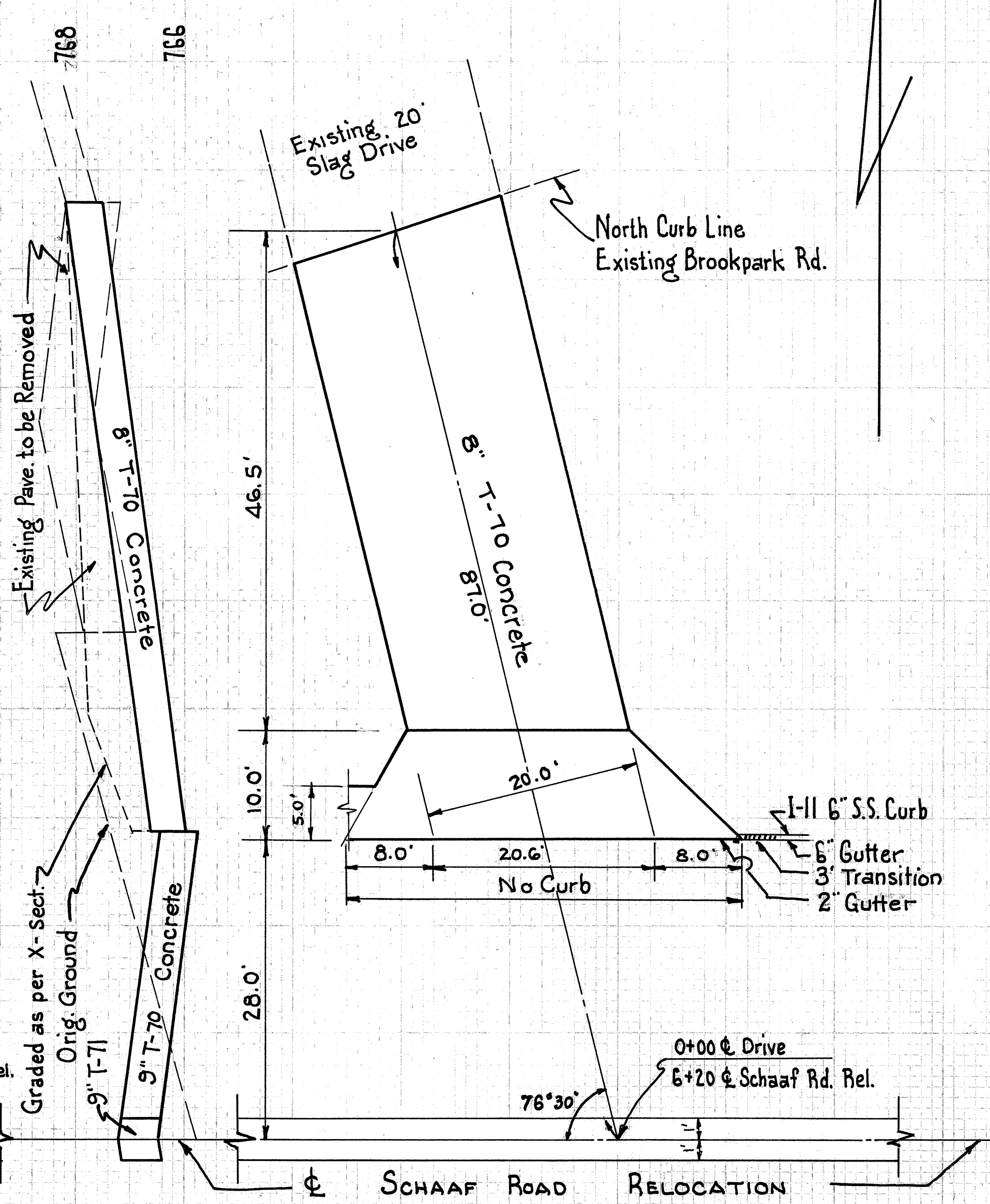
T-70	8" Concrete	71.7	Sq. Yd.
T-71	9" Concrete	25.1	Sq. Yd.
I-21	4" Concrete Median - Deduction	25.1	Sq. Yd.
I-22	Subbase Material - Deduction (11" Item (F) Sheet #3)	8.3	Cu. Yd.
I-12	Type 2-A Concr. Curb - Deduction	226.0	Lin. Ft.
E-1	Excavation	35.8	Cu. Yd.
E-8	Removal & Disposal Black Top Pave.	142.8	Sq. Yd.

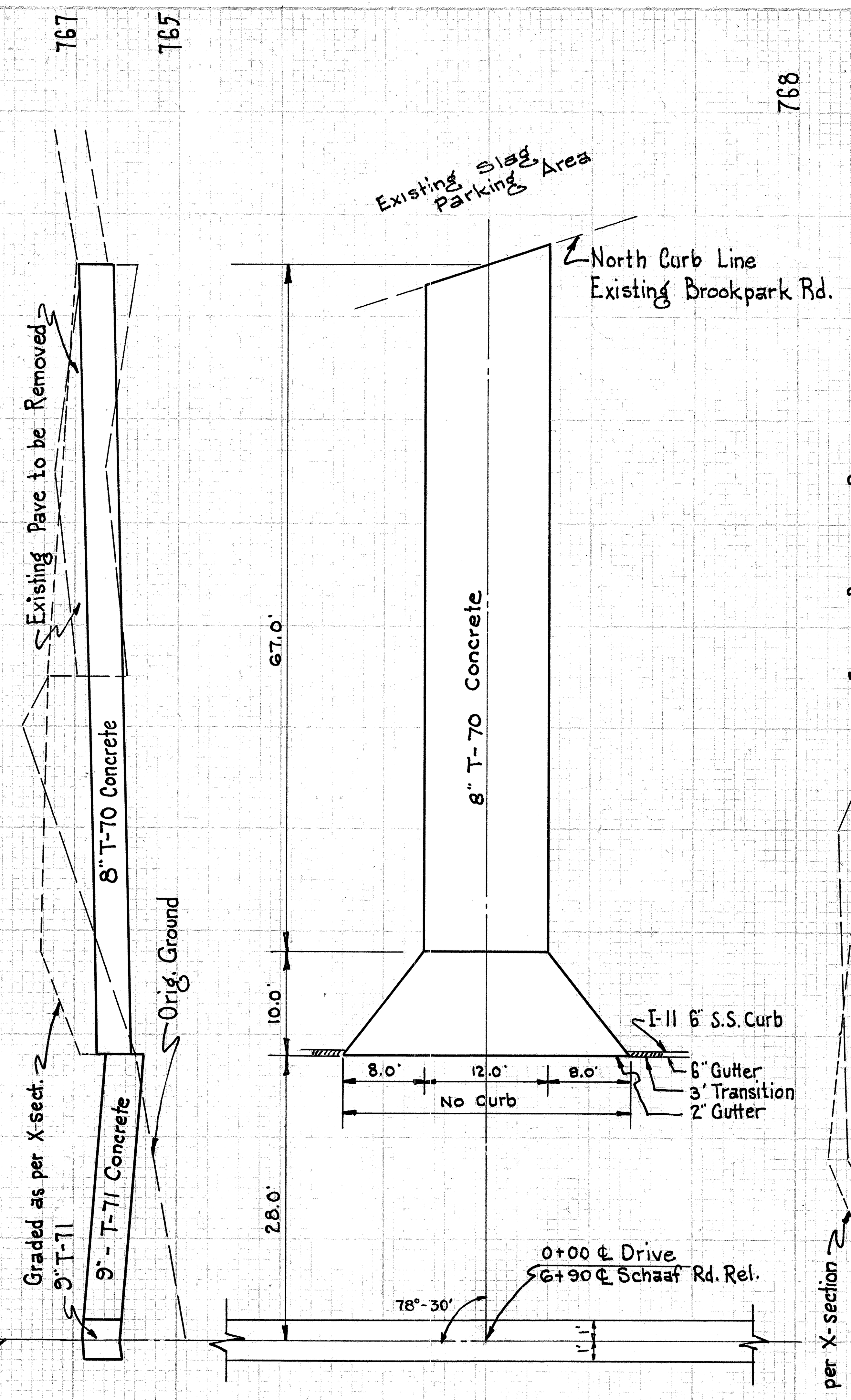
PRIVATE DRIVE DETAILS & QUANTITIES

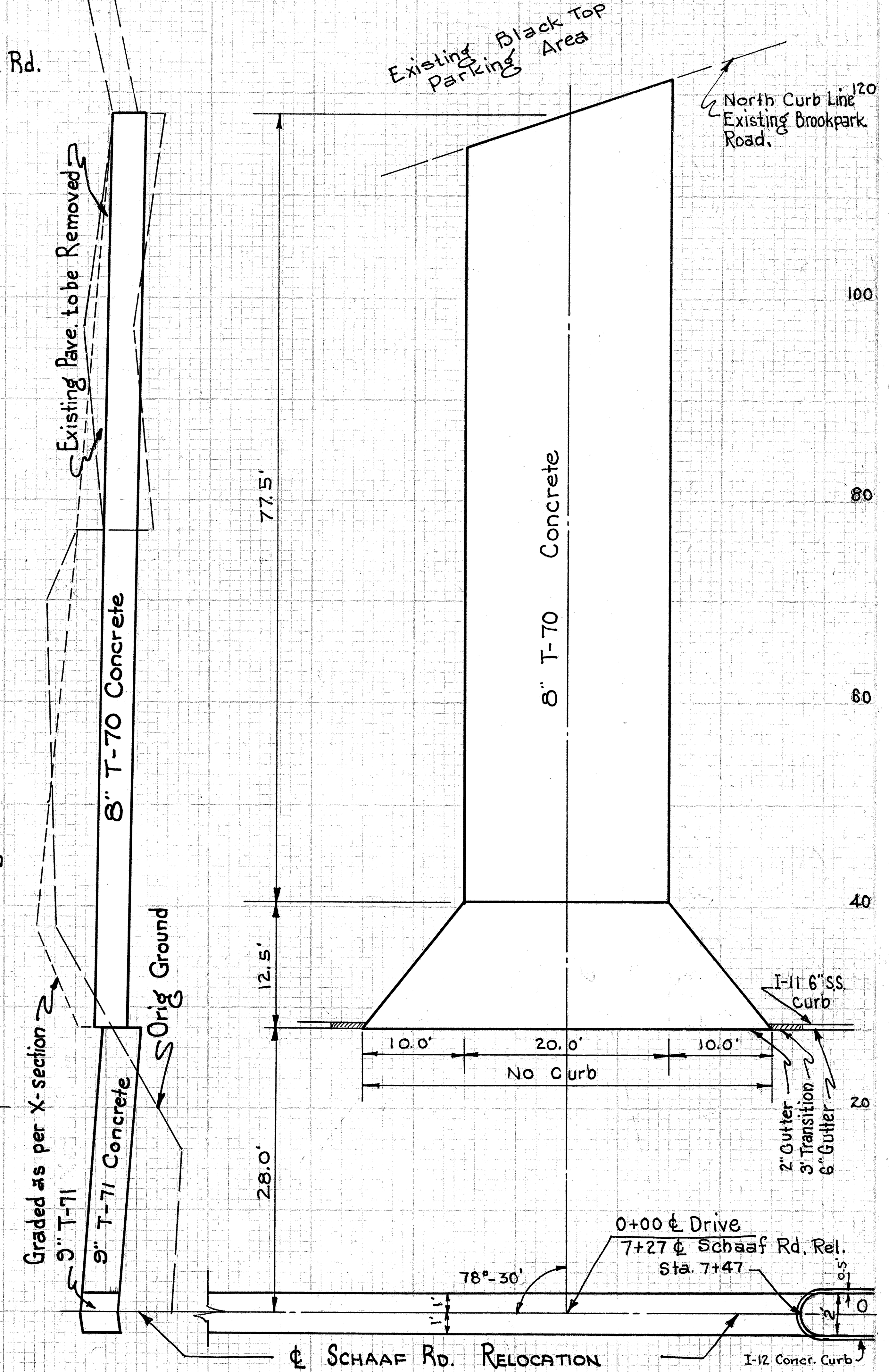
CUYAHOGA COUNTY
CUY. – 17–14.99

Scales: Hor. 1" = 10'
Ver. 1" = 2'









North Side Schaaf Road Relocation Sta. 5+88
Private Drive To Albert H. Froehlich
Item (7-A) Plan Sheet № 14

T-70	8" Concrete	76.0	Sq. Yd.
E-1	Excavation	16.3	Cu. Yd.
E-1	Embankment - Deduction	12.3	Cu. Yd.

North Side Schaaf Road Relocation Sta. 6+20
Private Drive to Industrial Process Piping Inc.
Item (8-A) Plan Sheet № 14

T-70	8" Concrete	138.4	Sq. Yd.
E-1	Excavation	25.1	Cu. Yd.
E-1	Embankment – Deduction	18.9	Cu. Yd.

North Side Schaaf Rd. Relocation Sta. 6+90
Private Drive To Industrial Process Piping Inc.
Item (9-A) Plan Sheet № 14

T-70	8" Concrete	111.6	Sq. Yd.
E-1	Excavation	17.4	Cu. Yd.
E-1	Embankment - Deduction	29.4	Cu. Yd.

North Side Schaaf Rd. Relocation Sta. 7+27
Private Drive To Cook Pave. & Construction Co.
Item (10-A) Plan Sheet № 14

T-70	8" Concrete	213.9	Sq. Yd.
E-1	Excavation	51.3	Cu. Yd.
E-1	Embankment - Deduction	35.1	Cu. Yd.

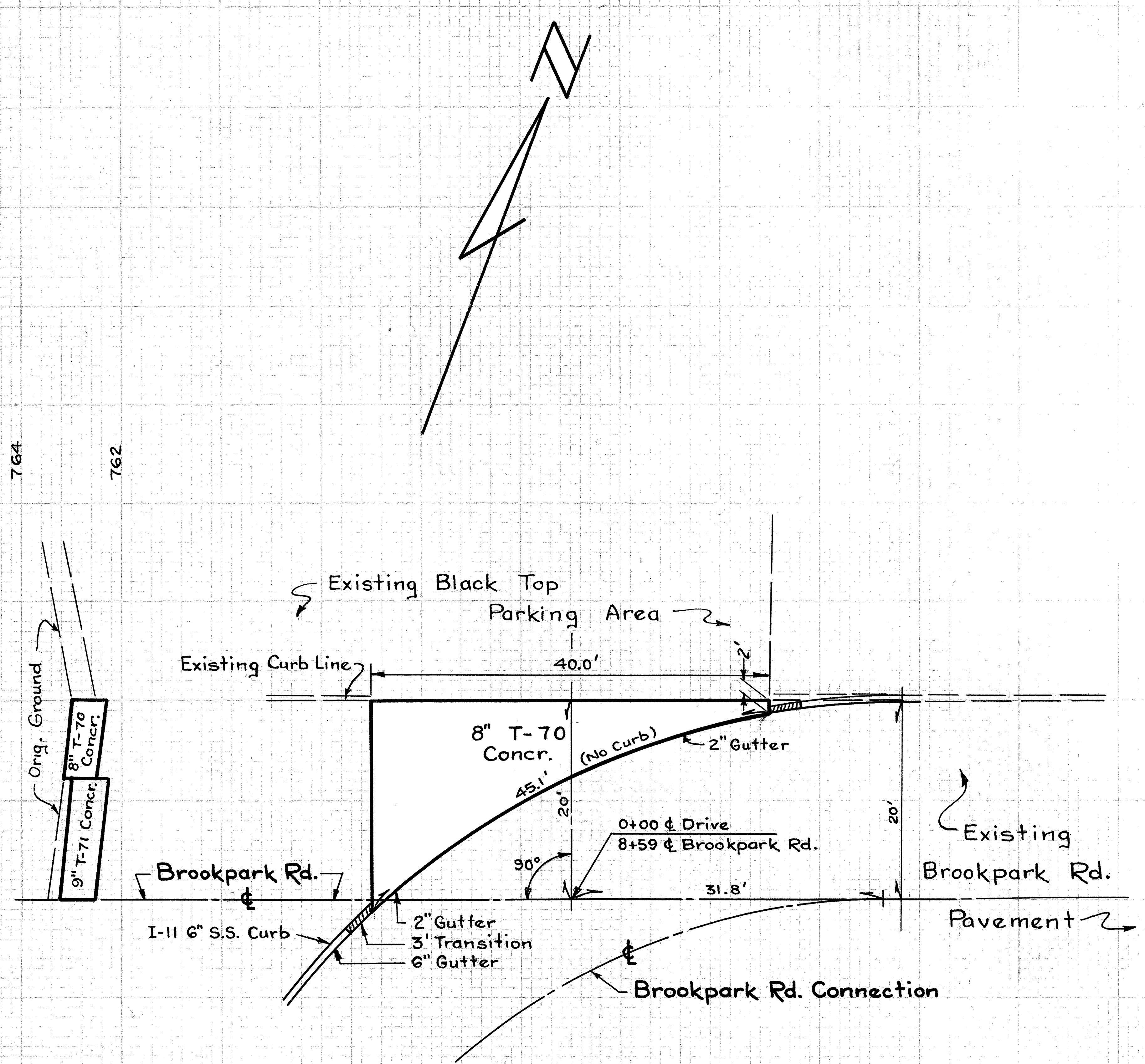
T-71	9" Concrete Median Pave. (Sta. 4+69 to Sta. 7+47)	61.9	Sq. Yd.
I-21	4" Concrete Median - Deduction	61.9	Sq. Yd.
I-22	Subase Material - Deduction (11" - Item (F) Sheet No. 3)	19.8	Cu. Yd.
I-12	Type 2-A Concrete Curb - Deduction	558.0	Lin. Ft.

NOTE: 61.9 Sq. Yd. of T-71 9" Concrete is Continuous Median Strip Opening from Sta. 4+69 to Sta. 7+47

PRIVATE DRIVE DETAILS & QUANTITIES

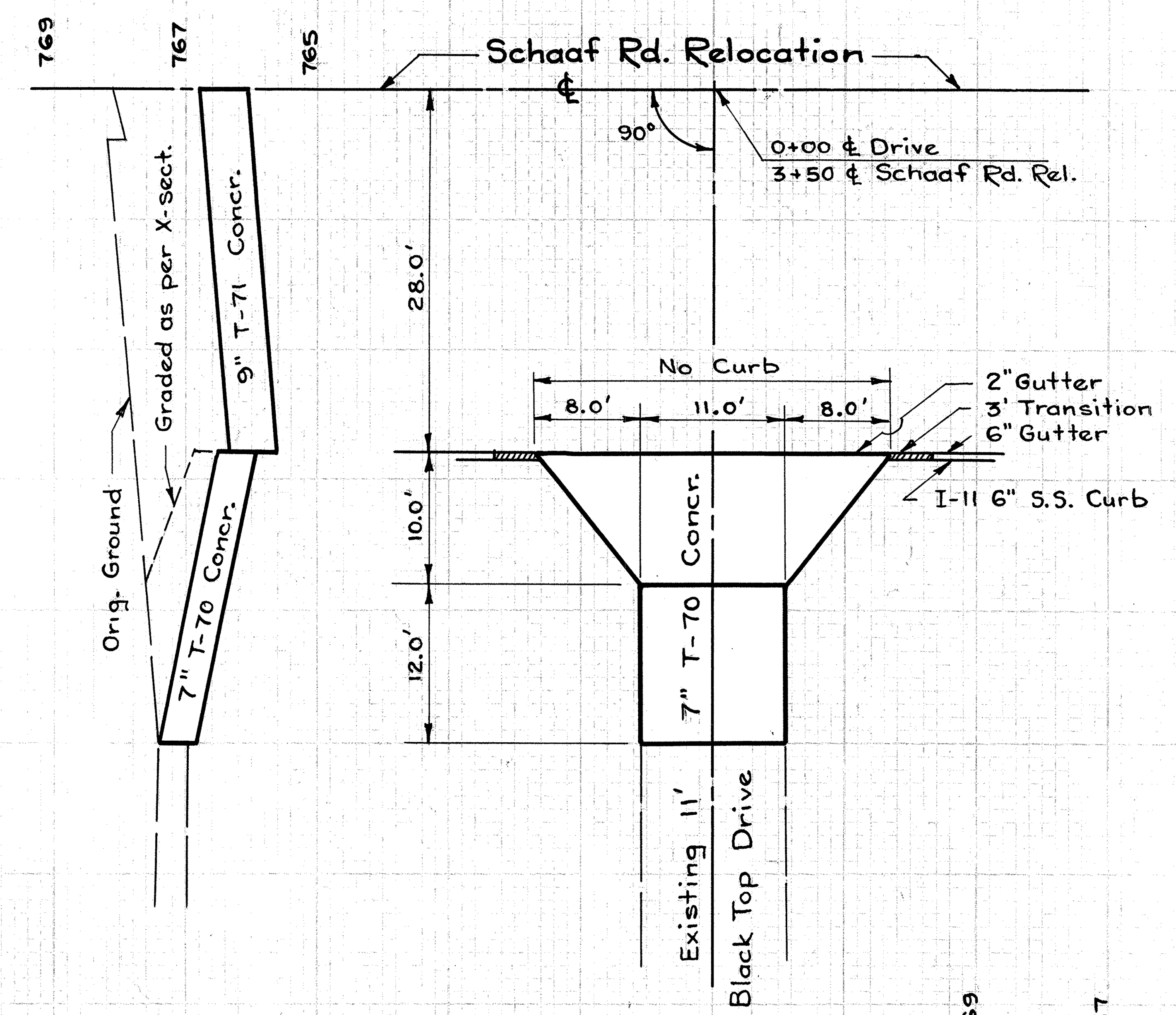
CUYAHOGA COUNTY
SEC. CUY - 17 - 14.99

Scales : Hor. 1" = 10'
Vert. 1" = 2'



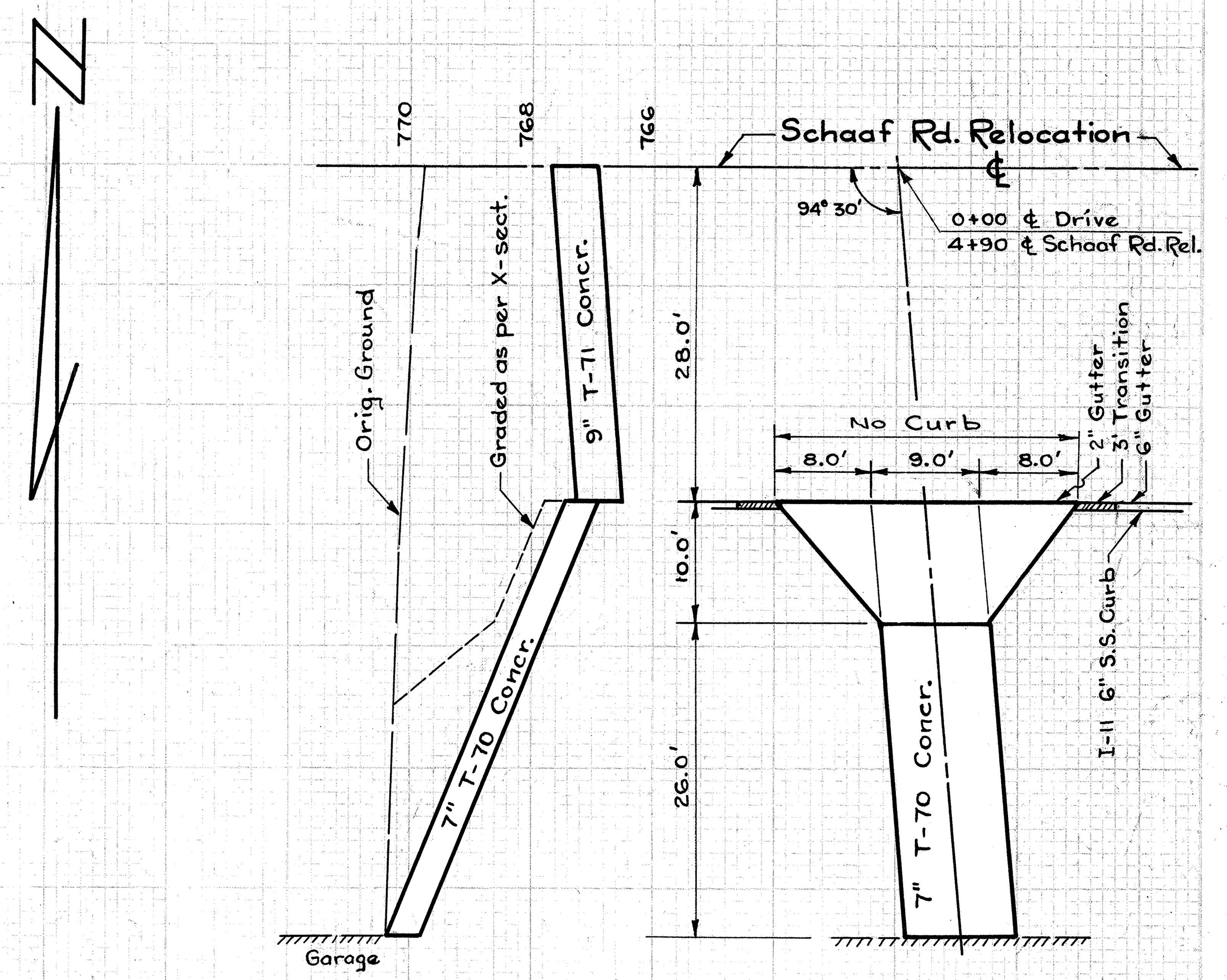
North Side Brookpark Rd. Sta. 8+59
Private Drive to The Cook Paving & Construction Co. & Helen Miznik
Item (11-A) Plan Sheet No. 14

T-70	8" Concrete	40.6 Sq. Yd.
E-1	Excavation	9.0 Cu. Yd.



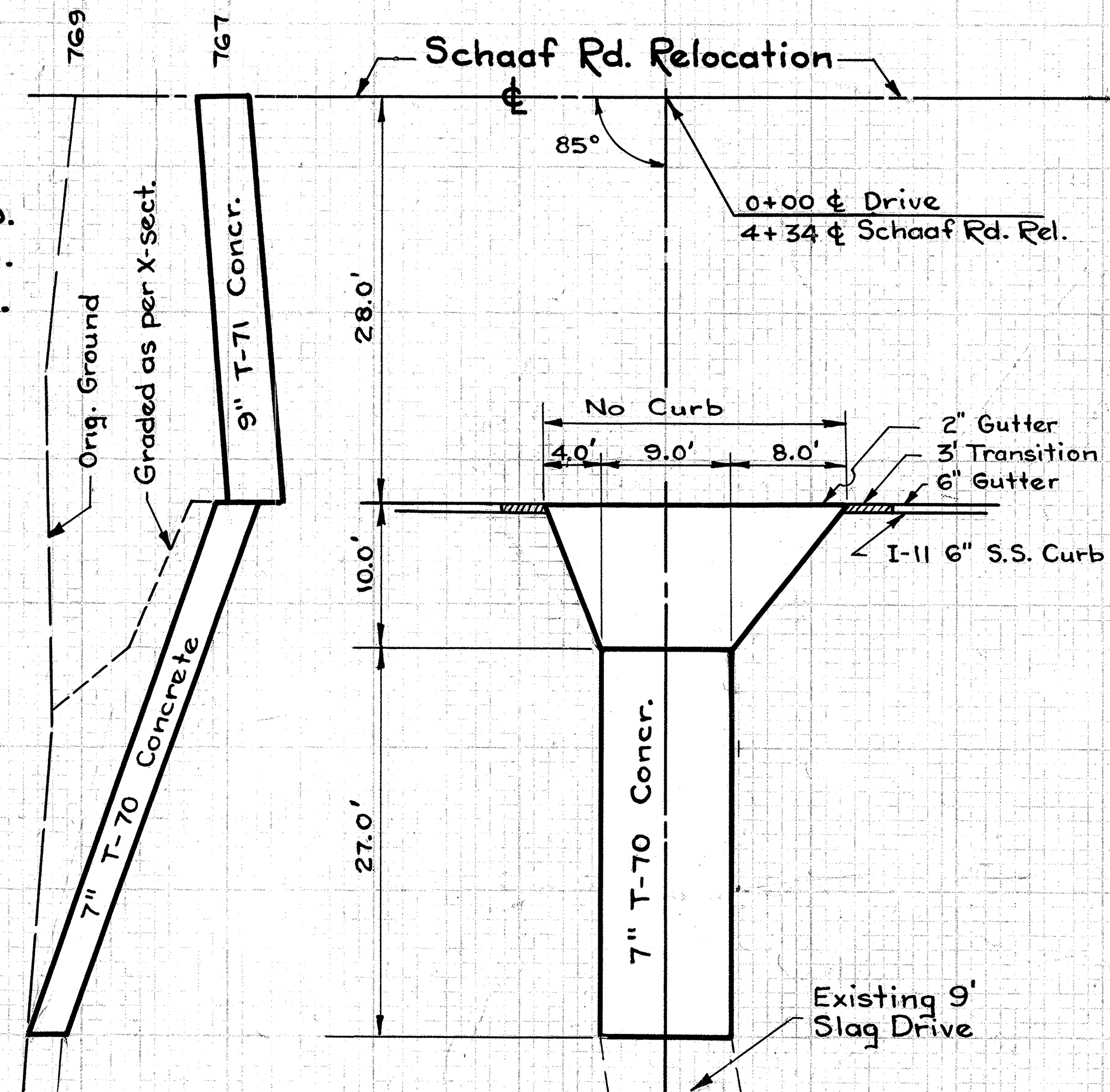
South Side Schaaf Rd. Relocation Sta. 3+50
Private Drive to Ben & Mary Krusinsky
Item (14-A) Plan Sheet No. 14

T-70	7" Concrete	35.8 Sq. Yd.
E-1	Excavation	12.5 Cu. Yd.
E-8	Removal & Disposal Black Top Pave.	55.0 Sq. Yd.



South Side Schaaf Rd. Relocation Sta. 4+90
Private Drive to Norris Goodrich
Item (16-A) Plan Sheet No. 14

T-70	7" Concrete	44.9 Sq. Yd.
E-1	Excavation	17.2 Cu. Yd.



South Side Schaaf Rd. Relocation Sta 4+34
Private Drive to Norris Goodrich
Item (15-A) Plan Sheet No. 14

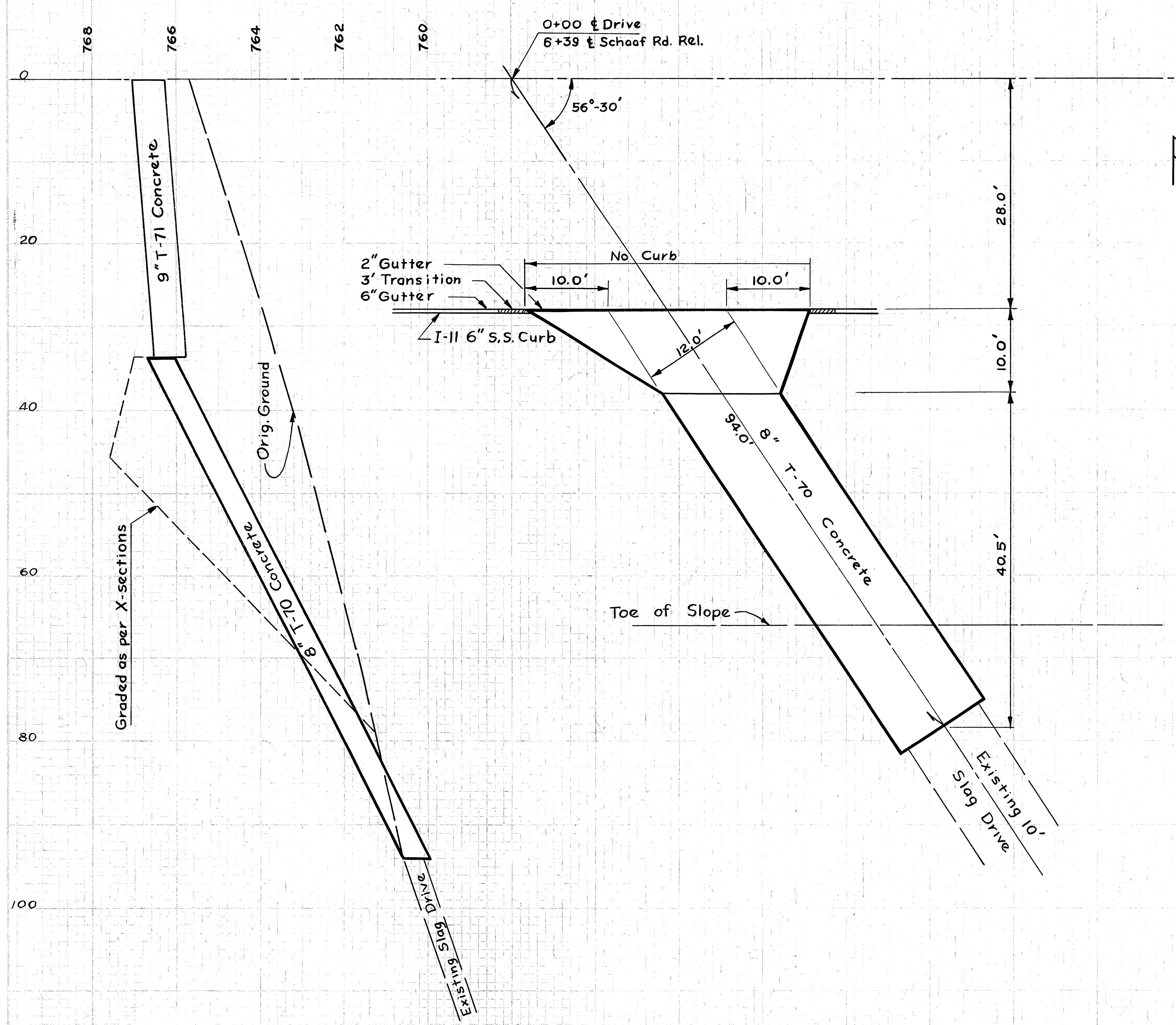
T-70	7" Concrete	43.7 Sq. Yd.
E-1	Excavation	18.9 Cu. Yd.

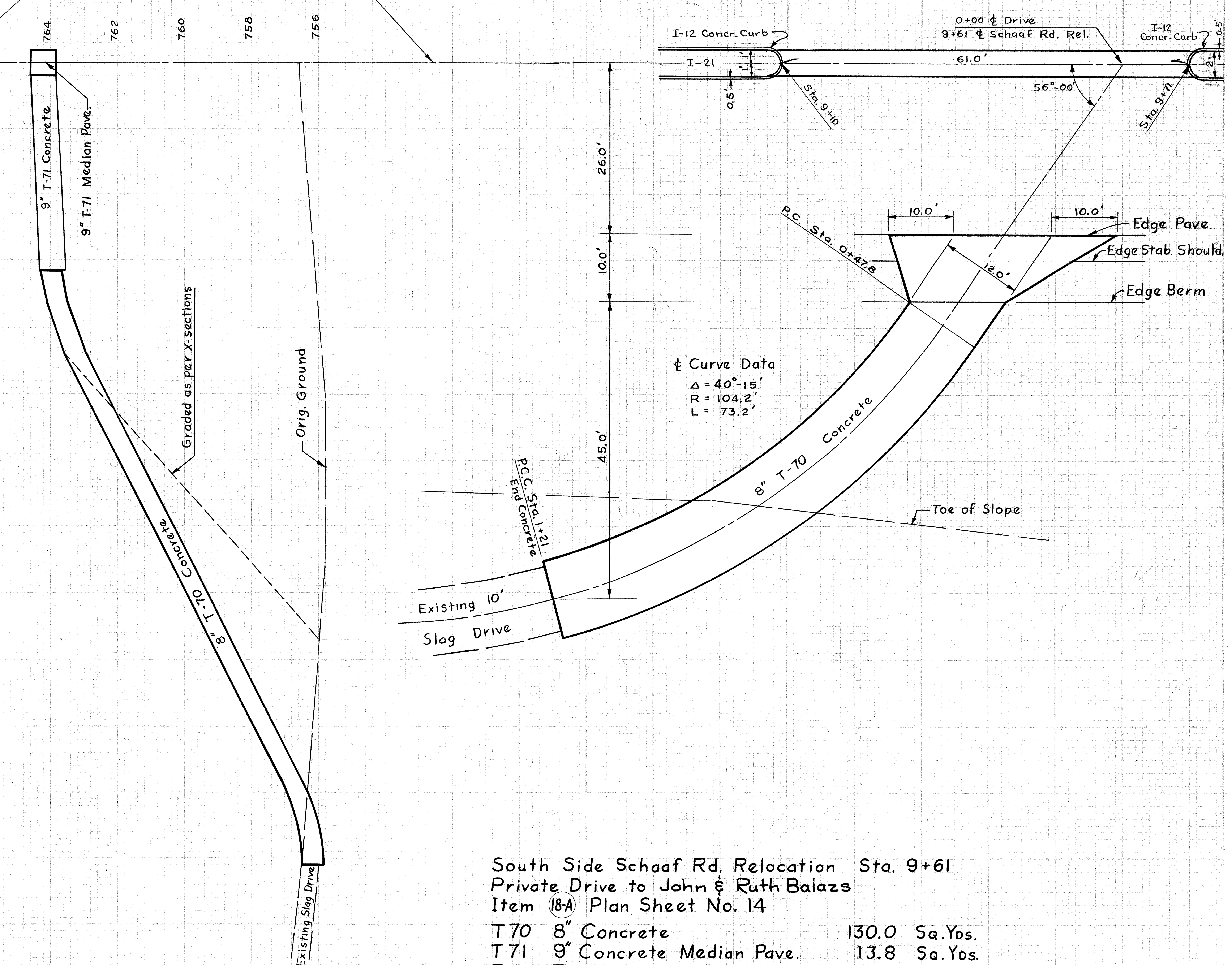
PRIVATE DRIVE DETAILS & QUANTITIES

CUYAHOGA COUNTY

SEC. CUY-17-14.99

Scales: Hor. 1" = 10'
Vert. 1" = 2'





South Side Schaaf Rd. Relocation Sta. 6+39
Private Drive to John & Ruth Balazs
Item (17-A) Plan Sheet No. 14

T-70	8" Concrete	91.1	Sq. Yds.
E-1	Excavation	1.8	Cu. Yds.
E-1	Embankment	0.3	Cu. Yds.
E-1	Embankment - Deduction	44.1	Cu. Yds.

South Side Schaaf Rd. Relocation Sta. 9+61
Private Drive to John & Ruth Balazs
Item (18-A) Plan Sheet No. 14

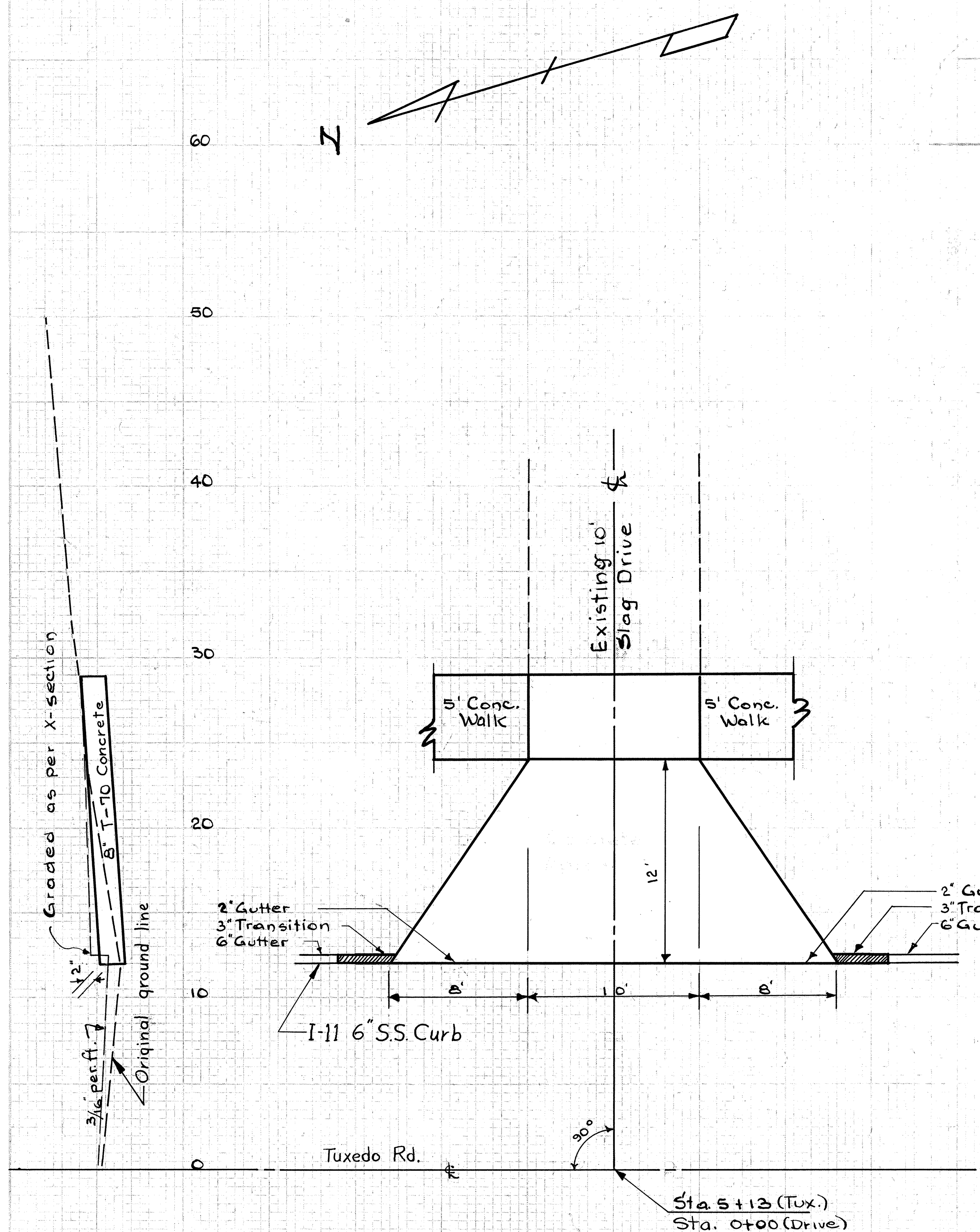
T 70	8" Concrete	130.0	Sq. Yds.
T 71	9" Concrete Median Pave.	13.8	Sq. Yds.
E-1	Excavation	1.6	Cu. Yds.
E-1	Embankment	105.2	Cu. Yds.
E-1	Embankment - Deduction	7.2	Cu. Yds.
I-21	4" Concrete Median - Deduction	13.8	Sq. Yds.
I-22	Subbase Material - Deduction	4.2	Cu. Yds.
I-12	Type 2-A Concr. Curb - Deduction	124.0	Lin. Ft.
I-18	Stabilized Crushed Aggregate - Deduction	3.1	Cu. Yds.

PRIVATE DRIVE DETAILS & QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
Sec. Cuy.-17-14.99

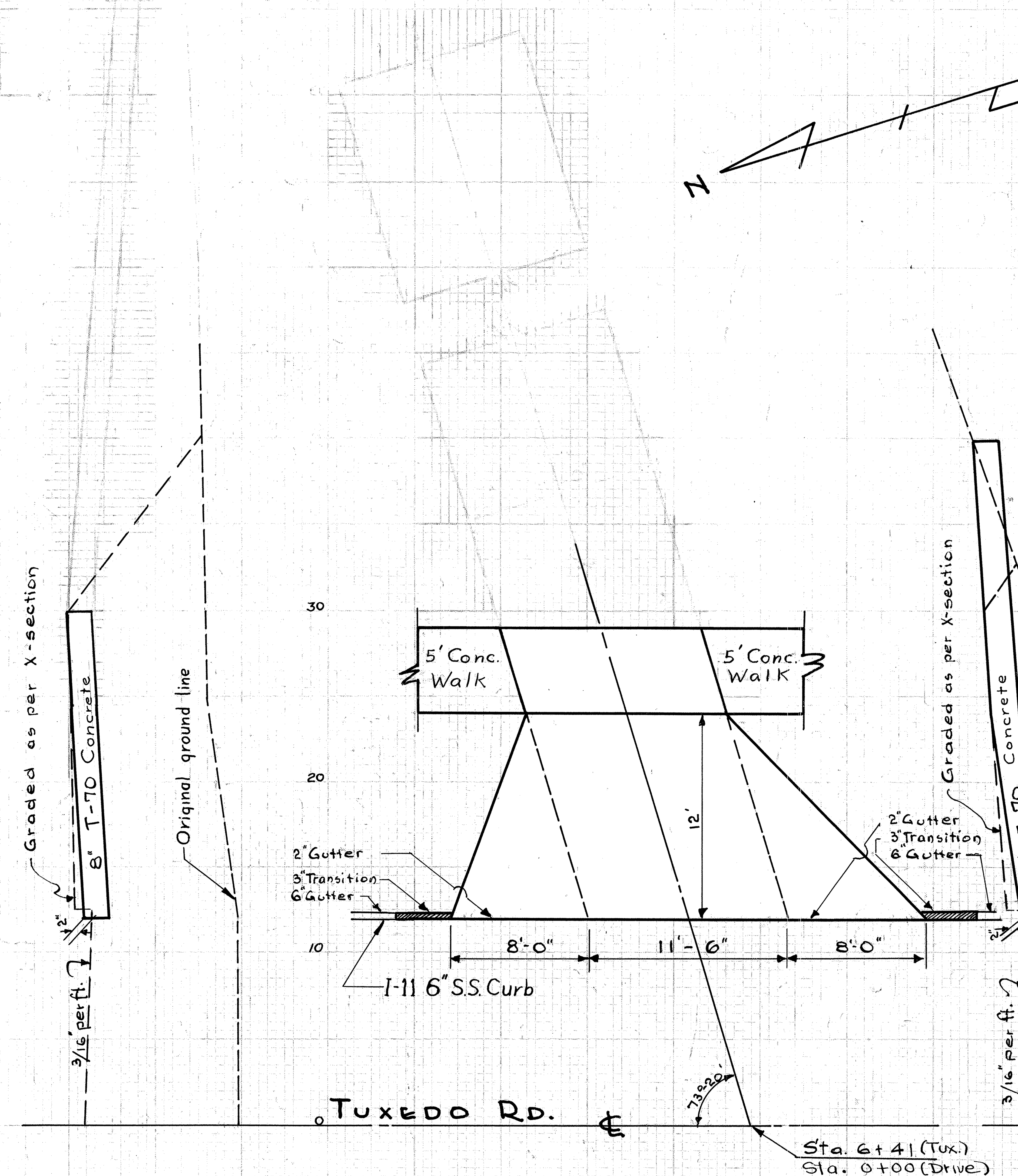
Scales: Hor. 1" = 5'
Ver 1" = 2'



QUANTITIES

T-70	8" Concrete Pavement	29.6	Sq. Yds.
E-1	Embankment Deduction	2.3	Cu. Yds.
E-1	Excavation	5.8	Cu. Yds.

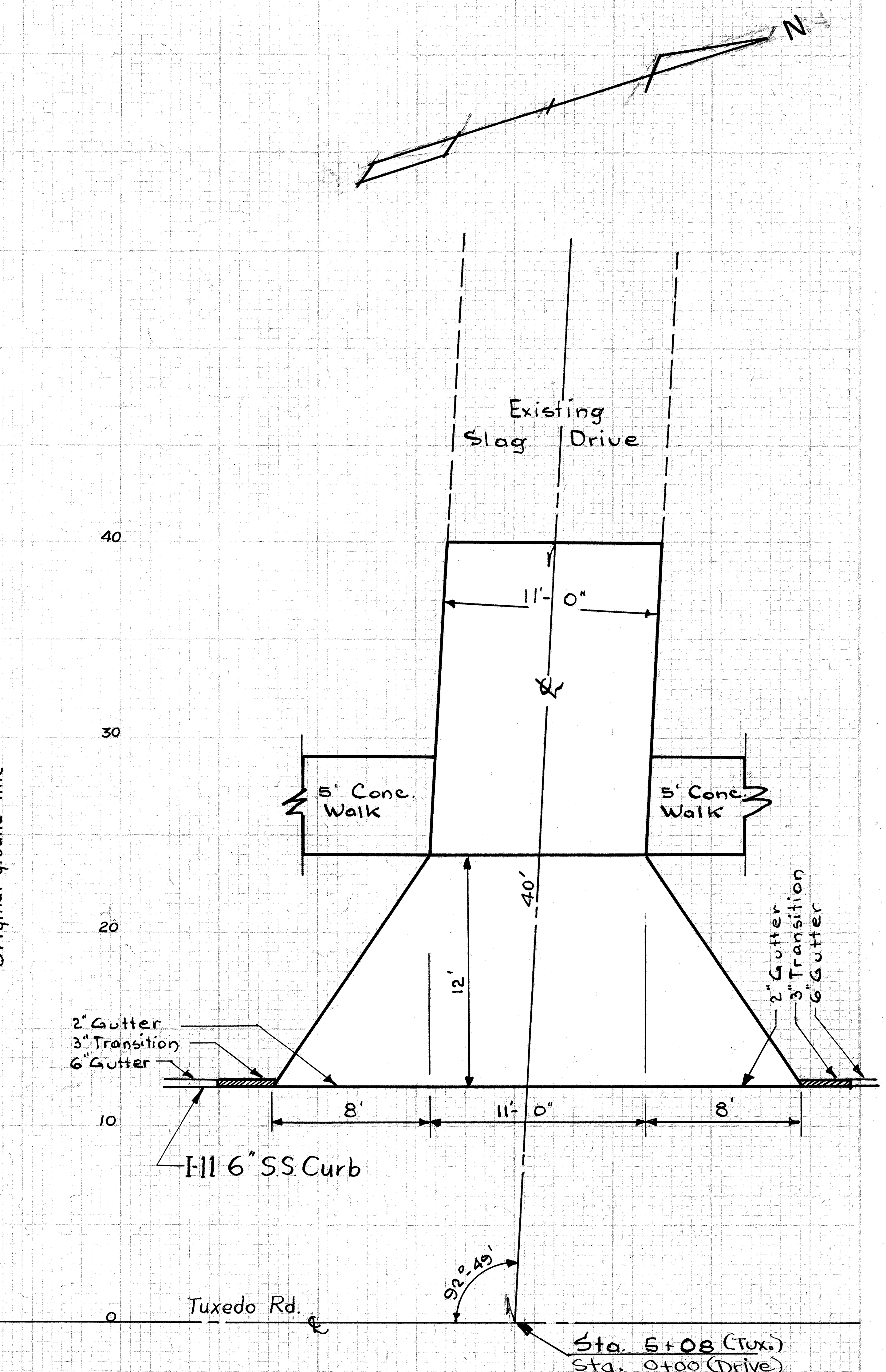
Tuxedo Road Sta. 5+13
Private Drive to Arthur H. Koester
Item 1A Plan Sheet No 25



QUANTITIES

T-70	8" Concrete Pavement	32.7	Sq. Yd's.
E-1	Embankment Deduction	8	Cu. Yd's.

Tuxedo Road Sta. 6+41
Private Drive to Arthur H. Koester
Item 2A Plan Sheet No 25



QUANTITIES

T-70	8" Concrete Pavement	44.8	Sq. Yds.
E-1	Embankment Deduction	7.6	Cu. Yds.
E-1	Excavation	1.0	Cu. Yds.

Tuxedo Road Sta. 5+08
Private Drive to Grower's Basket Co.
Item 4A Plan Sheet No 25

PRIVATE DRIVE DETAILS & QUANTITIES

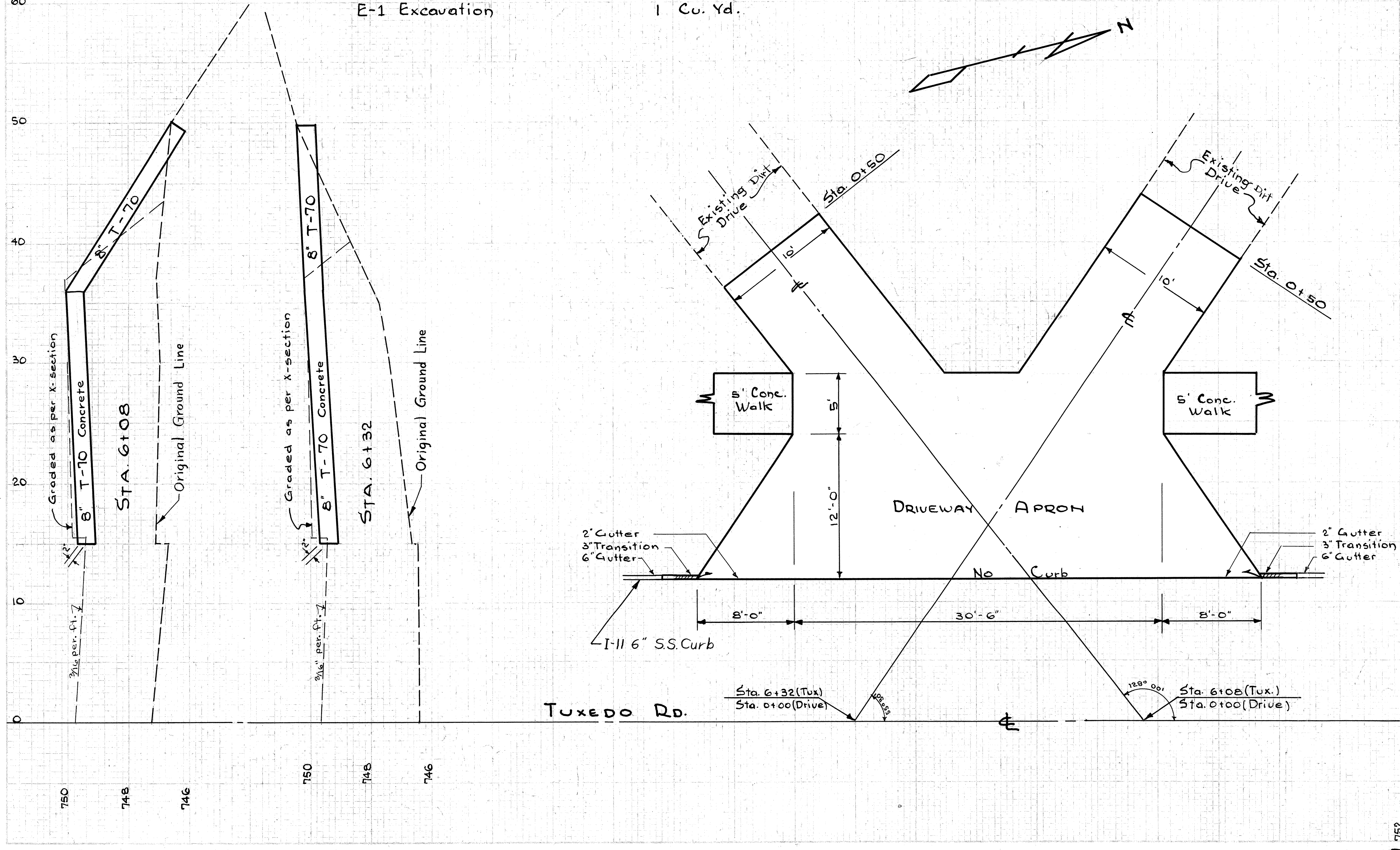
CUYAHOGA COUNTY
Sec. CUY.-17-14.99

Scales: Hor. 1" = 5'
Ver. 1" = 2'

Tuxedo Road Sta. 6+08 & 6+32
Private Drive to Dorothy May Horn
Item (5A) Plan Sheet No 25

QUANTITIES

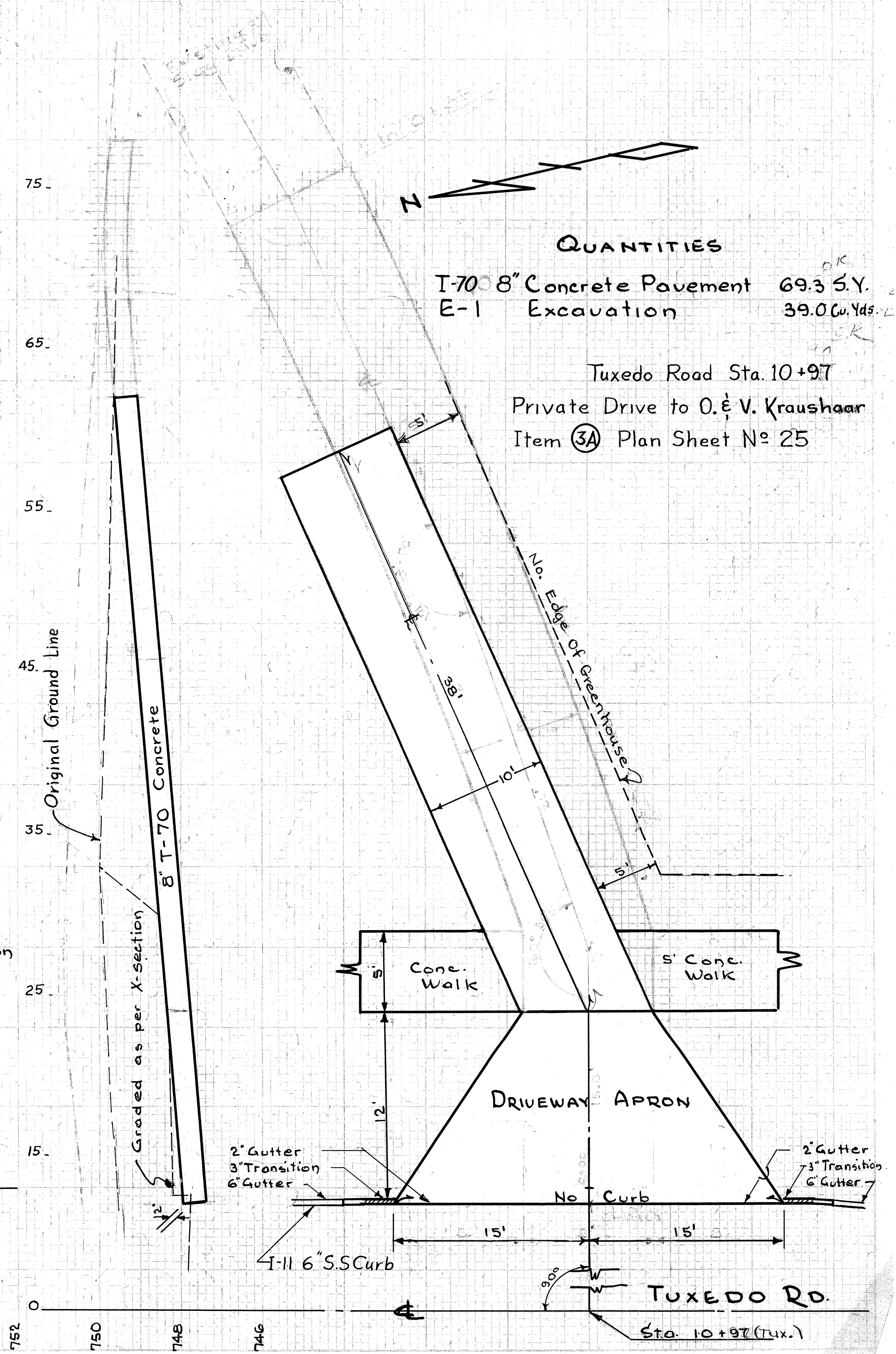
T-70 Concrete Pavement 8"	99.2 Sq. Yds.
E-1 Embankment Deduct.	17.1 Cu. Yds.
E-1 Embankment	2.5 Cu. Yds.
E-1 Excavation	1 Cu. Yd.



QUANTITIES

T-70 8" Concrete Pavement	69.3 S.Y.
E-1 Excavation	39.0 Cu. Yds.

Tuxedo Road Sta. 10+97
Private Drive to O. & V. Kraushaar
Item (3A) Plan Sheet No 25



PRIVATE DRIVE DETAILS & QUANTITIES

CUYAHOGA COUNTY
Sec. CUY.-17-14.99

Scales: Hor. 1"=20'
Vert. 1"=5'

Item (1-A) Plan Sheet No. 18

QUANTITIES

T-70	8" Concrete Pavement	1367.8	Sq. Yd.
T-71	9" Concrete Pavement	20.3	Sq. Yd.
I-12	Type 2-A Concrete Curb - Deduction	177.4	Lin. Ft.
I-21	4" Concrete Median Pave. - Deduction	20.3	Sq. Yd.
I-22	Subbase, Grading A or B - Deduction	6.4	Cu. Yd.
E-1	Excavation	1856.0	Cu. Yd.
E-1	Excavation - Deduction	150.0	Cu. Yd.
E-1	Embankment	605.0	Cu. Yd.
I-18	Stabilized Crushed Aggregate - Deduction	5.1	Cu. Yd.
L-9	Seeding	2357.8	Sq. Yd.
I-15	Guardrail Steel Beam Type (Deep)	352.0	Lin. Ft.

East
West
℄
2'
8'
8'
2'
1" per 1'-0" slope
3/8" per 1'-0" slope
8" T-70 Concr.
1" per 1'-0"
4:1 Slope
2:1 Slope
Orig. Ground
O.G.
18" min.

TYPICAL SECTION
MARENGO DR. - NORTH OF SCHAAF RD. RELOC.
Scale: 1"=10'

Note: X-sections shall govern over Typical Section where variable conditions are encountered.

Rev. 3-24-55 E.M.R.

MARENGO DRIVE - NORTH of SCHAAF RD. RELOC.

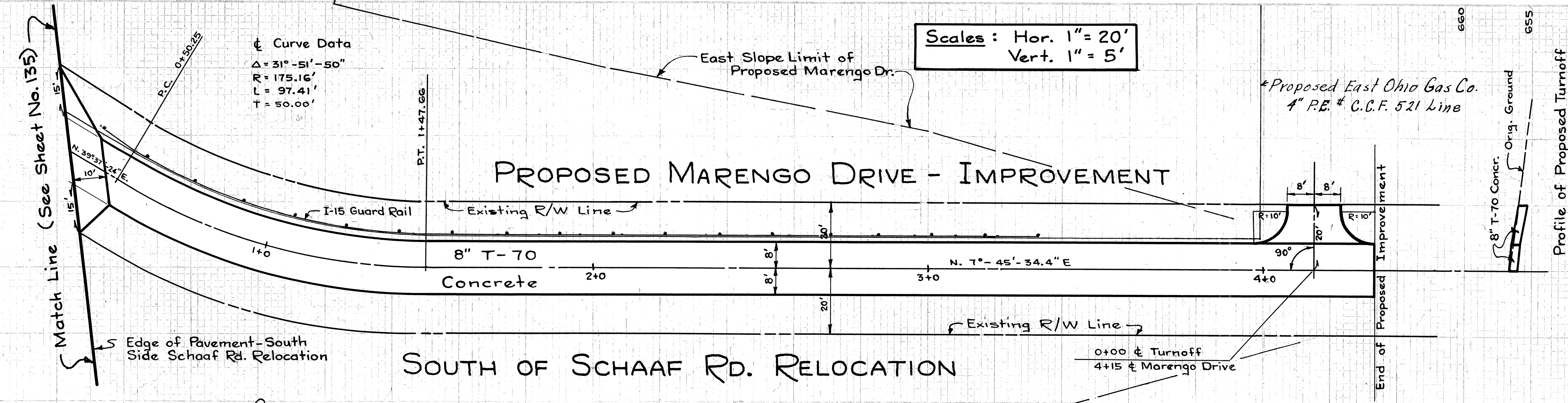
136
169

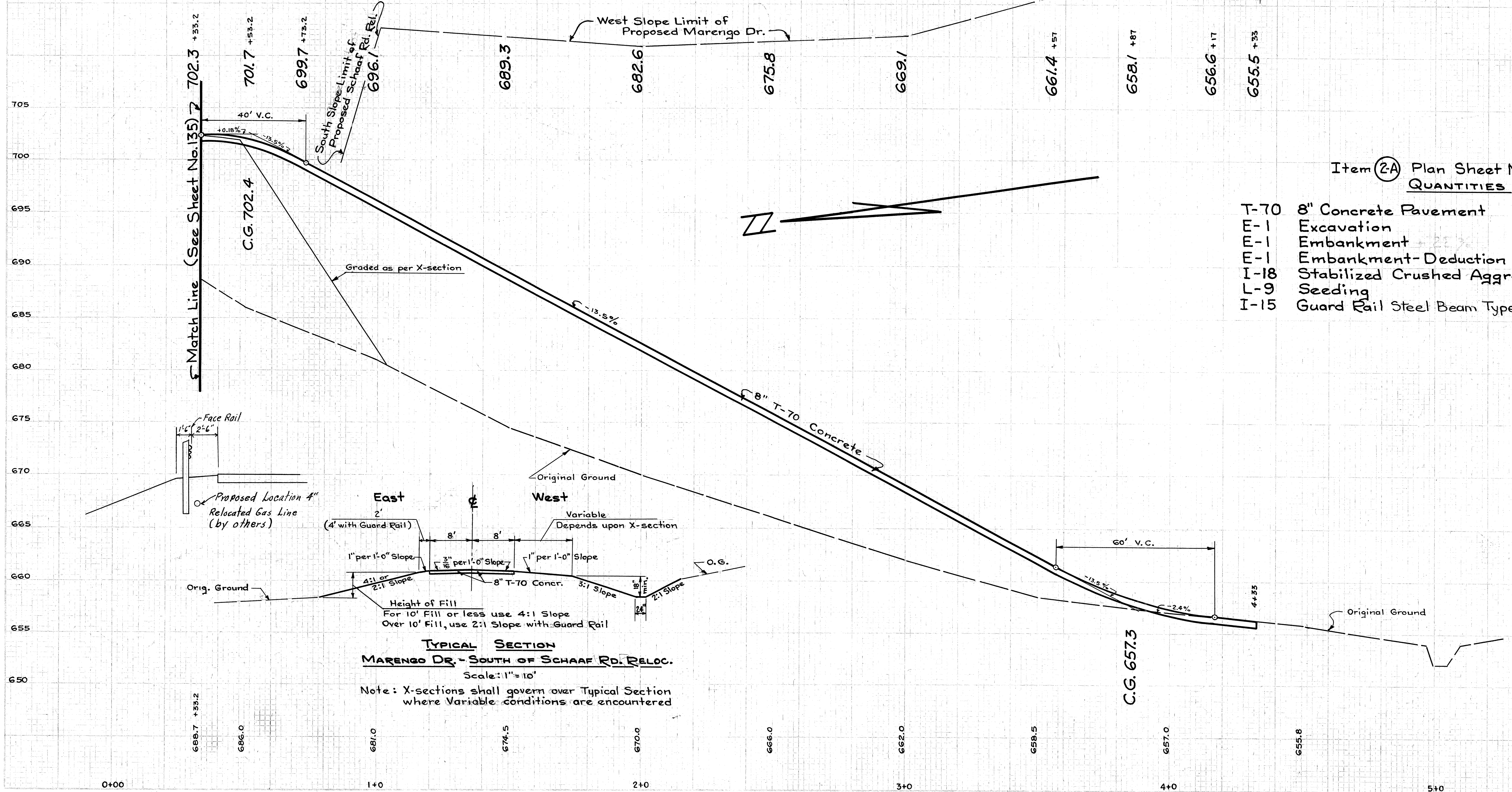
CUYAHOGA COUNTY
SEC. CUY-17-14.99

MARENGO DRIVE - NORTH OF SCHAAF RD. RELOC.

CUYAHOGA COUNTY
Sec. CUY-17-14.99

Scales: Hor. 1" = 20'
Vert. 1" = 5'





Typical Section
Marengo Dr. - South of Schaaf Rd. Reloc.
Scale: 1" = 10'

Note: X-sections shall govern over Typical Section where Variable conditions are encountered

Item (2-A) Plan Sheet No. 18

Quantities

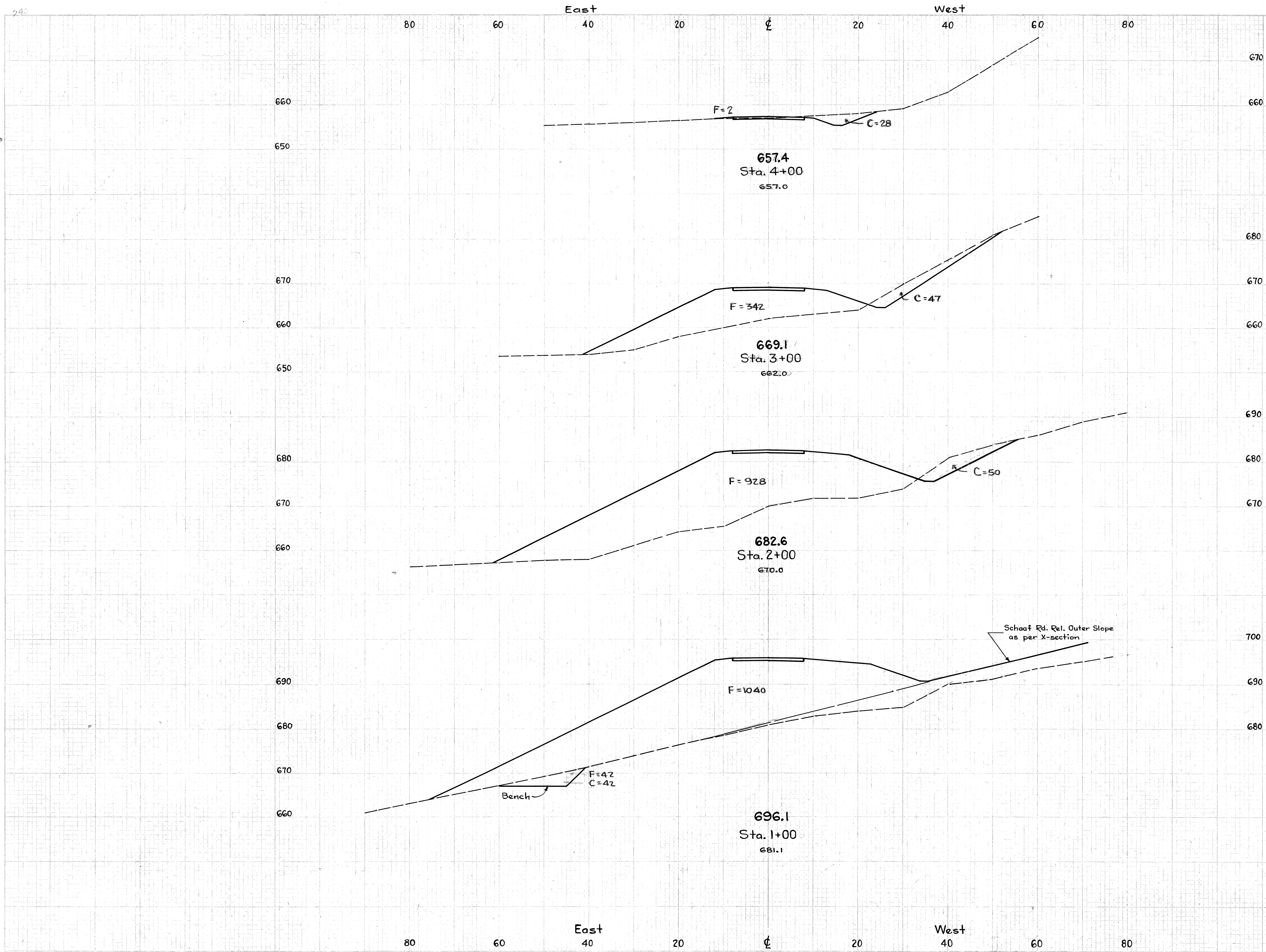
T-70	8" Concrete Pavement	757.9 Sq.Yd.
E-1	Excavation	1225.0 Cu.Yd.
E-1	Embankment	7675.0 Cu.Yd.
E-1	Embankment-Deduction	5.2 Cu.Yd.
I-18	Stabilized Crushed Aggregate-Deduction	5.1 Cu.Yd.
L-9	Seeding	2986.2 Sq.Yd.
I-15	Guard Rail Steel Beam Type (Deep)	288.0 Lin.Ft.

Rev. 3-24-55 E.M.R.

MARENGO DRIVE - SOUTH of SCHAAF RD. RELOC.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	138 / 169
2	OHIO			

CUYAHOGA COUNTY
Sec. CUY - 17 - 14.99



MARENGO DRIVE - SOUTH OF SCHAAF RD. RELOC.

CUYAHOGA COUNTY
SEC CUY-17-14.99

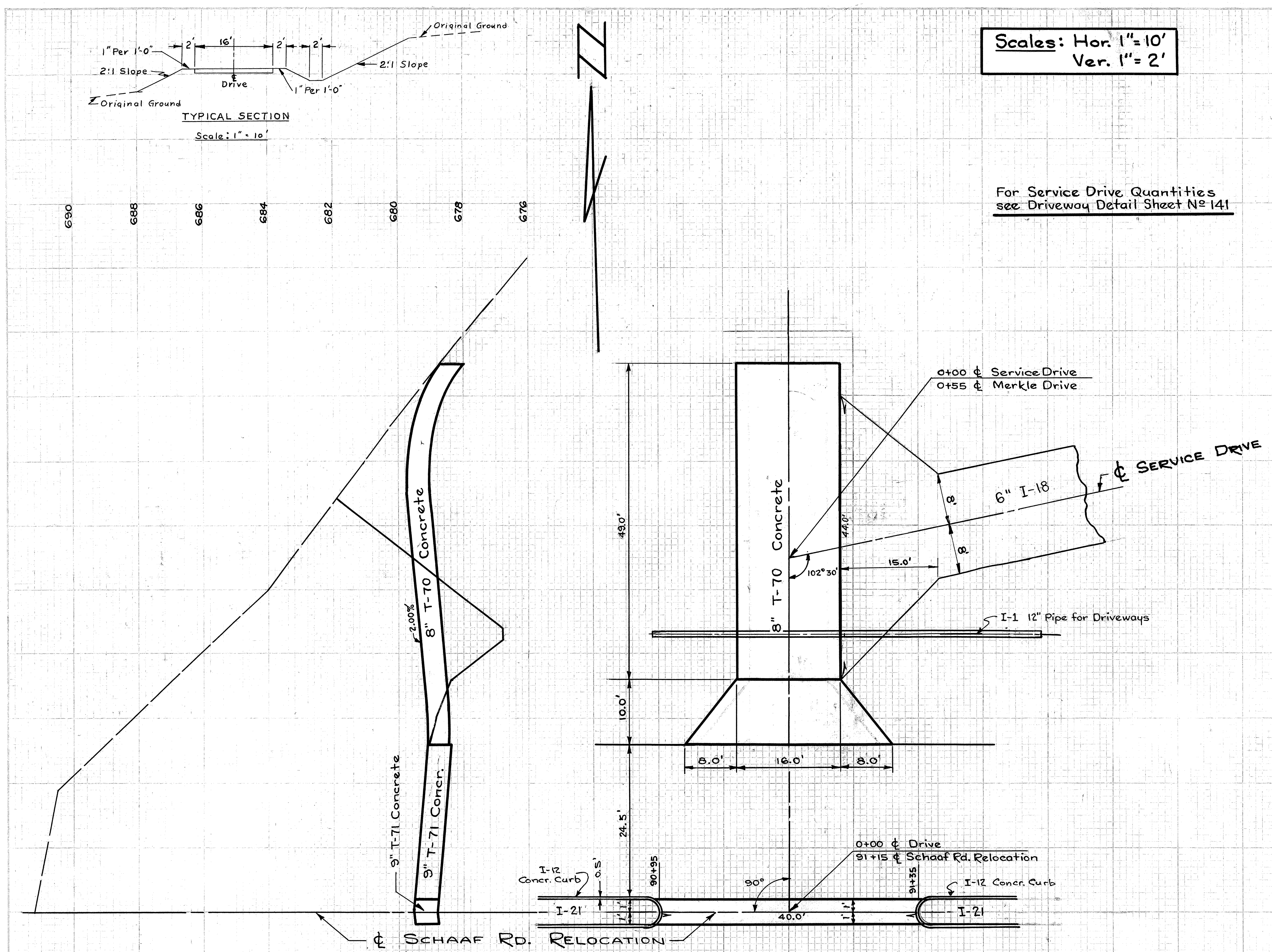
PRIVATE DRIVE DETAILS & QUANTITIES

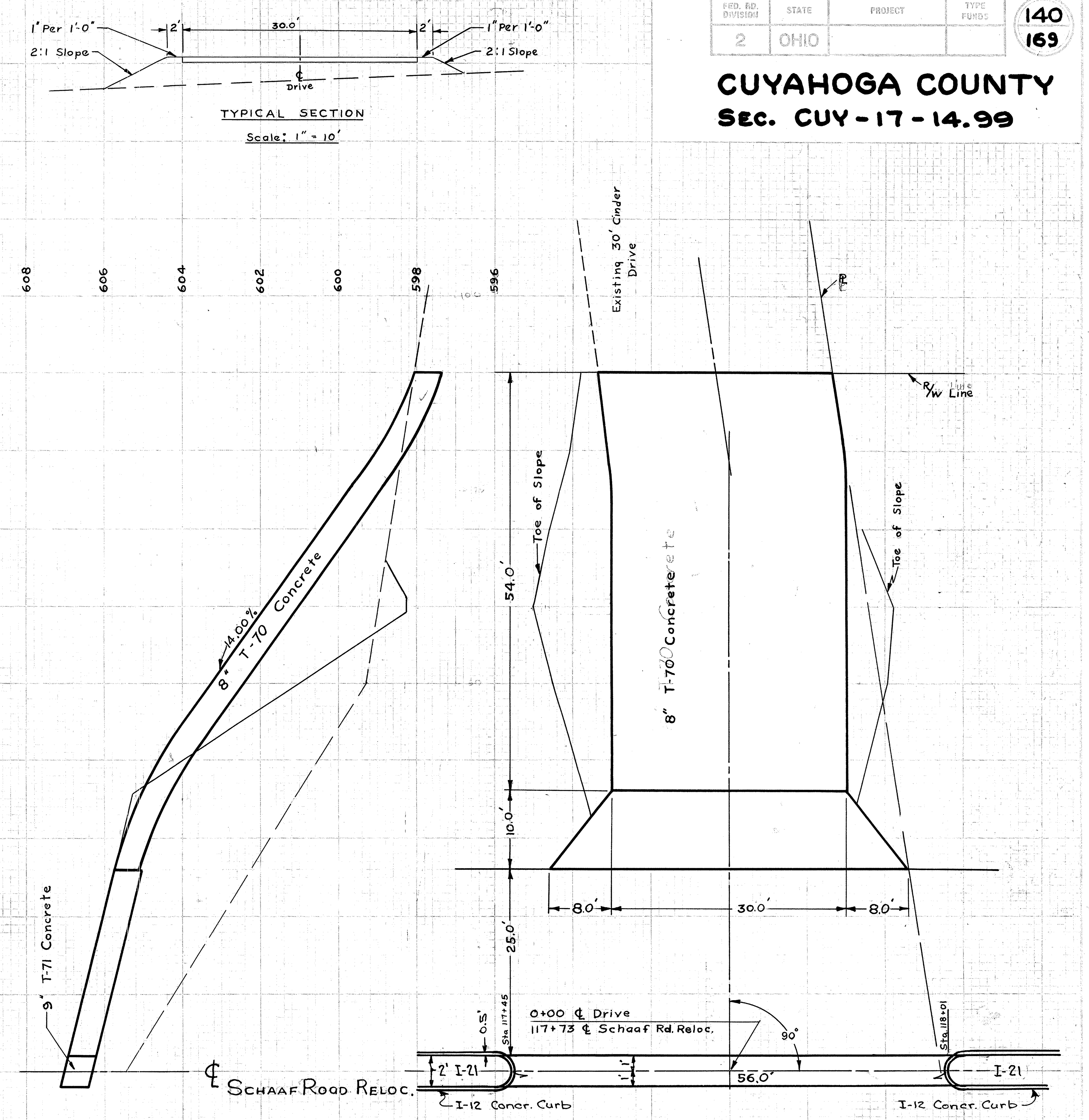
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
Sec. CUY-17-14.99

Scales: Hor. 1" = 10'
Ver. 1" = 2'

For Service Drive Quantities see Driveway Detail Sheet No 141





North Side Schaaf Rd. Relocation Sta. 91+15
Private Drive to Grace Merkle Low, et al.
Item (1-A) Plan Sheet No. 21

T-70	8" Concrete	113.8	Sq. Yd.
T-71	9" Concrete	9.1	Sq. Yd.
I-12	Type 2-A Concrete Curb - Deduction	86.0	Lin. Ft.
I-21	4" Concrete Median Pavement - Deduction	9.1	Sq. Yd.
I-22	Subbase - Deduction (11" Item (F) Sheet #3)	2.9	Cu. Yd.
E-1	Excavation	43.6	Cu. Yd.
E-1	Excavation - Deduction	21.5	Cu. Yd.
I-18	Stabilized Crushed Aggregate - Deduction	2.7	Cu. Yd.
I-1	12" Pipe for Driveways	60.0	Lin. Ft.

North Side Schaaf Road Relocation Sta. 117+73
Private Drive to Roddis Panel & Door Co. (Aplan Realty Co.)
Item (1A) Plan Sheet No 24

T-70	8" Concrete	222.0	Sq Yds.
T-71	9" Concrete	12.6	Sq Yds.
I-12	Type 2-A Concrete Curb - Deduction	118.0	Lin Ft.
I-21	4" Concrete Median Pavement - Deduction	12.6	Sq Yds.
I-22	Sub base Deduction (11" Item (F) Sheet #3)	3.9	Cu Yds.
E-1	Excavation	5.2	Cu Yds.
E-1	Excavation - Deduction	4.2	Cu Yds.
E-1	Embankment - Deduction	11.1	Cu Yds.
E-1	Embankment	55.3	Cu Yds.
I-18	Stabilized Crushed Aggregate - Deduction	3.3	Cu Yds.

PRIVATE DRIVE DETAILS & QUANTITIES

CUYAHOGA COUNTY
SEC. CUY.-17-14.99

Scales: Hor. 1" = 20'
Vert. 1" = 5'

Service Drive to Grace Merkle Low, et al., W. Jay Sawyer, & Cleveland Electric Illuminating Co
Item (2-A) Plan Sheet No 21 & Item (1-A) Plan Sheet No 22

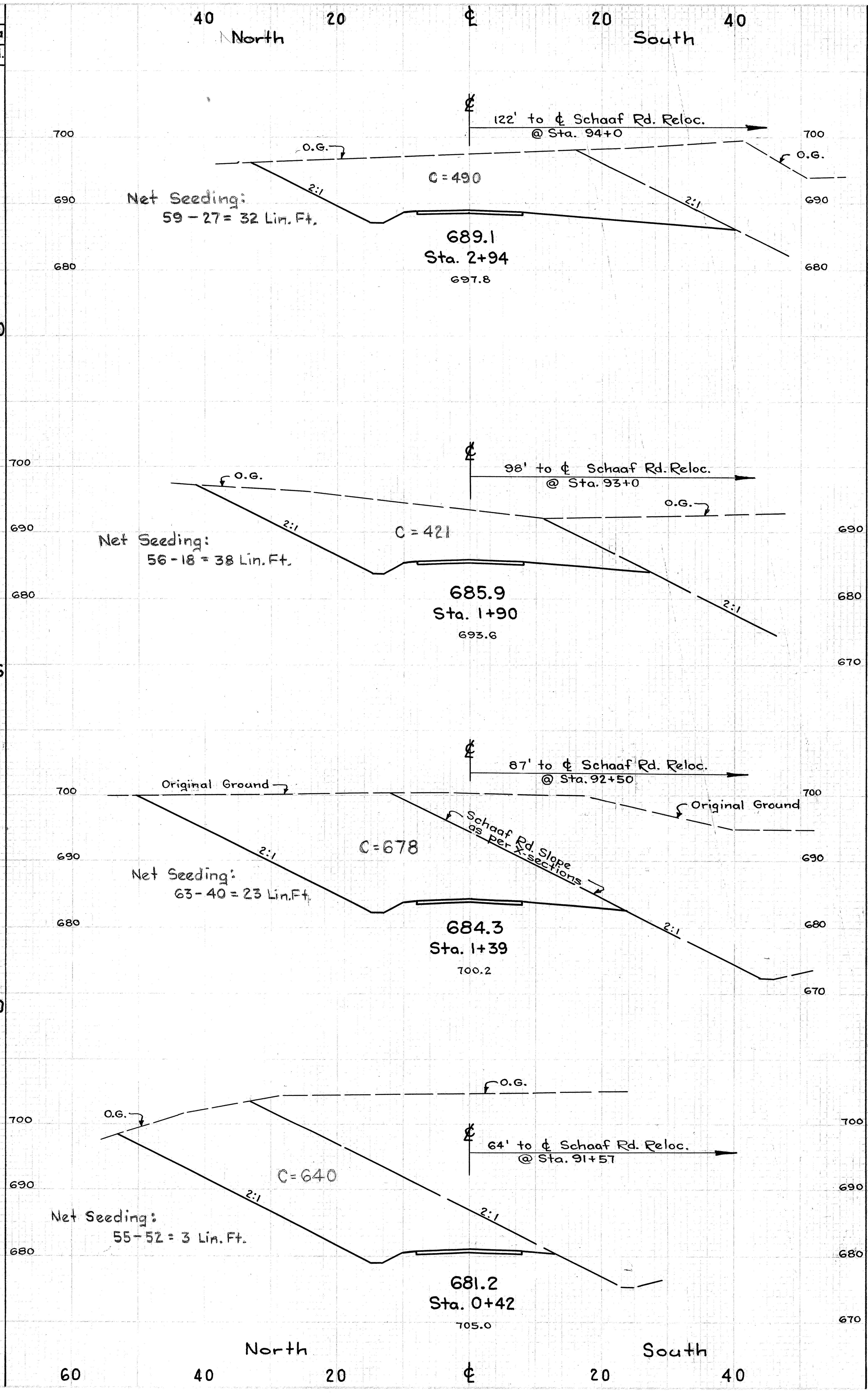
Quantities

I-18	6" Stabilized Aggregate Pavement	230	Cu.Yd.
E-1	Excavation	6868	Cu.Yd.
E-1	Embankment	1674	Cu.Yd.
I-15	Guard Rail Steel Beam Type (Deep)	96	Lin.Ft.
L-9	Seeding	1898	Sq.Yd.

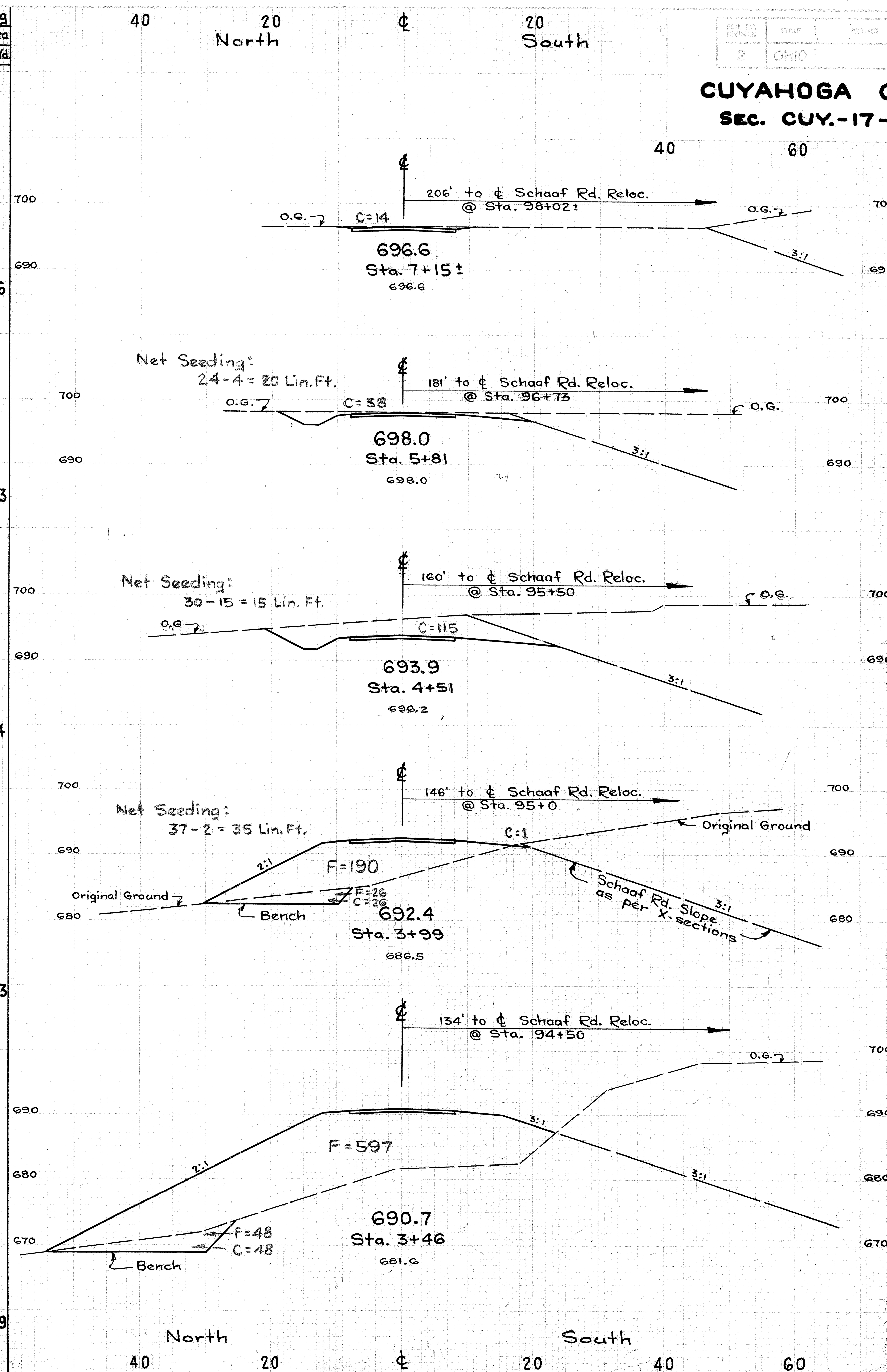
NORTH SERVICE DRIVE STA. 91+15 to STA. 98+0

CUYAHOGA COUNTY
SEC. CUY.-17-14.99

Seeding Length Lin.Ft.	Seeding Area Sq.Yd.	End Area Cut	End Area Fill	Cu.Yds. Cut	Cu.Yds. Fill
32		490			
	400			1738	
38		421			
	176			1038	
23		678			
	140			2368	
3		640			
	7			498	



Seeding Length Lin.Ft.	Seeding Area Sq.Yd.
5	
	186
20	
	253
15	
	144
35	
	303
68	
	289



End Area Cut	End Area Fill	Cu.Yds. Cut	Cu.Yds. Fill
114			
		129	
38			
		368	
115			
		137	208
27	216		
		74	845
48	645		
		518	621

NORTH SERVICE DRIVE STA. 91+15 to STA. 98+02

2 OHIO

CUY. - 17 - 14.99
CUYAHOGA COUNTY

Private Drive to East Ohio Gas Co. Property
Item (1-A) Plan Sheet No. 23

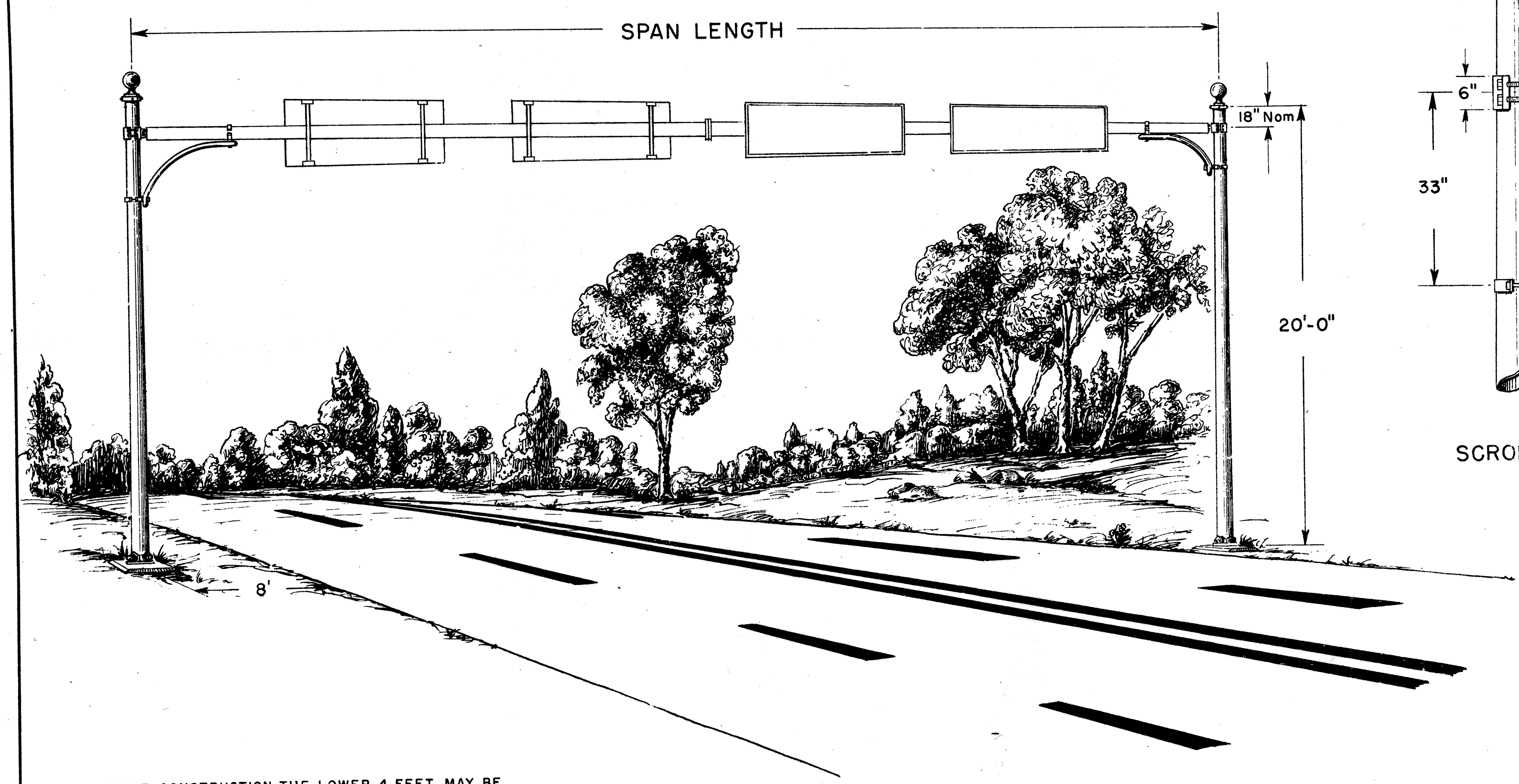
QUANTITIES

T-71	9" Concrete	13.4	Sq. Yd.
T-70	8" Concrete	692.0	Sq. Yd.
I-21	4" Concrete Median - Deduction	13.4	Sq. Yd.
E-1	Excavation	125.0	Cu. Yd.
E-1	Embankment	3801.0	Cu. Yd.
E-1	Embankment - Deduction	2.9	Cu. Yd.
I-18	Stabilized Crushed Aggregate - Deduction	4.0	Cu. Yd.
I-22	Subbase - Deduction (11" Item (F) Sheet #3)	4.2	Cu. Yd.
I-12	Type 2-A Concr. Curb - Deduction	112.0	Lin. Ft.
I-15	Guard Rail Steel Beam Type (Deep)	384.0	Lin. Ft.
I-1	18" Pipe For Driveways	116.0	Lin. Ft.
S-1	Class "C" Concrete	1.0	Cu. Yd.
S-4	Reinforcing Steel	26.0	Lbs.
E-2	Excavation for Structures	2.0	Cu. Yds.
I-10	Riprap Type "A"	13.5	Sq. Yds.
L-9	Seeding	1763.8	Sq. Yd.

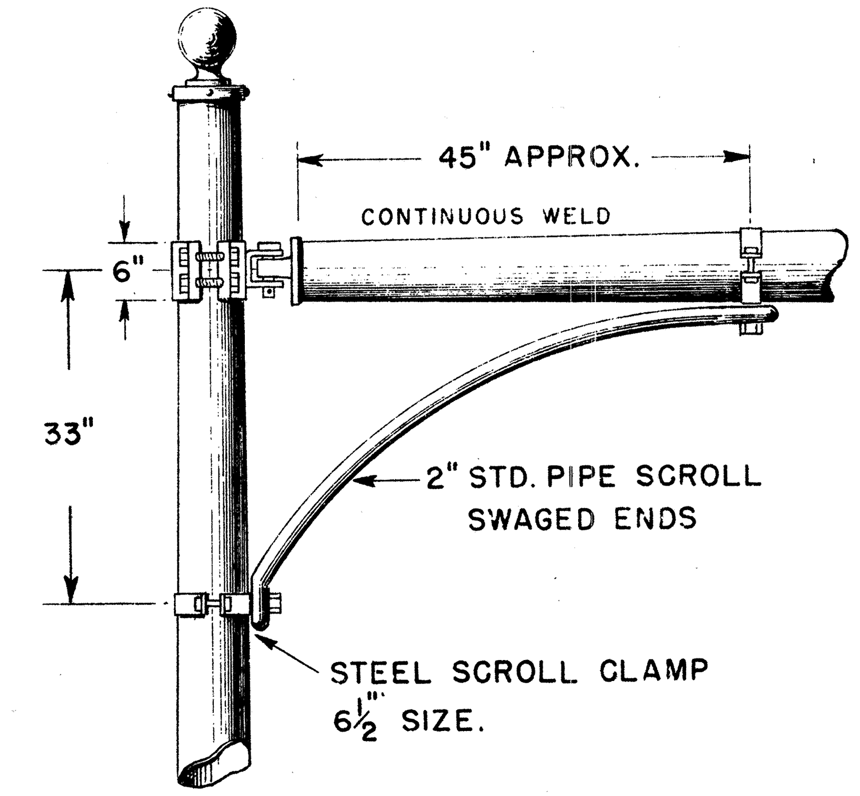
PRIVATE DRIVE DETAILS & QUANTITIES

CUY-17-14.99

SIGN STANDARD TYPE-13



TO FACILITATE CONSTRUCTION THE LOWER 4 FEET MAY BE CONSTRUCTED CYLINDRICAL IN SHAPE. IF THE CYLINDRICAL CONSTRUCTION IS USED THE DIAMETER SHALL BE 2'-6" MINIMUM.



SCROLL DETAILS.

NOTE:

The Pole Foundations shall be Class "E" Concrete, using #4 Aggregate constructed in accordance with the details shown.

The concrete construction shall be in accordance with Item S-1, except that the foundation holes shall be excavated to neat lines and the concrete poured without forms to within 6 inches of the top of the foundation.

The upper 6 inches of the foundation shall be properly formed in accordance with Section S-1.05.

The Anchor Rods shall be accurately held in place until the concrete has set.

Foundation details are for average soil conditions (medium clay). Where the stability of the foundation is impaired by a poor soil condition the details of the foundation may vary accordingly.

The sign standard shall be Union Metal Manufacturing Company type design No. 30418-Y 17 to 30418-Y 21 inclusive or an approved equal.

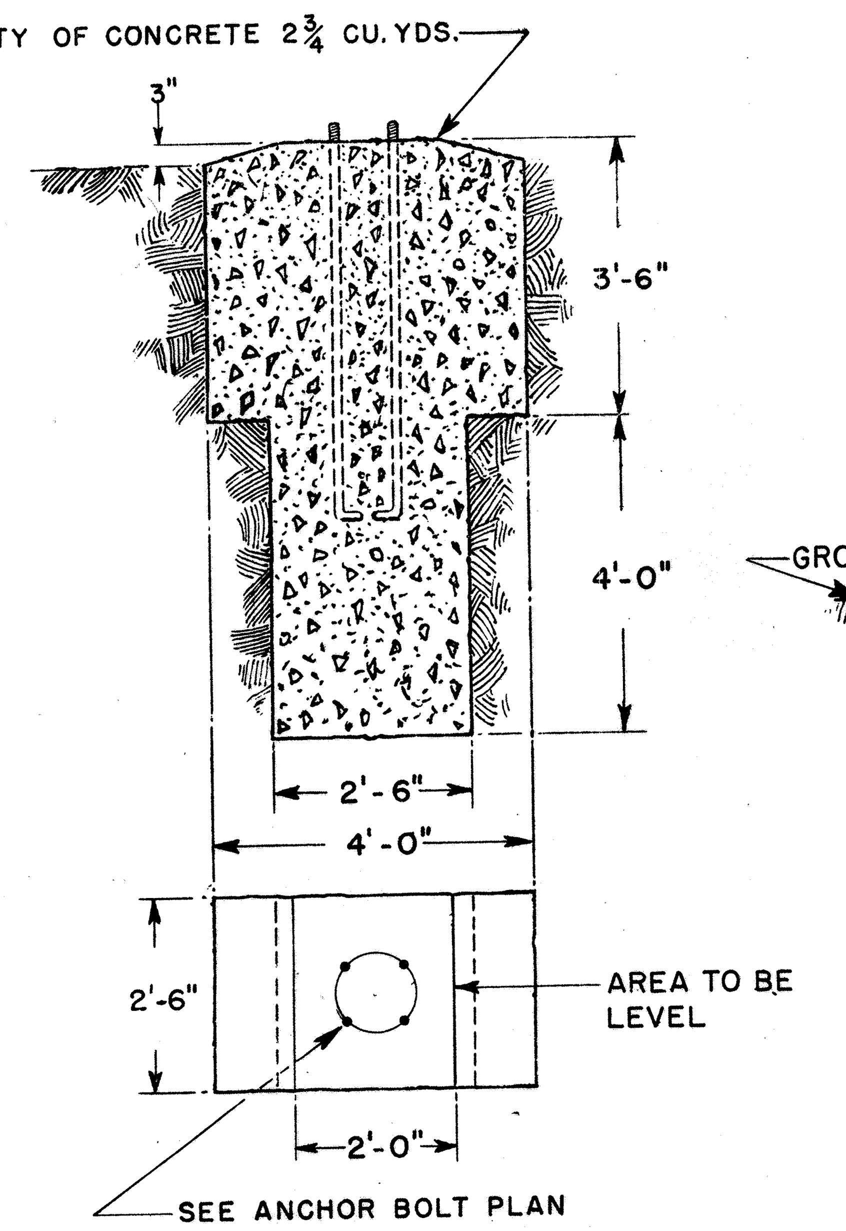
The sign standards are designed on the basis of a maximum sign area of 100 square feet, and a weight of 500 lbs. applied at the center of the beam.

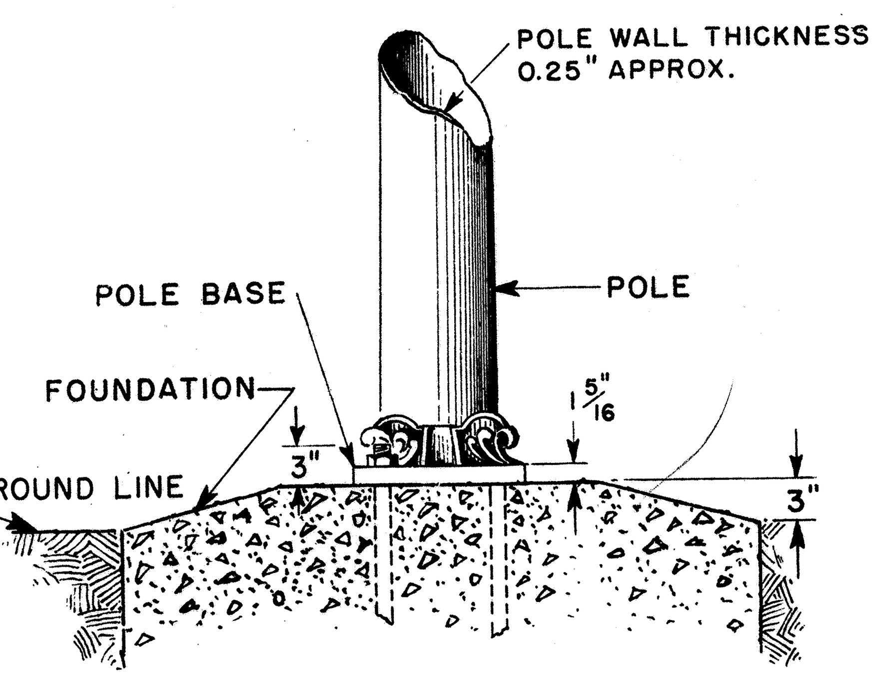
The Shop Coats of paint for the standard shall be applied in accordance with Section S-8.04. & as per Section S-25.10.

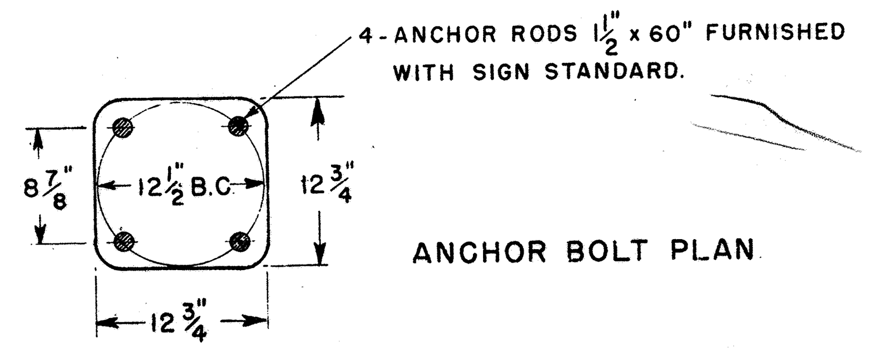
The finished Field Paint shall be one coat of high grade weather resistant dark green paint applied in accordance with Section S-8.05.

The Items and Sections referred to above are from Ohio Department of Highway Construction & Material Specifications.

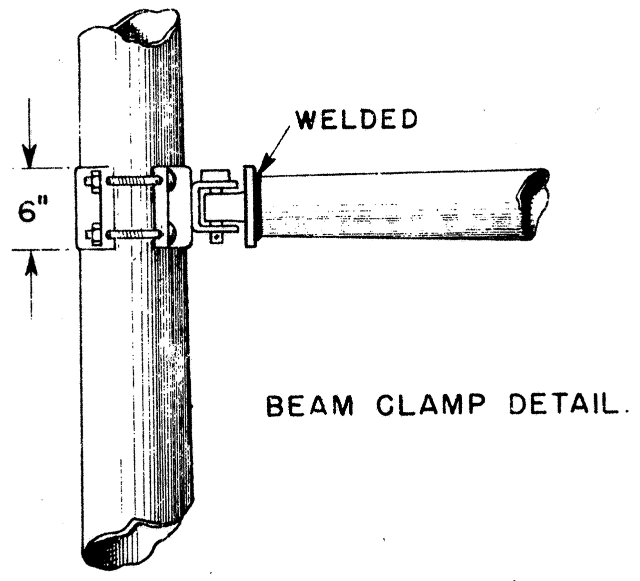
ALL STEEL POLES & CROSS BEAM MEMBERS SHALL HAVE A MINIMUM TAPER OF 0.14" PER LINEAL FOOT.
EACH POLE SHALL BE LOCATED A MINIMUM OF 8 FEET FROM THE EDGE OF THE ROADWAY.
THE TOTAL SPAN LENGTH SHALL NOT EXCEED 82'-0".



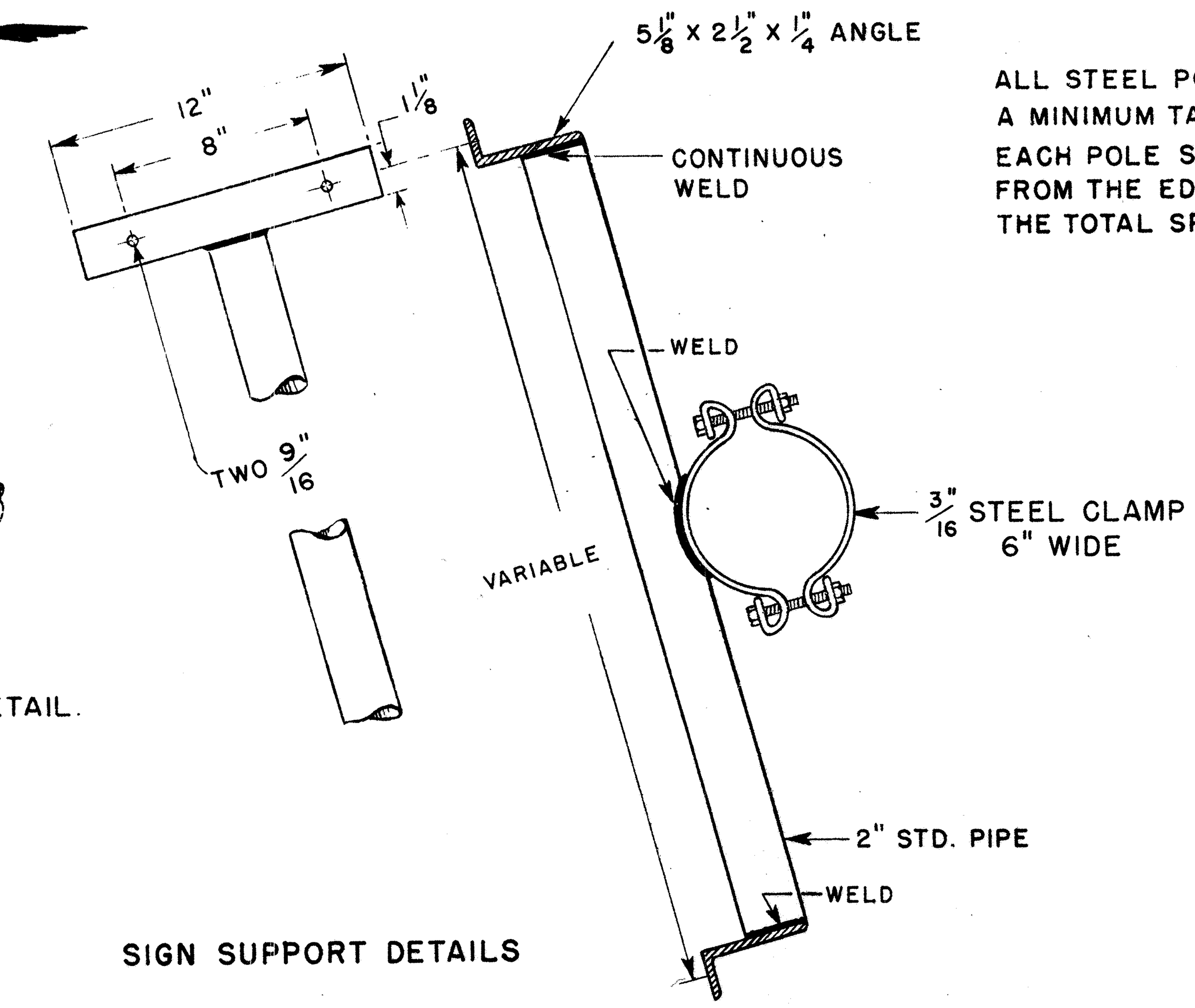




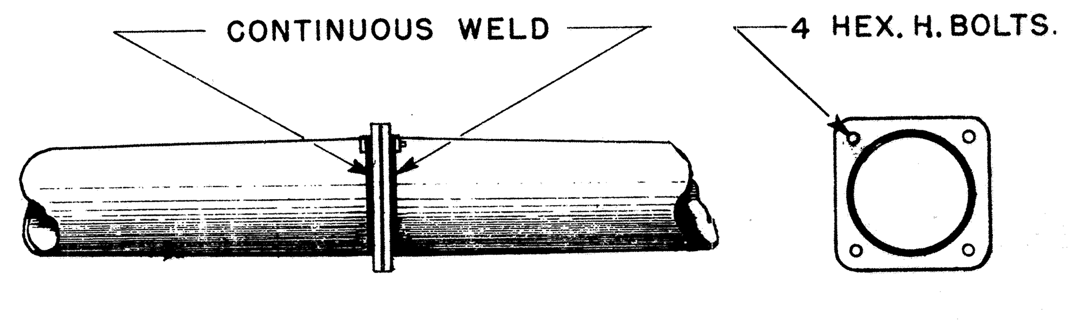
ANCHOR BOLT PLAN



BEAM CLAMP DETAIL.



SIGN SUPPORT DETAILS

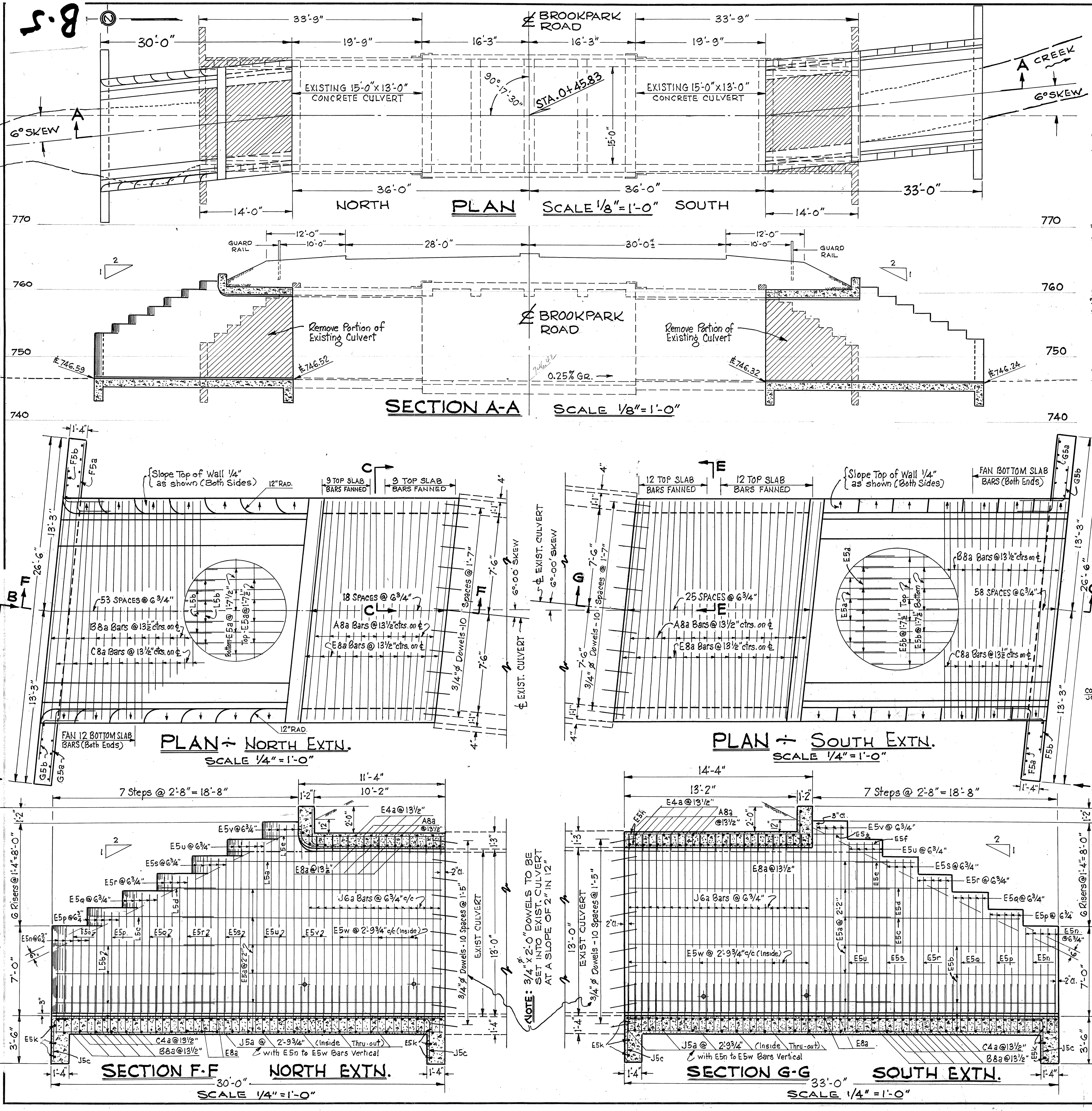


BEAM SPLICE

APPROVED ENGINEER OF TRAFFIC	
H.G. Eckhardt	8/23/54

SIGN STANDARD
TYPE-13
OHIO DEPARTMENT OF HIGHWAYS
BUREAU OF TRAFFIC
SEPTEMBER-1954

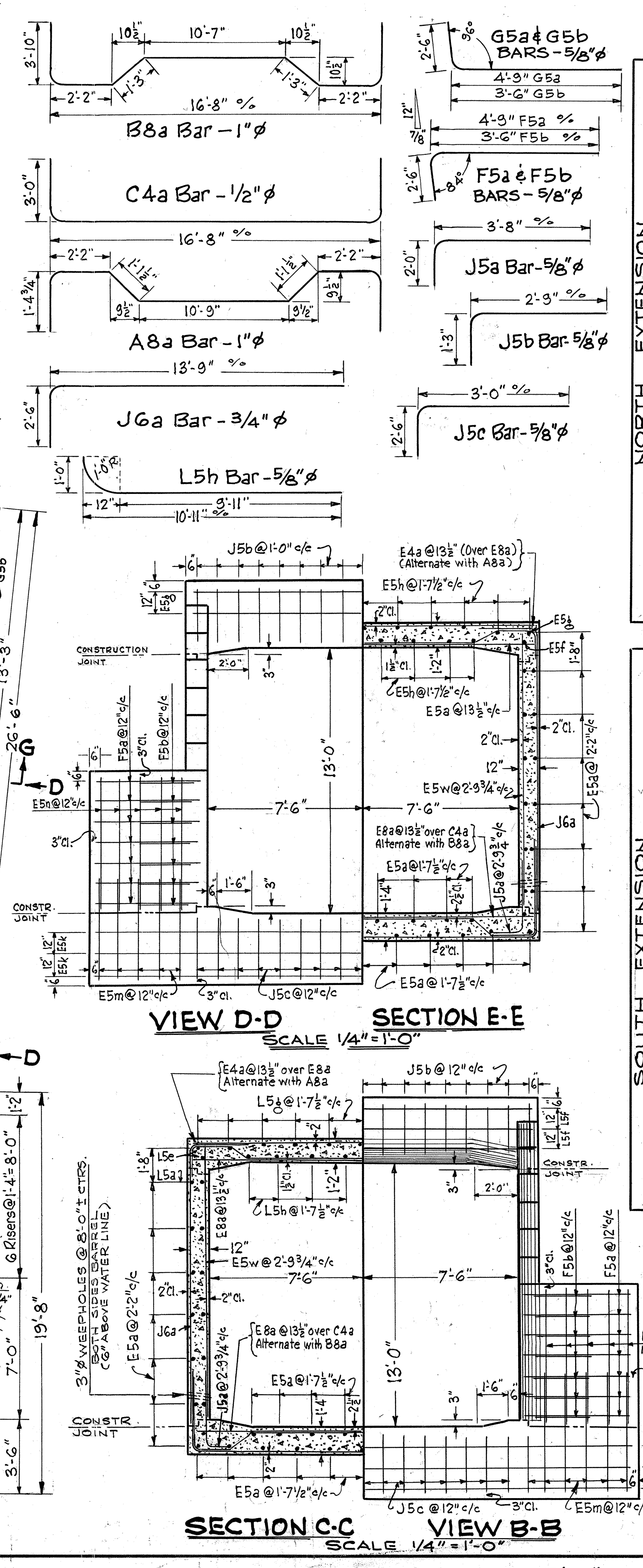
B-5



Excavation for Structures (Item E-2) .... 109.0 Cu.Yds.
Concrete (Class "C") for Structures (Item S-1) .... 113.4 Cu.Yds.
Dowel Holes (Item S-23) .... 80 Each
Removal of Portion Existing Structure (Item S-22) .... Lump Sum
Reinforcing Steel .... (Item S-4) .... 18,992 Lbs.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO			144 / 169

CUYAHOGA COUNTY
CUY-17-14.99



REINFORCING STEEL

	MARK	SIZE DIA.	No	LENGTH	TOTAL FEET	WEIGHT LBS.	SHAPE
NORTH EXTENSION	A8a	1"	9	19'-8"	177.0	472.52	Bent
	B8a	1"	26	24'-7 1/2"	640'-3"	1709.47	Bent
	C4a	1/2"	27	22'-6"	607'-6"	405.81	Bent
	J6a	3/4"	36	16'-1"	579'-0"	869.66	Bent
	J5a	5/8"	22	5'-6"	121'-0"	126.20	Bent
	J5b	5/8"	17	3'-10"	65'-2"	79.69	Bent
	J5c	5/8"	34	4'-10"	164'-4"	171.39	Bent
	E4a	1/2"	9	16'-6"	148'-6"	99.20	Straight
	E5a	5/8"	41	20'-0"	820'-0"	855.26	Straight
	L5a	5/8"	4	16'-2"	64'-8"	67.45	Straight
	L5b	5/8"	33	11'-2"	368'-6"	384.35	Straight
	L5c	5/8"	4	8'-6"	34'-0"	35.46	Straight
	L5d	5/8"	4	5'-10"	23'-4"	24.34	Straight
	L5e	5/8"	4	13'-6"	54'-0"	56.32	Straight
	L5f	5/8"	3	16'-6"	49'-6"	51.63	Straight
	L5g	5/8"	9	10'-8"	96'-0"	100.13	Straight
	L5h	5/8"	8	11'-6"	92'-0"	95.96	Bent
	E5k	5/8"	6	26'-0"	156'-0"	162.70	Straight
	E5m	5/8"	10	5'-0"	50'-0"	52.15	Straight
	E5n	5/8"	22	6'-9"	148'-6"	154.89	Straight
	E5p	5/8"	12	8'-1"	97'-0"	101.17	Straight
	E5q	5/8"	12	9'-5"	113'-0"	117.86	Straight
	E5r	5/8"	12	10'-9"	129'-0"	134.55	Straight
	E5s	5/8"	10	12'-1"	120'-10"	126.03	Straight
	E5u	5/8"	12	13'-5"	161'-0"	167.92	Straight
	E5v	5/8"	12	14'-9"	177'-0"	184.61	Straight
	E5w	5/8"	6	13'-8"	82'-0"	85.53	Straight
	F5a	5/8"	7	7'-1"	49'-7"	51.72	Bent
	F5b	5/8"	7	5'-10"	40'-10"	42.68	Bent
	G5a	5/8"	7	7'-1"	49'-7"	51.72	Bent
	G5b	5/8"	7	5'-10"	40'-10"	42.68	Bent
	E8a	1"	36	16'-6"	594'-0"	1585.98	Straight
	Dowels	3/4"	40	2'-0"	80'-0"	120.16	Straight
	TOTAL					8,787.29 #	
SOUTH EXTENSION	A8a	1"	13	19'-8"	255'-8"	682.64	Bent
	B8a	1"	30	24'-7 1/2"	738'-9"	1972.46	Bent
	C4a	1/2"	29	22'-6"	652'-6"	435.87	Bent
	J6a	3/4"	52	16'-1"	836'-4"	1256.17	Bent
	J5a	5/8"	24	5'-6"	132'-0"	137.68	Bent
	J5b	5/8"	17	3'-10"	65'-2"	79.69	Bent
	J5c	5/8"	34	4'-10"	164'-4"	171.39	Bent
	E5a	5/8"	45	20'-0"	900'-0"	938.70	Straight
	E5b	5/8"	33	14'-0"	462'-0"	481.87	Straight
	E5c	5/8"	4	11'-4"	45'-4"	47.28	Straight
	E5d	5/8"	4	8'-8"	34'-8"	36.16	Straight
	E5e	5/8"	4	6'-0"	24'-0"	25.03	Straight
	E5f	5/8"	2	19'-2"	38'-4"	39.98	Straight
	E5g	5/8"	4	16'-6"	66'-0"	68.84	Straight
	E5h	5/8"	17	13'-10"	235'-2"	245.28	Straight
	E5k	5/8"	6	26'-0"	156'-0"	162.70	Straight
	E5m	5/8"	10	5'-0"	50'-0"	52.15	Straight
	E5n	5/8"	22	6'-9"	148'-6"	154.89	Straight
	E5p	5/8"	12	8'-1"	97'-0"	101.17	Straight
	E5q	5/8"	12	9'-5"	113'-0"	117.86	Straight
	E5r	5/8"	12	10'-9"	129'-0"	134.55	Straight
	E5u	5/8"	12	13'-5"	161'-0"	167.92	Straight
	E5s	5/8"	10	12'-1"	120'-10"	126.03	Straight
	E5v	5/8"	8	14'-3"	118'-0"	123.07	Straight
	E5w	5/8"	10	13'-8"	136'-8"	142.54	Straight
	E4a	1/2"	13	16'-6"	215'-6"	143.95	Straight
	E8a	1"	42	16'-6"	693'-0"	1850.31	Straight
	F5a	5/8"	7	7'-1"	49'-7"	51.72	Bent
	F5b	5/8"	7	5'-10"	40'-10"	42.68	Bent
	G5a	5/8"	7	7'-1"	49'-7"	51.72	Bent
	G5b	5/8"	7	5'-10"	40'-10"	51.72	Bent
	Dowels	3/4"	40	2'-0"	80'-0"	120.16	Straight
	TOTAL					10,205.14 #	
	TOTAL BOTH					18,992.43 #	

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

1-C & 2-C of Sheet No 13

15'-0" x 13'-0" CULVERT EXTENSION @ STA. 0+45.84 SCHAAF RD. RELOC.

Scale: As Shown CUYAHOGA COUNTY

TOPOGRAPHY			PROPOSED WORK			
SURVEY	DR. BY	DESIGN	DR. BY	CH'K'D.	REVISED	DATE

15'-0" x 13'-0" CULVERT EXTN. SCHAAF RD. RELOC.

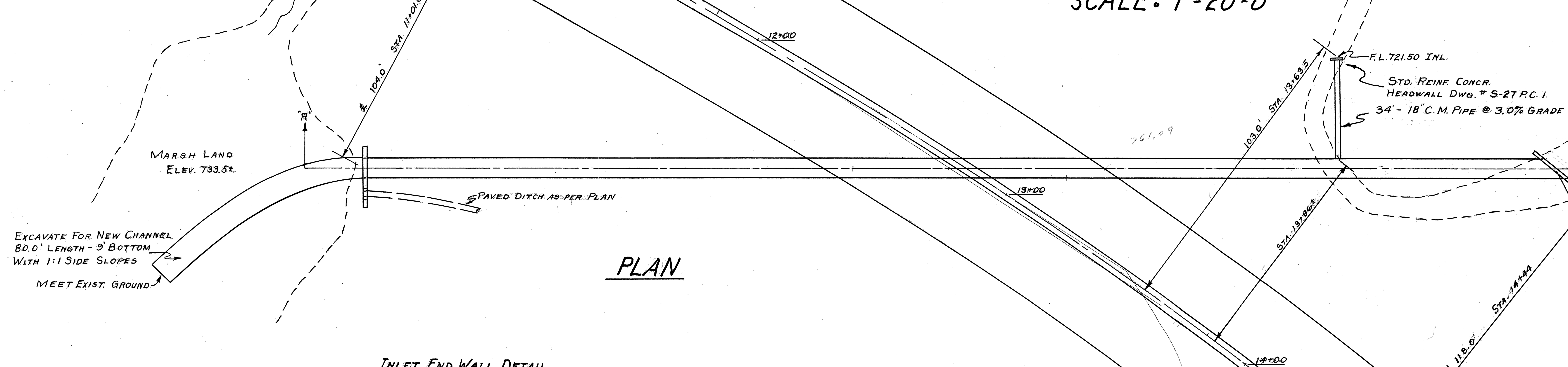
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO			145 / 169

CUY. 17-14.99
CUYAHOGA-COUNTY

84 INCH PIPE CULVERT

STA. 12+83.5 REF. Nº 1-C SHEET Nº 15

SCALE: 1"=20'-0"



PLAN

BUILD 12" CONCR. WALL ACROSS WIDTH OF CHANNEL USE CL."E" CONCR.

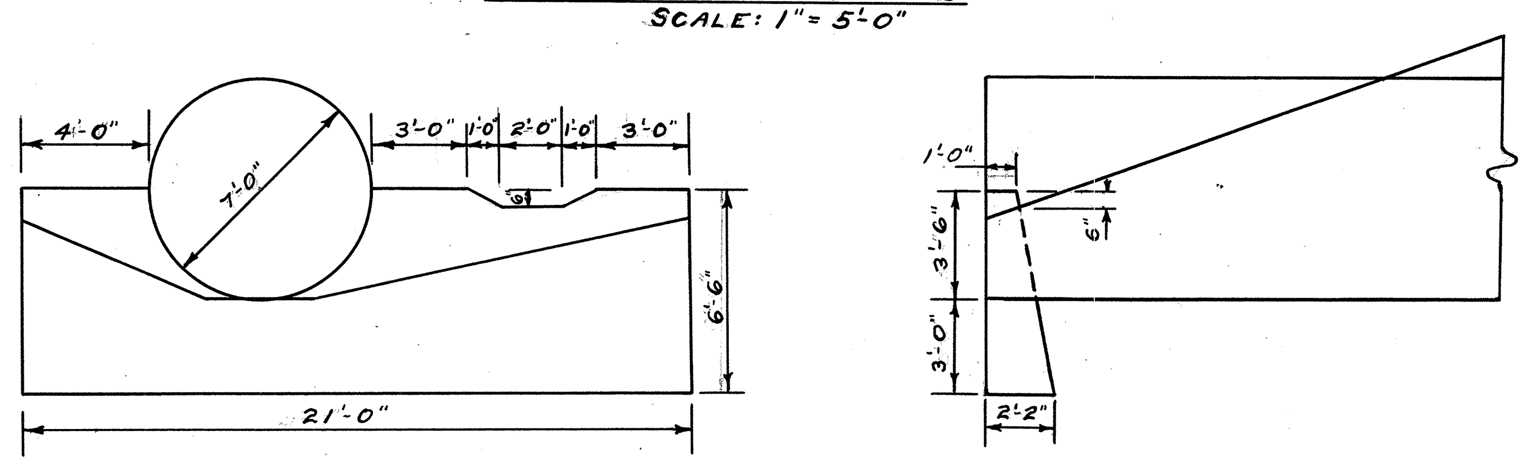
ANY PORTION OF 84" PIPE EXTENDING BEYOND END WALL AT OUTLET SHALL BE CUT OFF AT FACE OR END WALL.

THE 18" C.M.P. TO BE CONNECTED TO 84" PIPE WITH A TEE SADDLE BRANCH. A 18" DIA. HOLE IS TO BE PROVIDED IN PLATE OR SECTIONAL PIPE. COST OF LABOR & MATERIAL TO PROVIDE CONNECTION TO BE INCLUDED IN UNIT PRICE BID FOR 84 SECTIONAL CORRUGATED METAL STRUCTURES.

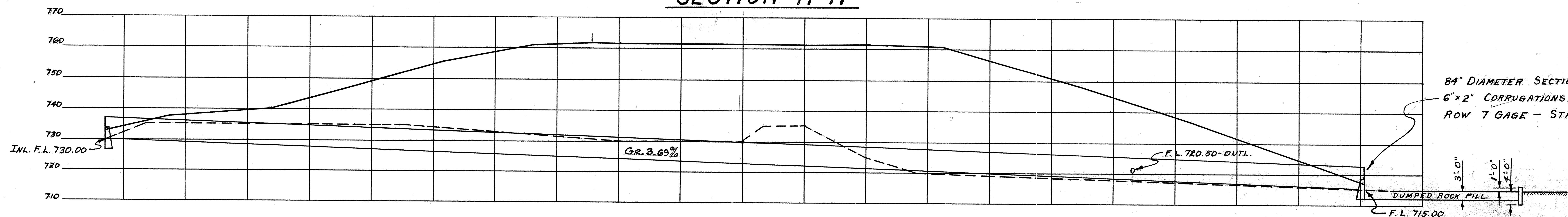
LINE BOTTOM AND RIGHT HAND SLOPE OF OUTL. CHANNEL TO ELEV. 718.0 WITH 125 CU. YDS. OF DUMPED ROCK FILL.

NOTE:
REQUIREMENT OF STD. DWG. # SP-53 SHALL GOVERN FOR THIS CONSTRUCTION.

INLET END WALL DETAIL
SCALE: 1"=5'-0"

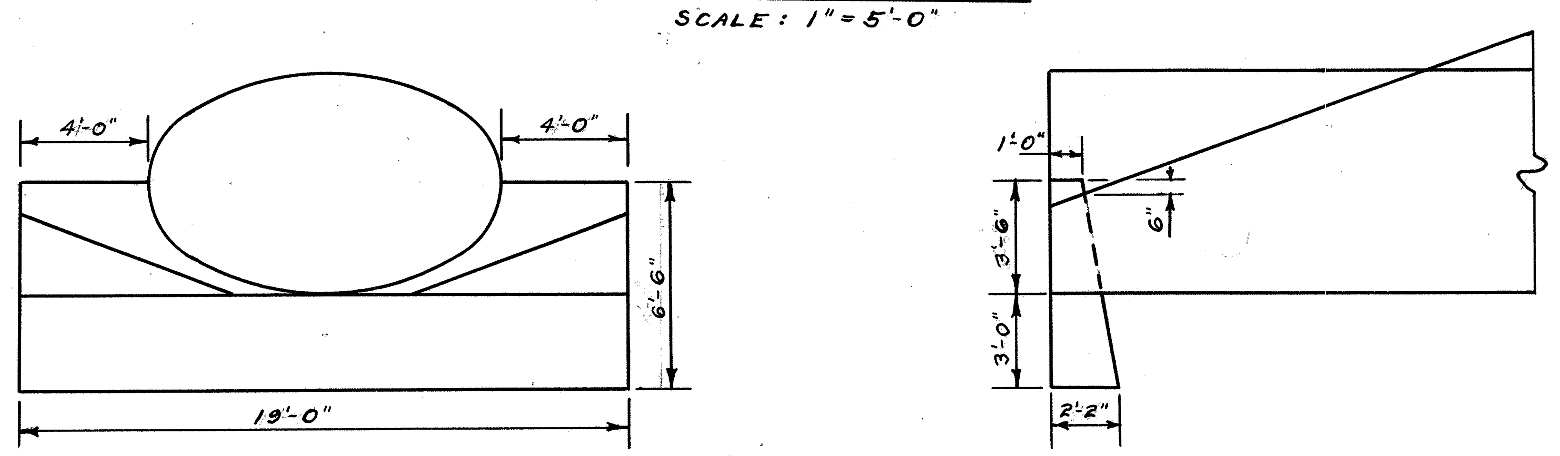


SECTION "A"-"A"

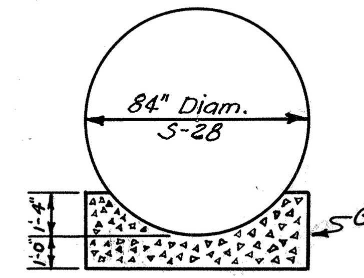


84" DIAMETER SECTIONAL CORRUGATED METAL STRUCTURE, 6"x2" CORRUGATIONS, 8 GAGE WITH BOTTOM ROW 7 GAGE - STRUTTING NOT REQUIRED.

OUTLET END WALL DETAIL
SCALE: 1"=5'-0"



TYPICAL SECTION FOR BEDDING PIPE



SCALE: 1"=5'-0"

NOTE: COST OF WORK TO BED PIPE, INCLUDING GRANULAR MATERIAL, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM S-28: "SECTIONAL CORRUGATED METAL STRUCTURES." EXCAVATION FOR BEDDING PIPE IS INCLUDED IN ITEM E-2: "EXCAVATION FOR STRUCTURES."

ESTIMATED QUANTITIES

E-2	Excavation for Structures with Granular Backfill	46 Cu. Yds
E-2	EXCAVATION FOR STRUCTURES	660 CU. YDS.
S-1	CONCRETE FOR STRUCTURES - CLASS "E"	16.5 CU. YDS.
S-1	CONCRETE FOR STRUCTURES - CLASS "C"	1.0 CU. YDS.
S-4	REINFORCING STEEL	26 LBS.
I-10	DUMPED ROCK FILL	125 CU. YDS.
S-27	18" PIPE FOR ROADWAY CULVERT M-6.4(d) with Gran. Bed.	34 LIN. FT.
E-3	CHANNEL EXCAVATION	65 CU. YDS.
S-28	84" SECTIONAL CORRUGATED METAL STRUCTURES M-6.4(g) (AS PER PLAN), 8-7 Gage	410 LIN. FT.

84" ROADWAY CULVERT DETAIL - STA. 12+83.5

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

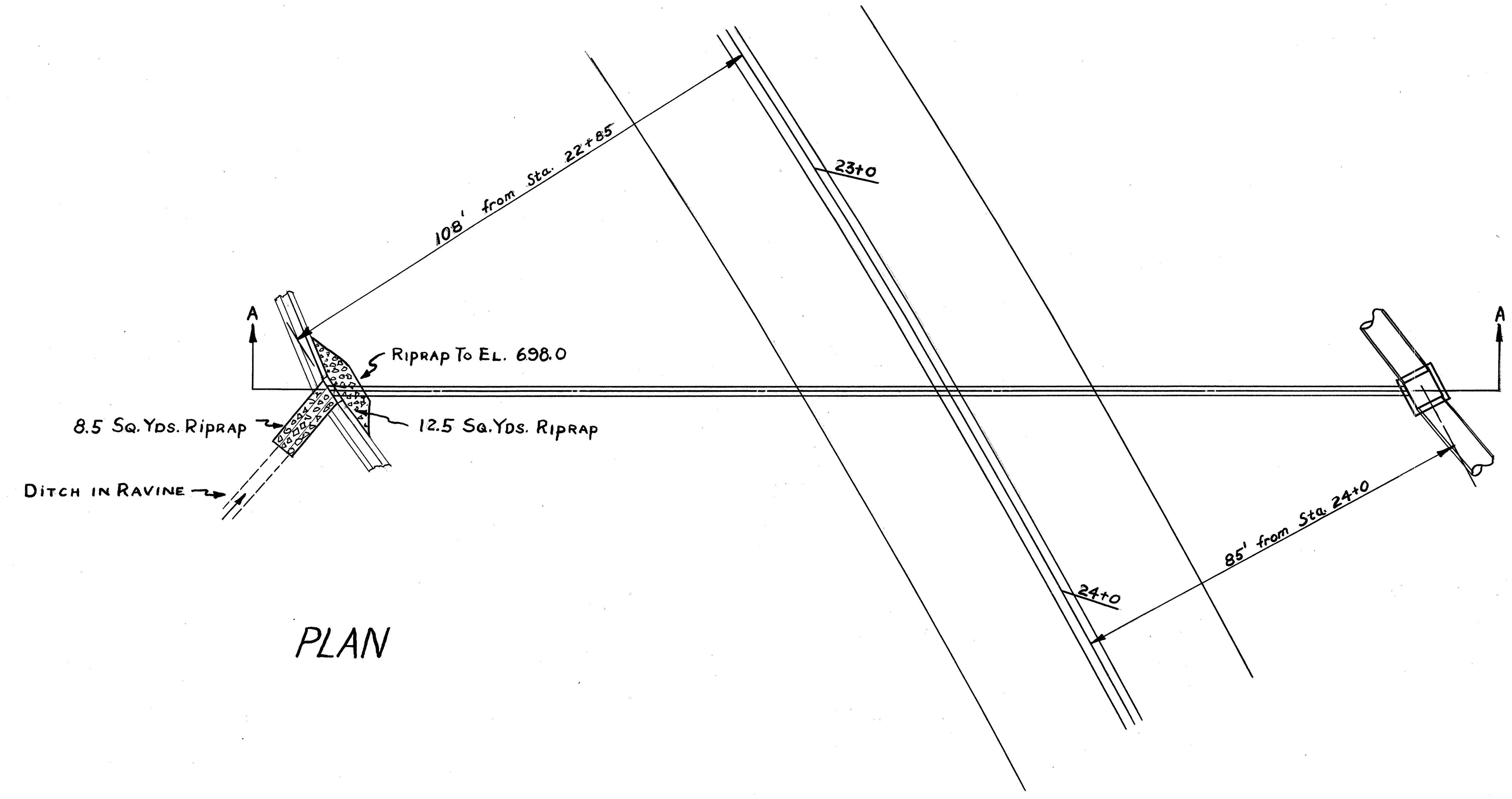
146
169

CUY.-17-14.99
CUYAHOGA COUNTY

24 INCH ROADWAY CULVERT

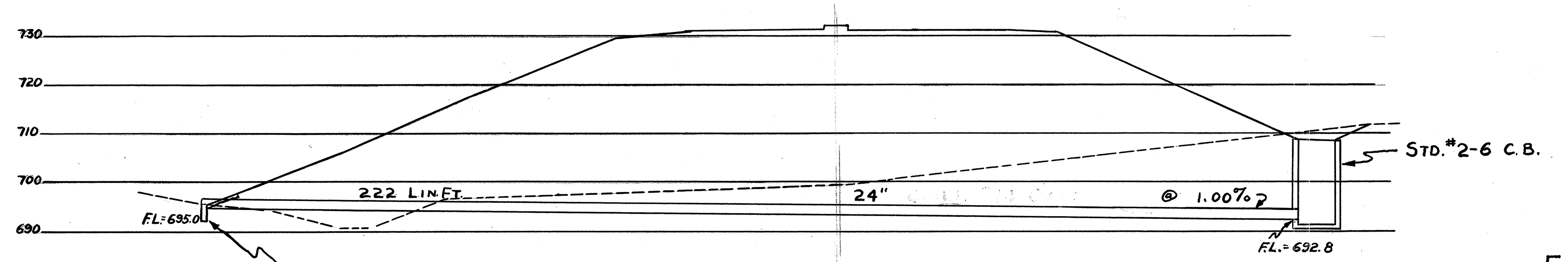
STA 23+53.5 REF Nº 2-C SHEET Nº 15

SCALE 1"=20'



PLAN

SECTION A-A



Note: Pipe Culvert End Wall (W=6.0 Ft.)
Standard Drawing S-27 P.C.4

ESTIMATED QUANTITIES

E-2	Excavation for Structures including Gran. Backfill	334	Cu. Yds.
S-1	Concrete for Structures Class "E"	0.7	Cu. Yds.
S-27	24" Pipe for Roadway Culvert M=6.4(d) 12 Ga. or M-106.6(d), With Granular Bedding	222	Lin. Ft.
I-10	Riprap type "A" Grouted	21	Sq. Yds.

24" ROADWAY CULVERT DETAIL - STA. 23+53.50

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

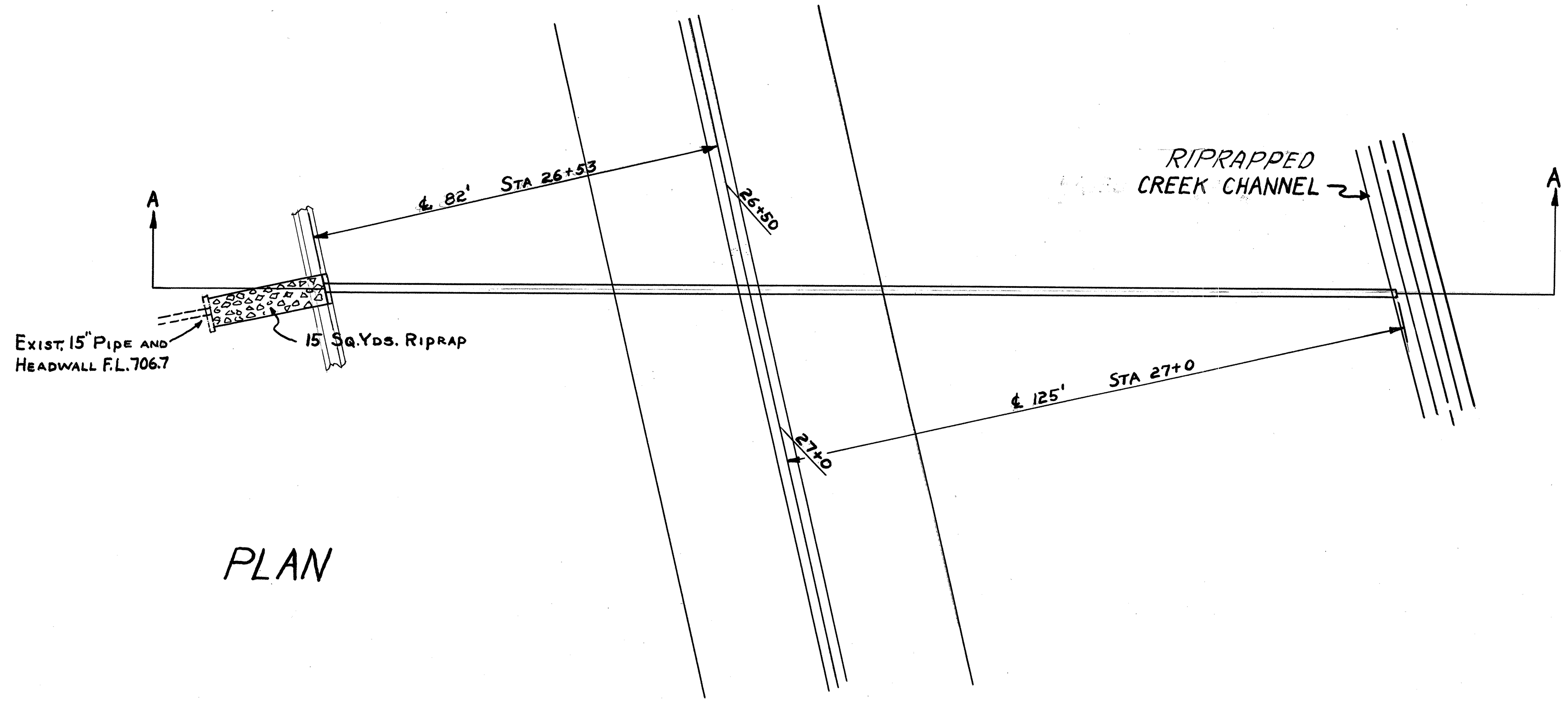
147
169

CUY.- 17-14.99
CUYAHOGA-COUNTY

18 INCH ROADWAY CULVERT

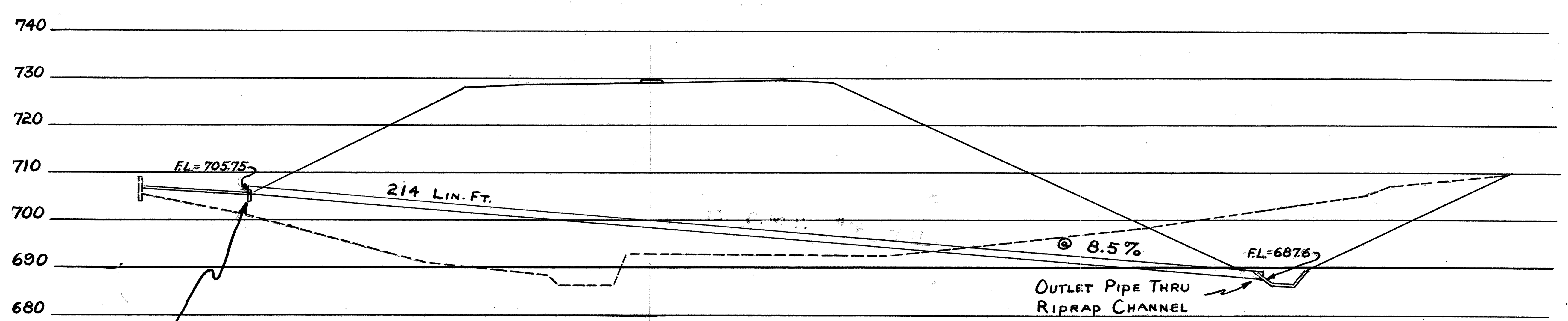
STA 26+71.6 REF. Nº 2-C SHEET Nº 16

SCALE: 1" = 20'



PLAN

SECTION A-A



Note: Pipe culvert end wall, Standard Construction Drawing S-27 P.C.4

ESTIMATED QUANTITIES

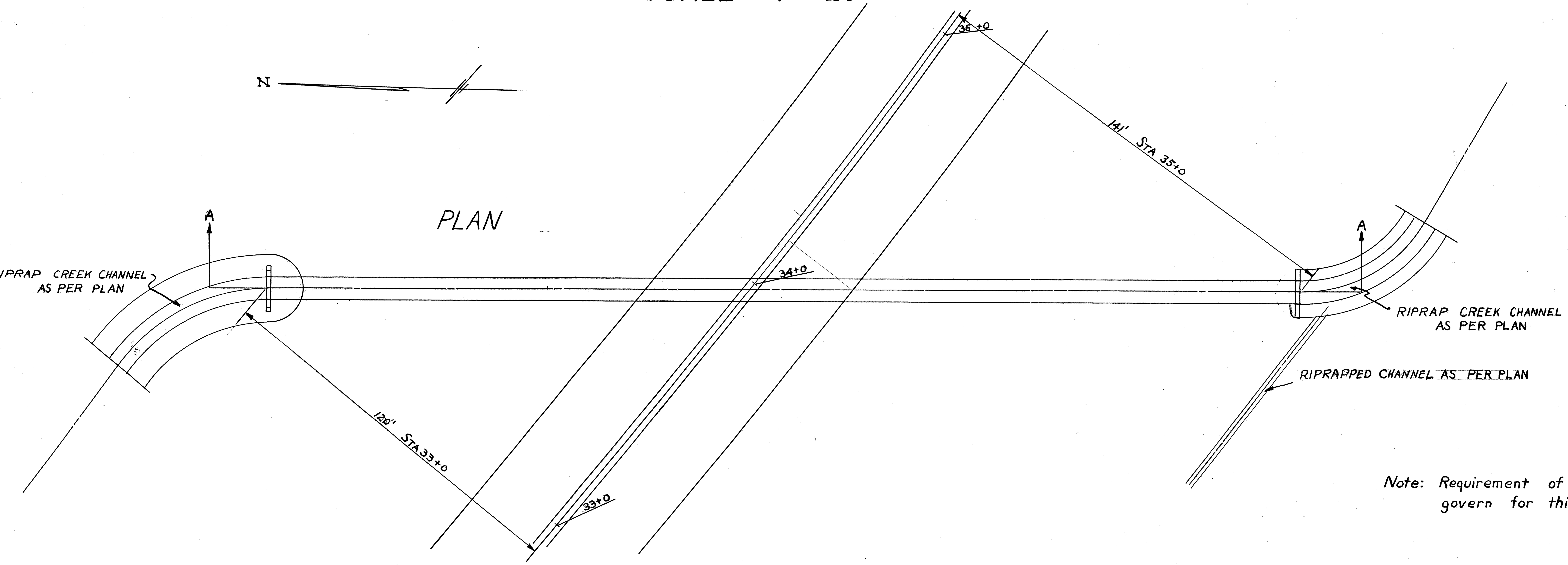
E-2	Excavation for Structures with Gran. Backfill	41. Cu. Yds.
S-1	Concrete for Structures Class "C"	0.3 Cu. Yds.
S-27	18" Pipe for Roadway Culvert M-6.4(d) or M-106.6(d) with Gran. Bedding	214 Lin. Ft.
I-10	Riprap Type A Grouted	15 Sq. Yds.

18" ROADWAY CULVERT DETAIL - STA. 26 + 71.6

84 INCH PIPE CULVERT

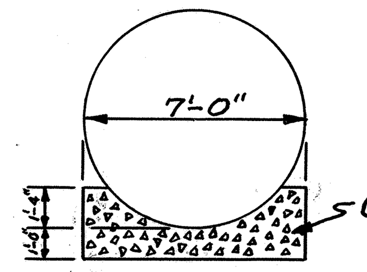
STA 33+98 REF. Nº 1-C SHEET Nº 16 & 17

SCALE: 1" = 20'



Note: Requirement of Std. Dwg. # SP-53 shall govern for this construction.

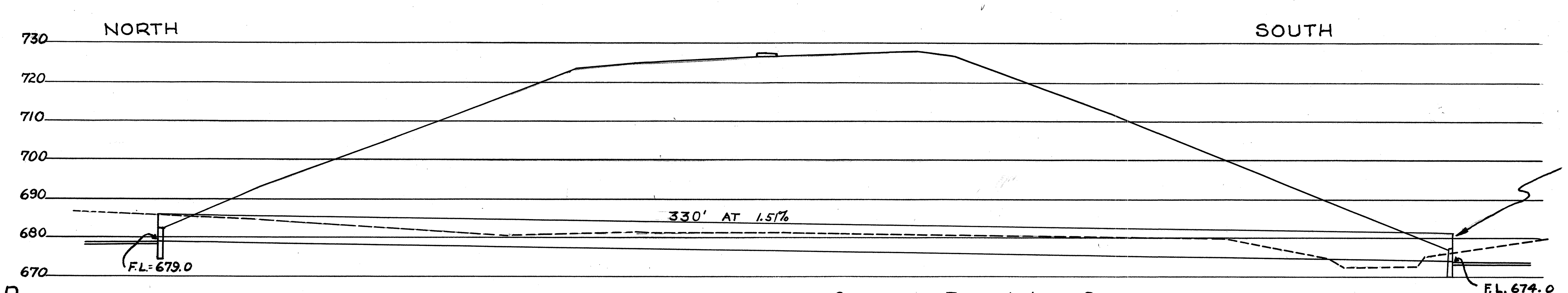
TYPICAL SECTION FOR BEDDING PIPE



Scale: 1" = 5'-0"

Note: Cost of work to bed pipe, including granular material, shall be included in the unit price bid for Item S-28: "Sectional Corrugated Pipe Structures." Excavation for bedding pipe is included in Item E-2 "Excavation for Structures."

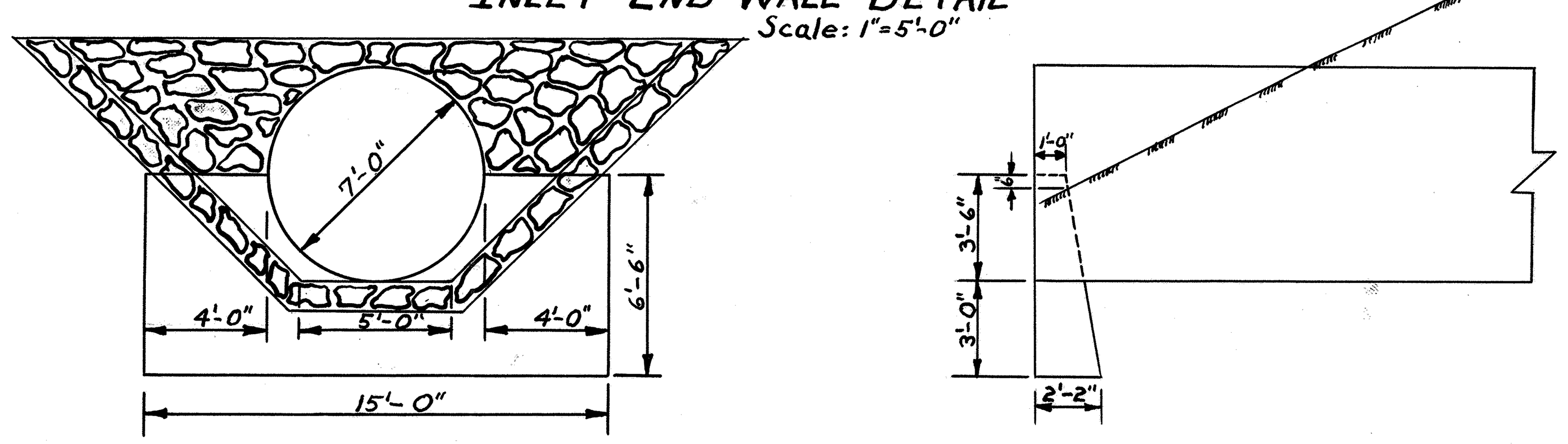
SECTION A-A



84" Diameter Sectional Corrugated Plate Pipe, 6"x2" corrugations, 8 gage with bottom row 5 gage ~ Strutting not required.

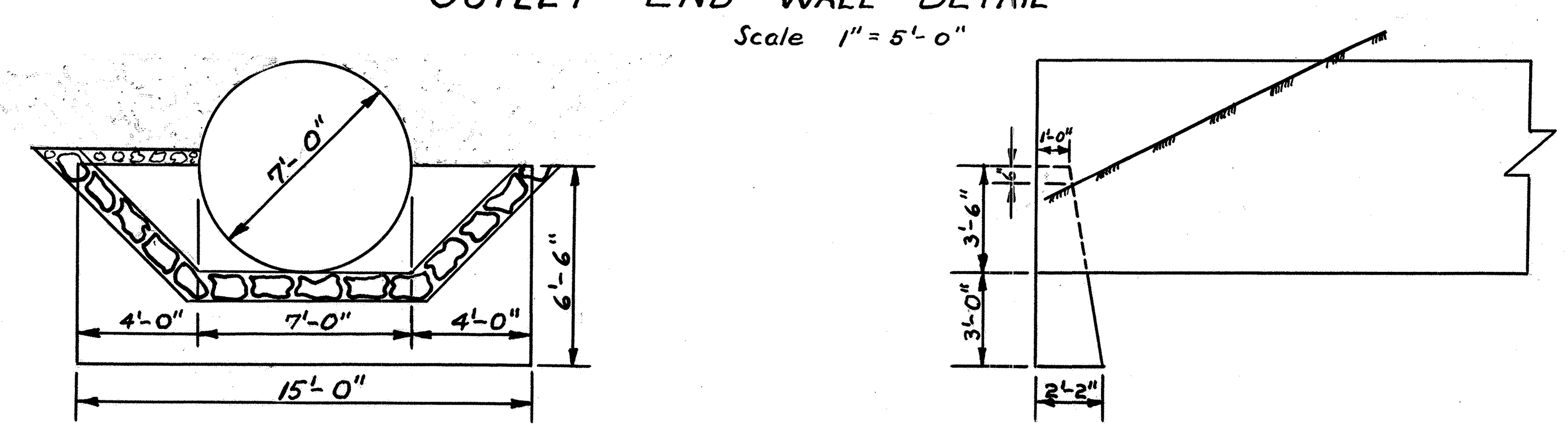
INLET END WALL DETAIL

Scale: 1" = 5'-0"



OUTLET END WALL DETAIL

Scale 1" = 5'-0"



ESTIMATED QUANTITIES

E-2	Excavation for Structures	606 Cu. Yds.
S-1	Concrete for Structures Class "E"	10 Cu. Yds.
S-28	84" Sectional Corrugated Metal Structures Sec. M-6.4(g) as per plan, 8-5 Gage	330 Lin. Ft.

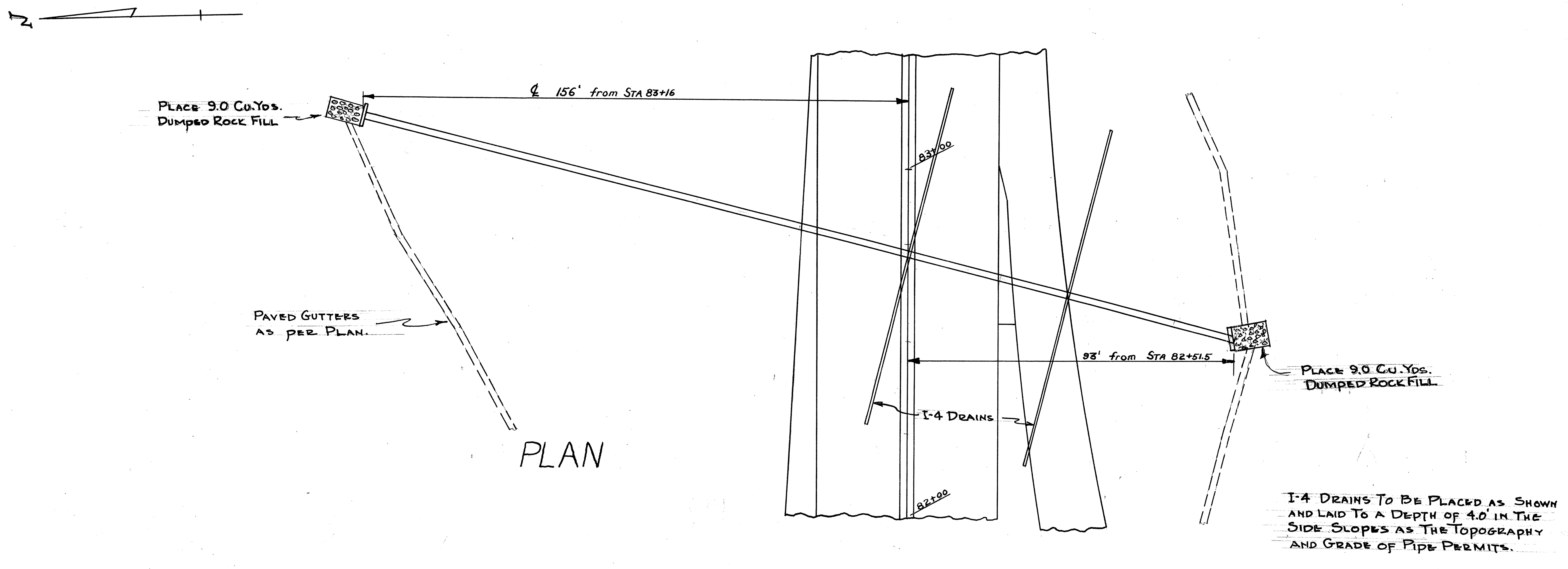
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUY.- 17- 14.99
CUYAHOGA - COUNTY

24 INCH ROADWAY CULVERT

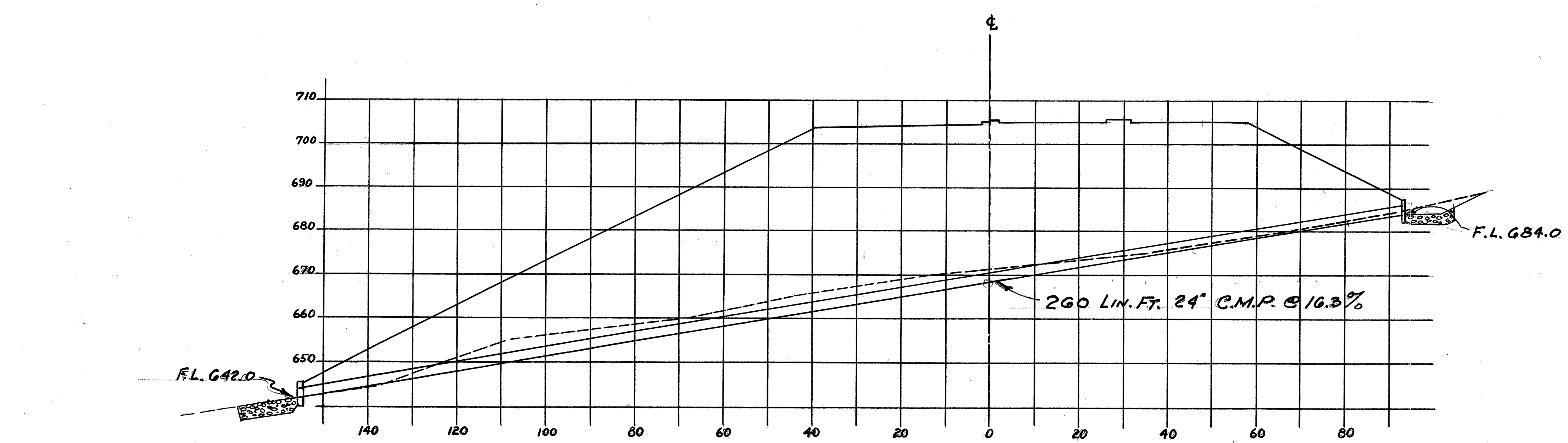
STA 82+75.5 REF Nº 1-C SHEET Nº 20

SCALE 1"=20'



PLAN

I-4 Drains To Be Placed As Shown And Laid To A Depth of 4.0' In The Side Slopes As The Topography And Grade of Pipe Permits.



ELEVATION

Note: Reinforced Concrete Culvert Headwalls, Standard Drawing S-27 P.C. 1 - Each End.

ESTIMATED QUANTITIES

E-2	Excavation for Structures incl. Gran. Backfill	48 Cu. Yds.
S-1	Concrete for Structures Class "C"	2.8 Cu. Yds.
S-4	Reinforcing Steel	64 Lbs.
S-27	24" Pipe for Roadway Culvert 12Ga. M6.4(d)	256 Lin. Ft.
I-10	Dumped Rock Fill	18 Cu. Yds.
I-10	[illegible]	[illegible] Sq. Yds.
I-4	6" Underdrain (4 Feet Deep)	200 Lin. Ft.
I-5	Cross Connections (24"x6")	2 Each.

24" ROADWAY CULVERT DETAIL - STA. 82+75.5

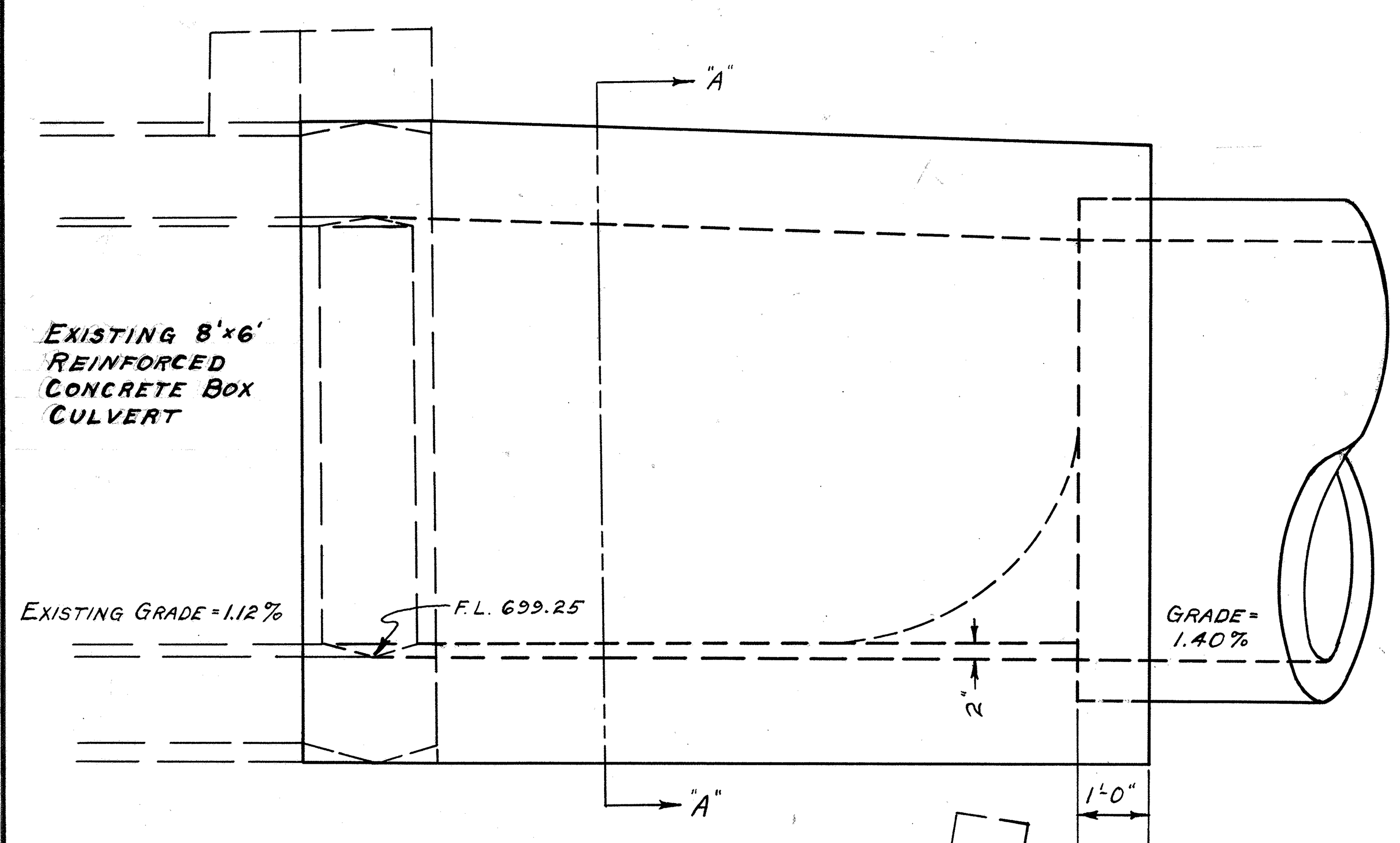
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

150
169

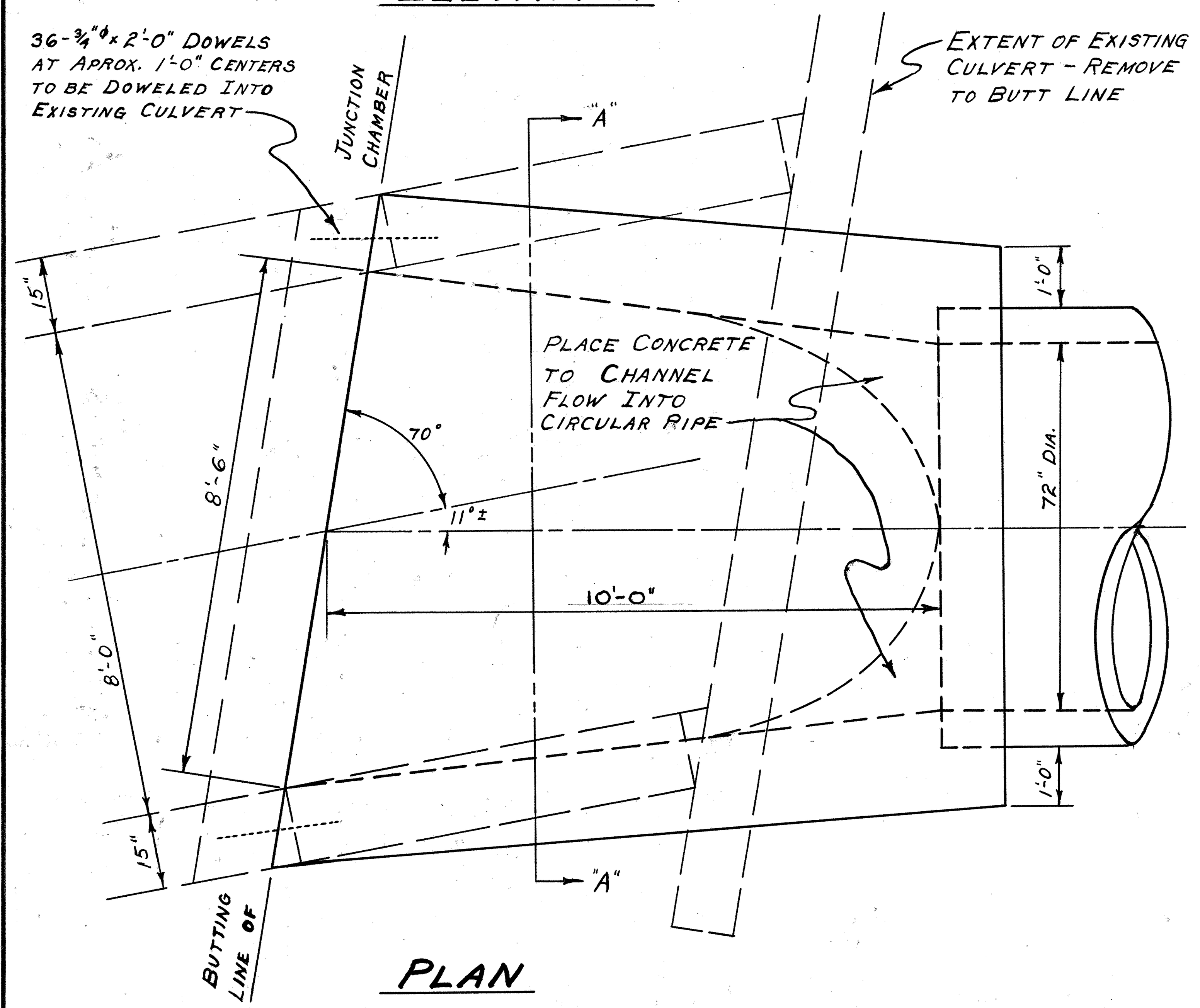
JUNCTION CHAMBER DETAIL

EAST END 8'×6' REINFORCED CONCRETE BOX CULVERT UNDER TUXEDO ROAD

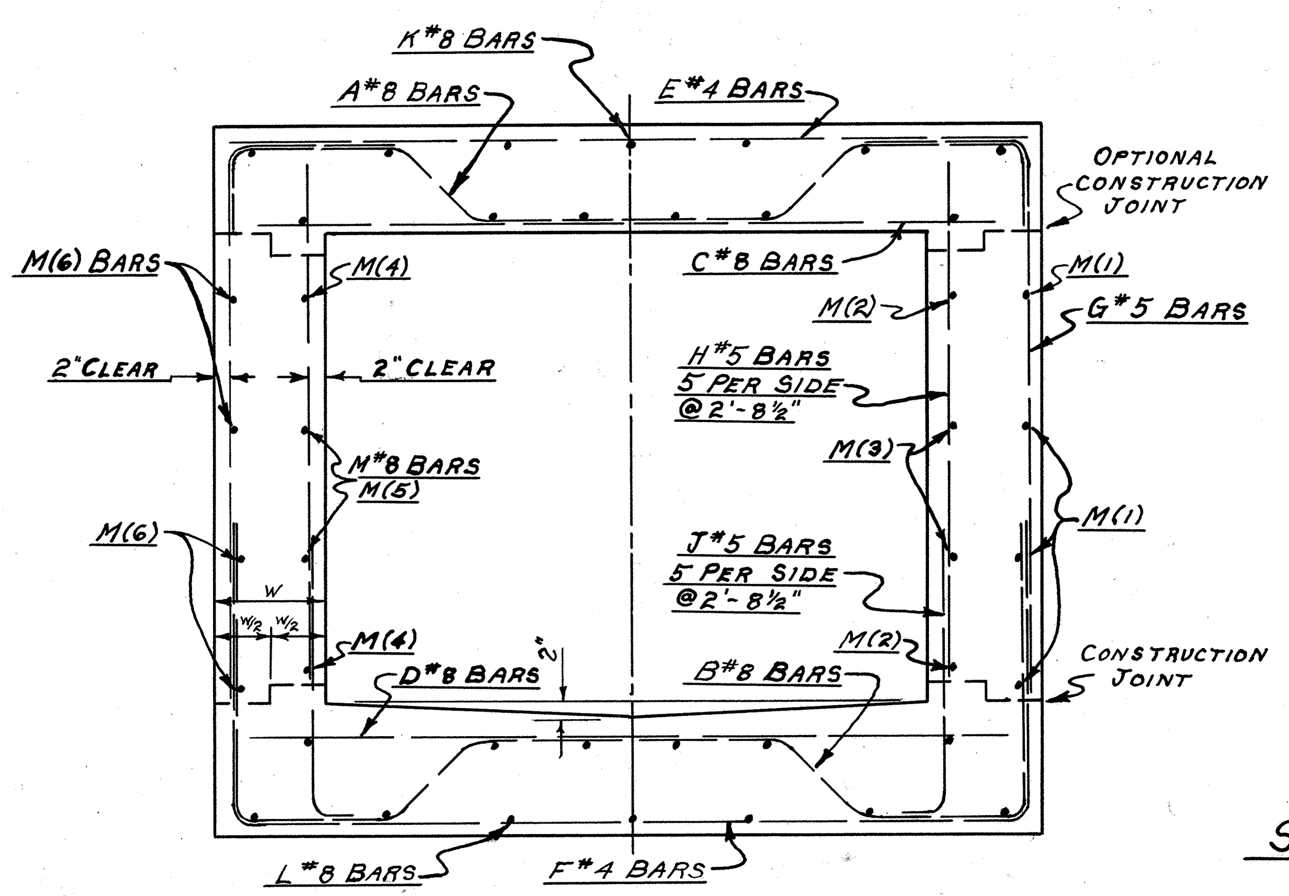
REF. I-C SH. 25



ELEVATION

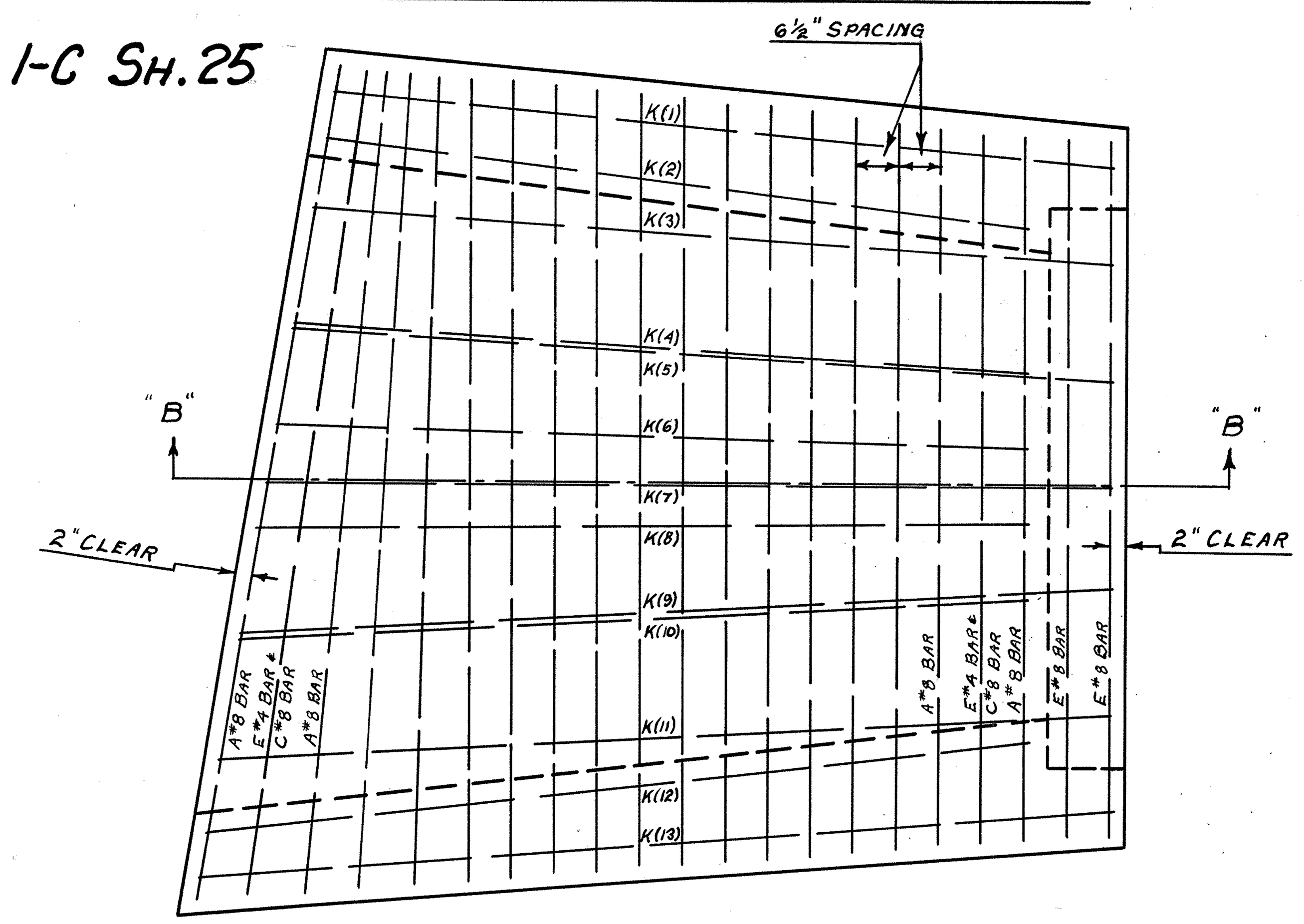


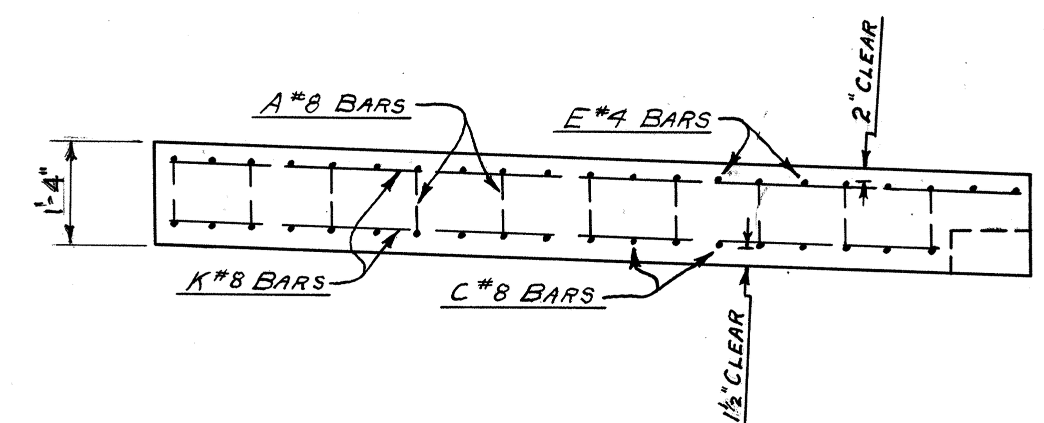
PLAN



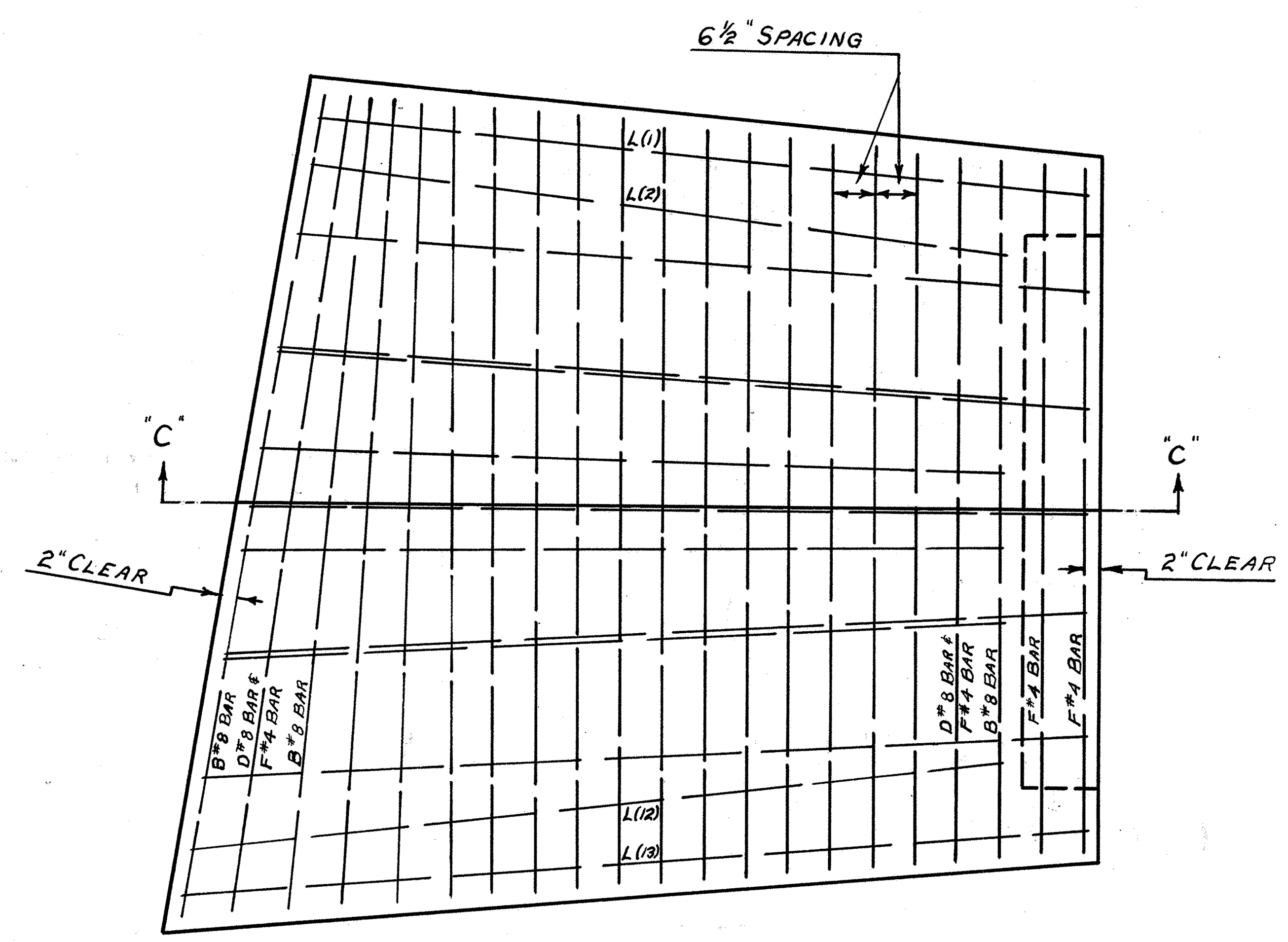
TYPICAL SECTION "A-A"

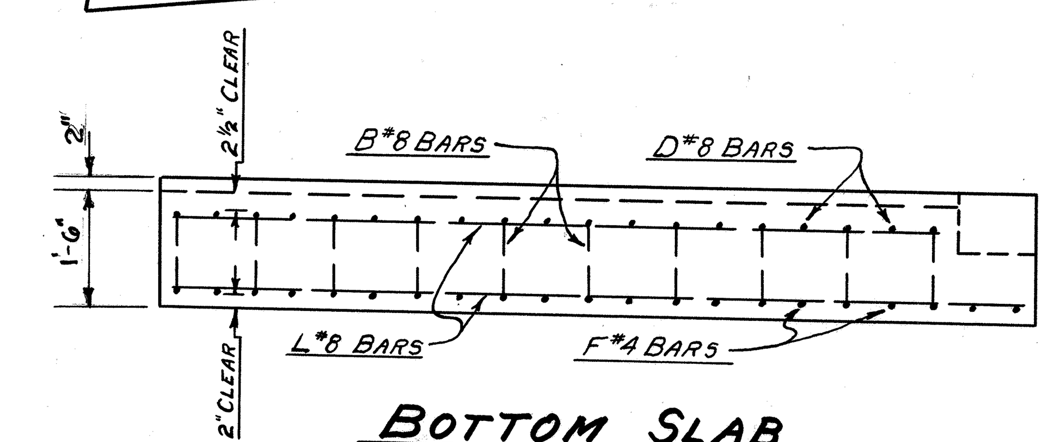
SCALE: ½" = 1'-0"





TOP SLAB
SECTION "B-B"





BOTTOM SLAB
SECTION "C-C"

10-A#8 BARS - 1 EACH

(1'-0", 1'-4¼", 11½", 1'-4¼", 1'-0")

LENGTH OF BAR						DIMENSION OUT-TO-OUT
11'-4"	1'-7½"	11½"	3'-10"	11½"	1'-7½"	9'-0"
11'-6"	1'-7½"		4'-0"		1'-7½"	9'-2"
11'-8½"	1'-8"		4'-1½"		1'-8"	9'-4½"
11'-11"	1'-8"		4'-4"		1'-8"	9'-7"
12'-1"	1'-8"		4'-6"		1'-8"	9'-9"
12'-3"	1'-8"		4'-8"		1'-8"	9'-11"
12'-5"	1'-8"		4'-10"		1'-8"	10'-1"
12'-7½"	1'-8"		5'-0½"		1'-8"	10'-3½"
12'-10"	1'-8½"		5'-2"		1'-8½"	10'-6"
13'-1"	1'-9"		5'-4"		1'-9"	10'-9"

10-B#8 BARS - 1 EACH

(3'-9", 1'-5¾", 12½", 1'-5¾", 3'-9")

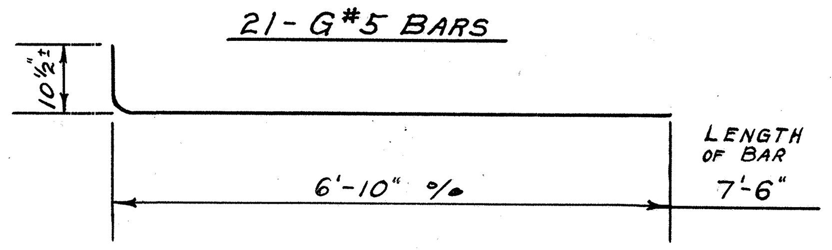
LENGTH OF BAR						DIMENSION OUT-TO-OUT
16'-11"	1'-6½"	12½"	3'-10"	12½"	1'-6½"	9'-0"
17'-1"	1'-6½"		4'-0"		1'-6½"	9'-2"
17'-3½"	1'-7"		4'-1½"		1'-7"	9'-4½"
17'-6"	1'-7"		4'-4"		1'-7"	9'-7"
17'-8"	1'-7"		4'-6"		1'-7"	9'-9"
17'-10"	1'-7"		4'-8"		1'-7"	9'-11"
18'-0"	1'-7"		4'-10"		1'-7"	10'-1"
18'-2½"	1'-7"		5'-0½"		1'-7"	10'-3½"
18'-5"	1'-7½"		5'-2"		1'-7½"	10'-6"
18'-8"	1'-8"		5'-4"		1'-8"	10'-9"

11-F#4 BARS - 1 EACH

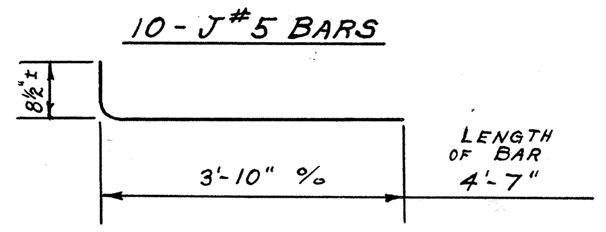
(3'-5", 3'-5")

LENGTH OF BAR	
15'-6½"	8'-9½" %o
15'-7"	8'-11" %o
15'-9"	9'-1" "
16'-0½"	9'-3½" "
16'-2½"	9'-5½" "
16'-4"	9'-7" "
16'-7"	9'-10" "
16'-9½"	10'-0½" "
16'-11½"	10'-2½" "
17'-2"	10'-5" "
17'-3½"	10'-6½" %o

21-G#5 BARS



10-J#5 BARS



CUYAHOGA COUNTY
CUY - 17 - 14.99

ESTIMATED QUANTITIES:

S1	CLASS "C" CONCRETE	20.0 CU. YDS.
S4	REINFORCING STEEL	2985 LBS.
S23	DOWEL HOLES	36 EACH
S22	REMOVAL OF PORTIONS OF EXISTING STRUCTURE	LUMP SUM
E2	COFFERDAMS, CRIBS & SHEETING	LUMP SUM

STRAIGHT BARS

11-E#4 BARS - 1 EACH
LENGTHS:
8'-7½" 9'-3½" 10'-0½"
8'-9" 9'-5" 10'-3"
8'-11" 9'-8" 10'-4½"
9'-1½" 9'-10½"

9-C#8 BARS - 1 EACH
LENGTHS:
8'-11" 9'-5" 10'-0½"
9'-1½" 9'-8" 10'-3"
9'-3½" 9'-10½" 10'-4½"

9-D#8 BARS - 1 EACH
LENGTHS:
SAME AS ABOVE (C#8)

10-H#5 BARS - 2 EACH
LENGTHS:
6'-5" 6'-8"
6'-6" 6'-9"
6'-7"

13-K#8 BARS - 1 EACH
LENGTHS:
9'-10½" K(1) 9'-6" K(6) 10'-0" K(10)
8'-11" K(2) 10'-8" K(7) 11'-3" K(11)
10'-1" K(3) 9'-9" K(8) 10'-6" K(12)
9'-4" K(4) 11'-0" K(9) 11'-6½" K(13)
10'-4" K(5)

13-L#8 BARS - 1 EACH
LENGTHS:
SAME AS ABOVE (K#8)

16-M#8 BARS
LENGTHS:
4 @ 9'-9½" M(1)
2 @ 9'-11½" M(2)
2 @ 8'-11" M(3)
2 @ 11'-5½" M(4)
2 @ 10'-5½" M(5)
4 @ 11'-6½" M(6)

STEEL SUMMARY		
MARK	TOTAL LENGTH	WEIGHT
A8	121'-9"	325.1 LBS
B8	177'-7"	474.1
C8	86'-11½"	232.2
D8	86'-11½"	232.2
E4	104'-4"	69.7
F4	180'-7"	120.5
G5	157'-6"	164.3
H5	55'-10"	58.2
J5	45'-10"	47.8
K8	132'-4"	353.3
L8	132'-4"	353.3
M8	166'-11"	445.7
	WEIGHT =	2876.4
	DOWELS 72'	108.0
	TOTAL WEIGHT	2984.4

8'×6' TUXEDO ROAD DETAIL OF JUNCTION CHAMBER AT EAST END

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

8'×6' CONC. CULVERT EXTN.

AT WEST END OF 8'×6' CONC. CULVERT UNDER TUXEDO ROAD

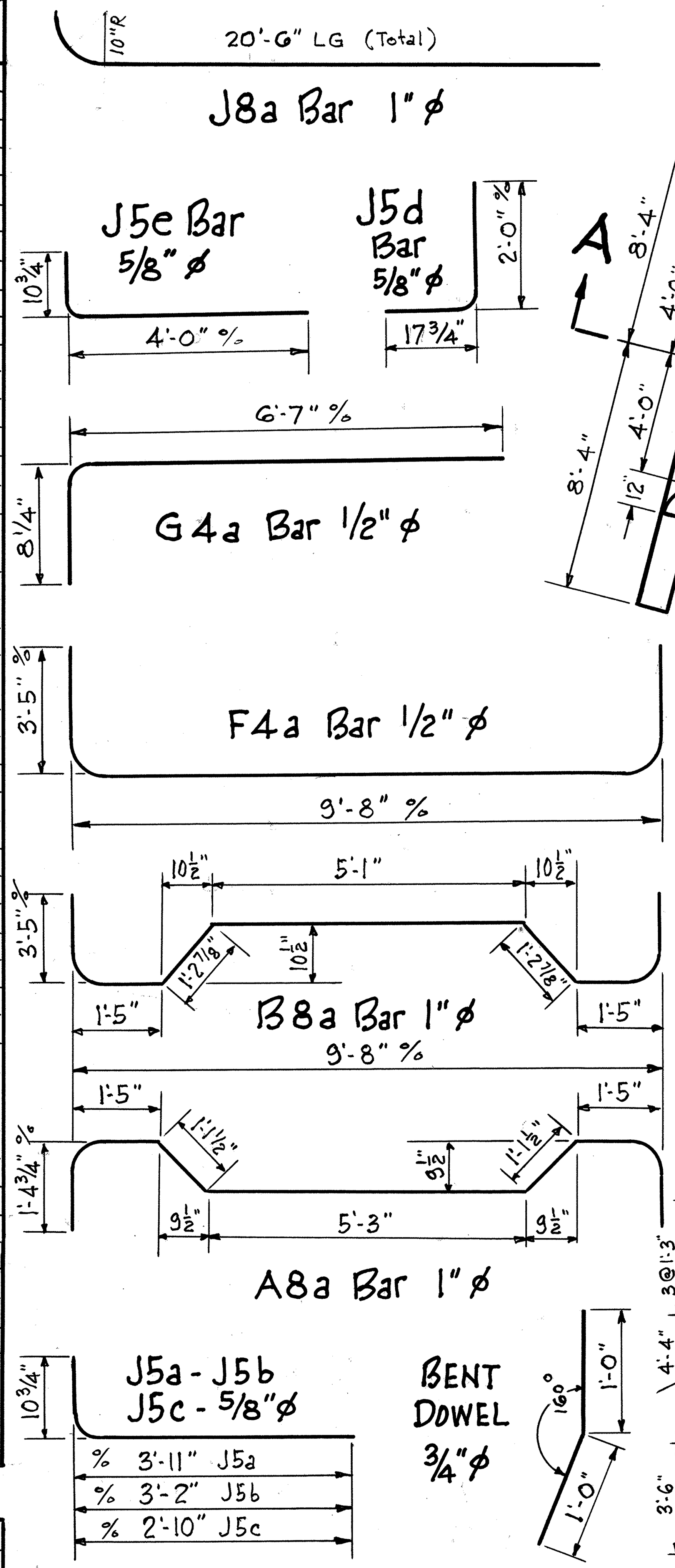
CUYAHOGA COUNTY
SEC. CUY - 17 - 14.99

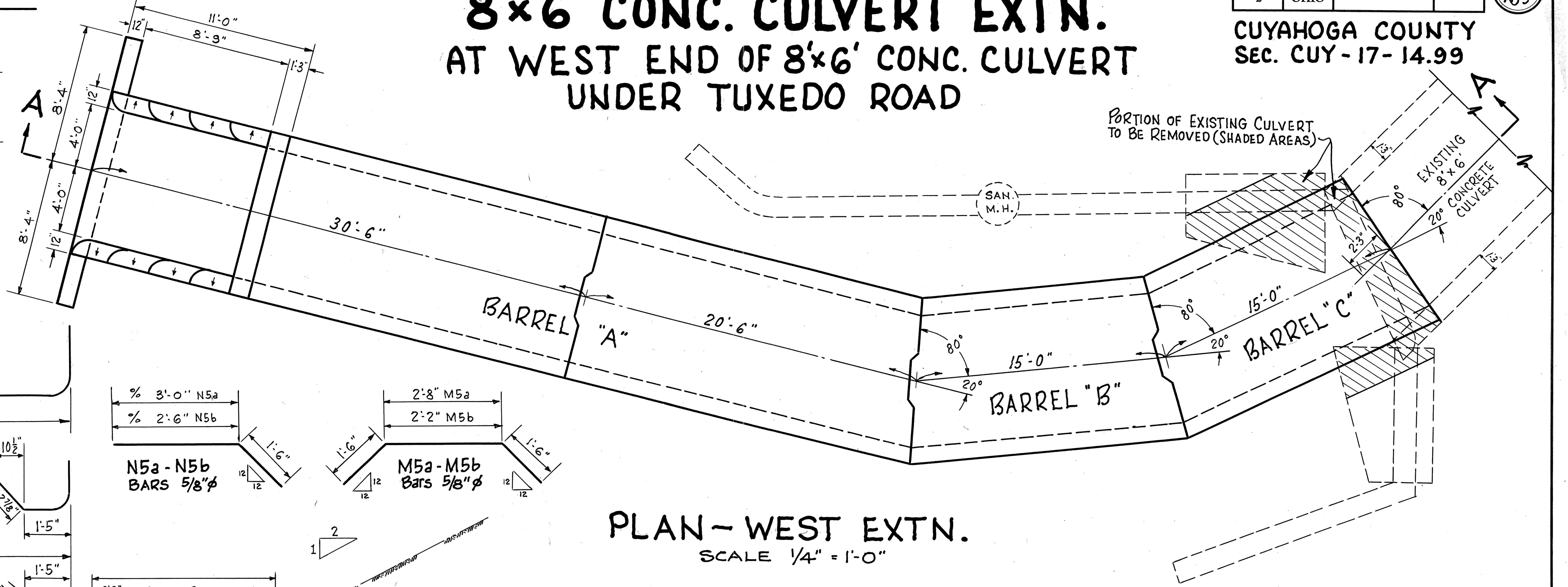
TOTAL	MARK	SIZE DIA.	NO	LENGTH	TOTAL FEET	WT. LBS.	SHAPE
TOTAL BARREL "A" = 13,549.52 LBS.	A8a	1" ø	40	12'-8"	506'-8"	1352.81	BENT
	B8a	1"	50	16'-9"	837'-6"	2236.13	BENT
	C8a	1"	41	9'-6"	389'-6"	1039.97	STRAIGHT
	D8a	1"	50	9'-6"	475'-0"	1268.25	" "
	E4a	1/2"	44	9'-6"	418'-0"	278.81	" "
	F4a	1/2"	50	16'-3"	812'-6"	541.94	BENT
	G4a	1/2"	162	7'-2"	1161'-10"	774.94	BENT
	H5a	5/8"	32	6'-3"	200'-0"	208.60	STRAIGHT
	H5b	5/8"	8	7'-6"	60'-0"	62.58	" "
	H5c	5/8"	10	6'-3"	62'-6"	65.19	" "
	H5d	5/8"	10	5'-0"	50'-0"	52.15	" "
	H5e	5/8"	10	3'-9"	37'-6"	39.11	" "
	H5f	5/8"	2	7'-3"	14'-6"	15.12	" "
	H5g	5/8"	2	6'-0"	12'-0"	12.52	" "
	H5h	5/8"	2	4'-9"	9'-6"	10.01	" "
	H5i	5/8"	2	3'-6"	7'-0"	7.30	" "
	J5a	5/8"	40	4'-8"	186'-8"	194.70	BENT
	J5b	5/8"	11	3'-11"	43'-1"	44.93	BENT
	J5c	5/8"	10	3'-7"	35'-10"	37.37	BENT
	J5d	5/8"	8	3'-4"	26'-8"	27.82	BENT
	J5e	5/8"	8	4'-9"	38'-0"	39.63	BENT
	K4a	1/2"	3	16'-4"	49'-0"	32.68	STRAIGHT
	K4b	1/2"	10	7'-6"	75'-0"	50.03	" "
	K8a	1"	33	20'-0"	660'-0"	1762.20	" "
	J8a	1"	5	20'-6"	102'-6"	273.68	BENT
	K8b	1"	15	12'-6"	187'-6"	500.63	STRAIGHT
	K8c	1"	8	12'-3"	98'-0"	261.66	" "
	K8d	1"	4	7'-6"	30'-0"	80.10	" "
	K8e	1"	4	5'-0"	20'-0"	53.40	" "
	K8f	1"	2	20'-8"	41'-4"	110.35	" "
	K8g	1"	4	20'-7 1/2"	82'-6"	220.54	" "
	K8h	1"	2	20'-6"	41'-0"	109.47	" "
	K8i	1"	2	20'-5"	40'-10"	109.17	" "
	K8j	1"	2	20'-4"	40'-8"	108.59	" "
	K8k	1"	2	20'-3"	40'-6"	108.14	" "
	K8m	1"	2	20'-2"	40'-4"	107.68	" "
	K8n	1"	2	20'-1"	40'-2"	107.26	" "
	K8o	1"	2	20'-0"	40'-0"	106.80	" "
	K8p	1"	2	19'-11"	39'-10"	106.35	" "
	K8q	1"	2"	19'-10"	39'-8"	105.92	" "
	K8r	1"	2	19'-9"	39'-6"	105.47	" "
	K8s	1"	2	19'-7 3/4"	39'-3 1/2"	104.90	" "
	K8t	1"	4	19'-6 1/2"	78'-2"	208.71	" "
	K8u	1"	2	19'-6"	39'-0"	104.13	" "
	K8v	1"	2	19'-5 1/2"	38'-11"	103.92	" "
	K8w	1"	2	20'-8 1/2"	41'-5"	110.81	" "
	M5a	5/8"	4	5'-8"	22'-8"	23.64	BENT
	M5b	5/8"	4	5'-2"	20'-8"	21.56	BENT
	N5a	5/8"	16	4'-6"	72'-0"	75.10	BENT
	N5b	5/8"	16	4'-0"	64'-0"	66.75	BENT

TOTAL	MARK	SIZE DIA.	NO	LENGTH	TOTAL FEET	WT. LBS.	SHAPE
TOTAL BARREL "B" 4,090.30 LBS.	A8a	1"	15	12'-8"	190'-0"	507.30	BENT
	B8a	1"	15	16'-9"	251'-3"	670.84	BENT
	C8a	1"	14	9'-6"	133'-0"	355.11	STRAIGHT
	D8a	1"	14	9'-6"	133'-0"	355.11	" "
	E4a	1/2"	14	9'-6"	133'-0"	88.84	" "
	F4a	1/2"	14	16'-3"	227'-6"	151.74	BENT
	G4a	1/2"	58	7'-2"	415'-8"	277.67	BENT
	H5a	5/8"	12	6'-3"	75'-0"	78.23	STRAIGHT
	J5a	5/8"	12	4'-8"	56'-0"	58.41	BENT
	L8a	1"	2	12'-10 1/2"	25'-9"	68.75	STRAIGHT
	L8b	1"	4	13'-0"	52'-0"	138.84	" "
	L8c	1"	2	13'-3 1/2"	26'-7"	70.98	" "
	L8d	1"	2	13'-7 1/2"	27'-3"	72.76	" "
	L8e	1"	2	13'-10 1/2"	27'-9"	74.09	" "
	L8f	1"	2	14'-1"	28'-2"	75.21	" "
	L8g	1"	2	14'-4"	28'-8"	76.54	" "
	L8h	1"	2	14'-6 1/2"	15'-1"	40.27	" "
	L8i	1"	2	14'-9"	29'-6"	78.77	" "
	L8j	1"	2	15'-0"	30'-0"	80.10	" "
	L8k	1"	2	15'-3"	30'-6"	81.44	" "
	L8m	1"	2	15'-5 1/2"	30'-11"	82.55	" "
	L8n	1"	2	15'-9 1/2"	31'-7"	84.33	" "
	L8o	1"	4	16'-1 1/2"	64'-6"	172.22	" "
	L8p	1"	2	16'-2 1/2"	32'-5"	86.55	" "
	L8r	1"	2	16'-3 1/2"	32'-7"	87.00	" "
	L8s	1"	2	12'-10"	25'-8"	60.52	" "
	M5a	5/8"	4	5'-8"	22'-8"	23.64	BENT
	M5b	5/8"	4	5'-2"	20'-8"	21.56	BENT
	N5a	5/8"	8	4'-6"	36'-0"	37.55	BENT
	N5b	5/8"	8	4'-0"	32'-0"	33.38	BENT

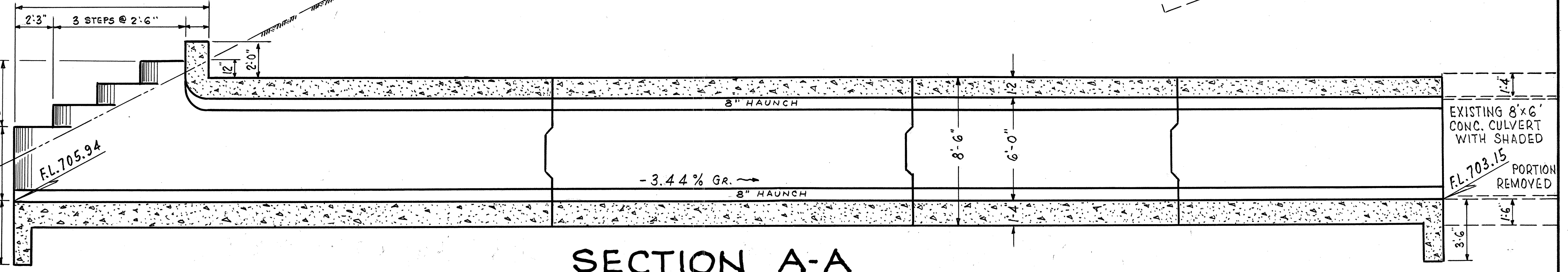
TOTAL	MARK	SIZE DIA.	NO	LENGTH	TOTAL FEET	WT. LBS.	SHAPE
TOTAL BARREL "C" 4,207.67 LBS. (BARREL "C")	A8a	1"	15	12'-8"	190'-0"	507.30	BENT
	B8a	1"	15	16'-9"	251'-3"	670.84	BENT
	C8a	1"	15	9'-6"	142'-6"	380.48	STRAIGHT
	D8a	1"	15	9'-6"	142'-6"	380.48	STRAIGHT
	E4a	1/2"	15	9'-6"	142'-6"	95.19	" "
	F4a	1/2"	15	16'-3"	243'-9"	162.58	BENT
	G4a	1/2"	60	7'-2"	430'-0"	287.24	BENT
	H5a	5/8"	12	6'-3"	75'-0"	78.23	STRAIGHT
	J5a	5/8"	12	4'-8"	56'-0"	58.41	BENT
	L8a	1"	2	12'-10 1/2"	25'-9"	68.75	STRAIGHT
	L8b	1"	4	13'-0"	52'-0"	138.84	" "
	L8c	1"	2	13'-3 1/2"	26'-7"	70.98	" "
	L8d	1"	2	13'-7 1/2"	27'-3"	72.76	" "
	L8e	1"	2	13'-10 1/2"	27'-9"	74.09	" "
	L8t	1"	2	14'-5"	28'-10"	76.98	" "
	L8u	1"	2	14'-8"	29'-4"	78.31	" "
	L8v	1"	2	14'-10 1/2"	29'-9"	79.43	" "
	L8w	1"	2	15'-1"	30'-2"	80.55	" "
	L8x	1"	2	15'-4"	30'-8"	81.88	" "
	L8k	1"	2	15'-3"	30'-6"	81.44	" "
	L8m	1"	2	15'-5 1/2"	30'-11"	82.55	" "
	L8n	1"	2	15'-9 1/2"	31'-7"	84.33	" "
	L8o	1"	4	16'-1 1/2"	64'-6"	172.22	" "
	L8p	1"	2	16'-2 1/2"	32'-5"	86.78	" "
	L8r	1"	2	16'-3 1/2"	32'-7"	87.00	" "
	L8s	1"	2	12'-10"	25'-8"	60.52	" "
	M5a	5/8"	4	5'-8"	22'-8"	23.64	BENT
	M5b	5/8"	4	5'-2"	20'-8"	21.56	BENT
	E4a	1/2"	3	10'-8"	32'-0"	27.98	STRAIGHT
	J5b	5/8"	11	3'-2"	34'-10"	36.33	BENT

TOTAL "A-B-C" 21,848.0 LBS.





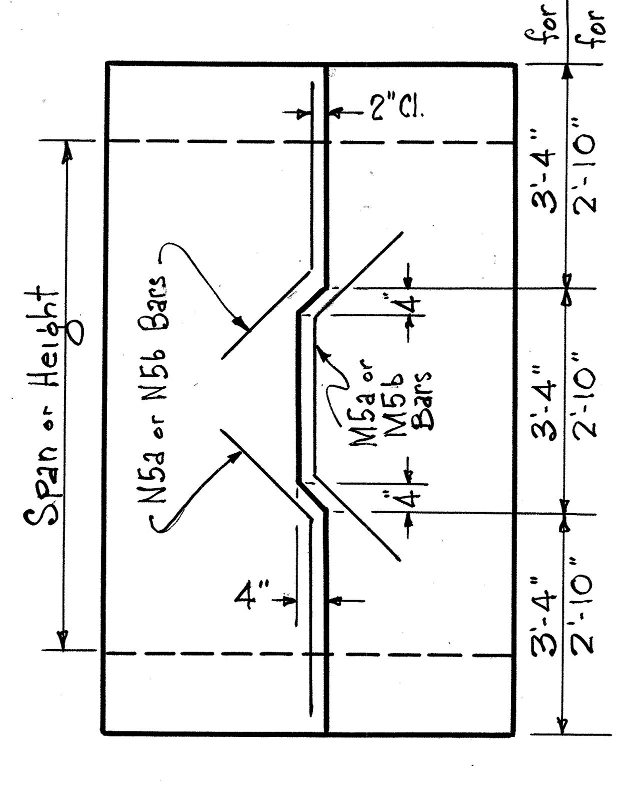
PLAN - WEST EXTN.
SCALE 1/4" = 1'-0"



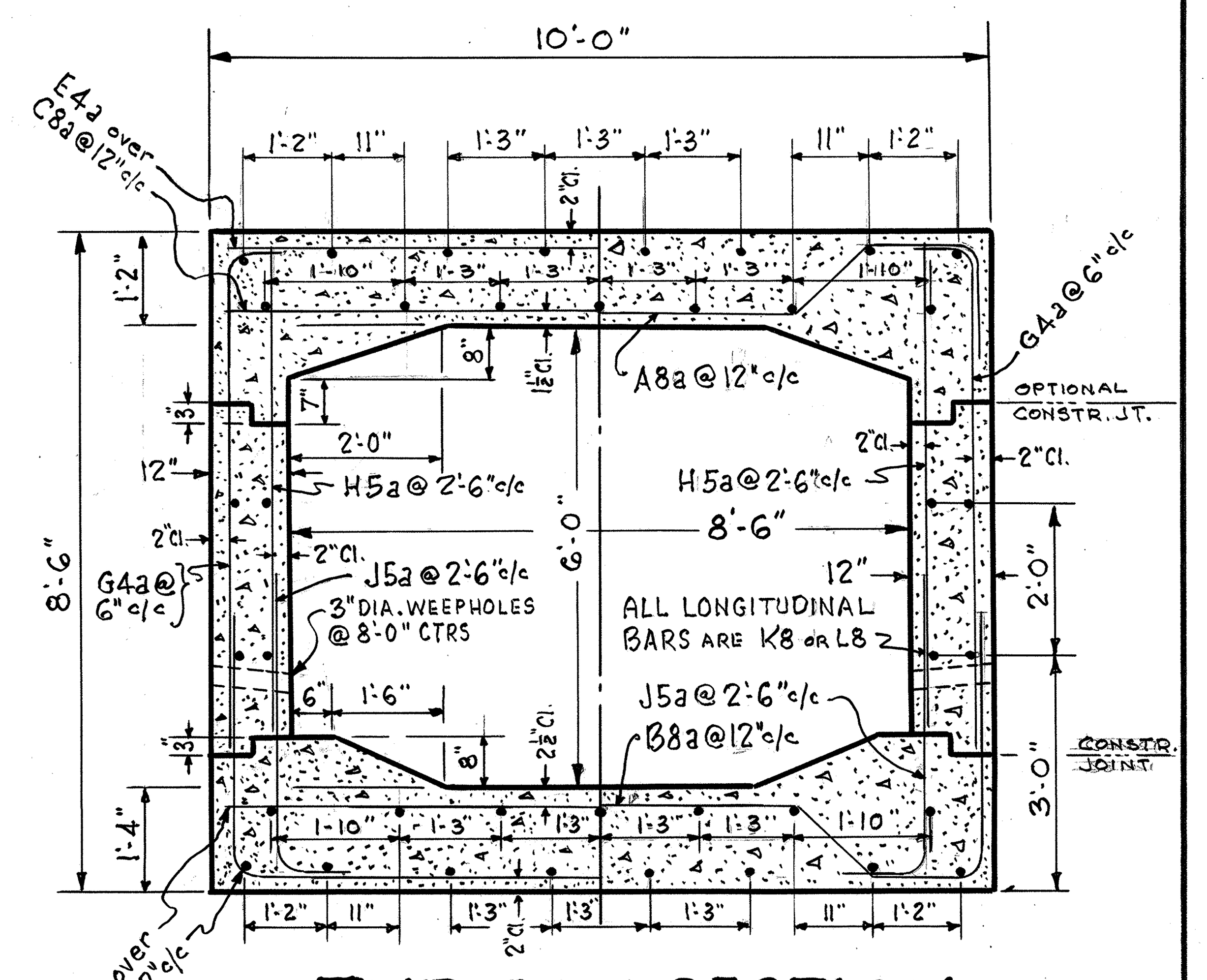
SECTION A-A
SCALE 1/4" = 1'-0"

ESTIMATED QUANTITIES

E-2 Excavation for Structures ______________ 140 Cu. Yds.
E-2 Cofferdams, Cribs & Sheeting ______________ Lump Sum
S-1 Concrete for Structures Class "C" ______ 118.50 Cu. Yds.
S-4 Reinforcing Steel ______________ 21,848.0 LBS.
S-22 Removal of Portions of Existing Structures ______ Lump Sum
S-23 Dowel Holes ______________ 30 Each



CONTRACTION JOINT DETAIL



TYPICAL SECTION
SHOWING ALTERNATE BAR SPACING
SCALE 1/2" = 1'-0"

CUYAHOGA COUNTY
SEC.-17-14.99

PLAN- BARREL "A"

SCALE 1/2" = 1'-0"

SECTION B-B

SCALE 1/2" = 1'-0"

WEST END 8'×6' TUXEDO ROAD CULVERT

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

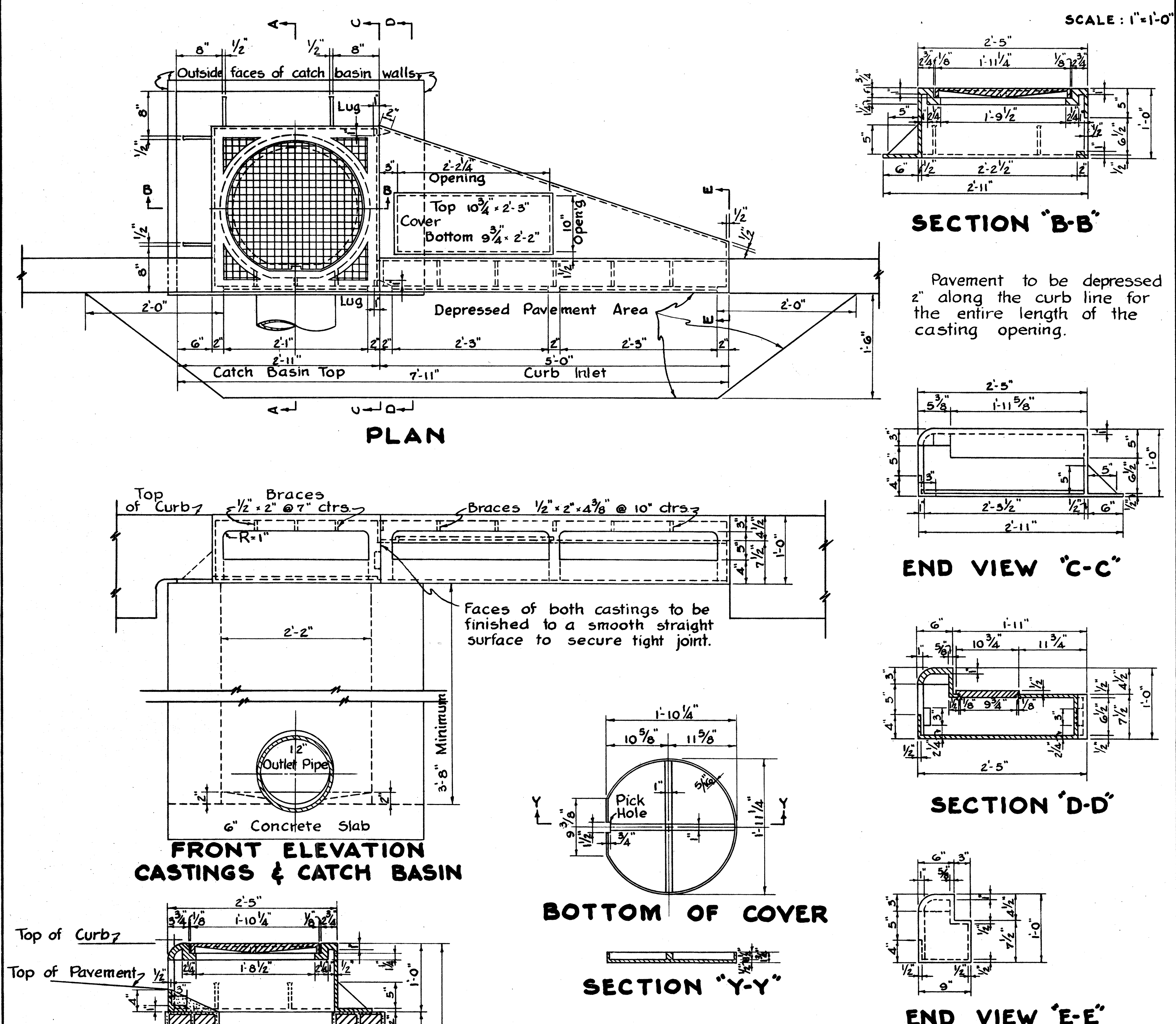
CUYAHOGA COUNTY
Sec. CUY. - 17 - 14.99

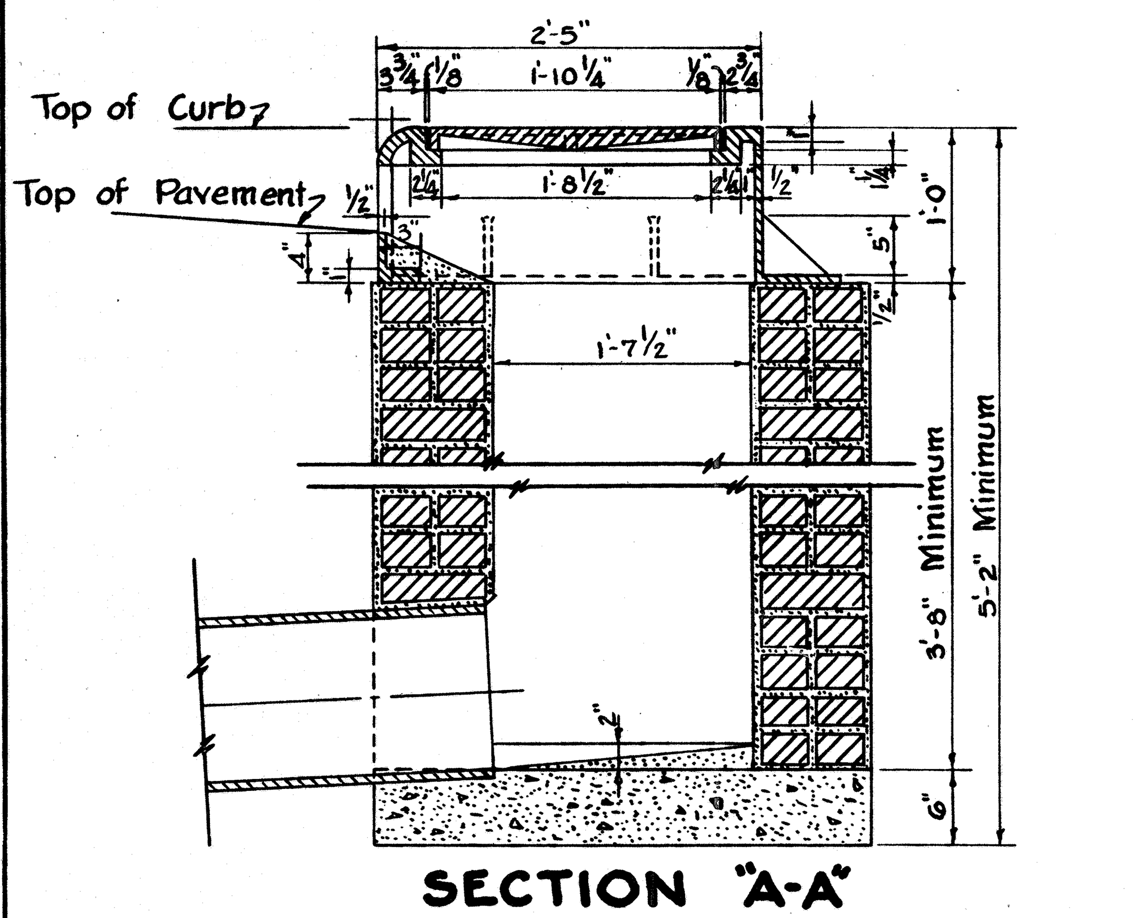
Scale $\frac{1}{2}$" = 1'-0"

DETAILS -- WEST END TUXEDO ROAD CULVERT

SPECIAL CURB INLET Nº 1

SCALE: 1" = 1'-0"





METHOD OF ORDERING CURB INLETS:
Face down-grade. The inlets that are located in the left curb are LEFT CURB INLETS. Those located in the right curb are RIGHT CURB INLETS.

NOTES:

WALLS - Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar ½" thick.
Concrete sidewalls, where used in place of brick, shall be made 6" thick of Class "C" concrete.

OUTLET - The outlet shall be of the size shown on the Plans and may be constructed in any side.

BOTTOM - Bottom shall be built as per plan of Class "C" concrete.

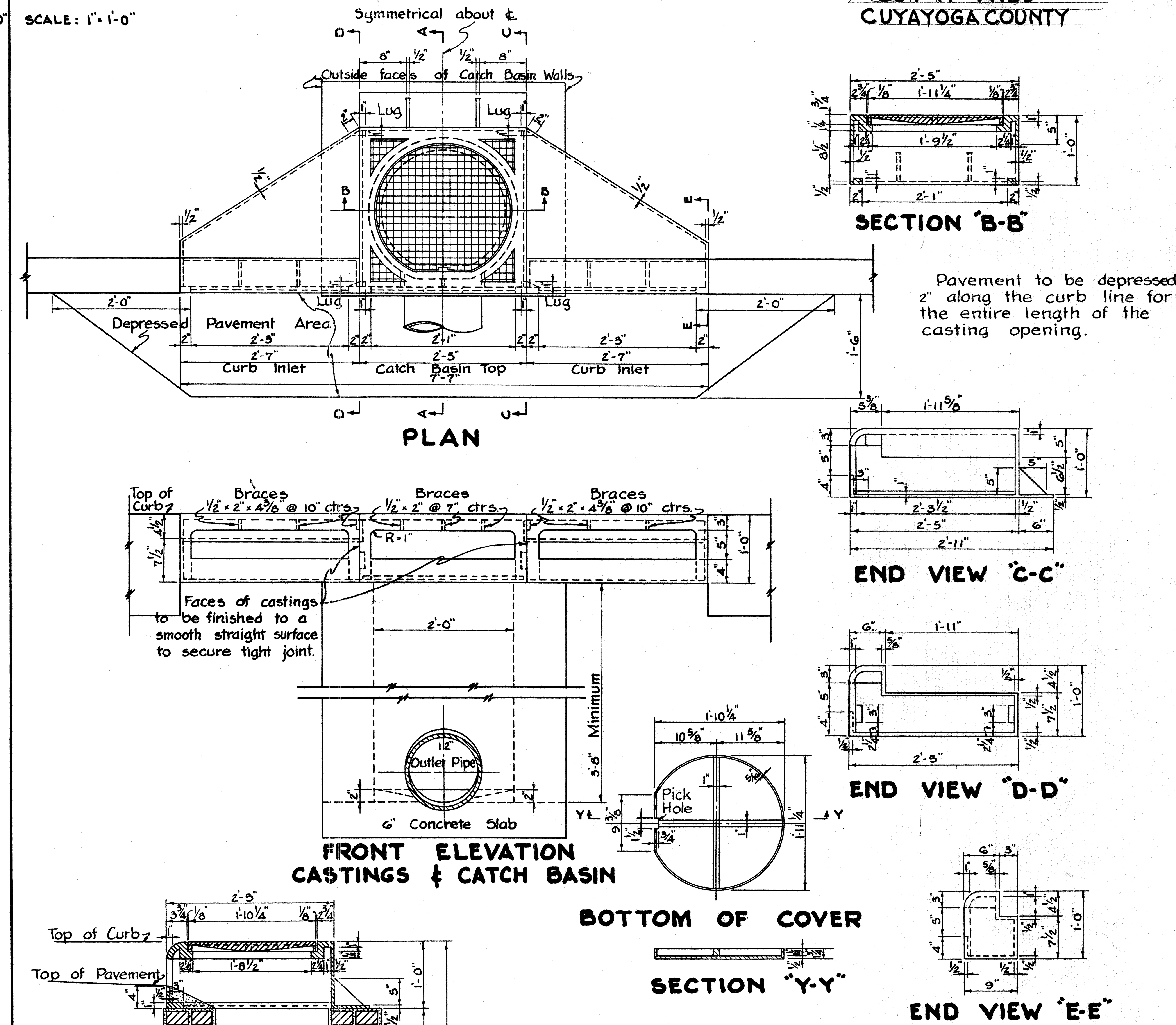
CASTINGS - Castings may be made in accordance with details shown herewith, or may be of similar design but of equal weight.
All castings to be in accordance with Sec. M-7.8 of the Material Details.
Cover seat surfaces to be finished to smooth rounded edges.

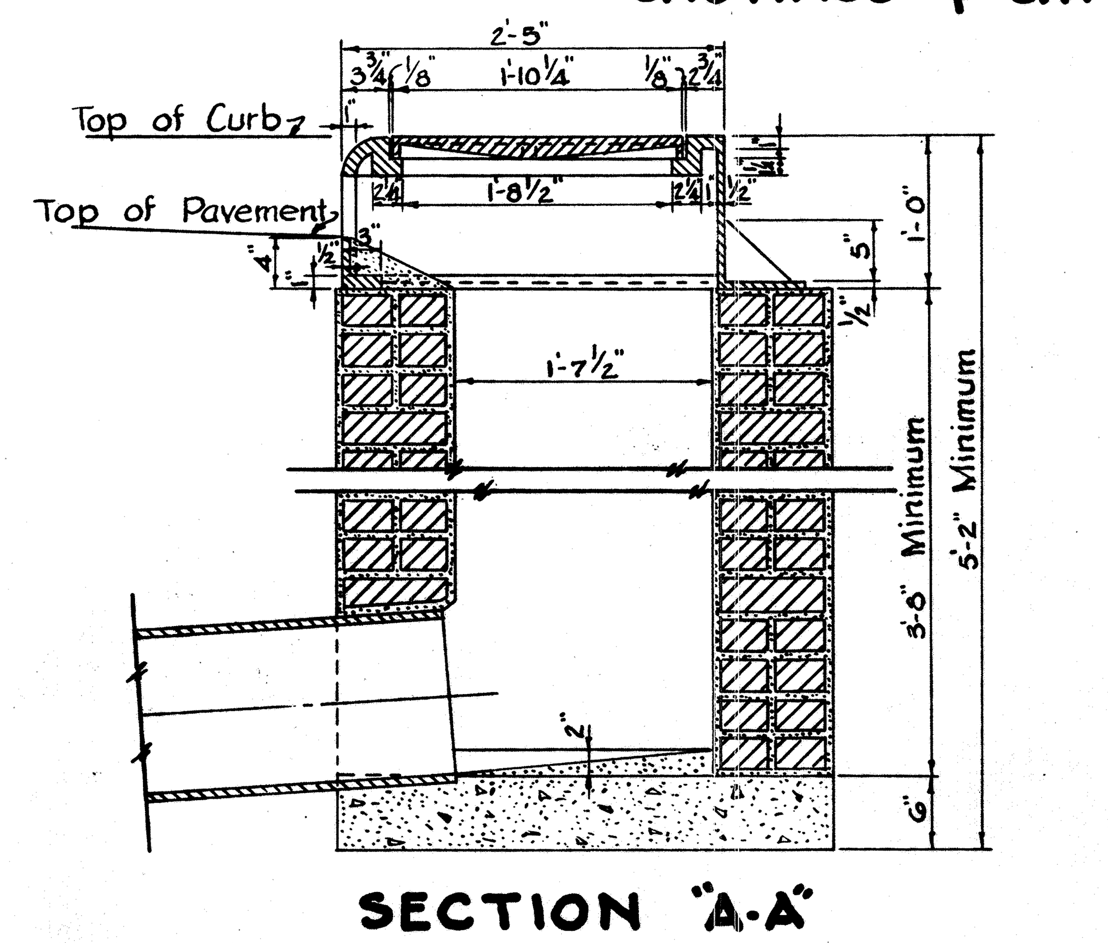
WEIGHTS

Catch Basin Cover	65 lbs.
Catch Basin Frame	600 lbs.
Curb Inlet Frame & Cover	635 lbs.

SPECIAL CURB INLET Nº 2

SCALE: 1" = 1'-0"





NOTES:

WALLS - Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar ½" thick.
Concrete sidewalls, where used in place of brick, shall be made 6" thick of Class "C" concrete.

OUTLET - The outlet shall be of the size shown on the Plans and may be constructed in any side.

BOTTOM - Bottom shall be built as per plan of Class "C" concrete.

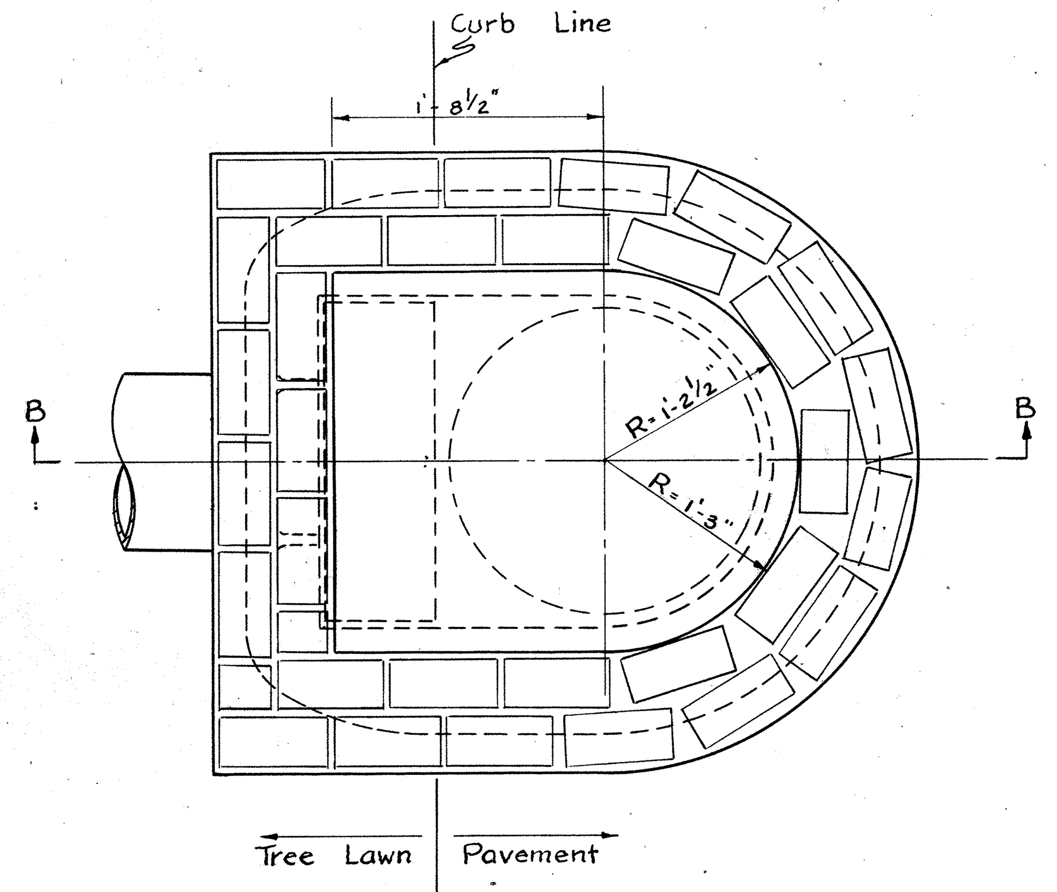
CASTINGS - Castings may be made in accordance with details shown herewith, or may be of similar design but equal weight.
All castings to be in accordance with Sec. M-7.8 of the Material Details.
Cover seat surfaces to be finished to smooth rounded edges.

WEIGHTS

Catch Basin Cover	65 lbs.
Catch Basin Frame	555 lbs.
Curb Inlet Frame	350 lbs. Each

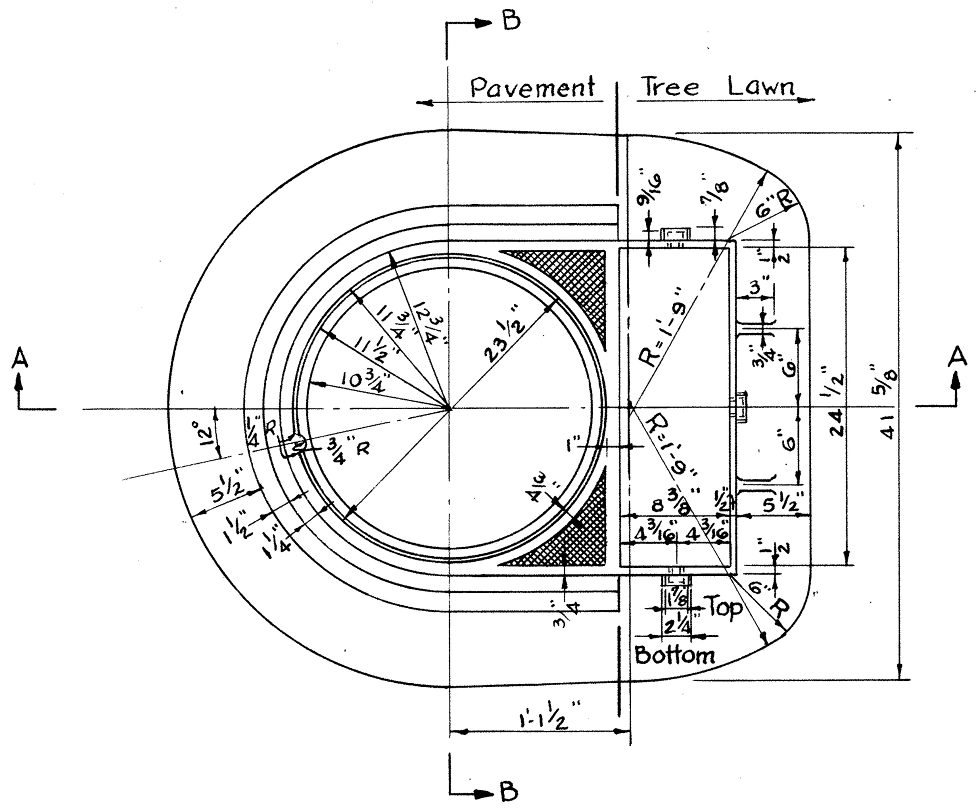
SPECIAL CURB INLET Nº 4

(SPECIAL CATCH BASIN Nº 4) DOES NOT APPLY TO THIS PROJECT

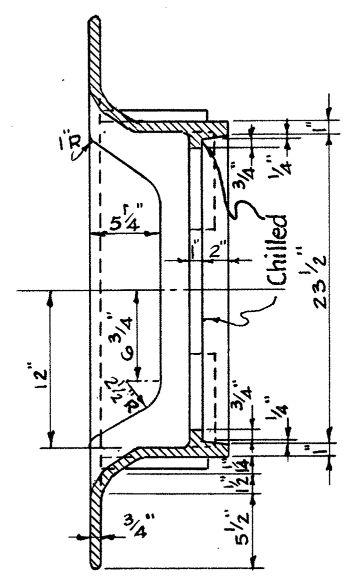


PLAN INLET BASIN
VIEW "A-A"
Scale: 1" = 1'-0"

Position of casting shown in dashed lines

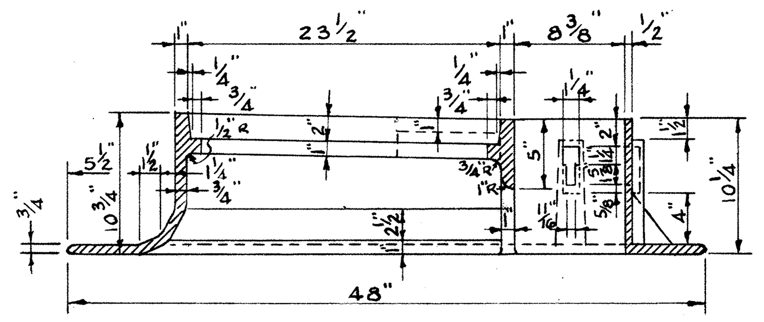


PLAN FRAME
(CAST IRON)

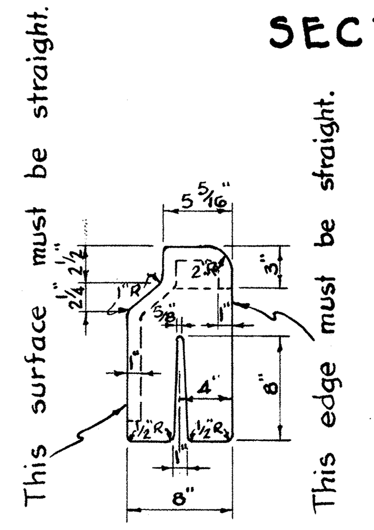


SECTION "B-B"

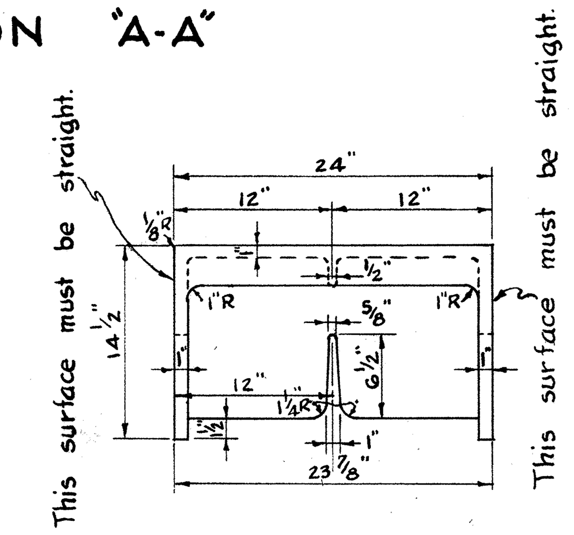
Note:
Cover seat surface to be chilled & chipped or ground to smooth round regular edge.



SECTION "A-A"



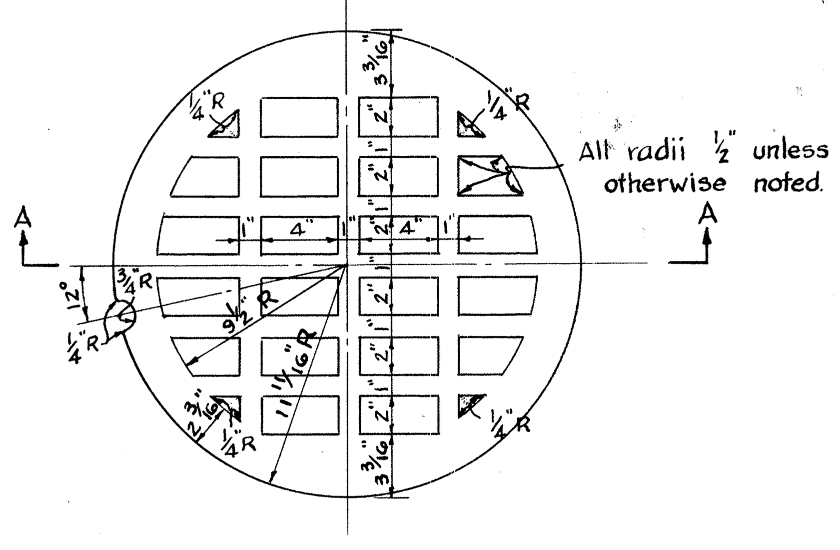
END VIEW



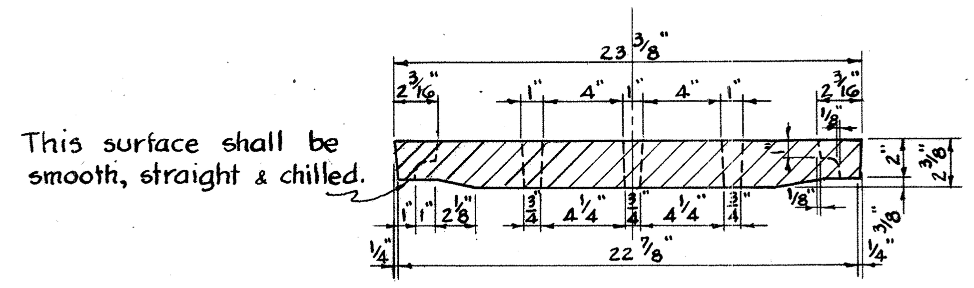
FRONT ELEVATION

CURB BOX

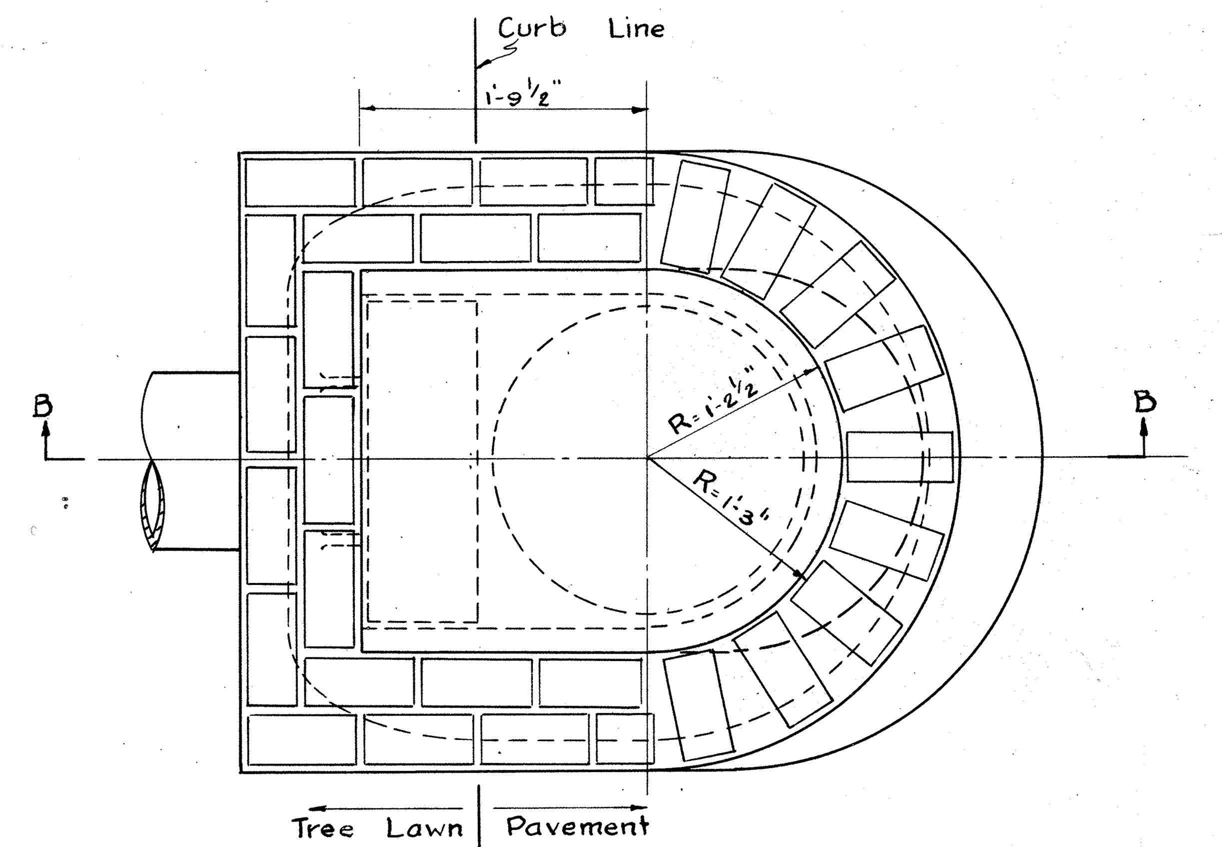
CITY STANDARD CATCH BASIN FRAME AND CAST IRON CURB BOX
Scale: 1" = 1'-0"



PLAN
CITY STANDARD CAST IRON CATCH BASIN COVER
Scale: 1 1/2" = 1'-0"

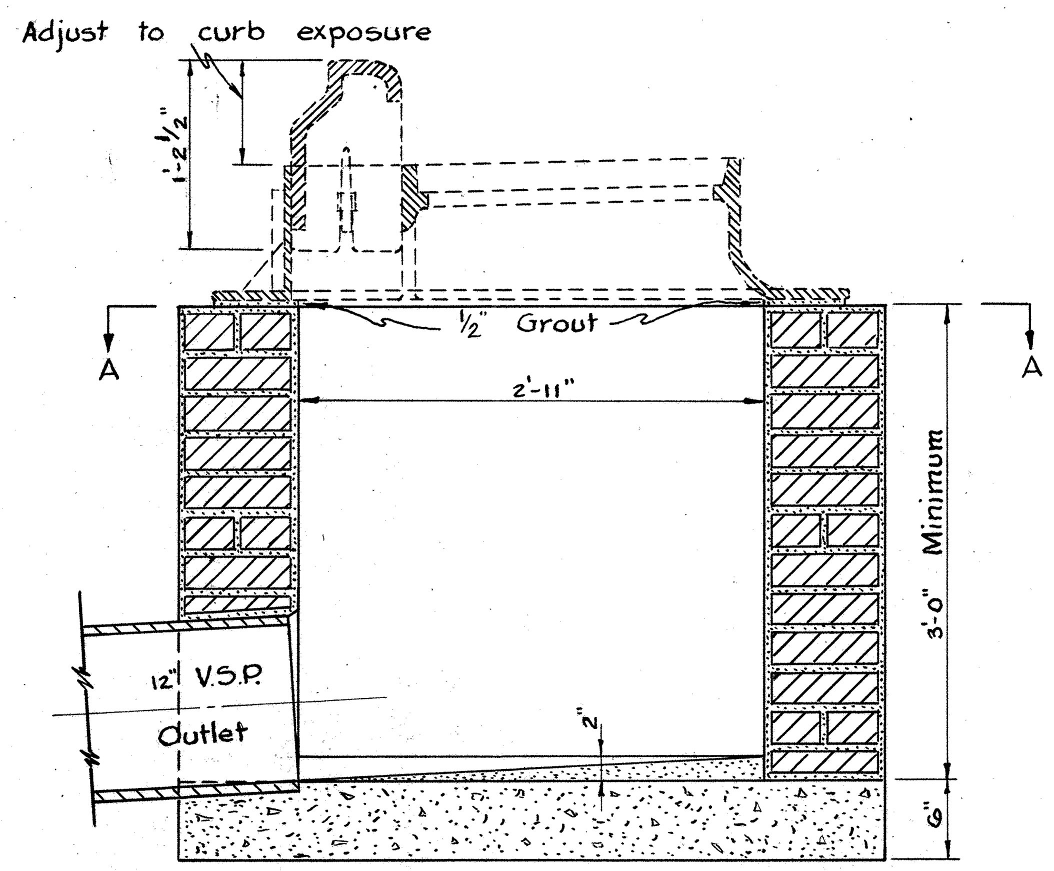


SECTION "A-A"



PLAN CATCH BASIN
VIEW "A-A"
Scale: 1" = 1'-0"

Position of casting shown in dashed lines.



SECTION "B-B"

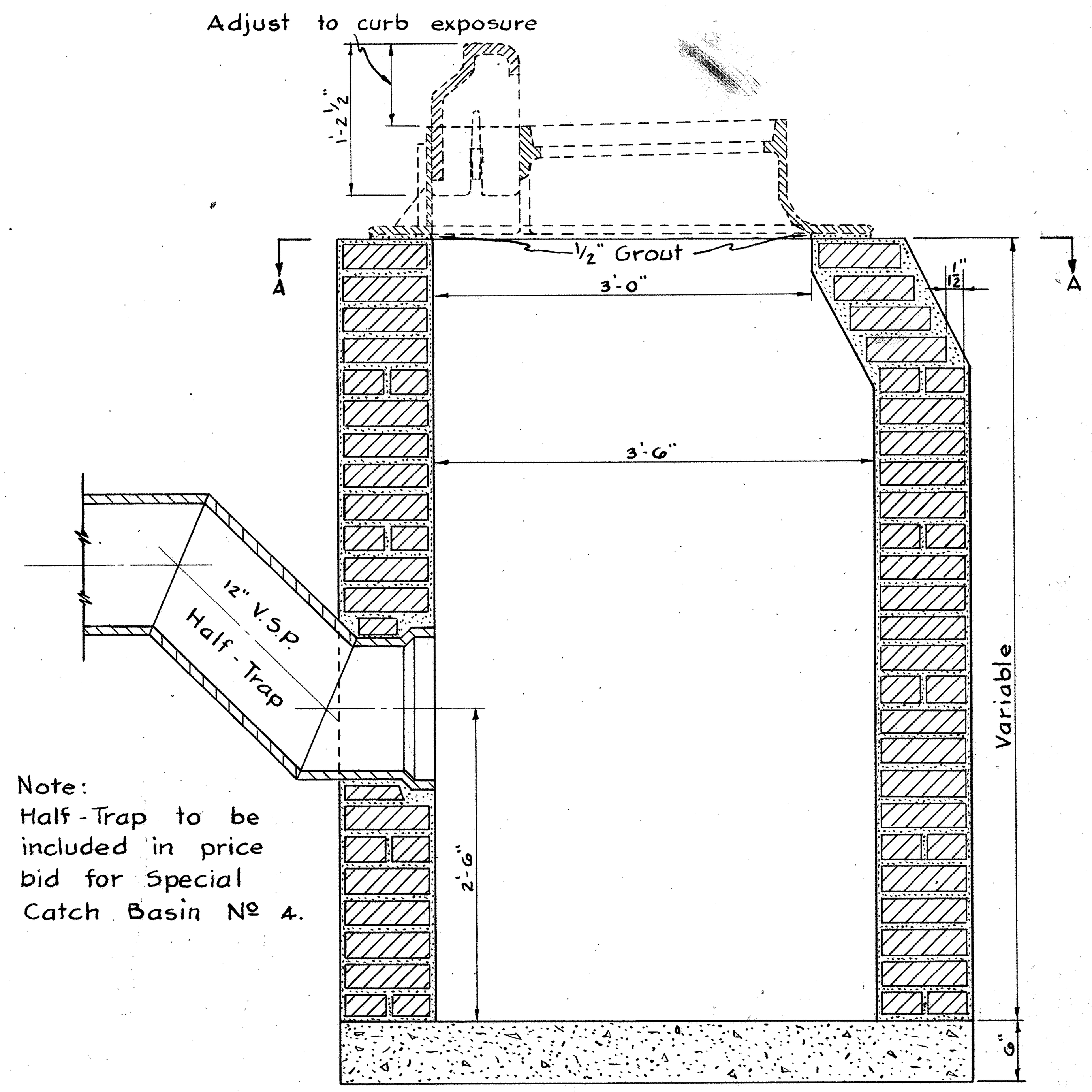
NOTES:

BRICK WALLS:
Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar 1/2" thick.
Concrete sidewalls, where used in place of brick, shall be made 6" thick of Class "C" concrete.

OUTLET:
The outlet shall be of the size shown on the Plans and may be constructed in any side.

BOTTOM:
The bottom shall be built as per Plan, of Class "C" concrete, or of 2 courses of brick, set in mortar.

CASTING:
Casting to be in accordance with Section M-7.8 of the Material Details.
Castings To Be All Salvaged on Project.



Note:
Half-Trap to be included in price bid for Special Catch Basin Nº 4.

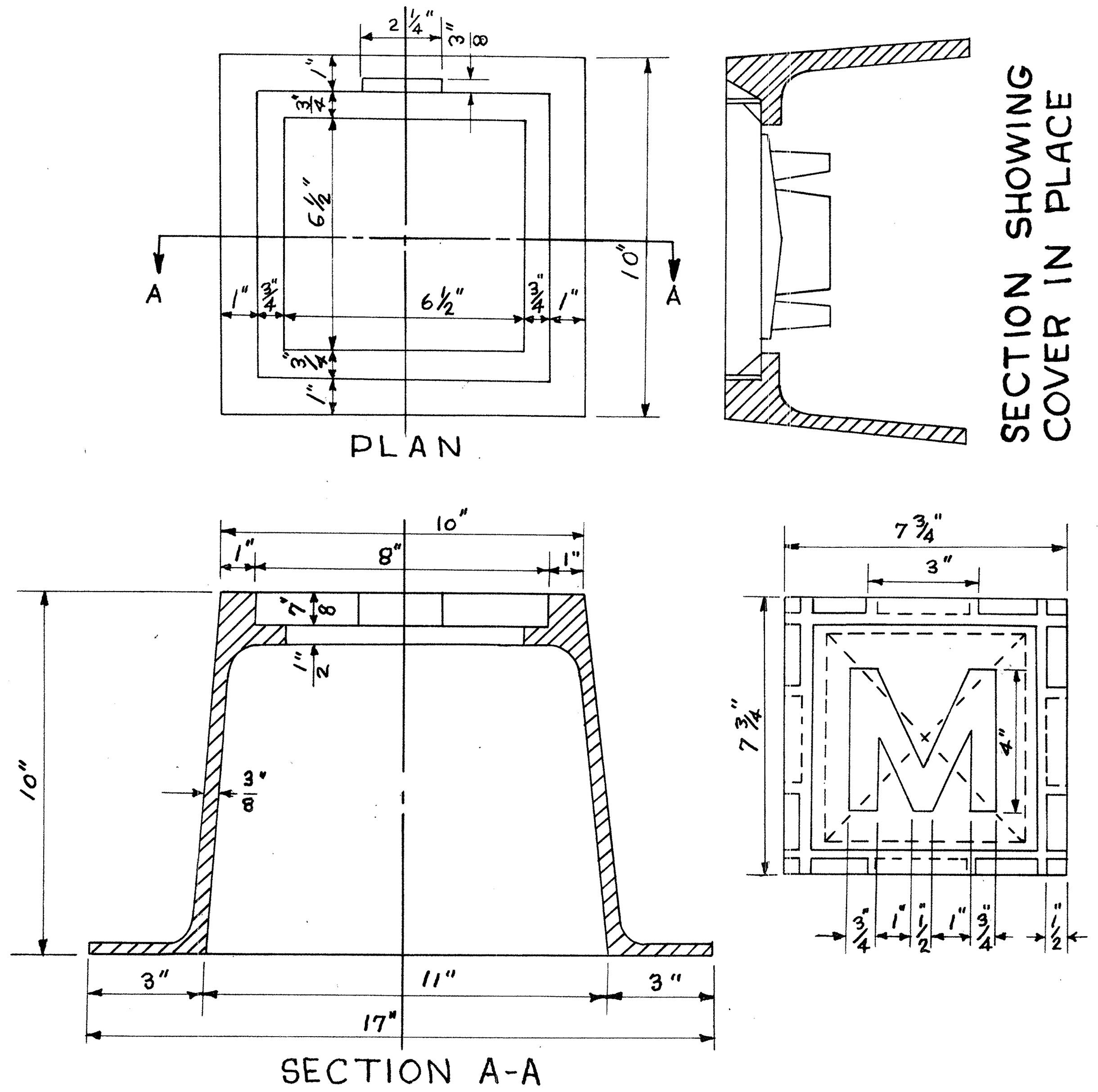
SECTION "B-B"

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

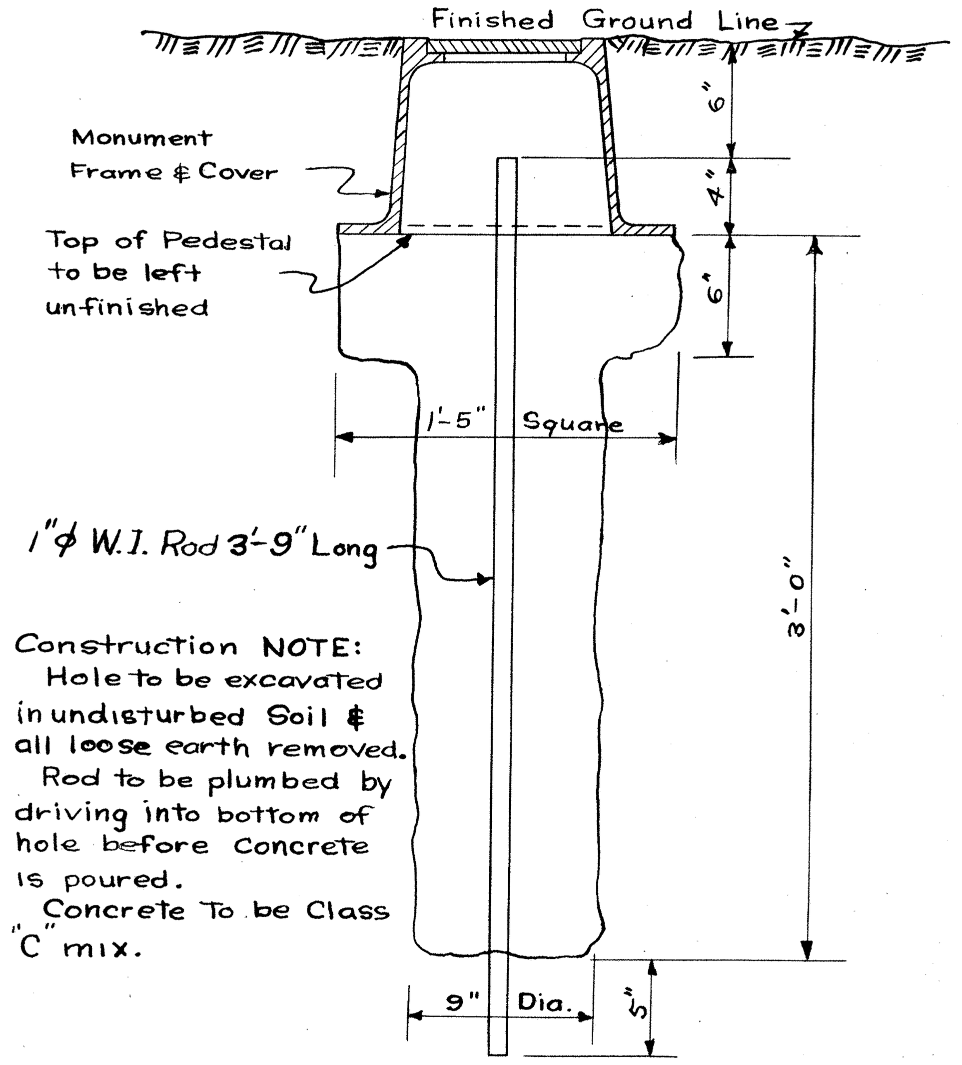
153-G / 169

CUY-17-14.99
CUYAHOGA COUNTY

MONUMENT BOX TYPE A
UNPAVED AREAS



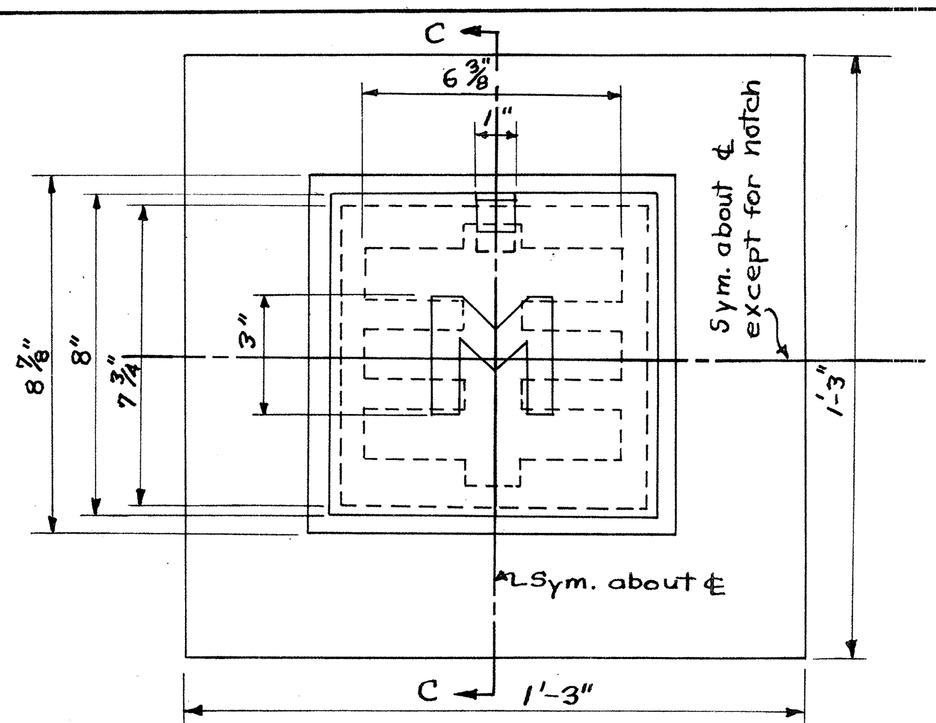
MONUMENT FRAME & COVER C.I.
Scale 3" = 1'-0"

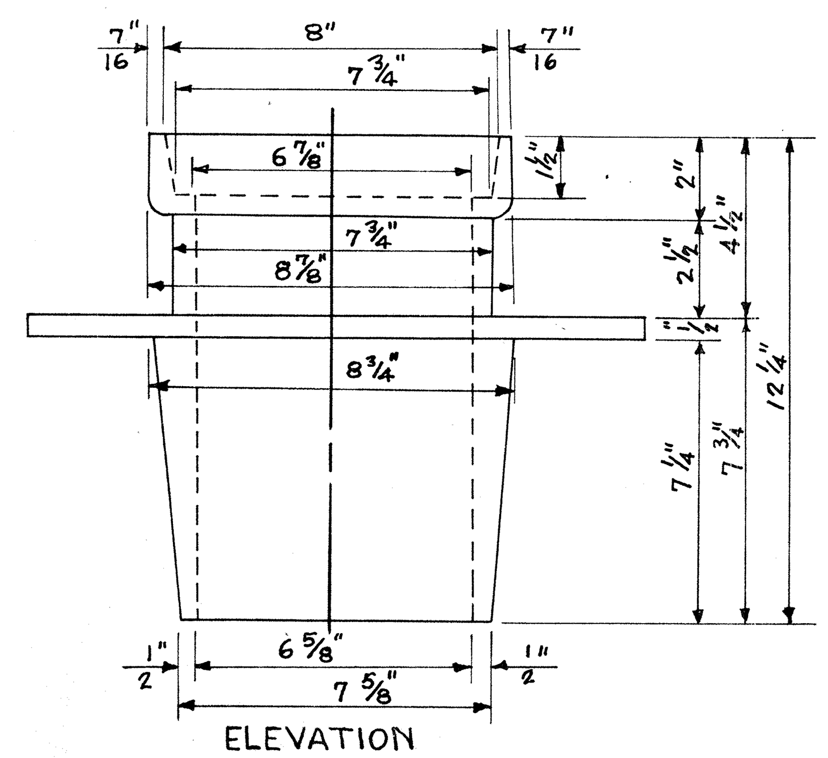


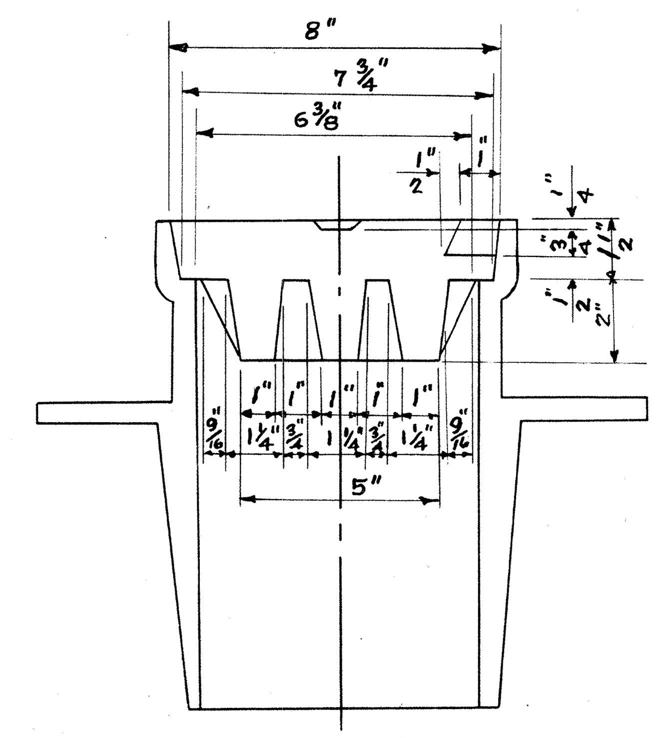
Construction NOTE:
Hole to be excavated in undisturbed Soil & all loose earth removed.
Rod to be plumbed by driving into bottom of hole before Concrete is poured.
Concrete to be Class "C" mix.

DETAIL OF
MONUMENT ASSEMBLY
Scale: 1½" = 1'-0"

MONUMENT BOX TYPE B
PAVED AREAS







MONUMENT FRAME & COVER C.I.
Scale 3" = 1'-0"

DETAILS OF MONUMENT BOXES

FOUNDATION SOUNDINGS

Foundation design and foundation quantities are based on a study of rod soundings and soil auger borings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus, or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.

PROPOSED STRUCTURE

TYPE: Continuous steel plate girders with conc. deck and conc. substr.
SPAN: 76'-94'-80'-70' c/c bearings
LOAD FREQ. RATING: CF-400-51
ROADWAY: 30' f/f curbs
SIDEWALKS: 2 @ 4½'
ALIGNMENT: Tangent
SKEW: 56°51'40" L.F.
SURFACE COURSE: Bituminous
APPROACH SLABS: AS-44S-Type II

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

Bridge No CU-17-164
SECTION CUY-17-14.99
Schaaf Road Bridge Sta. 115+98.28
Scale 1"=20' Cuyahoga County

TOPOGRAPHY		PROPOSED WORK				
SURVEY	DR. BY	DESIGN	DR. BY	CH'KD.	REVIEWED	DATE
		P.E.S.	P.E.S.	J.H.G.	G.K.A.	

BFG A.G.K. 9/30/54

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	STATE		155 / 169

CUY-17-14.99

GENERAL PLAN

GENERAL ELEVATION
(PILING NOT SHOWN)

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTMENTS West	ABUTMENTS East	PIERS One	PIERS Two	PIERS Three	SUPER-STRUCT.	GEN-ERAL	AS BUILT	
E-2	Lump	Sum	Cofferdams, cribs and sheeting							Lump		
E-2	720	Cu. yd.	Unclassified excavation	230	240	100	70	80				
S-1	463	Cu. yd.	Class "C" concrete, superstructure						463			
S-1	324	Cu. yd.	Class "C" concrete, abutments	162	162							
S-1	127	Cu. yd.	Class "C" concrete, pier caps and columns			46	41	40				
S-1	76.8	Cu. yd.	Class "E" concrete, pier footings			25.6	25.6	25.6				
S-3	1077	Sq. yd.	Type "C" waterproofing						1077			
S-4	~~152097~~	Lb.	Reinforcing steel	7837	7958	8520	7750	7557	112369	106	C-4,+771	152,868
S-7	~~476000~~	Lb.	Structural steel						476000		C17,+13064	489,064
S-8	~~476000~~	Lb.	Field painting of structural steel						476000		C17,+13064	489,064
S-14	655	Lin. ft.	Railing (Concrete parapet and steel pipe)						655			
S-15	Lump	Sum	Temporary run-around road							Lump		
S-16	Lump	Sum	First test pile							Lump		
S-18	3820	Lin. ft.	12" Cast-in-place reinforced concrete piling	680	680	830	800	830				
S-29	648	Lin. ft.	Subdrainage for wearing surface course						648			
S-29	64	Lin. ft.	8" Bituminous coated corrugated metal pipe drains, Sec. M-6.4 (c)							64		
S-29	75	Lin. ft.	6" Standard W.I. pipe leaders, including specials							75		
S-29	7	Cu. yd.	Porous drains on side slopes and ditch							7		
T-35	74	Cu. yd.	Asphaltic concrete surface course, Type "A" or "C" (70-80)						74			

GENERAL NOTES

REFERENCE shall be made to Standard Drawing RB-1-47, revised 7-27-49.

DESIGN SPECIFICATIONS: This structure conforms to the design requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 10-1-51, together with revisions thereof dated 7-15-52 and 4-1-54.

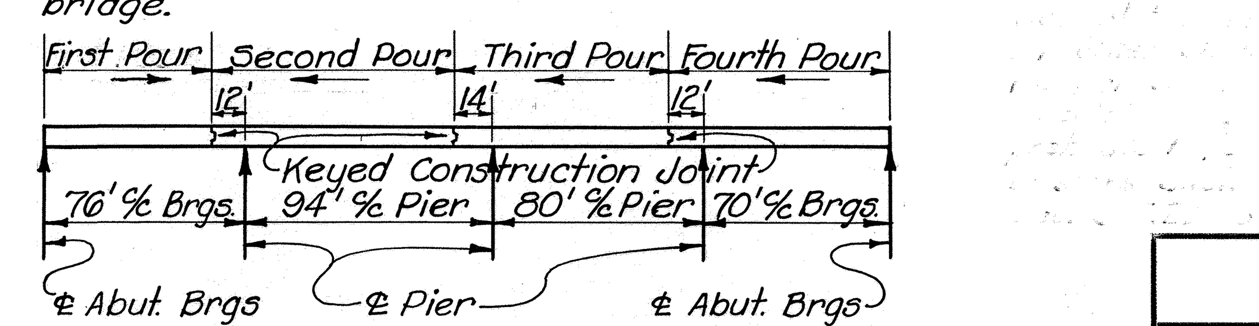
TEMPORARY RUN-AROUND ROAD. Payment for all portions of the run-around road and the 4ft sidewalk, is included in the lump sum price bid for Item S-15.

UTILITIES: The Contractor shall co-operate with the utility companies in protecting and relocating the utility lines on the project.

EXCAVATION QUANTITY includes the removal of the triangular portion of earth bounded on the bottom by the earth bench and on the top by the side slope of the Schaaf Road Relocation.

PILING shall be driven to a minimum bearing capacity of 27 ton per pile at piers and abutments.

DECK CONSTRUCTION PROCEDURE: Deck slab shall be placed in sections between skewed transverse construction joints in the numerical order and in the direction indicated in the diagram below, in order that the major portion of the dead load deflection may occur prior to placing concrete over each pier. This procedure may start at either end of bridge.



SURFACE FINISH OF CONCRETE: Railing end posts, railing parapet walls, curb faces, fascias of deck and exposed surfaces of piers, abutments and wing walls shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item S-1.

WELDING of structural steel shall be Class "A" except as shown. Any welds shown as field welds may, at the option of the Contractor, be made in the shop. Class "B" welds shown thus: B

GRAVEL, if used as the coarse aggregate, shall be according to Sec. M-3.93 instead of M-3.91 for class "C" concrete, superstructure. Gravel meeting the requirements of Sec. M-3.93 also may be used for other concrete in this structure.

PAINTING, both shop and field, shall be according to Item S-8 except that the paint shall be applied by brushing. Spray application will not be permitted.

RIVETS shall be 7/8" diameter.

POROUS DRAINS, 1'-0" thick, shall be placed in the south ditch under scupper drain outlets as shown on the General Plan and the porous drain detail on Sheet No. 161. The porous drains shall be placed on and flush with the proposed ditch and side slopes. They shall be composed of No. 1 or No. 12 gravel, stone or slag. Construction procedure shall conform essentially to Item I-9. Trench excavation shall be included for payment with the price per cu. yd. bid for "Porous drains on embankment slopes".

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

GENERAL PLAN AND ELEVATION
NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. CU-17-164
OVER SCHAAF ROAD

CUYAHOGA COUNTY
SEC. CUY-17-14.99 STA. 115+98.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	NEY	MPB	BFG A.G.T.	9/30/54	11-23-54

8-6-58 AB Revised As-Built J.E.P.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

CUY-17-14.99

FRONT ELEVATION OF EAST ABUTMENT

Reinforcing steel in the East Abutment is the same as in the West Abutment except as shown.

Concrete above bridge seat construction joint shall not be placed until after steelwork is erected. Steel end finish shall be used as a template for top of backwall.

All reinforcing steel shall be 2" clear of face of concrete unless otherwise shown.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

ABUTMENTS

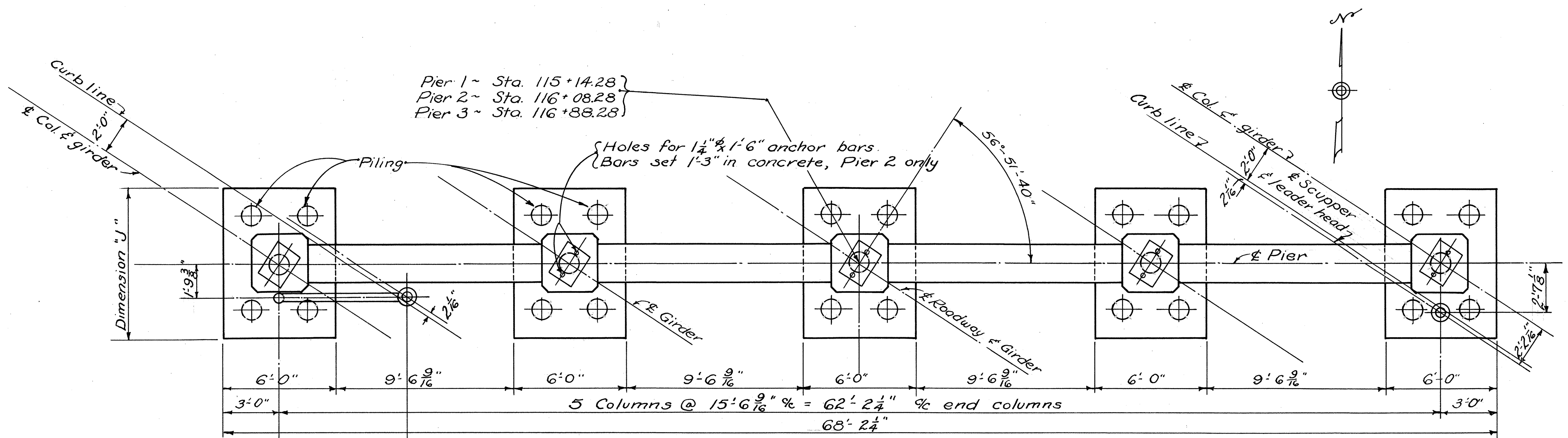
BRIDGE No. CU-17-164
OVER SCHAAF ROAD

CUYAHOGA COUNTY
SEC. CUY-17-14.99 STA. 115 + 98.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	B.D.H.	MPB	BFG A.G.K.	9/30/54	

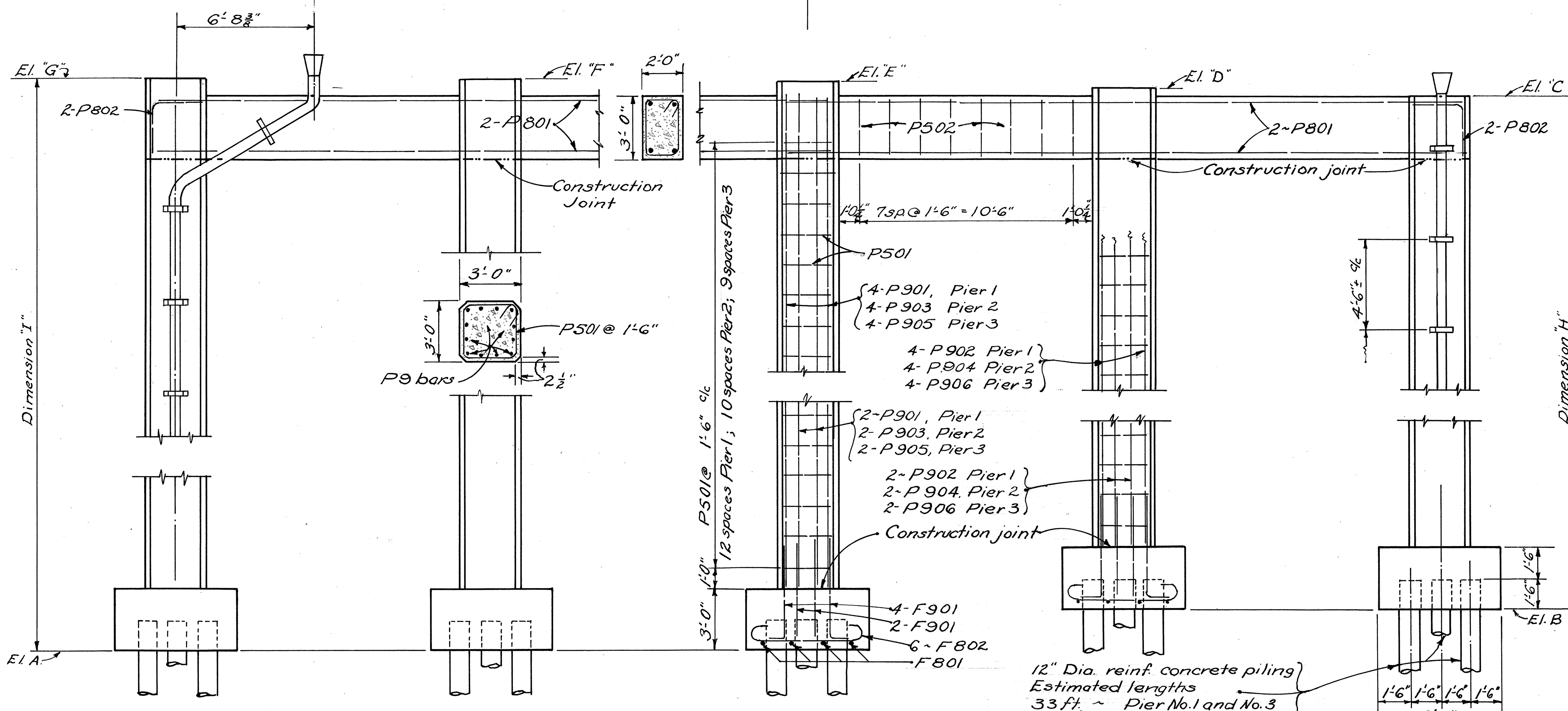
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

CUY-17-14.99

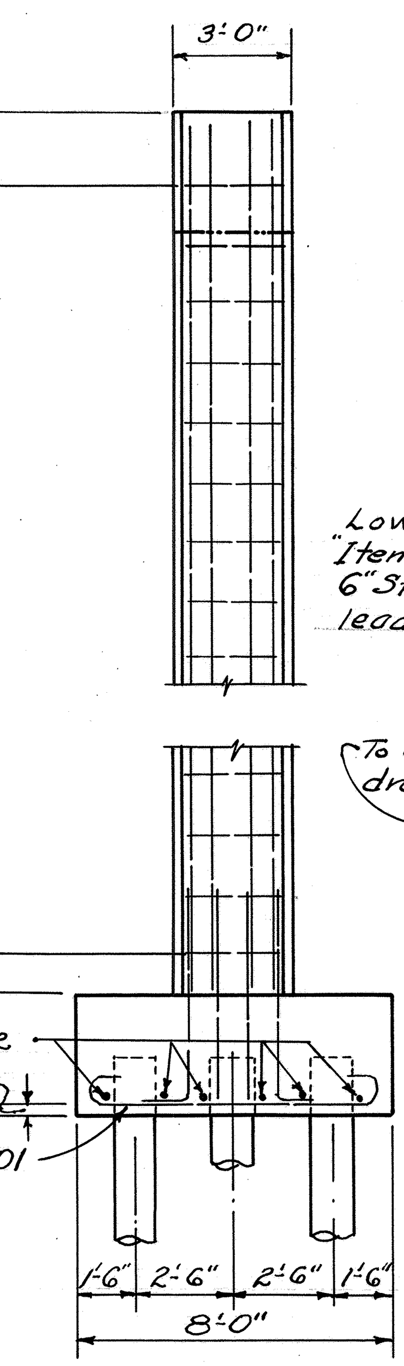


PLAN

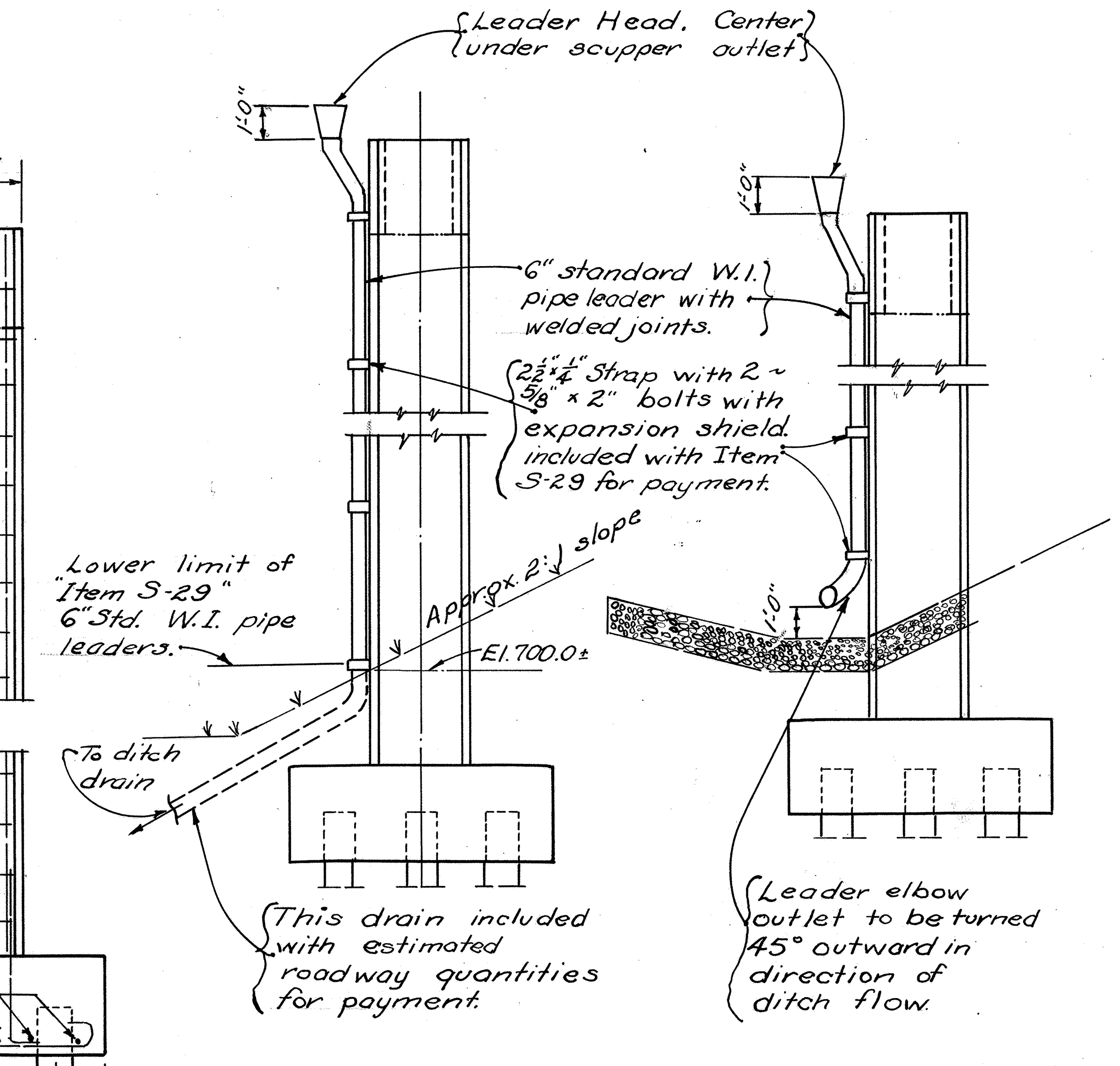
Pier No.	ELEVATIONS							DIMENSIONS		
	A	B	C	D	E	F	G	H	I	J
1	692.00	694.00	716.29	716.61	716.92	716.97	717.02	22'-3½"	25'-0¼"	8'-0"
2	694.00	696.00	715.06	715.37	715.69	715.74	715.79	19'-0¾"	21'-9½"	8'-0"
3	693.50	695.50	713.98	714.30	714.61	714.66	714.71	18'-5¾"	21'-2½"	8'-0"



ELEVATION



END VIEW



EAST END ELEV. OF PIER 1

EAST END ELEV. OF PIER 3

DRAINAGE DETAILS

All reinforcing steel shall be 2" clear of face of concrete unless otherwise noted.

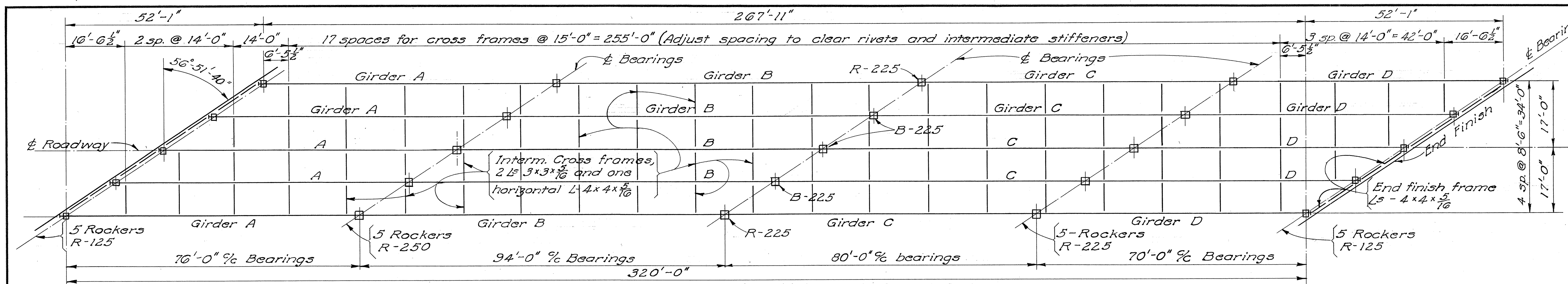
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

PIERS

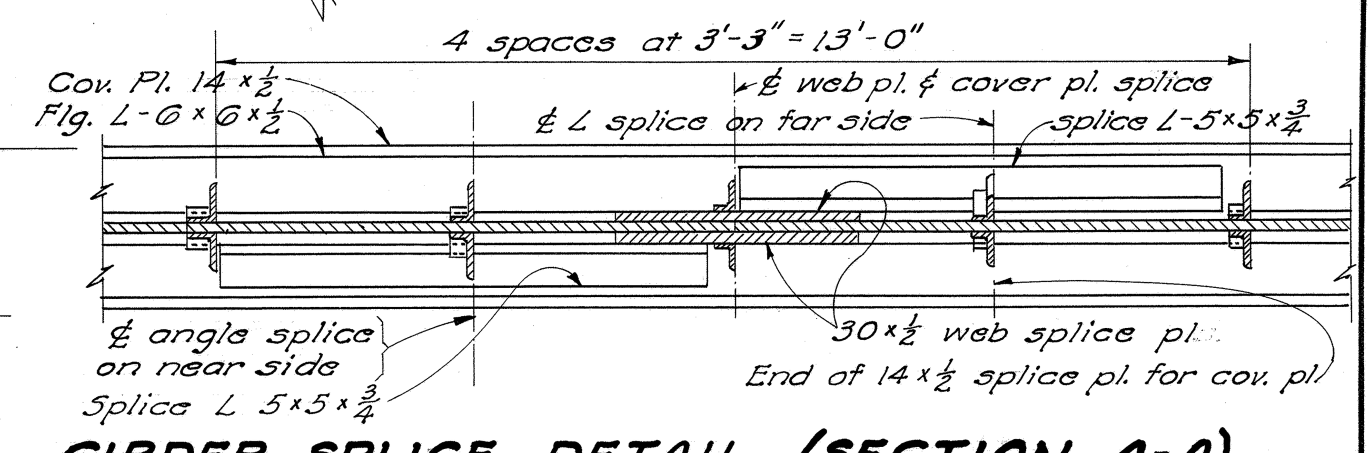
BRIDGE NO. CU-17-164
OVER SCHAAF ROAD

CUYAHOGA COUNTY
SEC. CUY-17-14.99 STA. 115+98.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	J.S.M.	MPB	BFG A.G.F.	9/30/54	



STRUCTURAL STEEL FRAMING PLAN



GIRDER SPLICE DETAIL (SECTION A-A)

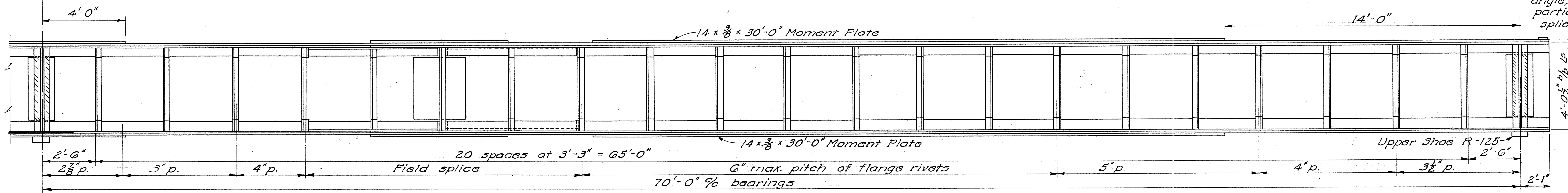
ELEVATION OF GIRDERS A

ELEVATION OF GIRDERS B

ELEVATION OF GIRDERS C

RIVETS shall be ⅞" ⌀

STRUCTURAL STEEL FOR GIRDERS:
Web Plate 48 x 3/8; 4 flange Ls 6 x 6 x ½, net section is gross section minus 2 holes per angle; 2 cover Pls. 14 x ½, full length; additional partial length moment plates, stiffeners and splices as shown on elevations.



ELEVATION OF GIRDERS D

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

GIRDER DETAILS AND STRUCTURAL STEEL FRAMING PLAN
BRIDGE NO. CU-17-164
OVER SCHAAF ROAD

CUYAHOGA COUNTY
SEC. CUY-17-14.99 STA. 115 + 98.28

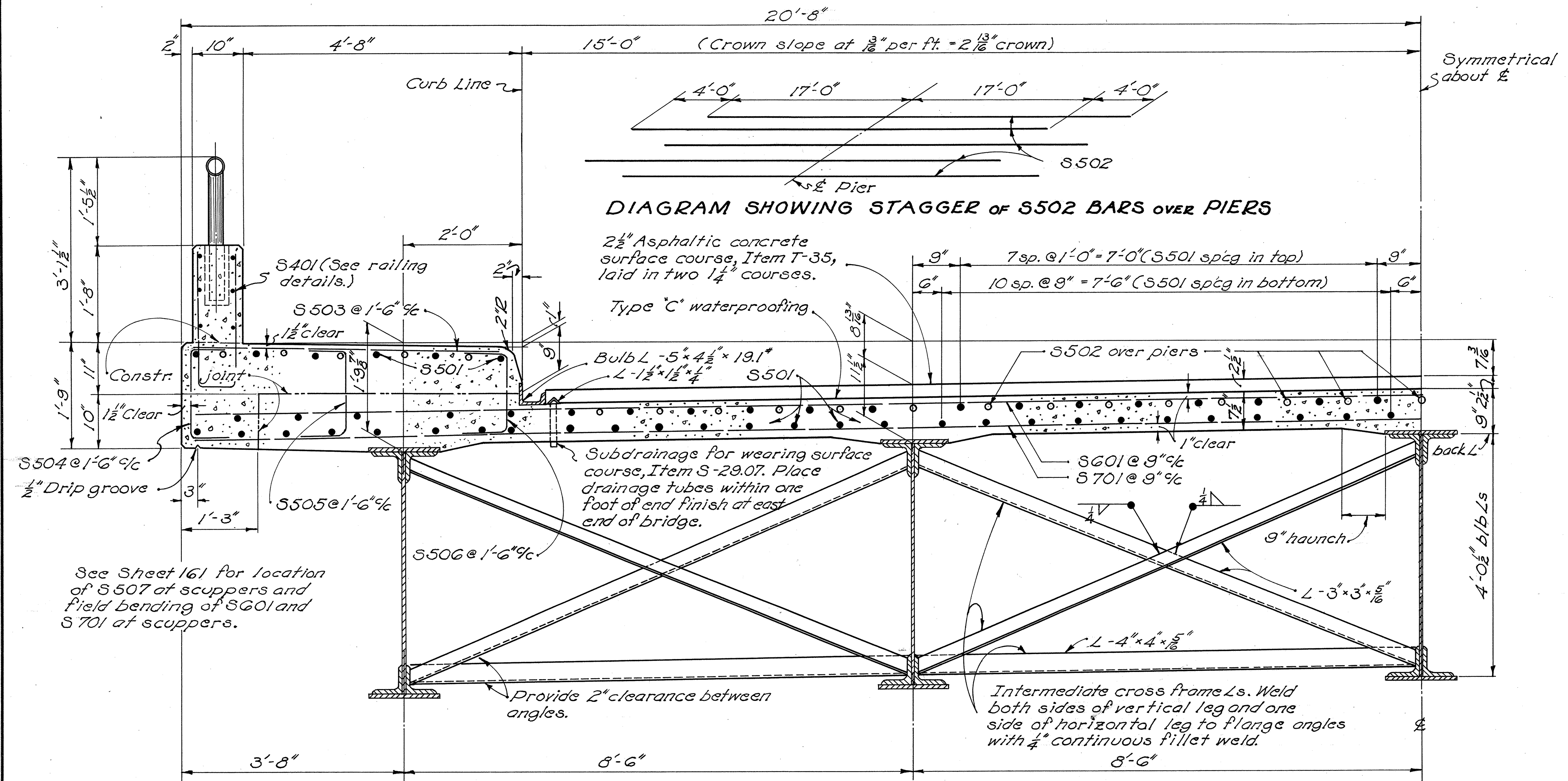
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	JDJ	MPB	BFG	9/30/54	

8-12-58 Revised As-Built J.E.P.

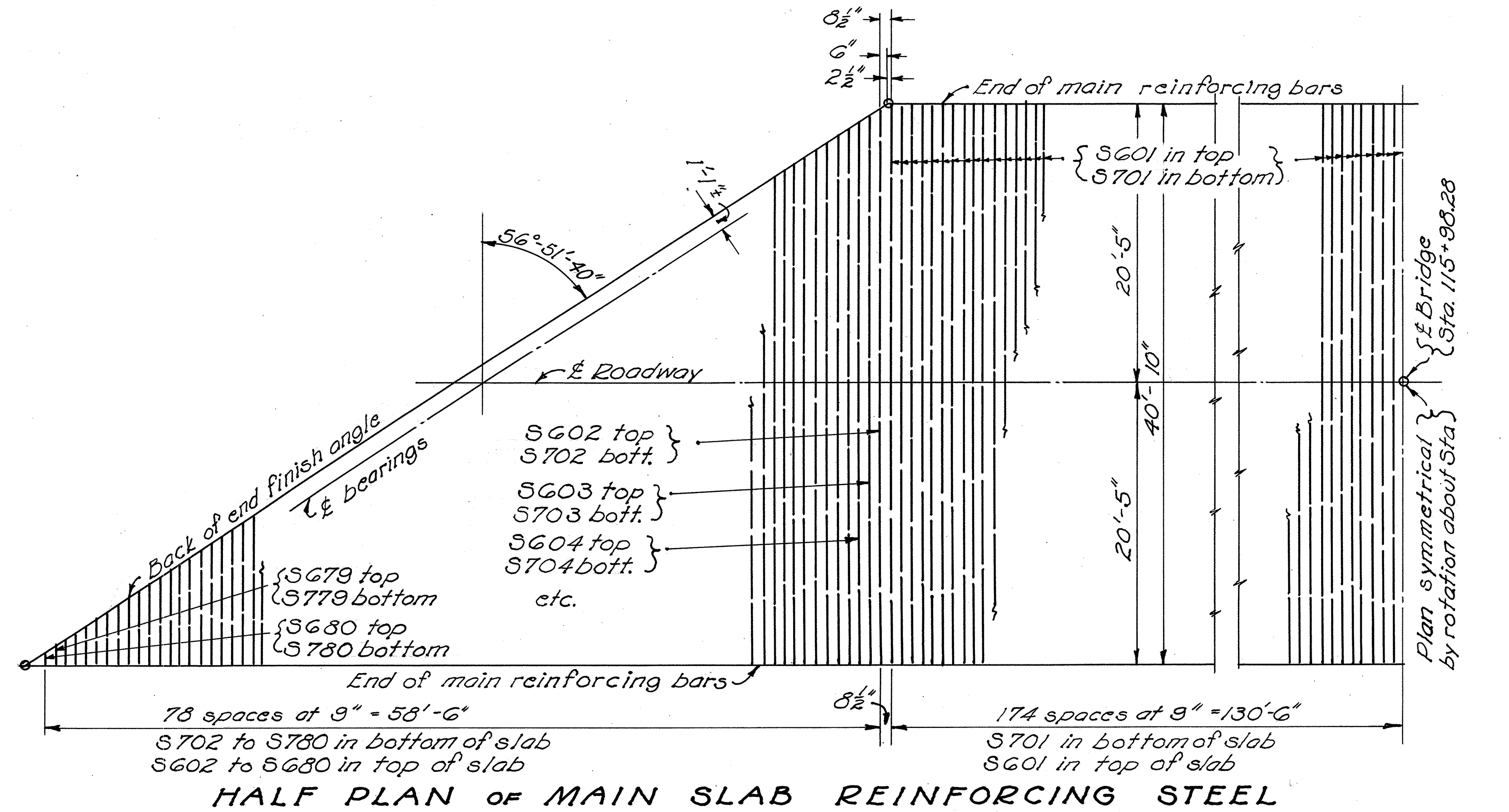
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

159/169

CUY-17-14.99



TYPICAL HALF ROADWAY SECTION

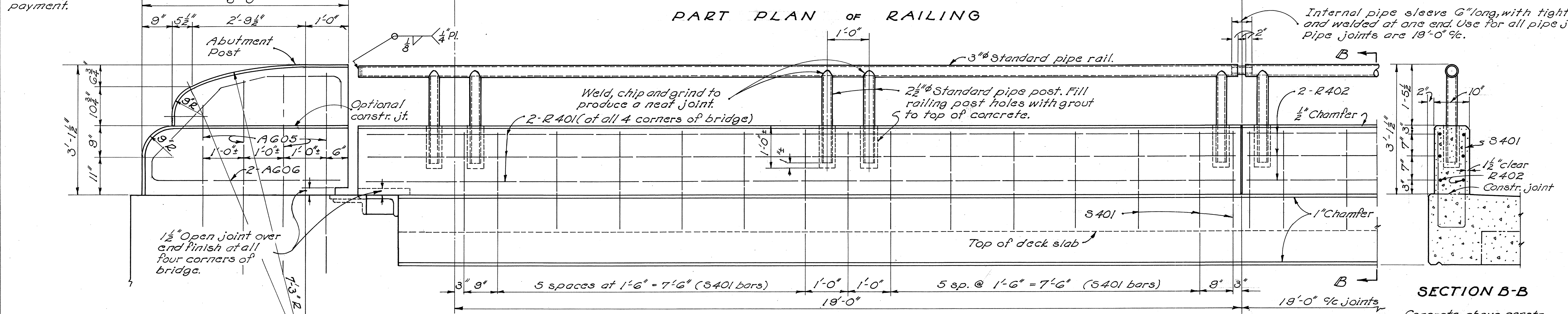


HALF PLAN OF MAIN SLAB REINFORCING STEEL

For 4-S503 bars at each end of sidewalk.

PART PLAN OF RAILING

Abutment posts are included with abutment concrete for payment.



The Contractor may place the pipe portion of the railing, after the concrete parapet has been placed, in preformed holes in the parapet as shown, or by rigidly supporting the pipe portion in position, accurately adjusted to line and grade, when the parapet concrete is placed, without such preformed holes.

PART ELEVATION OF RAILING

SECTION B-B

Concrete above constr. joint included with railing for payment.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

ROADWAY SECTION, REINFORCING PLAN AND RAILING DETAILS
BRIDGE NO. CU-17-164
OVER SCHAAF ROAD

CUYAHOGA COUNTY
SEC. CUY-17-14.99 STA. 115+38.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	CEM	MPB	BFG	9/30/54	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

160/169

CUY-17-14.99

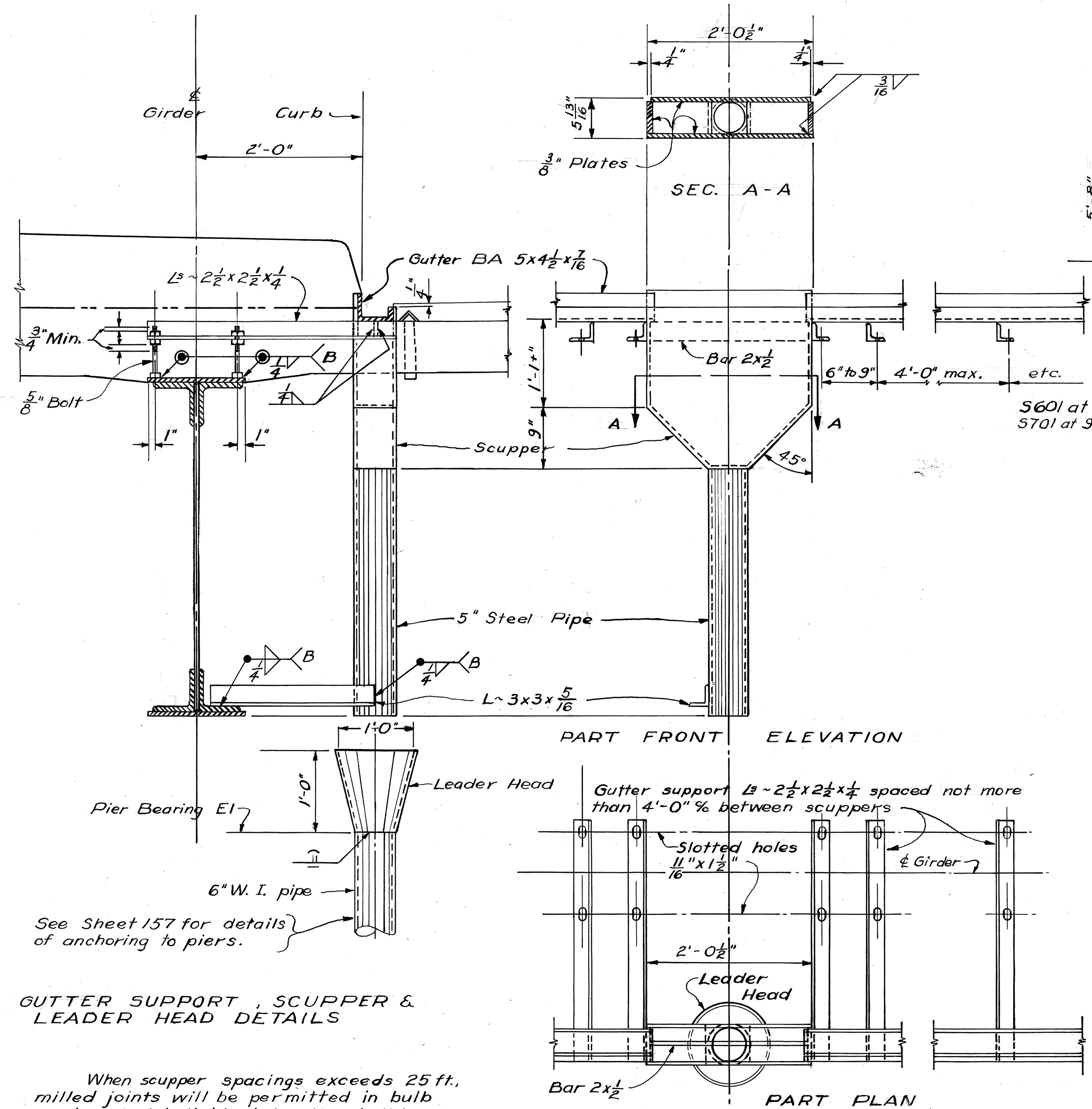
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

SUPERSTRUCTURE END FINISH

BRIDGE NO. CU-17-164
OVER SCHAAF ROAD

CUYAHOGA COUNTY
SEC. CUY.-17-14.99 STA. 115 + 98.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.G.	K.E.G.	B.D.H.	MPB	BFG A.J.R.	9/30/54	



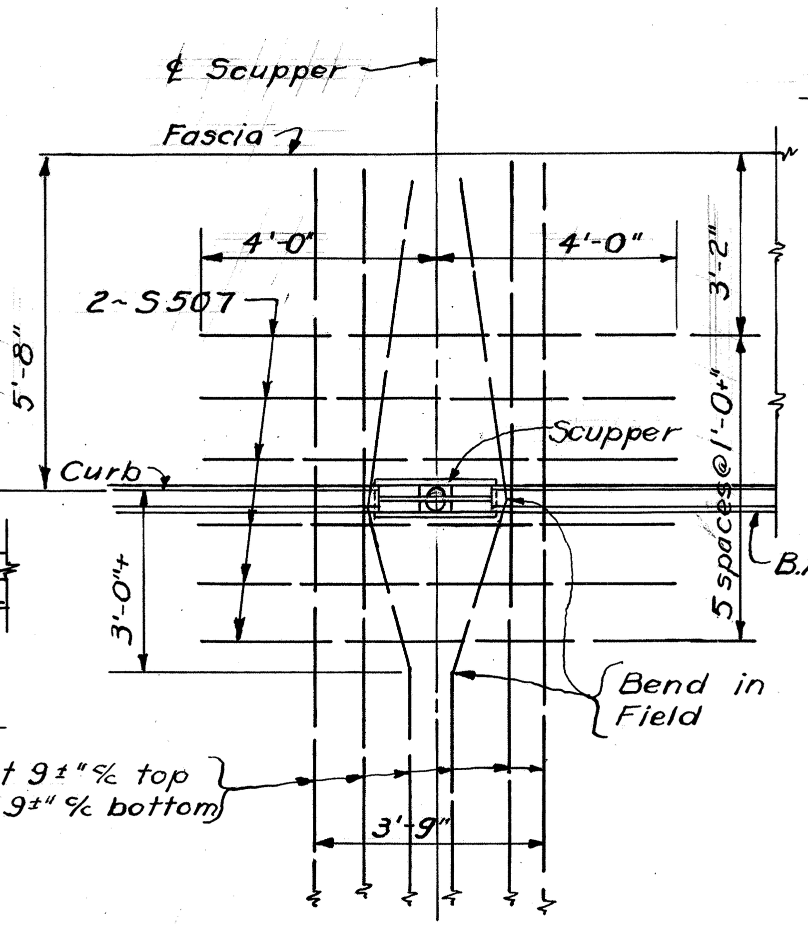
GUTTER SUPPORT, SCUPPER & LEADER HEAD DETAILS

When scupper spacings exceeds 25 ft., milled joints will be permitted in bulb angles, but individual lengths shall be made as long as practicable.

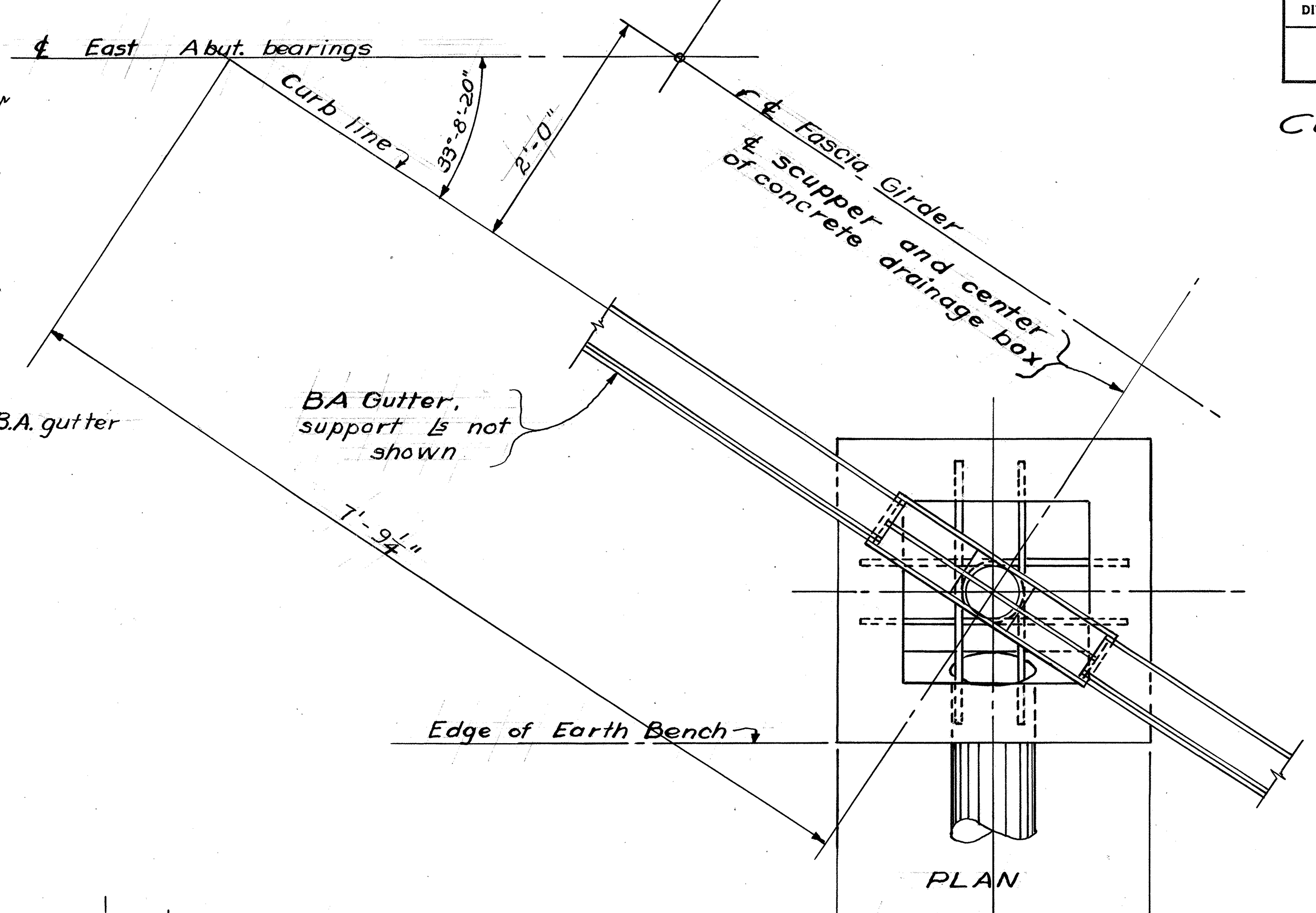
Scuppers are spaced to clear cross frame angles.

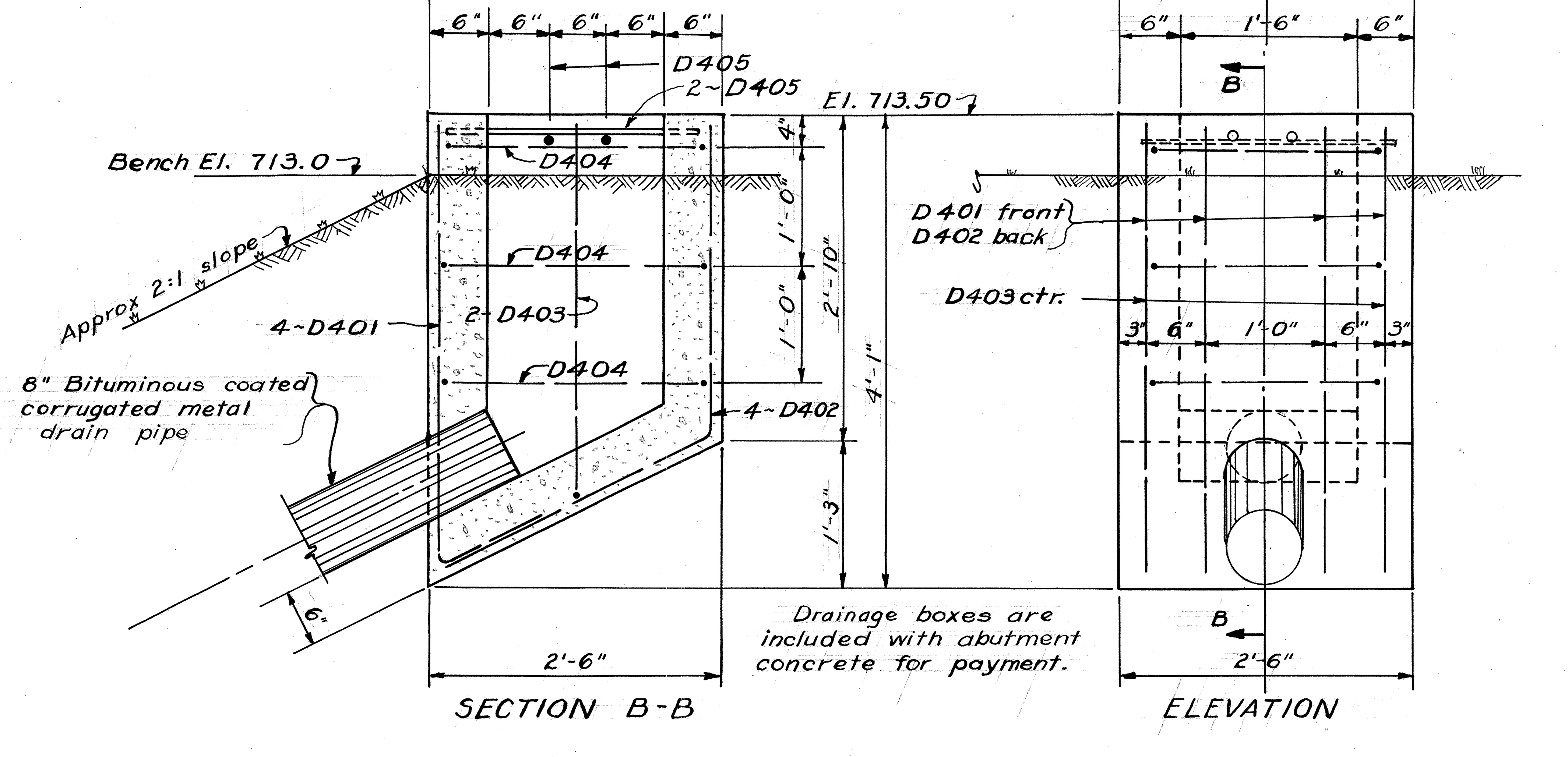
Gutters shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed.

° GUTTER AND SCUPPER DETAILS °



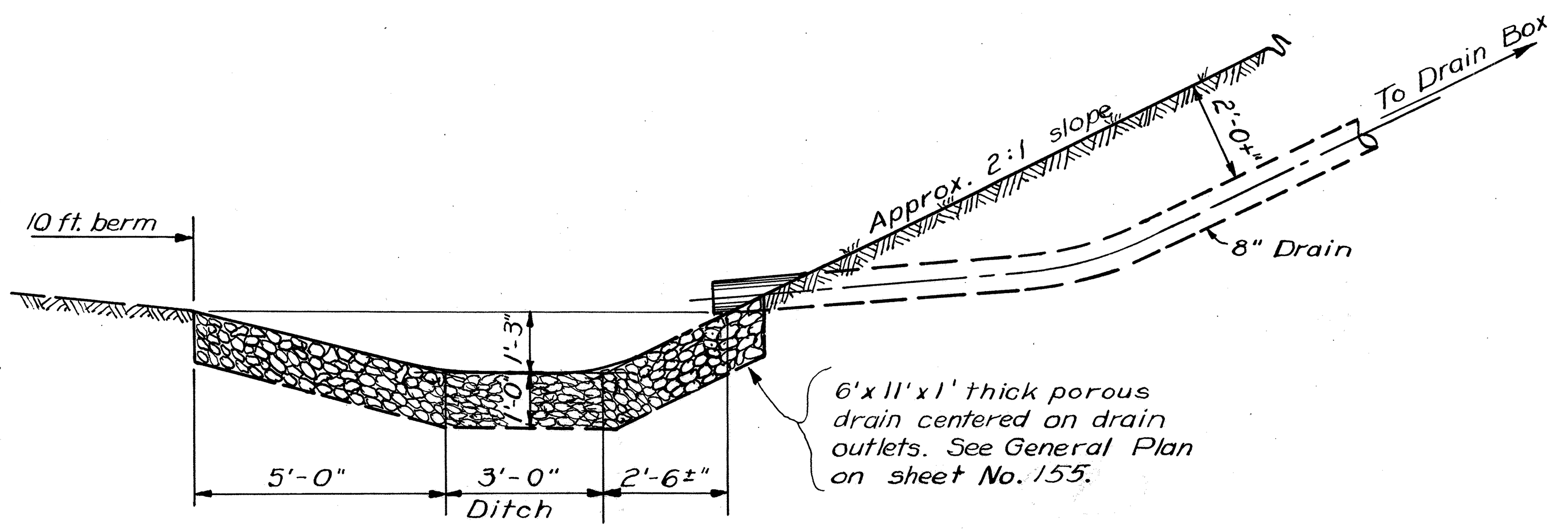
PART DECK PLAN AT SCUPPER SHOWING LOCATION OF S507 BARS AND FIELD BENDING OF S601 AND S701 SERIES AT EACH SCUPPER



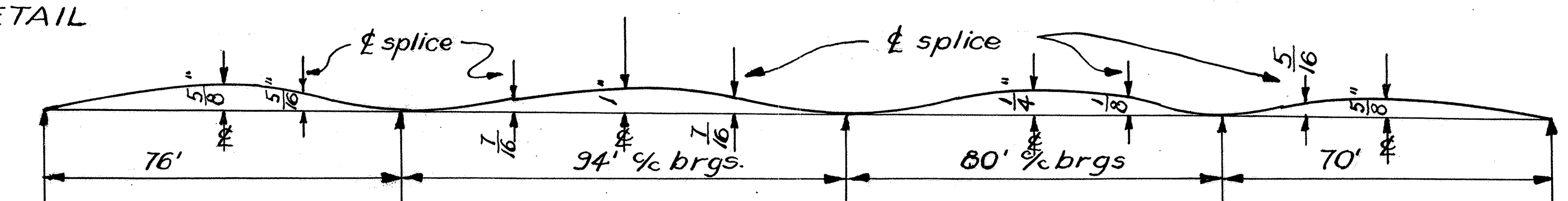


DETAILS OF CONCRETE DRAIN BOX

GIRDER DEFLECTIONS	76 ft. span	94 ft. span	80 ft. span	70 ft. span
Deflection due to weight of steel	⅛"	¼"	1/16"	⅛"
Deflection due to remaining dead load	½"	¾"	3/16"	½"
Total Deflection	⅝"	1"	¼"	⅝"



POROUS DRAIN DETAIL



CAMBER DIAGRAM

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DRAINAGE DETAILS

BRIDGE NO. CU-17-164
OVER SCHAAF ROAD

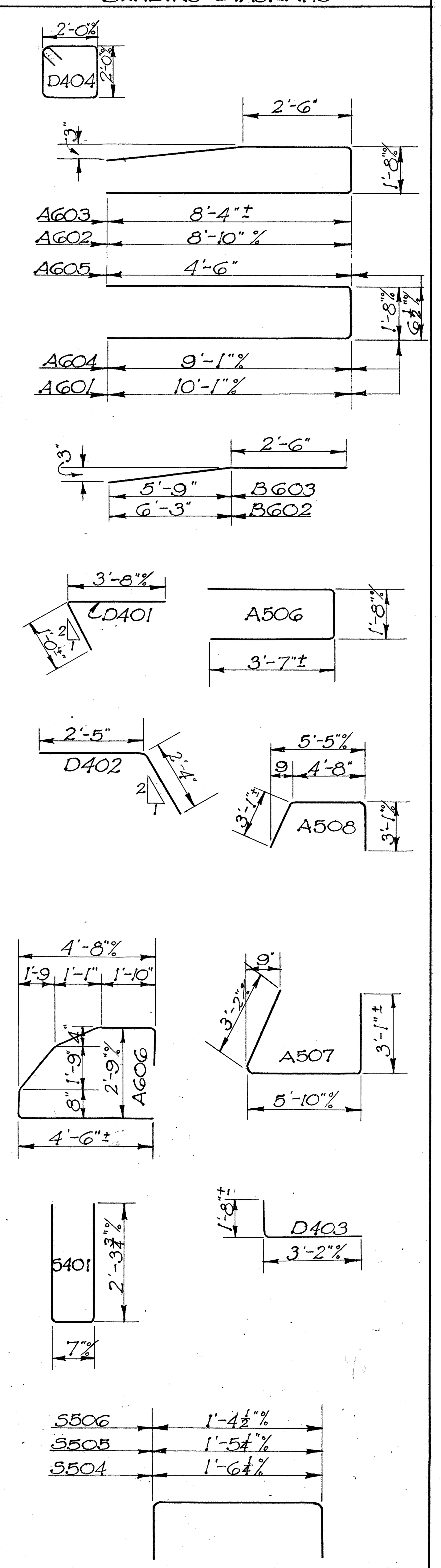
CUYAHOGA COUNTY
SEC. CUY-17-14.99 STA. 115+98.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	GTR	MPB	BFG	9/30/54	

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
Two Abutments				
A801	60	24'-9"	3,964	S
A802	20	27'-9"	1,482	S
A601	24	21'-6"	775	B
* A602	30	19'-0"	856	B
* A603	26	18'-0"	703	B
A604	14	19'-6"	410	B
A605	16	9'-3"	222	B
A606	8	11'-3"	135	B
A501	16	28'-0"	467	S
A502	14	29'-0"	423	S
A503	14	26'-0"	380	S
A504	2	23'-0"	48	S
A505	6	32'-6"	203	S
A506	80	8'-6"	709	B
A507	94	11'-9"	1,152	B
A508	94	10'-6"	1029	B
A509	6	34'-0"	213	S
A510	2	21'-0"	44	S
A511	12	13'-6	169	B
A512	4	3'-8"	10	S
B601	24	10'-0"	360	S
B602	32	8'-9"	420	B
B603	26	8'-3"	322	B
B604	14	10'-0"	210	S
W801	12	10'-3	328	S
W802	4	11'-9"	126	S
W601	6	9'-9"	88	S
W602	2	11'-3"	34	S
W501	18	11'-3"	211	S
W502	16	11'-6"	192	S
Drainage Boxes				
D401	8	4'-6"	24	B
D402	8	4'-9"	25	B
D403	4	4'-9"	13	B
D404	6	8'-11"	36	B
D405	8	2'-2"	12	S
Piers 1,2 & 3				
F901	180	6'-6"	3978	B
F801	60	9'-8"	1,549	B
F802	90	7'-8"	1,843	B
P901	36	21'-8"	2,652	S
P902	24	19'-0"	1,550	S
P903	36	18'-6"	2,264	S
P904	24	15'-9"	1,285	S
P905	36	17'-9"	2,173	S
P906	24	15'-3"	1,244	S
P801	24	33'-8"	2,157	S
P802	12	5'-0"	160	B
P501	164	11'-8"	1,996	B
P502	96	9'-9"	976	B

Bending Diagrams

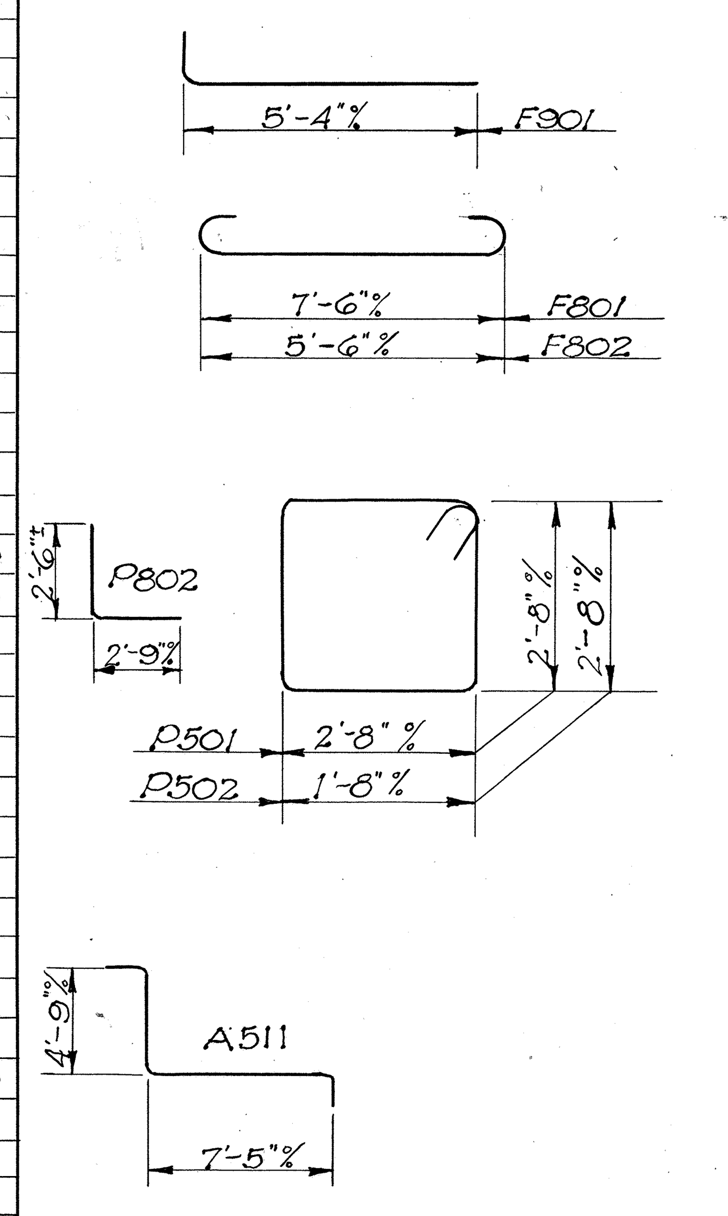


*NOTE: The detail shown on sheet 162 for A-602 and A-603 bars is not in agreement with section A-A, sheet 156. The detail for sheet 156 is correct. Since the bars are on the project according to the other detail, it is necessary they be supplemented with a hairpin bar. This bar is to be 11 inches out of bends with legs of at least 30 diameters or approximately 24 inches. (Change Order #4)

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
Replacement Bars				
RE 9	1	6'-10"	23	S
RE 8	1	6'-6"	17	S
RE 7	2	6'-3"	26	S
RE 6	2	5'-11"	18	S
RE 5	3	5'-7"	18	S
RE 4	1	5'-3"	4	S
Superstructure				
S701	349	40'-10"	29,129	S
S601	349	40'-10"	21,405	S
S501	1040	34'-0"	36,880	S
S502	111	38'-0"	4,399	S
S503	450	5'-0"	2,347	S
S504	430	3'-0"	1,345	B
S505	430	2'-11"	1,310	B
S506	430	2'-11"	1,310	B
S507	72	8'-0"	601	S
S401	510	5'-0"	1703	B
R401	24	21'-0"	*	S
R402	180	18'-9"	*	S
S702	2	40'-6"	166	S
S703	2	40'-0"	164	S
S704	2	39'-6"	161	S
S705	2	39'-0"	159	S
S706	2	38'-6"	157	S
S707	2	38'-0"	155	S
S708	2	37'-6"	153	S
S709	2	37'-0"	151	S
S710	2	36'-6"	149	S
S711	2	36'-0"	147	S
S712	2	35'-6"	145	S
S713	2	35'-0"	143	S
S714	2	34'-6"	141	S
S715	2	34'-0"	139	S
S716	2	33'-6"	137	S
S717	2	33'-0"	135	S
S718	2	32'-6"	133	S
S719	2	32'-0"	131	S
S720	2	31'-6"	129	S
S721	2	31'-0"	127	S
S722	2	30'-6"	125	S
S723	2	30'-0"	123	S
S724	2	29'-9"	122	S
S725	2	29'-3"	120	S
S726	2	28'-9	118	S
S727	2	28'-3	115	S
S728	2	27'-9"	113	S
S729	2	27'-3"	111	S
S730	2	26'-9	109	S
S731	2	26'-3"	107	S
S732	2	25'-9	105	S
S733	2	25'-3"	103	S
S734	2	24'-9"	101	S
S735	2	24'-3"	99	S
S736	2	23'-9"	97	S
S737	2	23'-3"	95	S
S738	2	22'-9"	93	S
S739	2	22'-3"	91	S
S740	2	21'-9"	89	S

Bending Diagrams



*Included with railing for payment.

Bar size is indicated in the bar mark. The first digit indicates the bar size number. For example S649 is a No. 6 bar.

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
Superstructure				
S741	2	21'-3"	87	S
S742	2	20'-9"	85	S
S743	2	20'-3"	83	S
S744	2	19'-9	81	S
S745	2	19'-3"	79	S
S746	2	18'-9"	77	S
S747	2	18'-3"	75	S
S748	2	17'-9"	73	S
S749	2	17'-6"	72	S
S750	2	17'-0"	69	S
S751	2	16'-6"	67	S
S752	2	16'-0"	65	S
S753	2	15'-6"	63	S
S754	2	15'-0"	61	S
S755	2	14'-6"	59	S
S756	2	14'-0"	57	S
S757	2	13'-6"	55	S
S758	2	13'-0"	53	S
S759	2	12'-6"	51	S
S760	2	12'-0"	49	S
S761	2	11'-6"	47	S
S762	2	11'-0"	45	S
S763	2	10'-6"	43	S
S764	2	10'-0"	41	S
S765	2	9'-6"	39	S
S766	2	9'-0"	37	S
S767	2	8'-6"	35	S
S768	2	8'-0"	33	S
S769	2	7'-6"	31	S
S770	2	7'-0"	29	S
S771	2	6'-6"	27	S
S772	2	6'-0"	25	S
S773	2	5'-9"	24	S
S774	2	5'-3"	21	S
S775	2	4'-9"	19	S
S776	2	4'-3"	17	S
S777	2	3'-9"	15	S
S778	2	3'-3"	13	S
S779	2	2'-9"	11	S
S780	2	2'-3"	9	S
S602	2	40'-6"	122	S
S603	2	40'-0"	120	S
S604	2	39'-6"	119	S
S605	2	39'-0"	117	S
S606	2	38'-6"	116	S
S607	2	38'-0"	114	S
S608	2	37'-6"	113	S
S609	2	37'-0"	111	S
S610	2	36'-6"	110	S
S611	2	36'-0"	108	S
S612	2	35'-6"	107	S
S613	2	35'-0"	105	S
S614	2	34'-6"	104	S
S615	2	34'-0"	102	S
S616	2	33'-6"	101	S
S617	2	33'-0"	99	S
S618	2	32'-6	98	S
S619	2	32'-0"	96	S
S620	2	31'-6"	95	S
S621	2	31'-0"	93	S
S622	2	30'-6"	92	S
S623	2	30'-0"	90	S

Mark	No.	Length	Weight	Shp.
Superstructure				
S624	2	29'-9"	89	S
S625	2	29'-3"	88	S
S626	2	28'-9"	86	S
S627	2	28'-3"	85	S
S628	2	27'-9"	83	S
S629	2	27'-3"	82	S
S630	2	26'-9"	80	S
S631	2	26' 3"	79	S
S632	2	25'-9"	77	S
S633	2	25'-3"	76	S
S634	2	24'-9"	74	S
S635	2	24'-3"	73	S
S636	2	23'-9"	71	S
S637	2	23'-3"	69	S
S638	2	22'-9"	68	S
S639	2	22'-3"	67	S
S640	2	21'-9"	65	S
S641	2	21'-3"	64	S
S642	2	20'-9"	62	S
S643	2	20'-3"	61	S
S644	2	19'-9"	59	S
S645	2	19'-3"	58	S
S646	2	18'-9"	56	S
S647	2	18'-3"	55	S
S648	2	17'-9"	53	S
S649	2	17'-6"	53	S
S650	2	17'-0"	51	S
S651	2	16'-6"	50	S
S652	2	16'-0"	48	S
S653	2	15'-6"	47	S
S654	2	15'-0"	45	S
S655	2	14'-6"	44	S
S656	2	14'-0"	42	S
S657	2	13'-6"	41	S
S658	2	13'-0"	39	S
S659	2	12'-6	38	S
S660	2	12'-0"	36	S
S661	2	11'-6"	35	S
S662	2	11'-0"	33	S
S663	2	10'-6"	32	S
S664	2	10'-0"	30	S
S665	2	9'-6"	29	S
S666	2	9'-0"	27	S
S667	2	8'-6"	26	S
S668	2	8'-0"	24	S
S669	2	7'-6"	23	S
S670	2	7'-0"	21	S
S671	2	6'-6"	20	S
S672	2	6'-0"	18	S
S673	2	5'-9"	17	S
S674	2	5'-3"	16	S
S675	2	4'-9"	14	S
S676	2	4'-3"	13	S
S677	2	3'-9"	11	S
S678	2	3'-3"	10	S
S679	2	2'-9"	8	S
S680	2	2'-3"	7	S

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

REINFORCING STEEL LIST

BRIDGE No. CU-17-164
OVER SCHAAF ROAD

CUYAHOGA CO.
SEC. CUY-17-14.99 STA. 115-98.28

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	R.G.B.	MPB	BFG	9/30/54	

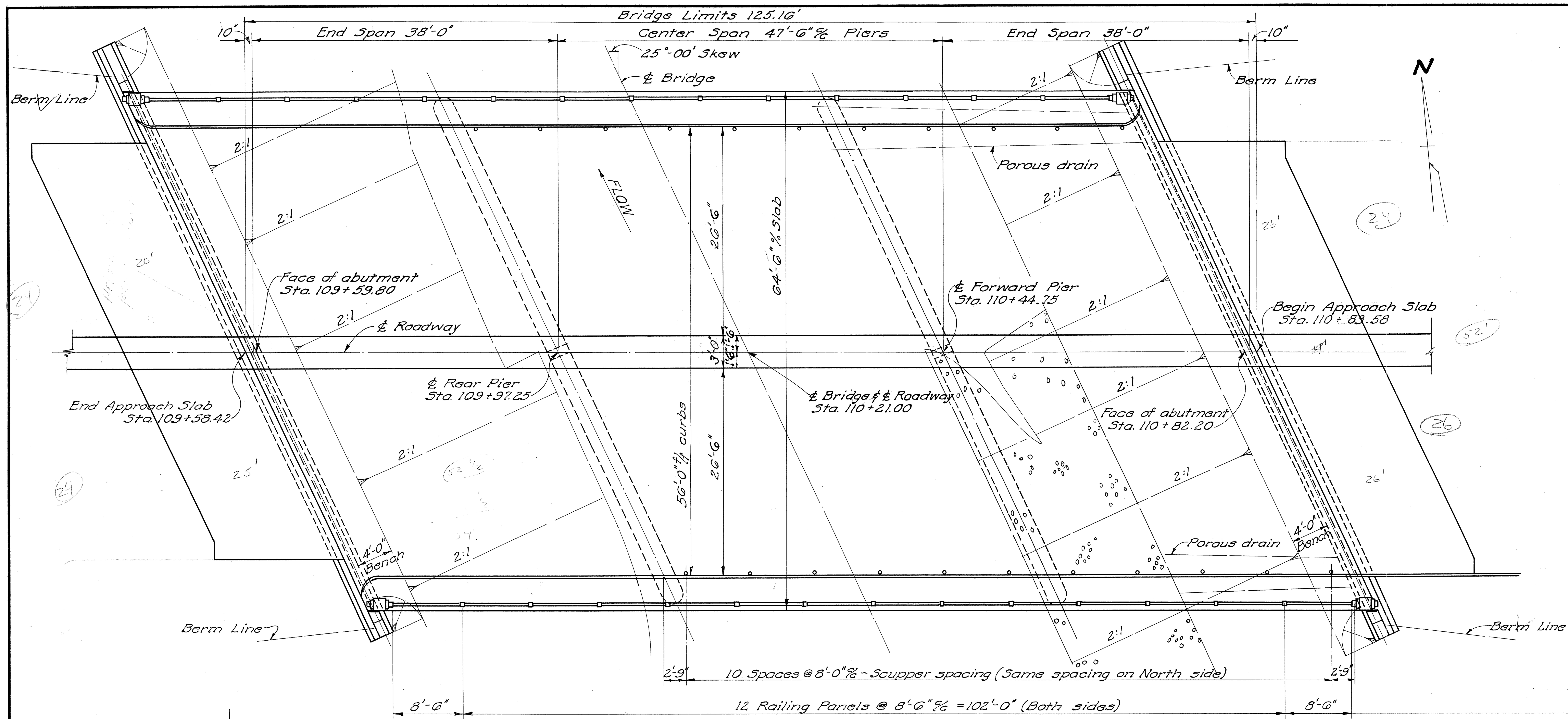
8-7-58 Revised As-Built J.E.P.

T.B.M.--FF2, "X" N.E. COR. STEP WINGWALL BRIDGE BOTTOM HILL OF SCHAAF ROAD. EL. 600.676
| FED. RD. DIVISION | STATE | PROJECT | TYPE FUNDS |
| 2 | OHIO | STATE | |
163/169
CUYAHOGA COUNTY
SEC. CUY-17-14.99
In Independence
WEST CREEK
SLAG ROAD
SCHAAF ROAD RELOCATION
4' PAVED MEDIAN
End approach slab Sta. 109+58.42
Begin approach slab Sta. 110+83.58
S.79°-27'-07.7" E
STA. 112+20
25°-00'
℄ Bridge Sta. 110+21.00
TO EAST OHIO GAS CO.
6" steel pipe
8" steel pipe
To be abandoned
DITCH
F.L. 592.84
8" C.I.P.
7'-0" DIA. BRICK SUMP TOP BRICK EL. 594.04
F.L. 592.22
F.L. 593.00
Place dumped rock fill to Elev. 593.0
Excavate Channel to Elev. 586.0
Bridge Limits
PROPOSED CONN. TO SCHAAF ROAD ℄
WEST CREEK ROAD
N.10°-32'-52.3"E
R=50'
Sta. 114+00
-3.84% +4.00%
P.I. Elev. 591.79
900' VC
PROPOSED STRUCTURE
TYPE: Cont. reinf. conc. slab with capped pile substructure.
SPANS: 38'-47.5'-38' c/c brgs.
ROADWAY: 56'-0" f/f curbs with two 3'-0" sidewalks
LOAD FREQUENCY RATING: CF2000
SKEW: 25°00' R.F.
WEARING SURFACE: 1" Monolithic Conc.
APPR. SLABS: AS-1-54
ALIGNMENT: Tangent.
FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of rod soundings and soil-sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus, or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.
Sta. 109+58.42
℄ Bridge Sta. 110+21.00
Grade El. 606.56
Sta. 110+83.58
Clears assumed 10-15yr. H.W. 8.4±
-3.84%
900' V.C.
Bench El. 604.7
Bench El. 600.8
2:1 Normal
Assumed 10-15 yr. H.W. El. 594.07
Est. Pay Length 39'-0"
Est. Pay Length 36'-0"
Est. Pay Length 51'-0"
Est. Pay Length 48'-0"
All piles to be 14" reinforced concrete, cast-in-place.
EDGE CREEK
616.75 614.83 612.91 610.99 609.07 608.14 607.26 606.47 605.67 604.95 604.29 603.68 603.13 602.64 602.19 601.80 601.47 601.19 600.97
620 610 600 590 580
108 109 110 111 112 113
EXISTING STRUCTURE ON EXISTING SCHAAF RD. WHICH IS APPROXIMATELY 272' S.E. OF SCHAAF RD. RELOCATION.
CLEARS HIGH WATER 3.0'
DRAINAGE AREA 12 Sq.Mi.
Type: Concrete Beam Bridge
Span: 50' Clear
Roadway: 36.0' + two 5'-10" Sidewalks
No Skew
Pavement: 3" brick, 1/2" slag cushion, 3" Bit. W.S.
Approach Slabs: 25' Long
EL. 25.34 ON 1935 PLANS = 600.03 SITE PLAN DATUM ℄ EXIST SCHAAF at Ctr. of Bridge CU-17-170
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
1/7
SITE PLAN
Bridge No CU-17-170
SECTION CUY-17-14.99 Sta. 110+21.00
OVER WEST CREEK
Scale 1"=20'
Cuyahoga County
TOPOGRAPHY
PROPOSED WORK
SURVEY DR. BY DESIGN DR. BY CH'K'D. REVIEWED DATE
J.H.B. J.H.B. R.E.S. C.H.A.
BFG 8-30-54

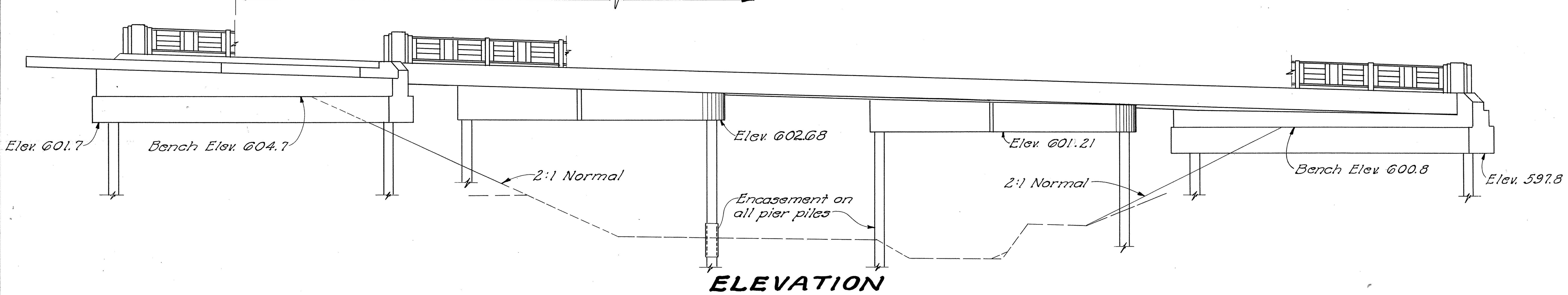
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

164
169

CUY-17-14.99



GENERAL PLAN



ELEVATION

All piles not shown

GENERAL NOTES

PILING shall be driven to a minimum bearing capacity of 27 tons for the abutments and 35 tons for the piers.

PAINTING, both shop and field, shall be according to Item S-8 except that the paint shall be applied by brushing. Spray application will not be permitted.

EXCAVATION QUANTITY includes the removal of fill material between top of earth bench and bottom of abutment footing.

SURFACE FINISH OF CONCRETE: Railing end posts, curb faces and fascias of deck shall receive a rubbed surface finish. Bottom of deck slab, roadway surface and sidewalk surface shall be governed by the provisions of Item S-1. All other exposed surfaces shall be grout cleaned as per Sec. S-1.22. Form liner shall be used for all surfaces to be grout cleaned.

POROUS DRAINS extending from face of abutment to Elev. 585.0± at N.E. corner of bridge and down to the dumped rock fill at S.E. corner of bridge, shall be placed on and flush with embankment slopes. The drains shall be 6 ft. wide at the low end, tapering to 4 ft. wide at face of abutment at the N.E. corner of bridge and a uniform width of 4 ft. at S.E. corner of bridge, and one foot thick. They shall be centered under the scuppers. They shall be composed of No. 1 or No. 12 gravel, stone or slag. Construction procedure shall conform essentially to Item I-9. Trench excavation shall be included for payment with the price per cu. yd. bid for "Porous drains on embankment slopes."

GRAVEL, if used as the coarse aggregate, shall be according to Sec. M-3.93 instead of M-3.91 for class "C" concrete, superstructure and pier caps. Gravel meeting the requirements of Sec. M-3.93 also may be used for other concrete in this structure

CHANNEL EXCAVATION & DUMPED ROCK FILL: Estimated quantities of 95 Cu. Yds. for E-3, Channel Excavation and 113 Cu. Yds for I-10, Dumped Rock Fill have been carried to the Bridge Summary with actual quantities to be determined at the time of final measurement.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Superstr.	Abuts.	Piers	Gen'r'l.	As Built	
E-2	93	Cu. Yd.	Unclassified excavation		93				
E-3	95	Cu. Yd.	Channel excavation				95		
S-1	584	Cu. Yd.	Class "C" concrete, superstructure & pier caps	553		31			
S-1	79	Cu. Yd.	Class "E" concrete, abutments		79				
S-4	144,647	Lbs.	Reinforcing steel	126,851	8,623	7,897	276		
S-9	15	Sq. Ft.	½" premolded expansion joint filler	15					
S-14	250.67	Lin. Ft.	Railing (Steel with concrete end posts)	250.67					
S-16	Lump	Sum	First test pile				Lump		
S-18	~~2610~~	Lin. Ft.	Piling, 14" Cast-in-place reinforced concrete		~~825~~	~~1785~~		C-4, +121	2731
S-29	32	Cu. Yd.	Porous backfill		32				
S-29	12	Cu. Yd.	Porous drains on embankment slopes				12		
S-29	22	Ea.	Scuppers, 4" dia. C.I. or W.I. pipe				22		
I-10	113	Cu. Yd.	Dumped rock fill				113		

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

2/7

GENERAL PLAN & ELEVATION
NOTES & QUANTITIES

BRIDGE No. CU-17-170
OVER WEST CREEK

CUYAHOGA COUNTY STA. 110+21.00
SEC. CUY-17-14.99

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.K.J.	L.K.J.	JDJ	J.E.M.	BFG A.G.F.	8-30-54	11-24-54 1-10-55

8-5-58 Revised As-Built JEP

For additional abutment details and notes see sheet No. 166.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

3/7

EAST ABUTMENT DETAILS

BRIDGE NO. CU-17-170
over **WEST CREEK**

CUYAHOGA COUNTY
SEC. CUY-17-14.99 STA. 110+21.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.K.J.	L.K.J.	B.D.H.	J.E.M.	BFG A.J.F.	8-30-54	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

166/169

CUY-17-14.99

PLAN

ELEVATION

NOTES:

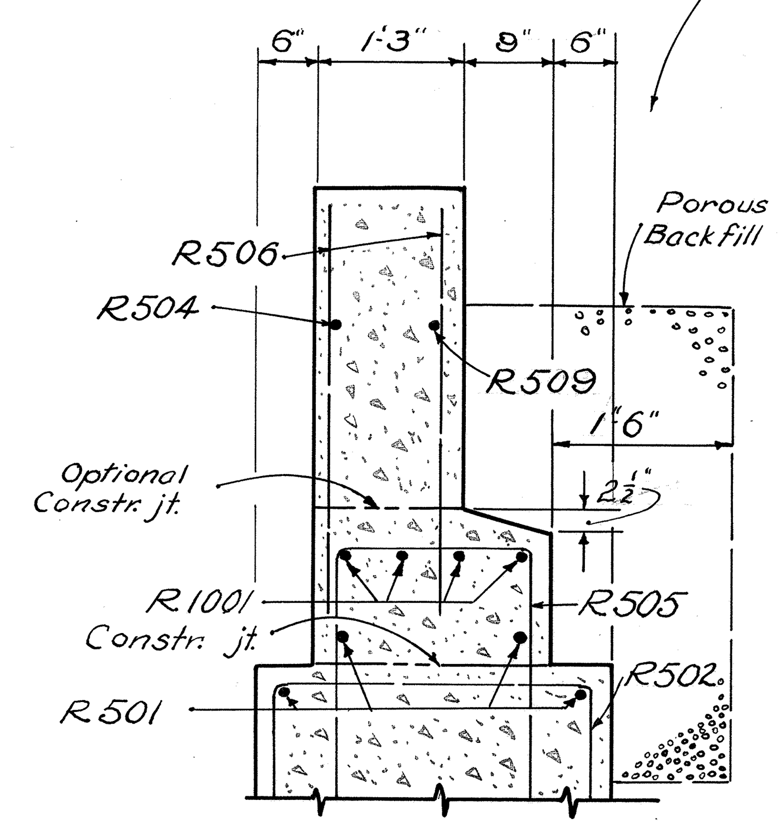
CLEARANCE of reinforcing steel from face of concrete shall be 2" unless otherwise noted.

EARTH EMBANKMENT shall be placed up to the elevation of the earth bench, after which the excavation shall be made for the abutment and the piles driven.

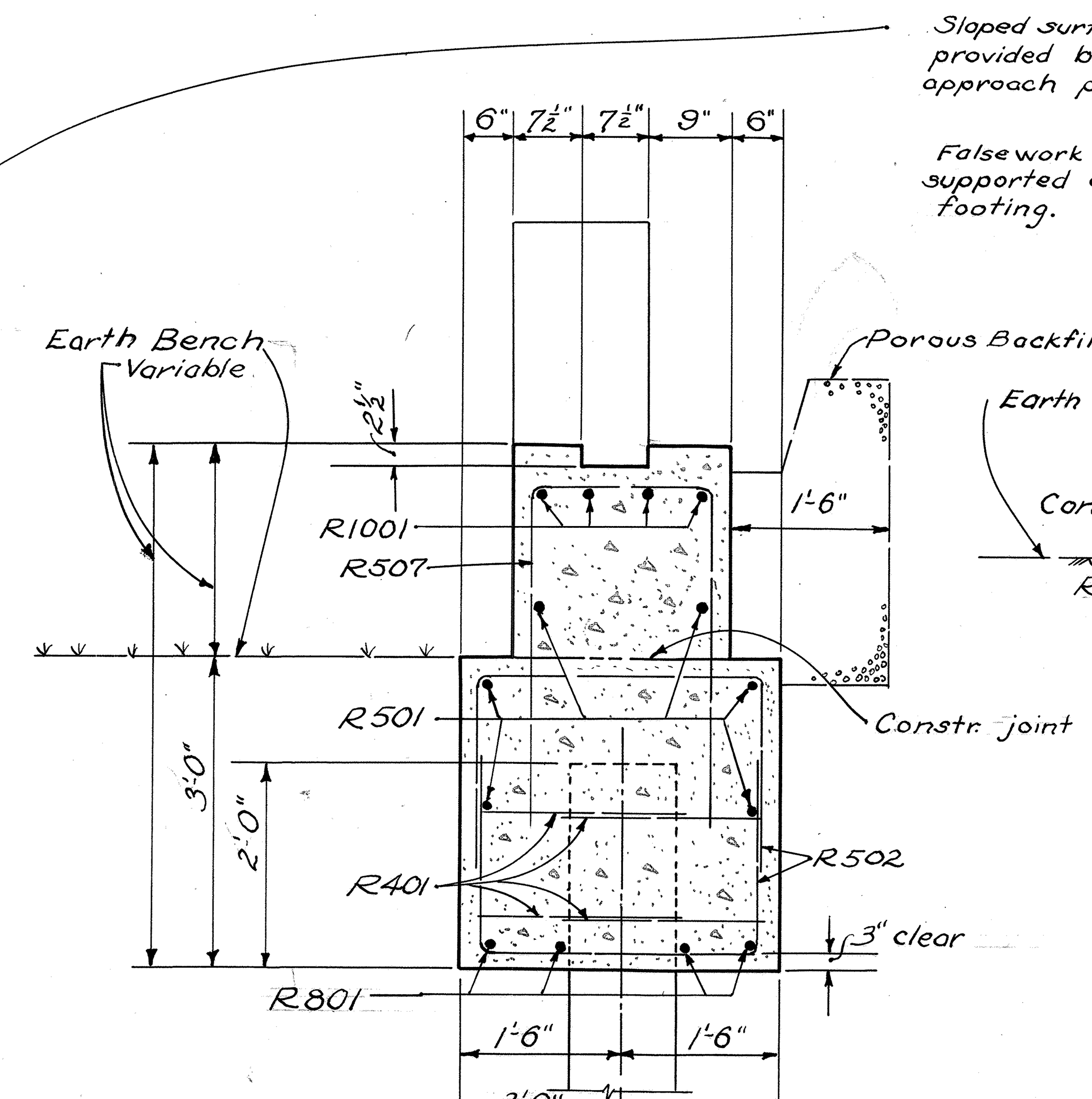
POROUS BACKFILL shall extend upward to the approach slab and to the surface of the shoulders, and outward to the surface of the embankment slopes. Excavation, therefor, over and above that required for construction of the footing, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

EXCAVATION QUANTITY includes the removal of embankment material placed between the bottom of the abutment footing and the top of the earth bench.

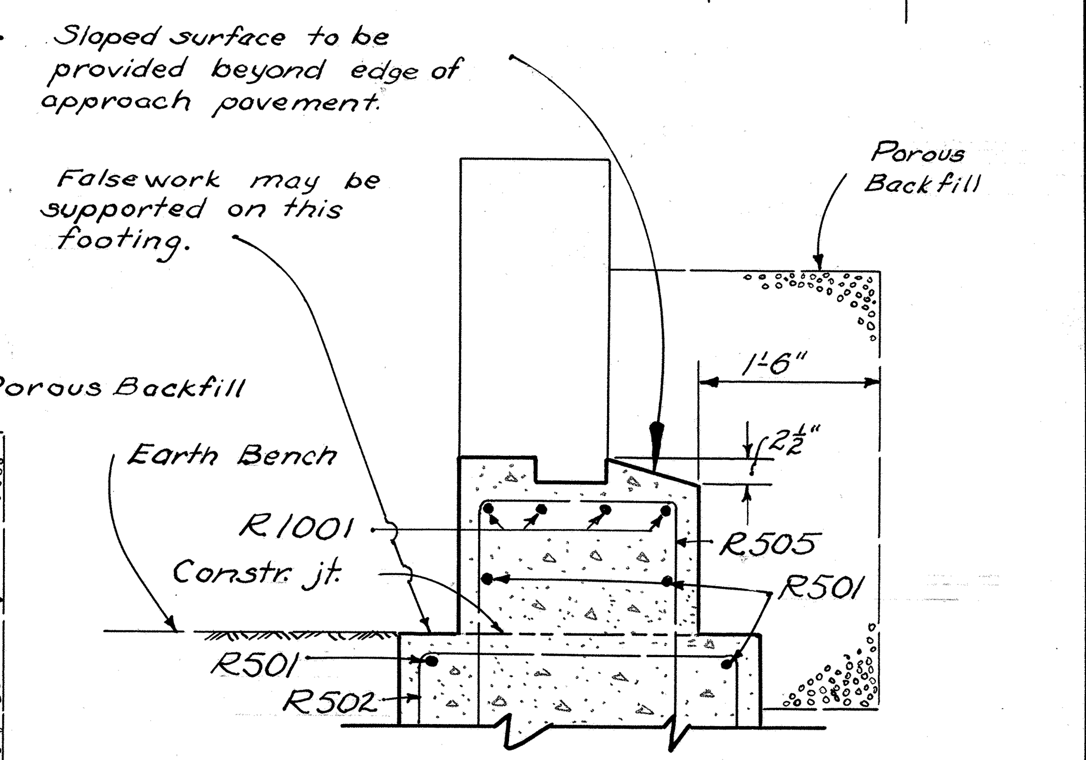
CONCRETE shall be Class "E" and payment will be made on this basis, but Class "C" concrete may be used for any and all parts of the abutments.



SECTION O-O



SECTION M-M



SECTION N-N

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

4/7

WEST ABUTMENT DETAILS

BRIDGE NO. CU-17-170
OVER WEST CREEK

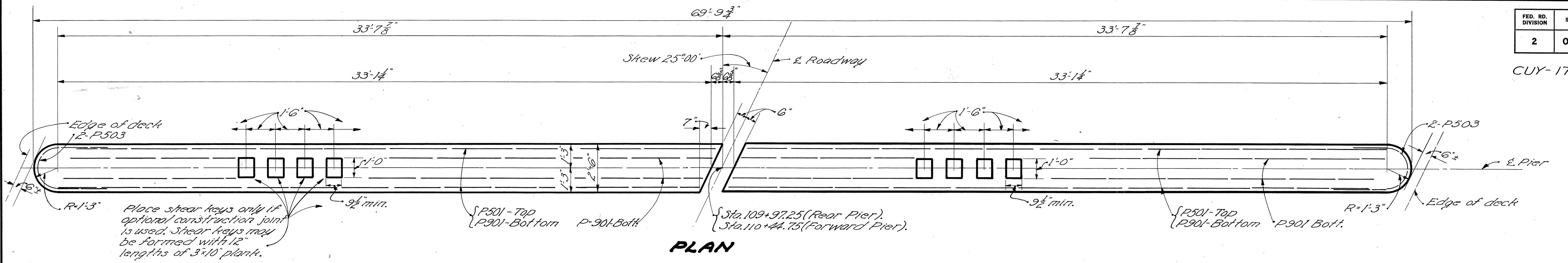
CUYAHOGA CO.
SEC-17-14.99 STA. 110+21.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.K.J.	R.K.J.	J.M.	J.E.M.	BFG A.J.G.	8-30-54	

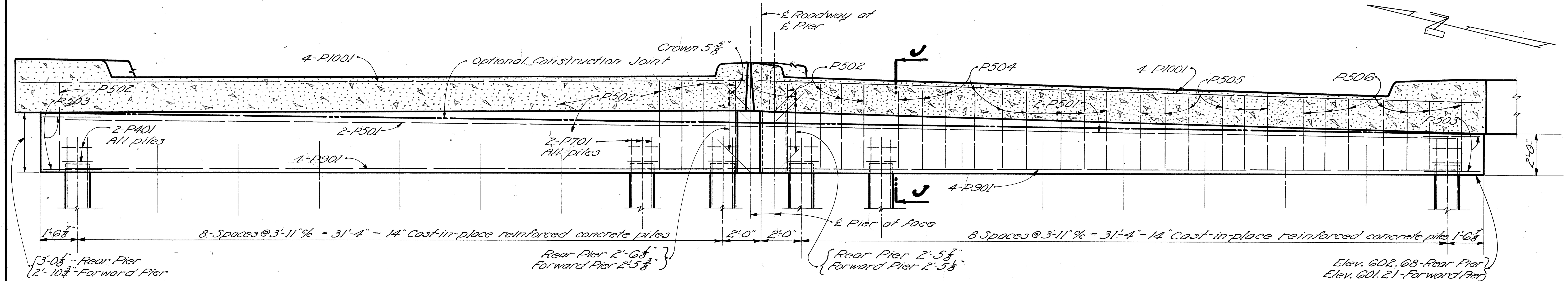
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

167/169

CUY-17-14.99



PLAN



ELEVATION

PILE CASINGS: The casings of cast-in-place concrete piles shall be of the type that is left in place and is designed to resist both direct compression and bending. The portion above the circular concrete encasement shall be of uniform diameter (not tapered) and shall have a thickness of metal not less than No. 7 guage.

PILE ENCASEMENT: It shall consist of class "C" or "E" concrete and may be placed in water as per Sec. S-1.18, care being taken to remove all dirt between the piles and the forms. Metal forms, if used, may be left in place if the exposed portion is painted or galvanized. Corrugated metal may be used. Metal forms with irregular deformations, such as oil drums, will not be permitted. If metal forms meeting the requirements of Sec. M-6.4(a) are left in place, no spiral reinforcement in the concrete will be required.

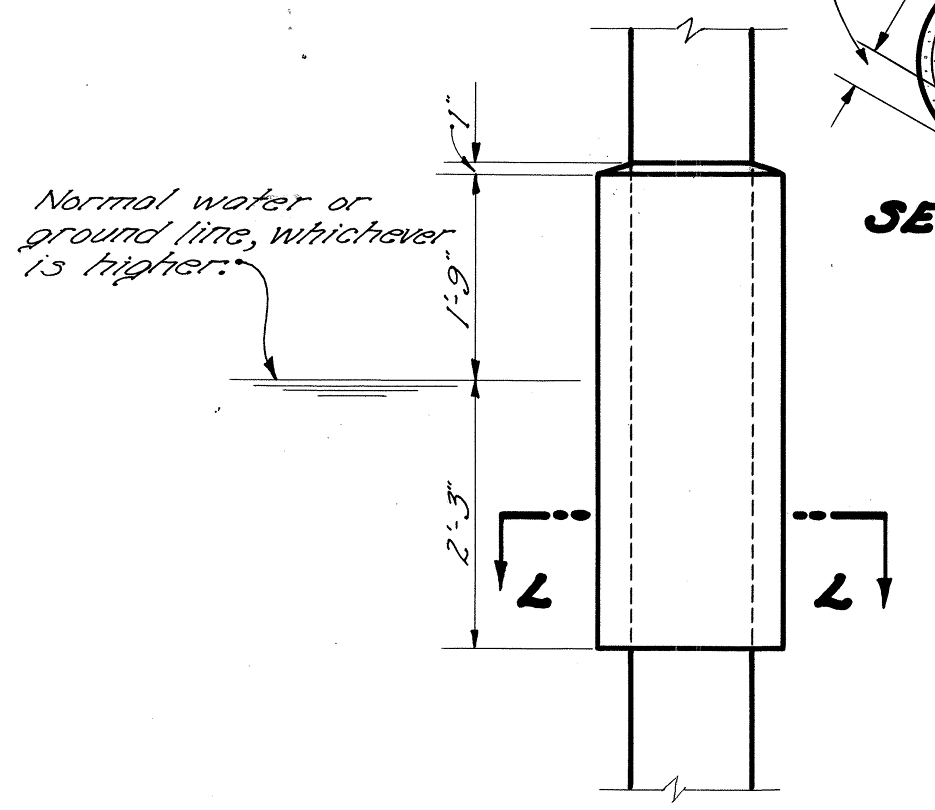
PILE PAINTING: The exposed portion of the piles, above the encasement, shall be painted in accordance with Item S-8, applying two coats as per Sec. M-9.9, M-9.20, or M-9.21 and two coats as per Sec. M-9.12. Metal forms, left in place on the encasement, unless galvanized, shall be similarly painted.

PAYMENT FOR PILES: Payment per lin. ft. includes payment for the encasement (concrete, reinforcement, forms, painting, galvanizing and excavating) and the pile painting. The elevation of cut-off shall be considered as 6" above bottom of pier cap.

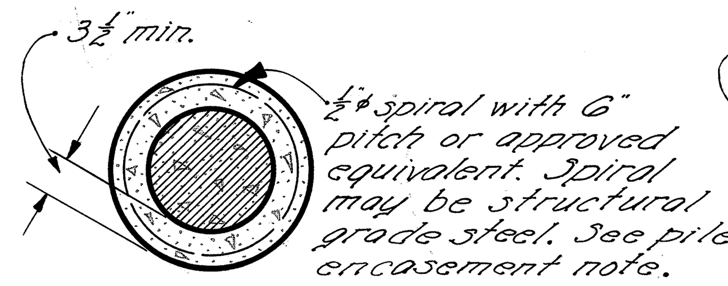
FALSEWORK SUPPORT: The pier cap shall not be used to support falsework for the deck slab.

HORIZONTAL CONSTRUCTION JOINT between the top of pier cap and bottom of slab will be permitted if keys, as shown, are provided at the top of the cap. If such a joint is not provided, the concrete in the slab and cap shall be placed in a continuous operation.

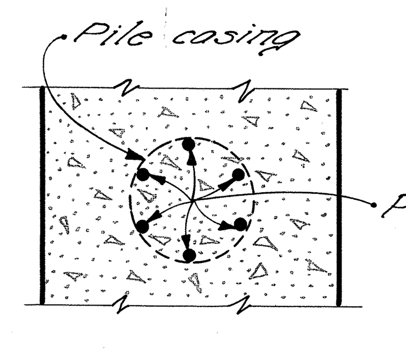
CONCRETE shall be Class "C".



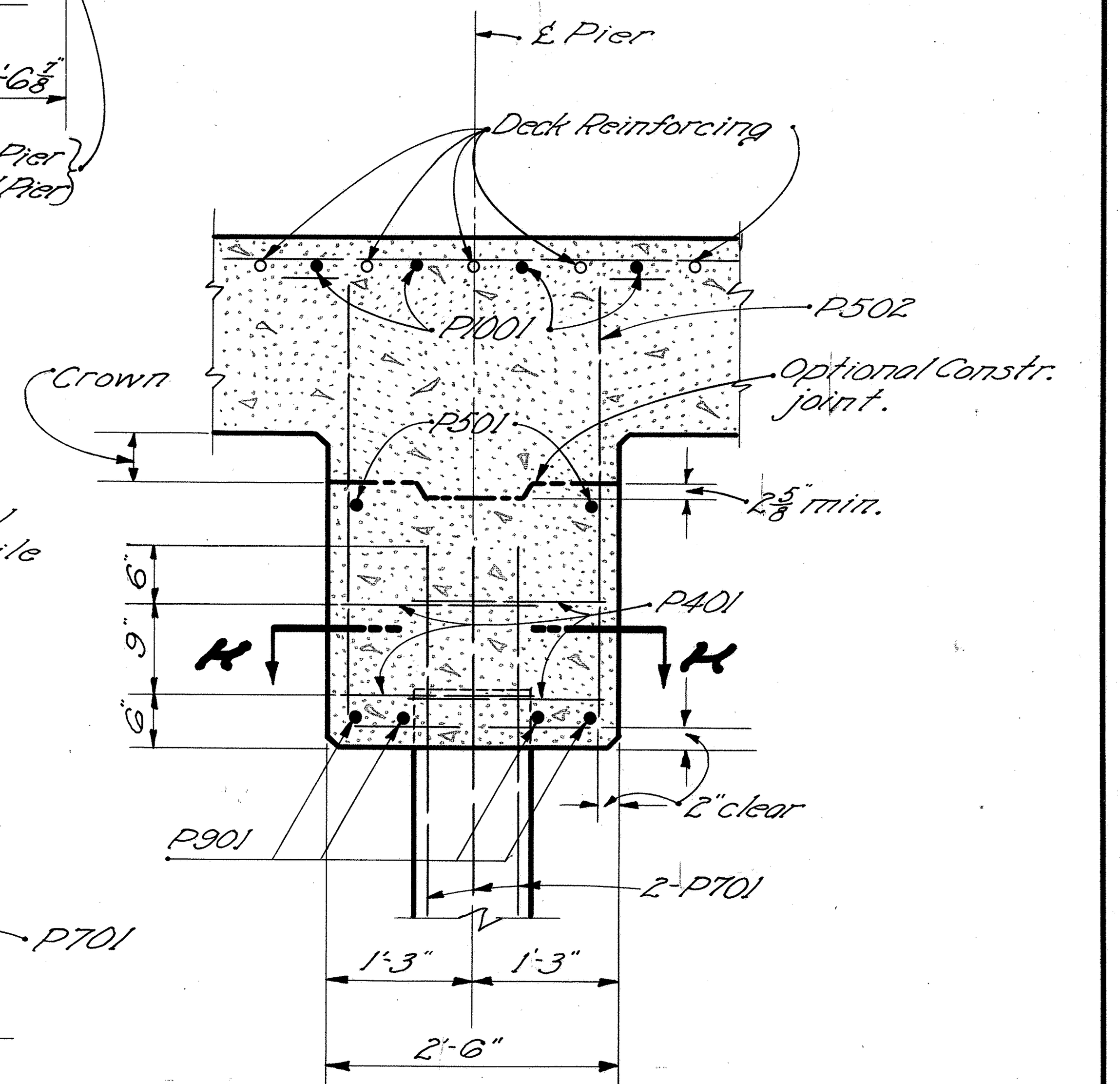
DETAIL OF PILE ENCASEMENT



SECTION L-L



SECTION K-K



SECTION J-J

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

5/7

PIER DETAILS

BRIDGE NO. CU-17-170
OVER WEST CREEK

CUYAHOGA COUNTY
SEC. CUY-17-14.99 STA. 110+21.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.K.J.	R.K.J.	E.A.	J.E.H.	BFG	8-30-54	1-10-55

Note:
One construction joint in bridge slab shall be placed on transverse centerline of middle span or 1'-0" ± off transverse centerline if necessary to miss railing posts and transverse reinforcing bars. One longitudinal joint will be permitted, on centerline of roadway.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

6/7

SUPERSTRUCTURE DETAILS

BRIDGE No. CU-17-170
over WEST CREEK

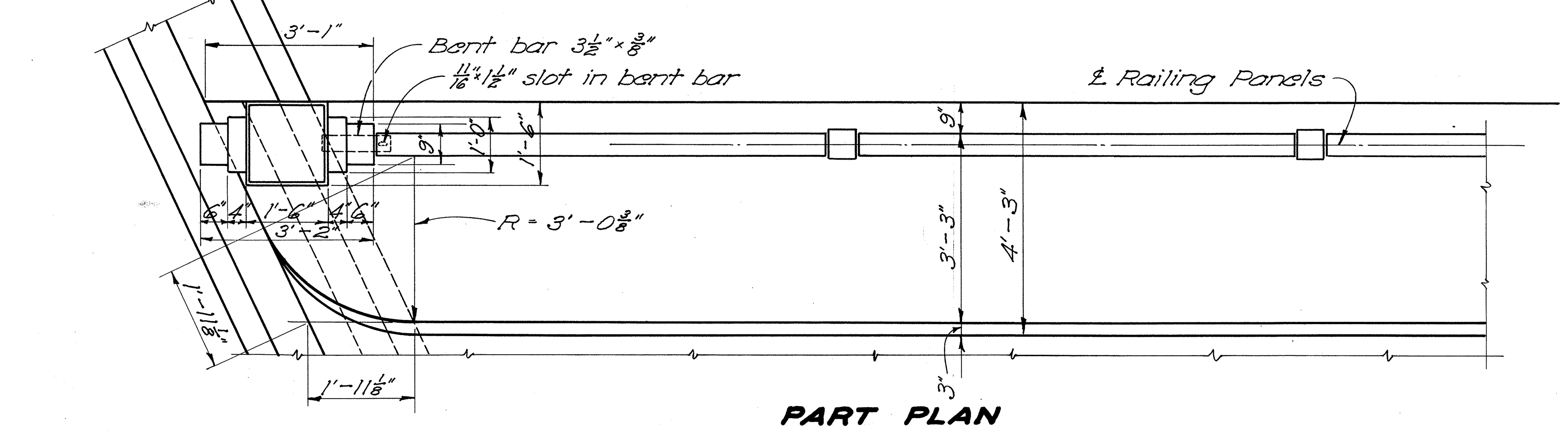
Cuyahoga County
Sec. CUY-17-14.99
Sta. 110 + 21.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.K.J.	L.K.J.		J.E.M.	BFG A.J.F.	8-30-54	1-10-55

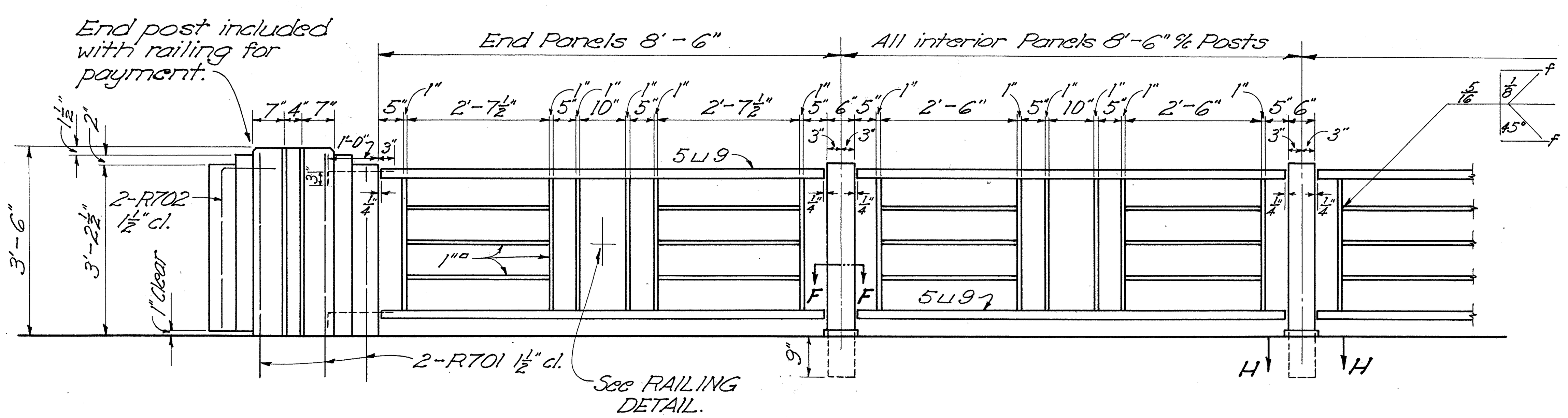
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	STATE	

169/169

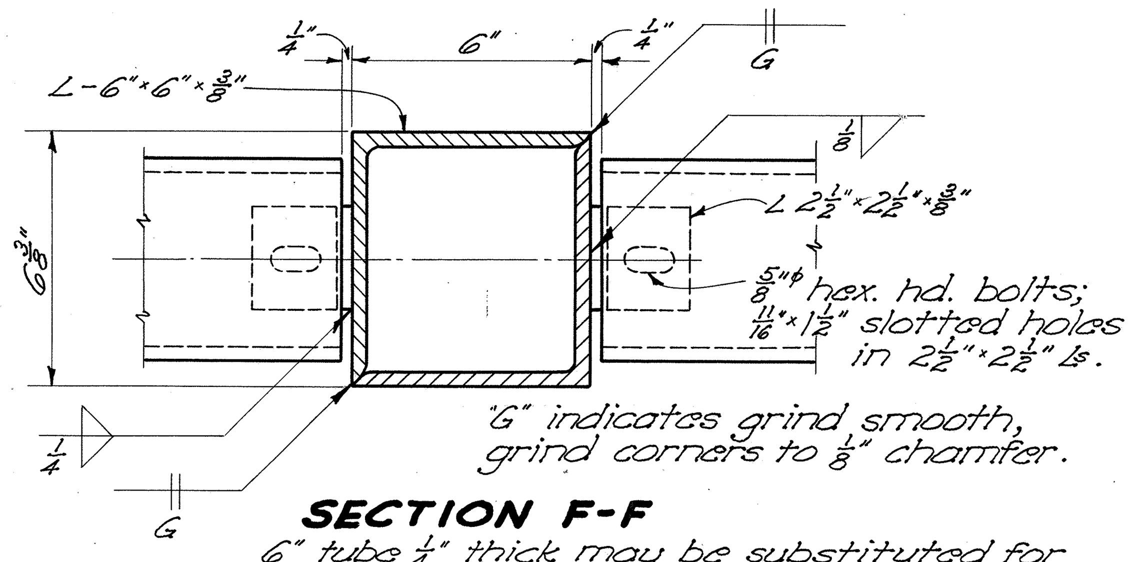
CUY-17-14.99



PART PLAN

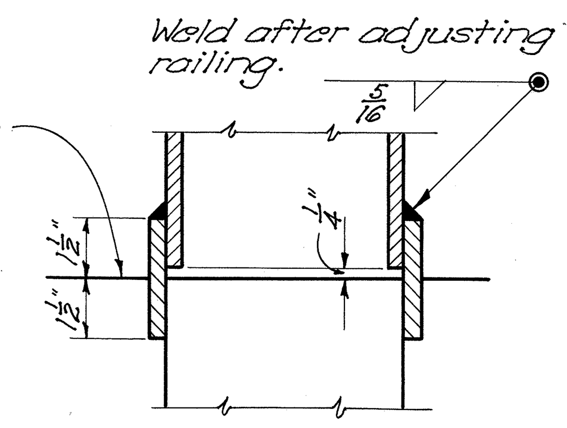


ELEVATION

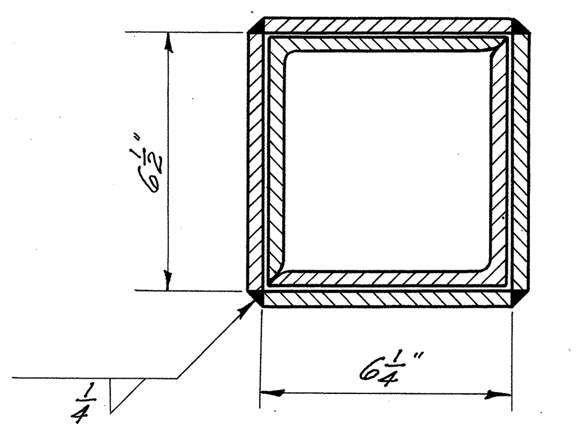


SECTION F-F

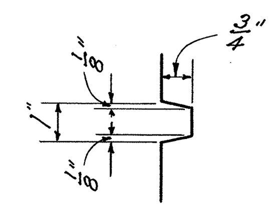
6" tube $\frac{1}{4}$" thick may be substituted for the 6" x 6" Ls, with appropriate changes in the details.



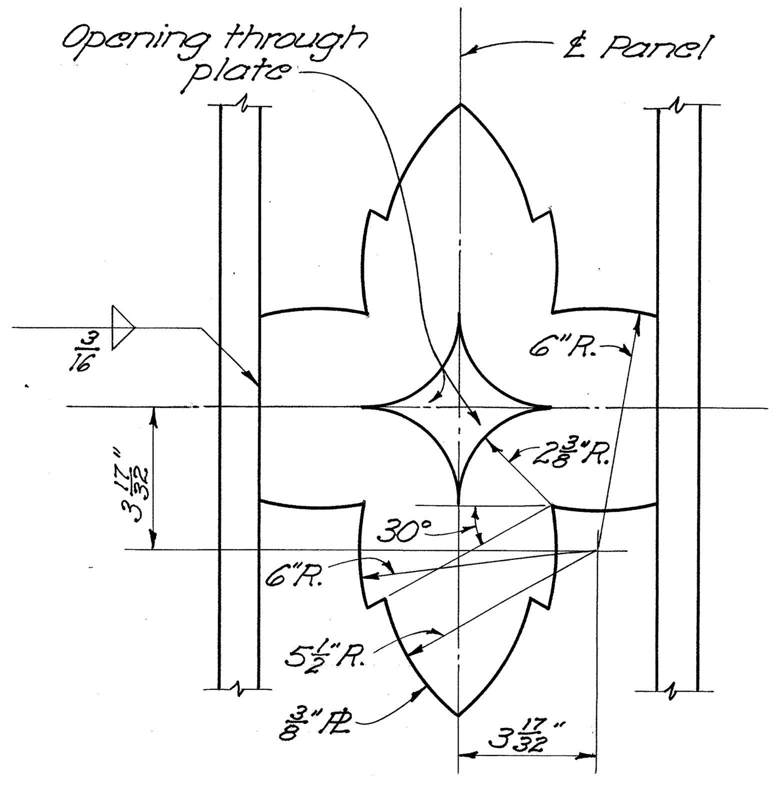
SECTION G-G



SECTION H-H



RUSTICATION DETAIL FOR END POST



RAILING DETAIL

NOTE:
WELDING of railing panels shall be Class "A".

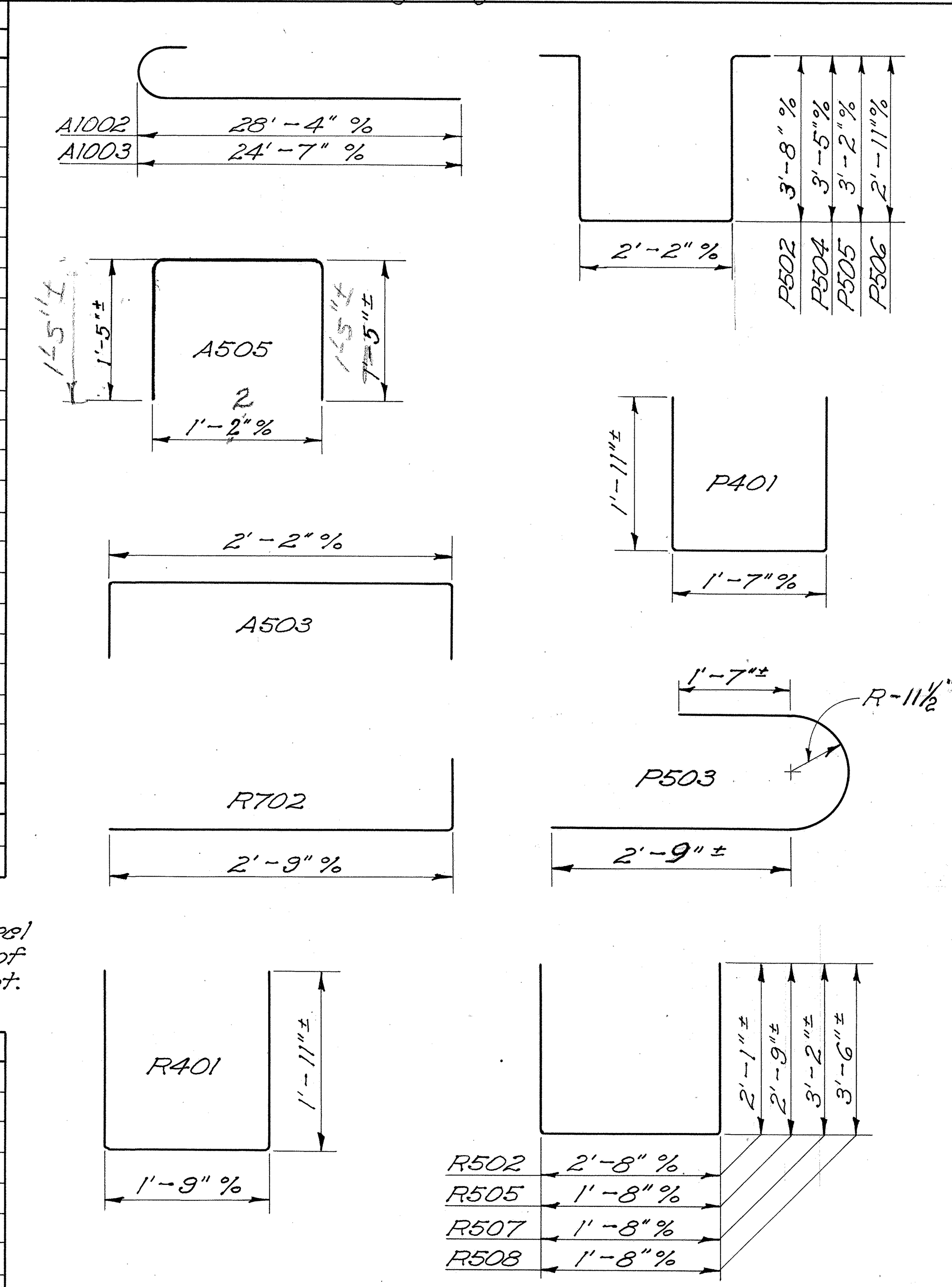
REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
Superstructure				
A1101	124	36'-1"	23,772	St.
A1102	60	19'-5"	6,190	St.
A1103	60	13'-3"	4,224	St.
A1001	186	43'-8"	34,949	St.
A1002	60	29'-7"	7,638	Bt.
A1003	60	25'-10"	6,670	Bt.
A1004	30	28'-6"	3,680	St.
A1005	30	20'-10"	2,689	St.
A1006	20	26'-2"	2,252	St.
A701	246	35'-1"	17,641	St.
A601	64	24'-10"	2,387	St.
A602	32	16'-3"	781	St.
A603	154	35'-1"	8,115	St.
A501	12	27'-1"	339	St.
A502	6	23'-6"	147	St.
A503	834	3'-8"	3,189	Bt.
A504	278	4'-0"	1,160	St.
A505	126	3'-9"	493	Bt.
A506	12	42'-9"	535	St.
Railing				
R701	24	5'-4"		St.
R702	8	3'-9"		Bt.

Note: Payment for railing reinforcing steel included with price of railing per lineal foot.

Replacement Bars				
RE1101	2	7'-6"	80	St.
RE1001	4	7'-2"	124	St.
RE901	1	6'-10"	23	St.
RE801	1	6'-6"	17	St.
RE701	1	6'-2"	13	St.
RE601	1	5'-11"	9	St.
RE501	1	5'-7"	6	St.
RE401	1	5'-3"	4	St.

Bending Diagrams



Mark	No.	Length	Weight	Shp.
Piers				
P1001	16	35'-0"	2,410	St.
P901	16	32'-6"	1,768	St.
P701	216	4'-0"	1,766	St.
P501	8	32'-6"	271	St.
P502	60	10'-8"	668	Bt.
P503	8	7'-6"	63	Bt.
P504	18	10'-2"	191	Bt.
P505	12	9'-8"	121	Bt.
P506	14	9'-2"	134	Bt.
P401	144	5'-3"	505	Bt.
Abutments				
R1001	16	42'-3"	2,909	St.
R801	16	41'-11"	1,791	St.
R501	24	41'-7"	1,041	St.
R502	224	6'-7"	1,538	Bt.
R503	4	3'-3"	14	St.
R504	2	3'-6"	7	St.
R505	38	6'-10"	271	Bt.
R506	8	4'-3"	35	St.
R507	36	7'-9"	291	Bt.
R508	36	8'-5"	316	Bt.
R509	2	4'-1"	9	St.
R510	8	5'-0"	42	St.
R511	4	3'-9"	16	St.
R512	4	2'-6"	10	St.
R513	2	3'-9"	8	St.
R514	2	3'-2"	7	St.
R401	88	5'-5"	318	Bt.

Note: Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size number.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

7/7

RAILING DETAILS & REINFORCING STEEL LIST

BRIDGE No. CU-17-170
over WEST CREEK

Cuyahoga County
Sec. CUY-17-14.99
Sta. 110 + 21.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.K.J.	L.K.J.		J.E.M.	BFG A.G.F.	8/30/54	1-10-55