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MAY 1 1981

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	STATE	

1/58

JEF-7-9.20
JEFFERSON COUNTY

JEF-7-9.29
VILLAGE OF BRILLIANT
JEFFERSON COUNTY

ISSUE 1

CONVENTIONAL SIGNS

State Line
Township Line
Section Line
Corporation Line or
Existing Fence Line Proposed:
Center Line of Survey 489 490
Trees, Stumps, Shrubs (To be removed)
Utility Poles: Telephone Power Light

Limited Access (only) LA
Right of Way (only) R/W
Limited Access & Right of Way LA R/W
Existing Right of Way
Property Line (in existing fence)
Railroad or
Existing Guard Rail: Proposed:
Utility Lines: Buried Tel. Cable --T-- Water --W-- Gas --G-- Nitrogen --N-- Sanitary Sewer --SA-- Valves

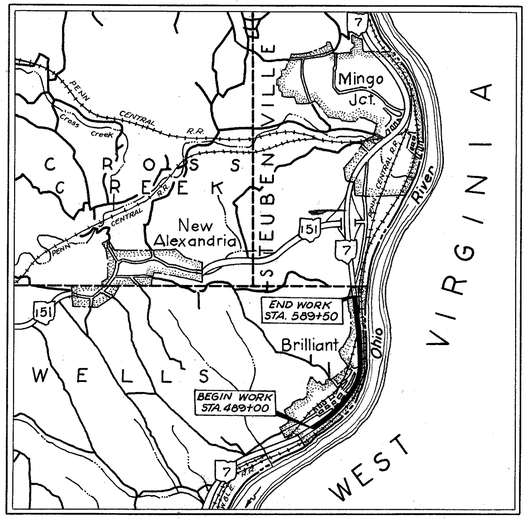
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Sheet No's. 54 & 55 Deleted

LINE DATA

BEGIN WORK_____STA. 489+00
SUSPEND WORK_____STA. 537+13.50
RESUME WORK_____STA. 541+90
END WORK_____STA. 589+50
LENGTH OF WORK____9573.50' or 1.813 MILES
LENGTH OF PROJECT____0.00' or 0.000 MILES



LOCATION MAP

SCALE OF MILES
0 1 2 3 4

Portion to be improved
State Roads
Other Roads

N

SCALES

Plan 0 50 100
Profile: Horizontal 0 50 100
Profile: Vertical 0 10 20
Cross Sections

1975 SPECIFICATIONS

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

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

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved: John T. McDevitt
Date 11-22-72 County Engineer

Approved: Robert J. Hanlin
Date 11-16-72 District Deputy Director of Transportation

Approved:
Date Engineer, Bureau of Bridges

Approved: E. J. Leary
Date 12-14-73 Engineer, Bureau of Roadway Design

Approved: Williams E. Shull
Date 12-17-73 Assistant Deputy Director for Highway Design

Approved: Julian J. Grant
Date 12-17-73 Assistant Deputy Director for Real Estate

Approved: William Buckley
Date 12-17-73 Assistant Deputy Director for Program Development

Approved:
Date Chief Engineer, Design

Approved: William W. Ebert
Date 12-18-73 Deputy Director, Division of Highways

Approved: William P. McKenna
Date 12-18-73 Assistant Director, Department of Transportation

Approved: Phillip Bulley
Date 12/20/73 Director, Department of Transportation

Approved: Robert D. Beck
Date 4-22-75 Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS

BP-2	12-1-68	GR-2A	1-1-71	MC-1	G-13-69	HL-1	9-6-73
BP-5	G-1-72	GR-2B	11-9-71	MC-3	G-1-73	HL-2	7-27-73
BP-6	G-1-65	GR-4	11-9-71	MC-4	G-13-69	HL-3	7-27-73
BP-7	1-1-66			MC-6	G-1-65	HL-8	9-6-73
						HL-9	9-6-73
CB-2-2A&B	G-1-65			MH-1	10-1-68	HL-10	9-6-73
CB-3A	G-1-65					HL-11	4-6-73
CB-5	9-1-69					HL-15	4-6-73
CB-6	G-1-65			L-1	G-1-73	HL-16	4-6-73
		HW-4	1-1-70			HL-12	4-6-73
F-1	G-1-72	I-2	6-6-69				
F-2	1-1-71						

SUPPLEMENTAL SPECIFICATIONS

839	11-25-70
1001	9-20-72
941	11-28-73
814	1-1-69
S625	1-11-74
S713	1-11-74

Project: JEF-7-9.29
Date of Letting:_____19__, Contract No._____

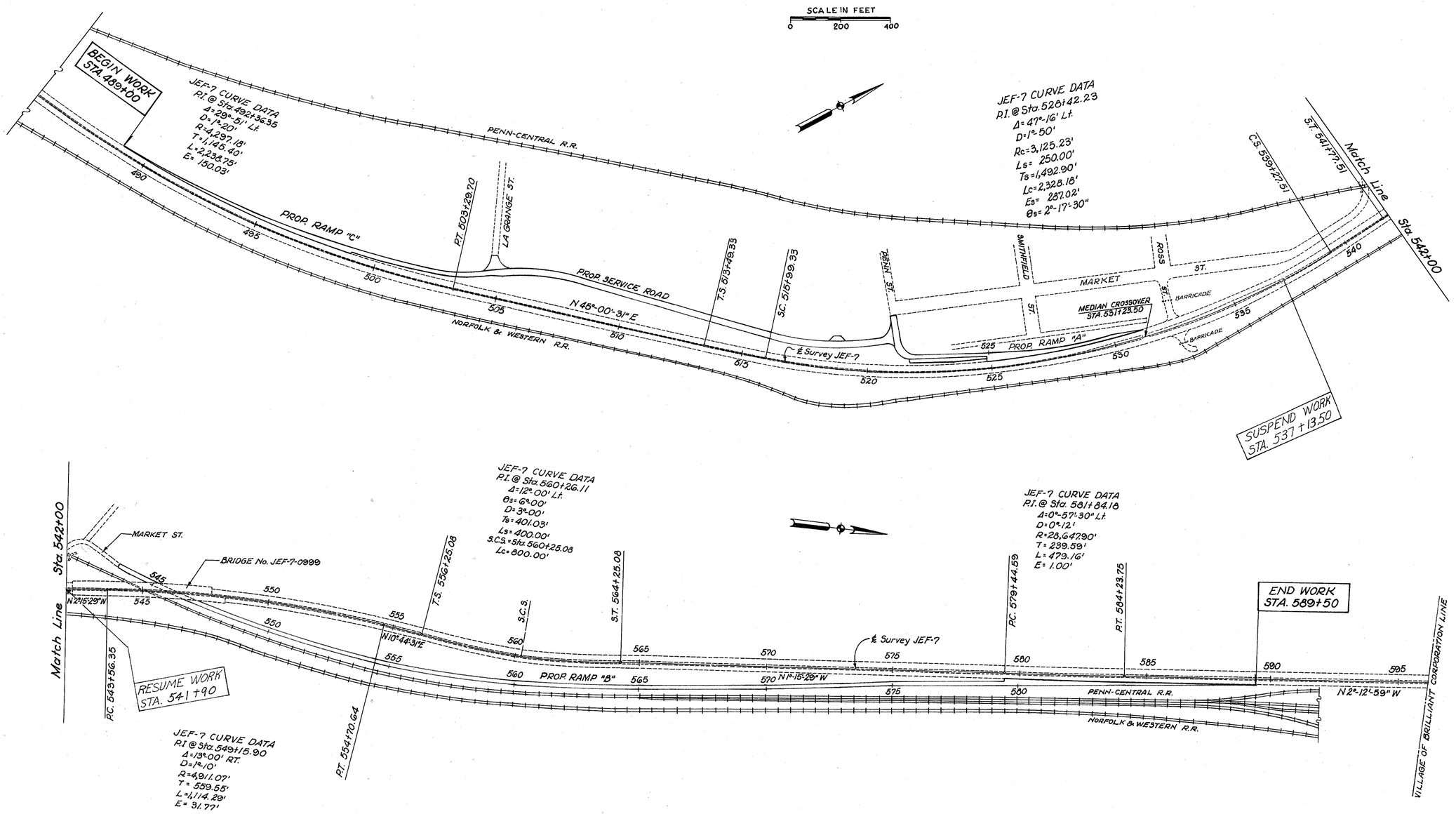
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SCHEMATIC LAYOUT



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SCHEMATIC LAYOUT

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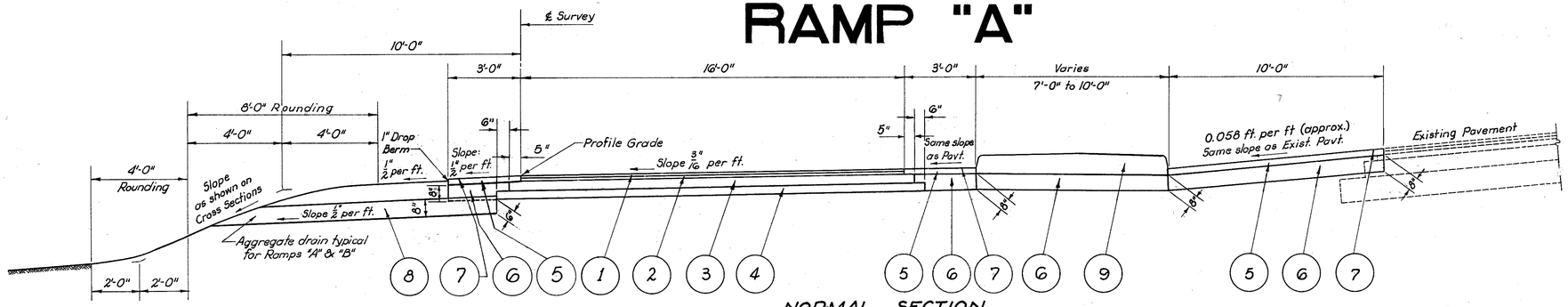
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TYPICAL SECTIONS

TYPE 404 ON 301

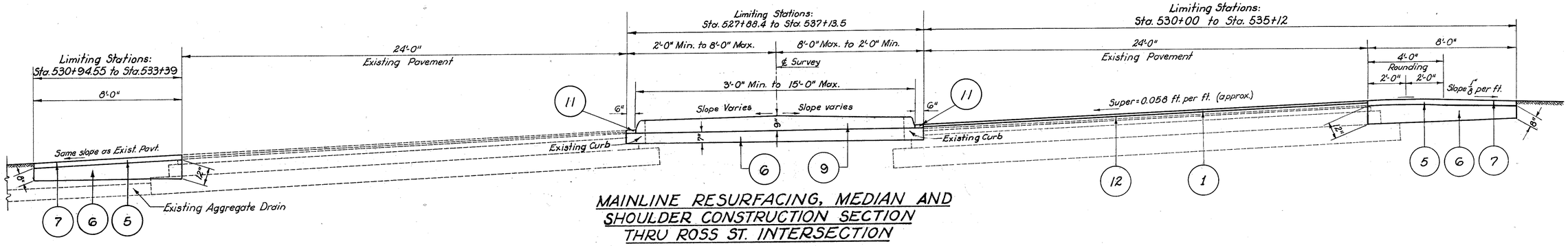
0 1 2 3 4 5
SCALE IN FEET

RAMP "A"



NORMAL SECTION

NOTE
1. The Location of Aggregate Drains are as noted in the General Notes.



MAINLINE RESURFACING, MEDIAN AND SHOULDER CONSTRUCTION SECTION THRU ROSS ST. INTERSECTION

KEY

1. Item 404 1¼" Asphalt concrete, AC-20
2. Item 402 1¼" Asphalt concrete, AC-20
3. Item 301 8" Bituminous aggregate base: 702.01, AC-20 or 702.09, RT-11 or RT-12
4. Item 304 4" Aggregate base
5. Item 301 3" Bituminous aggregate base: 702.01, AC-20 or 702.09, RT-11 or RT-12
6. Item 304 Aggregate base (Thickness as shown)
7. Item 409 Seal coat, using 0.008 cubic yards No. 8 cover aggregate and 0.30 gallons of bituminous material per square yard: 702.09, RT-9 or RT-10; 702.02, MC800 or MC 3000; 702.04, RS-1, RS-2 or CRS-2; or 702.03, CBAE 800
8. Item 605 Aggregate drains
9. Item 612 Concrete median
10. Item 605 Shallow pipe underdrain
11. Item 404 2" Asphalt concrete, AC-20
12. Item 407 Tack coat, 702.04, SS-1, SS-1h, MS-2 or RS-1; or 702.02, RC-250 & Cover Aggregate

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RAMP "A" TYPICAL SECTIONS

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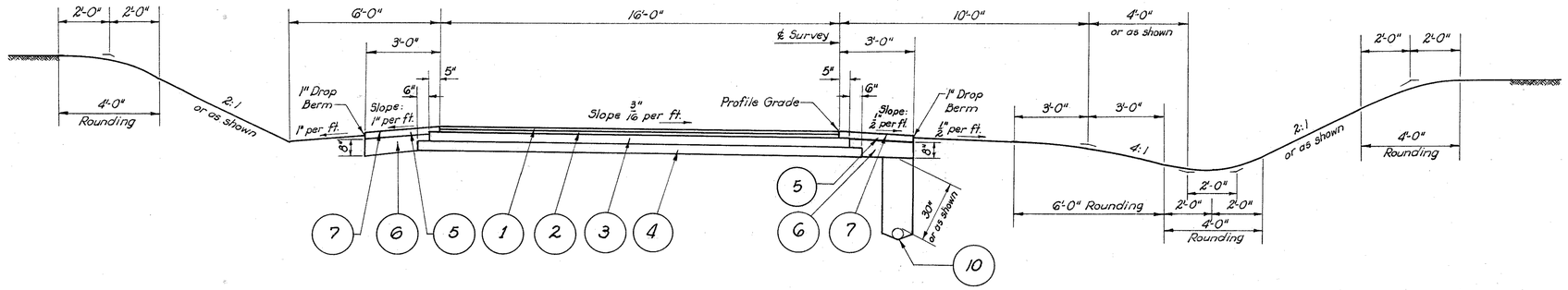
4/58

TYPICAL SECTIONS

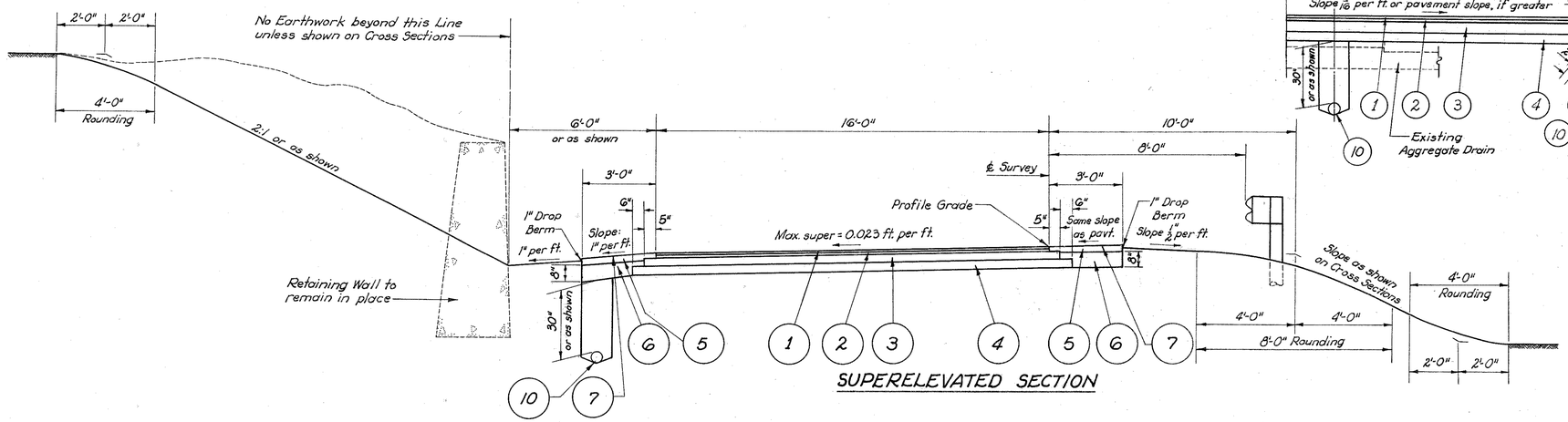
TYPE 404 ON 301

0 1 2 3 4 5
SCALE IN FEET

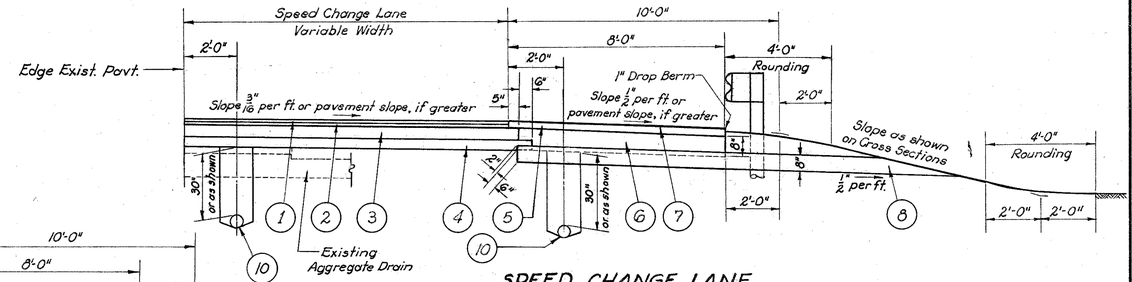
RAMP "B"



NORMAL SECTION



SUPERELEVATED SECTION



SPEED CHANGE LANE

NOTES

1. The Location of Pipe Underdrains is shown on Plan & Profile Sheets.
2. The Location of Aggregate Drains are as noted in the General Notes.

KEY

1	Item 404	1½" Asphalt concrete	AC-20
2	Item 402	1½" Asphalt concrete	AC-20
3	Item 301	5" Bituminous aggregate base, 702.01	AC-20 or 702.09, RT-11 or RT-12
4	Item 304	4" Aggregate base	
5	Item 301	3" Bituminous aggregate base, 702.01	AC-20 or 702.09, RT-11 or RT-12
6	Item 304	Aggregate base (Thickness as shown)	
7	Item 409	Seal coat, using 0.008 cubic yards No. 8 aggregate and 0.30 gallons of bituminous material per square yard: 702.09, RT-9 or RT-10; 702.02, MC-800 or MC-3000; 702.04, RS-1, RS-2 or CRS-2; or 702.03, CBAE 800	
8	Item 605	Aggregate drains	
9	Item 612	Concrete median	
10	Item 605	Shallow pipe underdrain	

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RAMP "B" TYPICAL SECTIONS

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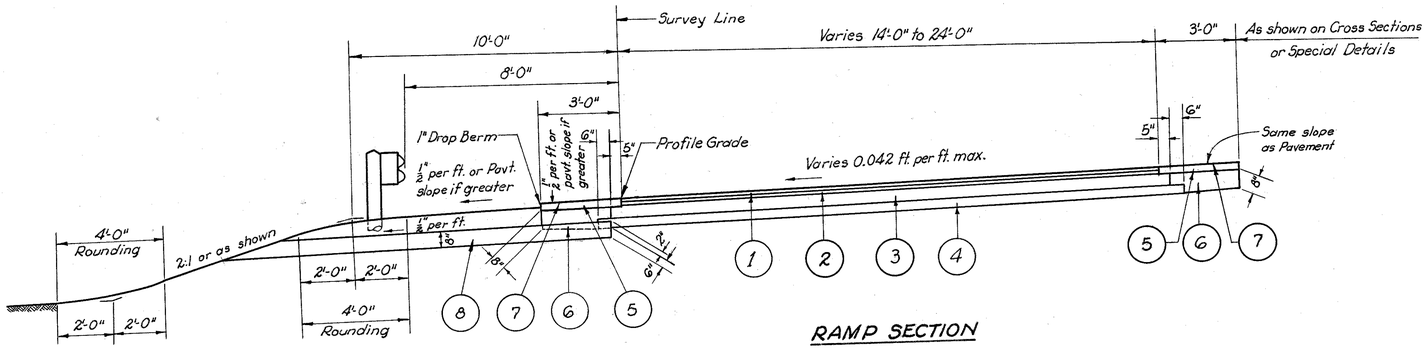
TYPICAL SECTIONS

TYPE 404 ON 301

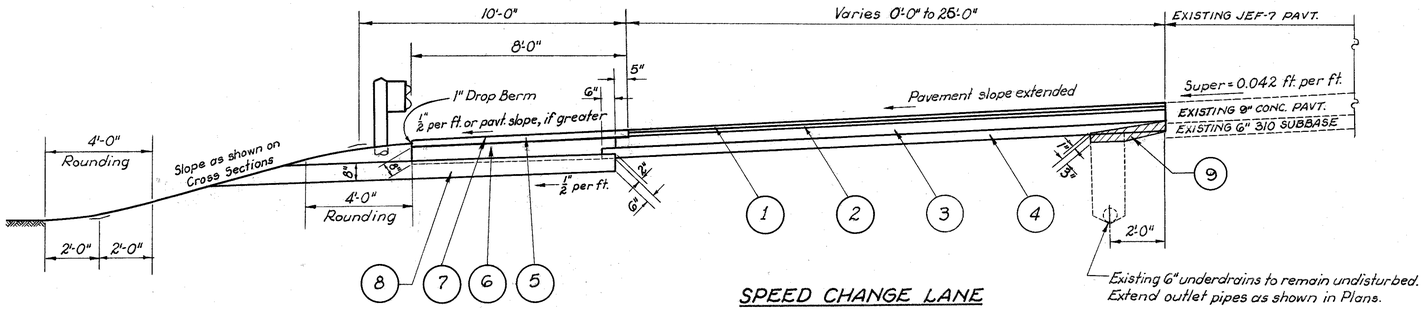
SCALE IN FEET

0 4 8

RAMP "C"



RAMP SECTION



SPEED CHANGE LANE

KEY

(1) --- Item 404 1 1/4" Asphalt concrete, AC-20
(2) ------- Item 402 1 1/4" Asphalt concrete, AC-20
(3) --- Item 301 5" Bituminous aggregate base: 702.01, AC-20 or 702.09, RT-11 or RT-12
(4) ------ Item 304 4" Aggregate base
(5) --- Item 301 3" Bituminous aggregate base: 702.01, AC-20 or 702.09, RT-11 or RT-12
(6) ------ Item 304 Aggregate base (Thickness as shown)
(7) --- Item 409 Seal coat, using 0.008 cubic yards No. 8 cover aggregate and 0.30 gallons of bituminous material per square yard: 702.09, RT-9 or RT-10; 702.02, MC-800 or MC-3000; 702.04, RS-1, RS-2 or CRS-2; or 702.03, CBAE 800
(8) ------ Item 605 Aggregate drains
(9) Item Special-Drainage connection using No. 8 aggregate

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RAMP "C" TYPICAL SECTIONS

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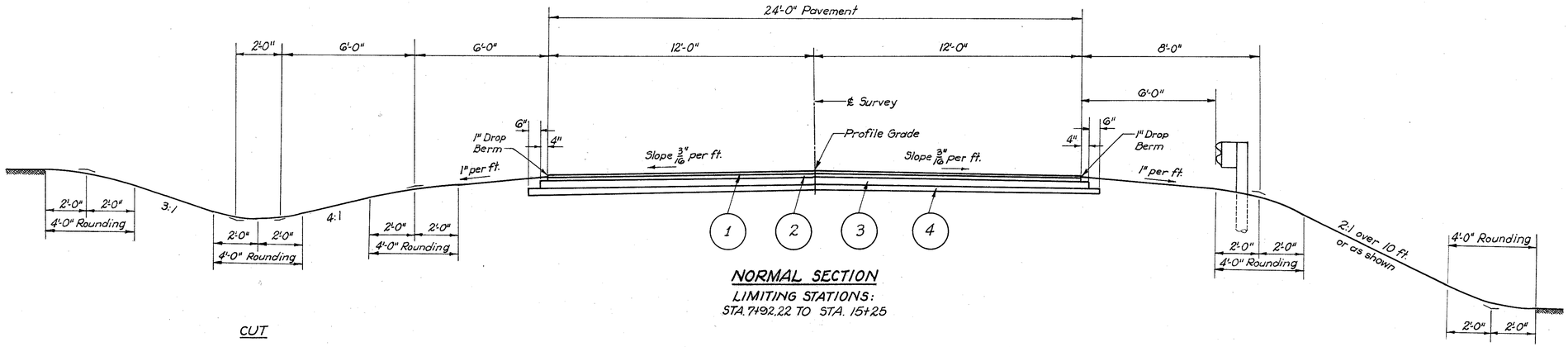
JEF-7-9.29

TYPICAL SECTIONS

TYPE 404 ON 301

0 1 2 3 4 5
SCALE IN FEET

SERVICE ROAD

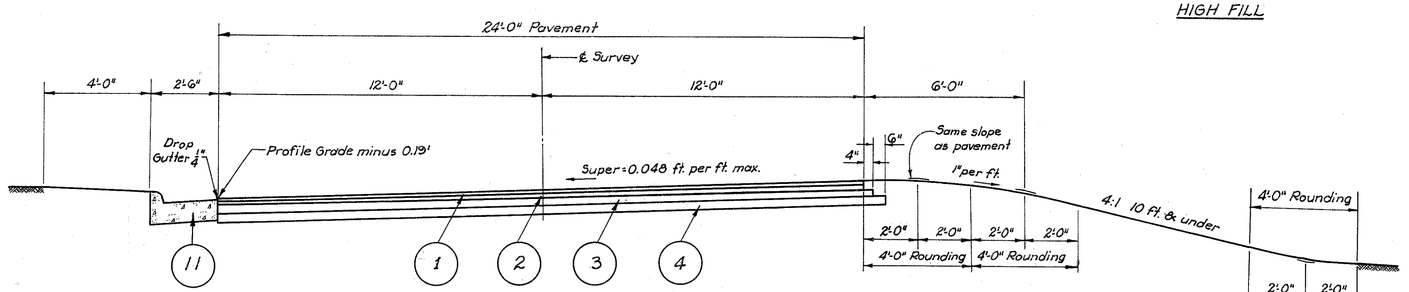


NORMAL SECTION

LIMITING STATIONS:
STA. 7+92.22 TO STA. 15+25

CUT

HIGH FILL



SUPERELEVATED SECTION

LIMITING STATIONS:
STA. 5+00 TO STA. 7+92.22
STA. 15+25 TO STA. 20+84.69

LOW FILL

KEY

(1)----Item 404 1/2" Asphalt concrete, AC-20
(2)----Item 402 1 1/4" Asphalt concrete, AC-20
(3)----Item 301 4" Bituminous aggregate base; 702.01, AC-20 or 702.09, RT-11 or RT-12
(4)----Item 304 4" Aggregate base
(11)---Item 609 Combination curb and gutter, type 2

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SERVICE RD. TYPICAL SECTIONS

Calculated By	Checked By
W.F.P. 12-18-70	Q.E.J. 12-18-70

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GENERAL NOTES

FIELD OFFICE: The Contractor shall provide a suitable field office having a minimum of 300 sq. ft. of floor space and in addition to the requirements of Item 619, he shall provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for Item 619, Field Office.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS: The rounded corners shown on the Typical Sections, apply to all cross sections, even though otherwise shown on these plans.

UNDERGROUND UTILITIES: The locations of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the State of Ohio does not guarantee their accuracy or completeness.

The Contractor shall use extreme caution when constructing the guardrail along Ramp B to avoid conflict with the Wheeling Steel Co. nitrogen line and General Telephone Co's buried cables. Although only one telephone cable is shown on the plan, a second cable is located adjacent to and east of the nitrogen line.

In areas of pipe underdrain or where cross culverts are being constructed, the Contractor shall use extreme caution to avoid conflict with utility lines. Where pipe underdrain will conflict with the 6" Manufacturers Light and Heat gas line, the pipe underdrain shall be adjusted to avoid this gas line.

The Contractor shall also use extreme caution when working in the area of the existing 10" sanitary sewer along Ramp C and the Service Road.

UTILITIES: The Contractor shall notify, at least 7 working days before breaking ground, all public service corporations having wires, poles, pipes, conduit, manholes or other structures, which may be affected by the operation, including all structures which are affected and not shown on these plans. He shall conduct his operations in such a manner as to avoid damages to any and all utilities. 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 on these plans.

Following is a list of the owners of utilities known to be within the limits of construction:

Columbia Gas Transmission Corp.
800 Union Trust Bldg.
Pittsburgh, Penna.

Ohio Valley Gas Co.
99 North Front St.
Columbus, Ohio

Ohio Power Co.
301 Cleveland Ave. S.W.
Canton, Ohio

Village of Brilliant
Brilliant, Ohio

General Telephone Co.
Second & Campbell Streets
Cambridge, Ohio

Wheeling-Pittsburgh Steel Corp.
Wheeling, West Virginia

CONNECTION TO 24" CONDUIT: Connection of the proposed 12" corrugated conduit to the existing 24" corrugated metal structure shall be by means of a field welded stub on the structure. The stub shall meet the requirements of 907 and have a minimum length of two feet and a minimum gage of 14. Location and elevation of the connection are approximate and may be adjusted by the Engineer. A length of 10 feet of 12" Type F conduit has been provided to make the connection from the proposed No. 6 catch basin to the existing 24" conduit.

The field welded joint shall be painted on the inside and outside with two coats of red lead paint, 708.06 and two coats of graphite paint, 708.13. Welding shall meet the requirements of 513.17.

Payment for cutting into the existing 24" conduit and providing the connection described shall be included in the unit price bid for Item 603, 12" Conduit, Type F, As Per Plan.

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

CONNECTIONS TO EXISTING PIPE: Where the plans provide for proposed conduit to be connected to, or to cross either over or under an existing sewer, it shall be the responsibility of the Contractor to locate the existing pipe both as to line and grade before he starts to lay the proposed conduit.

Payment for all operations described above shall be included in the unit price bid for the pertinent 603 conduit items.

EROSION CONTROL: Items 601 and 660 are provided in the plans for erosion control. Rock of a stable nature will not be removed in order to place any of these items. The Engineer shall check and non-perform quantities or adjust locations and quantities for these items where indicated by field conditions during construction.

ST'D NO. 6 CATCH BASIN: In lieu of the provisions for depressing the pavement one (1) inch as shown on Standard Drawing CB-6, the pavement shall be depressed two (2) inches on this project.

PROFILE - STA. 530+00 TO STA. 535+12 (N.B. LANE): The profile of the proposed Asphalt Concrete course shall be approximately 1/4 inches above that of the existing pavement.

SPRING DRAINS: Reference is made to the detailed drawing on Standard Drawing MC-1 showing the method of draining any spring that may be shown on the plan or encountered during construction as determined by the Engineer. The following estimated quantities have been included in the General Summary for this purpose:

Item 605-6" Unclassified Pipe Underdrain, 707.01 Type III or 707.12, As Per Plan 200 L.F.
Item 605-Aggregate Drains for springs, as per plan 20 L.F.

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

SEEDING: Quantities for seeding are calculated as follows: On Ramp "A", for the soil areas between lines ten (10) feet outside the work limits as shown on the cross sections, or to the right of way line if such is less than ten (10) feet from the work limits. On Ramps "B", "C" and the Service Road for the soil areas between the work limits as shown on the cross sections.

MAINTAINING TRAFFIC: The Contractor shall maintain two-way traffic at all times on S.R. 7. When excavating and paving adjacent to the outside edges of pavement or when reconstructing the median, one lane northbound and one lane southbound will be permitted. The Ross St. intersection shall not be closed until Ramps "A", "B", "C" and the Service Road are paved and open to traffic. 200 Cu. Yds. of 410 material has been included in the General Summary for Maintaining Traffic on existing Penn St. and La Grange St.

Payment for all the above except for the 410 aggregate shall be included in the price bid for Item 614 Maintaining Traffic.

FENCE REBUILT: Where so required by the plans, existing Type 47 fence salvaged under Item 202 shall be rebuilt at the locations specified. All fence elements for re-erecting shall in all cases be obtained from salvage sources but the Contractor shall furnish any new posts and any incidental hardware as may be necessary to complete this Item.

ITEM 604, FLAP GATE: The 15" flap gate at Sta. 521+69 (Ramp A), 27' Rt. is to be pipe mounted Armco Model 10C, Neenah Type R-5050 CF 15 or approved equal. The gate shall be fitted with brass hinge bolt, nuts and bushings.

Payment for the flap gate, Item 604, shall include furnishing and placing bolts, nuts, bushings, hinge bars and gate complete in place on the proposed pipe. The gate shall be mounted immediately after the pipe has been laid.

ITEM 605 AGGREGATE DRAINS: Aggregate drains shall be used on the left of Ramp "A" from Sta. 521+50 to Sta. 530+00, the right of Ramp "B" from Sta. 563+25 to Sta. 575+00 and the left of Ramp "C" from Sta. 489+00 to Sta. 104+00 at 50' intervals.

An estimated quantity of 900 Lin. Ft. has been included in the General Summary for Item 605 Aggregate Drains.

MANHOLE FRAMES AND COVERS: All manholes which are to be reconstructed or adjusted to grade which fall within the limits of the proposed pavement or shoulder shall be provided with a heavy frame and cover. Otherwise a light frame and cover may be used. See Standard Drawing MH-1.

SOD PROTECTION IN ROADWAY DITCHES: All sod protection in roadway ditches shall be six (6') feet wide except where otherwise shown on plans.

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Rev. 12-4-73

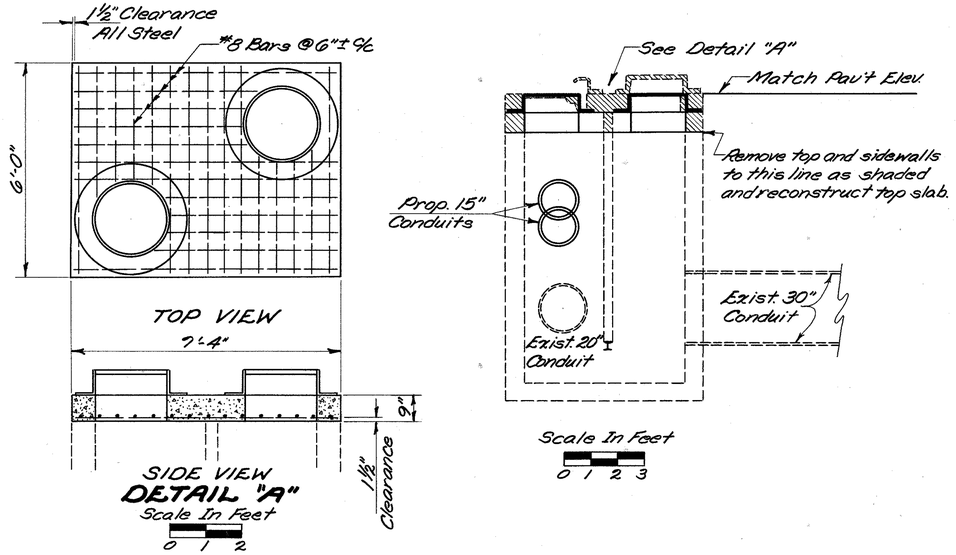
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SPECIAL DETAILS

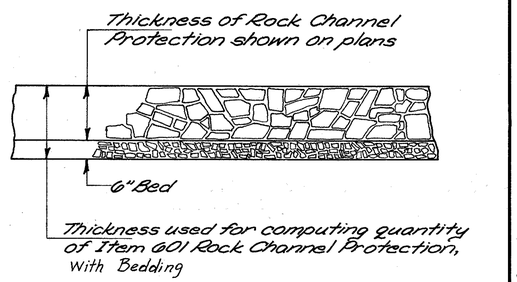
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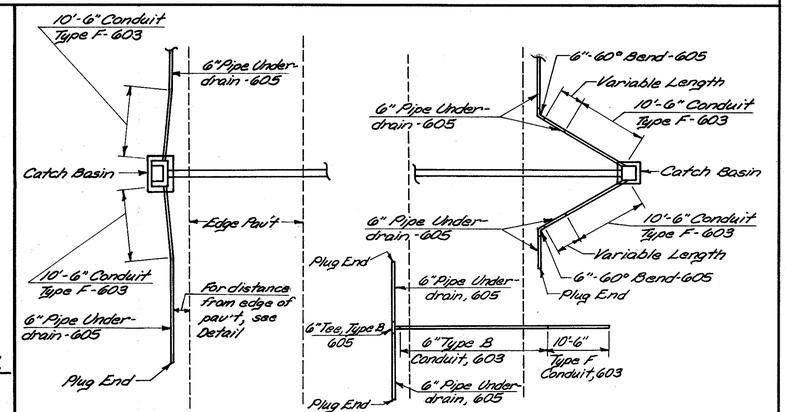
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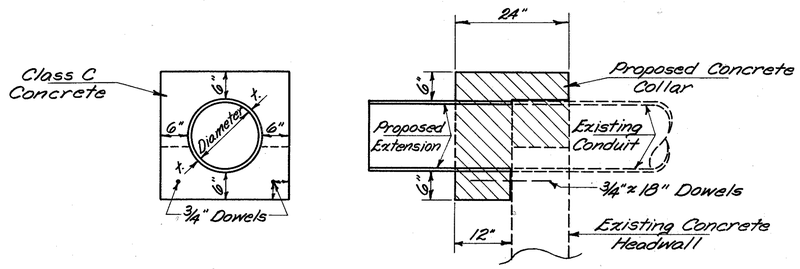
CATCH BASIN ADJUSTED TO GRADE



DETAIL OF ROCK CHANNEL PROTECTION, WITH BEDDING



UNDERDRAIN DETAILS



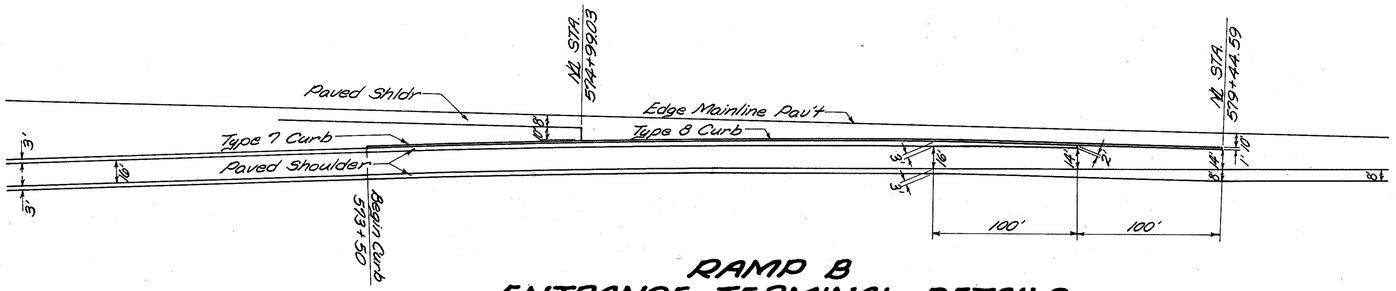
Pipe Diameter	t. In Inches	Concrete Cu. Yds.
12"	2	0.23
18"	2½	0.32
30"	3½	0.53

DETAIL OF CONNECTING COLLAR

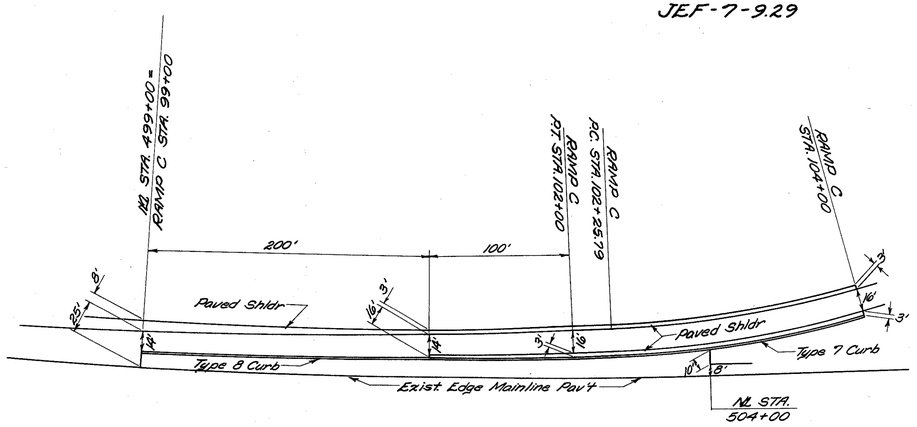
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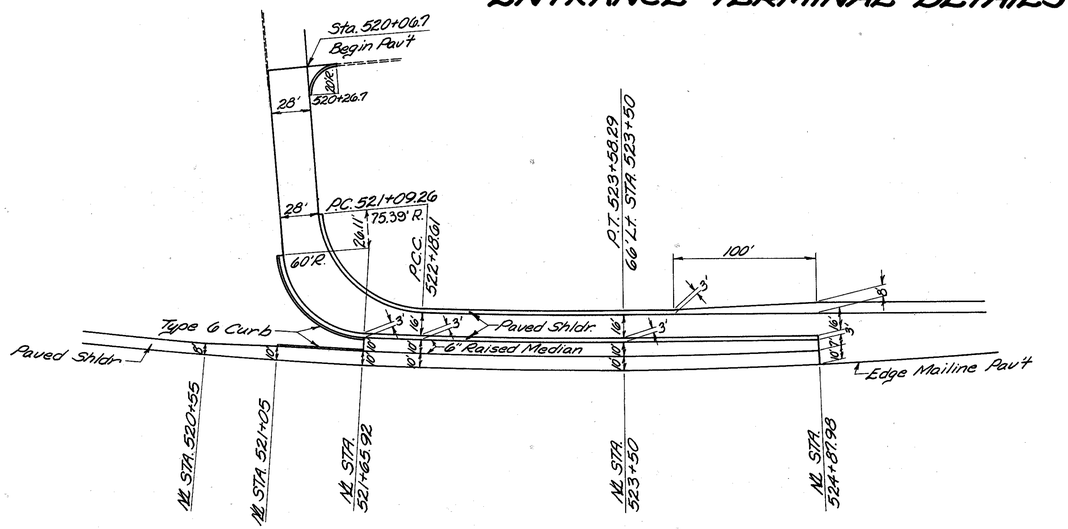
JEF-7-9.29



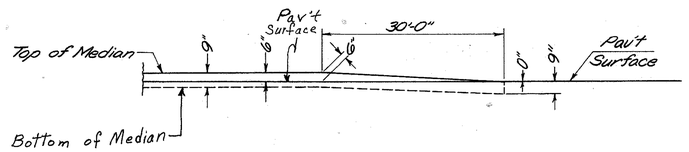
RAMP B
ENTRANCE TERMINAL DETAILS



RAMP C
ENTRANCE TERMINAL DETAILS



RAMP A
EXIT TERMINAL DETAILS



EXIT NOSE PROFILE

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RAMP DETAILS

PAVEMENT CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	
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RAMPS "A", "B" & "C"

ITEM 304 AGGREGATE BASE

Ramp "A"

(1) Sta. 520+06.70 to Sta. 521+09.26 102.56'x29.83'x 0.33333' = 1019.78 cu.ft.
Add for Flare: (Planimeter: 86 sq.ft.) x 0.33333' = 28.67 cu.ft.

(2) Sta. 521+09.26 to Sta. 522+18.61:
Under Pavement: (Planimeter: 3920 sq.ft) x0.33333' = 1306.65 cu.ft.
3' Left Shoulder: 1.58 sq. ft. x 107.17' = 169.33 cu.ft.
3' Right Shoulder: 1.65 sq.ft. x 129.78' = 214.14 cu.ft.

(3) Sta. 522+18.61 to Sta. 524+94.16:
Under Pavement: 275.92'x17.83'x0.33333' = 1639.87 cu.ft.
3' Left Shoulder: 1.63 sq.ft. x175.48' = 286.03 cu.ft.
3' to 8' Left Shoulder: 3.25 sq.ft (avg.)x100' = 325.00 cu.ft.
3' Right Shoulder: 1.62 sq.ft.x 276.35' = 447.69 cu.ft.

(4) Sta. 524+94.16 to Sta. 529+94.55:
Under Pavement: (Planimeter: 11420 sq.ft.) x 0.3333' = 3806.63 cu.ft.
8' Left Shoulder: 5.07 sq.ft.x 500.39' = 2536.98 cu.ft.

(5) Sta. 529+94.55 to Sta. 530+94.55:
Under Pavement: 100 x (6'avg.+0.92') x 0.33333' = 230.66 cu.ft.
8' Left Shoulder: 5.07 sq.ft. x 100' = 507.00 cu.ft.

(6) Mainline Sta. 520+55 to Sta. 524+87.98:
8' to 10' Left Shoulder: 50'x9' avg. x 0.66667' = 300.00 cu.ft.
10' Left Shoulder: 379.18'x 10'x 0.66667' = 2527.88 cu.ft.
Under Median: [181.60'x10' + 136.13'x 8.5' avg.]x0.66667 = 1982.08 cu.ft.

(7) Mainline Sta. 530+94.55 to Sta. 533+39:
8' Left Shoulder: 241.63'x8'x 0.83333'avg=1610.86 cu.ft.
Mainline Sta. 530+00 to Sta. 535+12:
8' Right Shoulder: 517.90'x8x 0.83333 avg.=3452.65 cu.ft.

(8) Median Opening @ Sta. 531+23.50:
(Planimeter: 364 sq.ft.) x 0.33333' = 121.33 cu.ft.

Ramp "B"

(9) Sta. 543+50 to Sta. 577+44.59:
Under Pavement: 3390.38'x17.83'x 0.33333' = 20,149.96 cu.ft.
3' Left Shoulder: 1.58 sq.ft.x1970.85' = 3113.94 cu.ft.
1.51 sq.ft x1419.53' = 2143.49 cu.ft.
3' Right Shoulder: 1.62 sq.ft.x1970.85' = 3192.78 cu.ft.
1.59 sq.ft.x1419.53' = 2257.05 cu.ft.

(10) Sta. 577+44.59 to Sta. 579+44.59:
Under Pavement: 100'x 16.83' avg. x 0.33333' = 560.99 cu.ft.
100'x 15.92' avg. x 0.33333' = 530.66 cu.ft.
3' to 2' Left Shoulder: 1.2G sq.ft.x 100' = 126.00 cu.ft.
3' to 8' Right Shoulder: 3.27 sq.ft.x200' = 654.00 cu.ft.

(11) Sta. 574+99.03 to Sta. 579+44.59:
18' to 10' Mainline Shoulder: (Planimeter: 5400 sq.ft.) x 0.83333 avg. = 4500.00 cu.ft.

(12) Sta. 579+44.59 to Sta. 589+44.59:
Under Pavement: 1000'x (12.5'avg.+0.92') x 0.33333 = 4473.29 cu.ft.
8' Right Shoulder: 5.07 sq.ft. x 1000.4' = 5072.03 cu.ft.

Ramp "C"

(13) Sta. 489+00 to Sta. 499+00:
Under Pavement: 990.81'x (12.5'avg.+0.92')x 0.33333 = 4432.18 cu.ft.
8' Left Shoulder: 5.07 sq.ft. x 989.88' = 5018.69 cu.ft.

(14) Sta. 99+00 to Sta. 101+00:
Under Pavement: 200.77'x 15.92' avg.x 0.33333' = 1065.41 cu.ft.
8' to 3' Left Shoulder: 3.25 sq.ft. x 199.72' = 649.09 cu.ft.

(15) Sta. 101+00 to Sta. 102+00:
Under Pavement: 100.38'x 16.83' avg. x 0.33333 = 563.13 cu.ft.
3' Left Shoulder: 1.60 sq.ft. x99.90' = 159.84 cu.ft.
2' to 3' Right Shoulder: 1.26 sq.ft. x 100.45' = 126.57 cu.ft.

(16) Sta. 102+00 to Sta. 104+00:
Under Pavement: 201.95'x 17.83' x 0.33333' = 1200.24 cu.ft.
3' Left Shoulder: 1.60 sq.ft. x 199.64' = 319.42 cu.ft.
3' Right Shoulder: 1.60 sq.ft. x 204.26' = 326.82 cu.ft.

(17) Sta. 499+00 to Sta. 503+00:
10' to 18' Left Shoulder: (Planimeter: 5096 sq.ft.) x 0.83333 = 4246.65 cu.ft.

(18) Sta. 104+00 to Sta. 104+98.70:
[(50'x17.83') + (48.70'x 21.83'avg.)] x 0.33333 = 651.53 cu.ft.

(19) Approach Left Sta. 104+70.30:
[(61.13'x 25.67') + 783.88' (computer) + 367.91' (computer)] x 0.33333 = 906.99 cu.ft.

Median Reconstruction

(20) Sta. 527+88.4 to Sta. 529+89.9:
201.5'x10' (avg.) x 0.58333' = 1175.41 cu.ft.
Sta. 529+89.9 to Sta. 531+06:
116.1'x16' x 0.58333' = 1083.59 cu.ft.
Nose Area:
(2/2) x 3.1416 x 8² x 0.58333' = 117.29 cu.ft.
Sta. 531+41 to Sta. 535+12:
371'x16'x 0.58333' = 3462.65 cu.ft.
Sta. 535+12 to Sta. 537+13.5:
201.5'x 10'(avg.) x 0.58333' = 1175.41 cu.ft.
Sub-total = 7014.35 cu.ft.
TOTAL = 95,968.33 cu.ft.
95,968.33 cu.ft. ÷ 27 = 3554.4 cu.yds.

TOTAL ITEM 304 AGGREGATE BASE = 3,554.4 CU.YDS.

ITEM 301 BITUMINOUS AGGREGATE BASE (UNDER PAVEMENT)

Ramp "A"

(1) 102.56'x 28.83'x 0.4166G7' = 1232.01 cu.ft.
Add for Flare: (Planimeter: 86 sq.ft.) x 0.4166G7 = 35.83 cu.ft.
(2) (Planimeter: 3776 sq.ft.) x 0.4166G7 = 1573.35 cu.ft.
(3) 275.92'x16.83'x 0.4166G7' = 1934.90 cu.ft.
(4) (Planimeter: 11158 sq.ft.) x 0.4166G7' = 4649.20 cu.ft.
(5) 100'x (6'avg.+ 0.42') x 0.4166G7' = 267.50 cu.ft.
(8) (Planimeter: 364 sq.ft.) x 0.4166G7' = 151.67 cu.ft.

Ramp "B"

(9) 3390.38'x16.83'x 0.4166G7' = 23775.23 cu.ft.
(10) 100' x 15.83' avg.x 0.4166G7' = 659.59 cu.ft.
100'x 15.42 avg. x 0.4166G7' = 642.51 cu.ft.
(12) 1000'x (12.5' avg.+ 0.42') x 0.4166G7' = 5383.38 cu.ft.

Ramp "C"

(13) 990.81'x (12.5' avg.+ 0.42') x 0.4166G7' = 5333.90 cu.ft.
(14) 200.77'x15.42' avg.x 0.4166G7' = 1289.96 cu.ft.
(15) 100.38'x15.83' avg.x 0.4166G7' = 662.10 cu.ft.
(16) 201.95'x16.83' x 0.4166G7' = 1416.19 cu.ft.
(18) [(50'x16.83') + (48.70'x20.83'avg.)] x 0.4166G7' = 773.31 cu.ft.
(19) [(61.13'x24.67') + 783.88' + 367.91'] x 0.33333' = 886.61 cu.ft.
TOTAL = 50,667.24 cu.ft.
50,667.24 cu.ft. ÷ 27 cu.ft. = 1876.6 cu.yds.

TOTAL ITEM 301 BITUMINOUS AGGREGATE BASE (UNDER PAVEMENT) = 1876.6 CU.YDS.

ITEM 301 BITUMINOUS AGGREGATE BASE (UNDER SHOULDERS)

Ramp "A"

(2) 3' Left Shoulder 107.17'x 3' = 321.51 sq.ft.
3' Right Shoulder 129.78'x 3' = 389.34 sq.ft.
(3) 3' Left Shoulder 175.48'x 3' = 526.44 sq.ft.
3' to 8' Left Shoulder 100'x 5.5' avg. = 550.00 sq.ft.
3' Right Shoulder 276.35'x 3' = 829.05 sq.ft.
(4) 8' Left Shoulder 500.39'x 8' = 4003.12 sq.ft.
(5) 8' Left Shoulder 100.00'x 8' = 800.00 sq.ft.
(6) Left Shoulder 50'x 9' avg. = 450.00 sq.ft.
379.18'x 10' = 3791.80 sq.ft.
(7) 8' Left Shoulder 241.63'x 8' = 1933.04 sq.ft.
8' Right Shoulder 517.90'x 8' = 4143.20 sq.ft.

Ramp "B"

(9) 3' Left Shoulder 3390.38'x 3' = 10171.14 sq.ft.
3' Right Shoulder 3390.38'x 3' = 10171.14 sq.ft.
(10) 3' to 2' Right Shoulder 100'x 2.5' avg. = 250.00 sq.ft.
3' to 8' Right Shoulder 200'x 5.5' avg. = 1100.00 sq.ft.
(11) 18' to 10' Mainline Shoulder (Planimeter) = 5400.00 sq.ft.
(12) 8' Mainline Shoulder 1000.4'x 8' = 8003.20 sq.ft.

Ramp "C"

(13) 8' Left Shoulder 989.88'x 8' = 7919.04 sq.ft.
(14) 8' to 3' Left Shoulder 199.72'x 5.5' avg. = 1098.46 sq.ft.
(15) 3' Left Shoulder 99.90'x 3' = 299.70 sq.ft.
2' to 3' Right Shoulder 100.45'x 2.5' avg. = 251.12 sq.ft.
(16) 3' Left Shoulder 199.64'x 3' = 598.92 sq.ft.
3' Right Shoulder 204.26'x 3' = 612.78 sq.ft.
(17) 10' to 18' Left Shoulder (Planimeter) 5096.00 sq.ft.
TOTAL = 68,709.00 sq.ft.
68,709.00 sq.ft. x 0.25' ÷ 27 cu.ft. = 636.2 cu.yds.

TOTAL ITEM 301 BITUMINOUS AGGREGATE BASE (UNDER SHOULDERS) = 636.2 CU.YDS.

ITEM 402 ASPHALT CONCRETE

Ramp "A"

(1) 102.56'x28'x 0.104167' = 299.13 cu.ft.
Add for Flare: (Planimeter: 86 sq.ft.) x 0.104167' = 8.96 cu.ft.
(2) (Planimeter: 3700 sq.ft.) x 0.104167' = 385.42 cu.ft.
(3) 275.92'x16'x 0.104167' = 459.87 cu.ft.
(4) (Planimeter: 10950 sq.ft.) x 0.104167' = 1140.63 cu.ft.
(5) 100'x6'avg.x 0.104167' = 62.50 cu.ft.
(8) (Planimeter: 364 sq.ft.) x 0.104167' = 37.92 cu.ft.
RAMP "A" SUB-TOTAL = 2394.43 cu.ft.

Ramp "B"

(9) 3390.38'x 16'x 0.104167' = 5650.65 cu.ft.
(10) 200'x 15'avg.x 0.104167' = 312.50 cu.ft.
(12) 1000'x 12.5' avg. x 0.104167' = 1302.09 cu.ft.
Add for Extra Leveling over Box Culvert: 255'x28' avg. x 0.145833' = 1041.25 cu.ft.
RAMP "B" SUB-TOTAL = 8306.49 cu.ft.

(Continue Item 402 next Column)

Ramp "C"

(13) 990.81'x 12.5' avg.x 0.104167' = 1290.12 cu.ft.
(14) 200.77'x 15' avg.x 0.104167' = 313.70 cu.ft.
(15) 100.38'x 15' avg. x 0.104167' = 156.84 cu.ft.
(16) 201.95'x 16' x 0.104167' = 336.58 cu.ft.
(18) [(50'x16') + (48.70'x 20' avg.)] x 0.104167' = 184.79 cu.ft.
(19) Approach Lt.: [(61.13'x24') + 783.88' + 367.91'] x 0.104167' = 272.80 cu.ft.
RAMP "C" SUB-TOTAL = 2554.83 cu.ft.
TOTAL RAMPS = 13,255.75 cu.ft.
13,255.75 cu.ft. ÷ 27 cu.ft. = 491.0 cu.yds.

TOTAL ITEM 402 ASPHALT CONCRETE = 491.0 CU.YDS.

ITEM 404 ASPHALT CONCRETE

From Item 402:
Ramp "A" Total + Ramp "C" Total + (9) + (10) + (12) = 12,214.50 cu.ft.
Ramp "B" Resurfacing Sta. 541+18.6 to Sta. 543+50:
255'x 28' avg. x 0.104167' = 743.75 cu.ft.
Northbound Lane: Sta. 530+00 to Sta. 535+12: 514'x 24'x 0.104167' = 1285.00 cu.ft.
Median Reconstruction: 181'x 0.5'x 0.16667' = 152.59 cu.ft.
TOTAL = 14,395.84 cu.ft.
14,395.84 cu.ft. ÷ 27 cu.ft. = 533.2 cu.yds.

TOTAL ITEM 404 ASPHALT CONCRETE = 533.2 CU.YDS.

ITEM 407 TACK COAT

Northbound Lane Sta. 530+00 to Sta. 535+12:
514'x 24' ÷ 9 = 1370.7 sq.yds.
Ramp "B" Resurfacing Sta. 541+18.6 to Sta. 543+50:
255'x 28' ÷ 9 = 793.3 sq.yds.
TOTAL = 2164.0 sq.yds.
2164.0 sq.yds x 0.10 gal. per sq.yd. = 216.4 gallons

TOTAL ITEM 407 TACK COAT = 216.4 GALS.
TOTAL ITEM 407 COVER AGGR. = 2164 S.Y. x 7 LBS ÷ 2000 = 7.6 TONS

ITEM 409 SEAL COAT COVER AGGREGATE No. 8

From Item 301: 68,709.00 sq.ft. x 0.008 cu.yds. per sq.yd ÷ 9 = 61.1 cu.yds.

TOTAL ITEM 409 SEAL COAT COVER AGGREGATE No. 8 = 61.1 CU.YDS.

ITEM 409 SEAL COAT BITUMINOUS MATERIAL

68,709.00 sq.ft. x 0.30 gal. per sq.yd. ÷ 9 = 2290.3 gallons

TOTAL ITEM 409 SEAL COAT BITUMINOUS MATERIAL = 2290.3 GALLONS

ITEM 203 SUBGRADE COMPACTION

From Item 402:
Ramp "A" + Ramp "C" + (9) + (10) + (12) = 12,214.50 ÷ (0.140167 ÷ 9) = 13,028.8 sq.yds
From Item 301: 68,709.00 ÷ 9 = 7634.3 sq.yds.
From Item 612: = 1564.8 sq.yds
TOTAL = 22,227.9 sq.yds.

TOTAL ITEM 203 SUBGRADE COMPACTION = 22,227.9 SQ.YDS.

ITEM 616 CALCIUM CHLORIDE

Estimated = 5 Tons

TOTAL ITEM 616 CALCIUM CHLORIDE = 5 TONS

ITEM 616 WATER

Estimated = 5 M-gals.

TOTAL ITEM 616 WATER = 5 M-GALS.

ITEM 659 COMMERCIAL FERTILIZER

(20,803 sq.yds x 9 x 20 lbs per 1000 sq.ft.) ÷ 2000 = 1.87 Tons

TOTAL ITEM 659 COMMERCIAL FERTILIZER = 1.87 TONS

ITEM 659 AGRICULTURAL LIMING

(20,803 sq.yds. x 9 x 100 lbs. per 1000 sq.ft.) ÷ 2000 = 9.36 Tons

TOTAL ITEM 659 AGRICULTURAL LIMING = 9.36 TONS

ITEM 612 CONCRETE MEDIAN

Sta. 521+65.92 to Sta. 524+87.98: [18.6'x 10' + 136.13'x 8.5' avg.] ÷ 9 = 330.4 sq.yds.
Mainline Sta. 527+88.4 to Sta. 529+89.9: 201.5'x 9' (avg.) ÷ 9 = 201.5 sq.yds.
Mainline Sta. 529+89.9 to Sta. 531+06 : 116.1'x 15' ÷ 9 = 193.5 sq.yds.
Nose Areas: (2/2) x 3.1416 x 7.5² ÷ 9 = 19.6 sq.yds.
Mainline Sta. 531+41 to Sta. 535+12 : 371'x 15' ÷ 9 = 618.3 sq.yds.
Mainline Sta. 535+12 to Sta. 537+13.5: 201.5'x 9' (avg.) ÷ 9 = 201.5 sq.yds.
TOTAL = 1564.8 sq.yds.

TOTAL ITEM 612 CONCRETE MEDIAN = 1,564.8 SQ.YDS.

QUANTITIES	
Calculated by:	Checked by:
JW H 6-26-72	R.S.J. 7-3-72

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PAVEMENT CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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SERVICE ROAD PAVEMENT CALCULATIONS

ITEM 304 AGGREGATE BASE

(20) Sta. 5+00 to Sta. 13+00: 800'x25.67'x 0.33333' = 6845.26 cu.ft.
Sta. 13+00 to Sta. 20+84.69: 784.69'x24.83'x 0.33333' = 6494.55 cu.ft.
Flares: [50² x(1-0.7853982)+20² x (1-0.7853982)]x 0.33333' = 207.45 cu.ft.
Drive Lt. Sta. 18+60: 50' avg. x 20'x0.33333' = 333.33 cu.ft.
TOTAL = 13,880.59 cu.ft.
13,880.59 cu.ft. ÷27 cu.ft. = 514.1 cu.yds.

TOTAL ITEM 304 AGGREGATE BASE = 514.1 CU.YDS.

ITEM 301 BITUMINOUS AGGREGATE BASE

(20) 800'x24.67'x 0.33333' = 6578.60 cu.ft.
784.69'x24.33'x0.33333' = 6363.77 cu.ft.
[50²x(1-0.7853982)+20²(1-0.7853982)]x 0.33333 = 207.45 cu.ft.
50'avg.x20'x0.33333' = 333.33 cu.ft.
TOTAL = 13,483.15 cu.ft.
13,483.15 cu.ft. ÷27 cu.ft. = 499.4 cu.yds.

TOTAL ITEM 301 BITUMINOUS AGGREGATE BASE =499.4 CU.YDS.

ITEM 402 ASPHALT CONCRETE

(20) Sta. 5+00 to Sta. 20+84.69: 1584.69'x 24'x 0.104167' = 3961.74 cu.ft.
Flares: [50²(1-0.7853982)+20²(1-0.7853982)]x 0.104167' = 64.83 cu.ft.
Drive Lt. Sta. 18+60: 50' avg.x20'x0.104167' = 104.17 cu.ft.
TOTAL = 4130.74 cu.ft.
4130.74 cu.ft.÷27 cu.ft. = 153.0 cu.yds.

TOTAL ITEM 402 ASPHALT CONCRETE =153.0 CU.YDS.

ITEM 404 ASPHALT CONCRETE

(20) Same as Item 402 = 153.0 cu.yds.

TOTAL ITEM 404 ASPHALT CONCRETE =153.0 CU.YDS.

ITEM 203 SUBGRADE COMPACTION

From Item 402, excluding Drive Area: 4026.57÷(0.104167x9) = 4295.0 sq.yds.
Curb and Gutter= 789'x2.5'÷9 = 219.2 sq.yds.
TOTAL = 4514.2 sq.yds.

TOTAL ITEM 203 SUBGRADE COMPACTION =4514.2 SQ.YDS.

ITEM 616 CALCIUM CHLORIDE

Estimated = 5 Tons

TOTAL ITEM 616 CALCIUM CHLORIDE = 5 TONS

ITEM 616 WATER

Estimated = 5 M-Gals.

TOTAL ITEM 616 WATER =5 M-GALLONS

ITEM 659 COMMERCIAL FERTILIZER

(11,021 sq.yds. x9 x.20 lbs. per 1000 sq.ft.)÷2000 = 0.99 Tons

TOTAL ITEM 659 COMMERCIAL FERTILIZER =0.99 TONS

ITEM 659 AGRICULTURAL LIMING

(11,021 sq.yds.x9 x100 lbs. per 1000 sq.ft.)÷2000 = 4.96 Tons

TOTAL ITEM 659 AGRICULTURAL LIMING =4.96 TONS

ITEM SPECIAL-DRAINAGE CONNECTION Using No.8 AGGREGATE
0.889 S.F. x 1200'÷27 = 39.51 Cu.Yds.

MAINLINE EARTHWORK & SEEDING CALCULATIONS

EARTHWORK	EXCAVATION	EMBANKMENT
Sta. 530+94.55 to Sta. 533+39 (Left Shoulder): From Items 304 & 301 : (1610.66+1933.04 x 0.25')÷ 27	78 Cu.Yds.	
Sta. 530+00 to Sta. 535+12 (Right Shoulder): From Items 304 & 301 : (3452.65 + 4143.20 x 0.25')÷27	165 Cu.Yds.	
Remove Ross St. Approach on Left: (Planimeter: 2750 sq.ft.)x0.5'÷27	51 Cu.Yds.	
2750 sq.ft.x1.0'÷27		102 Cu.Yds.
Remove Ross St. Approach on Right: (Planimeter: 1075 sq.ft.)x0.5'÷27	20 Cu.Yds.	
1075 sq.ft x 0.5÷27		20 Cu.Yds.
Remove Pavement for New Median: (Planimeter 4336 sq.ft)x0.75÷27	120 Cu.Yds.	
Remove Existing Median : (Planimeter 6856 sq.ft)x1.25÷27	317 Cu.Yds.	
TOTAL	751 Cu.Yds.	122 Cu.Yds.

SEEDING	SQ. YDS
2750 sq.ft.÷9	306
1075 sq.ft.÷9	119
TOTAL	425

EARTHWORK & SEEDING

STATION	EXCAVATION Cu.Yds.	EMBANKMENT Cu.Yds.	SEEDING Sq.Yds.
Ramp "A"	2018	1372	3897
Mainline 530+00 to 535+12	751	122	425
Ramp "B":			
543+25 to 551+00	461	658	1887
551+00 to 561+00	1448	702	2468
561+00 to 571+00	339	867	2134
571+00 to 581+00	947	2511	2876
581+00 to 581+44.59	484	140	1247
RAMP "B" SUB-TOTAL	3679	4878	10612
Ramp "C"	1534	7855	5869
RAMPS & MAINLINE TOTAL	7982	14227	20803
Service Road	4848	5903	11021

ITEM 620 DELINEATORS

RAMP	SIDE	STATION From	STATION To	INTERVAL Lin. Ft.	C-2 POST Each
"A"	Rt.	521+25	521+85	30	3
	Lt.	521+85	522+40	55	2
	Lt.	522+95	530+95	100	9
"B"	Rt.	543+45	589+45	100	47
"C"	Lt.	489+00	102+00	100	14
	Lt.	102+80	103+30	50	2
	Rt.	103+30	104+30	50	3
			TOTAL		80

QUANTITIES	
Calculated by: JWH 6-26-72	Checked by: R.S.J. 6-27-72

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GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-9.29

12/58

TOTALS FROM SHEET NUMBER																			ITEM	ISSUE No. 1	100% STATE	GRAND TOTAL	UNIT	DESCRIPTION
ISSUE No. 1				100% STATE																				
11	36	37		7		10	11	14	15	19	20	21	22	23	35	36	48	R/W						
																								~ ROADWAY ~
																			201	LUMP	LUMP	LUMP		CLEARING AND GRUBBING
																		LUMP	202		LUMP	LUMP		PARCEL No. 3-WL, WA., REMOVAL OF ONE TILE BLOCK GARAGE
		7								1	56								202	7	57	64	CU. YDS.	PORTIONS OF STRUCTURES REMOVED
		25														12			202	25	12	37	LIN. FT.	PIPE REMOVED, 24" AND UNDER
																100			202		100	100	LIN. FT.	PIPE REMOVED, OVER 24"
								26											202		26	26	LIN. FT.	CURB REMOVED
								224	1695										202		1695	1695	LIN. FT.	CURB AND GUTTER REMOVED
		88													950	650			202		1600	1600	LIN. FT.	GUARD RAIL REMOVED FOR RE-USE
																35			202	88	35	123	LIN. FT.	FENCE REMOVED FOR STORAGE
	495	941													70	525			202	1436	595	2031	LIN. FT.	FENCE REMOVED FOR RE-USE
								1	1										202		2	2	EACH	CATCH BASIN REMOVED
								1					1						202		2	2	EACH	CATCH BASIN ABANDONED
								20	88	933									202		1021	1021	SQ. YDS.	PAVEMENT REMOVED
								336											202		336	336	SQ. FT.	SIDEWALK REMOVED
4848		181					7,982								2				203	5029	7984	13,013	CU. YDS.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
5903		23					14,227												203	5926	14,227	20,153	CU. YDS.	EMBANKMENT
4514						22,228													203	4514	22,228	26,742	SQ. YDS.	SUBGRADE COMPACTION
				200															410		200	200	CU. YDS.	TRAFFIC COMPACTED SURFACE, TYPE A OR B
		625.00						50.00	75.00	676.58	1001.95	1000.59	870.88	325.00					606	625	4,000	4,625	LIN. FT.	GUARD RAIL, TYPE 5
		125.00													949.00	526.00			606	125	1475	1600	LIN. FT.	GUARD RAIL REBUILT, TYPE 5
		4						2		1			1	1		1			606	4	6	10	EACH	ANCHOR ASSEMBLY
								368	60										607		428	428	LIN. FT.	FENCE, TYPE CL
	550	886													70	525			607	1436	595	2031	LIN. FT.	FENCE REBUILT, TYPE 47
								59											608		59	59	SQ. FT.	4" CONCRETE WALK
5						5													616	5	5	10	TONS	CALCIUM CHLORIDE
5						5													616	5	5	10	M-GALS.	WATER
							80												620		80	80	EACH	DELINEATOR, TYPE C-2, POST MOUNTED
																								~ EROSION CONTROL ~
										476									601		476	476	SQ. YDS.	CONCRETE SLOPE PROTECTION
		27														10			601	27	10	37	CU. YDS.	ROCK CHANNEL PROTECTION, TYPE B, WITH BEDDING
		39														4			601	39	4	43	SQ. YDS.	RIPRAP, USING 6" REINFORCED CONCRETE SLAB
0.99						1.87													659	0.99	1.87	2.86	TONS	COMMERCIAL FERTILIZER (12-12-12)
4.96						9.36													659	4.96	9.36	14.32	TONS	AGRICULTURAL LIMING
11021							20,803												659	11,021	20,803	31,824	SQ. YDS.	SEEDING AND MULCHING
								7							131	248			660		386	386	SQ. YDS.	SODDING
																								~ DRAINAGE ~
								27											603		27	27	LIN. FT.	6" CONDUIT, TYPE B
															10	10			509		20	20	POUNDS	REINFORCING STEEL
															6	6			510		12	12	EACH	DOWEL HOLE
	0.7	6.4								0.3	0.5	0.3			1.1	2.0			602	7.1	4.2	11.3	CU. YDS.	CONCRETE MASONRY
								10		30	30		36		12	24			603		142	142	LIN. FT.	6" CONDUIT, TYPE F
		49																	603	49		49	LIN. FT.	8" CONDUIT, TYPE B, 706.08
										10									603		10	10	LIN. FT.	12" CONDUIT, TYPE F, AS PER PLAN
		171							134							29			603	171	163	334	LIN. FT.	12" CONDUIT, TYPE B
															12				603		12	12	LIN. FT.	12" CONDUIT, TYPE B, 706.02
		31																	603	31		31	LIN. FT.	15" CONDUIT, TYPE B, 706.08
	58																		603	58		58	LIN. FT.	CONDUIT, TYPE A, 15" 706.01, 706.02 OR 706.08; OR 18" TO 7.05, TYPE C
		86						128		40	77	40	158			69			603	86	512	598	LIN. FT.	15" CONDUIT, TYPE B
															12				603		12	12	LIN. FT.	18" CONDUIT, TYPE A, 706.02
								29											603		29	29	LIN. FT.	18" CONDUIT, TYPE B
													22						603		22	22	LIN. FT.	18" CONDUIT, TYPE C, 706.02
																22			603		22	22	LIN. FT.	30" CONDUIT, TYPE A, 706.02
		92																	603	92		92	LIN. FT.	CONDUIT, TYPE A, 60" 706.02; OR 72" 707.07, TYPE C

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Rev. 12-4-73

GENERAL SUMMARY

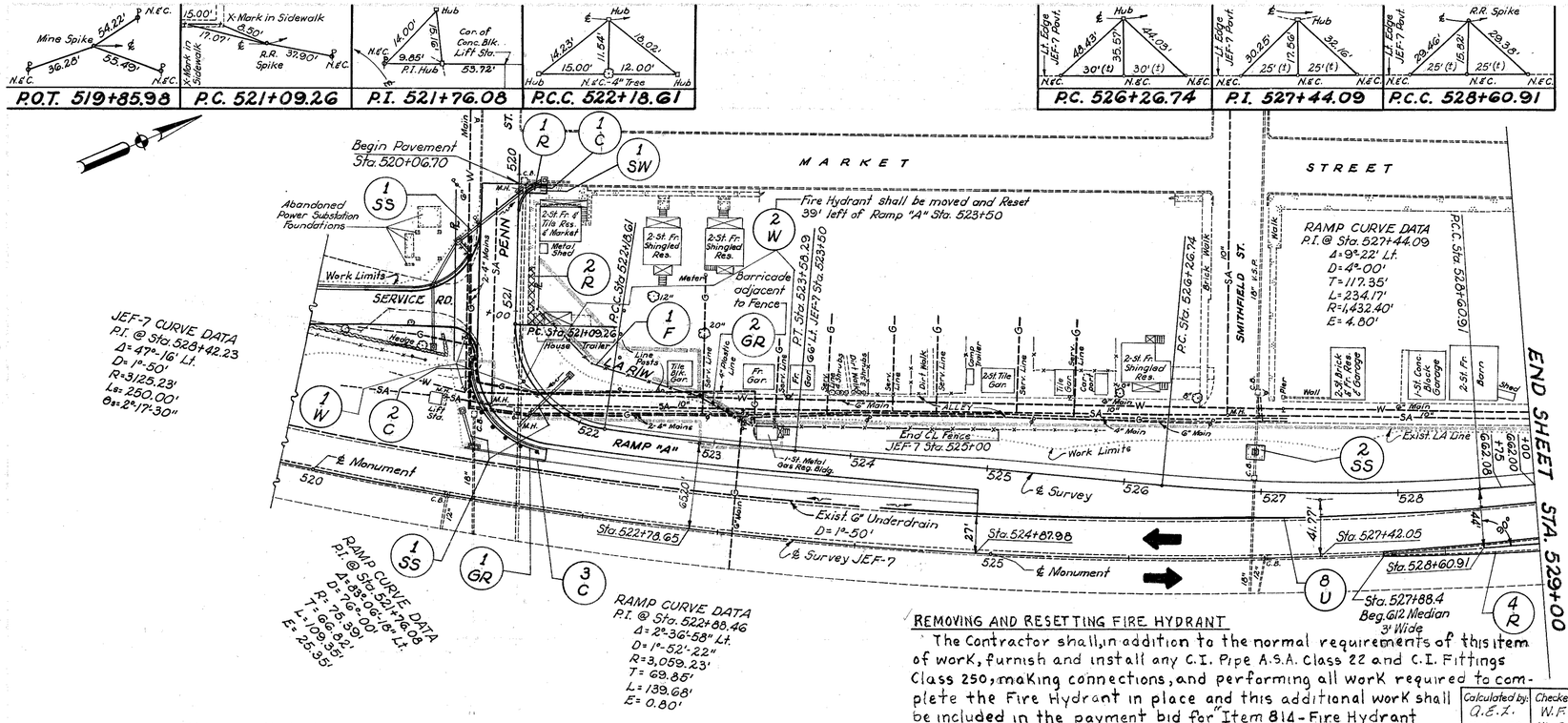
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-9.29

13/58

TOTALS FROM SHEET NUMBER — ISSUE Nº. 1				TOTALS FROM SHEET NUMBER — 100% STATE											ITEM	ISSUE Nº. 1	100% STATE	GRAND TOTAL	UNIT	DESCRIPTION
7	11	37		7	10	14	15	19	20	21	22	23	35	36	48						
																				~ DRAINAGE CON'T. ~
							2									604		2	2	EACH	STANDARD Nº. 2-6 MEDIAN INLET
						1										604		1	1	EACH	STANDARD Nº. 2-8 MEDIAN INLET, AS PER PLAN
						2					1			1		604		4	4	EACH	STANDARD Nº. 2-2-B CATCH BASIN
		3				1										604	3	1	4	EACH	STANDARD Nº. 3-A CATCH BASIN
		1				2										604	1	2	3	EACH	STANDARD Nº. 5 CATCH BASIN
								2	2	1	2			1		604		8	8	EACH	STANDARD Nº. 6 CATCH BASIN, AS PER PLAN
						1										604		1	1	EACH	15" FLAPGATE, AS PER PLAN
		1					1									604	1	1	2	EACH	MANHOLE ADJUSTED TO GRADE
						2							1	1		604		4	4	EACH	MANHOLE RECONSTRUCTED TO GRADE
						1										604		1	1	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN
				900												605		900	900	LIN.FT.	AGGREGATE DRAINS
						484	150	687	960	224	1135	1300				605		4940	4940	LIN.FT.	6" SHALLOW PIPE UNDERDRAINS
50				150												605	50	150	200	LIN.FT.	6" UNCLASSIFIED PIPE UNDERDRAINS, 707.01 TYPE III OR 707.12, AS PER PLAN
5				15												605	5	15	20	LIN.FT.	AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN
																				~ PAVEMENT ~
	499				2513			4							1	301	499	2518	3017	CU.YDS.	BITUMINOUS AGGREGATE BASE: 702.01, AC-20 OR 702.09, RT-11 OR RT-12
	514				3554			10							3	304	514	3567	4081	CU.YDS.	AGGREGATE BASE
	153				491											402	153	491	644	CU.YDS.	ASPHALT CONCRETE, AC-20
	153				533											404	153	533	686	CU.YDS.	ASPHALT CONCRETE, AC-20
					216											407		216	216	GALS.	TACK COAT: 702.04, SS-1, SS-1h, MS-2 or RS-1; 702.02, RC-250
					2290			13							4	409		2307	2307	GALS.	SEAL COAT BITUMINOUS MATERIAL: 702.09, RT-9 or RT-10; 702.02, MC-800 or MC-3000; 702.04, RS-1, RS-2 or
					61			1							1	409		63	63	CU.YDS.	SEAL COAT COVER AGGREGATE, Nº. 8 or CRS-2; or 702.03, CBAE 800
					8											407		8	8	TONS	COVER AGGREGATE
						182										609		182	182	LIN.FT.	CONCRETE CURB, STANDARD TYPE 6
											150			110		609		260	260	LIN.FT.	CONCRETE CURB, STANDARD TYPE 7
								24	26	12	446			397		609		905	905	LIN.FT.	CONCRETE CURB, STANDARD TYPE 8
		791														609	791		791	LIN.FT.	COMBINATION CURB AND GUTTER, STANDARD TYPE 2
	40															Special		40	40	CU.YDS.	DRAINAGE CONNECTION USING No. 8 AGGREGATE
					1565											612		1565	1565	SQ.YDS.	CONCRETE MEDIAN
LUMP				LUMP												619	LUMP	LUMP	LUMP		FIELD OFFICE
LUMP																623	LUMP	LUMP	LUMP		CONSTRUCTION LAYOUT STAKES
				LUMP												614		LUMP	LUMP		MAINTAINING TRAFFIC
																					~ WATER WORK ~
						3										814		3	3	EACH	VALVE BOX ADJUSTED TO GRADE
						1										814		1	1	EACH	FIRE HYDRANT REMOVED AND RESET, AS PER PLAN
						1										814		1	1	EACH	PLUGGING EXISTING 6" WATER MAIN
						1										814		1	1	EACH	6"x6" TAPPING SLEEVE AND VALVE AND VALVE BOX
																					FOR LIGHTING QUANTITIES, SEE SHEET Nº. 52

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TAPPING SLEEVE AND VALVE AND VALVE BOX

This work shall consist of the furnishing and installing the Tapping Sleeve and Valve and Valve Box at the location shown on the plans or as directed by the Engineer.

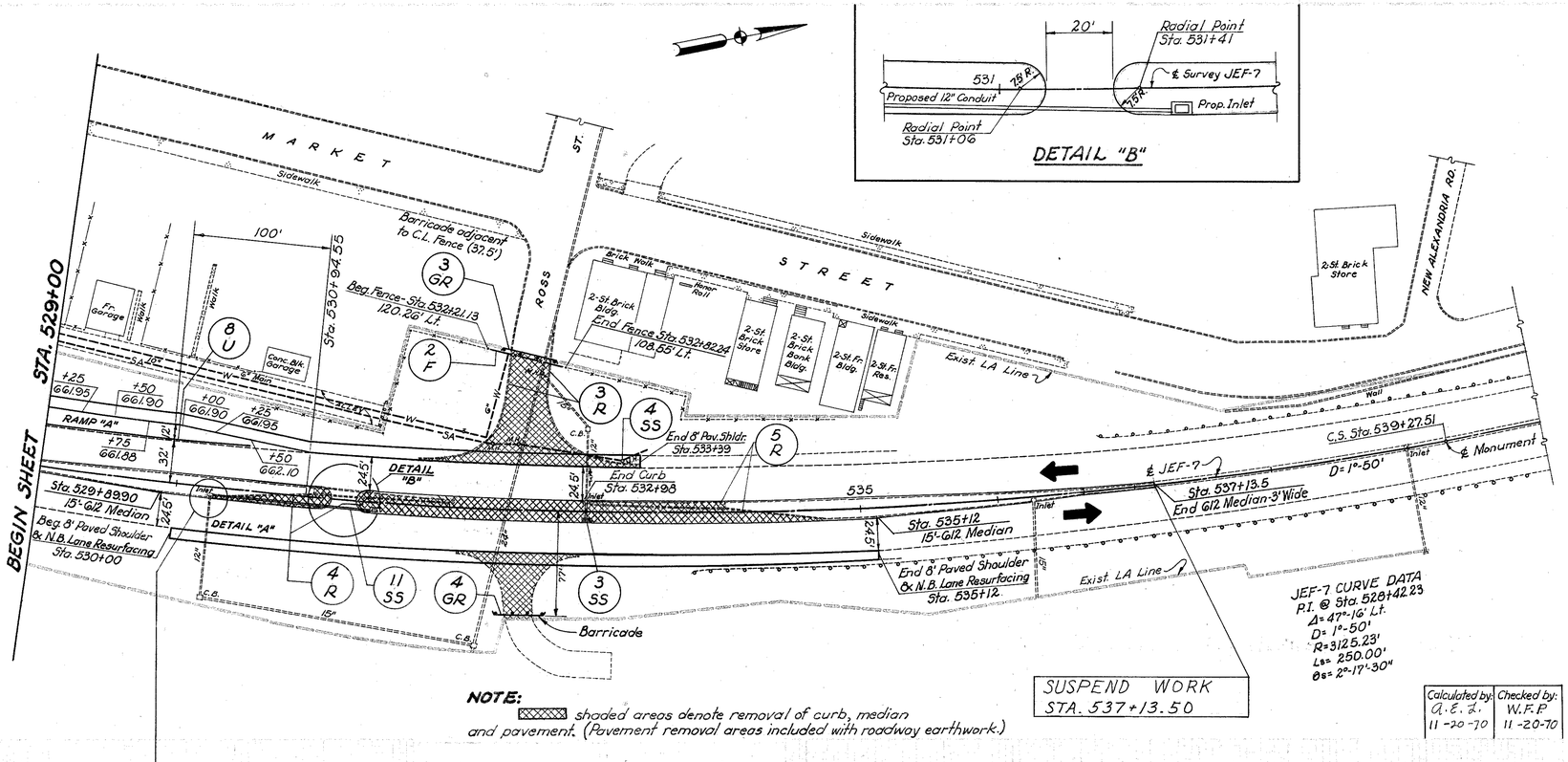
The Contractor shall make the excavation, install the Tapping Sleeve and Valve and Valve Box, backfilling, testing, sterilizing and surface restoration. The work shall be performed in accordance with the requirements of Item 814. The Tapping Sleeve and Valve shall conform to the latest edition of the A.W.W.A. Specifications.

Payment will be made at the contract unit price bid per Each "Item 814 - 6"x6" Tapping Sleeve and Valve and Valve Box" which price and payment shall constitute full compensation for the furnishing of all labor, materials, small tools and equipment required to complete this item of work in place.

B.M. ELEV. G55.54
Cut on Slab @ Lift Sta. Corner
66' Rt. Ramp Sta. 521+42

B.M. ELEV. G59.40
Letter "s" in Word "Brothers" on Base of Fire Hydrant
72' Lt. Ramp Sta. 527+00

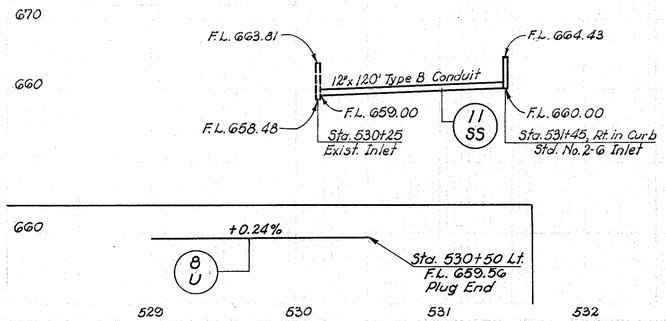
| | | |



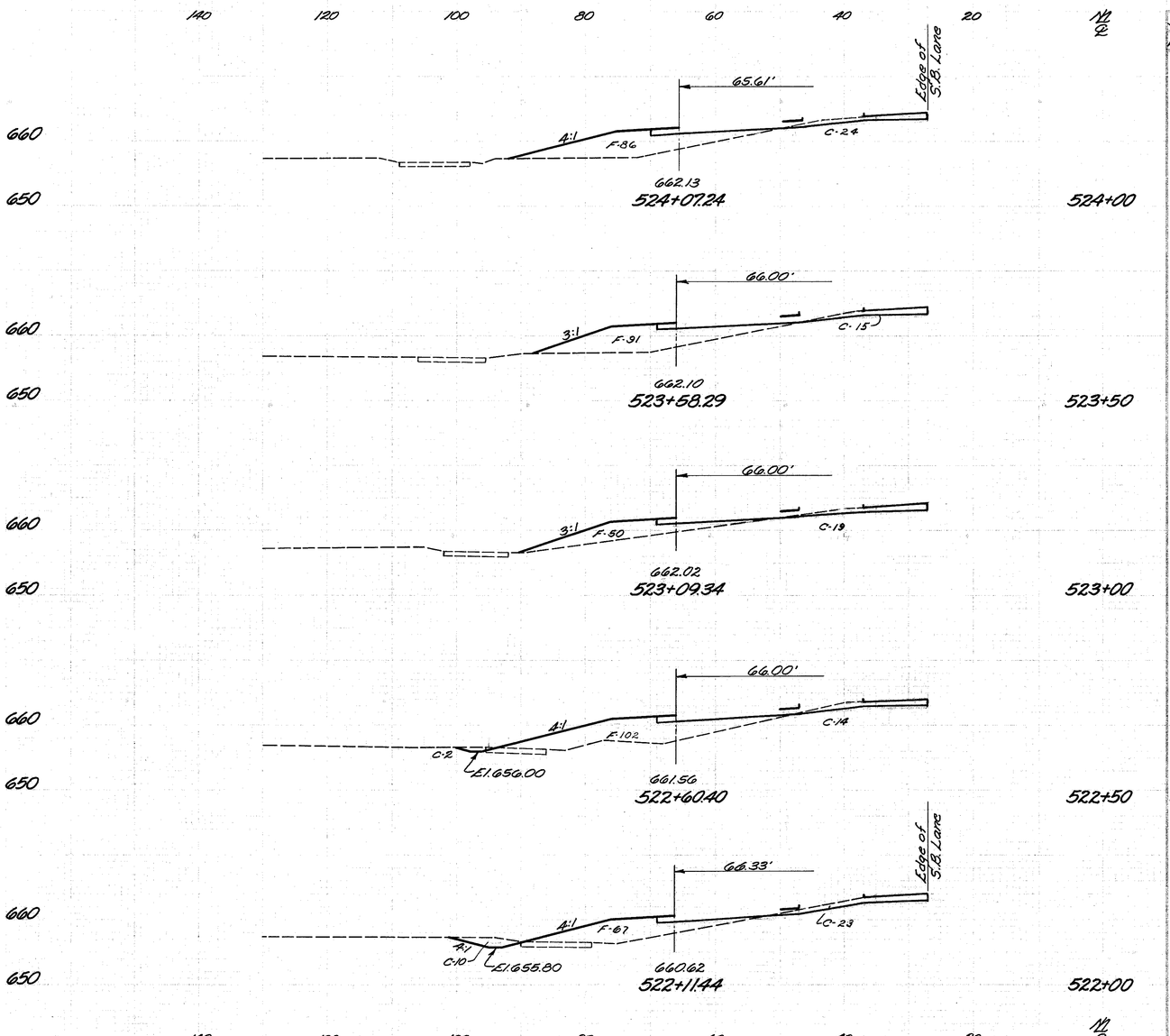
DETAIL "A"

DETAIL "B"

NOTE: ▨ shaded areas denote removal of curb, median and pavement. (Pavement removal areas included with roadway earthwork.)



| | | |



Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	163			37	143
30		24	86		
	155			35	160
27		15	91		
	139			31	128
24		19	50		
	179			32	138
42		16	102		
	231			44	153
43		33	67		
	341			49	198
57		10	107		
	161			7	75
59		6	56		
	139			7	31
41		9	12		
	225		77	12	
40		74	1		
	98		1		
	48		0		

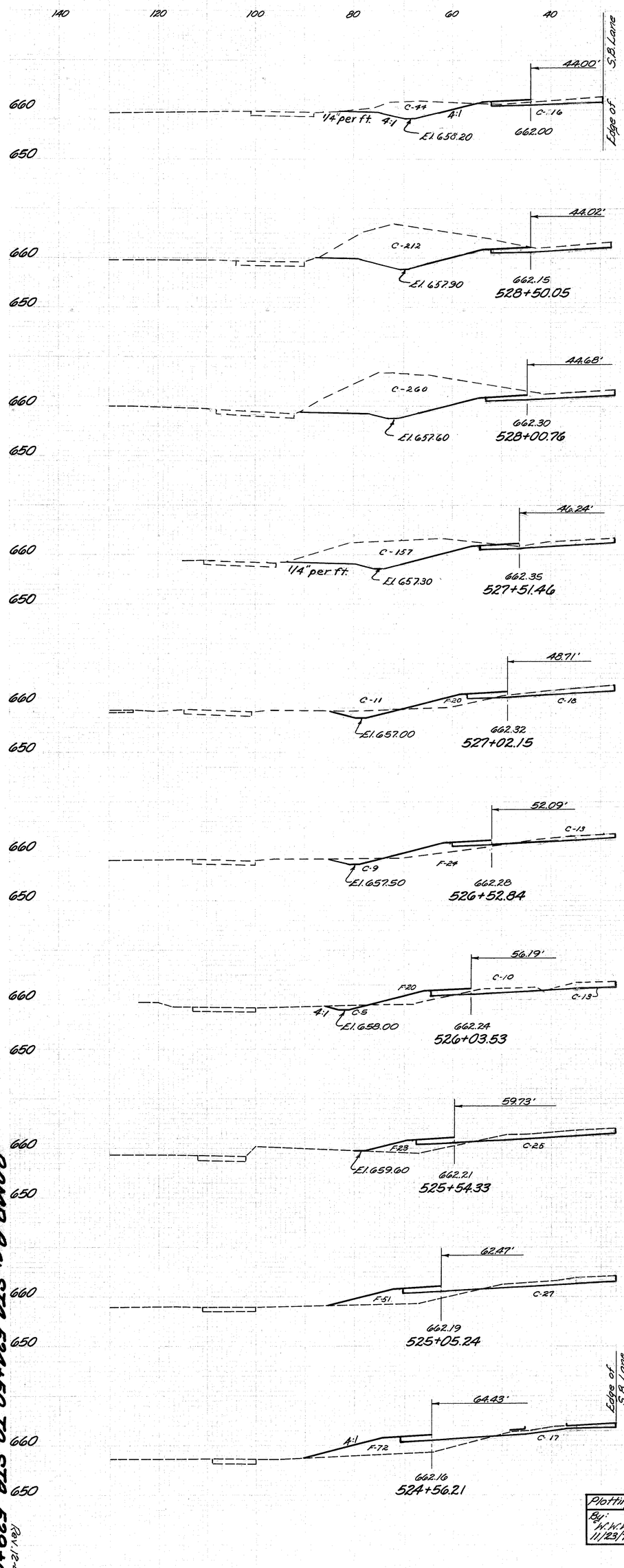
Plotting & End Areas	
By:	Checked By:
W.W.W. 11/23/70	W.F.P. 11/23/70

RAMP A w STA. 520+06.7 TO STA. 524+00

Rev. 12-4-73

JEF 7-9-29

16
58



Plotting & End Areas	
By: M.W.W. 11/23/70	Checked By: W.F.P. 11/23/70

RAMP A - STA. 524+50 TO STA. 529+00

(Rev 12-4-73)

	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
529+00		169			76	3
	31		60	0		
528+50		189			252	0
	37		212	0		
528+00		211			431	0
	40		260	0		
527+50		222			381	0
	41		157	0		
527+00		225			170	18
	41		29	20		
526+50		211			47	40
	36		22	24		
526+00		186			46	40
	32		28	20		
525+50		148			48	39
	22		25	23		
525+00	25	128	27	51	47	67
524+50	30	150	17	72	40	112

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Seeding & Mulch	Cu. Yds. Cut	Cu. Yds. Fill	Cu. Yds. Exc. Emb.
10	64	16	111
0	0	11	2
0	0	2	9

Sta.	Zero	Earthwork			
530+94.55					
530+50					
530+00					
529+50					

32	6	13	4	6	22
150	24	3	22	30	

Plotting & End Areas	
By: T.W.M. 11/23/70	Checked By: W.F.P. 11/23/70

FED. ROAD DIV. NO.	STATE	PROJECT	
2	OHIO		

18
5B

JEF-7-9.29

N

20 40 60 80 100 120 140

660 650 660 650 660 650

Edge of S.B. Lane

44.00'

C-10

66.90

F-3

4:1

El. 650.80

C-12

4:1

Edge of S.B. Lane

C-11

66.90

F-4

4:1

C-12

El. 659.40

Edge of S.B. Lane

682.10

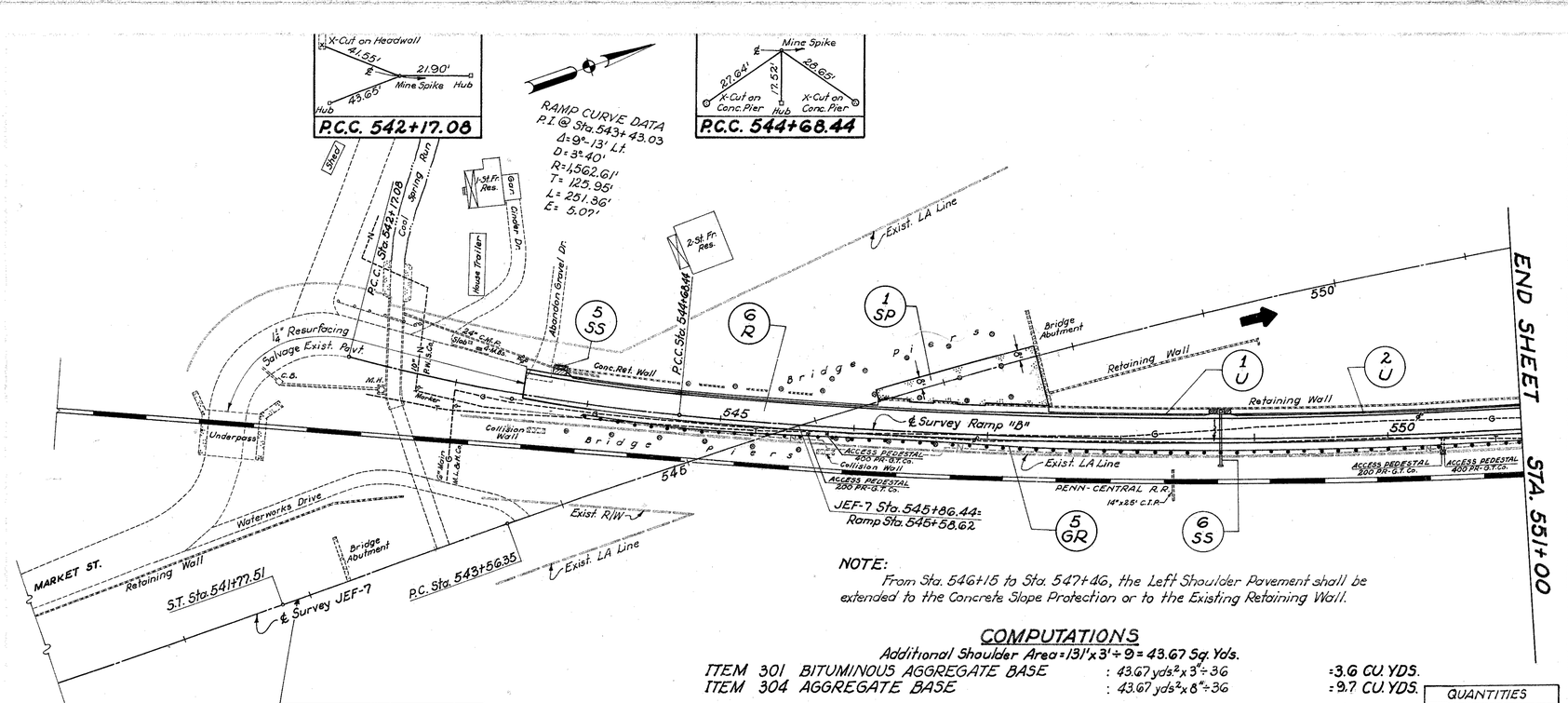
C-11

F-2

4:1

Rev. 12-4-73

RAMP A ~ STA. 529+50 TO STA. 530+94.55



B.M. ELEV. 655.79
□ Cut on Conc. Headwall
36'(±) Lt. Sta. 542+53

B.M. ELEV. 667.41
Mine Spike in Power Pole
73'(±) Rt. Sta. 546+91

℄ Survey Profile & Rt. Edge Pavt. Elev.	Station	Lt. Edge Pavt. Elev.
661.06	543+50	660.88
662.41	+75	662.22
663.76	544+00	663.47
665.05	+25	664.68
666.21	+50	665.84
667.00	P.C.C. 544+68.44	666.63
667.25	+75	666.88
668.17	545+00	667.80
668.96	+25	667.89
669.63	+50	669.26
670.17	+75	669.80
670.59	546+00	670.22
670.88	+25	670.51
670.92	+50	670.55
671.05	+50	670.68
671.10	+70	670.73
671.10	+75	670.73
671.03	547+00	670.65
670.88	+25	670.51
670.74	+50	670.37
670.60	+75	670.23
670.46	548+00	670.09
670.32	+25	669.95
670.22	+50	669.85
670.19	+75	669.82
670.23	549+00	669.86
670.35	+25	669.98
670.54	+50	670.17
670.80	+75	670.43
671.10	550+00	670.73
671.40	+25	671.03
671.70	+50	671.33
672.00	+75	671.63
672.30	551+00	671.93

NOTE:
From Sta. 546+15 to Sta. 547+46, the Left Shoulder Pavement shall be extended to the Concrete Slope Protection or to the Existing Retaining Wall.

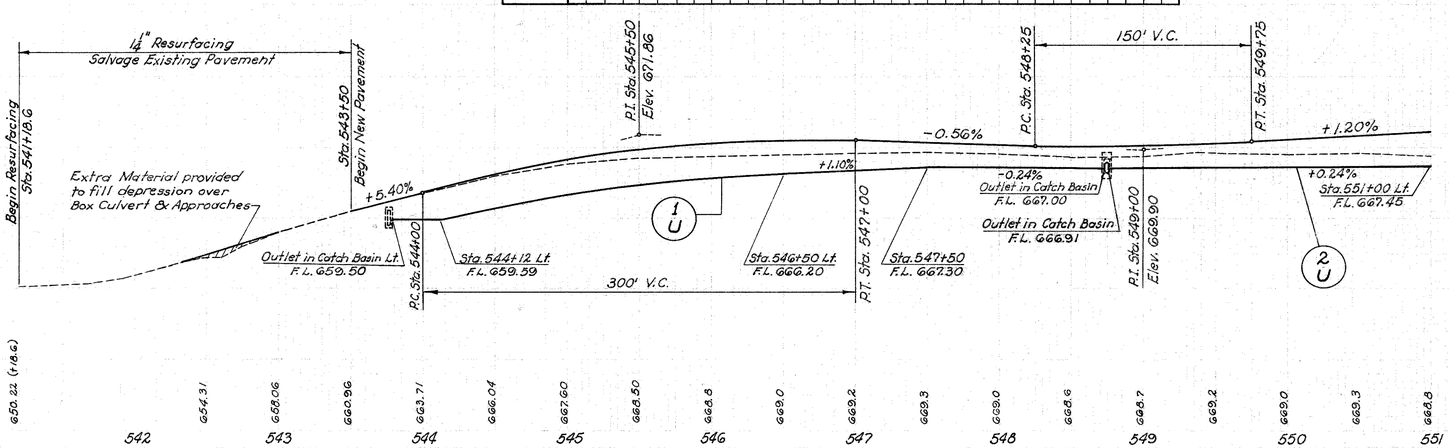
COMPUTATIONS

Additional Shoulder Area = 131' x 3' ÷ 9 = 43.67 Sq. Yds.

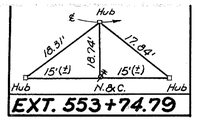
ITEM 301 BITUMINOUS AGGREGATE BASE : 43.67 yds² x 3" ÷ 36 = 3.6 CU. YDS.
ITEM 304 AGGREGATE BASE : 43.67 yds² x 8" ÷ 36 = 9.7 CU. YDS.

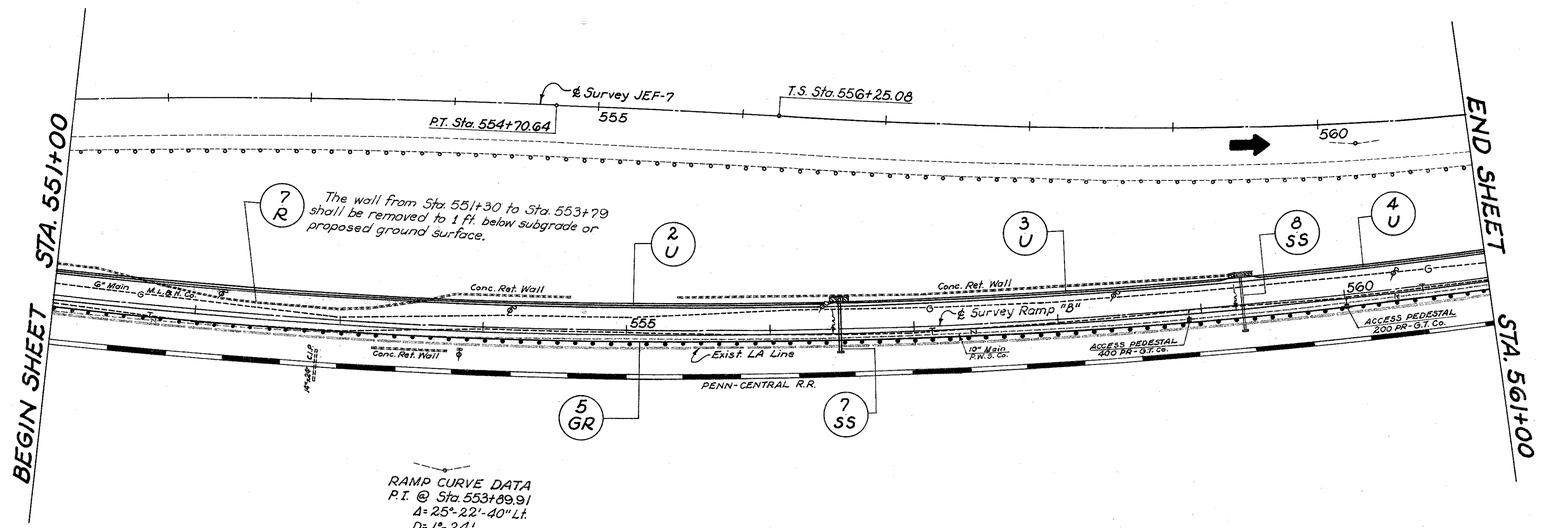
ITEM 409 SEAL COAT COVER AGGREGATE No. 8 : 43.67 yds² x 0.008 yds³ per yd² = 0.4 CU. YDS.
ITEM 409 SEAL COAT BITUMINOUS MATERIAL : 43.67 yds² x 0.30 gal. per yd² = 13 GALS.

QUANTITIES	
Calculated by:	Checked by:
G.E.Z. 11-20-70	W.F.P. 11-20-70



| | | |



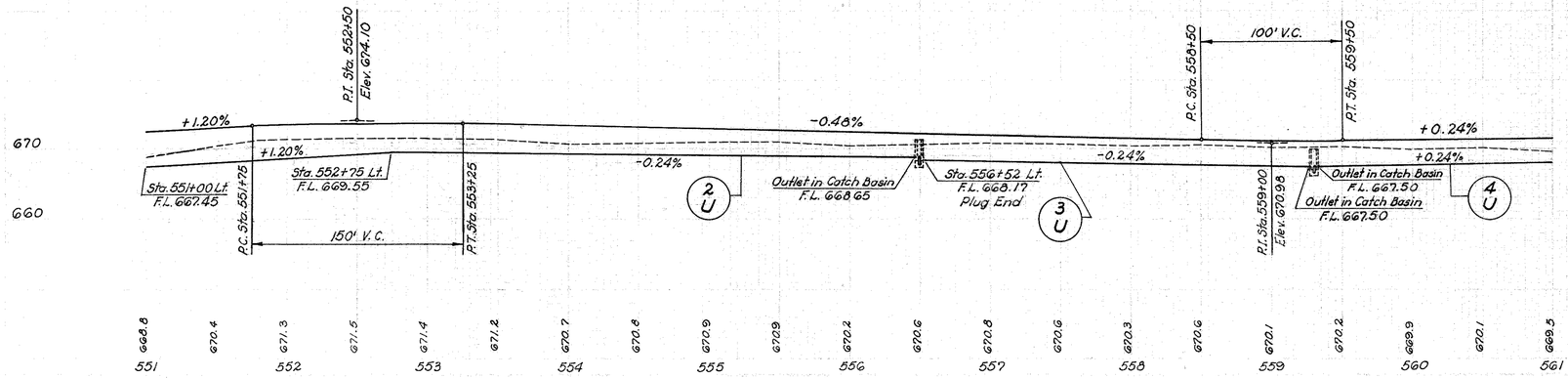


RAMP CURVE DATA
P.I. @ Sta. 553+89.91
Δ = 25°-22'-40" Lt.
D = 1°-24'
R = 4,092.56'
T = 921.47'
L = 1,812.70'
E = 102.49'

B.M. ELEV. 666.41
Mine Spike in Power Pole
60'(t) Rt. Sta. 552+00

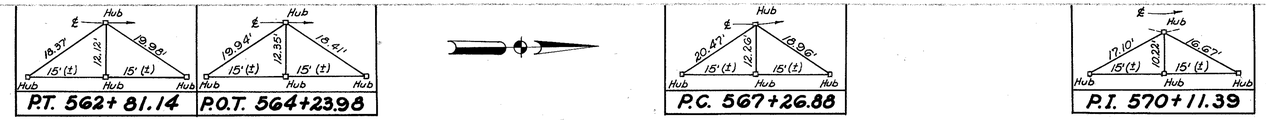
B.M. ELEV. 668.67
Mine Spike in Power Pole
60'(t) Rt. Sta. 556+00

Lt. Edge Pavt. Elev.	Station	℄ Survey Profile & Rt. Edge Pavt. Elev.
671.93	551+00	672.30
672.23	+25	672.60
672.53	+50	672.90
672.83	+75	673.20
673.09	552+00	673.46
673.29	+25	673.66
673.41	+50	673.78
673.47	+75	673.84
673.45	553+00	673.82
673.37	+25	673.74
673.25	+50	673.62
673.13	+75	673.50
673.01	554+00	673.38
672.89	+25	673.26
672.77	+50	673.14
672.65	+75	673.02
672.53	555+00	672.90
672.41	+25	672.78
672.29	+50	672.66
672.17	+75	672.54
672.05	556+00	672.42
671.93	+25	672.30
671.81	+50	672.18
671.69	+75	672.06
671.57	557+00	671.94
671.45	+25	671.82
671.33	+50	671.70
671.21	+75	671.58
671.09	558+00	671.46
670.97	+25	671.34
670.85	+50	671.22
670.75	+75	671.12
670.70	559+00	671.07
670.69	+25	671.06
670.73	+50	671.10
670.79	+75	671.16
670.85	560+00	671.22
670.91	+25	671.28
670.97	+50	671.34
671.03	+75	671.40
671.09	561+00	671.46

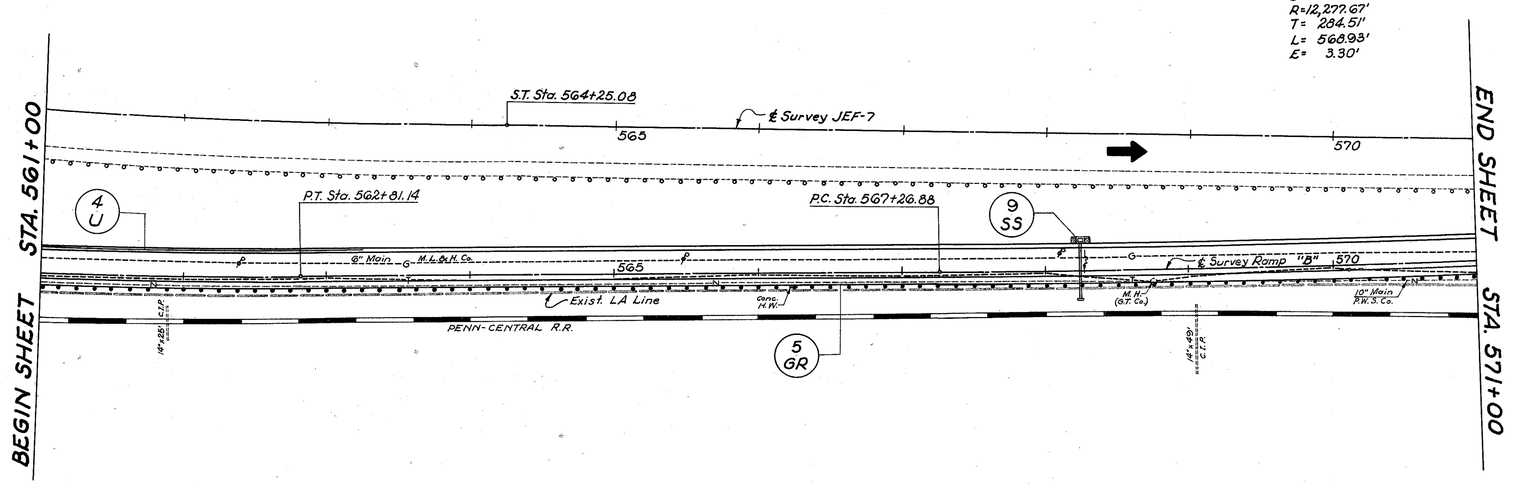


QUANTITIES	
Calculated by:	Checked by:
O.E.L.	W.F.P.
11-20-70	11-20-70

| | | |



RAMP CURVE DATA
P.I. @ Sta. 570+11.39
Δ=2°39'-18" Lt.
D=0°28'
R=12,277.67'
T= 284.51'
L= 568.93'
E= 3.30'



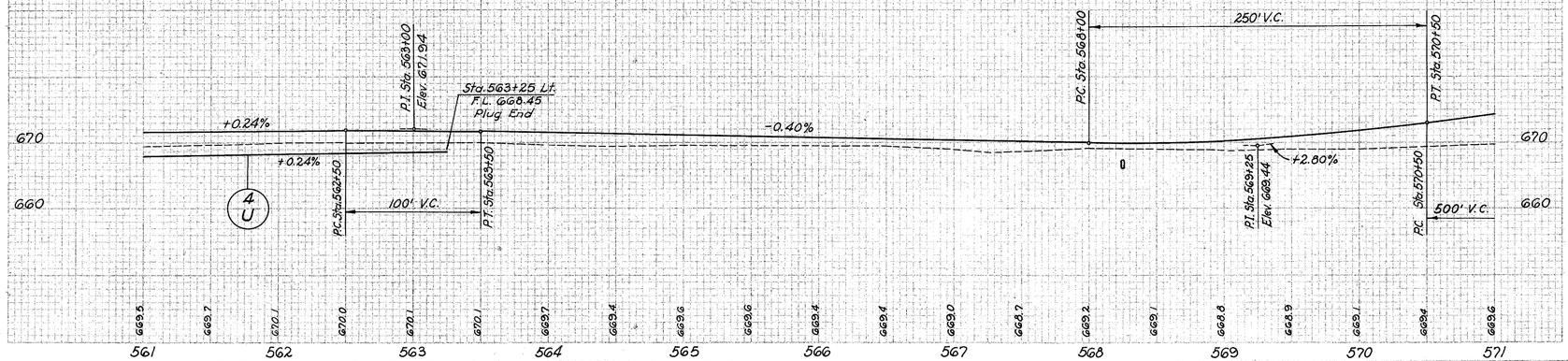
B.M. ELEV. 666.64

Mine Spike in Power Pole
60' (±) Rt. Sta. 561+45

B.M. ELEV. 666.07

Mine Spike in Power Pole
63' (±) Rt. Sta. 567+03

Lt. Edge Pavt. Elev.	Station	℄ Survey Profile & Rt. Edge Pavt. Elev.
671.09	561+00	671.46
671.15	+25	671.52
671.21	+50	671.58
671.27	+75	671.64
671.33	562+00	671.70
671.40	+25	671.76
671.50	+50	671.82
671.64	+75	671.86
671.67	P.T. +81.14	671.86
671.75	563+00	671.86
671.82	+25	671.82
671.82	+50	671.74
671.80	+75	671.64
671.75	564+00	671.54
671.68	+25	671.44
671.59	+50	671.34
671.49	+75	671.24
671.38	565+00	671.14
671.29	+25	671.04
671.19	+50	670.94
671.09	+75	670.84
670.99	566+00	670.74
670.89	+25	670.64
670.79	+50	670.54
670.69	+75	670.44
670.59	567+00	670.34
670.49	+25	670.24
670.43	P.C. +26.88	670.23
670.39	+50	670.14
670.29	+75	670.04
670.19	568+00	669.94
670.13	+25	669.88
670.15	+50	669.90
670.25	+75	670.00
670.43	569+00	670.18
670.68	+25	670.44
671.03	+50	670.78
671.45	+75	671.20
671.95	570+00	671.70
672.53	+25	672.28
673.19	+50	672.94
673.86	+75	673.61
674.47	571+00	674.22



QUANTITIES	
Calculated by: A.E.K. 11-20-70	Checked by: W.F.P. 11-20-70

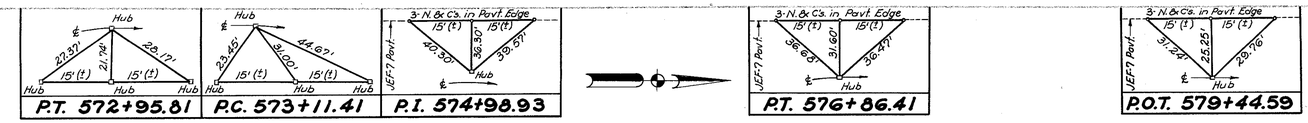
REF. NO.	ITEM	DESCRIPTION	UNIT	5-GR	9-SS	4-U	TOTAL
		SEE SHEET NO.					
609	CONCRETE CURB	STD. TYPE B	LIN. FT.		48		48
605	SHALLOW PIPE UNDER-DRAIN	6"	LIN. FT.		12		12
604	CATCH BASIN	**STD. No. G	EACH		224		224
603	CONDUIT TYPE B	15"	L.F.		1		1
602	CONC. MASONRY		CU.YD.		40		40
606	GUARD RAIL TYPE B		LIN. FT.	1000.59			1000.59
REF. NO.	STATION TO STATION	SIDE					
5-GR	561+00 TO 571+00	RT.					
9-SS	563+25	LT. & RT.					
4-U	561+00 TO 563+25	LT.					

**AS PER PLAN

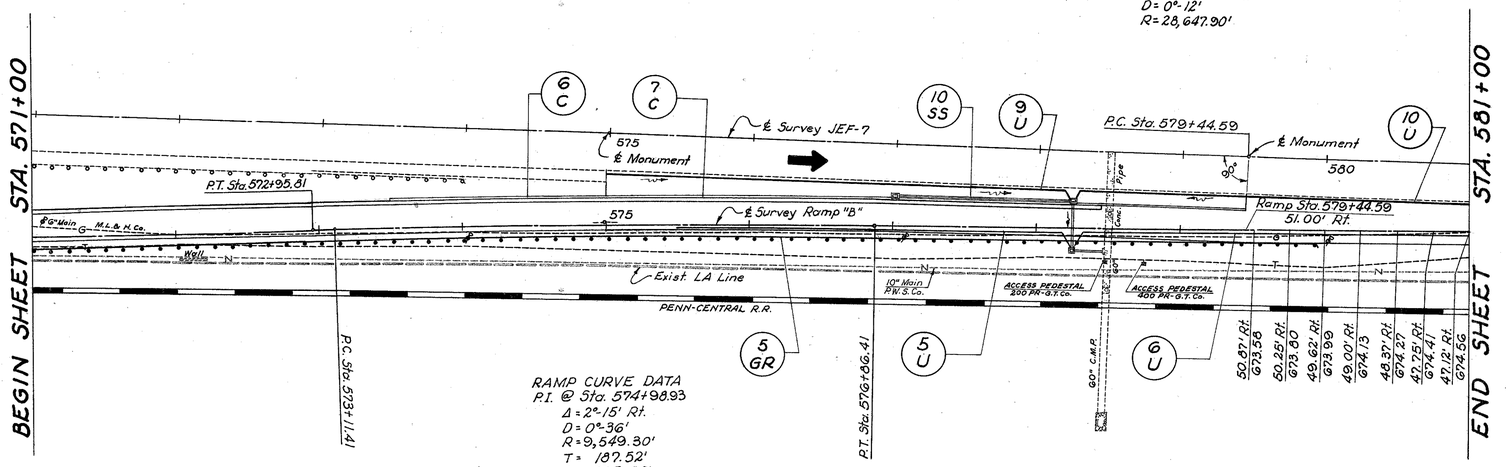
QUANTITIES

Rev. 12-4-73

RAMP "B" PLAN & PROFILE ~ STA. 561+00 TO STA. 571+00



JEF-7 CURVE DATA
P.I. @ Sta. 581+84.18
Δ = 0°-57'-30" Lt.
D = 0°-12'
R = 28,647.90'

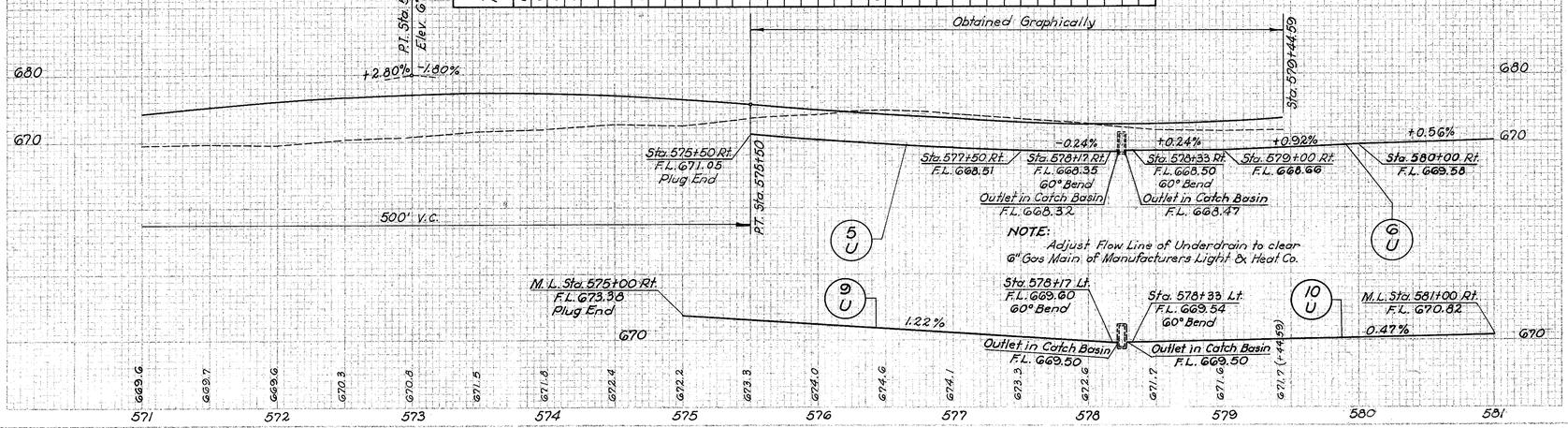


RAMP CURVE DATA
P.I. @ Sta. 574+98.93
Δ = 2°-15' Rt.
D = 0°-36'
R = 9,549.30'
T = 187.52'
L = 375.00'
E = 1.84'

QUANTITIES	
Calculated by:	Checked by:
A.E.Z.	W.F.P.
11-20-70	11-20-70

B.M. ELEV. 674.95
□ Cut on Catch Basin
43' Lt. Sta. 575+00

℄ Survey Profile & Rt. Edge Pavt. Elev.	Station	Lt. Edge Pavt. Elev.
674.22	571+00	674.47
674.78	+25	675.03
675.28	+50	675.53
675.72	+75	675.97
676.10	572+00	676.35
676.43	+25	676.68
676.70	+50	676.95
676.91	+75	677.16
677.04	RT. +95.81	677.29
677.06	573+00	677.31
677.11	P.C. +11.41	677.36
677.16	+25	677.41
677.20	+50	677.45
677.18	+75	677.43
677.10	574+00	677.35
676.97	+25	677.22
676.78	+50	677.03
676.53	+75	676.78
676.22	575+00	676.47
675.86	+25	676.11
675.44	+50	675.69
675.03	+75	675.33
674.72	576+00	674.97
674.38	+25	674.63
674.06	+50	674.31
673.75	+75	674.00
673.62	RT. +86.41	673.87
673.47	577+00	673.72
673.17	+25	673.42
672.90	+50	673.15
672.72	+75	672.96
672.63	578+00	672.85
672.60	+25	672.83
672.69	+50	672.93
672.85	+75	673.08
673.06	579+00	673.29
673.32	+25	673.53
	+44.59	



QUANTITIES

REF. NO.	STATION TO STATION	SIDE	603 CONDUIT TYPE C 706.02 18" L.F.	603 CONDUIT TYPE E 8" L.F.	603 CONDUIT TYPE E 15" L.F.	604 CATCH BASIN STD. No. 2-2-8 EACH	604 CATCH BASIN STD. No. G AS PER PLAN EACH	605 SHALLOW PIPE UNDER-DRAIN 6" LIN. FT.	609 CONCRETE CURB STANDARD TYPE 7 LIN. FT.	609 CONCRETE CURB STANDARD TYPE 8 LIN. FT.	BENDS & BRANCHES UNDER-DRAIN 60° BEND 6"	SEE SHEET NO.
6-C	573+50 TO 575+00	LT.										
7-C	575+00 TO 579+44.59	LT.										
5-GR	571+00 TO 579+96	RT.										
10-SS	577+00 TO 579+50	LT. & RT.										
5-U	575+50 TO 578+25	RT.										
6-U	578+25 TO 581+00	RT.										
9-U	578+00 TO 578+25	LT.										
10-U	578+26 TO 581+00	LT.										
			156	10	22	1	2	271	150	446	1	46
				10				272			1	
				8				320			1	
				8				272			1	
			156	36	22	1	2	1135	150	446	1	

REF. NO.	202 CATCH BASIN ADAPTA-ION EACH	606 GUARD RAIL ANCHOR ASSEMBLY TYPE 5 LIN. FT. EACH	
10-SS	1	370.88	1
10-U	1	370.88	1

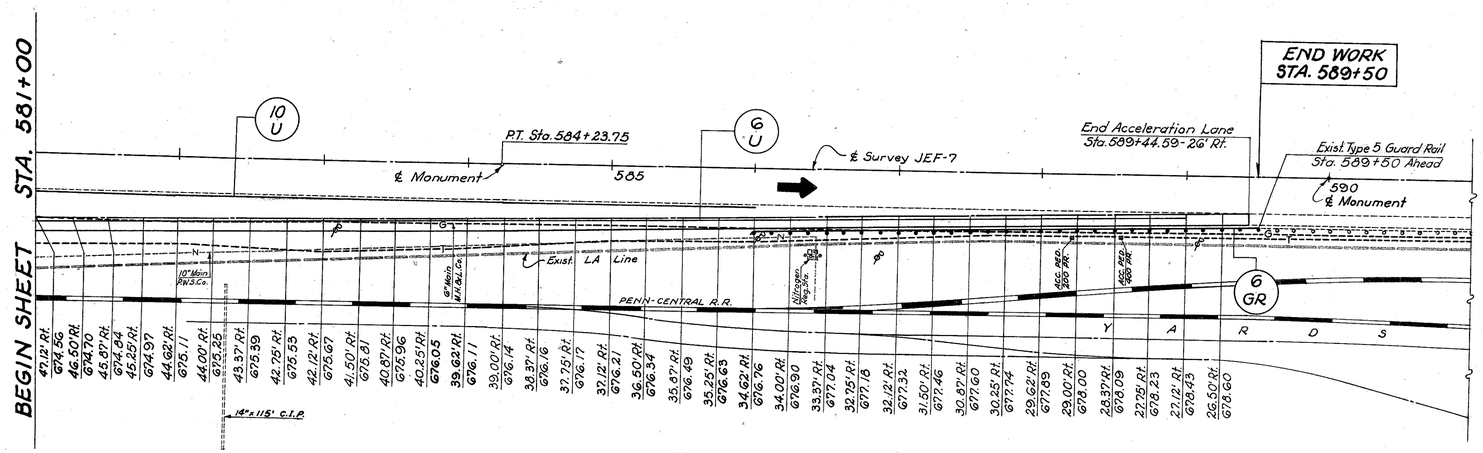
Rev. 4-25-75
Rev. 12-4-73

RAMP "B" PLAN & PROFILE ~ STA. 571+00 TO STA. 581+00

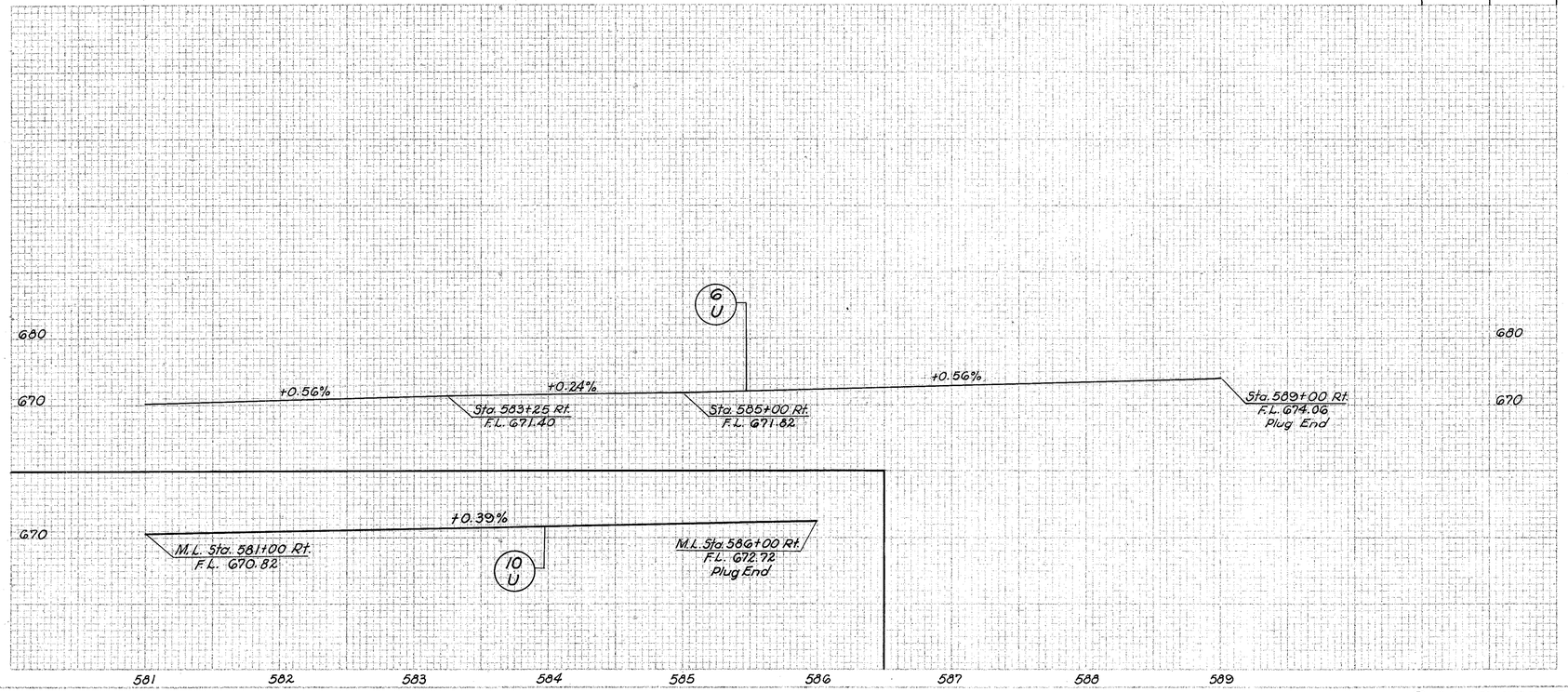
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

23
58

JEF-7-9.29



QUANTITIES	
Calculated by: C.E.L. 11-20-70	Checked by: W.F.P 11-26-70



QUANTITIES

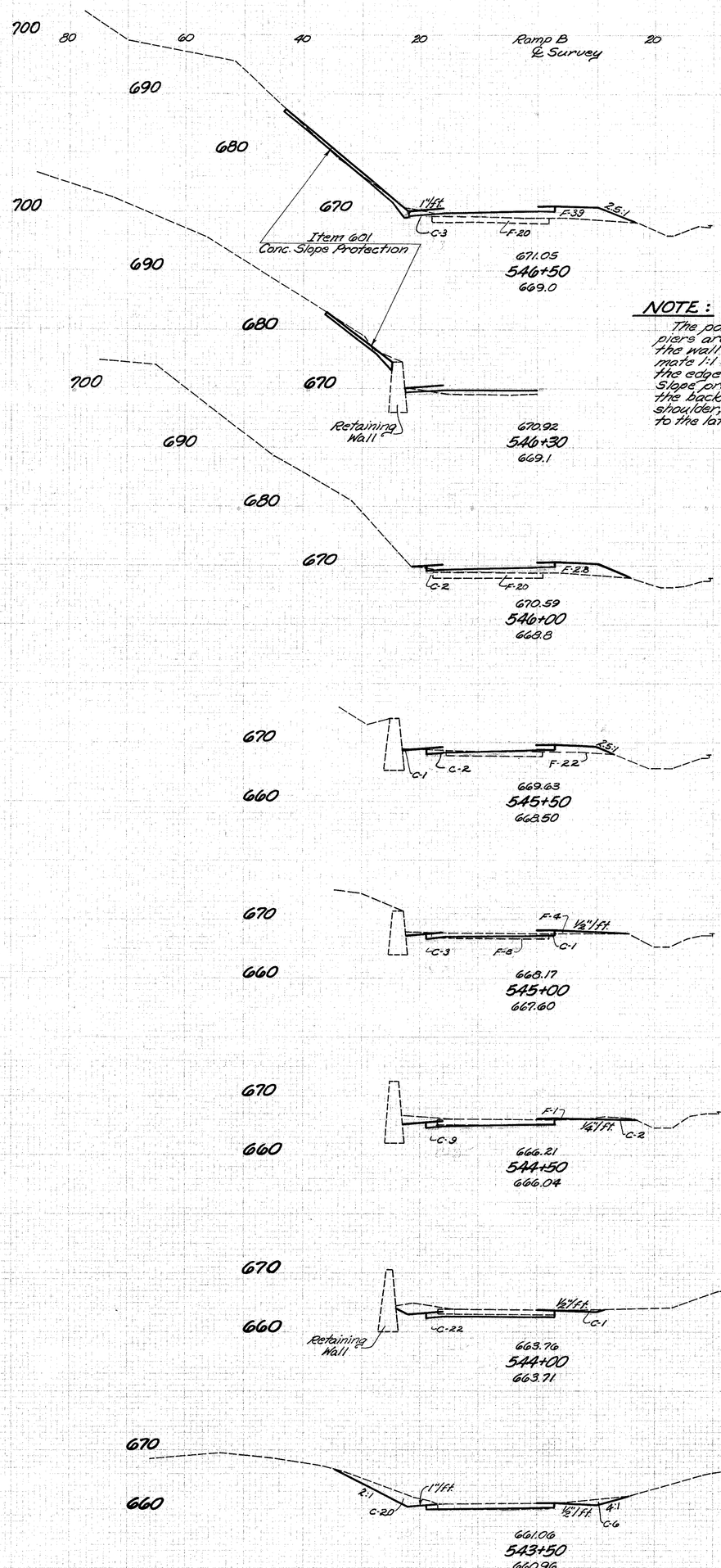
ITEM	DESCRIPTION	UNIT	STATION TO STATION	SIDE	QUANTITY
606	GUARD RAIL ANCHOR ASSEMBLY TYPE 5	EACH	6-GR 586+00 TO 589+50	RT.	1
			6-U 581+00 TO 589+00	RT.	325.00
			10-U 581+00 TO 586+00	RT.	325.00
605	SHALLOW PIPE UNDERDRAIN 6"	LIN. FT.			1

SEE SHEET NO.

600
500
1300

Rev. 12-4-73

RAMP "B" PLAN & PROFILE - STA. 581+00 TO STA. 589+44.59



NOTE :

The portions of wall between the piers are to remain in place. Where the wall is broken out, an approximate 1:1 slope shall be cut up from the edge of shoulder at 22' left. Slope protection shall extend from the back of wall or from the edge of shoulder, where the wall is removed, to the lateral limits shown on the plan.

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	106			26	94
20		3	59		
	111			5	99
20		2	48		
	100			5	65
16		3	22		
	94			6	31
18		4	12		
	106			14	12
20		11	1		
	97			31	1
15		23	0		
	136			45	0
34		26	0		
53		12	0		
4		0	0		

543+25 ZERO EARTHWORK

Ramp B
℄ Survey

80 60 40 20 Ramp B ℄ Survey 20 40

Plotting & End Areas	
By: W.W.W. 11-24-70	Checked By: J.W.H 11-24-70

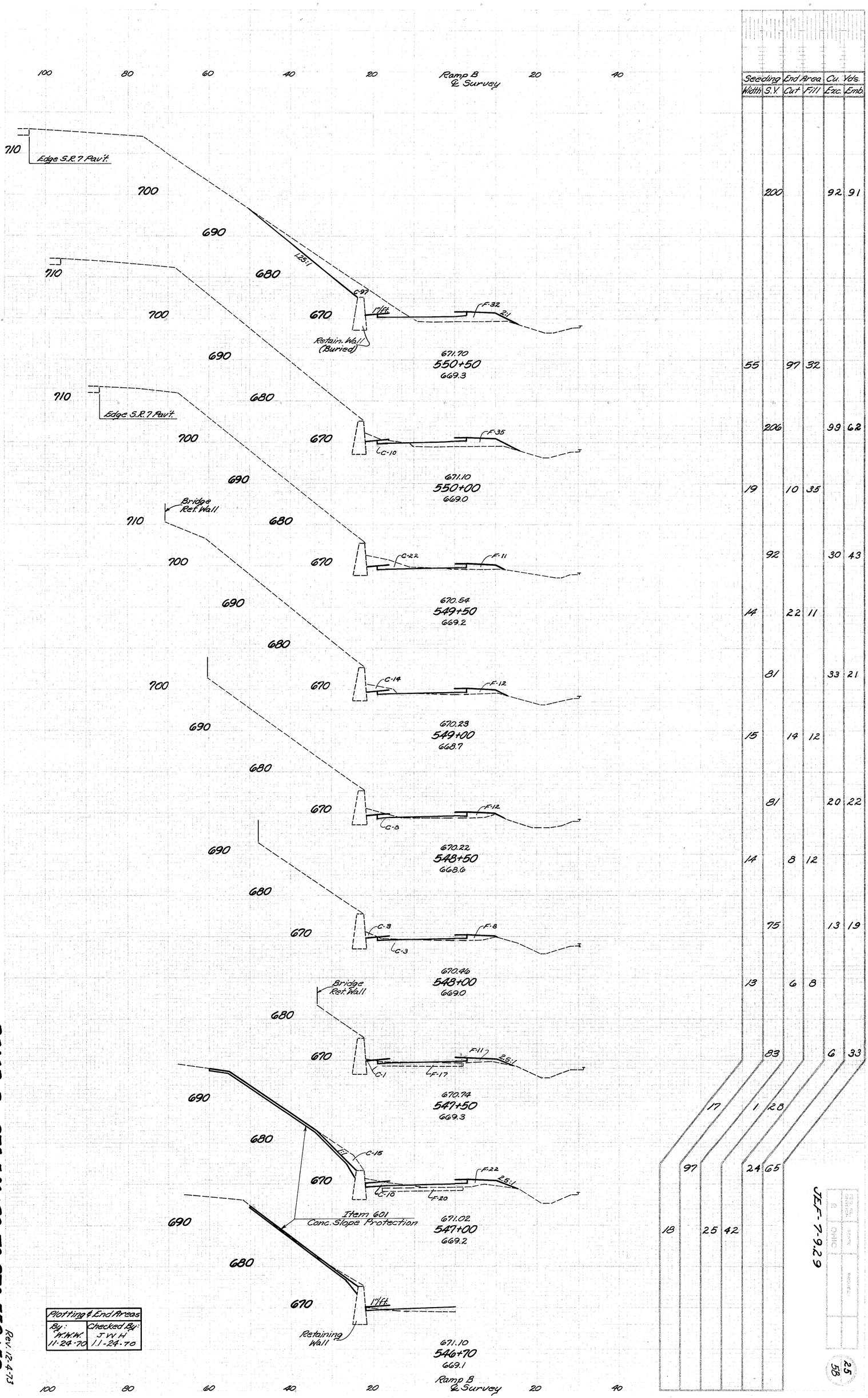
RAMP B ~ STA. 543+00 TO STA. 546+50

Rev. 12-4-73

JEF-7-9.29

OHIO

24
5B



Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	200			92	91
55		97	32		
	206			99	62
19		10	35		
	92			30	43
14		22	11		
	81			33	21
15		14	12		
	81			20	22
14		8	12		
	75			13	19
13		6	8		
	83			6	33
17	1	28			
97		24	65		
18		25	42		

Plotting & End Areas	
By: W.K.W. 11-24-70	Checked By: J.W.H. 11-24-70

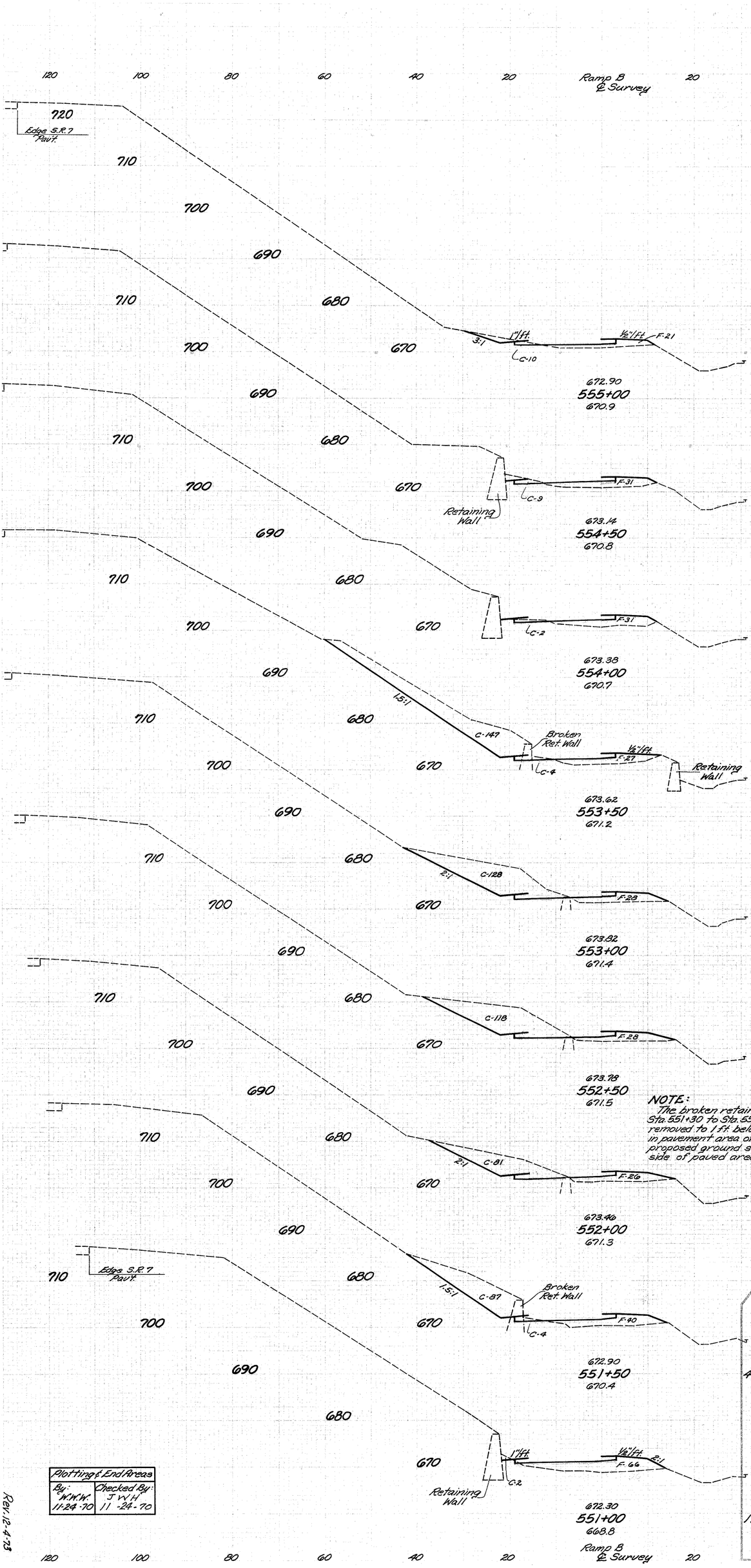
RAMP B ~ STA. 546+70 TO STA. 550+50

Rev. 12-4-73

JEF-7-9.2.9

OHIC

25
58



Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	103			15	35
24		10	21		
	103			18	48
13		9	31		
	75			10	57
14		2	31		
	214			142	54
63		151	27		
	294			258	51
43		128	28		
	228			228	52
39		118	28		
	211			184	50
37		81	26		
	225			159	61
44		91	40		
	169			86	98
17		2	66		

NOTE:
The broken retaining wall from Sta. 551+30 to Sta. 553+49 shall be removed to 1 ft. below subgrade in pavement area or 1 ft. below proposed ground surface outside of paved area.

Plotting & End Areas	
By: W.W.W. 11-24-70	Checked By: J.W.H. 11-24-70

Rev. 12-4-73

RAMP B ~ STA. 551+00 TO STA. 555+00

JEF-7-9.29

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58

	Seeding	End Areas		Cu. Yds.	
	Width	S.Y.	Cut	Fill	Exc.	Emb.
559+50	22	150	13	4	33	11
559+00	12	94	16	4	32	7
558+50	13	69	21	4	34	7
558+00	15	78	17	5	35	8
557+50	16	86	18	8	32	12
557+00	14	83	16	6	31	13
556+50	13	75	14	4	25	20
556+00	14	75	14	4	25	19
555+50	13	75	13	6	17	11
	14	98		9	39	16

P.O. RD. DIVISION 2 | STATE OHIO | PROJECT | JEF-7-9.29

27
58

Ramp B & Survey

Edge S.R.7 Pavt.

45:1

16"Left

C-1 F-4 C-15

671.10 559+50 670.2

C-16 F-4

671.07 559+00 670.1

Retaining Wall

C-21 F-4

671.22 558+50 670.6

C-17 F-5

671.46 558+00 670.3

C-11 C-1 F-8

671.70 557+50 670.6

C-16 F-6

671.94 557+00 670.8

C-11 F-16

672.18 556+50 670.6

C-4 F-25

672.42 556+00 670.2

C-6 16"Left F-17

672.66 555+50 670.9

Retaining Wall

Ramp B & Survey

Edge S.R.7 Pavt.

Working & End Areas	
By: K.W.H. 11-24-70	Checked By: T.W.H. 11-24-70

Rev. 12-4-73

RAMP B ~ STA. 555+50 TO STA. 559+50

	Seeding With S.Y.	Ext.Fill Cu. Yds.	Cut Cu. Yds.	Ext.End Areas
564+00	23	5	26	128
563+50	19	3	22	111
563+00	16	3	18	92
562+50	17	8	31	92
562+00	16	10	12	92
561+50	17	22	17	92
561+00	19	32	8	94
560+50	17	30	8	94
560+00	17	136	22	94
Ramp B & Survey	17	19	32	94

6	48			
7	44			
6	37			
10	45			
17	40			
30	27			
43	34			

50	26		
		48	15
30	8		
		22	8
136			
		32	

24	20			
17				

REGION	STATE	PROJECT	
2	OHIO		

28
58

JEF-7-9.29

Starting & End Stations
By: W.H.H. 11-28-70
Checked By: J.W.H. 11-29-70

Rev. 12-4-73

RAMP B ~ STA. 560+00 TO STA. 564+00

	Seeding & Sod Area	Cu. Yds.	
	Width S.Y.	Cut	Fill	Exc.	Emb.
568+00	94	23	3	53	6
567+50	103	3	9	24	11
567+00	125	8	10	10	18
566+50	119	16	5	22	14
566+00	111	7	13	21	17
565+50	111	3	7	9	9
565+00	106	5	23	2	17
564+50	40	4		119	2
	26	2		23	20

CAD NO. | STATE | PROJECT | | SHEET NO. | TOTAL SHEETS
2 | OHIO | | | 29 | 58

JEF-7-9.29

Ramp B
@ Survey

568+00
669.94
669.2

567+50
670.14
668.7

567+00
670.34
669.0

566+50
670.54
669.4

566+00
670.74
669.4

565+50
670.94
669.6

565+00
671.14
669.6

564+50
671.34
669.4

Ramp B
@ Survey

Edge S.R. 7 Pavt.

Edge S.R. 7 Pavt.

Reporting End Areas
By: W.M.W. 11-24-70
Checked By: J.W.H. 11-24-70

Rev. 12-4-73

RAMP B ~ STA. 564+50 TO STA. 568+00

Seeding Width	End Area S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	203	0	176	19	331
29	164	0	191	0	340
30	156	0	157	0	323
26	139	0	118	0	255
24	191	0	88	0	191
23	122	0	53	0	131
21	106			4	74
18	4	28			
20	36				
94	18	11		43	13
16	92			34	3
17					

STATE OF OHIO — PROJECT

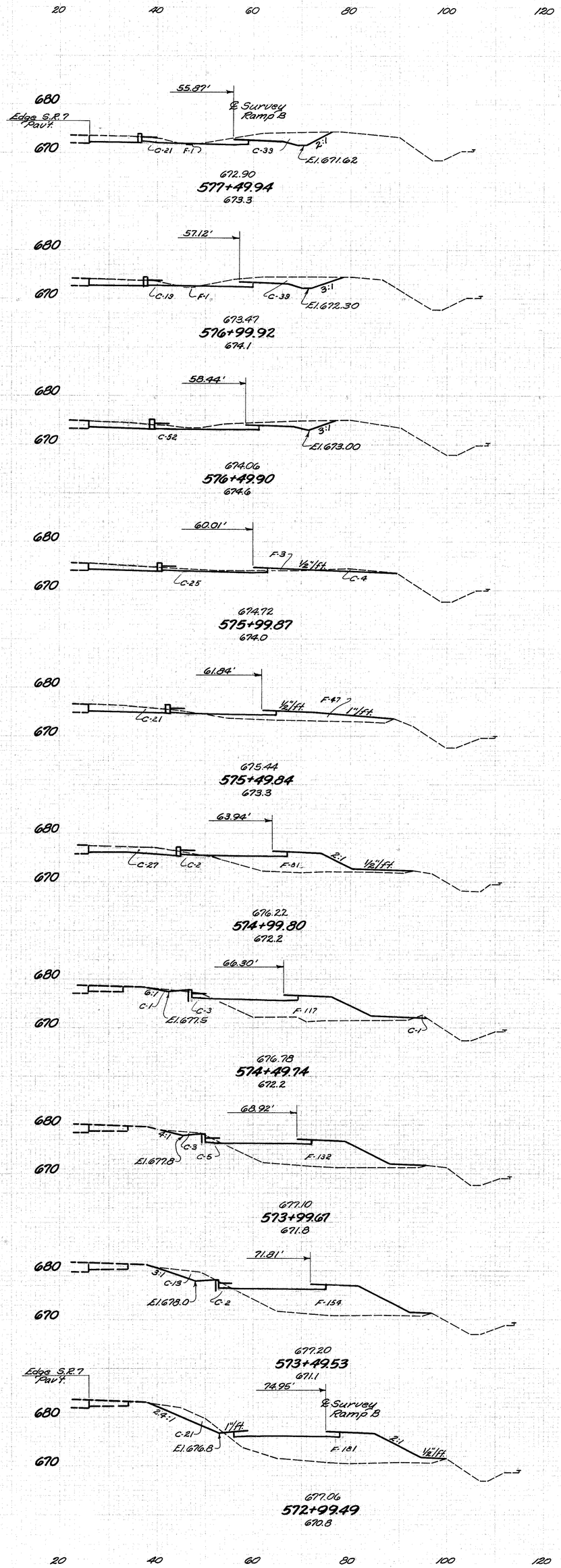
JEF-7-9.29

30
58

Plotting & End Areas	
By: W.W.M. 11-24-10	Checked By: J.V.L.T. 11-24-10

Rev. 12-4-13

RAMP B ~ STA. 568+50 TO STA. 572+50



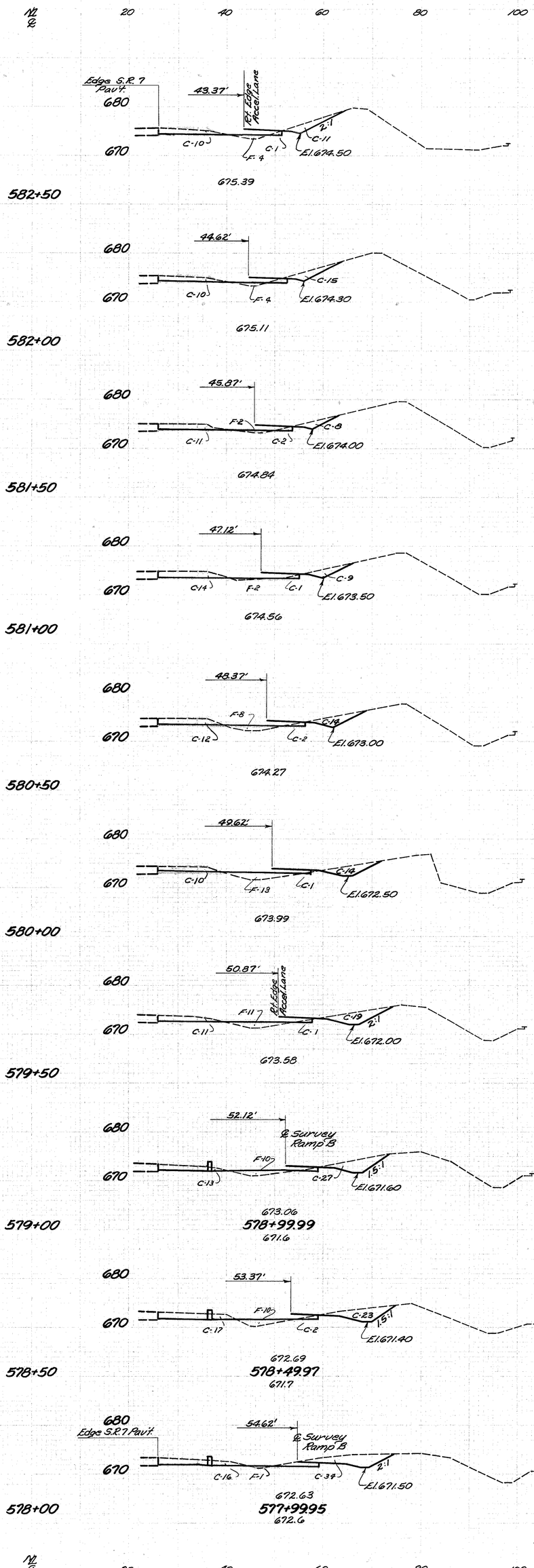
Seeding Width	S.Y.	End Area Cut	Fill	Cu. Vols. Exc.	Emb.
	106			102	2
20		60	1		
	111			109	2
20		58	1		
	106			102	1
18		52	0		
	131			75	3
29		29	3		
	153			46	46
26		21	47		
	150			46	119
Ahead 28		29	81		
Back 32		2	81		
	197			6	184
39		5	117		
	214			12	231
38		8	132		
	217			21	266
40		15	154		
	234			33	310
44		21	181		

Plotting & End Areas	
By: W.H.K. 11-24-70	Checked By: J.W.H. 11-24-70

RAMP B ~ STA. 573+00 TO STA. 577+50

Rev. 12-4-23

JEF-7-9.29



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	97			44	6
17		22	4		
	89			44	7
15		25	4		
	78			43	6
13		21	2		
	75			42	4
14		24	2		
	83			48	9
16		28	8		
	94			49	19
18		25	13		
	106			52	22
20		31	11		
	106			66	18
18		40	10		
	103			76	19
19		42	10		
	103			85	10
18		50	1		

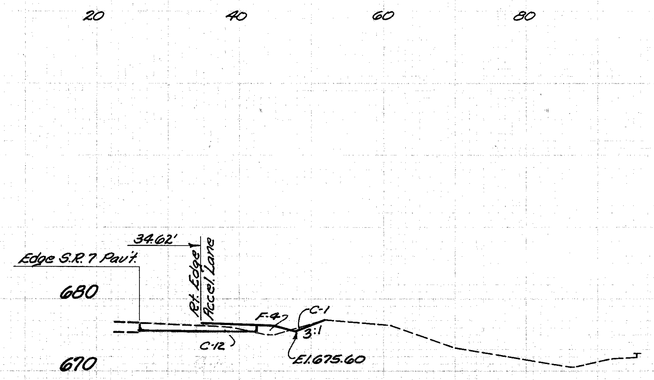
Plotting & End Areas	
By: N.W.W. 11-24-70	Checked By: J.W.H. 11-24-70

RAMP B ~ STA. 578+00 TO STA. 582+50

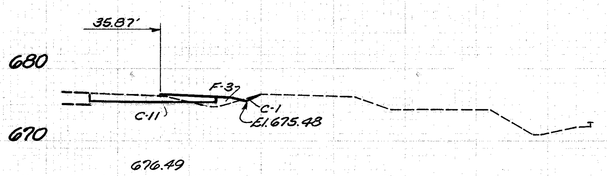
Rev. 12-4-73

JEF-7-9.29

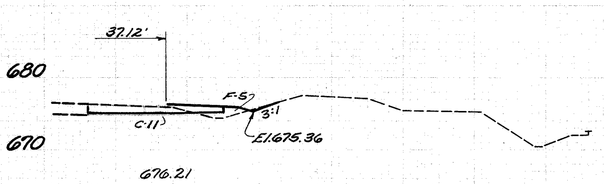
32
58



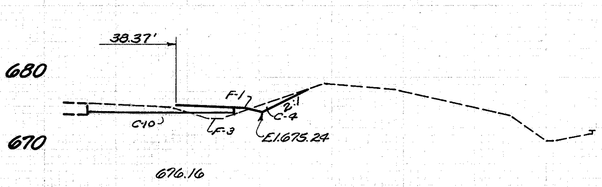
586+00



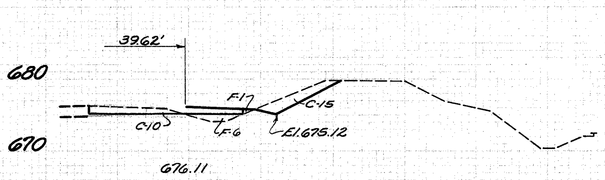
585+50



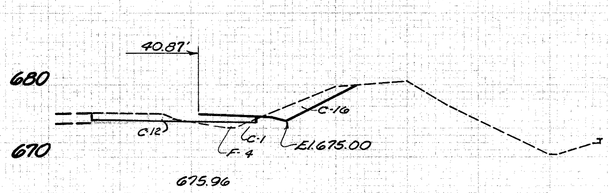
585+00



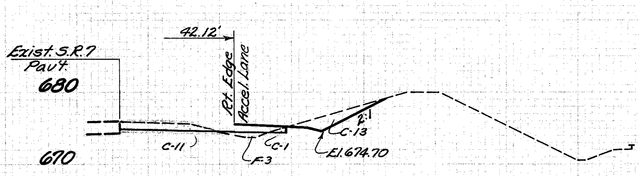
584+50



584+00



583+50



583+00

Seeding		End Area		Cu. Vols.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			19	9
12		13	4		
	58			23	6
9		12	3		
	56			21	7
11		11	5		
	69			23	8
14		14	4		
	108			36	10
25		25	7		
	117			50	10
17		29	4		
	97			50	6
18		25	3		

Plotting & End Areas	
By: W.W.W. 11-24-70	Checked By: J.W.H. 11-24-70

RAMP B ~ STA. 583+00 TO STA. 586+00

Rev. 12-4-73

JEF-7-9.29

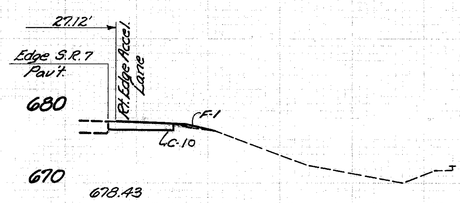
33
58

N
℄

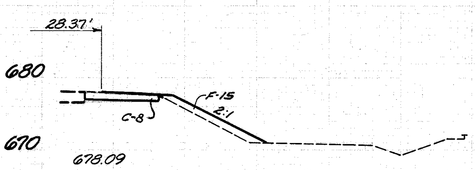
20 40 60 80 100

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
2		0	0		
	25			8	1
8		10	1		
	75			17	15
19		8	15		
	86			15	18
12		8	4		
	64			15	7
11		8	4		
	53			17	9
8		10	6		
	44			17	11
8		8	6		

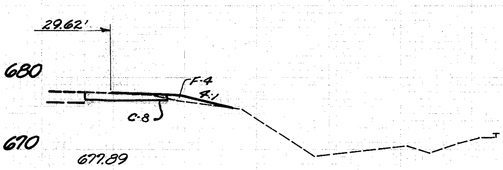
589+44.59 End Acceleration Lane



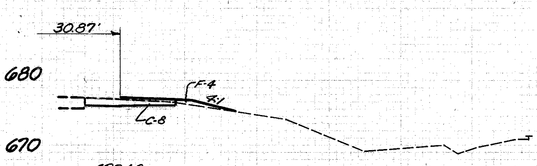
589+00



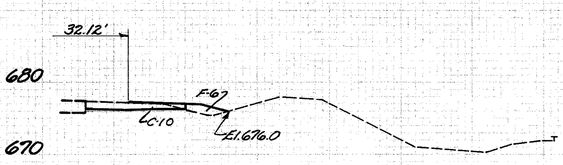
588+50



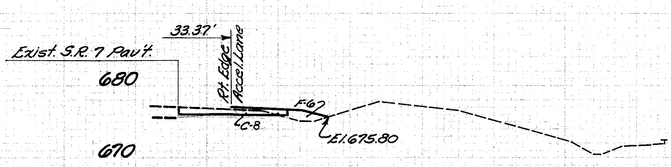
588+00



587+50



587+00



586+50

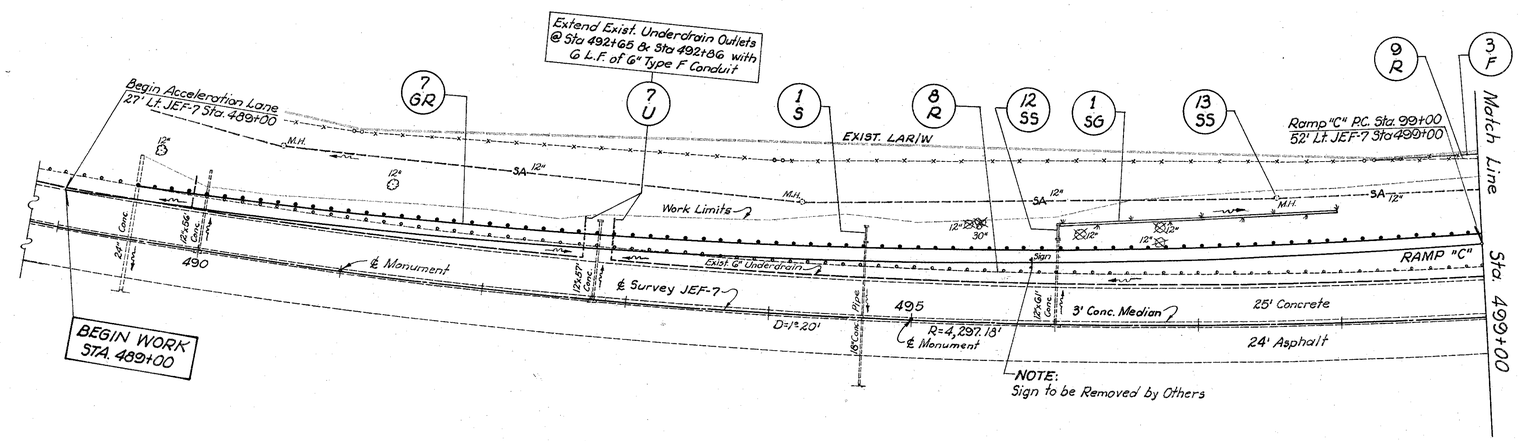
Plotting & End Areas	
By: M.K.W. 11-24-70	Checked By: J.W.H. 11-24-70

RAMP B ~ STA. 586+50 TO STA. 589+44.59

Rev. 12-4-73

JEF. 7-92.9

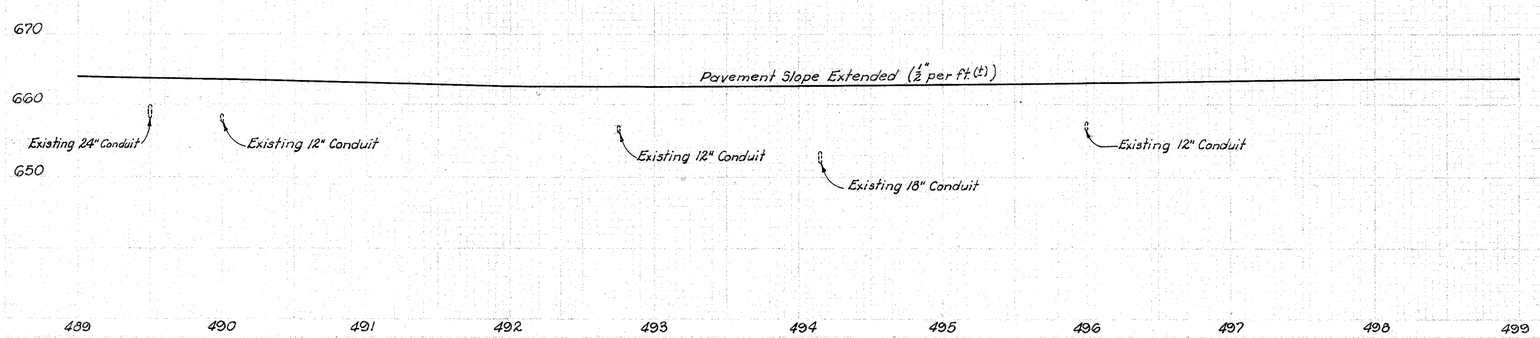
JEF-7-9.29



QUANTITIES	
Calculated by:	Checked by:
JWH 8-1-72	RTP 8-2-72

B.M. ELEV. 659.06
Mine Spike in Pole
86' Rt. Sta. 491+22

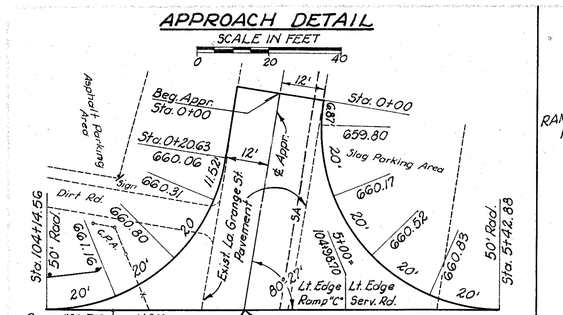
℄ Station JEF-7	Width	Existing Edge Elev.	Accel. Lane Edge Elev.
489+00	0	664.15	664.15
+50	1.25	663.91	663.86
490+00	2.50	663.73	663.63
+50	3.75	663.50	663.34
491+00	5.00	663.30	663.09
+50	6.25	663.11	662.85
492+00	7.50	662.85	662.54
+50	8.75	662.72	662.36
493+00	10.00	662.76	662.34
+50	11.25	662.86	662.39
494+00	12.50	663.07	662.55
+50	13.75	663.27	662.70
+64	14.10	663.31	662.72
495+00	15.00	663.39	662.77
+50	16.25	663.62	662.94
496+00	17.50	663.79	663.06
+50	18.75	663.98	663.20
497+00	20.00	664.16	663.32
+50	21.25	664.35	663.46
498+00	22.50	664.51	663.57
+50	23.75	664.63	663.64
499+00	25.00	664.71	663.67



| | | |

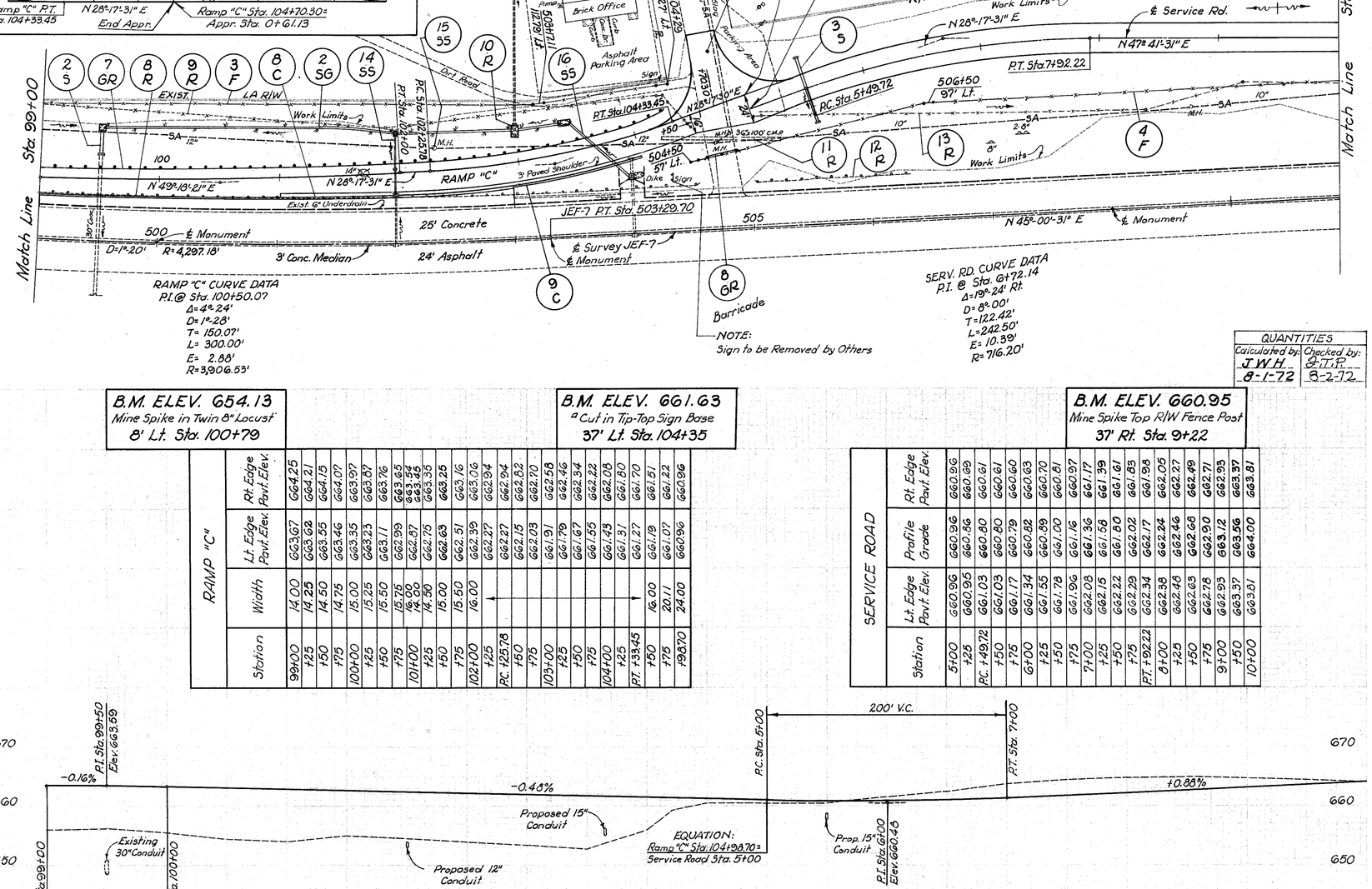
APPROACH DETAIL

SCALE IN FEET 0 20 40



RAMP "C" CURVE DATA
P.I. @ Sta. 103+30.35
Δ=16°-36'-50" Lt.
D=8°-00'
T=104.67'
L=207.67'
E=7.59'
R=716.20'

P.C. 5+49.72	EXT. 6+70.97	P.T. 7+92.22
N&C. in Post 31.30' 22.60' R/W Fence Hub Hub	N&C. 4" Willow 71.00' 51.55' 42.77' 48.30' 48.00' N&C. 6" Elm N&C. 6" Locust P.I. Hub 6+72.14	41.40' 42.00' 44.20' 8.00' 8.70' 3-Hubs along Top of Bank



RAMP "C" CURVE DATA
P.I. @ Sta. 100+50.07
Δ=4°-24'
D=1°-28'
T=150.07'
L=300.00'
E=2.88'
R=3,906.53'

SERV. RD. CURVE DATA
P.I. @ Sta. 6+72.14
Δ=19°-24' Rt.
D=8°-00'
T=122.42'
L=242.50'
E=10.39'
R=716.20'

QUANTITIES	
Calculated by:	Checked by:
J.W.H. 8-1-72	G.T.P. 8-2-72

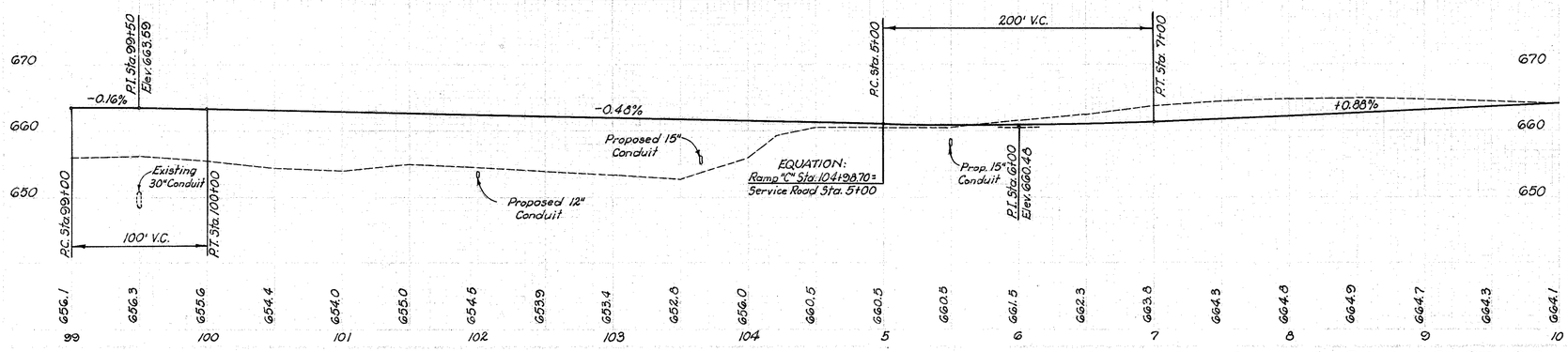
B.M. ELEV. 654.13
Mine Spike in Twin 8" Locust
8' Lt. Sta. 100+79

B.M. ELEV. 661.63
"Cut in Tip-Top Sign Base
37' Lt. Sta. 104+35

B.M. ELEV. 660.95
Mine Spike Top R/W Fence Post
37' Rt. Sta. 9+22

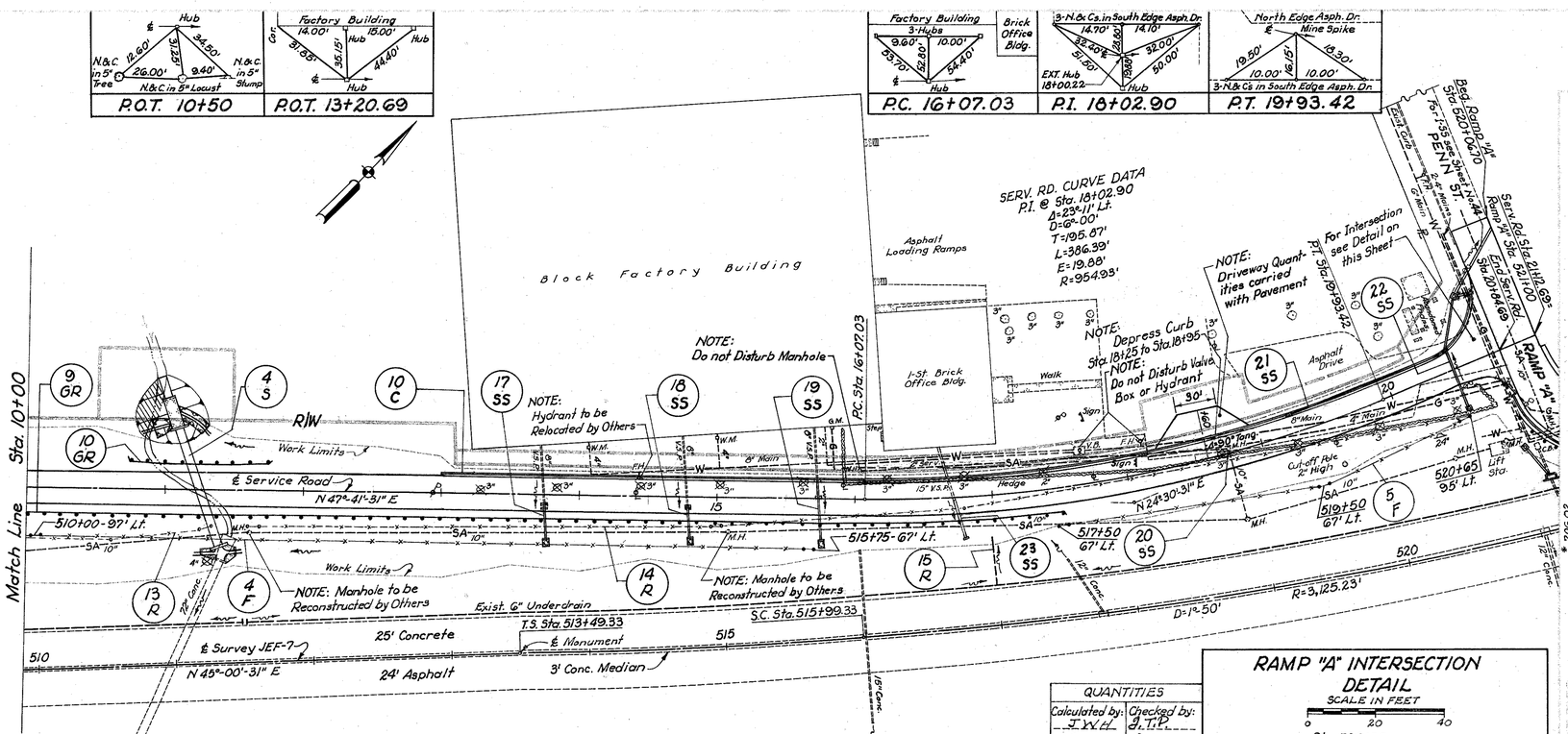
RAMP "C" Station	Width	Lt. Edge Pavt. Elev.	Profile Grade	Rt. Edge Pavt. Elev.
99+00	14.00	663.67	660.96	664.25
+25	14.25	663.68	660.86	664.21
+50	14.50	663.55	660.80	664.15
+75	14.75	663.46	660.80	664.07
100+00	15.00	663.35	660.80	663.97
+25	15.25	663.23	660.79	663.87
+50	15.50	663.11	660.89	663.76
+75	15.75	662.99	660.99	663.65
101+00	16.00	662.87	661.09	663.54
+25	14.50	662.75	661.19	663.35
+50	15.00	662.63	661.30	663.25
+75	15.50	662.51	661.40	663.16
102+00	16.00	662.39	661.50	663.06
+25	↓	662.27	661.60	662.94
PC. 125.78		662.27	661.60	662.94
+50		662.15	661.60	662.82
+75		662.03	661.60	662.70
103+00		661.91	661.60	662.58
+25		661.79	661.60	662.46
+50		661.67	661.60	662.34
+75		661.55	661.60	662.22
104+00		661.43	661.36	662.08
+25		661.31	661.58	661.96
PT. 133.45	↓	661.27	661.80	661.70
+50	16.00	661.19	661.82	661.51
+75	20.11	661.07	661.83	661.22
198.70	24.00	660.96	661.98	660.96

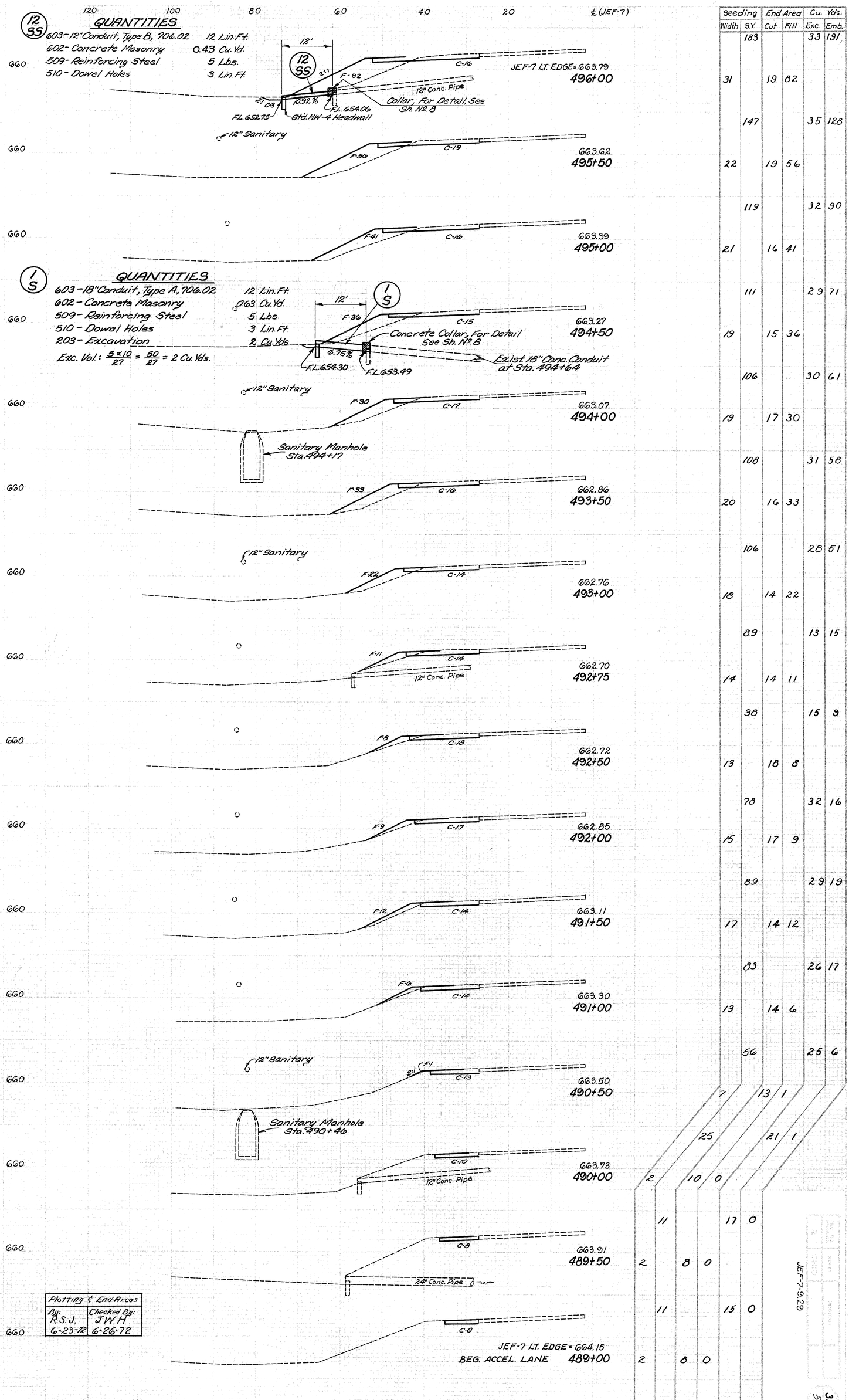
SERVICE ROAD Station	Lt. Edge Pavt. Elev.	Profile Grade	Rt. Edge Pavt. Elev.
5+00	660.96	660.96	660.96
+25	660.95	660.86	660.89
PC. 149.72	661.03	660.80	660.61
+50	661.03	660.80	660.61
+75	661.17	660.79	660.60
6+00	661.34	660.82	660.63
+25	661.55	660.89	660.70
+50	661.78	661.00	660.81
+75	661.96	661.16	660.97
7+00	662.08	661.36	661.17
+25	662.15	661.58	661.39
+50	662.22	661.80	661.61
+75	662.29	662.02	661.83
PT. 192.22	662.34	662.17	661.98
8+00	662.38	662.24	662.05
+25	662.43	662.46	662.27
+50	662.63	662.68	662.49
+75	662.78	662.90	662.71
9+00	662.93	663.12	662.93
+50	663.37	663.56	663.37
10+00	663.81	664.00	663.81



| BENDS & BRANCHES | | |

JEF-7-9.29


P.O.T. 10+50
P.O.T. 13+20.69
P.C. 16+07.03
P.I. 18+02.90
P.T. 19+93.42
Factory Building
3-Hubs
Brick Office Bldg.
3-N.& Cs. in South Edge Asph. Dr.
North Edge Asph. Dr.
Mine Spike
3-N.& Cs in South Edge Asph. Dr.
Block Factory Building
Asphalt Loading Ramps
1-St. Brick Office Bldg.
Walk
Asphalt Drive
SERV. RD. CURVE DATA
P.I. @ Sta. 18+02.90
Δ=23°-11'
D=6°-00'
T=195.67'
L=386.39'
E=19.88'
R=954.93'
NOTE: Do not Disturb Manhole
NOTE: Hydrant to be Relocated by Others
NOTE: Depress Curb Sta. 18+25 to Sta. 18+95
NOTE: Do not Disturb Valve Box or Hydrant
NOTE: Driveway Quantities carried with Pavement
For Intersection see Detail on this Sheet
Beg. Ramp "A" Sta. 520+04.70
Ramp "A" Sta. 521+00
Serv. Rd. Sta. 211+92.69
Serv. Rd. Sta. 212+04.69
Ramp "A"
Sta. 10+00
Match Line
R/W
℄ Service Road
N 47°-41'-31" E
Work Limits
510+00 - 97' Lt.
515+75 - 67' Lt.
517+50 67' Lt.
519+50 67' Lt.
520+65 95' Lt.
Lift Sta.
Cut-off Pole 2' High
NOTE: Manhole to be Reconstructed by Others
Exist. 6" Underdrain
T.S. Sta. 513+49.33
S.C. Sta. 515+99.33
℄ Survey JEF-7
N 45°-00'-31" E
25' Concrete
24' Asphalt
℄ Monument
3' Conc. Median
N 24°-30'-31" E
D=1°-50'
R=3,125.23'
510
515
520
Exist. 15" V.S.P.
Hedge
Sign
Fire Hydrant
Gate Valve
Meter
Curb Inlet
Manhole
Catch Basin
Fence
Guard Rail
Anchor Assembly
Conduit
Pipe Removed
Portions of Structures Removed
Fence Removed
Excavation
Embankment
Rebuilt Type 5
Adjusted to Grade
Comb. Curb & Gutter Type 2
Rip-Rap 9" Reinf.
Rock Chan. Prot. Type B
Conc. Masonry
Total Conduit
8" PVC
12" PVC
15" PVC
24" CMP
Type A 60"
Type A 72"
Type B
Type 3-A
Type 5
Type 5 Modified
Type 6
Type 7
Type 8
Type 9
Type 10
Type 11
Type 12
Type 13
Type 14
Type 15
Type 16
Type 17
Type 18
Type 19
Type 20
Type 21
Type 22
Type 23
Type 24
Type 25
Type



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	183			33	191
31		19	82		
	147			35	128
22		19	56		
	119			32	90
21		16	41		
	111			29	71
19		15	36		
	106			30	61
19		17	30		
	108			31	58
20		16	33		
	106			28	51
18		14	22		
	89			13	15
14		14	11		
	38			15	9
13		18	8		
	78			32	16
15		17	9		
	89			29	19
17		14	12		
	83			26	17
13		14	6		
	56			25	6
7		13	1		
25		21	1		
2		10	0		
11		17	0		
2		8	0		
11		15	0		
2		8	0		

Seeding Width	S.Y.	End Area Cut	Fill	Cu.Yds. Exc.	Emb.
45	233	20	285	32	529
46	253	17	327	34	567
46	256	18	300	32	588
47	250	22	286	37	552
41	244	20	273	39	519
42	231	17	282	34	514
42	233	17	282	31	493
42	231	17	250	30	454
41	15	240			
41	226	19	131	31	344
41	222	20	169	36	278
39	206	34	271		
35	17	124			

39
58

JEF-7-9.29

QUANTITIES

603-30" Conduit, Type A 706.02 — 22 Lin.Ft.
602-Concrete Masonry — 1.09 Cu.Yd.
509-Reinforcing Steel — 5 Lbs.
510-Dowel Holes — 3 Lin.Ft.
601-Riprap, 6" Reinforced — 4 Sq.Yds.

Riprap 6" Reinforced 6'x6' Pad
Area: $\frac{6'\times6'}{9} = \frac{36}{9} = 4$ Sq. Yds.

Connecting Collar for Detail, See Sh. No. 8

Exist. 30" Conc. Pipe

BEGIN RAMP "C"

℄ JEF-7

JEF-7 LT. EDGE= GG4.71

END ACCEL. LANE

99+00 G56.1 — F-282 — C-2 — El. 649.20 — 12" Sanitary

99+50 G56.3 — F-273 — C-6 — El. 648.79 — Fl. 649.00 — .95% ↗

100+00 G55.6 — F-288 — C-9 — El. 649.10 — ½"Fit

100+50 G55.4 — F-308 — C-5 — El. 649.30

101+00 G54.0 — F-327 — C-4 — El. 649.40

101+50 G55.0 — F-285 — C-5 — ½"Fit — El. 649.50 — 12" Sanitary

GG3.67 — GG3.55 — GG3.35 — GG3.11 — GG2.87 — GG2.63

GG4.03 — F-282 — C-14 — C-15 — El. 649.20 — 12" Sanitary

498+00 GG4.51 — F-250 — C-11 — C-13 — El. 649.50

498+50 GG4.03 — F-240 — C-14 — C-13 — El. 649.80

497+00 GG4.35 — F-131 — C-15 — C-13 — El. 652.00 — Sta. 497+57.90 Lt. M.H. Reconstructed To Grade — C-4

497+50 GG4.15 — F-169 — C-15 — C-13 — C-5 — El. 650.70

GG3.98 — F-124 — C-18 — C-13 — ½"Fit — C-4 — El. 651.70 — 12" Sanitary

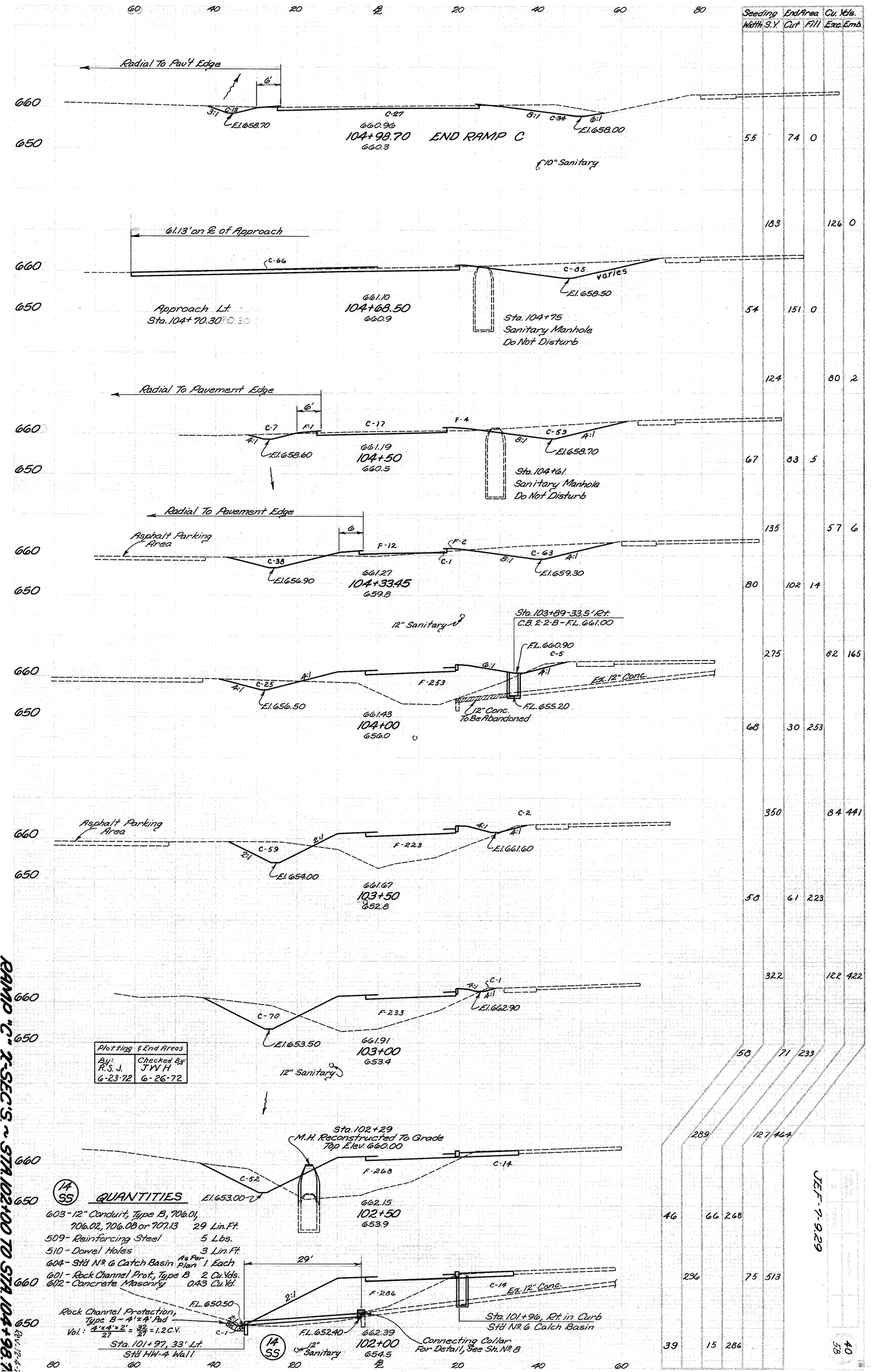
496+50 JEF-7 LT. EDGE= GG3.98

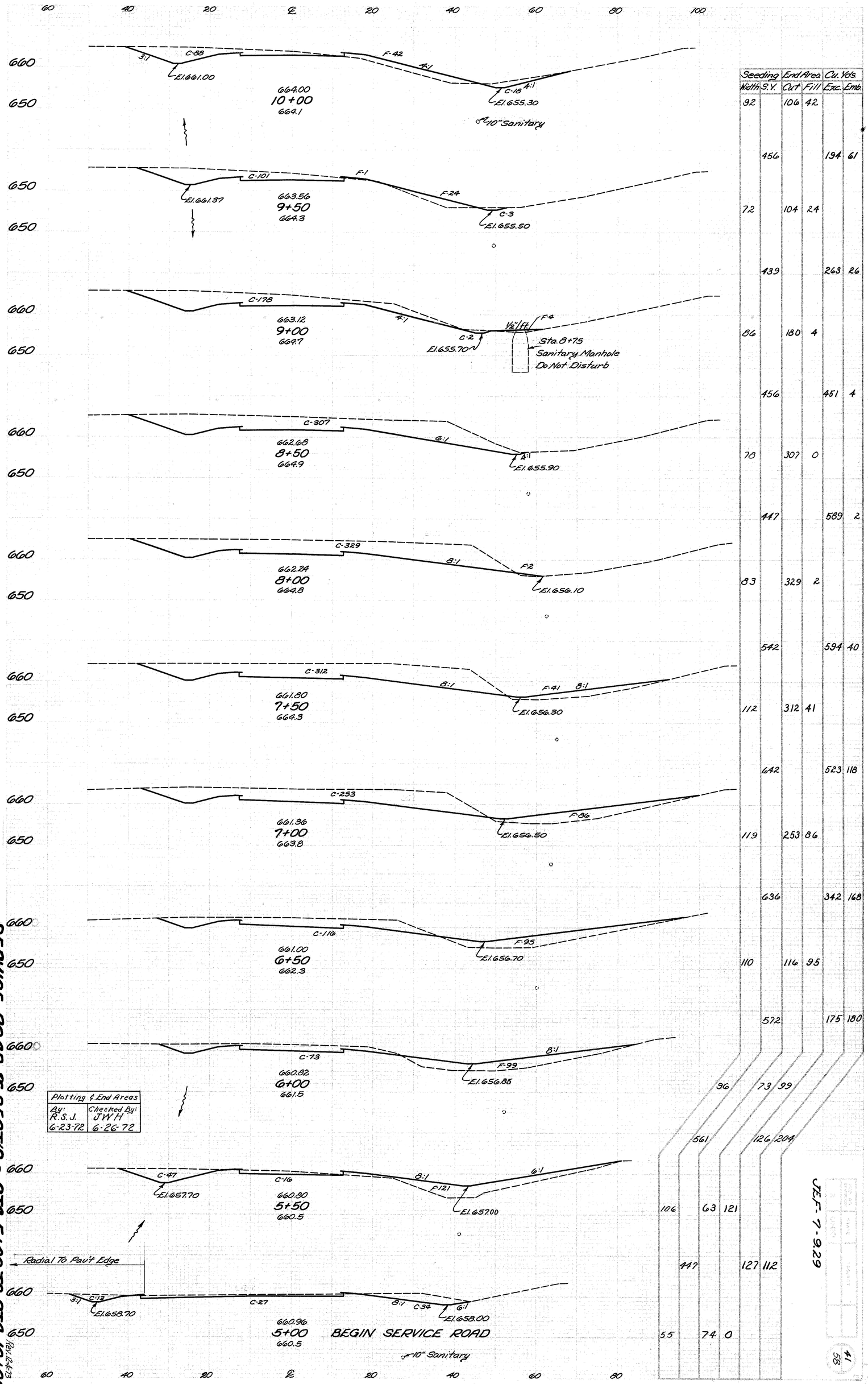
℄ JEF-7

Plotting ℄ Endareas	
By: R.S.J.	Checked By: J.W.H.
6-23-72	6-26-72

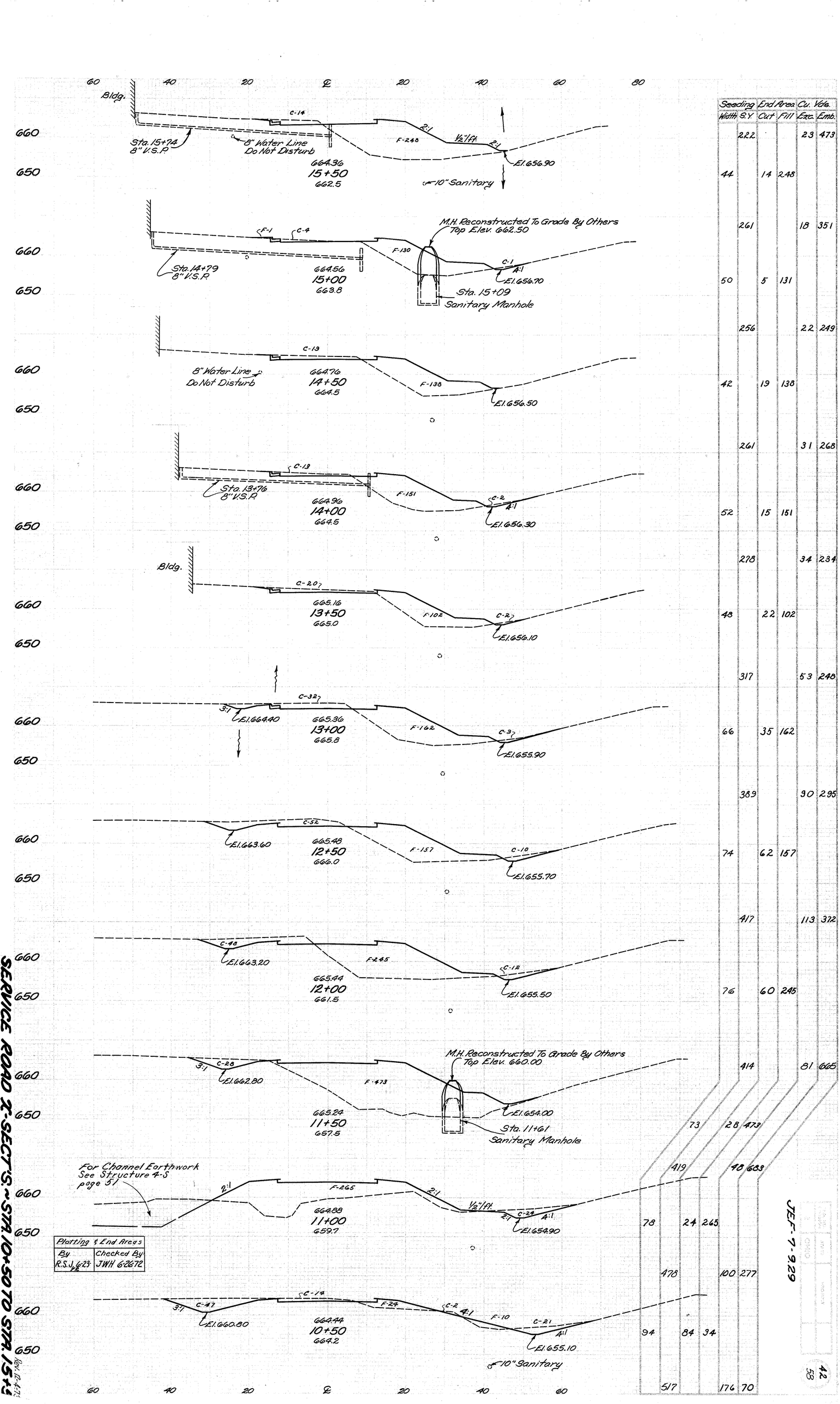
ACCEL. LANE "A" SEC'S "A" STA 496+50 TO STA 499+00 & RAMP "C" "A" SEC'S "A" STA 99+00 TO STA 101+

Rev. 12-4-73


60 40 20 ℄ 20 40 60 80
Seeding Width S.Y. | End Area Cut | Fill | Cu. Yds. Exc. | Emb.
Radial To Pav't Edge
6'
3:1 C-13
El. 658.70
C-27
660.96
104+98.70
660.3
END RAMP C
8:1 C-34 6:1
El. 658.00
℄ 10" Sanitary
55 74 0
660
650
61.13' on ℄ of Approach
C-66
C-85 varies
El. 658.50
661.10
104+68.50
660.9
Approach Lt.
Sta. 104+70.30
Sta. 104+75
Sanitary Manhole
Do Not Disturb
183 126 0
54 151 0
Radial To Pavement Edge
6'
C-7 F-1 C-17 F-4
4:1
El. 658.60
661.19
104+50
660.5
8:1 C-59 4:1
El. 658.70
Sta. 104+61.
Sanitary Manhole
Do Not Disturb
124 80 2
67 83 5
Radial To Pavement Edge
Asphalt Parking Area
6
F-12 F-2
C-38
El. 656.90
C-1
661.27
104+33.45
659.8
8:1 C-63 4:1
El. 659.30
135 57 6
80 102 14
12" Sanitary ℄
Sta. 103+89-33.5' Rt.
C.B. 2-2-B - F.L. 661.00
F.L. 660.90
C-5
6:1 4:1
C-25 4:1
El. 656.50
F-253
Ex. 12" Conc.
12" Conc. To Be Abandoned
F.L. 655.20
661.43
104+00
656.0
275 82 165
68 30 253
Asphalt Parking Area
C-2
4:1 4:1
C-59 2:1
El. 654.00
F-223
El. 661.60
661.67
103+50
652.8
350 84 441
58 61 223
C-1
4:1 4:1
C-70
El. 653.50
F-233
El. 662.90
661.91
103+00
653.4
12" Sanitary
322 122 422
58 71 233
Plotting & End Areas
By: R.S.J. 6-23-72
Checked By: JWH 6-26-72
Sta. 102+29
M.H. Reconstructed To Grade
Top Elev. 660.00
C-52
El. 653.00
F-268
C-14
662.15
102+50
653.9
289 127 464
46 66 268
14 SS QUANTITIES
603 - 12" Conduit, Type B, 706.01, 706.02, 706.08 or 707.13 29 Lin. Ft.
509 - Reinforcing Steel 5 Lbs.
510 - Dowel Holes 3 Lin. Ft.
604 - Std No. 6 Catch Basin As Per plan 1 Each
601 - Rock Channel Prot, Type B 2 Cu. Yds.
602 - Concrete Masonry 0.43 Cu. Yd.
29'
2:1
F-286
C-14 Ex. 12" Conc.
F.L. 650.50
Rock Channel Protection, Type B - 4'x4' Pad
Vol.: 4'x4'x2'/27 = 32/27 = 1.2 C.Y.
C-1
F.L. 652.40
662.39
102+00
654.5
Sta. 101+96, Rt. in Curb
Std No. 6 Calch Basin
Sta. 101+97, 33' Lt.
Std HW-4 Wall
14 SS 12" Sanitary
Connecting Collar For Detail, See Sh. No. 8
236 75 513
39 15 286
80 60 40 20 ℄ 20 40 60
RAMP "C" & SEC'S. ~ STA. 102+00 TO STA. 104+98.70
JEF-7-9.29
40
53



Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
92		106	42		
	456			194	61
72		104	24		
	439			263	26
86		180	4		
	456			451	4
78		307	0		
	447			589	2
83		329	2		
	542			594	40
112		312	41		
	642			523	118
119		253	86		
	636			342	168
110		116	95		
	572			175	180
96	73	99			
	561			126	204
106	63	121			
	447			127	112
55	74	0			



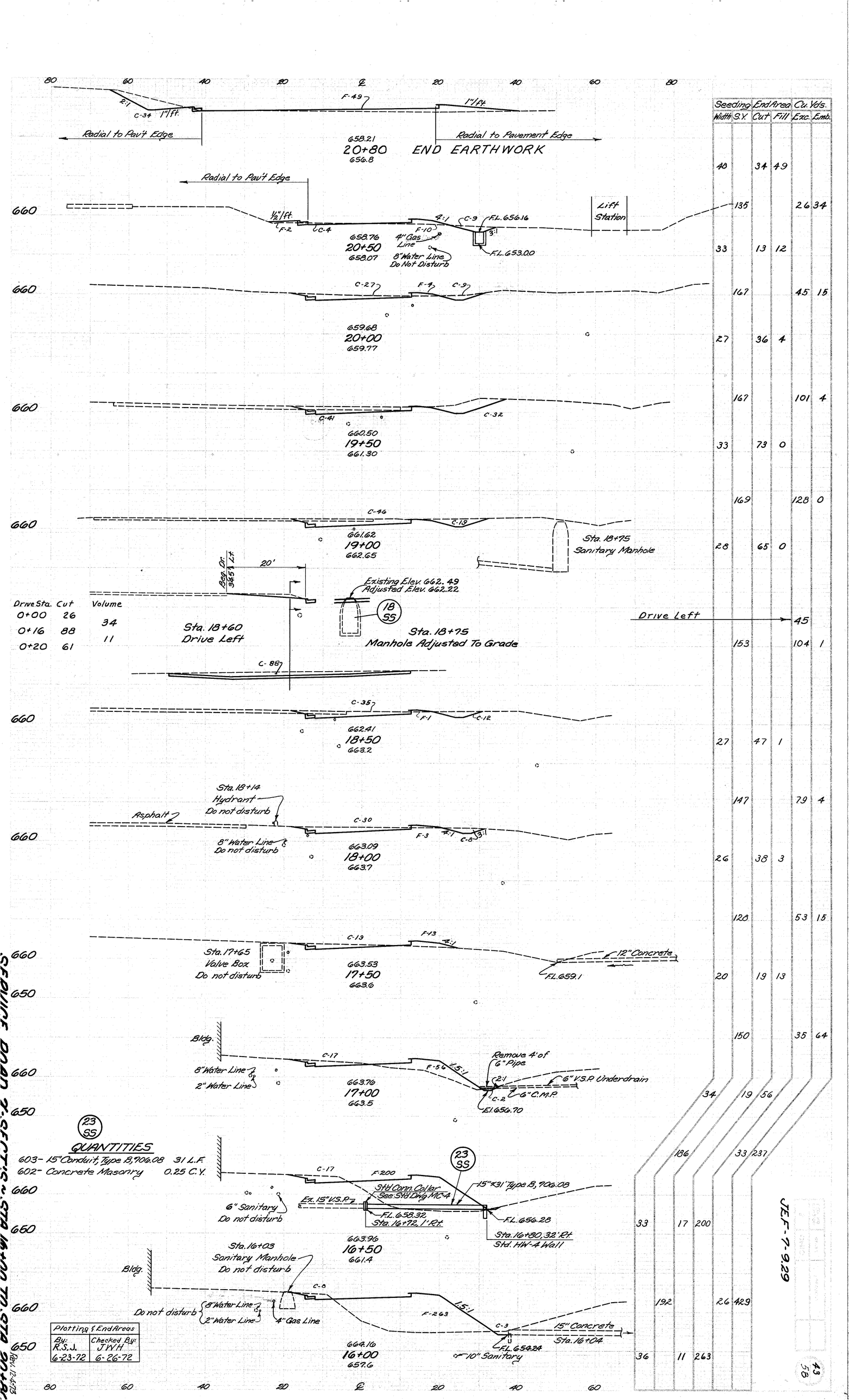
Seeding Width	End Area S.Y.	Cu. Yds. Cut	Fill	Exc.	Emb.
	222			23	473
44		14	248		
	261			18	351
50		5	131		
	256			22	249
42		19	138		
	261			31	268
52		15	151		
	278			34	234
48		22	102		
	317			53	248
66		35	162		
	389			90	295
74		62	157		
	417			113	372
76		60	245		
	414			81	665
73		28	473		
	419			40	633
78		24	265		
	478			100	277
94		84	34		
	517			176	70

Plotting & End Areas	
By R.S.J. 6-23	Checked By JWH 62672

SERVICE ROAD X-SECT'S ~ STA 10+50 TO STA 15+74

JEF-7-9.29

42
53



Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
48		34	49		
	135			26	34
33		13	12		
	167			45	15
27		36	4		
	167			101	4
33		73	0		
	169			128	0
28		65	0		
				45	
	153			104	1
27		47	1		
	147			79	4
26		38	3		
	120			53	15
20		19	13		
	150			35	64
34		19	56		
	186			33	237
33		17	200		
	192			26	429
36		11	263		

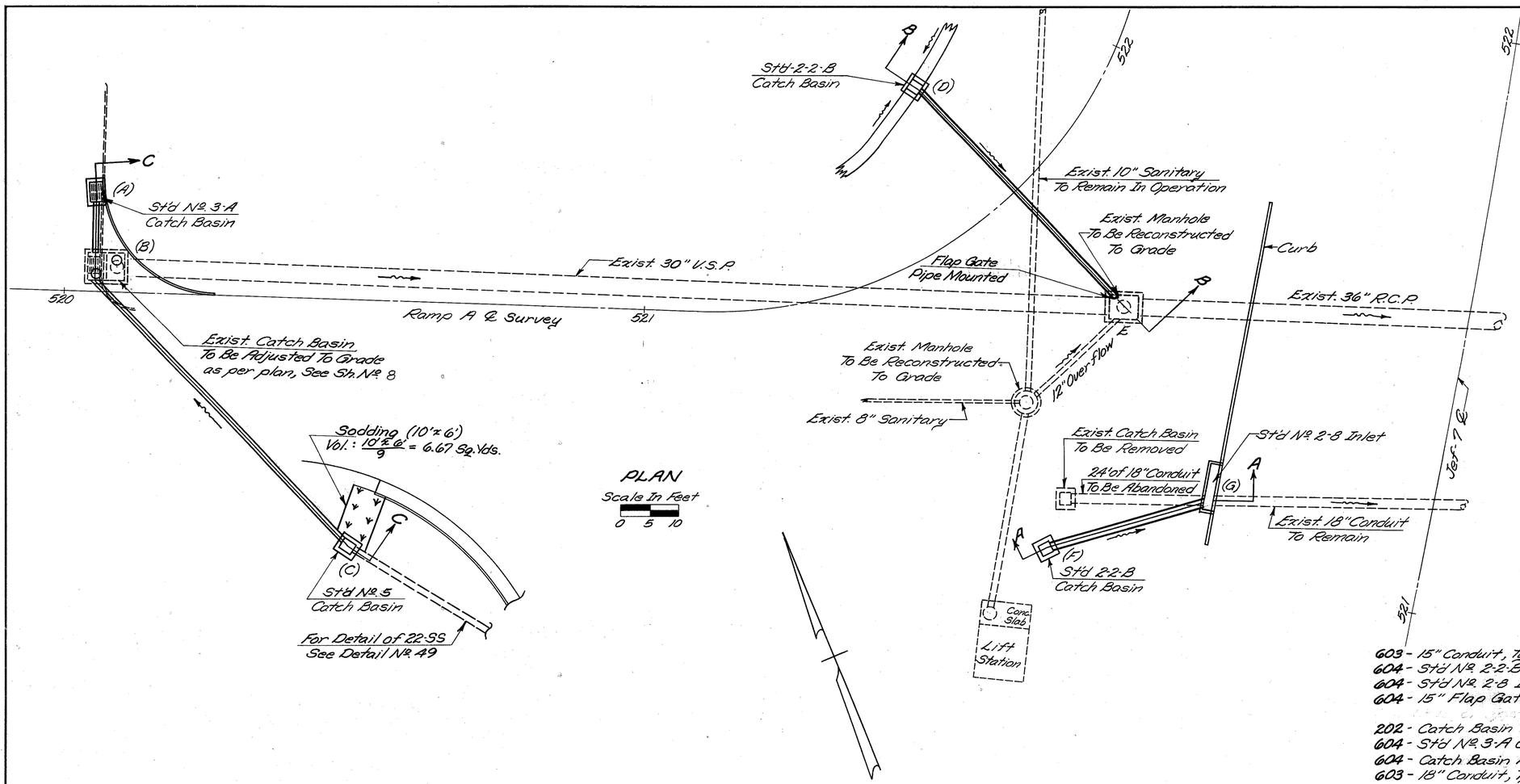
JEF-7-9.29

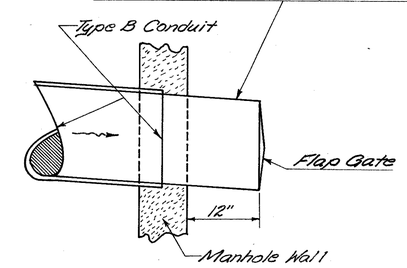
43
58

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

44/58

JEF-7-9.29

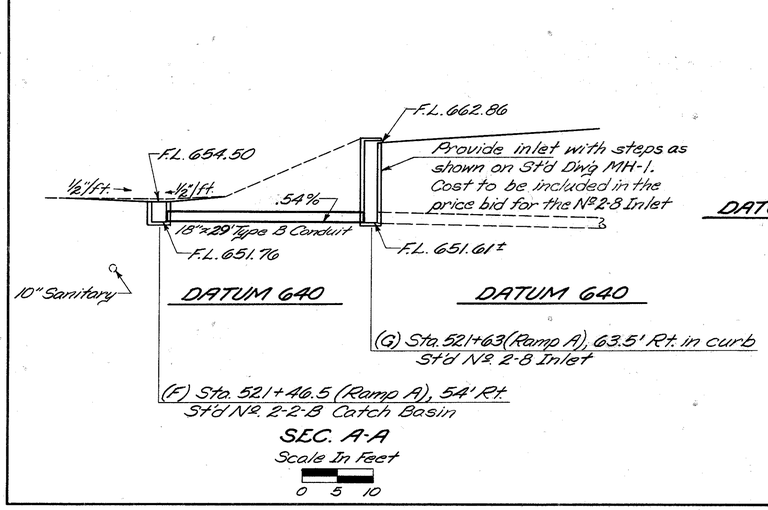




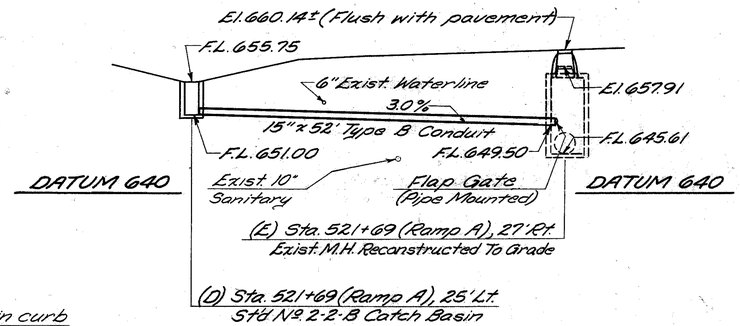
DETAIL OF CONNECTION OF AUTOMATIC GATE TO MANHOLE WALL

QUANTITIES

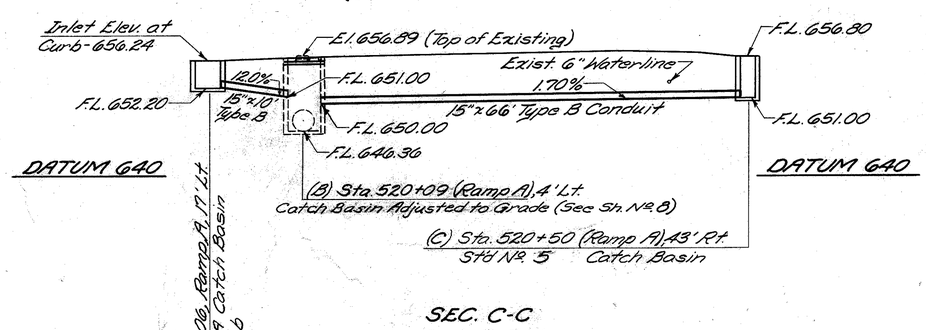
603 -	15" Conduit, Type B,	128 Lin. Ft.
604 -	Std No. 2-2-B Catch Basin	2 Each
604 -	Std No. 2-8 Inlet, as per plan	1 Each
604 -	15" Flap Gate, as per plan	1 Each
202 -	Catch Basin Removed	1 Each
604 -	Std No. 3-A Catch Basin	1 Each
604 -	Catch Basin Adjusted To Grade, as per plan	1 Each
603 -	18" Conduit, Type B	29 Lin. Ft.
604 -	Manhole Reconstructed to Grade	2 Each
604 -	Std No. 5 Catch Basin	1 Each
660 -	Sodding	7 Sq. Yds.



SEC. A-A
Scale In Feet
0 5 10



SEC. B-B
Scale In Feet
0 5 10



SEC. C-C
Scale In Feet
0 5 10

Calculated By	Checked By
J.T.C.	A.E.L.
4-20-70	4-20-70

1/SS

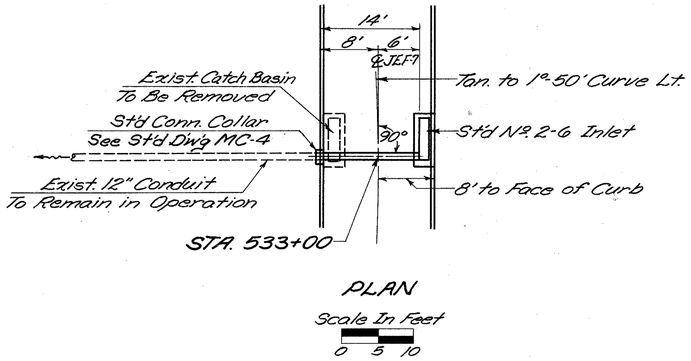
STORM SEWER DETAILS AT PENN STREET

Rev. 4-25-75
Rev. 12-4-73

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

45
58

JEF-7-9.29



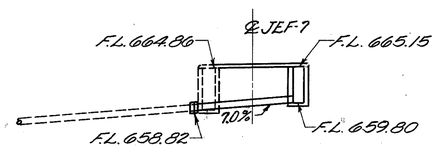
PLAN

Scale In Feet

0 5 10

QUANTITIES

604- Std No. 2-6 Inlet	1 Each
202- Catch Basin Removed	1 Each
603-12" Conduit, Type B.	14 Lin. Ft.



DATUM 650

DATUM 650

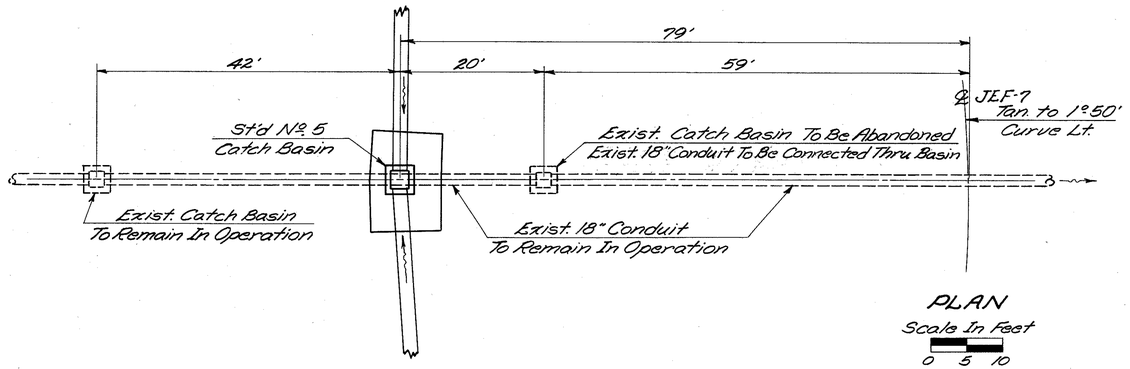
CROSS SECTION

Scale In Feet

0 5 10

3
SS

INLET LOCATION ON EXISTING STORM SEWER JEF-7 STA. 533+00, 8' RT.



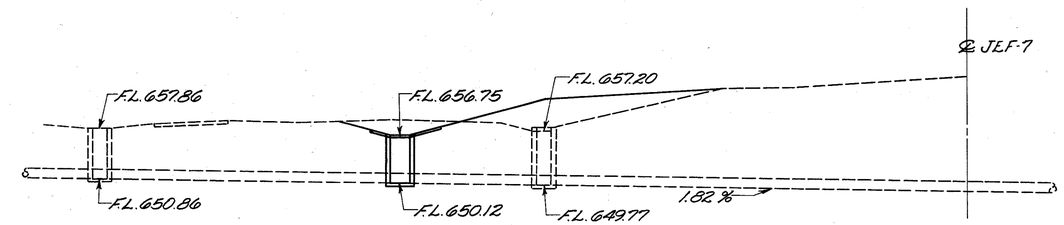
PLAN

Scale In Feet

0 5 10

QUANTITIES

604- Std No. 5 Catch Basin	1 Each
202- Catch Basin Abandoned	1 Each



DATUM 640

DATUM 640

CROSS SECTION

Scale In Feet

0 5 10

2
SS

CATCH BASIN LOCATION ON EXISTING STORM SEWER JEF-7 STA. 526+91.5, 79' LT.

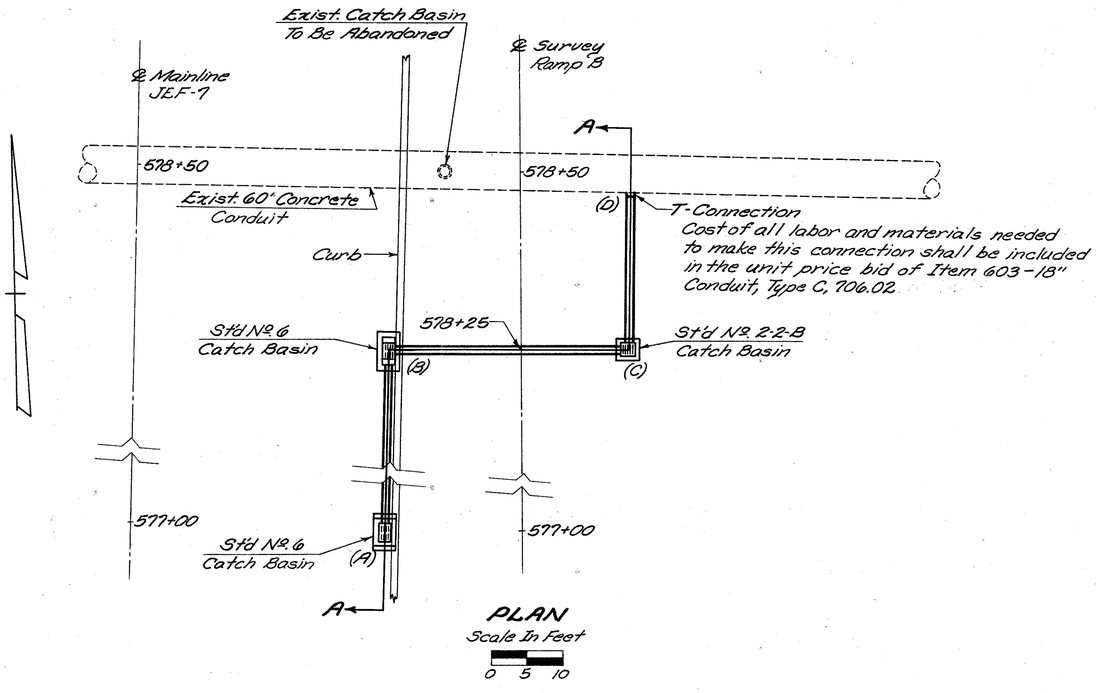
Calculated By	Checked By
F.T.G. 4-20-70	A.E.L. 4-20-70

Rev. 12-4-73

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

46/58

JEF-7-9.29



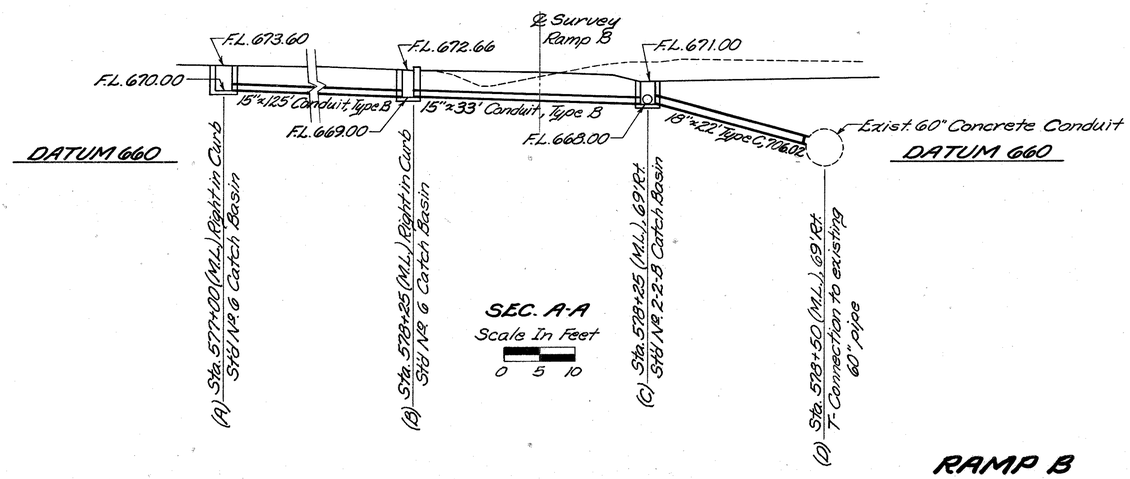
PLAN

Scale In Feet

0 5 10

QUANTITIES

603-15" Conduit, Type B	158 Lin Ft.
603-18" Conduit, Type C, 706.02	22 Lin. Ft.
604-Std No. 6 Catch Basin, as per plan	2 Each
604-Std No. 2-2-B Catch Basin	1 Each
202-Catch Basin Abandoned	1 Each



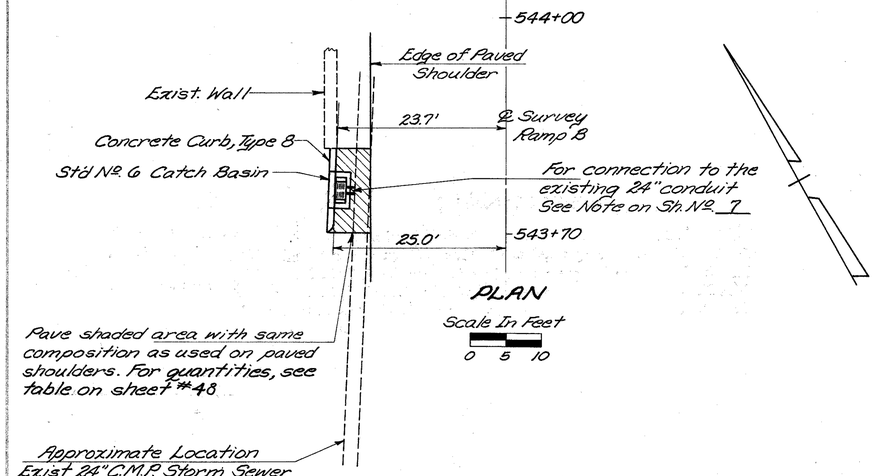
SEC. A-A

Scale In Feet

0 5 10

10 SS

RAMP B
DETAIL OF 10-SS



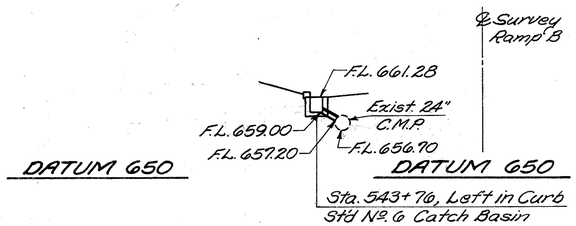
PLAN

Scale In Feet

0 5 10

QUANTITIES

603-12" Conduit, Type F, as per plan	10 Lin. Ft.
604-Std No. 6 Catch Basin, as per plan	1 Each
609-Concrete Curb, Std Type B	12 Lin. Ft.



CROSS SECTION

Scale In Feet

0 5 10

5 SS

RAMP B
DETAIL OF 5-SS

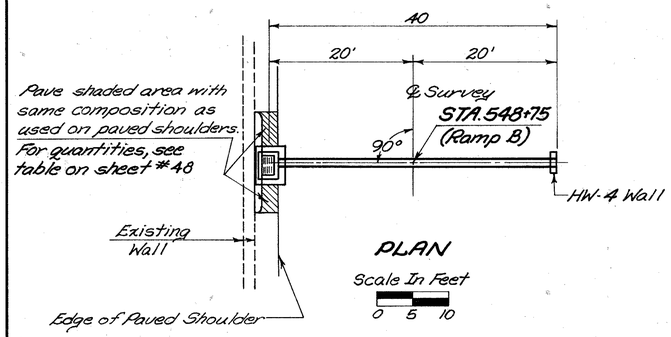
Rev. 12-4-73

Calculated By	Checked By
A.T.P. 4-20-70	Q.E.L. 4-20-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

47
58

JEF-7-9.29



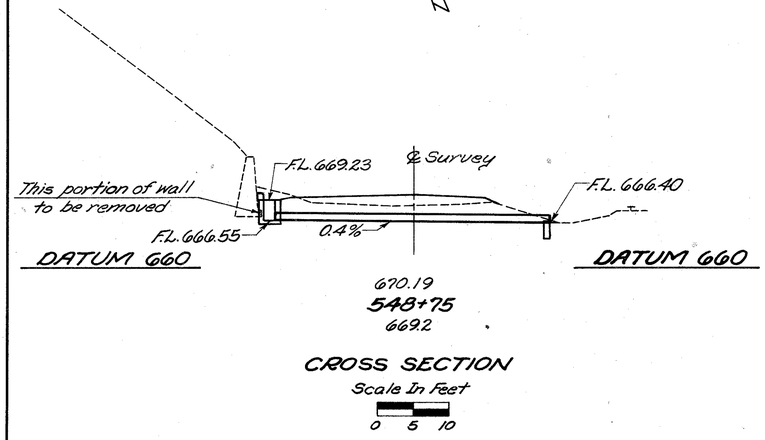
PLAN

Scale In Feet

0 5 10

QUANTITIES

603 - 15" Conduit, Type B	40 Lin. Ft.
604 - Std No. 6 Catch Basin, as per plan	1 Each
602 - Concrete Masonry	0.27 Cu. Yd.
609 - Concrete Curb, Std Type B	12 Lin. Ft.
202 - Portions of structures removed	1 Cu. Yd.



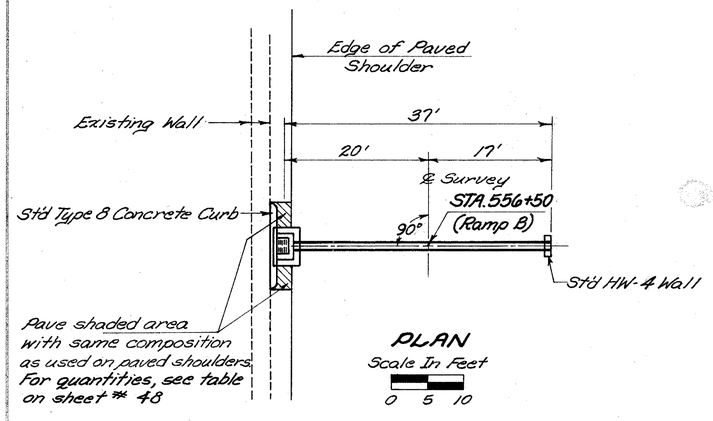
CROSS SECTION

Scale In Feet

0 5 10

6
SS

STA. 548+75 (Ramp B)
15" x 40' CONDUIT



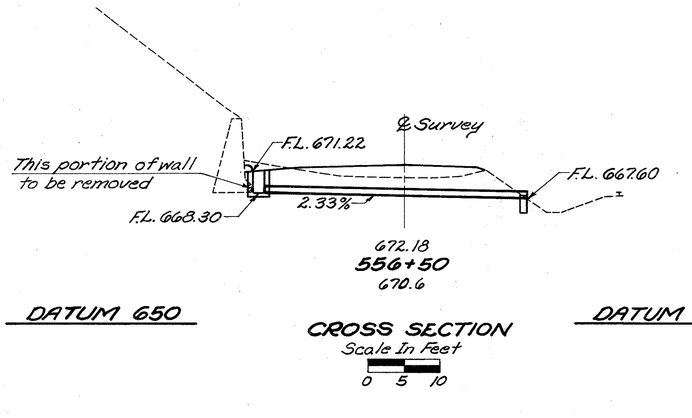
PLAN

Scale In Feet

0 5 10

QUANTITIES

603 - 15" Conduit, Type B	37 Lin. Ft.
604 - Std No. 6 Catch Basin, as per plan	1 Each
602 - Concrete Masonry	0.27 Cu. Yd.
609 - Concrete Curb, Std Type B	12 Lin. Ft.
202 - Portions of structures removed	1 Cu. Yd.



CROSS SECTION

Scale In Feet

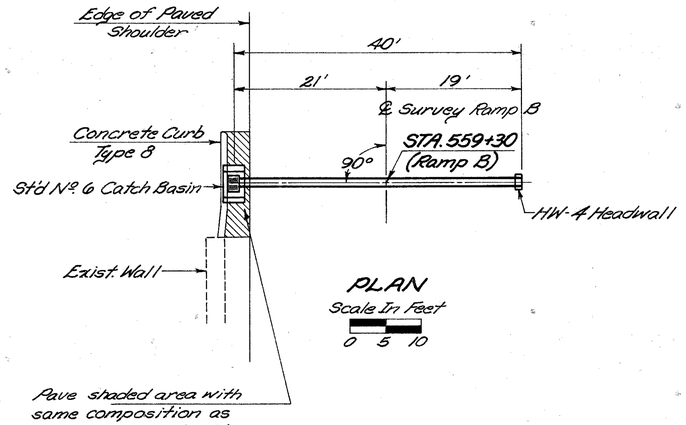
0 5 10

7
SS

STA. 556+50 (Ramp B)
15" x 37' CONDUIT

Calculated By	Checked By
F.T.R.	W.E.L.
4-20-70	4-20-70

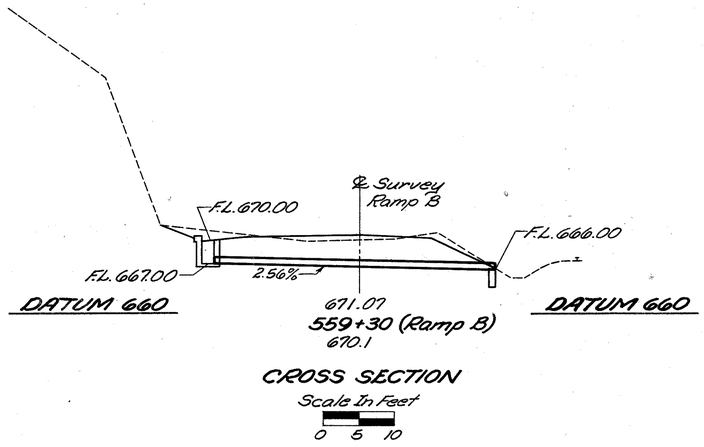
Rev. 12-1-73



Pave shaded area with same composition as used on paved shoulders. For quantities, see table on this sheet.

QUANTITIES

603 - 15" Conduit, Type B	40 Lin. Ft.
604 - Std No. 6 Catch Basin, as per plan	1 Each
602 - Concrete Masonry	0.27 Cu. Yd.
609 - Concrete Curb, Std Type B	14 Lin. Ft.



8
SS

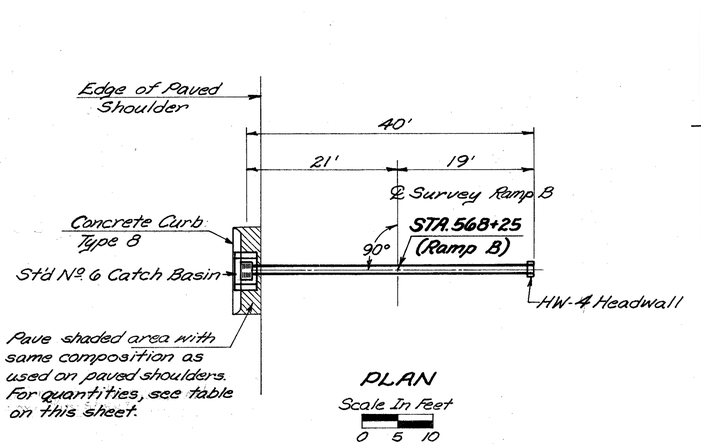
STA. 559+30 (Ramp B)
15" x 40' CONDUIT

Calculated By	Checked By
J.T.P. 4-20-70	G.E.A. 4-20-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

48
58

JEF-7-9.29



Pave shaded area with same composition as used on paved shoulders. For quantities, see table on this sheet.

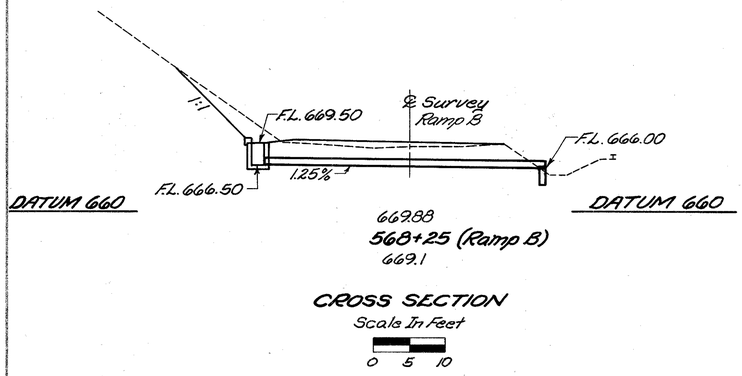
ADDITIONAL SHOULDER QUANTITIES

REF. No.	301 BIT. AGGR. BASE	304 AGGR. BASE		409 SEAL COAT COVER AGGR.	409 SEAL COAT BIT. MATERIAL
	CU.YD.	CU.YD.		CU.YD.	GAL.
5-SS	0.46	1.24		.044	1.67
6-SS	0.15	0.40		.014	0.54
7-SS	0.15	0.40		.014	0.54
8-SS	0.26	0.69		.025	0.93
9-SS	0.17	0.46		.017	0.62
TOTALS	1.19	3.19		.114	4.30

Quantities carried to Sheet No. 13

QUANTITIES

603 - 15" Conduit, Type B	40 Lin. Ft.
604 - Std No. 6 Catch Basin, as per plan	1 Each
602 - Concrete Masonry	0.27 Cu. Yd.
609 - Concrete Curb, Std Type B	12 Lin. Ft.



9
SS

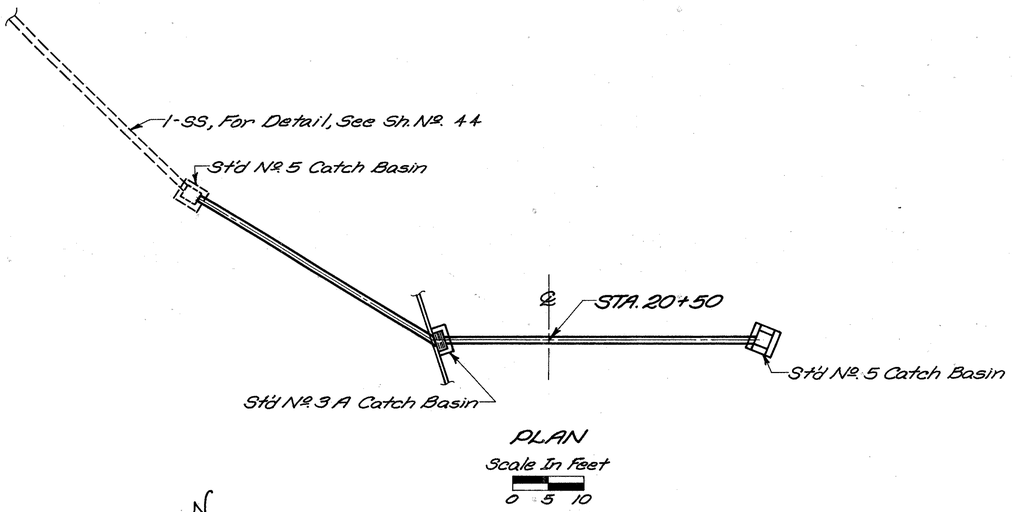
STA. 568+25 (Ramp B)
15" x 40' CONDUIT

Rev. 12-4-73

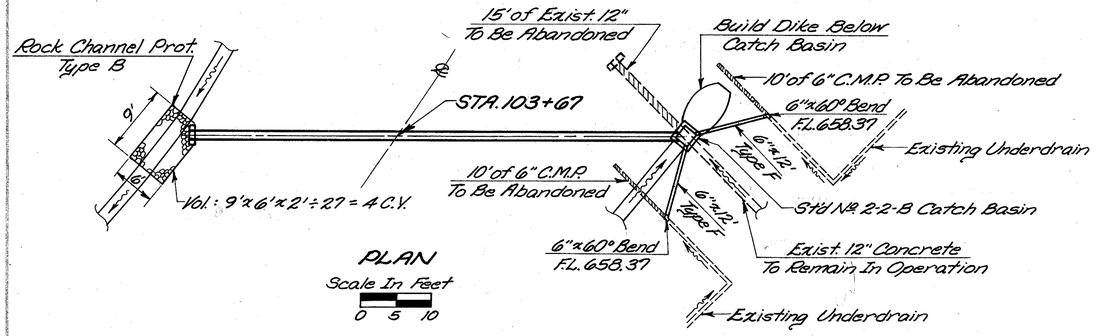
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

49
58

JEF-7-9.29



PLAN
Scale In Feet
0 5 10



PLAN
Scale In Feet
0 5 10

QUANTITIES

603 - 15" Conduit, Type B	86 Lin. Ft.
604 - Std No. 3 A Catch Basin	1 Each
604 - Std No. 5 Catch Basin	1 Each

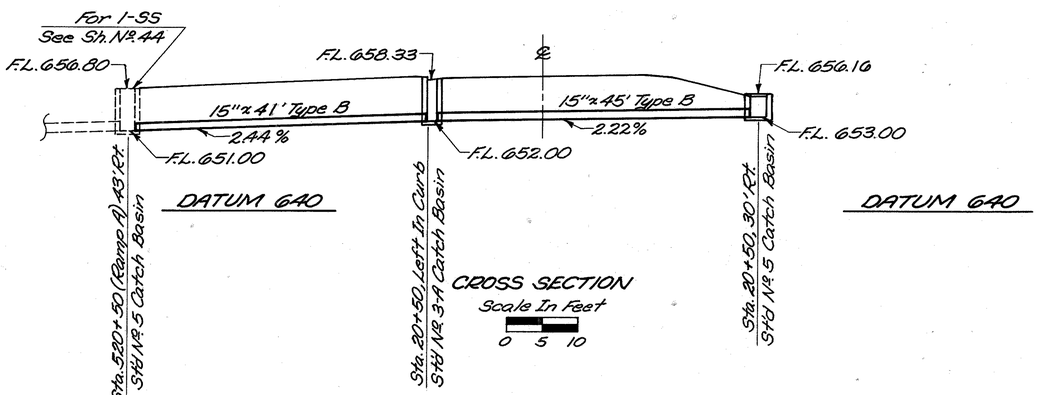
* with bedding

QUANTITIES

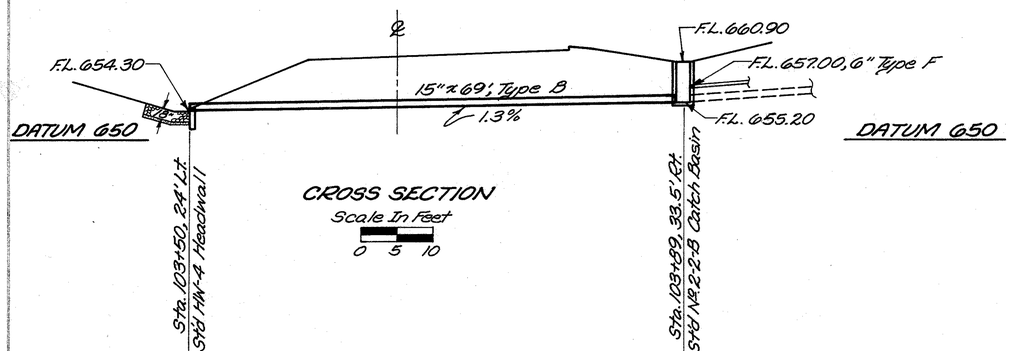
603 - 15" Conduit, Type B	69 Lin. Ft.
604 - Std No. 2-2-B Catch Basin	1 Each
602 - Concrete Masonry	0.27 Cu. Yd.
*601 - Rock Channel Protection, Type B	4 Cu. Yds.
603 - 6" Type F	24 Lin. Ft.

BENDS & BRANCHES

6" Type F, 60° Bend	2 Each



CROSS SECTION
Scale In Feet
0 5 10



CROSS SECTION
Scale In Feet
0 5 10

22 SS

DETAIL OF 22-SS STA. 20+50, SERVICE ROAD

16 SS

DETAIL OF 16-SS STA. 103+67, RAMP C

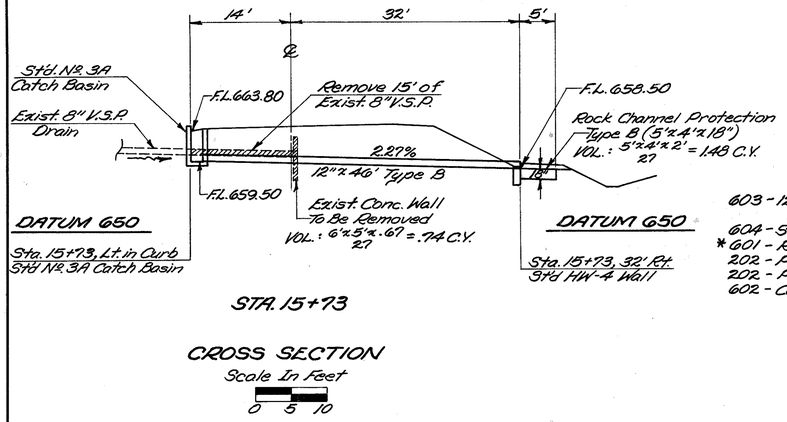
Calculated By	Checked By
STP 8-2-72	JWH 8-2-72

Rev. 4-25-75
Rev. 12-4-73

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

50/58

JEF-7-9.29



STA. 15+73

CROSS SECTION

Scale In Feet

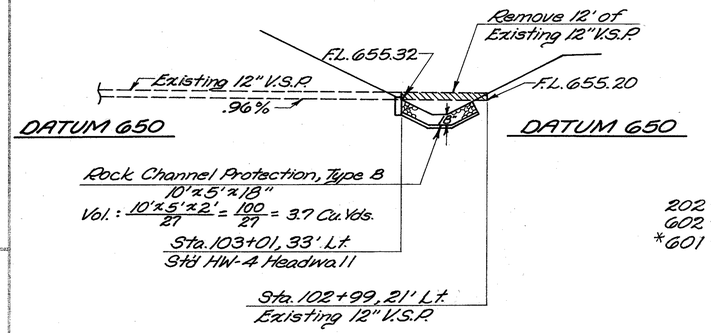
0 5 10

QUANTITIES	
603 - 12" Conduit, Type B	46 Lin. Ft.
604 - Std Nº. 3A Catch Basin	1 Each
*601 - Rock Channel Protection, Type B	2 Cu. Yds.
202 - Portions of Structures Removed	1 Cu. Yd.
202 - Pipe Removed, 24" and under	15 Lin. Ft.
602 - Concrete Masonry	0.20 Cu. Yd.

* with bedding

19 SS

12" x 46' CONDUIT STA. 15+73

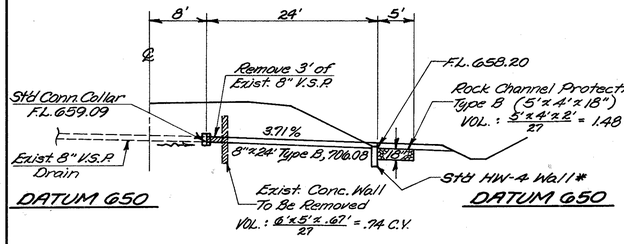


QUANTITIES	
202 - Pipe Removed, 24" and under	12 Lin. Ft.
602 - Concrete Masonry	0.20 Cu. Yd.
*601 - Rock Channel Protection, Type B	4 Cu. Yds.

* with bedding

10 R

STA. 102+99 RT. EXISTING CONDUIT REMOVAL



STA. 14+79

CROSS SECTION

Scale In Feet

0 5 10

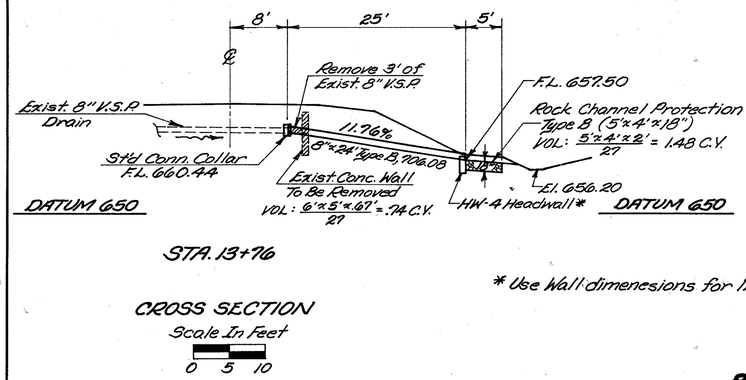
QUANTITIES	
603 - 8" Conduit, Type B, 706.08	24 Lin. Ft.
602 - Concrete Masonry	0.20 Cu. Yd.
**601 - Rock Channel Protection, Type B	2 Cu. Yds.
202 - Portions of Structures Removed	1 Cu. Yd.
202 - Pipe Removed, 24" and under	3 Lin. Ft.

* Use Wall dimensions for 12" conduit

** with bedding

18 SS

8" x 24' DRAIN EXTENSION STA. 14+79



STA. 13+76

CROSS SECTION

Scale In Feet

0 5 10

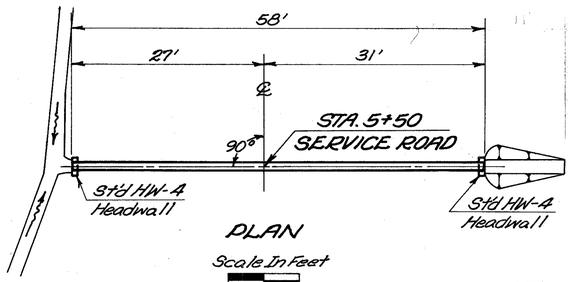
QUANTITIES	
603 - 8" Conduit, Type B, 706.08	25 Lin. Ft.
602 - Concrete Masonry	0.20 Cu. Yd.
*601 - Rock Channel Protection, Type B	2 Cu. Yds.
202 - Portions of Structures Removed	1 Cu. Yd.
202 - Pipe Removed, 24" and under	3 Lin. Ft.

* with bedding

* Use Wall dimensions for 12" conduit

17 SS

8" x 24' DRAIN EXTENSION STA. 13+76



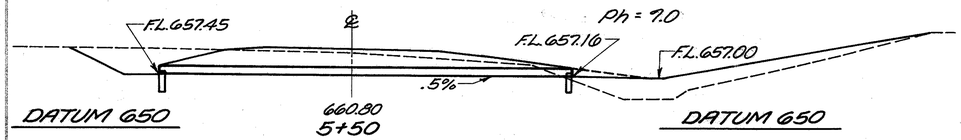
PLAN

Scale In Feet

0 5 10

QUANTITIES	
603 - 15" Conduit, Type A, 706.01, 706.02 or 706.08 or 18" Conduit, Type A 707.05, Type C	58 Lin. Ft.
602 - Concrete Masonry	0.66 Cu. Yd.

Q_{25} : 6 c.f.s.
Area : 2 acres
Ph = 7.0



CROSS SECTION

Scale In Feet

0 5 10

Calculated By	Checked By
J.T.P. 8-2-72	J.W.H. 8-2-72

3 S

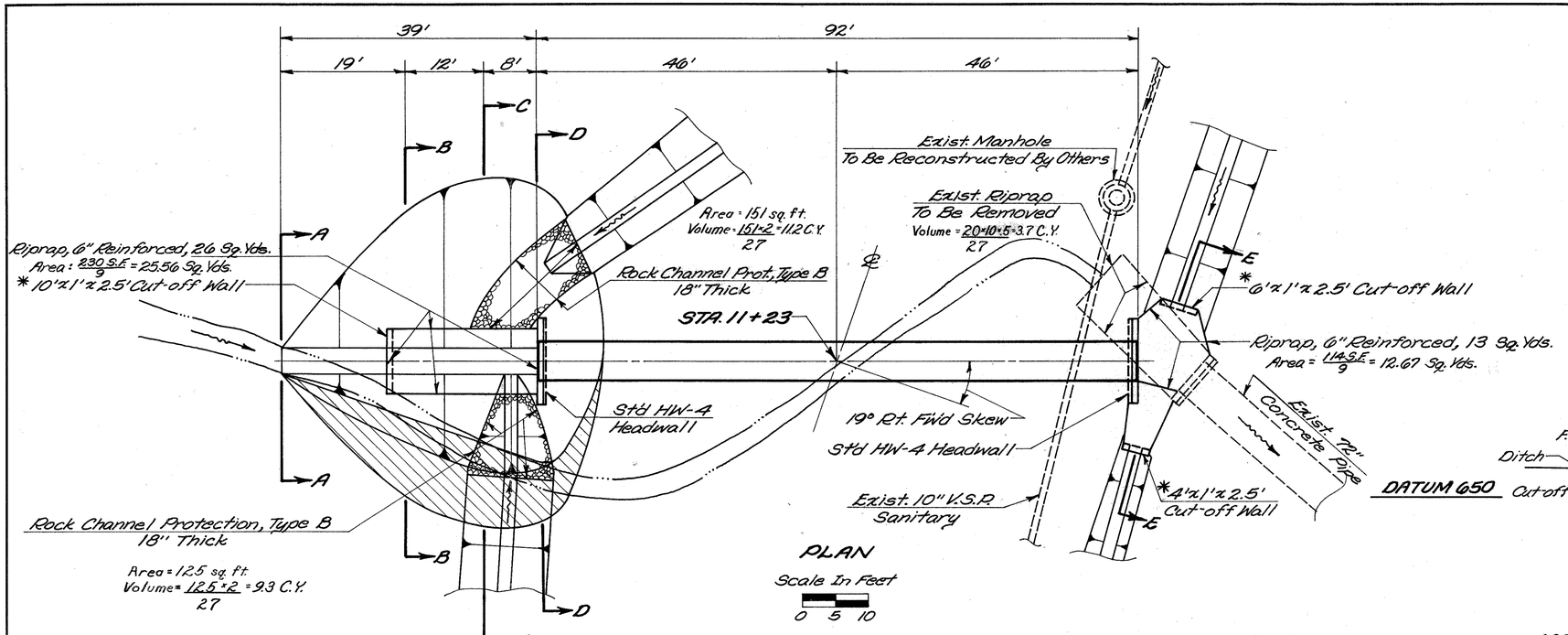
STA. 5+50 (SERVICE ROAD) 15" OR 18" x 58' CONDUIT

Rev. 4-25-75
Rev. 12-4-73

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

51/58

JEF-7-9.29

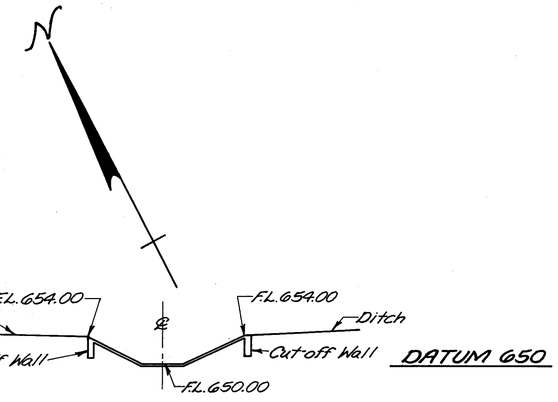


PLAN

Scale In Feet

0 5 10

* As per Std. Dwg. MC-4



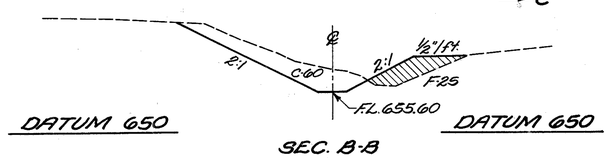
SEC. E-E

QUANTITIES

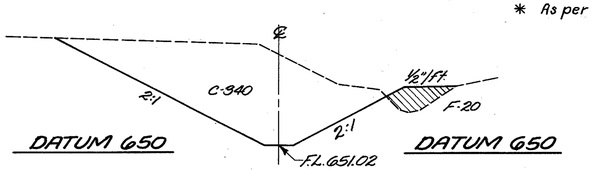
603 - 60" Conduit, Type A, 706.02 or 72" Conduit, Type A, 707.0 ; Type C	92	Lin. Ft.
601 - Riprap, 6" Reinforced	39	Sq. Yds.
*601 - Rock Channel Protection, Type B	21	Cu. Yds.
203 - Excavation	181	Cu. Yds.
203 - Embankment	23	Cu. Yds.
202 - Portions of Structures Removed	4	Cu. Yds.
602 - Concrete Masonry	5.54	Cu. Yds.

* with bedding

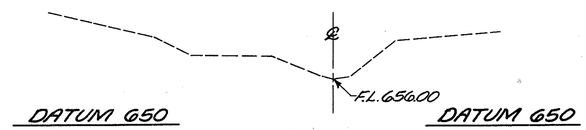
Area : 1.77 acres
Q_{25} : 1.79 c.f.s.



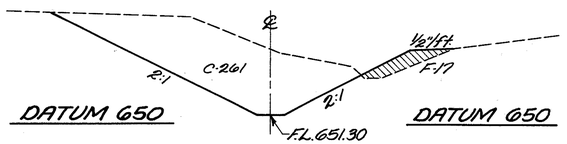
SEC. B-B



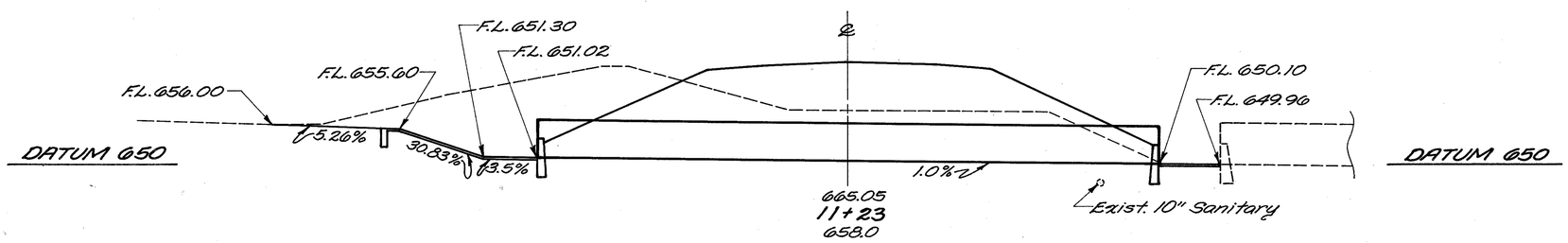
SEC. D-D



SEC. A-A



SEC. C-C



CROSS SECTION

Scale In Feet

0 5 10

Calculated By	Checked By
A.T.P. 8-2-72	J.N. 8-2-72

4/S

STA. 11+23 (SERVICE ROAD)
60" OR 72" x 92' CONDUIT

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Rev. 12-4-73

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

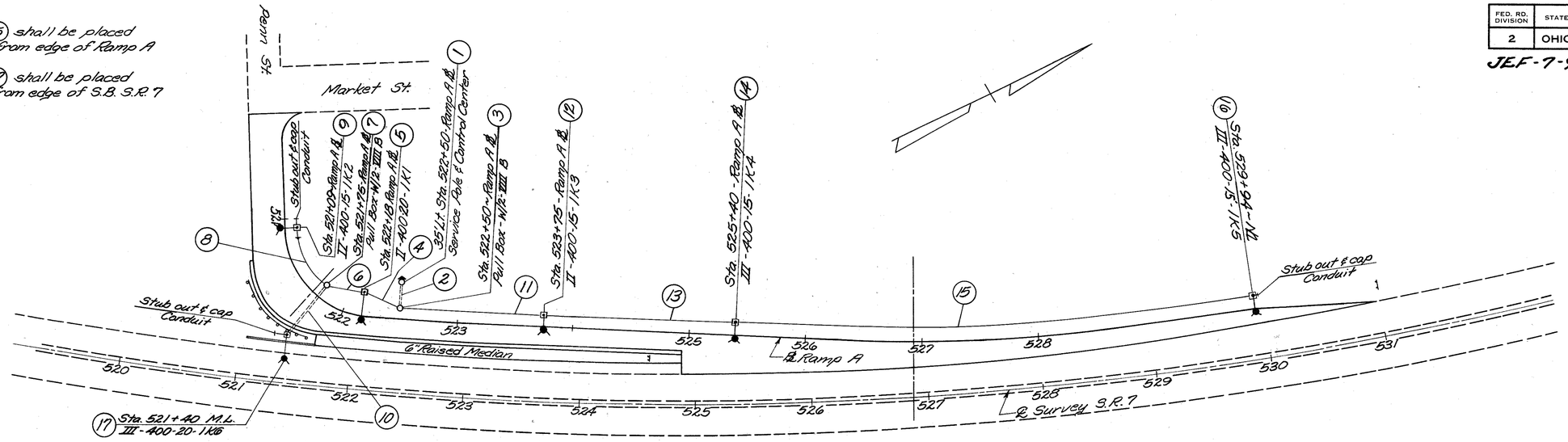
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JEF-7-9.29

NOTE:

Light number (5) shall be placed approximately 20' from edge of Ramp A pavement.

Light number (17) shall be placed approximately 20' from edge of S.B. S.R. 7 pavement.



PLAN

Scale In Feet

0 50 100

Calculated By	Checked By
W.F.P. 2-24-71	J.W.H. 2-24-71

~ LIGHTING LEGEND ~

- Typical ground-mounted Mercury Vapor Lighting Unit; 400 watt Luminaire size: ANSI-IES Type II M&C or Type III M/C; with clear 400 watt Lamp; 34.2 feet mounting height with cast aluminum Base
- ——— Duct Cable
- ======== Circuit Cables in 3" ϕ rigid ferrous metal, 713.04 Conduit
- o Pull Box, 18" circular
- ▲ Control Center and Service Pole

Station / III-400-20-1KG — Typical Light Pole Identification: III is ANSI-IES Type; 400 is Lamp Wattage; 20 is Arm Length; 1 is Circuit Number; K is designation for Panelboard in the Control Center located 35 feet left of Ramp "A" Sta. 522+50; G is Light Pole Identification Number.

GENERAL LIGHTING SUMMARY

TOTAL	ITEM	UNIT	DESCRIPTION
2	625	Each	Light Pole, Design AT 20 B 34.2
4	625	Each	Light Pole, Design AT 15 B 34.2
6	625	Each	Light pole foundation, 24" x 6' deep
3	625	Each	Luminaire, Type II, 400 watt, 713.11
3	625	Each	Luminaire, Type III, 400 watt, 713.11
25	625	Lin. Ft.	Conduit 2", 713.04
6	625	Each	Lamp, 400 watt, 713.14 mercury
6	625	Each	Ground rod
3	625	Each	Pull box, 18" circular, 713.09
966	625	Lin. Ft.	Trench, 24" deep
55	625	Lin. Ft.	Conduit 3", 713.04
200	625	Lin. Ft.	No 4 AWG, 600 volt distribution cable
602	625	Lin. Ft.	POLE AND BRACKET CABLE, NO. 10 AWG.
926	625	Lin. Ft.	1½" duct-cable with two No 4 AWG, 600 volt cables
2	625	Each	Connector Kit, Type I, AS PER PLAN
6	625	Each	Connector Kit, Type II, AS PER PLAN
6	625	Each	Connector Kit, Type III, AS PER PLAN
4	625	Each	Connector Kit, Type VIII-B, AS PER PLAN
Lump	625	Lump	Control Center & Service Pole, AS PER PLAN
Lump	839	Lump	High Voltage Test
2	625	EACH	MARKERS
60	605	LIN. FT	4 INCH SHALLOW PIPE UNDERDRAINS

LIGHTING SUB SUMMARY

Reference No	Side	Station		Light Pole Design AT 15 B 34.2 Ea.	Light Pole Design AT 20 B 34.2 Ea.	Light Pole Foundation 24" x 6' Ea.	Luminaire, Type II 400 W Ea.	Luminaire, Type III 400 W Ea.	Conduit 2", 713.04	Lamp 400 W. Ea.	Ground Rod Ea.	Conduit 3", 713.04 Lin. Ft.	Pull Box, 18" circular Ea.	Trench 24" Deep Lin. Ft.	Dist. Circuit Cable No. 4 Lin. Ft.	Pole & Bracket Cable No. 10 Lin. Ft.	Duct Cable 600 V No. 4 Two 1½" Lin. Ft.		Connector Kit: Type I Ea.	Type II Ea.	Type III Ea.	Type VIII B Ea.		Service Pole & Control Center Lump
Ramp Stationing																							
1	Lt.	522+50											1						2				1
2	Lt.	522+50							25						70								
3	Lt.	522+50											1								2		
4	Lt.	522+18	522+50											32			42						
5	Lt.	522+18			1	1	1			1	1					108				1	1		
6	Lt.	521+75	522+18											33			43						
7	Lt.	521+75											1								2		
8	Lt.	521+09	521+75											57			67						
9	Lt.	521+09		1		1	1			1	1					98				1	1		
10	Lt.	521+75										55			130								
11	Lt.	522+50	523+75											125			135						
12	Lt.	523+75		1		1	1			1	1					98				1	1		
13	Lt.	523+75	525+40											165			175						
14	Lt.	525+40		1		1		1		1	1					98				1	1		
15	Lt.	525+40	529+94											454			464						
JEF-7 Stationing																							
16	Lt.	529+94		1		1		1		1	1					92				1	1		
17	Lt.	521+40			1	1		1		1	1					108				1	1		
TOTALS				4	2	6	3	3	25	6	6	55	3	866	200	602	926		2	6	6	4		1

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LIGHTING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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JEF-7-9.29

GENERAL NOTES

SPECIFICATIONS: These notes are supplemental to Items S625 AND S713 of the State of Ohio Department of Transportation, Construction and Materials Specifications

REFERENCE SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET. OF THESE PLANS.

PLAN SPECIFICATION REFERENCES:

REFERENCES TO ITEM 625 AND 713 IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS S625 AND S713.

625.03 - GENERAL: The power supplying agency for this project is:

The Ohio Power Company
301 Cleveland Ave. S.W.
Canton, Ohio 44701

625.07 - 713.11 - LUMINAIRES:
Luminairs shall be 240/480 volt integral requlator ballasts and shall be General Electric M-400, Westinghouse OV-25, McGraw-Edison "Unistyle" or equal approved by the Engineer.

625.08 - 713.14 - LAMPS: Mercury lamps shall be General Electic "Bonus Line", Westinghouse "Lifeguard", Sylvania "Rough Service" or other equal approved by the Engineer.

STANDARD CONSTRUCTION DRAWING HL-3: Pole base details shown on this drawing are essentially for galvanized steel poles. For aluminum designs, or other permitted steel material designs, variations from these details will be acceptable, as approved by the Engineer.

STANDARD CONSTRUCTION DRAWING HL-15: Weephole diameters of 1/8 inch shown on this drawing shall be increased to 1/4 inch.

HIGH VOLTAGE DIRECT CURRENT TESTS: A High Voltage Test, as described in Supplemental Specification 839, shall be performed on all distribution cable and duct cable systems to be installed on this project, after all construction is completed, including guard rail, fences, delineator post, signs, etc.

625-05 LIGHT POLES.

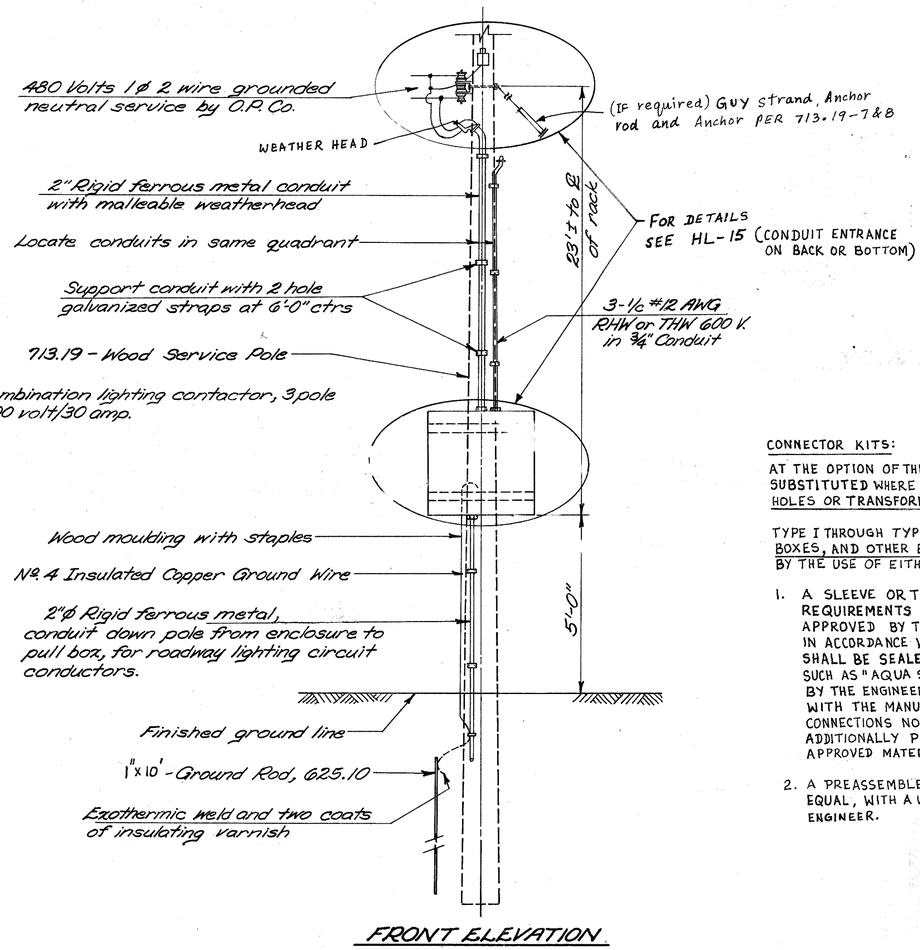
MECHANICAL PROPERTIES FOR LIGHT POLES

REFERENCE LETTER	POLE DESIGN NUMBER	FOUNDATION ANCHOR BOLTS. SIZE	BOLT CIRCLE DIAMETER		TRANSFORMER BASE TYPE
	AT 20B 34-2	1" x 40"	15"		AT-A
	AT 15B 34-2	1" x 40"	15"		AT-A

ESTIMATED QUANTITIES

An estimated quantity of "60 lin.ft. of 605.4 inch Shallow pipe underdrains" is provided in the Lighting general Summary for use as directed by the engineer in Providing positive drainage for pull boxes in fill areas. It is intended that all pull boxes in these areas be provided with such drainage, provided the length of underdrain necessary to obtain a satisfactory outfall does not exceed 20 Feet approximately. A perforated PVC pipe or conduit material approved by the Engineer may be used in the construction of this item.

An estimated quantity of "2 Each of 625 MARKERS" is provided in the Lighting General Summary for use as directed by the Engineer in Providing ground Surface indication of the location of under ground circuits. The markers shall be located directly over the Centerline of the Cable or duct. It is intended that a marker shall be Provided at a point midway between the adjacent Side-mounted light units where the distance between units exceeds 300 feet but does not exceed 450 Feet, and at intervals of approximately 200 feet on all other circuit sections located outside of paved areas.



FRONT ELEVATION

CONNECTOR KITS:

AT THE OPTION OF THE CONTRACTOR, TYPE IX CABLE CONNECTIONS MAY BE SUBSTITUTED WHERE TYPE II OR III CABLE CONNECTIONS ARE SPECIFIED IN HAND HOLES OR TRANSFORMER BASES OF LIGHT POLES.

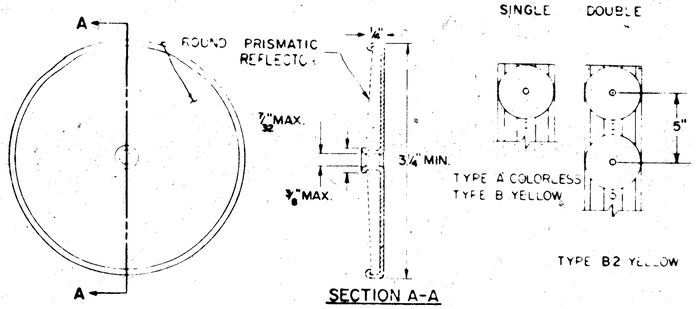
TYPE I THROUGH TYPE VII CABLE CONNECTIONS IN PULL BOXES, JUNCTION BOXES, AND OTHER ENCLOSURES BELOW GROUND MAY BE ACCOMPLISHED BY THE USE OF EITHER OF THE FOLLOWING:

1. A SLEEVE OR TEE CABLE CONNECTOR CONFORMING TO THE GENERAL REQUIREMENTS OF STYLE "S" OR "H", OR OTHER CONNECTING DEVICE APPROVED BY THE ENGINEER. THE CONNECTOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND THE CONNECTION SHALL BE SEALED AND WATERPROOFED WITH A HI-DIELECTRIC COMPOUND SUCH AS "AQUA SEAL" AS MANUFACTURED BY KEARNEY, OR EQUAL APPROVED BY THE ENGINEER. THE SEALING MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS TO MAKE A WATER-TIGHT CONNECTION. CONNECTIONS NOT ACCOMPLISHED IN-LINE OR IN TEE FORM SHALL BE ADDITIONALLY PROTECTED BY USE OF A HI-DIELECTRIC PVC, OR OTHER APPROVED MATERIAL, BOOT WITH AN APPROVED FASTENING DEVICE.
2. A PREASSEMBLED KIT, AS MANUFACTURED BY JOY OR BUSSMAN, OR APPROVED EQUAL, WITH A WATERPROOF OR WATER-TIGHT RATING ACCEPTABLE TO THE ENGINEER.

CONTROL CENTER AND SERVICE POLE DETAIL

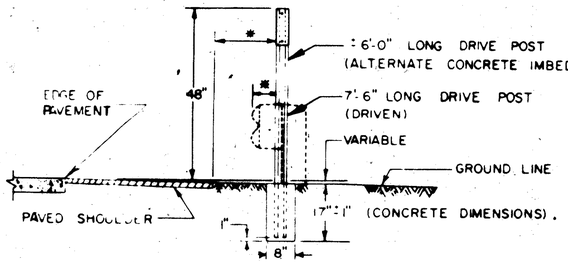
Rev. 4-25-75
Rev. 12-4-73

ROUND DELINEATORS



SECTION A-A

RECTANGULAR SHEET DELINEATORS



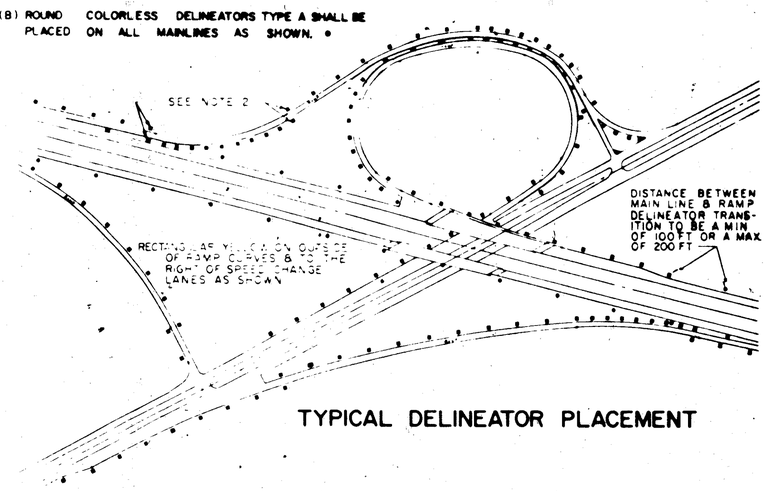
LATERAL PLACEMENT OF DELINEATORS

* DELINEATORS SHALL BE 6" BEHIND FACE OF TYPICAL GUARDRAIL LOCATION BUT WITH A MINIMUM DISTANCE OF 2'6" FROM EDGE OF PAVED SHOULDER WHERE GUARDRAIL IS NOT PRESENT

NOTE

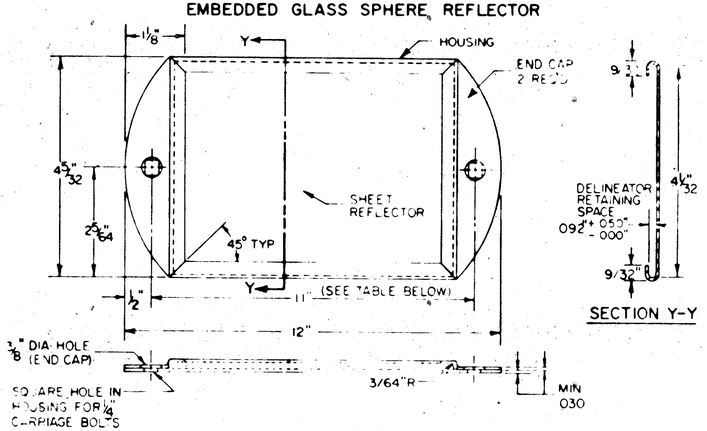
(A) RECTANGULAR YELLOW DELINEATORS TYPE D SHALL BE PLACED ON ALL RAMPS AS SHOWN. ■

(B) ROUND COLORLESS DELINEATORS TYPE A SHALL BE PLACED ON ALL MAINLINES AS SHOWN. ●



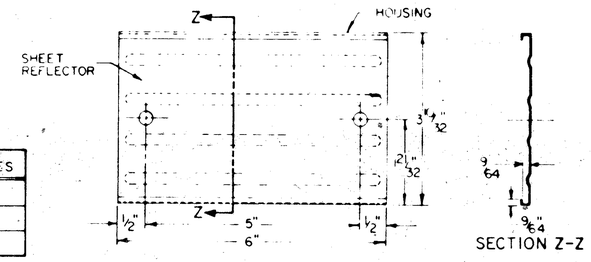
TYPICAL DELINEATOR PLACEMENT

EMBEDDED GLASS SPHERE REFLECTOR



SECTION Y-Y

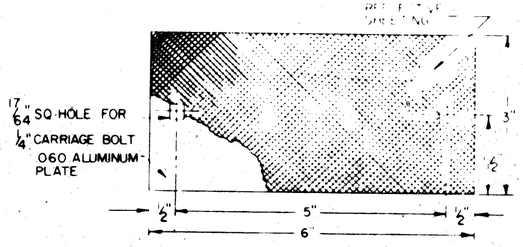
ACRYLIC PLASTIC PRISMATIC REFLECTOR

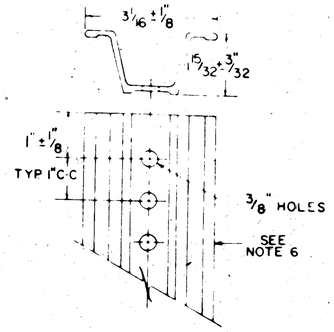


SECTION Z-Z

RECTANGULAR TYPES
C- COLORLESS
D- YELLOW
E- RED

REFLECTIVE SHEETING REFLECTOR





2 LB./FT. DELINEATOR DRIVE POST



TAMPER RESISTANT FASTENERS SHALL BE USED TO FASTEN DELINEATORS TO POST AS/OR SIMILAR TO ONE SHOWN ABOVE.

TAMPER RESISTANT FASTNERS

DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

RADII, FT. FROM	RADII, FT. TO	SPACING ON CURVE	*TRANSITION SPACING	
TANGENT	1,801	100'	100'	100'
1,800	1,401	80'	100'	100'
1,400	1,001	70'	100'	100'
1,000	751	60'	100'	100'
750	551	50'	80'	100'
550	326	40'	70'	100'
325	——	30'	60'	100'

* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE

NOTES

1. TYPE A DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES.

2. WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.

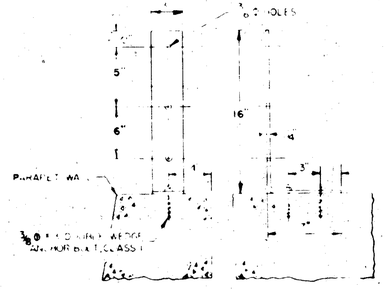
3. NO DELINEATORS ARE TO BE PLACED IN PAVED BERM

4. WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.

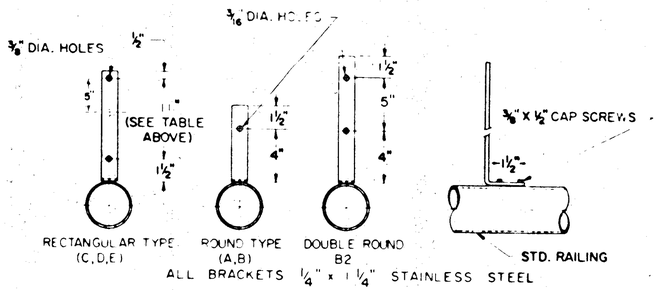
5. IN ADDITION TO MATERIALS LISTED IN 620.02, RECTANGULAR SHEET REFLECTORS MAY CONSIST OF REFLECTIVE SHEETING COMPOSED OF GLASS SPHERES IMBEDDED IN A WEATHER PROOF SYNTHETIC RESIN SHEET, THE REFLECTIVE FACE OF WHICH SHALL BE PLACED BEHIND AND SEALED TO A WEATHERPROOF RIGID PLASTIC FACE OF METHYL METHACRYLATE OF 0.060 INCHES MINIMUM THICKNESS.

6. SUPPLEMENTING THE DRIVE POST DETAILS SHOWN, ALTERNATE POST SECTIONS MAY BE FURNISHED. ANY ALTERNATE SECTION FURNISHED SHALL MEET ALL THE MATERIAL REQUIREMENTS OF 620, HAVE A SHAPE APPROXIMATELY AS DETAILED, AND HAVE A MOMENT OF INERTIA EQUAL TO OR GREATER THAN THE SECTION DETAILED. THE REQUIREMENTS OF 712.20 REALTIVE TO MAXIMUM WEIGHT TOLERANCE ARE HEREBY WAIVED. NO ALTERNATE SECTION FURNISHED SHALL EXCEED THE WEIGHT OF THE CORRESPONDING SECTION BY MORE THAN 10 PERCENT.

Rev. 4-25-75



BRIDGE PARAPET BRACKET



BRIDGE RAIL BRACKET

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

DELINEATOR DETAILS

DATE 1/1/73 3/12/73

APPROVED _____
ENGINEER OF DESIGN SERVICES

STATE JOB NO.	FED. RD. DIVISION	STATE	PROJECT	
11887 (Q)	2	OHIO		

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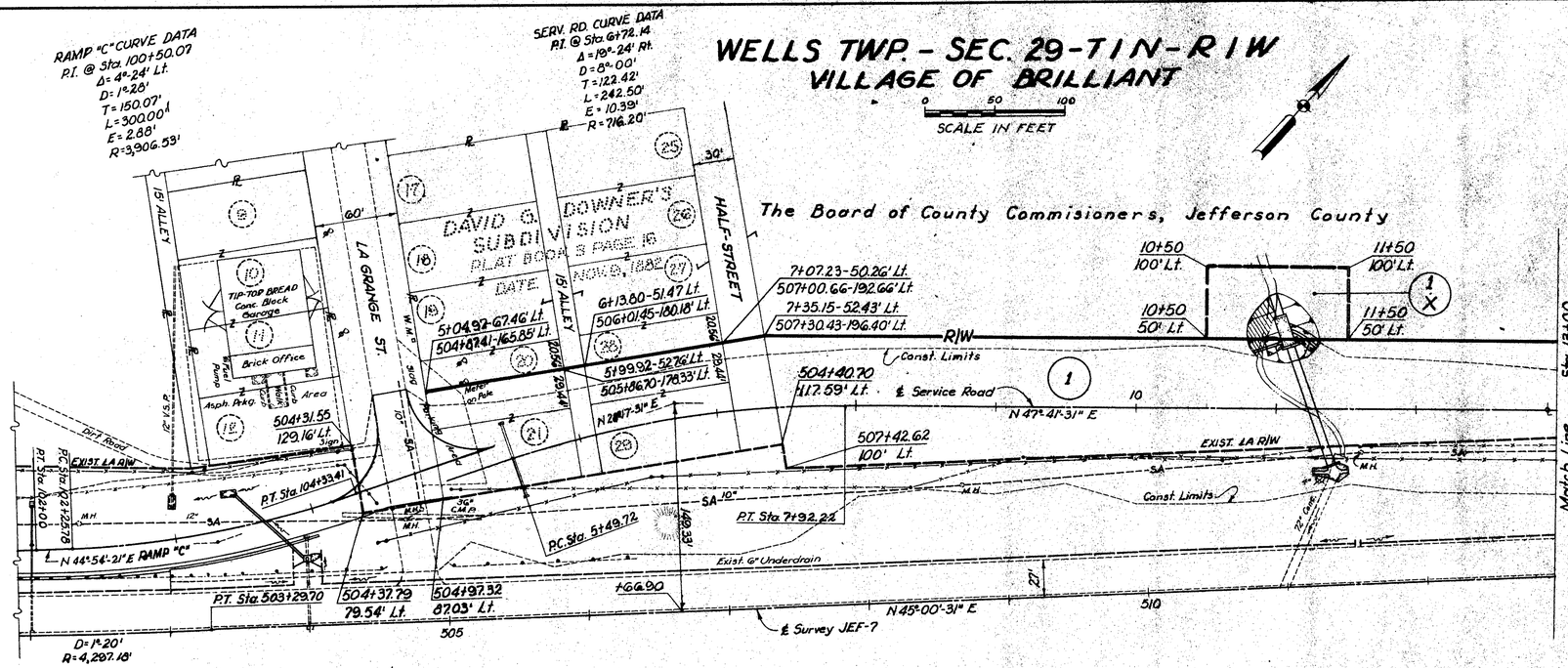
1/2

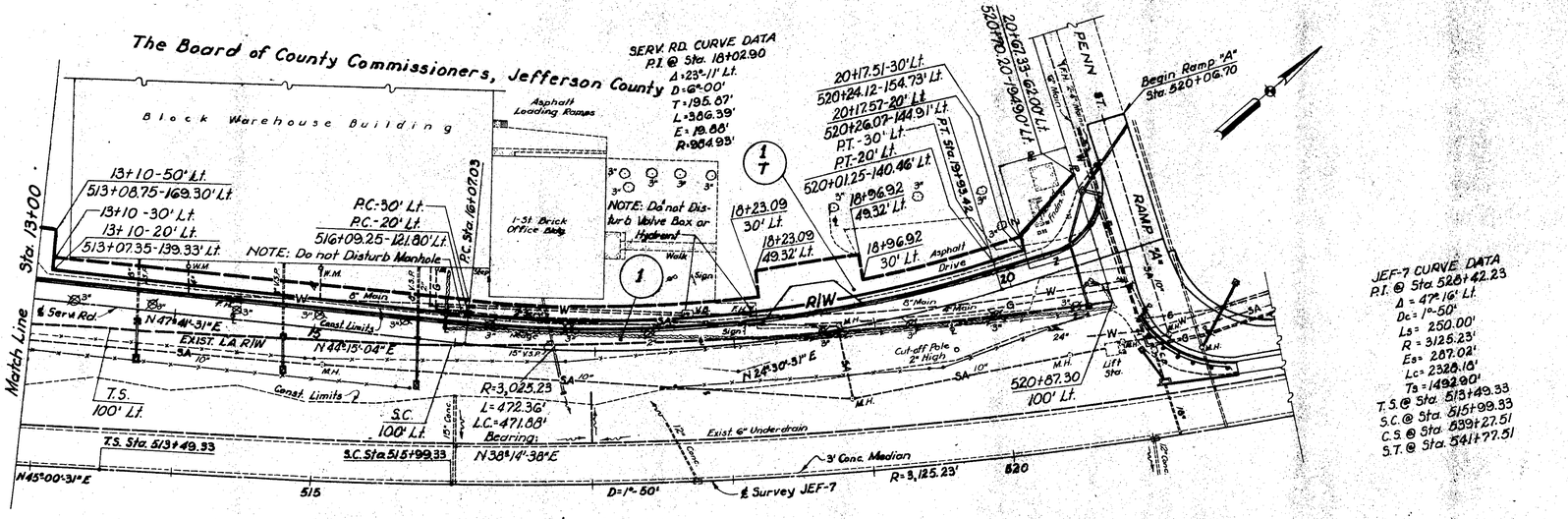
RIGHT OF WAY PLAN

R/W ONLY | JEF-7-8.99

WELLS TWP. - SEC. 29 - T 1N - R 1W
VILLAGE OF BRILLIANT

SCALE IN FEET 0 50 100





NOTE:
For Utilities affected see Right of Way Sheet No. 2

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

TOTAL NO. OWNERS - 3 | NO. TOTAL TAKES - 1 | TOTAL OWNERS WITH STRUCTURES INVOLVED - 2

PARCEL NO.	OWNER	DEED RECORD BOOK	PAGE	DATE	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	NET RES. LT.	NET RES. RT.	BLDG'S. TO BE ACQ'D.	REMARKS	TYPE FUND
1	THE BOARD OF COUNTY COMMISSIONERS, JEFFERSON COUNTY,	465	384	1968	10.334	0	2.006	0	2.006	8.328	0	NONE	SEE LEASE BOOK 47, PAGE 97	
	OHIO	468	389	1968	0.086	0	0.045	0	0.045	0.041	0		FOR LEASE AGREEMENT	
1-T	DITTO						0.192						TO PROVIDE WORKING AREA	
1-X	DITTO						0.115						TO CONSTRUCT CHANNEL	
	TOTALS				10.420	0	2.051	0	2.051	8.369	0			

DATE	COMPLETION DATE	NOV. 16, 1972
2-5-73	Changed Parcel 1-WA to 1-T	
7-18-73	Revised R/W Only Number	

Rev. 12-4-73

R/W PLAN & SUMMARY

WELLS TWP. - SEC. 29-T1N-R1W
VILLAGE OF BRILLIANT

0 50 100
SCALE IN FEET

STATE JOB NO.	FED. RD. DIVISION	STATE	PROJECT	
11887 (0)	2	OHIO		

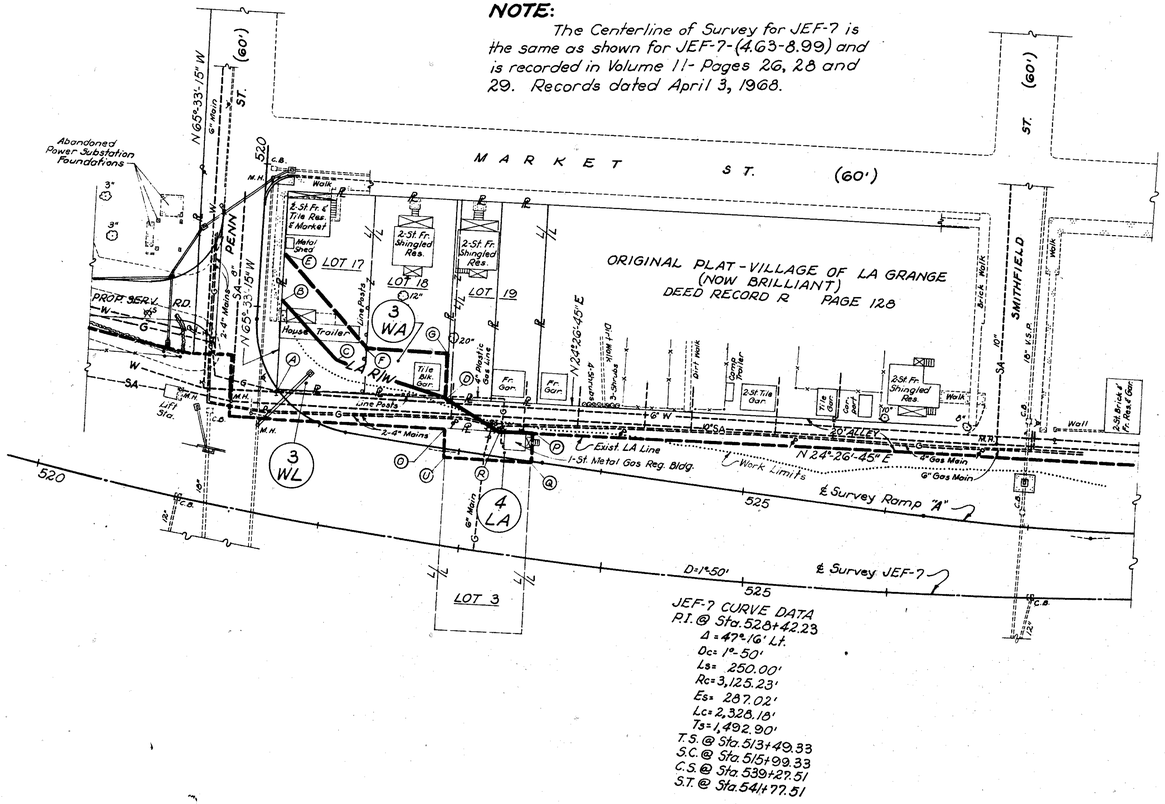
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JEF-7-9.29

RIGHT OF WAY PLAN
R/W ONLY | JEF-7-8.99

2/2

NOTE:
The Centerline of Survey for JEF-7 is the same as shown for JEF-7-(4.63-8.99) and is recorded in Volume 11- Pages 26, 28 and 29. Records dated April 3, 1968.



PARCEL DESCRIPTION

LINE	BEARING	DISTANCE
Parcel No. 3-WL		
A-B	N 65°-33'-15" W	64.76'
B-C	N 70°-01'-41" E	57.57'
C-D	N 41°-26'-45" E	80.88'
D-A	S 24°-26'-45" W	117.63'
Parcel No. 4-LA		
O-P	N 24°-26'-45" E	60.35'
P-Q	S 65°-33'-15" E	20.00'
Q-U	S 24°-26'-45" W	60.35'
U-O	N 65°-33'-15" W	20.00'

POINT DESCRIPTION

POINT	STATION	OFFSET
A	521+52.20	85.95' Lt.
B	521+42.27	150.00' Lt.
C	521+90.00	115.00' Lt.
D	522+72.48	100.88' Lt.
E	521+37.47	180.00' Lt.
F	522+09.67	125.00' Lt.
G	522+68.85	133.00' Lt.
O	522+77.83	61.32' Lt.
P	523+39.57	87.13' Lt.
Q	523+41.33	67.21' Lt.
U	522+80.00	61.43' Lt.
R	523+15.00	84.96' Lt.

UTILITIES AFFECTED

NATURAL GAS LINES:
COLUMBIA GAS TRANSMISSION CORPORATION
800 Union Trust Building
Pittsburgh, Pennsylvania
OHIO VALLEY GAS COMPANY
99 North Front Street
Columbus, Ohio

ELECTRIC POWER LINES:
OHIO POWER COMPANY
301 Cleveland Avenue, S.W.
Canton, Ohio

TELEPHONE LINES:
GENERAL TELEPHONE COMPANY
Second & Campbell Streets
Cambridge, Ohio

NITROGEN LINES:
WHEELING-PITTSBURGH STEEL CORPORATION
Steubenville, Ohio

WATER & SEWER LINES:
VILLAGE OF BRILLIANT
Water Department
Brilliant, Ohio

NOTE: See Construction Plan Sheets for location of affected utilities

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

TOTAL NO. OWNERS - NO. TOTAL TAKES - TOTAL OWNERS WITH STRUCTURES INVOLVED -

PARCEL NO.	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED RECORD DATE	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	NET RES. LT.	NET RES. RT.	BLDG'S. TO BE ACQ'D.	REMARKS	TYPE FUND
3-WL	WHEELER E. NICHOLSON	480	692	7-29-69	*16,422 S.F.	0	2,695 S.F.	0	2,695 S.F.	13,727 S.F.	—	Yes	2,194 S.F. from Lot 17 & 501 S.F. from Lot 18	100% STATE
3-WA	" " "	"	"	"	"		2,928 S.F.		2,928 S.F.				To remove tile garage and provide work area	
4-LA	THE MANUFACTURERS LIGHT & HEAT COMPANY	112	27	12-10-16	1,207 S.F.	0	1,207 S.F.	0	1,207 S.F.	—	—	Yes	To remove 1-st. metal gas regulator building	
					* 8400 S.F. in Lot 17 & 8022 S.F. in Lot 18									

DATE	COMPLETION DATE FEB. 18, 1970
3-5-70	Revision: Added Names & Addresses of affected Utilities Owners.
5-7-70	Revised deed area & residue on parcel 3-WL
6-1-72	Deleted Parcels 1-T & 2-T
7-18-73	Revised R/W Only Number

Rev. 12-4-73

R/W PLAN & SUMMARY