STATE OF OHIO
DEPARTMENT OF HIGHWAYS
CUY-2-26.04
CUYAHOGA COUNTY
CITY OF EUCLID

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I 90-1(17) 13	

I-329 (13) OLD
I-90-1(17)13 CUYAHOGA COUNTY
CUY 2-26.04

LIMITED ACCESS CUY-90-26.68

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 REVISED CODE OF OHIO, AND IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC.

NOTE- FEDERAL PROJECT I-329 (13) CUY-2-25.96 APPEARING THROUGHOUT THIS PLAN SHALL BE CONSIDERED TO READ I-90-1(17)13 CUY-2-26.04

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, 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 OF THE HIGHWAY TO TRAFFIC AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATE.

APPROVED Wm B. Henry
DATE 7-12-60 DIVISION DEPUTY DIRECTOR

APPROVED Guy E. Keeper
DATE 8-4-60 DEPUTY DIRECTOR PLANNING & PROGRAMMING

APPROVED D.A. Overman
DATE 8-4-60 ENGINEER OF BRIDGES

APPROVED W. Cunman
DATE 8-4-60 ENGINEER OF LOCATION & DESIGN

APPROVED C.W. McCaughey
DATE 8-4-60 DEPUTY DIRECTOR DESIGN & CONSTRUCTION

APPROVED Gail Berry
DATE 8-4-60 FIRST ASSISTANT DIRECTOR

APPROVED E.H. Preston
DATE 8-4-60 DIRECTOR OF HIGHWAYS

APPROVED
DATE 7-21-60 MAYOR, CITY OF EUCLID

BOARD OF COMMISSIONERS - CUYAHOGA COUNTY
JULY 14 1960 DATE

STATE OF OHIO W. H. HARGETT 3022 A. D. YANDA 2078 C. M. BARBER 223 REGISTERED PROFESSIONAL ENGINEERS

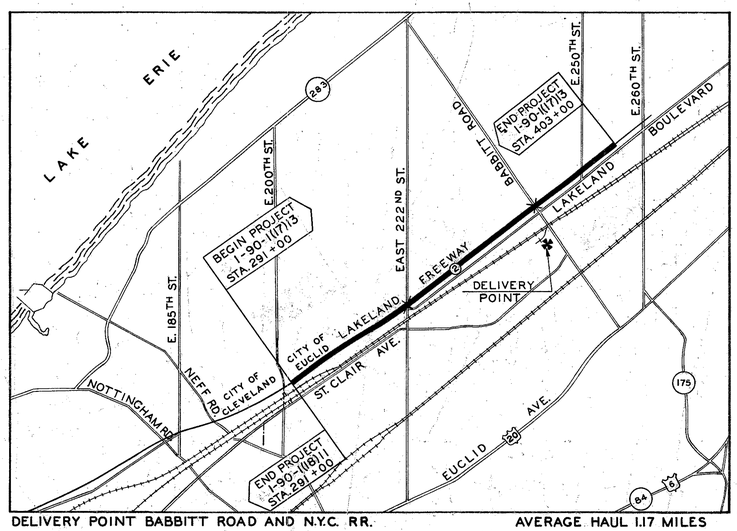
PLANS PREPARED BY
HARGETT YANDA & BARBER
CONSULTING ENGINEERS
CLEVELAND OHIO

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED-
DIVISION ENGINEER DATE

INDEX OF SHEETS

CONVENTIONAL SIGNS

CENTER LINE
CORPORATION LINE
FENCE LINE
GUARD RAIL (STANDARD BARRIER)
RAILROAD
POLE LINES -
CLEVELAND ELEC. ILLUMINATING O CEI
OHIO BELL TELEPHONE O OBI



LOCATION MAP

SCALE IN FEET
0 1000 2000 4000 6000 8000

STATE HIGHWAYS
OTHER HIGHWAYS
PORTION TO BE IMPROVED

SCALES

	ORIGINAL	GRAPHIC
PLAN	1" = 50'	0 20 40 60 80 100
PROFILE - HORIZONTAL	1" = 50'	0 10 20
PROFILE - VERTICAL	1" = 10'	
CROSS SECTIONS	1" = 20'	0 10 20 30 40

LINE DATA

BEGIN PROJECT STA. 291+00
END PROJECT STA. 403+00
NET LENGTH OF PROJECT ..... 11,200.00 LIN. FT. OR 2.121 MI.

ADD FOR APPROACHES
SEE SHEET NO. 23 ..... 1,897.21 LIN. FT.

TOTAL LENGTH OF WORK ..... 13,097.21 LIN. FT. OR 2.480 MI.

REVISED SHEETS Nº 2, 16, 17, 18, 20, 21, 22, 23, 24 25, 43 & 54 ON 11-21-60.

SUPPLEMENTAL SPECIFICATIONS		STANDARD CONSTRUCTION DRAWINGS					
		DRAWING NO.	DATE	DRAWING NO.	DATE	DRAWING NO.	DATE
NUMBER	DATE	AS-1-54	12-1-54	I-8 C.B. NO. 5	7-1-58	L-3	4-1-50
NO. 18-REVISED	6-15-59	B-T-50-70-71-E-NO.1	10-1-47	I-8 I. NO. 2-A	4-23-59	L-3-A	4-1-50
M-206.14	7-15-49	B-T-71 R	3-2-53	I-8 M.H. NO.1	1-26-59	LJ. NO. 1	7-1-55
		F-1	9-1-59	I-8 M.H. NO. 1-A	1-26-59	T.J.	5-1-56
		F-3	9-1-59	I-8 M.H. NO.2	1-26-59	L-1	4-1-50
B-219-REVISED	3-12-59	G-7.07	6-1-56	I-12	7-1-54	RI-1	7-15-58
S-101	12-2-59	I.H.S. NO.1	11-3-58	I-15 NO.1	5-21-59	T-35	1-2-56
		I-1,2,3,4 & 5	4-24-58	I-15 NO.2-A	5-21-59	RB-1-55	2-2-59
		I-8 C.B. 2-2A & B	3-2-59	I-21-23	8-1-56	AR-1-57	2-2-59

FILE NO. 0015IR1
CUY 2-26.04
DATE OF LETTING
CONTRACT NO.

LOCATION PLAN

FED. RR. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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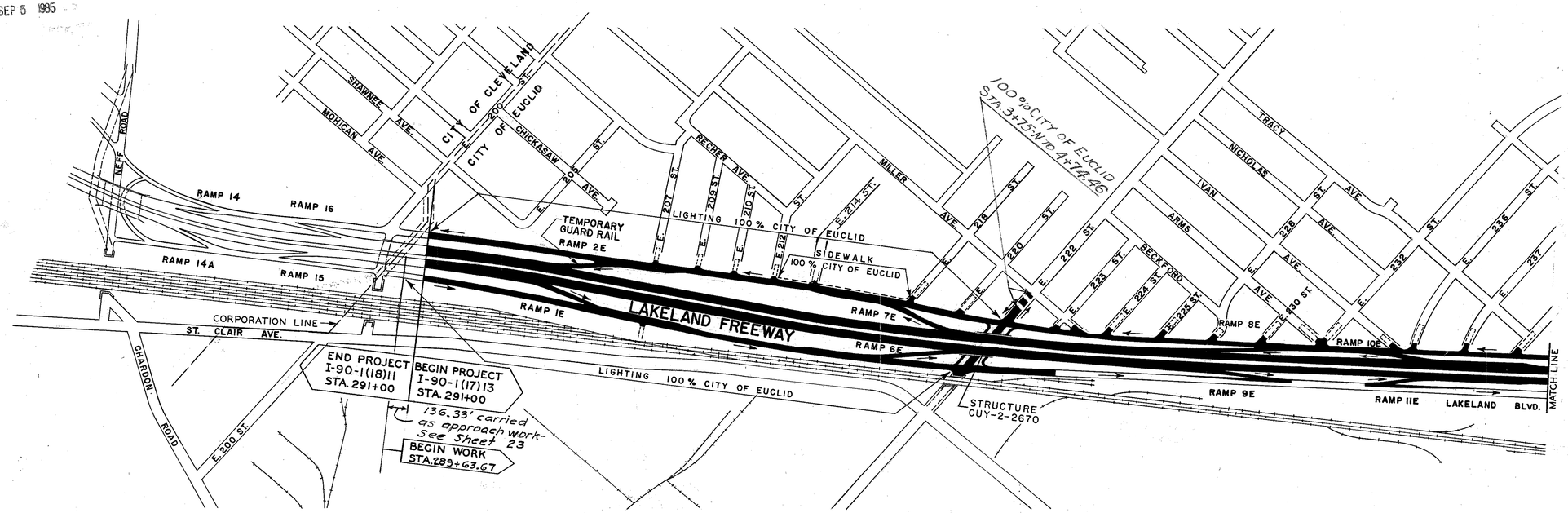
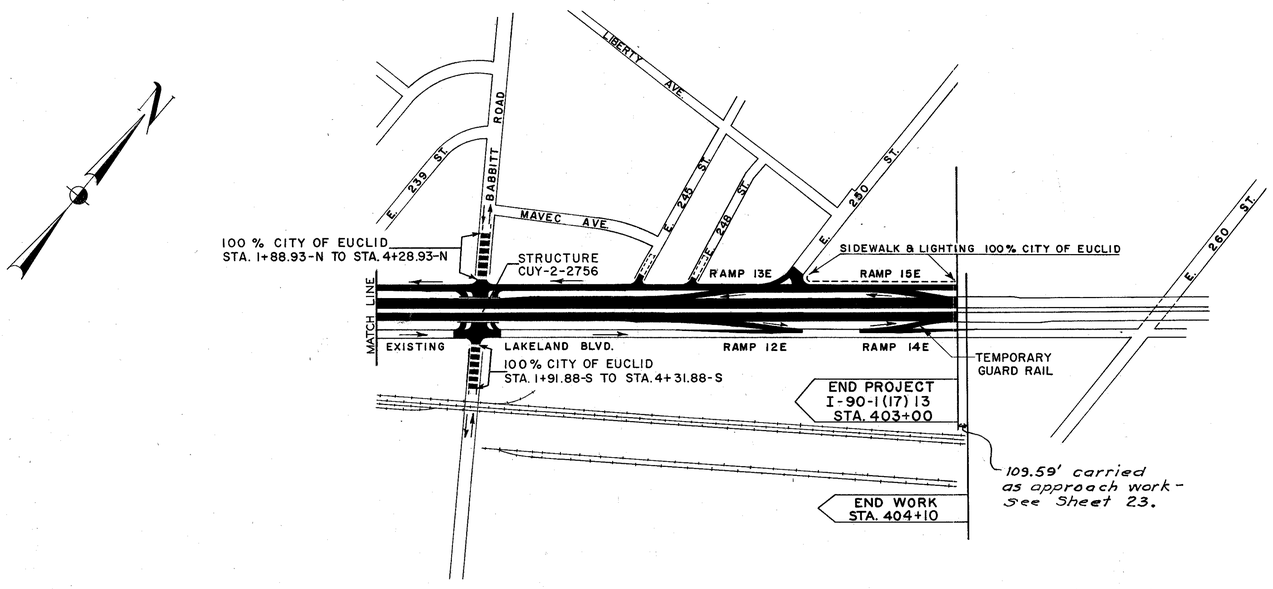
CUYAHOGA COUNTY
CUY 2-25.96





HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

LOCATION PLAN

SCALE: 1"= 400'
(APPROX)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

REVISED 11-21-60 REC.

IR90 26.77~29.10

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

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MICROFILMED
SEP 5 1995

FWY. CURVE No. 4-E ℄ DATA

D = 0°-15'-00"
Δ = 1°-25'-58"
T = 286.57'
R = 22,918.32'
Lc = 573.11'
L.C. = 573.10'
E = 1.79'

FWY. CURVE No. 5-E ℄ DATA

D = 0°-20'-00"
Δ = 2°-40'-00"
T = 400.07'
R = 17,188.74'
Lc = 800.00'
L.C. = 799.93'
E = 4.66'

N.M.R. CURVE No.5E-℄ DATA

D = 1°-08'-45"
Δ = 2°-40'-00"
R = 5000.00'
T = 116.38'
Lc = 232.71'
LC = 232.69'
E = 1.35'

N.M.R. CURVE No.4E ℄ DATA

D = 1°-08'-45"
Δ = 0°-54'-16"
R = 5,000.00'
T = 39.46'
Lc = 78.93'
L.C. = 78.93'
E = 0.16'

N.M.R. CURVE No.3-E ℄ DATA

D = 1°-08'-45"
Δ = 1°-49'-58"
R = 5,000.00'
T = 79.98'
Lc = 159.94'
LC. = 159.93'
E = 0.64'

NOTE:
ALL DISTANCES ARE IN REFERENCE TO TANGENT LINES UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN REFERENCE TO FREEWAY OR MARGINAL ROAD CENTER LINES.

LEGEND
- ■ NEW MONUMENT TO BE SET
- ▣ EXISTING MONUMENT TO BE RE-SET
- □ EXISTING REFERENCE POINT

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3. OHIO

CONSTRUCTION CENTERLINE LAKELAND FREEWAY & MARGINAL ROADS

SCALE : 1"= 100'

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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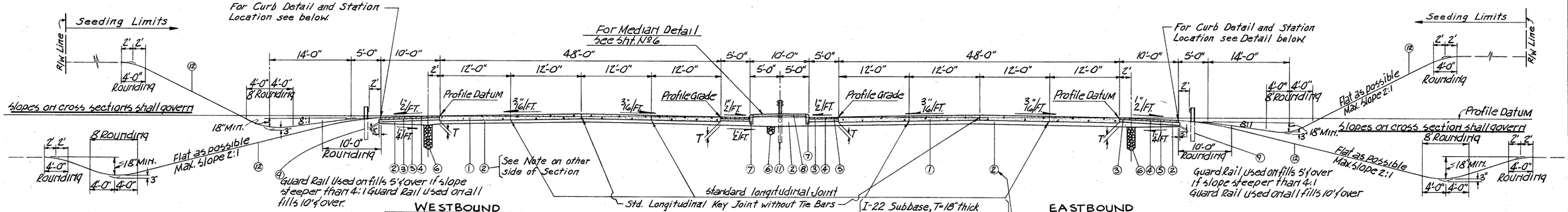
CUYAHOGA COUNTY
CUY-2-25.96

TYPICAL SECTIONS

2-48'-0" PAVEMENTS

TYPE T-71 REINFORCED CONCRETE PAVEMENT

SCALE 1/8"= 1'-0"



WESTBOUND

Sta. 291+00 to Sta. 291+50
Sta. 304+25 to Sta. 315+50
Sta. 328+75 to Sta. 329+15.98
Sta. 331+97.46 to Sta. 374+59.47
Sta. 377+17.97 to Sta. 403+00

EASTBOUND

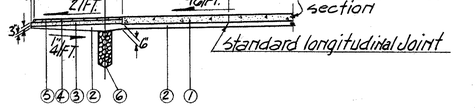
Sta. 291+00 to Sta. 291+50
Sta. 304+50 to Sta. 315+50
Sta. 328+50 to Sta. 329+15.98
Sta. 331+97.46 to Sta. 374+59.47
Sta. 377+17.97 to Sta. 403+00

See Extra Area Sht. No 61 & 63 From Sta. 328+50 To Sta. 337+25 (Eastbound)
See Extra Area Sht. No 62 & 63 From Sta. 328+75 To Sta. 333+50 (Westbound)
See Extra Area Sht. No 63 & 64 From Sta. 338+50 To Sta. 349+11 (Westbound)
See Extra Area Sht. No 65 From Sta. 341+50 To Sta. 347+50 (Eastbound)
See Extra Area Sht. No 66 From Sta. 359+50 To Sta. 365+50 (Westbound)
See Extra Area Sht. No 67 & 68 From Sta. 358+56 To Sta. 370+99.92 (Eastbound)
See Extra Area Sht. No 68 & 70 From Sta. 377+25 To Sta. 386+93 (Westbound)
See Extra Area Sht. No 69 From Sta. 384+25 To Sta. 390+25 (Eastbound)
See Extra Area Sht. No 71 From Sta. 400+43 To Sta. 403+00 (Eastbound)
See Extra Area Sht. No 72 From Sta. 400+75 To Sta. 403+00 (Westbound)

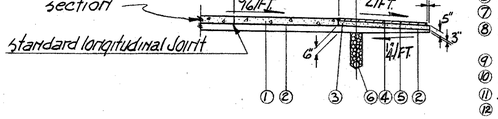
NORMAL SECTION

LEGEND

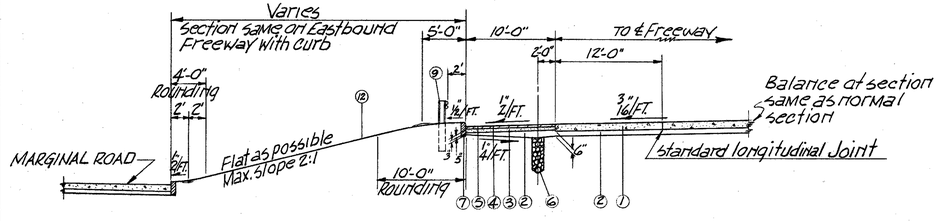
① T-71 10" Reinforced Portland Cement Concrete Pavement
② I-22 Subbase Grading A or B, as Per Plan, See Sht. #14
③ I-18 5" Stabilized Crush Aggregate Shoulders
④ T-31 Bituminous Surface Treatment Consisting Of One Application As Follows: 0.008 Cubic Yards No 6 Aggregate And 0.25 Gallon Bituminous Material Per Square Yard. (See Note In Proposal)
⑤ B-219 3" Waterproofed Aggregate Base Course
⑥ I-4 6" Underdrains As Per Plan
⑦ I-11 6"x18" Sandstone Curb As Per Plan
⑧ I-21 Standard Type 1 Portland Cement Concrete Median Pavement, T= 4"
⑨ I-15 Guard Rail - Standard
⑩ T-71 9" Reinforced Portland Cement Concrete Pavement
⑪ I-15 Guard Rail - Barrier
⑫ L-9 Seeding (Calculated between R/W Lines.)



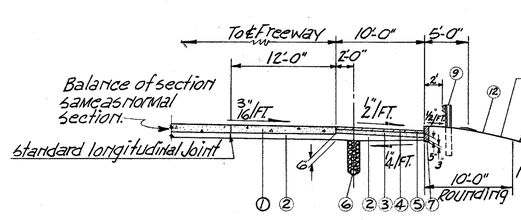
SPEED CHANGE LANE - WESTBOUND
Sta. 291+00 to Sta. 291+50



SPEED CHANGE LANE - EASTBOUND
Sta. 291+00 to Sta. 291+50



CURB DETAIL - WESTBOUND
Sta. 333+50 to Sta. 338+50
Sta. 365+50 to Sta. 374+72.53
Sta. 377+10.85 to Sta. 377+25



CURB DETAIL - EASTBOUND
Sta. 337+25 to Sta. 341+50
Sta. 370+99.92 to Sta. 374+66.59
Sta. 377+04.91 to Sta. 384+25

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

TYPICAL SECTIONS

FREEWAY NORMAL

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

Revised DEC 9-20-60

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

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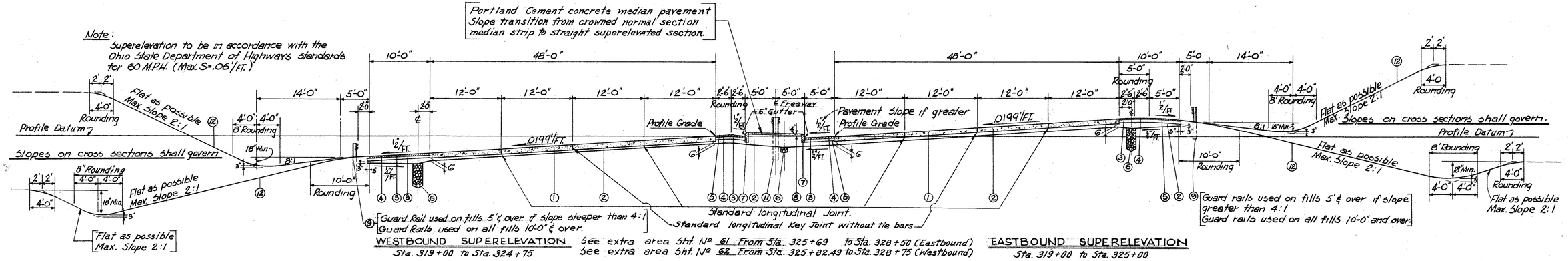
TYPICAL SECTIONS

2-48'-0" PAVEMENTS

TYPE T-71 REINFORCED CONCRETE PAVEMENT

SCALE 1/8"= 1'-0"



WESTBOUND SUPERELEVATION
Sta. 319+00 to Sta. 324+75
See extra area Sht. No 61 From Sta. 325+69 to Sta. 328+50 (Eastbound)
See extra area Sht. No 62 From Sta. 325+82.49 to Sta. 328+75 (Westbound)

EASTBOUND SUPERELEVATION
Sta. 319+00 to Sta. 325+00

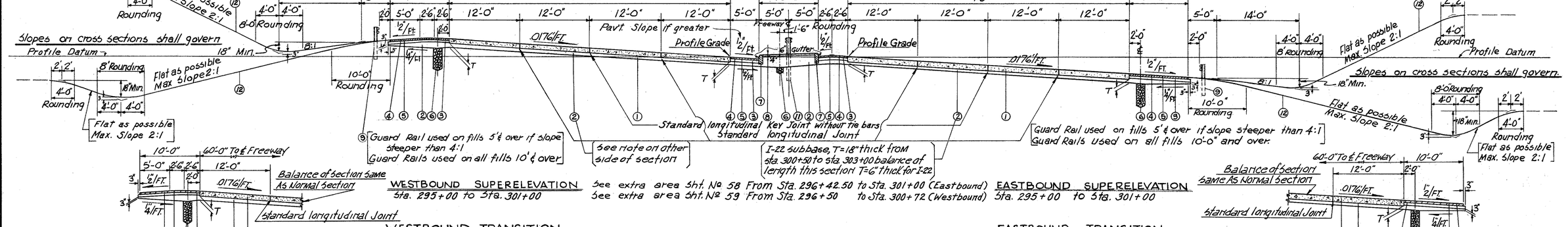
WESTBOUND TRANSITION
Sta. 315+50 to Sta. 319+00
Sta. 324+75 to Sta. 328+75

EASTBOUND TRANSITION
Sta. 315+50 to Sta. 319+00
Sta. 325+00 to Sta. 328+50

SUPERELEVATED SECTION

FWY. CURVE TO LEFT

For Superelevation Tables See Sht. No 74



WESTBOUND SUPERELEVATION
Sta. 295+00 to Sta. 301+00
See extra area Sht. No 58 From Sta. 296+42.50 to Sta. 301+00 (Eastbound)
See extra area Sht. No 59 From Sta. 296+50 to Sta. 300+72 (Westbound)

EASTBOUND SUPERELEVATION
Sta. 295+00 to Sta. 301+00

SPEED CHANGE LANE - WESTBOUND
STA. 291+50 TO STA. 296+50

SPEED CHANGE LANE - EASTBOUND
STA. 291+50 TO STA. 296+42.50

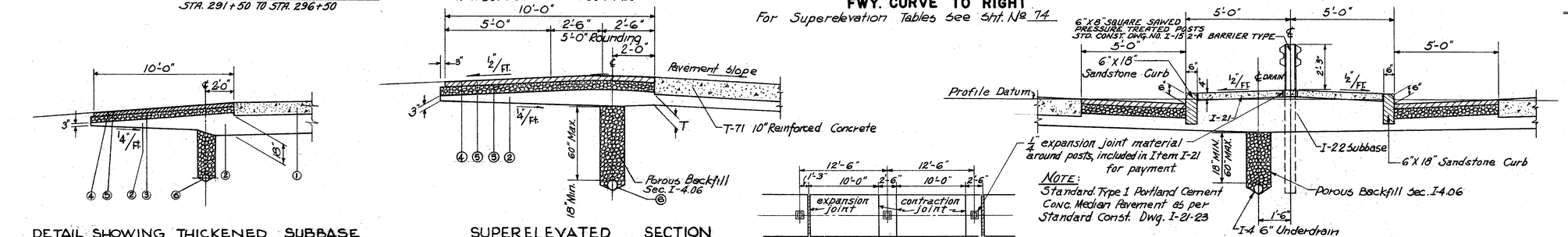
WESTBOUND TRANSITION
Sta. 291+50 to Sta. 295+00
Sta. 301+00 to Sta. 304+25

EASTBOUND TRANSITION
Sta. 291+50 to Sta. 295+00
Sta. 301+00 to Sta. 304+50

SUPERELEVATED SECTION

FWY. CURVE TO RIGHT

For Superelevation Tables See Sht. No 74



DETAIL SHOWING THICKENED SUBBASE & I-4 6" UNDERDRAIN

SUPERELEVATED SECTION
HIGH OUTSIDE SHOULDER DETAIL
Scale 3/8"= 1'-0"

JOINT DETAIL AT GUARD RAIL POSTS IN CONCRETE MEDIAN

NORMAL SECTION MEDIAN STRIP AND UNDERDRAIN DETAIL
SCALE 3/8"=1'-0"

Revised REC 9-20-60

LEGEND

See Sht. No 5 for interpretation of Key Symbols.
For Details of I-4 6" Underdrains see Sht. No 10

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

TYPICAL SECTIONS

FREEWAY SUPERELEVATED
CURVE TO LEFT AND RIGHT

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
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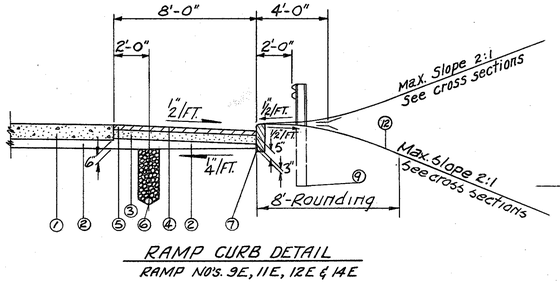
CUYAHOGA COUNTY
CUY-2-25.96

TYPICAL SECTIONS

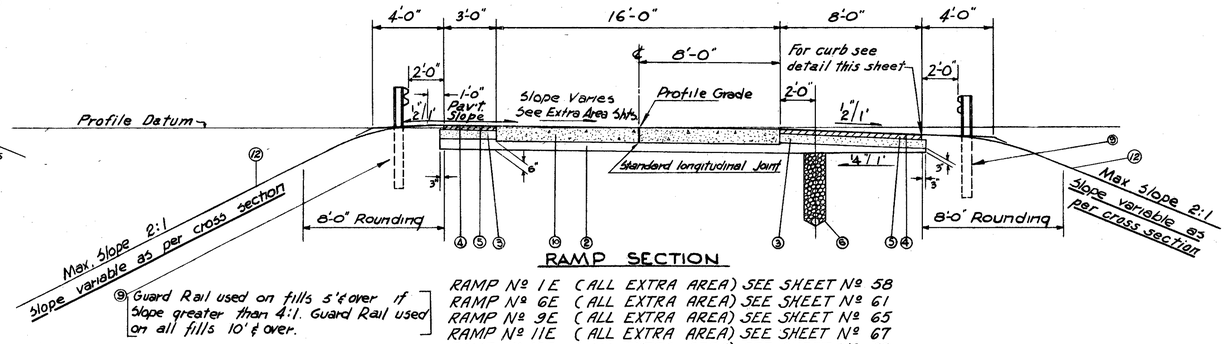
16' PAVEMENTS

TYPE T-71 REINFORCED CONCRETE PAVEMENT

SCALE = 1/4" = 1'-0"



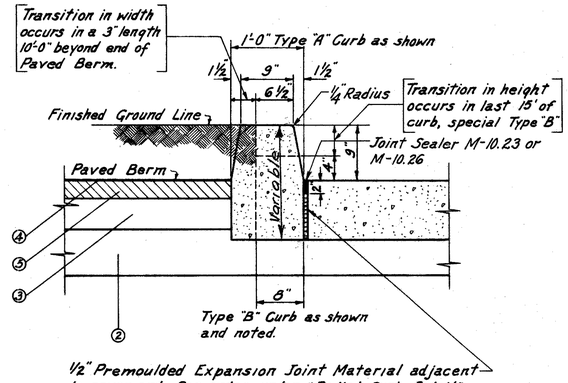
RAMP CURB DETAIL
RAMP NO'S. 9E, 11E, 12E & 14E



RAMP SECTION

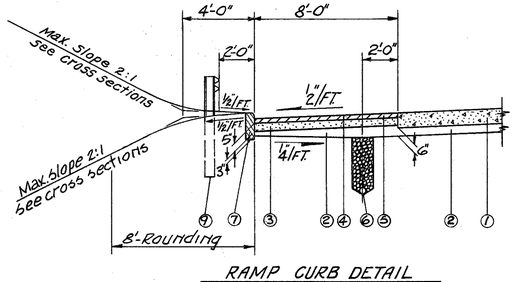
⑨ Guard Rail used on fills 5'& over if slope greater than 4:1. Guard Rail used on all fills 10'& over.

RAMP Nº 1E (ALL EXTRA AREA) SEE SHEET Nº 58
RAMP Nº 6E (ALL EXTRA AREA) SEE SHEET Nº 61
RAMP Nº 9E (ALL EXTRA AREA) SEE SHEET Nº 65
RAMP Nº 11E (ALL EXTRA AREA) SEE SHEET Nº 67
RAMP Nº 12E (ALL EXTRA AREA) SEE SHEET Nº 69
RAMP Nº 14E (ALL EXTRA AREA) SEE SHEET Nº 71



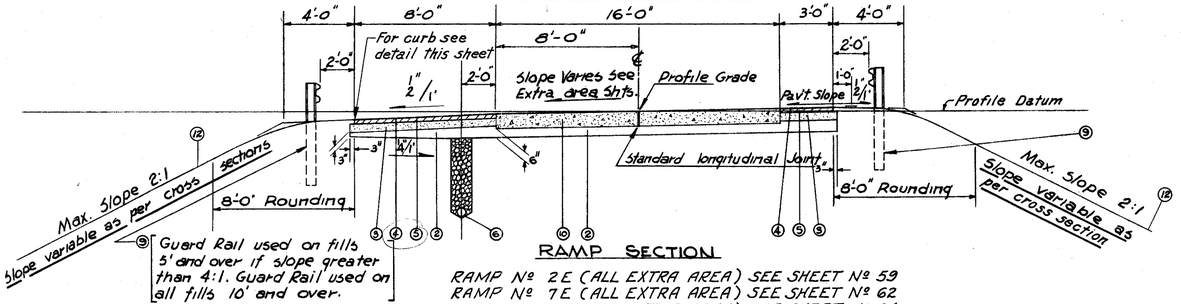
½" Premoulded Expansion Joint Material adjacent to pavement. See notes under "Radial Curb Detail" given on Sht. No. 9
Cost for concrete curb, Special Type A shall include the cost of the premoulded expansion joint material in place.

DETAILS OF CONCRETE CURB, SPECIAL TYPE A & B
SCALE 1"= 1'-0"



RAMP CURB DETAIL
RAMP NO'S. 8E, 10E, 13E & 15E

NORMAL SECTION

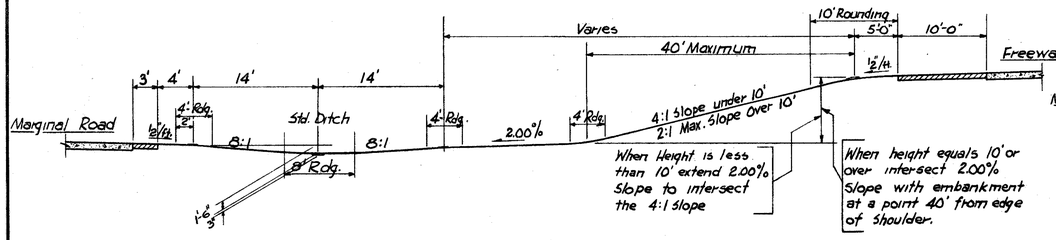


⑨ Guard Rail used on fills 5' and over if slope greater than 4:1. Guard Rail used on all fills 10' and over.

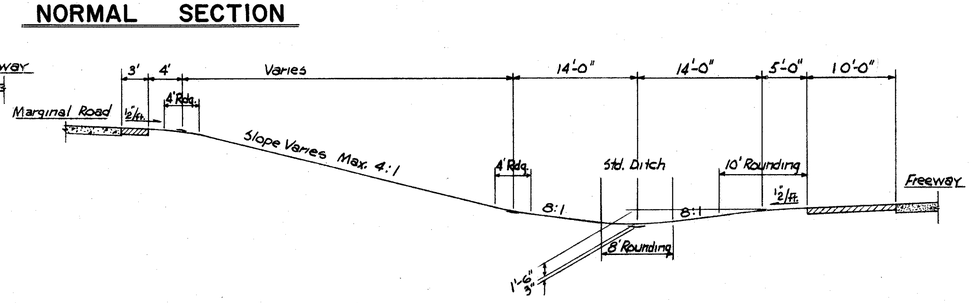
RAMP SECTION

RAMP Nº 2E (ALL EXTRA AREA) SEE SHEET Nº 59
RAMP Nº 7E (ALL EXTRA AREA) SEE SHEET Nº 62
RAMP Nº 8E (ALL EXTRA AREA) SEE SHEET Nº 64
RAMP Nº 10E (ALL EXTRA AREA) SEE SHEET Nº 66
RAMP Nº 13E (ALL EXTRA AREA) SEE SHEET Nº 70
RAMP Nº 15E (ALL EXTRA AREA) SEE SHEET Nº 72

NORMAL SECTION



FREEWAY ABOVE MARGINAL ROAD
DITCH FOLLOWS MARGINAL RD.



MARGINAL ROAD ABOVE FREEWAY
DITCH FOLLOWS FREEWAY

STANDARD DITCH DETAIL

SCALE = 1/8"= 1'-0"

LEGEND

See Sht. No. 5 for interpretation of Key Symbols.

For Details of 1-4 6" Underdrains see Sht Nº 10

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

TYPICAL SECTIONS

16 FOOT RAMPS
&
STANDARD DITCH

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

Revised REC. 9-20-60

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
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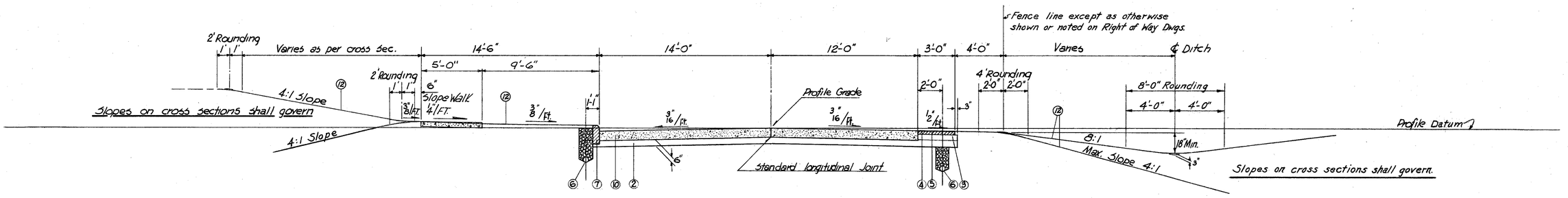
CUYAHOGA COUNTY
CUY-2-25.96

TYPICAL SECTIONS

26' PAVEMENT & 38' PAVEMENT

TYPE T-71 REINFORCED CONCRETE

SCALE: 1/4" = 1'-0"

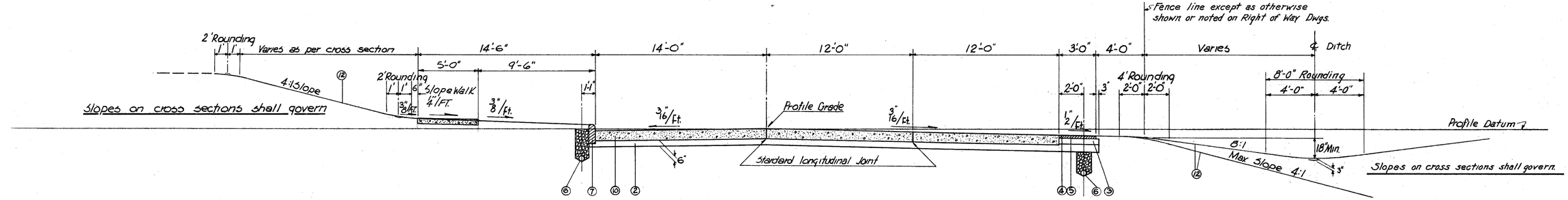


From Sta. 292+03.63 to Sta. 330+49.66

NORTH MARGINAL ROAD

NORMAL SECTION

See extra area Sht. Nº 59 From Sta. 304+00 to Sta. 310+00 (South Side)
See extra area Sht. Nº 48 From Sta. 307+64.32 to Sta. 308+78.27 (North Side)
See extra area Sht. Nº 48 From Sta. 310+67.33 to Sta. 311+81.25 (North Side)
See extra area Sht. Nº 48 From Sta. 313+17.15 to Sta. 314+31.07 (North Side)
See extra area Sht. Nº 49 From Sta. 315+76.55 to Sta. 316+90.91 (North Side)
See extra area Sht. Nº 62 From Sta. 318+50 to Sta. 324+99 (South Side)
See extra area Sht. Nº 49 From Sta. 325+25.99 to Sta. 326+55.39 (North Side)
See extra area Sht. Nº 49 From Sta. 328+72.80 to Sta. 330+02.20 (North Side)

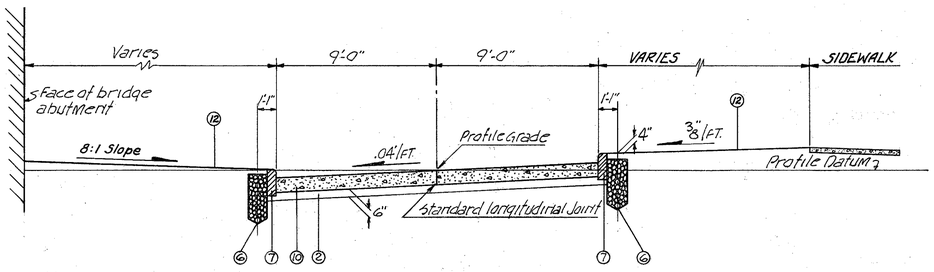


NORTH MARGINAL ROAD

From Sta. 351+90.55 to Sta. 355+52.47
From Sta. 390+44.94 to Sta. 397+21.22

NORMAL SECTION

See extra area Sht. Nº 51 From Sta. 353+63 to Sta. 355+15.73 (North Side)
See extra area Sht. Nº 53 From Sta. 392+03.16 to Sta. 394+25.74 (North Side)



E. 222ND ST. & BABBITT RD. MARGINAL ROAD CONNECTORS

ALL EXTRA AREA SEE SHEET Nos. 54, 55, 56 & 57

LEGEND

For interpretation of key numbers see Sht. Nº 5

For Details of 14 6" underdrains see Sht. Nº 10

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

TYPICAL SECTIONS

NORTH MARGINAL ROAD
&
MARGINAL ROAD CONNECTORS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

Revised R.E.C. 9-20-60

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

9/152

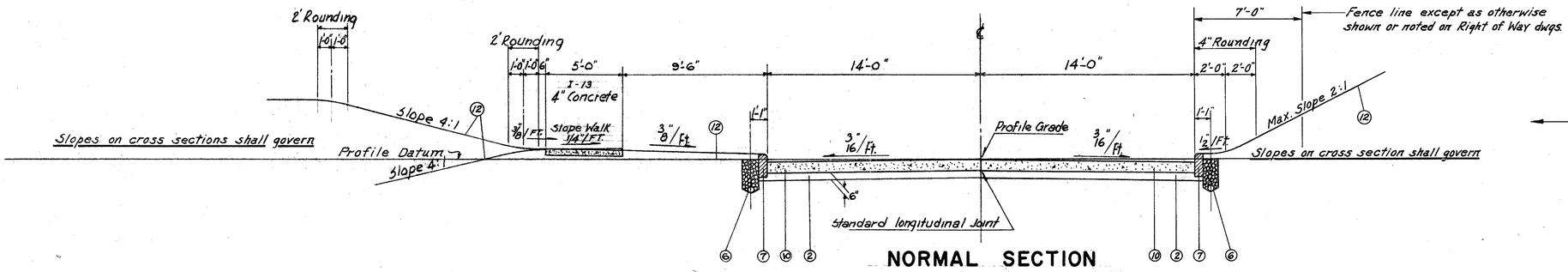
CUYAHOGA COUNTY
CUY-2-25.96

TYPICAL SECTIONS

NORTH MARGINAL ROAD

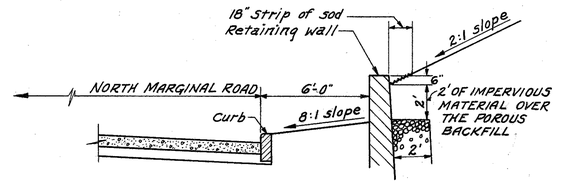
TYPE T-71 REINFORCED CONCRETE

SCALE 1/4" = 1'-0"



NORMAL SECTION
NORTH MARGINAL ROAD

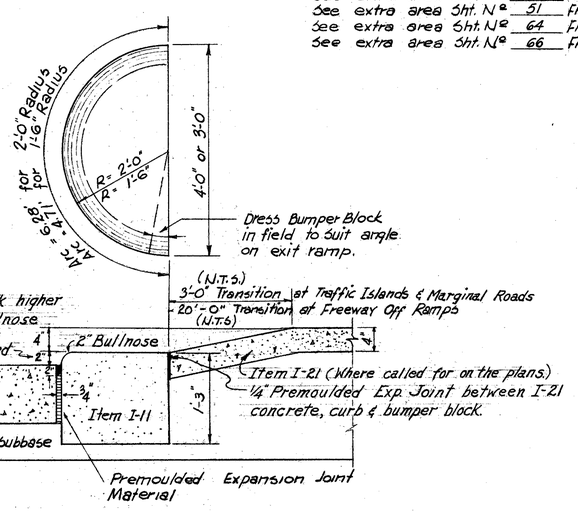
Sta. 334 + 38.34 to Sta. 351 + 90.55
Sta. 355 + 52.47 to Sta. 374 + 44.38
Sta. 377 + 35.83 to Sta. 390 + 44.94
Sta. 397 + 21.22 to Sta. 402 + 99.55



TYPICAL SECTION AT RETAINING WALL
FREEWAY STA. 373+50 TO STA. 374+43.34

See extra area Sht. Nº 50 From Sta. 335+78.97 to Sta. 340+93.06 (North Side)
See extra area Sht. Nº 51 From Sta. 342+19.18 to Sta. 343+54.58 (North Side)
See extra area Sht. Nº 51 From Sta. 345+81.32 to Sta. 347+22.77 (North Side)
See extra area Sht. Nº 51 From Sta. 349+46.91 to Sta. 350+88.23 (North Side)
See extra area Sht. Nº 64 From Sta. 348+79 to Sta. 351+90.55 (South Side)
See extra area Sht. Nº 66 From Sta. 355+52.47 to Sta. 360+21 (South Side)

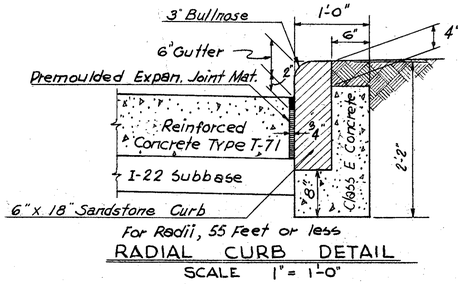
See extra area Sht. Nº 51 From Sta. 345+81.32 to Sta. 347+22.77 (North Side)
See extra area Sht. Nº 52 From Sta. 358+78.37 to Sta. 361+13.63 (North Side)
See extra area Sht. Nº 52 From Sta. 363+54.34 to Sta. 364+77.04 (North Side)
See extra area Sht. Nº 52 From Sta. 367+12.20 to Sta. 368+54.03 (North Side)
See extra area Sht. Nº 53 From Sta. 383+90.24 to Sta. 385+18.70 (North Side)
See extra area Sht. Nº 53 From Sta. 386+84.77 to Sta. 388+09.07 (North Side)
See extra area Sht. Nº 70 From Sta. 388+12.50 to Sta. 390+44.94 (South Side)
See extra area Sht. Nº 53 From Sta. 392+03.16 to Sta. 394+25.74 (North Side)
See extra area Sht. Nº 72 From Sta. 397+21.22 to Sta. 400+25 (South Side)



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

NOTE:
Bumper block sandstone shall meet the requirements of Sec. I-11.02 of the Construction and Material Specifications.

NOTE: The 1/4" premoulded expansion joint material shall meet the requirements of section M-10.02 or M-10.03 of the specifications. The cost of pavement for traffic islands and between curbs at ramp exit noses shall include the premoulded expansion joint material and shall be paid for at the unit price bid for Item I-21 Portland Cement Concrete Traffic Island Pavement.



For Radii, 55 Feet or less

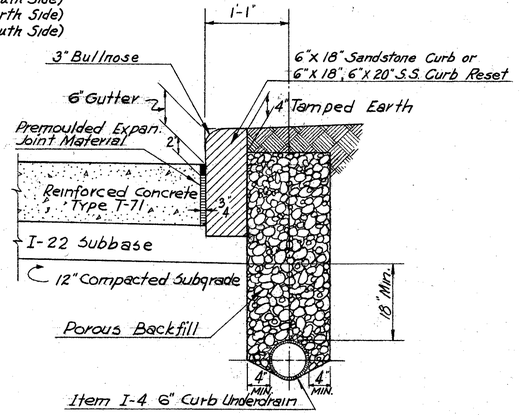
RADIAL CURB DETAIL
SCALE 1" = 1'-0"

NOTE: All curbs shall be 6" x 18" Sandstone Curb unless otherwise noted.

NOTE:
The three quarter (3/4) inch Premoulded Joint Material shall meet the requirements of section M-10.02 of the standard Specifications. It shall be placed in front of the Radial Curb and Bumper Blocks to within two (2") inches of the surface. The remaining space shall be filled with Bituminous Filler* meeting the requirements of Sec. M-5.6 F2 of The Standard Specifications. The cost of the joint & the cost of class "E" concrete shall be included in the unit price bid for Item I-12, Radial Sandstone Curb, as per plan.

NOTE:
If pavement is built before the curb is placed, it shall be built full width and any opening between curb and pavement shall be filled with dry sand to within (2") two inches of the surface; the remaining space shall be filled with Bituminous filler* meeting the requirements of Sec. M-5.6 F2 of the Standard Specifications. Sand shall meet the requirements of Sec. M-2.1. The cost of joint shall be included in the unit price bid for Item I-12, Radial Sandstone Curb, as per plan.

* Where pavement consists of asphaltic concrete the bituminous filler may be omitted.



DETAIL SHOWING STRAIGHT CURB & 6" CURB UNDERDRAINS
SCALE 1" = 1'-0"

LEGEND
For interpretation of key numbers See Sht. Nº 5.

For Details of I-4 6" Underdrains See Sht. No. 10.

HARGETT, YANDA & BARBER
Consulting Engineers
4800 EUCLID AVE. CLEVELAND 3, OHIO

TYPICAL SECTIONS

NORTH MARGINAL ROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

Revised REC. 9-20-60

TYPICAL SECTIONS

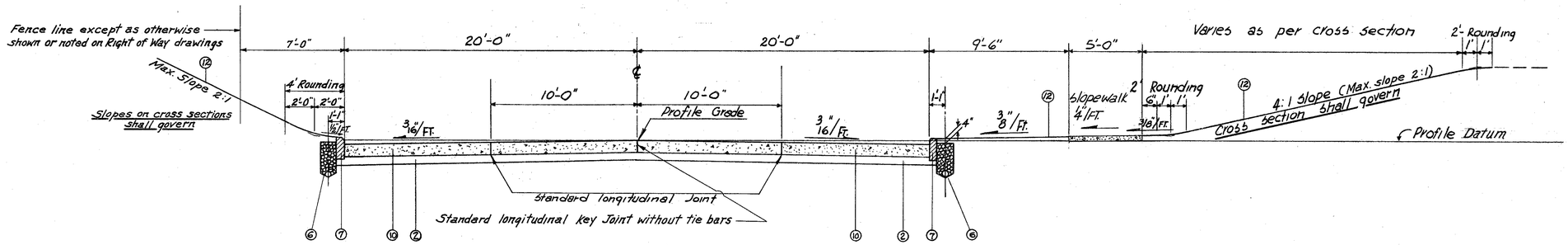
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

10/152

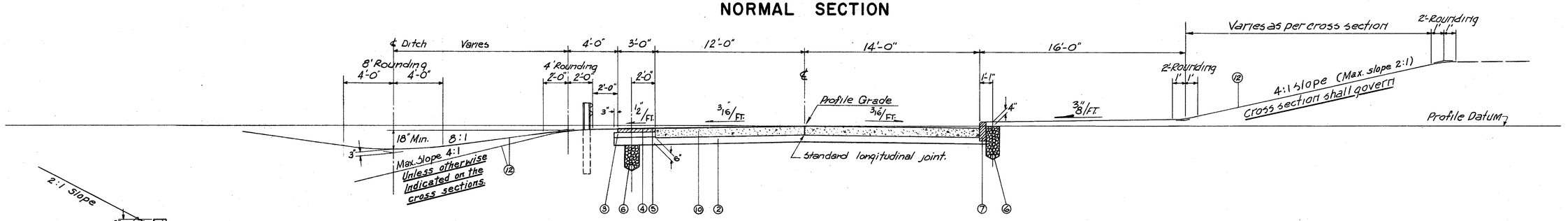
TYPE T-71 REINFORCED CONCRETE PAVEMENTS

SCALE 1/4" = 1'-0"



SOUTH MARGINAL ROAD
FROM STA. 332+09.36 TO STA. 336+00

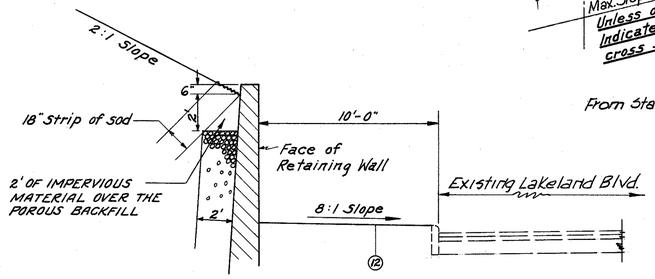
NORMAL SECTION



From Sta. 291+46.33 To Sta. 327+92.33

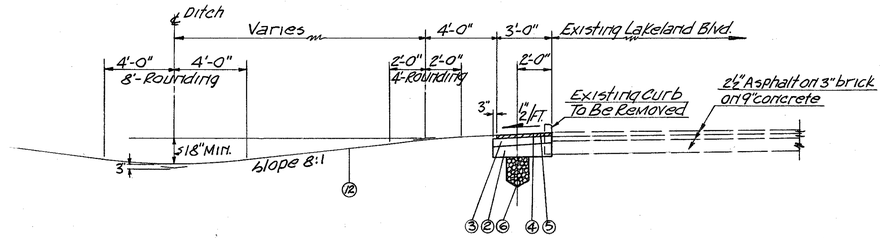
SOUTH MARGINAL ROAD

See extra area Sht. Nº 58 & 60 From Sta. 303+42 To Sta. 309+20 (North Side)
See extra area Sht. Nº 49 From Sta. 307+09.20 To Sta. 307+73.35 (South Side)
See extra area Sht. Nº 61 & 63 From Sta. 317+50 To Sta. 324+07 (North Side)

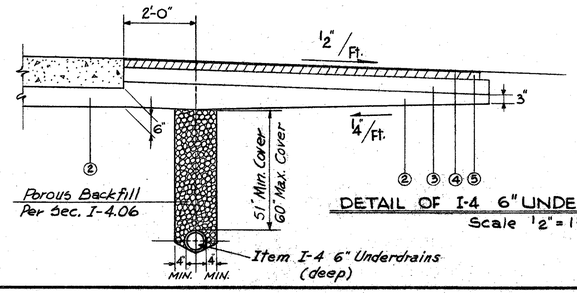


TYPICAL SECTION AT RETAINING WALLS
FREEWAY STA. 371+25 TO STA. 374+37.85
FREEWAY STA. 377+30.64 TO STA. 381+00

NORMAL SECTION

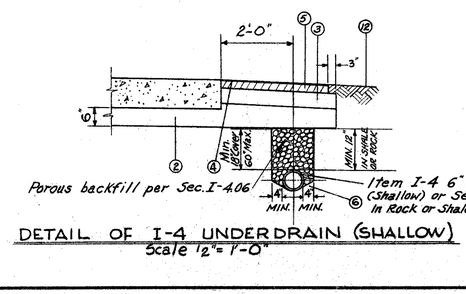


TYPICAL SECTION ALONG LAKELAND BLVD.
(FROM RAMP 9E TO 11E & FROM RAMP 12E TO 14E)
STA. 350+96.59 TO STA. 355+88.81
STA. 393+58.63 TO STA. 396+74.00



DETAIL OF I-4 6" UNDERDRAINS (DEEP)
Scale 1/2" = 1'-0"

(NOT USED)



DETAIL OF I-4 UNDERDRAIN (SHALLOW)
Scale 1/2" = 1'-0"

LEGEND

For interpretation of key numbers see Sht. Nº 5

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

TYPICAL SECTIONS

SOUTH MARGINAL ROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

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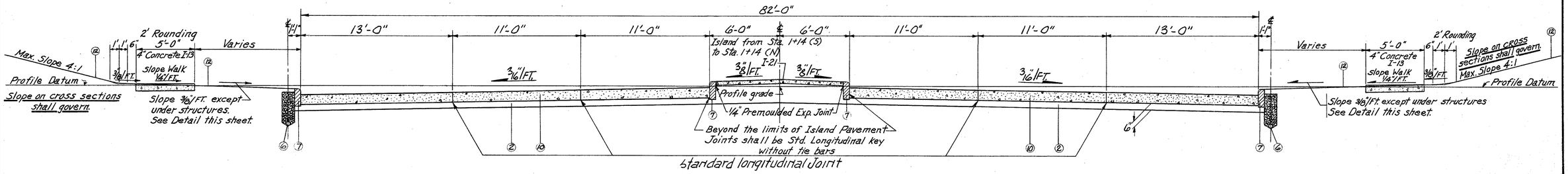
152

TYPICAL SECTIONS

EAST 222ND STREET & BABBITT ROAD

TYPE T-71 REINFORCED CONCRETE

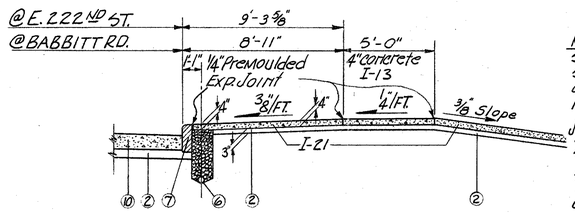
SCALE 1/4" = 1'-0"



Standard longitudinal Joint

EAST 222ND STREET

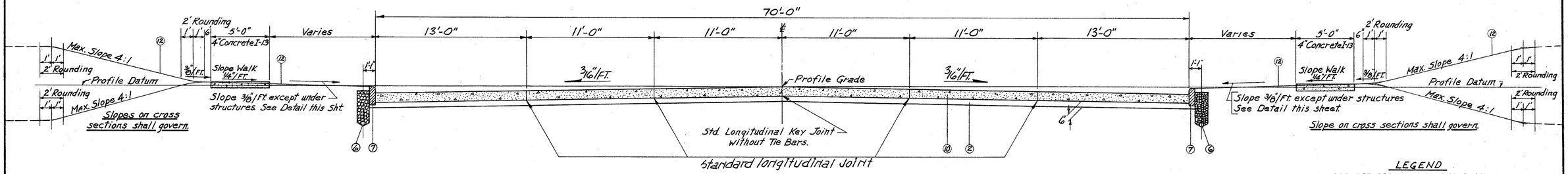
ALL EXTRA AREA See extra area Sht. Nos. 54 & 55 From Sta. 3+14.02 (S) to Sta. 4+76.46 (N)



NOTE: Expansion joint material shall meet the requirements of section M-10.02 or M-10.03. The cost of traffic island pavement, including premoulded expansion joint material shall be included in the contract unit price per square yard bid for Item I-21 Portland cement concrete Traffic Island Pavement, as per plan.

DETAIL OF PAVED SLOPE USED UNDER BRIDGE STRUCTURES

SCALE: 1/4"=1'-0"



Standard longitudinal Joint

BABBITT ROAD

ALL EXTRA AREA See extra area Sht. Nos. 56 & 57 From Sta. 4+31.88 (S) to Sta. 4+28.93 (N)

LEGEND

SEE INTERPRETATION OF KEY NUMBERS SEE SHEET No 5

FOR DETAIL OF I-4 6" CURB UNDERDRAIN SEE SHEET No 9

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

TYPICAL SECTIONS

EAST 222ND STREET AND BABBITT ROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

11-Y IGN DESIGNATION

MICROFILMED
OCT 26 1995

Current A.D.T. (1992)	= 1360
Design Year A.D.T. (2012)	= 1620
D.H.V.	= 230
D	= 100%
T	= 4%
Design Speed	= 35 MPH
Legal Speed	= 35 MPH
Functional Classification	= URBAN ARTERIAL
Design Exception	= NONE

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
CUY - 90 - 23.93
CITY OF CLEVELAND & VILLAGE OF BRATENAHL
CUYAHOGA COUNTY

CUYAHOGA COUNTY OHIO
CUY-90-23.93 FHWA REGION 5

1/18

IM-90-1(169)33

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line
Fence Line (existing) —X—X— (proposed) —X—X—
Center Line 200 + 201 + 202
Trees , Stumps , (to be removed)
Catch Basin (existing) (proposed) (adjust/reconstruct)
Manhole (existing) (proposed) (adjust/reconstruct)

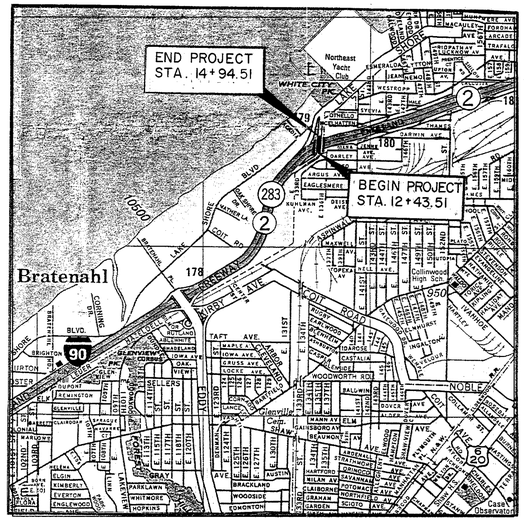
Limited Access (only) L/A
Right of Way (only) R/W
Limited Acces & Right of Way L/A & R/W
Existing Right of Way R/W
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Utility Poles: Telephone, Power, Light

INDEX OF SHEETS

LINE DATA

BEGIN PROJECT	STA. 12+43.51
END PROJECT	STA. 14+94.51
LENGTH OF PROJECT	251 L.F.
	or 0.048 MILE
BEGIN WORK	STA. 1+65
END WORK	STA. 17+31.54
	1566.54 L.F.
ADD FOR STATION EQUATION*	713.44
LENGTH OF WORK	2279.98 L.F. OR 0.432 MI

* STA 22+00.00 BK = STA 14+86.56



LOCATION MAP
SCALE IN MILES
0 1 2

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS

Plan & Profile: Horizontal 0 20 40 Vertical 0 5 10
Cross Sections: Horizontal 0 5 10 Vertical 0 5 10

1993 SPECIFICATIONS

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

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be as set forth in the plans and estimates.

Approved Bryan J. Hoolen
Date 8/31/92 District Deputy Director of Transportation

Approved B.D. Hahlamm/WTL
Date 10/16/92 Engineer, Bureau of Bridges and Structural Design

Approved
Date 2/4/93 Deputy Director, Design

Approved Jerry Wray
Date 2-4-93 Director, Department of Transportation

REVISED 5-3-93

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
Call...800-362-2764 (Toll Free)
OHIO UTILITES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

SUPPLEMENTAL SPECIFICATIONS

802	4-13-90	
820	3-18-92	
942	3-18-92	
944	3-18-92	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-2.1	2-21-92	MC-7	10-15-76	AS-1-81	11-27-81	TC-41.10	8-29-84	BP2.2	2-21-92
BP-3.1	2-21-92	MC-9.2	5-6-91			TC-41.20	3-26-79		
		MC-11	8-1-78	BR-1	5-29-79	TC-52.10	4-3-79		
CB-5	11-10-83	MC-9A	1-11-85			TC-52.20	4-3-79	BP-2.5	2-21-92
CB-3A	5-1-79			EXJ-4-87	1-5-89				
		MH-2	6-12-75			TC-71.10	9-10-91		
GR-1.1	5-6-91			VPF-1-90	2-1-92	TC-72.20	2-26-82		
GR-1.2	10-30-92	MT-95.30	10-10-88						
GR-2.1	5-6-91	MT-99.10	11-14-86			MT-105.10	7-1-92		
GR-3.1	5-6-91	MT-101.60	7-1-92			MT-105.11	7-1-92		
GR-3.2	5-6-91								

Project: CUY-90-23.93 P.I.D. 6922
Date of Letting 19 ,Contract No.

Plan Prepared By:
STILSON & ASSOCIATES, INC.
614 Superior Ave., NW
Cleveland, Ohio 44113

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

13/152

CUYAHOGA COUNTY
CUY-2-25.96

GENERAL NOTES

1. DESIGN SPEED:
THE GEOMETRICS FOR THIS PROJECT HAVE BEEN PLANNED FOR A DESIGN SPEED OF 60 MILES PER HOUR.

2. SIGHT DISTANCE:
BASIS FOR MEASURING SIGHT DISTANCE SHALL BE 4.0 FEET FOR HEIGHT OF EYE AND ZERO FEET FOR HEIGHT OF OBJECT. THE MINIMUM STOPPING SIGHT DISTANCE ON THIS PROJECT IS 600 FEET.

3. ELEVATION DATUM:
ALL ELEVATIONS ARE BASED ON U. S. G. S. DATUM.

4. R/W MONUMENTS, FEDERAL PROJECT MARKERS, & SECTION MARKERS:
EXISTING R/W MONUMENTS, BENCH MARKS, FEDERAL PROJECT MARKERS AND SECTION MARKERS THAT WILL BE REMOVED BY CONSTRUCTION, SHALL BE PROTECTED BY THE CONTRACTOR AS PER SECTION G-7.09 UNTIL THEY CAN BE WITNESSED, REFERENCED AND RESET BY THE ENGINEER.

5. CONSTRUCTION LAYOUT STAKES:
THIS WORK SHALL BE PERFORMED AS SET FORTH IN THE PROPOSAL AND WILL BE PAID FOR AT THE CONTRACT LUMP SUM BID FOR CONSTRUCTION LAYOUT STAKES.

6. ESTIMATED QUANTITIES:
SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

7. ROAD NAME SIGNS:
ALL COUNTY, TOWNSHIP, CITY OR VILLAGE ROAD, STREET NAME SIGNS, AND/OR TRAFFIC SIGNS, THAT WILL BE DISTURBED BY THE CONSTRUCTION SHALL BE CAREFULLY REMOVED AND STORED BY THE CONTRACTOR FOR DISPOSAL BY THEIR RESPECTIVE OWNERS. PAYMENT FOR THIS OPERATION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ROADWAY EXCAVATION.

8. FIELD OFFICE:
THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE FOR THE EXCLUSIVE USE OF THE STATE EMPLOYEES, IN ACCORDANCE WITH SECTION S-0.01(b), HAVING A MINIMUM OF 500 SQUARE FEET OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED IN THE FIELD OFFICE DURING THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL ALSO INSTALL WIRING AND OUTLETS SUITABLE FOR CONNECTING TO OFFICE EQUIPMENT, AND PROVIDE 110 VOLT ALTERNATING CURRENT DURING THE CONSTRUCTION OF THIS PROJECT. SEE NOTE *SHEET 25A.

9. UTILITIES:
THE CONTRACTOR SHALL NOTIFY AT LEAST 48 HOURS BEFORE BREAKING GROUND ALL PUBLIC SERVICE CORPORATIONS HAVING WIRE, POLES, PIPE, CONDUITS, MANHOLES, OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED AND NOT SHOWN ON THESE PLANS. THE PUBLIC SERVICE CORPORATIONS WORK MAY HAVE TO BE PERFORMED IN SEVERAL OPERATIONS, IF SO REQUIRED BY THE PHASING OF THE CONTRACTOR'S SCHEDULE. 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.

10. 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 MAKES NO GUARANTEES AS TO THEIR ACCURACY OR COMPLETENESS.

11. PROTECTION OF TRAFFIC
THE CONTRACTOR SHALL SAFEGUARD THE TRAVELING PUBLIC ON EAST 222ND STREET, AND BABBITT ROAD BY PROVIDING PLATFORMS, NETS, OR OTHER SUITABLE PROTECTION ABOVE THE TRAVELLED LANES. PAYMENT FOR THIS PROTECTION SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "MAINTAINING TRAFFIC".

12. HEAVY EQUIPMENT:
THE CONTRACTOR SHALL EXERCISE CARE IN THE USE OF HEAVY EQUIPMENT OVER FINISHED WORK AND WILL BE REQUIRED TO REMOVE AND REPLACE ANY COMPLETED WORK DESTROYED THEREBY. SEWER LINES SHALL BE BACKFILLED TO A HEIGHT OF FOUR FEET BEFORE LOADED EARTH-MOVING EQUIPMENT IS PERMITTED TO CROSS THE TRENCH. HEAVY EQUIPMENT SHALL NOT BE OPERATED OVER ANY COMPLETED LAYER OF EMBANKMENT, COMPACTED SUBGRADE OR SUBBASE IF SUCH OPERATION TENDS TO DESTROY THE SOIL STRUCTURE OR PIPE UNDERDRAINS; HOWEVER, IF SUCH OPERATIONS CANNOT BE AVOIDED, THE CONTRACTOR WILL BE REQUIRED TO REDUCE THE SIZE OF LOADS TO AN EXTENT THAT DAMAGE DOES NOT OCCUR. ANY ADDITIONAL FILL AND SUBSEQUENT EXCAVATION REQUIRED TO PROVIDE THIS MINIMUM COVER SHALL BE MADE AT NO ADDITIONAL COST TO THE STATE.

13. REPLACEMENTS:
THE CONTRACTOR SHALL REPLACE AT HIS OWN EXPENSE ANY ITEM NOT SPECIFICALLY LISTED FOR REMOVAL THAT IS DAMAGED OR DESTROYED BY HIS OPERATIONS.

14. SPECIAL DITCHES:
FOR SPECIAL DITCH GRADES, SEE CROSS SECTIONS.

15. ROUNDING OF CORNERS ON CROSS SECTIONS:
THE ROUNDED CORNERS, AS SHOWN ON STANDARD DRAWING RI-1, APPLY TO ALL CROSS SECTIONS UNLESS OTHERWISE SHOWN ON THE TYPICAL SECTIONS.

16. REMOVAL OF BUILDINGS:
WHERE THE PLAN NOTES A BUILDING TO BE REMOVED UNDER ITEM S-24 THE ENTIRE BUILDING, WITHIN AND WITHOUT THE RIGHT-OF-WAY, SHALL BE REMOVED TO GROUND LEVEL, AND THE BASEMENT FILLED AS PER ITEM E-1.

17. FILLING BASEMENTS OUTSIDE NORMAL WORK LIMITS
IN ADDITION TO THE GENERAL REMOVAL REQUIREMENTS OF SEC. E-1.03 (c), ALL BASEMENTS OR PORTIONS THEREOF WITHIN THE RIGHT-OF-WAY ON THIS PROJECT BUT BEYOND THE NORMAL SLOPE LINES SHALL BE FILLED TO SURROUNDING GROUND ELEVATION AS DIRECTED BY THE ENGINEER. PRIOR TO FILLING WITHIN THIS AREA ALL DEBRIS SHALL BE REMOVED, THE BASEMENT FLOORS AND WALLS SHALL BE BROKEN UP OR REMOVED AS PROVIDED UNDER SEC. E-1.03 (c) AND ALL HOUSE DRAINS NOT REMOVED SHALL BE PLUGGED AS PROVIDED ELSEWHERE IN THESE NOTES .

WHERE BASEMENTS EXTEND BEYOND THE RIGHT-OF-WAY LINE, BUT ARE WITHIN SLOPE EASEMENT OR WORK AGREEMENT LINES, THEY SHALL BE FILLED TO THE ELEVATION OF THE SURROUNDING GROUND AS DIRECTED BY THE ENGINEER BUT THE REQUIREMENTS OF SEC. E-1.03 (c) FOR REMOVALS BELOW THE PROPOSED FINISHED SURFACE SHALL BE WAIVED FOR THE PORTIONS EXTENDING BEYOND THE RIGHT-OF-WAY LINE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ROADWAY EXCAVATION, ITEM E-1.

18. EXISTING WATER WELLS:
DUG WELLS AND CISTERNS ENCOUNTERED WITHIN THE WORK LIMITS SHALL BE FILLED WITH ROCK OR GRANULAR MATERIAL. DRILLED WELL CASING SHALL BE REMOVED TO AN ELEVATION APPROXIMATELY THREE FEET BELOW FINISHED GRADE AND COVERED WITH A PRECAST CONCRETE SLAB OR A LARGE ROCK. PRIOR TO CONSTRUCTION OF EMBANKMENT CONTRACTOR SHALL REMOVE ANY MASONRY, SURROUNDING A WELL, WITHIN THREE FEET OF FINISHED GRADE. PUMPS AND OTHER APPURTENANCES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM. THE COST OF FILLING OR CAPPING OF WELLS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER CUBIC YARD OF ROADWAY EXCAVATION ITEM E-1.

19. LOCATION AND SIZE OF PIPE:
THE LOCATION, TYPE, DEPTH AND SIZE OF ALL EXISTING PIPES ARE SHOWN AS NEAR EXACT AS THE AVAILABLE INFORMATION WILL PERMIT. THE STATE WILL NOT BE RESPONSIBLE FOR ANY VARIATIONS FOUND DURING CONSTRUCTION.

19-A ROCK OR SHALE SUBGRADE:
THE CONTRACTOR SHALL BE PAID FOR THE THICKNESS OF I-22 MATERIAL SHOWN ON THE TYPICAL SECTIONS IN ROCK OR SHALE EXCAVATION AREAS. ANY POCKETS IN THE ROCK OR SHALE BELOW THE PLAN SUBGRADE ELEVATION SHALL DRAIN EITHER LONGITUDINALLY OR LATERALLY AND ALL IRREGULARITIES IN THE ROCK OR SHALE BELOW THIS ELEVATION SHALL BE FILLED WITH I-22 MATERIAL AT NO ADDITIONAL COST TO THE STATE.

20. CONNECTIONS TO EXISTING SEWERS
AT PLACES WHERE THE PLANS PROVIDE FOR PROPOSED DRAINAGE PIPES TO BE CONNECTED TO EXISTING PIPES, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED PIPE. THE COST OF THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM I-2 STORM SEWERS. THE CONTRACTOR SHALL SO CONDUCT THIS OPERATION THAT THE FLOW OF ALL EXISTING SEWERS WILL BE MAINTAINED AT ALL TIMES. ANY ADDITIONAL LABOR OR COST INVOLVED IN MAINTAINING THIS FLOW BY PUMPING OR ANY OTHER APPROVED METHOD, WHICH IS NECESSARY FOR THE COMPLETION OF THIS PROJECT, SHALL BE INCLUDED IN THE PRICE BID PER LINEAL FOOT FOR STORM SEWERS, ITEM I-2.

21. PLUGGING PIPE ENDS:
THE UPSTREAM ENDS OF PIPE LINES OR TILE LINES INTERCEPTED BY EARTHWORK OPERATIONS SHALL BE EFFECTIVELY BLOCKED AND COVERED. BROKEN PIECES AND PORTIONS OF PIPE OR TILE SHALL BE REMOVED UNTIL A WHOLE LENGTH IS ENCOUNTERED, WHICH SHALL BE BLOCKED WITH CONCRETE, FLAT STONE OR BRICK LAID IN MORTAR, OR A PRECAST CLAY OR CONCRETE STOPPER. PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ROADWAY EXCAVATION ITEM E-1.

22. EXISTING DRAINAGE:
IT IS ANTICIPATED THAT SOME EXISTING PIPE DRAINS OTHER THAN THOSE CARRYING DOMESTIC WASTE WILL BE INTERCEPTED AND SEVERED BY THE PROPOSED ROADWAY AND CHANNEL EXCAVATIONS. IN ANY SUCH CASE A SECTION OF THE PIPE SO SEVERED SHALL BE REMOVED TO MAKE WAY FOR THE NECESSARY EXCAVATION. IF THE REMAINING PIPE FLOWS AWAY FROM THE EXCAVATION AND THE PLANS DO NOT INDICATE THAT IT IS TO BE USED AS AN OUTLET, IT SHALL BE BLOCKED EFFECTIVELY AT ITS UPPER END. IF THE PIPE FLOWS TOWARD THE DITCH EXCAVATION THE TILE SHALL BE PRESERVED AND A PROPER NEW OUTLET PROVIDED. EXISTING PIPES WHICH CROSS THE ROADWAY BELOW THE ROADWAY DITCHES SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS AS DIRECTED BY THE ENGINEER. THE FOLLOWING AMOUNTS HAVE BEEN PROVIDED FOR THE ABOVE PURPOSE AND FINAL PAYMENT WILL BE MADE ON THE BASIS OF THE FINAL ESTIMATE AND FINAL MEASUREMENT.

600 LIN. FT. EACH OF I-2, 8", 10" AND 12" STORM SEWER UNDER PAVEMENT, SECTION M-6.5(b) or M-6.8(b).

23. ABANDONED SEWERS AND DRAINS:
THE CONTRACTOR SHALL PLUG ALL EXISTING SEWERS AND DRAINS WHICH WERE OR ARE TO BE ABANDONED. SATISFACTORY SEALING SHALL CONSIST OF CONSTRUCTING AN 8" THICK BRICK MASONRY BULKHEAD OR EQUIVALENT INSIDE THE PIPE, OR IN ANY MANNER SATISFACTORY TO THE ENGINEER. THE COST OF THIS WORK SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE IN A MANNER SATISFACTORY TO THE ENGINEER AND SHALL BE INCLUDED FOR PAYMENT IN THE CONTRACT UNIT PRICE BID FOR ROADWAY EXCAVATION ITEM E-1.

24. EXISTING HOUSE DRAINS:
THE REMOVAL OF ALL EXISTING HOUSE CONNECTIONS, WHICH INCLUDES SANITARY, YARD, ROOF, BASEMENT, OR OTHER SIMILAR PIPE DRAINS, WITHIN THE ROADWAY CONSTRUCTION LIMITS WILL BE CLASSIFIED AND PAID FOR AS ROADWAY EXCAVATION, E-1, UNLESS OTHERWISE ITEMIZED FOR PAYMENT IN THE PLANS. PAYMENT FOR PLUGGING OF PIPES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ROADWAY EXCAVATION ITEM E-1.

25 PIPE:
WHEN BELL AND SPIGOT PIPE IS USED, ANY NECESSARY PIPE CUT-OFFS SHALL BE MADE AT THE SPIGOT END OF THE LENGTH OF PIPE ADJACENT TO THE END LENGTH. WHEN TONGUE AND GROOVE PIPE IS USED THE LENGTH OF PIPE NEXT TO THE END LENGTH SHALL BE CUT AND BUTT JOINT FORMED WITH A COLLAR 12" LARGER THAN THE OUTSIDE DIAMETER AND 12" IN LENGTH. THE COST OF THE JOINT AND COLLAR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR PERTINENT PIPE ITEM.

26. PIPE JOINTING MATERIAL:
THE CONTRACTOR WILL BE PERMITTED TO USE, AS AN ALTERNATE TO THOSE JOINT MATERIALS OUTLINED IN THE SPECIFICATIONS, SUCH TRADE NAME JOINTS AS "WEDGE-LOCK", "TYLOX", OR "SLIP-SEAL" OR EQUAL AS APPROVED BY THE ENGINEER.

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27. PIPE FOR SUBGRADE DRAINAGE:

10 LIN. FT. OF 8" PLAIN CORRUGATED METAL PIPE, SEC. M-6.4(a), SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR IN MANHOLES, CATCH BASINS, OUTLETS AND INLETS FOR EACH SUBGRADE DRAIN, WHERE AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT FOR ITEM I-4 PIPE OUTLETS FOR UNDERDRAINS.

28. LONGITUDINAL UNDERDRAINS:

IT IS INTENDED THAT SHALLOW LONGITUDINAL UNDERDRAINS, SEC. M-6.4 (h) BE PROVIDED UNDER EACH OUTSIDE SHOULDER FOR ITS ENTIRE LENGTH THROUGH EACH SHALE OR ROCK CUT. THE ENGINEER WILL MAKE WHATEVER ADJUSTMENTS IN THE LENGTHS OF UNDERDRAINS OR LOCATIONS OF TRANSVERSE UNDERDRAINS THAT ARE NECESSARY.

29. EXISTING FLEXIBLE PAVEMENT:

WITHIN THE LIMITS OF CONSTRUCTION, WHERE THE EXISTING FLEXIBLE PAVEMENT WILL HAVE LESS THAN SIX (6") INCHES OF FILL PLACED UPON IT, THE PAVEMENT SHALL BE THOROUGHLY SCARIFIED FOR ITS FULL DEPTH, MIXED WITH SUFFICIENT SOIL, AND PROPERLY RECOMPACTED TO INSURE THE ELIMINATION OF ANY PLANE OF SEPARATION BETWEEN IT AND THE EMBANKMENT PLACED THEREON. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ROADWAY EXCAVATION E-1. WHERE FLEXIBLE PAVEMENT IS NOTED TO BE REMOVED, THE COST OF SO DOING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ROADWAY EXCAVATION ITEM E-1.

30. PAVEMENT REMOVAL:

ALL RIGID TYPE PAVEMENT LOCATED WITHIN THE LIMITS OF THE RIGHT-OF-WAY SHALL BE REMOVED AS PER PLAN. PAVEMENT LOCATED BEYOND THE LIMITS OF CONSTRUCTION AND LISTED FOR REMOVAL SHALL BE REMOVED IN ITS ENTIRETY, THE ROADWAY SHALL THEN BE PLOWED, HARROWED AND DRAGGED TO A SMOOTH GRADE, THE OLD DITCHES FILLED, AND THE ENTIRE AREA SHAPED TO BLEND WITH THE SURROUNDING TERRAIN. COST OF ALL THE ABOVE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM E-8, REMOVAL AND DISPOSAL OF EXISTING PAVEMENT. THE ENTIRE AREA SHALL THEN BE SEEDED AND MULCHED AS CALLED FOR ELSEWHERE IN THESE GENERAL NOTES.

31. DRIVEWAY AND SIDEWALK REMOVAL:

THIS ITEM SHALL CONSIST OF THE REMOVAL, AND DISPOSAL IN ACCORDANCE WITH SECTION E-1.06(a) OF THE SPECIFICATIONS, OF ALL DRIVEWAYS, SIDEWALKS, AND MISCELLANEOUS SLABS WITHIN THE LIMITS OF THE RIGHT-OF-WAY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER CUBIC YARD BID FOR ITEM E-1 ROADWAY EXCAVATION.

32. EXPANSION AND CONTRACTION JOINTS:

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING T-J.

33. EROSION CONTROL:

SODDED CHANNELS SHALL BE PROVIDED AT ENDS OF BRIDGES WHERE REQUIRED BY THE PLANS. COST OF ALL WORK NECESSARY TO COMPLETE THE ITEM SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER SQUARE YARD BID FOR ITEM L-10, SODDING FOR SPECIAL BERM AND SLOPE PROTECTION. THE ENGINEER WILL CHECK LOCATIONS AND QUANTITIES OF THE SODDING PROVIDED FOR EROSION CONTROL AND MAKE NECESSARY ADJUSTMENTS, WHERE REQUIRED, DUE TO FIELD CONDITIONS.

34. MANHOLE CASTINGS:

MANHOLE CASTINGS LOCATED IN SLOPES 4:1 OR LESS SHALL BE SET SO THAT THE COVER WILL CONFORM WITH THE PLANE OF THE SLOPED SURFACES.

35. MANHOLES, CATCH BASINS, CURB INLETS AND CASTINGS:

ALL MANHOLES, CATCH BASINS, AND CURB INLETS CONSTRUCTED, AND CASTINGS FURNISHED FOR SAME, FOR MARGINAL ROADS AND CROSS STREETS SHALL BE SPECIAL AND IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARDS OF THE CITY OF EUCLID AND SHALL CONFORM TO THE DETAILS SHOWN ON THESE PLANS. ALL OTHER DRAINAGE STRUCTURES AND CASTINGS FOR SAME SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STATE'S STANDARD CONSTRUCTION DRAWINGS.

36. MANHOLES REBUILT:

THIS ITEM SHALL CONSIST OF THE CAREFUL REMOVAL OF THE EXISTING MANHOLE DOWN TO THE SPRING LINE AND RECONSTRUCTION OF THE MANHOLE TO THE NEW GRADE, CONFORMING AS NEARLY AS PRACTICABLE TO THE EXISTING DIMENSIONS AND TYPE OF CONSTRUCTION AND USING THE SALVAGED MANHOLE FRAME AND COVER. MANHOLE STEPS WILL BE REQUIRED WITHIN THE LIMITS OF THE REBUILT PORTIONS AND SHALL CONFORM TO THE DETAILS AND NOTES AS SHOWN ON STANDARD CONSTRUCTION DRAWING I-8 M. H. NO. 1. THE EXISTING CASTINGS SHALL BE CAREFULLY SALVAGED AND RESET ON THE REBUILT STRUCTURE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF SECTION I-8 OF SPECIFICATIONS.

37. SALVAGED CASTINGS; BACKFILLING ABANDONED MANHOLES, ETC.:

ALL EXISTING SEWER CASTINGS SALVAGED OTHER THAN THOSE TO BE REUSED ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM. BACKFILLING MATERIAL USED TO FILL ABANDONED MANHOLES, CATCH BASINS, AND INLETS SHALL BE SAND. THE COST OF PERFORMING THE ABOVE WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM I-16.

38. STORM SEWERS:

THE CONTRACTOR WILL BE REQUIRED TO CONNECT SOME OF THE PROPOSED STORM SEWERS INTO EXISTING MANHOLES AND CATCH BASINS. ALL COST OF PERFORMING THE ABOVE WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LINEAL FOOT BID FOR THE PERTINENT STORM SEWER ITEM.

39. I-22 UNDER APPROACH SLABS:

THE AREA BETWEEN THE BOTTOM SURFACE OF THE APPROACH SLAB AND THE SUBGRADE SHALL BE FILLED WITH ITEM I-22 SUBBASE. THE MINIMUM DEPTH OF SUBBASE SHALL BE SIX (6") INCHES.

40. I-22 SUBBASE GRADING A OR B :

MATERIAL FOR THIS ITEM SHALL MEET THE REQUIREMENTS FOR ITEM I-22, GRADING A OR B, EXCEPT THAT FOR BOTH GRADINGS THE PERCENT PASSING THE NO. 200 SIEVE SHALL NOT EXCEED TEN.

41. SUBGRADE COMPACTION:

THE SUBGRADE FOR DRIVES PAVED WITH T-70 MATERIAL SHALL BE COMPACTED FOR A DEPTH OF SIX (6) INCHES TO THE DENSITY REQUIREMENTS SHOWN IN TABLE III, ITEM E-1.09 (a). PAYMENT FOR SUBGRADE COMPACTION, AS SPECIFIED ABOVE, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1, ROADWAY EXCAVATION.

42. SALVAGED CURB:

SANDSTONE CURB TO BE SALVAGED FOR RE-USE AT SUCH LOCATIONS AS DESIGNATED ON THE PLANS, SHALL BE NEATLY STOCKPILED, WHERE AND AS DIRECTED BY THE ENGINEER. SALVAGED CURB SHALL BE PLACED IN A CONTINUOUS LINE NOT INTERSPERSED WITH NEW CURB.

43. CONCRETE CURBS, SPECIAL TYPE A AND B:

THIS ITEM SHALL CONSIST OF PORTLAND CEMENT CONCRETE CURBS, AS SHOWN IN THE DETAILS AND AT SUCH LOCATIONS AS DESIGNATED ON THE PLANS. THE COST OF CONCRETE CURB, TYPE A SHALL INCLUDE THE TRANSITION IN WIDTH FROM TYPE A TO B. THE COST OF CONCRETE CURB, TYPE B, SHALL INCLUDE THE TRANSITION IN ELEVATION AT THE END OF THIS CURB AS SHOWN IN THE DETAILS ON THE PLANS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF SECTION I-12 OF THE SPECIFICATIONS AND PAYMENT FOR THESE ITEMS WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAL FOOT BID FOR ITEM I-12 CONCRETE CURB, SPECIALTYPE A, AND CONCRETE CURB, SPECIAL TYPE B.

44. BUMPER BLOCKS:

THIS ITEM SHALL CONSIST OF A SANDSTONE BUMPER BLOCK, AS SHOWN IN THE DETAILS AND AT SUCH LOCATIONS AS DESIGNATED ON THE PLANS. THE COST OF THIS ITEM SHALL INCLUDE THE NECESSARY DRESSING, OF THE FIRST LENGTH OF STANDARD CURB EACH WAY FROM THE BUMPER BLOCK, REQUIRED TO ACCOMPLISH THE DESIRED TRANSITION SHOWN ON THE DETAILS, AS WELL AS THE NECESSARY LABOR AND MATERIAL REQUIRED TO EXCAVATE, BACKFILL, FURNISH AND INSTALL JOINT MATERIAL, AND COMPLETE THIS ITEM. PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH BID FOR ITEM I-11 SANDSTONE BUMPER BLOCKS.

45. REMOVAL OF TREES AND STUMPS:

THE SIZE AND NUMBER OF TREES AND STUMPS SHOWN BELOW FOR REMOVAL, UNDER THE CONSTRUCTION AS DETAILED ON THESE PLANS, ARE AS NEARLY CORRECT AS AVAILABLE INFORMATION PERMITS. THE STATE OF OHIO WILL NOT BE RESPONSIBLE FOR ANY VARIATIONS FOUND DURING CONSTRUCTION. ALL TREES AND STUMPS WITHIN THE LIMITS OF THE RIGHT-OF-WAY ON THE MAIN FACILITY AND THE WORK LIMITS ON THE CROSS-ROADS AND CHANNEL IMPROVEMENTS SHALL BE REMOVED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. NO TREES SHALL BE REMOVED UNTIL SPECIFICALLY MARKED FOR REMOVAL BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM E-9 REMOVAL OF TREES AND STUMPS.

SIZE	12" - 18"	18" - 24"	24" - 30"	30" - 36"	36" - 42"	42"-48"
TREES	250	53	10	1	1	1
STUMPS	2	1	1	-	-	-

46. L-9 COMMERCIAL FERTILIZER:

ALL AREAS TO BE SEEDED UNDER ITEM L-9 OR SODDED UNDER ITEM L-10 SHALL HAVE COMMERCIAL FERTILIZER, 12-12-12, APPLIED AT THE RATE SPECIFIED IN SECTION L-9.10 OF THE SPECIFICATIONS.

47. AGRICULTURAL LIMING MATERIAL:

LOCATION AND NEED FOR AGRICULTURAL LIMING MATERIAL WILL BE DETERMINED BY FIELD TEST AFTER ROUGH GRADING OPERATIONS HAVE BEEN PERFORMED. QUANTITIES OF AGRICULTURAL LIMING MATERIAL AS SHOWN ON PLANS ARE SUFFICIENT FOR THE ENTIRE PROJECT BUT WILL BE NON-PERFORMED FOR THE AREAS WHERE TESTS SHOW THAT THE LIMING MATERIAL IS NOT NEEDED. WHERE USED THIS MATERIAL SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT.

48. SEEDING AND PROTECTING:

QUANTITIES PROVIDED FOR SEEDING THE MAIN FACILITY ARE CALCULATED FOR ALL SOIL AREAS BETWEEN RIGHT-OF-WAY LINES. ON CROSS ROADS OR OTHER UNFENCED AREAS, SEEDING HAS BEEN CALCULATED FOR ALL SOIL AREAS LOCATED BETWEEN THE WORK LIMITS, INCLUDING RUNAROUNDS. SEED SHALL BE SOWN AT THE RATE SPECIFIED IN L-9.11 OF THE SPECIFICATIONS. SEEDING FORMULA FOR AREAS BETWEEN CURB AND SIDEWALK AND AREAS IN FRONT OF RESIDENCES SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 60%-ILLAHEE FESCUE, 30%-KENTUCKY BLUE GRASS, 10%-WHITE DUTCH CLOVER. SEEDING FORMULA FOR ALL OTHER SEEDED AREAS SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 70%-KENTUCKY 31 FESCUE, 20%-KENTUCKY BLUE GRASS, 5%-REDTOP, 5%-ALSIKE CLOVER.

AREAS BETWEEN CURB AND SIDEWALK AND IN FRONT OF RESIDENCES:

LOCATION	SIDE	FROM STATION	TO STATION
NORTH MARGINAL ROAD	L	292+03.63	332+17.35
EAST 222ND STREET	R & L	3+14.02 (S)	4+76.46 (N)
NORTH MARGINAL ROAD	L	333+12.09	375+61.88
BABBITT ROAD	R & L	4+31.88 (S)	4+28.93 (N)
NORTH MARGINAL ROAD	L	376+32.14	402+99.55

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49. GRADING TOLERANCES:

FOR AREAS IN FRONT OF RESIDENCES, FOR AREAS BETWEEN CURB AND SIDEWALK AND FOR OTHER AREAS SPECIFICALLY INDICATED ON ABOVE TABULATION, THE SEED BED SHALL BE PREPARED TO PROVIDE A SMOOTH SURFACE. ALL STONES LARGER THAN ONE INCH IN DIAMETER SHALL BE REMOVED FROM THE SURFACE OF THE SEED BED. HAND RAKING WILL BE REQUIRED IN AREAS INACCESSIBLE TO MACHINES AND HAND RAKING MAY BE REQUIRED, IF DIRECTED BY THE ENGINEER, IN ALL THE AFOREMENTIONED AREAS IF MACHINES USED DO NOT PROVIDE RESULTS EQUIVALENT TO RESULTS OBTAINED BY HAND RAKING. COST OF THIS ADDITIONAL WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ROADWAY EXCAVATION, ITEM E-1.

50. PLACING SOD IN DITCHES:

ALL SOD PLACED IN DITCHES SHALL BE LAID WITH THE LONG EDGES OF THE STRIPS PERPENDICULAR TO THE FLOW LINE OF THE DITCH. SUCCESSIVE STRIPS SHALL BE NEATLY MATCHED AND ALL JOINTS STAGGERED OR BROKEN. THE SOD SHALL BE STAKED SECURELY WITH STAKES PLACED ON MAXIMUM TWO (2) FT. CENTERS IN ROWS NOT MORE THAN TWO (2) FT. APART. STAKES IN ADJACENT ROWS SHALL BE STAGGERED. THE STAKES SHALL BE WOOD FROM ½" x 3/4" x 12" TO 1" x 1" x 24", AS REQUIRED TO HOLD THE SOD AND SHALL BE DRIVEN FLUSH WITH THE TOP OF THE SOD.

51. FENCE, TYPE C:

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING FENCE AND GATES AS SHOWN ON STANDARD CONSTRUCTION DRAWINGS F-1 & F-3 AND IN THE SPECIAL DETAILS. POSTS AND GATES SHALL BE SET TO THE DIMENSIONS CALLED FOR ON THE PLANS. THE FABRIC SHALL BE FASTENED TO THE SIDE OF THE POST AWAY FROM THE LIMITED ACCESS FREEWAY. ALL THE WORK NECESSARY TO COMPLETE THESE ITEMS SHALL BE DONE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION NO. 18. PAYMENT FOR THE ABOVE ITEMS WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAL FOOT BID FOR S. S. 18 FENCE TYPE C AND PER EACH BID FOR S. S. 18 FENCE GATES, TYPE C.

52. COOPERATION

IT IS THE INTENT OF THE DEPARTMENT TO AWARD OTHER CONTRACTS, DESIGNATED AS SECTION CUY 2-28.16, LYING IMMEDIATELY EAST OF THE EASTERN LIMITS OF THIS SECTION, AND SECTION CUY 2-24.33, LYING IMMEDIATELY WEST OF THE WESTERN LIMITS OF THIS SECTION. STORM SEWERS INSTALLED UNDER SECTION CUY 2-24.33 CONTRACT IN EXISTING EAST 200TH STREET AND THE MAIN STORM SEWER EXTENDING WEST FROM STATION 291+00 TO EUCLID CREEK SHALL BE COMPLETE AND IN OPERATION BEFORE THE EMBANKMENT IS PLACED IN THE VICINITY OF STATION 291+00 AND THE MAIN STORM SEWER SOUTH OF THE MAIN LINE FROM STATION 291+00 EAST IS CONSTRUCTED. IT SHOULD ALSO BE UNDERSTOOD BY THE CONTRACTOR FOR THIS SECTION THAT CONTRACTORS FOR THE VARIOUS PUBLIC SERVICE CORPORATIONS, OR THEIR WORK FORCES, WILL BE WORKING IN THIS AREA. THERE WILL BE NO ALLOWANCE MADE BY THE DEPARTMENT FOR ANY DELAY OR INCONVENIENCE DUE TO LACK OF COOPERATION BETWEEN THE CONTRACTOR FOR THIS SECTION AND THE VARIOUS OTHER CONTRACTORS OR WORK FORCES.

MAINTAINING TRAFFIC:

THE SOUTH MARGINAL ROAD SHALL BE COMPLETED FROM STATION 328+58.28 TO STATION 336+00 WHERE IT MEETS EXISTING LAKELAND BOULEVARD, AND THE SOUTH END OF EAST 222ND FROM THE LIMIT OF WORK AT N. Y. C. RAILROAD UNDERPASS TO THE LIMITS OF THE SOUTH MARGINAL ROAD INTERSECTION RADII. JUNCTION CHAMBERS NO. 1 AND NO. 2 SHALL BE COMPLETED AT THE SAME TIME AS THE ABOVE MENTIONED CONSTRUCTION DURING WHICH TIME THE N. Y. C. RAILROAD UNDERPASS SHALL BE CLOSED TO TRAFFIC. DIVERTED TRAFFIC SHALL USE THE BABBITT ROAD OR EAST 200TH STREET RAILROAD CROSSINGS.

UPON COMPLETION OF THE ABOVE MENTIONED CONSTRUCTION THE RAILROAD UNDERPASS SHALL BE OPENED TO TRAFFIC. THE THROUGH TRAFFIC ON EAST 222ND STREET SHALL THEN BE ROUTED EAST ON THE SOUTH MARGINAL ROAD (LAKELAND BOULEVARD) TO EAST 224TH STREET AND WEST ON MILLER AVENUE TO EAST 222ND STREET DURING THE CONSTRUCTION OF THE REMAINDER OF PAVEMENT AND SEWER WORK ON EAST 222ND STREET.

WHEN EAST 222ND STREET PAVEMENT WORK IS COMPLETED TWO-WAY THROUGH TRAFFIC SHALL THEN BE RESUMED AND MAINTAINED DURING THE CONSTRUCTION OF THE EAST 222ND STREET OVERHEAD STRUCTURE CUY 2-26.70.

THE NORTH MARGINAL ROAD CONSTRUCTION SHALL BE STARTED AS SOON AS THE CONTRACTOR IS NOTIFIED TO COMMENCE WORK ON THE PROJECT WITH THE EXCEPTION OF THE DETOUR AREA AT MILLER AVENUE AND EAST 224TH STREET WHICH SHALL REMAIN UNDISTURBED UNTIL EAST 222ND STREET IS OPENED TO THROUGH TRAFFIC. THE NORTH MARGINAL ROAD SHALL BE OPENED TO TRAFFIC AS SOON AS IS PRACTICABLE.

TWO-WAY TRAFFIC SHALL BE MAINTAINED ALONG LAKELAND BOULEVARD FROM EAST 222ND STREET TO BABBITT ROAD UNTIL THE NORTH MARGINAL ROAD IS COMPLETED IN THAT AREA, AT WHICH TIME THE TRAFFIC SHALL THEN BE DIRECTED EASTBOUND ONLY ON LAKELAND BOULEVARD AND WESTBOUND ONLY ON THE NORTH MARGINAL ROAD.

AT ALL TIMES TWO-WAY TRAFFIC SHALL BE MAINTAINED ON THE SECTION OF LAKELAND BOULEVARD FROM BABBITT ROAD EAST TO 260TH STREET.

BABBITT ROAD TWO-WAY THROUGH TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.

CONSTRUCTION OF ALL PHASES OF THE ENTIRE PROJECT MAY PROCEED IMMEDIATELY AFTER THE CONTRACTOR IS INSTRUCTED TO DO SO, EXCEPTING THOSE PORTIONS AFFECTING THE CONDITIONS AFOREMENTIONED.

THE CONTRACTOR SHALL CO-OPERATE WITH THE CITY OF EUCLID IN THE PERFORMANCE OF HIS WORK IN ORDER TO CONFORM WITH THE ABOVE MENTIONED REQUIREMENTS.

ALTERNATE METHODS: IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE FOREGOING PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR AND THE CITY OF EUCLID.

EXISTING FIRE STATION:
The existing City of Euclid Fire Station, located on East 222nd. Street, left of Station 330, on Right-of-Way parcel No. 2327 LA, must remain in operation until approximately August 1, 1961.
Unrestricted access to this Fire Station must be maintained at all times until the City of Euclid has abandoned the property as a Fire Station.

SUMMARY OF TABLES

STORM SEWERS — I-2 LIN. FT.

Class A

Sheet No.	10"	12"	15"	18"	M-6.4(c) 12"	M-6.4(c) 15"	Under Pavement M-6.5(b) or M-6.8(b) 8"	10"	15"	18"
26					54					
27									81	100
28										
29										
30										
31										
32	124									
33	11		80							
34										
35		31	8				45			
36										
37							72			
38							41			
39							57			
40							41			
41					50	123	26			
42		19					27			
43	101						30			
44	16							37		
45				8			56			
TOTAL EUCLID INTERSTATE	252	50	88	8	104	123	420	37	81	100

Class B

Sheet No.	12"	15"	18"	21"	33"	36"	39"	42"		Under Pavement 12"	15"	M-6.6(b) or M-6.8(b) 18"	21"	24"	33"	M-6.6(b) 39"	48"	48"	M-6.5(b) or 6.8(b) 12"	18"
26	6									230										
27	69	6	21			90	296	350		235	82	210							104	114
28	6	8	105	176	248	166				201		81	106							
29	154									290										
30	94	28								515	84									
31	161		155	146						382				160						
32	18	12								208	357									
33	12					41				63	193									
34	24	6			556	255				452	228									
35	100	197								363				216						
36	6									352										
37	100	4								144	87				247					
38	138									546	207			232						
39										639	14					142	340			
40	14		232							256	55					168				
41		133								213	166									
42		13								727	24	109					246	*50		
43	68	9							245	~~369~~							11			
44										255	15									
45																				
TOTAL EUCLID INTERSTATE	970	416	513	322	804	552	296	350		~~6440~~ 6316	1,512	400	106	608	247	310	597	*50	104	114
43										124										
27																				
36																				
40																				
41																				
44										108										
TOTAL 100% EUCLID PARTICIP.										~~108~~ 232										

*32' Radius Pipe

Class B (continued)

Sheet No.	M-6.6(a) or 6.8(b) 27"	M-6.6(a) 66"	66"	M-6.6(b) or 6.8(b) 24"	27"	30"	33"	M-6.6(b) 48"	M-6.6(b) or M-6.8(b) Under Pavement 15"	18"	33"	M-6.6(b) Under Pavement 42"	48"	66"	M-6.6(c) 54"	M-6.8(b) or M-6.6(b) 30"	Under Pavement 8" (M-6.8(b) Sanitary)	8" Conc. Encased (M-6.8(b) Sanitary)	30"	33"	36"
26										150					230						
27								204	23	113			336		6						
28														502							
29																					
30																					
31																					
32																					
33																					
34																					
35																					284
36																					
37		91	*19									889									
38				268	231	550	339				255										
39	271												306			206			238	296	504
40																					
41															454						
42																					
43																					
44																					
45																					
TOTAL EUCLID INTERSTATE	271	91	*19	268	231	550	339	204	23	263	255	889	642	502	690	206			238	296	788
27																		210			
36																	114				
40																	23				
41																	100				
44																					
TOTAL 100% EUCLID PARTICIP.																	237	210			

*35' Radius Pipe

STORM SEWERS — I-5 PIPE SPECIALS EACH

Class A

Sheet No.	10"x10° Bend	10"x20° Bend	10"x30° Bend	10"x60° Bend	Under Pavement M-6.5(b) - M-6.8(b) 8"x6" Increas.	8"x6" Reduc.	M-6.4(c) 12"x11° Bend	15"x5° Bend	15"x11° Bend
26									
27									
28									
29									
30									
31									
32	2								
33									
34									
35					3	3			
36					1				
37					3	3			
38					3	1			
39					4				
40					3				
41					1		1	1	1
42					1				
43			1	1	2				
44									
45					4	4			
TOTAL EUCLID INTERSTATE	2		1	1	25	11	1	1	1
43									
37									
40									
44									
TOTAL 100% EUCLID PARTICIP.									

Class B; I-16 Each Abandoned; E-12 L.F. Pipe Removal

Sheet No.	12"x6" Tee	12"x8° Bend	21"x12" Tee	Under Pavement 12"x6" Tee	12"x8" Tee	12"x6"x30° Wye	12"x6"x70° Wye	15"x6" Tee	18"x6"x60° Wye	24"x12" Tee	Under Pavement M-6.6(b) 42"x12" Wye	33"x12" Tee	42"x15" Tee	48"x15" Tee	66"x12" Tee	I-16 Each Abandoned: Manhole	Catch Basin	E-12 L.F. Pipe Removal: 15" & Under	Over 15"
26	1	1															1		
27				1										1		2	6	690	
28															1	1	3		
29																4	2		
30				1												4	1		
31																3	2		
32																4	4		
33																			
34																3	4		
35										1							10		
36			1														10	306	
37											1	1	1			1	2		
38					1					1		2				1	4		
39					1												2		
40					1												1		
41				1				1								1			
42						1	1		1							4	3		595
43				1													5 ~~7~~		
44																	3		
45																			
TOTAL EUCLID INTERSTATE	1	1	1	4	3	1	1	1	1	2	1	3	1	1	1	28	63~~65~~	996	595
43																	2		
37																			
40																			
44																			
TOTAL 100% EUCLID PARTICIP.																	2		

REV. 11-21-60

SUMMARY OF TABLES

CUYAHOGA COUNTY
CUY-2-25.96

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

17/152

DRAINAGE

I-8 EACH — MANHOLE

SHEET NO	MANHOLE ADJ. TO GRADE	MANHOLE REBUILT	CATCH BASIN ADJ. TO GRADE	STANDARD No 1	SPECIAL No 1	STANDARD No 2	STD. No 2 W/O DROP	SPECIAL TYPE A	SPECIAL MODIFIED	JUNCTION CHAMB #1	JUNCTION CHAMB #2	JUNCTION CHAMB #3
26				1								
27							5					
28				3								
29				1								
30												
31												
32												
33				1								
34				2								
35				2								
36	2	1						1	1			
37	2							1	7	4		
38	2	2		6				1	2	3		
39	1	2	1	2				1	13			1
40	3	2		2				1	1			
41								2	1	1		
42	2	1	2		1		2					
43	2	8		1				1			1	1
44	8											
45												
TOTAL EUCLID INTERSTATE	22	16	3	21	1		13	26	9	1	1	1
43												
27				1		1		1				
36								1				
40	1							1				
41								1				
44	4											
TOTAL 100% EUCLID PARTIC.	5			1		1		3				

I-8 EACH — CURB INLET

SHEET NO	No 2-6	No 2-8	No 2-10	No 2-12	No 2-14	SPECIAL No 4
26		2		1		
27	9	1		1		
28	2	2		1	1	
29	3	1	1			
30	10	5	1			
31	8	2				
32		8	4			
33			4	2		
34	8	2				
35	3	5	4			2
36						
37						
38						3
39						4
40						2
41						
42						1
43						34 → 32
44						4
45						
TOTAL EUCLID INTERSTATE	43	28	14	5	1	20 → 19
43						1
27	9	1		1		
36						
40						
41						
44						3
TOTAL 100% EUCLID PARTIC.	9	1		1		3 → 2

I-8 EACH — CATCH BASIN

SHEET NO	No 2-2B	STANDARD No 5	SPECIAL No 4
26			
27		5	
28		3	
29			
30			
31		3	
32			
33			
34		2	
35		3	5
36		1	6
37		2	7
38			11
39			15
40		1	6
41	2		7
42	1	1	7
43		1	32 (260 → 90)
44			2
45		1	
TOTAL EUCLID INTERSTATE	3	23	69 (68)
43			1
27			1
36			
40			
41			
44			3
TOTAL 100% EUCLID PARTIC.			3 → 4

UNDERDRAINS

I-4 LIN. FT.

SHEET NO	6" UNDERDRAINS SHALLOW	6" CURB UNDERDRAINS SHALLOW	8" PIPE OUTLET M-6.4 (a)	6" UNDERDRAINS SHALLOW W/ CAP
26	2070		82	
27	274	100	110	3661
28	635		60	3287
29	2539	100	30	
30	2044		78	1387
31	3936	100	110	
32	3250		80	
33	2977		40	
34	3930	200	134	
35	4437	1932	276	1071
36	1792	1636	70	
37	1879	1701	106	
38				
39				
40	1115	11,009	466	
41	1930	1970	40	
42	1492	2735	90	
43	2606 → 2726		110 → 90	
44		1620	70	
45	1897		10	272
TOTAL EUCLID INTERSTATE	36,197 → 25,889 (25769)		1,962 → 1942	9678
43		120	20	
27				
36				
40				
41				
44		886	70	
TOTAL 100% EUCLID PARTIC.		886 → 1006	90 → 70	

I-5 PIPE SPECIALS EACH

SHEET NO	6"X90° ELBOW	6"X6" TEE	6X25° BEND	6"X30° BEND	6X33° BEND	6"X34° BEND	6"X45° BEND	6"X45° BEND	6"X50° BEND	6"X60° BEND	6"X77° BEND	6"X60° WYE
26	1		1									
27												1
28												
29	2			1								
30				3								2
31	4	3		1								
32				5								
33				2								
34	6	3										
35	6	3		10							1	1
36	1	1										
37	3	4		1			1					1
38												
39												
40	9	5			1			1	1			5
41	1									1		
42	1											1
43	1	2		1								
44				1		1		1				
45												
TOTAL EUCLID INTERSTATE	43	22	1	25	1	1		3	1	1	1	11
43												
27												
36												
40												
41												
44												
TOTAL 100% EUCLID PARTIC.												

I-5 PIPE SPECIALS EACH (continued)

SHEET NO	6"X6" TEE M-6.4 (h)	6"X90° ELBOW M-6.4 (h)	6"X45° BEND M-6.4 (h)	6"X60° BEND M-6.4 (h)	6"X30° BEND M-6.4 (h)	6"X60° WYE M-6.4 (h)
26						
27	2	3	1	1		1
28				3		
29						
30						
31						
32						
33						
34						
35		2		3		
36						
37						
38						
39						
40						
41						
42						
43						
44						
45	1					
TOTAL EUCLID INTERSTATE	3	5	1	4	3	1
43						
27						
36						
40						
41						
44						
TOTAL 100% EUCLID PARTIC.						

E-1 METHOD B CU. YDS.

SHEET NO	ROADWAY EXCAVATION	EMBANKMENT	EMBANKMENT + 22%
26	19,596	27,881	34,015
27	88,797	1,992	2,430
28	143,144	437	533
29	47,258	58,838	71,783
30	22,896	52	63
31	34,353	84	102
32	11,403	119,399	145,667
33	3,818	63,852	77,899
34	16,570	3,246	6,400
35	1,536	5,528	6,744
36			
37			
38			
39			
40			
41			
42			
43	97,642		
44	3,210	376	459
45			
47			
TOTAL EUCLID INTERSTATE	430,223 → 429939	283,685	346,095
43	284		
27			
40			
44	1,541	10	12
TOTAL 100% EUCLID PARTICIP.	1,541 → 1825	10	12

I-8 EACH — MONUMENT ASSEMBLIES

SHEET NO	TYPE B	RESET
26	1	
27		
28	1	
29	2	
30	1	
31		
32		
33	1	
34	2	
35		
36	3	
37	5	
38		
39		
40	19	1
41	3	
42	4	
43	2	
44	1	1
45		
47		
TOTAL EUCLID INTERSTATE	46	2
43		
27		
40		
44		
TOTAL 100% EUCLID PARTICIP.		

I-13 SQ. FT.

SHEET NO	SIDEWALKS 4"
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	8,748.75
37	2,731.25
38	
39	
40	18,500.35
41	
42	1,953.20
43	
44	
45	
47	
TOTAL EUCLID INTERSTATE	31,933.55
43	4,175.40
27	
40	4,369.05
44	
TOTAL 100% EUCLID PARTICIP.	8,544.45

I-15 LIN. FT.

SHEET NO	TEMPORARY BARREL - AS PER PLAN	GUARD RAIL STEEL BEAM TYPE (DEEP) STANDARD DESIGN	GUARD RAIL STEEL BEAM TYPE (DEEP) BARRIER DESIGN
26		725.00	705.94
27	37.50		1,300.00
28			1,300.00
29		616.28	1,068.52
30			1,300.00
31			1,300.00
32		1,581.78	1,191.50
33		1,822.90	1,200.00
34	37.50		1,300.00
35			100.00
36		62.50	
37			
38			
39			
40			
41		1,107.27	
42		357.00	
43			
44		992.36	
45			
47			
TOTAL EUCLID INTERSTATE	75.00	7,265.09	10,765.96

L-10 SQ. YDS.

SHEET NO	SODDING	SODDING FOR SPECIAL BERM AND SLOPE PROTECTION
26	49	
27	264	
28	212	
29	27	94
30		
31	164	
32	230	
33	156	
34	97	
35	100.00	
36	106	
37	115	
38	29	
39		
40	106	
41		
42	51	
43	13	
44		
45	117	
47	163	
TOTAL EUCLID INTERSTATE	1,899	94

5-24 LUMP

SHEET NO	REMOVE MANHOLE
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	LUMP
43	
44	
45	
47	
TOTAL EUCLID INTERSTATE	LUMP
43	
27	
40	
44	
TOTAL 100% EUCLID PARTICIP.	

SPEC. — INTERSTATE AND DEFENSE HIGHWAY SIGN

SHEET NO	INTERSTATE AND DEFENSE HIGHWAY SIGN
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	2
43	2
44	
45	
47	
TOTAL EUCLID INTERSTATE	4
43	
27	
40	
44	
TOTAL 100% EUCLID PARTICIP.	

REV. 11-21-60

SUMMARY OF TABLES

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	I-329 (13)		18/152

CUYAHOGA COUNTY
CUY-2-25.96

EXTRA AREA QUANTITIES

SHEET NUMBER	I-11 SANDSTONE			I-12 CONCRETE CURB		I-13		I-18	I-21	I-22	B-219	T-31 BITUMINOUS SURFACE TREATMENT		T-70	T-71 REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT		I-21
	BUMPER BLOCK	STRAIGHT CURB	RADIAL CURB	SPECIAL TYPE A	SPECIAL TYPE B	CONCRETE STEPS	CONCRETE SIDEWALK 4"	5" STABILIZED CRUSHED AGGREGATE SHOULDERS & APPROACHES	4" PORT. CEM. CONCRETE TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	Nº 6 AGGREGATE	BITUMINOUS MAT'L. AS PER PLANS	PORTLAND CEMENT CONCRETE PAVT. 6"	9"	10"	4" PORT. CEM. CONCRETE TR. ISLAND PAVEMENT, AS PER PLAN
	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. FT.	CU. YDS.	SQ. YDS.	CU. YDS.	CU. YDS.	CU. YDS.	GALLONS	SQ. YDS.	SQ. YDS.		SQ. YDS.
48		37.00	486.61				2,476.00			118.89				31.55	691.56		
49		206.56	532.76				1,702.00			186.14				23.55	1,095.55		
50	5	586.97	158.78				2,814.15		62.22	133.27				34.22	584.89		
51	6	498.17	461.32				3,529.00		80.00	281.71				94.67	1,386.67		
52	4	473.23	329.76				3,375.00		42.67	190.33				53.34	972.44		
53	3	498.55	271.82				2,750.00		100.44	224.44				15.11	1,038.22		
54	2	~~1,962.26~~ 1815.26	~~326.85~~ 246.28				~~5,790.45~~ 4662.45	0.21	120.00	~~1,025.23~~ 925.23	0.13	0.01	0.38	~~89.45~~ 53.45	~~5,376.28~~ 4793.28		584
55	2	1,870.36	250.43				4,015.50	0.21	120.00	868.60	0.13	0.01	0.38		4,410.10		661
56	2	999.28	199.90				2,672.50			539.29					2,820.57		765
57	2	911.02	198.89				1,929.00			560.70				194.67	2,923.51		572
58	1	200.00						126.22	34.22	439.72	73.46	7.05	220.36		780.87	684.44	
59				134.00	68.00			142.30		405.61	83.18	7.99	249.54		837.21	493.33	
60								101.49		516.93	54.21	5.21	162.64		2,279.58		
61				117.50	83.50			119.00		338.37	70.21	6.74	210.63		795.34	319.11	
62	1	201.00						116.47	21.78	397.18	67.68	6.50	203.04		769.44	663.11	
63		1,277.50						201.75		456.68	121.07	11.62	361.20			1,147.09	
64	1	691.18		221.00	60.00			135.74	74.22	437.92	80.95	7.77	242.85		899.24	460.89	
65	2	1,579.00						133.16	258.22	644.11	79.08	7.60	237.18		920.53	1,144.44	
66	2	1,260.00						133.68	224.00	683.66	79.28	7.61	237.83		904.05	1 266.22	
67	1	1,159.00		203.50	35.00			132.47	53.78	458.08	78.63	7.55	235.86		988.71	474.22	
68		1,453.00						224.20		523.92	134.54	12.92	403.61			1,371.95	
69	2	1,582.00						134.49	134.22	549.17	79.91	7.67	239.74		782.93	1,058.67	
70	1	551.00		128.50	72.00			105.59	47.56	348.56	62.71	6.02	188.13		858.01	276.00	
71	1	580.11		126.50	73.50			112.01		358.27	65.56	6.29	196.65		1,035.27	242.67	
72	2	780.29					29925.60	75.95	149.78	318.54	44.73	4.29	134.20		811.38	524.89	
TOTAL EUCLID INTERSTATE	40	~~19,357.48~~ 19,210.48	~~3,217.12~~ Use ~~3217'~~ 3136	931.00	392.00	—	~~31,053.60~~	1,994.94	1523.11 USE 1523	~~11,005.32~~ 10,905.32	1,175.46	112.85	3,524.22	~~536.56~~ 500.56	~~33,962.35~~ 33,379.35	10,127.03	2,582
						From Sheet 17 / Total	31,933.55 / ~~62,987.15~~ - Use ~~62987.~~ 61859										
54		147	80.57				1128			100				36	583		
49							1,124.00										
53							256.00										
56		480.00				15	2,890.50			220.77				47.11	1,280.00		
57		480.07					1,897.50			229.81				128.44	1,280.00		
TOTAL 100% CITY OF EUCLID PARTICIPATION	—	~~960.07~~ 1107.07	81	—	—	15	~~6,168.00~~ 7286	—	—	~~450.58~~ 550.58	—	—	—	~~175.55~~ 211.55	~~2,560.00~~ 3,143	—	
						From Sheet 17 / Total	8,544.45 / ~~14,712.45~~ - Use ~~14,712.~~ 15,840										

REV. 11-21-60
Revised REC 9-20-60

ESTIMATED QUANTITIES OF FENCE

ITEM SS-18 FENCE TYPE "C"

① FENCE LEFT

STATIONS		DISTANCE OUT	END POST	DEFLECTION POINT CORNER POST	DEFLECTION POINT LINE POST	TYPE C FENCE LIN. FT.
291+00		145.00				
295+86.79		147.35			1	
291+00	295+86.79					490
298+64.78		149.34			1	
295+86.79	298+64.78			R=3,981'		283 ARC
302+55		155.01	1			
298+64.78	302+55					397
302+18.52		102.09	1			
302+92.56		126.64			1	
302+18.52	302+92.56			R=2,023'		78 ARC
304+22.43		148.51			1	
302+92.56	304+22.43			R = 493'		132 ARC
307+59.46		159.60		1		
304+22.43	307+59.46					337
308+79		175.54		1		
307+59.46	308+79					121
317+28.54		203.49		1		
308+79	317+28.54					836
318+50.44		195.24		1		
317+28.54	318+50.44					121
322+62.33		193.19			1	
318+50.44	322+62.33					400
324+44.84		152.56			1	
322+62.33	324+44.84			R=493'		184 ARC
324+58.79		146.32	1			
324+44.84	324+58.79			R=1,023'		15 ARC
324+25		197.74	1			
329+75.02		153.73		1		
324+25	329+75.02					533
329+72.99		129.82		1		
329+75.02	329+72.99					24
330+06.47		109.94		1		
329+72.99	330+06.47					39
330+02.28		83.50	1			
330+06.47	330+02.28			R = 29.25'(SEE SHT. No. 115)		28 ARC
332+27.67		83.50	1			
332+67.78		104.42		1		
332+27.67	332+67.78			R = 69.25'(SEE SHT. No. 116)		46 ARC
333+74.27		117.95		1		
332+67.78	333+74.27					107
338+68.39		104.65			1	
333+74.27	338+68.39			R = 3,521'		491 ARC
349+00		108.00	1			
338+68.39	349+00					1,015
348+77.46		71.56	1			
350+91.38		93.04			1	
348+77.46	350+91.38					215
351+90.55		98.00			1	
350+91.38	351+90.55			R = 993'		99 ARC
355+52.47		98.00			1	
351+90.55	355+52.47					348
356+11.79		96.23			1	
355+52.47	356+11.79			R=993'		59 ARC
359+60		75.39	1			
356+11.79	359+60					349
359+72		108.00	1			
373+20.51		108.00			1	
359+72	373+20.51					1,335
373+40.50		108.50			1	
373+20.51	373+40.50					20
374+43.34		108.50				
373+40.50	374+43.34					103
374+91.25		71.50	1			
374+43.34	374+91.25			R = 49.5'(SEE SHT. No. 130)		65 ARC
376+95.16		71.50	1			
377+24.52		108.39		1		
376+95.16	377+24.52			R = 49.5'(SEE SHT. No 131)		49 ARC
380+82.48		128.00			1	
377+24.52	380+82.48					358
388+15		129.63	1			
380+82.48	388+15					730
		TOTAL	13	10		9,407

② FENCE LEFT

STATIONS		DISTANCE OUT	END POST	DEFLECTION POINT CORNER POST	DEFLECTION POINT LINE POST	TYPE C FENCE LIN. FT.
387+72		85.97	1			
388+96.11		105.61			1	
387+72	388+96.11					125
390+47.91		116.14			1	
388+96.11	390+47.91			R = 893'		152 ARC
394+99.71		109.00			1	
390+47.91	394+99.71					438
397+24.51		109.00			1	
394+99.71	397+24.51					225
398+23.88		104.02			1	
397+24.51	398+23.88			R = 993'		100 ARC
400+75		79.11	1			
398+23.88	400+75					253
400+28		119.17	1			
403+00		122.46	1			
400+28	403+00					274
		TOTAL	4			1,567

NOTE

1 - FENCE TO BE LOCATED IN ACCORDANCE WITH STATIONS AND OFFSETS, WHICH ARE BASED ON THE FREEWAY CENTERLINE.
2 - SEE RIGHT OF WAY PLANS SHEETS 142 THROUGH 152 FOR LAYOUT OF FENCE AND LOCATION OF DITCH CROSSINGS.
3 - FOR DITCH CROSSING DETAIL SEE SHEET Nº 98. SEE STANDARD CONSTRUCTION DRAWINGS Nº F-1 & F-3 FOR FENCE DETAILS.
4 - THE FABRIC SHALL BE HUNG ON THE OUTSIDES OF THE POSTS. (SIDE AWAY FROM THE FREEWAY.)

③ FENCE RIGHT

STATIONS		DISTANCE OUT	END POST	DEFLECTION POINT CORNER POST	DEFLECTION POINT LINE POST	TYPE C FENCE LIN. FT.
291+00		148.00				
296+26.45		144.68			1	
291+00	296+26.45					508
300+40.61		149.05			1	
296+26.45	300+40.61			R=3,019'		407 ARC
302+88		158.13	1			
300+40.61	302+88					244
302+47.44		113.51	1			
303+26.95		133.56			1	
302+47.44	303+26.95					82
304+42.09		150.85			1	
303+26.95	304+42.09			R=493'		117 ARC
307+71.21		160.94			1	
304+42.09	307+71.21					329
310+10.72		180.29			1	
307+71.21	310+10.72					240
312+87.53		188.77			1	
310+10.72	312+87.53					263
315+54.13		185.48			1	
312+87.53	315+54.13			R=2,981'		267 ARC
317+18.68		175.80		1		
315+54.13	317+18.68					165
318+36.84		156.89		1		
317+18.68	318+36.84					121
322+31.57		147.20			1	
318+36.84	322+31.57					404
324+05.76		117.46			1	
322+31.57	324+05.76			R=493'		181 ARC
324+31.86		108.52	1			
324+05.76	324+31.86					28
323+95		162.03	1			
324+73.91		164.83			1	
323+95	324+73.91					81
327+64.39		165.98		1		
324+73.91	327+64.39			R=2,981'		293 ARC
327+63.44		142.00		1		
327+64.39	327+63.44					24
328+56.92		106.60		1		
327+63.44	328+56.92					100
328+85.77		83.50	1			
328+56.92	328+85.77			R = 59.25'(SEE SHT. No. 115)		37 ARC
331+11.16		83.50	1			
331+22.67		106.78		1		
331+11.16	331+22.67			R = 29.25'(SEE SHT. No. 116)		27 ARC
331+85		135.09		1		
331+22.67	331+85					68
343+70.06		100.00			1	
331+85	343+70.06					1,178
347+03		108.32	1			
343+70.06	347+03					333
347+29		75.78	1			
350+24.19		97.36			1	
347+29	350+24.19					296
350+96.59		100.00			1	
350+24.19	350+96.59			R=993'		72 ARC
355+88.81		100.00			1	
350+96.59	355+88.81					478
357+06.52		93.00			1	
355+88.81	357+06.52			R=993'		118 ARC
358+83.74		71.84	1			
357+06.52	358+83.74					178
358+50		112.00	1			
363+30		100.00			1	
358+50	363+30					480
367+56.62		100.00			1	
363+30	367+56.62					413
370+95.80		100.89		1		
367+56.62	370+95.80					339
371+15.50		97.44		1		
370+95.80	371+15.50					20
374+37.71		98.29				
371+15.50	374+37.71					322
374+82		71.50	1			
374+37.71	374+82			R = 49.5'(SEE SHT. No. 129)		54 ARC
		TOTAL	11	9		8,267

④ FENCE RIGHT

STATIONS		DISTANCE OUT	END POST	DEFLECTION POINT CORNER POST	DEFLECTION POINT LINE POST	TYPE C FENCE LIN. FT.
376+86.48		71.50	1			
377+30.67		98.48				
376+86.48	377+30.67			R = 49.5'(SEE. SHT. No. 132)		54 ARC
381+09.50		98.05		1		
377+30.67	381+09.50					379
381+29.20		101.53		1		
381+09.50	381+29.20					20
386+46.69		103.14			1	
381+29.20	386+46.69					519
390+50		121.47	1			
386+46.69	390+50					405
390+05		79.78	1			
392+56.03		111.23			1	
390+05	392+56.03					253
393+55.77		118.65			1	
392+56.03	393+55.77			R=993'		100 ARC
396+71.05		126.17			1	
393+55.77	396+71.05					301
399+41.57		95.29	1			
396+71.05	399+41.57			R=993'		273 ARC
398+93		143.48	1			
399+26.70		144.28			1	
398+93	399+26.70					34
403+00		141.23	1			
399+26.70	403+00					371
		TOTAL	6	2		2,709

COLUMN NO.	1		13	10		9,407
COLUMN NO.	2		4	—		1,567
COLUMN NO.	3		11	9		8,267
COLUMN NO.	4		6	2		2,709
		TOTAL	34	21		21,950

ITEM SS-18 FENCE GATES TYPE "C"

LOCATION ℄ OF GATE STATION	OFFSET	SIDE RIGHT OR LEFT	WIDTH	REMARKS
295+00	147.30	RIGHT	14'	
312+48.59	187.70	LEFT	14'	
312+63.94	188.04	RIGHT	14'	
327+90.47	169.35	LEFT	14'	
338+75.49	104.82	LEFT	14'	
338+75.49	103.24	RIGHT	14'	
354+00	98.00	LEFT	14'	
354+00	100.00	RIGHT	14'	
365+00	98.00	LEFT	14'	
365+00	100.00	RIGHT	14'	
394+00	110.58	LEFT	14'	
395+00	122.09	RIGHT	14'	
TOTAL NO. OF GATES = 12				

CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

20/152

LINE Nº	DESCRIPTION		QUANTITY	UNIT
	E-8 REMOVAL & DISPOSAL OF EXISTING PAVEMENT			
	PROJECT I-90-1(17)13			
1	E. 207TH ST. STA. 2+10.07 TO STA. 6+88.86	1,329.97 SQ.YD.		
2	E. 209TH ST. STA. 1+65.00 TO STA. 6+67.09	1,394.69		
3	E. 210TH ST. STA. 2+85.88 TO STA. 6+42.24	989.89		
4	E. 212TH ST. STA. 2+40.26 TO STA. 6+21.29	1,058.42		
5	E. 218TH ST. STA. 0+85.46 TO STA. 5+58.99	1,210.53		
6	E. 220TH ST. STA. 1+01.12 TO STA. 5+63.33	1,181.20		
7	E. 222ND ST. STA. 3+14.02-S TO STA. 0+60.49-S	1,104.85		
8	E. 222ND ST. STA. 0+60.49-S TO STA. ~~4+76.46-N~~ 3+75-N	1,519.71 ~~1,854.71~~		
9	E. 223ND ST. STA. 0+20.00 TO STA. 0+30.00	56.47		
10	E. 224TH ST. STA. 0+20.00 TO STA. 0+30.00	56.47		
11	E. 225TH ST. STA. 0+20.00 TO STA. 0+30.00	56.47		
12	E. 228TH ST. STA. 0+20.00 TO STA. 0+30.00	56.47		
13	E. 230TH ST. STA. 0+25.37 TO STA. 4+19.68	1,094.48		
14	ARMS AVE. STA. 0+20.00 TO STA. 3+80.25	979.75		
15	E. 232ND ST. STA. 0+12.00 TO STA. 0+65.33	206.56		
16	IVAN AVE. STA. 0+00 TO STA. 3+28.60	986.11		
17	E. 236TH ST. STA. 0+20.00 TO STA. 3+21.15	847.25		
18	E. 237TH ST. STA. 0+20.00 TO STA. 3+27.98	866.22		
19	E. 239TH ST. STA. 0+20.00 TO STA. 3+61.38	959.00		
20	BABBITT RD. STA. 1+91.88-S TO STA. 1+49.46-S	227.42		
21	BABBITT RD. STA. 1+09.38-S TO STA. 1+88.93-N	1,244.41		
22	E. 245TH ST. STA. 0+20.00 TO STA. 0+30.00	45.75		
23	E. 245TH ST. STA. 3+13.31 TO STA. 3+64.41	141.94		
24	E. 248TH ST. STA. 0+20.00 TO STA. 0+30.00	45.75		
25	E. 248TH ST. STA. 3+01.17 TO STA. 3+57.96	157.75		
26	E. 250TH ST. STA. 0+25.45 TO STA. 4+69.94	2,087.45		
27	LAKELAND BLVD. STA. 0+17.50 TO STA. 5+67.39	2,425.02		
28	LAKELAND BLVD. STA. 343+70 TO STA. 350+96.59	779.09		
29	LAKELAND BLVD. STA. 355+88.81 TO STA. 363+30.	833.75		
30	LAKELAND BLVD. STA. 374+38.80 TO STA. 377+33.56	1,310.04		
31	LAKELAND BLVD. STA. 386+48.17 TO STA. 393+58.63	743.24		
32	LAKELAND BLVD. STA. 396+74. TO STA. 404+10.	822.22		
33	LAKELAND BLVD. NORTH SIDE AT INTERSECTION OF E.224TH ST., E.225TH ST., E.228TH ST., ARMS AVE., E.237TH ST., E.239TH ST., E.245TH ST. AND 248TH ST.	599.61		
34	(SUM OF LINES 1 THROUGH 33) TOTAL (REMOVAL & DISPOSAL OF EXISTING PAV'T.) PROJECT I-90-1(17)13		~~27,752.95~~ 27,414.95	SQ. YD.
	100% CITY OF EUCLID			
37	BABBITT RD. STA. 4+31.88-S TO STA. 1+91.88-S	960.00 SQ. YD.		
38	BABBITT RD. STA. 1+88.93-S TO STA. 4+28.93-N	960.00		
39	(SUM OF LINES 37 AND 38) TOTAL (REMOVAL & DISPOSAL OF EXISTING PAV'T.) 100% CITY OF EUCLID		1,920.00	SQ. YD.
39A	E 222 ND. ST. STA. N. 3+75 TO N-4+76.46	338 SQ.YD.		
39B	(SUM OF LINES 39 AND 39-A) TOTAL 100% CITY OF EUCLID		2,258.00	
	E-8 REMOVAL FOR RE-USE OF EXISTING CURB			
	PROJECT I-90-1(17)13			
41	E. 230TH ST. FROM END OF RADIAL CURB TO STA. 4+19.68	738. LIN.FT.		
42	BABBITT RD. STA. 1+91.88-S TO BEGINNING OF RADIAL CURB	14.		
43	BABBITT RD. FROM END OF RADIAL CURB TO STA. 1+88.93-N	532.		
44	(SUM OF LINES 41 THROUGH 43) TOTAL (REMOVAL FOR RE-USE OF EXISTING CURB) PROJECT I-90-1(17)13		1,284.00	LIN.FT.
	100% CITY OF EUCLID			
46	BABBITT RD. STA. 4+31.88-S TO STA. 1+91.88-S	480. LIN.FT.		
47	BABBITT RD. STA. 1+88.93-N TO STA. 4+28.93-N	480.		
48	(SUM OF LINES 46 AND 47) TOTAL (REMOVAL FOR RE-USE OF EXISTING CURB) 100% CITY OF EUCLID		960.00	LIN.FT.
	E-8 REMOVAL & DISPOSAL OF EXISTING CURB			
	PROJECT I-90-1(17)13			
51	SHAWNEE AVE. STA. 6+55.99 TO END PLUS PARKING LOT CURB	1,323. LIN.FT.		
52	E. 205TH ST. 0+12. TO STA. 0+38. E. SIDE	41.		

LINE Nº	DESCRIPTION		QUANTITY	UNIT
53	E. 222ND ST. STA. 3+14.02-S TO STA. ~~4+74.46-N~~ 3+75-N	1248 ~~1,476~~ LIN.FT.		
54	E. 223RD ST. STA. 0+20 TO STA. 3+30	591		
55	MILLER AVE. STA. 4+00-E TO STA. 5+72-E	416		
56	E. 224TH ST. STA. 0+20 TO STA. 3+75.01	662		
57	E. 225TH ST. STA. 0+20 TO STA. 3+51.21	691		
58	E. 228TH ST. STA. 0+20 TO STA. 3+77.52	754		
59	E. 230TH ST. RADIAL CURB AT INTERSECTION OF LAKELAND BLVD.	63		
60	ARMS AVE. STA. 0+20 TO STA. 3+80.25	649		
61	E. 236TH ST. STA. 0+20 TO STA. 0+35	47		
62	E. 237TH ST. STA. 0+20 TO STA. 0+35	47		
63	E. 239TH ST. STA. 0+20 TO STA. 0+35	47		
64	BABBITT RD. - RADIAL CURB AT INTERSECTION OF LAKELAND BLVD.	212		
65	E. 245TH ST. STA. 0+20 TO STA. 0+30	42		
66	E. 248TH ST. STA. 0+20 TO STA. 0+30	42		
67	E. 250TH ST. RADIAL CURB AT INTERSECTION OF LAKELAND BLVD.	79		
68	LAKELAND BLVD. STA. 0+15 TO STA. 5+67.39	1,059		
69	LAKELAND BLVD. N. SIDE STA. 343+70 TO STA. 363+30	1,686		
70	LAKELAND BLVD. CURB CUTS - N. SIDE STA. 363+30 TO STA. 374+38.80	84		
71	LAKELAND BLVD. STA. 374+38.80 TO STA. 377+33.56	382		
72	LAKELAND BLVD. CURB CUTS - N. SIDE STA. 377+33.56 TO STA. 386+48.17	156		
73	LAKELAND BLVD. N. SIDE STA. 386+48.17 TO STA. 404+10	1,597		
74	(SUM OF LINES 51 THROUGH 73) TOTAL REMOVAL & DISPOSAL OF EXISTING CURB - PROJECT I-90-1(17)13		~~12,146~~ 11,918	LIN.FT.
75	E. 222 ND. ST. STA. 3+75-N TO 4+74.46-N 100% CITY OF EUCLID		228	LIN.FT.
	E-1 ROADWAY EXCAVATION - METHOD B			
	PROJECT I-90-1(17)13			
81	FROM SHEET No. 17 EXCAVATION	429 939 ~~430,223~~ CU.YD.		
82	FROM LINE No. 81 DEDUCT LUMP SUM FOR PAVEMENT REMOVAL	- 6,647		
83	(SUM OF LINES 81 & 82) TOTAL EXCAVATION PROJECT I-90-1(17)13		~~423,576~~ 423 292	CU.YD
85	FROM SHEET No. 17 EMBANKMENT + 22 %	346,095 CU.YD.		
86	TO LINE 85 ADD LUMP SUM FOR PAVEMENT REMOVAL	+ 1,231		
87	(SUM OF LINES 85 & 86) TOTAL EMBANKMENT + 22 %	347,326 CU.YD.		
88	FROM LINE 83 DEDUCT LINE 87 = SURPLUS EXCAVATION PROJECT I-90-1(17)13	76,250 CU.YD.		
	100% CITY OF EUCLID			
91	FROM SHEET No. 17 EXCAVATION	1825 ~~1,541~~ CU.YD.		
92	FROM LINE No. 91 DEDUCT LUMP SUM FOR PAVEMENT REMOVAL	- 867		
93	(SUM OF LINES 91 & 92) TOTAL EXCAVATION 100% CITY OF EUCLID		~~958 674~~	CU. YD.
95	FROM SHEET No. 17 EMBANKMENT + 22 %	12 CU.YD.		
96	FROM LINE No. 93 DEDUCT LINE No. 95 = SURPLUS EXCAVATION 100% CITY OF EUCLID	662 CU.YD.		
98	(SUM OF LINES 88 & 96) - TOTAL SURPLUS EXCAVATION FOR THIS PROJECT		76,912	CU.YD.
	E-1 COMPACTED SUBGRADE			
	PROJECT I-90-1(17)13			
101	FROM LINE 195, T-71 9" CONCRETE PAVEMENT	78248.34 ~~78,831.34~~ SQ.YD.		
102	FROM LINE 206, T-71 10" CONCRETE PAVEMENT	125,290.66		
103	FROM LINE 213, I-7 CONCRETE APPROACH SLABS	1,200.00		
104	FROM LINE 326, B-219 3" WATERPROOFED AGGREGATE BASE COURSE = 3,624.06 CU.YD. X 12 =	43,488.72		
105	FROM LINE 218, I-11 SANDSTONE CURB RESET = 1,027 FT. X .50 ÷ 9 =	57.06		
106	FROM LINE 264, I-11 SANDSTONE CURB = 61,819.49 FT. X .50 ÷ 9 =	3,434.42		
107	FROM SHEET No 18, SUMMARY OF TABLES - EXTRA AREAS, I-12 SPECIAL CURB = [(931.00 x 1) + (392.00 x 667)] ÷ 9	132.50		
108	(SUM OF LINES 101 THROUGH 107) TOTAL PROJECT I-90-1(17)13		~~252,434.70~~	SQ. YD.
	Deduct for Rock Sub-grade - Est.	20,000.	SQ.YD	
	NET 231,852		~~232,434.70~~	SQ.YD.

REV. 11-21-60

CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

LINE Nº	DESCRIPTION		QUANTITY	UNIT
	E-1 COMPACTED SUBGRADE (CON'T.)			
	100 % CITY OF EUCLID			
111	FROM LINE 198, T-71 9" CONCRETE PAVEMENT	3143 ~~2,560.00~~ SQ. YD.		
112	FROM LINE 223, I-11 SANDSTONE CURB RESET = 768.00 FT. X.50 ÷ 9 =	42.67		
113	FROM LINE 269, I-11 SANDSTONE CURB = 183.57 FT. X .50 ÷ 9 =	10.20		
114	(SUM OF LINES 111 THROUGH 113)	TOTAL 100 % CITY OF EUCLID	~~2,612.87~~ 3,195.87	SQ. YD.
	E-11 WATER			
	PROJECT I-90-1(17)13			
116	FROM LINE 177, TOTAL I-22, 51,921 CU YD. X 5 ÷ 1000 =	259.61 M. GAL.		
117	FROM LINE 296, TOTAL I-18, 6,144 CU. YD. X 5 ÷ 1000 =	30.72		
118	FROM LINE 87, TOTAL EMBANKMENT + 22 % = 347,326 CU. YD. X 5 ÷ 1000	1,736.63		
119	(SUM OF LINES 116 THROUGH 118)	TOTAL PROJECT I-90-1(17)13	2,026.96	M. GAL.
	100 % CITY OF EUCLID			
121	FROM LINE 179 TOTAL I-22, 451 CU. YD. X 5 ÷ 1000 =	TOTAL 100 % CITY OF EUCLID	2.26	M. GAL.
	I-22 SUBBASE GRADING A OR B			
	PROJECT I-90-1(17)13			
126	FROM LINE 195, 78,831.34 SQ. YD. DEDUCT LINE 194, 33,724.13 SQ. YD. = 45,107.21 SQ. YD. ÷ 6 =		7,517.87	CU. YD.
127	FROM LINE 206, 125,290.66 SQ. YD. DEDUCT LINE 205, 10,127.03 SQ. YD. = 115,163.63 SQ. YD. ÷ 6 =		19,193.94	
128	SUM OF LINES 232 THROUGH 258, N & S MARGINAL ROAD CURB = 16,407.62 FT.			
129	ADD TO LINE 128, 240.00 FT.; SEE LINE 261, REPLACED CURB CUTS FROM N. SIDE LAKELAND BLVD.			
130	ADD TO LINE 128, 315.00 FT.; SEE LINE 262 NEW CURB EXISTING INTERSECTIONS ON LAKELAND BLVD.			
131	SUM OF LINES 128, 129 & 130; 16,407.62 FT. + 240.00 FT. + 315.00 FT. = 16,962.62 X .0046 =		78.03	
132	FWY. E. & W. BOUND, ADDITIONAL 1'-0" I-22, STA. 300+50 TO STA. 303+00 = 250.00 FT. X 96 X 1 ÷ 27 =		888.89	
133	FWY. E. & W. BOUND, ADDITIONAL 1'-0" I-22, STA. 358+50 TO STA. 360+50 = 200.00 FT. X 96 X 1 ÷ 27 =		711.11	
134	APPROACH SLABS SUBBASE (FROM LINE 213) 1,200.00 SQ. YD. X .667 ÷ 3 =		266.80	
135	MEDIAN - STA. 291+00 TO STA. 403+00 = 11,200 FT.			
136	DEDUCT FROM LINE 135, 439.98' (FOR STRUCTURES) = 10,760.02' X .5743 = 6,179.48 CU. YD.			
137	DEDUCT FROM LINE 136, 99.64 CU. YD. FOR INLETS & 50.40 CU. YD. FOR SUPERELEVATED AREAS =		6,029.44	
138	MEDIAN-ADDITIONAL 1'-0" I-22 STA. 300+50 TO STA. 303+00 = 250.00' X 10 X 1 ÷ 27 = 92.59 CU. YD.			
139	DEDUCT FROM LINE 138, 2.96 CU. YD. FOR CURB INLETS; 92.59 - 2.96 =		89.63	
140	MEDIAN-ADDITIONAL 1'-0" I-22 STA. 358+50 TO STA. 360+50 = 200.00' X 10 X 1 ÷ 27 = 74.07 CU. YD.			
141	DEDUCT FROM LINE 140, 2.03 CU. YD. FOR CURB INLETS; 74.07 - 2.03 =		72.04	
142	FWY. E. & W. BOUND 5' PAVED BERM STA. 291+00 TO STA. 403+00 = 11,200' X 2 = 22,400'			
143	DEDUCT FROM LINE 142, 879.96' (FOR STRUCTURES) = 21,520.04' X .1235 =		2,657.72	
144	5' PAVED BERMS, ADDITIONAL 1'-0" I-22 STA. 300+50 TO STA. 303+00 = 250.00' X 5 X 2 X 1 ÷ 27 =		92.59	
145	5' PAVED BERMS, ADDITIONAL 1'-0" I-22 STA. 358+50 TO STA. 360+50 = 200.00' X 5 X 2 X 1 ÷ 27 =		74.07	
146	FWY. EASTBOUND 10' PAVED BERM STA. 291+00 TO STA. 296+42.50 = 542.50' - 2.33' (CURVE) = 540.11' X .2040 =		110.18	
147	STA. 301+00 TO STA. 325+69 = 2,469.00' + 6.33' (CURVE) = 2,475.33'			
148	2,475.33' X .2040 = 504.97 CU. YD.; +605.55' X .005' (SUPERELEVATION) = 3.03 CU. YD. + 504.97' =		508.00	
149	FWY. EASTBOUND 10' PAVED BERM, ADDITIONAL 1'-0" I-22 STA. 301+00 TO STA. 303+00 = 200.00'			
150	DEDUCT 0.81 FT. (CURVE), 200.00' - 0.81' = 199.19' X .0741 =		14.76	
151	FWY. EASTBOUND 10' PAVED BERM STA. 337+25 TO STA. 341+50 = 425.00' + 2.18' (CURVE) = 427.18' X .1970 =		84.15	
152	STA. 347+50 TO STA. 358+56 = 1,106.00' X .2040 =		225.62	
153	ADDITIONAL 1'-0" I-22 STA. 358+50 TO STA. 358+56 = 6.00 X .0741 =		0.44	
154	STA. 370+99.92 TO STA. 384+25 = 1,325.08' - 208.24 (STRUCT. & CURVE) = 1,116.84 X .1970 =		220.02	
155	STA. 390+25 TO STA. 400+43 = 1,018.00' - 0.32' (CURVE) = 1,017.68' X .2040		207.61	
156	FWY. WESTBOUND 10' PAVED BERM STA. 291+00 TO STA. 296+50 = 550.00' + 2.46' (CURVE) = 552.46'			
157	552.46' X .2040 = 112.70 CU. YD.; +151.47' X .005 (SUPERELEVATION) = 0.76 CU. YD. + 112.70 CU. YD. =		113.46	
158	FWY. WESTBOUND 10' PAVED BERM STA. 300+72 TO STA. 325+82.49 = 2,510.49' - 6.23' (CURVES) = 2,504.26'			
159	2,504.26' X .2040 = 510.87 CU. YD.; +28.23' X .005' (SUPERELEVATION) = 0.14 CU. YD. + 510.87 CU. YD. =		511.01	
160	FWY. WESTBOUND 10' PAVED BERM, ADDITIONAL 1'-0" I-22 STA. 300+72 TO STA. 303+00; +1.04' (CURVE) = 229.04' X .0741 =		16.97	
161	STA. 333+50 TO STA. 338+50 = 500.00' - 1.90' (CURVE) = 498.10' X .1970 =		98.13	
162	STA. 349+11 TO STA. 359+50 = 1,039.00' X .2040 =		211.96	
163	ADDITIONAL 1'-0" I-22 STA. 358+50 TO STA. 359+50 = 100.00' X .0741 =		7.41	
164	STA. 365+50 TO STA. 377+25 = 1,175.00' - 208.50' (STRUCT.) = 966.50' X .1970 =		190.40	
165	STA. 386+93 TO STA. 400+75 = 1,382.00' - 0.15' (CURVES) = 1,381.85' X .2040 =		281.90	
166	NORTH MARGINAL RD. 3' PAVED BERM STA. 292+03.63 TO STA. 304+00 = 1,196.37' - 0.97' (CURVE) = 1,195.40' X .0702 =		83.92	

LINE Nº	DESCRIPTION		QUANTITY	UNIT
	I-22 SUBBASE GRADING A OR B (CON'T.)			
167	NORTH MARGINAL RD. 3' PAVED BERM STA. 310+00 TO STA. 318+50 = 850.00' X .0702 =		59.67 CU. YD.	
168	STA. 324+99 TO STA. 330+49.66 = 550.66' X .0702		38.66	
169	STA. 351+90.55 TO STA. 355+52.47 = 361.92' X .0702		25.41	
170	STA. 390+44.94 TO STA. 397+21.22; +0.40' (CURVE) = 676.68' X .0702 =		47.50	
171	SOUTH MARGINAL RD. 3' PAVED BERM STA. 291+46.33 TO STA. 303+42; +1.84' (CURVE) = 1,197.51' X .0702 =		84.07	
172	STA. 309+20 TO STA. 317+50; -1.22' (CURVE) = 828.78' X .0702 =		58.18	
173	STA. 324+07 TO STA. 327+92.33; -1.23' (CURVE) = 384.10' X .0702 =		26.96	
174	LAKELAND BOULEVARD 3' PAVED BERM STA. 350+96.59 TO STA. 355+88.81 = 492.22' X .0702 =		34.55	
175	STA. 393+58.63 TO STA. 396+74 = 315.37' X .0702 =		22.14	
176	FROM SHEET No. 18, SUMMARY OF TABLES - EXTRA AREAS =	10905.32 ~~11,005.32~~		
177	(SUM OF LINES 126 THROUGH 176)	TOTAL PROJECT I-90-1(17)13	~~51,960.53~~ 51,860.53	CU. YD.
	100 % CITY OF EUCLID			
179	FROM SHEET No. 18, SUMMARY OF TABLES - EXTRA AREAS	TOTAL 100 % CITY OF EUCLID	5055 ~~450.58~~	CU. YD.
	T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT			
	PROJECT I-90-1(17)13			
181	NORTH MARGINAL ROAD STA. 292+03.63 TO STA. 330+49.66; +0.07' (CURVE) = 3,846.10 X 26 ÷ 9 =		11,110.96 SQ. YD.	
182	STA. 334+38.34 TO STA. 350+00; +92.91' (STA. EQUATION) = 1,654.57 X 28 ÷ 9 =		5,147.55	
183	STA. 350+00 TO STA. 351+90.55 = 190.55' X 26' ÷ 9 =		550.48	
184	STA. 351+90.55 TO STA. 355+52.47 = 361.92' X 38' ÷ 9 =		1,528.11	
185	STA. 355+52.47 TO STA. 357+50 = 197.53' X 26' ÷ 9 =		570.64	
186	STA. 357+50 TO STA. 374+44.38 = 1,694.38' X 28' ÷ 9 =		5,271.40	
187	STA. 377+35.83 TO STA. 388+85 = 1,149.17' X 28' ÷ 9 =		3,575.20	
188	STA. 388+85 TO STA. 390+44.94 = 159.94' X 26' ÷ 9 =		462.05	
189	STA. 390+44.94 TO STA. 397+21.22; +0.08' (CURVE) = 676.36' X 38' ÷ 9 =		2,855.74	
190	STA. 397+21.22 TO STA. 398+71.71 = 150.49' X 26' ÷ 9 =		434.75	
191	STA. 398+71.71 TO STA. 402+99.55 = 427.84' X 28' ÷ 9 =		1,331.06	
192	SOUTH MARGINAL ROAD STA. 291+46.33 TO STA. 327+92.33; +0.07' (CURVES) = 3,646.07' X 26' ÷ 9 =		10,533.09	
193	SOUTH MARGINAL ROAD STA. 332+09.36 TO STA. 336+00 = 390.64' X 40 ÷ 9 =		1,736.18	
194	FROM SHEET No. 18, SUMMARY OF TABLES - EXTRA AREAS =	33,379.35 ~~33,962.35~~		
195	(SUM OF LINES 181 THROUGH 194)	TOTAL PROJECT I-90-1(17)13	~~73,069.56~~ 78,486.56	SQ. YD.
	100 % CITY OF EUCLID			
198	FROM SHEET No. 18, SUMMARY OF TABLES - EXTRA AREA	TOTAL 100 % CITY OF EUCLID	3143 2,560.00	SQ. YD.
	T-71 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT			
	PROJECT I-90-1(17)13			
201	FWY. EASTBOUND AND WESTBOUND STA. 291+00 TO STA. 403+00 = 11,200.00'			
202	DEDUCT FROM LINE 201; 539.98' FOR STRUCTURES & APPROACH SLABS = 10,660.02' X 96 ÷ 9 =		113,706.88 SQ. YD.	
203	FWY. EASTBOUND (EXTRA LANE) STA. 291+00 TO STA. 296+42.50; -2.03' (CURVE) = 540.47' X 12' ÷ 9 =		720.63	
204	FWY. WESTBOUND (EXTRA LANE) STA. 291+00 TO STA. 296+50; +2.09' (CURVE) = 552.09' X 12' ÷ 9 =		736.12	
205	FROM SHEET No. 18, SUMMARY OF TABLES - EXTRA AREAS =	10,127.03		
206	(SUM OF LINES 201 THROUGH 205)	TOTAL PROJECT I-90-1(17)13	125,290.66	SQ. YD.
	I-7 REINFORCED CONCRETE APPROACH SLAB (T-13")			
	PROJECT I-90-1(17)13			
211	APPROACH SLABS STRUCTURE No. CUY.-2-2670 4 X 25 X 60 ÷ 9 =		666.67 SQ. YD.	
212	APPROACH SLABS STRUCTURE No. CUY.-2-2756 4 X 25 X 48 ÷ 9 =		533.33	
213	(SUM OF LINES 211 & 212)	TOTAL PROJECT I-90-1(17)13	1,200.00	SQ. YD.

REV. 11-21-60 REVISED 9-20-60 REC.

CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

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LINE Nº	DESCRIPTION		QUANTITY	UNIT
	I-11 6"X 18" SANDSTONE CURB RE-SET			
	PROJECT I-90-1(17)13			
216	REMOVAL FOR RE-USE OF EXISTING CURB FROM LINE 44	1,284.00 LIN.FT.		
217	DEDUCTION OF 20% FOR BREAKAGE AND CURB CUTS	-257.00		
218	(SUM OF LINES 216 & 217) CURB AVAILABLE FOR RE-USE	TOTAL PROJECT I-90-1(17)13	1,027.00	LIN.FT.
	100% CITY OF EUCLID			
221	REMOVAL FOR RE-USE OF EXISTING CURB FROM LINE 48	960.00 LIN.FT.		
222	DEDUCTION OF 20% FOR BREAKAGE AND CURB CUTS	-192.00		
223	(SUM OF LINES 221 & 222) CURB AVAILABLE FOR RESET	100% CITY OF EUCLID	768.00	LIN.FT.
	I-11 6"x18" SANDSTONE CURB			
	PROJECT I-90-1(17)13			
226	FWY. MEDIAN CURBS STA. 291+00 TO STA. 403+00 X 2 = 22,400.00'			
227	DEDUCT FROM LINE 226, 879.96 FOR STRUCTURES =	21,520.04 LIN.FT.		
228	FWY. EASTBOUND STA. 337+25 TO STA. 341+50 = 425.00' + 2.36' (CURVE) =	427.36		
229	FWY. EASTBOUND STA. 370+99.92 TO STA. 384+25 = 1,325.08 - 238.04' (STRUCTURE & CURVE) =	1,087.04		
230	FWY. WESTBOUND STA. 333+50 TO STA. 338+50 = 500.00' - 2.06' (CURVE) =	497.94		
231	FWY. WESTBOUND STA. 365+50 TO STA. 377+25 = 1,175.00' FT. - 238.32' (STRUCTURE) =	936.68		
232	NORTH MARGINAL ROAD STA. 292+03.63 TO STA. 307+64.32 = 1,560.69 + 1.01' (CURVE) =	1,561.70		
233	STA. 308+78.21 TO STA. 310+67.33 =	189.06		
234	STA. 311+81.25 TO STA. 313+17.15 =	135.90		
235	STA. 314+31.07 TO STA. 315+76.55 =	145.48		
236	STA. 316+90.91 TO STA. 325+25.99 =	835.08		
237	STA. 326+55.39 TO STA. 328+72.80 =	217.41		
238	STA. 330+02.20 TO STA. 330+49.66 =	47.46		
239	SOUTH SIDE-STA. 334+38.34 TO STA. 348+79; +94.90' (STA. EQUAT. & CURVE) =	1,535.56		
240	SOUTH SIDE-STA. 360+21 TO STA. 374+44.38 =	1,423.38		
241	SOUTH SIDE-STA. 377+35.83 TO STA. 388+12.50; -0.46' (CURVE) =	1,076.21		
242	SOUTH SIDE-STA. 400+25. TO STA. 402+99.55 =	274.55		
243	NORTH SIDE-STA. 334+38.34 TO STA. 335+78.97; -0.42 (CURVE) =	140.21		
244	NORTH SIDE-STA. 340+93.06 TO STA. 342+19.18; +92.91' (STA. EQUAT.) =	219.03		
245	NORTH SIDE-STA. 343+54.58 TO STA. 345+81.32 =	226.74		
246	NORTH SIDE-STA. 347+22.77 TO STA. 349+46.91 =	224.14		
247	NORTH SIDE-STA. 350+88.23 TO STA. 353+63 =	274.77		
248	NORTH SIDE-STA. 355+15.73 TO STA. 358+78.37 =	362.64		
249	NORTH SIDE-STA. 361+13.63 TO STA. 363+54.34 =	240.71		
250	NORTH SIDE-STA. 364+77.04 TO STA. 367+12.20 =	235.16		
251	NORTH SIDE-STA. 368+54.03 TO STA. 374+44.38 =	590.35		
252	NORTH SIDE-STA. 377+35.83 TO STA. 383+90.24 = 654.41' + 0.46' (CURVE) =	654.87		
253	NORTH SIDE-STA. 385+18.70 TO STA. 386+84.47 =	165.77		
254	NORTH SIDE-STA. 388+09.07 TO STA. 392+03.16 =	394.09		
255	NORTH SIDE-STA. 394+25.14 TO STA. 402+99.55 = 873.81' - 0.22' (CURVE) =	873.59		
256	SOUTH MARGINAL ROAD STA. 291+46.33 TO STA. 307+09.20 = 1,562.87' - 1.92' (CURVE) =	1,560.95		
257	STA. 307+73.35 TO STA. 327+92.33 = 2,018.98' + 2.55' (CURVES) =	2,021.53		
258	STA. 332+09.36 TO STA. 336+00 = 390.64' x 2 =	781.28		
259	FROM SHEET No. 18, SUMMARY OF TABLES - EXTRA AREAS = ~~19,357.48~~ 19210.48	19210.48 ~~19,357.48~~		
260	DEDUCT FOR ALL CURB INLETS; AND CATCH BASINS ADJUSTED TO GRADE =	-1,007.12		
261	LAKELAND BLVD.-NORTH SIDE (REPLACE CURB FROM CURB CUTS REMOVED) FROM LINES 70 & 72 =	240.00		
262	LAKELAND BLVD.-NORTH SIDE (NEW CURB AT EXISTING INTERSECTIONS E. 224TH, 225TH, 237TH, 239TH & 243RD =	315.00		
263	DEDUCT SANDSTONE CURB RESET (FROM LINE 218)	-1,027.00		
264	NORTH MARGINAL ROAD-NORTH SIDE- DEDUCT FOR PROPOSED E. 214 ST.	-114.00	~~58,494~~	
	(SUM OF LINES 226 THROUGH 264)	TOTAL PROJECT I-90-1(17)13	~~58,641.04~~	LIN.FT.
265	FROM SHEET 18-SUMMARY OF TABLES-EXTRA AREAS- RADIAL CURB, AS PER PLAN 3136 ~~3217~~		3136 ~~3217~~	LIN.FT.
	100% CITY OF EUCLID			
266	FROM SHEET No. 18, SUMMARY OF TABLES-EXTRA AREA	1107.07 ~~960.07~~ LIN.FT.		
267	DEDUCT FOR CURB INLETS (4 x 2.125' = 8.50')	- 8.50		
268	DEDUCT SANDSTONE CURB RESET (FROM LINE 223)	- 768.00		
269	(SUM OF LINES 266 THROUGH 268)	TOTAL 100% CITY OF EUCLID	~~183.57~~ 330.57	LIN.FT.

LINE Nº	DESCRIPTION		QUANTITY	UNIT
	I-18 5" STABILIZED CRUSHED AGGREGATE SHOULDERS & APPROACHES			
	PROJECT I-90-1(17)13			
271	FWY. E. & W. BOUND 5' PAVED BERMS STA. 291+00 TO STA. 403+00 X 2 = 22,400'			
272	DEDUCT FROM LINE 271, 879.96' FOR STRUCTURES = 21,520.04' x .0772 =	1,661.35 CU.YD.		
273	FWY. EASTBOUND 10' PAVED BERM STA. 291+00 TO STA. 296+42.50 = 542.50' - 2.39' (CURVE) = 540.11' x .1582 =	85.45		
274	STA. 301+00 TO STA. 325+69 = 2,469.00' + 6.33' (CURVES) = 2,475.33 x .1582 =	391.60		
275	STA. 337+25 TO STA. 341+50 = 425.00' + 2.18' (CURVE) = 427.18' x .1543 =	65.91		
276	STA. 347+50 TO STA. 358+56 = 1,106.00' x .1582 =	174.97		
277	STA. 370+99.92 TO STA. 384+25 = 1,325.08' - 208.24' (STRUCT. & CURVE) = 1,116.84 x .1543 =	172.33		
278	STA. 390+25 TO STA. 400+43 = 1,018.00' - 0.32' (CURVE) = 1,017.68' x .1582 =	161.00		
279	FWY. WESTBOUND 10' PAVED BERM STA. 291+00 TO STA. 296+50 = 550.00' + 2.46' (CURVE) = 552.46' x .1582 =	87.40		
280	STA. 300+72 TO STA. 325+82.49 = 2,510.49' - 6.23' (CURVES) = 2,504.26' x .1582 =	396.17		
281	STA. 333+50 TO STA. 338+50 = 500.00' - 1.90' (CURVE) = 498.10' x .1543 =	76.86		
282	STA. 349+11 TO STA. 359+50 = 1,039.00' x .1582 =	164.37		
283	STA. 365+50 TO STA. 377+25 = 1,175.00' - 208.50' (STRUCT.) = 966.50' x .1543 =	149.13		
284	STA. 386+93 TO STA. 400+75 = 1,382.00' - 0.15' (CURVES) = 1,381.85' x .1582 =	218.61		
285	NORTH MARGINAL RD. 3' PAVED BERM STA. 292+03.63 TO STA. 304+00 = 1,196.37' - 0.97' (CURVE) = 1,195.40' x .0502 =	60.01		
286	STA. 310+00 TO STA. 318+50 = 850.00' x .0502 =	42.67		
287	STA. 324+99 TO STA. 330+49.66 = 550.66' x .0502 =	27.64		
288	STA. 351+90.55 TO STA. 355+52.47 = 361.92' x .0502 =	18.17		
289	STA. 390+44.94 TO STA. 397+21.22 = 676.28' + 0.40' (CURVE) = 676.68' x .0502 =	33.97		
290	SOUTH MARGINAL RD. 3' PAVED BERM STA. 291+46.33 TO STA. 303+42.00 = 1,195.67' + 1.84' (CURVE) = 1,197.51' x .0502 =	60.12		
291	STA. 309+20 TO STA. 317+50 = 830.00' - 1.22' (CURVE) = 828.78' x .0502 =	41.60		
292	STA. 324+07 TO STA. 327+92.33 = 385.33' - 1.23' (CURVE) = 384.10' x .0502 =	19.28		
293	LAKELAND BLVD. 3' PAVED BERM STA. 350+96.59 TO STA. 355+88.81 = 492.22' x .0502	24.71		
294	STA. 393+58.63 TO STA. 396+74 = 315.37' x .0502	15.83		
295	FROM SHEET No. 18, SUMMARY OF TABLES - EXTRA AREAS =	1,994.94		
296	(SUM OF LINES 271 THROUGH 295)	TOTAL PROJECT I-90-1(17)13	6,144.09	CU.YD.
	B-219 3" WATERPROOFED AGGREGATE BASE COURSE			
	PROJECT I-90-1(17)13			
301	FWY. E. & W. BOUND 5' PAVED BERMS STA. 291+00 TO STA. 403+00 X 2 = 22,400'			
302	DEDUCT FROM LINE 301, 879.96' FOR STRUCTURES = 21,520.04' x .0463 =	996.38 CU.YD.		
303	FWY. EASTBOUND 10' PAVED BERM STA. 291+00 TO STA. 296+42.50 = 542.50' - 2.36' (CURVE) = 540.12' x .0926 =	50.02		
304	STA. 301+00 TO STA. 325+69 = 2,469.00' + 6.32' (CURVES) = 2,475.32' x .0926 =	229.21		
305	STA. 337+25 TO STA. 341+50 = 425.00' + 2.18' (CURVE) = 427.18' x .0926 =	39.56		
306	STA. 347+50 TO STA. 358+56 = 1,106.00' x .0926 =	102.42		
307	STA. 370+99.92 TO STA. 384+25 = 1,325.08' - 208.24' (STRUCT. & CURVE) = 1,116.84 x .0926 =	103.42		
308	STA. 390+25 TO STA. 400+43 = 1,018.00' - 0.31' (CURVE) = 1,017.69' x .0926 =	94.24		
309	FWY. WESTBOUND 10' PAVED BERM STA. 291+00 TO STA. 296+50 = 550.00' + 2.45' (CURVE) = 552.45' x .0926 =	51.16		
310	STA. 300+72 TO STA. 325+82.49 = 2,510.49' - 6.21' (CURVES) = 2,504.28 x .0926 =	231.90		
311	STA. 333+50 TO STA. 338+50 = 500.00' - 1.90' (CURVE) = 498.10' x .0926	46.12		
312	STA. 349+11 TO STA. 359+50 = 1,039.00' x .0926 =	96.21		
313	STA. 365+50 TO STA. 377+25 = 1,175.00' - 208.50' (STRUCTURE) = 966.50' x .0926 =	89.50		
314	STA. 386+93 TO STA. 400+75 = 1,382.00' - 0.15' (CURVES) = 1,381.85' x .0926	127.96		
315	NORTH MARGINAL RD. 3' PAVED BERM STA. 292+03.63 TO STA. 304+00 = 1,196.37' - 0.96' (CURVE) = 1,195.41' x .0278 =	33.23		
316	STA. 310+00 TO STA. 318+50 = 850.00' x .0278 =	23.63		
317	STA. 324+99 TO STA. 330+49.66 = 550.66' x .0278 =	15.31		
318	STA. 351+90.55 TO STA. 355+52.47 = 361.92' x .0278 =	10.06		
319	STA. 390+44.94 TO STA. 397+21.22 = 676.28' x 0.40' (CURVE) = 676.68' x .0278 =	18.81		
320	SOUTH MARGINAL RD. 3' PAVED BERM STA. 291+46.33 TO STA. 303+42 = 1,195.67' + 1.82' (CURVE) = 1,197.49' x .0278 =	33.29		
321	STA. 303+20 TO STA. 317+50 = 830.00' - 1.21' (CURVE) = 828.79' x .0278 =	23.04		
322	STA. 324+07 TO STA. 327+92.33 = 385.33' - 1.22' (CURVE) = 384.11' x .0278 =	10.68		
323	LAKELAND BLVD. 3' PAVED BERM STA. 350+96.59 TO STA. 355+88.81 = 492.22' x .0278 =	13.68		
324	STA. 393+58.63 TO STA. 396+74 = 315.37' x .0278 =	8.77		
325	FROM SHEET No. 18, SUMMARY OF TABLES - EXTRA AREAS =	1,175.46		
326	(SUM OF LINES 301 THROUGH 325)	TOTAL PROJECT I-90-1(17)13	3,624.06	CU.YD.
	T-31 BITUMINOUS SURFACE TREATMENT- BITUMINOUS MATERIAL AS PER PLAN			
	PROJECT I-90-1(17)13			
331	FROM LINE 326, 3,624.06 CU.YD. X 12 = 43,488.72 SQ.YD. X .25 =	10,872.18 GAL.		
332		TOTAL PROJECT I-90-1(17)13	10,872.18	GAL.

REV. 11-21-60 Revised DEC 9-20-60

CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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CUYAHOGA COUNTY
CUY-2-25.96

LINE Nº	DESCRIPTION		QUANTITY	UNIT
	T-31 BITUMINOUS SURFACE TREATMENT No.6 AGGREGATE			
	PROJECT I-90-1(17)13			
333	FROM LINE 326, 3,624.06 CU.YD. X 12 = 43,488.72 SQ.YD. X .008 =	347.91 CU.YD.		
334		TOTAL PROJECT I-90-1(17)13	347.91	CU.YD.
	I-21 STANDARD TYPE I PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT			
	PROJECT I-90-1(17)13			
336	FWY. MEDIAN STA. 291+00 TO STA. 403+00 = 11,200'			
337	DEDUCT FROM LINE 336, 439.98' (STRUCTURES) = 10,760.02' X 9' ÷ 9' =	10,760.02 SQ.YD.		
338	DEDUCT FOR CURB INLETS (37 #2-6, 17 #2-8, 5 #2-10, 5 #2-12, 1 #2-14) =	-179.03		
339	(SUM OF LINES 336 THROUGH 338)	TOTAL PROJECT I-90-1(17)13	10,580.99	SQ.YD.
	L-9 SEEDING AND PROTECTING			
	PROJECT I-90-1(17)13			
341	FROM SHEET No. 89 - CROSS SECTIONS (Less 1705 SQ.YD. SHEET 80)	185476 ~~185,646~~ SQ.YD.		
342	FROM SHEET No. 17 DEDUCT FOR SODDING	-1,899		
343	FROM SHEET No. 17 DEDUCT SODDING FOR SPECIAL BERM & SLOPE PROTECTION	-94		
344	(SUM OF LINES 341 THROUGH 343)	TOTAL PROJECT I-90-1(17)13	~~183,653~~ 183483	SQ.YD.
	100 % CITY OF EUCLID			
346	FROM SHEET No. 85 - CROSS SECTIONS (+ 1705 YDS. FROM SHEET 80)		~~1308 1,138~~	SQ.YD.
	L-9 COMMERCIAL FERTILIZER			
	PROJECT I-90-1(17)13			
351	FROM LINE 341; 185,646 SQ.YD. X 9 X 20/1000 ÷ 2000 =		16.71	TONS
	100 % CITY OF EUCLID			
356	FROM LINE 346; 1,138 SQ.YD. X 9 X 20/1000 ÷ 2000 =		.10	TONS

LINE Nº	DESCRIPTION		QUANTITY	UNIT
	ADDITIONS FOR APPROACHES			
	PROJECT I-90-1(17)13 (Main Line Stationing)			
359	SOUTH MARGINAL ROAD STA. 290+10 TO STA. 291+46.33 {289+63.67 to 291+00.00}	136.33 LIN.FT.		
360	LAKELAND BOULEVARD STA. 403+00.41 TO STA. 404+10	109.59		
361	E. 222 ND. ST. STA. 3+14.02 SOUTH TO STA. 4+76.46 NORTH	790.48		
362	BABBITT RD. STA. 4+31.88 SOUTH TO STA. 4+28.93 NORTH	860.81		
363	(SUM OF LINES 359 THROUGH 362 TOTAL LENGTH OF LOCAL ROADS =	1,897.21÷5,280	0.359	MILES
	B-35 ASPHALT CONCRETE LEVELING COURSE			
	PROJECT I-90-1(17)13			
366	LAKELAND BLVD., NORTH SIDE (INTERSECTION PAVEMENT REPLACEMENT AS PER PLANS - E. 224TH, E. 225TH, E. 228TH, ARMS, E. 237TH, E. 239TH, E. 245TH & 248TH STS.) - TOTAL		45.81	CU. YD.
	T-30 BITUMINOUS TACK COAT			
	PROJECT I-90-1(17)13			
371	LAKELAND BLVD., NORTH SIDE (INTERSECTION PAVEMENT REPLACEMENT AS PER PLANS - E. 224TH, E. 225TH, E. 228TH, ARMS, E. 237TH, E. 239TH, E. 245TH & 248TH STS.) - TOTAL		59.96	GALS.
	T-35 ASPHALTIC CONCRETE SURFACE COURSE			
	PROJECT I-90-1(17)13			
376	LAKELAND BLVD, NORTH SIDE (INTERSECTION PAVEMENT REPLACEMENT AS PER PLANS - E. 224TH, E. 225TH, E. 228TH, ARMS, E. 237TH, E. 239TH, E. 245TH & 248TH STS.) - TOTAL		16.66	CU. YD.
	I-11 6" X 18" SANDSTONE CURB			
	PROJECT I-90-1(17) 13			
377	SOUTH MARGINAL ROAD STA. 291+46.33 TO STA. 307+09.20 =	1,562.87' - 132' (CURVE) = 1,560.95		
378	STA. 307+73.35 TO STA. 327+92.33 =	2,018.98' + 2.55 (CURVES) = 2,021.53		
379	STA. 332+09.36 TO STA. 336+00 =	390.64 X 2 = 781.28		
380	FROM SHEET No. 18, SUMMARY OF TABLES, EXTRA AREAS	8,075.53		
381	DEDUCT FOR ALL CURB INLETS, AND CATCH BASINS ADJUSTED TO GRADE	— 23.38		
382	LAKELAND BLVD. - NORTH SIDE (REPLACE CURB FROM CURB CUTS REMOVED) FROM LINES 70 & 72	240.00		
383	LAKELAND BLVD. - NORTH SIDE (NEW CURB AT INTERSECTIONS E. 224, 225, 237, 239, & 245TH ST.)	315.00		
384	DEDUCT SANDSTONE CURB RESET (FROM LINE 218)	-1027.00		
385	(SUM OF LINES 377 THROUGH 384)	TOTAL PROJECT I-90-1(17)13	11,943.91	LIN.FT.
386	FROM SHEET No. 18 - SUMMARY OF TABLES - EXTRA AREAS - RADIAL CURB AS PER PLAN		1,039	LIN.FT
	100 % CITY OF EUCLID			
387	FROM SHEET NO. 18 SUMMARY OF TABLES - EXTRA AREAS	960.07		
388	DEDUCT FOR CURB INLETS (4 X 2.125' = 8.50')	- 8.50		
389	DEDUCT FOR SANDSTONE CURB RESET (FROM LINE 223)	-768.00		
390	(SUM OF LINES 387 THROUGH 389)	TOTAL 100 % CITY OF EUCLID	183.57	LIN.FT.

REV. 11-21-60. REVISED 9-20-60 REC.

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

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ITEM	QUANTITIES: PROJECT I-90-1(17)13	QUANTITIES: 100% CITY OF EUCLID	QUANTITIES: GRAND TOTAL	UNIT	DESCRIPTION TYPE CODE 7221	SHEET	LINE
					ROADWAY		
	423,292						
E-1	~~423,576~~	958 ~~674~~	424,250	CU. YDS.	ROADWAY EXCAVATION METHOD "B", AS PER PLAN	20	83,93
E-1	~~232,435~~ 231,852	~~2,613~~ 2,197	235,048	SQ. YDS.	COMPACTED SUBGRADE	20	108,114
E-8	~~27,753~~	~~1,920~~ 1,918	29,673	SQ. YDS.	REMOVAL AND DISPOSAL OF EXISTING PAVEMENT	20	34,39
E-8	~~12,146~~	228	12,146	LIN. FT.	REMOVAL AND DISPOSAL OF EXISTING CURB	20	74
E-8	1,284	960	2,244	LIN. FT.	REMOVAL FOR RE-USE OF EXISTING CURB	20	44,48
E-9	LUMP		LUMP	LUMP	REMOVAL OF TREES AND STUMPS		
E-11	2,027	2	2,029	M. GAL.	WATER	21	119,121
I-8	46		46	EACH	MONUMENT ASSEMBLIES - TYPE "B"	17	
I-8	2		2	EACH	MONUMENT ASSEMBLIES - RESET	17	
I-13	61,859 ~~62,987~~	1584.0 ~~1412~~	77,699	SQ. FT.	4" CONCRETE SIDEWALKS	17,18	
I-13		15	15	LIN. FT.	CONCRETE STEPS	18	
I-15	7,265		7,265	LIN. FT.	GUARD RAIL, STEEL BEAM - STANDARD TYPE (DEEP) USING BUTT TREATED POSTS	17	
I-15	10,766		10,766	LIN. FT.	GUARD RAIL, STEEL BEAM - BARRIER TYPE (DEEP) USING 6"x8" SQ. SAWED PRESSURE TREATED WOOD POSTS AS PER PLAN	17	
I-15	75		75	LIN. FT.	TEMPORARY GUARD RAIL, AS PER PLAN	17	
L-9	183,483 ~~183,653~~	1308 ~~1,138~~	184,791	SQ. YDS.	SEEDING AND PROTECTING AS PER PLAN	23	~~344,346~~
L-9	16.71	.10	16.81	TONS	COMMERCIAL FERTILIZER (12-12-12)	23	351,356
L-9	83.54	.51	84.05	TONS	AGRICULTURAL LIMING MATERIAL, AS PER PLAN		
L-10	1,899		1,899	SQ. YDS.	SODDING, AS PER PLAN	17	
L-10	94		94	SQ. YDS.	SODDING FOR SPECIAL BERM AND SLOPE PROTECTION, AS PER PLAN	17	
SS-18	21,950		21,950	LIN. FT.	FENCE, TYPE "C", AS PER PLAN.	19	
SS-18	12		12	EACH	FENCE GATES, TYPE "C".	19	
S-24	LUMP		LUMP	LUMP	REMOVAL OF EXISTING STRUCTURES, MANHOLES	17	
SPEC.	4		4	EACH	INTERSTATE AND DEFENSE HIGHWAY SIGNS, FURNISHED AND ERECTED	17	
T-10	600		600	CU. YD.	TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC		
M-10	12		12	TON	CALCIUM CHLORIDE, FURNISHED AND APPLIED FOR MAINTAINING TRAFFIC		
					DRAINAGE		
I-2	252		252	LIN. FT.	10" CLASS A STORM SEWERS	16	
I-2	50		50	LIN. FT.	12" CLASS A STORM SEWERS	16	
I-2	88		88	LIN. FT.	15" CLASS A STORM SEWERS	16	
I-2	8		8	LIN. FT.	18" CLASS A STORM SEWERS	16	
I-2	104		104	LIN. FT.	12" STORM SEWERS, SEC. M-6.4 (c)	16	
I-2	123		123	LIN. FT.	15" STORM SEWERS, SEC. M-6.4 (c)	16	
I-2	81		81	LIN. FT.	15" CLASS A STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.5(b)-M-6.8(b)	16	
I-2	100		100	LIN. FT.	18" CLASS A STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.5(b)-M-6.8(b)	16	
I-2	37		37	LIN. FT.	10" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.5(b)-M-6.8(b)	16	
I-2	420		420	LIN. FT.	8" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.5(b)-M-6.8(b)	16	
I-2	970		970	LIN. FT.	12" CLASS B STORM SEWERS	16	
I-2	416		416	LIN. FT.	15" CLASS B STORM SEWERS	16	
I-2	513		513	LIN. FT.	18" CLASS B STORM SEWERS	16	
I-2	322		322	LIN. FT.	21" CLASS B STORM SEWERS	16	
I-2	804		804	LIN. FT.	33" CLASS B STORM SEWERS	16	
I-2	552		552	LIN. FT.	36" CLASS B STORM SEWERS	16	
I-2	296		296	LIN. FT.	39" CLASS B STORM SEWERS	16	
I-2	350		350	LIN. FT.	42" CLASS B STORM SEWERS	16	

ITEM	QUANTITIES: PROJECT I-90-1(17)13	QUANTITIES: 100% CITY OF EUCLID	QUANTITIES: GRAND TOTAL	UNIT	DESCRIPTION TYPE CODE 7221	SHEET	LINE
					DRAINAGE — CONTINUED		
	6316						
I-2	~~6,440~~	232 ~~708~~	6,548	LIN. FT.	12" CLASS B STORM SEWERS UNDER PAVEMENT OR APPROACHES	16	
I-2	1,512		1,512	LIN. FT.	15" CLASS B STORM SEWERS UNDER PAVEMENT OR APPROACHES	16	
I-2	400		400	LIN. FT.	18" CLASS B STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b) or M-6.8(b)	16	
I-2	608		608	LIN. FT.	24" CLASS B STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b) or M-6.8(b)	16	
I-2	247		247	LIN. FT.	33" CLASS B STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b) or M-6.8(b)	16	
I-2	106		106	LIN. FT.	21" CLASS B STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b) or M-6.8(b)	16	
I-2	310		310	LIN. FT.	39" CLASS B STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b)	16	
I-2	597		597	LIN. FT.	48" CLASS B STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b)	16	
I-2	50		50	LIN. FT.	48" (RADIUS = 32 FT.) CLASS B STORM SEWERS UNDER PAVEMENT OR APPR., SEC. M-6.6(b)	16	
I-2	104		104	LIN. FT.	12" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.5(b), OR M-6.8(b)	16	
I-2	114		114	LIN. FT.	18" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.5(b) - M-6.8(b)	16	
I-2	502		502	LIN. FT.	66" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b)	16	
I-2	271		271	LIN. FT.	27" STORM SEWERS SEC. M-6.6(a), or M-6.8(b)	16	
I-2	91		91	LIN. FT.	66" STORM SEWERS SEC. M-6.6(a)	16	
I-2	19		19	LIN. FT.	66" CRADIUS = 35 FT.) STORM SEWERS SEC. M-6.6(a)	16	
I-2	268		268	LIN. FT.	24" STORM SEWERS SEC. M-6.6(b) or M-6.8(b)	16	
I-2	231		231	LIN. FT.	27" STORM SEWERS SEC. M-6.6(b) or M-6.8(b)	16	
I-2	550		550	LIN. FT.	30" STORM SEWERS SEC. M-6.6(b) or M-6.8(b)	16	
I-2	339		339	LIN. FT.	33" STORM SEWERS SEC. M-6.6(b) or M-6.8(b)	16	
I-2	204		204	LIN. FT.	48" STORM SEWERS SEC. M-6.6(b)	16	
I-2	23		23	LIN. FT.	15" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b) or M-6.8(b)	16	
I-2	263		263	LIN. FT.	18" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b) or M-6.8(b)	16	
I-2	255		255	LIN. FT.	33" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b) or M-6.8(b)	16	
I-2	889		889	LIN. FT.	42" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b)	16	
I-2	642		642	LIN. FT.	48" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b)	16	
I-2	690		690	LIN. FT.	54" STORM SEWERS, SEC. M-6.6(c)	16	
I-2	206		206	LIN. FT.	30" STORM SEWERS SEC. M-6.8(b) or M-6.6(b)	16	
I-2	238		238	LIN. FT.	30" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.8(b) or M-6.6(b)	16	
I-2	296		296	LIN. FT.	33" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.8(b) or M-6.6(b)	16	
I-2	788		788	LIN. FT.	36" STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.8(b) or M-6.6(b)	16	
I-2		237	237	LIN. FT.	8" STORM SEWERS UNDER PAVEMENT OR APPR. - SAN., SEC. M-6.8(b)	16	
I-2	6	210	210	LIN. FT.	8" STORM SEWERS UNDER PAVEMENT OR APPR. - SAN., SEC. M-6.8(b) (CONC. ENCASED, as per plan)	16	
I-4	25% 36,197		36,197	LIN. FT.	6" UNDERDRAINS	17	
I-4	~~25,889~~	100 ~~886~~	26,775	LIN. FT.	6" CURB UNDERDRAINS, AS PER PLAN.	17	
I-4	9,678		9,678	LIN. FT.	6" UNDERDRAINS, SEC. M-6.4(h)	17	
I-4	9812 ~~1,962~~	90 ~~78~~	2,032	LIN. FT.	8" PIPE OUTLETS FOR UNDERDRAINS, SEC. M-6.4(a)	17	
I-5	110		110	EACH	6" PIPE SPECIALS FOR UNDERDRAINS	17	
I-5	17		17	EACH	6" PIPE SPECIALS FOR UNDERDRAINS, SEC. M-6.4(h)	17	
I-5	4		4	EACH	10" CLASS A PIPE SPECIALS FOR STORM SEWERS	16	
I-5	36		36	EACH	8" PIPE SPECIALS FOR STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.5(b)-M-6.8(b)	16	
I-5	1		1	EACH	12" PIPE SPECIAL FOR STORM SEWERS, SEC. M-6.4(c)	16	
I-5	2		2	EACH	15" PIPE SPECIALS FOR STORM SEWERS, SEC. M-6.4(c)	16	
I-5	2		2	EACH	12" CLASS B PIPE SPECIALS FOR STORM SEWERS	16	
I-5	1		1	EACH	21" CLASS B PIPE SPECIAL FOR STORM SEWERS	16	
I-5	9		9	EACH	12" CLASS B PIPE SPECIALS FOR STORM SEWERS UNDER PAVEMENT OR APPROACHES	16	
I-5	1		1	EACH	15" CLASS B PIPE SPECIAL FOR STORM SEWERS UNDER PAVEMENT OR APPROACHES	16	
I-5	1		1	EACH	18" CLASS B PIPE SPECIAL FOR STORM SEWERS UNDER PAVEMENT OR APPROACHES	16	
I-5	2		2	EACH	24" CLASS B PIPE SPECIALS FOR STORM SEWERS UNDER PAVEMENT OR APPROACHES	16	
I-5	1		1	EACH	66" PIPE SPECIAL FOR STORM SEWERS, UNDER PAVEMENT OR APPROACHES, SEC. M-6.6(b)	16	

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GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
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ITEM	QUANTITIES PROJECT I-90-1(17)13	QUANTITIES 100 % CITY OF EUCLID	QUANTITIES GRAND TOTAL	UNIT	DESCRIPTION TYPE CODE 7221	SHEET	LINE
					DRAINAGE - CONTINUED		
I-5	3		3	EACH	33" PIPE SPECIALS FOR STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6 (b)	16	
I-5	2		2	EACH	42" PIPE SPECIALS FOR STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6 (b)	16	
I-5	1		1	EACH	48" PIPE SPECIAL FOR STORM SEWERS UNDER PAVEMENT OR APPROACHES, SEC. M-6.6 (b)	16	
I-8	22	5	27	EACH	EXISTING MANHOLES ADJUSTED TO GRADE	17	
I-8	16		16	EACH	MANHOLES REBUILT	17	
I-8	3		3	EACH	EXISTING CATCH BASINS ADJUSTED TO GRADE	17	
I-8	21	1	22	EACH	STANDARD No. 1 MANHOLES	17	
I-8	1		1	EACH	SPECIAL No. 1 MANHOLE	17	
I-8		1	1	EACH	STANDARD No. 2 MANHOLE	17	
I-8	13		13	EACH	STANDARD No. 2 MANHOLES WITHOUT DROP PIPE	17	
I-8	26	3	29	EACH	SPECIAL TYPE A MANHOLES	17	
I-8	9		9	EACH	SPECIAL TYPE A MANHOLES MODIFIED	17	
I-8	1		1	EACH	JUNCTION CHAMBER No. 1	17	
I-8	1		1	EACH	JUNCTION CHAMBER No. 2	17	
I-8	1		1	EACH	JUNCTION CHAMBER No. 3	17	
I-8	43		43	EACH	STANDARD No. 2-6 PAVED SHOULDER INLETS	17	
I-8	28		28	EACH	STANDARD No. 2-8 PAVED SHOULDER INLETS	17	
I-8	14		14	EACH	STANDARD No. 2-10 PAVED SHOULDER INLETS	17	
I-8	5		5	EACH	STANDARD No. 2-12 PAVED SHOULDER INLETS	17	
I-8	1		1	EACH	STANDARD No. 2-14 PAVED SHOULDER INLET	17	
I-8	~~20~~ 19	+2	21	EACH	SPECIAL No. 4 CURB INLETS	17	
I-8	3		3	EACH	STANDARD No. 2-2-B CATCH BASINS, AS PER PLAN	17	
I-8	23		23	EACH	STANDARD No. 5 CATCH BASINS	17	
I-8	~~69~~68	4 ~~3~~	72	EACH	SPECIAL No. 4 CATCH BASINS	17	
I-16	28		28	EACH	MANHOLES ABANDONED, AS PER PLAN	16	
I-16	~~65~~63	4 ~~2~~	67	EACH	CATCH BASINS ABANDONED, AS PER PLAN	16	
E-12	996		996	LIN. FT.	PIPE REMOVED, 15" AND UNDER	16	
E-12	595		595	LIN. FT.	PIPE REMOVED, OVER 15"	16	
					PAVEMENT		
B-29	3,624		3,624	CU. YDS.	WATERPROOFED AGGREGATE BASE COURSE	22	326
B-35	46		46	CU. YDS.	ASPHALTIC CONCRETE LEVELING COURSE (85-100)	23	366
T-30	60		60	GALS.	BITUMINOUS TACK COAT, SEC. M-5.5, MS-2, RS-1 OR SEC. M-5.2, RC-1, RC-2, RC-3 AS PER SECTION T-30.02	23	371
T-31	348		348	CU. YDS.	BITUMINOUS SURFACE TREATMENT No. 6 AGGREGATE	23	334
T-31	10,872		10,872	GALS.	BITUMINOUS SURFACE TREATMENT, BITUMINOUS MATERIAL AS PER PLAN	22	332
T-35	17		17	CU. YDS.	ASPHALTIC CONCRETE SURFACE COURSE TYPE C, (85-100) AS PER PLAN	23	376
T-70	501 ~~537~~ 78487	212 ~~176~~ 3143	713	SQ. YDS.	6" PORTLAND CEMENT CONCRETE PAVEMENT	18	
T-71	~~79,070~~	~~2,560~~	81,630	SQ. YDS.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	21	195,198
T-71	125,291		125,291	SQ. YDS.	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	21	206

ITEM	QUANTITIES PROJECT I-90-1(17)13	QUANTITIES 100 % CITY OF EUCLID	QUANTITIES GRAND TOTAL	UNIT	DESCRIPTION TYPE CODE 7221	SHEET	LINE
					PAVEMENT - CONTINUED		
I-7	1,200		1,200	SQ. YDS.	REINFORCED CONCRETE APPROACH SLABS (T=13")	21	213
I-11	~~58494~~40		40	EACH	SANDSTONE BUMPER BLOCKS, AS PER PLAN	18	
I-11	~~58,641~~	~~331~~ 184	58,825	LIN. FT.	6"x18" SANDSTONE CURB	22	764,769
I-11	1,027	768	1,795	LIN. FT.	6"x18" SANDSTONE CURB RESET AS PER PLAN	22	218,223
I-11	~~3,217~~	81	3,217	LIN. FT.	6"x18" RADIAL SANDSTONE CURB, AS PER PLAN	18	
I-12	931	~~331~~ 336	931	LIN. FT.	SPECIAL TYPE "A" CONCRETE CURB, AS PER PLAN	18	
I-12	392		392	LIN. FT.	SPECIAL TYPE "B" CONCRETE CURB, AS PER PLAN	18	
I-18	6,144		6,144	CU. YDS.	STABILIZIED CRUSHED AGGREGATE SHOULDERS AND APPROACHES	22	296
I-21	1,523		1,523	SQ. YDS.	4" PORTLAND CEMENT CONCRETE TRAFFIC ISLAND PAVEMENT	18	
I-21	10,581		10,581	SQ. YDS.	4" PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT, STANDARD TYPE 1.	23	339
I-21	2,582		2,582	SQ. YDS.	4" PORTLAND CEMENT CONCRETE TRAFFIC ISLAND PAVEMENT, AS PER PLAN	18	
I-22	~~51,961~~ 51860	~~552,451~~	52,412	CU. YDS.	SUBBASE, GRADING "A" OR "B" AS PER PLAN	21	177,179
					STRUCTURES OVER 20' SPAN		
					BRIDGE - CUY. 2-2670 ESTIMATED QUANTITIES ON SHEET No. 111		
					BRIDGE - CUY. 2-2756 ESTIMATED QUANTITIES ON SHEET No. 125		
					RETAINING WALLS ESTIMATED QUANTITIES ON SHEET No. 141		
					LIGHTING ESTIMATED QUANTITIES ON SHEET No. 109		
SPEC.	LUMP	LUMP		LUMP	CONSTRUCTION LAYOUT STAKES		

REV. 11-21-60 REVISED 9-20-60 REC.

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CUYAHOGA COUNTY
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ITEM NO.	QUANTITY	UNIT	DESCRIPTION
			BUILDING REMOVAL
S-24	LUMP	LUMP	REMOVAL OF FIVE 2-STORY FRAME APARTMENT BLDGS., ONE-1½ STORY BRICK & FRAME ADMIN. BLDG. PARCEL 2001-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1-STORY FRAME HOUSE WITH BRICK FRONT, FRAME GARAGE. PARCEL 2009
S-24	LUMP	LUMP	REMOVAL OF TWO FRAME BUILDINGS. PARCEL 2100-LA
S-24	LUMP	LUMP	REMOVAL OF ONE-1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2107-LA
S-24	LUMP	LUMP	REMOVAL OF ONE-1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2108
S-24	LUMP	LUMP	REMOVAL OF ONE 2-STORY BRICK HOUSE, BRICK GARAGE. PARCEL 2124-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2210-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2-STORY FRAME HOUSE, ONE 1-STORY FRAME REPAIR SHED. PARCEL 2226-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE. PARCEL 2227
S-24	LUMP	LUMP	REMOVAL OF ONE 2-STORY FRAME HOUSE. PARCEL 2301-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY BLOCK HOUSE, ONE FRAME GARAGE. PARCEL 2306-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2-STORY FRAME HOUSE, ONE FRAME SHED, ONE BRICK & FRAME GARAGE. PARCEL 2309
* S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY BRICK HOUSE, ONE FRAME GARAGE. PARCEL 2310-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, ONE FRAME GARAGE. PARCEL 2314-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, ONE FRAME GARAGE. PARCEL 2323
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME GARAGE. PARCEL 2324
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE. PARCEL 2325
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE, ONE FRAME GARAGE. PARCEL 2326
** S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY BRICK FIRE HOUSE & METAL GARAGE. PARCEL 2327-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE & BAR, ONE 5 CAR BLK. GARAGE. PARCEL 2329-LA
S-24	LUMP	LUMP	REMOVAL OF TWO BLOCK FACTORY BUILDINGS, SMALL BLOCK BUILDING. PARCEL 2400
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2412
S-24	LUMP	LUMP	REMOVAL OF ONE BRICK SERVICE STATION. PARCEL 2422-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY BRICK HOUSE. PARCEL 2424-LA
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME GARAGE. PARCEL 2508
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE. PARCEL 2509
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2522-LA
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME GARAGE. PARCEL 2525
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME HOUSE. PARCEL 2539
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME HOUSE. PARCEL 2540
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2541
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME HOUSE, BRICK GARAGE. PARCEL 2544-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY CONCRETE BLOCK BUILDING. PARCEL 2601-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2611
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE, PARCEL 2612
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2614-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE, FRAME SHED, FRAME GARAGE PARCEL 2632-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE WITH ATTACHED 1 STORY FRAME BAR. PARCEL 2633-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME STORE WITH ATTACHED BLOCK GARAGE. PARCEL 2633-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME HOUSE, FRAME GARAGE, FRAME SHED. PARCEL 2636-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE. PARCEL 2639
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY BLOCK GARAGE. PARCEL 2700-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY BLOCK STORE BUILDING, PARCEL 2701-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY BRICK STORE BUILDING, BRICK GARAGE. PARCEL 2702-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY BLOCK GARAGE. PARCEL 2703-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2705-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME & BRICK STORE BUILDING, FRAME SHED. PARCEL 2706-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2707-LA
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME GARAGE. PARCEL 2709
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY BRICK HOUSE, FRAME GARAGE. PARCEL 2710-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY BRICK STORE BUILDING, BRICK SHED. PARCEL 2713-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2720-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2½ STORY FRAME HOUSE, FRAME GARAGE, TWO FRAME SHEDS. PARCEL 2723
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE, PARCEL 2728
S-24	LUMP	LUMP	REMOVAL OF ONE BRICK AND FRAME GARAGE. PARCEL 2729
S-24	LUMP	LUMP	REMOVAL OF ONE BLEACHER STAND. PARCEL 2730-LA
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME SHED. PARCEL 2732-SL
S-24	LUMP	LUMP	REMOVAL OF ONE 2½ STORY FRAME HOUSE & BAR, FRAME GARAGE. PARCEL 2735-L-A
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY BLOCK SERVICE STATION. PARCEL 2800-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME STUCCO HOUSE, TWO FRAME GARAGES. PARCEL 2801-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME CHURCH. PARCEL 2802-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY CONCRETE BLOCK BUILDING, PARCEL 2803
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2804-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2805-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2806-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY BLOCK OFFICE BUILDING. PARCEL 2807-LA
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME SHED. PARCEL 2811-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY BRICK HOUSE, FRAME GARAGE. PARCEL 2812-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE, TWO FRAME GARAGES. PARCEL 2815-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY BRICK & FRAME HOUSE. PARCEL 2815-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2817-LA
S-24	LUMP	LUMP	REMOVAL OF TWO 1 STORY FRAME BUILDINGS. PARCEL 2823
S-24	LUMP	LUMP	REMOVAL OF TWO 1 STORY ALUMINUM SIDING BUILDINGS. PARCEL 2823
S-24	LUMP	LUMP	REMOVAL OF ONE 1 STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2833-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY BRICK & FRAME HOUSE, PARCEL 2835-LA
S-24	LUMP	LUMP	REMOVAL OF ONE 2 STORY FRAME HOUSE, FRAME GARAGE. PARCEL 2836
S-24	LUMP	LUMP	REMOVAL OF ONE 1½ STORY FRAME HOUSE, ONE FRAME BARN. PARCEL 2850-LA
S-24	LUMP	LUMP	REMOVAL OF TWO 1 STORY BLOCK BUILDINGS. PARCEL 2440
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME GARAGE. PARCEL 2612-LA
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME GARAGE. PARCEL 2728-LA
S-24	LUMP	LUMP	REMOVAL OF TWO FRAME SHEDS. PARCEL 2803-LA
S-24	LUMP	LUMP	REMOVAL OF ONE FRAME SHED. PARCEL 2835

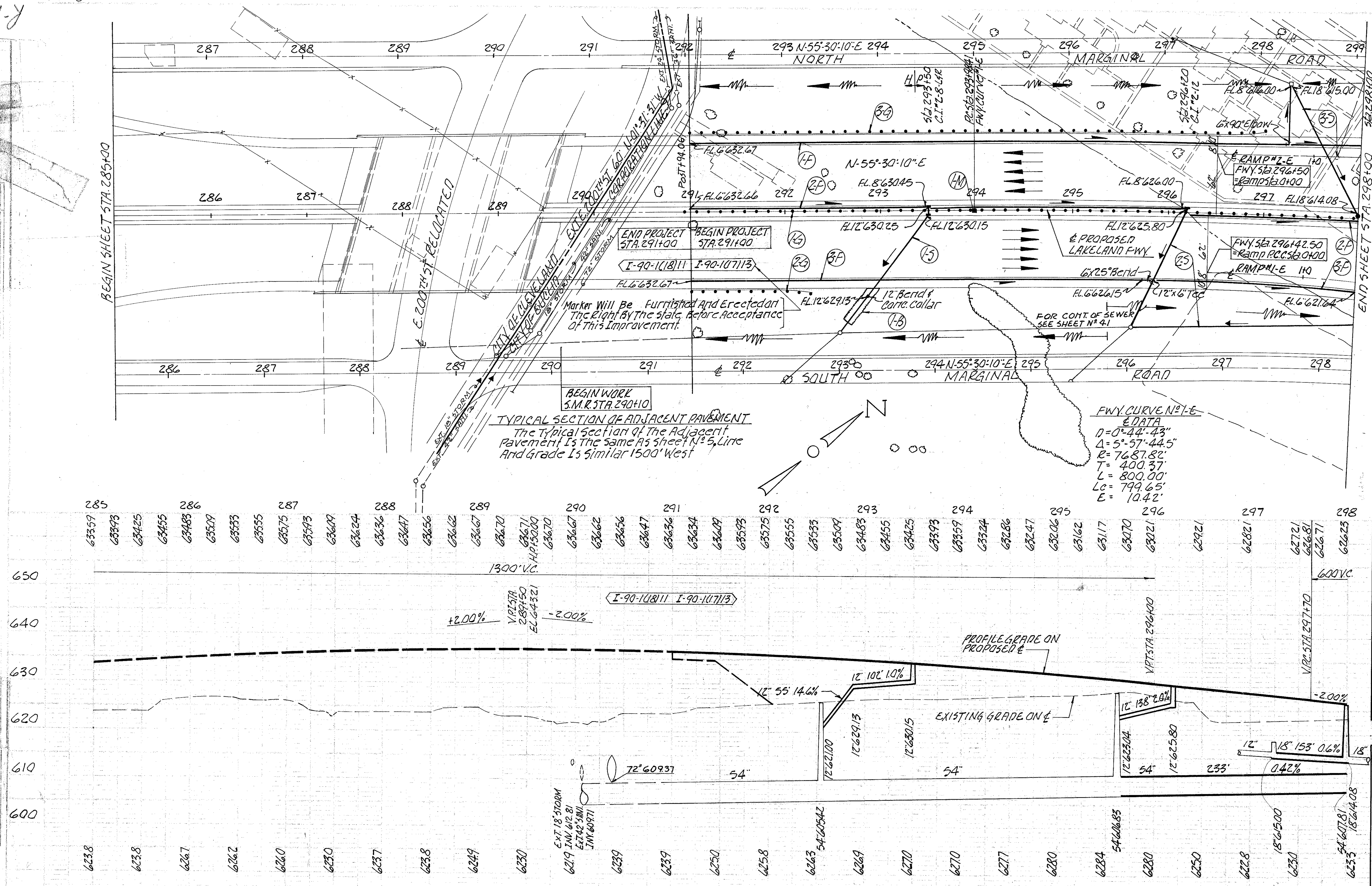
* BLDGS. ON PARCEL 2310-LA TO BE USED AS CONSTRUCTION FIELD OFFICE - THEN DEMOLISHED JUST BEFORE PROJECT IS COMPLETED.

** SEE NOTE ON SHEET 15.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

26/152

CUYAHOGA COUNTY
CUY. 2-25.96



NOTE:
For Construction Limit Lines See Right Of Way Dwgs. #145 Thru #152

NOTE:
Plan And Profile Of Ramp And Marginal Roads Parallel To Mainline Have Their Earthwork Quantities Included With Respective Mainline Earthwork Quantities.

EXISTING MONUMENT NOTE:
Whenever Possible, The Existing Monuments Are Not To Be Disturbed.

FOR PAVEMENT DETAILS & ELEVATIONS SEE SHEET Nos 58, 59 & 60

B.M.-O.M. 1311-ELEV. 632.425
Approx. 32 ft. S. of C.L. of St. Clair Ave. And 33 ft. E. of C.L. of E. 200th St. 33.5 ft. of Man. Box at C.L. Int. 75.75 ft. E. of N&V Tel pole #518485 on S.W. cor.

6" UNDERDRAIN

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-4 LIN.FT. 6" U.D. SHALLOW	I-4 LIN.FT. 8" PIPE OUTLET			I-5 EACH 6"x90° ELBOW	I-5 EACH 6"x25° BEND
1-F	291+00	298+00	L	700	62			1	
2-F	291+00	298+00	¢	678	20				
3-F	291+00	298+00	R	692					1
TOTAL				2070	82			1	1

GUARD RAIL

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-15 LIN.FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A BARRIER DESIGN	I-15 LIN.FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A STANDARD DESIGN
1-G	290+94.06	298+00	¢	705.94	
2-G	291+00	292+25	R		125.00
3-G	291+00	297+00	L		600.00
TOTAL				705.94	725.00

STORM SEWER

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-2 LIN.FT. 12" CL B	I-2 LIN.FT. 12" CL B 6.4c	I-2 LIN.FT. 54" CL B 6.6c	I-2 LIN.FT. UNDER PAV'T 12" CL B	I-2 LIN.FT. UNDER PAV'T 18" CL B 6.6b	I-5 EACH 12"x8" BEND CL B	I-5 EACH 12"x6" TEE	I-8 EACH STD. C.I. No. 2-8	I-8 EACH STD. C.I. No. 2-12	I-8 EACH STD. M.H. No. 1	I-16 EA. ABAND. C.B.	LOCATION OF STRUCTURE
1-S	292+55	293+50	L&R	6	54		100		1		2				293+50
2-S	295+63	298+00	L&R			230	130			1		1	1		296+20
3-S	297+24	298+00	L					150						1	298+00; 297+74
TOTAL				6	54	230	230	150	1	1	2	1	1	1	

STA. 291+00 TO STA. 300+00	
EXCAVATION	19,596 CU. YDS.
EMBANKMENT	27,881 CU. YDS.
EMBANKMENT + 22 %	34,015 CU. YDS.

I-8 MONUMENT ASSEMBLY

ITEM Nº	STATION	SIDE R or L	TYPE "B" EACH
1-M	293+98.41	¢	1
TOTAL			1

L-10 SQ. YDS.

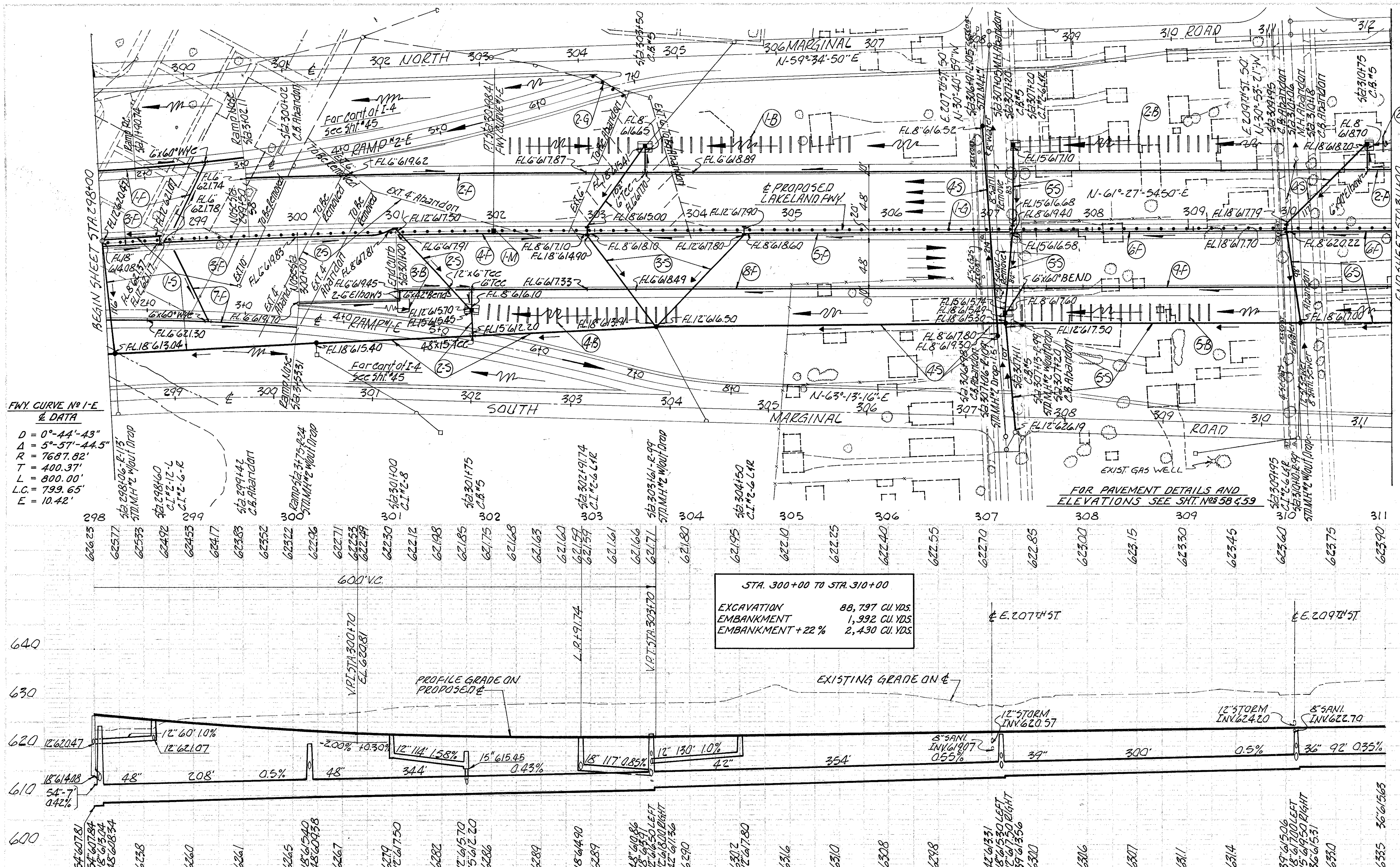
ITEM Nº	STATION FROM	STATION TO	SIDE R or L	LENGTH X WIDTH	SODDING
1-B	292+60	292+98	R	44' x 10'	49
TOTAL					49

PLAN & PROFILE---MAIN LINE---STA. 285+00 TO STA. 298+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

27/152

CUYAHOGA COUNTY
CUY. 2-25.96



GUARD RAIL				
ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2A BARRIER DESIGN
1-G	298+00	311+00	℄	1300.00
TOTAL				1300.00

L-10 SQ. YDS.					
ITEM Nº	STATION FROM	STATION TO	SIDE R or L	LENGTH X WIDTH	SODDING
1-B	302+15	305+57	L	16'X1.5'	88
2-B	307+38	310+93	L	16'X1.5'	56
3-B	301+00	301+10	R	10'X12'	14
4-B	301+92	303+82	R	16'X1.5'	53
5-B	307+28	309+16	R	16'X1.5'	53
TOTAL					264

GUARD RAIL - TEMPORARY		
ITEM Nº	LOCATION	LIN. FT.
2-G	RAMP #2-E, STA. 6+75	37.5'
	TOTAL	37.5'

6" UNDERDRAIN				I-4 LIN. FT.				I-5 EACH					
ITEM	STATION FROM	STATION TO	SIDE R or L	6" U.D. SHALLOW	6" CURB U.D. SHALLOW	8" PIPE OUTLET	6" U.D. SHALLOW 6.4.4	6" X 60° WYE 6.4.4	6" X 60° WYE	6" X 6" TEE 6.4.4	6" X 90° ELBOW 6.4.4	6" X 42° BEND 6.4.4	6" X 60° BEND 6.4.4
1-F	298+00	RAMP #2-E; 3+02	L	224					1				
2-F	299+50	311+00	L			20	1180			1	1		
3-F	298+00	301+00	℄	50		20	228						
4-F	301+00	304+50	℄			20	326						
5-F	304+50	307+20	℄			10	260						
6-F	307+20	311+00	℄			20	358						
7-F	298+00	RAMP #1-E; 3+54	R				274	1					
8-F	300+00	307+27	R		100	10	640			1	2	1	
9-F	307+27	311+00	R			10	395						1
TOTAL				274	100	110	3661	1	1	2	3	1	1

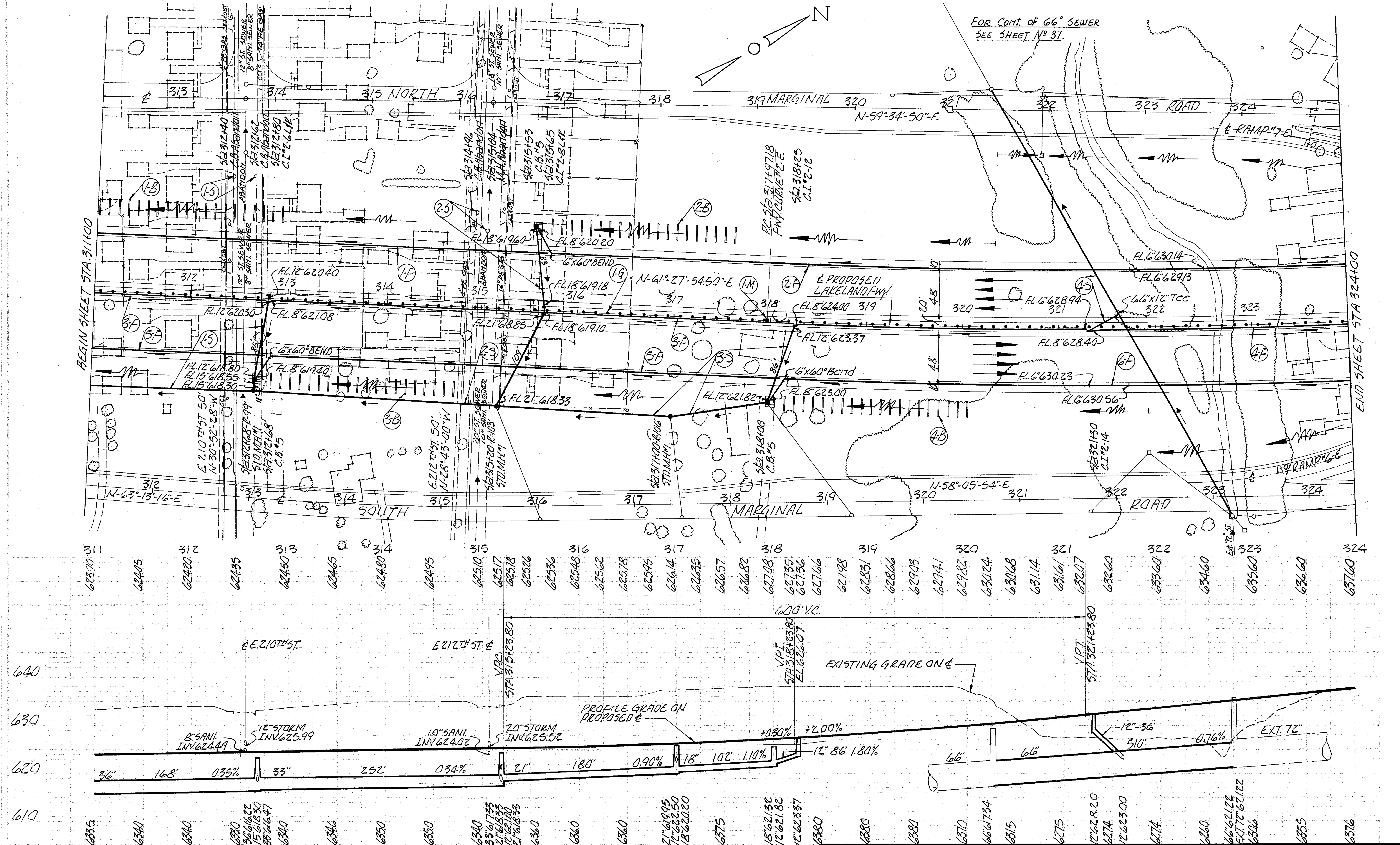
I-8 MONUMENT ASSEMBLY			
ITEM Nº	STATION	SIDE R or L	TYPE "B" EACH
1-M	301+98.41	℄	1
TOTAL			1

STORM SEWER

E = 100% CITY OF EUCLID

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 12" CL B	15" CL B	18" CL B	36" CL B	39" CL B	42" CL B	48" CL B 6.6b	54" CL B 6.6c	UNDER PAVEMENT 8" CLB 6.8b CONC. ENCASED	12" CL B	12" CL B 6.5b	15" CL A 6.5b or 6.8b	15" CL B	15" CL B 6.6b	18" CL A 6.5b or 6.8b	18" CL B	18" CL B 6.5b or 6.8b	18" CL B 6.6b	48" CL B 6.6b	I-5 EACH U. PAV'T. 12" X 6" TEE CL B	48" X 15" 6.6b TEE CL B	I-8 EACH STD. M.H. #2	STD. C.B. #5	STD. M.H. #2 W/OUT DROP	STD. M.H. #1	STD. C.I. #2-12	STD. C.I. #2-8	STD. C.I. #2-6	I-16 EA. ABANDON M.H.	C.B.	E-12 PIPE REMOVAL 15" AND UNDER	LOCATION OF STRUCTURE
1-S	298+00	300+17	L&R	63						204	6										113						1		1		1		2	160	298+06; +60; 299+42; 300+02
2-S	RAMP #1-E, 3+75	303+61	L&R										108				23					336	1	1		1	1			1				240	RAMP #1-E, 3+75; 301+00; +75
3-S	302+91	304+50	L&R	6		6							127					100		114						1	1				4				302+91.74; 303+50; +61; 304+50
4-S	303+61	307+13	L&R						350			210E													1E			1E					1		306+91; +98; 307+06
5-S	307+13	310+10	L&R		6	9		296						104	81	82										2	1				2	1	1	290	307+05; +11; +13; +20
6-S	309+95	311+00	L&R			6	90												210							1	1				2	1	2		309+95; 310+06; +10; +18; +75
TOTAL				69	6	21	90	296	350	204	6	210E	235	104	81	82	23	100	210	114	113	336	1	1	1E	5	5	1E	1	1	9	2	6	690	

PLAN & PROFILE --- MAIN LINE --- STA. 298+00 TO STA. 311+00



FWY. CURVE Nº 2-E
℄ DATA

D = 0°-50'-24.6"
Δ = 6°-43'-16.5"
R = 6819.66'
T = 400.46'
L = 800.00'
LC = 799.54'
E = 11.75'

GUARD RAIL

ITEM Nº	STATION FROM	STATION TO	SIDE R OR L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A BARRIER DESIGN
1-G	311+00	324+00	℄	1300.00
TOTAL				1300.00

L-10 SQ. YDS.

ITEM Nº	STATION FROM	STATION TO	SIDE R OR L	LENGTH X WIDTH	SODDING
1-B	311+02	312+92	L	16'X1.5'	53
2-B	315+70	317+60	L	16'X1.5'	53
3-B	312+85	314+75	R	16'X1.5'	53
4-B	318+17	320+06	R	16'X1.5'	53
TOTAL					212

6" UNDERDRAIN

ITEM Nº	STATION FROM	STATION TO	SIDE R OR L	I-4 LIN. FT. 6" U.D. SHALLOW	I-4 LIN. FT. 8" PIPE OUTLET	I-4 LIN. FT. 6" U.D. SHALLOW 644	I-5 EA.	I-5 EA. 6"x60° BEND 6.4.4
1-F	311+00	315+67	L			467		
2-F	315+53	324+00	L	150	10	694		1
3-F	311+00	318+25	℄		10	713		
4-F	318+25	324+00	℄	260	20	295		
5-F	311+00	318+15	R		10	736		1
6-F	318+00	324+00	R	225	10	382		1
TOTAL				635	60	3287		3

STA. 310+00 TO STA. 320+00

EXCAVATION	143,144 CU. YDS.
EMBANKMENT	437 CU. YDS.
EMBANKMENT + 22%	533 CU. YDS.

I-8 MONUMENT ASSEMBLY

ITEM Nº	STATION	SIDE R OR L	TYPE "B" EACH
1-M	317+97.18	℄	1
TOTAL			1

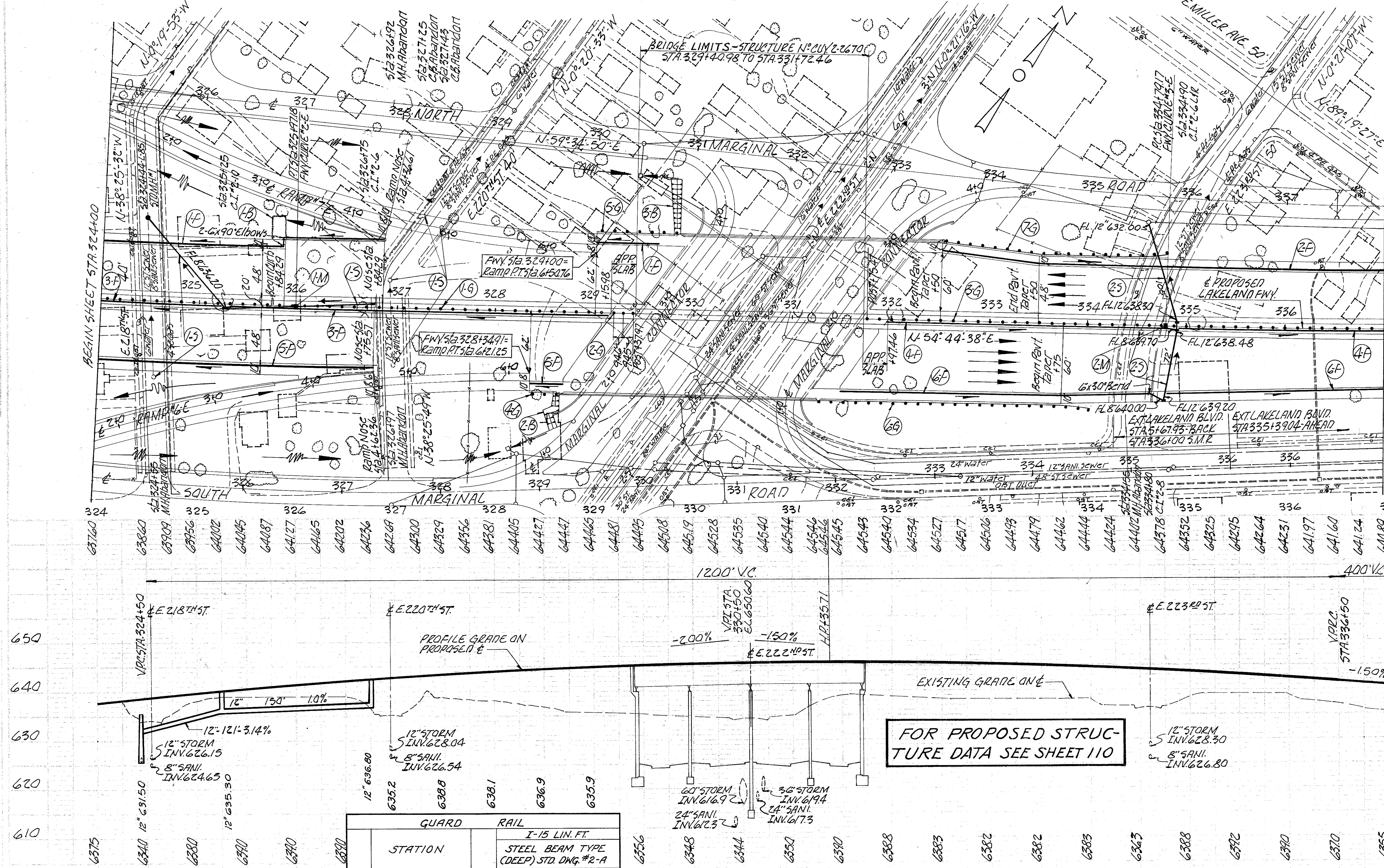
STORM SEWER

ITEM Nº	STATION FROM	STATION TO	SIDE R OR L	I-2 LIN. FT. 12" CLB	I-2 15" CLB	I-2 18" CLB	I-2 21" CLB	I-2 33" CLB	I-2 36" CLB	UNDER PAVEMENT 21" CLB	UNDER PAVEMENT 12" CLB	UNDER PAVEMENT 18" CLB	UNDER PAVEMENT 66" CLB 6.6b	I-5 EA. U.P. 66"x12" TEE CLB 6.6b	I-8 EACH STD. C.I. #2-14	STD. M.H. #1	STD. C.B. #5	STD. C.I. #2-6	STD. C.I. #2-8	STD. C.I. #2-12	I-16 EA. ABANDON M.H.	ABANDON C.B.	LOCATION OF STRUCTURE
1-S	311+00	312+80	L&R	6	8				166		83					1	1	2				2	312+40; +62; +68; +80
2-S	312+68	315+65	L&R			6		248		106		81				1	1		2		1	1	314+96; 315+04; +20; +53; +65
3-S	315+20	318+25	R			99	176				84					1	1			1			317+00; 318+00; +25
4-S	320+27	322+75	L&R								34		502	1	1								321+30
TOTAL				6	8	105	176	248	166	106	201	81	502	1	1	3	3	2	2	1	1	3	

PLAN & PROFILE --- MAIN LINE --- STA. 311+00 TO STA. 324+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY. 2-25.96



FWY. CURVE Nº 2-E
¢ DATA
D = 0°-50'-24.6"
Δ = 6°-43'-16.5"
R = 6819.66'
T = 400.46'
L = 800.00'
LC = 799.54'
E = 11.75'

FWY. CURVE Nº 3-E
¢ DATA
D = 0°-28'-00"
Δ = 3°-09'-36"
R = 12277.58'
T = 338.66'
L = 677.14'
LC = 677.05'
E = 4.67'

B.M.-O.M. 52-ELEV. 638.076
Approx. 69 ft. E. of C.L. of E. 222ND St. and 27 ft. S. of C.L. of Lakeland Blvd. E. at angle point produced W. 25.55 ft. N.E. of N&V In OBT pole #13396 on top of Bank on E. side of E. 222ND St. 11.56 ft. N.W. of N.W. cor. front of brick bldg. (State Plastic Inc.)

B.M.-O.M. X-58-ELEV. 636.428
Approx. 27 ft. N. of C.L. of Lakeland Blvd. and 430 ft. N.E. of C.L. of E. 222ND St. In N. walk of Lakeland and 89.2 ft. S.W. of C.L. of E. 223RD St. 59.96 ft. N. of top and center of hyd. on S. side of Lakeland.

NOTE:
Existing Light poles Along The North side of EXT. LAKELAND BLVD. Are To Remain In Place Except As Noted on Lighting Sheet Nos 100, 101, 102 & 103.

FOR PAVEMENT DETAILS & ELEVATIONS SEE SHEET Nos 61, 62 & 63

GUARD RAIL

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A BARRIER DESIGN	STANDARD DESIGN
1-G	324+00	329+19.06	¢	519.06	
2-G	329+19.06 POST SPACE	329+40.98 9.46' & 9.45	¢	21.92	
3-G	331+72.46	337+00	¢	527.54	
4-G	328+34.91	328+65.79	R		30.88
5-G	329+00	329+84.62	L		84.62
6-G	331+27.57	334+00	R		272.43
7-G	332+51.65	334+80	L		228.35
TOTAL				1068.52	616.28

STA. 320+00 TO STA. 340+00

EXCAVATION	47,258 CU. YDS.
EMBANKMENT	58,838 CU. YDS.
EMBANKMENT +22%	71,783 CU. YDS.

I-8 MONUMENT ASSEMBLY

ITEM Nº	STATION	SIDE R or L	TYPE "B" EACH
1-M	325+97.18	¢	1
2-M	334+79.17	¢	1
TOTAL			2

L-10 SQ. YDS.

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	SODDING	SODDING FOR SPECIAL BERM PROTECTION
1-B	325+74	325+84	L	24'x10'	27	
2-B	S.W. ABUTMENT			VARIES		36
3-B	N.W. ABUTMENT			VARIES		58
TOTAL					27	94

6" UNDERDRAIN

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" U.D. SHALLOW	6" CURB U.D. SHALLOW	8" PIPE OUTLET		I-5 EACH 6" x 90° ELBOW	6" x 30° BEND
1-F	324+00	329+61	L	250	100			2	
2-F	332+50	337+00	L	450					
3-F	324+00	329+12	¢	500		10			
4-F	331+98	337+00	¢	490		10			
5-F	324+00	328+65	R	309					
6-F	331+48	337+00	R	540		10			1
TOTAL				2539	100	30		2	1

STORM SEWER

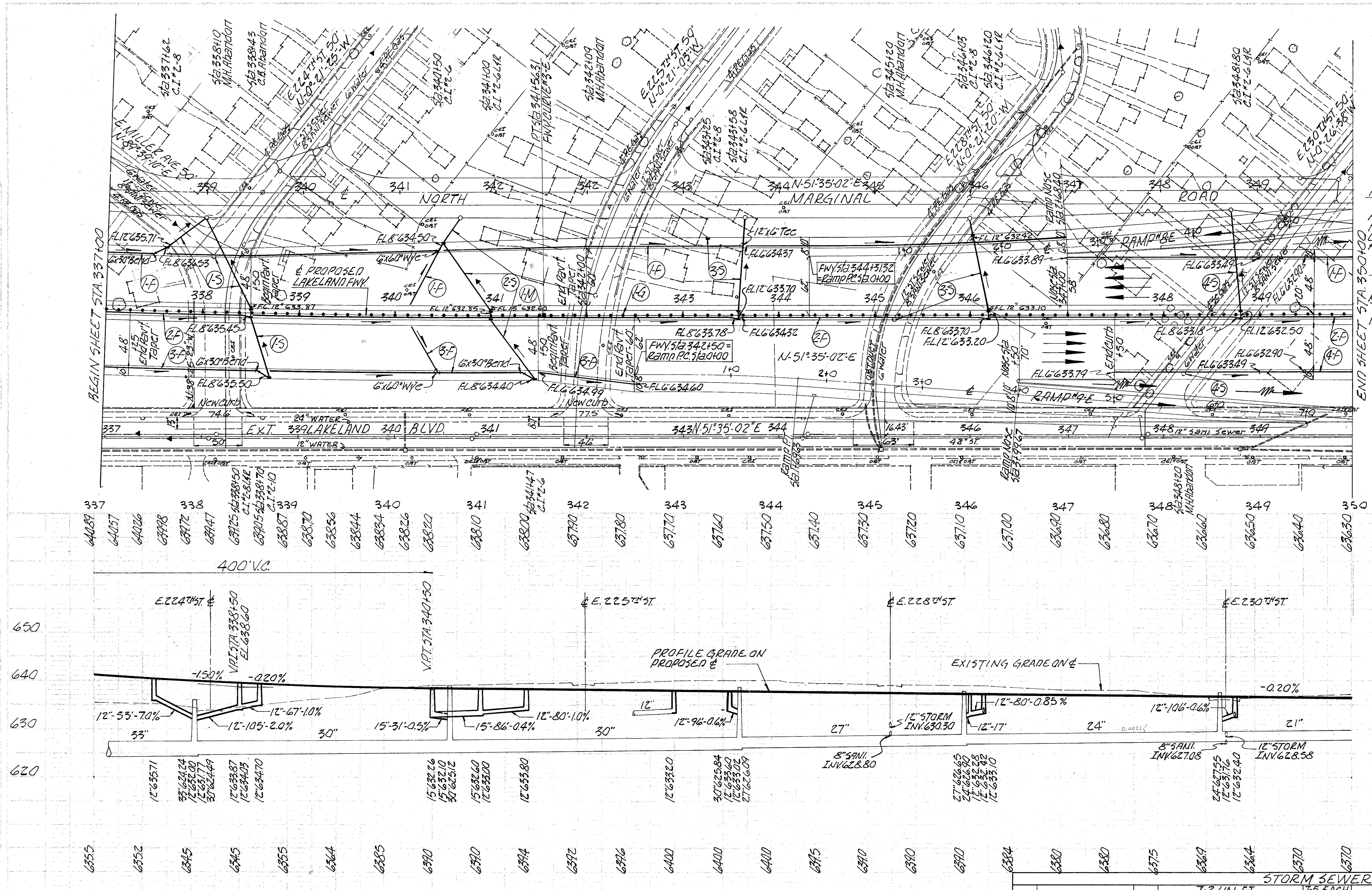
ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 12" CLB		U. PAV'T.	U. PAV'T. 12" CLB				I-8 EACH STD. M.H. #1	STD. C.I. #2-6	STD. C.I. #2-8	STD. C.I. #2-10	I-16 EA. ABANDON M.H.	ABANDON C.B.	LOCATION OF STRUCTURE
1-S	324+44	327+43	L&R	148			118				1	1		1	3	2	324+44; +55; 325+25; 326+75; 326+92; +97; 327+25; +43
2-S	334+55	334+90	L&R	6			172					2	1		1		334+55; +80; +90
TOTAL				154			290				1	3	1	1	4	2	

PLAN & PROFILE — MAIN LINE — STA. 324+00 TO STA. 337+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

30 / 152

CUYAHOGA COUNTY
CUY. 2-25.96



FWY. CURVE Nº 3-E
℄ DATA
D = 0°-28'-00"
Δ = 3°-09'-36"
R = 12277.58'
T = 338.66'
L = 677.14'
LC = 677.05'
E = 4.67'

N

B.M.-O.M.X-44-ELEV. 635.557
Approx. 27 ft. S. of C.L. of Lakeland Blvd. And 83 ft. W. of C.L. of Miller Ave. produced. 95.75 ft. N.E. of top and center of hyd. on S. side of Lakeland. 8.24 ft. E. of N&V In OBT pole #13405 on S. side of Lakeland.

FOR PAVEMENT DETAILS & ELEVATIONS SEE SHEET Nos 63, 64 & 65

NOTE:
Dashed Line - - - Indicates Limits of Pavement Replacement See Detail Sht. #98

6" UNDERDRAIN

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" U.D. SHALLOW	I-4 LIN. FT. 8" PIPE OUTLET	I-4 LIN. FT. 6" U.D. SHALLOW 6.4h	I-5 EACH	I-5 EACH 6"x60° WYE	I-5 EACH 6"x30° BEND
1-F	337+00	350+00	L	760	18	585		1	1
2-F	337+00	350+00	℄	750	40	502			
3-F	337+00	342+50	R	484	20	100		1	2
4-F	347+50	350+00	R	50		200			
TOTAL				2044	78	1387		2	3

GUARD RAIL

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A BARRIER DESIGN
1-G	337+00	350+00	℄	1300.00
TOTAL				1300.00

STA. 340+00 TO STA. 350+00
EXCAVATION 22,896 CU. YDS.
EMBANKMENT 52 CU. YDS.
EMBANKMENT +22% 63 CU. YDS.

I-8 MONUMENT ASSEMBLY

ITEM Nº	STATION	SIDE R or L	TYPE "B" EACH
1-M	341+56.31	℄	1
TOTAL			1

STORM SEWER

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 12" CLB	I-2 LIN. FT. 15" CLB	I-2 LIN. FT.	I-2 UNDER PAV'T.	I-2 UNDER PAV'T. 12" CLB	I-2 UNDER PAV'T. 15" CLB	I-5 EACH U.P. 12"x6" TEE CLB	I-5 EACH	I-8 EACH	I-8 EACH STD. C.I. #2-6	I-8 EACH STD. C.I. #2-8	I-8 EACH STD. C.I. #2-10	I-16 EA Abandon M.H.	I-16 EA Abandon C.B.	LOCATION OF STRUCTURE
1-S	337+62	338+70	L&R	56				167						3	1	1	1	337+62; 338+10; +43; +50; +70
2-S	340+50	342+09	L&R	6	28			78	84				4			1		340+50; 341+00; +47; 342+09
3-S	343+25	346+20	L&R	26				167		1			4	2		1		343+25; +58; 345+20; 346+03; +20
4-S	348+20	348+80	L&R	6				103					2			1		348+20; +80
TOTAL				94	28			515	84	1			10	5	1	4	1	

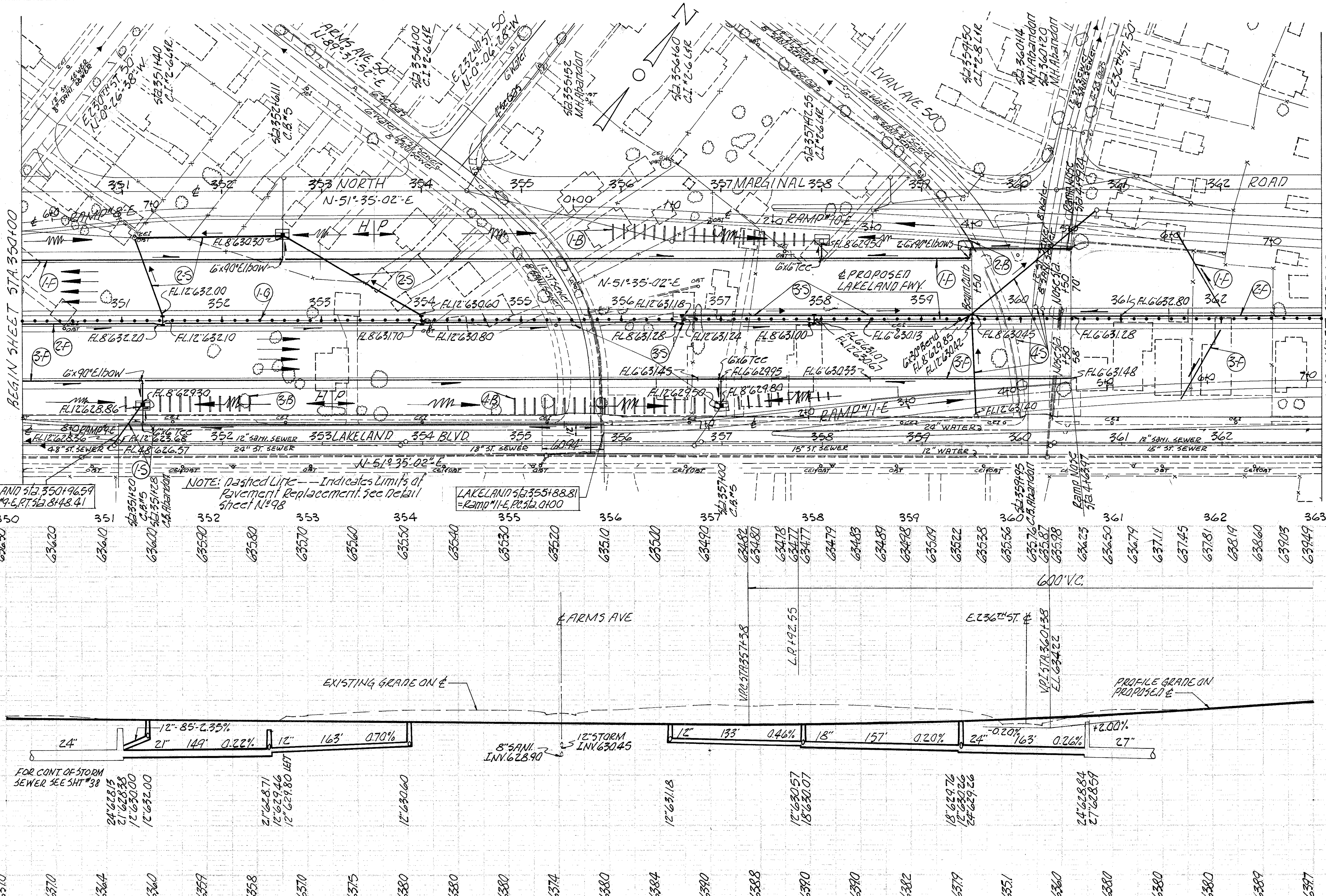
PLAN & PROFILE --- MAIN LINE --- STA. 337+00 TO STA. 350+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	I-329 (13)		31/132

CUYAHOGA COUNTY
CUY. 2-25.96

B.M.-2UF-6, PT."C" ELEV. 636.977
L.H.&T. In S. walk of Lakeland Blvd. Approx. 27 ft. S. of C.L. of Lakeland 19 ft. N.W. of C.L. of E. 236th St. (produced S.E.) 79.28 ft. S.W. of top and center of hyd. on S. of Lakeland. 19.41 ft. S.W. of N&V Ltr. CEI-OBT pole #26693 on S. side of Lakeland.

FOR PAVEMENT DETAILS & ELEVATIONS SEE SHEET Nos 66 & 67



ITEM No	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	SODDING
					L-10 SQ. YDS.
1-B	355+93	357+83	L	16' x 1.5'	53
2-B	359+40	359+50	L	10' x 9'	10
3-B	351+03	352+27	R	16' x 1.5'	29
4-B	354+93	358+06	R	16' x 1.5'	72
TOTAL					164

6" UNDERDRAIN

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" U.D. SHALLOW	I-4 LIN. FT. 6" U.D. CURB SHALLOW	I-4 LIN. FT. 8" PIPE OUTLET			I-5 EACH 6"x90° ELBOW	I-5 EACH 6"x6" TEE	I-5 EACH 6"x30° BEND
1-F	350+00	362+00	L	1062	100	20			3	1	
2-F	350+00	363+00	R	1230		60					1
3-F	350+00	362+00	R	1150		20			1	1	
4-F	351+00	355+87	R	494		10				1	
TOTAL				3936	100	110			4	3	1

GUARD RAIL

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG #2-A BARRIER DESIGN
1-G	350+00	363+00	℄	1300.00
TOTAL				1300.00

STA. 350+00 TO STA. 360+00	
EXCAVATION	34,353 CU. YDS.
EMBANKMENT	84 CU. YDS.
EMBANKMENT +22%	102 CU. YDS.

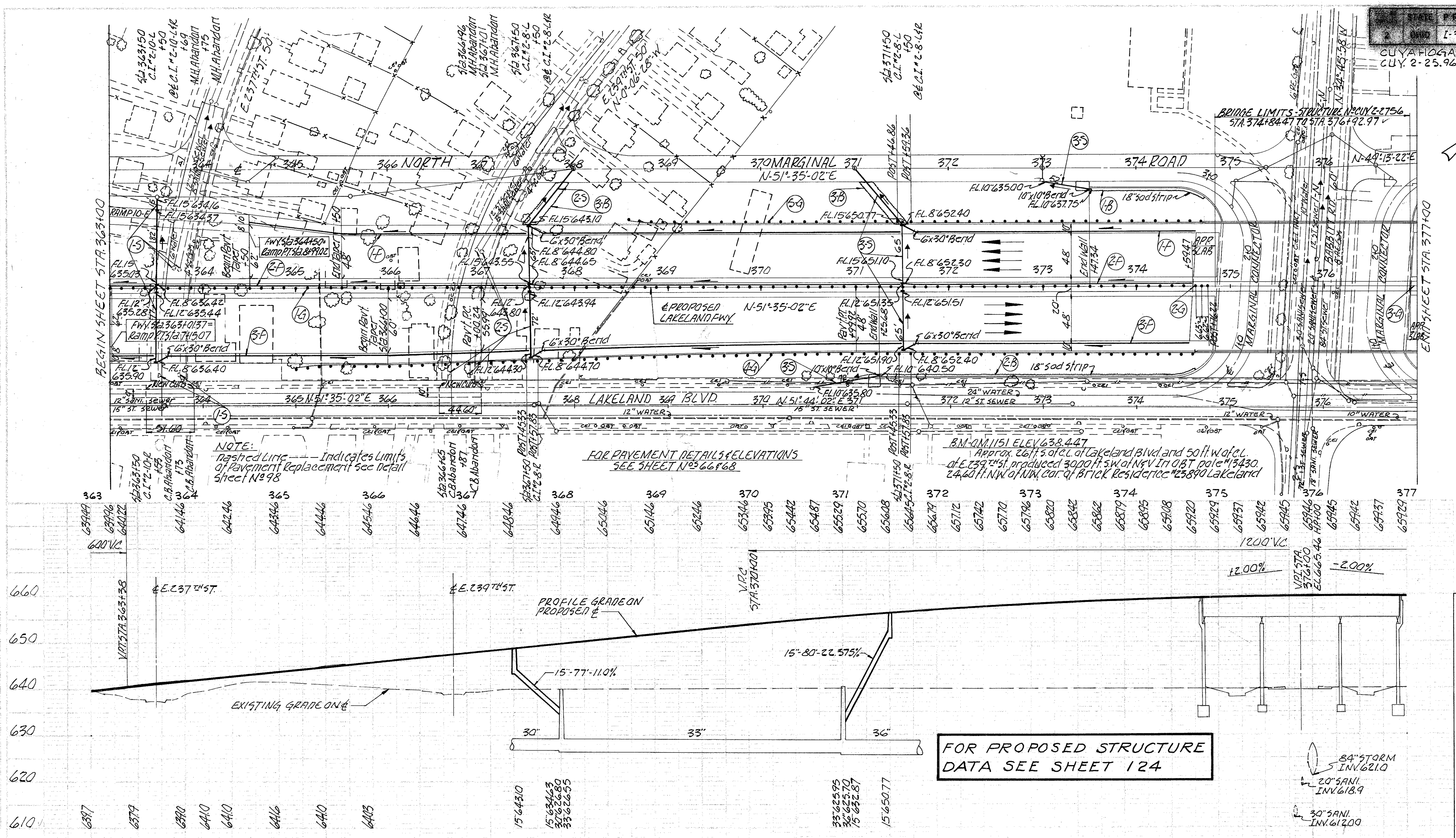
STORM SEWER

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 12" CLB	I-2 LIN. FT. 18" CLB	I-2 LIN. FT. 21" CLB			UNDER PAV'T. 12" CLB	UNDER PAV'T. 24" CLB				I-8 EACH STD. C.B. #5	I-8 EACH STD. C.I. #2-6	I-8 EACH STD. C.I. #2-8	I-16 EACH ABANDON M.H.	I-16 EACH ABANDON C.B.	LOCATION OF STRUCTURE
1-S	350+92	351+28	R						47					1				1	351+20; +28
2-S	351+12	354+00	℄ & L	12		146			243					1	4				351+40; 352+61; 354+00
3-S	355+52	359+50	℄ & R	143	155									1	4		1		355+52; 356+60; 357+92.55
4-S	359+50	360+75	L & R	6					92	160						2	2	1	359+50; +95; 360+14; +20
TOTAL				161	155	146			382	160				3	8	2	3	2	

PLAN & PROFILE --- MAIN LINE --- STA. 350+00 TO STA. 363+00

STATE	PROJECT	FISCAL YEAR	SHEET
OHIO	I-329(3)		32/152

CUYAHOGA COUNTY
CUY. 2-25.96



FOR PROPOSED STRUCTURE DATA SEE SHEET 124

L-10 SQ. YDS.					
ITEM No	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	SODDING
1-B	373+40	374+70	L	120'x1.5' 10'x10'	31
2-B	371+15	374+62	R	338'x1.5' 10'x12'	70
3-B	367+45	371+55	L	116'x10'	129
TOTAL					230

6" UNDERDRAIN				I-4 LIN. FT.			I-5 EA.	
ITEM No	STATION FROM	STATION TO	SIDE R or L	6" U.D. SHALLOW	8" PIPE OUTLET			6"x30° BEND
1-F	364+50	374+70	L	994	20			2
2-F	363+00	374+67	€	1130	30			
3-F	363+00	374+62	R	1126	30			3
TOTAL				3250	80			5

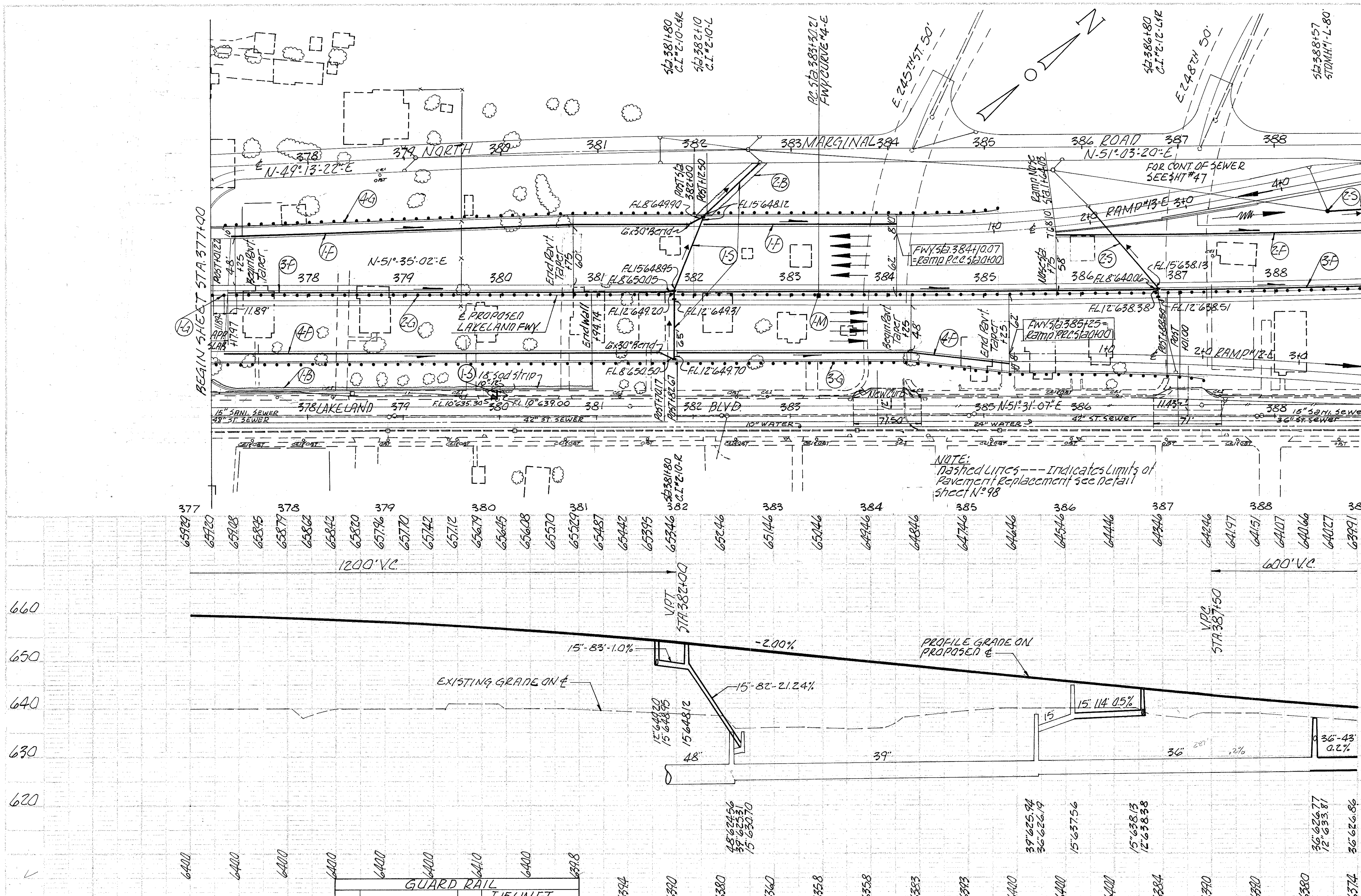
GUARD RAIL				I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A	
ITEM No	STANDARD FROM	STANDARD TO	SIDE R or L	BARRIER DESIGN	STANDARD DESIGN
1-G	363+00	374+62.97	€	1162.97	
2-G	374+62.97 POST SPACE	374+84.47 6.63' & 6.62'	€	21.50	
3-G	376+92.97	377+00	€	7.03	
4-G	365+00	374+65.92	R		965.92
5-G	368+56	374+71.86	L		615.86
				1191.50	1581.78

STA. 360+00 TO STA. 380+00
EXCAVATION 11,403 CU. YDS.
EMBANKMENT 119,399 CU. YDS.
EMBANKMENT +22% 145,667 CU. YDS.

STORM SEWER				I-2 LIN. FT.							I-5 EACH			I-8 EACH			I-16 EA. ABANDON		
ITEM No	STATION FROM	STATION TO	SIDE R or L	10" CLA	12" CLB	15" CLB		UNDER PAV'T.	12" CLB	15" CLB	10"x10° BEND CLA				STD. C.I. #2-10	STD. C.I. #2-8	M.H.	C.B.	LOCATION OF STRUCTURE
1-S	363+50	363+75	L & R		6	12			75	80					4		2	2	363+50; +53; +69; +73; +75
2-S	366+65	368+00	L & R		6				70	137						4	2	2	366+65; +87; +96; 367+01; +50
3-S	370+54	373+25	L & R	124	6				63	140	2					4			371+50
TOTAL				124	18	12			208	357	2				4	8	4	4	

PLAN & PROFILE --- MAIN LINE --- STA. 363+00 TO STA. 377+00

FWY. CURVE Nº 4-E
¢ DATA
D = 0°-15'-00"
Δ = 1°-25'-58"
R = 22918.32'
T = 286.57'
L = 573.11'
Lc = 573.10'
E = 1.79'



ITEM Nº	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	L-10 SQ.YDS. SODDING
1-B	377+00	381+00	R	400'x1.5'	67
2-B	382+05	382+75	L	80'x10'	89
TOTAL					156

6" UNDERDRAIN

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-4 LIN.FT. 6" U.D. SHALLOW	I-4 LIN.FT. 8" PIPE OUTLET		I-5 EA.	I-5 EA. 6"x30° BEND
1-F	377+16	384+10	L	682	10			1
2-F	385+75	389+00	L	325				
3-F	377+12	389+00	¢	1164	20			
4-F	377+07	385+25	R	806	10			1
TOTAL				2977	40			2

GUARD RAIL

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-15 LIN.FT. STEEL BEAM TYPE (DEEP) STD. DWG #2-A BARRIER DESIGN	STANDARD DESIGN
1-G	377+00 POST SPACE	377+25 11.89' & 11.89'	¢	25.00	
2-G	377+25	389+00	¢	1175.00	
3-G	377+05.58	387+25	R		1019.42
4-G	377+11.52	385+15	L		803.48
TOTAL				1200.00	1822.90

STA. 380+00 TO STA. 390+00	
EXCAVATION	3,818 CU.YDS.
EMBANKMENT	63,852 CU.YDS.
EMBANKMENT +22%	77,899 CU.YDS.

I-8 MONUMENT ASSEMBLY

ITEM Nº	STATION	SIDE R or L	TYPE "B" EACH
1-M	383+30.21	¢	1
TOTAL			1

STORM SEWER

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 10" CLA	12" CLB	15" CLA	36" CLB		UNDER PAV'T.	UNDER PAV'T. 12" CLB	UNDER PAV'T. 15" CLB	I-8 EACH STD. M.H. #1	STD. C.I. #2-10	STD. C.I. #2-12			LOCATION OF STRUCTURE
1-S	379+97	382+86	L&R	11	6	80				63	81		4				381+80; 382+10
2-S	386+08	389+00	¢&L		6		41				112	1		2			386+80; 388+57
TOTAL				11	12	80	41			63	193	1	4	2			

PLAN & PROFILE --- MAIN --- STA. 377+00 TO STA. 389+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

34
52

CUYAHOGA COUNTY
CUY. 2-25.96

FWY. CURVE No 4-E & DATA	
D=	0°-15'-00"
Δ=	1°-25'-58"
R=	22918.32'
T=	286.57'
L=	573.11'
LC=	573.10'
E=	1.79'

FWY. CURVE No 5-E & DATA	
D=	0°-20'-00"
Δ=	2°-40'-00"
R=	17188.74'
T=	400.07'
L=	800.00'
LC=	799.93'
E=	4.66

B.M.-O.M.X-49-ELEV. 637.335
Approx. 28 ft. S. of C.L. of Lakeland Blvd. and 122 ft. W. of C.L. of E. 250TH ST. (produced). 28.15 ft. S.W. of top and center of hyd. on S. side of Lakeland. 51.24 ft. E. of N&V in ORT pole #13449 on S. side of Lakeland.

B.M.-O.M.X-55-ELEV. 639.963
Approx. 28 ft. N. of C.L. of Lakeland Blvd. and 1150 ft. S.W. of C.L. of E. 260TH St. 55.47 ft. N.E. of N&V in CEI pole #28139 on N. side of Lakeland. 73.60 ft. W. of N&V in ORT pole #13462 on S. side of Lakeland.

FOR PAVEMENT DETAILS & ELEVATIONS SEE SHEET No 3 69, 71, 72

Note "A"
The Contractor shall exercise care in the use of heavy equipment over this existing 30" water main. Existing grade shall be maintained in the area of the water main until final grading of ditches.

BEGIN SHEET STA. 389+00

END SHEET STA. 402+00

GUARD RAIL-TEMPORARY		
ITEM No	LOCATION	LIN. FT.
2-G	RAMP "14-E STA. 1+80	37.5'
TOTAL		37.5'

GUARD RAIL				
ITEM No	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG #2-A BARRIER DESIGN
1-G	389+00	402+00		1300.00
TOTAL				1300.00

STA 390+00 TO STA. 400+00

EXCAVATION	16,570 CU. YDS.
EMBANKMENT	5,246 CU. YDS.
EMBANKMENT +22%	6,400 CU. YDS.

I-8 MONUMENT ASSEMBLY			
ITEM No	STATION	SIDE R or L	TYPE "B" EACH
1-M	389+03.32	℄	1
2-M	399+57.16	℄	1
TOTAL			2

ITEM No	STATION FROM	STATION TO	SIDE R or L	STORM SEWER I-2 LIN. FT. 12" CL B	15" CL B	33" CL B	36" CL B	UNDER PAV'T. 12" CL B	UNDER PAV'T. 15" CL B	I-8 EACH STD. M.H. #1	STD. C.I. #2.6	STD. C.I. #2.8	STD. C.B. #5	I-6 EA. ABANDON M.H.	ABANDON C.B.	LOCATION OF STRUCTURE
1-3	389+00	391+57	L&R	6			255	97		1		2		3	1	390+92; 391+00; +32; +31; +52; +57
2-3	391+57	394+35	L&R	6	6	274		113	228	1	4		1		1	391+75; +89; 393+48.34; 394+00; +35
3-3	394+35	397+24	℄ L	6		282		79			2					397+00
4-3	397+57	400+00	℄ L	6				119			2					400+00
5-3	395+38	396+34	R					44					1		2	395+38; 396+00; +34
TOTAL				24	6	556	255	452	228	2	8	2	2	3	4	

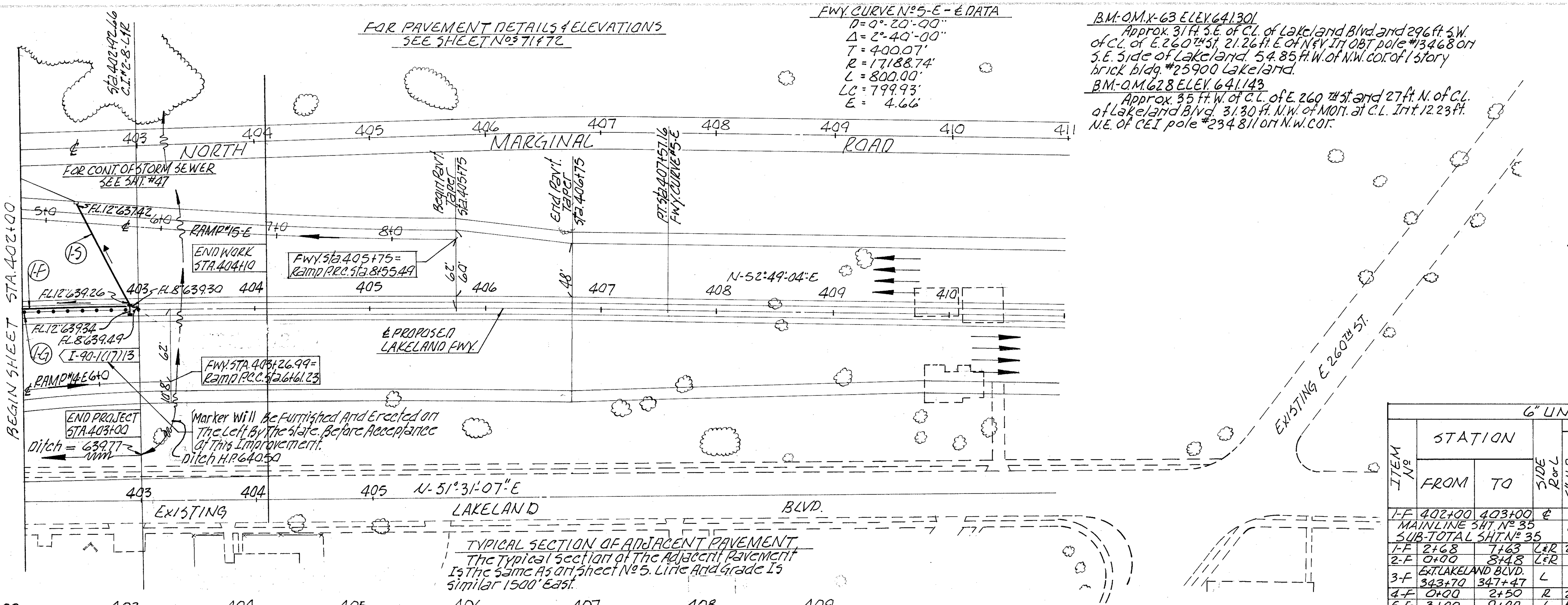
L-10 SQ YDS ITEM No	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH SODDING
1-B	390+25	393+84	2	13'x10' 14
2-B	395+44	396+68	2	6'x15' 67
TOTAL				6'x15' 16 97

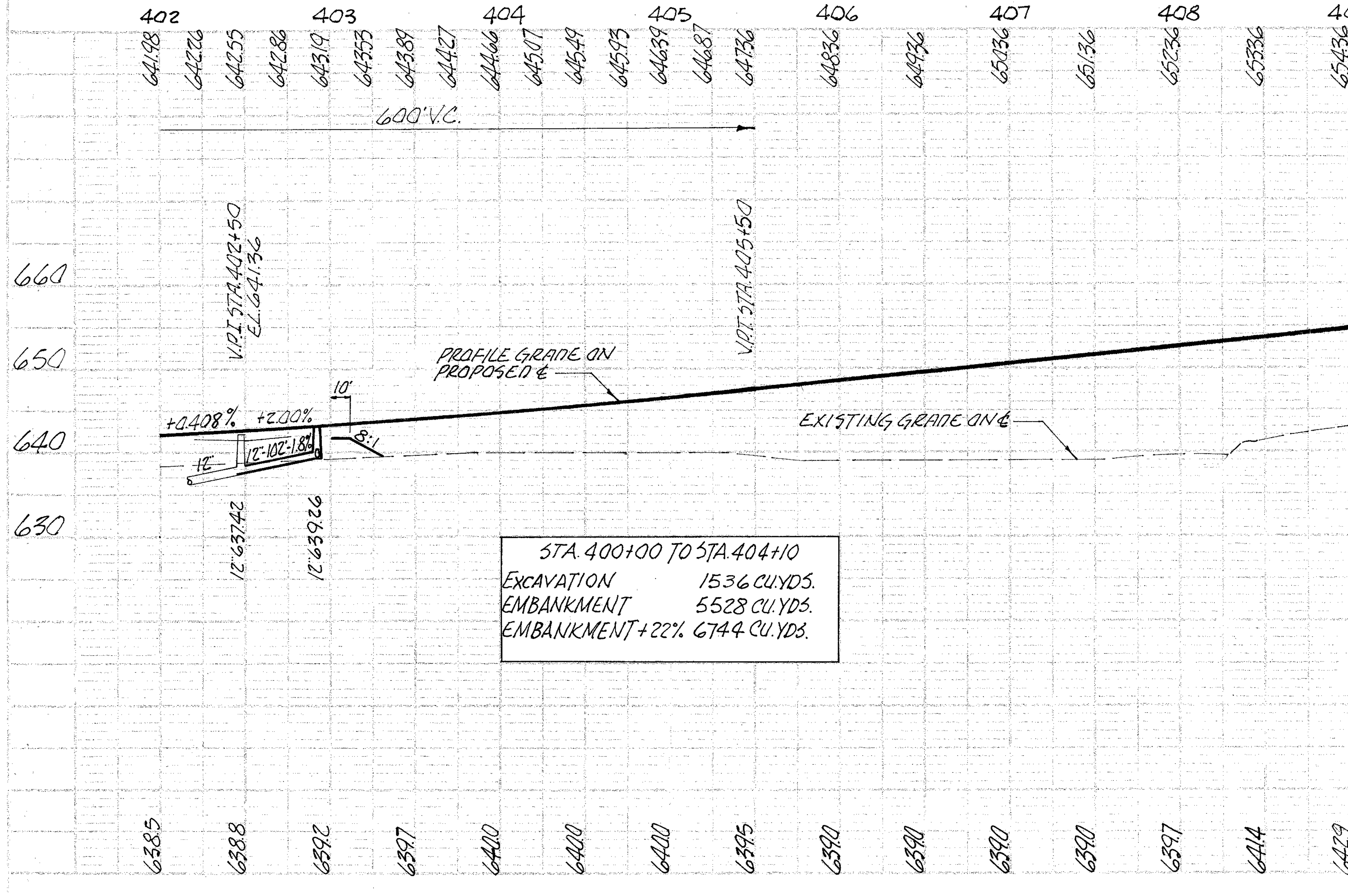
6" UNDERDRAIN I-4 LIN. FT. ITEM No	STATION FROM	STATION TO	SIDE R or L	6" CUBA UD SHALLOW	6" U.D. SHALLOW	8" PIPE OUTLET	I-5 EACH 6"x90° ELBOW	6"x6" TEE
1-F	389+00	401+75	L	1205	100	20		
2-F	389+00	402+00	R	1230	100	44		
3-F	391+22	401+60	R	1172	100	44	3	1
4-F	394+55	396+70	L	323		10	1	1
TOTAL				3930	200	184	6	3

PLAN & PROFILE---MAIN LINE---STA. 389+00 TO STA. 402+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	I-329(13)		35/152

CUYAHOGA COUNTY
CUY. 2-25.96





STA. 400+00 TO STA. 404+10	
EXCAVATION	1536 CU. YDS.
EMBANKMENT	5528 CU. YDS.
EMBANKMENT + 22%	6744 CU. YDS.

GUARD RAIL

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A BARRIER DESIGN
1-G	402+00	403+00	¢	100.00
TOTAL				100.00

6" UNDERDRAIN

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" U.D. SHALLOW	6" CURB U.D. SHALLOW	8" PIPE OUTLET	6" U.D. 6.4h SHALLOW	I-5 EACH 6"×90° ELBOW 6.4h	6"×30° BEND 6.4h	6"×90° ELBOW	6"×6" TEE	6"×60° WYE	6"×30° BEND	6"×77° BEND
1-F	402+00	403+00	¢	92		6								
MAINLINE SHT. No 35 SUB-TOTAL SHT. No 35				92		6								
1-F	2+68	7+63	L&R	205	26	20	236		2	2				
2-F	0+00	8+48	L&R			10	835	2	1					
3-F	EXT. LAKELAND BLVD. 343+70	347+47	L		355	20								
4-F	0+00	2+50	R	250		10				1				
5-F	3+00	9+00	L	576		20							2	
6-F	0+00	2+00	L	200		10					1			
7-F	2+00	7+15	R	490		20							2	
8-F	EXT. LAKELAND BLVD. 358+50	363+30	L		458	20								
RAMP Nos 8-E; 9-E; 10-E; & 11-E SUB-TOTAL SHT. No 46				1721	839	130	1071	2	3	3	1		4	
1-F	0+00	6+25	R	585		30							3	
2-F	6+25	8+35	L	216		10					1			
3-F	EXT. LAKELAND BLVD. 386+48	392+28	L		546	30							1	
4-F	0+00	6+41	L&R	620		10							1	
5-F	0+00	6+35	L&R	638		10				3	1			
6-F	EXT. LAKELAND BLVD. 398+30	404+10	L		547	20								1
7-F	0+00	2+35	R	244		10						1		
8-F	2+35	5+78	L	321		20							1	
RAMP Nos 12-E; 13-E; 14-E; & 15-E SUB-TOTAL SHT. No 47				2624	1093	140				3	2	1	6	1
TOTAL THIS SHEET				4437	1932	276	1071	2	3	6	3	1	10	1

STORM SEWER

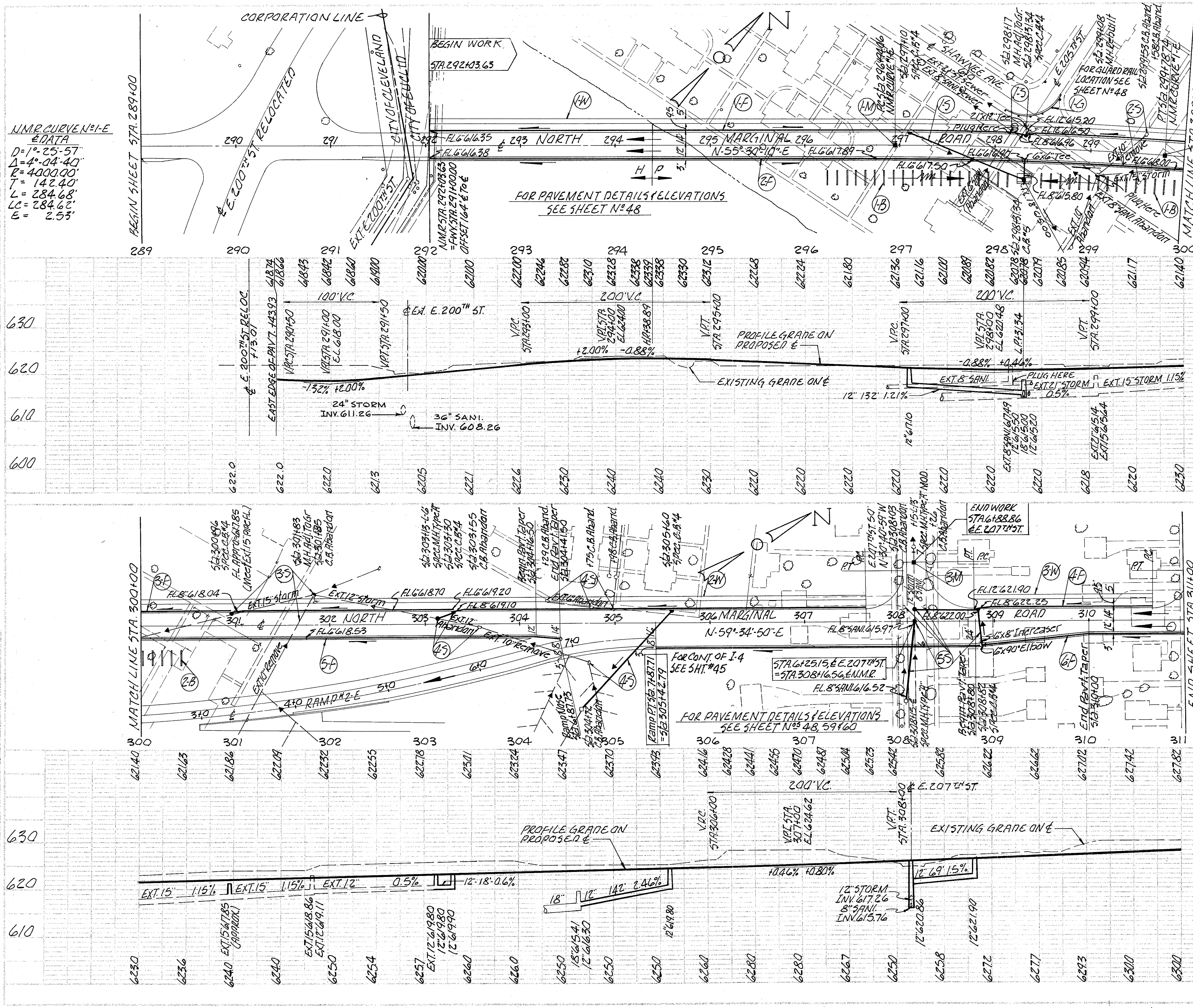
ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 12" CL A	12" CL B	15" CL A	15" CL B		UNDER PAVEMENT	8 CL A 6.5b or 6.8b	12" CL B	24" CL B	36" CL B 6.8b	I-5 EACH UNDER PAV'T. 6"×8" INCR. CL A 6.5b or 6.8b	8"×6" RED. CL A 6.5b or 6.8b	24"×12" TEE CLB		I-8 EACH	STD. M.H. #1	STD. C.I. #2-6	STD. C.I. #2-8	STD. C.I. #2-10	SPEC. C.B. #4	SPEC. C.I. #4	STD. C.B. #5	I-16 EA. ABANDON	C.B.	LOCATION OF STRUCTURE
1-S	402+48	403+00	¢&L		6						100										2							402+92.66
MAINLINE SHT. No 35 SUB-TOTAL SHT. No 35					6						100										2							
1-S	4+98	5+00	L								5									1								5+00
2-S	LAKELAND 344+25	2+74	R								40										1		1				3	EXT. LAKELAND BLVD. 344+25; +27 1+89; 2+50; 2+74
3-S	LAKELAND 347+47	6+00	L&R							15	17			1	1						1		1				1	EXT. LAKELAND BLVD. 347+47; +51 5+30
4-S	1+00	5+22	L&R		22		147												1			1		1	1			1+00; 2+50; 3+00; 5+22
5-S	LAKELAND 355+98	360+46	L								49									1			1				3	EXT. LAKELAND BLVD. 355+98; 358+89 360+43; +46; 3+67-RAMP #11-E
RAMP Nos 8-E; 9-E; 10-E; & 11-E SUB-TOTAL SHT. No 46					22		147			15	111			1	1				1	2	2	1	3	1	1		7	
1-S	1+50	2+25	L&R								80											1	1				1	EXT. LAKELAND BLVD. 387+48; 1+75
2-S	5+92	6+15	R								10									1							1	5+92.75; 6+15
3-S	1+69	4+43	L&R				50				46		284									1		1				2+00; 4+38
4-S	1+55	3+23	L&R	31						30	4			2	2								1		1		1	EXT. LAKELAND 399+63; +73; 3+23
5-S	0+00	2+35	L&R			8					12	216				1			1		1				1			0+00; 2+35
6-S	4+52	5+25	L		72																	1						5+25
RAMP Nos 12-E; 13-E; 14-E; & 15-E SUB-TOTAL SHT. No 47				31	72	8	50			30	152	216	284	2	2	1			1	1	1	3	2	1	2		3	
TOTAL THIS SHEET				31	100	8	197			45	363	216	284	3	3	1			2	3	5	4	5	2	3		10	

PLAN & PROFILE ··· MAIN LINE ··· STA. 402+00 TO STA. 415+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

36/152

CUYAHOGA COUNTY
CUY. 2-25.96



ITEM No	LOCATION	SIDE R or L	I-15 LIN.FT. STEEL BEAM TYPE (DEEP) STD. DWG #2-A STANDARD DESIGN
1-G	INTERSECTION OF SHAWNEE AVE. & E.205TH ST.	R	62.5
	TOTAL		62.5

GUARD RAIL I-15 LIN.FT.

ITEM No	STATION FROM	STATION TO	SIDE R or L	4" CONCRETE SQ.FT.
1-W	292+03.63	300+00	L	3981.85
2-W	300+00	307+64.32	L	3821.60
3-W	308+78.27	310+67.33	L	945.30
	TOTAL			8748.75

I-13 SIDEWALKS

ITEM No	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	SODDING
1-B	296+24	300+00	R	16'x1.5'	93
2-B	300+00	300+42	R	16'x1.5'	13
	TOTAL				106

I-10 SQ. YDS.

ITEM No	STATION	SIDE R or L	TYPE "B" EACH
1-M	N.M.R. 296+94.06	℄	1
2-M	N.M.R. 299+78.74	℄	1
3-M	E.207TH ST. 6+88.86	℄	1
	TOTAL		3

I-8 MONUMENT ASSEMBLY

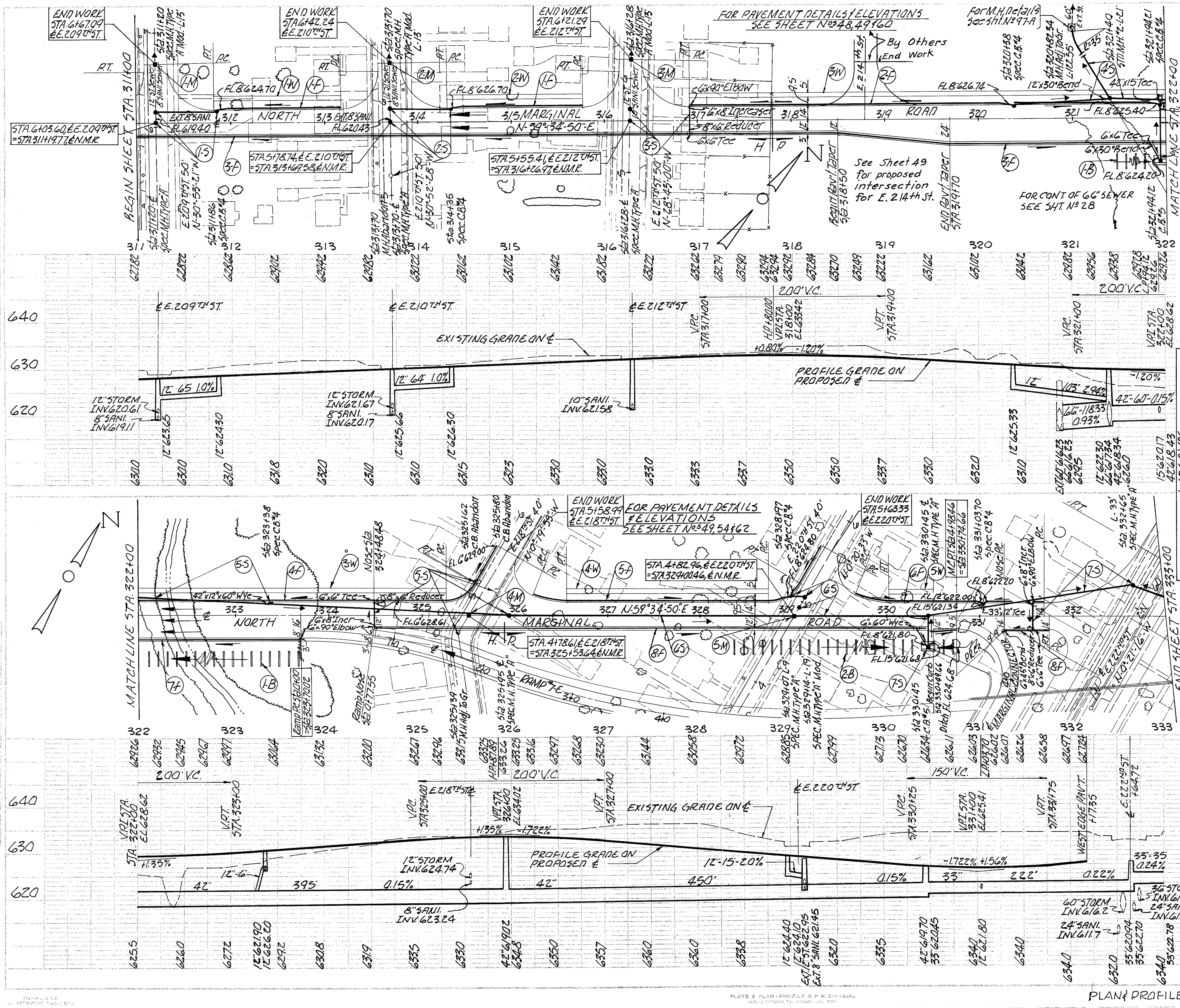
6" UNDERDRAIN

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-4 LIN.FT. 6" U.D. SHALLOW	6" CURB U.D. SHALLOW	8" PIPE OUTLET	I-5 EACH	6"x6" TEE	6"x90° ELBOW
1-F	292+03.63	300+00	L		776	20			
2-F	292+03.63	300+00	R	794		20			
3-F	300+00	307+65	L		744	20		1	
4-F	308+82	310+68	L		176	10			
5-F	300+00	304+42	R	442					
6-F	305+43	311+00	R	556					1
	TOTAL			1792	1696	70		1	1

STORM SEWER
E=100% CITY OF EUCLID

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN.FT. 12" CLB	UNDER PAV'T. 8" CLB 6.8b	UNDER PAV'T. 12" CLB	U.P. 6"x8" Incr. CLA 6.5b 6.8b	I-5 EACH 21"x12" TEE CLB	I-8 EACH SPEC. M.H. TYPE "A"	SPEC. M.H. TYPE "A" MOD.	M.H. ADJ. TO GR.	M.H. REBUILT	SPEC. C.B. #4	STD. C.B. #5	I-16 EA. ABANDON C.B.	E-12 LIN.FT. PIPE REMOVAL 15" AND UNDER	LOCATION OF STRUCTURE
1-S	297+10	298+33	L&R	6		130		1			1		2				297+10; 298+17; 298+31.34
2-S	299+08	299+58	L&R									1		1	2	70	299+08; +53; +58
3-S	300+96	301+85	L&R								1		1		1	116	300+96; 301+83; +85
4-S	303+13	305+60	L&R			156			1				2		5	120	303+13; +30; +55; 304+29; +72; +75; +98; 305+60
5-S	308+03	308+89	L&R		114ᴱ	66	1		1ᴱ	1			1		2		308+03; +15; +26; +82
	TOTAL			6	114ᴱ	352	1	1	1/1ᴱ	1	2	1	6	1	10	306	

PLAN & PROFILE---NORTH MARGINAL ROAD STA. 289+00 TO STA. 311+00



ITEM No	I-13 SIDEWALKS STATION FROM	TO	SIDE R or L	4" CONCRETE SQ.FT.
1-W	311+81.25	313+17.15	L	679.50
2-W	314+31.07	315+76.55	L	727.40
3-W	316+90.91	325+25.99	L	4175.40 E ← ☒ See Sheet 49
4-W	326+55.39	328+72.80	L	1087.05
5-W	330+02.20	330+49.66	L	237.30
TOTAL 100% CITY OF EUCLID				4175.40 E
TOTAL INTERSTATE FUNDS				2731.25

ITEM No	L-10 SQ.YDS. STATION FROM	TO	SIDE R or L	LENGTH x WIDTH	SODDING
1-B	321+48	323+68	R	16'x1.5'	56
2-B	328+38	330+71	R	16'x1.5'	59
TOTAL					115

ITEM No	I-8 MONUMENT ASSEMBLY STATION	SIDE R or L	TYPE "B" EACH
1-M	E.209TH ST. 6+67.09	℄	1
2-M	E.210TH ST. 6+42.24	℄	1
3-M	E.212TH ST. 6+21.29	℄	1
4-M	N.M.R. 325+53.64	℄	1
5-M	N.M.R. 329+00.46	℄	1
TOTAL			5

ITEM No	6" UNDERDRAIN STATION FROM	TO	SIDE R or L	I-4 LIN.FT. 6" U.D. SHALLOW	6" CURB U.D. SHALLOW	8" PIPE OUTLET		I-5 EACH	6"x90° ELBOW	6"x6" TEE	6"x30° BEND	6"x45° BEND	6"x60° WYE
1-F	311+86	315+77	L		252	20							
2-F	316+92	322+00	L		479	26			1				
3-F	311+00	322+00	R	1106		10				2	1		
4-F	322+00	325+82	L		412					1			
5-F	326+20	329+31	L		318	20							
6-F	329+66	331+69	L		168	20			1				
7-F	322+00	323+70	R	170									
8-F	324+48	331+75	R	603	72	10			1	1	1	1	1
TOTAL				1879	1701	106			3	4	1	1	1

STORM SEWER

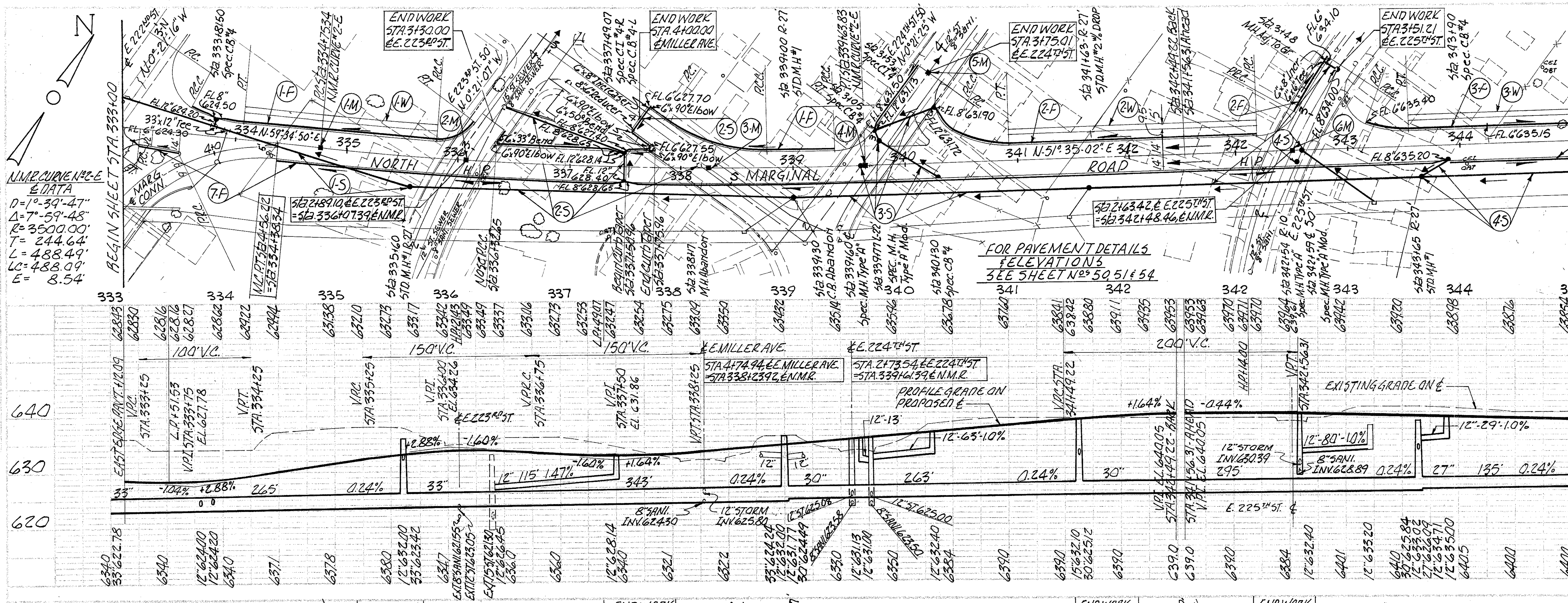
ITEM No	STATION FROM	TO	SIDE R or L	I-2 LIN.FT. 12" CLB	15" CLB	66" CLB 6.6a RADIUS PIPE R=35'	66" CLB 6.6a		UNDER PAVEMENT 8" CLA 6.5b or 6.8b	12" CLB	15" CLB	33" CLB	42" CLB 6.6b
1-S	311+20	311+86	℄-L							62			
2-S	313+70	314+35	L&R							61			
3-S	316+28	316+92	L&R						24				
4-S	320+38	322+00	L&R	100	4	19	91				56		54
5-S	322+00	325+95	L&R						24	5			389
6-S	325+95	330+45	℄&L							12			446
7-S	330+45	333+00	L&R						24	4	31	247	
TOTAL				100	4	19	91		72	144	87	247	889

ITEM No	I-5 EACH UNDER PAVEMENT 33"x12" TEE CLB 6.6b	42"x15" TEE CLB 6.6b	42"x12" WYE CLB 6.6b	6"x8" INCR CLA 6.5b or 6.8b	8"x6" RED. CLA 6.5b or 6.8b		I-8 EACH STD. M.H. #2 W/OUT DROP	SPEC. M.H. TYPE "A"	SPEC. M.H. TYPE "A" MOD.	SPEC. C.B. #4	STD. C.B. #5	M.H. ADJ. TO GR.	I-16 EA. ABANDON M.H.	C.B.	LOCATION OF STRUCTURE
1-S								1	1	1					311+20; +86
2-S								1	1	1			1		313+70; 314+35
3-S				1	1			1	1						316+28
4-S		1					1			2	1	1			320+38; +82.34; 321+40; +94.21
5-S			1	1	1			1		1		1		2	323+38; 325+39; +62; +80; +95
6-S								1	1	1					328+97; 329+07; +14
7-S	1			1	1			2		1	1				330+45; 331+03.70; 332+65
TOTAL	1	1	1	3	3		1	7	4	7	2	2	1	2	

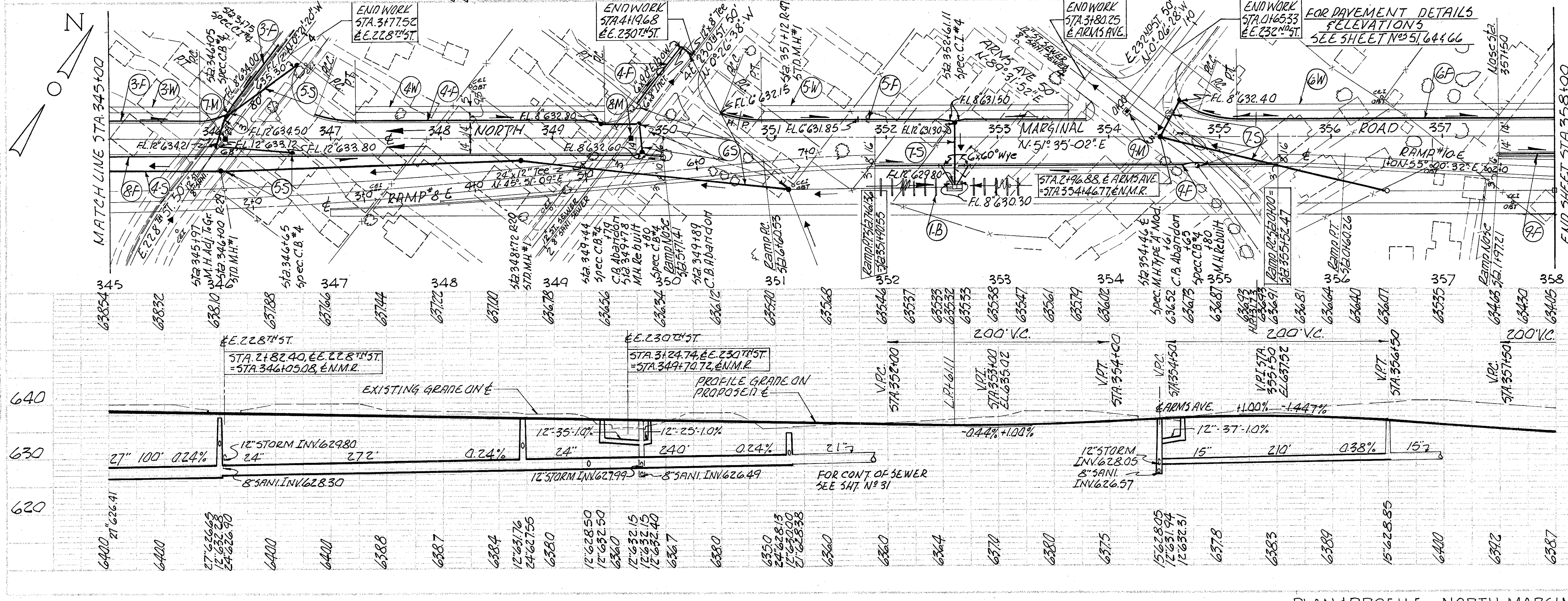
PLAN & PROFILE --- NORTH MARGINAL ROAD STA. 311+00 TO STA. 333+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	I-329(13)		38/152

CUYAHOGA COUNTY
CUY. 2-25.96



ITEM No	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	L-10 SQ. YDS. SODDING
I-B	351+95	353+18	R	16'x1.5'	29
TOTAL					29



NOTE:
For Quantities of I-4 6" Underdrains See Sht. No 40
For Quantities of I-13 Sidewalks See Sht. No 40
For Quantities of I-8 Monument Assemblies See Sht. No 40

STORM SEWER

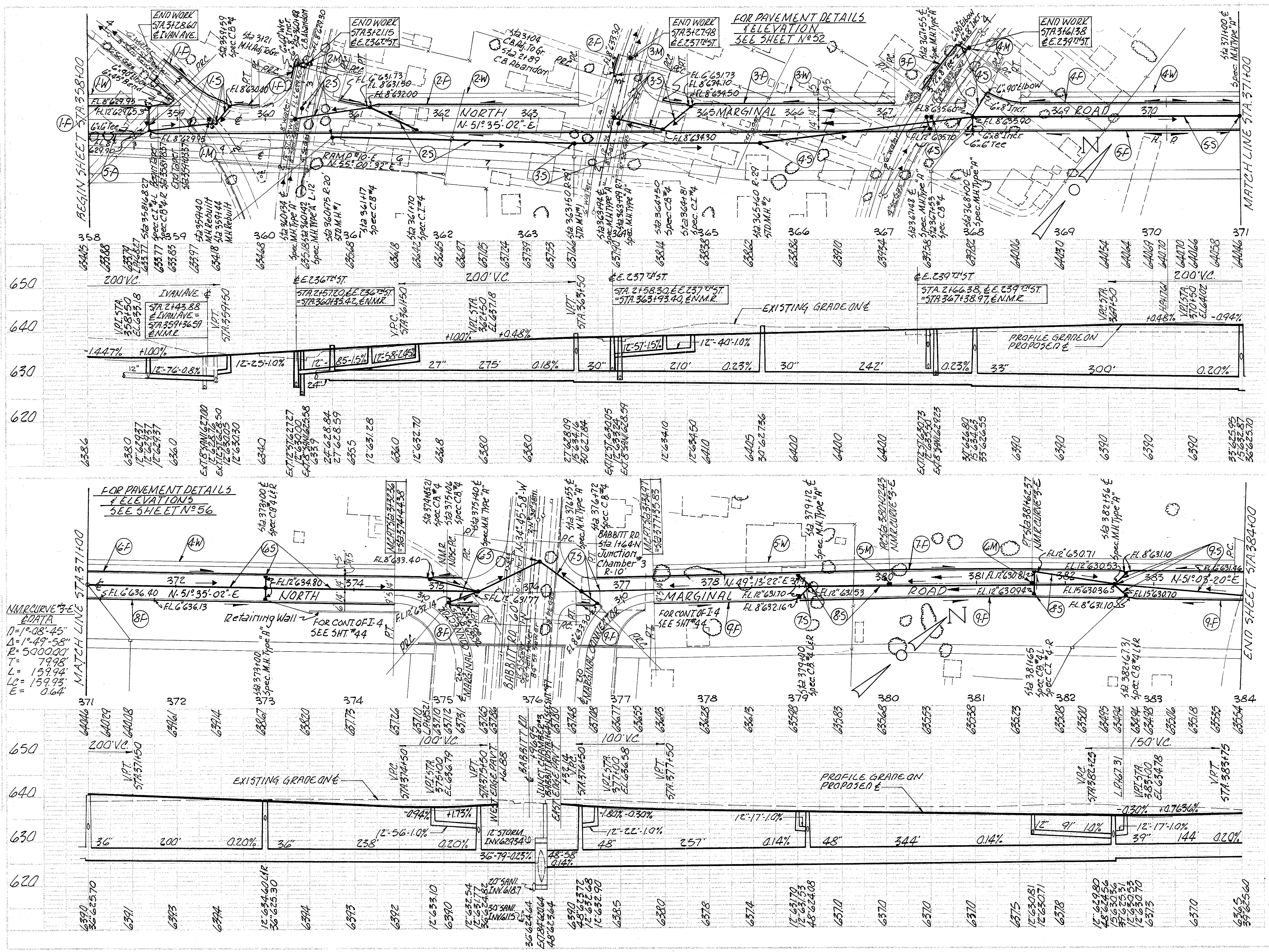
ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 12" CLB	I-2 LIN. FT. 24" CLB 6.6b	I-2 LIN. FT. 27" CLB 6.6b	I-2 LIN. FT. 30" CLB 6.6b	I-2 LIN. FT. 33" CLB 6.6b	I-2 UNDER PAVEMENT 8" CLA 6.5b or 6.8b	I-2 UNDER PAVEMENT 12" CLB	I-2 UNDER PAVEMENT 15" CLB	I-2 UNDER PAVEMENT 24" CLB	I-2 UNDER PAVEMENT 33" CLB 6.6b
1-5	333+00	335+60	L&R							5			255
2-5	335+60	339+00	L&R	112				339	23	24			
3-5	339+00	341+63	L&R				259			127			
4-5	341+63	346+00	L&R	26		231	291		8	77			
5-5	346+00	348+72	L&R		268					169			
6-5	348+72	351+12	L&R						10	54		232	
7-5	352+61	356+50	L&R							90	207		
TOTAL				138	268	231	550	339	41	546	207	232	255

ITEM No	I-5 EACH UNDER PAVEMENT TEE CL B 12"x8"	I-5 TEE CL B 24"x12"	I-5 TEE 33"x12" 6.6b	I-5 6"x8" INCR. CLA 6.5b or 6.8b	I-5 8"x6" RED. CLA 6.5b or 6.8b	I-8 EACH SPEC. C.B. #4	I-8 STD. M.H. #2 W/OUT DROP	I-8 STD. M.H. #1	I-8 SPEC. M.H. TYPE "A"	I-8 SPEC. M.H. TYPE "A" Mod.	I-8 SPEC. C.I. #4	I-8 M.H. ADJ. TO GR.	I-8 M.H. REBUILT	I-16 EA. ABANDON M.H.	I-16 EA. ABANDON C.B.	LOCATION OF STRUCTURE
1-5			2			1		1								333+81.50; 335+60
2-5				1	1	1		1			1			1		337+49.07; 338+17; 339+00
3-5						2	1		1	1	1				1	339+30; +60; +77; 340+30; 341+63; E.224 ST. 3+05; +53
4-5				1		1		1	1	1		2				342+54; +59; 343+65; +90; 345+97; E.225 ST. 3+48
5-5						2		1			1					346+00; +05; +65; E.228 ST. 3+75
6-5	1	1		1		2		2					1		2	348+72; 349+44; +78; +79; +80; +89; 351+12
7-5						2				1			1		1	352+61.11; 354+46; +61; +65; +80
TOTAL	1	1	2	3	1	11	1	6	2	3	3	2	2	1	4	

PLAN & PROFILE --- NORTH MARGINAL ROAD STA. 333+00 TO STA. 358+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	I-329(13)		39/152

CUYAHOGA COUNTY
CUY. 2-25.96



NOTE:
For Quantities of I-4 6" Underdrains See Sht. N° 40
For Quantities of I-13 Sidewalks See Sht. N° 40
For Quantities of I-8 Monument Assemblies See Sht. N° 40

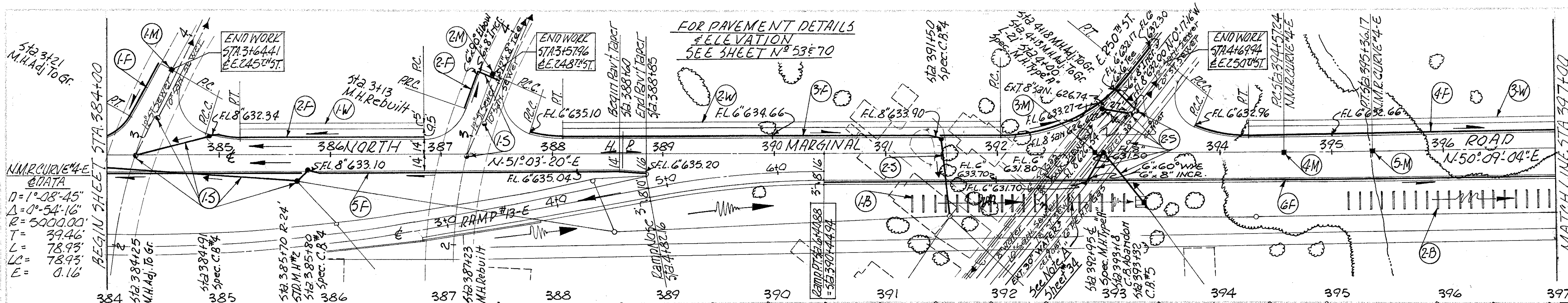
STORM SEWER

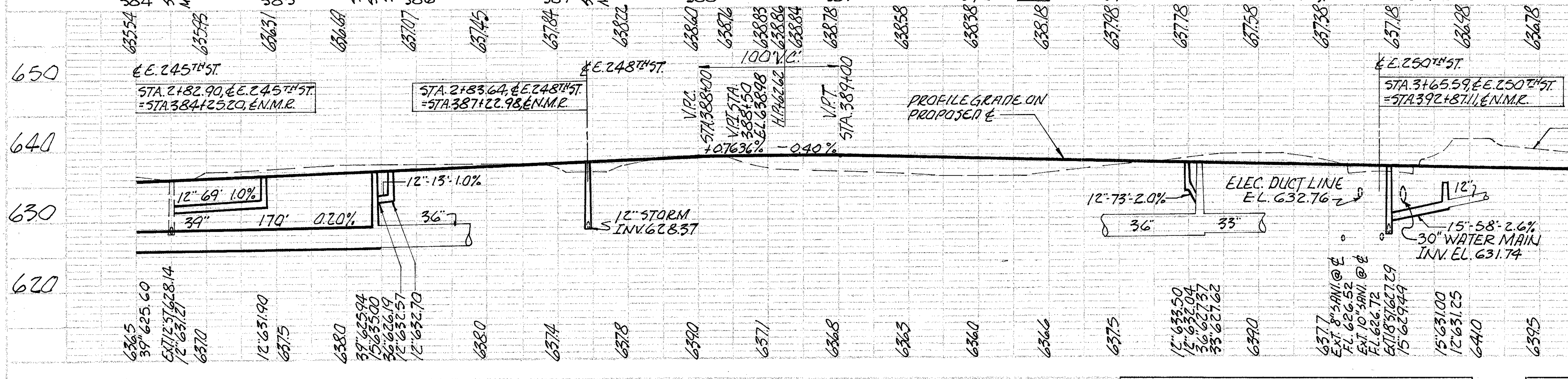
ITEM No	STATION FROM	STATION TO	SIDE R or L	27" CLB 6.6a	30" CLB 6.8b	I-2 LIN. FT. UNDER PAVEMENT 15" CLB	8" CLA 6.5b or 6.8b	12" CLB	30" CLB 6.8b	33" CLB 6.8b	36" CLB 6.8b	39" CLB	48" CLB	48" CLB 6.6b	I-5 EACH UNDER PAV'T 6"x8" INCR. CL A 6.5b or 6.8b	12"x8" TEE CLB	I-8 EACH SPEC. C.B. #4	STD. M.H. #1	STD. M.H. #2 W/OUT DROP	SPEC. M.H. TYPE "A"	SPEC. C.I. #4	JUNCTION CHAMBER N° 3	C.B. ADJ. TO GR.	M.H. ADJ. TO GR.	M.H. REBUILT	I-16 EA. ABANDON C.B.	LOCATION OF STRUCTURE
1-5	358+68	359+59	L&R	271				119									2				1				2		358+68.27; 359+40; +44; +59
2-5	360+34	363+50	L&R				10	138							1		1	1		2	1			1		1	360+34; +42; +48; +75; 361+17; +70
3-5	363+50	365+60	L&R		206			92									1	1		2	1		1			1	363+50; +94; +99; 364+50; +81; ℄E.237 ST. 2+89; 3+04
4-5	365+60	368+20	L&R				47	10	238						3	1	1		1	3							365+60; 367+48; +53; +55; 368+00
5-5	368+00	371+00	℄							296										1							371+00
6-5	371+00	376+09	L&R					107			504						4			2		1					373+00; 374+85.21; 375+06; +40; BABBITT RD. 1+64-N
7-5	376+09	379+12	L&R					47						306			3			1	1						376+55; +72; 379+00
8-5	379+12	382+56	L&R					112					340				1			1							379+12; 381+65
9-5	382+56	384+00	L&R			14		14				142					2			1							382+56; +67.31
TOTAL				271	206	14	57	639	238	296	504	142	340	306	4	1	15	2	1	13	4	1	1	1	2	2	

PLAN & PROFILE --- NORTH MARGINAL ROAD STA. 358+00 TO STA. 384+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	I-329 (13)		40/152

CUYAHOGA COUNTY
CUY. 2-25.96





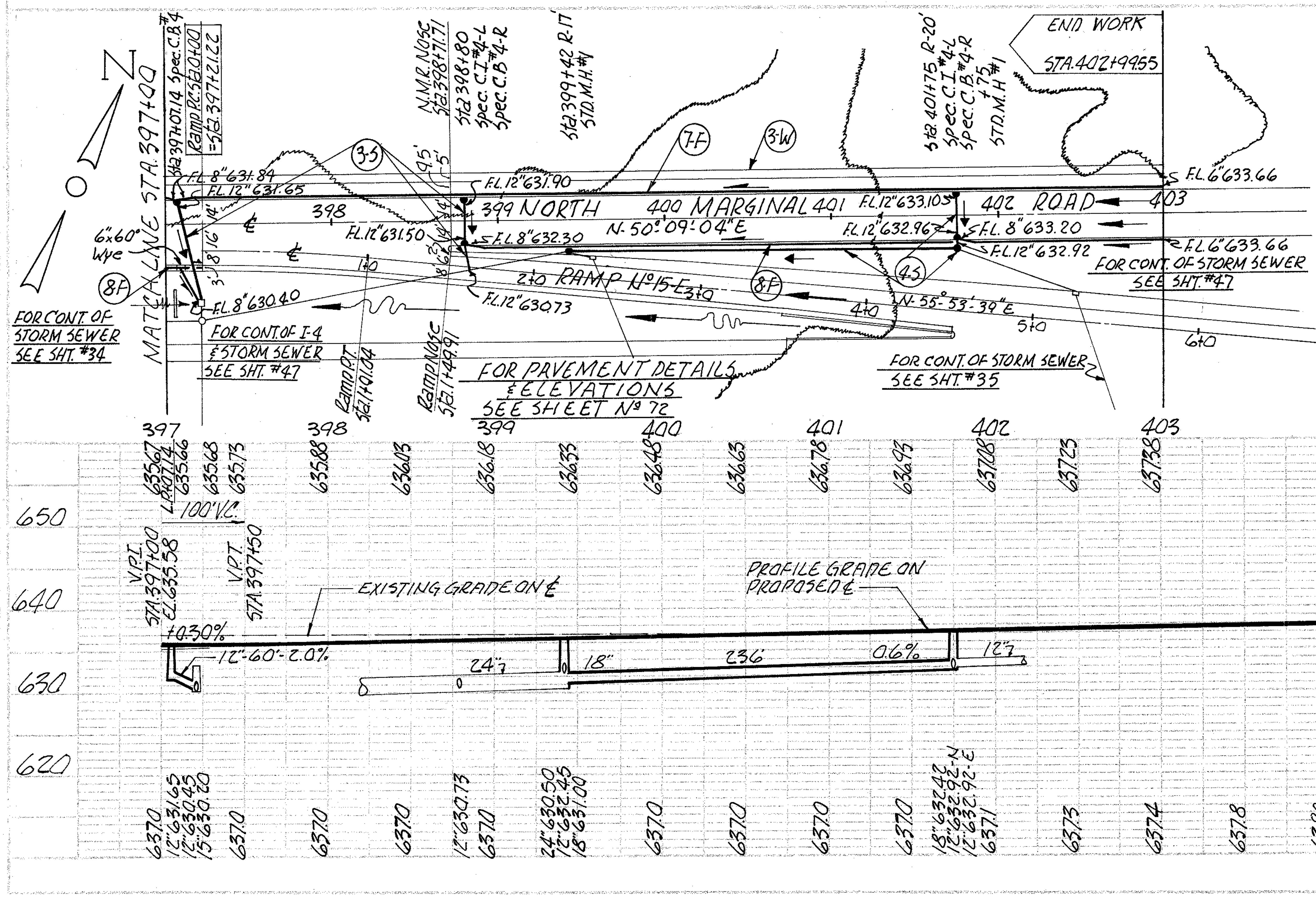
ITEM No	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	L-10 SQ. YDS. SODDING
1-B	391+13	393+14	R	16' x 1.5'	53
2-B	395+15	397+04	R	16' x 1.5'	53
TOTAL					106

I-8 MONUMENT ASSEMBLY

ITEM No	STATION	SIDE R or L	TYPE "B" EACH	RESET EACH
1-M	E. 245TH ST. 3+64.41	¢	1	
2-M	E. 248TH ST. 3+57.96	¢	1	
3-M	N.M.R. 392+87.11	¢	1	
4-M	N.M.R. 394+57.24	¢	1	
5-M	N.M.R. 395+36.17	¢	1	
SUB-TOTAL SHEET No 40			5	
SUB-TOTAL SHT. Nos 38 & 39			14	1
TOTAL THIS SHT.			19	1

STORM SEWER — ¢ = 100% CITY OF EUCLID

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 12" CLB	I-2 18" CLB	I-2 UNDER PAV'T. 15" CLB	I-2 UNDER PAV'T. 8" CLB 6.8b	I-2 UNDER PAV'T. 8" CLA 6.5b or 6.8b	I-2 UNDER PAV'T. 12" CLB	I-2 UNDER PAV'T. 39" CLB	I-5 EACH U. PAV'T. 6"x8" INCR. CLA 6.5b or 6.8b	I-5 U. PAV'T. 12"x8" TEE CLB	I-8 EACH Spec. C.B. #4	I-8 STD. M.H. #1	I-8 Spec. M.H. Type "A"	I-8 STD. M.H. #2 W/OUT DROP	I-8 Spec. C.I. #4	I-8 STD. C.B. #5	I-8 M.H. ADJ. TO GR.	I-8 M.H. REBUILT	I-16 EA. ABANDON C.B.	LOCATION OF STRUCTURE
1-S	384+00	387+39	L&R	10				18	66	168	1	1	2			1			2	2		384+25; +91; 385+70; +80; 387+23; E. 245 ST. 3+21; E. 248 ST. 3+13
2-S	391+50	393+32	L&R			55	23E	48	70		2		1		1/1E			1	1/1E		1	391+50; 392+95; 393+18; +32 E. 250 ST. 4+00; +13; +18
3-S	397+07	398+83	L&R						96				2				1					397+07; 398+80
4-S	399+42	401+75	L&R	4	232				24				1	2			1					399+42; 401+75
TOTAL				14	232	55	23E	66	256	168	3	1	6	2	1/1E	1	2	1	3/1E	2	1	



I-13 SIDEWALKS

ITEM No	STATION FROM	STATION TO	SIDE R or L	4" CONCRETE SQ. FT.
1-W	334+38.34	335+78.97	L	703.15
2-W	340+93.06	342+19.18	L	1095.15
3-W	343+54.58	345+81.32	L	1133.70
4-W	347+22.77	349+46.91	L	1120.70
5-W	350+88.23	353+63.00	L	1373.85
6-W	355+15.73	358+00.00	L	1421.35
SUB-TOTAL SHEET No 38				6847.90
1-W	358+00.00	358+50.00	L	250.00
2-W	361+13.63	363+54.34	L	1203.55
3-W	364+77.04	367+12.20	L	1175.80
4-W	368+54.03	374+44.38	L	2951.75
5-W	377+35.83	383+90.24	L	3272.05
SUB-TOTAL SHEET No 39				8853.15
1-W	385+18.70	386+84.47	L	828.85
2-W	388+09.07	392+03.16	L	1970.45
3-W	394+25.74	402+99.55	L	4369.05E
100% CITY OF EUCLID SHT. No 40				4369.05E
INTERSTATE FUNDS SHT. No 40				2799.30
TOTAL 100% CITY OF EUCLID-THIS SHT.				4369.05E
TOTAL INTERSTATE THIS SHT.				18500.35

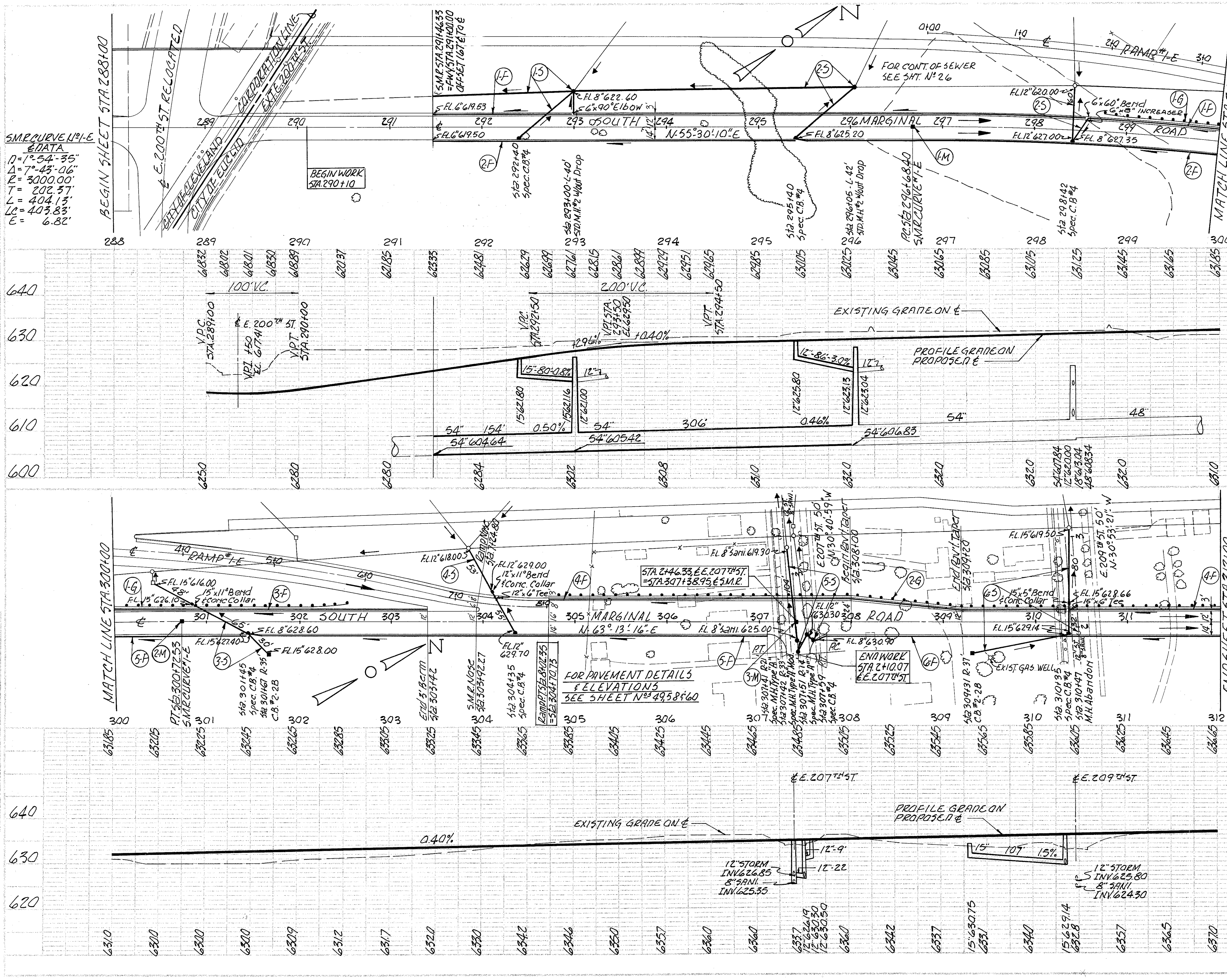
I-8 MONUMENT ASSEMBLY

ITEM No	STATION	SIDE R or L	TYPE "B" EACH	RESET EACH
1-M	N.M.R. 334+75.34	¢	1	
2-M	N.M.R. 336+07.39	¢	1	
3-M	N.M.R. 338+23.92	¢	1	
4-M	N.M.R. 339+63.83	¢	1	
5-M	E. 224TH ST. 3+75.01	¢	1	
6-M	N.M.R. 342+48.46	¢	1	
7-M	N.M.R. 346+05.08	¢	1	
8-M	N.M.R. 349+70.72	¢	1	
9-M	ARMS AVE. 3+35.53	¢		1
SUB-TOTAL SHEET No 38			8	1
1-M	N.M.R. 359+36.59	¢	1	
2-M	E. 236TH ST. 3+21.15	¢	1	
3-M	E. 237TH ST. 3+27.98	¢	1	
4-M	E. 239TH ST. 3+61.38	¢	1	
5-M	N.M.R. 380+02.43	¢	1	
6-M	N.M.R. 381+62.37	¢	1	
SUB-TOTAL SHEET No 39			6	
SUB-TOTAL SHT. Nos 38 & 39			14	1

6" UNDERDRAIN

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" U.D. SHALLOW	I-4 6" CURB U.D. SHALLOW	I-4 8" PIPE OUTLET	I-5 EACH 6"x90° ELBOW	I-5 6"x6" TEE	I-5 6"x60° WYE	I-5 6"x33° BEND	I-5 6"x45° BEND	I-5 6"x50° BEND
1-F	333+58	E. 224TH ST. 3+75	L		623	50	4			1		1
2-F	340+29	E. 225TH ST. 3+51	L		344	10		1				
3-F	343+17	E. 228TH ST. 3+78	L		346	20						
4-F	346+86	E. 230TH ST. 4+20	L		312	10	1					
5-F	350+52	353+80	L		307	20						
6-F	354+85	358+00	L		326	10						
7-F	333+15	345+00	R		1155	30						
8-F	345+00	350+00	R		478	20						
9-F	351+91	358+00	R	430		20			2			
SUB-TOTAL SHT. No 38				430	3891	190	5	1	2	1		1
1-F	358+00	E. 236TH ST. 3+21	L		235	40	1		1		1	
2-F	360+83	E. 237TH ST. 3+28	L		262	30						
3-F	364+49	E. 239TH ST. 3+60	L		304	20	1					
4-F	368+17	371+00	L		286		1					
5-F	358+00	371+00	R		1274	20		2				
6-F	371+00	375+21	L		399	20						
7-F	376+72	384+00	L		706	20						
8-F	371+00	375+40	R		365	10		1				
9-F	376+48	384+00	R		645	40						
SUB-TOTAL SHT. No 39					4476	200	3	3	1		1	
1-F	384+00	E. 245TH ST. 3+65	L		80							
2-F	384+91	E. 248TH ST. 3+56	L		216	10	1					
3-F	387+80	E. 250TH ST. 4+68	L		570	10		1				
4-F	393+77	397+00	L		324							
5-F	384+00	388+85	R		472	10						
6-F	390+45	397+00	R	655					1			
7-F	397+00	403+00	L		582	16						
8-F	397+00	403+00	R	30	398	30			1			
SUB-TOTAL SHT. No 40				685	2642	76	1	1	2			
TOTAL THIS SHT.				1115	11009	466	9	5	5	1	1	1

PLAN & PROFILE---NORTH MARGINAL ROAD STA. 384+00 TO STA. 402+99.55



GUARD RAIL

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A STANDARD DESIGN
1-G	298+75	302+53	L	378.00
2-G	304+70.73	312+00	L	729.27
TOTAL				1107.27

I-8 MONUMENT ASSEMBLY

ITEM No	STATION	SIDE R or L	TYPE "B" EACH
1-M	S.M.R. 296+68.40	℄	1
2-M	S.M.R. 300+72.53	℄	1
3-M	S.M.R. 307+38.95	℄	1
TOTAL			3

6" UNDERDRAIN

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" U.D. SHALLOW	I-4 LIN. FT. 6" CURB U.D. SHALLOW	I-4 LIN. FT. 8" PIPE OUTLET	I-5 EACH 6"x90° ELBOW	I-5 EACH 6"x60° BEND
1-F	291+46	300+00	L	868		10	1	1
2-F	291+46	300+00	R		842	10		
3-F	300+00	303+34	L	334				
4-F	304+71	312+00	L	728				
5-F	300+00	307+09	R		698	10		
6-F	307+59	312+00	R		430	10		
TOTAL				1930	1970	40	1	1

STORM SEWER

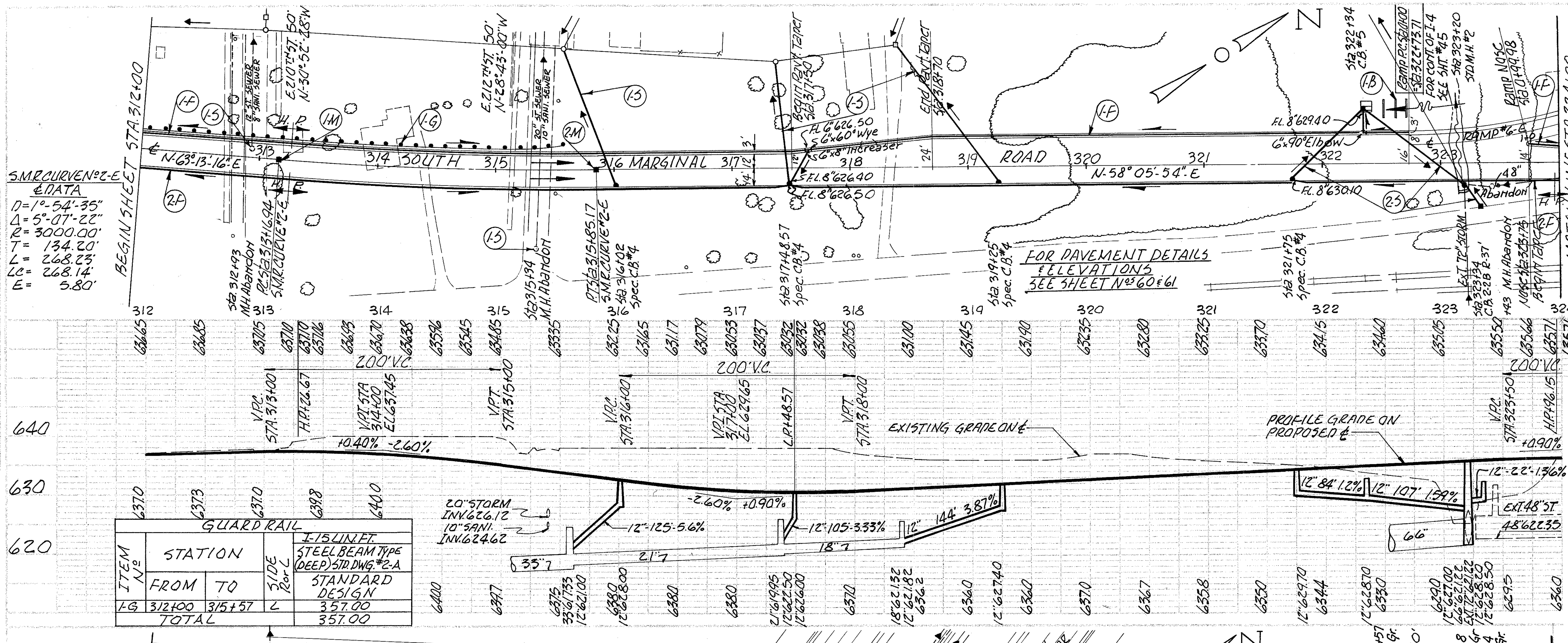
E = 100% CITY OF EUCLID

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. UNDER PAVEMENT 12" CLA 6.4c	I-2 15" CLA 6.4c	I-2 15" CLB	I-2 54" CLB 6.6c	I-2 UNDER PAVEMENT 8" CLA 6.5b or 6.8b	I-2 8" CLB 6.8b	I-2 12" CLB	I-2 15" CLB	I-5 EACH UNDER PAV'T TEE CLB 12"x6"	I-5 TEE CLB 15"x6"	I-5 6"x8" INCR. CLA 6.5b or 6.8b	I-5 BEND 6.4c-CLA 15"x11°	I-5 BEND 15"x5°	I-5 BEND 12"x11°	I-8 EACH STD. M.H. #2 W/OUT DROP	I-8 SPEC. M.H. TYPE "A"	I-8 SPEC. M.H. TYPE "A" Mod.	I-8 SPEC. C.B. #4	I-8 STD. C.B. #2-2B	I-16 EA ABANDON M.H.	LOCATION OF STRUCTURE
1-5	291+46	293+00	L&R				152				77							1			1			292+40; 293+00
2-5	293+00	298+57	L&R				302	26		140				1				1			2			295+40; 296+05; 298+42
3-5	300+47	301+67	L&R		46	28					63				1						1	1		301+45; 301+67
4-5	303+83	304+35	L&R	50						49		1					1				1			304+35
5-5	307+30	307+59	L&R		77	105			100E	24									1 / 1E	1	1			307+41; +42; +51; +59
6-5	309+31	310+47	L&R								26		1			1					1	1	1	309+31; 310+35; +47
TOTAL				50	123	133	454	26	100E	213	166	1	1	1	1	1	1	2	1 / 1E	1	7	2	1	

PLAN & PROFILE --- SOUTH MARGINAL ROAD STA. 288+00 TO STA. 312+00

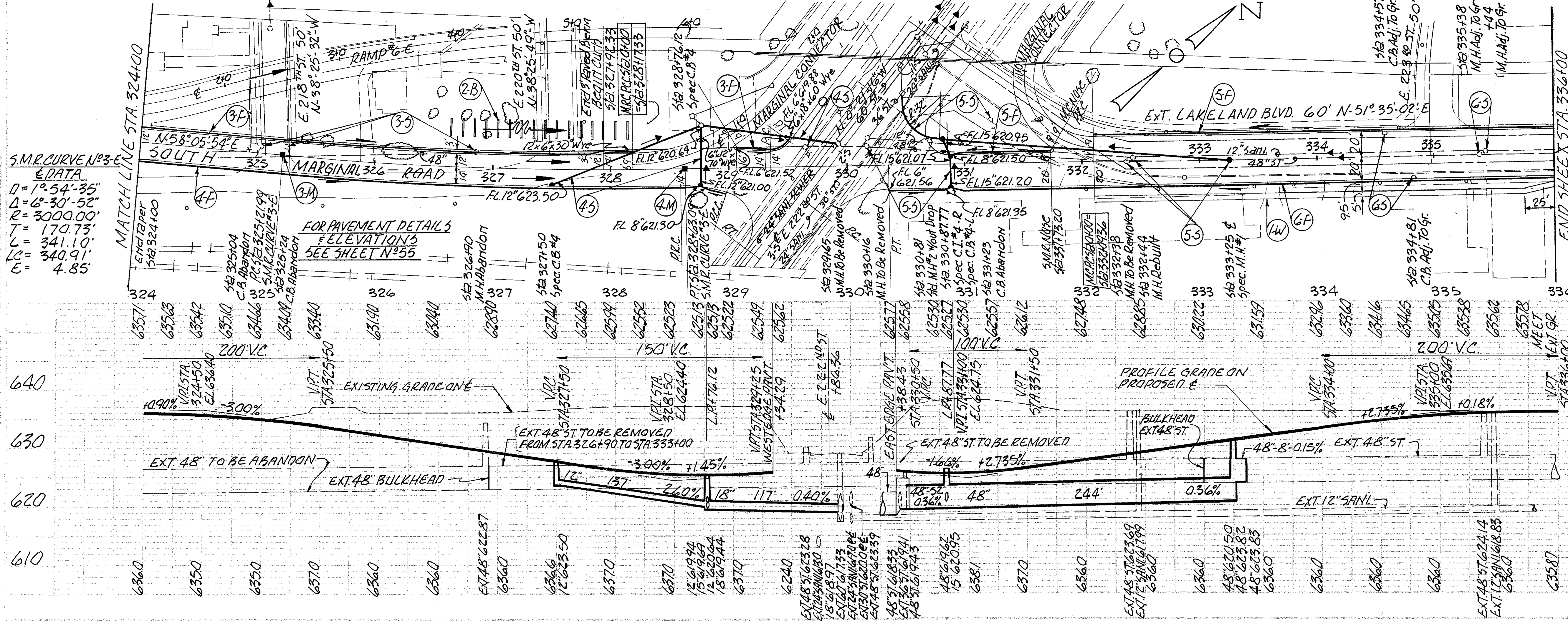
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

CUYAHOGA COUNTY
CUY-2-25.96



ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. #2-A STANDARD DESIGN
1-G	312+00	315+57	L	357.00
TOTAL				357.00

GUARD RAIL



STA. 336+00 S.M.R. =
STA. 5+67.93 EXT. LAKELAND BLVD. BACK =
STA. 335+39.04 EXT. LAKELAND BLVD. AHEAD

I-13 SIDEWALK

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	4" CONCRETE SQ. FT.
1-W	332+09.36	336+00	R	1953.20
TOTAL				1953.20

L-10 SQ. YDS.

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	SODDING
1-B	322+52	322+72	L	16'x1.5'	8
2-B	326+63	328+15	L	16'x1.5'	43
TOTAL					51

I-8 MONUMENT ASSEMBLY

ITEM Nº	STATION	SIDE R or L	TYPE "B" EACH
1-M	S.M.R. 313+16.94	℄	1
2-M	S.M.R. 315+85.17	℄	1
3-M	S.M.R. 325+21.99	℄	1
4-M	S.M.R. 328+63.09	℄	1
TOTAL			4

6" UNDERDRAIN

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" U.D. SHALLOW	I-4 LIN. FT. 6" CURB U.D. SHALLOW	I-4 LIN. FT. 8" PIPE OUTLET	I-5 EACH	I-5 EACH 6"x60° WYE	I-5 EACH 6"x90° ELBOW
1-F	312+00	324+00	L	1100		10		1	1
2-F	312+00	324+00	R		1170	30			
3-F	324+00	329+53	L	392	80				
4-F	324+00	328+96	R		478	20			
5-F	330+87	336+00	L		463	10			
6-F	330+34	336+00	R		544	20			
TOTAL				1492	2735	90		1	1

STORM SEWER

ITEM Nº	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 12" CLA	I-2 LIN. FT. 15" CLB	I-2 LIN. FT. UNDER PAVEMENT 15" CLB	UNDER PAVEMENT 8" CLA 6.5b or 6.8b	UNDER PAVEMENT 12" CLB	UNDER PAVEMENT 18" CLB	UNDER PAVEMENT 48" CLB	UNDER PAVEMENT 48" CLB PIPE, R=32' RADIUS
1-S	312+93	319+25	L&R				27	366			
2-S	321+75	323+43	L&R	19				186			
3-S	325+04	326+90	L&R								
4-S	326+90	329+95	L&R					175	109		
5-S	329+95	333+25	L&R		13	24				246	50
6-S	334+57	335+44	L&R								
TOTAL				19	13	24	27	727	109	246	50

ITEM Nº	I-5 EACH UNDER PAV'T 6"x8" INCR. CLA 6.5b or 6.8b	I-5 EACH UNDER PAV'T 12"x6"x30° WYE CLB	I-5 EACH UNDER PAV'T 12"x6"x70° WYE CLB	I-5 EACH UNDER PAV'T 18"x6"x60° WYE CLB			I-8 EACH M.H. ADJ. TO GR.	I-8 EACH M.H. REBUILT	I-8 EACH STD. M.H. #2 W/OUT DROP	I-8 EACH SPEC. M.H. #1	I-8 EACH SPEC. C.I. #4	I-8 EACH STD. C.B. #5	I-8 EACH STD. C.B. #2-2B	I-8 EACH C.B. ADJ. TO GR.	I-8 EACH SPEC. C.B. #4
1-S	1														3
2-S									1			1	1		1
3-S			1												
4-S		1		1											2
5-S								1	1	1	1				1
6-S							2							2	
TOTAL	1	1	1	1			2	1	2	1	1	1	1	2	7

ITEM Nº	E-12 L.F. PIPE REMOVAL OVER 15"	I-16 EA. ABANDON M.H.	I-16 EA. ABANDON C.B.	S-24 EA. REMOVAL M.H.	LOCATION OF STRUCTURE
1-S		2			315+34; 312+93; 316+02; 317+48; +57; 319+25
2-S		1			321+75; 322+34; 323+20; +34; +43
3-S		1	2		325+04; +24; 326+90
4-S	298			1	327+50; 328+76.12; 329+65
5-S	297		1	2	330+16; +81; +81.77; 331+23; 332+38; +44; 333+25
6-S					334+57; +81; 335+38; +44
TOTAL	595	4	3	3	

PLAN & PROFILE — SOUTH MARGINAL ROAD STA. 312+00 TO STA. 336+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

43/152

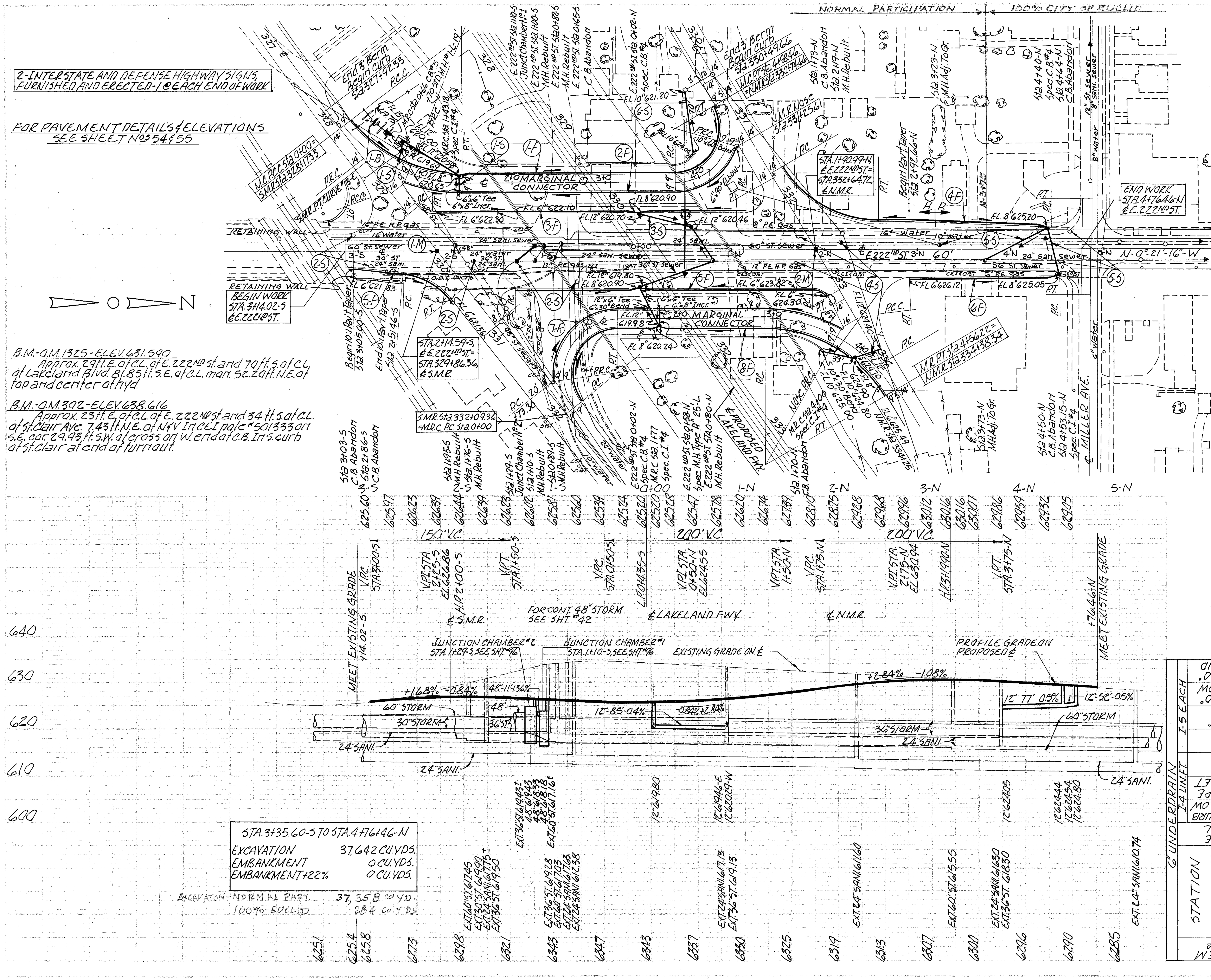
CUYAHOGA COUNTY
CUY. 2-25.96

2-INTERSTATE AND DEFENSE HIGHWAY SIGNS, FURNISHED AND ERECTED-1 @ EACH END OF WORK

FOR PAVEMENT DETAILS & ELEVATIONS SEE SHEET No S 54 & 55

B.M.-O.M.1325-ELEV.631.590
Approx. 29 ft. E. of C.L. of E. 222ND st. and 70 ft. S. of C.L. of Lakeland Blvd. 81.85 ft. S.E. of C.L. man. 52.20 ft. N.E. of top and center of hyd.

B.M.-O.M.302-ELEV.638.616
Approx. 23 ft. E. of C.L. of E. 222ND st. and 34 ft. S. of C.L. of St. Clair Ave. 7.43 ft. N.E. of N&V In CEI pole #501333 on S.E. cor. 29.93 ft. S.W. of cross on W. end of C.B. In S. curb at St. Clair at end of turnout.



STA. 3+35.60-S TO STA. 4+76+46-N	
EXCAVATION	37,642 CU. YDS.
EMBANKMENT	0 CU. YDS.
EMBANKMENT +22%	0 CU. YDS.

EXCAVATION-NORMAL PART. 37,358 CU YD.
100% EUCLID 284 CU YDS

L-10 SQ. YDS.

ITEM No	STATION FROM	STATION TO		LENGTH x WIDTH	SODDING
1-B	MARG. CONN. WEST 0+10	0+87	L	16'x1.5'	13
TOTAL					13

I-8 MONUMENT ASSEMBLY

ITEM No	STATION	SIDE R or L	TYPE "B" EACH
1-M	2+14.59-S	℄	1
2-M	1+90.99-N	℄	1
TOTAL			2

6" UNDERDRAIN

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-4 LIN.FT. 6" U.D. CURB SHALLOW	I-4 LIN.FT. 8" PIPE OUTLET		I-5 EACH	6"x6" TEE	6"x90° ELBOW	6"x30° BEND
1-F	0+06	4+98.46	L	434	20					
2-F	0+89	4+48	R	373				1	1	
3-F	2+15-S	1+18-N	L&R	310	20					
4-F	N.M.R. 331+70	E.222ND ST. 4+40-N	L	296	10					
5-F	E.222ND ST. 3+05-S	N.M.R. 333+15	L&R	426	20					
6-F	2+92-N	4+53-N	R	150	10					
7-F	0+31	3+70	L	352				1		1
8-F	0+00	4+56	R	385	30					
TOTAL				2726	110			2	1	1
NORMAL PARTICIPATION				2606	90			2	1	1
100% EUCLID				120	20					

STORM SEWER

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN.FT. 10" CLA	12" CLB	15" CLB	UNDER PAVEMENT 8" CLA 6.5b or 6.8b	UNDER PAVEMENT 12" CLB	UNDER PAVEMENT 48" CLB	I-5 EACH U.PAV'T 6"x8" INCR CLA 6.5b 6.8b	12"x6" TEE CLB	10"x30° BEND CL A	10"x60° BEND CL A	I-8 EACH SPEC. C.B. #4	SPEC. M.H. TYPE "A"	STD. C.B. #5	JUNCTION CHAMBER No1	JUNCTION CHAMBER No2	STD. M.H. #1	SPEC. C.I. #4	M.H. REBUILT	M.H. ADJ. TO GR.	I-16 EA. ABANDON C.B.	LOCATION OF STRUCTURE (* -100% CITY OF EUCLID.)
1-S	MARG. CONN. WEST 0+66	1+43	L&R		68	9	15			1						1	1	1	1	1				0+66; 0+70; 1+43.18 M.C. WEST
2-S	3+03-S	0+65-S	L&R						11												6		3	3+03-S; 2+86-S; 1+95-S; 1+76-S; 1+29-S; 1+10-S; 1+00-S; 0+89-S; 0+82-S; 0+65-S
3-S	0+02-N	0+80-N	L&R				15	217		1	1			2	1					1	1			0+02-N; 0+58-N; 0+80-N; 1+77 M.C. EAST
4-S	1+70-N	2+61-N	L&R	32				28				1								1	1		2	1+70-N; 1+73-N; 2+19-N; 4+00 M.C. EAST
5-S	3+23-N	4+64-N	L&R					124*						1*						1*		2	2*	3+23-N; 3+73-N; 4+40-N; 4+50-N; 4+53.15-N; 4+64-N
6-S	M.C. WEST 4+07	N.M.R. 330+45	L	69									1											
TOTAL				101	68	9	30	369	11	2	1	1	1	3	1	1	1	1	1	4	8	2	7	

REV. 11-21-60

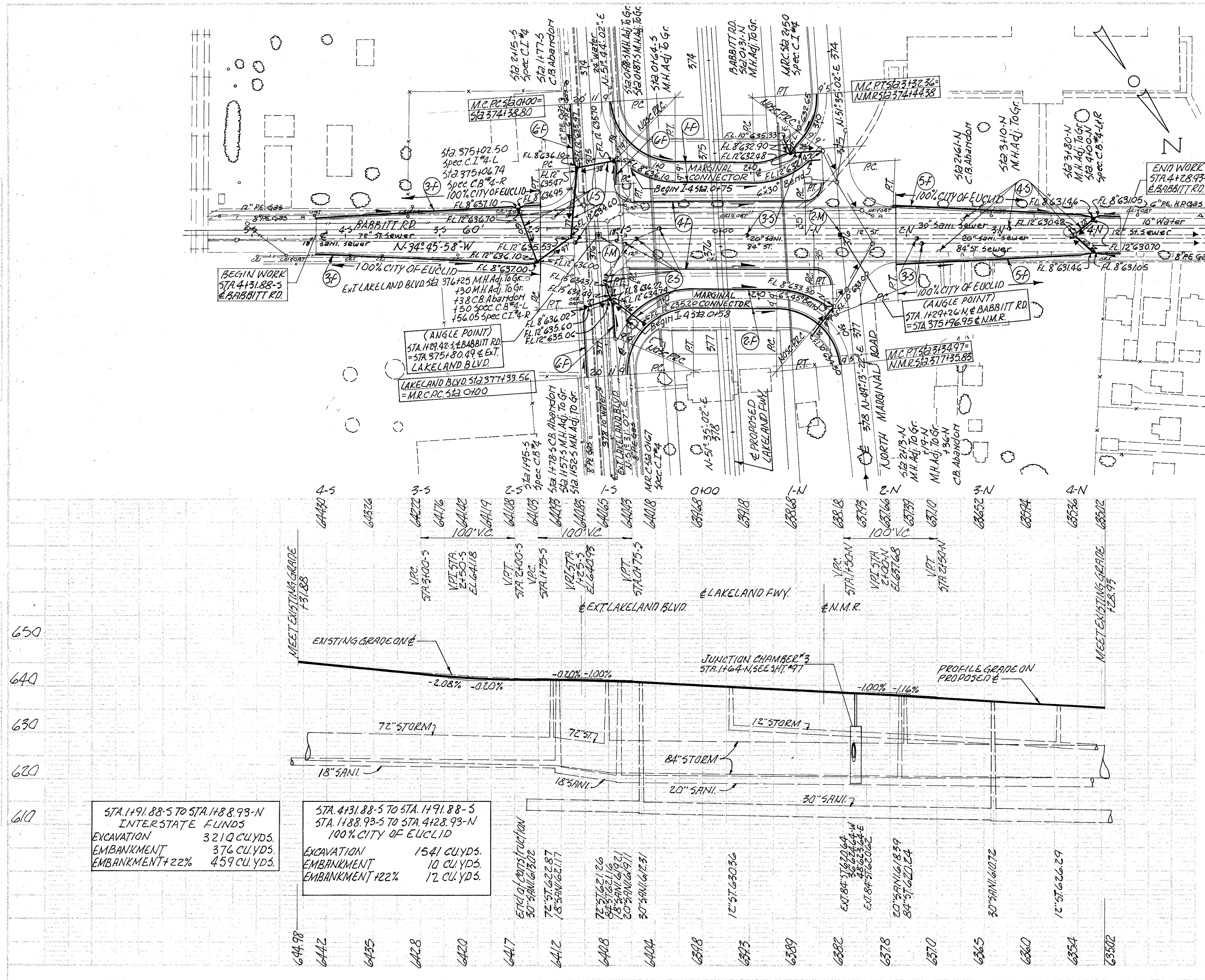
PLAN & PROFILE --- EAST 222ND STREET

CUYAHOGA COUNTY
CUY. 2-25.96

2-INTERSTATE AND DEFENSE HIGHWAY SIGNS, FURNISHED AND ERECTED-1@EACH END OF WORK

FOR PAVEMENT DETAILS & ELEVATIONS SEE SHEET NOS 56 & 57

B.M.-O.M. 1150 ELEV. 639.864
Approx. 27 ft. E. of C.L. of Babbitt Rd. and 28 ft. S. of C.L. of Lakeland Blvd. 1965 ft. W. of top and center of hyd. 37.90 ft. S.W. of C.L. man. box at C.L. Int.



STA. 1+91.88-S TO STA. 1+88.93-N INTERSTATE FUNDS	
EXCAVATION	3210 CU. YDS.
EMBANKMENT	376 CU. YDS.
EMBANKMENT +22%	459 CU. YDS.

STA. 4+31.88-S TO STA. 1+91.88-S STA. 1+88.93-S TO STA. 4+28.93-N 100% CITY OF EUCLID	
EXCAVATION	1541 CU. YDS.
EMBANKMENT	10 CU. YDS.
EMBANKMENT +22%	12 CU. YDS.

6" UNDERDRAIN

ITEM No	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" CURB U.D. SHALLOW	I-4 LIN. FT. 8" PIPE OUTLET			I-5 EACH 6"x30° BEND	I-5 EACH 6"x45° BEND
1-F	0+00	3+31	L&R	484	20			1	
2-F	0+00	3+35	L&R	530					1
3-F	1+92-S	4+32-S	L&R	444E	30E				
4-F	0+97-S	1+20-N	L&R	438					
5-F	1+86-N	4+29-N	L&R	442E	40E				
6-F	EXT. LAKELAND BLVD. 374+38.80	377+33.56	L&R	168	50				
TOTAL INTERSTATE FUND				1620	70			1	1
TOTAL 100% CITY OF EUCLID				886E	70E				

E=100% CITY OF EUCLID

I-8 MONUMENT ASSEMBLY

ITEM No	STATION	SIDE R or L	TYPE "B" EACH	RESET EACH
1-M	1+29.42-S	€		1
2-M	1+29.26-N	€	1	
TOTAL			1	1

STORM SEWER

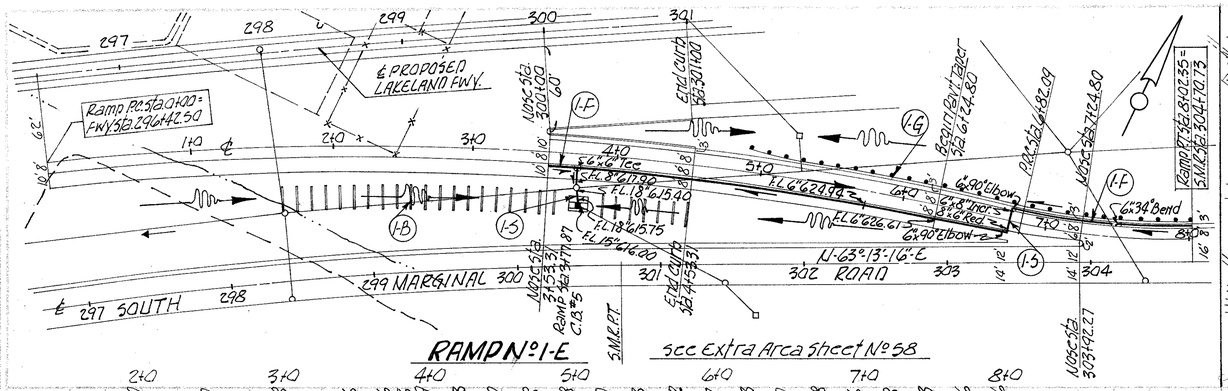
ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 10" CLA	I-2 UNDER PAVEMENT	I-2 UNDER PAVEMENT 10" CLA 6.5b or 6.8b	I-2 UNDER PAVEMENT 12" CLB	I-2 UNDER PAVEMENT 15" CLB	I-8 EACH	I-8 SPEC. C.B. #4	I-8 SPEC. C.I. #4	I-8 M.H. ADJ. TO GR.	I-16 EA. ABANDON	I-16 C.B.	LOCATION OF STRUCTURE
1-S	LAKELAND 375+06	2+15-S	L&R				154 58E			1 1E	1 1E	2		2	375+06.74; +02.50; 2+15-S; 1+95-S; 1+77-S; 1+78-S; 1+52-S; 1+57-S
2-S	1+44-S	0+84-S	L				69	15		1	2	5		1	0+64-S; 0+98-S; 376+25; +30; +38; +50; +56.05; 0+67 MRC; 0+87-S
3-S	0+31-N	2+19-N	L&R	16		37	32				1	1 2E			0+31-N; 2+13-N; 2+19-N; 2+50 M.R.C.
4-S	2+36-N	4+00-N	L&R				50E			2E		2E		2E	2+36-N; 2+61-N; 3+10-N; 3+80-N; 4+00-N
TOTAL INTERSTATE FUND				16		37	255	15		2	4	8		3	
TOTAL 100% CITY OF EUCLID							108E			3E	1E	4E		2E	

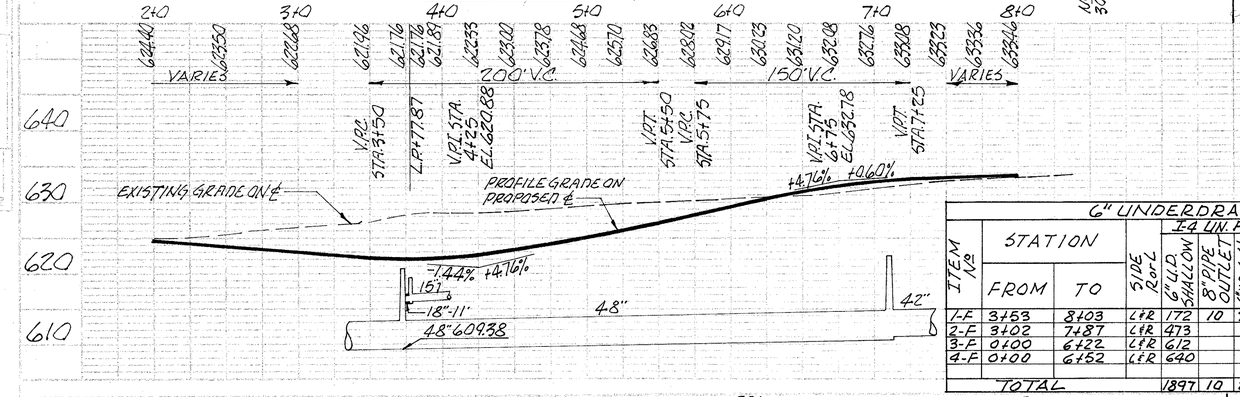
PLAN & PROFILE --- BABBITT ROAD

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

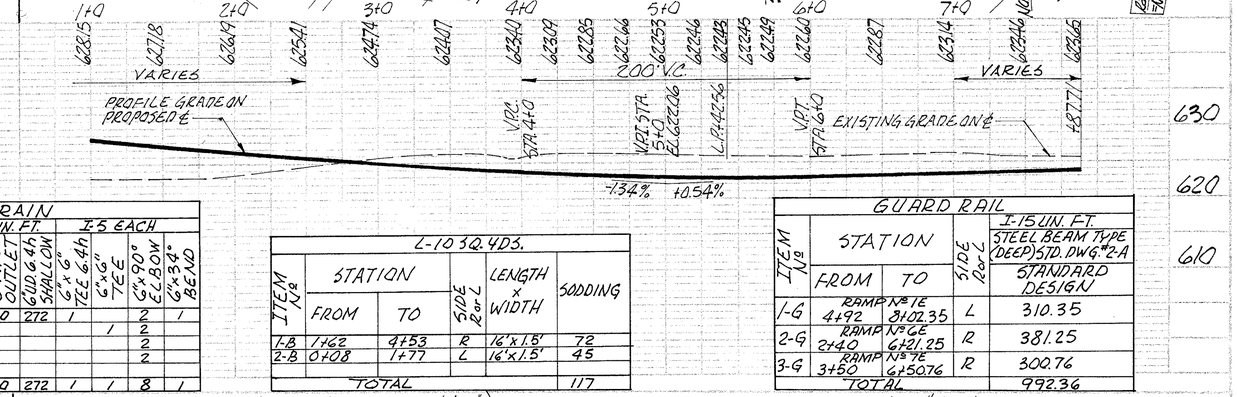
CUYAHOGA COUNTY
CUY. 2-25.96

45/152



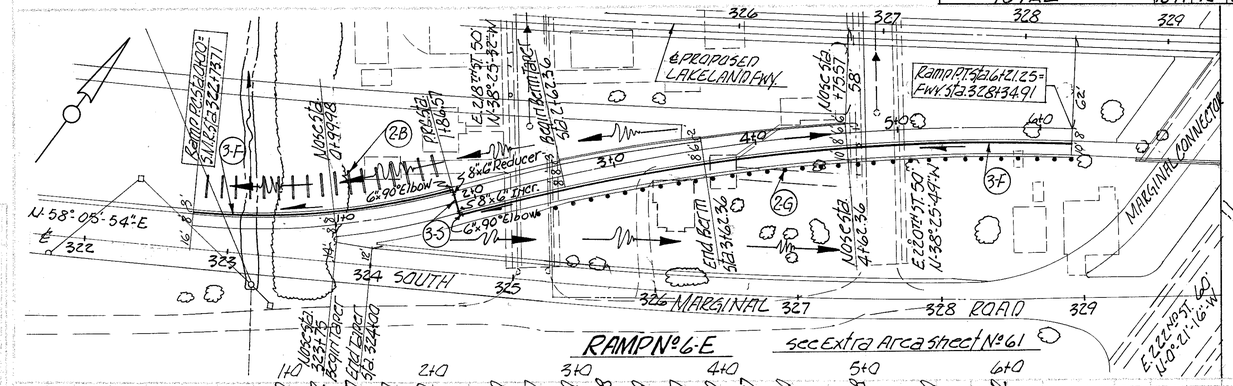


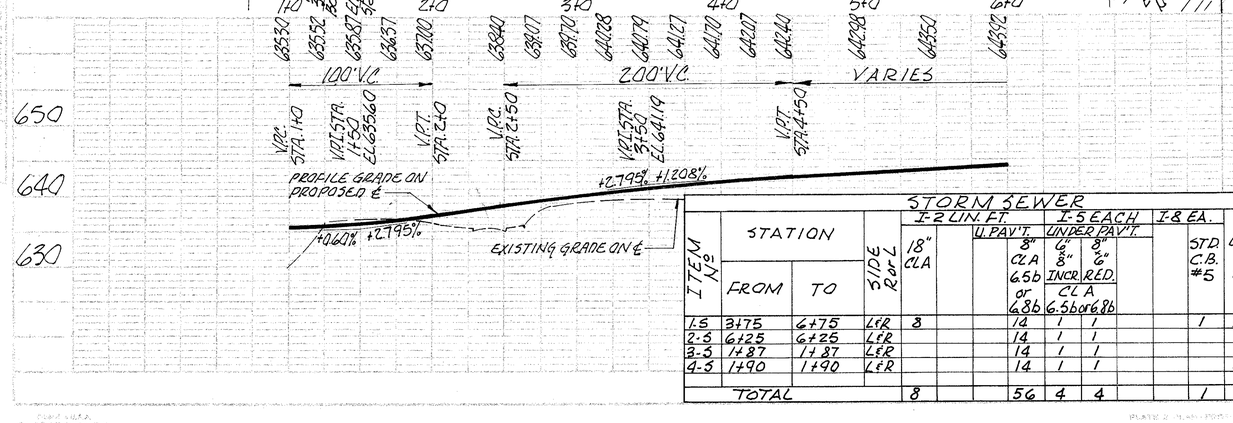
6" UNDERDRAIN											
ITEM No	STATION FROM	STATION TO	SIDE R or L	I-4 LIN. FT. 6" UD SHALLOW	I-4 LIN. FT. 8" PIPE OUTLET	I-4 LIN. FT. 6" UD 6 ft. SHALLOW	I-5 EACH 6"x6" TEE 6 ft.	I-5 EACH 6"x6" TEE	I-5 EACH 6"x90° EL. ELBOW	I-5 EACH 6"x34° BEND
1-F	3+53	8+03	L&R	172	10	272	1		2	1
2-F	3+02	7+87	L&R	473				1	2	
3-F	0+00	6+22	L&R	612					2	
4-F	0+00	6+52	L&R	640					2	
TOTAL				1897	10	272	1	1	8	1



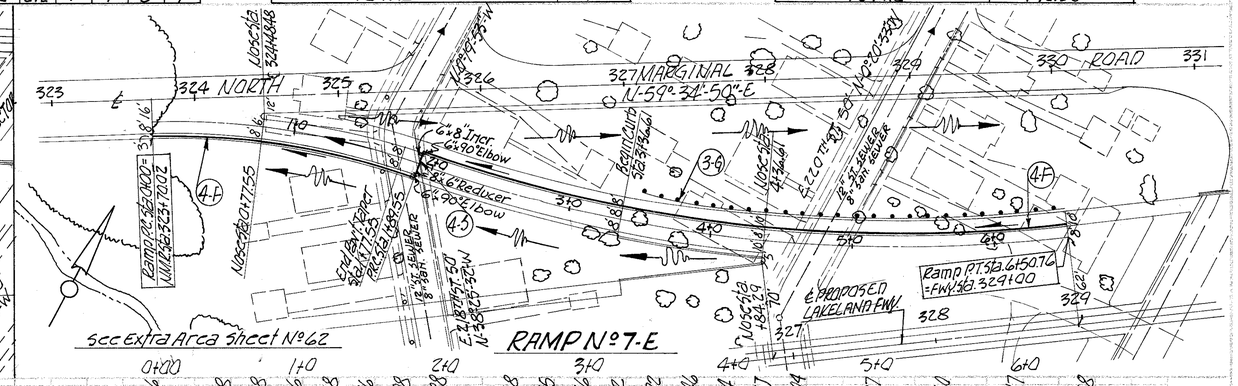
L-10 3Q.4D3.					
ITEM No	STATION FROM	STATION TO	SIDE R or L	LENGTH x WIDTH	SODDING
1-B	1+62	4+53	R	16'x1.5'	72
2-B	0+08	1+77	L	16'x1.5'	45
TOTAL					117

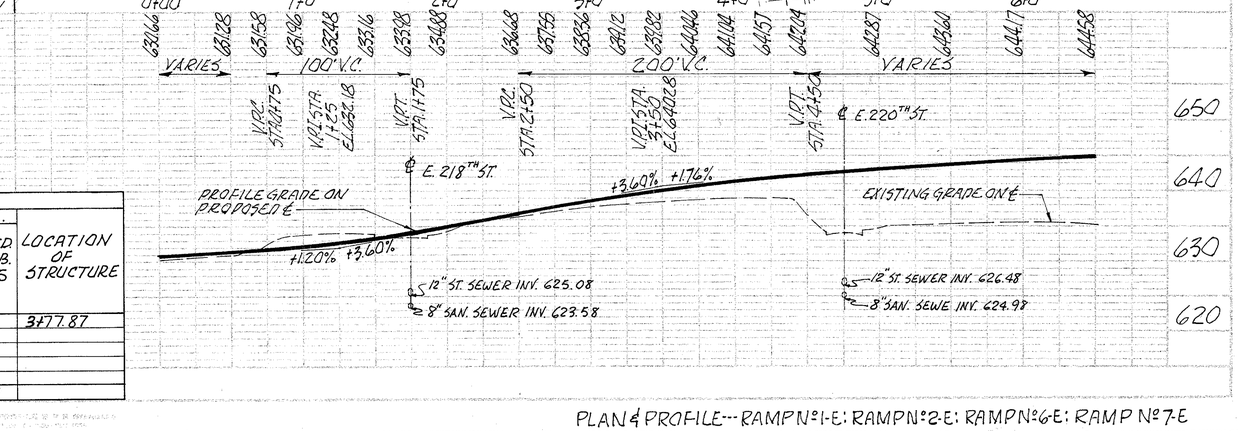
GUARD RAIL				
ITEM No	STATION FROM	STATION TO	SIDE R or L	I-15 LIN. FT. STEEL BEAM TYPE (DEEP) STD. DWG. MT-2-A STANDARD DESIGN
1-G	RAMP No 1E 4+92	RAMP No 1E 3+02.35	L	310.35
2-G	RAMP No 2E 2+40	RAMP No 2E 6+21.25	R	381.25
3-G	RAMP No 7E 3+50	RAMP No 7E 6+50.76	R	300.76
TOTAL				992.36





STORM SEWER												
ITEM No	STATION FROM	STATION TO	SIDE R or L	I-2 LIN. FT. 18" CLA	I-2 LIN. FT. U. PAV'T.	I-2 LIN. FT. U. PAV'T.	I-5 EACH UNDER PAV'T. 8" CL A 6.5b or 6.8b	I-5 EACH UNDER PAV'T. 6" 8" INCR CL A 6.5b or 6.8b	I-5 EACH UNDER PAV'T. 8" 6" RED. CL A 6.5b or 6.8b	I-8 EA.	I-8 EA.	LOCATION OF STRUCTURE
											STD C.B. #5	
1-S	3+75	6+75	L&R	8			14	1	1		1	3+77.87
2-S	6+25	6+25	L&R				14	1	1			
3-S	1+87	1+87	L&R				14	1	1			
4-S	1+90	1+90	L&R				14	1	1			
TOTAL				8			56	4	4		1	





PLAN & PROFILE --- RAMP No 1-E: RAMP No 2-E: RAMP No 6-E: RAMP No 7-E

PLAN & PROFILE---RAMP Nº 8-E: RAMP Nº 9-E: RAMP Nº 10-E: RAMP Nº 11-E

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

47/52

CUYAHOGA COUNTY
CUY. 2-25.96

RAMP Nº12-E

RAMP Nº13-E

RAMP Nº14-E

RAMP Nº15-E

ITEM	STATION FROM	STATION TO	SIDE	LENGTH × WIDTH	SODDING
1-B	0+04	5+37	LER	16'x15'	101
2-B	0+18	3+58	R	16'x1.5' 10'x10'	51 11
TOTAL					163

C-10 SQ. YDS.

NOTE: FOR QUANTITIES OF I-2 STORM SEWER AND I-4-6" UNDERDRAINS, SEE SHT. Nº 35.

NOTE: 6" Underdrain along Lakeland Blvd. between Sta 398+30 - 399+17 and 399+73 - 401+00 located not in a standard alignment to avoid interference with existing electric subway conduit.

PLAN & PROFILE — RAMP Nº12-E; RAMP Nº13-E; RAMP Nº14-E; RAMP Nº15-E

R-13

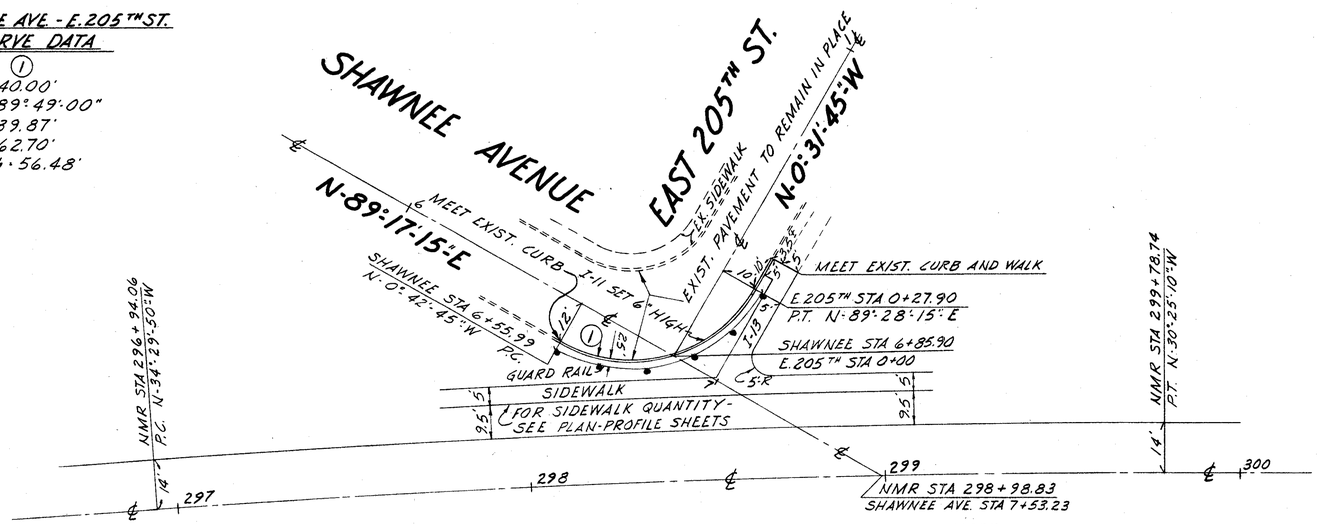
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

48
152

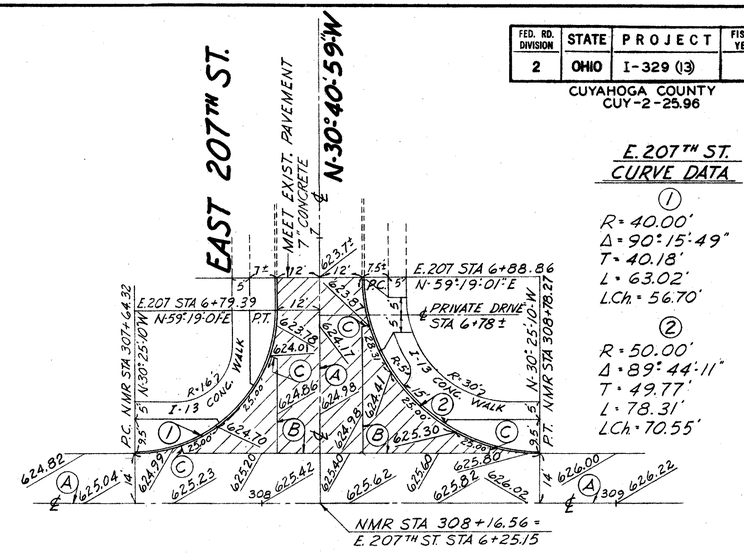
CUYAHOGA COUNTY
CUY-2-25.96

SHAWNEE AVE. - E.205TH ST. CURVE DATA

①
R = 40.00'
Δ = 89° 49' 00"
T = 39.87'
L = 62.70'
LCh = 56.48'



NORTH MARGINAL ROAD D=1°-25'-57"



E.207TH ST. CURVE DATA

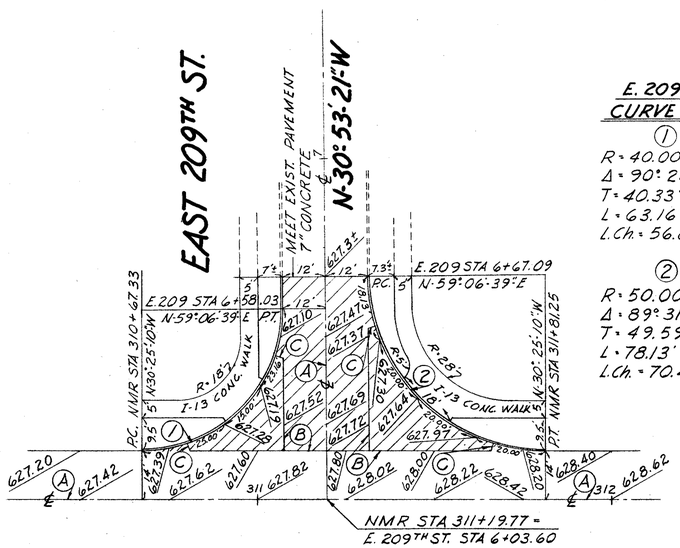
①
R = 40.00'
Δ = 90° 15' 49"
T = 40.18'
L = 63.02'
LCh = 56.70'

②
R = 50.00'
Δ = 89° 44' 11"
T = 49.77'
L = 78.31'
LCh = 70.55'

NORTH MARGINAL ROAD N-59°-34'-50"-E

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 LIN. FT. SANDSTONE CURB		I-13 SQ. FT. CONCRETE SIDEWALK	I-22 CU.YD. SUB-BASE GRADING AORB	T-70 SQ.YD. PORTLAND CEMENT CONCRETE PAVT.	T-71 SQ.YD. PORTLAND CEMENT CONCRETE PAVT.
	STRAIGHT	RADIAL	4"		6"	9" REINF.
E. 205TH ST. - SHAWNEE	10.0	62.70	228.00	—	—	—
E. 207TH ST. - NMR	9.0	141.33	692.00	40.39	16.44	231.11
E. 209TH ST. - NMR	9.0	141.29	800.00	38.19	—	228.89
E. 210TH ST. - NMR	9.0	141.29	756.00	40.31	15.11	231.56
TOTALS THIS SHEET	37.0	486.61	2,476.00	118.89	31.55	691.56

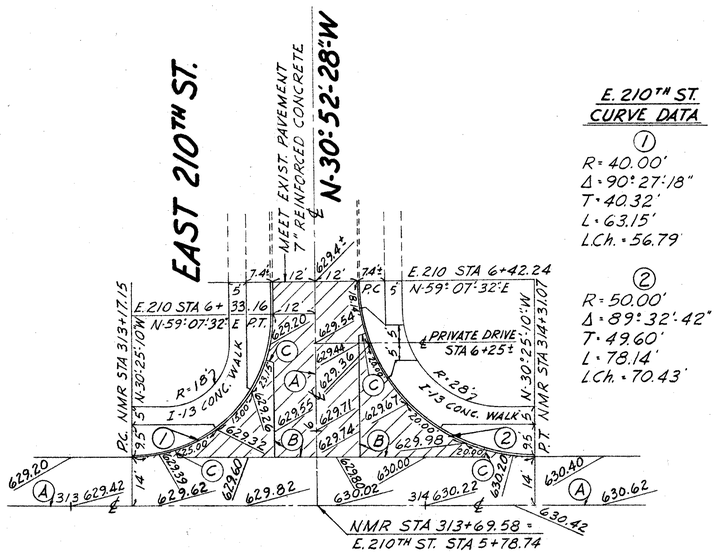


E.209TH ST. CURVE DATA

①
R = 40.00'
Δ = 90° 28' 11"
T = 40.33'
L = 63.16'
LCh = 56.80'

②
R = 50.00'
Δ = 89° 31' 49"
T = 49.59'
L = 78.13'
LCh = 70.42'

NORTH MARGINAL ROAD N-59°-34'-50"-E



E.210TH ST. CURVE DATA

①
R = 40.00'
Δ = 90° 27' 18"
T = 40.32'
L = 63.15'
LCh = 56.79'

②
R = 50.00'
Δ = 89° 32' 42"
T = 49.60'
L = 78.14'
LCh = 70.43'

NORTH MARGINAL ROAD N-59°-34'-50"-E

LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- NEW PAVEMENT (T-71 CONC.)

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.
2. NEW DRIVEWAY APRONS SHALL MEET THE GRADE OF EXISTING DRIVEWAYS AT BACK OF APRONS.

REVISED 9-20-60 RRR

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

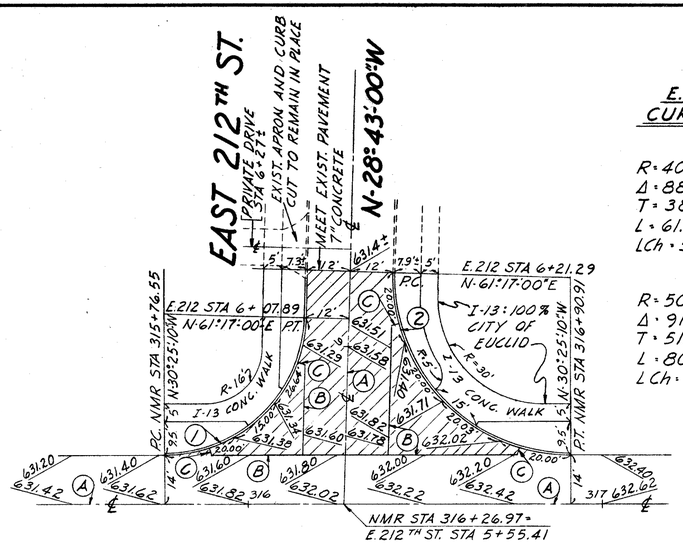
INTERSECTION OF
SHAWNEE AVE. & E. 205TH ST.
NMR & E. 207TH ST.
NMR & E. 209TH ST.
NMR & E. 210TH ST.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

49
152

CUYAHOGA COUNTY
CUY-2-25.96

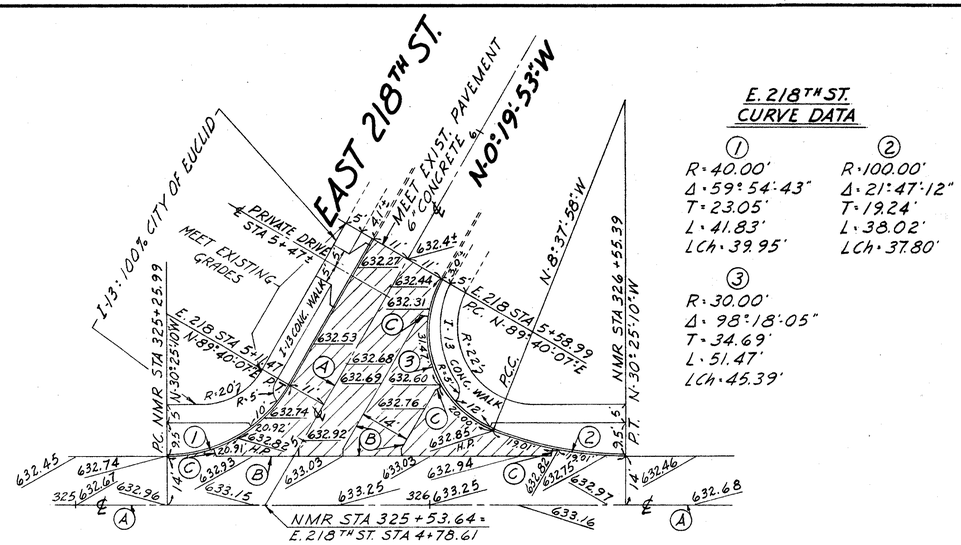


E. 212TH ST. CURVE DATA

(1)
R = 40.00'
Δ = 88°-17'-50"
T = 38.83'
L = 61.64'
LCh = 55.72'

(2)
R = 50.00'
Δ = 91°-42'-10"
T = 51.51'
L = 80.03'
LCh = 71.75'

NORTH MARGINAL ROAD N-59°-34'-50"E



E. 218TH ST. CURVE DATA

(1)
R = 40.00'
Δ = 59°-54'-43"
T = 23.05'
L = 41.83'
LCh = 39.95'

(2)
R = 100.00'
Δ = 21°-47'-12"
T = 19.24'
L = 38.02'
LCh = 37.80'

(3)
R = 30.00'
Δ = 98°-18'-05"
T = 34.69'
L = 51.47'
LCh = 45.39'

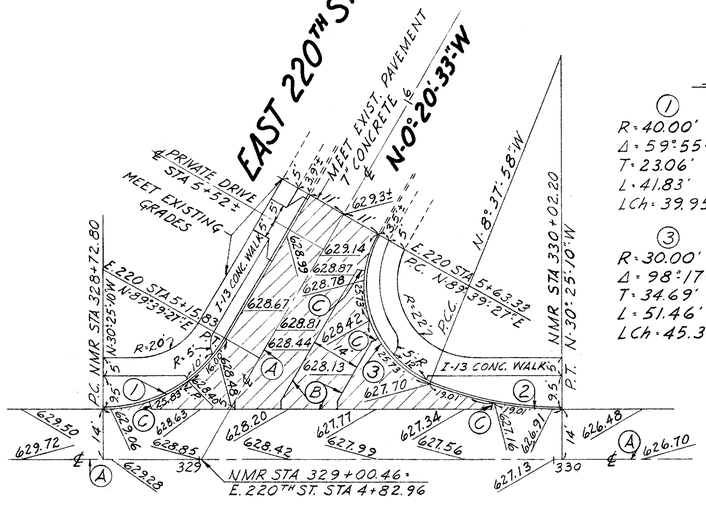
NORTH MARGINAL ROAD N-59°-34'-50"E

NOTE:
The construction of proposed intersection for East 214th Street will in general be the same as shown above for East 212th Street.
Exact location and elevations will be furnished at the time of construction, and quantities will be determined by final measurement.
See Sheet 37.

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 LIN. FT. SANDSTONE CURB		I-13 SQ. FT. CONCRETE SIDEWALK	I-22 CU. YD. SUB-BASE GRADING A OR B	T-70 SQ. YD. PORTLAND CEMENT CONCRETE PAVT.	T-71 SQ. YD. PORTLAND CEMENT CONCRETE PAVT.
	STRAIGHT	RADIAL	4"		6"	9" REINF.
E. 212TH ST. - NMR	11.00	141.67	392.0 / *440.0	39.75	—	238.22
E. 218TH ST. - NMR	85.54	93.30	440.0 / *422.0	46.81	12.44	270.22
E. 220TH ST. - NMR	85.52	93.29	870.0	46.58	11.11	269.78
E. 207TH ST. - SMR	13.50	62.83	—	13.25	—	79.11
E. 214TH ST. - N.M.R.	11.00	141.67	*262.0 ☒	39.75	—	238.22
TOTAL INTERSTATE	206.56	532.76	1702	186.14	23.55	1,095.55
*TOTAL 100% EUCLID			1124			

☒ Add to plan quantity (Sheet 37) to provide sidewalk for proposed intersection of East 214th Street.



E. 220TH ST. CURVE DATA

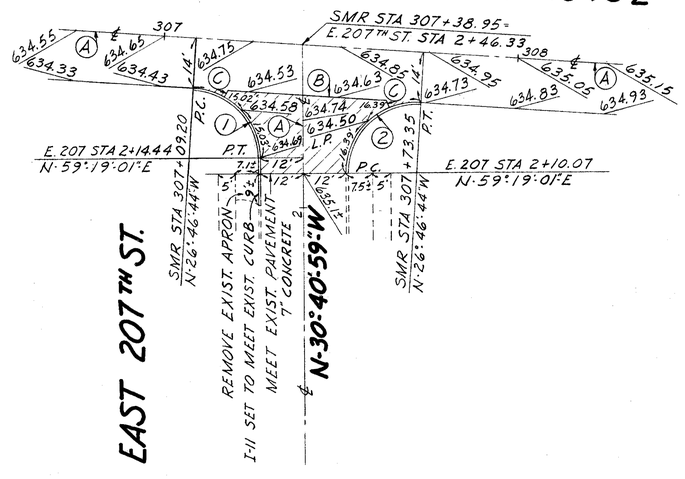
(1)
R = 40.00'
Δ = 59°-55'-23"
T = 23.06'
L = 41.83'
LCh = 39.95'

(2)
R = 100.00'
Δ = 21°-47'-12"
T = 19.24'
L = 38.02'
LCh = 37.80'

(3)
R = 30.00'
Δ = 98°-17'-25"
T = 34.69'
L = 51.46'
LCh = 45.38'

NORTH MARGINAL ROAD N-59°-34'-50"E

SOUTH MARGINAL ROAD N-63°-13'-16"E



E. 207TH ST. CURVE DATA

(1)
R = 20.00'
Δ = 86°-05'-45"
T = 18.68'
L = 30.05'
LCh = 27.30'

(2)
R = 20.00'
Δ = 93°-54'-15"
T = 21.41'
L = 32.78'
LCh = 29.23'

LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- NEW PAVEMENT (T-71 CONCRETE)

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.
2. NEW DRIVEWAY APRONS SHALL MEET THE GRADE OF EXISTING DRIVEWAYS AT BACK OF APRONS.

REVISED 9-10-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

INTERSECTION OF
NMR & E. 212TH STREET
NMR & E. 218TH STREET
NMR & E. 220TH STREET
SMR & E. 207TH STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

50/152

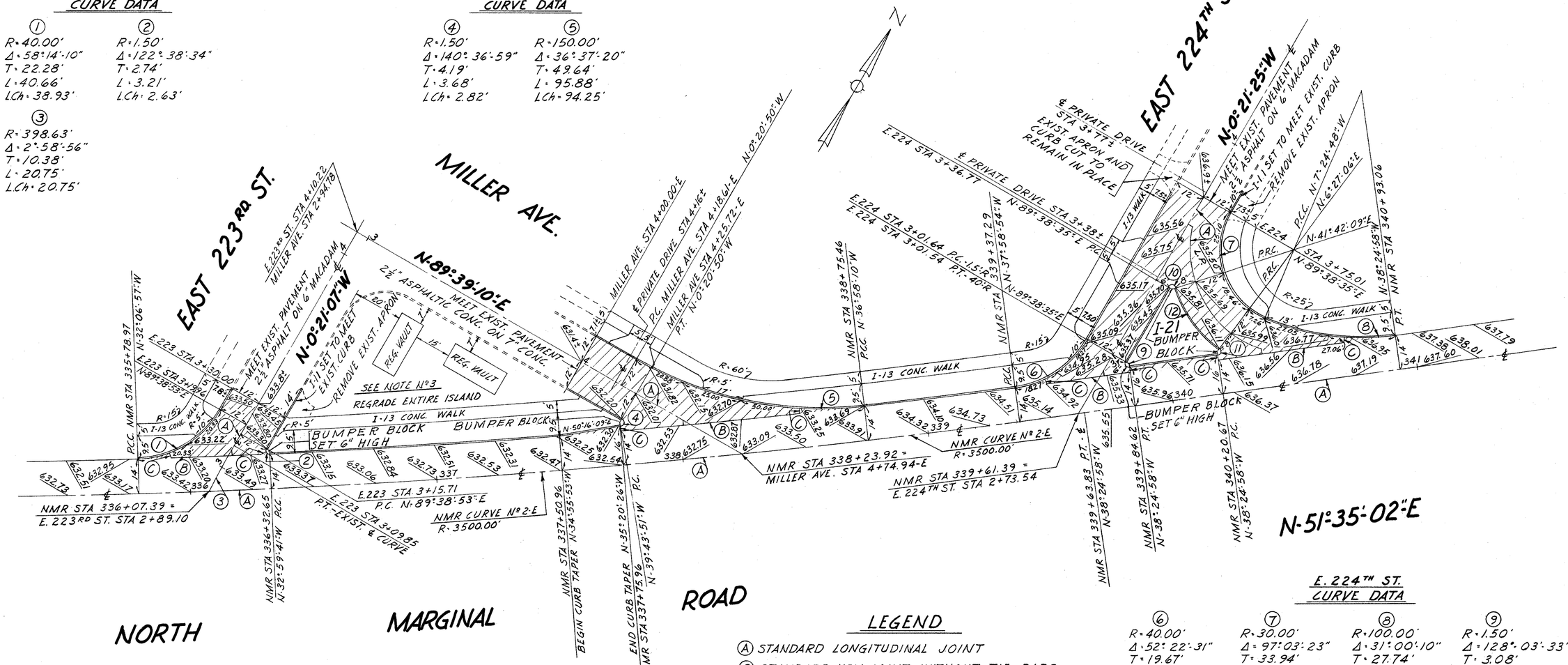
E.223RD ST. CURVE DATA

①	②
R = 40.00'	R = 1.50'
Δ = 58° 14' 10"	Δ = 122° 38' 34"
T = 22.28'	T = 2.74'
L = 40.66'	L = 3.21'
LCh = 38.93'	LCh = 2.63'

③
R = 398.63'
Δ = 2° 58' 56"
T = 10.38'
L = 20.75'
LCh = 20.75'

MILLER AVE. CURVE DATA

④	⑤
R = 1.50'	R = 150.00'
Δ = 140° 36' 59"	Δ = 36° 37' 20"
T = 4.19'	T = 49.64'
L = 3.68'	L = 95.88'
LCh = 2.82'	LCh = 94.25'



E.224TH ST. CURVE DATA

⑥	⑦	⑧	⑨
R = 40.00'	R = 30.00'	R = 100.00'	R = 1.50'
Δ = 52° 22' 31"	Δ = 97° 03' 23"	Δ = 31° 00' 10"	Δ = 128° 03' 33"
T = 19.67'	T = 33.94'	T = 27.74'	T = 3.08'
L = 36.54'	L = 50.82'	L = 54.11'	L = 3.35'
LCh = 35.30'	LCh = 44.96'	LCh = 53.45'	LCh = 2.70'

⑩	⑪	⑫
R = 1.50'	R = 1.50'	R = 50.00'
Δ = 132° 03' 34"	Δ = 135° 07' 56"	Δ = 35° 15' 03"
T = 3.37'	T = 3.63'	T = 15.89'
L = 3.46'	L = 3.54'	L = 30.76'
LCh = 2.74'	LCh = 2.77'	LCh = 30.28'

LEGEND

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

▨ NEW PAVEMENT (T-71 CONCRETE)

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.
2. NEW DRIVEWAY APRONS SHALL MEET THE GRADE OF EXISTING DRIVEWAYS AT BACK OF APRONS.
3. EXISTING DRIVEWAYS, SIDEWALKS, AND MISCELLANEOUS SLABS SHALL BE REMOVED WITHIN THE CURB LIMITS OF THE ISLAND AND SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM E-1.

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 EACH	I-11 LIN. FT.		I-13 SQ. FT.	I-21 SQ. YD.	I-22 CU. YD.	T-70 SQ. YD.	T-71 SQ. YD.
	BUMPER BLOCK	SANDSTONE CURB		CONCRETE SIDEWALK	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A or B	PORTLAND CEMENT CONCRETE PAV'T.	
		STRAIGHT	RADIAL	4"	4"		6"	9" REINF.
NORTH MARGINAL ROAD	—	180.14	—	874.15	—	.83	—	—
E. 223RD ST. - NMR	1	38.33	40.66	296.00	—	12.37	—	73.78
MILLER AVE. - NMR	1	165.21	—	636.00	—	30.84	16.00	169.78
E. 224TH ST. - NMR	3	203.29	118.12	1,008.00	62.22	89.23	18.22	341.33
TOTALS THIS SHEET	5	586.97	158.78	2,814.15	62.22	133.27	34.22	584.89

REVISED 9-20-60 REC.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

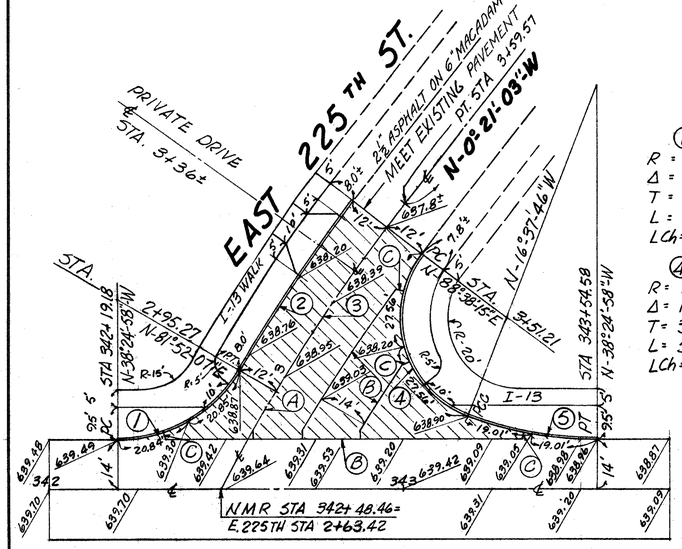
INTERSECTION OF NORTH MARGINAL ROAD & E.223RD ST., MILLER AVE. AND E.224TH ST.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

51
152

CUYAHOGA COUNTY
CUY-2-25.96

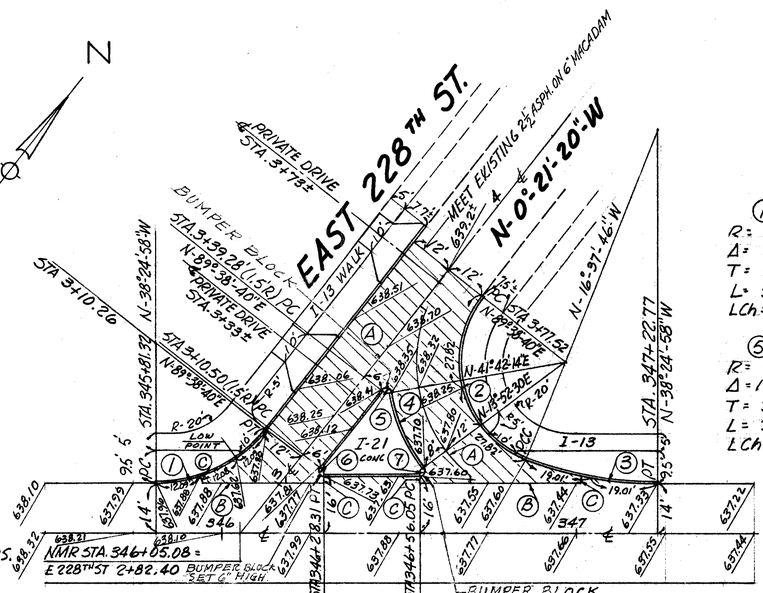


E. 225 TH. ST.
CURVE DATA

① R = 40.00'	② R = 485.53'	③ R = 473.53'
Δ = 59°-42'-55"	Δ = 6°-46'-08"	Δ = 10°-37'-21"
T = 22.96'	T = 28.71'	T = 44.02'
L = 41.69'	L = 57.36'	L = 87.79'
LCh = 39.83	LCh = 57.33'	LCh = 87.67'
④ R = 30.00'	⑤ R = 100.00'	
Δ = 105°-16'-01"	Δ = 21°-47'-12"	
T = 39.28'	T = 19.24'	
L = 55.12'	L = 38.02'	
LCh = 47.69'	LCh = 37.80'	

LEGEND

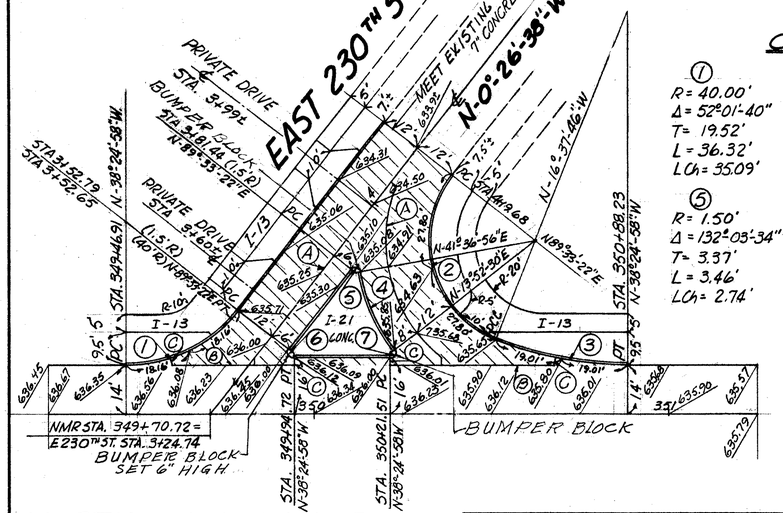
- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.
- NEW PAVEMENT (T-71 CONCRETE)



E 228TH ST.
CURVE DATA

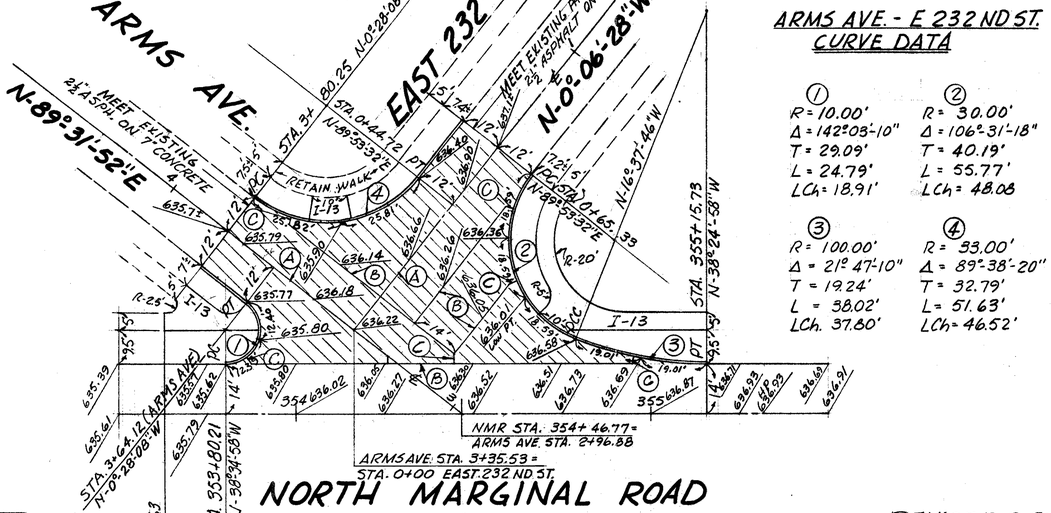
① R = 40.00'	② R = 30.00'	③ R = 100.00'	④ R = 50.00'
Δ = 51°-56'-22"	Δ = 106°-16'-26"	Δ = 21°-47'-12"	Δ = 27°-49'-44"
T = 19.48'	T = 40.01'	T = 19.24'	T = 12.39'
L = 36.26'	L = 55.64'	L = 38.02'	L = 24.29'
LCh = 35.03'	LCh = 48.00'	LCh = 37.80'	LCh = 24.05'
⑤ R = 1.50'	⑥ R = 1.50'	⑦ R = 1.50'	
Δ = 132°-03'-34"	Δ = 128°-03'-38"	Δ = 127°-42'-32"	
T = 3.37'	T = 3.08'	T = 3.06'	
L = 3.46'	L = 3.35'	L = 3.34'	
LCh = 2.74'	LCh = 2.70'	LCh = 2.69'	

NOTE: ALL ELEVATIONS ARE TO TOP OF FINISHED PAVEMENT. NEW DRIVEWAY APRONS SHALL MEET GRADE OF EXISTING DRIVEWAYS AT BACK OF APRONS.



E 230 TH ST.
CURVE DATA

① R = 40.00'	② R = 30.00'	③ R = 100.00'	④ R = 50.00'
Δ = 52°01'-40"	Δ = 106°-11'-08"	Δ = 21°-47'-12"	Δ = 27°-44'-26"
T = 19.52'	T = 39.95'	T = 19.24'	T = 12.35'
L = 36.32'	L = 55.60'	L = 38.02'	L = 24.21'
LCh = 35.09'	LCh = 47.98'	LCh = 37.80'	LCh = 23.97'
⑤ R = 1.50'	⑥ R = 1.50'	⑦ R = 1.50'	
Δ = 132°-03'-34"	Δ = 127°-58'-20"	Δ = 127°-42'-32"	
T = 3.37'	T = 3.07'	T = 3.06'	
L = 3.46'	L = 3.35'	L = 3.34'	
LCh = 2.74'	LCh = 2.70'	LCh = 2.69'	



ARMS AVE. - E 232 ND ST.
CURVE DATA

① R = 10.00'	② R = 30.00'		
Δ = 142°08'-10"	Δ = 106°-31'-18"		
T = 29.09'	T = 40.19'		
L = 24.79'	L = 55.77'		
LCh = 18.91'	LCh = 48.08		
③ R = 100.00'	④ R = 53.00'		
Δ = 21° 47'-10"	Δ = 89°-38'-20"		
T = 19.24'	T = 32.79'		
L = 38.02'	L = 51.63'		
LCh. 37.80'	LCh = 46.52'		

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 EACH	I-11 LIN. FT.		I-13 SQ. FT.	I-21 SQ. YD.	I-22 CU. YD.	T-70 SQ. YD.	T-71 SQ. YD.
	BUMPER BLOCK	SANDSTONE CURB		CONCRETE SIDEWALK	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	PORTLAND CEMENT CONCRETE PAV'T.	
		STRAIGHT	RADIAL	4"	4"		6"	9" REINF.
E. 225 TH ST. - NMR	—	95.38	96.81	968.0	—	55.90	20.44	319.11
E. 228 TH ST. - NMR	3	167.54	116.19	908.0	40.00	73.96	38.67	300.00
E. 230 TH ST. - NMR	3	160.49	116.13	917.0	40.00	73.36	35.56	298.67
ARMS AVE.-E. 232 ND ST.-NMR	—	74.76	132.19	736.0	—	78.49	—	468.89
TOTALS THIS SHEET	6	498.17	461.32	3,529.0	80.00	281.71	94.67	1,386.67

REVISED 9-20-60 REC.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

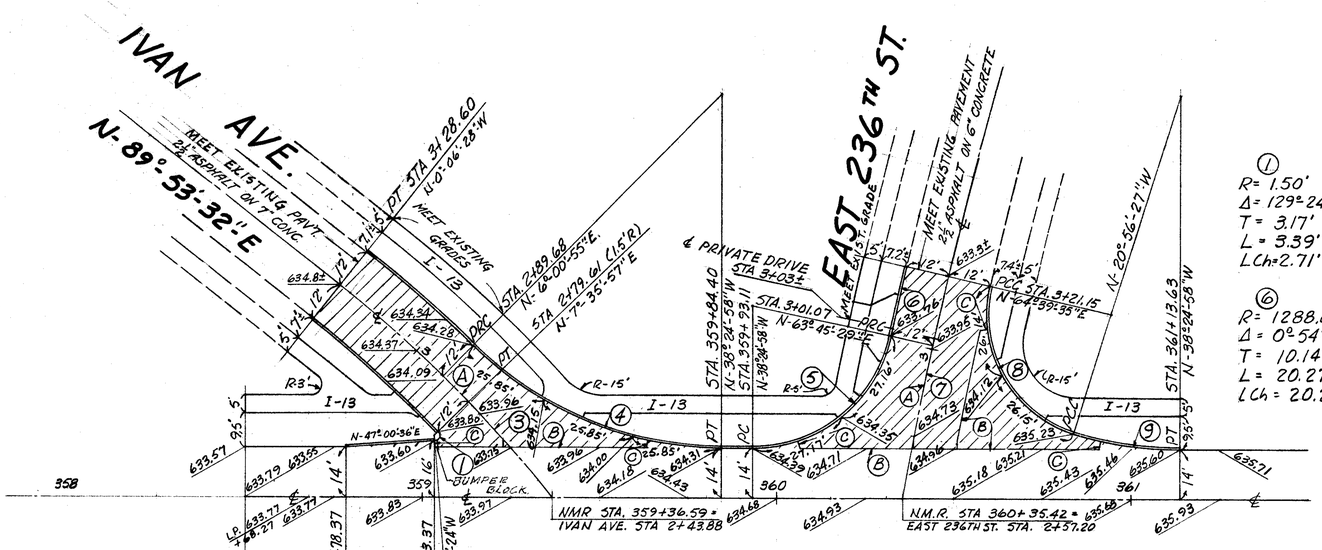
INTERSECTION OF NORTH MARGINAL ROAD AND E. 225 TH ST., E. 228 TH ST., E. 230 TH ST., E. 232 ND ST. AND ARMS AVE.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

52/152

CUYAHOGA COUNTY
CUY-2-25.96



IVAN AVE. - E 236TH ST. CURVE DATA

①	②	③	④	⑤
R= 1.50'		R= 364.23'	R=100.00'	R= 40.00'
Δ= 129°-24'-39"		Δ= 13°-19'-39"	Δ= 44°-25'-53"	Δ= 77°-49'-33"
T= 3.17'		T= 42.55	T= 40.84'	T= 32.29'
L= 3.39'		L= 84.72	L= 77.55'	L= 54.33'
LCh=2.71'		LCh=84.53	LCh= 75.62'	LCh= 50.25'

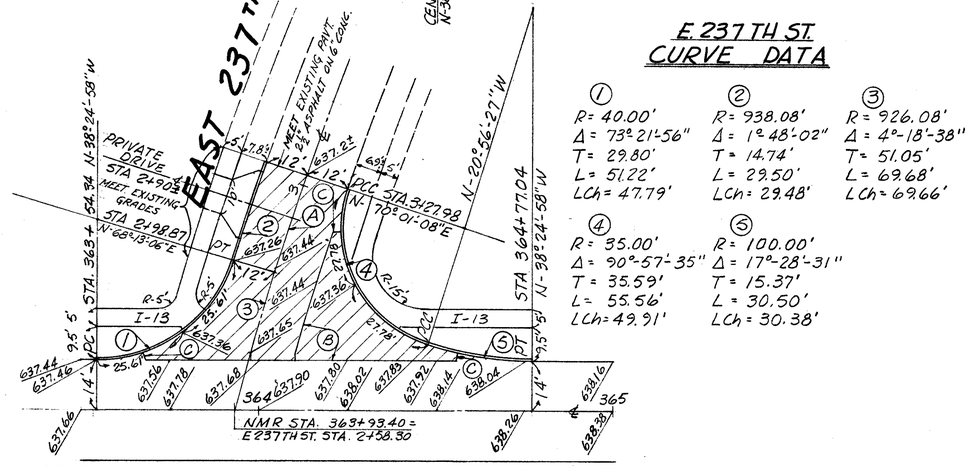
⑥	⑦	⑧	⑨
R= 1288.08	R= 1276.08'	R= 35.00'	R= 100.00'
Δ= 0°-54'-06"	Δ= 2°-52'-17"	Δ=85°36'-02"	Δ= 17°-28'-31"
T= 10.14'	T= 31.98'	T= 32.41'	T= 15.37'
L= 20.27'	L= 63.95'	L= 52.29'	L= 30.50'
LCh= 20.27'	LCh= 63.94'	LCh. 47.56'	LCh= 30.38'

LEGEND

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.
- NEW PAVEMENT (T-71 CONCRETE)

NOTES

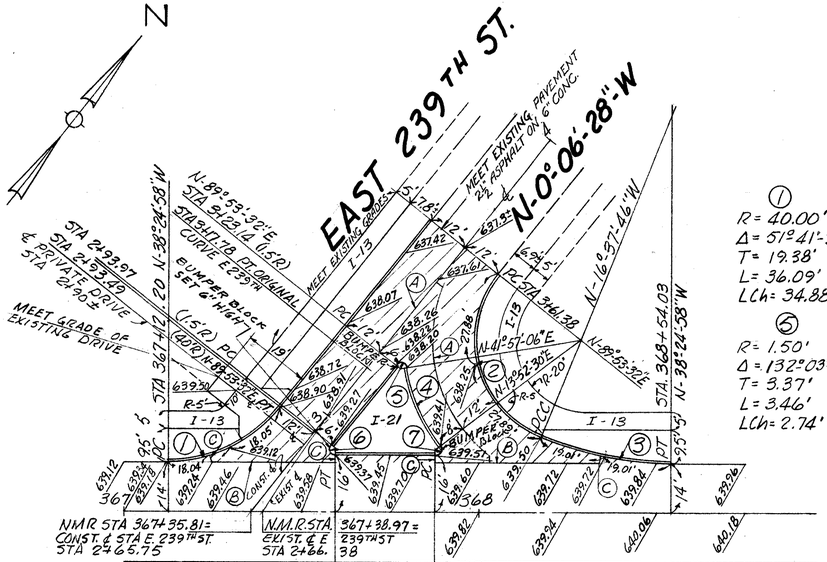
1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.
2. NEW DRIVEWAY APRONS SHALL MEET THE GRADE OF EXISTING DRIVEWAYS AT BACK OF APRONS, UNLESS OTHERWISE NOTED.



E 237TH ST. CURVE DATA

①	②	③
R= 40.00'	R= 938.08'	R= 926.08'
Δ= 73°-21'-56"	Δ= 1°-48'-02"	Δ= 4°-18'-38"
T= 29.80'	T= 14.74'	T= 51.05'
L= 51.22'	L= 29.50'	L= 69.68'
LCh= 47.79'	LCh= 29.48'	LCh= 69.66'

④	⑤
R= 35.00'	R= 100.00'
Δ= 90°-57'-35"	Δ= 17°-28'-31"
T= 35.59'	T= 15.37'
L= 55.56'	L= 30.50'
LCh= 49.91'	LCh= 30.38'



E 239TH ST. CURVE DATA

①	②	③	④
R= 40.00'	R=30.00'	R= 100.00'	R= 50.00'
Δ= 51°-41'-30"	Δ= 106°-31'-18"	Δ= 21°-47'-12"	Δ= 28°-04'-36"
T= 19.38'	T= 40.19'	T= 19.24'	T= 12.50'
L= 36.09'	L= 55.77'	L= 38.02'	L= 24.50'
LCh= 34.88'	LCh= 48.08'	LCh= 37.80'	LCh= 24.26'

⑤	⑥	⑦
R= 1.50'	R= 1.50'	R= 1.50'
Δ= 132°-03'-34"	Δ= 127°-42'-32"	Δ= 128°-18'-30"
T= 3.37'	T= 3.06'	T= 3.10'
L= 3.46'	L= 3.34'	L= 3.36'
LCh= 2.74'	LCh= 2.69'	LCh= 2.70'

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 EACH BUMPER BLOCK	I-11 LIN. FT. SANDSTONE CURB		I-13 SQ. FT. CONCRETE SIDEWALK	I-21 SQ. YD. PCC. TRAFFIC ISLAND PAVEMENT	I-22 CU. YD. SUB-BASE GRADING A OR B	T-70 SQ. YD. PORTLAND CEMENT CONCRETE PAVT.	T-71 SQ. YD.
		STRAIGHT	RADIAL	4"	4"		6"	9 REINF.
IVAN AVE - NMR	1	190.55	——	964.00	——	35.84	——	209.78
E. 236TH ST. - NMR	——	59.48	106.62	749.00	——	38.71	18.67	218.22
E. 237TH ST. - NMR	——	60.00	106.78	778.00	——	42.63	17.78	242.22
E. 239TH ST. - NMR	3	163.20	116.36	884.00	42.67	73.15	16.89	302.22
TOTALS THIS SHEET	4	473.23	329.76	3,315.00	42.67	190.33	53.34	972.44

REVISED 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

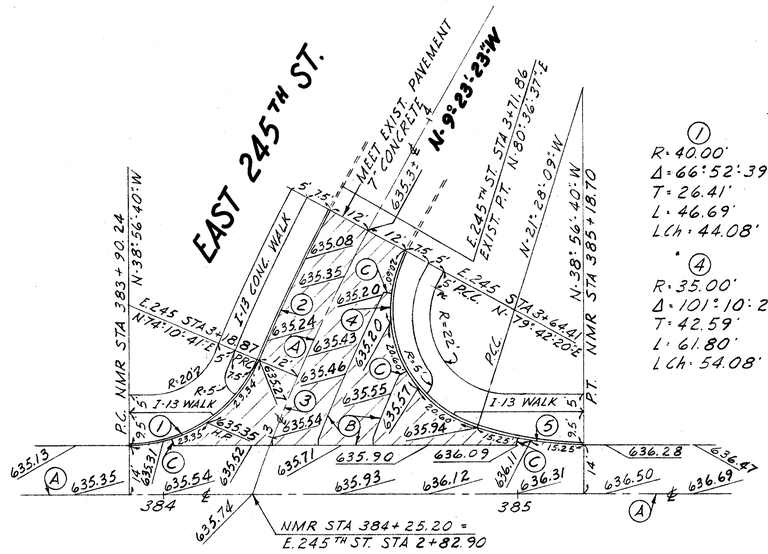
INTERSECTION OF NORTH MARGINAL ROAD AND IVAN AVE., E 236TH ST., E 237TH ST. AND E. 239TH ST.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

53/152

CUYAHOGA COUNTY
CUY-2-25.96

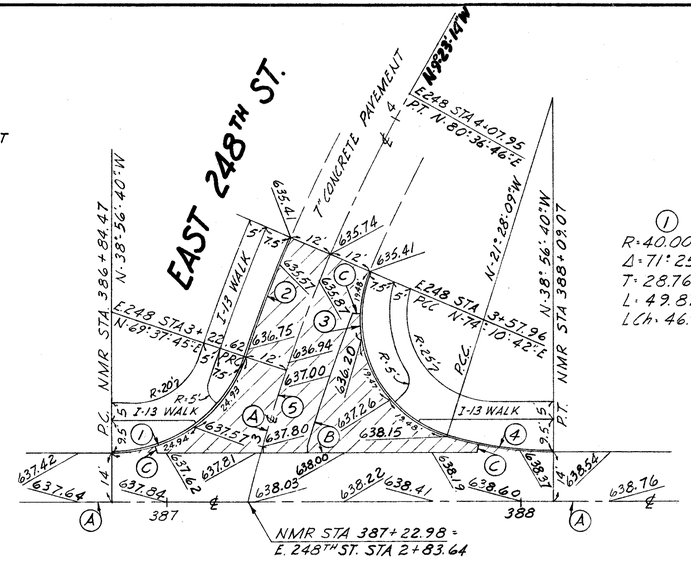


E. 245TH ST. CURVE DATA

①	② CURB	③ ℄ IMPROVEMENT
R=40.00'	R=484.04'	R=472.04'
Δ=66°52'39"	Δ=5°31'39"	Δ=9°53'34"
T=26.41'	T=23.37'	T=40.85'
L=46.69'	L=46.70'	L=81.51'
LCh=44.08'	LCh=46.68'	LCh=81.40'

④	⑤
R=35.00'	R=100.00'
Δ=101°10'29"	Δ=17°28'31"
T=42.59'	T=15.37'
L=61.80'	L=30.50'
LCh=54.08'	LCh=30.38'

NORTH MARGINAL ROAD N-51°-03'-20"-E



E. 248TH ST. CURVE DATA

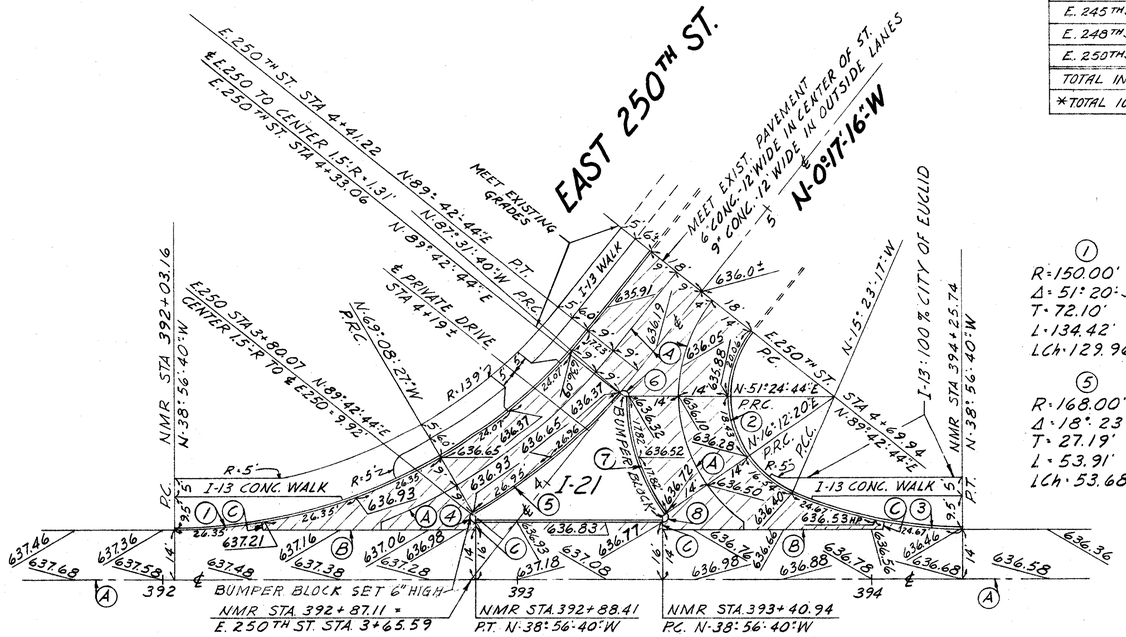
①	② CURB	③
R=40.00'	R=457.12'	R=35.00'
Δ=71°25'35"	Δ=4°32'57"	Δ=95°38'51"
T=28.76'	T=18.16'	T=38.63'
L=49.87'	L=36.29'	L=58.43'
LCh=46.70'	LCh=36.28'	LCh=51.88'

④	⑤ ℄ IMPROVEMENT
R=100.00'	R=445.12'
Δ=17°28'31"	Δ=9°33'58"
T=15.37'	T=37.25'
L=30.50'	L=74.32'
LCh=30.38'	LCh=74.23'

NORTH MARGINAL ROAD N-51°-03'-20"-E

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 EACH BUMPER BLOCK	I-11 LIN.FT SANDSTONE CURB		I-13 SQ.FT. CONCRETE SIDEWALK	I-21 SQ. YD. P.C.C. TRAFFIC ISLAND PAVEMENT	I-22 CU.YD. SUB-BASE GRADING A OR B	T-70 SQ.YD PORTLAND CEMENT CONCRETE PAV'T	
		STRAIGHT	RADIAL	4"	"4"		6"	9"REINF.
E. 245TH ST. - NMR	—	77.20	108.49	980.0	—	43.69	—	296.00
E. 248TH ST. -NMR	—	66.79	108.30	912.0	—	44.16	—	263.11
E. 250TH ST. -NMR	3	354.56	55.03	658.0 *256.0	100.44	130.59	15.11	479.11
TOTAL INTERSTATE	3	498.55	271.82	2,750.0	100.44	224.44	15.11	1,038.22
*TOTAL 100% EUCLID				256.0				



NORTH MARGINAL ROAD N-51°-03'-20"-E

E. 250TH ST. CURVE DATA

①	②	③	④
R=150.00'	R=30.00'	R=120.00'	R=1.50'
Δ=51°20'36"	Δ=105°06'01"	Δ=23°33'23"	Δ=149°48'13"
T=72.10'	T=39.17'	T=25.02'	T=5.56'
L=134.42'	L=55.03'	L=49.34'	L=3.92'
LCh=129.96'	LCh=47.63'	LCh=48.99'	LCh=2.90'

⑤	⑥	⑦	⑧
R=168.00'	R=1.50'	R=58.00'	R=1.50'
Δ=18°23'13"	Δ=138°56'24"	Δ=35°12'24"	Δ=124°51'00"
T=27.19'	T=4.01'	T=18.40'	T=2.87'
L=53.91'	L=3.64'	L=35.64'	L=3.27'
LCh=53.68'	LCh=2.81'	LCh=35.08'	LCh=2.66'

LEGEND

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT

▨ NEW PAVEMENT (T-71 CONCRETE)

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.
2. NEW DRIVEWAY APRONS SHALL MEET THE GRADE OF EXISTING DRIVEWAYS AT BACK OF APRONS.

REVISED 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

INTERSECTION OF NORTH MARGINAL ROAD AND E. 245TH ST., E. 248TH ST. & E. 250TH ST.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

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SUMMARY OF QUANTITIES

I-21 SQ.YD.	I-11 EACH	I-11 LIN. FT.		I-13 SQ.FT.	I-18 CU. YD.	I-21 SQ. YD.	I-22 CU.YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-70 SQ.YD.	T-71 SQ.YD.	
*TRAFFIC ISLAND PAVT. AS PER PLAN	BUMPER BLOCK	SANDSTONE CURB		CONCRETE SIDEWALK	5" STABILIZED CRUSHED AGGREGATE APPROACHES AND SHOULDERS	PCC. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	# 6 AGG.	BIT. MATERIAL AS PER PLANS	PORTLAND CEMENT CONCRETE PAV'T.		
		STRAIGHT	RADIAL	4"		4"			CU. YD	GALS.	6"	9" REINF.	
584	2	1,962.26	326.85	5,790.45	0.21	120	1025.23	0.13	0.01	0.38	89.45	5,376.28	TOTAL THIS SHEET
584	2	1815.26	246.28	4662.45	0.21	120	925.23	0.13	0.01	0.38	56.45	4733.28	NORMAL PARTICIPATION
		147	80.57	1128			100				33	583	100% EUCLID

CURVE DATA - E. 222ND ST.

(1) R=20.00' Δ=120°03'54" T=34.69' L=41.91' LCh=34.65'

(2) R=120.00' Δ=59°56'06" T=69.19' L=125.53' LCh=119.88'

(3) R=20.00' Δ=59°56'06" T=11.53' L=20.92' LCh=19.98'

(4) R=35.00' Δ=94°30'48" T=37.87' L=57.73' LCh=51.41'

(5) R=120.00' Δ=23°24'56" T=24.87' L=49.04' LCh=48.70'

(6) R=30.00' Δ=92°27'27" T=31.32' L=48.41' LCh=43.33'

(7) R=20.00' Δ=92°08'36" T=20.76' L=32.16' LCh=28.81'

CURVE DATA MARGINAL CONNECTOR-WEST SIDE

(8) R=50.00' Δ=120°03'54" T=86.72' L=104.78' LCh=86.63'

(9) R=59.00' Δ=120°03'54" T=102.32' L=123.64' LCh=102.22'

(10) R=68.00' Δ=73°21'25" T=50.65' L=87.06' LCh=81.24'

(11) R=2.00' Δ=133°17'31" T=4.63' L=4.65' LCh=3.67'

(12) R=50.00' Δ=2°23'25" T=1.04' L=2.09' LCh=2.09'

CURVE DATA MARGINAL CONNECTOR-EAST SIDE

(13) R=150.00' Δ=59°56'06" T=86.49' L=156.91' LCh=149.85'

(14) R=159.00' Δ=59°56'06" T=91.68' L=166.32' LCh=158.84'

(15) R=168.00' Δ=29°07'11" T=43.64' L=85.38' LCh=84.47'

(16) R=2.00' Δ=144°36'39" T=6.27' L=5.05' LCh=3.81'

NORMAL PARTICIPATION — 100% CITY OF EUCLID

MARGINAL CONNECTOR-WEST SIDE N-0°-21'-16"W

NORTH MARGINAL ROAD N-59°-34'-50"E 50'-E

MATCH LINE - SEE SHEET No 55

MARGINAL CONNECTOR-EAST SIDE N-0°-21'-16"W

N-89°-39'-10"E MILLER AVE.

E. 222ND ST. N-0°-21'-16"W

NORTH MARGINAL ROAD N-59°-34'-50"E

LAKELAND FREEWAY N-54°-44'-38"E

LEGEND

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.
- NEW PAVEMENT (T-71 CONCRETE)
- PAVED BERM
- I-21 CONCRETE

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.
2. NEW DRIVEWAY APRONS SHALL MEET THE GRADE OF EXISTING DRIVEWAYS AT BACK OF APRONS, UNLESS OTHERWISE NOTED.

REV. 11-21-60

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

EAST 222ND ST. STA. 0+00 TO N-4+76.46
INTERSECTION NORTH MARGINAL ROAD
MARGINAL ROAD CONNECTORS
AND EAST 222ND ST.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

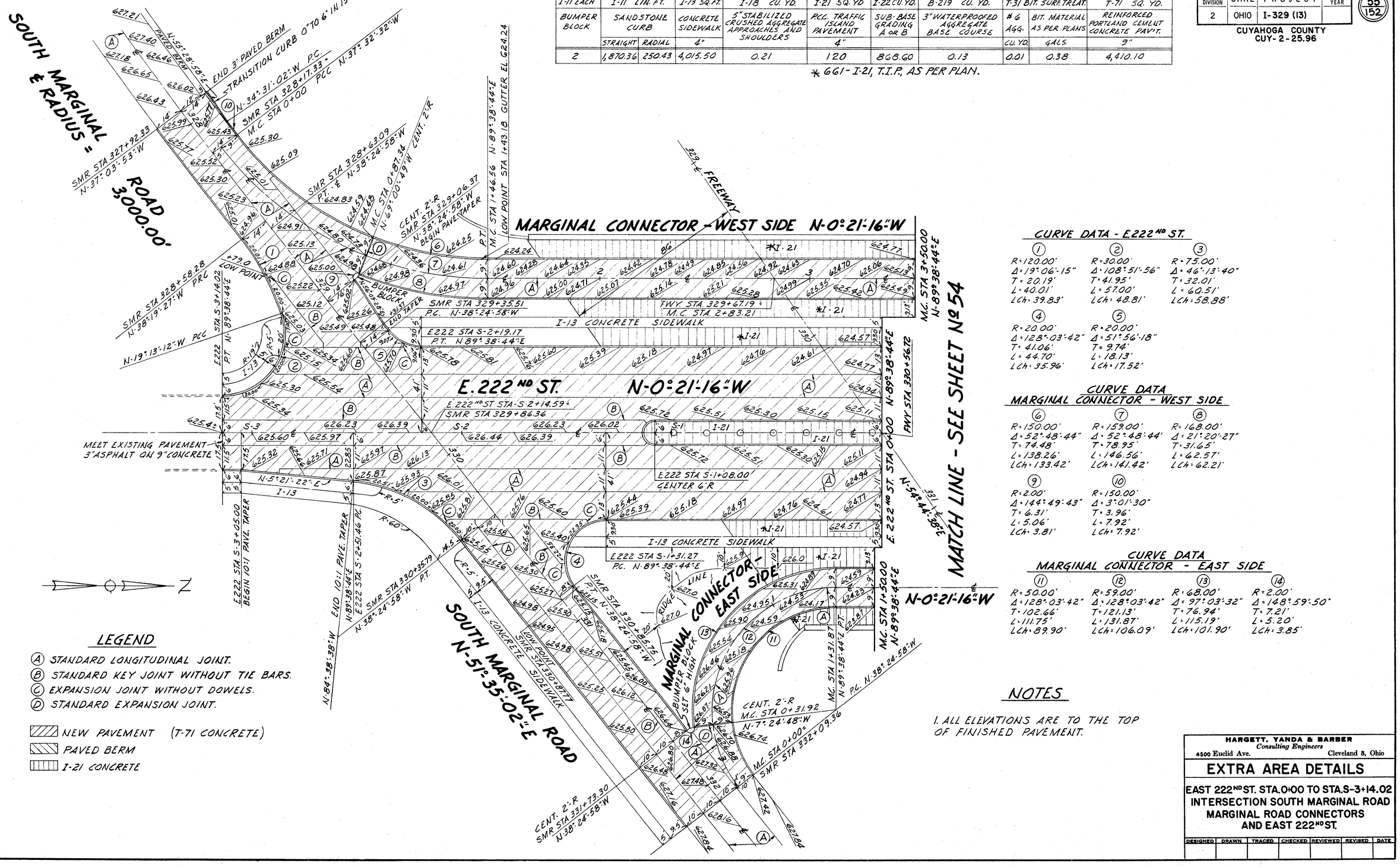
55/152

CUYAHOGA COUNTY
CUY-2-25.96

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.		I-13 SQ. FT.	I-18 CU. YD.	I-21 SQ. YD	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.
BUMPER BLOCK	SANDSTONE CURB		CONCRETE SIDEWALK	5" STABILIZED CRUSHED AGGREGATE APPROACHES AND SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	# 6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.
	STRAIGHT	RADIAL	4"		4"			CU. YD.	GALS.	9"
2	1,870.36	250.43	4,015.50	0.21	120	868.60	0.13	0.01	0.38	4,410.10

* 661-I-21, T.I.P. AS PER PLAN.



CURVE DATA - E.222 ND ST.

①	②	③
R=120.00'	R=30.00'	R=75.00'
Δ=19°-06'-15"	Δ=108°-51'-56"	Δ=46°-13'-40"
T=20.19'	T=41.95'	T=32.01'
L=40.01'	L=57.00'	L=60.51'
LCh=39.83'	LCh=48.81'	LCh=58.88'
④	⑤	
R=20.00'	R=20.00'	
Δ=128°-03'-42"	Δ=51°-56'-18"	
T=41.06'	T=9.74'	
L=44.70'	L=18.13'	
LCh=35.96'	LCh=17.52'	

CURVE DATA
MARGINAL CONNECTOR - WEST SIDE

⑥	⑦	⑧
R=150.00'	R=159.00'	R=168.00'
Δ=52°-48'-44"	Δ=52°-48'-44"	Δ=21°-20'-27"
T=74.48'	T=78.95'	T=31.65'
L=138.26'	L=146.56'	L=62.57'
LCh=133.42'	LCh=141.42'	LCh=62.21'
⑨	⑩	
R=2.00'	R=150.00'	
Δ=144°-49'-43"	Δ=3°-01'-30"	
T=6.31'	T=3.96'	
L=5.06'	L=7.92'	
LCh=3.81'	LCh=7.92'	

CURVE DATA
MARGINAL CONNECTOR - EAST SIDE

⑪	⑫	⑬	⑭
R=50.00'	R=59.00'	R=68.00'	R=2.00'
Δ=128°-03'-42"	Δ=128°-03'-42"	Δ=97°-03'-32"	Δ=148°-59'-50"
T=102.66'	T=121.13'	T=76.94'	T=7.21'
L=111.75'	L=131.87'	L=115.19'	L=5.20'
LCh=89.90'	LCh=106.09'	LCh=101.90'	LCh=3.85'

LEGEND

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.

NEW PAVEMENT (T-71 CONCRETE)
PAVED BERM
I-21 CONCRETE

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

EAST 222ND ST. STA. 0+00 TO STA. S-3+14.02
INTERSECTION SOUTH MARGINAL ROAD
MARGINAL ROAD CONNECTORS
AND EAST 222ND ST.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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152

CUYAHOGA COUNTY
CUY-2-25.96

CURVE DATA

BABBITT ROAD

①	②
R=20.00'	R=20.00'
Δ=83°59'20"	Δ=93°39'00"
T=18.00'	T=21.32'
L=29.32'	L=32.69'
LCh=26.76'	LCh=29.17'
③	④
R=50.00'	R=40.00'
Δ=83°29'15"	Δ=93°08'55"
T=44.62'	T=42.26'
L=72.86'	L=65.03'
LCh=66.58'	LCh=58.12'

MARGINAL CONNECTOR-WEST SIDE

⑤	⑥
R=70.00'	R=79.00'
Δ=93°39'00"	Δ=93°39'00"
T=74.61'	T=84.20'
L=114.42'	L=129.13'
LCh=102.10'	LCh=115.22'
⑦	⑧
R=88.00'	R=2.00'
Δ=52°43'26"	Δ=139°04'26"
T=43.61'	T=5.36'
L=80.98'	L=4.85'
LCh=78.15'	LCh=3.75'

MARGINAL CONNECTOR-EAST SIDE

⑨	⑩
R=70.00'	R=79.00'
Δ=83°59'20"	Δ=83°59'20"
T=63.02'	T=71.12'
L=102.61'	L=115.80'
LCh=93.67'	LCh=105.71'
⑪	⑫
R=88.00'	R=2.00'
Δ=41°09'20"	Δ=132°35'34"
T=33.04'	T=4.56'
L=63.21'	L=4.63'
LCh=61.86'	LCh=3.66'

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.

LEGEND

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.
- NEW PAVEMENT (T-71 CONCRETE)
- PAVED BERM
- I-21 CONCRETE

SUMMARY OF QUANTITIES OK-

DESCRIPTION	I-11 EACH	I-11 LIN. FT.		I-13 SQ. FT.	I-21 SQ. YD.	I-22 CU. YD.	T-70 SQ. YD.	T-71 SQ. YD.	I-13 LIN. FT.
	BUMPER BLOCK	SANDSTONE CURB		CONCRETE SIDEWALK	P.C.C. TRAFFIC ISLAND PAV'T. AS PER PLAN	SUB-BASE GRADING A OR B	PORTLAND CEMENT CONCRETE PAV'T.		CONCRETE STEPS
		STRAIGHT	RADIAL	4"	4"		6"	9" REINF.	
TOTAL INTERSTATE	2	999.28	199.90	2,672.50	* 765.00	539.29	—	2,820.57	—
TOTAL 100% EUCLID	—	480.0	—	2,890.50	—	220.77	47.11	1,280.0	15

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

BABBITT RD. STA. 0+00 TO N-4+28.93
INTERSECTION NORTH MARGINAL ROAD,
MARGINAL ROAD CONNECTORS
AND BABBITT ROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	I-329 (13)		57 / 152

CUYAHOGA COUNTY
CUY-2-25.96

CURVE DATA

BABBITT ROAD

①	②
R = 40.00'	R = 20.00'
Δ = 90°38'15"	Δ = 86°30'00"
T = 40.45'	T = 18.81'
L = 63.28'	L = 30.19'
LCh = 56.88'	LCh = 27.41'

③	④
R = 50.00'	R = 20.00'
Δ = 83°25'20"	Δ = 93°42'55"
T = 44.57'	T = 21.34'
L = 72.80'	L = 32.71'
LCh = 66.54'	LCh = 29.19'

MARGINAL CONNECTOR-WEST SIDE

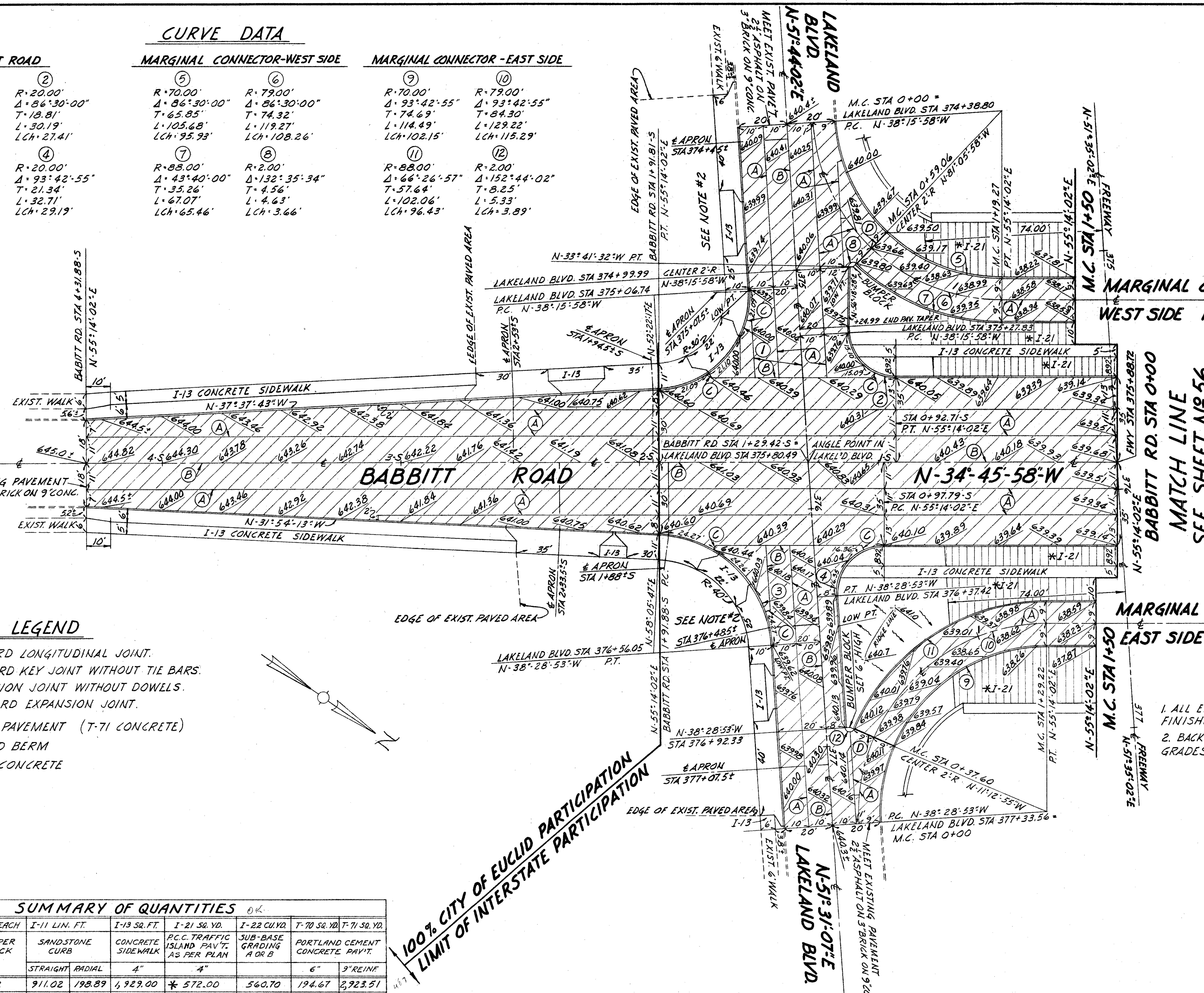
⑤	⑥
R = 70.00'	R = 79.00'
Δ = 86°30'00"	Δ = 86°30'00"
T = 65.85'	T = 74.32'
L = 105.68'	L = 119.27'
LCh = 95.93'	LCh = 108.26'

⑦	⑧
R = 88.00'	R = 2.00'
Δ = 43°40'00"	Δ = 132°35'34"
T = 35.26'	T = 4.56'
L = 67.07'	L = 4.63'
LCh = 65.46'	LCh = 3.66'

MARGINAL CONNECTOR-EAST SIDE

⑨	⑩
R = 70.00'	R = 79.00'
Δ = 93°42'55"	Δ = 93°42'55"
T = 74.69'	T = 84.30'
L = 114.49'	L = 129.22'
LCh = 102.15'	LCh = 115.29'

⑪	⑫
R = 88.00'	R = 2.00'
Δ = 66°26'57"	Δ = 152°44'02"
T = 57.64'	T = 8.25'
L = 102.06'	L = 5.33'
LCh = 96.43'	LCh = 3.89'



LEGEND

Ⓐ STANDARD LONGITUDINAL JOINT.
Ⓑ STANDARD KEY JOINT WITHOUT TIE BARS.
Ⓒ EXPANSION JOINT WITHOUT DOWELS.
Ⓓ STANDARD EXPANSION JOINT.
NEW PAVEMENT (T-71 CONCRETE)
PAVED BERM
I-21 CONCRETE

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.
2. BACK OF APRONS SHALL MEET EXISTING GRADES OF PAVED AREA.

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 EACH	I-11 LIN. FT.		I-13 SQ. FT.	I-21 SQ. YD.	I-22 CU. YD.	T-70 SQ. YD.	T-71 SQ. YD.
	BUMPER BLOCK	SANDSTONE CURB		CONCRETE SIDEWALK	P.C.C. TRAFFIC ISLAND PAV'T. AS PER PLAN	SUB-BASE GRADING A OR B	PORTLAND CEMENT CONCRETE PAV'T.	
		STRAIGHT	RADIAL	4"	4"		6"	9" REINF.
TOTAL INTERSTATE	2	911.02	198.89	1,929.00	* 572.00	560.70	194.67	2,923.51
TOTAL 100% EUCLID	—	480.07	—	1,897.50	—	229.81	128.44	1,280.00

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

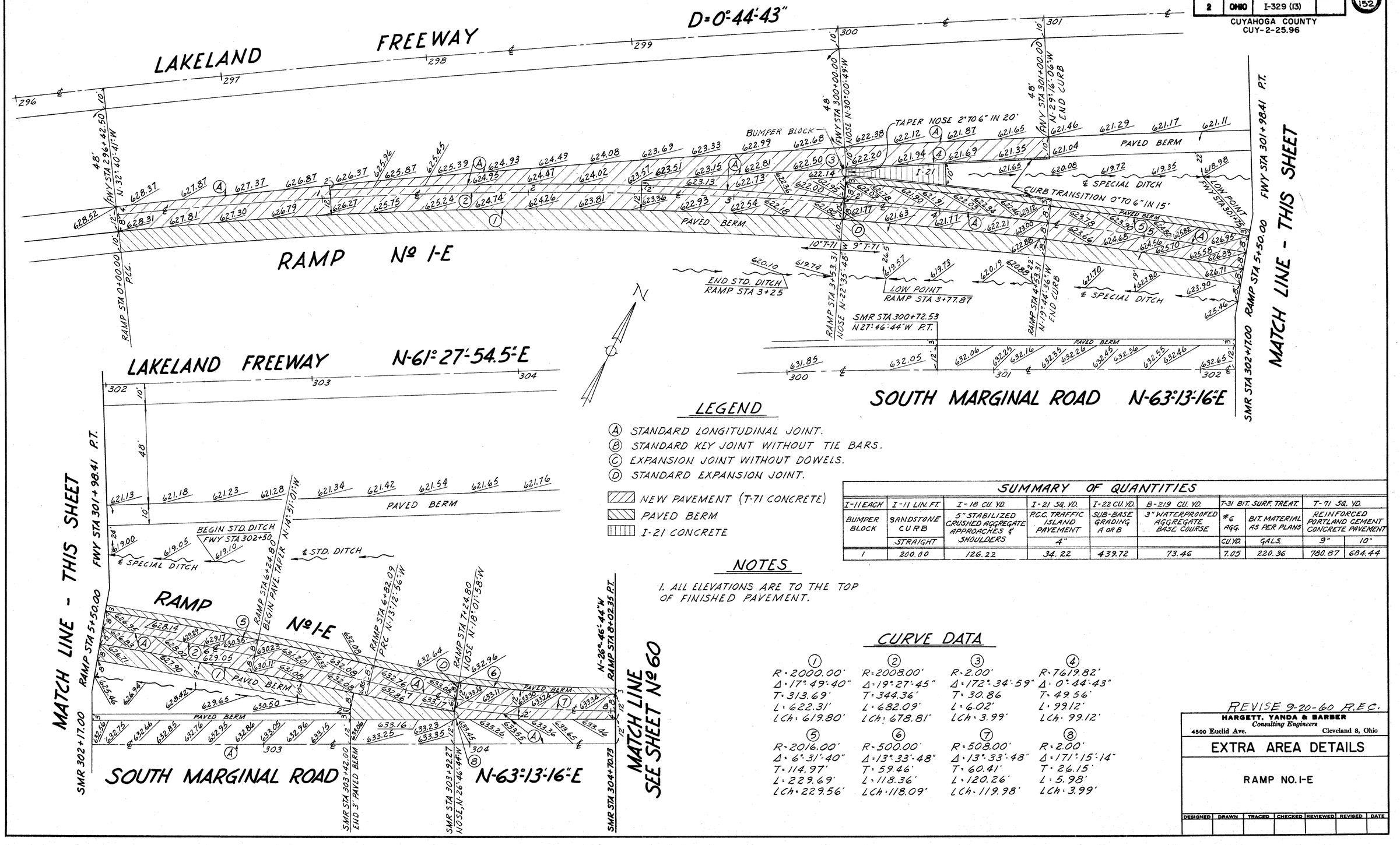
BABBITT RD. STA. 0+00 TO S-4+31.88
INTERSECTION LAKELAND BOULEVARD,
MARGINAL ROAD CONNECTORS
AND BABBITT ROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

58 / 152

CUYAHOGA COUNTY
CUY-2-25.96



LEGEND

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.
- NEW PAVEMENT (T-71 CONCRETE)
- PAVED BERM
- I-21 CONCRETE

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-18 CU. YD.	I-21 SQ. YD.	I-22 CU. YD.	B-21.9 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	
	STRAIGHT		4"			CU.YD.	GALS.	9"	10"
1	200.00	126.22	34.22	439.72	73.46	7.05	220.36	780.87	694.44

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.

CURVE DATA

(1)	(2)	(3)	(4)
R=2000.00'	R=2008.00'	R=2.00'	R=7619.82'
Δ=17°-49'-40"	Δ=19°-27'-45"	Δ=172°-34'-59"	Δ=0°-44'-43"
T=313.69'	T=344.36'	T=30.86	T=49.56'
L=622.31'	L=682.09'	L=6.02'	L=99.12'
LCh=619.80'	LCh=678.81'	LCh=3.99'	LCh=99.12'
(5)	**(6)**	**(7)**	**(8)**
R=2016.00'	R=500.00'	R=508.00'	R=2.00'
Δ=6°-31'-40"	Δ=13°-33'-48"	Δ=13°-33'-48"	Δ=171°-15'-14"
T=114.97'	T=59.46'	T=60.41'	T=26.15'
L=229.69'	L=118.36'	L=120.26'	L=5.98'
LCh=229.56'	LCh=118.09'	LCh=119.98'	LCh=3.99'

REVISE 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

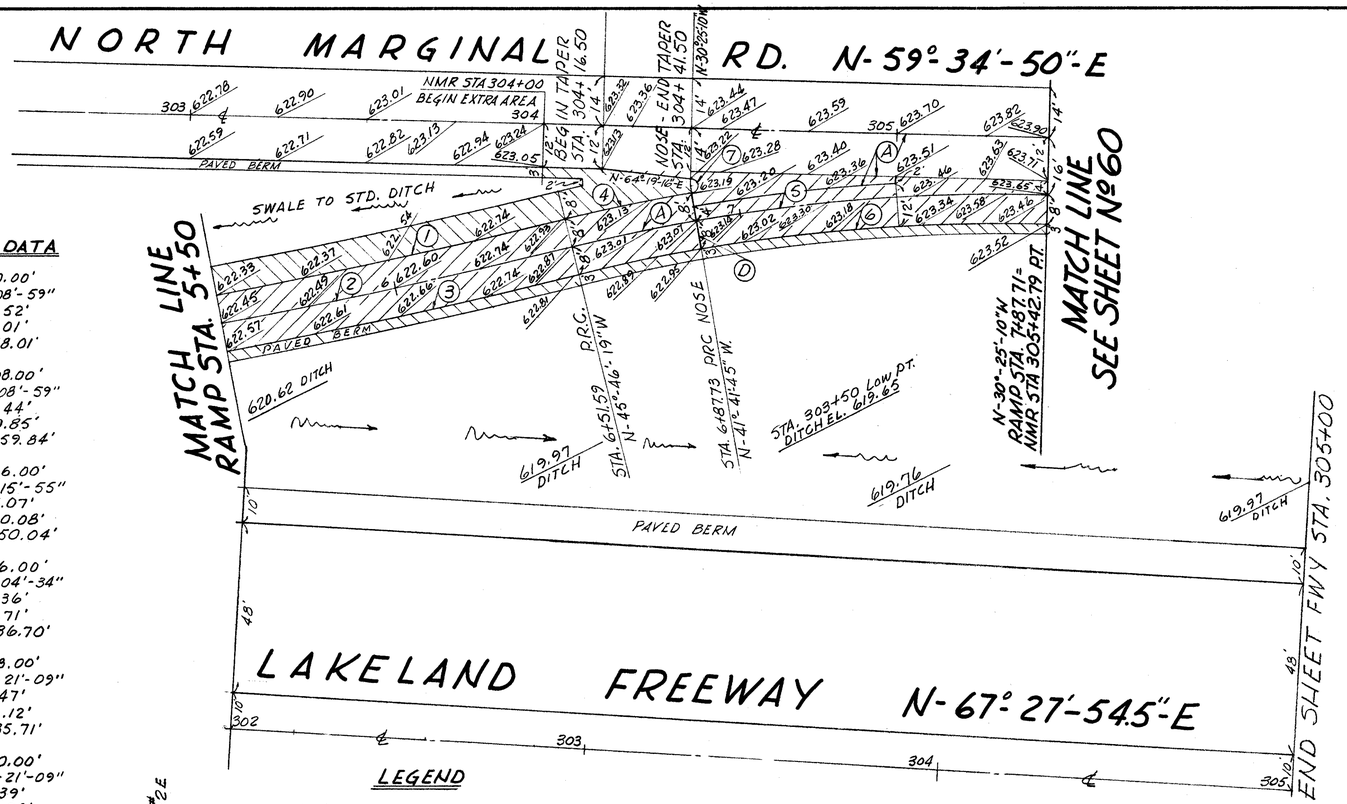
RAMP NO. I-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

59
152

CUYAHOGA COUNTY
CUY-2-25.96



CURVE DATA

① R = 2000.00'
Δ = 13°-08'-59"
T = 230.52'
L = 459.01'
LCH. = 458.01'

② R = 2008.00'
Δ = 13°-08'-59"
T = 231.44'
L = 460.85'
LCH. = 459.84'

③ R = 2016.00'
Δ = 4°-15'-55"
T = 75.07'
L = 150.08'
LCH. = 150.04'

④ R = 516.00'
Δ = 4°-04'-34"
T = 18.36'
L = 36.71'
LCH. = 36.70'

⑤ R = 508.00'
Δ = 15°-21'-09"
T = 68.47'
L = 136.12'
LCH = 135.71'

⑥ R = 500.00'
Δ = 15°-21'-09"
T = 67.39'
L = 133.98'
LCH = 133.58'

⑦ R = 2.00'
Δ = 164°-04'-59"
T = 14.37'
L = 5.73'
L.CH. = 3.96'

LEGEND

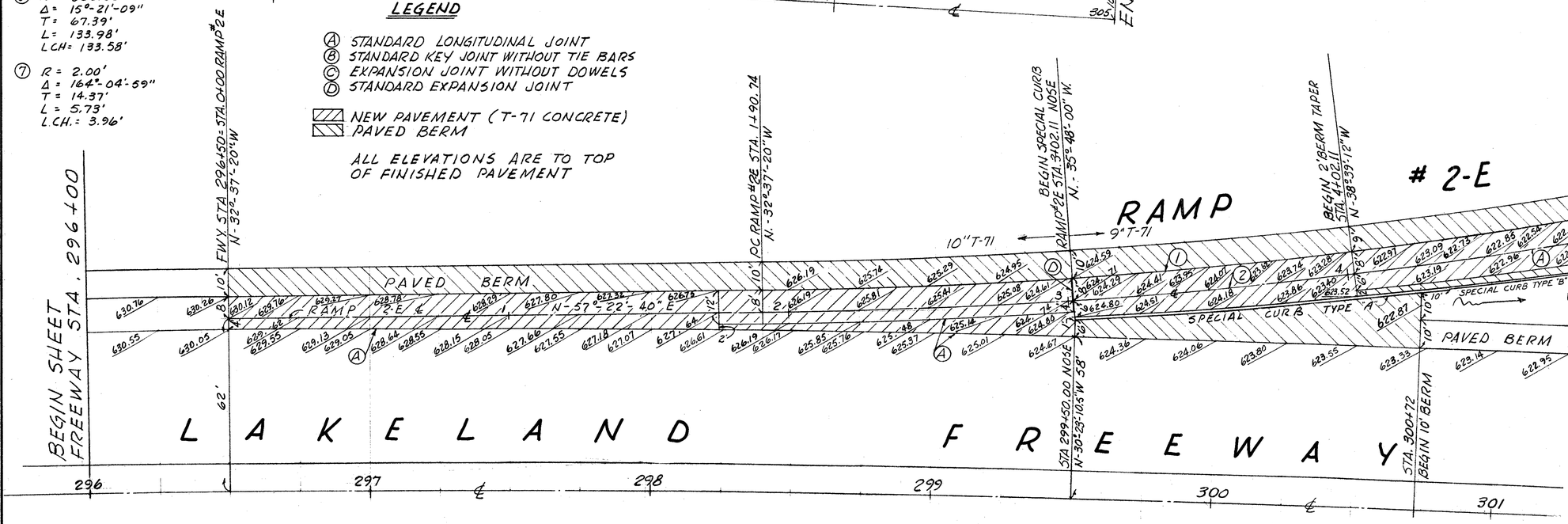
Ⓐ STANDARD LONGITUDINAL JOINT
Ⓑ STANDARD KEY JOINT WITHOUT TIE BARS
Ⓒ EXPANSION JOINT WITHOUT DOWELS
Ⓓ STANDARD EXPANSION JOINT

NEW PAVEMENT (T-71 CONCRETE)
PAVED BERM

ALL ELEVATIONS ARE TO TOP OF FINISHED PAVEMENT

SUMMARY OF QUANTITIES

I-12 LIN. FT.		I-18 CU. YD.	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
CONCRETE CURB		5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	
SPECIAL TYPE "A"	SPECIAL TYPE "B"				CU. YD.	GALS.	9"	10"
134.00	68.00	142.30	405.61	83.18	7.99	249.54	837.21	493.33



HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

RAMP NO. 2-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

60
152

CUYAHOGA COUNTY
CUY-2-25.96

LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- NEW PAVEMENT-(T-71 CONCRETE)
- PAVED BERM

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT

MATCH LINE-SHEET Nº58
RAMP STA 6+02.35
PT. N28°-46'-44"W

AUXILIARY LANE TO RAMP Nº 1-E

SMR STA 308+00
BEGIN PAVEMENT TAPER
N 28°-46'-44"W

SMR STA 309+20
END PAVEMENT TAPER
N 28°-46'-44"W

SOUTH MARGINAL ROAD N 63°-13'-16"E

NORTH MARGINAL ROAD N 59°-34'-50"E

MATCH LINE-SHEET Nº59
NMR STA 305+42.79
P.T. RAMP STA 7+81.11
N 30°-25'-10"W

AUXILIARY LANE TO RAMP Nº 2-E

NMR STA 308+80
BEGIN PAVEMENT TAPER
N 30°-25'-10"W

NMR STA 310+00
END PAVEMENT TAPER
N 30°-25'-10"W

SMR STA 317+50
BEGIN PAVEMENT TAPER
N 31°-54'-06"W

SMR STA 318+70
END PAVEMENT TAPER
N 31°-54'-06"W

AUXILIARY LANE TO RAMP Nº 6-E

P.C. RAMP STA 0+00
N 31°-54'-06"W

MATCH LINE-SHEET Nº61

SOUTH MARGINAL ROAD N 58°-05'-54"E

NORTH MARGINAL ROAD N 59°-34'-50"E

SMR STA 322+47.01

NMR STA 323+70.02

MATCH LINE-SHEET Nº62

NMR STA 318+50
BEGIN PAVEMENT TAPER N 30°-25'-10"W

NMR STA 319+70
END PAVEMENT TAPER N 30°-25'-10"W

AUXILIARY LANE TO RAMP Nº 7-E

P.C. RAMP STA 0+00
N 30°-25'-10"W

SUMMARY OF QUANITIES

DESCRIPTION	I-18 CU. YD. 5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	I-22 CU. YD. SUB-BASE GRADING A OR B	B-219 CU. YD. 3" WATERPROOFED AGGREGATE BASE COURSE	T-31 BIT. SURF. TREAT. #6 AGG. CU. YD.	T-31 BIT. SURF. TREAT. BIT. MATERIAL AS PER PLANS GALS.	T-71 SQ. YD. REINFORCED PORTLAND CEMENT CONCRETE PAV'T. 9"
AUX. LANE TO RAMP 1-E	23.39	118.08	12.49	1.20	37.48	519.03
AUX. LANE TO RAMP 2-E	23.80	120.39	12.71	1.22	38.14	529.61
AUX. LANE TO RAMP 6-E	27.23	139.70	14.55	1.40	43.64	617.61
AUX. LANE TO RAMP 7-E	27.07	138.76	14.46	1.39	43.38	613.33
TOTALS THIS SHEET	101.49	516.93	54.21	5.21	162.64	2,279.58

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4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

AUXILIARY LANES ON
NORTH AND SOUTH MARGINAL ROADS
TO RAMP NOS. I-E, 2-E, 6-E & 7-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

61
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CURVE DATA

① R = 500.00' Δ = 21°-02'-34" T = 92.86' L = 183.63' LCh = 182.60'	② R = 508.00' Δ = 21°-02'-34 T = 94.35' L = 186.57' LCh = 185.52'	③ R = 516.00' Δ = 9°-45'-59" T = 44.08' L = 87.96' LCh = 87.85'	④ R = 2.00' Δ = 164°-08'-59" T = 14.37' L = 5.73' LCh = 3.96'
⑤ R = 1416.00' Δ = 3°-05'-04" T = 38.12' L = 76.23' LCh = 76.22'	⑥ R = 1408.00' Δ = 17°-41'-18" T = 219.08' L = 434.68' LCh = 432.95'	⑦ R = 1400.00' Δ = 17°-41'-18" T = 217.84' L = 432.21' LCh = 430.49'	

LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- NEW PAVEMENT (T-71 CONCRETE)
- PAVED BERM

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT

D = 00°-50'-24.6"

LAKELAND FREEWAY N 54°-44'-38" E

MATCH LINE THIS SHEET

FWY STA 325+69 END 10' PAVED BERM

FWY STA 325+97.18 DT N 35°-15'-22" W

FWY STA 326+75.57

FWY STA 328+34.91 MATCH LINE THIS SHEET

FWY STA 6+21.25 PT. RAMP STA 6+21.25 PT. N 35°-15'-22" W

RAMP STA 2+62.36 BEGIN SPECIAL CURB N 49°-51'-36" W

RAMP STA 1+86.57 N 52°-36'-40" W

RAMP STA 2+25 END STANDARD DITCH

RAMP STA 4+62.36 END SPECIAL CURB N 41°-43'-18" W

RAMP STA 3+62.36 END 2 PAVED BERM N 45°-47'-27" W

SMR STA 325+75 BEGIN STANDARD DITCH

SMR STA 324+07 BEGIN 3' PAVED BERM N 58°-05'-54" E

SMR STA 324+00.00 END PAVEMENT TAPER

SMR STA 323+73.00 CENTER 2' RAD.

2' RADIUS BEAR N 27°-19'-40" W

SMR STA 322+73.71

SMR STA 325+21.99 PC N 31°-54'-06" W

RAMP STA 0+00 N 31°-54'-06" W

P.C. RAMP STA 0+99.98 N 43°-10'-41" W

RAMP Nº 6-E

SOUTH MARGINAL RD.

PAVED BERM

SPECIAL DITCH

TRANS. CURB 4'-9" IN 15'

SPECIAL CURB - TYPE "B"

SPECIAL CURB - TYPE "A"

9" T-71

10" T-71

MATCH LINE - SHEET Nº 60

SUMMARY OF QUANTITIES

I-12 LIN. FT.		I-18 CU. YD.	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
CONCRETE CURB		5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	
SPECIAL TYPE "A"	SPECIAL TYPE "B"				CU. YD.	GALS.	9"	10"
117.5	83.5	119.00	338.37	70.21	6.74	210.63	795.34	319.11

LAKELAND FREEWAY N 54°-44'-38" E

MATCH LINE THIS SHEET

FWY STA 328+34.91

RAMP STA 6+21.25 PT. N 35°-15'-22" W

APPROACH SLAB

END APPROACH SLAB FWY STA 329+40.98

℄ E. 222 ND. ST. N 00°-21'-16" W

FOR ACCELERATION LANE RAMP Nº 6-E ON EAST SIDE OF BRIDGE SEE SHEET Nº 63

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

RAMP NO. 6-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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CUYAHOGA COUNTY
CUY-2-25.96

MATCH LINE - SEE SHT. Nº 60

NMR STA 323+70.02 N-30°-25'-10"-W

N-59°-34'-50"-E

NMR STA 324+48.48 NOSE N-30°-25'-10"-W

NMR STA 324+99 BEGIN 3' PAVED BERM

NORTH MARGINAL ROAD

RAMP Nº 7-E

RAMP STA 0+00 PC.

RAMP STA 0+77.55 N-21°-40'-24"-W NOSE

END PAVE. TAPER RAMP STA 1+77.55 N-10°-23'-41"-W

RAMP STA 1+89.55 N-9°-02'-25"-W PRC.

& SPECIAL DITCH

BEGIN STD. DITCH NMR STA 326+25

RAMP STA 3+36.61 N-17°-23'-58"-W BEGIN CURB

RAMP STA 4+36.61 N-23°-05'-01"-W NOSE

RAMP Nº 7-E

END STD. DITCH RAMP STA 3+00

SWALE TO STD. DITCH

TRANSITION CURB 0"TO 6"IN 15'

PAVED BERM

I-21

BUMPER BLOCK

TRANSITION NOSE 2"TO 6" IN 20'

FWY STA 325+84.29 48' N-35°-07'-58"-W

FWY STA 325+97.18 PT. 48' N-35°-15'-22"-W

FWY STA 326+84.29 48' N-35°-15'-22"-W

FWY STA 329+00.00 RAMP STA 6+50.76 P.T. 48' N-35°-15'-22"-W

LAKELAND FREEWAY N-54°-44'-38"-E

FWY STA 329+00 - MATCH LINE THIS SHEET

DECELERATION LANE RAMP Nº 7-E

FOR DECELERATION LANE RAMP Nº 7-E ON EAST SIDE OF BRIDGE SEE SHEET Nº 63

END APPROACH SLAB FWY STA 329+40.98 48' N-35°-15'-22"-W

LAKELAND FWY. N-54°-44'-38"-E

FWY STA 329+00 - MATCH LINE THIS SHEET

CURVE DATA

①	②	③	④
R=500.00'	R=508.00'	R=2.00'	R=516.00'
Δ=21°-22'-45"	Δ=21°-22'-45"	Δ=171°-15'-14"	Δ=1°-21'-16"
T=94.38'	T=95.89'	T=26.15'	T=6.10'
L=186.57'	L=189.55'	L=5.98'	L=12.20'
LCh=185.49'	LCh=188.46'	LCh=3.99'	LCh=12.20'

⑤	⑥	⑦	⑧
R=1016.00'	R=1000.00'	R=1008.00'	R=2.00'
Δ=8°-21'-33"	Δ=26°-12'-57"	Δ=26°-12'-57"	Δ=167°-49'-39"
T=74.25'	T=232.85'	T=234.72'	T=18.76'
L=148.23'	L=457.55'	L=461.21'	L=5.86'
LCh=148.10'	LCh=453.57'	LCh=457.20'	LCh=3.98'

LEGEND

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.

NEW PAVEMENT (T-71 CONCRETE)
PAVED BERM
I-21 CONCRETE

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-18 CU. YD.	I-21 SQ. YD.	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	
	STRAIGHT		4"			CU. YD.	GALS.	9"	10"
1	201.0	116.47	21.78	397.18	67.68	6.50	203.04	769.44	663.11

REVISED 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

RAMP NO. 7-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

63
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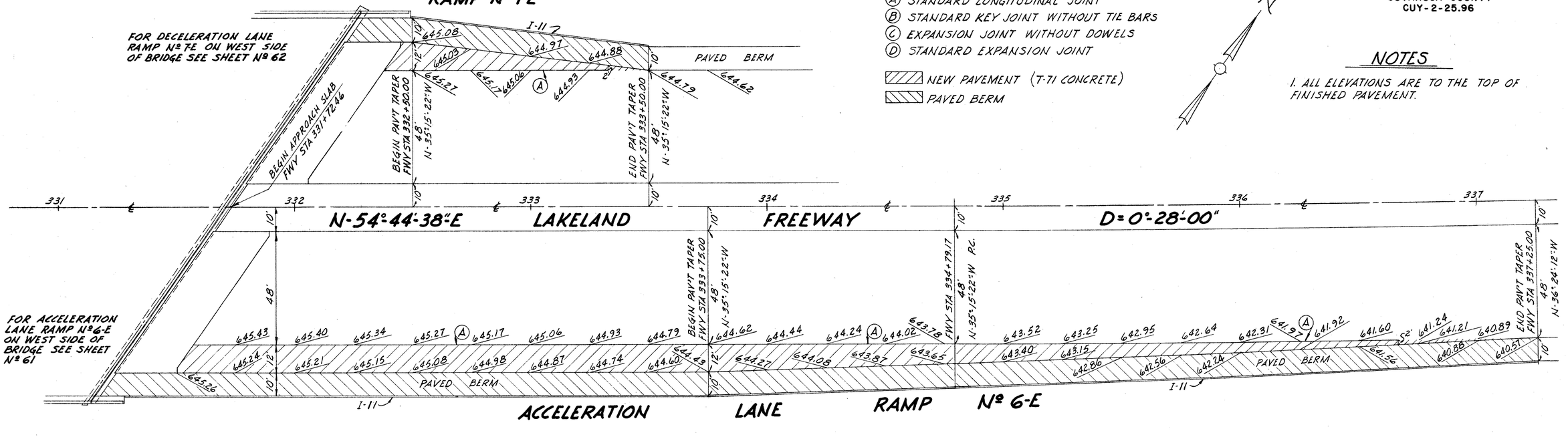
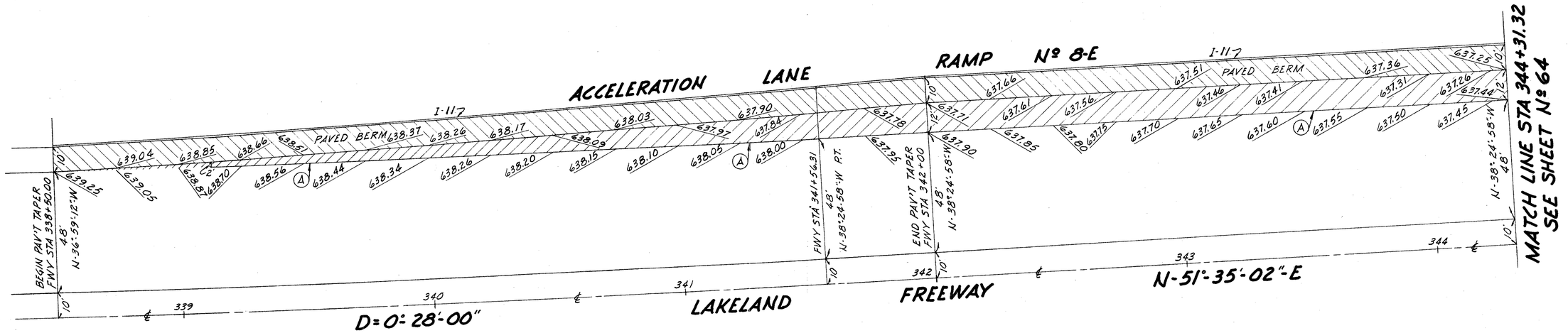
DECELERATION LANE RAMP Nº 7-E

FOR DECELERATION LANE RAMP Nº 7E ON WEST SIDE OF BRIDGE SEE SHEET Nº 62





LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- NEW PAVEMENT (T-71 CONCRETE)
- PAVED BERM

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 LIN. FT. SANDSTONE CURB STRAIGHT	I-18 CU. YD. 5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	I-22 CU. YD. SUB-BASE GRADING A OR B	B-219 CU. YD. 3" WATERPROOFED AGGREGATE BASE COURSE	T-31 BIT. SURF. TREAT. #6 AGG. CU. YD.	T-31 BIT. SURF. TREAT. BIT. MATERIAL AS PER PLANS GALS.	T-71 SQ. YD. REINFORCED PORTLAND CEMENT CONCRETE PAV'T. 10"
DECEL. LANE RAMP 7-E	101.0	19.13	37.93	11.48	1.10	34.45	77.22
ACCEL. LANE RAMP 6-E	597.0	93.20	210.71	55.93	5.37	165.78	528.11
ACCEL. LANE RAMP 8-E	579.5	89.42	208.04	53.66	5.15	160.97	541.76
TOTAL THIS SHEET	1,277.5	201.75	456.68	121.07	11.62	361.20	1,147.09

REVISED 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

ACCELERATION LANE RAMP NO'S. 6E & 8E

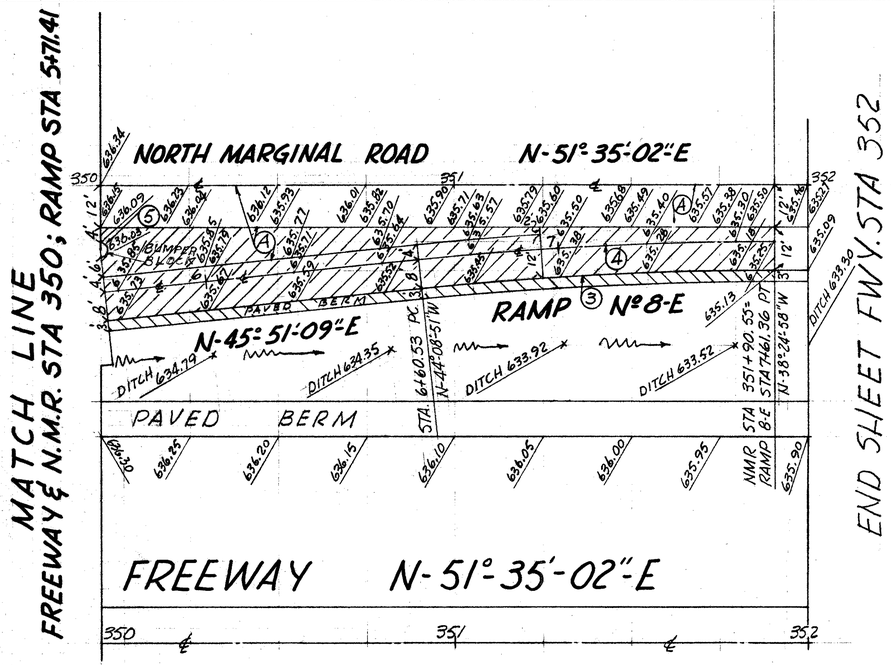
DECELERATION LANE RAMP NO. 7E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

64
152

CUYAHOGA COUNTY
CUY-2-25.96



LEGEND

- Ⓐ STANDARD LONGITUDINAL JOINT.
- Ⓑ STANDARD KEY JOINT WITHOUT TIE BARS.
- Ⓒ EXPANSION JOINT WITHOUT DOWELS.
- Ⓓ STANDARD EXPANSION JOINT
- NEW PAVEMENT - (T-71 CONCRETE)
- PAVED BERM
- I-21 CONCRETE

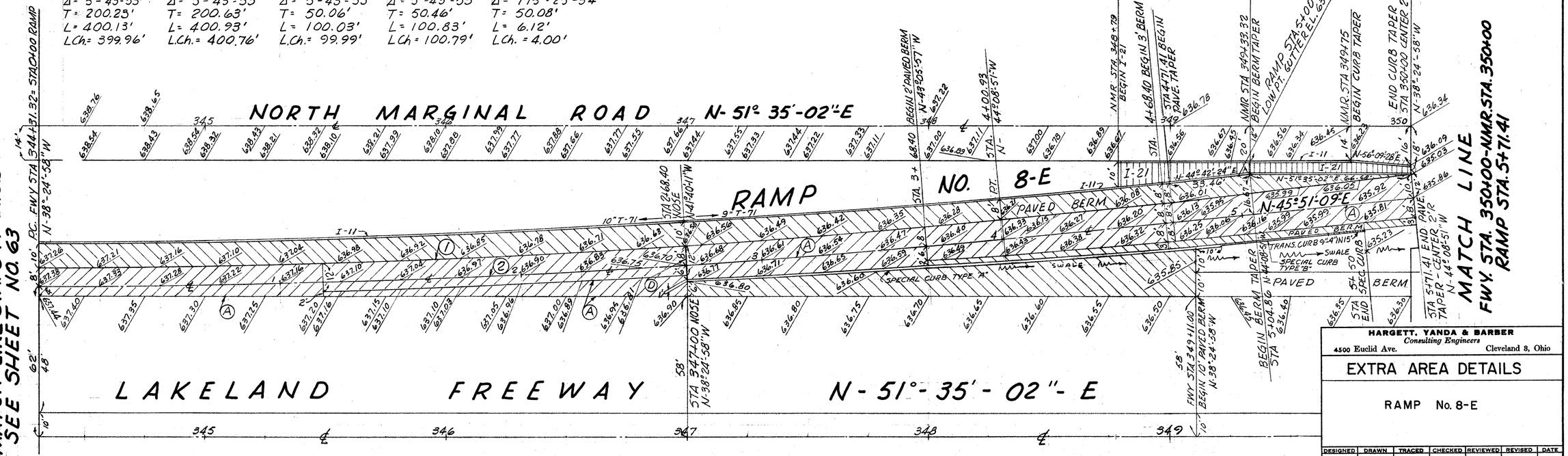
ALL ELEVATIONS ARE TO TOP OF FINISHED PAVEMENT.

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-12 LIN. FT.		I-18 CU. YD.	I-21 SQ. YD.	I-22 CU. YD.	B-21.9 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	CONCRETE CURB		5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	
	STRAIGHT	SPECIAL TYPE "A"	SPECIAL TYPE "B"		4"			CU. YD.	GALS.	9"	10"
1	691.18	221.0	60.0	135.74	74.22	437.92	80.95	7.77	242.85	899.24	460.89

CURVE DATA

①	②	③	④	⑤
R= 4000.00'	R= 4008.00'	R= 1000.00'	R= 1008.00'	R= 2.00'
Δ= 5°-43'-53"	Δ= 5°-43'-53"	Δ= 5°-43'-53"	Δ= 5°-43'-53"	Δ= 175°-25'-34"
T= 200.23'	T= 200.63'	T= 50.06'	T= 50.46'	T= 50.08'
L= 400.13'	L= 400.93'	L= 100.03'	L= 100.83'	L= 6.12'
LCh= 399.96'	LCh.= 400.76'	LCh.= 99.99'	LCh.= 100.79'	LCh.= 4.00'



HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

RAMP No. 8-E

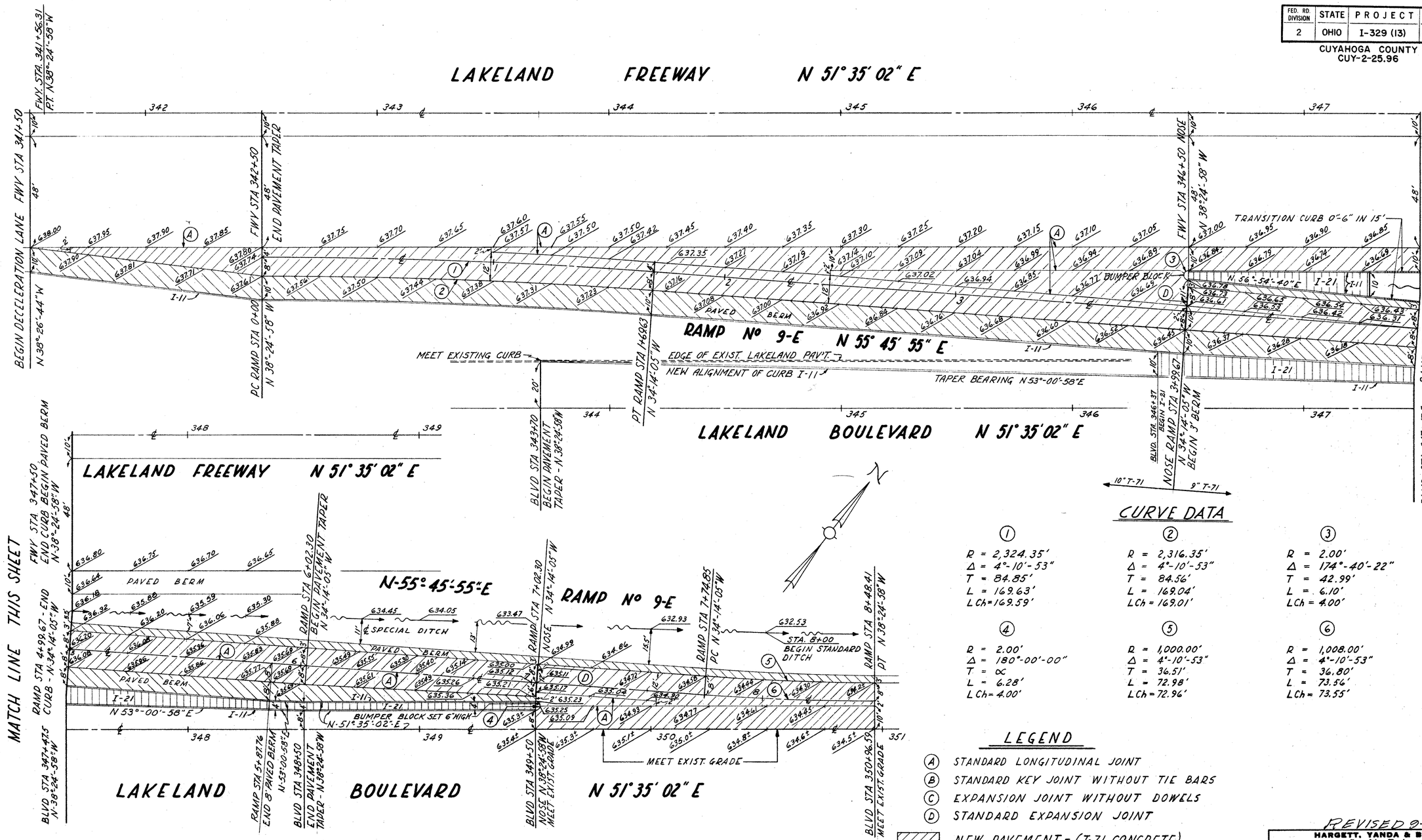
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

REVISED 9-20-60 R.E.C.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

65
152

CUYAHOGA COUNTY
CUY-2-25.96



CURVE DATA

①	②	③
R = 2,324.35'	R = 2,316.35'	R = 2.00'
Δ = 4°-10'-53"	Δ = 4°-10'-53"	Δ = 174°-40'-22"
T = 84.85'	T = 84.56'	T = 42.99'
L = 169.63'	L = 169.04'	L = 6.10'
LCh = 169.59'	LCh = 169.01'	LCh = 4.00'
④	**⑤**	**⑥**
R = 2.00'	R = 1,000.00'	R = 1,008.00'
Δ = 180°-00'-00"	Δ = 4°-10'-53"	Δ = 4°-10'-53"
T = ∞	T = 36.51'	T = 36.80'
L = 6.28'	L = 72.98'	L = 73.56'
LCh = 4.00'	LCh = 72.96'	LCh = 73.55'

LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- NEW PAVEMENT - (T-71 CONCRETE)
- PAVED BERM
- I-21 CONCRETE

ALL ELEVATIONS ARE TO TOP OF FINISHED PAVEMENT

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-18 CU. YD.	I-21 SQ. YD.	I-22 CU. YD.	B-21.9 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	3" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	
	STRAIGHT		4"			CU. YD.	GALS.	9"	10"
2	1,579.0	133.16	258.22	644.11	79.08	7.60	237.18	920.53	1,144.44

REVISED 9-20-60 REC.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

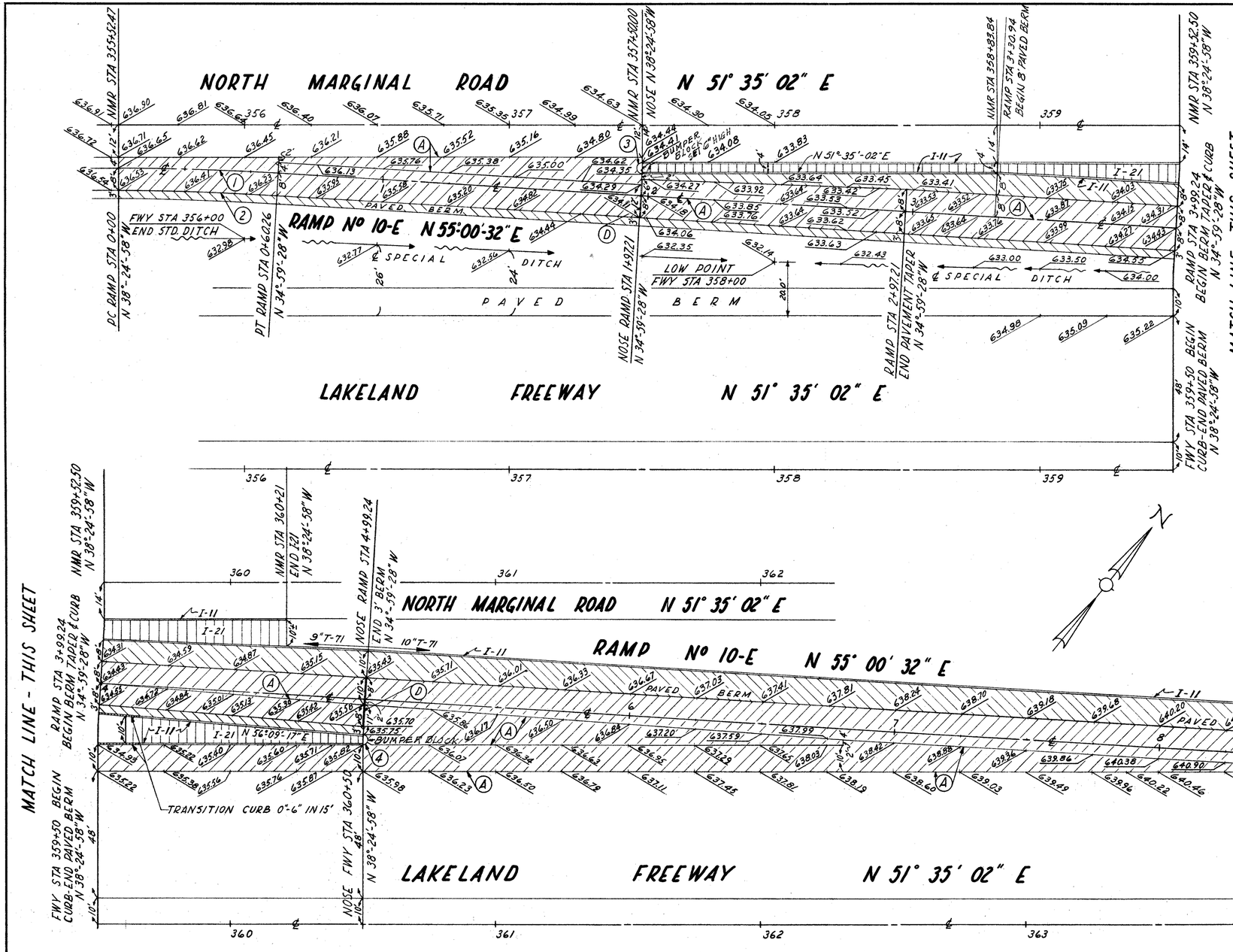
RAMP NO. 9-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

66
152

CUYAHOGA COUNTY
CUY-2-25.96



LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- NEW PAVEMENT - (T-71 CONCRETE)
- PAVED BERM
- I-21 CONCRETE

ALL ELEVATIONS ARE TO TOP OF FINISHED PAVEMENT

CURVE DATA

(1)	(2)	(3)
R = 1,008.00'	R = 1,000.00'	R = 2.00'
Δ = 3°-25'-30"	Δ = 3°-25'-30"	Δ = 180°-00'-00"
T = 30.14'	T = 29.90'	T = ∝
L = 60.26'	L = 59.78'	L = 6.28'
L Ch = 60.25'	L Ch = 59.77'	L Ch = 4.00'
(4)	**(5)**	**(6)**
R = 2.00'	R = 502.05'	R = 510.05'
Δ = 175°-25'-45"	Δ = 3°-25'-30"	Δ = 3°-25'-30"
T = 50.11'	T = 15.01'	T = 15.25'
L = 6.12'	L = 30.01'	L = 30.49'
L Ch = 4.00'	L Ch = 30.01'	L Ch = 30.48'

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-18 CU. YD.	I-21 SQ. YD.	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB STRAIGHT	5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	R.C.C. TRAFFIC ISLAND PAVEMENT 4"	SUB-BASE GRADING A ORB	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG. CU. YD.	BIT. MATERIAL AS PER PLANS GALS.	REINFORCED PORTLAND CEMENT CONCRETE PAVT. 9"	10"
2	1,260	133.68	224.0	683.66	79.28	7.61	237.83	904.05	1,266.22

REVISED 9-20-60 R.E.C.

HARGETT, VANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

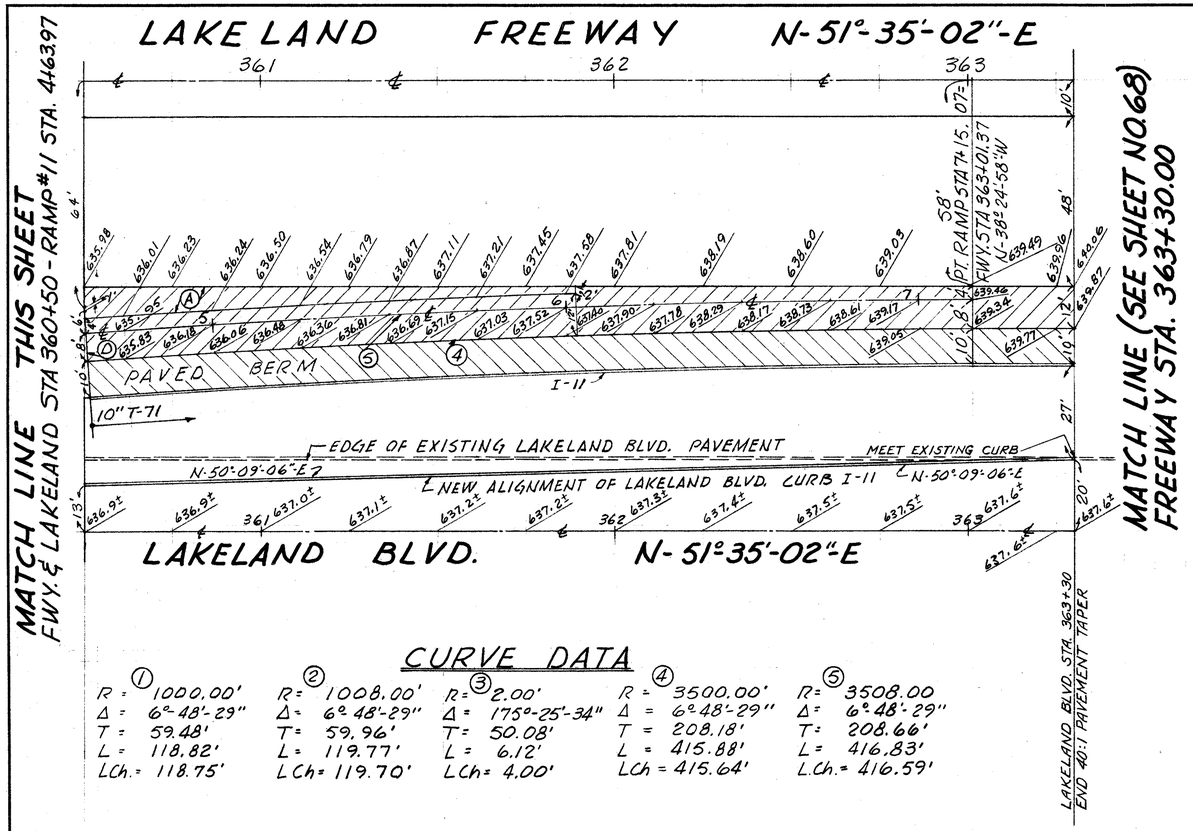
RAMP NO. 10-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

67
152

CUYAHOGA COUNTY
CUY-2-25.96



CURVE DATA

①	②	③	④	⑤
R = 1000.00'	R = 1008.00'	R = 2.00'	R = 3500.00'	R = 3508.00
Δ = 6°-48'-29"	Δ = 6°-48'-29"	Δ = 175°-25'-34"	Δ = 6°-48'-29"	Δ = 6°-48'-29"
T = 59.48'	T = 59.96'	T = 50.08'	T = 208.18'	T = 208.66'
L = 118.82'	L = 119.77'	L = 6.12'	L = 415.88'	L = 416.83'
LCh. = 118.75'	LCh = 119.70'	LCh = 4.00'	LCh = 415.64'	L.Ch. = 416.59'

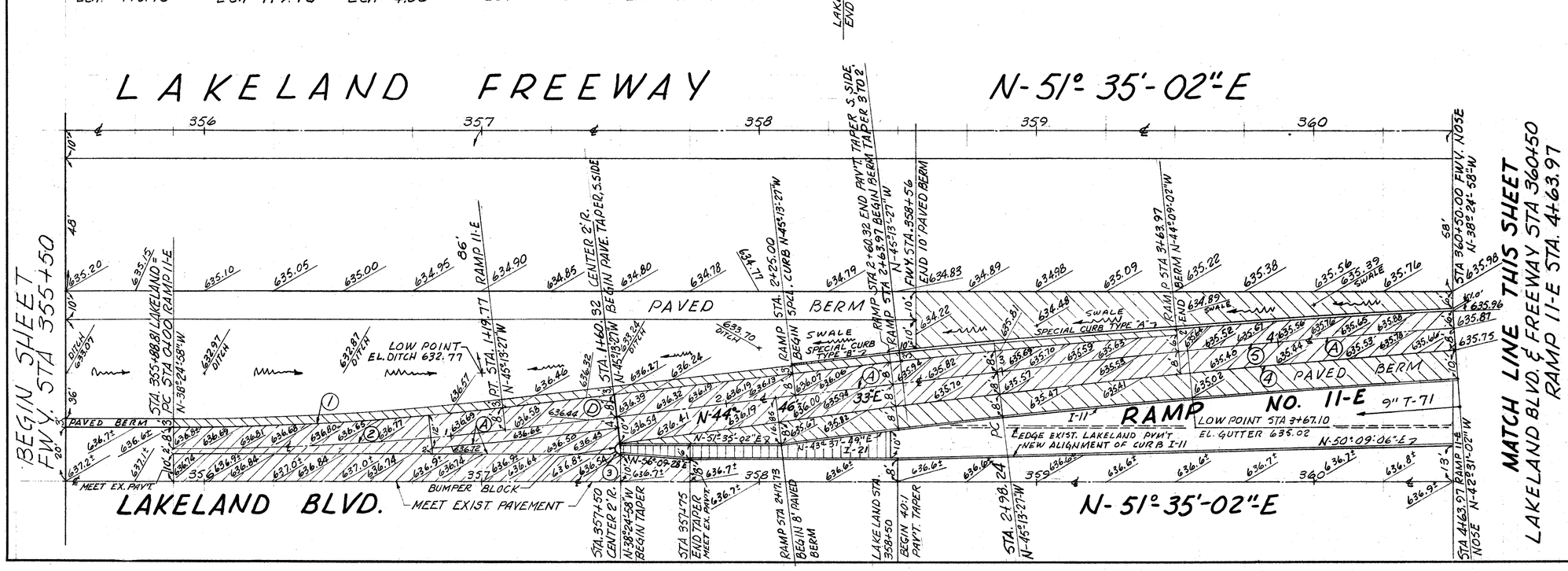
LEGEND

- Ⓐ STANDARD LONGITUDINAL JOINT.
- Ⓑ STANDARD KEY JOINT WITHOUT TIE BARS.
- Ⓒ EXPANSION JOINT WITHOUT DOWELS.
- Ⓓ STANDARD EXPANSION JOINT
- NEW PAVEMENT - (T-71 CONCRETE)
- PAVED BERM
- I-21 CONCRETE

ALL ELEVATIONS ARE TO TOP OF FINISHED PAVEMENT

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-12 LIN. FT.		I-18 CU. YD.	I-21 SQ. YD.	I-22 CU.YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	CONCRETE CURB		5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	
	STRAIGHT	SPECIAL TYPE "A"	SPECIAL TYPE "B"		4"			CU. YD.	GALS.	9"	10"
1	6159.0	203.5	35.0	132.47	53.78	458.08	78.63	7.55	235.86	988.71	474.22



REVISED 9-20-60 REC.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

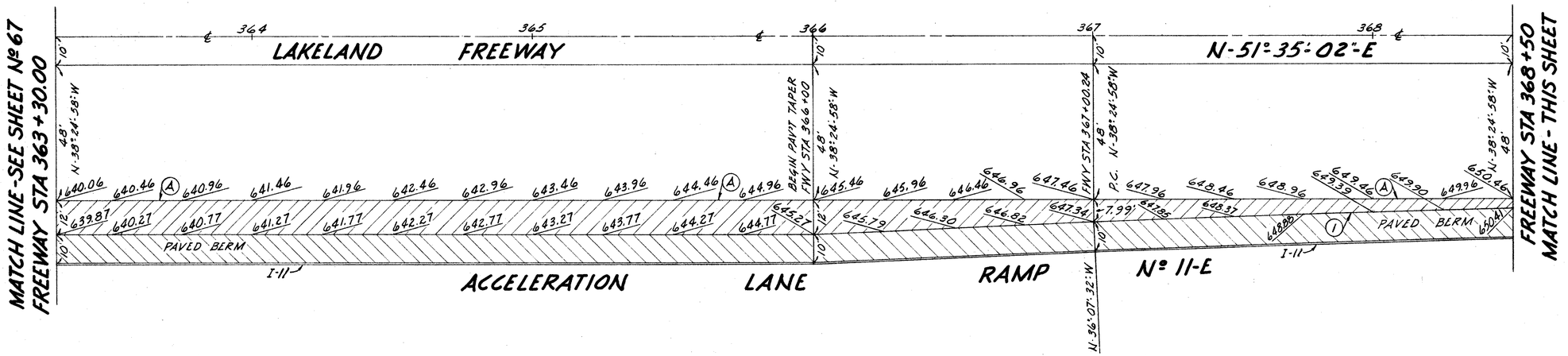
RAMP NO. 11-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

68
152



CURVE DATA

(1)
R=10,000.00'
Δ=2°-17'-26"
T=199.92'
L=399.78'
LCh=399.75'

LEGEND

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

NEW PAVEMENT (T-71 CONCRETE)
PAVED BERM

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.

SUMMARY OF QUANTITIES

DESCRIPTION	I-11 LIN. FT.	I-18 CU. YD.	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.
	SANDSTONE CURB	3" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.
	STRAIGHT				CU. YD.	9"	10"
ACCEL. LANE RAMP 11-E	768.0	118.50	271.61	71.11	6.83	213.33	693.28
ACCEL. LANE RAMP 13-E	685.0	105.70	252.31	63.43	6.09	190.28	678.67
TOTALS THIS SHEET	1,453.0	224.20	523.92	134.54	12.92	403.61	1,371.95

REVISED 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EXTRA AREA DETAILS

ACCELERATION LANE
RAMP NOS. 11E & 13E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

69
152

CUYAHOGA COUNTY
CUY-2-25.96

CURVE DATA

	①	②	③	④	⑤	⑥
	R = 4,118.00'	R = 4,110.00'	R = 2.00'	R = 1,008.00'	R = 1,000.00'	R = 2.00'
	Δ = 6°11'-43"	Δ = 6°11'-43"	Δ = 171°-42'-47"	Δ = 5°-46'-25"	Δ = 5°-46'-25"	Δ = 180°-00'-00"
	T = 222.85'	T = 222.42'	T = 27.61'	T = 50.83'	T = 50.43'	T = ∞
	L = 445.27'	L = 444.41'	L = 5.99'	L = 101.57'	L = 100.77'	L = 6.28'
	LCh = 445.05'	LCh = 444.19'	LCh = 3.99'	LCh = 101.53'	LCh = 100.73'	LCh = 4.00'

BEGIN SHEET FWY. STA. 384+00

STA 384+25.00 FWY. BEGIN TAPER

N-38°-39'-11"W

STA. 385+25.00 FWY = STA. 0+00 RAMP # 12E

N-38°-54'-11"W

LAKELAND FREEWAY D= 0°15'-00"

FREEWAY N-50°09'-04"-E

STA. 389+03.32 FWY PT.

N-39°50'-56"-E

STA. 389+25.00 CENTER 2° RAD. NOSE

STA. 390+25.00 BEGIN 10' PAVED BERM END CURB N-39°-50'-56"E

BUMPER BLOCK

TRANSITION CURB 0"-6" IN 15'

SWALE

I-11, I-21

RAMP # 12-E

EXIST. EDGE LAKELAND BLVD. PAVEMENT

NEW ALIGNMENT OF CURB I-11 N-52°-57'-03"-E

LAKELAND BLVD. N-51°31'-07"-E

STA. 386+48.17 BEGIN 40:1 PAV'T. TAPER- N. SIDE LAKELAND BLVD.

RAMP STA. 400.31 CTR. 2° RAD. N-33°20'-00"-W

RAMP STA. 4+45.27 N-32°42'-28"-W

RAMP STA 5+00.31 END CURB N-32°42'-28"-W

T-71 10" T-71 9"

MATCH LINE - THIS SHEET
LAKELAND BLVD. STA. 390+25 - FWY STA. 390+25
RAMP NO 12-E STA. 5+00.31

MATCH LINE - THIS SHEET
LAKELAND BLVD. STA. 390+25 ; FWY. STA. 390+25
RAMP # 12-E STA. 5+00.31

LAKELAND FREEWAY N-50°-09'-04"-E

RAMP NO. 12E

N-57°17'-32"-E

I-11, I-21

NEW ALIGNMENT OF CURB I-11 N-52°-57'-03"-E

LAKELAND BLVD. N-51°-31'-07"-E

LOW POINT RAMP STA 5+92.75 ELEV. GUTTER 637.02

STA. 391+28.17 END 40:1 PAVEMENT TAPER -N- SIDE LAKELAND BLVD.

END 8' PAVED BERM RAMP STA 6+31.49

BLVD. STA 391+33.88

CENTER 2° RADIUS BLVD. STA 392+28.17

STA 6+05.61 BEGIN PAVMT. TAPER - SOUTH SIDE

STA 7+05.61 CTR 2° RAD. N-32°-42'-28"-W

P.C. STA. 7+33.80 N-32°-42'-28"-W

EXIST. EDGE LAKELAND BLVD. PAVEMENT

PAVED BERM

LOW POINT 635.02 DITCH

635.10 DITCH

635.40 DITCH BEGIN STD. DITCH

635.55 DITCH

637.09 DITCH

636.27 DITCH

635.44 DITCH

& SPECIAL DITCH

PT. RAMP STA. 8+35.37 = LAKELAND BLVD. STA 393+58.63 N-38°-28'-53"-W

MEET EXIST. PAVT.

MEET EXISTING PAVEMENT

BUMPER BLOCK - SET 6" HIGH

N-38°-28'-53"-W

END SHEET
LAKELAND BLVD. STA 393+58.63 ℄ FWY STA. 393+50

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-18 CU. YD.	I-21 SQ. YD.	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	
	STRAIGHT		4"			CU. YD.	GALS.	9"	10"
2	1,582.0	134.49	134.22	543.17	79.91	7.67	239.74	782.93	1,058.67

LEGEND

- Ⓐ STANDARD LONGITUDINAL JOINT.
- Ⓑ STANDARD KEY JOINT WITHOUT TIE BARS.
- Ⓒ EXPANSION JOINT WITHOUT DOWELS.
- Ⓓ STANDARD EXPANSION JOINT.
- NEW PAVEMENT - (T-71 CONCRETE)
- PAVED BERM
- I-21 CONCRETE

ALL ELEVATIONS ARE TO TOP OF FINISHED PAVEMENT.

REVISED 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

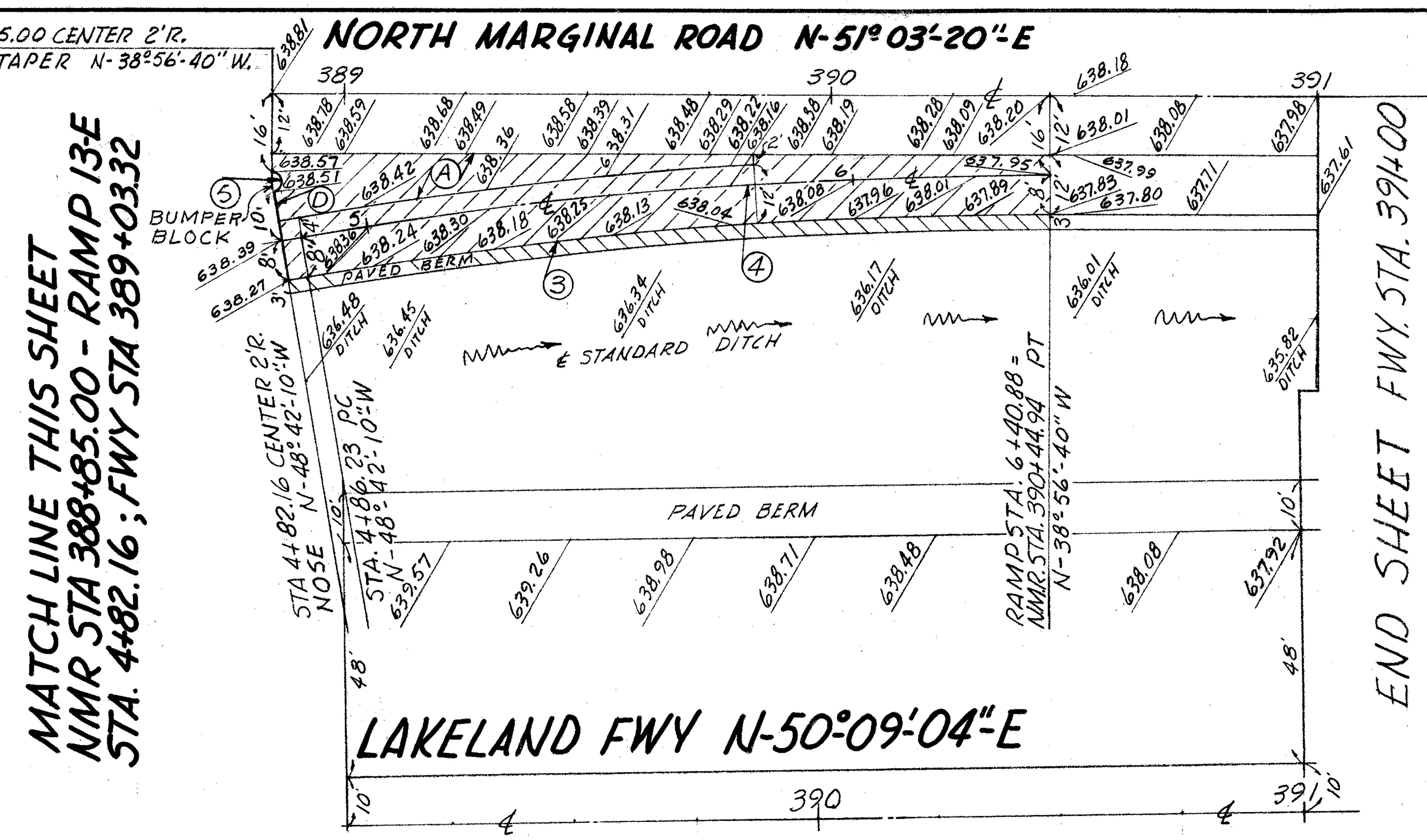
RAMP NO. 12-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

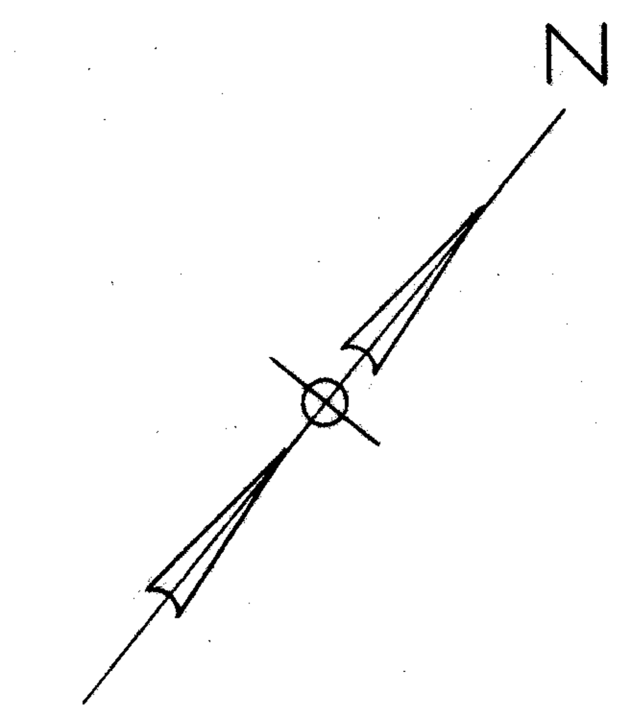
70/152

CUYAHOGA COUNTY
CUY-2-25.96



SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-12 LIN. FT.		I-18 CU. YD.	I-21 SQ. YD.	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	CONCRETE CURB		5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	
	STRAIGHT	SPECIAL TYPE "A"	SPECIAL TYPE "B"		4"			CU. YD.	GALS.	9"	10"
1	551.0	128.5	72.0	105.59	47.56	348.56	62.71	6.02	188.13	858.01	276.0



CURVE DATA

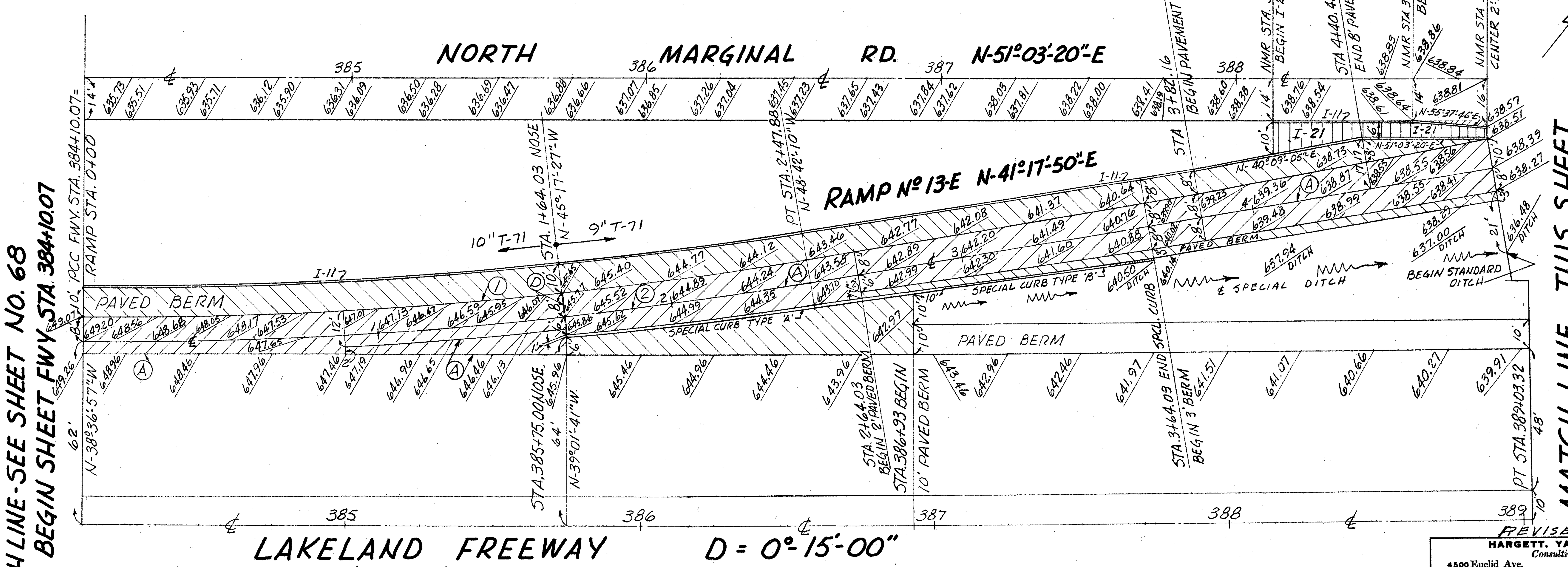
①
R= 1400.00'
Δ= 10°-05'-13"
T= 123.55'
L= 246.47'
LCh= 246.15'

②
R= 1408.00'
Δ= 10°-05'-13"
T= 124.26'
L= 247.88'
LCh= 247.56

③
R= 900.00'
Δ= 9°-45'-30"
T= 76.83'
L= 153.28'
LCh= 153.10'

④
R= 908.00'
Δ= 9°-45'-30"
T= 77.51'
L= 154.65'
LCh= 154.46'

⑤
R= 2.00'
Δ= 175°-25'-34"
T= 50.08'
L= 6.12'
LCh= 4.00'



LEGEND

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

NEW PAVEMENT - (T-71 CONCRETE)
PAVED BERM
I-21 CONCRETE

ALL ELEVATIONS ARE TO TOP OF FINISHED PAVEMENT

REVISED 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

RAMP NO. 13-E

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

71
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CUYAHOGA COUNTY
CUY-2-25.96

CURVE DATA

①	②	③	④
R=1000.00'	R=1008.00'	R=2.00'	R=1016.00'
Δ=15°45'35"	Δ=15°45'35"	Δ=166°37'43"	Δ=1°16'41"
T=138.40'	T=139.51'	T=17.06'	T=11.33'
L=275.06'	L=277.26'	L=5.82'	L=22.66'
LCh=274.19'	LCh=276.39'	LCh=3.97'	LCh=22.66'

⑤	⑥	⑦
R=1416.00'	R=1400.00'	R=1408.00'
Δ=0°44'13"	Δ=15°37'30"	Δ=15°37'30"
T=9.11'	T=192.09'	T=193.18'
L=18.21'	L=381.79'	L=383.97'
LCh=18.21'	LCh=380.61'	LCh=382.78'

LEGEND

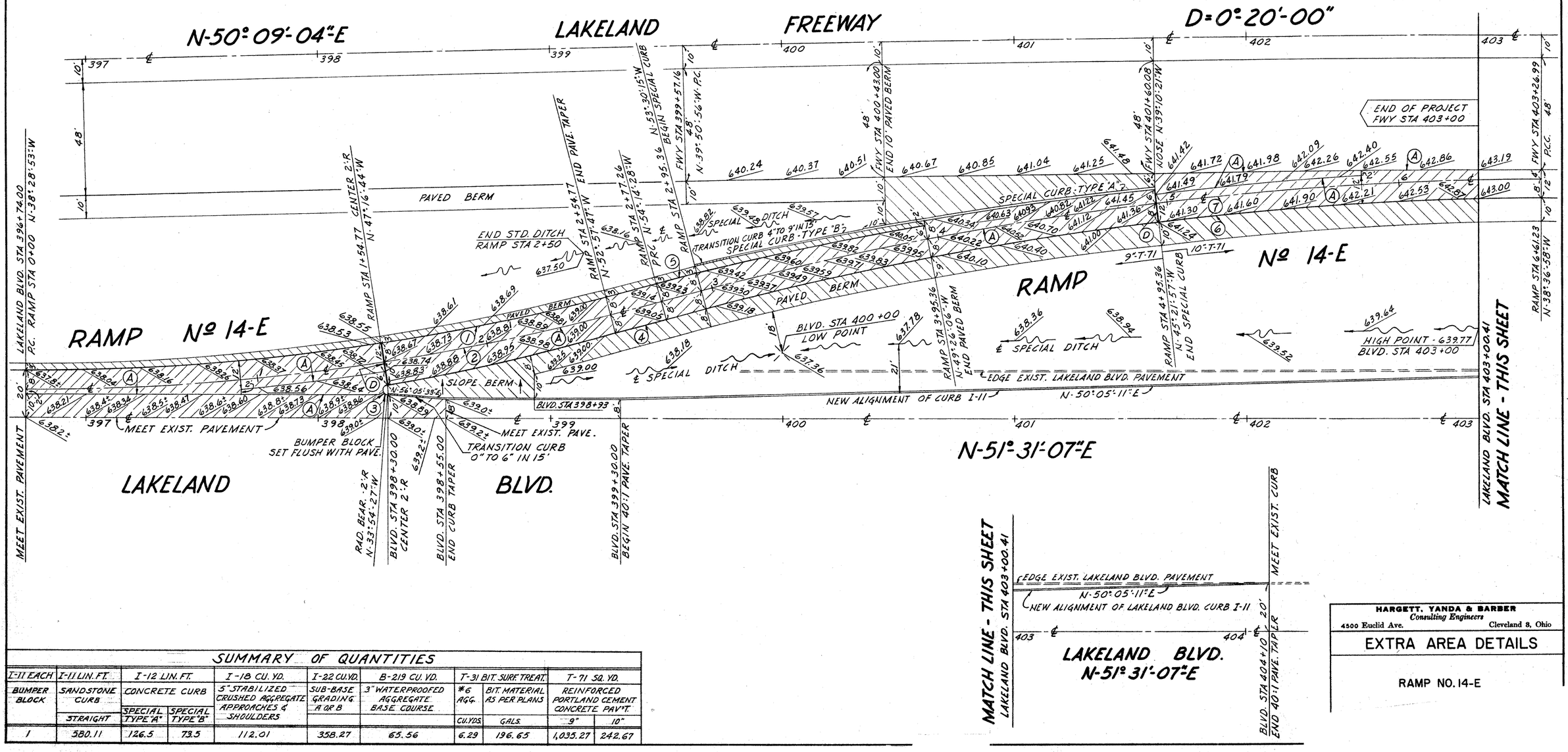
- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.

NEW PAVEMENT (T-71 CONCRETE)

PAVED BERM

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.



SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-12 LIN. FT.		I-18 CU. YD.	I-22 CU.YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	CONCRETE CURB		5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	
	STRAIGHT	SPECIAL TYPE "A"	SPECIAL TYPE "B"				CU.YDS.	GALS.	9"	10"
1	380.11	126.5	73.5	112.01	358.27	65.56	6.29	196.65	1,035.27	242.67

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

RAMP NO. 14-E

R-16

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

CUYAHOGA COUNTY
CUY-2-25.96

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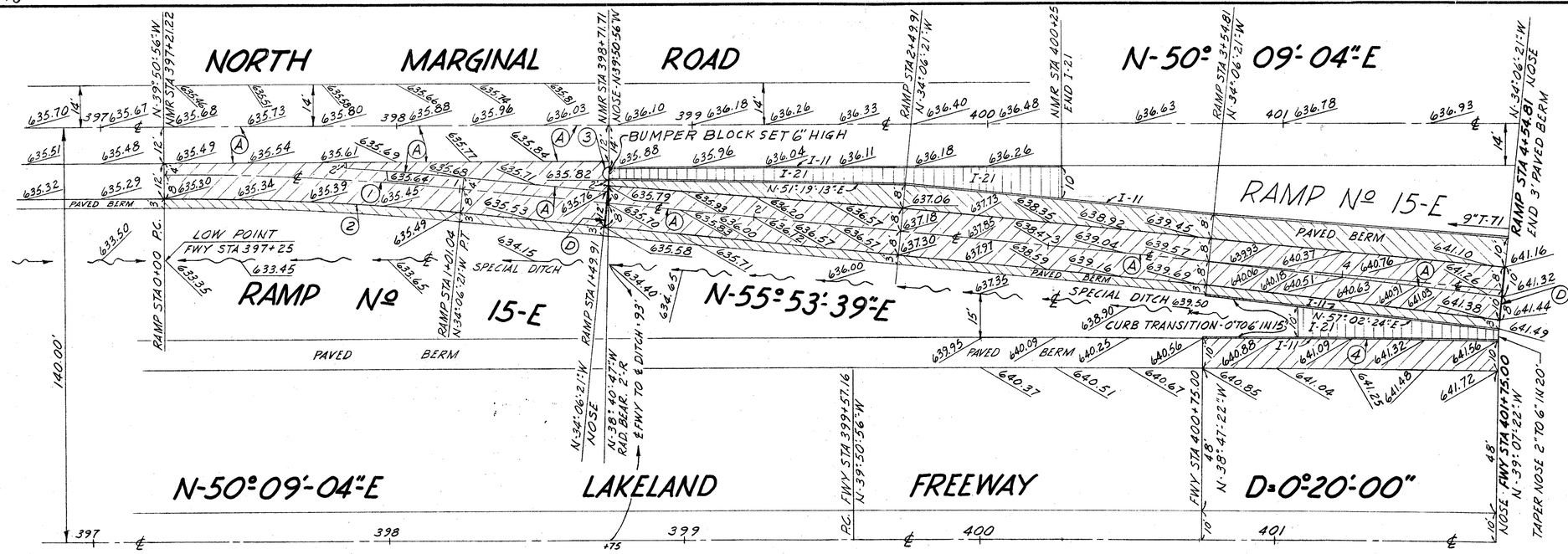


CURVE DATA

①	②
R=1008.00'	R=1000.00'
Δ=5°44'35"	Δ=5°44'35"
T=50.56'	T=50.16'
L=101.04'	L=100.24'
LCh=100.99'	LCh=100.19'

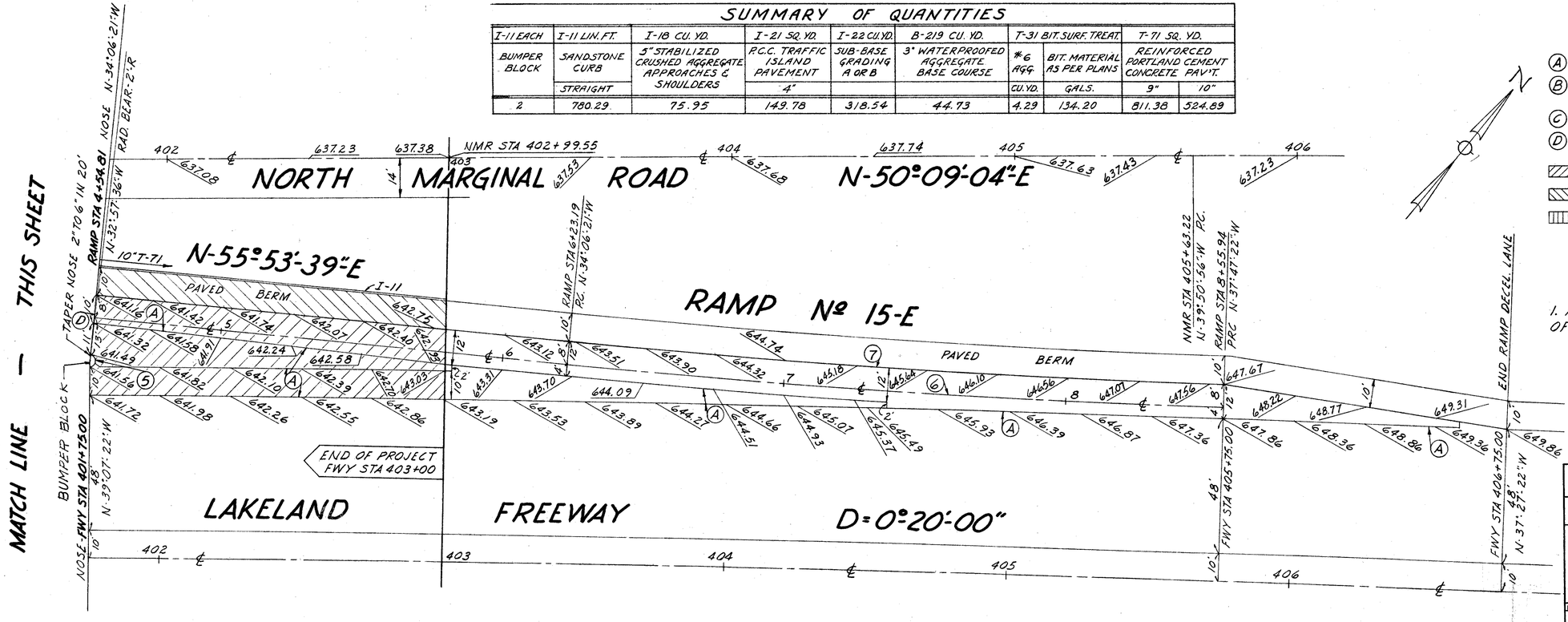
③	④ CURB
R=2.00'	R=17,256.74'
Δ=178°49'51"	Δ=0°20'00"
T=196.02'	T=50.20'
L=6.24'	L=100.40'
LCh=4.00'	LCh=100.40'

⑤	⑥
R=2.00'	R=3620.32'
Δ=173°50'14"	Δ=3°41'01"
T=37.15'	T=116.42'
L=6.07'	L=232.75'
LCh=3.99'	LCh=232.71'

⑦
R=3612.32'
Δ=3°41'01"
T=116.16'
L=232.24'
LCh=232.20'

SUMMARY OF QUANTITIES

I-11 EACH	I-11 LIN. FT.	I-18 CU. YD.	I-21 SQ. YD.	I-22 CU. YD.	B-219 CU. YD.	T-31 BIT. SURF. TREAT.		T-71 SQ. YD.	
BUMPER BLOCK	SANDSTONE CURB	5" STABILIZED CRUSHED AGGREGATE APPROACHES & SHOULDERS	P.C.C. TRAFFIC ISLAND PAVEMENT	SUB-BASE GRADING A OR B	3" WATERPROOFED AGGREGATE BASE COURSE	#6 AGG.	BIT. MATERIAL AS PER PLANS	REINFORCED PORTLAND CEMENT CONCRETE PAV'T.	
	STRAIGHT		4"			CU. YD.	GALS.	9"	10"
2	780.29	75.95	149.78	318.54	44.73	4.29	134.20	811.38	524.89



LEGEND

- (A) STANDARD LONGITUDINAL JOINT.
- (B) STANDARD KEY JOINT WITHOUT TIE BARS.
- (C) EXPANSION JOINT WITHOUT DOWELS.
- (D) STANDARD EXPANSION JOINT.

NEW PAVEMENT (T-71 CONCRETE)
PAVED BERM
I-21 CONCRETE

NOTES

1. ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.

REVISED 9-20-60 R.E.C.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

EXTRA AREA DETAILS

RAMP NO. 15-E

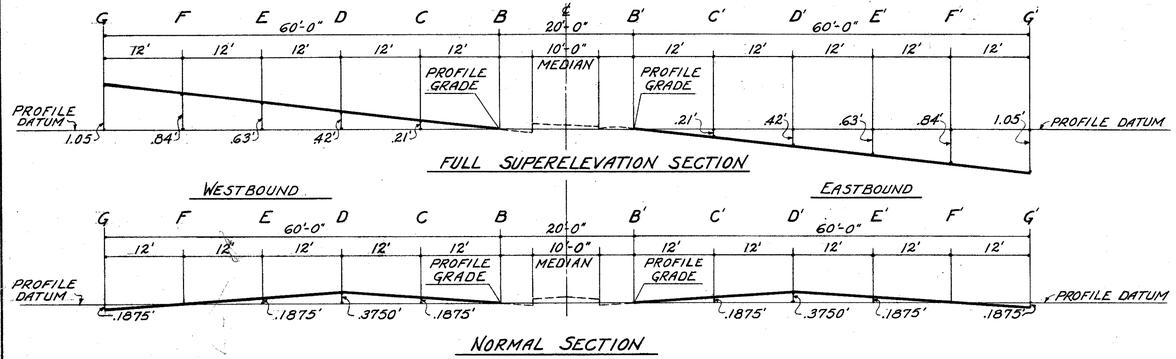
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

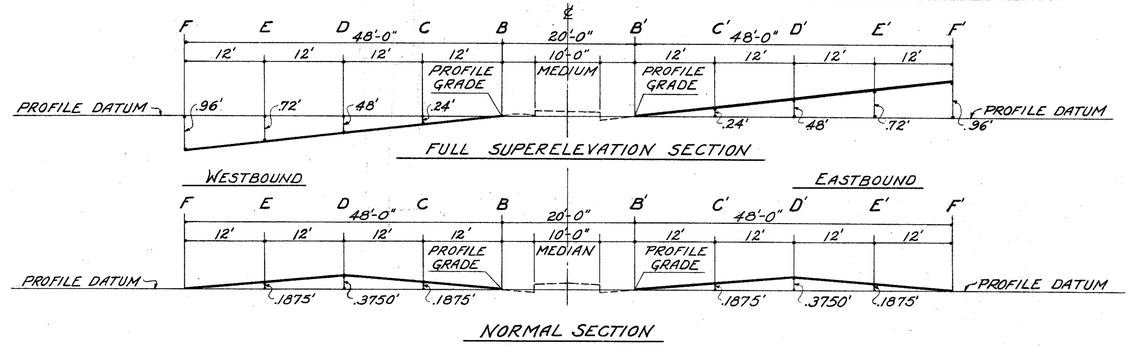
SUPERELEVATION TABLES

CUYAHOGA COUNTY
CUY-2-25.96

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

74
152





0°-44'-43" CURVE No. 1-E P.C. STA. 293+98.41 - P.T. STA. 301+98.41 DESIGN SPEED 60 M.P.H.

	G	F	E	D	C	B		B'	C'	D'	E'	F'	G'
NORMAL	636.28	636.47	636.66	636.85	636.66	636.47	290+75	636.47	636.66	636.85	636.66	636.47	636.28
	636.17	636.36	636.55	636.74	636.55	636.36	291+00	636.36	636.55	636.74	636.55	636.36	636.17
	636.05	636.24	636.43	636.62	636.43	636.24	+25	636.24	636.43	636.62	636.43	636.24	636.05
	635.90	636.09	636.28	636.47	636.28	636.09	+50	636.09	636.28	636.47	636.28	636.09	635.90
	635.75	635.93	636.12	636.31	636.12	635.93	+75	635.93	636.12	636.30	636.11	635.92	635.73
RUN-OFF	635.61	635.77	635.95	636.13	635.94	635.75	292+00	635.75	635.94	636.09	635.90	635.72	635.54
	635.47	635.61	635.77	635.93	635.74	635.55	+25	635.55	635.71	635.85	635.66	635.48	635.30
	635.33	635.45	635.58	635.71	635.52	635.33	+50	635.33	635.45	635.58	635.39	635.21	635.02
	635.18	635.28	635.37	635.47	635.28	635.09	+75	635.09	635.18	635.28	635.09	634.90	634.71
	635.02	635.08	635.14	635.21	635.02	634.83	293+00	634.83	634.89	634.95	634.77	634.58	634.39
	634.85	634.87	634.89	634.93	634.74	634.55	+25	634.55	634.58	634.61	634.43	634.24	634.05
	634.68	634.65	634.63	634.63	634.44	634.25	+50	634.25	634.25	634.25	634.06	633.87	633.68
TRANSITION	634.51	634.43	634.37	634.31	634.12	633.93	+75	633.93	633.88	633.82	633.62	633.44	633.25
							P.C.+98.41						
	634.33	634.21	634.09	633.97	633.78	633.59	294+00	633.59	633.49	633.38	633.18	633.00	632.80
	634.12	633.96	633.79	633.62	633.43	633.24	+25	633.24	633.09	632.94	632.74	632.55	632.35
	633.85	633.66	633.46	633.27	633.07	632.86	+50	632.86	632.68	632.50	632.30	632.10	631.90
	633.51	633.30	633.09	632.89	632.68	632.47	+75	632.47	632.27	632.07	631.86	631.66	631.45
	633.11	632.90	632.69	632.48	632.27	632.06	295+00	632.06	631.85	631.64	631.43	631.22	631.01
	632.67	632.46	632.25	632.04	631.83	631.62	+25	631.62	631.41	631.20	630.99	630.78	630.57
	632.22	632.01	631.80	631.59	631.38	631.17	+50	631.17	630.96	630.75	630.54	630.33	630.12
	631.75	631.54	631.33	631.12	630.91	630.70	+75	630.70	630.49	630.28	630.07	629.86	629.65
FULL SUPER													
	623.80	623.59	623.38	623.17	622.96		300+25	622.96	622.75	622.54	622.33	622.12	
	623.55	623.34	623.13	622.92	622.71		300+50	622.71	622.50	622.29	622.08	621.87	
	623.33	623.12	622.91	622.70	622.49		+75	622.49	622.28	622.07	621.86	621.65	
TRANSITION	623.14	622.93	622.72	622.51	622.30		301+00	622.30	622.09	621.88	621.67	621.46	
	622.95	622.75	622.54	622.33	622.12		+25	622.12	621.91	621.70	621.50	621.29	
	622.75	622.57	622.38	622.18	621.98		+50	621.98	621.77	621.58	621.37	621.17	
	622.56	622.40	622.23	622.04	621.85		+75	621.85	621.68	621.52	621.30	621.11	
							P.T.+98.41						
RUN-OFF	622.37	622.25	622.13	621.94	621.75		302+00	621.75	621.64	621.52	621.31	621.13	
	622.18	622.12	622.06	621.87	621.68		+25	621.68	621.63	621.56	621.36	621.18	
	622.02	622.01	622.01	621.82	621.63		+50	621.63	621.63	621.61	621.41	621.23	
	621.91	621.94	621.98	621.79	621.60		+75	621.60	621.63	621.66	621.47	621.28	
	621.84	621.90	621.97	621.78	621.59		303+00	621.59	621.65	621.71	621.53	621.34	
	621.80	621.89	621.99	621.80	621.61		+25	621.61	621.70	621.80	621.61	621.42	
	621.78	621.91	622.04	621.85	621.66		+50	621.66	621.78	621.91	621.72	621.54	
	621.79	621.94	622.10	621.91	621.72		+75	621.72	621.87	622.02	621.83	621.65	
NORMAL	621.82	621.99	622.18	621.99	621.80		304+00	621.80	621.97	622.13	621.95	621.76	
	621.88	622.07	622.26	622.07	621.88		+25	621.88	622.06	622.24	622.05	621.86	
	621.95	622.14	622.33	622.14	621.95		+50	621.95	622.14	622.33	622.14	621.95	
	622.02	622.21	622.40	622.21	622.02		+75	622.02	622.21	622.40	622.21	622.02	
	622.10	622.29	622.48	622.29	622.10		305+00	622.10	622.29	622.48	622.29	622.10	
	622.18	622.37	622.56	622.37	622.18		+25	622.18	622.37	622.56	622.37	622.18	

0°-50'-24.6" CURVE No. 2-E P.C. STA. 317+97.18 - P.T. STA. 325+97.18 DESIGN SPEED 60 M.P.H.

	F	E	D	C	B	STATIONS	B'	C'	D'	E'	F'
NORMAL	625.02	625.21	625.40	625.21	625.02	314+75	625.02	625.21	625.40	625.21	625.02
	625.10	625.29	625.48	625.29	625.10	315+00	625.10	625.29	625.48	625.29	625.10
	625.18	625.37	625.56	625.37	625.18	+25	625.18	625.37	625.56	625.37	625.18
	625.26	625.45	625.64	625.45	625.26	+50	625.26	625.45	625.64	625.45	625.26
	625.34	625.53	625.72	625.55	625.36	+75	625.36	625.55	625.74	625.56	625.38
RUN-OFF	625.42	625.61	625.80	625.65	625.48	316+00	625.48	625.67	625.86	625.70	625.54
	625.50	625.69	625.88	625.75	625.62	+25	625.62	625.81	626.00	625.87	625.74
	625.59	625.78	625.97	625.87	625.78	+50	625.78	625.97	626.16	626.06	625.97
	625.70	625.89	626.08	626.01	625.95	+75	625.95	626.14	626.33	626.26	626.20
	625.82	626.00	626.20	626.17	626.14	317+00	626.14	626.33	626.52	626.48	626.45
	625.94	626.12	626.32	626.34	626.35	+25	626.35	626.54	626.73	626.73	626.74
	626.07	626.24	626.45	626.52	626.57	+50	626.57	626.76	626.95	627.01	627.07
TRANSITION	626.20	626.38	626.59	626.72	626.82	+75	626.82	627.01	627.20	627.32	627.44
						P.C.+97.18					
	626.36	626.55	626.76	626.93	627.08	318+00	627.08	627.27	627.47	627.64	627.81
	626.55	626.75	626.97	627.17	627.36	+25	627.36	627.56	627.77	627.98	628.18
	626.77	626.99	627.22	627.44	627.66	+50	627.66	627.88	628.11	628.33	628.55
	627.03	627.27	627.51	627.74	627.98	+75	627.98	628.21	628.45	628.68	628.92
	627.35	627.59	627.83	628.07	628.31	319+00	628.31	628.55	628.79	629.03	629.27
FULL SUPER	627.70	627.94	628.18	628.42	628.66	+25	628.66	628.90	629.14	629.38	629.62
	628.07	628.31	628.55	628.79	629.03	+50	629.03	629.27	629.51	629.75	629.99
	628.45	628.69	628.93	629.17	629.41	+75	629.41	629.65	629.89	630.13	630.37
	637.14	637.38	637.62	637.86	638.10	324+25	638.10	638.34	638.58	638.82	639.06
	637.64	637.88	638.12	638.36	638.60	+50	638.60	638.84	639.08	639.32	639.56
	638.13	638.37	638.61	638.85	639.09	+75	639.09	639.33	639.57	639.81	640.05
TRANSITION	638.62	638.85	639.09	639.32	639.56	325+00	639.56	639.80	640.04	640.28	640.52
	639.11	639.33	639.57	639.78	640.02	+25	640.02	640.25	640.48	640.71	640.95
	639.60	639.81	640.05	640.23	640.45	+50	640.45	640.67	640.89	641.11	641.34
	640.09	640.29	640.53	640.67	640.87	+75	640.87	641.07	641.28	641.48	641.68
						P.T.+97.18					
RUN-OFF	640.58	640.77	641.01	641.10	641.27	326+00	641.27	641.46	641.66	641.83	641.98
	641.07	641.25	641.48	641.53	641.65	+25	641.65	641.84	642.03	642.15	642.25
	641.54	641.73	641.94	641.96	642.02	+50	642.02	642.20	642.39	642.45	642.50
	641.98	642.17	642.36	642.36	642.36	+75	642.36	642.55	642.74	642.74	642.75
	642.38	642.57	642.75	642.72	642.69	327+00	642.69	642.88	643.07	643.03	643.00
	642.75	642.94	643.12	643.06	643.00	+25	643.00	643.19	643.38	643.31	643.25
	643.10	643.29	643.48	643.38	643.29	+50	643.29	643.48	643.67	643.57	643.48
	643.44	643.62	643.81	643.68	643.56	+75	643.56	643.75	643.94	643.81	643.68
NORMAL	643.75	643.93	644.12	643.97	643.81	328+00	643.81	644.00	644.19	644.03	643.87
	644.02	644.21	644.40	644.23	644.05	+25	644.05	644.24	644.43	644.25	644.07
	644.26	644.45	644.64	644.46	644.27	+50	644.27	644.46	644.65	644.46	644.27
	644.47	644.66	644.85	644.66	644.47	+75	644.47	644.66	644.85	644.66	644.47
	644.65	644.84	645.03	644.84	644.65	329+00	644.65	644.84	645.03	644.84	644.65
	644.81	645.00	645.19	645.00	644.81	+25	644.81	645.00	645.19	645.00	644.81

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

75/152

CUYAHOGA COUNTY
CUY 2-25.96

K 5

SEEDING & PROTECTING WIDTH LIN. FT.	SEEDING & PROTECTING AREA SQ. YDS.
174	620
	1983
	640
183	620
	2056
187	620
	2100
191	620
	2117
190	620
	2117
191	620
	2133
193	620
	2194
202	620
	2289
210	620

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH

STA 299+00
624.53
C-298 | F-3 | C-680 | F-10 | F-4 | C-14
N.M.R. | RAMP #2-E | RAMP #1-E | S.M.R.

STA 298+00
626.23
C-4 | C-134 | F-394 | C-394 | C-6
N.M.R. | EXISTING SHAWNEE | EXISTING ROAD | RAMP #2-E | RAMP #1-E | S.M.R.

STA 297+00
628.21
L.P. STA. 297+24 NORMAL DITCH
EXISTING SHAWNEE AVE. | C-6 | C-140 | F-560 | C-584
N.M.R. | RAMP #2-E | RAMP #1-E | S.M.R.

STA 296+00
630.21
F-1 | C-120 | F-636 | F-2 | C-448
H.P. STA. 295+40 NORMAL DITCH
N.M.R. | S.M.R.

STA 295+00
632.06
F-2 | C-88 | F-616 | C-24 | C-198
N.M.R. | S.M.R.

STA 294+00
633.59
F-36 | C-6 | C-34 | F-992 | C-168
H.P. STA. 293+35.26 NORMAL DITCH
N.M.R. | S.M.R.

STA 293+00
634.83
F-4 | C-172 | F-1310 | C-272
N.M.R. | S.M.R.

STA 292+00
635.75
F-2 | C-120 | F-1838 | C-280
N.M.R. | S.M.R.

STA 291+00
636.36
C-144 | F-2188 | C-504
N.M.R. | S.M.R.

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
992	17		
		2833	761
538	394		
		2348	1767
730	560		
		2404	2220
568	639		
		1626	2328
310	618		
		959	3048
208	1028		
		1207	4337
444	1314		
		1563	5841
400	1840		
		1941	7459
648	2188		

CU. YDS. 19,596
CU. YDS. 27,881
CU. YDS. 34,015
EXCAVATION
EMBANKMENT
EMBANKMENT + 22%

X-SECTIONS STA 291+00 To STA 299+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

76/152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
252	
	2539
205	
	2467
239	
	2600
229	
	2456
213	
	2194
182	
	1989
176	
	1917
169	
	1806
156	
	1833
174	

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH

620 — C-4 — C-2484 — F-60 — C-12

STA. 308+00
623.00

640 — C-88 — C-1698 — F-74 — C-18

STA. 307+00
622.70

620 — C-2896

STA. 306+00
622.40

620 — C-3164

STA 305+00
622.10

620 — F-4 — C-2230 — C-74 — C-8

STA 304+00
621.80
L.P. STA. 303+50 NORMAL DITCH
6" I-22 SUBBASE (AHEAD)
18" I-22 SUBBASE (BACK)

620 — C-4 — C-2030 — F-4 — C-4 — F-28

STA 303+00
620.59
F.L. EL. 619.00
F.L. EL. 626.11

620 — C-2218 — F-14 — F-28

STA 302+00
621.75
F.L. EL. 622.38
L.P. STA. 301+75
F.L. EL. 618.98
F.L. EL. 620.08
F.L. EL. 621.21

620 — C-2096 — F-100

STA. 301+00
622.30
L.P. STA. 300+16
F.L. EL. 619.57

640 — AT STA. 300+50
18" I-22 SUBBASE (AHEAD)
6" I-22 SUBBASE (BACK)
F.L. EL. 619.68

620 — C-1552 — F-32 — C-2 — F-16

STA. 300+00
623.22

STA. 299+00

RAMP #1-E
RAMP #2-E
N.M.R.
S.M.R.
EXISTING E 207TH ST.

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
2500	60		
		7970	248
1804	74		
		8704	137
2896	0		
		11222	0
3164	0		
		10141	7
2312	4		
		8056	74
2038	36		
2158	36		
		8104	144
2218	42		
		7989	263
2096	100		
		6759	274
1554	48		
		4715	120
992	17		

EXCAVATION 89,797 CU. YDS.
EMBANKMENT 1,992 CU. YDS.
EMBANKMENT + 22% 2,430 CU. YDS.

X-SECTIONS STA. 300+00 To STA. 308+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

77
152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
323	620
	3611
	640
327	620
	3489
301	620
	3389
309	620
	3361
296	620
	3256
290	620
	3172
281	620
	3011
261	620
	2989
	640
277	620
	2939
252	

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH

STA. 317+00
626.14
C-4572
N.M.R. ℄ S.M.R. ℄

STA 316+00
625.48
C-4646
N.M.R. ℄ S.M.R. ℄

STA 315+00
625.10
C-3714
N.M.R. ℄ S.M.R. ℄

STA 314+00
624.80
C-4386
N.M.R. ℄ S.M.R. ℄

STA 313+00
624.50
C-3722
N.M.R. ℄ S.M.R. ℄

STA 312+00
624.20
C-3796
N.M.R. ℄ S.M.R. ℄ C-6

STA 311+00
623.90
C-3652
N.M.R. ℄ S.M.R. ℄

STA 310+00
623.60
C-2464
N.M.R. ℄ EXISTING ℄ E. 203RD ST. S.M.R. ℄ F-132

STA 309+00
623.30
C-2878
N.M.R. ℄ S.M.R. ℄ F-132

STA. 308+00 STA. 308+00

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
4572	0		
		17070	0
4646	0		
		15481	0
3714	0		
		15000	0
4386	0		
		15015	0
3722	0		
		13933	0
3802	0		
		13804	0
3652	0		
		11326	244
2464	132		
		9893	489
2878	132		
		9959	356
2500	60		

CU. YDS. 143,144
CU. YDS. 437
CU. YDS. 533

EXCAVATION
EMBANKMENT
EMBANKMENT + 22%

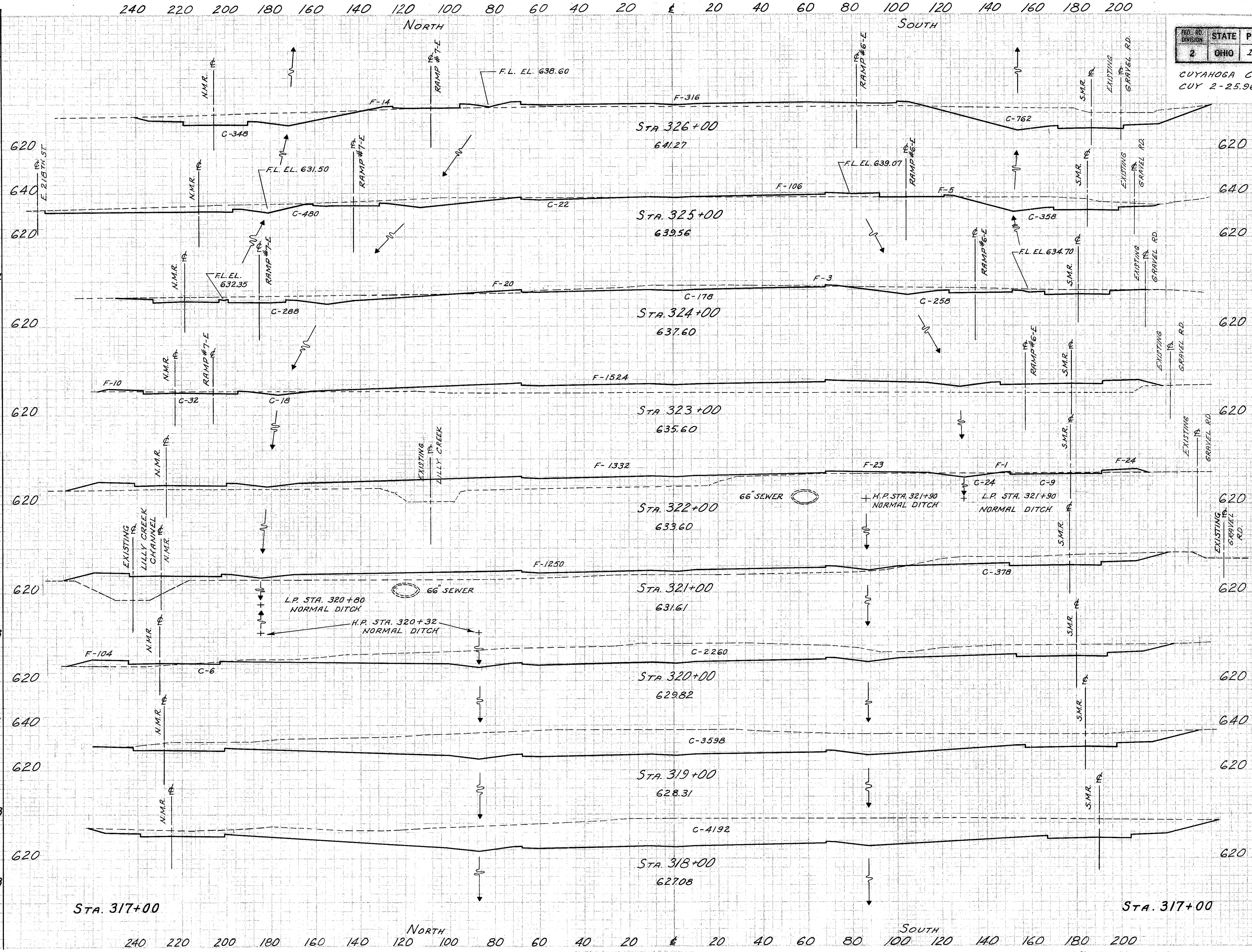
X-SECTIONS STA 309+00 To STA 317+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

78/152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING WIDTH LIN. FT.	AREA SQ. YDS.
227	
	2383
202	
	2344
220	
	2689
264	
	3050
285	
	3189
289	
	3228
292	
	3261
295	
	3328
304	
	3483
323	



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
1110	330		
		3648	817
860	111		
		2933	248
724	23		
		1433	2883
50	1534		
		154	5396
33	1380		
		761	4870
378	1250		
		4896	2507
2266	104		
		10859	193
3598	0		
		14426	0
4192	0		
		16230	0
4572	0		

EXCAVATION 29,095 CU. YDS.
EMBANKMENT 31,817 CU. YDS.
EMBANKMENT + 22% 38,817 CU. YDS.

X-SECTIONS STA. 318+00 TO STA. 326+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

79
152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
	640
144	620
	1750 640
171	620
	1900
171	620
	1556 640
109	620
	1044
79	620
	872 640
87	620
	1094
110	620
	1678
192	620
	2350 640
231	620
	2544
227	

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH

STA 335+00
643.52
F-1012
C-150
C-106
N.M.R.
EXISTING ℄ E. 223RD ST.
EXISTING ℄ LAKELAND BLVD.

STA 334+00
644.44
F-928
C-474
C-314
N.M.R.
EXISTING ℄ LAKELAND BLVD.

STA. 333+00
645.06
F-1228
C-367
C-448
MATCH LINE PT.
N.M.R.
EXISTING ℄ E. 222ND ST.
EXISTING ℄ LAKELAND BLVD.

STA. 332+00
645.40
F-1056
C-706
MATCH LINE PT.
EXISTING ℄ E. 222ND ST.
EXISTING ℄ LAKELAND BLVD.

STA. 331+00
645.44
C-1200
MATCH LINE PT.
M.C.
EXISTING ℄ LAKELAND BLVD.
S.M.R.

STA 330+00
645.19
F-16
C-836
F.L. EL. 625.29
MATCH LINE PT.
N.M.R.
EXISTING ℄ E. 222ND ST.
EXISTING ℄ GRAVEL ROAD
MATCH LINE PT.

FOR MATCH LINE PT. SEE SHEET #80

STA 329+00
644.65
F-1232
C-640
L.P. STA. 329+44
F.L. EL. 624.43
N.M.R.
RAMP #7-E
EXISTING ℄ GRAVEL ROAD
RAMP #6-E
EXISTING ℄ E. 222ND ST.

STA. 328+00
643.81
F-1128
C-1034
C-342
L.P. STA. 328+17
F.L. EL. 623.50
N.M.R.
RAMP #7-E
RAMP #6-E
S.M.R.
MATCH LINE PT.

STA. 327+00
642.69
F-1536
F-7
C-1024
C-110
N.M.R.
EXISTING ℄ E. 220TH ST.
S.M.R.

STA. 326+00 — STA 326+00

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
256	1012		
		1933	3593
788	928		
		2969	3993
815	1228		
		2817	4230
706	1056		
		3530	1956
1200	0		
		3770	30
836	16		
		2733	2311
640	1232		
		3733	4370
1376	1128		
		4648	4946
1134	1543		
		4156	3469
1110	330		

X-SECTIONS STA. 327+00 TO STA. 335+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

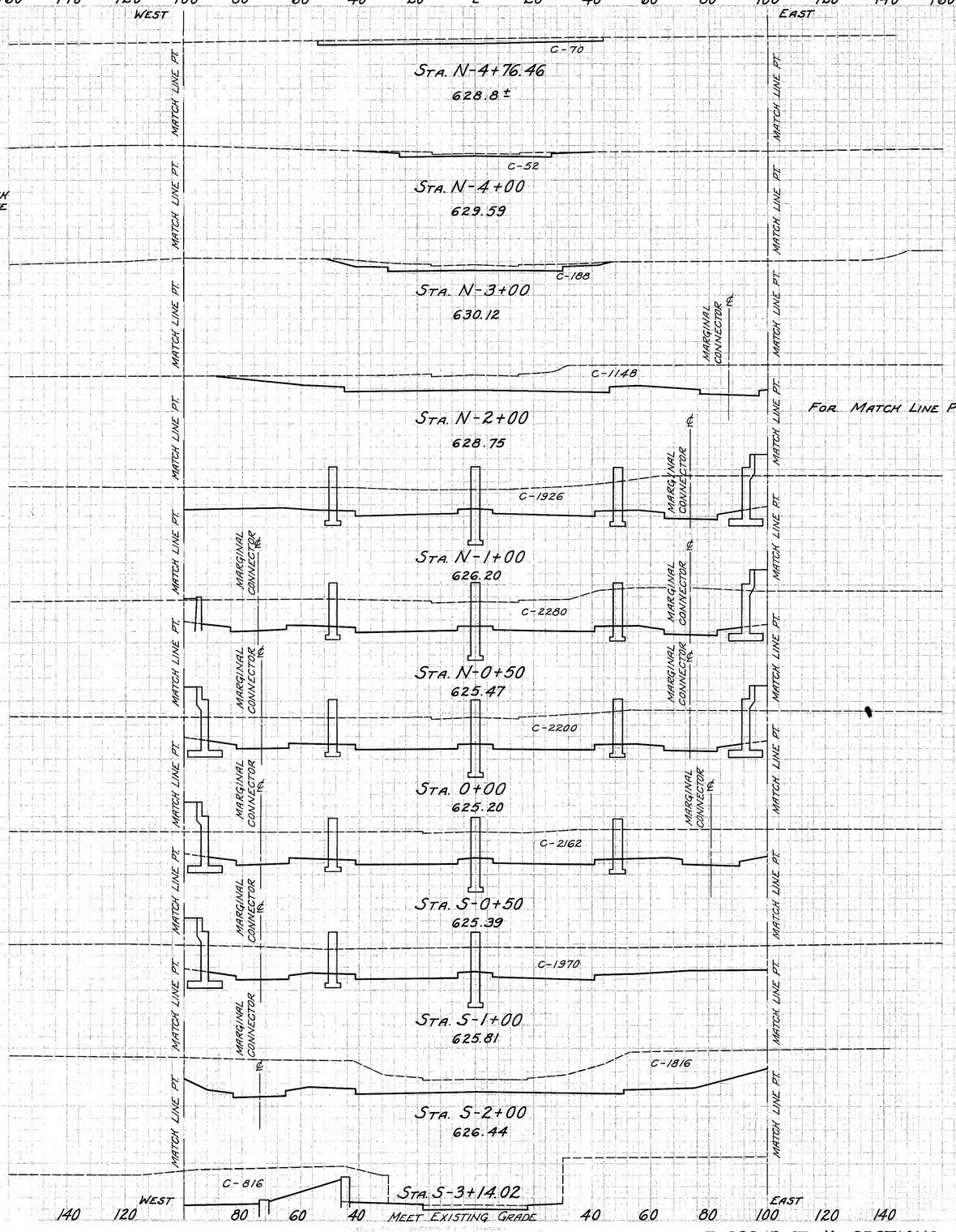
80
152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
0	
	170
40	
	522
54	
	702
	474
	156
14	
9	
197	
499	
688	
152	

NOTE

FOR FILL SECTIONS BETWEEN MATCH LINE AND ABUTMENT WALLS SEE NOTE ON BRIDGE DRAWING #115



FOR MATCH LINE PT. SEE SHEET #79

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
70	0		
		173	0
52	0		
		444	0
188	0		
		2474	0
1148	0		
		5693	0
1926	0		
		3894	0
2280	0		
		4148	0
2200	0		
		4039	0
2162	0		
		3826	0
1970	0		
		7011	0
1816	0		
		5557	0
816	0		
		383	0

37,642 CU. YDS.
0 CU. YDS.
0 CU. YDS.

EXCAVATION
EMBANKMENT
EMBANKMENT + 22 %

E. 222 ND. ST. X-SECTIONS STA. S-3+14.02 TO STA. N-4+76.46

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
79	856
75	933
93	1078
101	1117
100	1117
101	1189
113	1228
108	1956
144	1600
144	

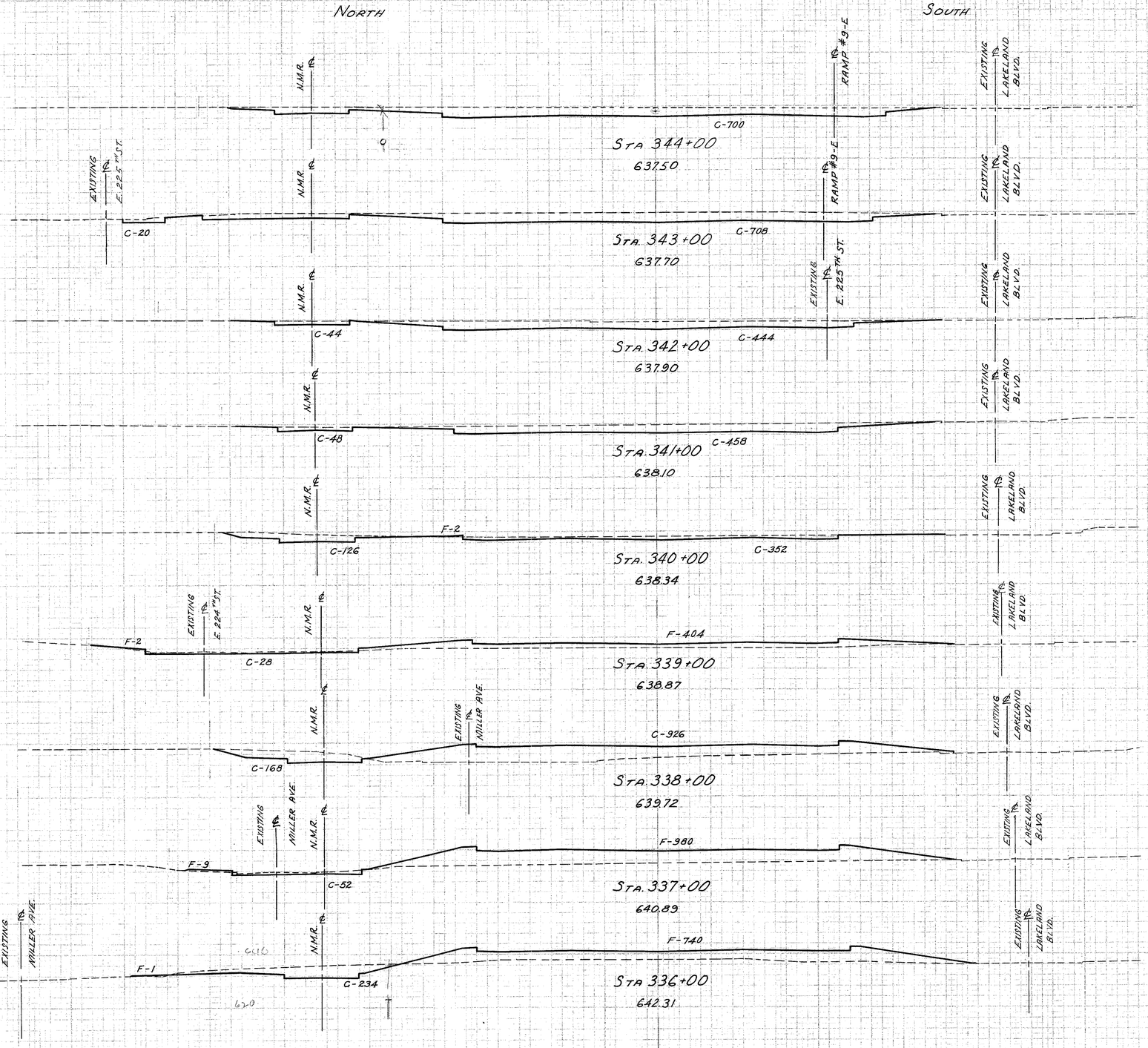
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

81/152

CUYAHOGA COUNTY
CUY 2-25.96

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH



STA. 335+00

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
700	0		
		2644	0
728	0		
		2252	0
488	0		
		1841	0
506	0		
		1822	4
478	2		
		937	756
28	406		
		363	2467
168	926		
		407	3546
52	989		
		530	3204
234	741		
		307	3246
256	1012		

	CU. YDS.
EXCAVATION	18,163
EMBANKMENT	27,021
EMBANKMENT + 22 %	32,966

CU. YDS.

STA. 335+00

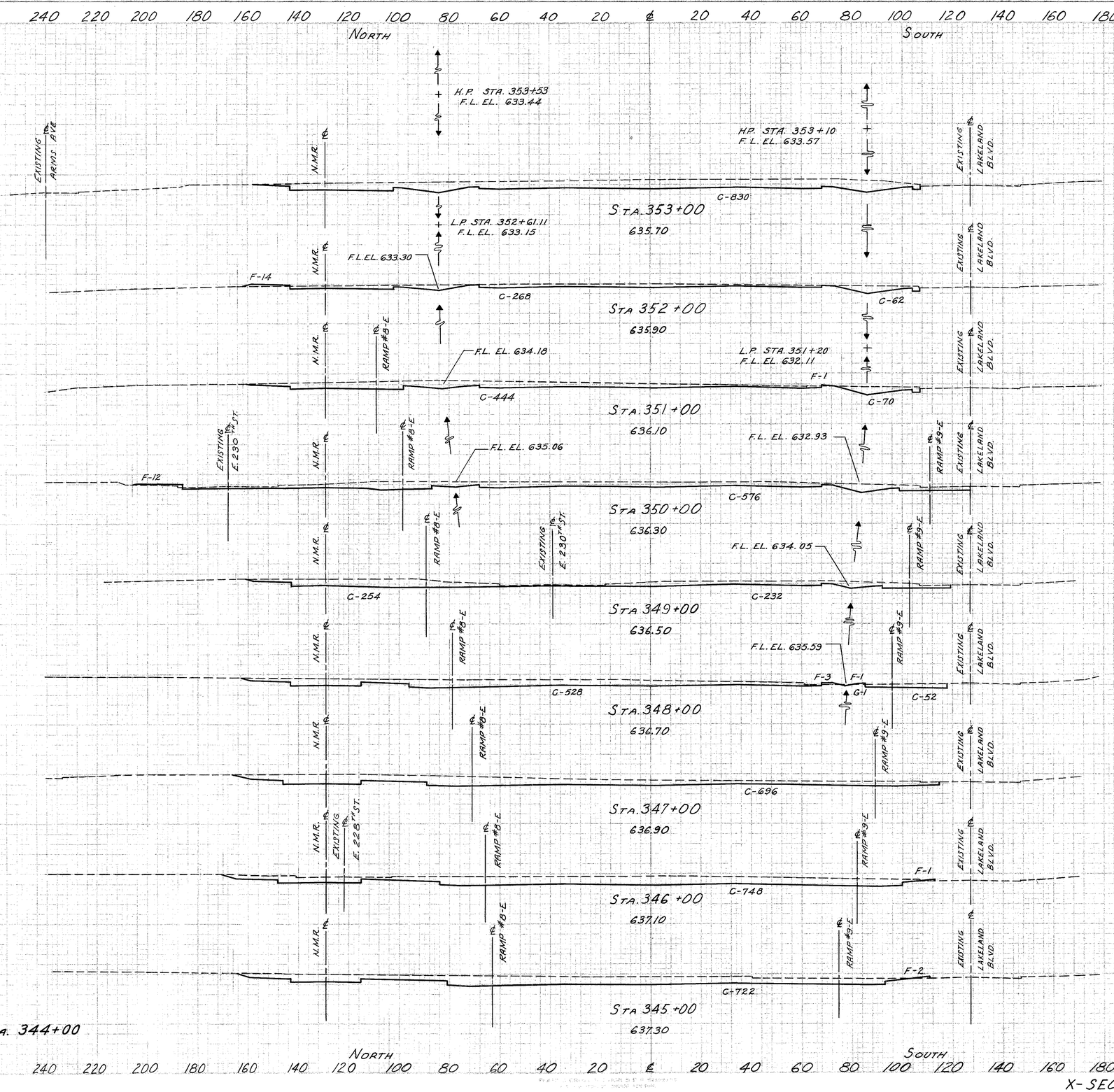
X-SECTIONS STA. 336+00 TO STA. 344+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

82/152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
93	640
	1028
	620
92	640
	989
	620
86	640
	839
	640
65	640
	589
	640
41	640
	550
	640
58	640
	572
	640
45	640
	639
	640
70	640
	806
	640
75	640
	856
	620
79	620



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
640 830	0		
620		2148	26
640 330	14		
620		1563	28
640 514	1		
		2019	24
640 576	12		
		1967	22
640 486	0		
		1976	7
640 581	4		
		2365	7
640 696	0		
		2674	2
640 748	1		
		2722	6
640 722	2		
		2633	4
620 700	0		

EXCAVATION 22,896 CU. YDS.
EMBANKMENT 52 CU. YDS.
EMBANKMENT + 22 % 63 CU. YDS.

STA. 344+00

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200 220
NORTH SOUTH

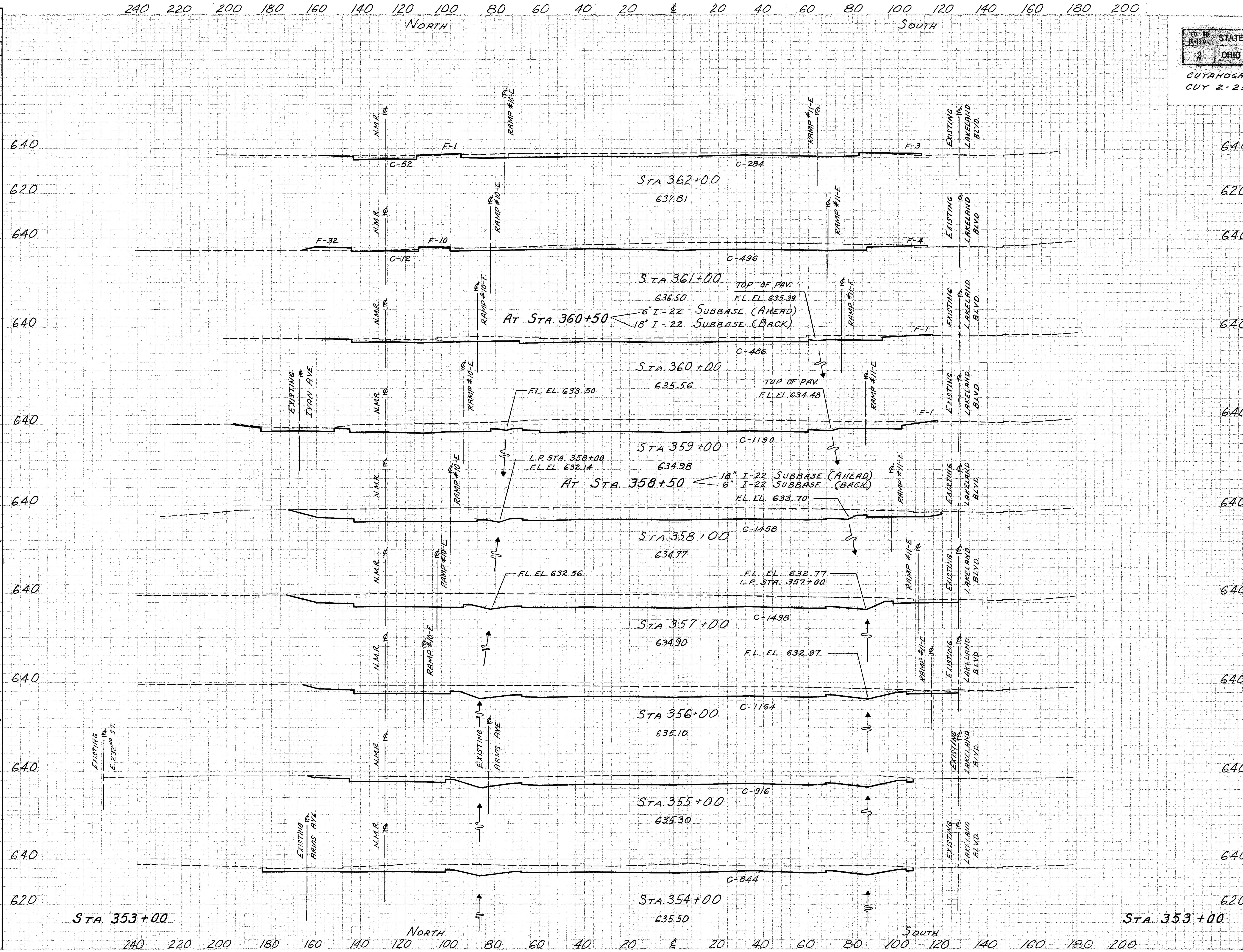
X-SECTIONS STA. 345+00 TO STA 353+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

83/152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING WIDTH LIN. FT.	AREA SQ. YDS.
65	
	761
72	
	678
50	
	533
46	
	633
68	
	856
86	
	989
92	
	1028
93	
	922
73	
	922
93	



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
336	4		
		1563	93
508	46		
		1841	87
486	1		
		3104	4
1190	1		
		4904	2
1458	0		
		5474	0
1498	0		
		4930	0
1164	0		
		3852	0
916	0		
		3259	0
844	0		
		3100	0
830	0		

EXCAVATION 34,353 CU. YDS.
EMBANKMENT 84 CU. YDS.
EMBANKMENT +22% 102 CU. YDS.

X-SECTIONS STA. 354+00 TO STA 362+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

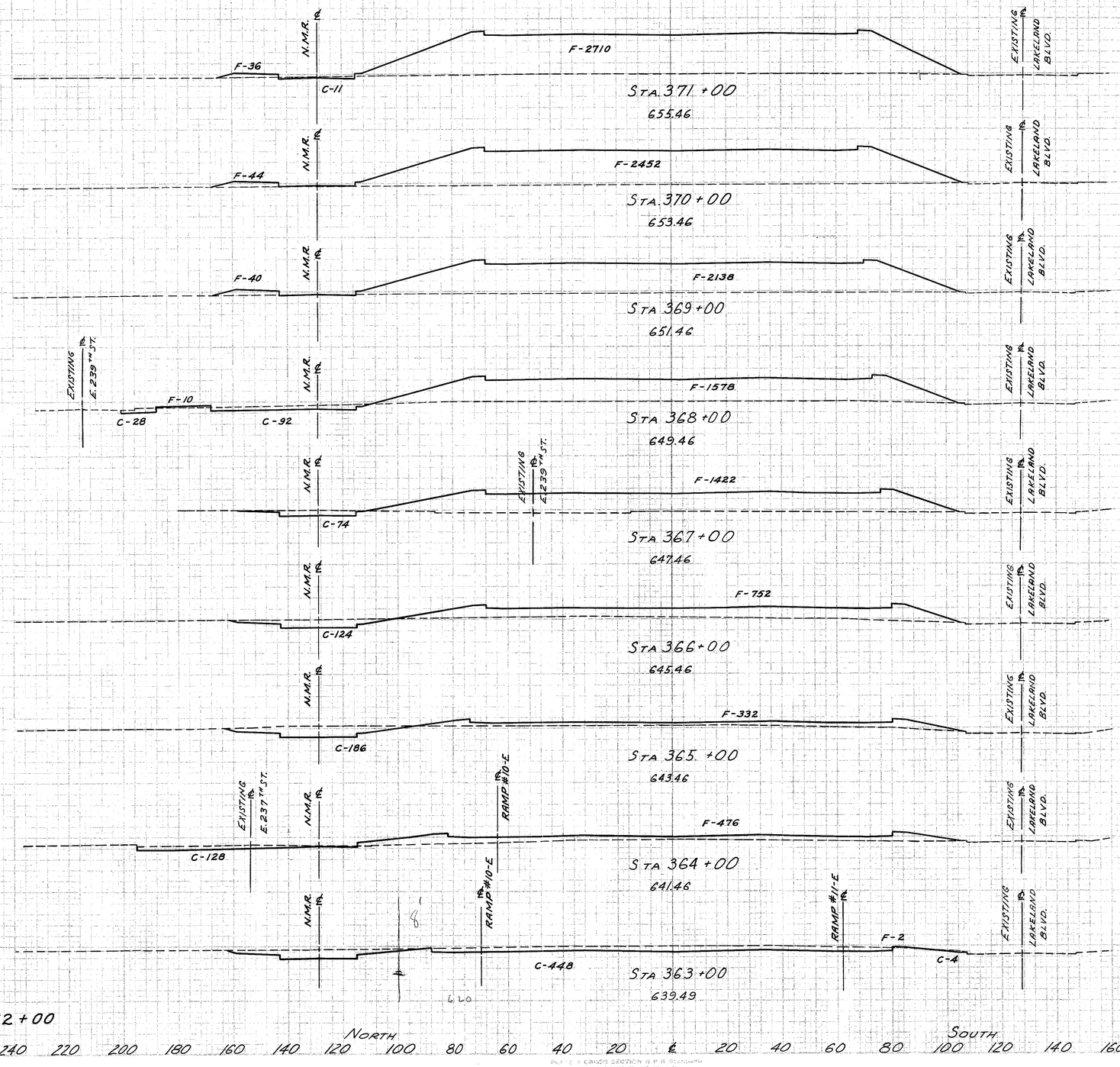
64
152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
110	640
	1222
	620
110	640
	1206
107	640
	1156
101	640
	1100
97	640
	1056
93	640
	1000
87	640
	817
60	640
	761
77	640
	789
65	620

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH



	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
640	11	2746		
			20	9707
620				
640	0	2496		
			0	8656
640	0	2178		
			222	6974
640	120	1588		
			359	5574
640	74	1422		
			367	4026
640	124	752		
			574	2007
640	186	332		
			581	1496
640	128	476		
			1074	885
640	452	2		
			1459	11
620				
	336	4		

EXCAVATION 8,040 CU. YDS.
EMBANKMENT 29,809 CU. YDS.
EMBANKMENT + 22 % 36,367 CU. YDS.

X-SECTIONS STA. 363+00 To STA. 371+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

85/152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING		
WIDTH LIN. FT.	AREA SQ. YDS.	
12		
	322	
33		640
	389	
37		640
54		
430	STA 1+88.93 N	
95		640
	268	
		640
0		
		640
0		
		640
255		
		640
154	STA. 1+91.88 S.	
14		
		640
73		
25		640
286		
14		640

TOTAL SEEDING 100% EUCLID 1,138 S.Y.

100 % EUCLID PARTICIPATION — INTERSTATE PARTICIPATION

NOTE

FOR FILL SECTIONS BETWEEN MATCH LINE AND ABUTMENT WALLS SEE NOTE ON BRIDGE DRAWING #126

200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

WEST — EAST

MATCH LINE PT.

C-62 STA. N-4+28.93
635.0± MEET EXISTING GRADE
EXISTING WALL
C-114

STA. N-3+00
636.52
C-94

STA. N-2+00
637.66
℄ MARGINAL CONNECTOR
C-232 F-32 C-46 F-2

STA. N-1+00
638.68
F-16 C-94 F-10 C-120 F-30 C-60

STA. N-0+50
639.18
F-16 C-82 F-1 C-124 F-1 C-88 F-20

STA. 0+00
639.68
F-19 C-68 F-9 C-246 F-9

STA. S-0+50
640.18
F-6 C-40 F-6 C-132 F-6 C-28

STA. S-1+00
640.65
C-106

STA. S-2+00
641.08
C-70

STA. S-3+00
642.22
C-48

STA. S-4+31.88
645.0± MEET EXISTING GRADE

FOR MATCH LINE PT. SEE SHEET #86

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
62	0		
		420	0
114	0		
		385	0
94	0		
		76	7
		613	56
278	34		
		511	83
274	56		
		526	87
294	38		
		563	69
314	37		
		476	51
200	18		
		521	30
		46	3
106	0		
		326	0
70	0		
		288	0
48	0		

100 % EUCLID PARTICIPATION — INTERSTATE PARTICIPATION

100 % EUCLID PARTICIPATION	
EXCAVATION	1,541 CU. YDS.
EMBANKMENT	10 CU. YDS.
EMBANKMENT + 22 %	12 CU. YDS.

INTERSTATE PARTICIPATION	
EXCAVATION	3,210 CU. YDS.
EMBANKMENT	376 CU. YDS.
EMBANKMENT + 22 %	459 CU. YDS.

BABBITT RD. X-SECTIONS STA. 4+31.88(S) TO STA. 4+28.93(N

FED. ROD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

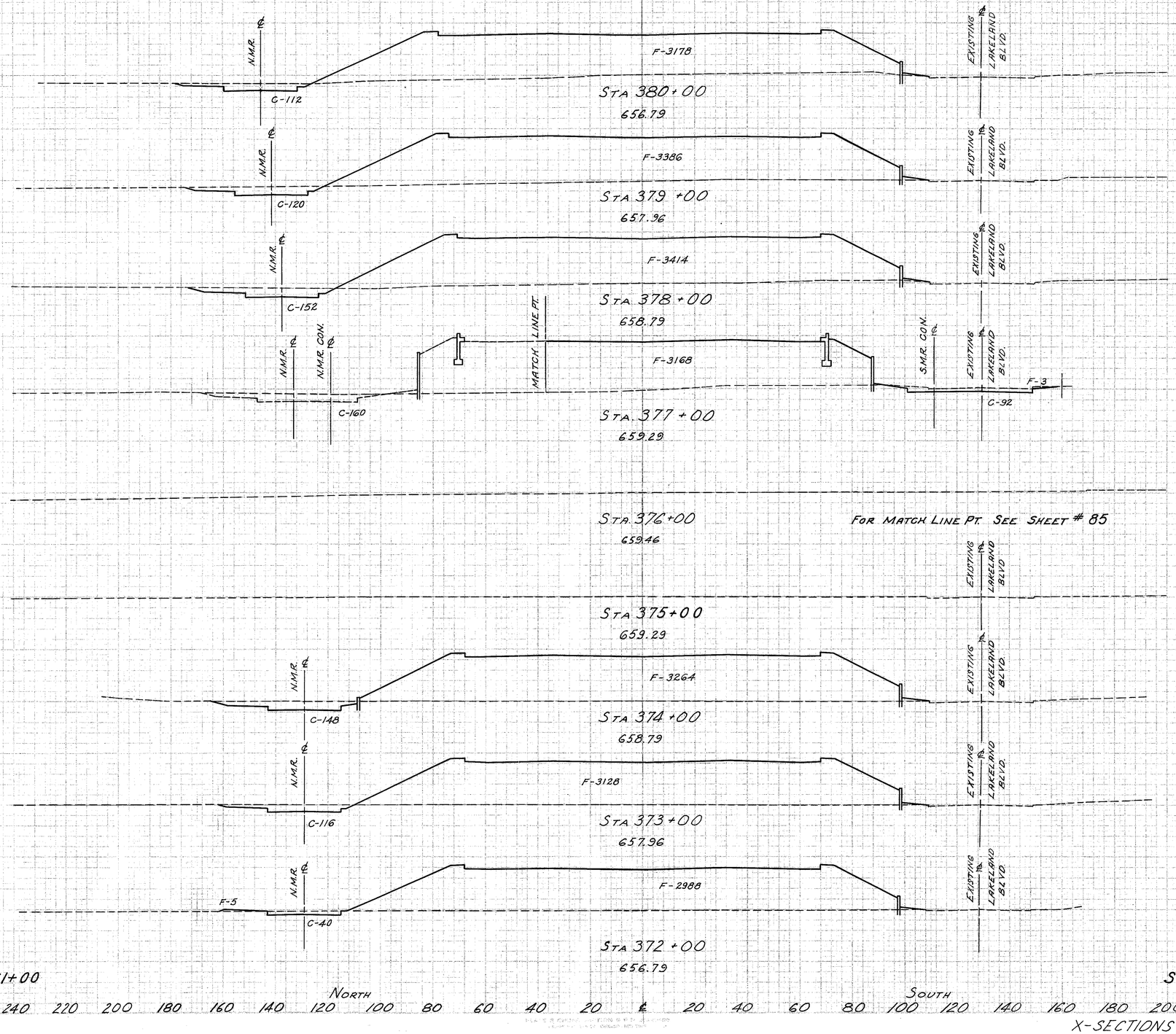
86/152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
113	640
	1256 620
113	640
	1250
112	640
	1161
97	640
	640
89	640
	875
109	640
	1211
109	640
	1206
108	640
	1211
110	620

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH



	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
640	112	3178		
620			430	12156
640	120	3386		
			504	12593
640	152	3414		
			748	12194
640	252	3171		
640				
640	388	2944		
			789	9140
640	148	3264		
			489	11837
640	116	3128		
			289	11335
640	40	2993		
			94	10628
620	11	2746		

	CU. YDS.
EXCAVATION	3,363
EMBANKMENT	89,590
EMBANKMENT + 22 %	109,300

X-SECTIONS STA. 372+00 TO STA 380+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

87
152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING WIDTH LIN. FT.	SEEDING & PROTECTING AREA SQ. YDS.	
86		640
	961	620
87		640
	1000	
93		640
	1050	
96		640
	1178	
116		640
	1350	
127		640
	1411	
127		640
	1372	
120		640
	1322	
118		640
	1283	
113		620

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH

STA. 389+00
639.91
F.L. EL. 636.47
F-48 | F-20 | F-9 | F-332
N.M.R. ℄ | RAMP #13-E ℄ | RAMP #12-E ℄ | EXISTING ℄ LAKELAND BLVD.

STA. 388+00
641.51
F.L. EL. 638.61
F-24 | C-68 | C-5 | F-534
N.M.R. ℄ | RAMP #13-E ℄ | RAMP #12-E ℄ | EXISTING ℄ LAKELAND BLVD.

STA. 387+00
643.46
F.L. EL. 642.67
F-6 | C-28 | F-1176
N.M.R. ℄ | RAMP #13-E ℄ | RAMP #12-E ℄ | EXISTING ℄ LAKELAND BLVD.

STA. 386+00
645.46
F-916 | C-94
N.M.R. ℄ | RAMP #13-E ℄ | RAMP #12-E ℄ | EXISTING ℄ LAKELAND BLVD.

STA. 385+00
647.46
F-1440 | C-110
N.M.R. ℄ | RAMP #13-E ℄ | EXISTING ℄ LAKELAND BLVD.

STA. 384+00
649.46
F-2444 | C-124
N.M.R. ℄ | EXISTING E. 245TH ST. | EXISTING ℄ LAKELAND BLVD.

STA. 383+00
651.46
F-2720 | C-224
N.M.R. ℄ | EXISTING ℄ LAKELAND BLVD.

STA. 382+00
653.46
F-2894 | C-184
N.M.R. ℄ | EXISTING ℄ LAKELAND BLVD.

STA. 381+00
655.29
F-2908 | C-118
N.M.R. ℄ | EXISTING ℄ LAKELAND BLVD.

STA. 380+00

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH — SOUTH

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
640	0	409		
620			135	1791
640	73	558		
			187	3226
640	28	1184		
			226	3889
640	94	916		
			378	4363
640	110	1440		
			433	7193
640	124	2444		
			644	9563
640	224	2720		
			756	10396
640	184	2894		
			559	10744
640	118	2908		
			426	11270
620				
	112	3178		

EXCAVATION 3,818 CU. YDS.
EMBANKMENT 63,852 CU. YDS.
EMBANKMENT + 22 % 77,899 CU. YDS.

X-SECTIONS STA. 381+00 TO STA. 389+00

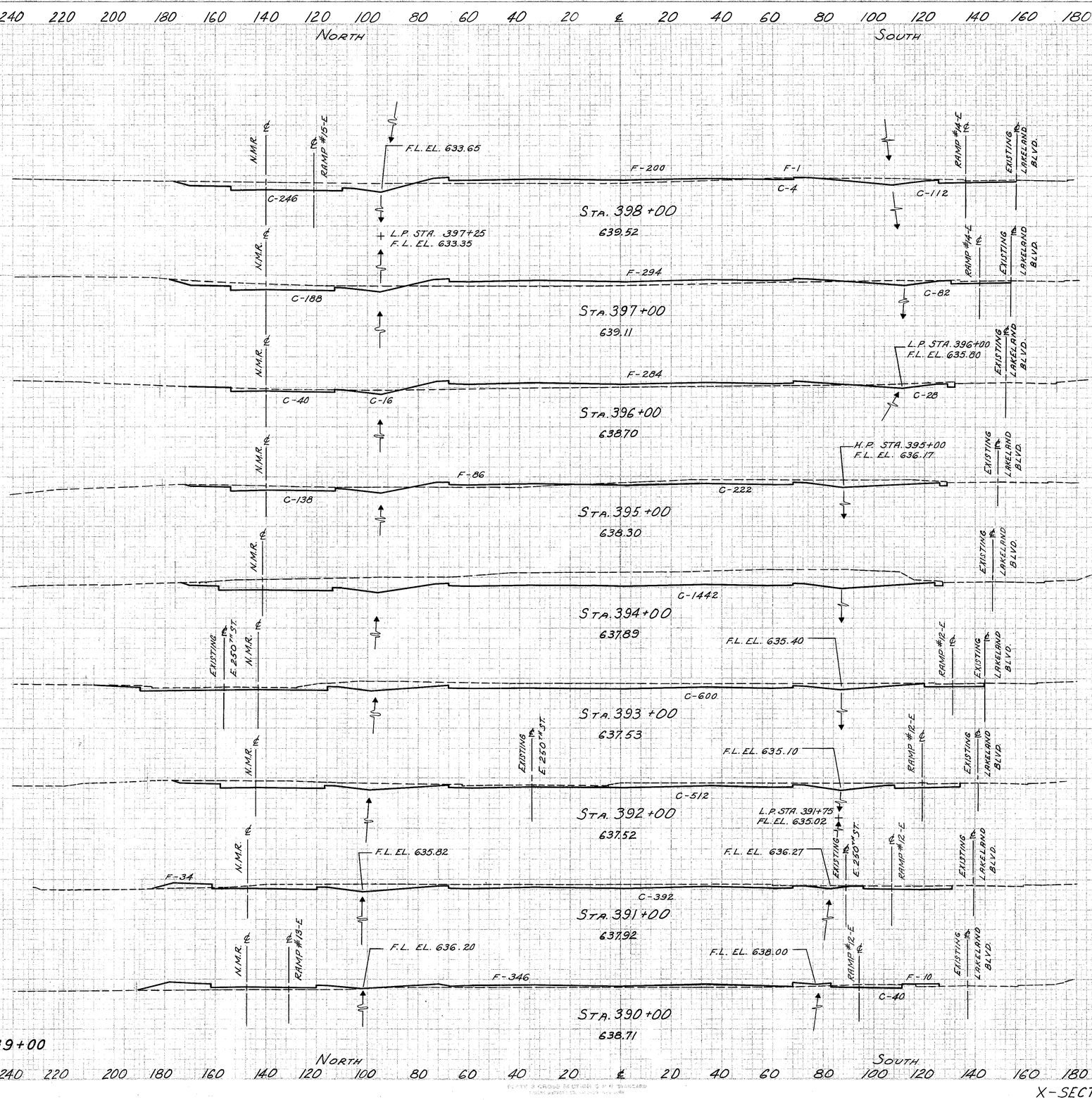
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

88/152

CUYAHOGA COUNTY
CUY 2-25.96

SEEDING & PROTECTING			END AREA		CU. YDS.	
WIDTH LIN. FT.	AREA SQ. YDS.		CUT	FILL	CUT	FILL
121	640					
	1394	620	362	201		
130	640				1170	917
	1456		640	270	294	
132	640				656	1070
	1444		640	84	284	
128	640				822	685
	1433		640	360	86	
130	640				3337	159
	1367		640	1442	0	
116	640				3781	0
	1272		640	600	0	
113	640				2059	0
	1200		640	512	0	
103	640				1674	63
	1161		640	392	34	
106	640				800	722
	1622		640	40	356	
86	620		620		74	1417
STA. 389+00			STA. 389+00		0	409

16,570 CU. YDS.
5,246 CU. YDS.
EXCAVATION
EMBANKMENT + 22 % 6,400 CU. YDS.



X-SECTIONS STA. 390+00 To STA 398+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

89/152

CUYAHOGA COUNTY
CUY 2 - 25.96

SEEDING & PROTECTING	
WIDTH LIN. FT.	AREA SQ. YDS.
0	TOTAL SEEDING INTERSTATE 185,646 S.Y.
8	
2	
325	
	1447
326	
123	640
	1283
108	640
	1172
103	640
	1106
96	640
	1117
105	640
	1256
121	620

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH SOUTH

END OF WORK STA. 404+10

EXISTING LAKELAND BLVD.

F-1

H.P. STA. 403+28
F.L. EL. 640.5

STA. 403+40
MEET EXISTING GRADE

N.M.R. ℄ RAMP #15-L ℄ RAMP #14-L ℄

F-1 F-612 F-2

C-52 C-6

F.L. EL. 639.77
STA. 403+00

STA. 403+00
643.19

END PROJECT STA. 403+00

F.L. EL. 639.52

F-620

C-70 C-10

STA. 402+00
641.98

F.L. EL. 638.37

F-354 F-2 F-3

C-58 C-10 C-40

STA. 401+00
641.04

F.L. EL. 639.52

F.L. EL. 637.35

F.L. EL. 637.38

F-6 F-152 F-3

C-202 C-70

L.P. STA. 399+98
F.L. EL. 637.36

STA. 400+00
640.37

F.L. EL. 634.65

F.L. EL. 638.95

F-256

C-212 C-84

STA. 399+00
639.93

STA. 398+00 STA. 398+00

240 220 200 180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

NORTH SOUTH

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
640	0	0	
		0	1
640	0	1	
			43
640	58	615	456
			1,536
			5,528
			6,744
			22%
			256
640	80	622	2291
			348
			1817
640	108	359	
			889
			963
640	272	161	
			1052
			778
640	296	259	
			1219
			852
620			
	362	201	

EXCAVATION
EMBANKMENT
EMBANKMENT + 22%

CU. YDS.
CU. YDS.
CU. YDS.

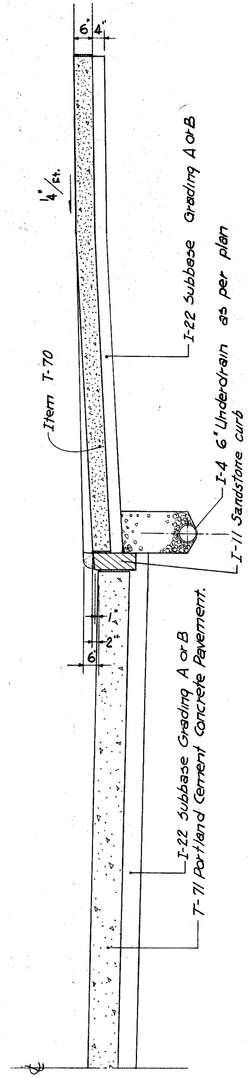
X-SECTIONS STA 399+00 To STA. 404+10

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

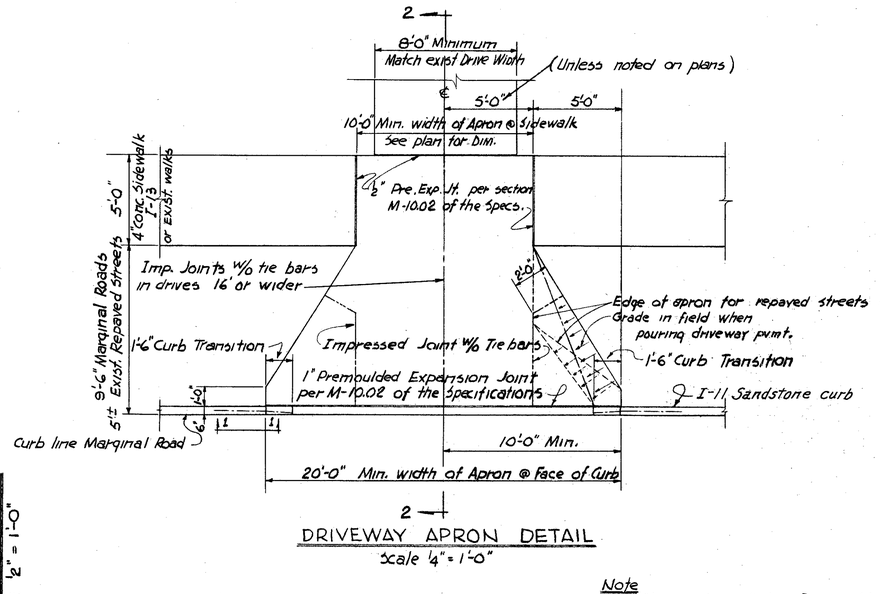
90
152

CUYAHOGA COUNTY
CUY-2-25.96

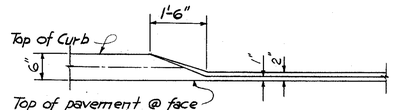
SIDEWALK & DRIVEWAY APRON DETAIL



SECTION 2-2
SCALE 1/2" = 1'-0"

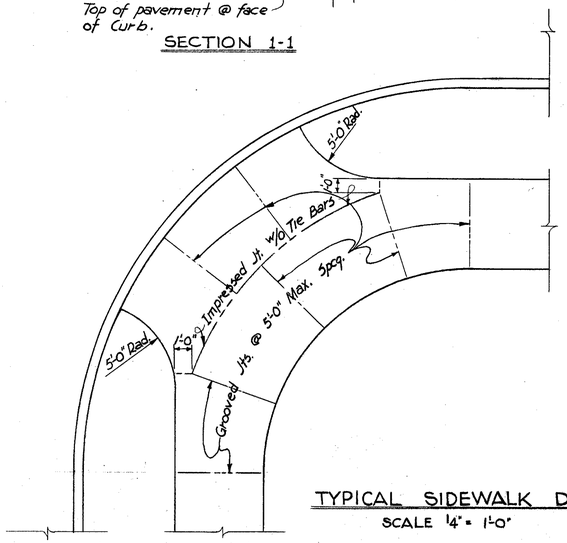


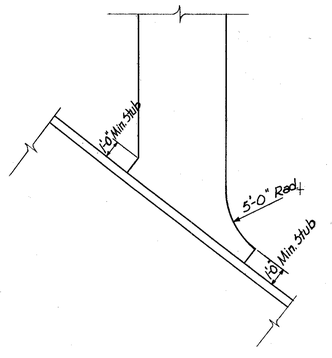
DRIVEWAY APRON DETAIL
Scale 1/4" = 1'-0"



SECTION 1-1

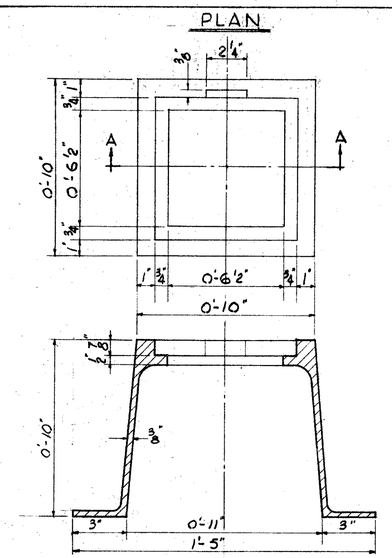
Note
This work including Premoulded Expansion Joint, will be paid for at the contract unit price bid per square yard for Item T-70 six inch (6") Portland Cement Concrete Pavement.
All minimum dimensions of this detail shall apply unless otherwise indicated on the plan.



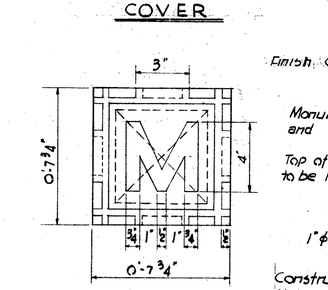


TYPICAL SIDEWALK DETAIL
SCALE 1/4" = 1'-0"

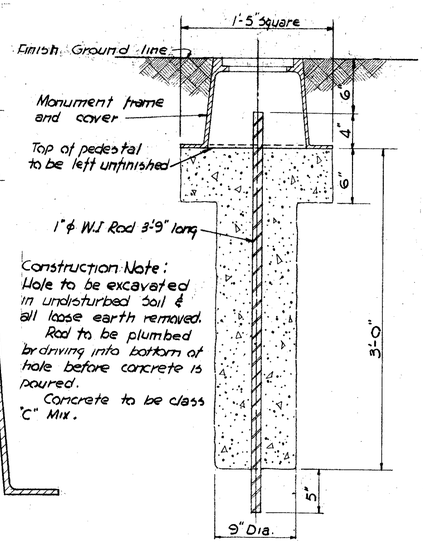
MONUMENT ASSEMBLY TYPE A FOR UNPAVED AREAS



SECTION-AA

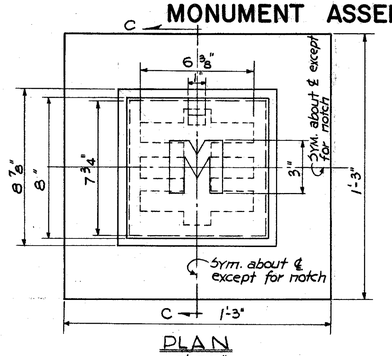


COVER IN PLACE
MONUMENT FRAME AND COVER C.I.
SCALE - 3"-1'-0"

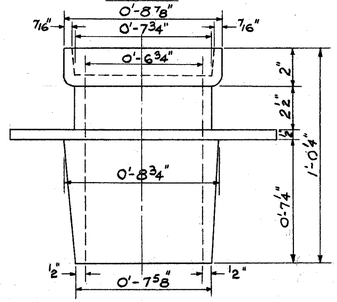


DETAIL OF MONUMENT ASSEMBLY
SCALE 1"2"=1'-0"

MONUMENT ASSEMBLY TYPE B FOR PAVED AREAS

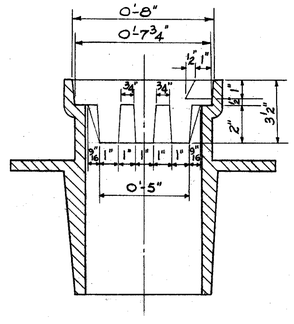


PLAN



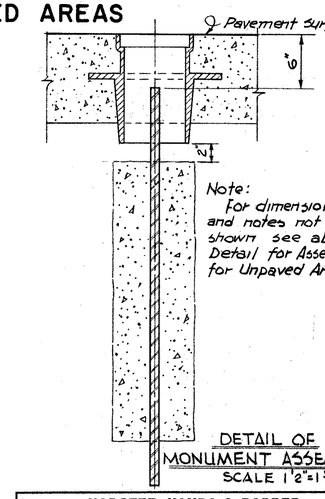
ELEVATION

SCALE 3"=1'-0"



SECTION C-C

MONUMENT FRAME AND COVER C.I.



DETAIL OF MONUMENT ASSEMBLY
SCALE 1"2"=1'-0"

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

SIDEWALK & DRIVEWAY APRON DETAILS

MONUMENT ASSEMBLIES

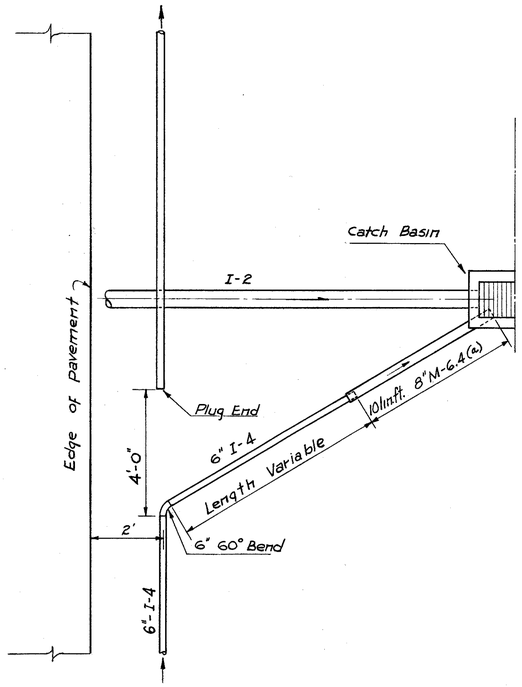
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
	JKA					

TYPICAL DETAILS I-4 & I-2

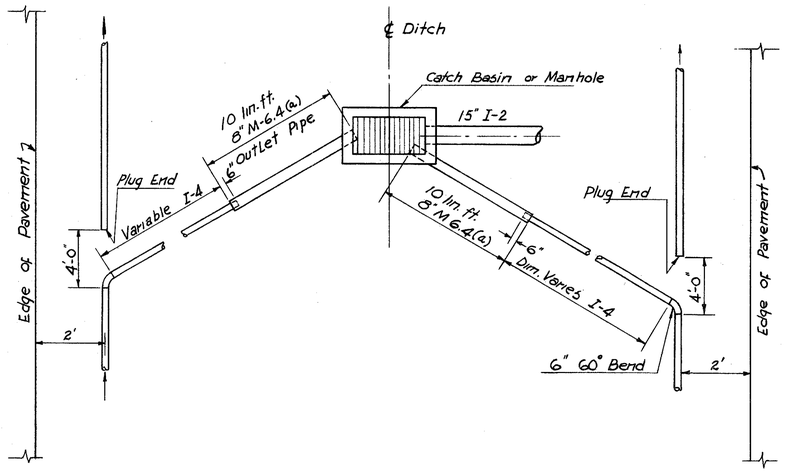
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

91
152

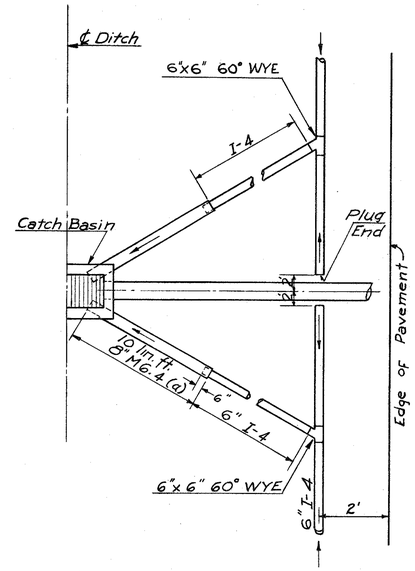
CUYAHOGA COUNTY
CUY-2-25.96



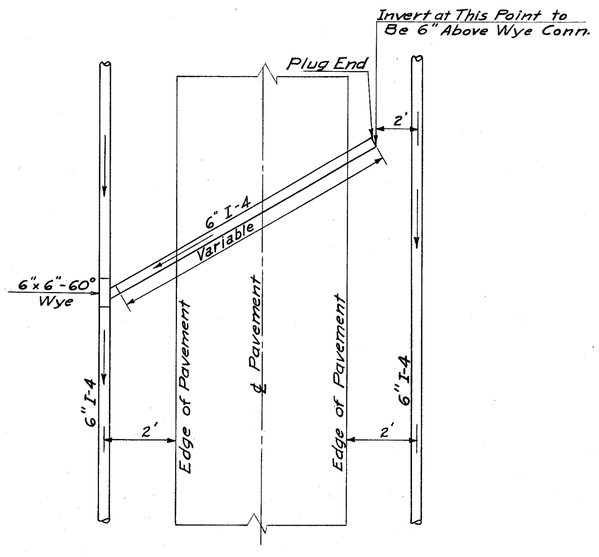
UNDERDRAIN OUTLET DETAIL A



UNDERDRAIN OUTLET DETAIL B



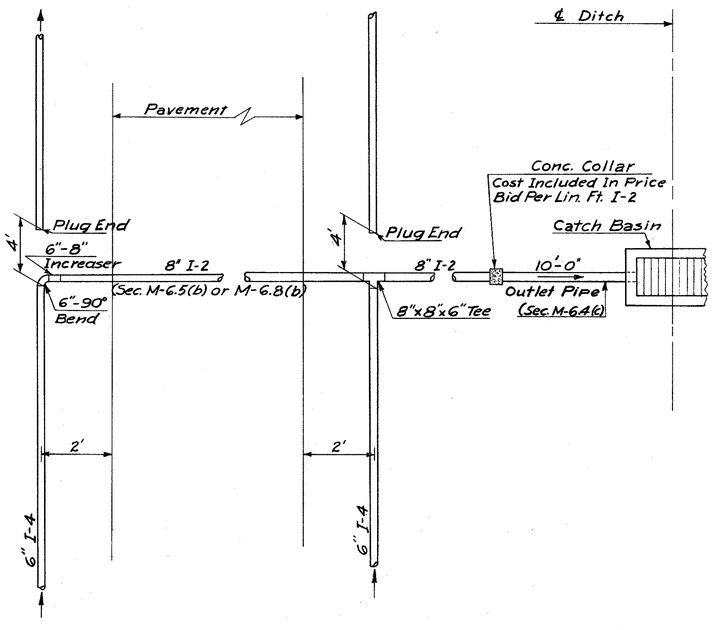
UNDERDRAIN OUTLET DETAIL C



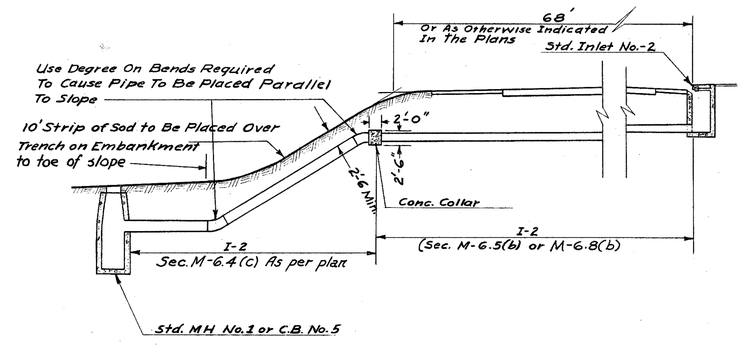
NOTE: Location to Be Adjusted In Field And to Be Placed In Cut Section

DETAIL I-4 CROSSOVER

CUT TO FILL SECTION



UNDERDRAIN OUTLET DETAIL E



NOTE: Concrete Collar to Be Included In Bid Price For I-2 Pipe

MEDIAN OUTLET DETAIL IN HIGH FILL

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

DRAINAGE DETAILS

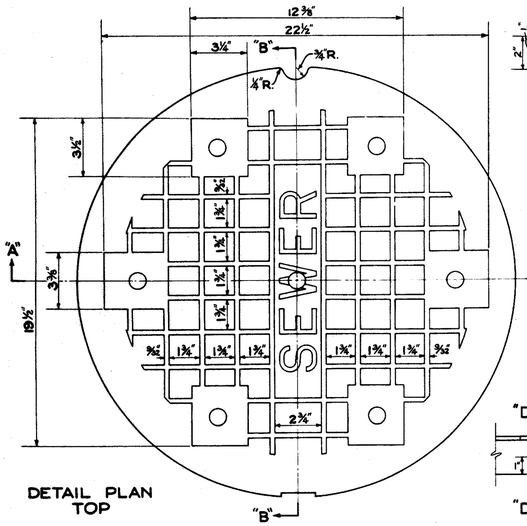
TYPICAL DETAILS I-4 & I-2

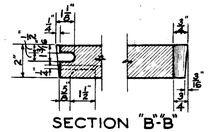
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

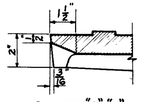
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

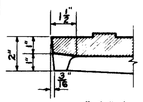
92/152

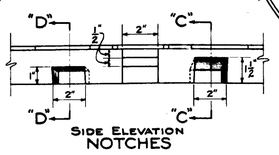
CUYAHOGA COUNTY
CUY-2-25.96

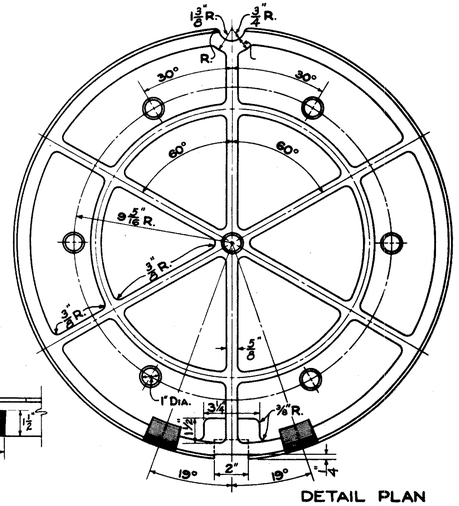


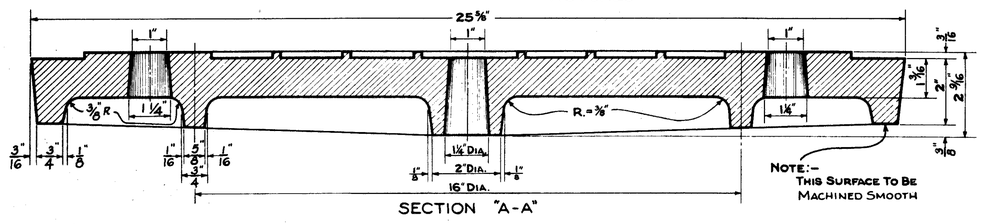






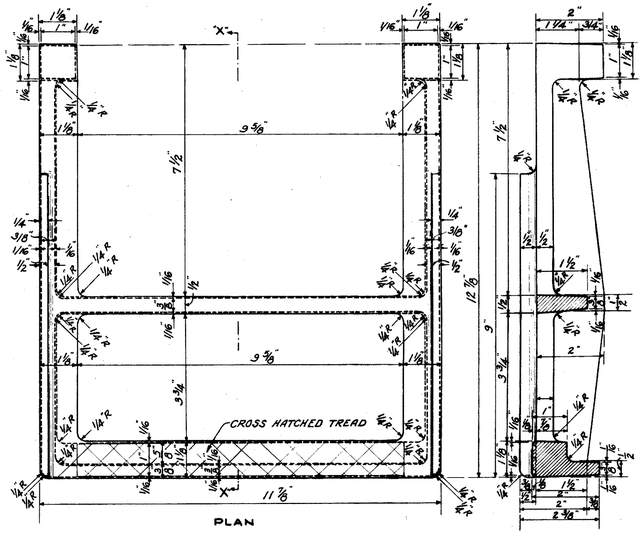


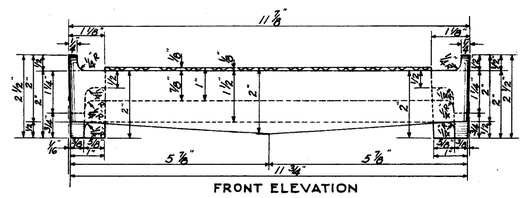




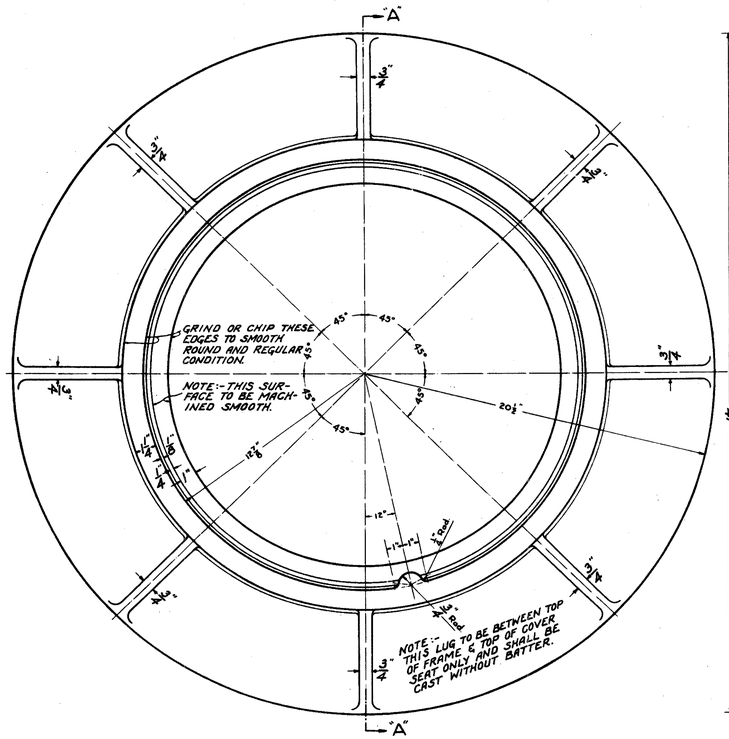
SPECIAL TYPE "A" MANHOLE COVER - CAST IRON
STANDARD CITY TYPE
NO SCALE

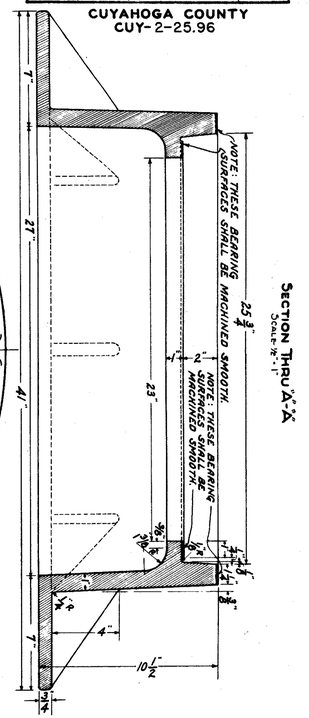
MIN. WEIGHT OF COVER 195 LBS.





CAST IRON MANHOLE STEP
STANDARD CITY TYPE
NO SCALE

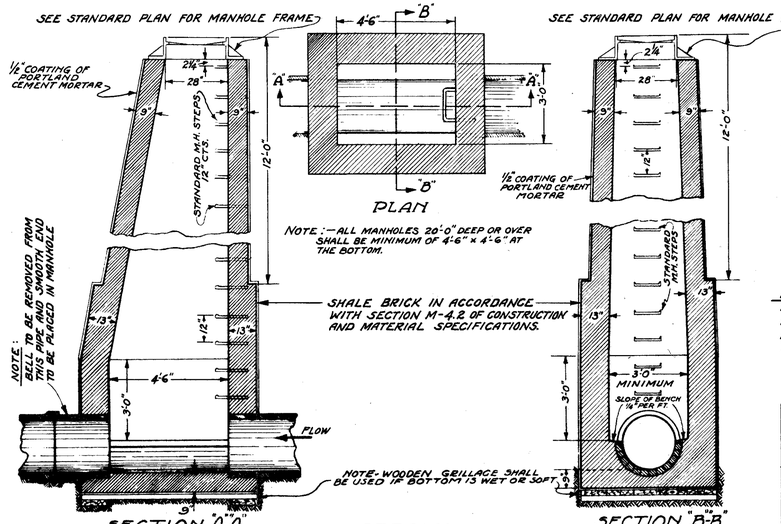




SECTION THRU "A"-"A"
SCALE 3/4"=1'

SPECIAL TYPE "A" MANHOLE FRAME - CAST IRON
STANDARD CITY TYPE
NO SCALE

MIN. WEIGHT OF FRAME 355 LBS.



NOTE:-COVERS AND FRAMES SHALL BE FITTED AND SHIPPED IN PAIRS TO INSURE A PERFECT FIT. ALL CASTINGS SHALL BE IN ACCORDANCE WITH SECTION M-7.8 OF THE SPECIFICATIONS.

SPECIAL TYPE "A" MANHOLE
STANDARD CITY TYPE
NO SCALE

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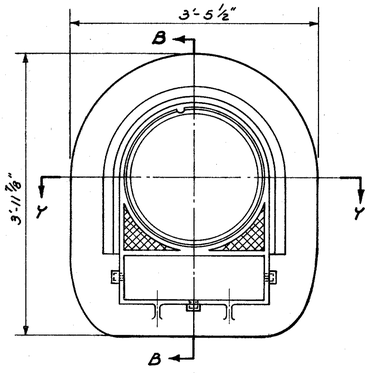
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

DRAINAGE DETAILS

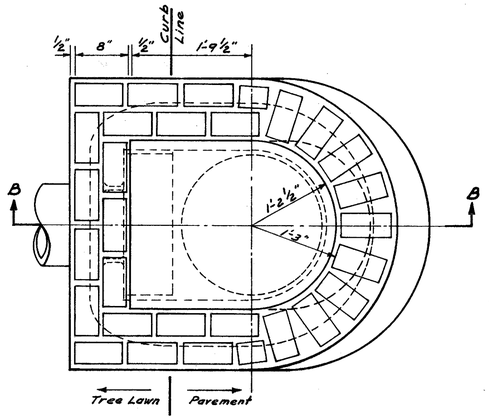
SPECIAL TYPE "A" MANHOLE
STANDARD CITY
MANHOLE, FRAME, COVER & STEP

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

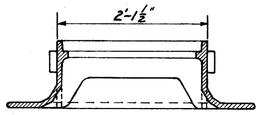
SPECIAL CATCH BASIN Nº 4



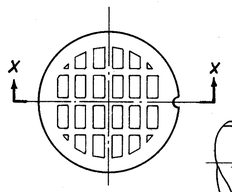
PLAN OF CASTING - C.I.



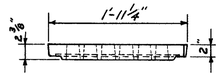
PLAN SECTION A-A



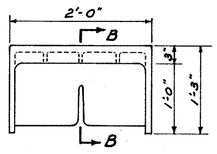
SECTION Y-Y



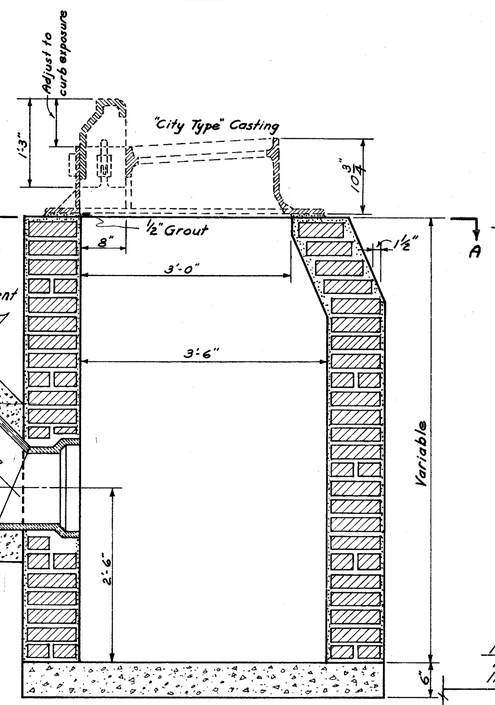
PLAN OF COVER - C.I.



SECTION X-X



ELEVATION
CURB BOX - C.I.



Note: Half Trap to be included in price bid for Spec. Nº 4 Catch Basin.

SECTION B-B

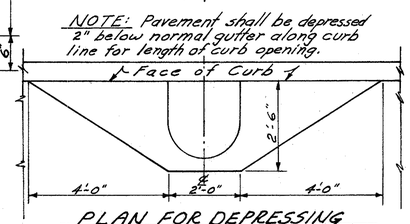
NOTES:

BRICK WALLS~
Brick walls shall be 8" thick & plastered on the inside & the outside with 1:2 cement mortar ½" thick.
Concrete side walls, where used in place of brick, shall be made 8" thick of Class "C" concrete.

OUTLET~
The outlet shall be of the size shown on the Plans and may be constructed in any side.

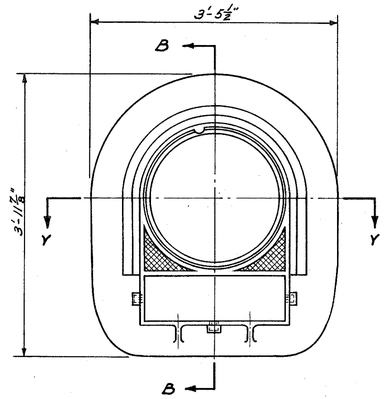
BOTTOM~
The bottom shall be built as per the Plans, of Class "C" concrete, or of two (2) courses of brick, (set in mortar).

CASTINGS~
Casting shall be "City Type", and in accordance with Section M-7.8 of the specifications

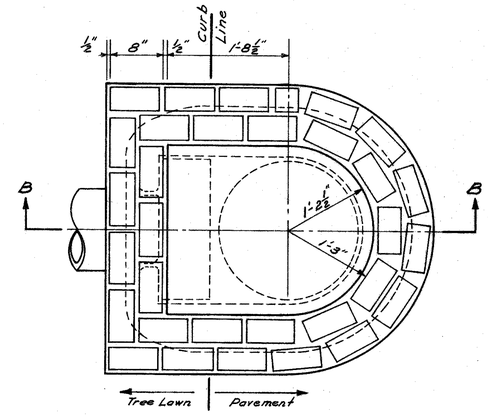


PLAN FOR DEPRESSING PAVEMENT FOR ABOVE STRUCTURES

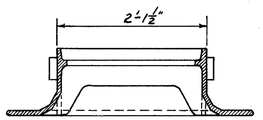
SPECIAL CURB INLET Nº 4



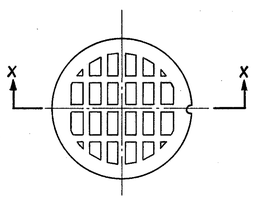
PLAN OF CASTING - C.I.



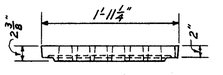
PLAN SECTION A-A



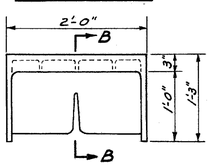
SECTION Y-Y



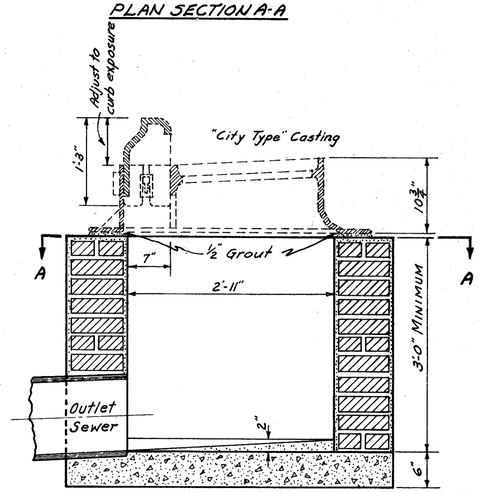
PLAN OF COVER - C.I.



SECTION X-X



ELEVATION
CURB BOX-C.I.



SECTION B-B

NOTE: Cover seat & Cover surfaces shall be chilled & ground smooth and straight and shipped in pairs to insure a perfect fit.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

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CUYAHOGA COUNTY
CUY-2-25.96

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

DRAINAGE DETAILS

SPECIAL CATCH BASIN Nº 4 AND SPECIAL CURB INLET Nº 4

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I 329 (13)	

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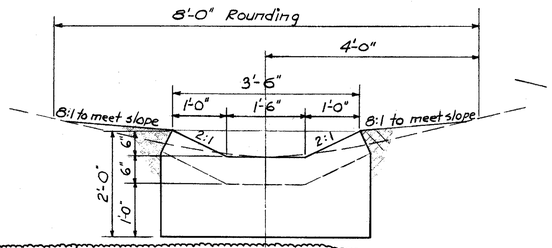
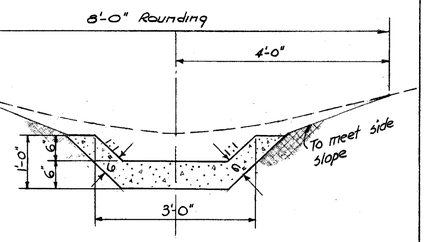
CUYAHOGA COUNTY
CUY-2-25.96

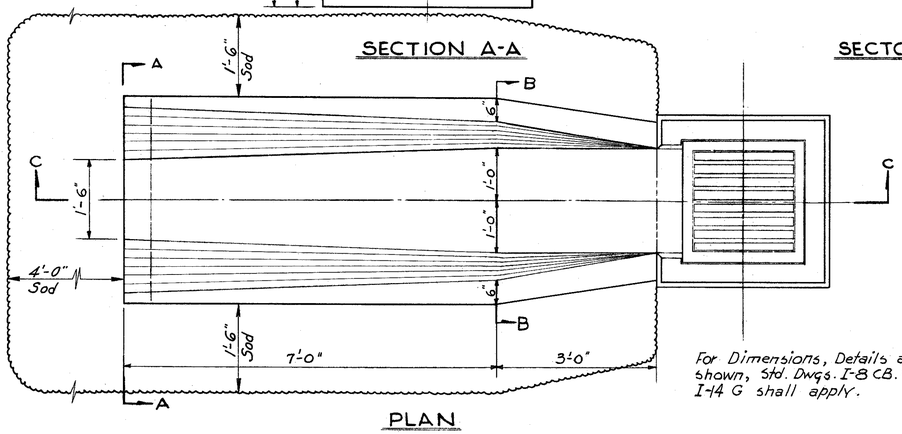
SPECIAL NO. 2-2A CATCH BASIN
SCALE 3/4"= 1'-0"



SECTION A-A



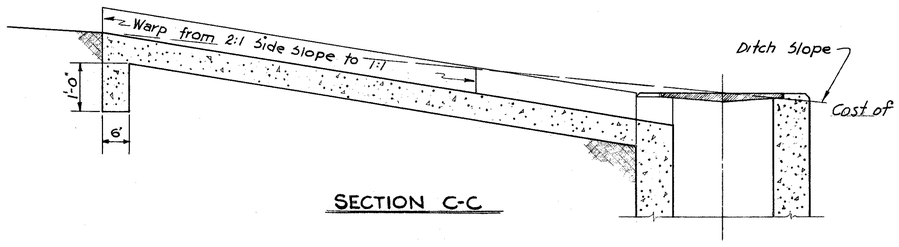
SECTON B-B



When a Catch Basin is located in a sag, 2 (two) Paved Gutters (one on each side) shall be built.

For Dimensions, Details and Notes not shown, Std. Dwgs. I-8 CB. #2-2-A & B and I-14 G shall apply.

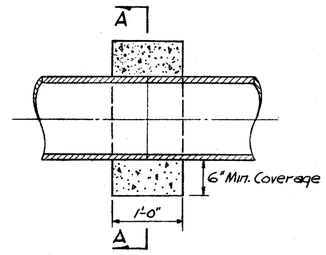
PLAN

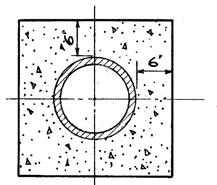


SECTION C-C

Cost of Paved Gutters and sod in place shall be included in the Unit Price Bid for Item I-8 Spec. CB. # 2-2A

SPECIAL NO. 2-2A CATCH BASIN





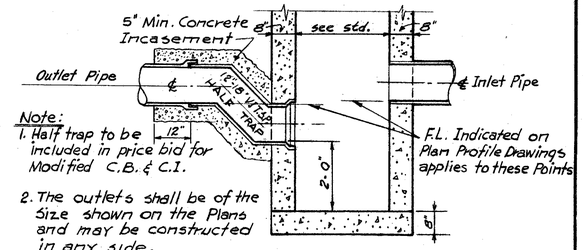
SECTION A-A
SCALE 1"=1'-0"

CONCRETE COLLAR DETAIL

NOTE:
Concrete Collar to be included in price bid for I-2 pipe.

MODIFIED CATCH BASINS & CURB INLETS
SCALE 3/4" = 1'-0"

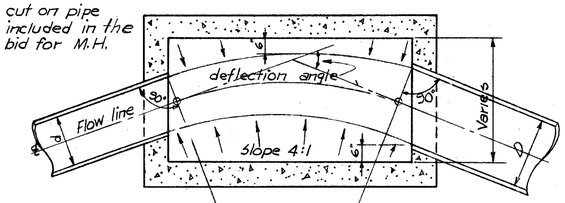
Note:
For Modified Catch Basin or Curb Inlet the Contractor shall add the trapped outlet, as shown in this detail, to the Standard Catch Basin or Curb Inlet as shown on the applicable Standard Construction Drawings. The cost of this modification shall include all the labor and materials necessary to install completely the work shown on this detail and shall be paid for at the Contract unit price per each bid for the pertinent Modified Catch Basin or Curb Inlet, Item I-8



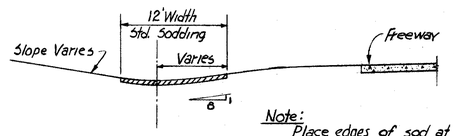
Note:
1. Half trap to be included in price bid for Modified C.B. & C.I.
2. The outlets shall be of the size shown on the Plans and may be constructed in any side.

TRAP DETAIL
MODIFIED CATCH BASINS & CURB INLETS
SCALE 1/2"=1'-0

Cost of Bevel cut on pipe shall be included in the unit price bid for M.H.



DETAIL OF CHANNEL THROUGH M.H.
SCALE 1/2"=1'-0"



Note:
Place edges of sod at same elevation to provide Maximum depth of flow in protected channel.

SOD DITCH DETAIL
SCALE 1/8" = 1'-0"

Note:
Concrete Curved channel to be provided for Std. M.H.#2 and Special M.H. Type A if Manhole constructed not in a straight pipe line.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

DRAINAGE DETAILS

SOD DITCH DETAIL
TRAP DETAIL
SPECIAL Nº 2-2A CATCH BASIN
CONCRETE COLLAR DETAIL
CHANNEL THROUGH M.H.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
	ORA					

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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CUYAHOGA COUNTY
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SPECIAL BERM & SLOPE PROTECTION

Prior to placement of sod in the berm and slope, galvanized poultry fence shall be placed on the finished grade in strands which shall be at right angles to the direction of flow. Each strand shall be staked securely on top and bottom with stakes spaced at four foot intervals and alternated in rows four feet apart.

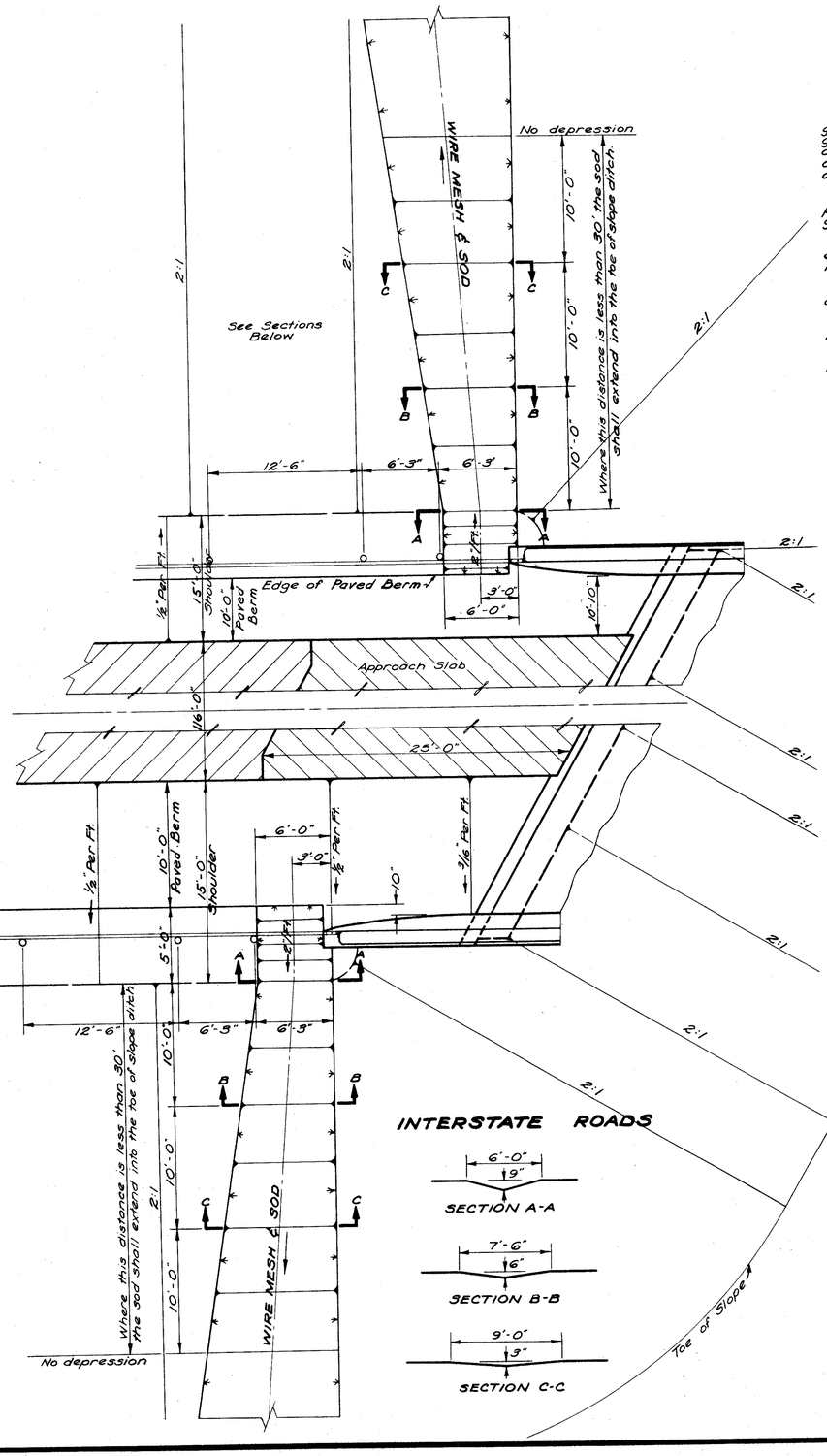
Stakes shall be 1"x 1"x 8" wood stakes and shall be perpendicular to the ground and flush with the finished grade.

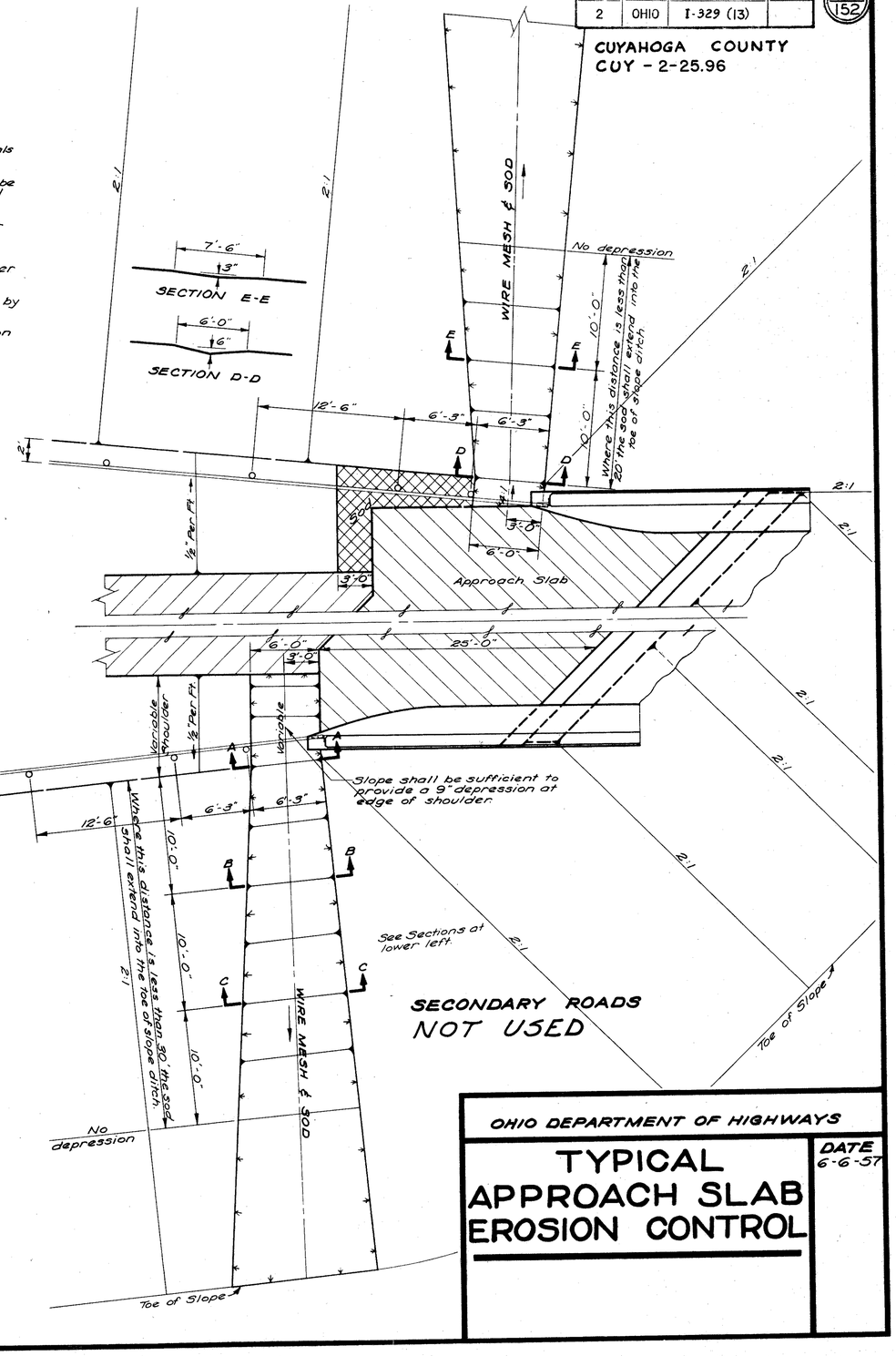
The fence shall be Straight Line Poultry Fence or equivalent with strand width of four feet, having a two inch mesh and all wires No. 20 Gauge.

The strands of fencing shall be fastened together at twelve-inch intervals by means of hog rings.

The fence shall be secured to the wood stakes by metal staples.

Sod shall be laid in accordance with Construction and Materials Specifications Section L-10.07.





OHIO DEPARTMENT OF HIGHWAYS

TYPICAL APPROACH SLAB EROSION CONTROL

DATE 6-6-57

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

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CUYAHOGA COUNTY
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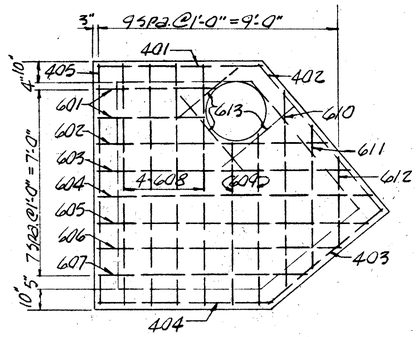
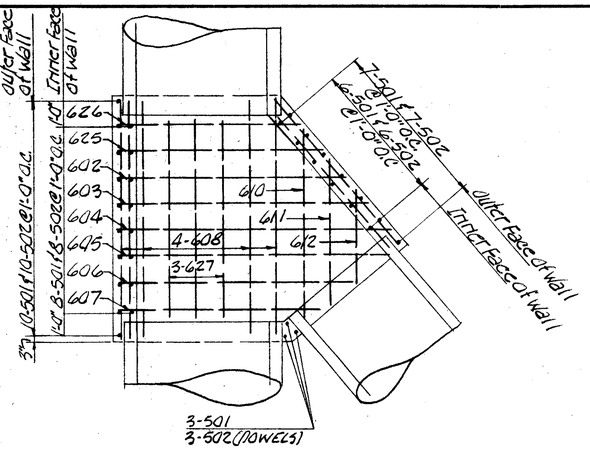
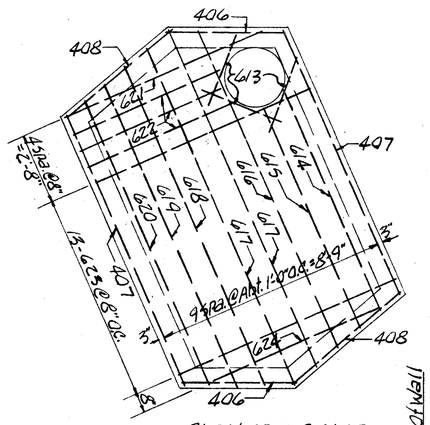


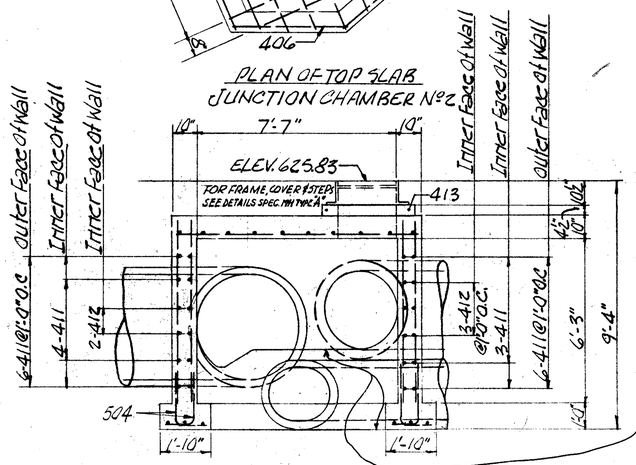
PLAN OF TOP SLAB
JUNCTION CHAMBER Nº1



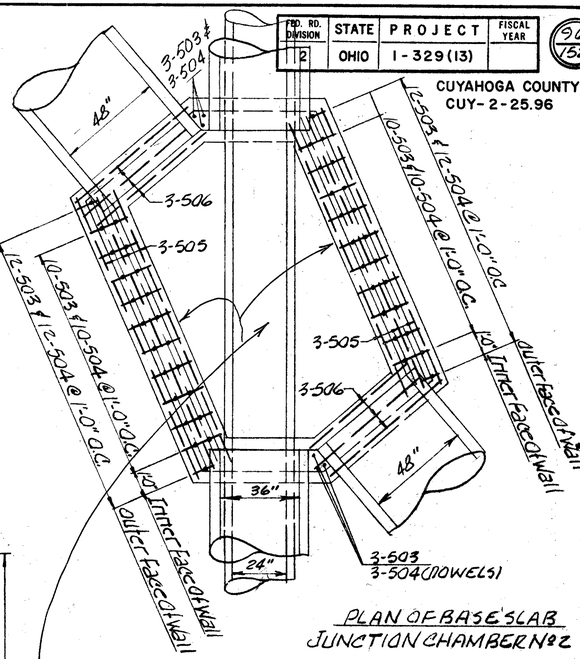
PLAN OF BASE SLAB
JUNCTION CHAMBER Nº1



PLAN OF TOP SLAB
JUNCTION CHAMBER Nº2

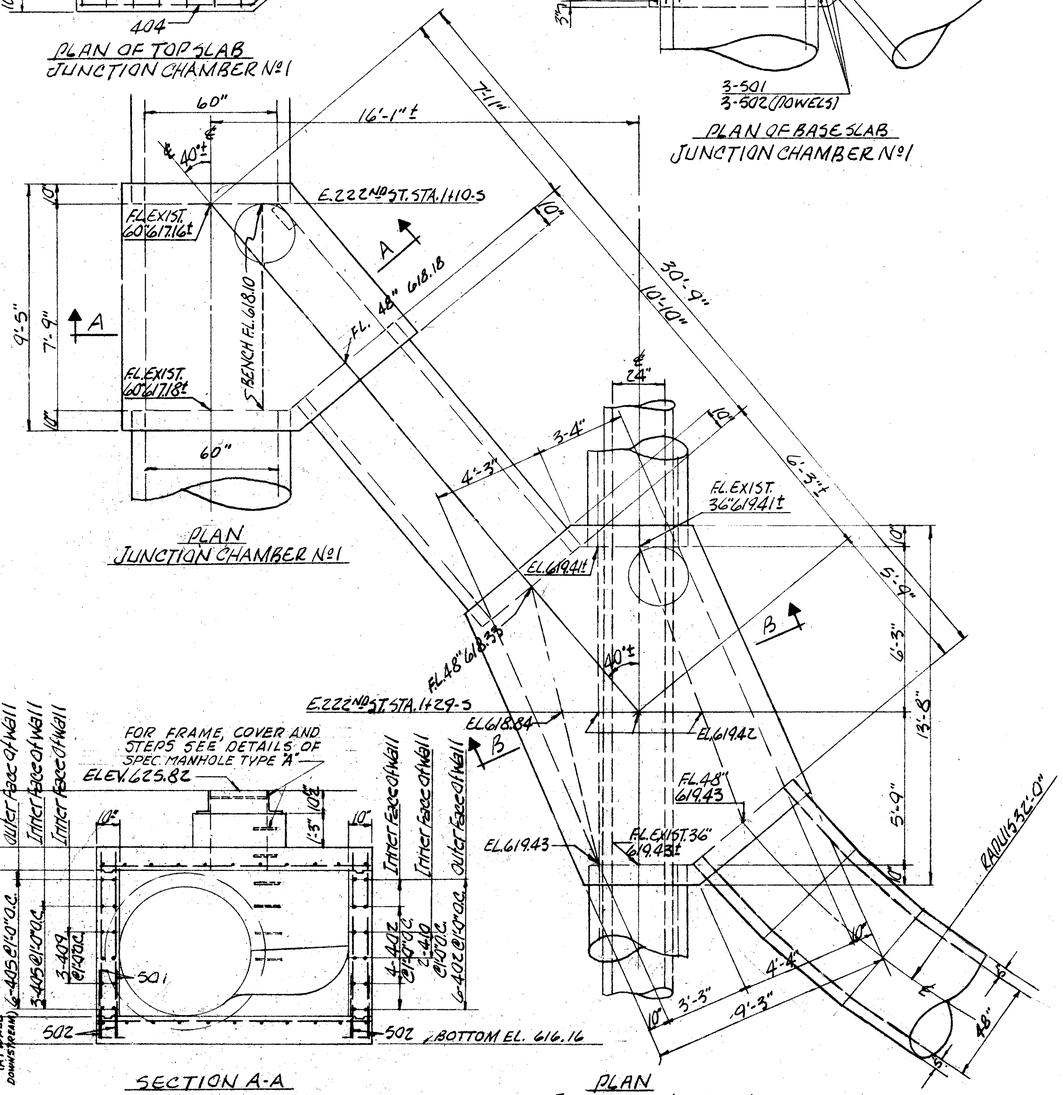


SECTION B-B



PLAN OF BASE SLAB
JUNCTION CHAMBER Nº2

NOTE-
The bottom of Junction Chamber No. 2, from bottom of footings to FL. of 36" and 48" pipe shall be filled with Class "C" concrete, finished and sloped to drain, at no additional cost to the State.
All concrete in Junction Chambers No. 1 and No. 2 shall be Class "C".



PLAN
JUNCTION CHAMBER Nº1

PLAN
JUNCTION CHAMBER Nº2

SECTION A-A

JUNCTION CHAMBER Nº1 STEEL LIST					
MARK	Nº	LENGTH	WEIGHT	SHP	BENDING DIAGRAMS
601	2	4'-3"	13	STR.	
602	2	8'-6"	26	STR.	
603	2	9'-4"	28	STR.	
604	2	10'-3"	31	STR.	
605	2	10'-1"	30	STR.	
606	2	9'-2"	27	STR.	
607	2	7'-8"	23	STR.	
608	8	8'-11"	107	STR.	
609	2	6'-1"	18	STR.	
610	2	7'-4"	22	STR.	
611	2	5'-4"	16	STR.	
612	2	3'-4"	10	STR.	
613	3	4'-0"	18	STR.	
625	1	7'-9"	12	STR.	
626	1	6'-9"	10	STR.	
627	3	7'-5"	33	STR.	
501	34	6'-2"	218	STR.	
502	34	3'-2"	112	BT.	2'-6" 10" 502
401	1	6'-0"	4	STR.	
402	11	7'-0"	52	STR.	
403	1	5'-8"	4	STR.	
404	1	6'-4"	4	STR.	
405	10	8'-11"	60	STR.	
409	3	7'-7"	15	STR.	
410	2	5'-6"	7	STR.	
TOTAL			900		

JUNCTION CHAMBER Nº2 STEEL LIST					
MARK	Nº	LENGTH	WEIGHT	SHP	BENDING DIAGRAMS
613	3	4'-0"	18	STR.	
614	1	9'-0"	14	STR.	
615	1	9'-2"	14	STR.	
616	1	12'-10"	19	STR.	
617	2	13'-8"	41	STR.	
618	1	13'-0"	20	STR.	
619	1	12'-4"	18	STR.	
620	1	11'-8"	17	STR.	
621	1	8'-0"	12	STR.	
622	3	6'-0"	27	STR.	
623	13	8'-10"	172	STR.	
624	1	7'-3"	11	STR.	
503	50	6'-10"	356	STR.	
504	50	3'-6"	182	BT.	2'-6" 1'-2" 504
505	6	11'-6"	72	STR.	
506	6	5'-6"	34	STR.	
406	2	4'-4"	6	STR.	
407	2	10'-10"	14	STR.	
408	2	5'-0"	7	STR.	
411	19	10'-9"	137	STR.	
412	5	9'-9"	32	STR.	
413	1	10'-8"	7	BT.	1'-3" LAP 3'-0" 413
TOTAL			1230		

NOTE:
COST OF REMOVAL OF EXISTING 60" STORM SEWER PIPE (7'-9" AND EXIST. 36" STORM SEWER PIPE (12') TO BE INCLUDED IN BID PRICE FOR JUNCTION CHAMBER Nº 1 AND Nº 2.

HARGETT, YANDA & BARBER
Consulting Engineers
Euclid Ave. Cleveland 8, Ohio

DRAINAGE DETAILS

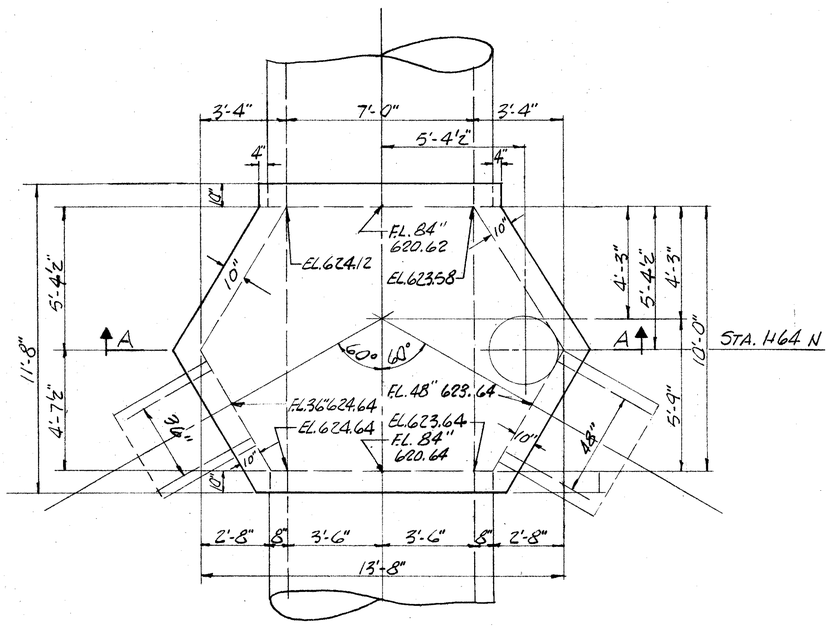
JUNCTION CHAMBER Nº 1
E-222ND ST. STA. 1+10-5
JUNCTION CHAMBER Nº 2
E-222ND ST. STA. 1+29-5

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

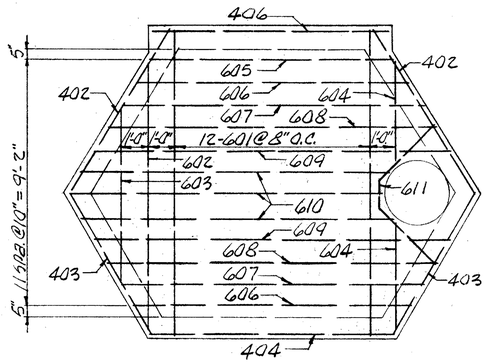
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

97/152

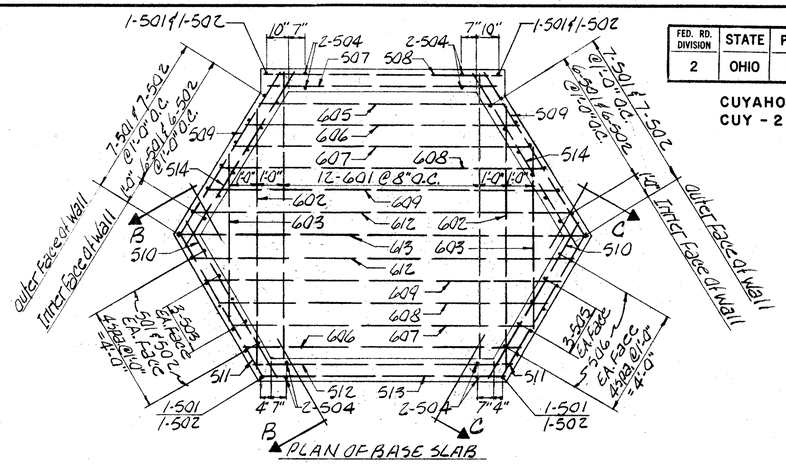
CUYAHOGA COUNTY
CUY - 2 - 25.96

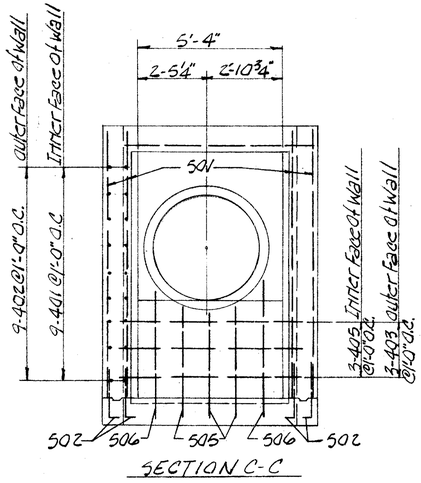


PLAN
JUNCTION CHAMBER Nº3

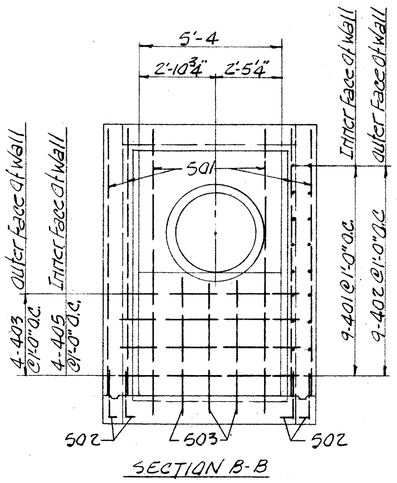


PLAN OF TOP SLAB

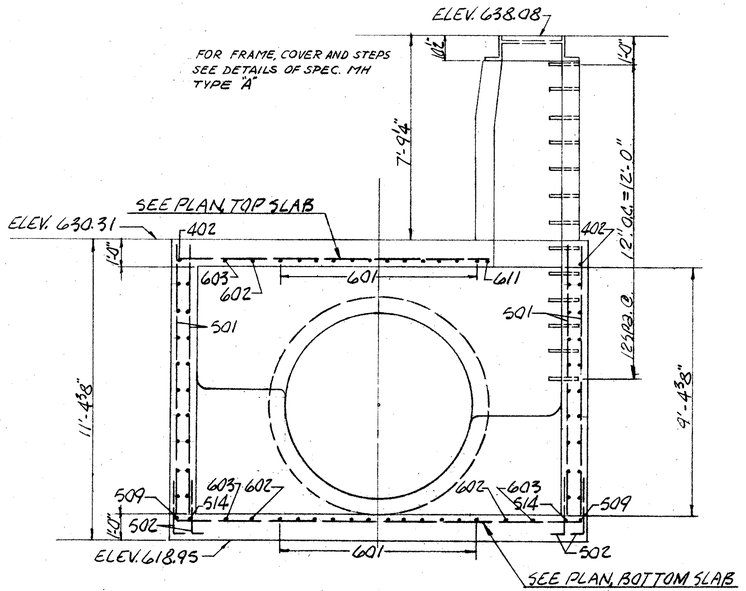




SECTION C-C



SECTION B-B

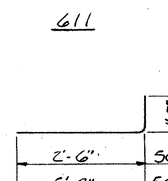


SECTION A-A

NOTE: THE COST OF THE REMOVAL OF 10 L.F. OF EXISTING 84" STORM SEWER PIPE IS TO BE INCLUDED IN THE BID PRICE FOR JUNCTION CHAMBER Nº 3.
ALL CONCRETE SHALL BE CLASS "C"

JUNCTION CHAMBER Nº3
STEEL LIST

MARK	Nº	LENGTH	WEIGHT	SHP	BENDING DIAGRAMS
601	24	11'-4"	408	STR.	
602	3	10'-0"	45	STR.	
603	3	6'-6"	29	STR.	
604	2	4'-0"	12	STR.	
605	2	9'-0"	27	STR.	
606	4	10'-0"	60	STR.	
607	4	11'-1"	67	STR.	
608	4	12'-2"	73	STR.	
609	4	13'-2"	79	STR.	
610	3	11'-6"	52	STR.	
611	1	7'-0"	11	BT.	
612	2	14'-3"	43	STR.	
613	1	15'-4"	23	STR.	
501	34	10'-2"	360	STR.	
502	34	3'-6"	124	BT.	
503	6	6'-0"	38	BT.	
504	8	3'-3"	27	BT.	
505	6	5'-0"	31	BT.	
506	4	5'-9"	24	BT.	
507	1	8'-3"	9	STR.	
508	1	8'-9"	9	STR.	
509	2	7'-3"	15	STR.	
510	2	6'-9"	14	STR.	
511	2	6'-3"	13	STR.	
512	1	9'-9"	10	STR.	
513	1	9'-3"	10	STR.	
514	2	7'-8"	16	STR.	
401	18	7'-9"	94	STR.	
402	20	7'-3"	97	STR.	
403	9	6'-3"	38	STR.	
404	1	9'-3"	6	STR.	
405	7	6'-9"	32	STR.	
406	1	8'-9"	6	STR.	
TOTAL			1902		



611

2'-6"	502
5'-0"	503
2'-3"	504
4'-0"	505
4'-9"	506

HARGETT, YANDA & BARBER
Consulting Engineers
Euclid Ave. Cleveland 3, Ohio

DRAINAGE DETAILS

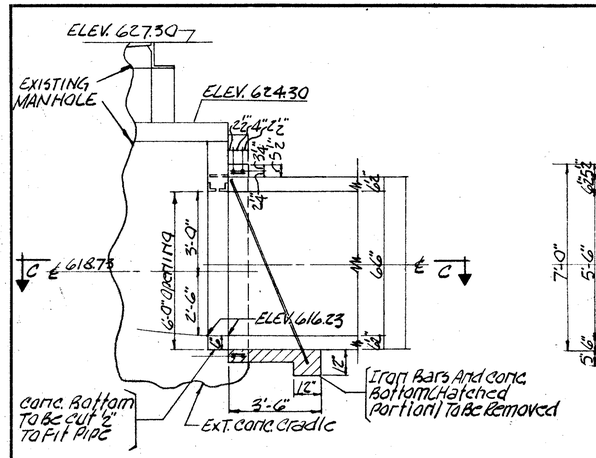
JUNCTION CHAMBER #3 AT BABBITT RD. STA. 1+64-N

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

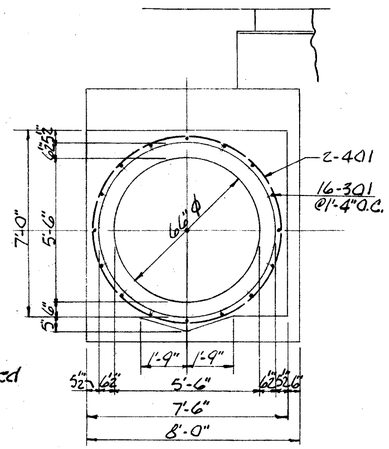
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

97A 152

CUYAHOGA COUNTY
CUY - 2 - 25.96

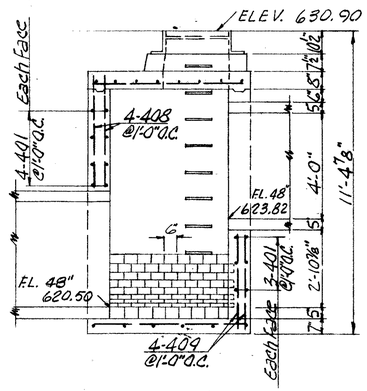


SECTION A-A

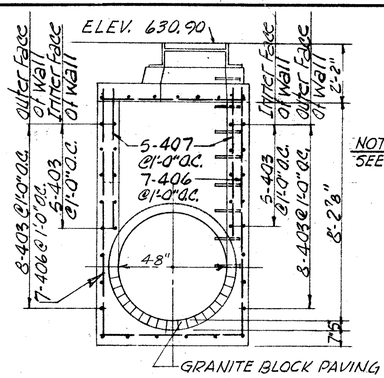


SECTION B-B

CONNECTION OF 66" ϕ PIPE TO EXISTING MANHOLE
(At N.M.R. Station 320+82.34 Offset 122.55' Left)

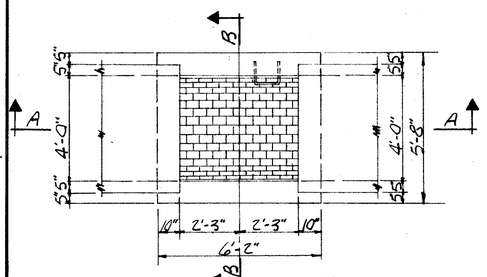


SECTION A-A

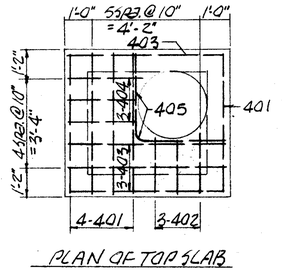


SECTION B-B

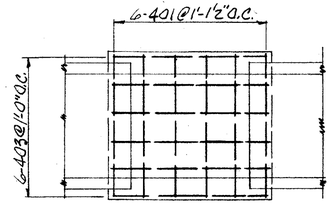
NOTE: FOR FRAMES AND STEPS SEE DETAILS FOR SPEC. MH TYPE "A"



PLAN: SPECIAL MANHOLE No 1
(At station 333+25 on existing LAKELAND BLVD.)



PLAN OF TOP SLAB

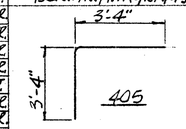


PLAN OF BOTTOM SLAB

SPECIAL MANHOLE No 1
STEEL LIST

MARK	No	LENGTH	WEIGHT	SHP.
401	25	5'-3"	88	STR.
402	3	2'-0"	4	STR.
403	36	5'-9"	138	STR.
404	3	2'-6"	5	STR.
405	1	6'-6"	4	BT.
406	14	11'-0"	103	STR.
407	10	5'-6"	37	STR.
408	8	4'-3"	23	STR.
409	8	3'-6"	19	STR.

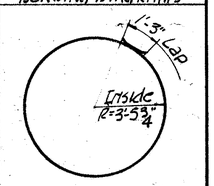
BENDING DIAGRAMS

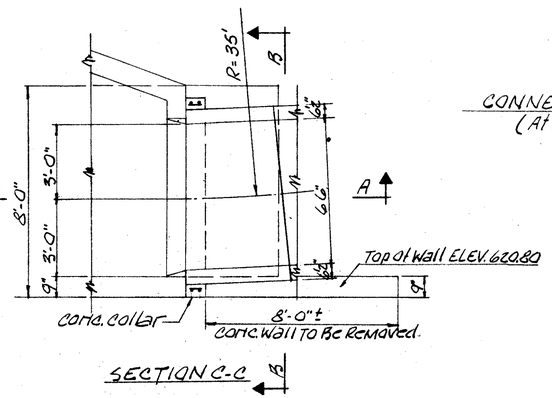


CONNECTION OF 66" ϕ PIPE
STEEL LIST

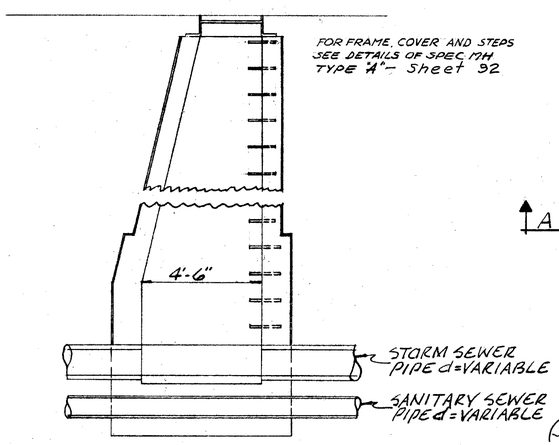
MARK	No	LENGTH	WEIGHT	SHP.
401	2	23'-3"	31	BT.
301	16	0'-6"	3	STR.

BENDING DIAGRAMS

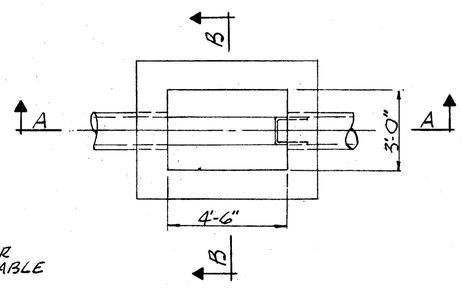




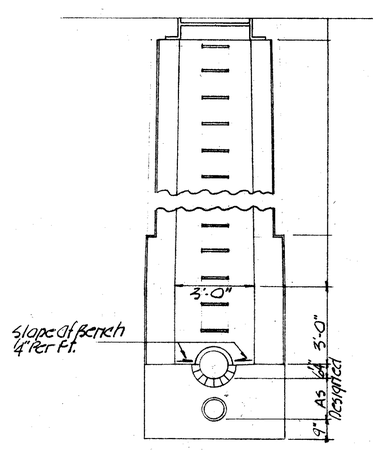
SECTION C-C



SECTION A-A



PLAN
(SPEC. MANHOLE TYPE "A" MODIFIED)



SECTION B-B

HARGETT, YANDA & BARBER
Consulting Engineers
Euclid Ave. Cleveland 8, Ohio

DRAINAGE DETAILS

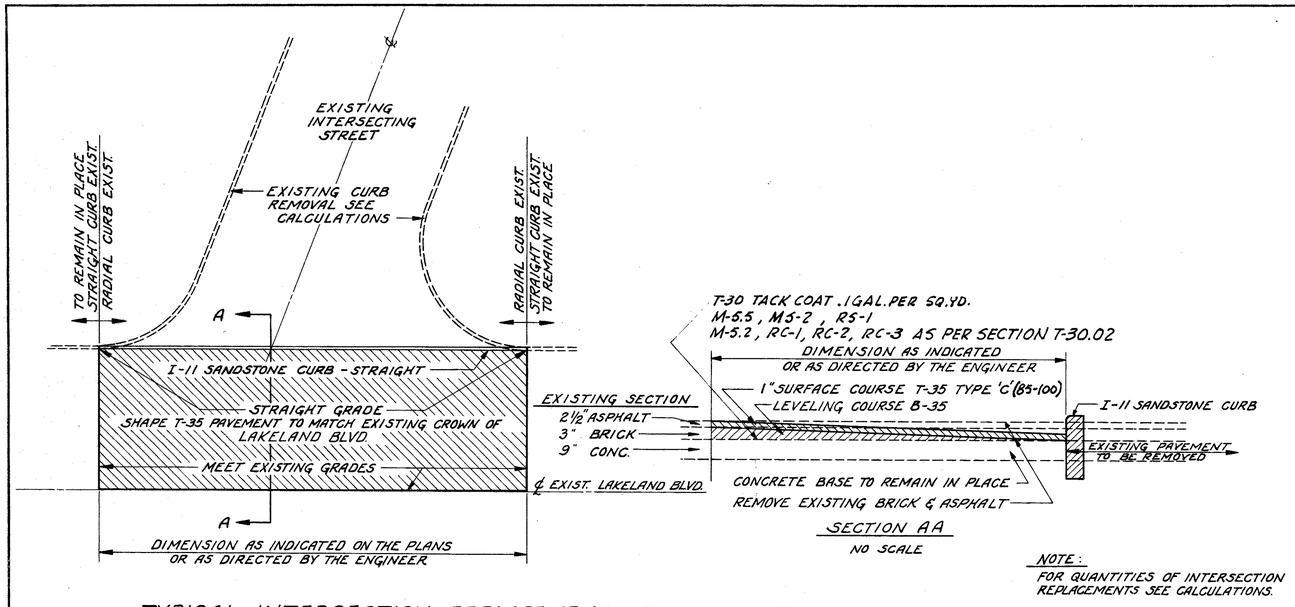
CONNECTION OF 66" PIPE TO EXIST. M.H. AT N.M.R. STA. 320+82.34 OFFSET 122.55' LEFT. SPECIAL MANHOLE No 1 @ LAKELAND BLVD. STA. 333+25.
SPEC. MODIFIED MH TYPE "A"

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

98
152

CUYAHOGA COUNTY
CUY-2-25.96

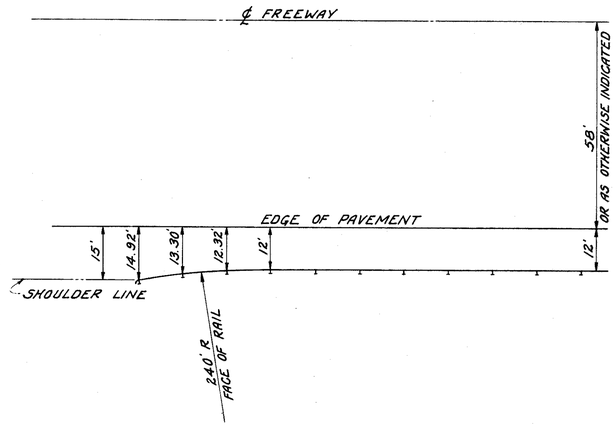


SECTION AA
NO SCALE

NOTE:
FOR QUANTITIES OF INTERSECTION REPLACEMENTS SEE CALCULATIONS.

TYPICAL INTERSECTION REPLACEMENT DETAIL - EXISTING LAKELAND BLVD.

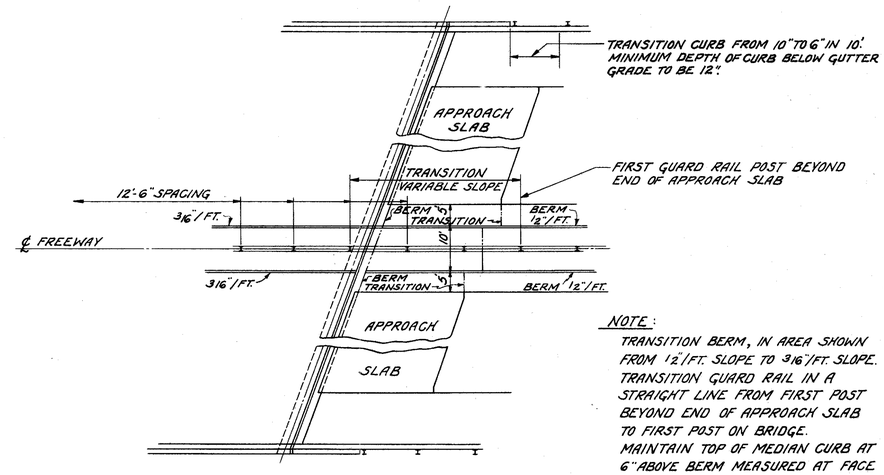
SCALE 1"=10'-0"



STANDARD FLARE DETAIL

SCALE 1"=20'

NOTE:
THE THREE INITIAL PANELS SHALL BE CURVED, AS SHOWN, FROM THE 14.92' OFFSET AT THE END POST TO NORMAL 12' OFFSET.
TOP OF RAIL SHALL BE 2'-3" ABOVE GRADE AT FACE OF RAIL.

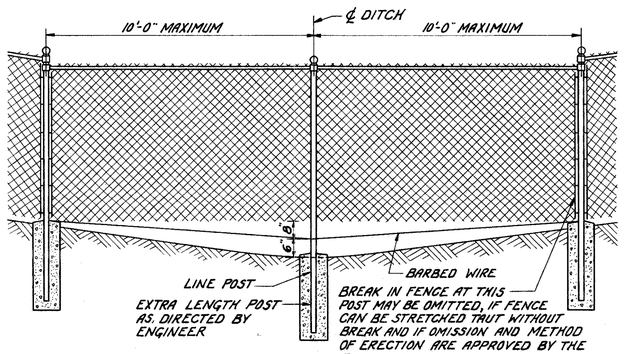


BERM AND GUARD RAIL TRANSITIONS AT BRIDGE APPROACHES

NOT TO SCALE

NOTE:
TRANSITION BERM, IN AREA SHOWN FROM 12'/FT. SLOPE TO 3.16'/FT. SLOPE. TRANSITION GUARD RAIL IN A STRAIGHT LINE FROM FIRST POST BEYOND END OF APPROACH SLAB TO FIRST POST ON BRIDGE. MAINTAIN TOP OF MEDIAN CURB AT 6" ABOVE BERM MEASURED AT FACE OF CURB.

NOTE:
FOR DIMENSIONS, NOTES AND DETAILS NOT SHOWN SEE STANDARD DRAWING F-1



TYPE "C" FENCE - DITCH CROSSING

SCALE 3/8" = 1'-0"

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

MISCELLANEOUS DETAILS

MISCELLANEOUS GUARD RAIL
FENCE-DITCH CROSSING
INTERSECTION PAVEMENT REPLACEMENT

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I 329 (13)	

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CUYAHOGA COUNTY
CUY.-2-25.96

MATCH LINE 3+00-N

END PROJECT I-329 (20) STA. 291+00

BEGIN PROJECT I-329 (13) STA. 291+00

SHAWNEE AVE.

E. 205TH ST.

100% CITY OF EUCLID PARTICIPATION

NORTH MARGINAL ROAD

CIRCUIT E-3

RAMP Nº 2-E

CIRCUIT E-1

SPB

1-2" DUCT

SEE DWG. Nº 108 FOR PULL BOX & LAMP STANDARD ARRANGEMENT

RAMP Nº 1-E

CIRCUIT E-2

SOUTH MARGINAL ROAD

CIRCUIT E-4

BEGIN SHEET STA. 287+00

MATCH LINE STA. 301+00

ST. RELOC. 1-N

2-N

1-S

2-S

E. 200TH. STR.

CITY OF CLEVELAND

CITY OF EUCLID

℄ PROPOSED LAKELAND FWY.

INTERSTATE FUNDS

FOR PULL BOX & LAMP STANDARD ARRANGEMENT BETWEEN FENCE & SHOULDER SEE DWG. 108

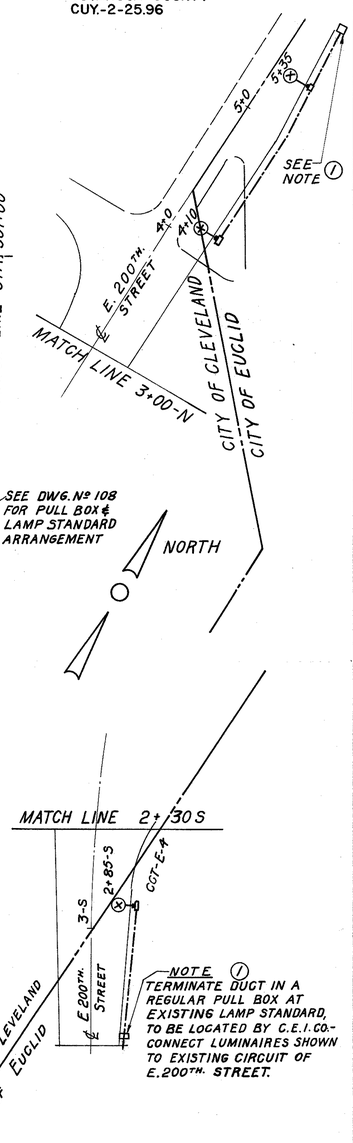
MATCH LINE 2+30-S

E. 207TH ST.

E. 209TH ST.

E. 210TH ST.

END SHEET STA. 314+00



NOTE 1 TERMINATE DUCT IN A REGULAR PULL BOX AT EXISTING LAMP STANDARD, TO BE LOCATED BY C.E.I. CO.- CONNECT LUMINAIRES SHOWN TO EXISTING CIRCUIT OF E. 200TH. STREET.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

FREEWAY LIGHTING
STA. 287+00 TO STA. 314+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

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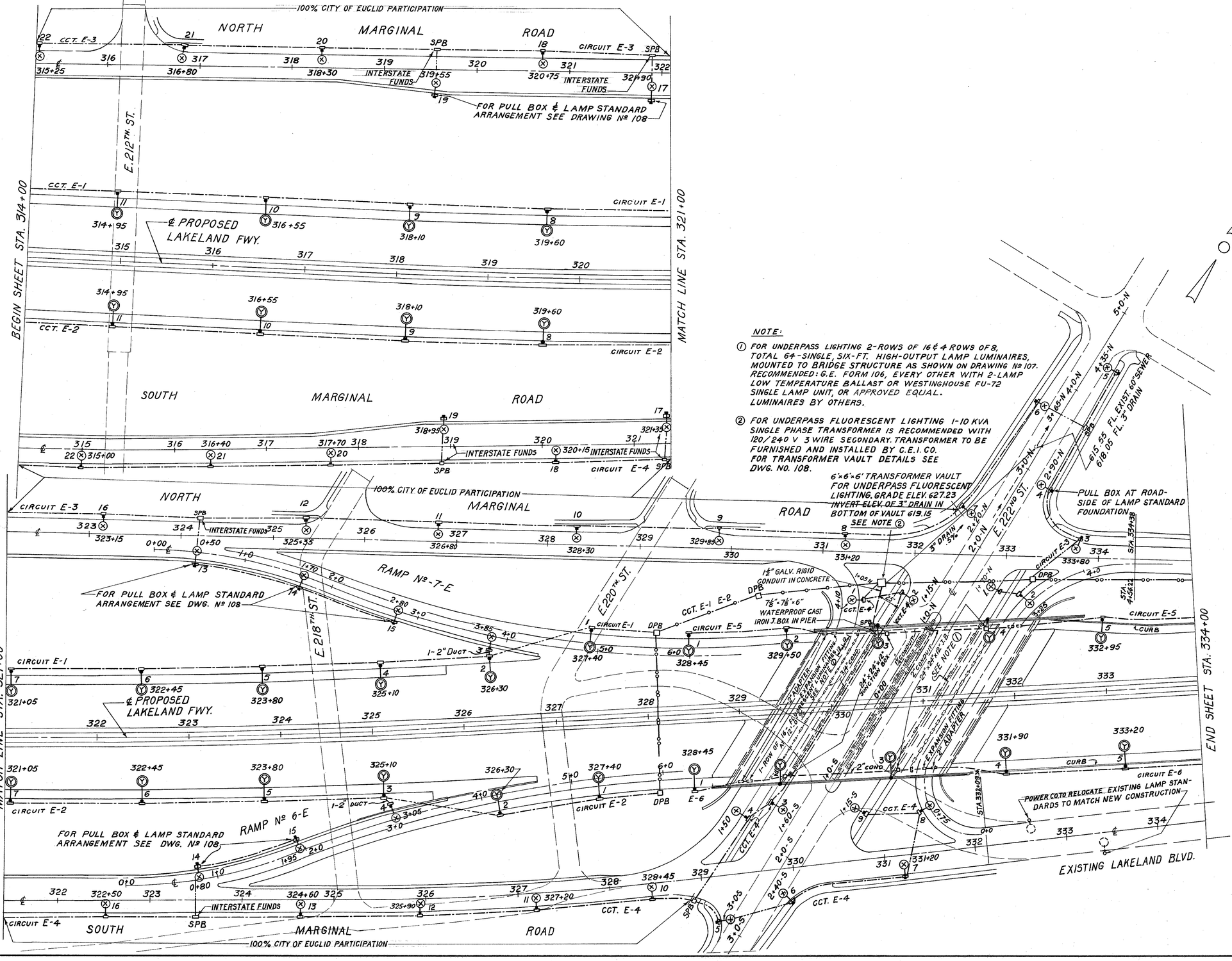
CUYAHOGA COUNTY
CUY.-2-25.96



NOTE:

① FOR UNDERPASS LIGHTING 2-ROWS OF 16 & 4 ROWS OF 8, TOTAL 64-SINGLE, SIX-FT. HIGH-OUTPUT LAMP LUMINAIRES, MOUNTED TO BRIDGE STRUCTURE AS SHOWN ON DRAWING Nº 107. RECOMMENDED: G.E. FORM 106, EVERY OTHER WITH 2-LAMP LOW TEMPERATURE BALLAST OR WESTINGHOUSE FU-72 SINGLE LAMP UNIT, OR APPROVED EQUAL. LUMINAIRES BY OTHERS.

② FOR UNDERPASS FLUORESCENT LIGHTING 1-10 KVA SINGLE PHASE TRANSFORMER IS RECOMMENDED WITH 120/240 V 3 WIRE SECONDARY. TRANSFORMER TO BE FURNISHED AND INSTALLED BY C.E.I. CO. FOR TRANSFORMER VAULT DETAILS SEE DWG. NO. 108.

6'×6'×6' TRANSFORMER VAULT FOR UNDERPASS FLUORESCENT LIGHTING, GRADE ELEV. 627.23 INVERT ELEV. OF 3" DRAIN IN BOTTOM OF VAULT 619.15 SEE NOTE ②

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

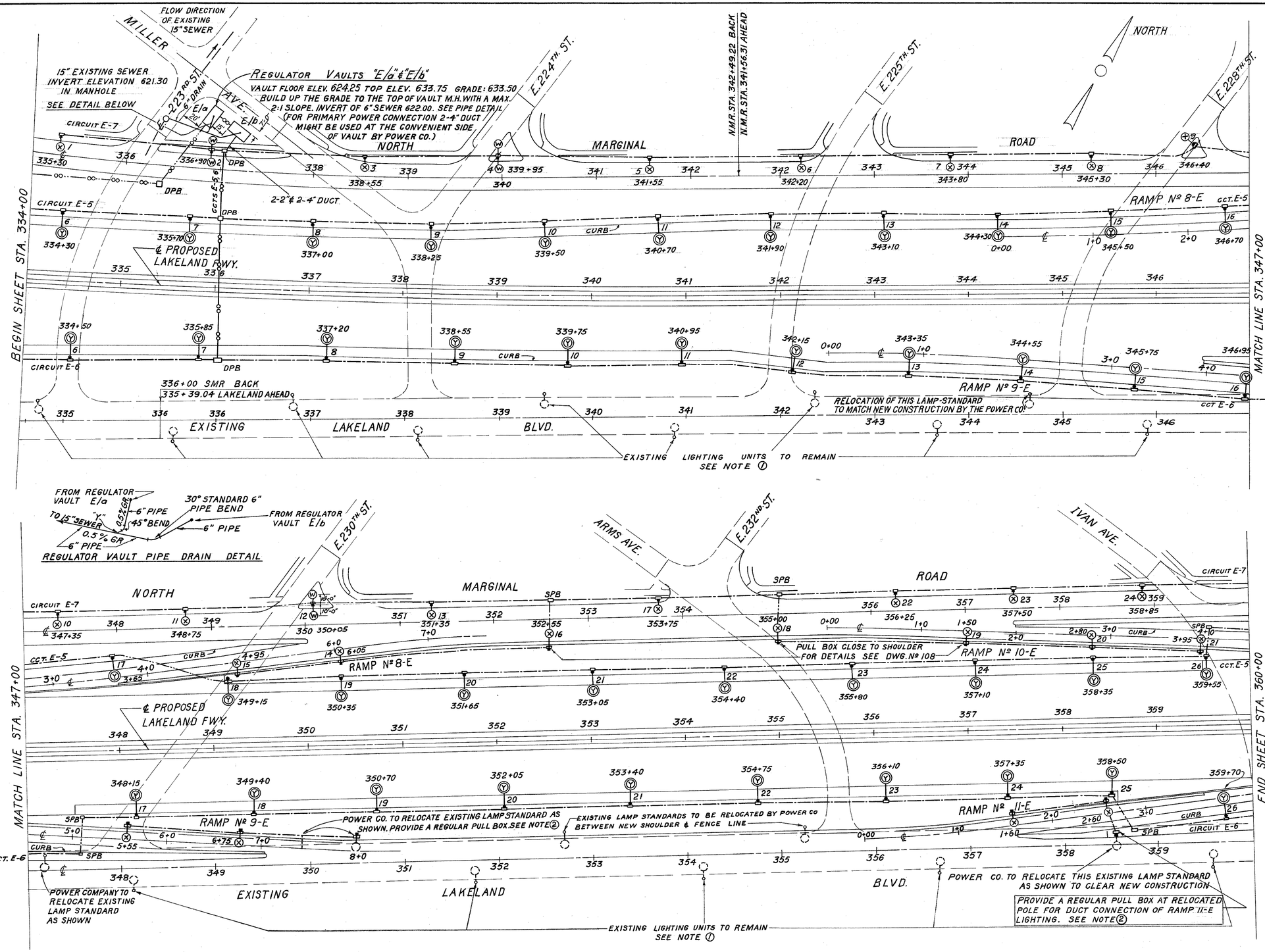
FREEWAY LIGHTING
STA. 314+00 TO STA. 334+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

101
152

CUYAHOGA COUNTY
CUY.-2-25.96



SUMMARY OF LIGHTING LOAD, REGULATORS & LUMINAIRES WITH RECOMMENDED CIRCUITING FOR AREA "E" FROM STA. 290 TO 366

VAULT	REGULATOR CAPACITY IN KW ⑤	CIRCUIT NO.	NUMBER OF LUMINAIRES 15,000 LUMENS	NUMBER OF LUMINAIRES 10,000 LUMENS	NUMBER OF LUMINAIRES ⑤ FLUOR	TOTAL LOAD IN KW
E/a	30	E-1	28	2		29.-
	30	E-2	29	2		30.-
	30	E-3		40		29.-
	30	E-4		42		31.-
E/b	30	E-5	31			30.-
		E-6	31			30.-
		E-7		38		28.3
	NOTE ④	E-8			64 ④	8.-
	CONNECTED TO EXISTING CIRCUITS			3		2.2
TOTAL			119	127	64	217.5

NOTES:

① LIGHTING UNITS ON EXISTING LAKELAND BLVD. TO REMAIN, EXCEPT WHERE OTHERWISE NOTED.

② THE LIGHTING OF RAMP Nº 9-E & 11-E SHALL BE CONNECTED BY POWER CO. TO THE EXISTING LAKELAND BLVD. LIGHTING SYSTEM THRU THE PROVIDED UNDERGROUND DUCTS.

③ FOR REGULATOR VAULT DETAILS SEE DRAWING Nº 106

④ A TOTAL OF 64 SINGLE LAMP HIGH OUTPUT FLUORESCENT LUMINAIRES FOR EAST 222ND STREET UNDERPASS LIGHTING.
FOR POWER SUPPLY 1-10 KVA. SINGLE PHASE TRANSFORMER IS RECOMMENDED WITH 120/240 VOLT 3 WIRE SECONDARY. TRANSFORMER TO BE FURNISHED & INSTALLED BY C.E.I. CO. IN THE PROVIDED TRANSFORMER VAULT AT THE NORTH ENTRANCE OF 222ND STREET, DWG. Nº 100.
FOR TRANSFORMER VAULT DETAILS SEE DWG. NO. 108.

⑤ REGULATORS, LUMINAIRES AND WIRING ARE NOT PART OF THIS CONTRACT.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

FREEWAY LIGHTING
STA. 334+00 TO STA. 360+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	1-329 (13)	

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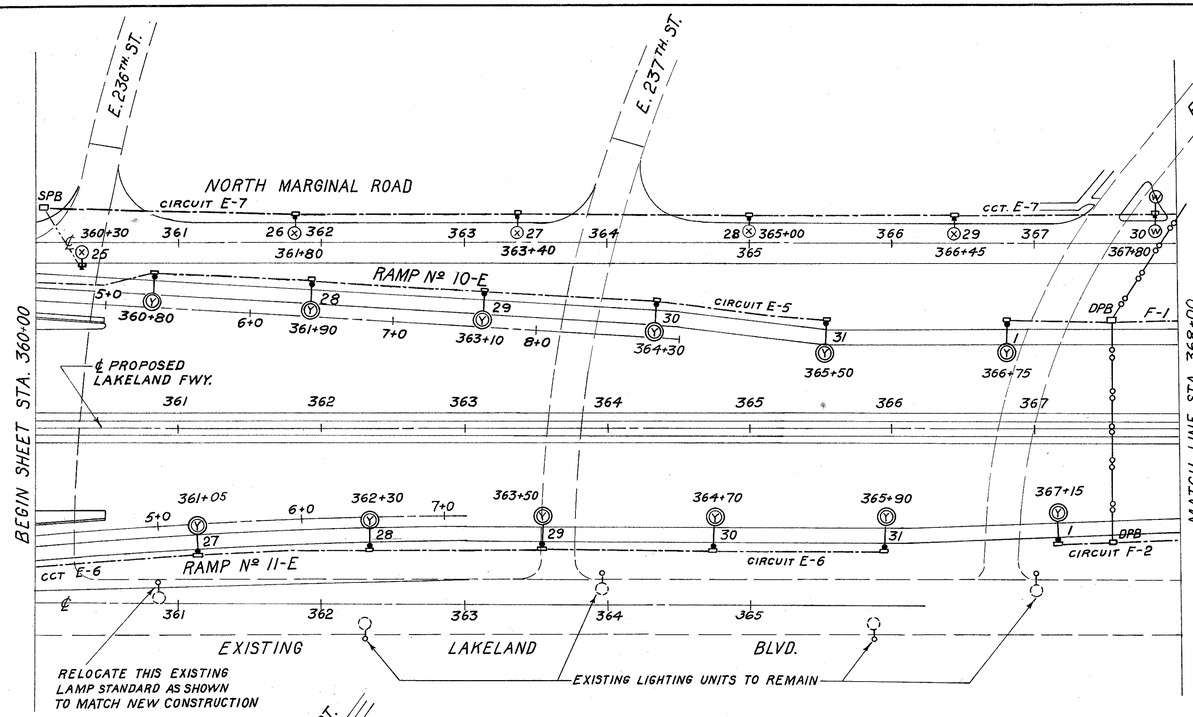
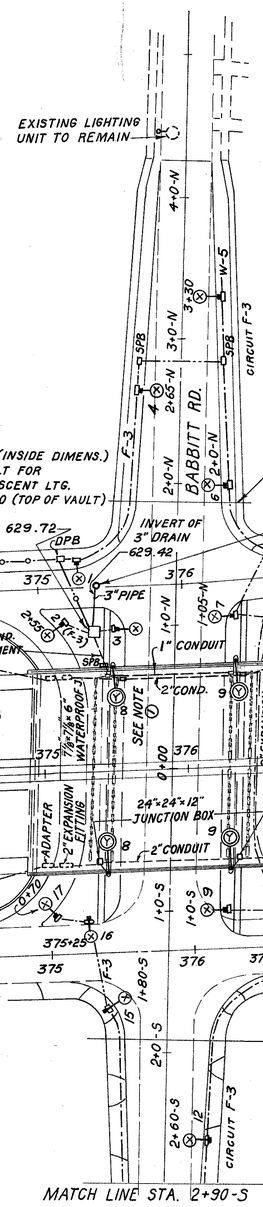
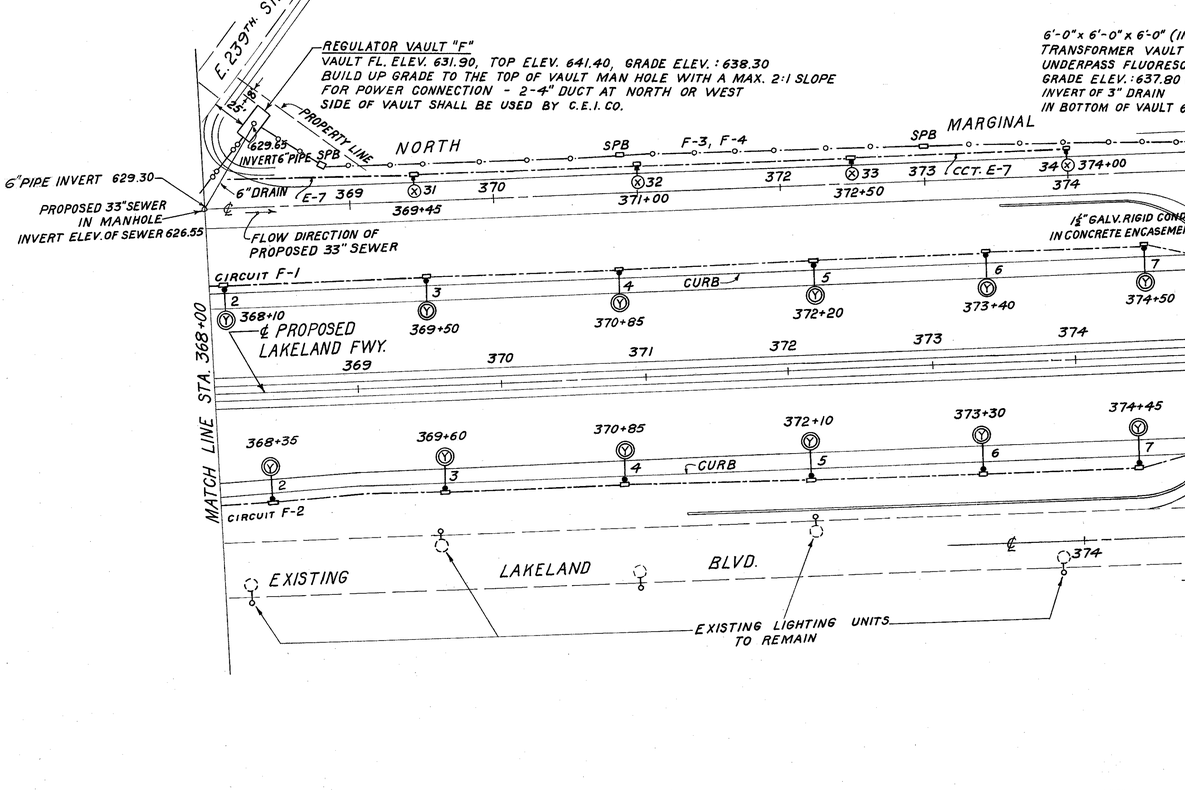
152

CUYAHOGA COUNTY
CUY-2-25.96

NORTH







NOTES:

1. 4 - ROWS OF 14 - TOTAL 56 - SINGLE 72" HIGH-OUTPUT LAMP LUMINAIRES MOUNTED TO BRIDGE STRUCTURE 9'-6" ON CENTER, FOR UNDERPASS LIGHTING. FOR DETAILS SEE DWG. Nº 107
2. FOR UNDERPASS LIGHTING 1-10 KVA SINGLE PHASE TRANSFORMER IS RECOMMENDED WITH 120/240 V 3 WIRE SECONDARY. TRANSFORMER TO BE FURNISHED AND INSTALLED BY C.E.I. CO. FOR TRANSFORMER VAULT DETAILS SEE DWG. Nº 108
3. REGULATORS, LUMINAIRES AND WIRING ARE NOT PART OF THIS CONTRACT

SUMMARY OF LIGHTING LOAD, REGULATORS & LUMINAIRES WITH RECOMMENDED CIRCUITING FOR AREA "F" FROM STA. 366 TO 403

VAULT	REGULATOR CAPACITY IN KW ③	CIRCUIT NO.	NUMBER OF LUMINAIRES ③ 15,000 LUMENS	10,000 LUMENS	FLUORESCENT	TOTAL LOAD IN KW
F	30	F-1	30			29.4
	30	F-2	30			29.4
	30	F-3		39		29.-
	NOTE ②	F-4			56	7.-
TOTAL			60	39	56	94.8

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

FREEWAY LIGHTING
STA. 360+00 TO STA. 380+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

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CUYAHOGA COUNTY
CUY-2-25.96

NORTH MARGINAL ROAD

E. 245TH ST. E. 248TH ST. E. 250TH ST.

NORTH

100% CITY OF EUCLID PARTICIPATION

BEGIN SHEET STA. 380+00

MATCH LINE STA. 395+00

CCT. F-3 CCT. F-1 CCT. F-2

℄ PROPOSED LAKELAND FWY.

RAMP Nº 13-E

RAMP Nº 12-E

CURB

SPB

FOR PULL BOX & LAMP STANDARD ARRANGEMENT SEE DRAWING Nº 108

EXISTING LAKELAND BLVD.

EXISTING LIGHTING UNITS TO REMAIN EXCEPT WHERE OTHERWISE NOTED

PROVIDE A REGULAR PULL BOX FOR CONNECTION RAMP Nº 12-E LIGHTS

POWER CO. TO RELOCATE THESE EXISTING LAMP STANDARDS AS SHOWN TO CLEAR NEW ROAD CONSTRUCTION

ENDPROJECT I-329 (13) STA. 402+99.55

ENDPROJECT I-329 (13) STA. 403+00

ENDPROJECT I-329 (13) STA. 403+00.41

RAMP Nº 15-E

RAMP Nº 14-E

INTERSTATE FUNDS

POWER CO TO ADJUST THIS EXISTING LAMP STANDARD TO NEW CONSTRUCTION

EXISTING LIGHTING UNITS TO REMAIN

THESE EXISTING LAMP STANDARDS TO BE RELOCATED AS SHOWN BY POWER CO TO CLEAR NEW CONSTRUCTION

PROVIDE A REGULAR PULL BOX TO TERMINATE THE UNDERGROUND DUCT. C.E.I. CO. TO CONNECT THE RAMP Nº 14-E LIGHTING TO THE EXISTING LAKELAND BLVD. LIGHTING SYSTEM.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

FREEWAY LIGHTING
STA. 380+00 TO STA. 410+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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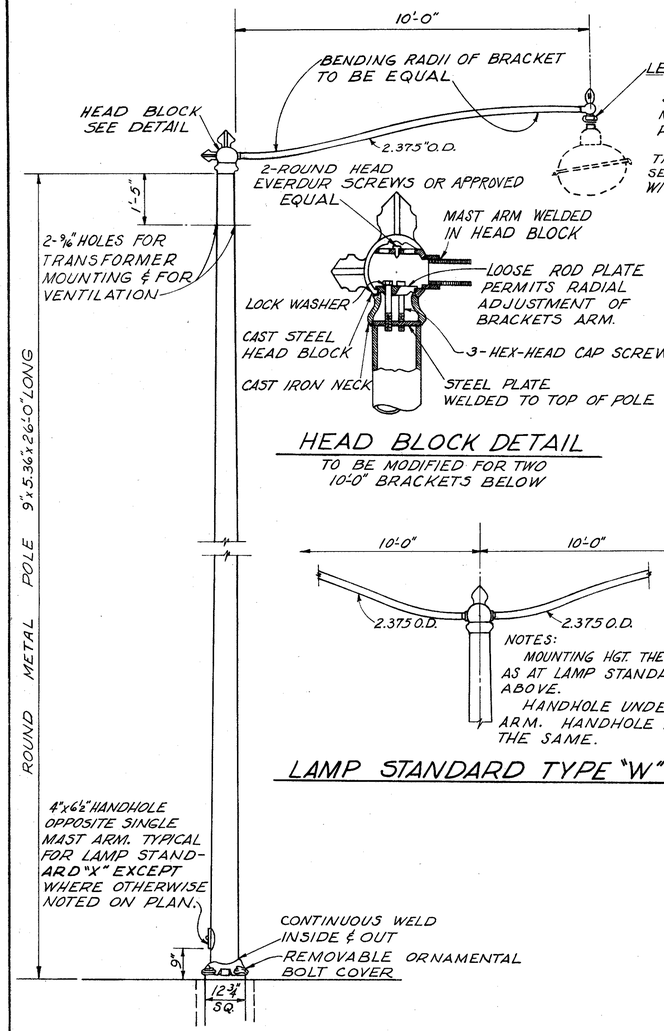
CUYAHOGA COUNTY
CUY-2-25.96

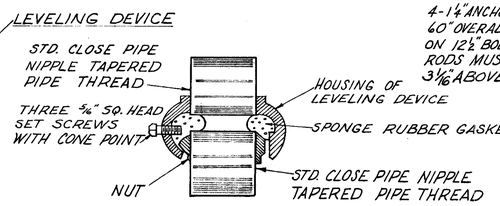
ROUND METAL POLE 9"x5.36"x26'-0" LONG



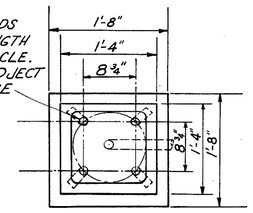
LAMP STANDARD TYPE "W"

LAMP STANDARD TYPE "X"

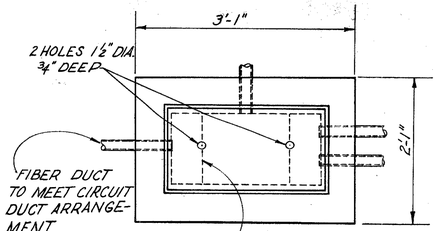
TYPICAL ARRANGEMENT FOR TYPES W & X
LAMP STANDARDS AT MARGINAL ROADS
CROSS STREETS & MARGINAL ROAD CONNECTORS



LEVELING DEVICE DETAIL

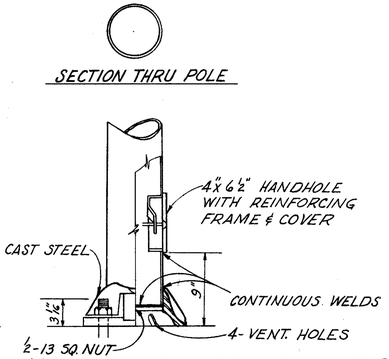


PLAN

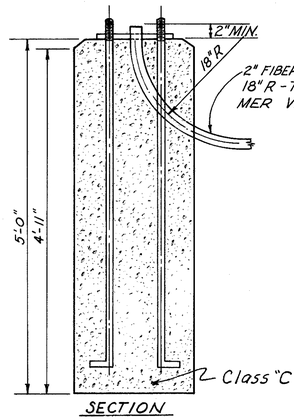


PLAN

NOTE:
DIMENSIONS SHOWN ARE FOR TOP OPENING. COVER TO BE APPROX. ½" LESS

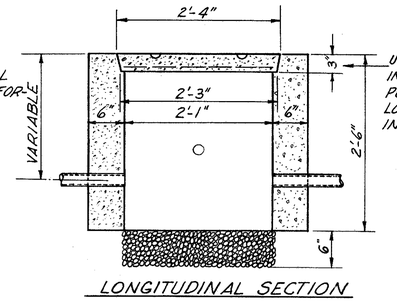


BOLT COVER & HAND HOLE DETAIL

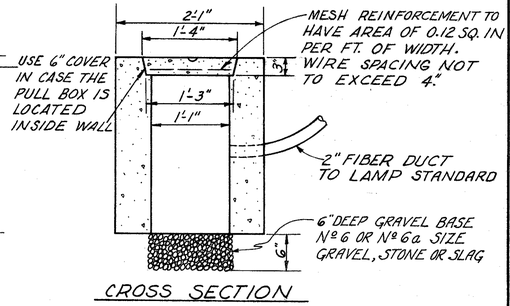


SECTION

LAMP STANDARD FOUNDATION
-REGULAR-
TO BE CAST IN PLACE
FOR TYPES "W" & "X" LAMP STANDARD

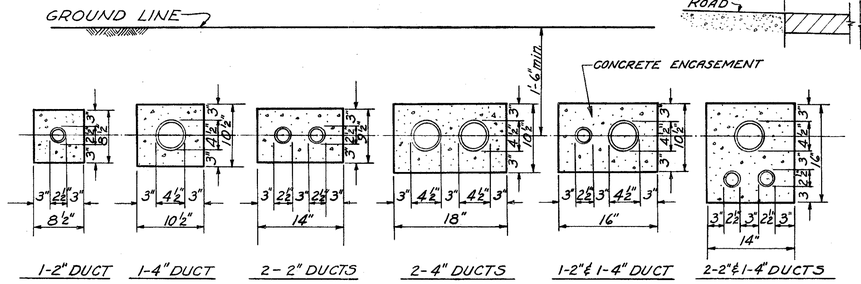


LONGITUDINAL SECTION



CROSS SECTION

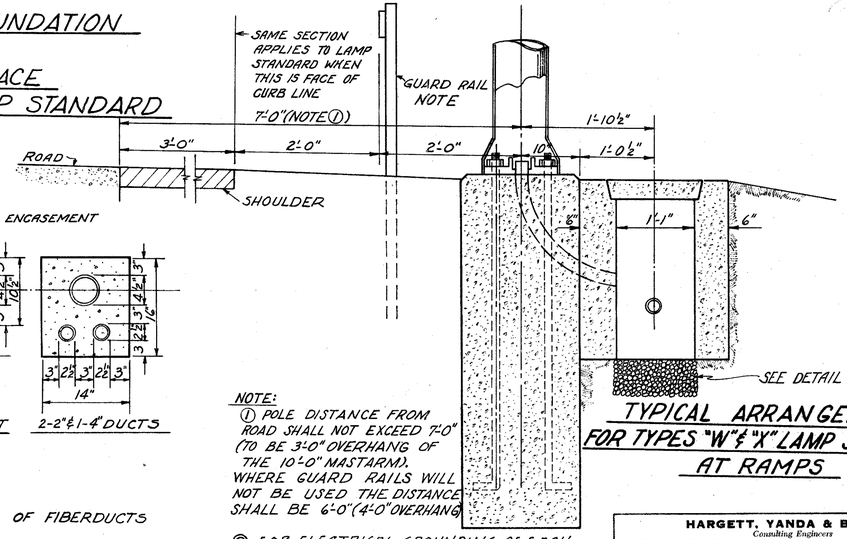
PULL BOX AND TRANSFORMER VAULT - REGULAR -
FOR TYPES "W" & "X" LAMP STANDARDS



1-2" DUCT | 1-4" DUCT | 2-2" DUCTS | 2-4" DUCTS | 1-2" & 1-4" DUCT | 2-2" & 1-4" DUCTS

TYPICAL DUCT SECTIONS

FOR DEPTH OF PAVEMENT CROSSOVERS SEE OTHER SHEET - DIMENSIONS OF FIBERDUCTS REFER TO ORANGEBURG CONDUIT FITTINGS



TYPICAL ARRANGEMENT
FOR TYPES "W" & "X" LAMP STANDARDS
AT RAMPS

NOTE:
① POLE DISTANCE FROM ROAD SHALL NOT EXCEED 7'-0" (TO BE 3'-0" OVERHANG OF THE 10'-0" MASTARM). WHERE GUARD RAILS WILL NOT BE USED THE DISTANCE SHALL BE 6'-0" (4'-0" OVERHANG)

② FOR ELECTRICAL GROUNDING OF EACH STANDARD PROVIDE A ⅝" MIN. DIA. 8'-0" LONG COPPER GROUND ROD WITH CONNECTOR AND WITH Nº 6 AWG. TINNED COPPER WIRE CONNECTION TO THE STANDARD GROUND LUG. THE RESISTANCE OF GROUND NOT TO EXCEED 15 OHMS.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

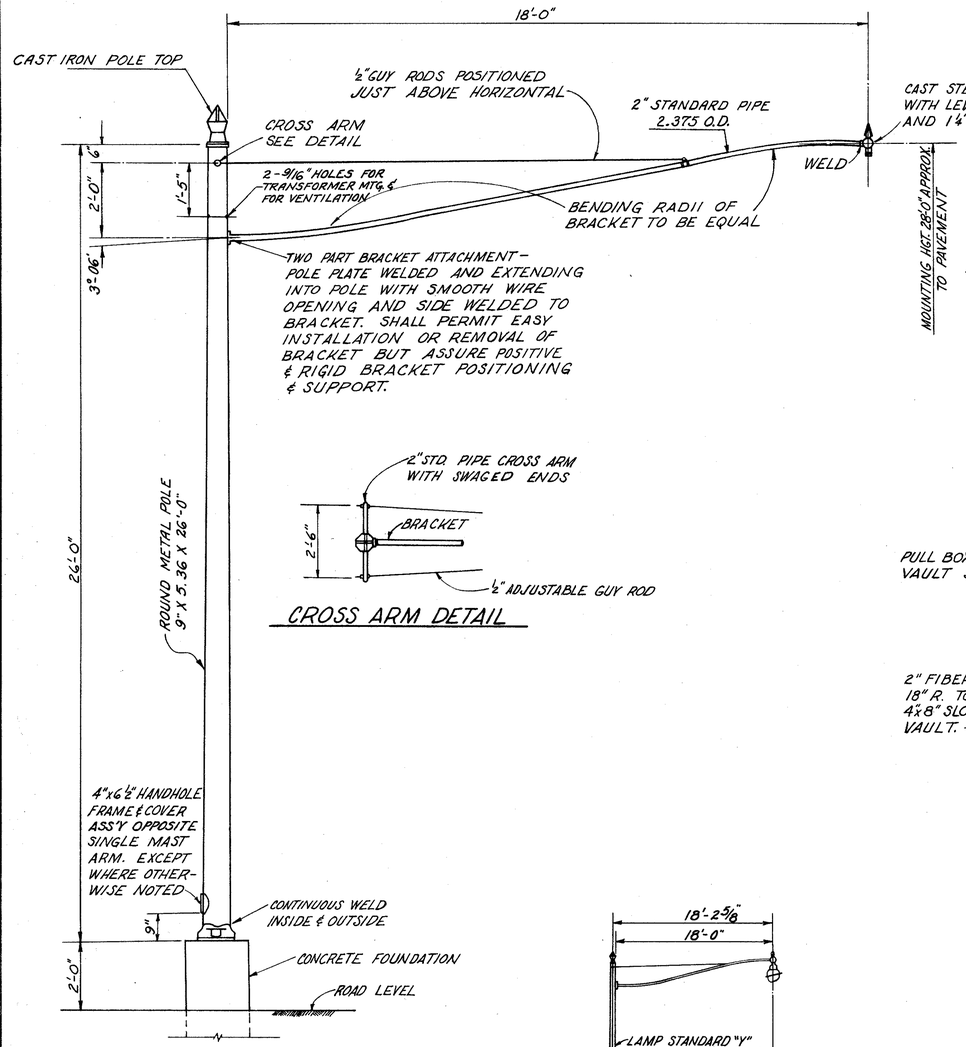
LIGHTING DETAILS
LAMP STANDARDS
TYPE "W" & "X"

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

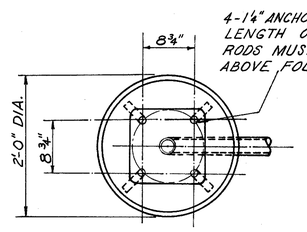
105
152

CUYAHOGA COUNTY
CUY-2-25.96

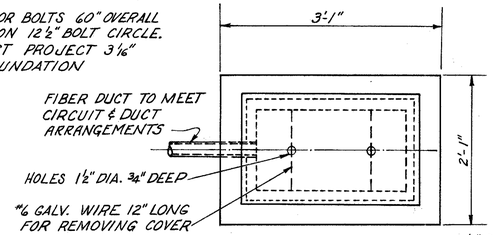


CROSS ARM DETAIL

TYPICAL POLE MODIFICATION
LAMP STANDARD TYPE "Y"

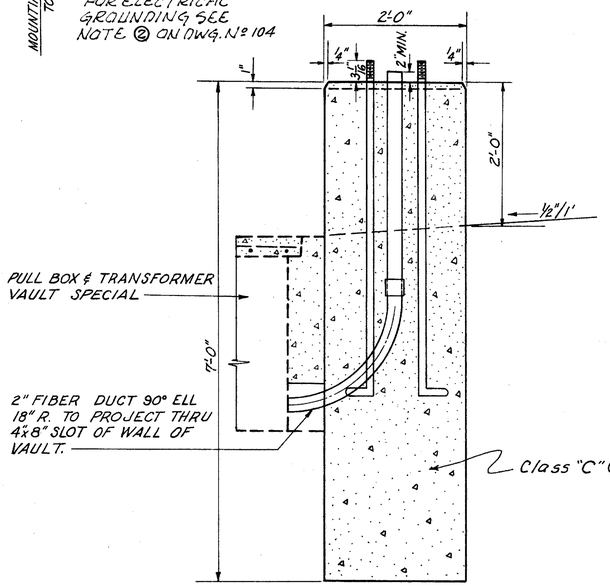


PLAN



PLAN

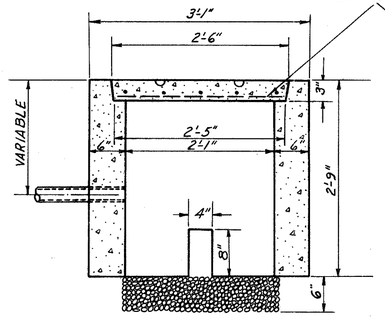
NOTE: FOR ELECTRICAL GROUNDING SEE NOTE ② ON DWG. N° 104



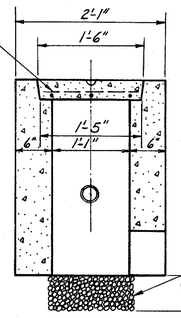
SECTION

LAMP STANDARD FOUNDATION SPECIAL
FOR TYPE "Y" LAMP STANDARDS
TO BE CAST IN PLACE

½" REINFORCING RODS ON 6" CENTER TO CENTER BOTH WAYS



LONGITUDINAL SECTION

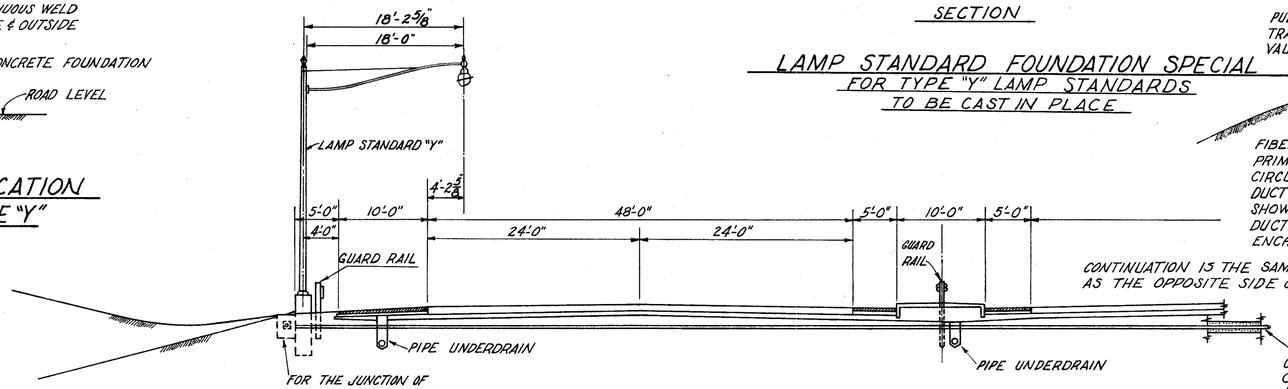


CROSS SECTION

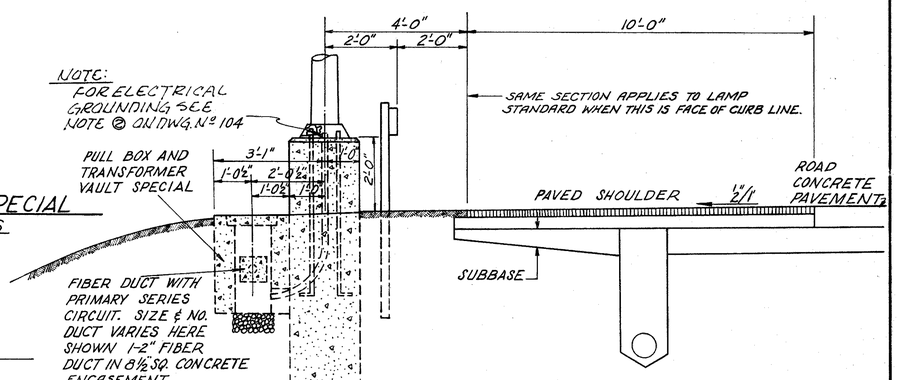
NOTES:
4"X 8" SLOT TO BE OMITTED WHEN USED AS A PULL BOX ONLY. THIS PULL BOX WILL BE DESIGNATED ON PLANS BY ▭ S.P.B. (SPECIAL PULL BOX).

6" DEEP GRAVEL BASE N° 6 OR N° 6a SIZE GRAVEL, STONE OR SLAG.

PULL BOX & TRANSFORMER VAULT SPECIAL
FOR LAMP STANDARDS TYPE "Y"



TYPICAL STREET LTG. DUCT CROSSOVER
AT NORMAL FREEWAY ROAD SECTION



TYPICAL ARRANGEMENT
LAMP STANDARD "Y"

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

LIGHTING DETAILS
LAMP STANDARDS
TYPE "Y"

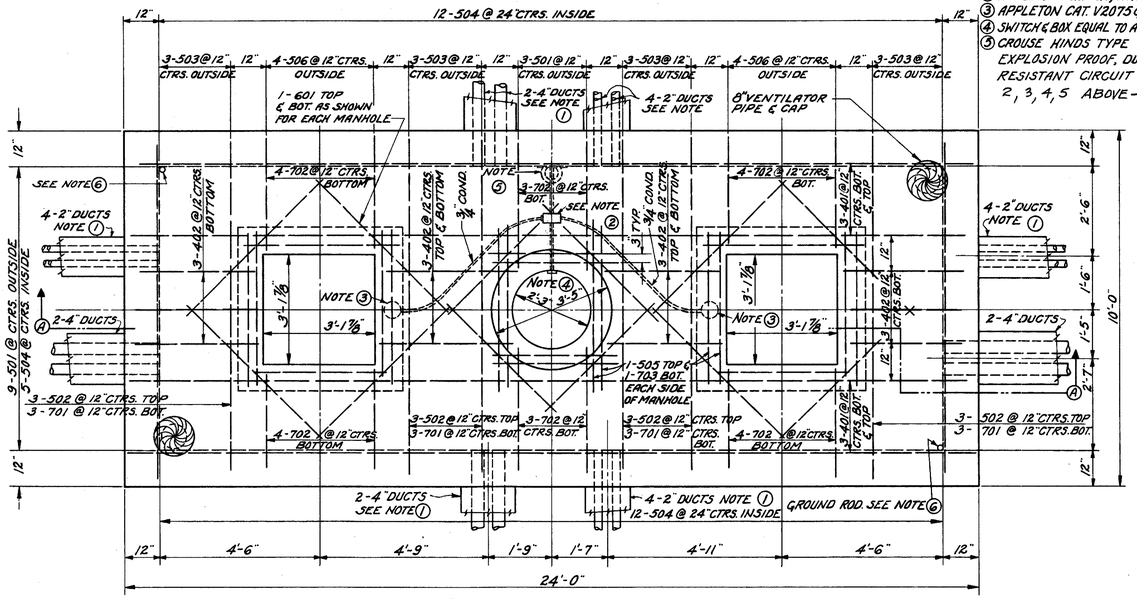
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

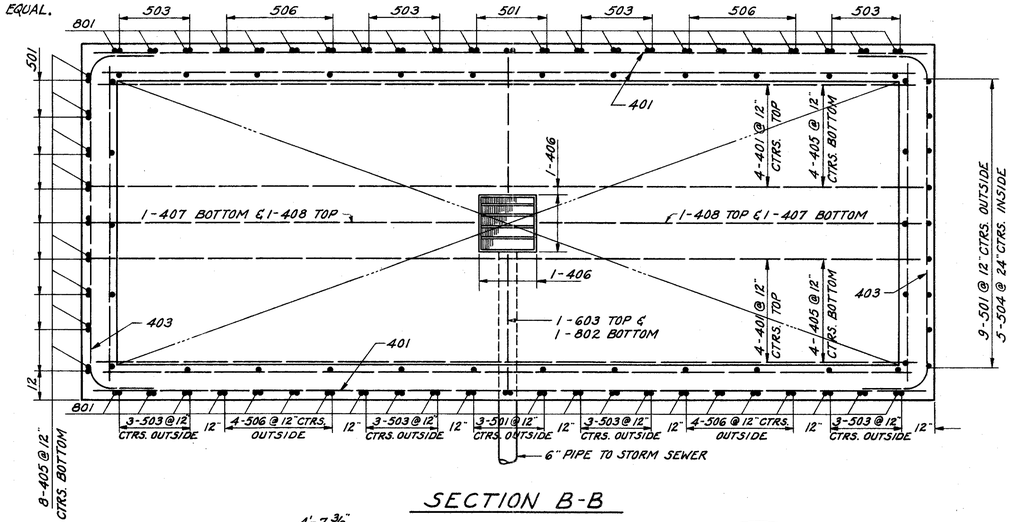
106
152

CUYAHOGA COUNTY
CUY - 2 - 25.96

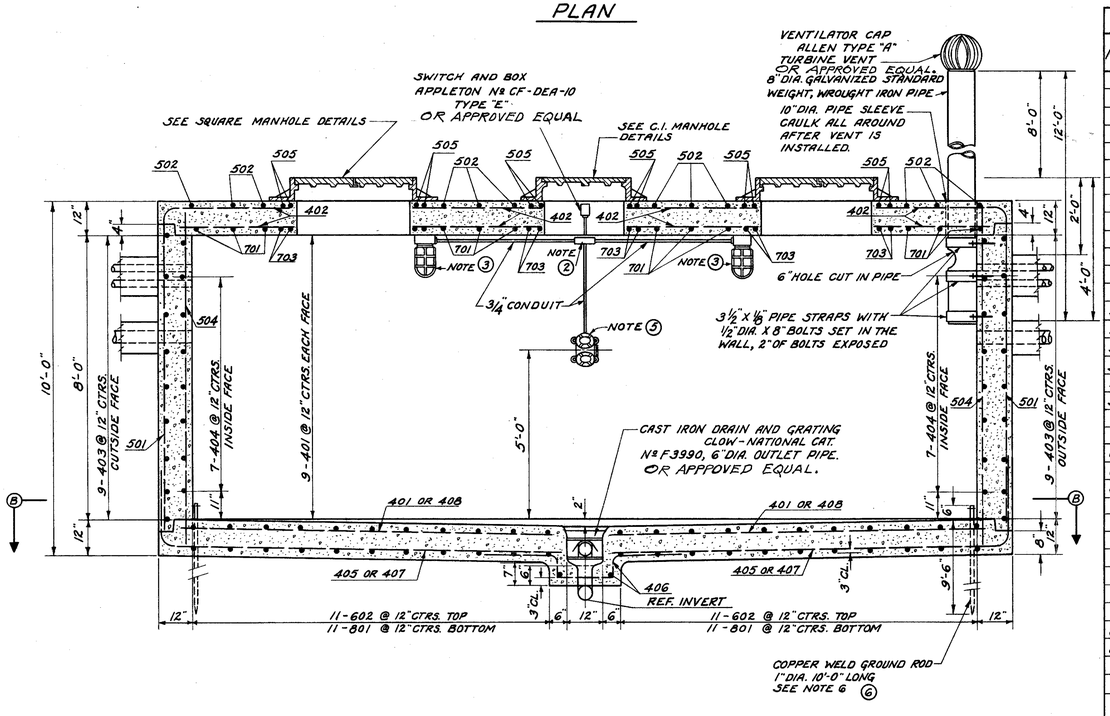
NOTES
1. WHERE INITIAL USE OF INDICATED DUCT BANKS IS NOT REQUIRED - SEE PLANS - EXTEND THE DUCTS THRU THE WALLS 18" MIN. & CAP ON THE OUTSIDE ENDS FOR FUTURE USE.
2. APPLETON FSX BOX, CAT. 7904, -GASKETED COVER.
3. APPLETON CAT. V20175 G. VAPORTIGHT LIGHT FIXTURE.
4. SWITCH & BOX EQUAL TO APPLETON № CF-DEA-10, TYPE "E".
5. CROUSE HINDS TYPE FLB 171-DT-15-1, 15A., 1-P EXPLOSION PROOF, DUST-TIGHT AND WEATHER RESISTANT CIRCUIT BREAKER CONDULETS. 2, 3, 4, 5 ABOVE - OR APPROVED EQUAL.
6. FOR GROUNDING, 2-1" DIA. X 10'-0" GROUND ROD SHALL BE PLACED IN DIAGONAL CORNERS OF THE VAULT WITH 6" OF THE ROD EXTENDING ABOVE THE FLOOR. ADDITIONAL GROUND RODS SHALL BE DRIVEN IF REQUIRED TO INSURE NOT OVER 5 OHM GROUNDS.
7. THE TOP AND SIDES OF TRANSFORMER VAULT SHALL BE PROVIDED WITH TYPE "B" WATER-PROOFING ACCORDING TO OHIO STANDARD CONSTRUCTION AND MATERIAL SPECIFICATIONS.
8. FOR THE FLOOR VAPOR BARRIER A 0.004 POLYETHYLENE FILM SHALL BE APPLIED OVER THE SUB-GRADE. THE FILM SHALL BE LAPPED NOT LESS THAN 6" WITH THE TOP LAP PLACED IN THE DIRECTION OF THE SPREADING OF THE CONCRETE.
8. REGULATORS ARE NOT PART OF THIS CONTRACT.



PLAN



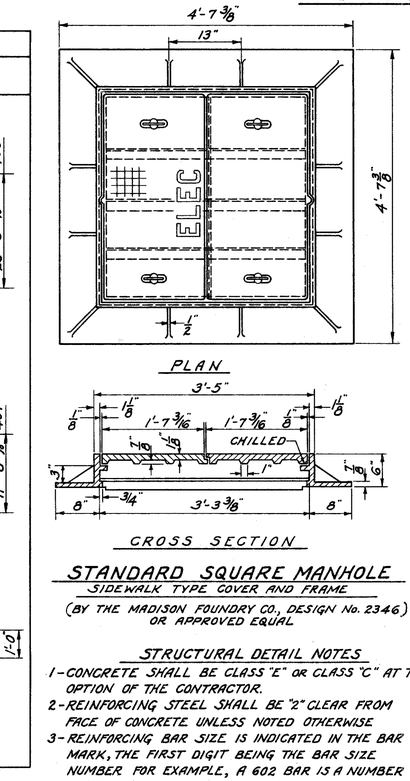
SECTION B-B



SECTION A-A

REINFORCING BAR SCHEDULE

MARK	SIZE	NO. REQD.	LGTH.	TYPE	WGHT.	BENDING DIAGRAMS
401	4	56	23'-8	STR.	885	
402	4	18	3'-9	STR.	45	
403	4	18	13'-5	B	161	
404	4	14	9'-8	STR.	90	
405	4	8	28'-5	B	152	
406	4	4	6'-0	B	16	
407	4	2	14'-0	B	19	
408	4	2	11'-2	STR.	15	
501	5	24	12'-6	B	313	
502	5	12	9'-8	STR.	121	
503	5	24	11'-8	B	292	
504	5	34	9'-0	STR.	319	
505	5	24	5'-6	STR.	138	
506	5	16	12'-1	B	202	
601	6	24	5'-0	STR.	180	
602	6	22	9'-8	STR.	319	
603	6	2	4'-0	STR.	12	
701	7	12	9'-8	STR.	237	
702	7	22	3'-0	STR.	135	
703	7	24	5'-6	STR.	270	
801	8	22	14'-4	B	842	
802	8	2	6'-5	B	34	
			TOTAL		4,797	



PLAN

CROSS SECTION

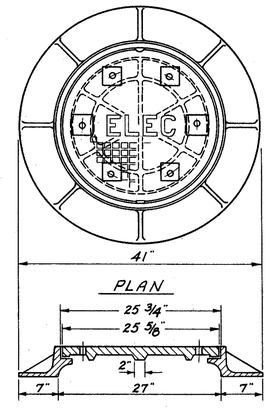
STANDARD SQUARE MANHOLE

SIDEWALK TYPE COVER AND FRAME

(BY THE MADISON FOUNDRY CO., DESIGN No. 2346) OR APPROVED EQUAL

STRUCTURAL DETAIL NOTES

1. CONCRETE SHALL BE CLASS "E" OR CLASS "C" AT THE OPTION OF THE CONTRACTOR.
2. REINFORCING STEEL SHALL BE "2" CLEAR FROM FACE OF CONCRETE UNLESS NOTED OTHERWISE
3. REINFORCING BAR SIZE IS INDICATED IN THE BAR MARK, THE FIRST DIGIT BEING THE BAR SIZE NUMBER FOR EXAMPLE, A 602 BAR IS A NUMBER 6 SIZE BAR.



CROSS SECTION

STANDARD CI MANHOLE DETAILS

SIDEWALK TYPE RING & COVER

(BY THE MADISON FOUNDRY CO., DESIGN № 2371) OR APPROVED EQUAL

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

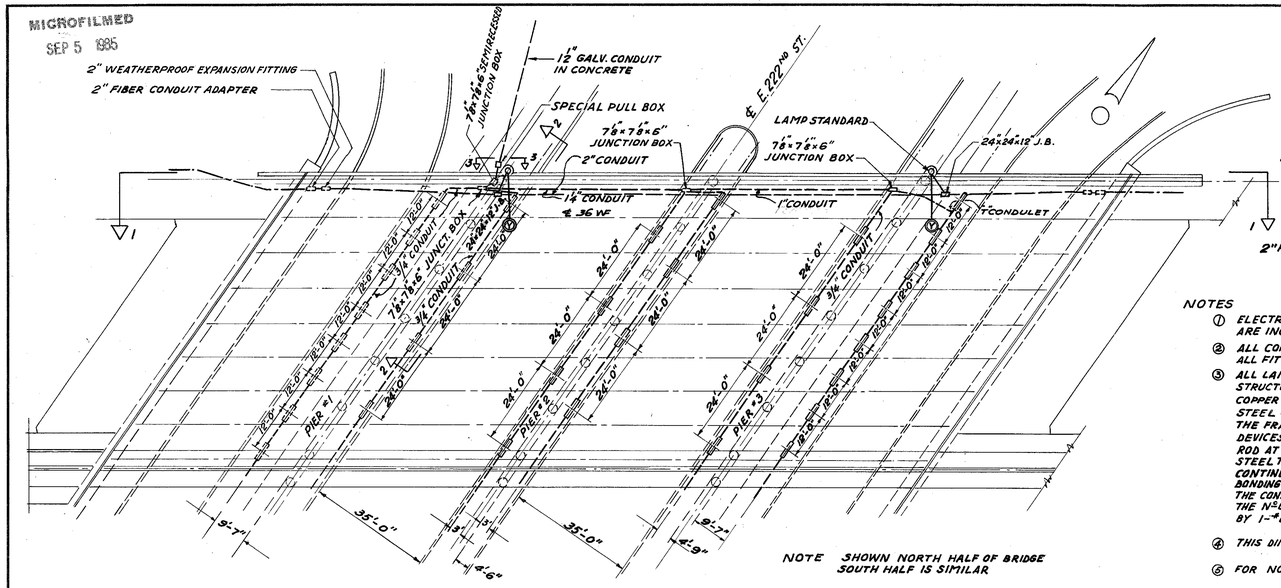
REGULATOR VAULT DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
		G.J.				

FED RD DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

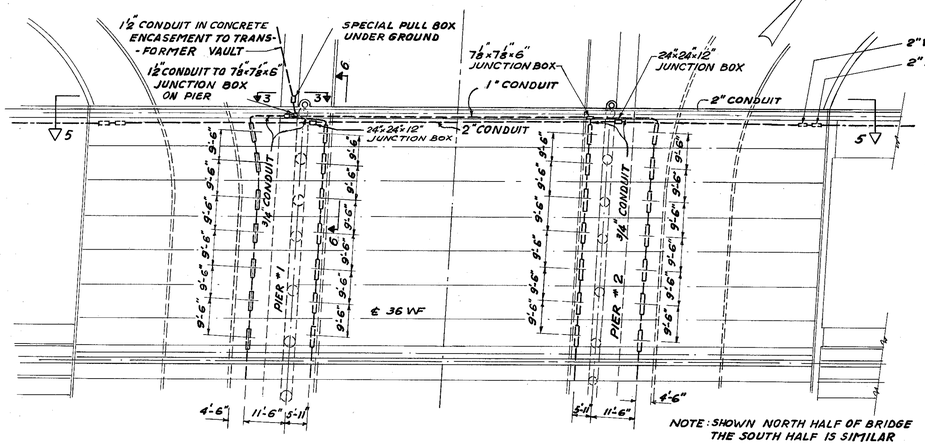
107/152

CUYAHOGA COUNTY
CUY-2-25.96



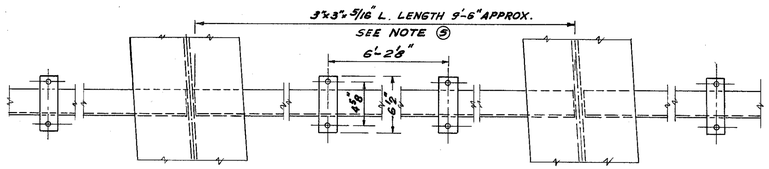
NOTE SHOWN NORTH HALF OF BRIDGE SOUTH HALF IS SIMILAR

PARTIAL PLAN
BRIDGE OVER EAST 222 STREET
BRIDGE Nº CUY-2-2670

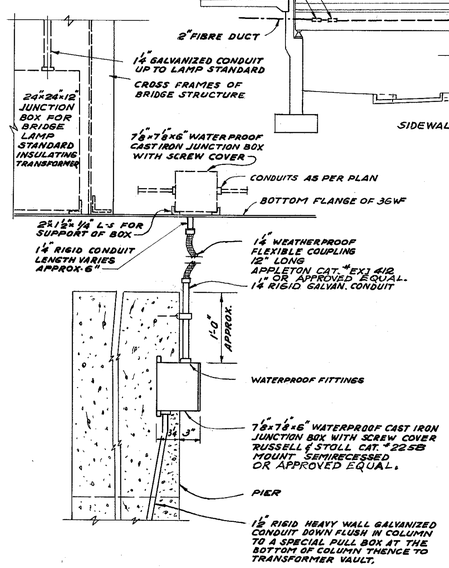


NOTE: SHOWN NORTH HALF OF BRIDGE THE SOUTH HALF IS SIMILAR

PARTIAL PLAN
BRIDGE OVER BABBITT ROAD
BRIDGE Nº CUY-2-2756

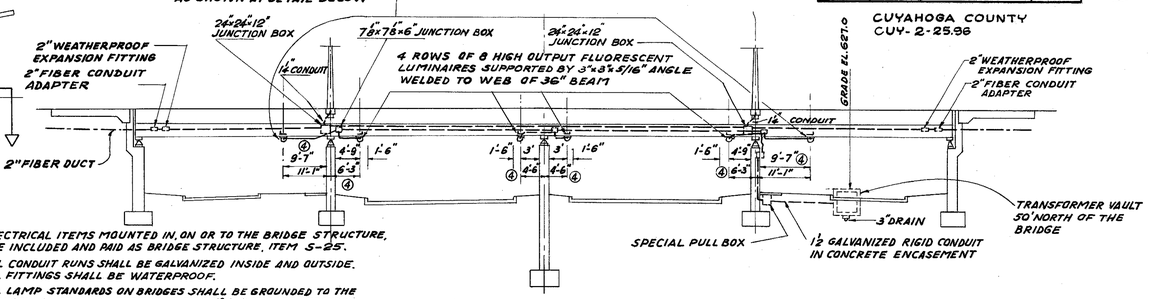


SECTION 7-7
TYPICAL UNDERPASS LIGHTING SUPPORT DETAIL FOR BRIDGE OVER BABBITT ROAD



SECTION 3-3
TYPICAL FOR MOUNTING OF JUNCTION BOXES AT PIER ℄ BRIDGE STRUCTURE FOR UNDERPASS FLUORESCENT LIGHTING AND LIGHTING ABOVE BRIDGE

TWO ROWS OF 16 HIGH OUTPUT FLUORESCENT LUMINAIRES MOUNTED TO 3"×3"×5/16" SUPPORTING ANGLE WELDED TO THE WEB OF 36" BEAM AS SHOWN AT DETAIL BELOW



NOTES

① ELECTRICAL ITEMS MOUNTED IN, ON OR TO THE BRIDGE STRUCTURE, ARE INCLUDED AND PAID AS BRIDGE STRUCTURE, ITEM S-25.

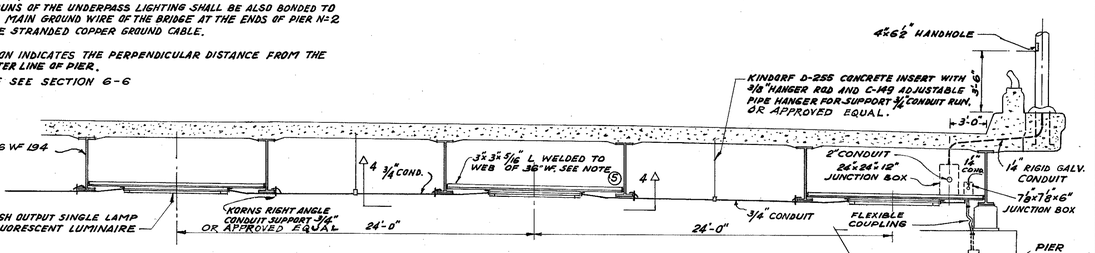
② ALL CONDUIT RUNS SHALL BE GALVANIZED INSIDE AND OUTSIDE. ALL FITTINGS SHALL BE WATERPROOF.

③ ALL LAMP STANDARDS ON BRIDGES SHALL BE GROUNDED TO THE STRUCTURAL STEEL OF THE BRIDGE BY A Nº6 AWG BARE STRANDED COPPER GROUND CABLE. FOR GROUNDING OF THE BRIDGE STRUCTURAL STEEL SEE DRAWINGS III ℄ 125.
THE FRAMES OF UNDERPASS LUMINAIRES, JUNCTION BOXES AND ELECTRICAL DEVICES SHALL BE GROUNDED THRU CONTINUOUS CONDUIT RUNS TO GROUND ROD AT TRANSFORMER VAULT OR PULL BOX AND ALSO TO THE STRUCTURAL STEEL TO SECURE THE SAME POTENTIAL OF GROUNDING SYSTEM. FOR THE CONTINUITY OF THE GROUNDING ALL EXPANSION FITTINGS SHALL HAVE BONDING JUMPER.
THE CONDUIT RUNS OF THE UNDERPASS LIGHTING SHALL BE ALSO BONDED TO THE Nº0 AWG MAIN GROUND WIRE OF THE BRIDGE AT THE ENDS OF PIER Nº2 BY 1-#6 BARE STRANDED COPPER GROUND CABLE.

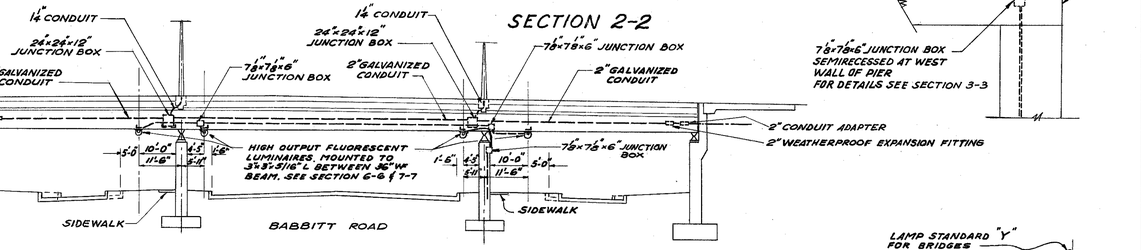
④ THIS DIMENSION INDICATES THE PERPENDICULAR DISTANCE FROM THE CENTER LINE OF PIER.

⑤ FOR NOTE 5 SEE SECTION 6-6

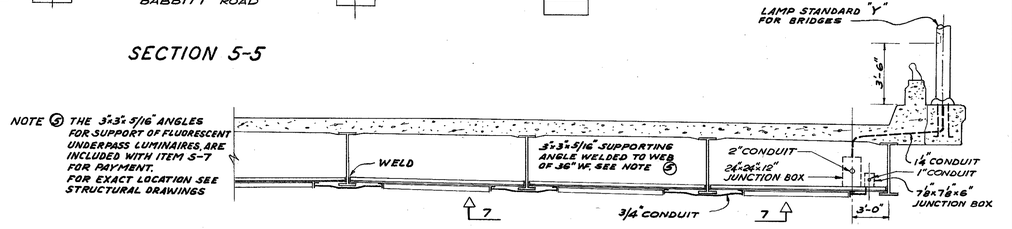
SECTION I-I



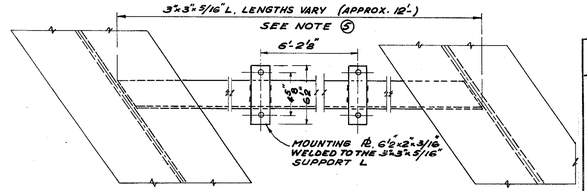
SECTION 2-2



SECTION 5-5



SECTION 6-6



SECTION 4-4
TYPICAL SUPPORT DETAIL FOR BRIDGE OVER EAST 222 STREET

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

UNDERPASS AND BRIDGE LIGHTING SECTIONS AND DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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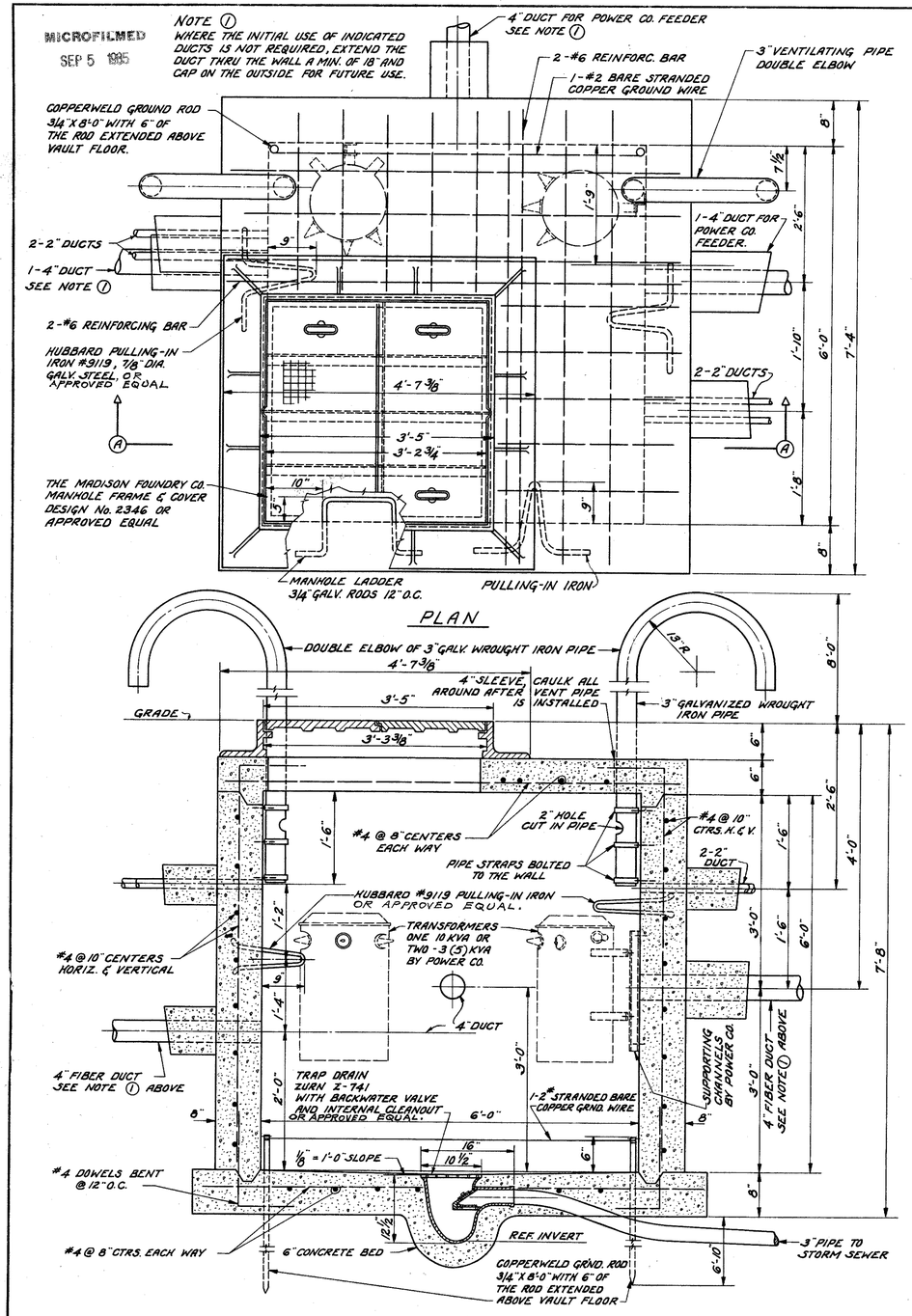
CUYAHOGA COUNTY
CUY-2-25.96

NOTE (1)
WHERE THE INITIAL USE OF INDICATED DUCTS IS NOT REQUIRED, EXTEND THE DUCT THRU THE WALL A MIN. OF 18" AND CAP ON THE OUTSIDE FOR FUTURE USE.

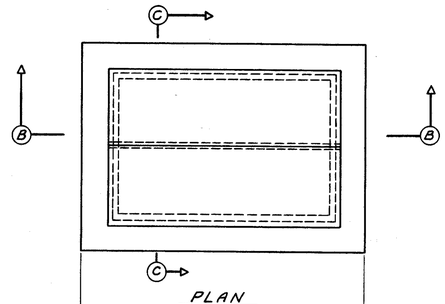


PLAN

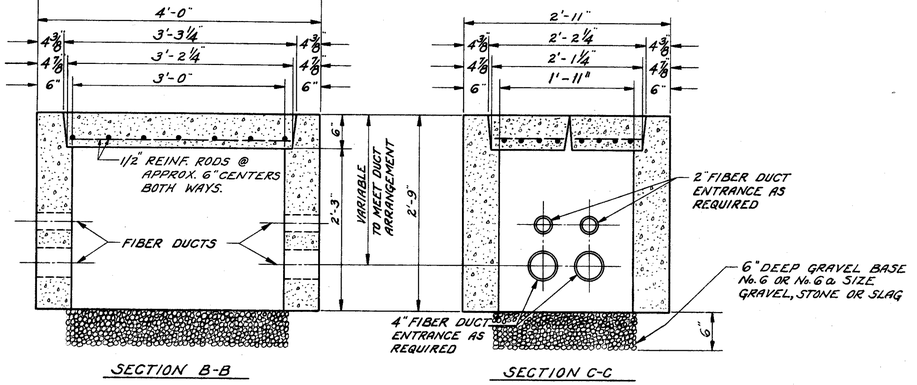
SECTION A-A

TRANSFORMER VAULT DETAILS FOR FLUORESCENT UNDERPASS LIGHTING

TRANSFORMERS ARE NOT PART OF THIS CONTRACT

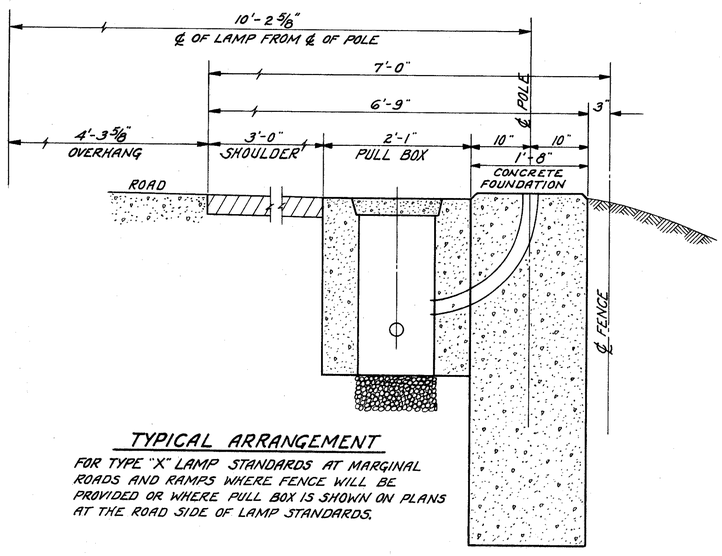


PLAN



SECTION B-B SECTION C-C

TYPICAL DOUBLE PULL BOX DETAILS



TYPICAL ARRANGEMENT

FOR TYPE "X" LAMP STANDARDS AT MARGINAL ROADS AND RAMPS WHERE FENCE WILL BE PROVIDED OR WHERE PULL BOX IS SHOWN ON PLANS AT THE ROAD SIDE OF LAMP STANDARDS.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

UNDERPASS & BRIDGE LIGHTING
TRANSFORMER VAULT DETAILS
TYPICAL DOUBLE PULL BOX

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
		G.J.				

FED. RD DIVISION	STATE	PROJECT	FISCAL YEAR
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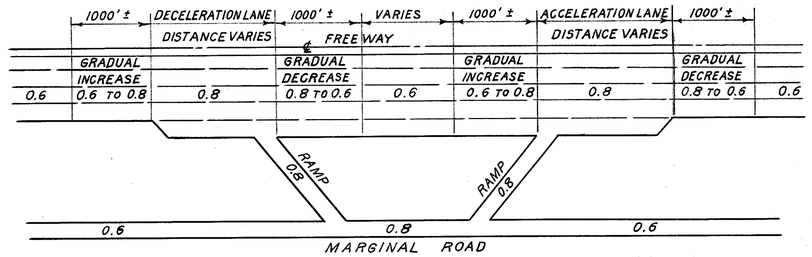
CUYAHOGA COUNTY
CUY.-2-25.96

LAMP STANDARD ASSEMBLY

TYPE	POLE	MAST ARM	FOUNDATION	PULL BOX	NOTE
W	TYPICAL-MODIFIED	2-10 FOOT	REGULAR	REGULAR	
X	TYPICAL	1-10 FOOT	REGULAR	REGULAR	
Y	TYPICAL-MODIFIED	1-18 FOOT	SPECIAL	SPECIAL	

GENERAL ILLUMINATION DATA

ROADWAY	LAMP SIZE	SPACING IN FT. GENERAL	SPACING IN FT. INTERSECTIONS	APPROXIMATE OVER-HANG	FOOTCANDLES GENERAL	FOOTCANDLES INTERCHANGES	NOTE
FREEWAY	15,000 LUMENS	160	120	4'	.6	.8	CALCULATED WITH I.E.S. TYPE IV DISTRIBUTION LAMPS
MARGINAL ROADS	10.000 LUMENS	160	120	4'	.6	.8	CALCULATED WITH I.E.S. TYPE III DISTRIBUTION LAMPS
RAMPS	10.000 LUMENS	150	110	3 FT. AT GUARD RAILS 4 FT. WHERE GUARD RAILS WILL NOT BE USED			-"-



SCHEMATIC DIAGRAM OF FOOTCANDLES
MAXIMUM CRITERIA

TABLE 1

SYMBOLS AND SUMMARY OF QUANTITIES EXCEPT ITEMS OF BRIDGES - SEE NOTE ①

ITEM	DESCRIPTION	SYMBOLS	PARTICIPATION OF CITY OF EUCLID INTERSTATE FUND SHEET Nº 99	100	101	102	103	TOTAL	100% CITY OF EUCLID SHEET Nº 99	100	101	102	103	TOTAL	GRAND TOTAL	UNITS
S-25	1-2" DUCT	—·—·—·—	4,920	4,614	8,718	5,700	6,669	30621	4,701	3199		585	826	9311	39932	FEET
S-25	2-2" DUCT	—··—··—	224	954	378	211	470	2237	38			112		150	2387	FEET
S-25	2-4" DUCT	—oo—oo—		177	167	285		629							629	FEET
S-25	1-2" & 1-4" DUCT	—·o—·o—		255		690		945							945	FEET
S-25	2-2" & 1-4" DUCT	—··o—··o—				55		55							55	FEET
S-25	1-2" & 2-4"DUCT	—·oo—·oo—			73			73							73	FEET
S-25	2-2" & 2-4"DUCT	—··oo—··oo—		339	252			591							591	FEET
S-25	1-1½" CONDUIT IN 3" CONCRETE ENCASEMENT	CONDUIT SIZE NOTED ON PLANS		55		35		90							90	FEET
S-25	#6 BARE TINNED STRANDED COPPER GROUND WIRE	#6 BARE	474	476	644	484	520	2598	240	152		48	40	480	3078	FEET
S-25	REGULAR PULL BOX	▭	15	27	30	23	22	117	30	19		6	5	60	177	EACH
S-25	SPECIAL PULL BOX ③	▭ SPB	42	35	48	35	46	206	2			3		5	211	EACH
S-25	DOUBLE PULL BOX	▭ DPB		4	4	3		11							11	EACH
S-25	REGULAR FOUNDATION	■	13	27	28	23	20	111	30	19		6	5	60	171	EACH
S-25	SPECIAL FOUNDATION	•	37	26	42	30	36	171							171	EACH
S-25	5/8"x8' COPPER GROUND ROD WITH CONNECTOR	·	50	53	70	53	56	282	30	19		6	5	60	342	EACH
S-25	LAMP STANDARD TYPE "W"	Ⓦ			3	1		4							4	EACH
S-25	LAMP STANDARD TYPE "X"	Ⓧ	13	27	25	22	20	107	30	19		6	5	60	167	EACH
S-25	LAMP STANDARD TYPE "Y"	Ⓨ	37	26	42	30	36	171							171	EACH
	10,000 LUMEN LAMP	○						NOT PART OF THIS CONTRACT								
	15,000 LUMEN LAMP	◎						NOT PART OF THIS CONTRACT								
S-25	22'x8'x8' REGULATOR VAULT, COMPLETE AS SHOWN ON DETAIL SHEET # 106	▭			2	1		3							3	EACH
S-25	6'x6'x6' TRANSFORMER VAULT FOR FLUORESCENT LTG. TRANSFORMER	▭		1		1		2							2	EACH
* I-2	6"CLASS"B"STORM SEWER	———			101	70		171							171	FEET
* I-2	3"CLASS"B"STORM SEWER	———		225		32		257							257	FEET

* Under Pavement

TABLE 2

SYMBOLS AND SUMMARY OF ELECTRICAL ITEMS OF BRIDGES SEE NOTE ②

	ITEM	DESCRIPTION	SYMBOLS	BRIDGE OVER 222ND STREET CITY OF EUCLID INTERSTATE			BRIDGE OVER BABBITT ROAD CITY OF EUCLID INTERSTATE			GRAND TOTAL	UNITS
	S-25	3/4" GALVANIZED RIGID CONDUIT WITH WATERPROOF FITTINGS AND SUPPORTS	———			900			472	1372	FEET
	S-25	1" GALVANIZED RIGID CONDUIT WITH WATERPROOF FITTINGS & SUPPORTS	— — — —			120			170	290	FEET
	S-25	1¼" GALVANIZED RIGID CONDUIT WITH WATRPROOF FITTINGS & SUPPORTS	— — — —			148			38	186	FEET
	S-25	1½" GALVANIZED RIGID CONDUIT WITH WATERPROOF FITTINGS & SUPPORTS	— — — —			20			14	34	FEET
	S-25	2" GALVANIZED RIGID CONDUIT WITH WATERPROOF FITTINGS & SUPPORTS	———			440			390	830	FEET
*	S-25	1" FLEXIBLE COUPLING (12" FLEX. LENGTH) WEATHERPROOF, APPLETON CAT. # EX3 312	~~~			1			1	2	EACH
	S-25	WEATHER RESISTANT EXPANSION JOINT 2" SIZE WITH BONDING JUMPER, APPLETON "XJ"	——			4			4	8	EACH
	S-25	ADAPTER FROM METAL CONDUIT TO FIBRE-DUCT, 2" SIZE	—·—·—			4			4	8	EACH
	S-25	#0-BARE STRANDED TINNED COPPER GROUND WIRE	———			106			100	206	FEET
	S-25	#6-BARE STRANDED TINNED COPPER GROUND WIRE	———			40			40	80	FEET
	S-25	7⅛" x 7⅛" x 6" WATERPROOF CAST IRON JUNCTION BOX WITH GASKETED SCREW COVER	▭			7			5	12	EACH
*	S-25	24" x 24" x 12" STANDARD COLUMBIA JUNCTION BOX WITH HINGED COVER MOUNTED TO STRUCTURE	▭			4			4	8	EACH
	S-25	LAMP STANDARD TYPE Y SEE NOTE ④	—Ⓨ			4			4	8	EACH
		* OR APPROVED EQUAL									

LUMP SUM ITEMS S-25 AS SHOWN ON DWGS. 111 & 125

NOTES:

① ELECTRICAL ITEMS MOUNTED IN,-ON,- OR TO THE STRUCTURE OF A BRIDGE (UNDERPASS) ARE NOT INCLUDED IN TABLE 1

② ELECTRICAL ITEMS MOUNTED IN,-ON,-OR TO THE STRUCTURE OF A BRIDGE (SHOWN TABLE 2) ARE INCLUDED AND PAID FOR AS BRIDGE STRUCTURE ITEM S-25
THESE ELECTRICAL ITEMS ARE INDICATED ON THE FOLLOWING STRUCTURAL DRAWINGS:
BRIDGE OVER 222ND STREET - SEE DRAWING Nº 111
BRIDGE OVER BABBITT ROAD - SEE DRAWING Nº 125

③ ALL PULL BOXES AT LAMP STANDARDS "Y" WITHOUT MARKS SHALL BE SPECIAL PULL BOXES. WHEN PULL BOX USED SEPARATELY FROM STANDARD, MARK "SPB" IS SHOWN IN CASE SPECIAL PULL BOX IS REQUIRED.

④ LAMP STANDARDS ON BRIDGES SHALL HAVE THE 4" x 6½" HANDHOLE AT THE MAST ARM SIDE OF THE POLE. THE BOTTOM OF HAND HOLE SHALL BE 3'-6" FROM THE BOTTOM END OF POLE.

⑤ LUMINAIRES ARE NOT PART OF THIS CONTRACT.

⑥ THE PROVIDED LENGTHS FOR EACH TYPE OF LAMP STANDARD ARE:
TYPE W & X - 8'-0"
TYPE Y - 10'-0"
TYPE Y ON BRIDGES - 6'-0"

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4500 EUCLID AVE. CLEVELAND 3, OHIO

GENERAL ILLUMINATION DATA
SYMBOLS AND SUMMARY
OF QUANTITIES

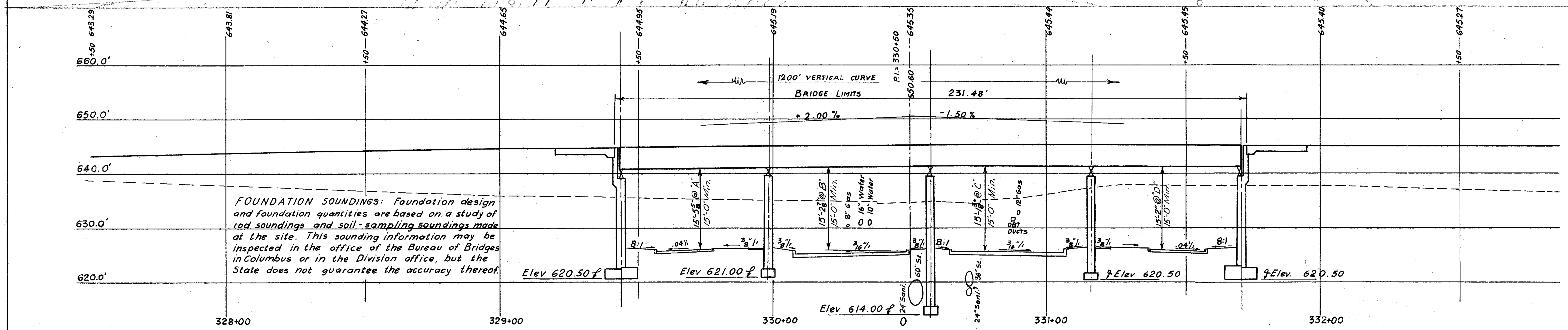
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE

R-13

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

110 / 152

CUYAHOGA COUNTY
CUY-2-25.96



FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of rod soundings and soil-sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division office, but the State does not guarantee the accuracy thereof.

PROPOSED STRUCTURE

TYPE CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK, PIERS AND ABUTMENTS
SPANS 53'-6" 59'-6" 59'-6" 53'-6"
ROADWAY 164'-0" f/f PARAPETS

LOADING CF-2000-57 (ADEQUATE FOR AASHO ALTERNATE LOADING)
SKEW 34°-54'-06" L.F.
WEARING SURFACE 1" MONOLITHIC CONCRETE
APPROACH SLAB AS-1-54 (25' LONG)
ALIGNMENT TANGENT

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SITE PLAN
BRIDGE NO. CUY-2-2670

LAKELAND FREEWAY OVER EAST 222ND ST.
STATION 329+40.98 TO STATION 331+72.46
SR-2 & USR-20 SEC. CUY-2 & 20
SCALE: 1" = 20" UI-329 (13) CUYAHOGA COUNTY

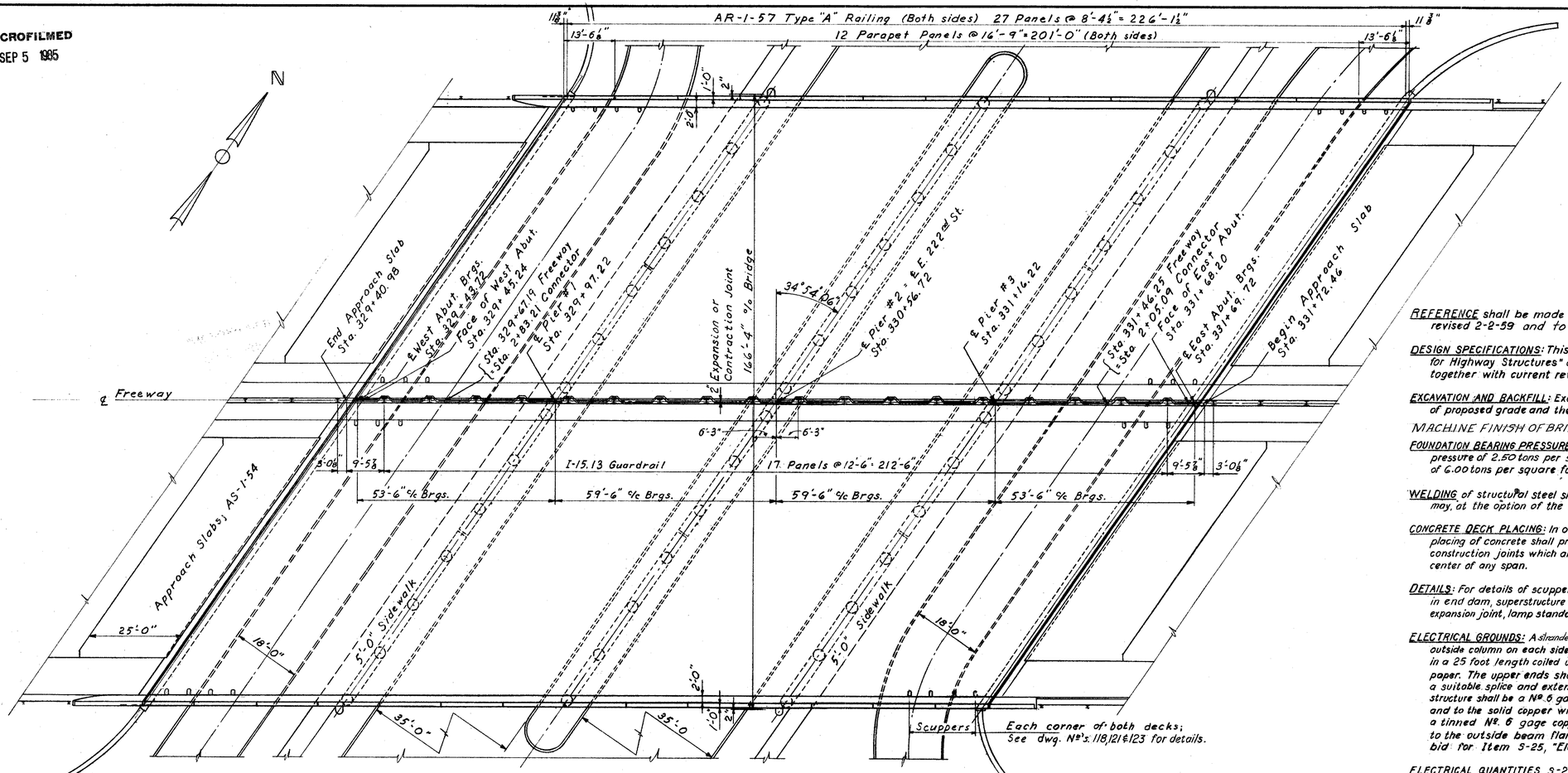
TOPOGRAPHY		PROPOSED WORK				
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED	DATE

SITE PLAN EAST 222ND ST.

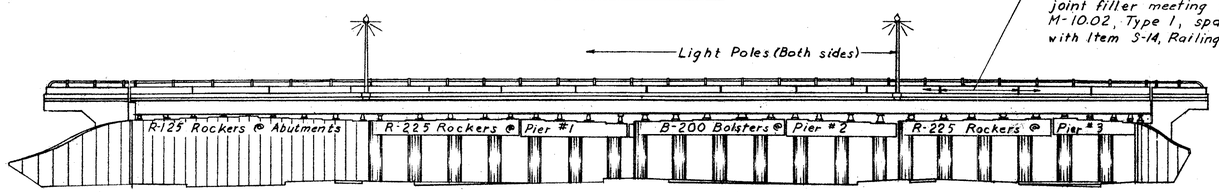
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

111
152

CUYAHOGA COUNTY
CUY-2-25.96



GENERAL PLAN



ELEVATION

¼" gray sponge rubber preformed expansion joint filler meeting the requirements of Sec. M-10.02, Type 1, spaced at 16'-9" ℄/c. (Include with Item S-14, Railing for payment.)

GENERAL NOTES

REFERENCE shall be made to Standard Drawings RB-1-55, revised 2-2-59 and to AR-1-57 revised 2-2-59 and to Supplemental Specifications S-101 dated 12-2-59.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions dated 2-21-58.

EXCAVATION AND BACKFILL: Excavation quantity includes the removal of material between the surface of proposed grade and the bottom of footings at the piers and abutments.

MACHINE FINISH OF BRIDGE DECK SLAB: See sheet no. 119 and note in "Proposal."

FOUNDATION BEARING PRESSURE: Abutment and wing wall footings are designed for a maximum bearing pressure of 2.50 tons per square foot, and Pier footings are designed for a maximum bearing pressure of 6.00 tons per square foot.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop. Class "B" welds are shown thus: B

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to the transverse reinforcing steel and are located near the center of any span.

DETAILS: For details of scuppers, gutters and supports, beam cut off at backwall, welded butt joint in end dam, superstructure end dam, and crossframes, "O" bars over piers, guard rails, centerline expansion joint, lamp standard and pull-box supports, and curb and median see Dwg. No's 121, 122, 123.

ELECTRICAL GROUNDS: A stranded No 0 gage bare copper wire electrical ground shall be embeded in the outside column on each side of the structure at Pier # 2. The lower ends of the wires shall terminate in a 25 foot length coiled under the footing and separated from the concrete by two layers of tar paper. The upper ends shall extend sufficiently above the top of the concrete to provide for a suitable splice and extension for connection to the superstructure. The connection to the superstructure shall be a No. 6 gage, bare, stranded, tinned copper wire brazed or bolted to a beam flange and to the solid copper wire in the pier column. At the base of the lamp standards there shall be a tinned No. 6 gage copper wire brazed to one anchor bolt and the other end brazed or bolted to the outside beam flange. Payment for electrical grounds is included in the lump sum bid for Item S-25, "Electrical Lighting System."

ELECTRICAL QUANTITIES S-25, shown in the Estimated Quantities are only those items which are a part of the structure or are mounted there on. For additional listing of quantities and for details, see Electrical Drawings No 107 thr 109

FOOTINGS shall extend a minimum of 3" into solid rock or to the elevation shown, whichever is lower.

OPEN excavation for piers & abutments shall be inspected in the field by a soils engineer or geologist in order to insure that the excavation has been extended to rock throughout the entire founding area, the area of the footing contact shall not be subjected to prolonged atmospheric exposure, & that the excavation be kept drained at all times.

STEEL: See proposal regarding A-373 Steel.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	WING WALL	GENERAL
E-2	110	C.Y.	Unclassified Excavation		67		43	
E-2	1573	C.Y.	Shale Excavation, as per plan		1000	298	275	
S-1	1161	C.Y.	Class "C" Concrete; Superstructure	1161				
S-1	403	C.Y.	Class "C" Concrete; Pier Caps and Columns			403		
S-1	1040	C.Y.	Class "E" Concrete; Abutments and Wing Walls above footings		897		143	
S-1	599	C.Y.	Class "E" Concrete; Footings		437	58	104	
S-3	384	L.F.	Waterproofing; 12" x ½" Premolded Sealing Strip		384			
S-4	596,054	Lbs.	Reinforcing Steel	340,923	103,242	135,885	13,539	2,465
S-7	1,005,000	Lbs.	Structural Steel	1,005,000				
S-8	1,005,000	Lbs.	Field Painting of Structural Steel, as per Plan	1,005,000				
S-9	380	S.F.	1" Preformed Expansion Joint Filler, Type 1		380			
S-9	228	L.F.	Structural Expansion or Contraction Joint as per plan	228				

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	WING WALL	GENERAL
S-14	231.5	L.F.	Railing (T-15.13 Guardrail with Galvanized Steel Posts and Bolts and Double Rail)	231.5				
S-14	524	L.F.	Railing - Aluminum Rail and Supports, Concrete Parapets.	456	68			
S-25	Lump Sum		Electrical Lighting System (See Dwg. No 109)					Lump Sum
S-25	440	L.F.	2" Galvanized Conduit including Fittings and supports	440				
S-25	20	L.F.	1½" Galvanized Conduit including Fittings and supports			20		
S-25	148	L.F.	1¼" Galvanized Conduit including Fittings and supports	148				
S-25	120	L.F.	1" Galvanized Conduit including fittings and supports	120				
S-25	900	L.F.	¾" Galvanized Conduit including fittings and supports	900				
S-29	686	C.Y.	Porous Backfill		600		86	
S-29	558	L.F.	10" ø Perforated, Bituminous Coated Corrugated Metal Pipe as per Sec. M-6.4 (f)		414		144	
S-29	Lump Sum		Scuppers and drainage system					Lump
S-29	192	L.F.	8" ø Perforated, Bituminous Coated C.M.P.		192			

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GENERAL PLAN, ELEVATION, NOTES AND ESTIMATED QUANTITIES
BRIDGE No. CUY-2-2670
LAKELAND FREEWAY over E. 222nd ST.

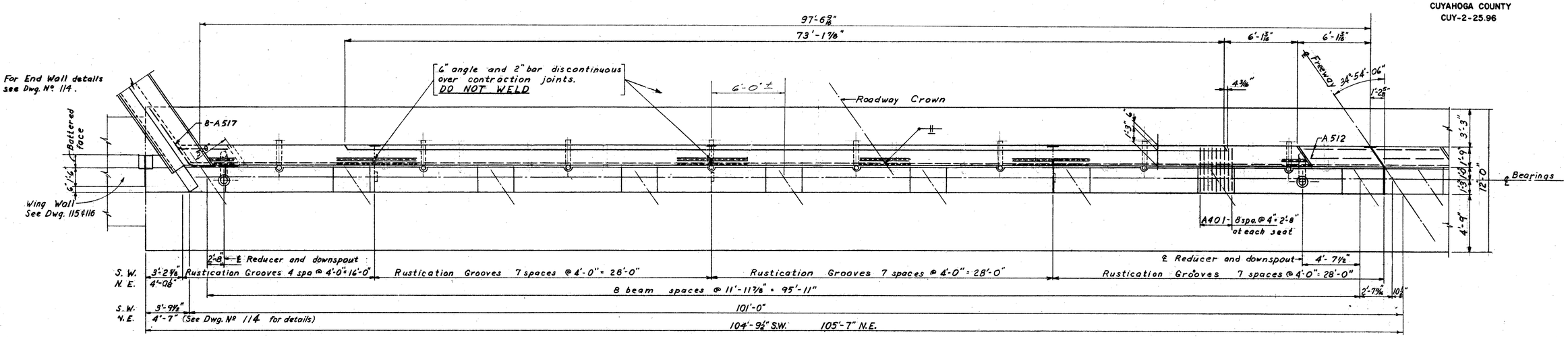
CUYAHOGA COUNTY STA 329+40.98
SEC. CUY-2-25.96 to STA 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
[illegible]	[illegible]	L.M.	JJC			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

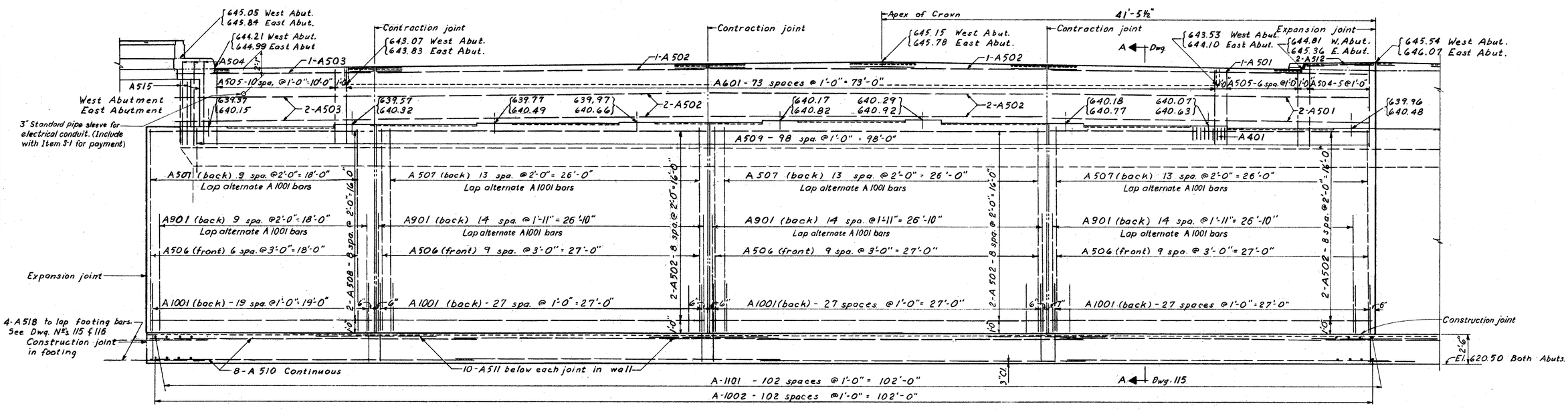
112
152

CUYAHOGA COUNTY
CUY-2-25.96



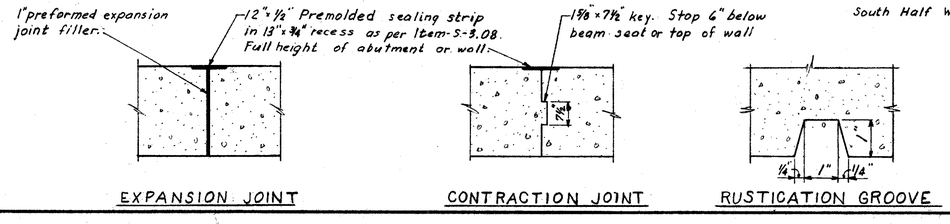
PLAN

South Half West Abut., North Half East Abut.



ELEVATION

South Half West Abut.; North Half East Abut.



EXPANSION JOINT | CONTRACTION JOINT | RUSTICATION GROOVE

CONCRETE in abutments and footings shall be Class "E."

REINFORCING STEEL shall be 2" clear from exposed face of concrete unless noted otherwise.

SEE DWG Nº 114 for abutment details and end walls.

SEE DWG Nº 113 for north half West Abut. and south half East Abut.

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ABUTMENT PLAN AND ELEVATION
SOUTH HALF WEST ABUT. & NORTH HALF EAST ABUT.
BRIDGE Nº CUY-2-2670
LAKELAND FREEWAY over E. 222nd ST.
CUYAHOGA COUNTY STA 329+40.98
SEC. CUY-2-2596 TO STA 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
G.L.B.	G.L.B.	L.M.	D.J.K.			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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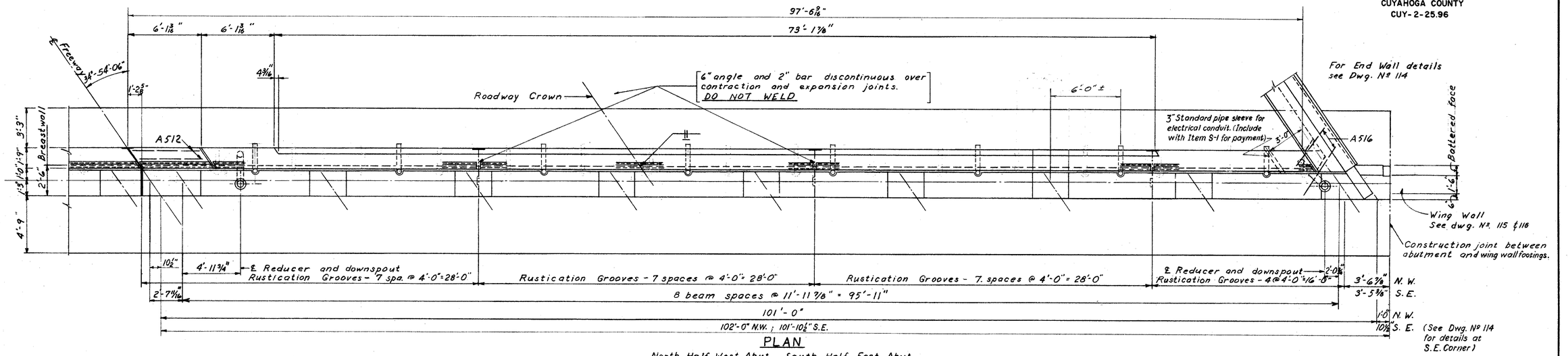
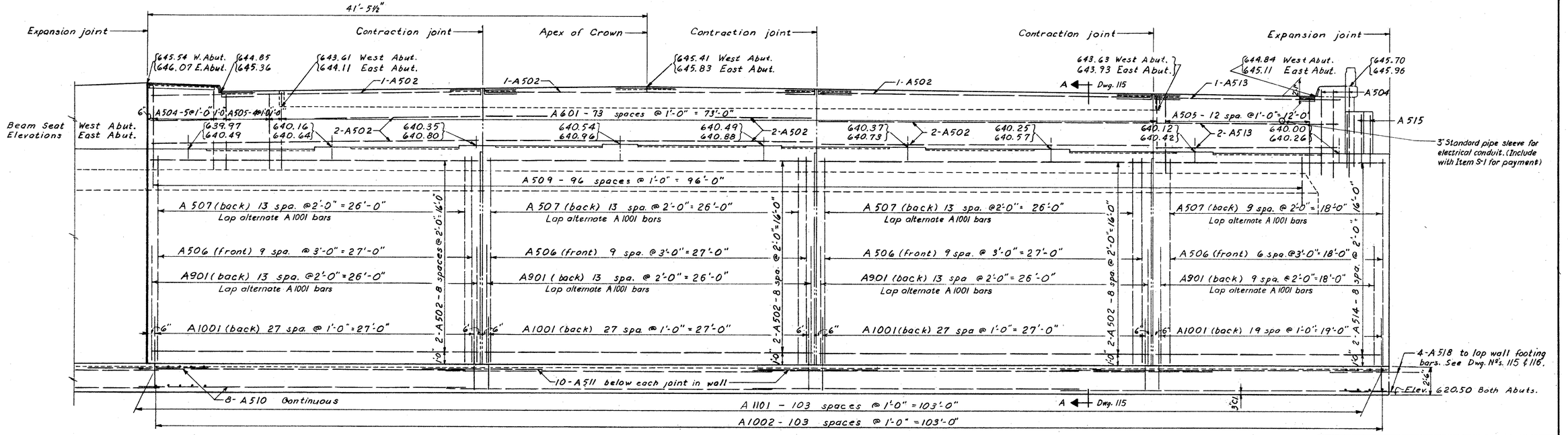
152

CUYAHOGA COUNTY
CUY-2-25.96

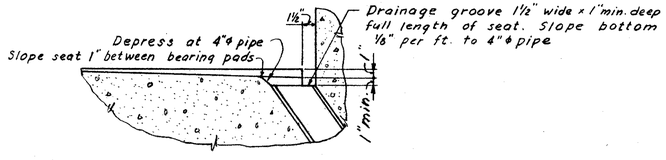


PLAN

North Half West Abut., South Half East Abut.



ELEVATION



BEAM SEAT DRAINAGE DETAIL

CONCRETE in abutments and footings shall be Class 'E'.

REINFORCING STEEL shall be 2" clear from exposed face of concrete unless noted otherwise.

SEE DWG. Nº. 114 for abutment details and end walls.

SEE DWG. Nº. 112 for south half west abut. and north half east abut.

SEE DWG. Nº. 115 & 116 for wing walls.

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Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

ABUTMENT PLAN AND ELEVATION
NORTH HALF WEST ABUT. & SOUTH HALF EAST ABUT.

BRIDGE Nº. CUY-2-2670
LAKELAND FREEWAY OVER E 222th ST.
CUYAHOGA COUNTY STA. 329+40.98
SEC. CUY-2-25.96 to STA. 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
EHB	EHB	L.M.	GJC			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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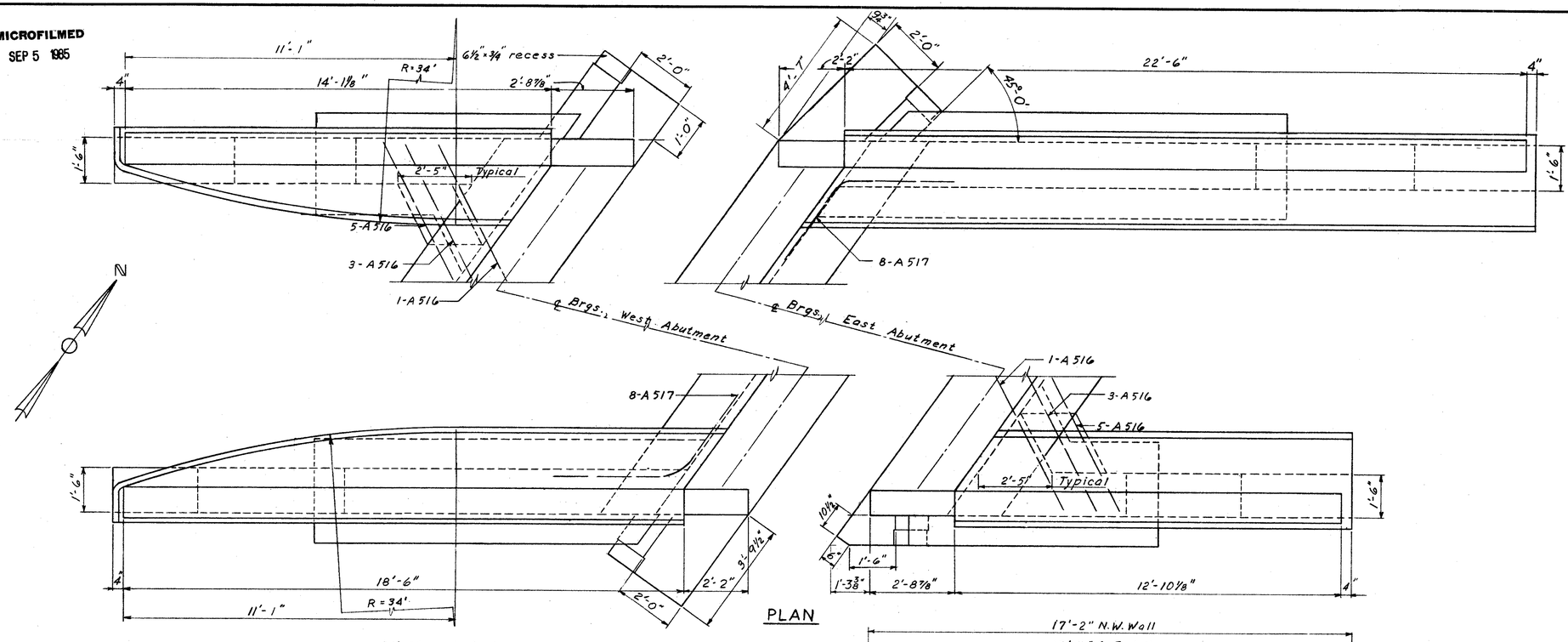
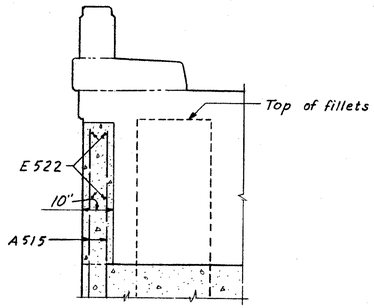
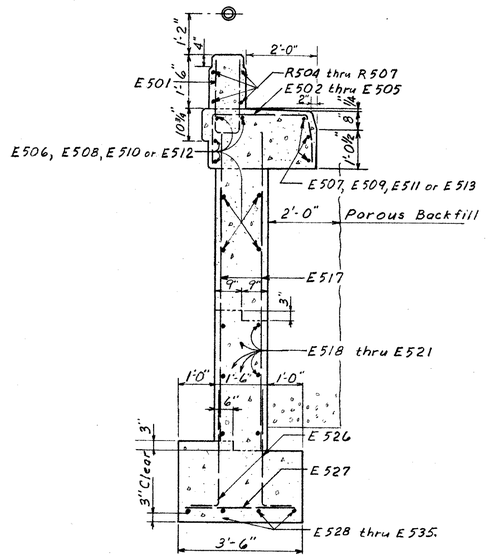
CUYAHOGA COUNTY
CUY-2-25.96





SECTION B-B



SECTION A-A

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

END WALL DETAILS

BRIDGE Nº CUY-2-2670

LAKELAND FREEWAY over E. 222nd ST.

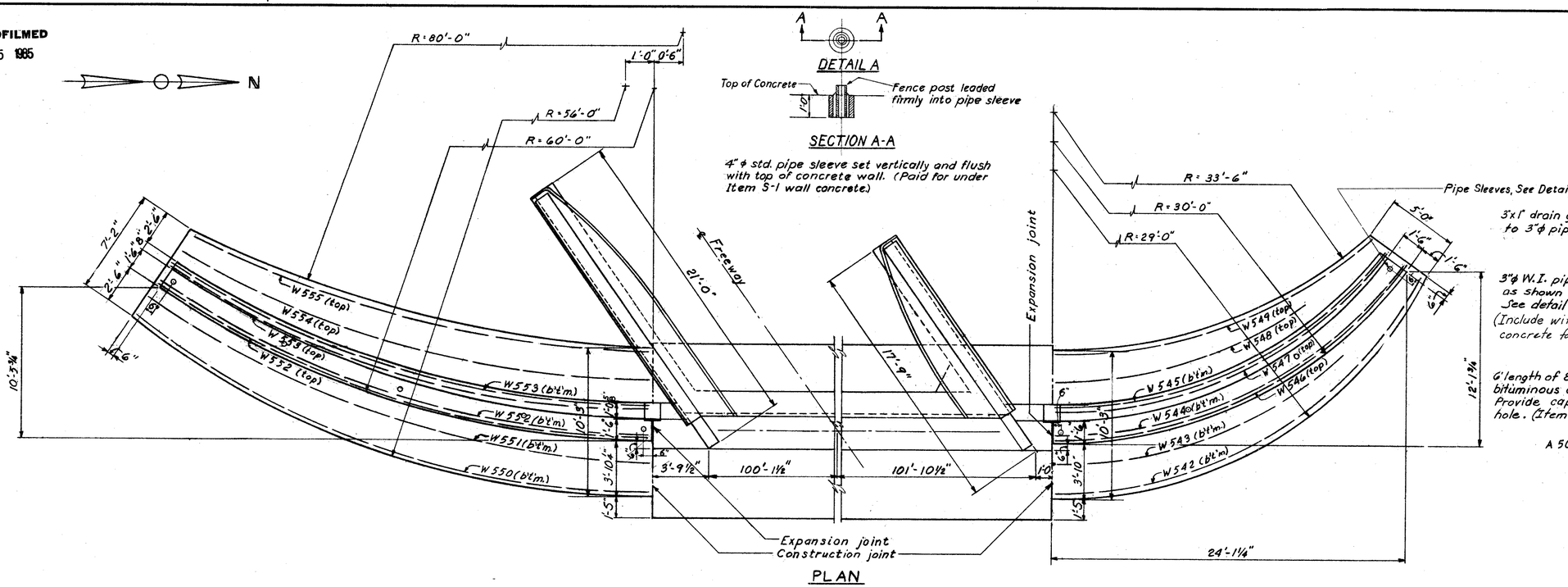
CUYAHOGA COUNTY STA 329+40.98
SEC. CUY-2-25.96 to STA 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
RAB	RAB	L.M	OJC			

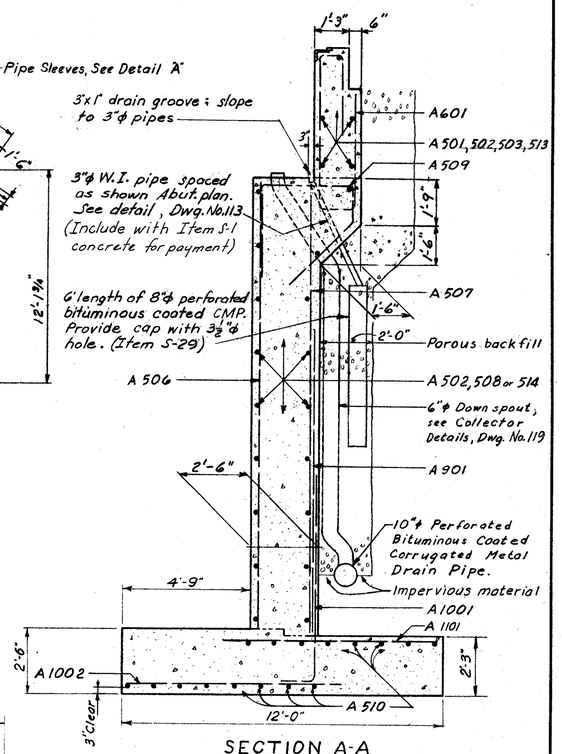
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

115/152

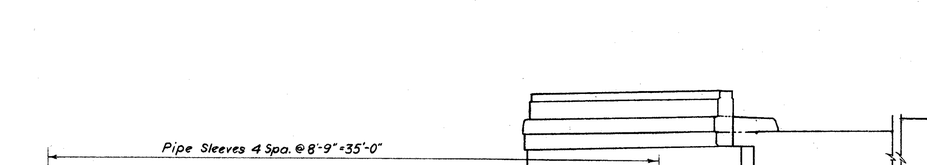
CUYAHOGA COUNTY
CUY-2-25.96



PLAN



SECTION A-A
See Sheets 112 & 113



4" ϕ std. pipe sleeve set vertically and flush with top of concrete wall. (Paid for under Item S-1 wall concrete.)

3"ϕ W.I. pipe spaced as shown Abut. plan. See detail, Dwg. No. 113. (Include with Item S-1 concrete for payment)

6' length of 8"ϕ perforated bituminous coated CMP. Provide cap with 3/8"ϕ hole. (Item S-29)

3"x1" drain groove; slope to 3"ϕ pipes

DEVELOPED ELEVATION AT FACE OF WALL

POROUS BACKFILL, 2 feet thick, full length of abutment and wings shall extend up to the underside of the approach slab or as shown.

CONCRETE in wing walls and footings shall be Class "E"

REINFORCING STEEL shall be 2" clear from exposed face of concrete unless noted otherwise.

WALL SECTIONS are shown on Dwg. Nº 116

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WEST WING WALL DETAILS
BRIDGE Nº CUY-2-2670

LAKELAND FREEWAY over E. 222ND ST.

CUYAHOGA COUNTY STA 329+40.98
SEC, CUY-2-25.96 to STA 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
E.A.B.	E.A.B.	L.M	O.J.C			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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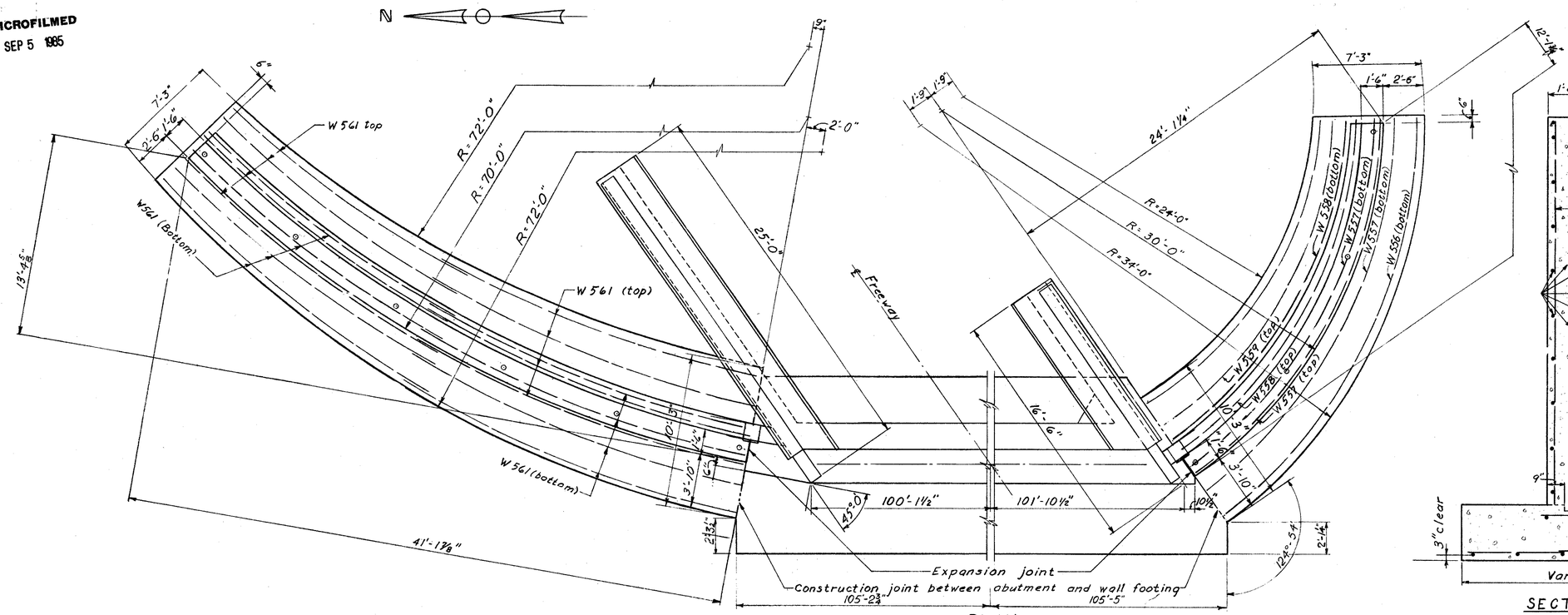
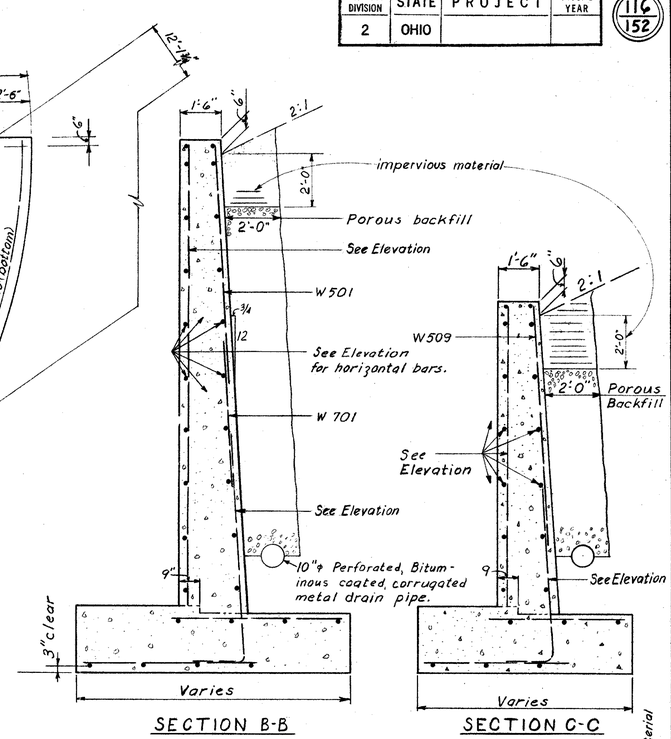


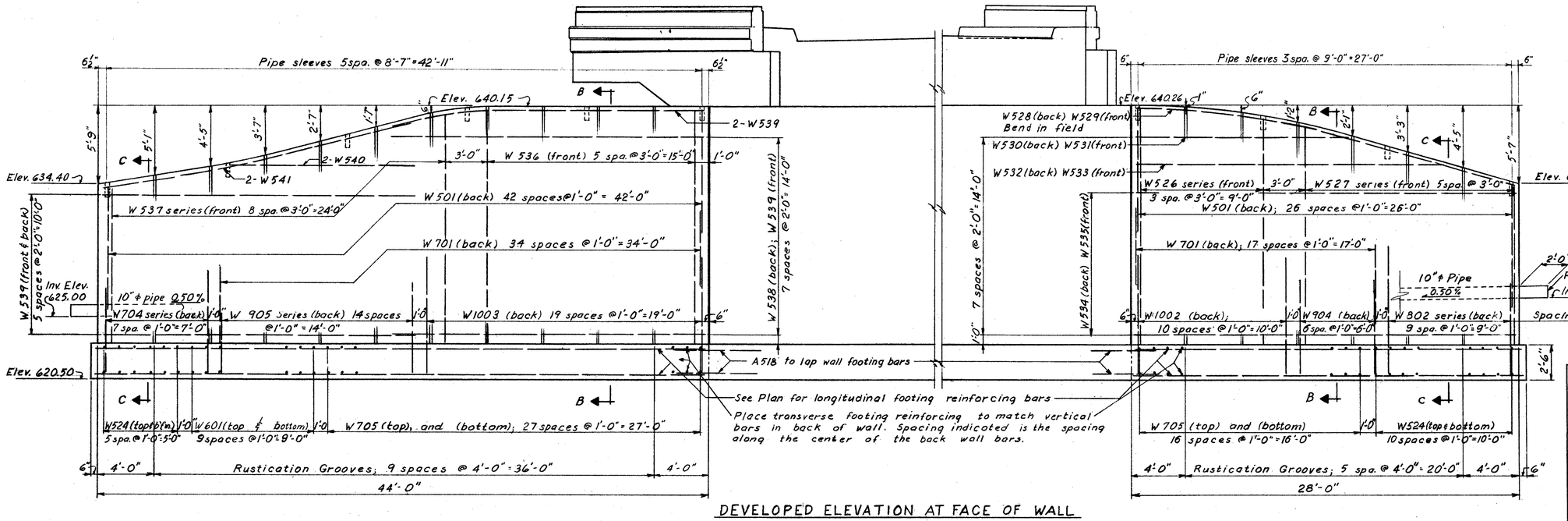
PLAN



SECTION B-B

SECTION C-C

SECTION D-D



DEVELOPED ELEVATION AT FACE OF WALL

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EAST WING WALL DETAILS
BRIDGE Nº CUY-2-2670
LAKELAND FREEWAY OVER E. 222ND ST.
CUYAHOGA COUNTY STA. 329+40.98
SEC. CUY-2-25.96 TO STA. 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
[illegible]	[illegible]	LM	[illegible]			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

CUYAHOGA COUNTY
CUY-2-25.96

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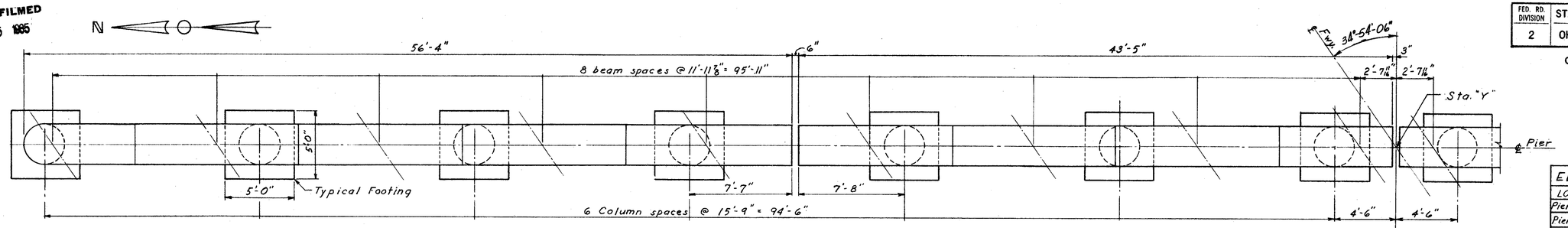
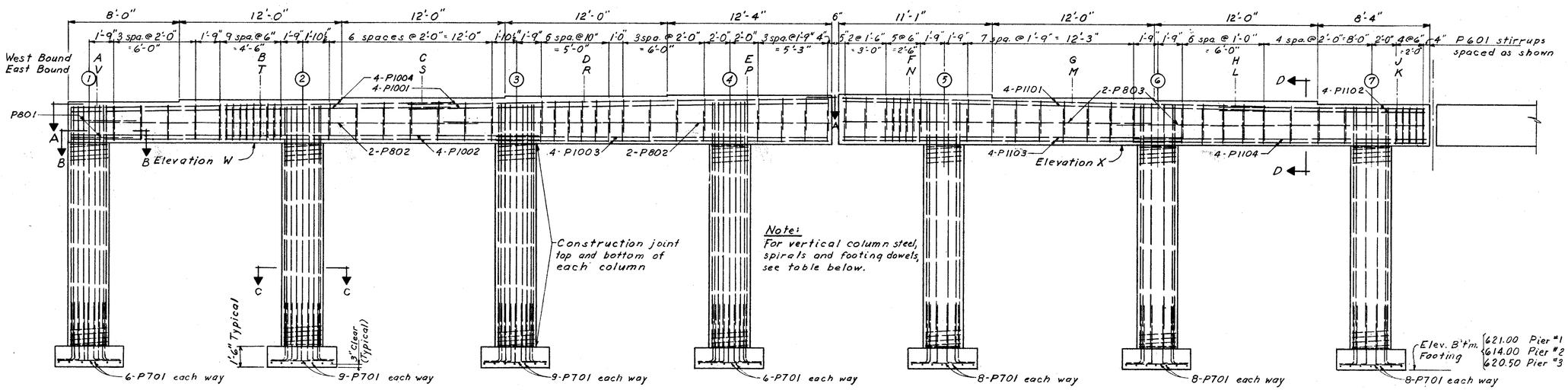


HALF-PLAN OF PIERS
(West bound Shown)

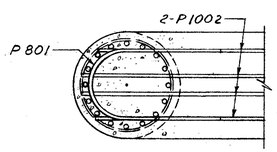
ELEVATION BOTTOM CAP		
LOCATION	W	X
Pier #1 W. Bound	636.70	636.75
Pier #1 E. Bound	636.25	636.75
Pier #2 W. Bound	636.85	637.00
Pier #2 E. Bound	636.60	637.00
Pier #3 W. Bound	636.80	637.00
Pier #3 E. Bound	636.75	637.00

BEAM SEAT ELEVATIONS			
	Pier # 1	Pier # 2	Pier # 3
Sta. Y	329+97.22	330+56.72	331+16.22
A	639.73	639.86	639.81
B	639.87	640.01	639.97
C	640.00	640.16	640.13
D	640.14	640.31	640.29
E	640.27	640.45	640.44
F	640.33	640.52	640.52
G	640.15	640.35	640.37
H	639.97	640.19	640.22
J	639.79	640.02	640.06
K	639.78	640.01	640.06
L	639.90	640.15	640.21
M	640.03	640.28	640.35
N	640.15	640.42	640.50
P	640.04	640.32	640.41
R	639.85	640.14	640.25
S	639.66	639.96	640.08
T	639.47	639.78	639.91
V	639.28	639.60	639.75

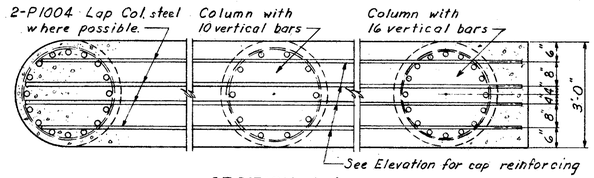


Note:
For vertical column steel, spirals and footing dowels, see table below.

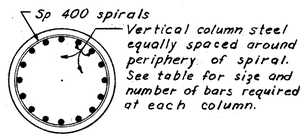
HALF-ELEVATION OF PIERS
(West bound Shown)



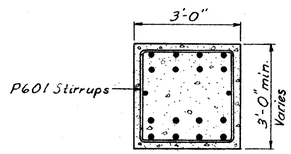
SECTION B-B



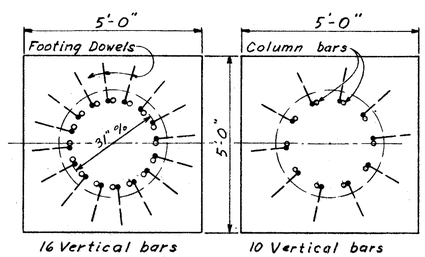
SECTION A-A



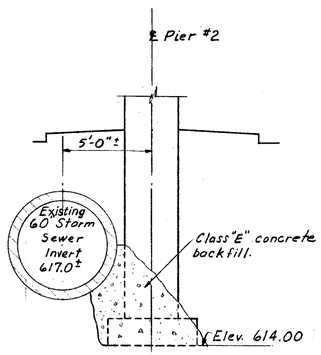
SECTION C-C



SECTION D-D



TYPICAL FOOTING PLANS



SECTION AT PIER #2

COLUMN REINFORCING STEEL						
Col. №	Footing Dowels	Column Spiral	Column Steel	Footing Dowels	Column Spiral	Column Steel
	Pier # 1 West Bound			East Bound		
1	16-P1008	Sp 401	16-P1005	16-P1008	Sp 401	16-P1005
2	10-P1008		10-P1005	10-P1008		10-P1005
3	10-P1008		10-P1005	10-P1008		10-P1005
4	16-P1008		16-P1005	16-P1008		16-P1005
5	10-P1008		10-P1005	10-P1008		10-P1005
6	10-P1008		10-P1005	10-P1008		10-P1005
7	10-P1008	Sp 401	10-P1005	10-P1008	Sp 401	10-P1005
	Pier # 2 West Bound			East Bound		
1	16-P1106	Sp 402	16-P1105	16-P1107	Sp 402	16-P1105
2	16-P1106		16-P1105	16-P1106		16-P1105
3	16-P1106		16-P1105	16-P1106		16-P1105
4	16-P1106		16-P1105	16-P1106		16-P1105
5	10-P1008		10-P1006	10-P1008		10-P1006
6	10-P1008		10-P1006	10-P1008		10-P1006
7	10-P1008	Sp 402	10-P1006	10-P1008	Sp 402	10-P1006
	Pier # 3 West Bound			East Bound		
1	16-P1008	Sp 403	16-P1007	16-P1008	Sp 403	16-P1007
2	10-P1008		10-P1007	10-P1008		10-P1007
3	10-P1008		10-P1007	10-P1008		10-P1007
4	16-P1008		16-P1007	16-P1008		16-P1007
5	10-P1008		10-P1007	10-P1008		10-P1007
6	10-P1008		10-P1007	10-P1008		10-P1007
7	10-P1008	Sp 403	10-P1007	10-P1008	Sp 403	10-P1007

CONCRETE in pier caps and columns shall be Class "C."

CONCRETE in pier footings shall be Class "E".

REINFORCING STEEL shall be 2" clear from exposed face of concrete unless noted otherwise.

PROCEDURE for construction of columns and footings at Pier #2: The 60" storm sewer shall be maintained by sheeting. Excavations for adjacent footings shall not be open simultaneously. Footing concrete shall be placed 3" into firm shale or at Elev. 614.00, whichever is lower. After column concrete has been placed, the excavation shall be backfilled to the mid-height of the 60" storm sewer with Class "E" concrete, normal backfill being used above that point. Any deviation from the above procedure shall be approved by the Project Engineer. (See "Section at Pier #2".). For payment, this concrete shall be included in the unit price bid for Item E-2, shale excavation, as per plan.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

PIER DETAILS
BRIDGE № CUY-2-2670
LAKELAND FREEWAY over E. 222 nd STREET

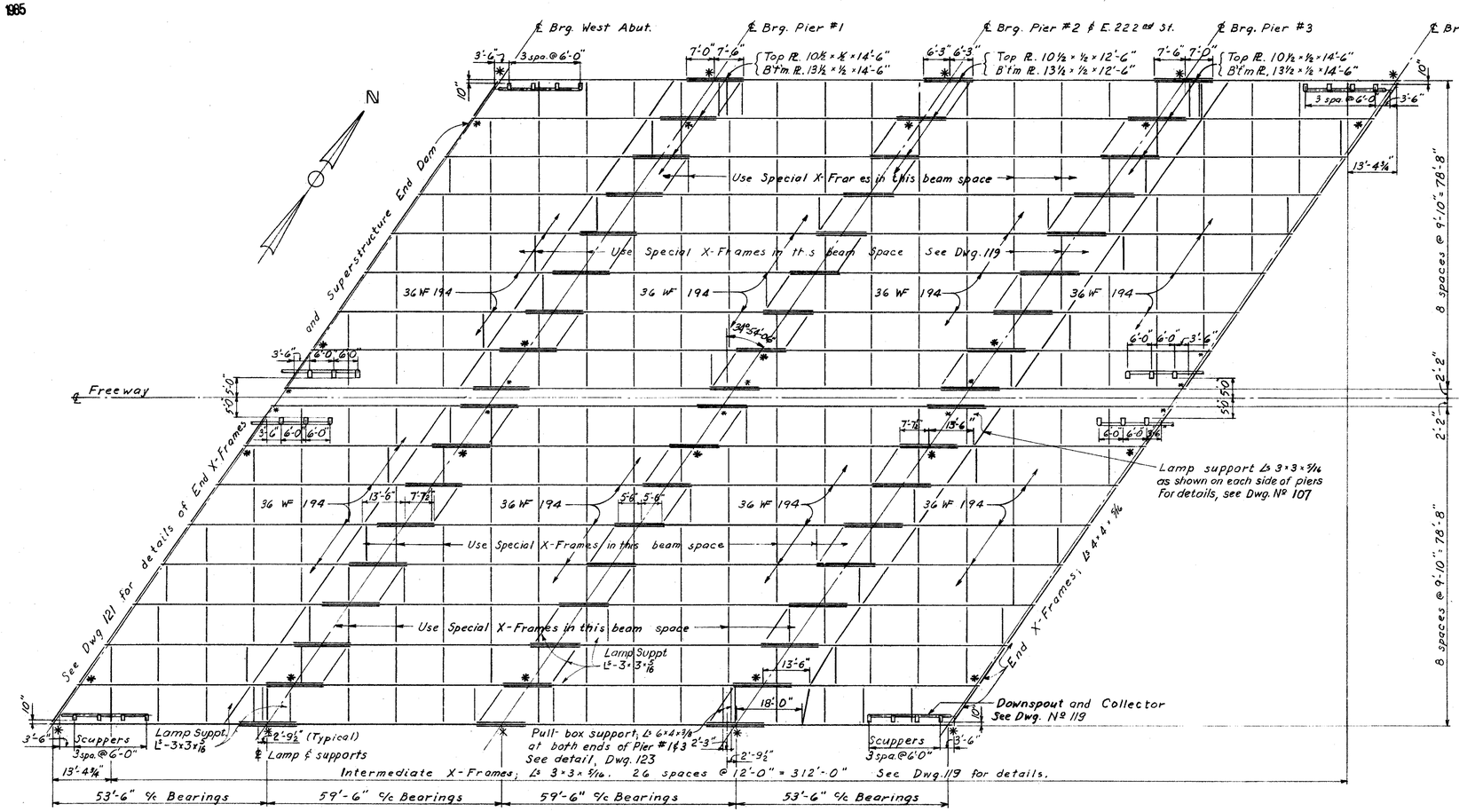
CUYAHOGA COUNTY STA. 329+40.98
SEC. CUY-2-25.96 to STA. 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
H.H.B.	H.H.B.	LM	O.J.C.			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

118
152

CUYAHOGA COUNTY
CUY-2-25.96



FRAMING PLAN

SCUPPERS shall be spaced as shown. For details see Dwg. 121

CROSS FRAMES shall be spaced as shown except as required to meet clearance requirements. Cross frames must clear scuppers and electrical pull-box support angles by at least 6".

CAMBERING of beams is not required. For dead load deflection see table below.

PAINTING: See proposal reguarding Painting.

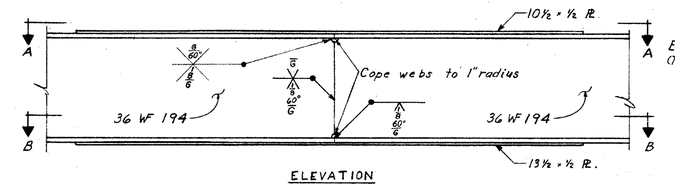
BEAM SPLICE WELDING PROCEDURE:

1. Raise end of beam 7/8" at Pier #2.
2. Butt-weld beam flanges and web at Pier #1 using the following sequence: make two passes on each flange, then two on the web; repeat, using one pass at each location, until welds are completed.
3. Weld top and bottom flange moment plates at Pier #1.
4. Lower end of beam at Pier #2.
5. Make splice at Pier #2 and Pier #3 in the same manner raising the end of the beam ¾" at Pier #3 and ⅝" at the East Abutment.

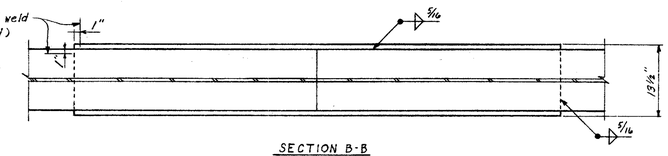
NOTE "A": Remove "keeper" plates from rocker and bolster caps shown thus (*) on the Framing Plan to provide for lateral expansion of the bridge deck.

DEAD LOAD DEFLECTION		
Location	End Spans	Interior Spans
Deflection due to weight of steel	1/16"	0
Deflection due to remaining dead load.	1/4"	3/16
Convexity required for V.C.	1/8"	1/8"
Sum of Convexity	7/16"	5/16"

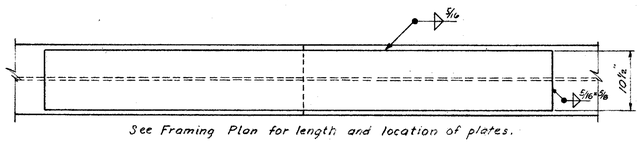
No camber required. Place beams with convex side up.



ELEVATION



SECTION B-B



See Framing Plan for length and location of plates.

VIEW A-A

BEAM SPLICE DETAILS

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

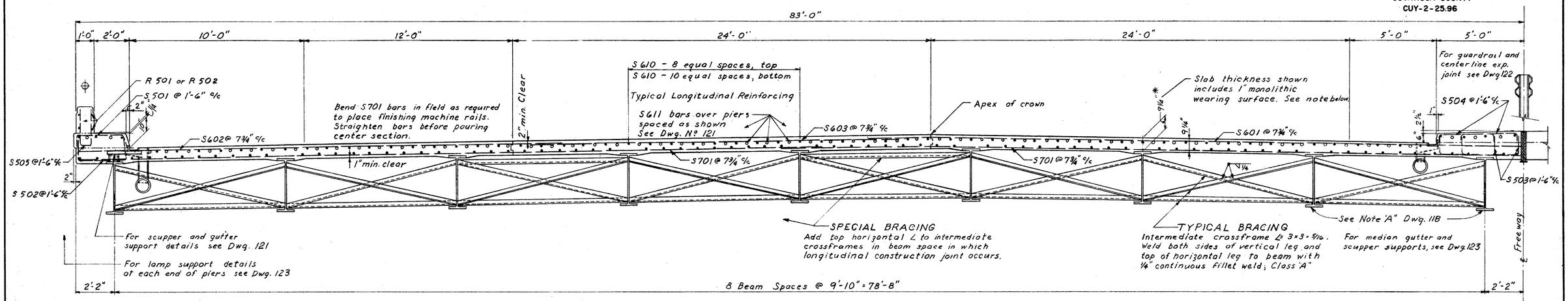
FRAMING PLAN AND
BEAM SPLICE DETAILS
BRIDGE Nº. CUY-2-2670
LAKELAND FREEWAY OVER E. 222nd STREET
CUYAHOGA COUNTY STA 329+40.98
SEC. CUY-2-25.96 TO STA 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
GHG	GHG	LM	AJC			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

119
152

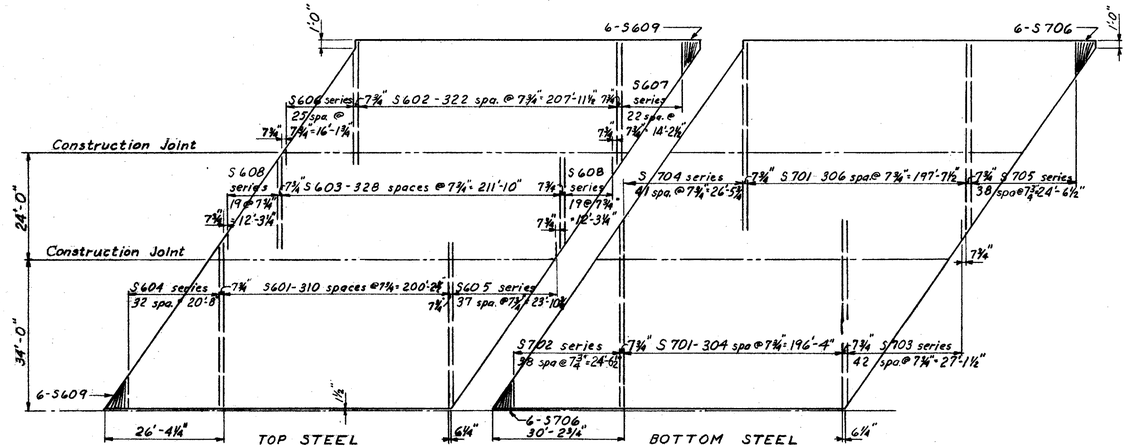
CUYAHOGA-COUNTY
CUY-2-25.96



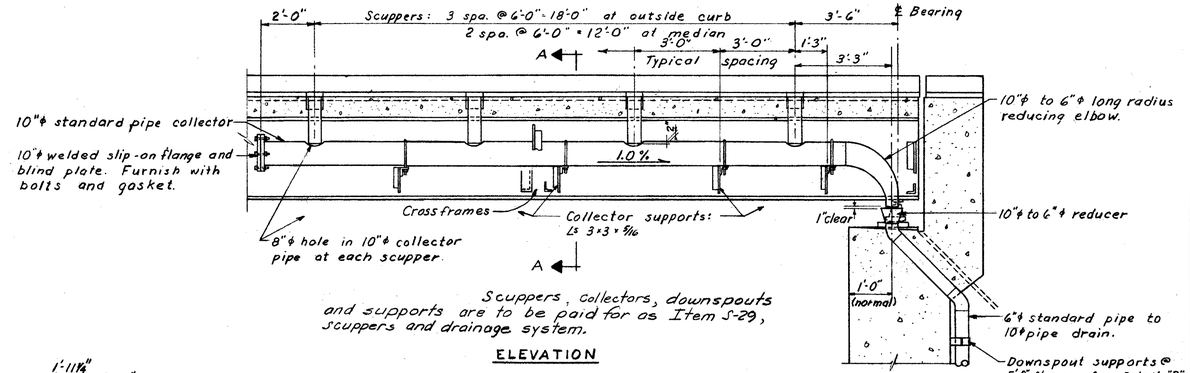
MACHINE FINISHING of the bridge decks will be required in accordance with the "Special Provisions" of this contract except that longitudinal joints, as shown on the plans, will be permitted. When the finishing machine is supported on the concrete the wheel of the machine shall be placed directly over the beam adjacent to the joint.

* This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

HALF TRANSVERSE SECTION

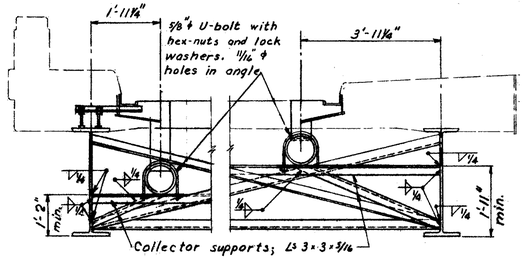


HALF PLAN OF DECK

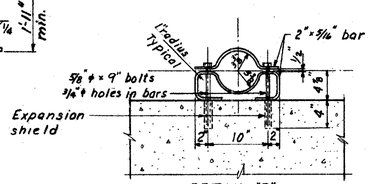


Scuppers, collectors, downspouts and supports are to be paid for as Item S-29, Scuppers and drainage system.

ELEVATION



SECTION A-A



DETAIL "B"

COLLECTORS and downspouts shall be standard wrought iron or hot-dipped galvanized steel pipe. Joints shall be made by welding or by use of a clamp-type coupling with a ring gasket. All welding shall be done before galvanizing. Supports, straps and clamps for attaching downspouts shall be wrought iron or hot-dipped galvanized steel. On bolts, galvanizing as called for in Sec. M-10.30 will be considered sufficient.

DOWNSPOUT COLLECTOR DETAILS

HARGETT, YANDA & BARBER
Consulting Engineers
4600 Euclid Ave. Cleveland 8, Ohio

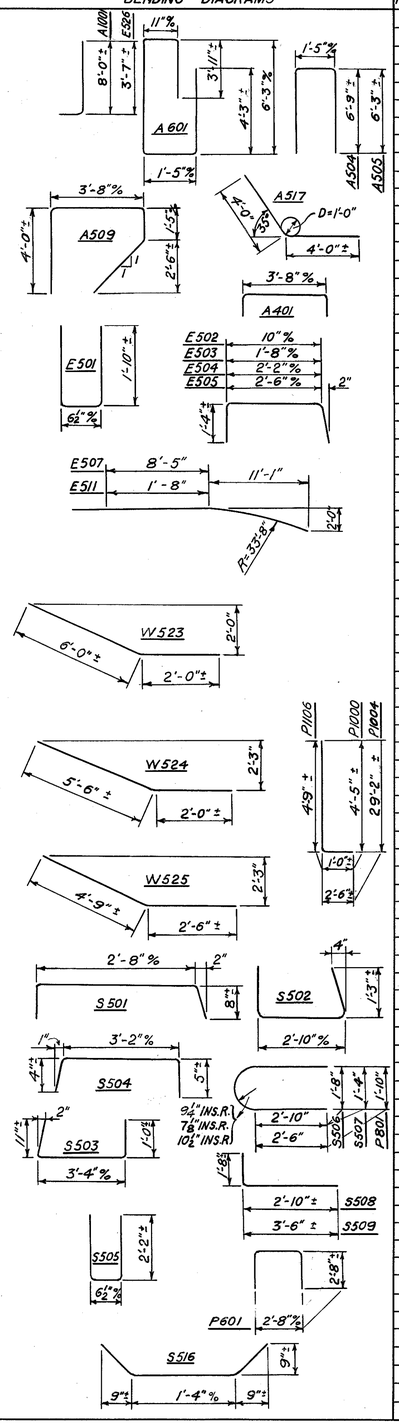
TRANSVERSE SECTION, PART PLAN OF DECK, AND COLLECTOR DETAILS
BRIDGE NO. CUY-2-2670
LAKELAND FREEWAY over E. 222ND ST.
CUYAHOGA COUNTY STA 329+40.98
SEC. CUY-2-2596 TO STA 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
bhb	bhb	L.M.	ajc			

REINFORCING STEEL LIST

MARK	NO	LENGTH	WEIGHT	SHP.	REMARKS
		SUPERSTRUCTURE			
S701	1224	42'-5"	106,120	S	
	2	7'-2"			
S702	Series	of to	3951	S	1 1/8" Incr.
	39	42'-4 3/4"			
	2	3'-3 3/4"			
S703	Series	of to	4005	S	1 1/8 Incr.
	43	42'-3"			
	2	2'-9 7/8"			
S704	Series	of to	3748	S	1 1/8 Incr.
	42	40'-10"			
	2	6'-3 1/4"			
S705	Series	of to	3808	S	1 1/8 Incr.
	39	41'-6"			
S706	24	6'-0"	294	S	
S601	622	37'-5"	34,956	S	
S602	646	27'-7"	26,764	S	
S603	658	21'-6"	21,249	S	
	2	7'-2"			
S604	Series	of to	2181	S	1 1/8" Incr.
	33	36'-10"			
	2	2'-11 3/8"			
S605	Series	of to	2294	S	1 1/8" Incr.
	38	37'-3"			
	2	2'-7 7/8"			
S606	Series	of to	1113	S	1 1/8" Incr.
	26	25'-10"			
	2	6'-7 1/4"			
S607	Series	of to	1161	S	1 1/8" Incr.
	23	27'-0"			
	4	3'-0 5/8"			
S608	Series	of to	1425	S	1 1/8" Incr.
	20	20'-8"			
S609	24	6'-0"	216	S	
S610	2288	30'-1"	103,383	S	
S611	390	24'-0"	14,059	S	
S501	304	3'-9"	1189	B	
S502	304	5'-1"	1612	B	
S503	608	5'-0"	3171	B	
S504	608	3'-8"	2325	B	
S505	304	4'-8"	1480	B	
S506	8	8'-3"	69	B	
S507	8	7'-9"	65	B	
S508	8	4'-0"	33	B	
S509	4	4'-8"	19	B	
S510	32	3'-4"	111	S	
S515	18	3'-0"	56	S	
S516	18	3'-6"	66	B	
		RAILING			
R501	96	16'-5"	*	S	
R502	16	13'-2"	*	S	
R504	4	18'-2"	*	S	
R505	4	22'-2"	*	S	
R506	4	13'-9"	*	S	
R507	4	12'-6"	*	S	
		REPLACEMENT BARS			
RE1100	4	7'-6"			
RE1000	5	7'-2"			
RE900	1	6'-10"			
RE800	1	6'-6"			
RE700	7	6'-2"			
RE600	2	5'-11"			
RE500	3	5'-7"			
RE400	1	5'-3"			

BENDING DIAGRAMS



MARK	NO.	LENGTH	WEIGHT	SHP.	REMARKS
		ABUTMENTS			
A1101	414	10'-0"	21,996	S	
A1001	414	9'-1"	16,181	B	
A1002	414	10'-0"	17,814	S	
A601	296	16'-3"	7225	B	
A501	10	26'-5"	276	S	
A502	266	27'-8"	7676	S	
A503	10	16'-8"	174	S	
A504	36	14'-8"	551	B	
A505	72	13'-8"	1026	B	
A506	148	16'-9"	2586	S	
A507	208	16'-6"	3580	S	
A508	36	19'-5"	729	S	
A509	392	12'-3"	5009	B	
A510	512	27'-3"	14,552	S	
A511	140	10'-0"	1,460	S	
A512	8	5'-8"	47	S	
A513	10	15'-5"	161	S	
A514	36	19'-0"	713	S	
A515	24	5'-3"	131	S	
A516	18	6'-0"	113	S	
A517	16	8'-0"	134	B	
A518	32	4'-0"	134	S	
A401	324	4'-6"	974	B	
		ENDWALLS			
E501	48	4'-0"	200	B	
E502	4	3'-3"	14	B	
E503	4	4'-1"	17	B	
E504	4	4'-7"	19	B	
E505	36	4'-11"	185	B	
E506	8	18'-6"	154	S	
E507	3	19'-8"	62	B	
E508	8	22'-6"	188	S	
E509	3	23'-8"	74	S	
E510	8	14'-1"	118	S	
E511	3	12'-10"	40	B	
E512	8	12'-10"	107	S	
E513	3	11'-7"	36	S	
E514	32	3'-6"	117	S	
E515	4	4'-0"	17	S	
E516	8	4'-10"	40	S	
E517	40	9'-0"	375	S	
E518	6	8'-5"	53	S	
E519	6	10'-6"	66	S	
E520	6	4'-10"	30	S	
E521	6	3'-10"	24	S	
E522	16	4'-0"	67	S	
E523	4	8'-0"	33	B	
E524	2	7'-6"	16	B	
E525	2	6'-9"	14	B	
E526	40	4'-1"	170	B	
E527	24	3'-2"	79	S	
E528	2	11'-6"	24	S	
E529	2	12'-8"	26	S	
E530	2	6'-3"	13	S	
E531	2	7'-9"	16	S	
E532	2	5'-0"	10	S	
E533	2	6'-6"	14	S	
E534	2	10'-6"	22	S	
E535	2	12'-0"	25	S	
		WING WALS			
W1001	4	9'-4"	161	B	
W1002	11	9'-7"	454	B	
W1003	20	8'-7"	739	B	
W901	Series	of to	217	B	3/4" Incr.
	10	7'-7 1/4"			
W902	12	7'-7 1/4"	313	B	
	1	5'-0"			
W903	Series	of to	298	B	3 1/2" Incr.
	13	8'-6"			
W904	6	8'-2"	167	B	
	1	5'-5"			
W905	Series	of to	336	B	2" Incr.
	15	7'-9"			
W801	38	7'-0"	710	S	
	1	7'-9"			
W802	Series	of to	243	B	3" Incr.
	10	10'-5"			
W701	91	6'-6"	1209	S	
	1	5'-10"			
W702	Series	of to	97	B	3 3/4" Incr.
	7	7'-8 1/2"			
	1	7'-2"			
W703	Series	of to	185	B	2 1/2" Incr.
	11	9'-3"			
	1	7'-1"			
W704	Series	of to	125	B	2" Incr.
	8	8'-3"			
W705	144	7'-0"	2060	S	
W601	50	6'-0"	451	S	
W501	127	9'-0"	1192	S	
	1	10'-2"			
W502	Series	of to	81	B	3 3/4" Incr.
	7	12'-0 1/2"			
	1	12'-0"			
W503	Series	of to	75	S	1'-2 1/2" Incr.
	5	16'-10"			
	1	7'-5"			
W504	Series	of to	48	S	1 1/4" Incr.
	5	11'-2"			
W505	2	29'-0"	60	S	Radius
W506	2	7'-0"	15	B	30'-0"
W507	1	11'-8"	12	B	30'-0"
W508	1	11'-2"	12	B	30'-0"
W509	1	18'-0"	19	B	30'-0"
W510	1	17'-4"	18	B	30'-0"
W511	1	25'-0"	26	B	30'-0"
W512	1	24'-0"	25	B	30'-0"
W513	4	27'-8"	115	B	30'-0"
W514	4	26'-8"	111	B	30'-0"
	1	11'-0"			
W515	Series	of to	127	S	7 1/2" Incr.
	9	16'-0"			
W516	3	16'-2"	51	S	
W517	2	36'-0"	75	S	
W518	1	19'-2"	20	S	
W519	1	18'-6"	19	S	
W520	1	26'-8"	28	S	
W521	1	25'-10"	27	S	
W522	6	35'-8"	223	S	
W523	6	34'-8"	217	S	
W524	64	5'-6"	367	S	
W525	14	4'-0"	58	S	
	1	16'-4"			
W526	Series	of to	70	S	3" Incr.
	4	17'-1"			
	1	11'-6"			
W527	Series	of to	85	S	10" Incr.
	6	15'-8"			
W528	1	26'-6"	28	S	
W529	1	28'-0"	29	S	Radius
W530	1	15'-0"	16	B	30'-0"
W531	1	15'-9"	16	B	30'-0"
W532	1	21'-6"	22	B	30'-0"
W533	1	22'-6"	23	B	30'-0"
W534	6	26'-0"	163	B	30'-0"
W535	6	27'-6"	172	B	30'-0" Radius
W536	6	17'-0"	106	S	
W537	Series	of to	125	S	8 1/2" Incr.
	9	16'-2"			
W538	8	21'-4"	178	S	
W539	22	22'-8"	520	S	
W540	2	13'-6"	28	S	
W541	2	23'-0"	48	S	Radius
W542	1	30'-6"	32	B	30'-0"
W543	1	21'-6"	22	B	30'-0"
W544	1	28'-0"	29	B	30'-0"
W545	1	26'-0"	27	B	30'-0"
W546	1	28'-3"	29	B	30'-0"
W547	1	26'-3"	27	B	30'-0"
W548	1	18'-0"	19	B	30'-0"
W549	1	23'-3"	24	B	30'-0"
W550	1	38'-0"	40	S	
W551	1	36'-6"	38	S	
W552	2	36'-0"	75	S	
W553	2	34'-6"	72	S	
W554	1	33'-6"	35	S	
W555	1	32'-9"	34	S	
W556	1	30'-10"	32	B	34'-0"
W557	3	27'-0"	84	B	30'-0"
W558	2	25'-4"	53	B	28'-0"
W559	1	24'-6"	26	B	26'-0"
W560	1	24'-3"	25	B	24'-3"
W561	16	24'-0"	401	S	
		PIERS			
P1101	48	30'-0"	7651	S	
P1102	48	16'-7"	4229	S	
P1103	48	25'-0"	6376	S	
P1104	48	21'-7"	5504	S	
P1105	112	23'-10"	14182	S	
P1106	112	5'-6"	3273	B	
P1001	48	30'-0"	6196	S	
P1002	48	34'-5"	7108	S	
P1003	48	24'-9"	5112	S	
P1004	48	31'-5"	6489	B	
P1005	164	16'-6"	11,644	S	
P1006	60	23'-10"	6153	S	
P1007	164	17'-6"	12,349	S	
P1008	388	5'-2"	8626	B	
P801	12	8'-0"	256	B	
P802	24	29'-3"	1874	S	
P803	24	22'-10"	1463	S	
P701	648	4'-8"	6181	S	
P601	840	7'-8"	9673	B	

MARK	NO.	CORE DIA. %	PITCH	LENGTH	NO. of TURNS	WEIGHT
SP401	14	32"	4 1/2" ±	14'-0"	40	3618
SP402	14	32"	4 1/2" ±	21'-4"	60	4040
SP403	14	32"	4 1/2" ±	15'-0"	43	3888

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NOTES

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two where four are used, indicate the bar size number For example A700 is a Nº 7 size bar and A1014 is a Nº 10 size.

REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. S-4.02 need not be furnished and replacement bars will not be required.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "Nº of Turns" shown is the Length divided by the pitch, plus 3 turns. (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item S-4. 1½ closed coils shall be provided at the ends of each spiral unit.

For steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers based on 0.68 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

REINFORCING STEEL LIST AND NOTES BRIDGE NO. CUY-2-2670

LAKELAND FREEWAY OVER E. 222ND. ST.

CUYAHOGA COUNTY STA. 329+40.98
SEC. CUY-2-25.96 TO STA. 331+72.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
GHY	GHY	L.M	JJC			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
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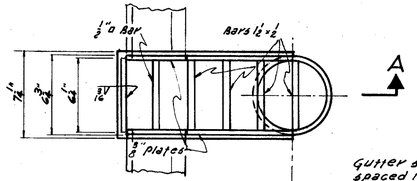
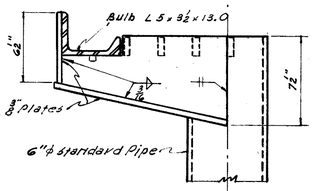
CUYAHOGA COUNTY
CUY-2-25.96

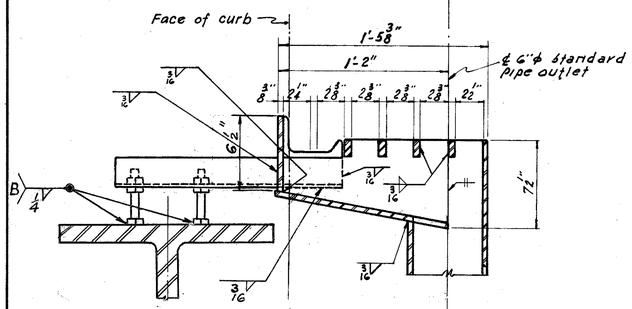


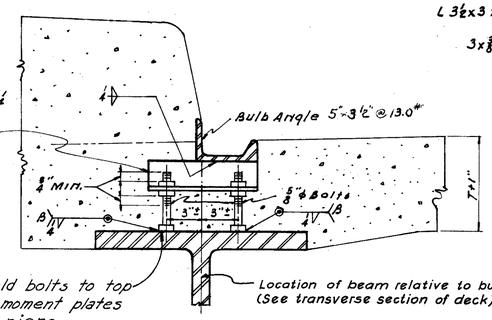
SCUPPER PLAN

BRIDGE ON TANGENT ONLY



SCUPPER ELEVATION

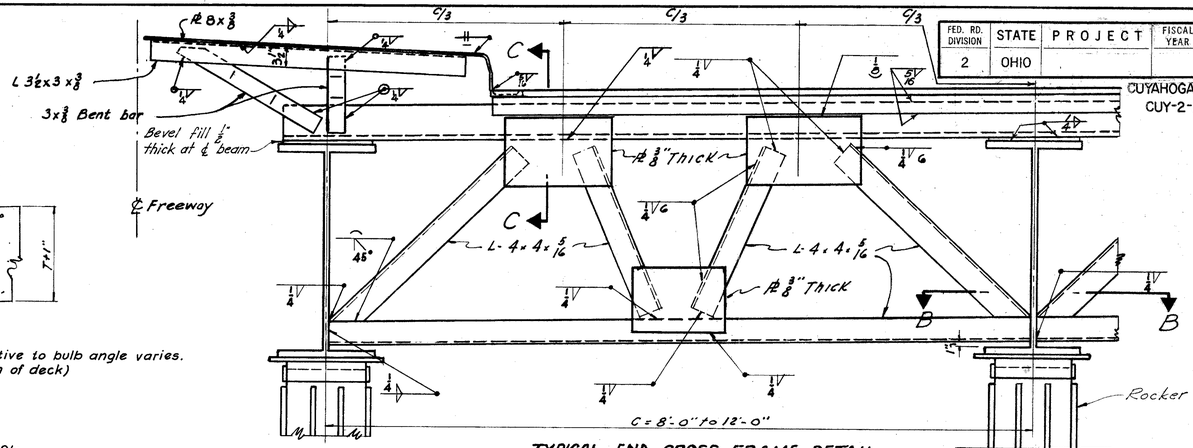




GUTTER SUPPORT

Scuppers shall be located as shown on Framing Plan

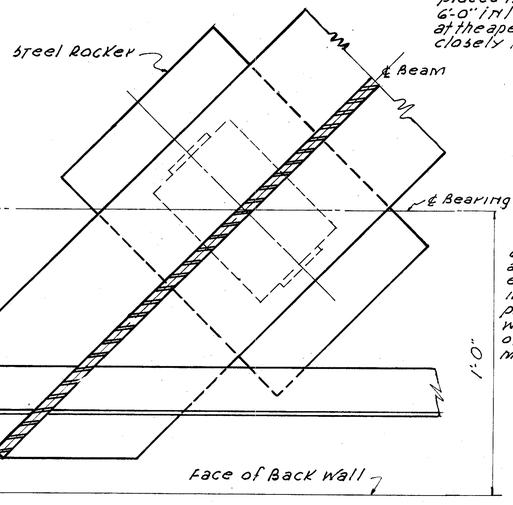
Gutters shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed.



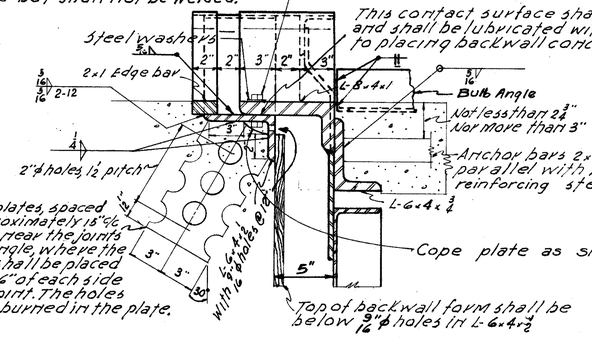
TYPICAL END CROSS FRAME DETAIL

A welded butt joint in the end dam along the apex of the crown will be required for that portion of the end dam attached to the superstructure. The portion attached to the backwall shall be placed in segments not less than 6'-0" in length, with one of the joints at the apex of the crown. These shall be closely butted but shall not be welded.

⅝" x 2" bolts at not more than 2'-0" ℄ with nuts tack welded to under side of lower angle. 1 1/16" holes in upper angle. Center ⅝" bolts in 1 1/16" holes. Apply flake graphite between washers and angle. Turn bolt tight and release one-half turn. Remove bolts as soon as concrete has set, preferably within two hours after placing, to avoid damage due to temperature expansion or contraction of superstructure. Fill holes with bituminous material.



SECTION B-B



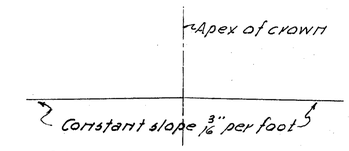
This contact surface shall not be painted, and shall be lubricated with flake graphite prior to placing backwall concrete.

Paint Omit shop coat on all portions of end dam. Portions in contact with steel or with concrete shall not be painted. All other portions shall be cleaned and given the shop coat in the field as well as the two field coats.

SECTION C-C

SHOWING ROADWAY END DAM

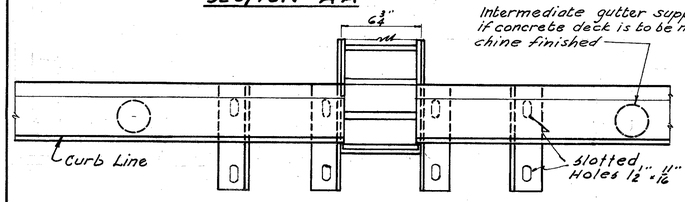
FOR MEDIAN FINISH SEE DWG. Nº 123



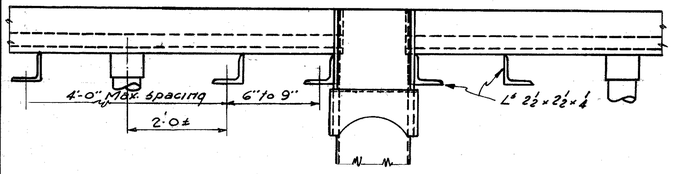
BRIDGE ROADWAY CROWN

(FOR NON-SUPERELEVATED SECTIONS ONLY)

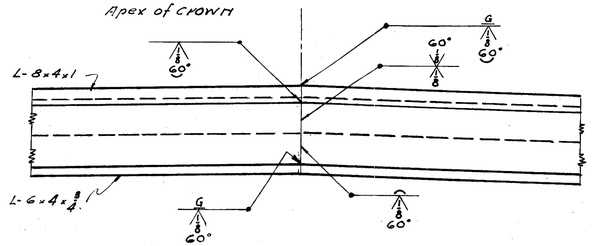
SECTION A-A



PART PLAN AT OUTSIDE CURB



ELEVATION



WELDED BUTT JOINT IN SUPERSTRUCTURE END DAM ANGLES AT APEX OF CROWN

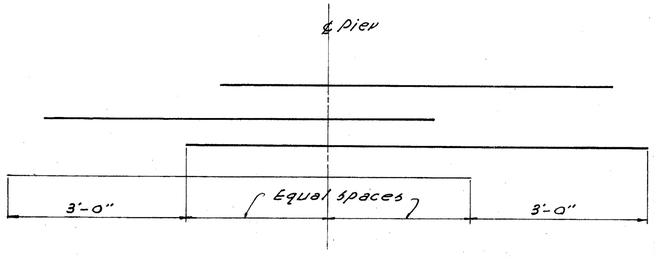


DIAGRAM SHOWING STAGGER OF "0" BARS OVER PIERS

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

BRIDGE DETAILS

BRIDGE NO. CUY-2-2670 & CUY-2-2756

LAKELAND FREEWAY

CUYAHOGA COUNTY
SEC. CUY-2-25.96

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
A.V.C.	T.P.	J.W.P.	D.H.G.			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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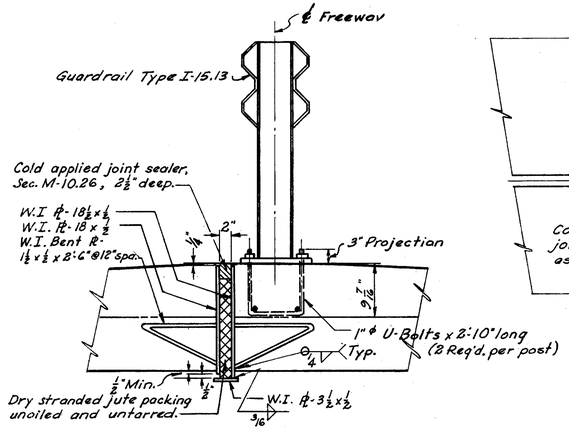
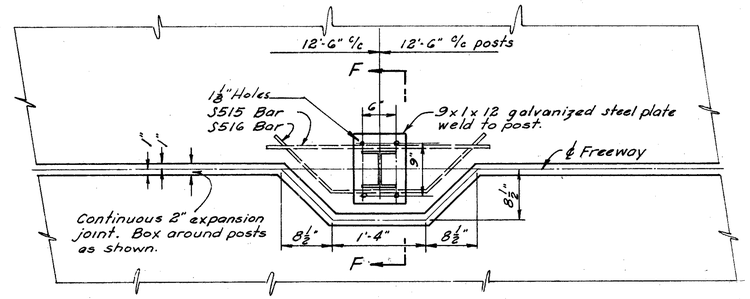
CUYAHOGA COUNTY
CUY-2-25.96



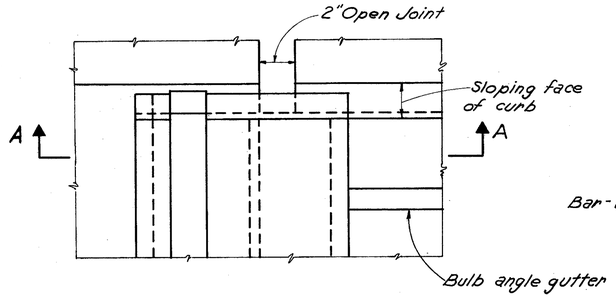
SECTION F-F



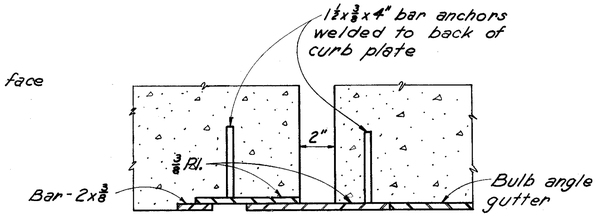
PLAN AT GUARDRAIL POST

CENTERLINE EXPANSION JOINT

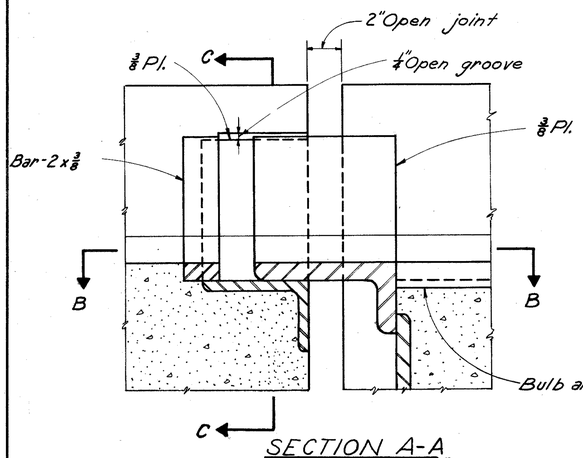
Including wrought iron plates, jute and joint sealer, to extend the full length of bridge between end dam angles.



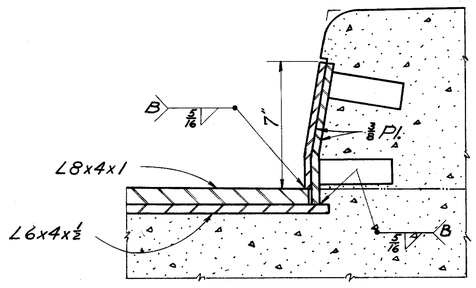
PART PLAN



SECTION B-B



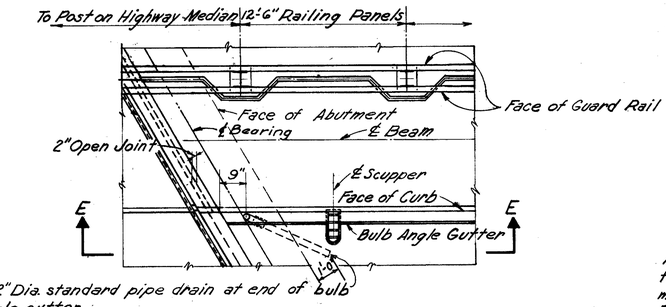
SECTION A-A



SECTION C-C

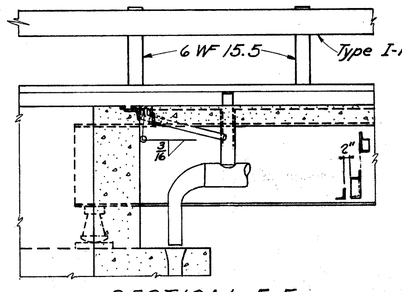
CURB PLATE DETAILS

MEDIAN GUARD RAIL DETAIL



2"Dia standard pipe drain at end of bulb angle gutter
Use standard elbow and coupling.
A welded bend may be used where space does not permit use of standard elbow.

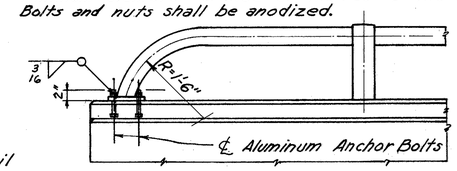
PART PLAN AT ABUTMENT



SECTION E-E

RAILING END BASE PLATE DETAIL

ANCHOR BOLTS shall be aluminum with a head or nut at the lower end. They shall be 1'-0" long and shall have a minimum diameter of 0.62" at the root of the thread. Bolts and nuts shall be anodized.



RAILING END DETAIL

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

BRIDGE DETAILS

BRIDGE NO. CUY-2-2670 & CUY-2-2756
LAKELAND FREEWAY

CUYAHOGA COUNTY
SEC. CUY-2-25.96

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
A.J.C.	K.J.W.	J.W.P.	[illegible]			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

CUYAHOGA COUNTY
CUY-2-25.96

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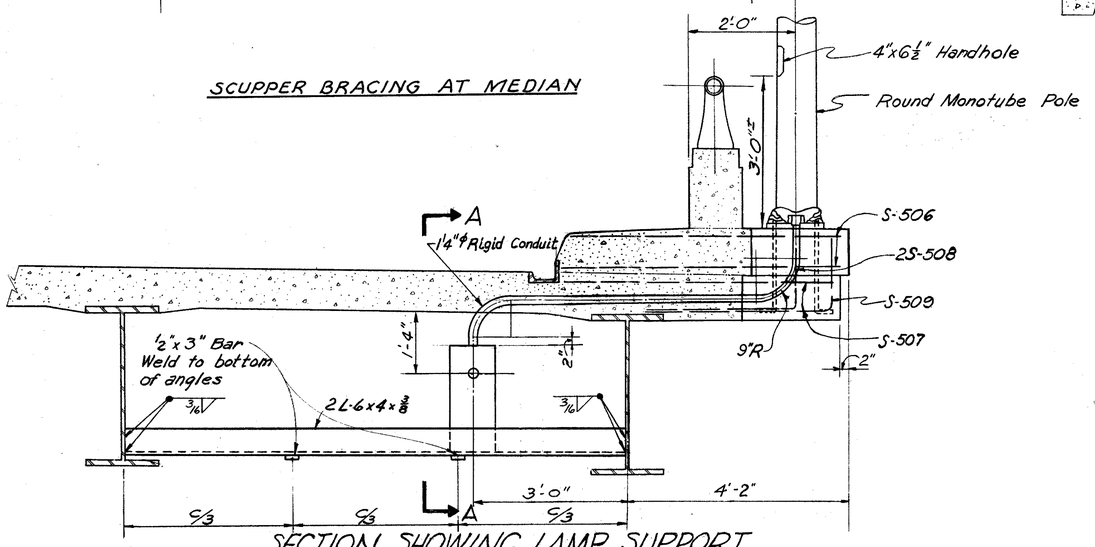
NOTE: Adjust scupper for alignment and grade and weld to support in field.

See detail below for Gutter Support Detail

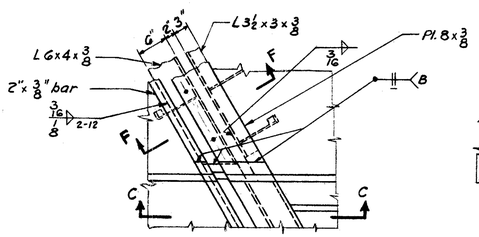
L 1L-3"x3"x3/16"

SCUPPER BRACING AT MEDIAN

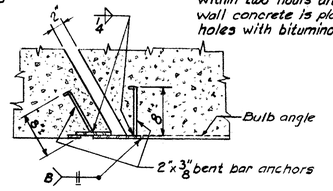


SECTION SHOWING LAMP SUPPORT

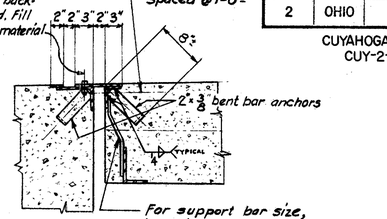
JUNCTION BOX



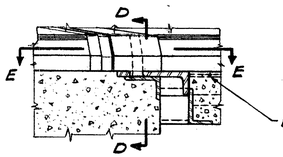
PART PLAN



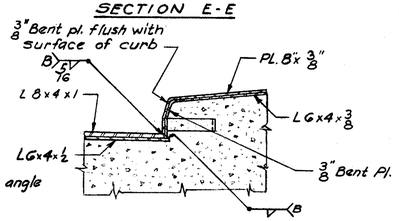
SECTION E-E



SECTION F-F

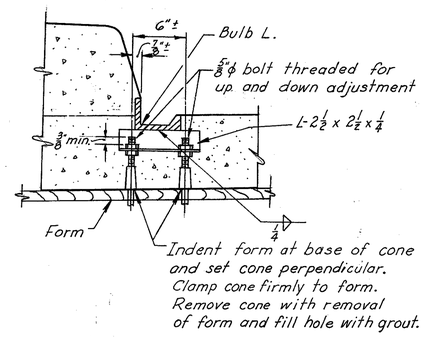


SECTION C-C

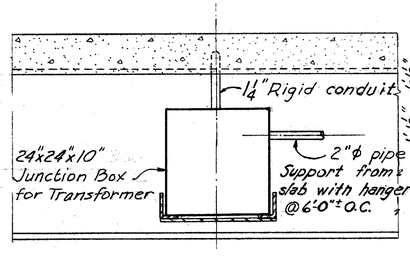


SECTION D-D

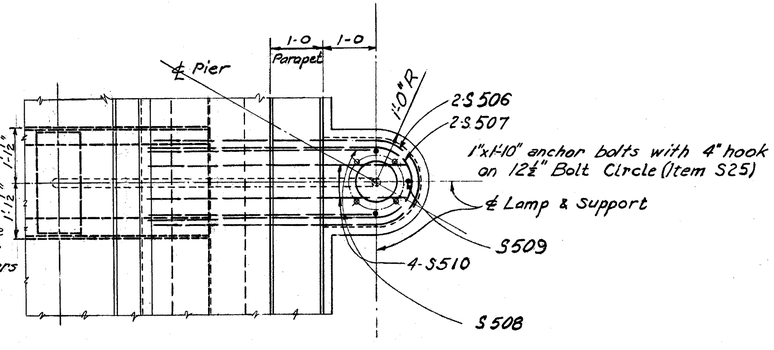
MEDIAN CURB DETAILS AT END DAM



MEDIAN GUTTER SUPPORT DETAIL



SECTION A-A



PLAN

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

BRIDGE DETAILS

BRIDGE NO. CUY-2-2670 & CUY-2-2756
LAKELAND FREEWAY

CUYAHOGA COUNTY
SEC. CUY-2-25.96

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
A.J.C.	K.J.W.	J.W.P.	[illegible]			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

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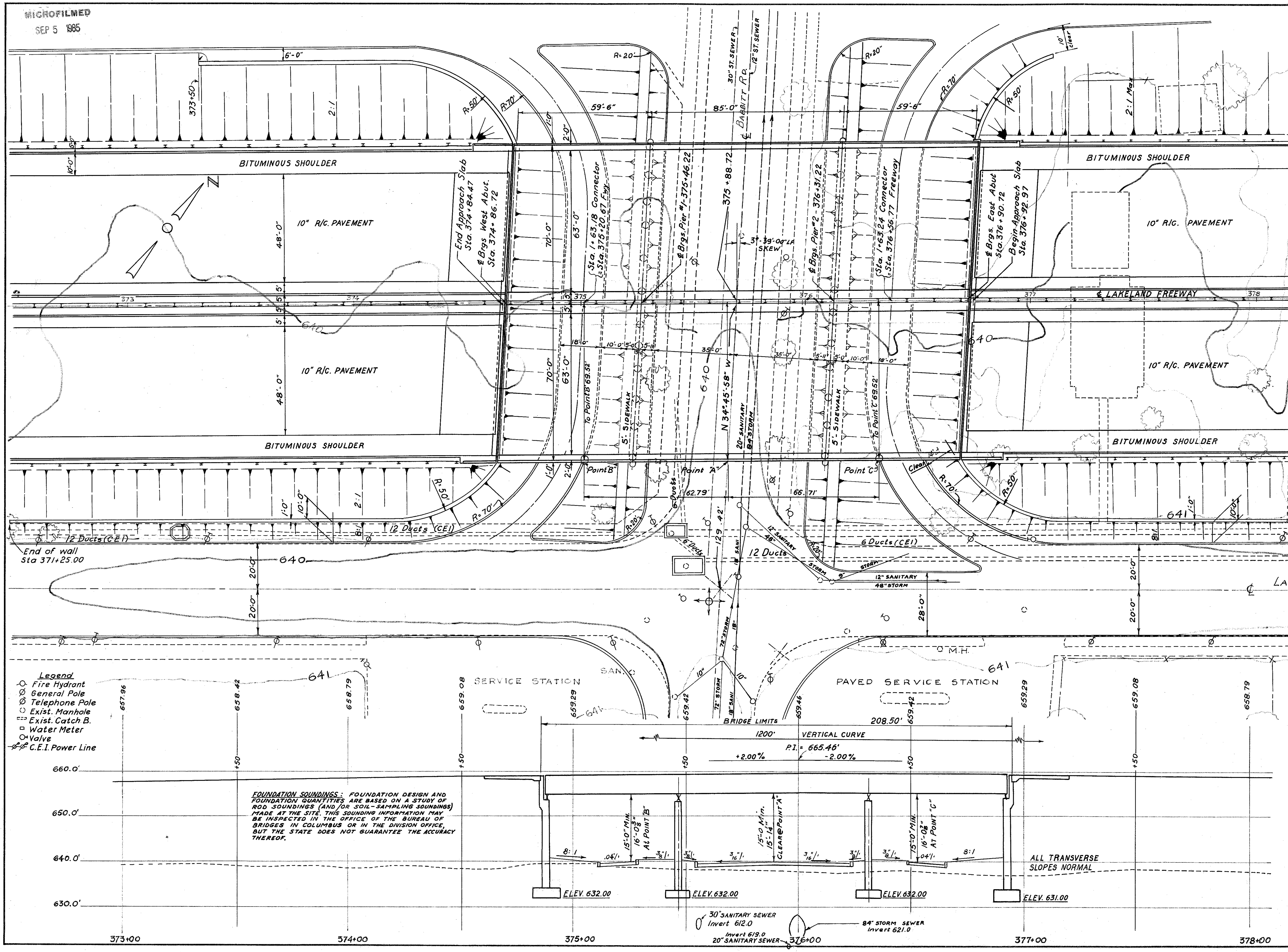
CUYAHOGA COUNTY
CUY-2-25.96



MICROFILMED SEP 5 1985
BITUMINOUS SHOULDER
10" R/C. PAVEMENT
¢ LAKELAND FREEWAY
N 51°-35'-02" E
N 34°-45'-58" W
¢ BABBITT RD.
30" ST. SEWER
12" ST. SEWER
End Approach Slab Sta. 374+84.47
¢ Brgs. West Abut. Sta. 374+86.72
¢ Brgs. Pier #1 375+46.22
375+88.72
¢ Brgs. Pier #2 376+31.22
¢ Brgs. East Abut. Sta. 376+90.72
Begin Approach Slab Sta. 376+92.97
Sta. 1+63.18 Connector = Sta. 375+20.67 Fwy.
Sta. 1+63.24 Connector = Sta. 376+56.77 Freeway
3°-39'-00" LF SKEW
5' SIDEWALK
Point "A"
Point "B"
Point "C"
To Point "B" 69.52'
To Point "C" 69.52'
12 Ducts (CEI)
6 Ducts (CEI)
End of wall Sta 371+25.00
End of Wall Sta. 381+00.0
¢ LAKELAND BLVD.
SERVICE STATION
PAVED SERVICE STATION
O.M.H.
12" SANITARY
48" STORM
20" SANITARY
84" STORM
72" STORM
Legend
Fire Hydrant
General Pole
Telephone Pole
Exist. Manhole
Exist. Catch B.
Water Meter
Valve
C.E.I. Power Line
BRIDGE LIMITS 208.50'
1200' VERTICAL CURVE
P.I. = 665.46'
+2.00% -2.00%
FOUNDATION SOUNDINGS: FOUNDATION DESIGN AND FOUNDATION QUANTITIES ARE BASED ON A STUDY OF ROD SOUNDINGS (AND/OR SOIL-SAMPLING SOUNDINGS) MADE AT THE SITE. THIS SOUNDING INFORMATION MAY BE INSPECTED IN THE OFFICE OF THE BUREAU OF BRIDGES IN COLUMBUS OR IN THE DIVISION OFFICE, BUT THE STATE DOES NOT GUARANTEE THE ACCURACY THEREOF.
15'-0" MIN. 16'-0 3/8" At Point "B"
15'-0" Min. 15'-1 1/4" CLEAR @ POINT "A"
15'-0" MIN. 16'-0 3/8" At Point "C"
ALL TRANSVERSE SLOPES NORMAL
ELEV. 632.00
ELEV. 631.00
30" SANITARY SEWER Invert 612.0
84" STORM SEWER Invert 621.0
Invert 619.0 20" SANITARY SEWER
660.0'
650.0'
640.0'
630.0'
373+00
374+00
375+00
376+00
377+00
378+00

PROPOSED STRUCTURE

TYPE CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK, PIERS AND ABUTMENTS
SPANS 59'-6" - 85'-0" - 59'-6"
ROADWAY 140'-0" F/F PARAPETS

LOADING CF-2000-57 (ADEQUATE FOR AASHO ALTERNATE LOADING)
SKEW 3°-39'-00" LF
WEARING SURFACE 1" MONOLITHIC CONCRETE
APPROACH SLAB AS-1-54 (25'-0" LONG)
ALIGNMENT TANGENT

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

SITE PLAN
BRIDGE NO. CUY-2-2756

LAKELAND FREEWAY OVER BABBITT ROAD
STATION 374+84.47 TO STATION 376+92.97
SR-2 & USR-20 SEC. CUY-2-25.96
SCALE: 1" = 20' I-329(13) CUYAHOGA COUNTY

TOPOGRAPHY		PROPOSED WORK				
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
AERIAL SURVEYS	L.M.	GLY	GLY	JJP		

SITE PLAN BABBITT ROAD

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
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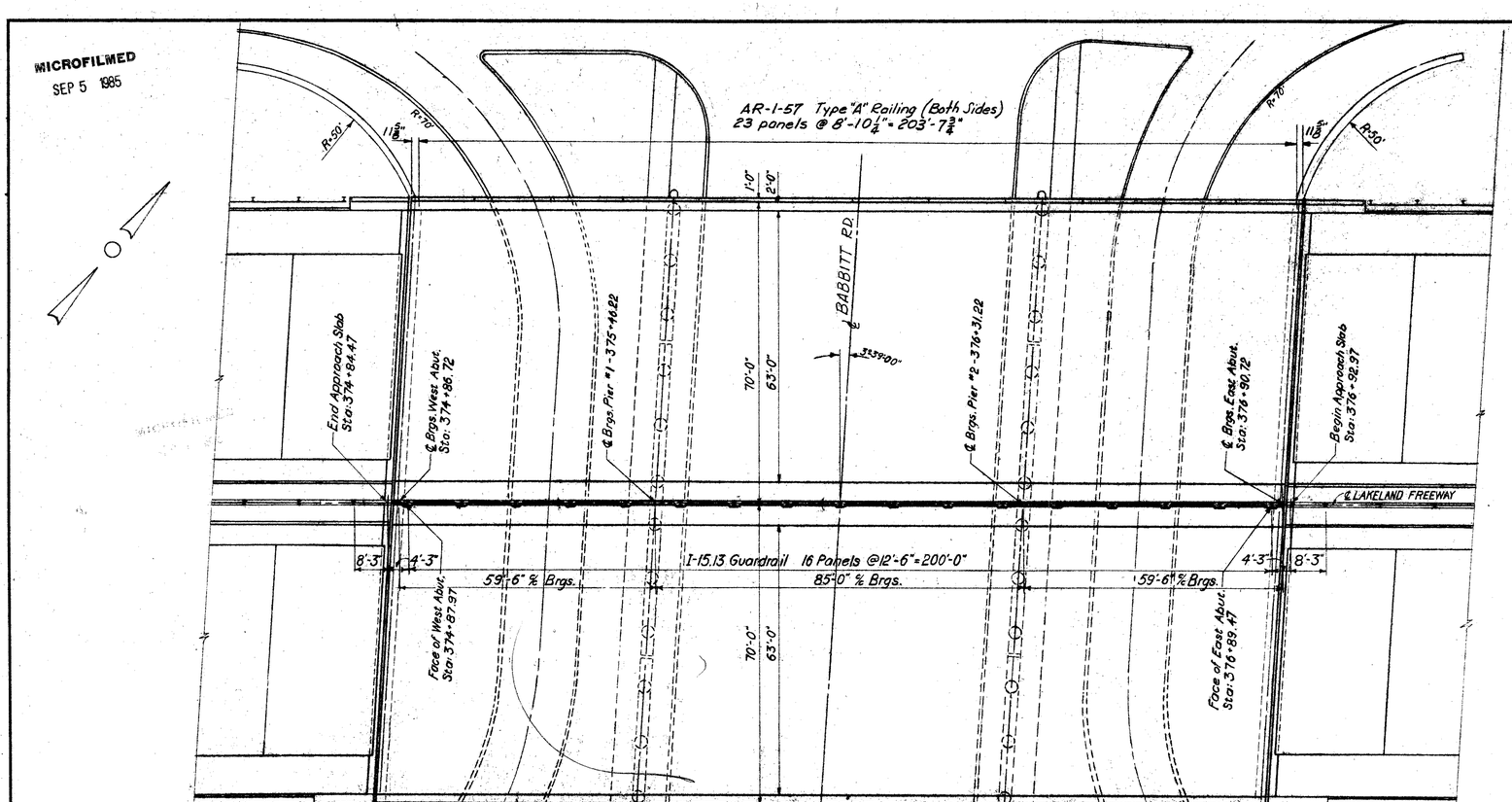
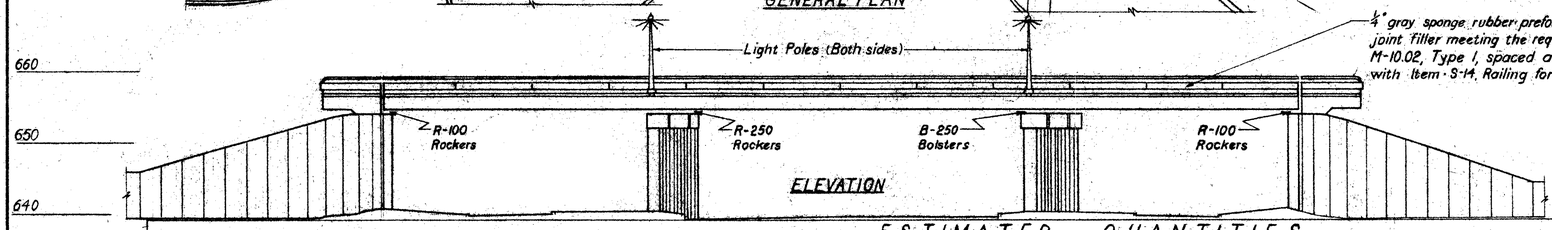
CUYAHOGA COUNTY
CUY-2-25.96



GENERAL PLAN



ELEVATION

¾" gray sponge rubber preformed expansion joint filler meeting the requirements of Sec. M-10.02, Type 1, spaced at 17-8½" (include with Item S-14, Railing for payment)

GENERAL NOTES

REFERENCE shall be made to Standard Drawings RB-1-55, revised 2-2-59 and to AR-1-57 revised 2-2-59 and to Supplemental Specification S-101 dated 12-2-59.

DESIGN SPECIFICATION. This structure conforms to the requirements of Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions dated 2-21-58.

EXCAVATION AND BACKFILL. Excavation quantity includes the removal of material between the surface of proposed grade and the bottom off footings at the piers and abutments.

FOUNDATION BEARING PRESSURE. Abutment and wing wall footings are designed for a maximum bearing pressure of 2.50 tons per square foot, and Pier footings are designed for a maximum bearing pressure of 10 tons per square foot.

WELDING of structural steel shall be Class A except as otherwise shown. Welds shown as field welds may, at the option of the Contractor be made in the shop. Class "B" welds are shown thus "B>——"

CONCRETE DECK PLACING. In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to the transverse reinforcing steel and are located near the center of any span.

DETAILS. for details of scuppers, gutters and supports, beam cut off at backwall, welded butt joint in end dam, superstructure end dam end crossframes "0" bars over piers, guard rails, centerline expansion joint, lamp standard and pull box supports, and curb and median see DWG. Nos 121, 122, 123.

ELECTRICAL GROUNDS. A stranded No 0 gage bare copper wire electrical ground shall be embeded in the outside column on each side of the structure at Pier #2. The lower ends of the wires shall terminate in a 25 foot length coiled under the footing and separated from the concrete by two layers of tar paper. The upper ends shall extend sufficiently above the top of the concrete to provide for a suitable splice and extension for connection to the superstructure. The connection to the superstructure shall be a No 6 gage, bare, stranded, tinned copper wire brazed or bolted to a beam flange and to the solid copper wire in the pier column. At the base of the lamp standards there shall be a tinned No 6 gage copper wire brazed to one anchor bolt and the other end brazed or bolted to the outside beam flange. Payment for electrical grounds is included in the lump sum bid for Item S-25, "Electrical Lighting System."

ELECTRICAL QUANTITIES S-25 shown in the Estimated Quantities are only those items which are a part of the structure or are mounted there on. For additional listing of quantities, and for details, see Electrical Drawings No 107 thru 109

FOOTINGS shall extend a minimum of 3" into solid rock or to the elevation shown, which ever is lower

OPEN excavation for piers & abutments shall be inspected in the field by a soils engineer or geologist in order to insure that the excavation has been extended to rock throughout the entire founding area, the area of the footing contact shall not be subject to prolonged atmospheric exposure, and that the excavation be kept drained at all times.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	Abuts.	Piers	Wingwall	General	Ret. wall
E-2	2579	C.Y.	Unclassified Excavation		1137	300	634		508
E-2	338	C.Y.	Shale Excavation		176	52	110		
S-1	913	C.Y.	Class "C" Concrete; Superstructure	913					
S-1	212	C.Y.	Class "C" Concrete, Pier Caps and Columns			212			
S-1	1236	C.Y.	Class "E" Concrete; Abutments and Wing Walls above footings		757		254		225
S-1	723	C.Y.	Class "E" Concrete; Footings		317	49	176		181
S-3	610	L.F.	Waterproofing, 12" x ½" Premolded Sealing Strip		258		179		173
S-4	489,534	Lbs.	Reinforcing Steel	250,502	116,127	75,873	27,743		19,289
S-7	1005000	Lbs.	Structural Steel	1005000					
S-8	1005000	Lbs.	Field Painting of Structural Steel as per Plan	1005000					
S-9	443	S.F.	1" Preformed Expansion Joint Filler,		137		242		64
S-9	205	L.F.	Structural Expansion or Contraction Joint as per plan	205					

Item	Total	Unit	Description	Super	Abuts.	Piers	Wingwall	General	Ret wall
S-14	209	L.F.	Railing (I-15.13 with Galvanized Steel Posts and Bolts and Double Rail)	209					
S-14	477	L.F.	Railing Aluminum Rail and Supports, Concrete Parapets	412	65				
S-25	Lump	Sum	Electrical Lighting System (See Dwg. No 109)					Lump	
S-25	390	L.F.	2" Galvanized Conduit including fittings and supports	390					
S-25	14	L.F.	1½" Galvanized Conduit including fittings and supports			14			
S-25	38	L.F.	1¼" Galvanized Conduit including fittings and supports	38					
S-25	170	L.F.	1" Galvanized Conduit including fittings and supports	170					
S-25	472	L.F.	¾" Galvanized Conduit including fittings and supports	472					
S-29	904	C.Y.	Porous Backfill		518		181		205
S-29	1294	L.F.	10" ϕ Perforated, Bituminous Coated Corrugated Metal Drain Pipe including specials as per Sec. M-6.4(F)		298		218		778
S-29	Lump		Scuppers & Drainage system					Lump	
S-29	168	LF	8" ϕ Perforated, Bituminous Coated C.M.P. (including Specials)		168				

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GENERAL PLAN, ELEVATION, NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

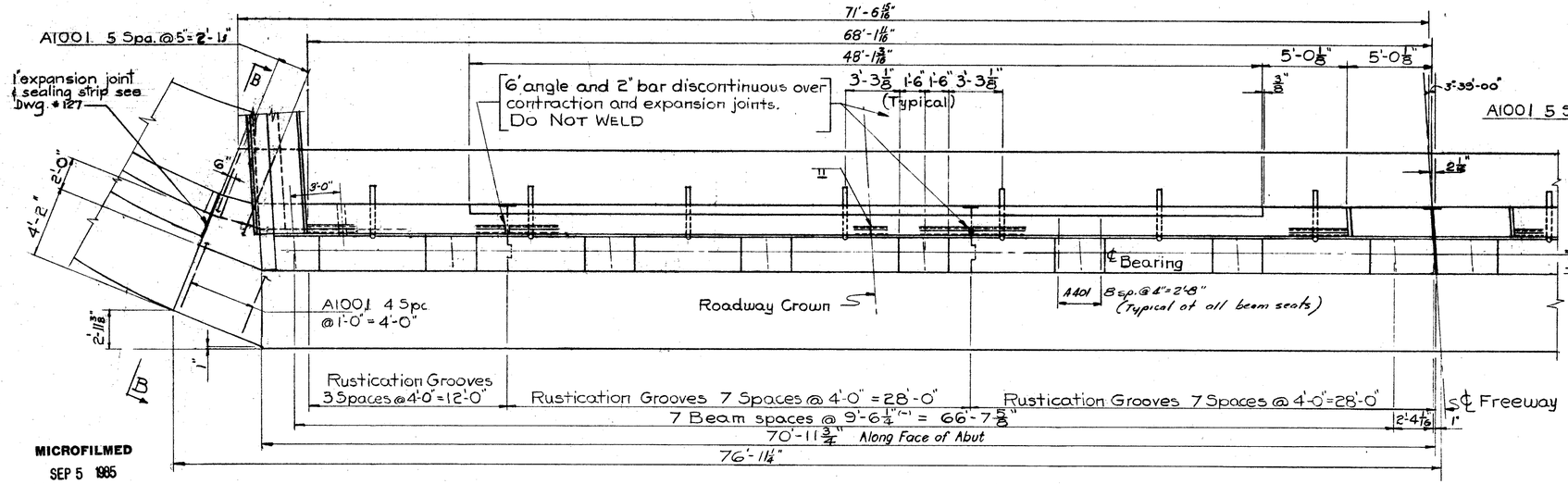
CUYAHOGA COUNTY STA. 374+84.47 TO
SEC. CUY-2-25.96 STA. 376+92.97

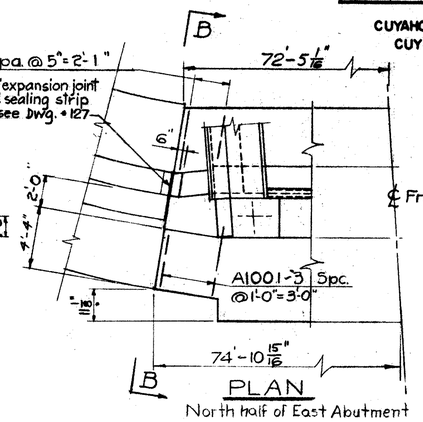
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
CES	LM	LM	JSP			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

126
132

CUYAHOGA COUNTY
CUY-2-25.96



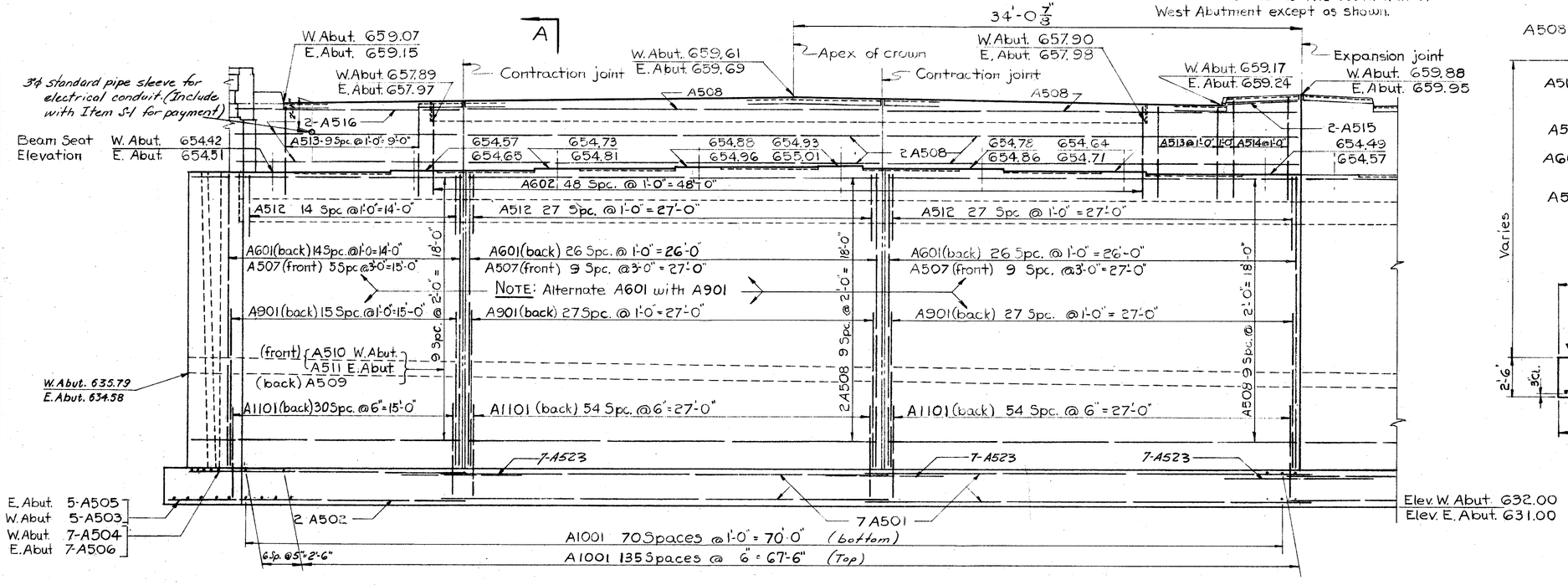


PLAN
North half of East Abutment

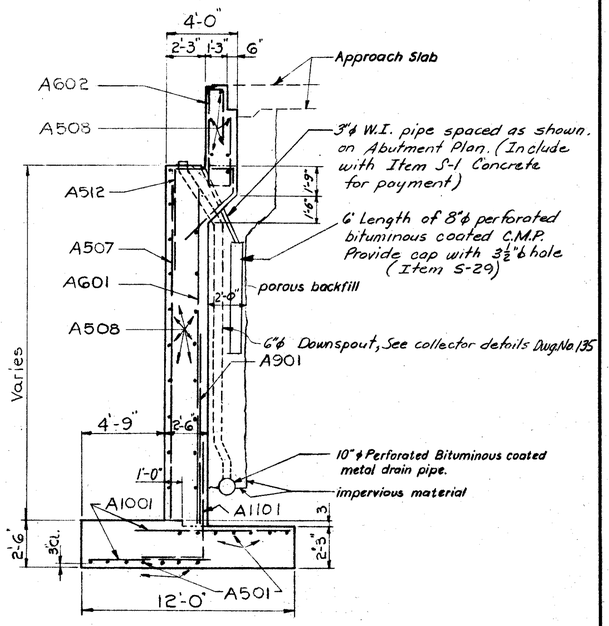
MICROFILMED
SEP 5 1985

PLAN
South half of West Abutment Shown.

NOTE: North half of East Abutment to be the same as the south half of West Abutment except as shown.



A ELEVATION



SECTION A-A

CONCRETE in Abutments and Footings shall be class "E"
REINFORCING STEEL shall be 2" clear from exposed face of concrete unless noted otherwise.

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4500 Euclid Ave. Cleveland 3, Ohio

ABUTMENT PLAN & ELEVATION
BRIDGE NO. CUY-2-2756

LAKELAND FREEWAY OVER BABBITT ROAD
SOUTH HALF OF WEST AND NORTH HALF OF EAST ABUTMENTS
CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

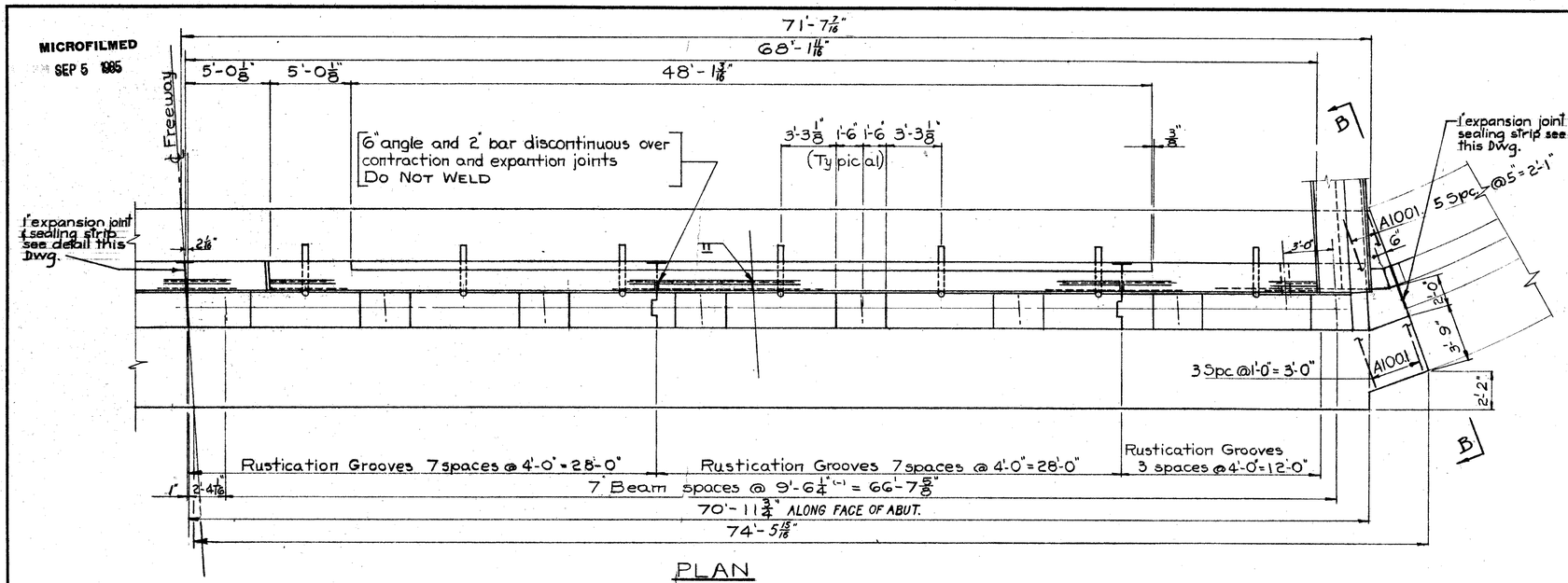
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
B/H/C	B/H/C	L.M	J.S.P.			

126

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

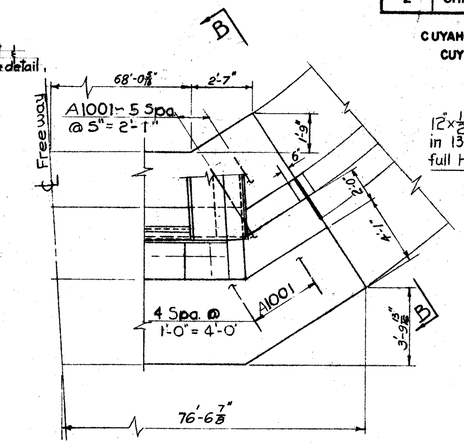
127
152

CUYAHOGA COUNTY
CUY-2-25.96



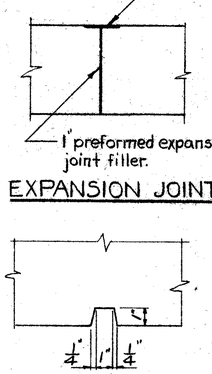
PLAN

North half of West Abutment shown.



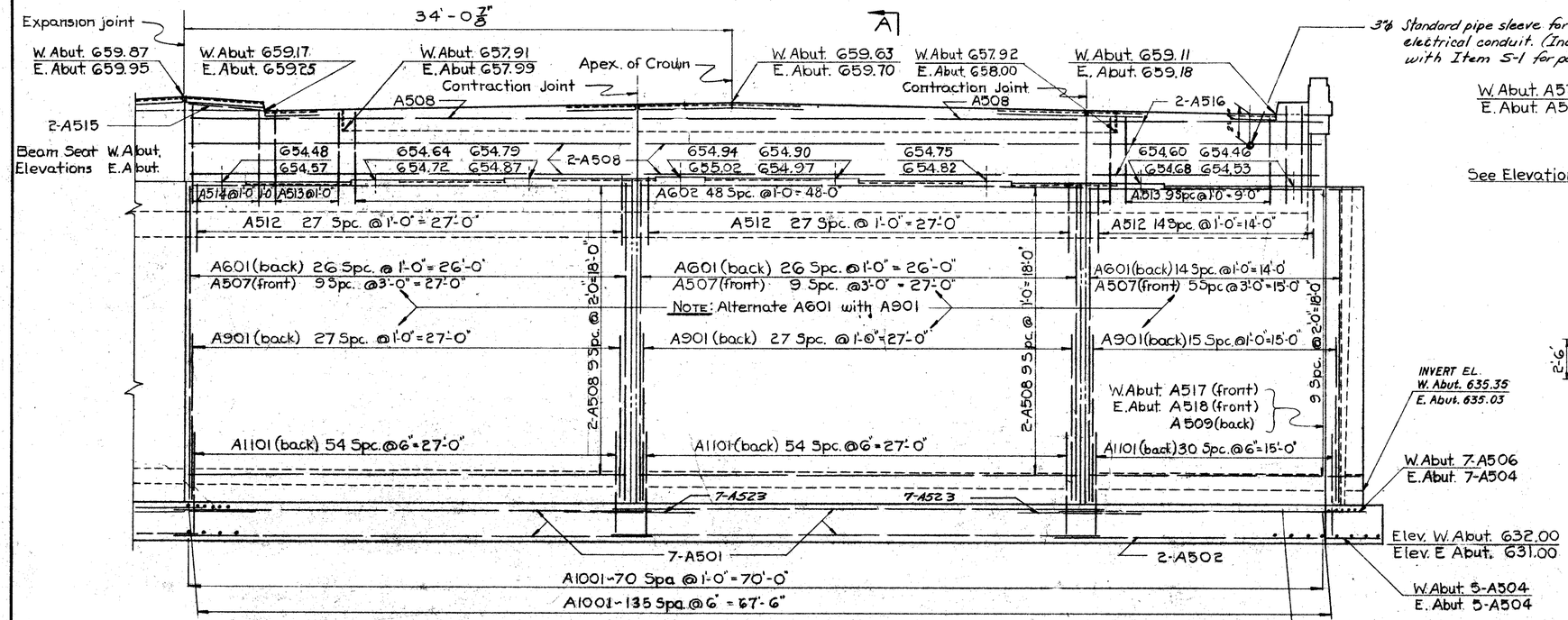
PLAN

South half of East Abutment
NOTE: East Abutment to be the same as West Abutment except as shown.



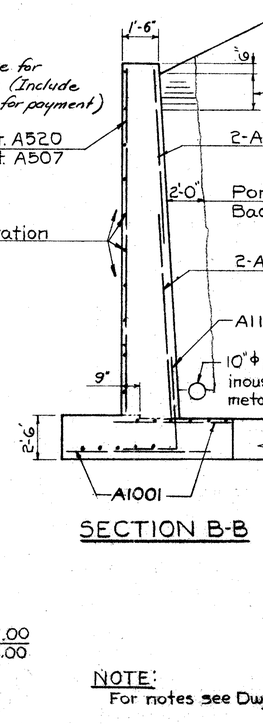
EXPANSION JOINT

RUSTICATION GROOVE

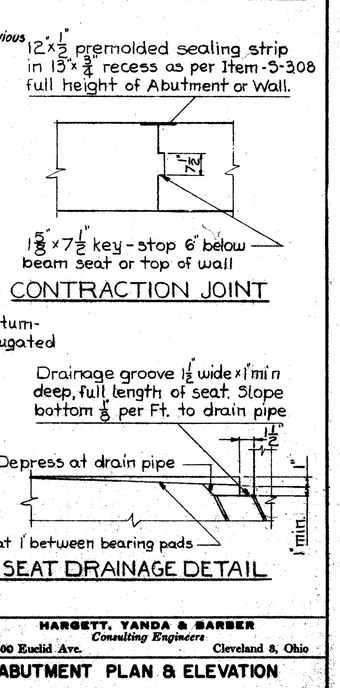


ELEVATION

A
See Dwg. Nº 126



SECTION B-B



CONTRACTION JOINT

BEAM SEAT DRAINAGE DETAIL

INVERT EL.
W. Abut. 635.35
E. Abut. 635.03

W. Abut. 7-A506
E. Abut. 7-A504

Elev. W. Abut. 632.00
Elev. E. Abut. 631.00

W. Abut. 5-A504
E. Abut. 5-A504

NOTE:
For notes see Dwg Nº 126

HARGETT, YANDA & BARBER
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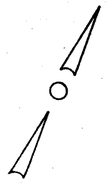
ABUTMENT PLAN & ELEVATION
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD
NORTH HALF OF WEST AND SOUTH HALF OF EAST ABUTMENTS
CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

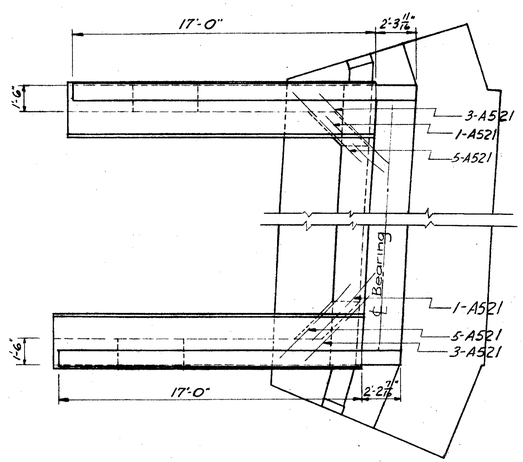
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
B.M.	B.M.	L.M.	J.S.P.			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

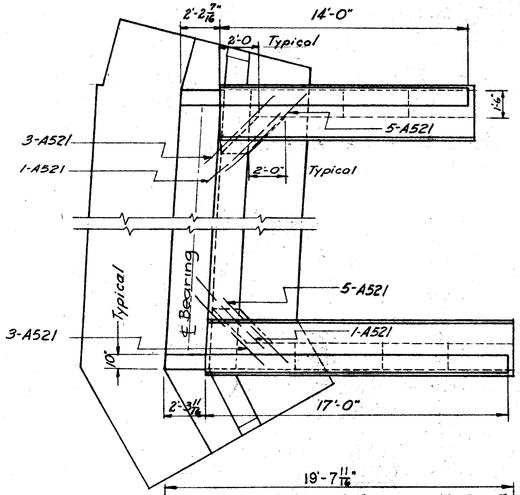
128/152

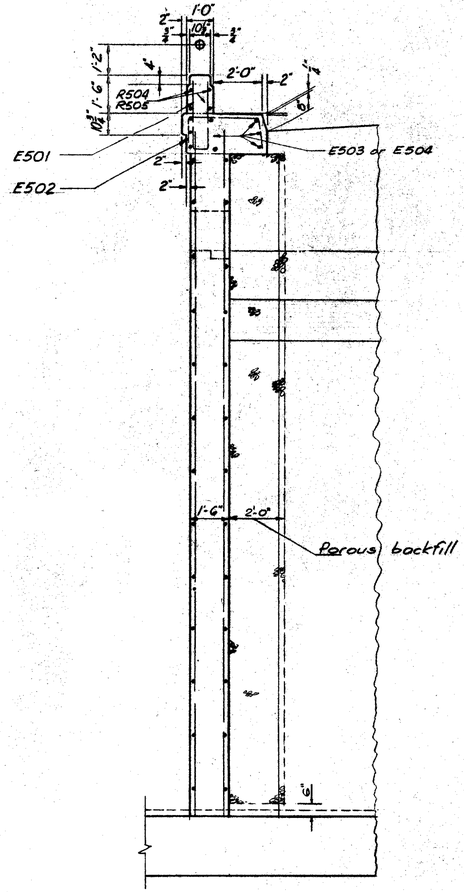
CUYAHOGA COUNTY
CUY-2-25.96



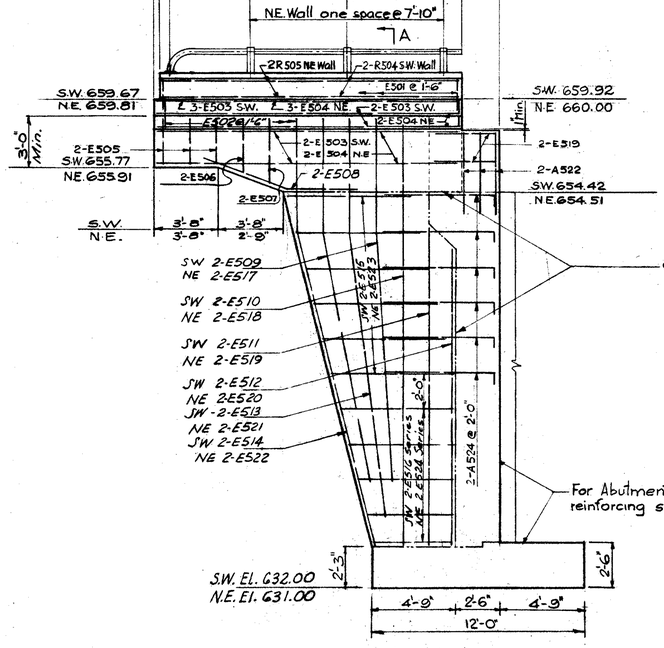


PLAN

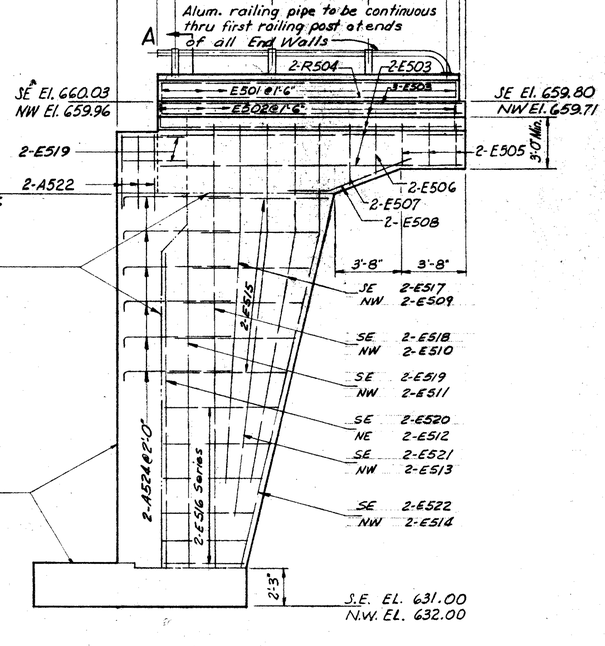




SECTION A-A



ELEVATION
S.W. & N.E. WALLS



ELEVATION
S.E. & N.W. WALLS

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END WALL DETAILS
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT RD.

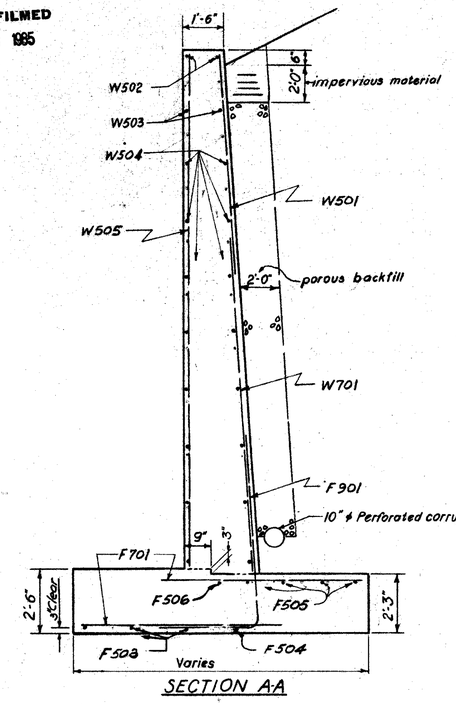
CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
BJC	L.N	L.N	L.N.			

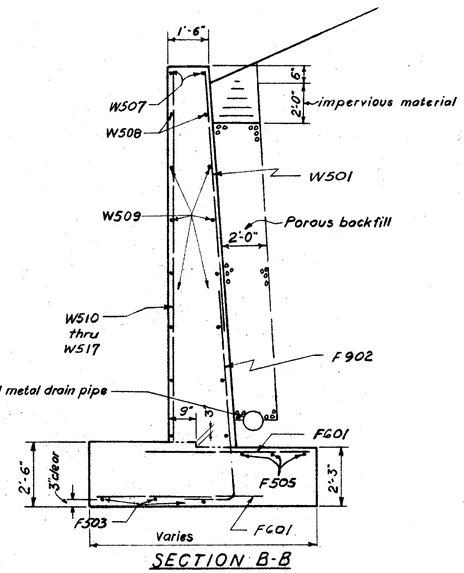
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

129
152

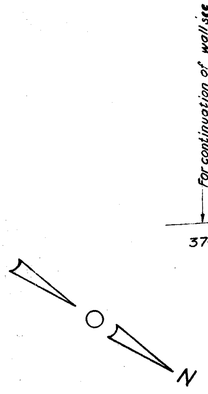
CUYAHOGA COUNTY
CUY-2-25.96

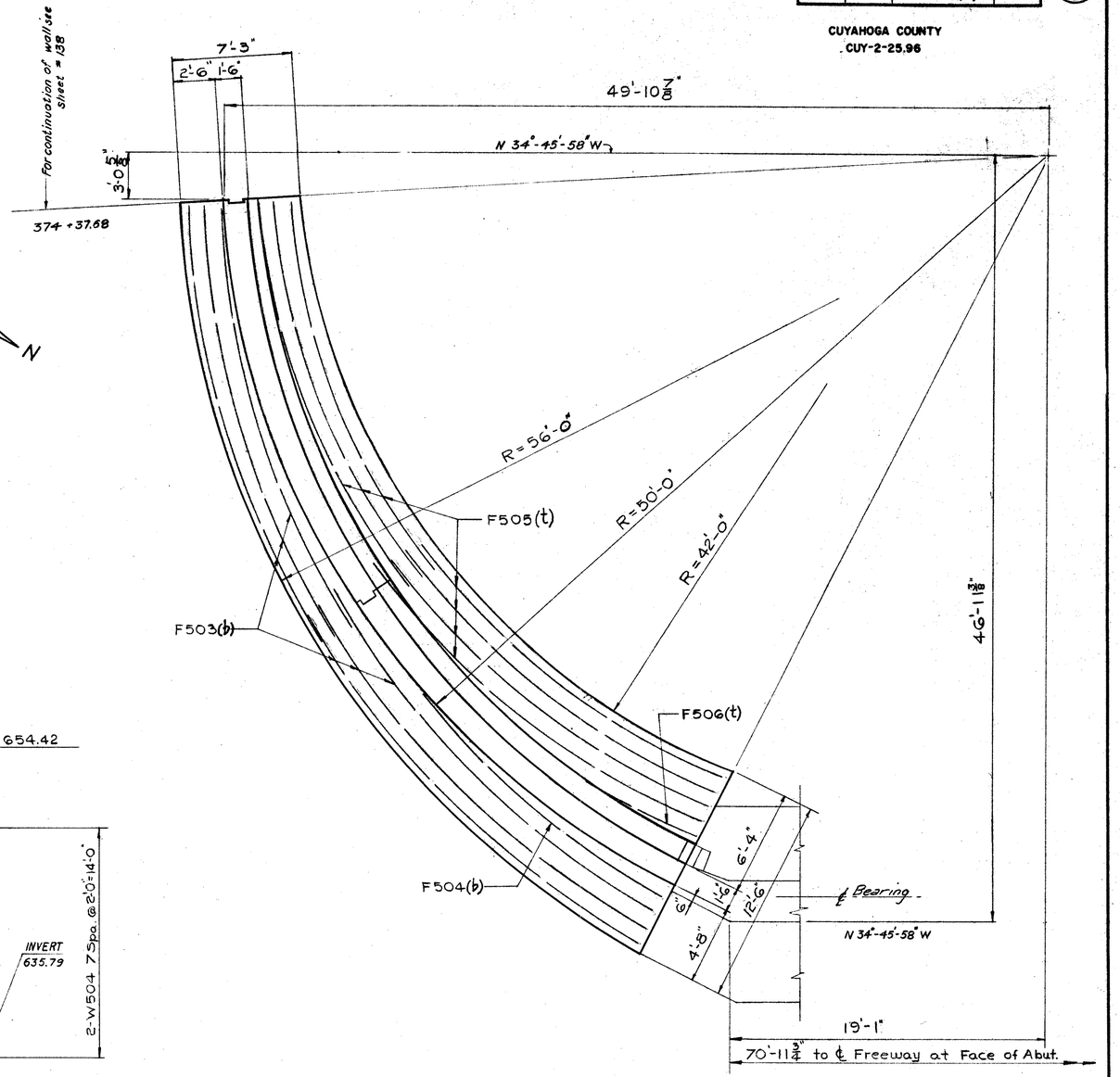


SECTION A-A



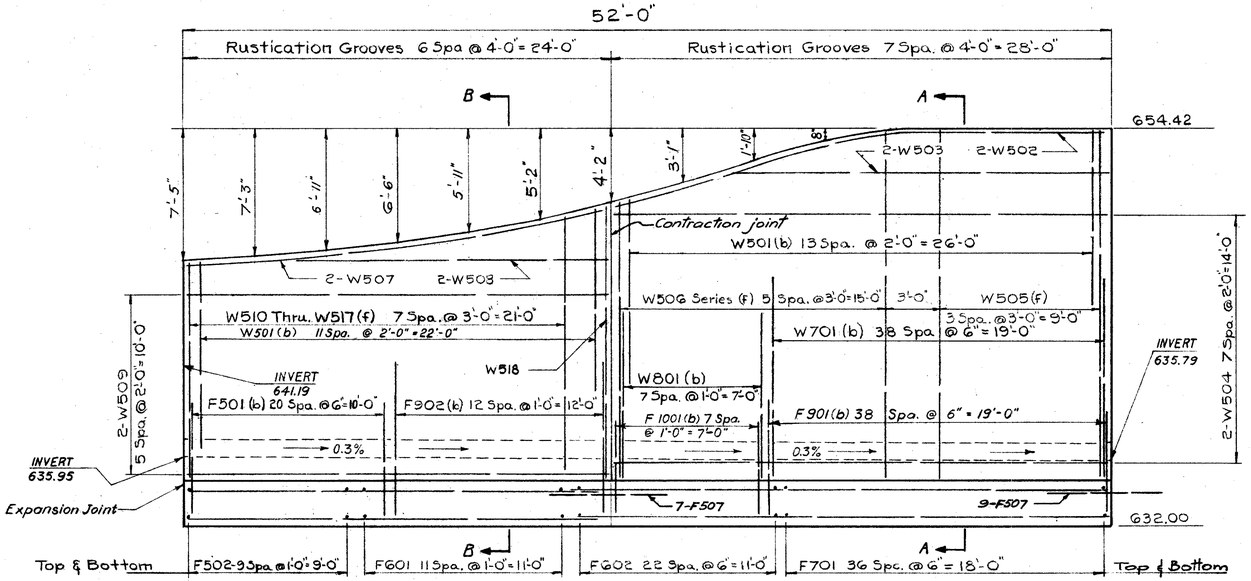
SECTION B-B





PLAN

52'-0"



DEVELOPED ELEVATION AT FACE OF WALL

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Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

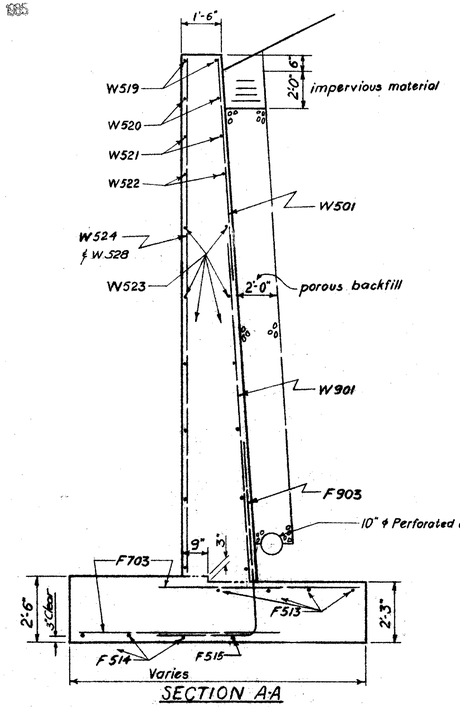
SOUTH WEST WINGWALL DETAILS
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

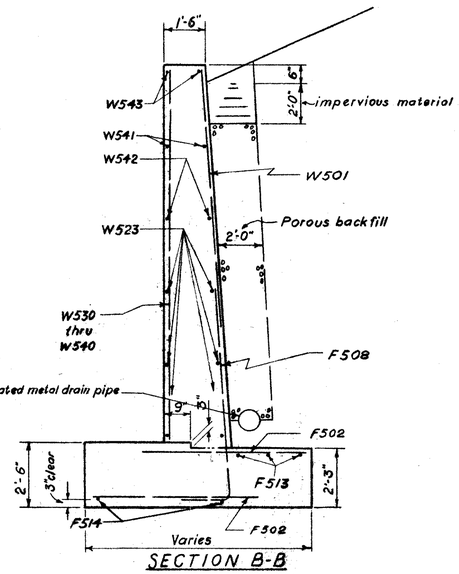
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
BMC	BMC	LM	JLP			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (12)	

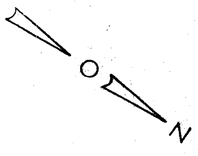
130/152

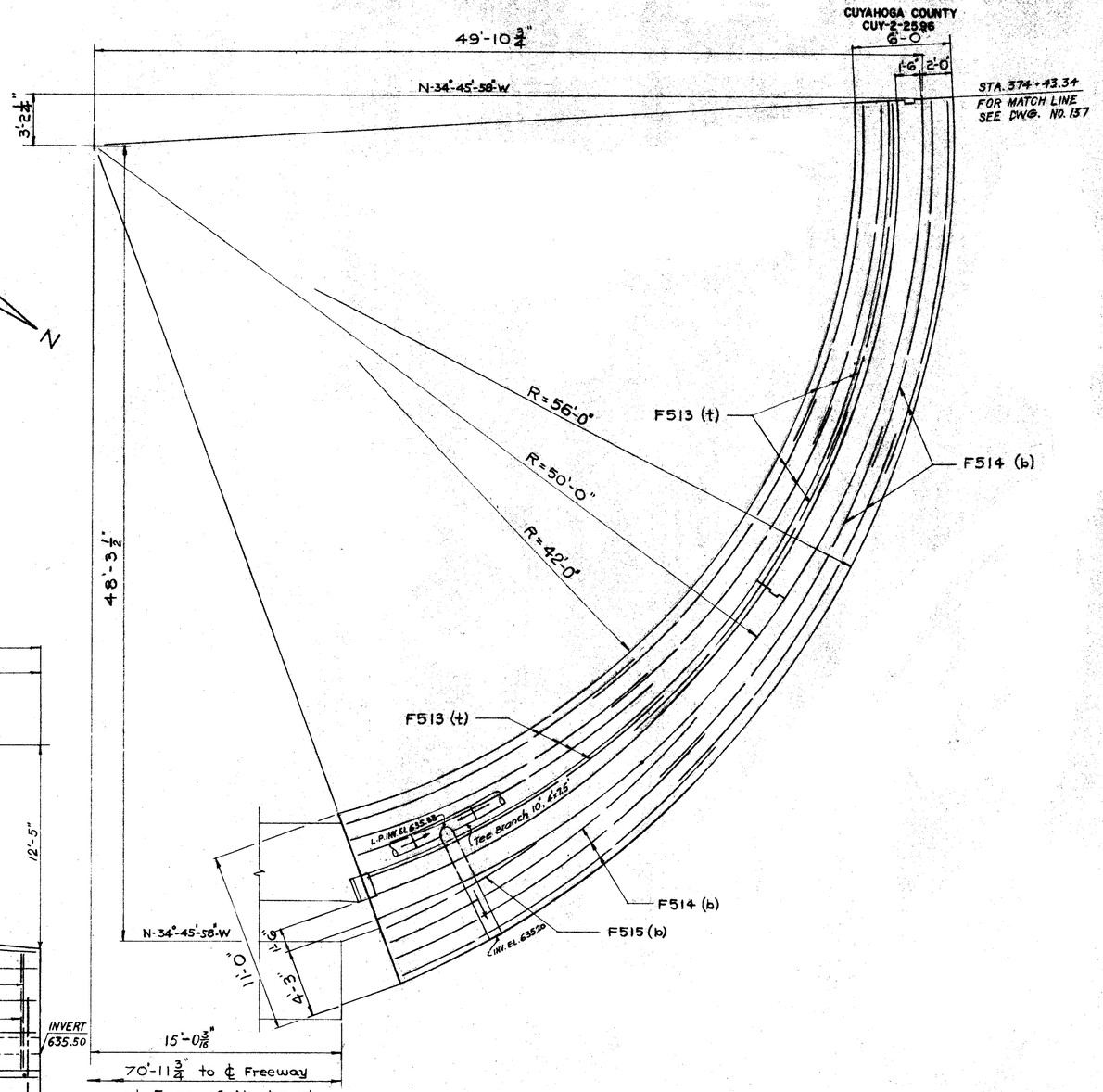


SECTION A-A

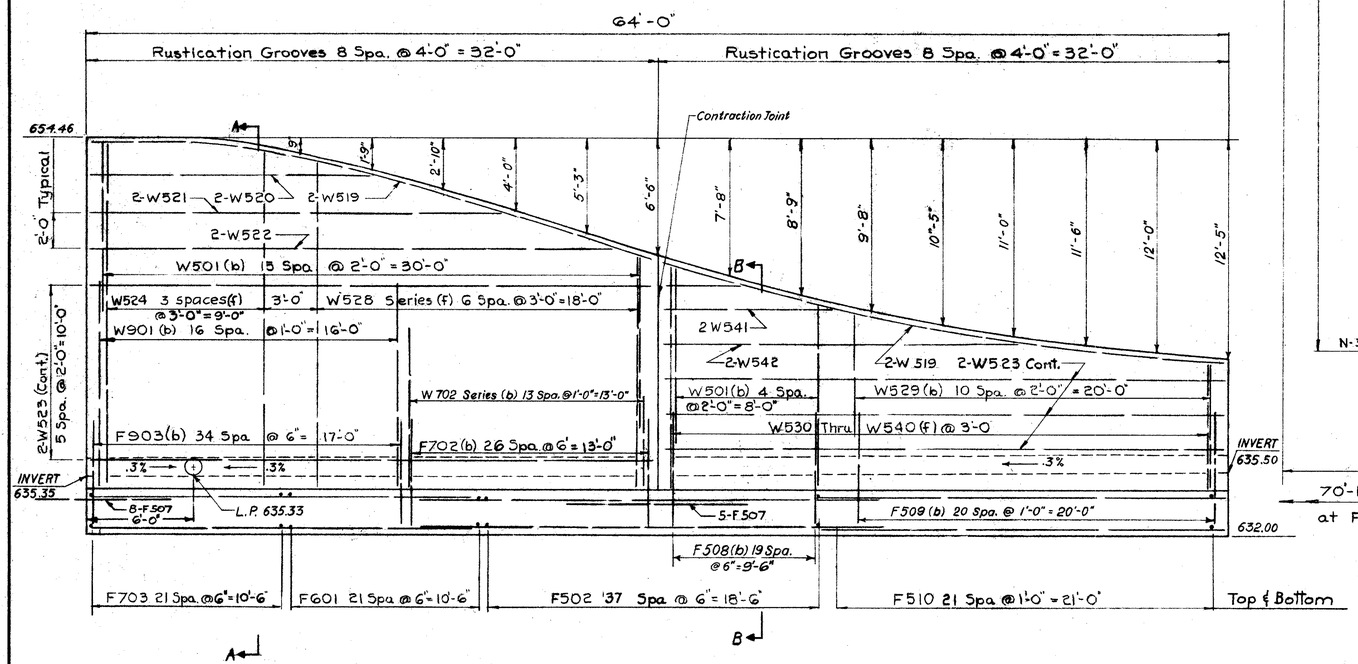


SECTION B-B





PLAN



DEVELOPED ELEVATION AT FACE OF WALL

HARGETT, YANDA & BARBER
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4500 Euclid Ave. Cleveland 8, Ohio

NORTH WEST WINGWALL DETAILS
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

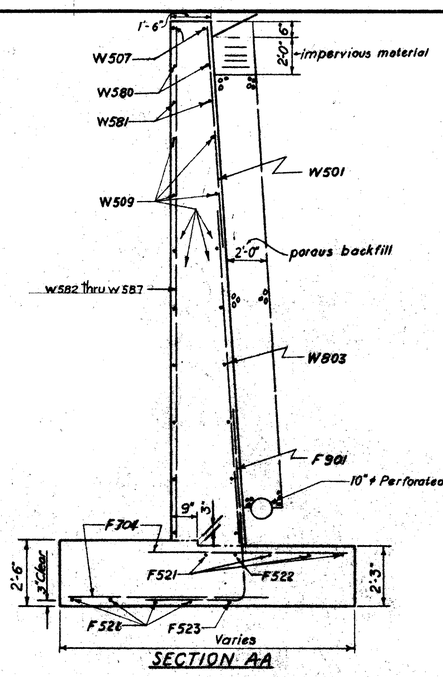
CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
BWM	BWM	L.M	JSP			

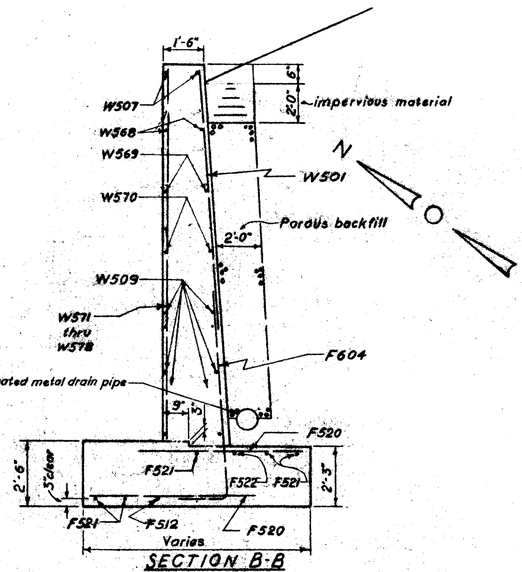
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

131
152

CUYAHOGA COUNTY
CUY-2-25.96



SECTION AA



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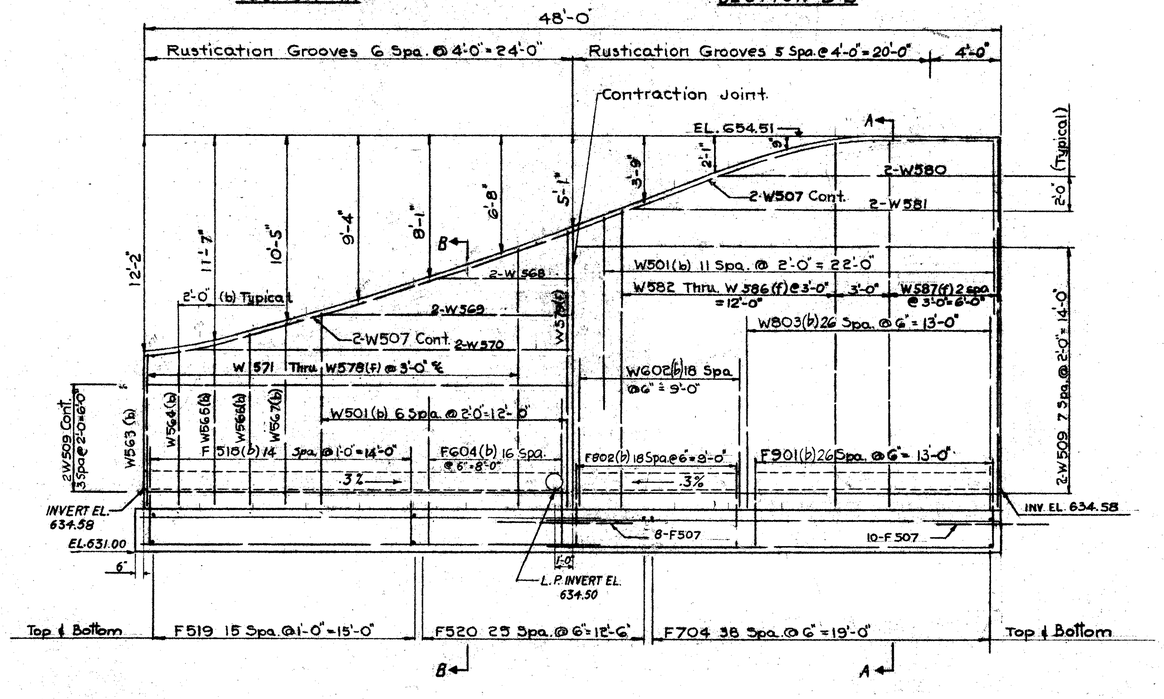

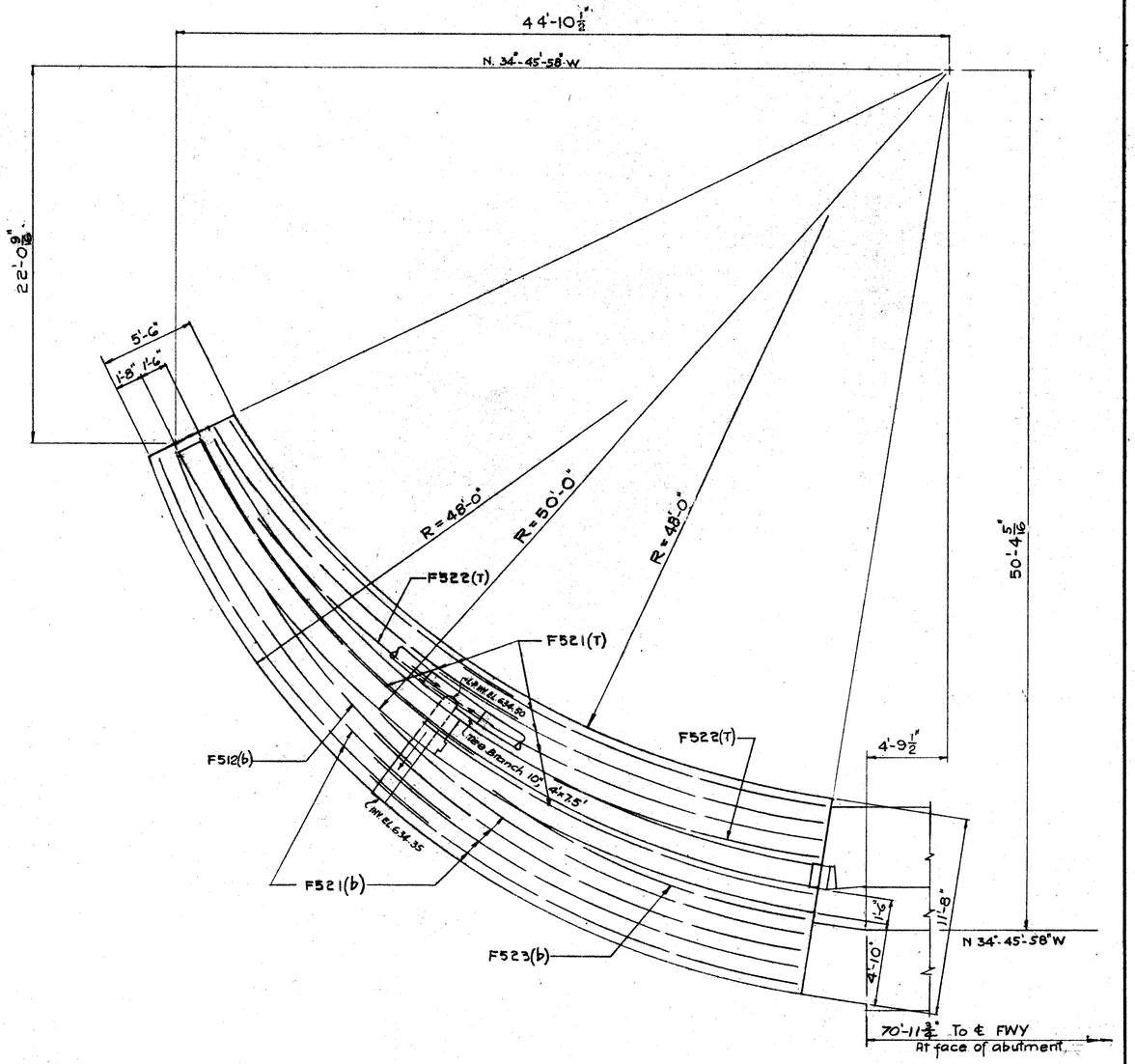

HARGETT, YANDA & BARBER
Consulting Engineers
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NORTH EAST WINGWALL DETAILS
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

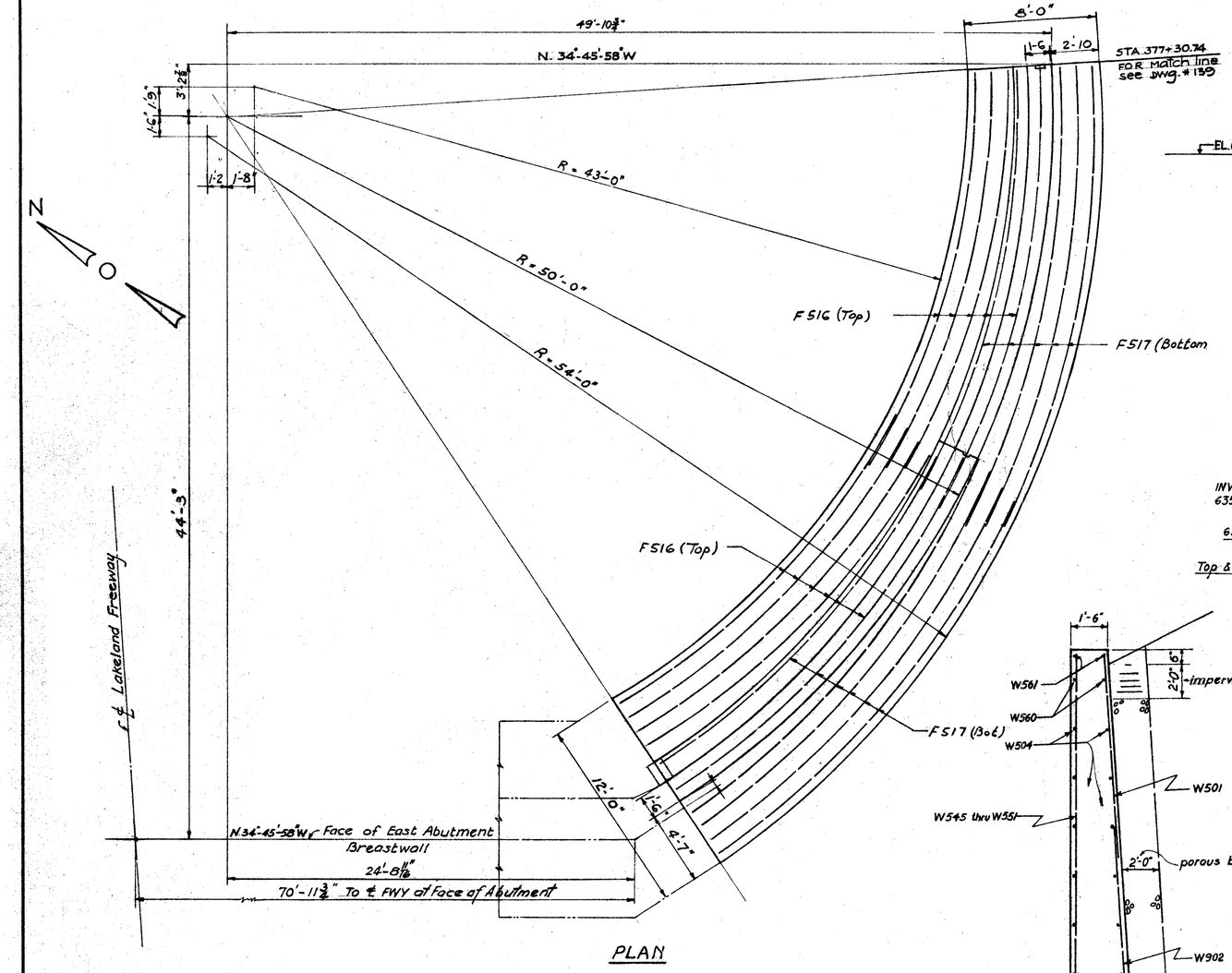
CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
BMH	BMH	LM	JAP			

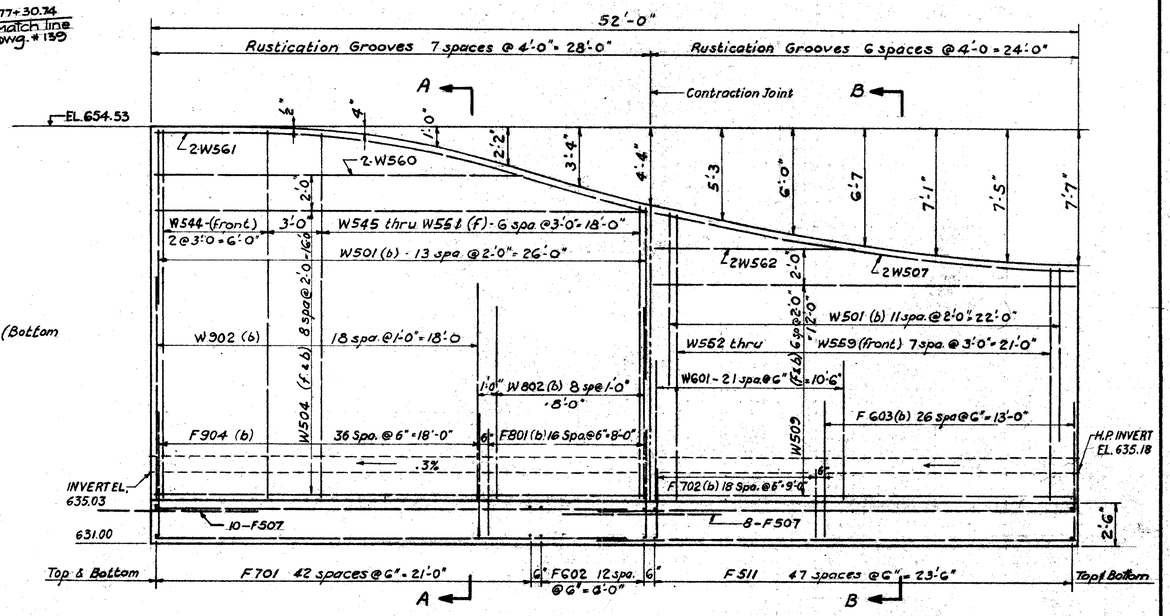
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

132
152

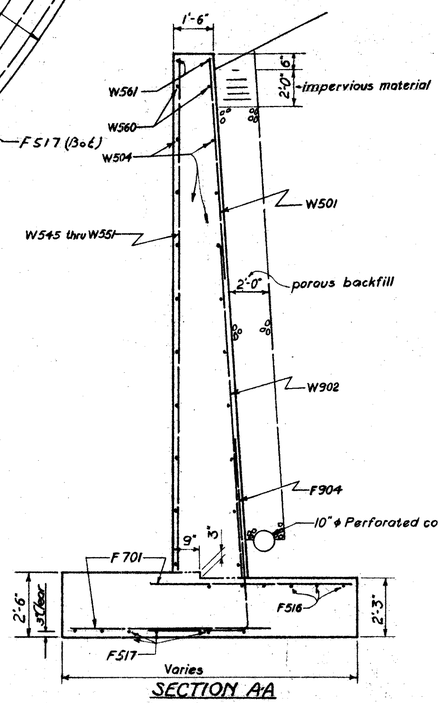
CUYAHOGA COUNTY
CUY-2-25.96



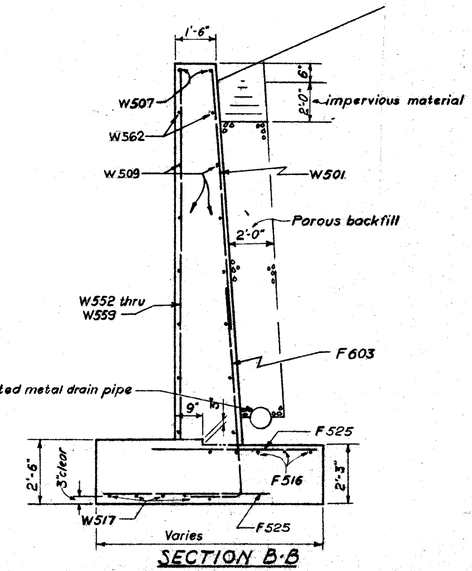
PLAN



DEVELOPED ELEVATION AT FACE OF WALL



SECTION A-A



SECTION B-B

HANGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

SOUTH EAST WINGWALL DETAILS
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

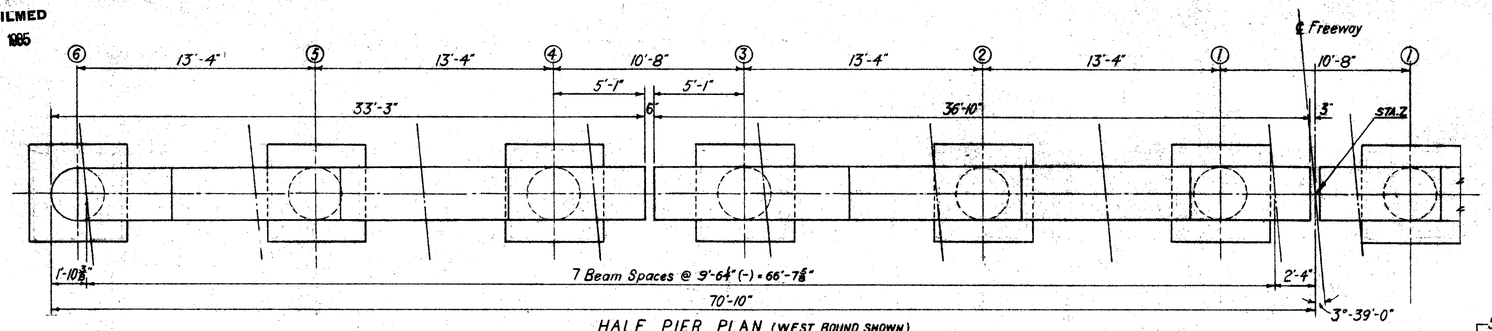
CUYAHOGA COUNTY
SEC. CUY-2-25.96

STA. 374+84.47
TO STA. 376+92.97

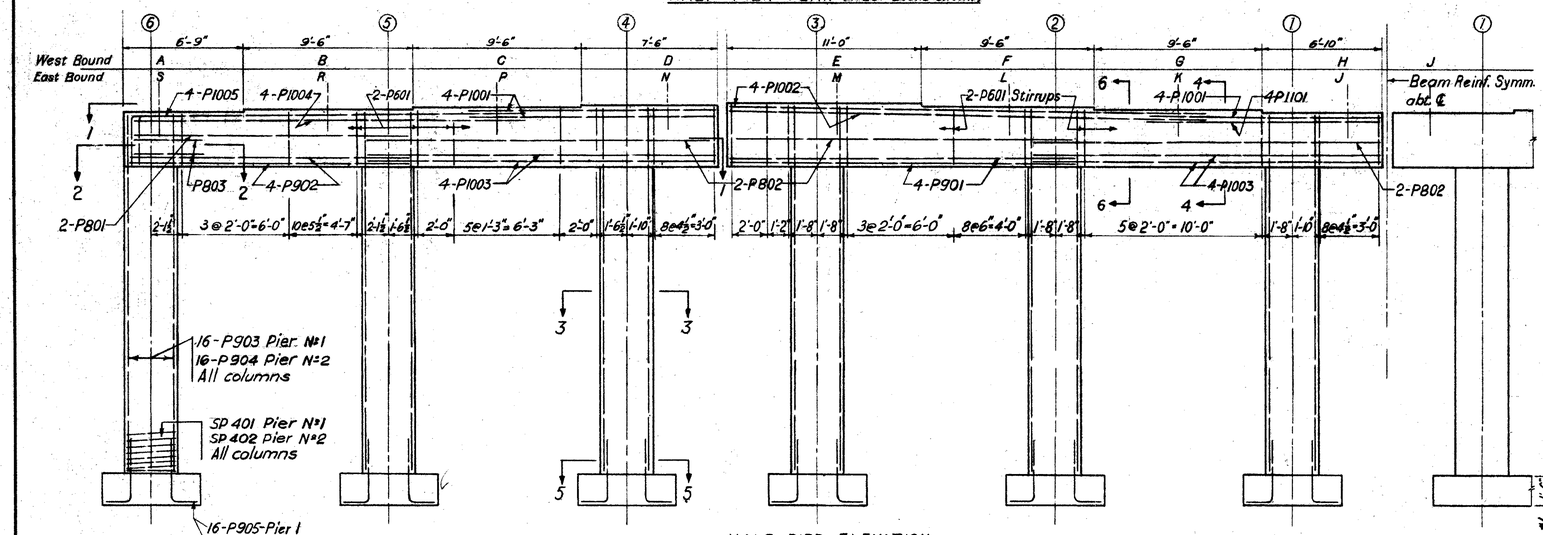
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
BMC	BMC LM	LM	JLP			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO.	I-323(15)	1352

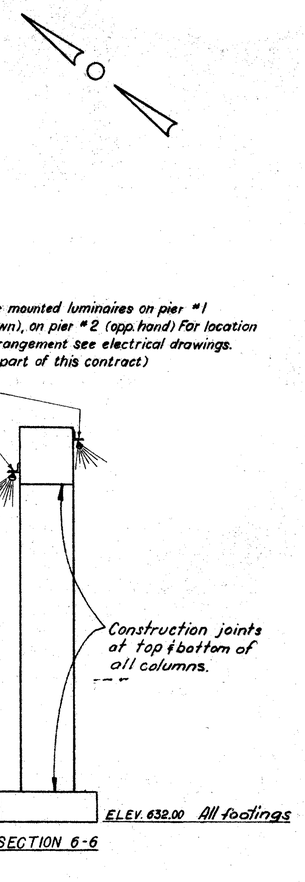
CUYAHOGA COUNTY
CUY-2-25.96



HALF PIER PLAN (WEST BOUND SHOWN)

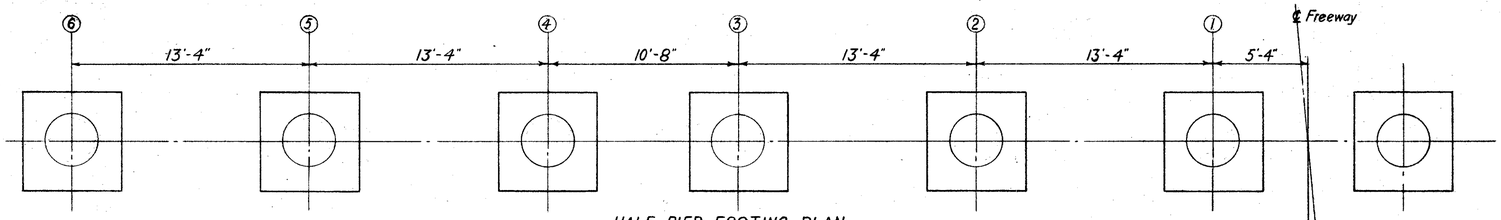


HALF PIER ELEVATION



SECTION 6-6

BEAM SEAT ELEVATIONS		
BEAM SEAT	PIER #1	PIER #2
STA. Z	375+46.22	376+31.22
A	653.92	653.94
B	654.07	654.09
C	654.22	654.24
D	654.36	654.39
E	654.41	654.44
F	654.26	654.29
G	654.11	654.14
H	653.96	654.00
J	653.96	654.00
K	654.11	654.14
L	654.26	654.29
M	654.41	654.44
N	654.36	654.39
P	654.21	654.25
R	654.06	654.10
S	653.91	653.95



HALF PIER FOOTING PLAN

NOTES:

REINFORCING STEEL shall be 2" clear from exposed face of concrete unless noted otherwise.

REINFORCING STEEL shall be placed to clear Bolster anchor bolts at Pier #2.

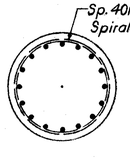
CONCRETE shall be class "C" in pier caps and columns and class "E" in pier footings.

SPIRAL REINFORCING details are on Dwg. N° 136

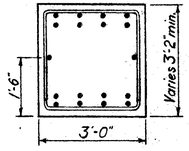
FOOTINGS shall be placed at elevation shown or shall extend a minimum of 3" into firm shale, whichever is lower.

SECTION 2-2

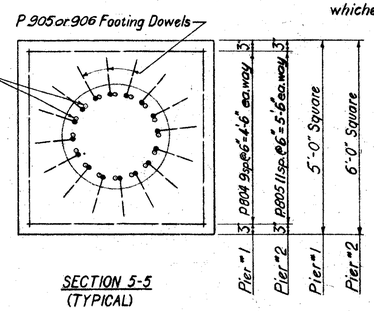
SECTION 1-1



SECTION 3-3



SECTION 4-4



SECTION 5-5
(TYPICAL)

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

PIER DETAILS
BRIDGE NO. CUY-2-2756

LAKELAND FREEWAY OVER BABBITT ROAD

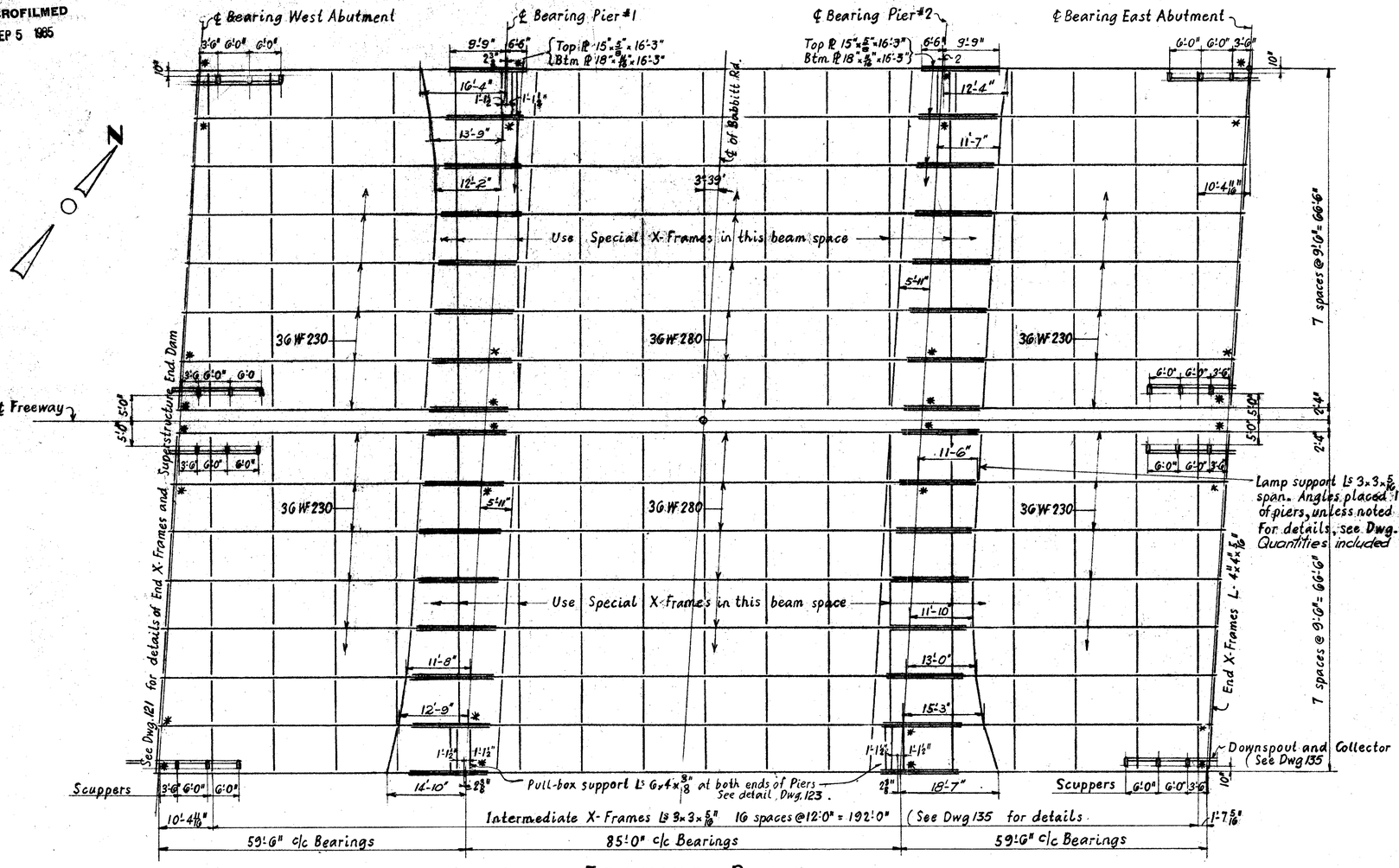
CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
C.E.S.	L.M.	L.M.				

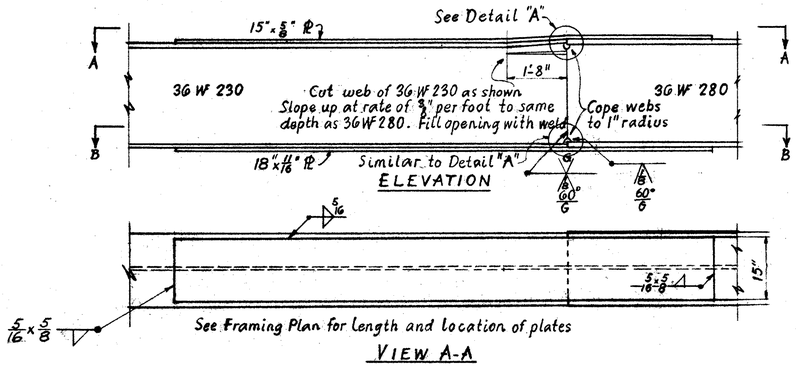
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(18)	

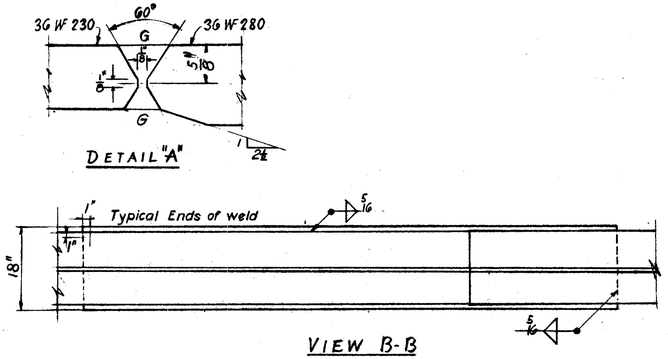
134
152

CUYAHOGA COUNTY
CUY-2-25.96



FRAMING PLAN





BEAM SPLICE DETAILS

BEAM SPLICE WELDING PROCEDURE:

1. Raise the abutment ends of the beams 1 3/4"
2. Butt weld the beam flanges and web, using the following sequence: make two passes on each flange, then two on the web; repeat, using one pass at each location, until all welds are completed.
3. Weld the bottom and top moment plates.
4. Lower the beam ends to final position.

NOTE "A" Remove "keeper" plates from rocker and bolster caps shown thus (*) on the Framing Plan to provide for lateral expansion of the bridge deck.

SCUPPERS shall be spaced as shown. For details see Dwg. 121

CROSS FRAMES shall be spaced as shown, except as required to meet clearance requirements. Cross frames must clear scuppers and electrical pull-box support angles by at least 6 inches.

CAMBERING of Beams shall be in accordance with table below.

PAINTING: See proposal regarding painting.

DEFLECTION AND CAMBER

LOCATION	Outside Beams		Inside Beams	
	End Span	Int. Span	End Span	Int. Span
Deflection due to weight of steel	1/16"	3/16"	1/16"	3/16"
Deflection due to remaining dead load	1/4"	5/8"	3/16"	5/8"
Convexity required for vertical curve	3/16"	5/16"	3/16"	3/16"
Sum of Convexity and Camber	1/2"	1 1/8"	7/16"	1 3/16"
Required Camber	0	1 1/8"	0	1 3/16"

HARGETT, YANDA & BARBER
Consulting Engineers
4600 Euclid Ave. Cleveland 3, Ohio

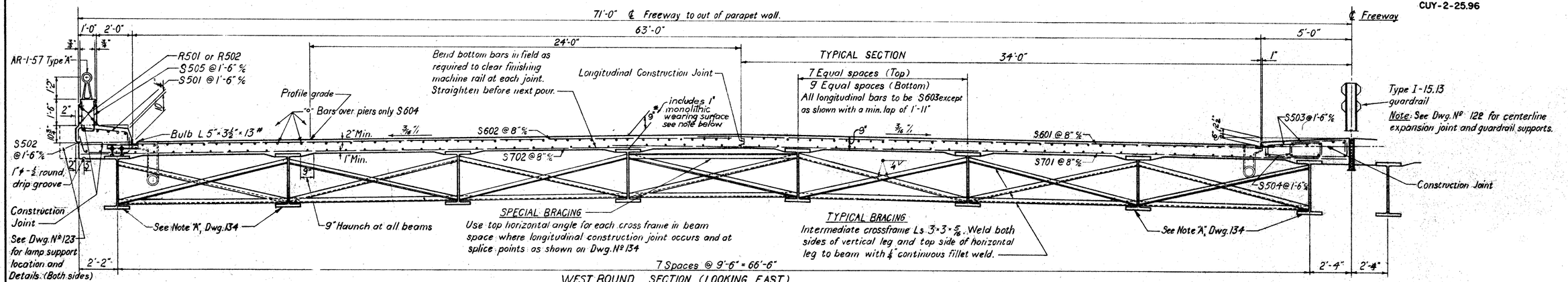
FRAMING PLAN AND BEAM SPLICE DETAILS
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD
CUYAHOGA COUNTY STA. 374+84.47 TO
SEC. CUY-2-25.96 STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
CBS	CBS	L.M.	JHP			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

135
152

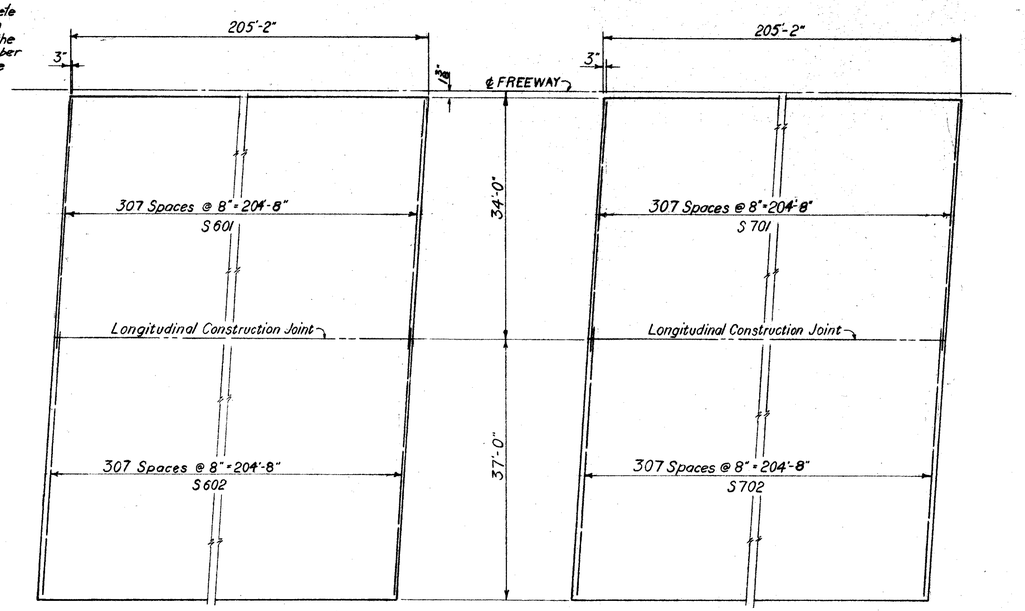
CUYAHOGA COUNTY
CUY-2-25.96



WEST BOUND SECTION (LOOKING EAST)

MACHINE FINISHING of the bridge decks will be required in accordance with the "Special Provisions" of this contract except that longitudinal joints, as shown on the plans, will be permitted. When the finishing machine is supported on the concrete the wheel of the machine shall be placed directly over the beam adjacent to the joint.

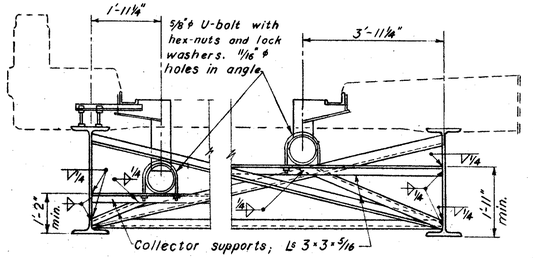
* This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.



TOP STEEL — BOTTOM STEEL.

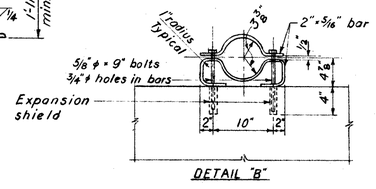
PART PLAN OF DECK.

ELEVATION



SECTION A-A

COLLECTORS and downspouts shall be standard wrought iron or hot-dipped galvanized steel pipe. Joints shall be made by welding or by use of a clamp type coupling with a ring gasket. All welding shall be done before galvanizing. Supports, straps and clamps for attaching downspouts shall be wrought iron or hot-dipped galvanized steel. On bolts, galvanizing as called for in Sec. M-1030 will be considered sufficient.



DETAIL "B"

Scuppers, collectors, downspouts and supports are to be paid for as Item S-29, Scuppers and drainage system.

DOWNSPOUT COLLECTOR DETAILS

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

TRANSVERSE SECTION
PART PLAN OF DECK
DOWNSPOUT AND COLLECTOR DETAILS
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

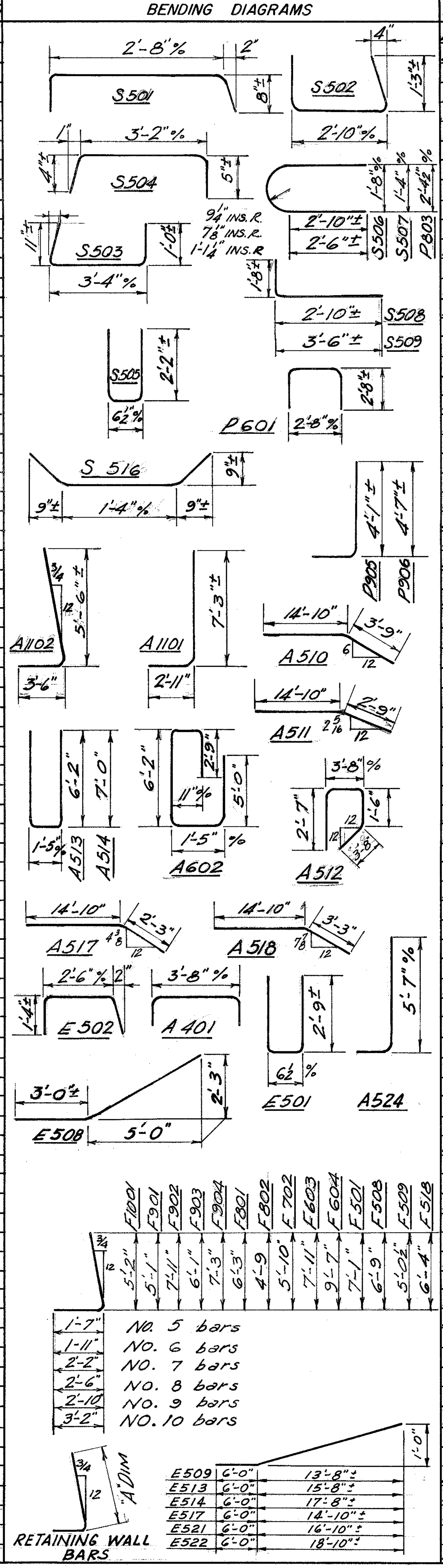
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
ces	ces	L.M	J.H.P.			

MICROFILMED

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	SHP.	REMARKS
SUPERSTRUCTURE					
S 701	616	34'-10"	43858	S	
S 702	616	37'-11"	47741	S	
S 601	616	34'-9"	32152	S	
S 602	616	37'-10"	35004	S	
S 603	1808	26'-7"	72189	S	
S 604	200	34'-0"	10214	S	
S 501	276	3'-9"	1080	B	
S 502	276	5'-1"	1463	B	
S 503	552	5'-0"	2878	B	
S 504	552	3'-8"	2111	B	
S 505	276	4'-8"	1343	B	
S 506	8	8'-3"	69	B	
S 507	8	7'-0"	58	B	
S 508	8	4'-4"	36	B	
S 509	4	5'-0"	21	B	
S 510	32	5'-1"	170	S	
S 515	17	3'-0"	53	S	
S 516	17	3'-6"	62	B	
ABUTMENTS					
A 1101	564	9'-11"	29 715	B	
A 1102	12	8'-9"	558	B	
A 1001	858	9'-8	35689	S	
A 1002	28	8'-8"	1044	S	
A 901	288	10'-9"	10526	S	
A 902	12	14'-2"	578	S	
A 601	288	19'-9"	8543	S	
A 602	196	15'-7"	4588	B	
A 501	112	29'-7"	3456	S	
A 502	8	15'-7"	130	S	
A 503	5	20'-8"	108	S	
A 504	24	20'-0"	501	S	
A 505	5	19'-2"	100	S	
A 506	14	18'-7"	271	S	
A 507	106	22'-4"	2469	S	
A 508	200	27'-8"	5771	S	
A 509	40	16'-3"	678	S	
A 510	20	18'-7"	388	B	
A 511	10	17'-7"	183	B	
A 512	284	11'-0"	3258	B	
A 513	60	13'-6"	845	B	
A 514	20	15'-2"	316	B	
A 515	8	4'-6"	38	S	
A 516	24	14'-7"	365	S	
A 517	10	17'-1"	178	B	
A 518	10	18'-1"	189	B	
A 519	8	9'-11"	83	S	
A 520	2	20'-10"	43	S	
A 521	36	6'-4"	238	S	
A 522	24	5'-1"	127	S	
A 523	70	10'-0"	730	S	
A 524	48	6'-1"	305	B	
A 401	288	4'-6"	866	B	
END WALLS					
E 501	46	5'-10"	280	B	
E 502	46	5'-0"	240	B	
E 503	33	17'-0"	585	S	
E 504	11	14'-0"	161	S	
E 505	24	3'-3"	81	S	
E 506	8	3'-8"	31	S	
E 507	8	4'-1"	34	S	
E 508	8	8'-6"	71	B	
E 509	8	19'-8"	164	B	
E 510	4	23'-7"	98	S	
E 511	4	21'-7"	90	S	
E 512	4	20'-0"	83	S	
E 513	4	21'-8"	90	B	
E 514	4	23'-8"	99	B	
E 515	36	6'-4"	238	S	
E 516	6 Series of 5	4'-6" to 6'-6"	172	S	6" INCR.
E 517	8	20'-10"	174	B	

BENDING DIAGRAMS



MARK	NO.	LENGTH	WEIGHT	SHP.	REMARKS
E518	4	20'-9"	87	S	
E519	4	18'-9"	78	S	
E520	4	17'-2	72	S	
E521	4	22'-10"	95	B	
E522	4	24'-10"	104	B	
E523	12	5'-8"	71	S	
E524	2 Series of 5	4'-6" to 5'-6"	52	S	3" INCR.
PIERS					
P1101	16	13'-6"	1148	S	
P1001	48	13'-2"	2719	S	
P1002	32	26'-8"	3672	S	
P1003	64	19'-10"	5462	S	
P1004	16	23'-0"	1583	S	
P1005	16	25'-8"	1767	B	
P901	32	19'-8"	2140	S	
P902	32	16'-1"	1750	S	
P903	192	20'-2"	13165	S	
P904	192	19'-9"	12893	S	
P905	192	5'-4"	3482	B	
P906	192	5'-10"	3808	B	
P801	8	16'-0"	342	S	
P802	24	19'-6"	1250	S	
P803	8	9'-2"	196	B	
P804	240	4'-8"	2990	S	
P805	288	5'-8"	4357	S	
P 601	488	7'-8"	5620	B	

	NO.	LENGTH	WEIGHT	NO. TURNS	CORE DIA	PITCH
Sp401	12	17'-3"	3804	49	32"	$4\frac{1}{2}$"
Sp402	12	16'-10"	3725	48	32"	$4\frac{1}{2}$"

MARK	NO.	LENGTH	WEIGHT	SHP.	REMARKS
WING WALLS					
F1001	8	8'-1"	278	B	
F901	68	7'-8"	1773	B	
F902	13	10'-6"	464	B	
F903	35	8'-8"	1031	B	
F904	37	9'-10"	1237	B	
F801	17	8'-7"	390	B	
F802	19	7'-1"	359	B	
F701	160	7'-6"	2453	S	
F702	46	7'-10"	736	B	
F703	44	7'-0"	630	S	
F704	78	7'-3"	1156	S	
F601	68	6'-0"	613	S	
F602	72	6'-6"	703	S	
F603	27	9'-8"	392	B	
F604	17	11'-4"	289	B	
F501	21	8'-7"	188	B	
F502	96	5'-6"	551	S	
F503	6	29'-0"	181	S	
F504	1	20'-0"	21	S	
F505	7	24'-7"	179	S	
F506	1	8'-0"	8	S	
F507	65	10'-0"	678	S	
F508	20	8'-2"	170	B	
F509	21	6'-6"	142	B	
F510	44	4'-0"	184	S	
F511	96	6'-3"	626	S	
F512	1	14'-0"	15	S	
F513	10	21'-6"	224	S	
F514	7	24'-8"	180	S	
F515	1	11'-0"	11	S	
F516	11	24'-9"	284	S	
F517	11	28'-6"	327	S	
F518	15	7'-10"	123	B	
F519	32	4'-9"	159	S	
F520	52	6'-3"	339	S	
F521	13	25'-0"	339	S	
F522	2	16'-0"	33	S	
F523	1	20'-0"	21	S	

MARK	NO.	LENGTH	WEIGHT	SHP.	REMARKS
W901	17	10'-5"	602	S	
W902	19	10'-4"	668	S	
W801	8	9'-2"	196	S	
W802	9	9'-0"	216	S	
W803	27	12'-2"	877	S	
W701	39	10'-9"	857	S	
	1	3'-7"			
W702	SERIES OF	TO	165	S	4" INCR.
	14	7'-11			
W601	22	6'-6"	215	S	
W602	19	10'-6"	300	S	
W501	92	11'-3"	1080	S	
W502	2	28'-2"	59	S	
W503	2	20'-0"	42	S	
W504	34	27'-8"	981	S	
W505	4	19'-8	82	S	
	1	15'-4"			
W506	SERIES OF	TO	109	S	10" INCR.
	6	19'-6"			
W507	8	23'-10"	199	S	
W508	2	14'-0"	29	S	
W509	48	23'-8"	1185	S	
W510	1	12'-4	13	S	
W511	1	12'-6"	13	S	
W512	1	12'-8"	13	S	
W513	1	12'-11"	13	S	
W514	1	13'-3"	14	S	
W515	1	13'-8"	14	S	
W516	1	14'-2"	15	S	
W517	1	15'-0"	15	S	
W518	1	15'-7"	16	S	
W519	4	31'-10"	133	S	
W520	2	13'-8"	29	S	
W521	2	21'-8"	45	S	
W522	2	28'-2"	59	S	
W523	18	31'-8"	595	S	
W524	4	19'-8"	82	S	
	1	13'-9"			
W528	SERIES OF	TO	119	S	$10\frac{1}{4}$" INCR.
	7	18'-$10\frac{1}{2}$"			
W529	11	8'-11"	102	S	
W530	1	12'-9"	13	S	
W531	1	11'-10"	12	S	
W532	1	11'-0"	11	S	
W633	1	10'-4"	11	S	
W534	1	9'-9"	10	S	
W535	1	9'-2"	10	S	
W536	1	8'-9"	9	S	
W537	1	8'-4"	9	S	
W538	1	8'-0"	8	S	
W539	1	7'-8"	8	S	
W540	1	7'-4"	8	S	
W541	2	7'-10"	16	S	
W542	2	18'-10"	39	S	
W544	3	20'-10"	65	S	
W545	1	20'-8"	22	S	
W546	1	20'-5"	21	S	
W547	1	20'-1"	21	S	
W548	1	19'-2"	20	S	
W549	1	18'-3"	19	S	
W550	1	17'-5"	18	S	
W551	1	16'-7"	17	S	
W552	1	15'-10"	17	S	
W553	1	15'-3"	16	S	
W554	1	14'-9"	15	S	
W555	1	14'-3"	15	S	
W556	1	13'-11"	15	S	
W557	1	13'-7"	14	S	
W558	1	13'-5"	14	S	
W559	1	13'-3"	14	S	
W560	2	20'-6"	43	S	
W561	2	28'-0"	58	S	
W562	2	12'-0"	25	S	
W563	1	8'-11"	9	S	

LIST

MARK	NO.	LENGTH	WEIGHT	SHP.	"A" DIM.
W564	1	9'-3"	10	S	
W565	1	9'-7"	10	S	
W566	1	10'-2"	11	S	
W567	1	10'-8"	11	S	
W568	2	7'-6"	16	S	
W569	2	14'-0"	29	S	
W570	2	21'-3	44	S	
W571	1	8'-8"	9	S	
W572	1	9'-3"	10	S	
W573	1	10'-0"	10	S	
W574	1	10'-10"	11	S	
W575	1	11'-7"	12	S	
W576	1	12'-7"	13	S	
W577	1	13'-7"	14	S	
W578	1	14'-7"	15	S	
W579	1	15'-8"	16	S	
W580	2	15'-7"	33	S	
W581	2	20'-6"	43	S	
W582	1	16'-10"	18	S	
W583	1	18'-0"	19	S	
W584	1	19'-3"	20	S	
W585	1	20'-2"	21	S	
W586	1	20'-9"	22	S	
W587	3	20'-10"	65	S	
RETAINING WALLS					
NW501	20	3'-6"	73	S	
NW502	20	3'-3"	68	S	
NW503	20	25'-0"	522	S	
NW504	10	6'-11"	72	B	6'-5"
NW505	11	6'-9"	77	B	6'-3"
NW506	9	6'-1"	57	B	5'-7"
NW507	10	5'-11	62	B	5'-5"
NW508	10	5'-2"	54	S	
NW509	10	5'-0"	52	S	
NW510	10	4'-4"	45	S	
NW511	10	4'-2"	43	S	
NW512	24	23'-6"	588	S	
SW501	149	4'-6"	699	S	
SW502	48	4'-0"	200	S	
SW503	20	3'-6"	73	S	
SW504	20	23'-6"	490	S	
SW505	4	12'-6"	52	S	
SW506	3	16'-2"	51	S	
SW507	8	2'-10"	24	S	
SW508	40	27'-7"	1151	S	
SW509	46	27'-6"	1319	S	
SW510	28	8'-11"	260	B	8'-5"
SW511	28	8'-9"	256	B	8'-3"
SW512	34	8'-7"	304	B	8'-1"
SW513	8	8'-6"	71	B	8'-0"
SW514	7	8'-5"	61	B	7'-11"
SW515	9	8'-3"	77	B	7'-9"
SW516	9	8'-2"	77	B	7'-8"
SW517	10	8'-0"	83	B	7'-6"
SW518	9	7'-11"	74	B	7'-5"
SW519	8	7'-9"	65	B	7'-3"
SW520	8	7'-8"	64	B	7'-2"
SW521	6	7'-6"	47	B	7'-0"
SW522	6	7'-5"	46	B	6'-11"
SW523	36	23'-6"	882	S	
SW524	12	7'-2"	90	S	
SW525	11	7'-0"	80	S	
SW526	13	6'-10"	93	S	
SW527	5	6'-9"	35	S	
SW528	4	6'-8"	28	S	
SW529	6	6'-6"	41	S	
SW530	5	6'-5"	33	S	
SW531	6	6'-3"	39	S	
SW532	6	6'-2"	39	S	
SW533	5	6'-0"	31	S	
SW534	4	5'-11"	25	S	
SW535	5	5'-9"	30	S	
SW536	5	5'-8"	30	S	
SW537	5	7'-3"	38	B	6'-9"
SW538	5	7'-2"	37	B	6'-8"

MARK	NO.	LENGTH	WEIGHT	SHP.	"A" DIM.
SW539	5	7'-0"	37	B	6'-6"
SW540	4	6'-10"	29	B	6'-4"
SW541	5	6'-8"	35	B	6'-2"
SW542	5	6'-6"	34	B	6'-0"
SW543	5	6'-4"	33	B	5'-10"
SW544	5	6'-2"	32	B	5'-8"
SW545	5	5'-6"	29	S	
SW546	4	5'-5"	23	S	
SW547	5	5'-3"	27	S	
SW548	5	5'-1"	27	S	
SW549	5	4'-11"	26	S	
SW550	5	4'-9"	25	S	
SW551	5	4'-7"	24	S	
SW552	5	4'-5"	23	S	
SE501	146	4'-6"	685	S	
SE502	112	4'-3"	496	S	
SE503	75	4'-0"	313	S	
SE504	20	30'-0"	626	S	
SE505	8	2'-10"	24	S	
SE506	3	17'-2"	54	S	
SE507	4	13'-6"	56	S	
SE508	12	7'-3"	91	S	
SE509	5	7'-2"	37	S	
SE510	6	7'-1"	44	S	
SE511	11	7'-0"	80	S	
SE512	6	6'-11"	43	S	
SE513	12	6'-10"	86	S	
SE514	7	6'-9"	49	S	
SE515	6	5'-8"	35	S	
SE516	9	6'-7"	62	S	
SE517	6	6'-8"	42	S	
	1	6'-9"			
SE518	SERIES OF	TO	87	S	3/8" INCR.
	12	7'-1"			
	1	6'-5"			
SE519	SERIES OF	TO	75	S	3/8+ INCR.
	11	6'-9"			
	1	6'-7"			
SE520	SERIES OF	TO	84	S	3/8" INCR.
	12	6'-11"			
	1	6'-2"			
SE521	SERIES OF	TO	73	S	1/2" INCR.
	11	6'-7"			
	1	6'-3"			
SE522	SERIES OF	TO	80	S	3/8" INCR.
	12	6'-7"			
	1	5'-10"			
SE523	SERIES OF	TO	75	S	3/8" INCR
	12	6'-2"			
SE524	28	9'-0"	263	B	8'-6"
SE525	14	8'-11"	130	B	8'-5"
SE526	14	8'-10"	129	B	8'-4"
SE527	24	8'-9"	219	B	8'-3"
SE528	14	8'-8"	127	B	8'-2"
SE529	26	8'-7"	233	B	8'-1"
SE530	15	8'-6"	133	B	8'-0"
SE531	18	8'-5"	158	B	7'-11"
SE532	15	8'-4"	130	B	7'-10"
	1	8'-6"			8'-0" @
SE533	SERIES OF	TO	181	B	1/4" INCR.
	20	8'-10"			TO 8'-4"
	1	8'-2"			7'-8" @
SE534	SERIES OF	TO	148	B	1/4" INCR
	17	8'-6"			TO 8'-0"
	1	8'-4"			7'-10 @
SE535	SERIES OF	TO	177	B	1/4" INCR
	20	8'-8"			TO 8'-2"
	1	7'-11"			7'-5" @
SE536	SERIES OF	TO	153	B	1/4+ INCR
	18	8'-4"			TO 7'-10"
	1	8'-0"			7'-6" @
SE537	SERIES OF	TO	171	B	1/4+ INCR.
	20	8'-5"			TO 7'-11"
	1	7'-7"			7'-1" @
SE538	SERIES OF	TO	154	B	1/4+ INCR.
	19	8'-0"			TO 7'-6"
SE539	149	27'-6"	4274	S	

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

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CUYAHOGA COUNTY
CUY-2-25.96

MARK	NO.	LENGTH	WEIGHT	SHP.	REMARKS
RAILING BARS					
R501	80	17'-4"	*	S	
R502	16	13'-11"	*	S	
R504	12	16'-8"	*	S	
R505	4	13'-8"	*	S	
* PAID FOR WITH ITEM S-14 RAILING					
REPLACEMENT BARS					
RE1100	2	7'-6"	SEE NOTE BELOW	S	
RE1000	3	7'-2"		S	
RE900	3	6'-10"		S	
RE800	1	6'-6"		S	
RE700	5	6'-2"		S	
RE600	9	5'-11"		S	
RE500	4	5'-7"		S	
RE400	1	5'-3"		SP	

NOTES

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two where four are used, indicate the bar size number. For example A700 is a Nº 7 size bar and A1014 is a Nº 10 size.

REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. S-4.02 need not be furnished and replacement bars will not be required.

SPIRAL REINFORCING: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "Nº of Turns" shown is the Length divided by the pitch, plus 3 turns. (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item S-4. $1\frac{1}{2}$ closed coils shall be provided at the ends of each spiral unit.

Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers based on 0.68 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

HARGETT, YANDA & BARBER
Consulting Engineers
4500 EUCLID AVE. CLEVELAND 3, OHIO

REINFORCING STEEL LIST AND NOTES
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT RD.

CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-2596 TO STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
BWMc			AJC LN			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329 (13)	

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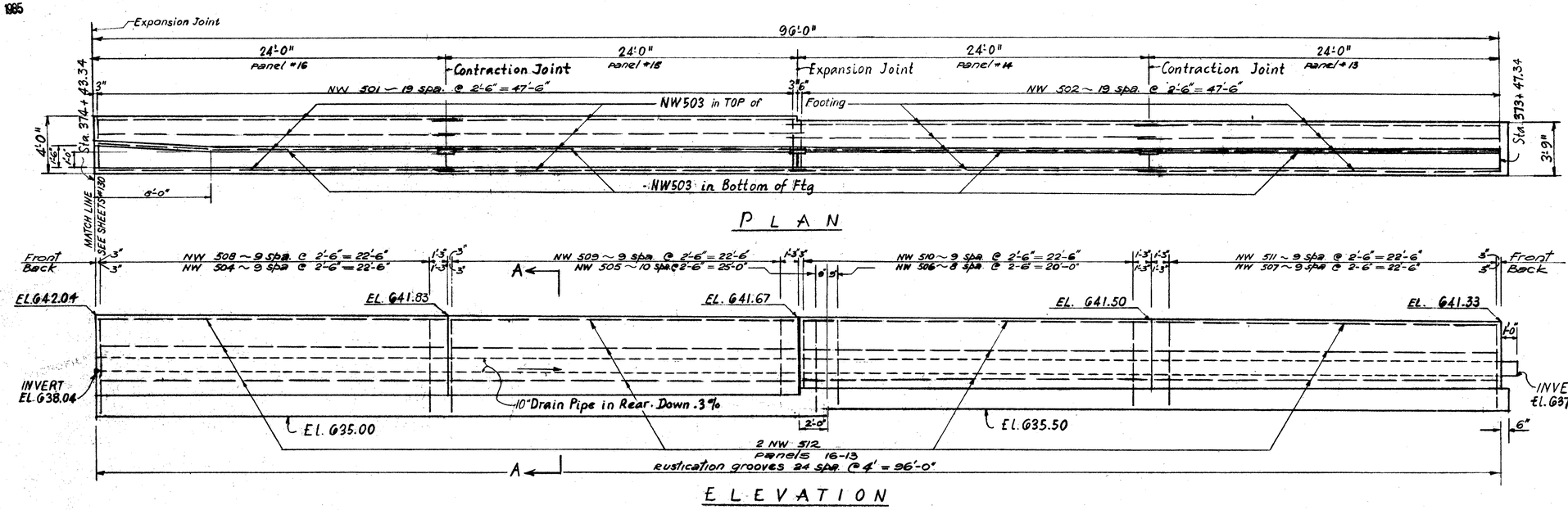
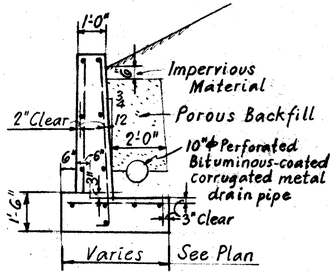
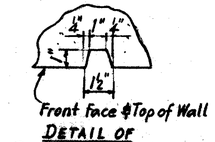
CUYAHOGA COUNTY
CUY-2-25.96

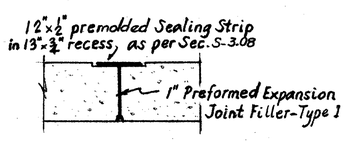




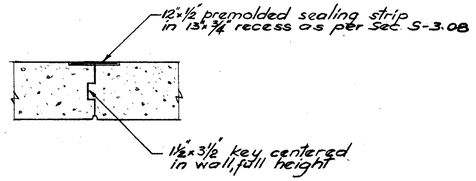
SECTION A-A



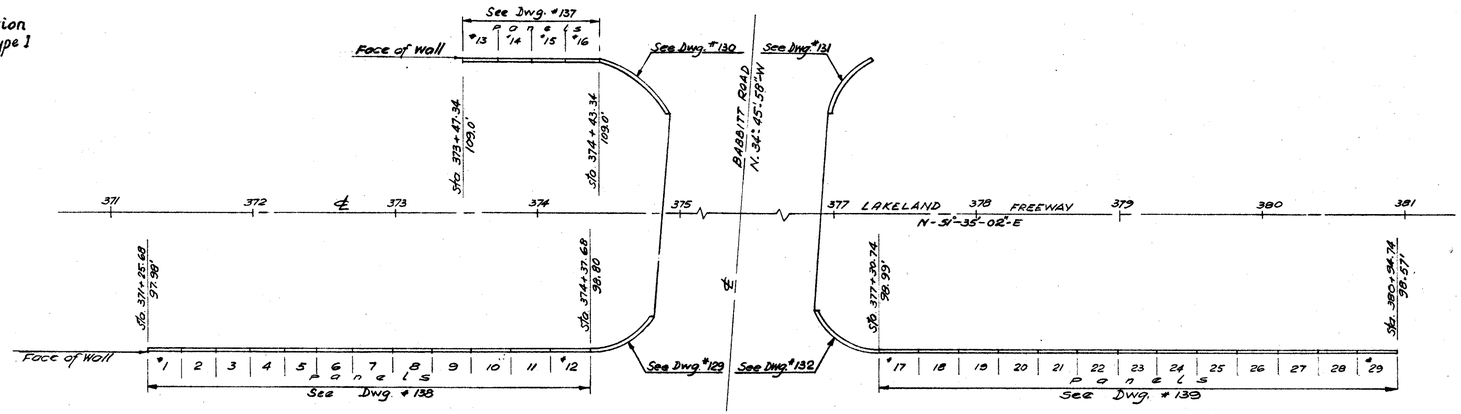
DETAIL OF RUSTICATION GROOVE



DETAIL OF EXPANSION JOINT



DETAIL OF CONTRACTION JOINT



RETAINING WALL LOCATION PLAN

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

NORTHWEST RETAINING WALL
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
CLS	CLS	L.N.	JFP			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

CUYAHOGA COUNTY
CUY-2-25.96

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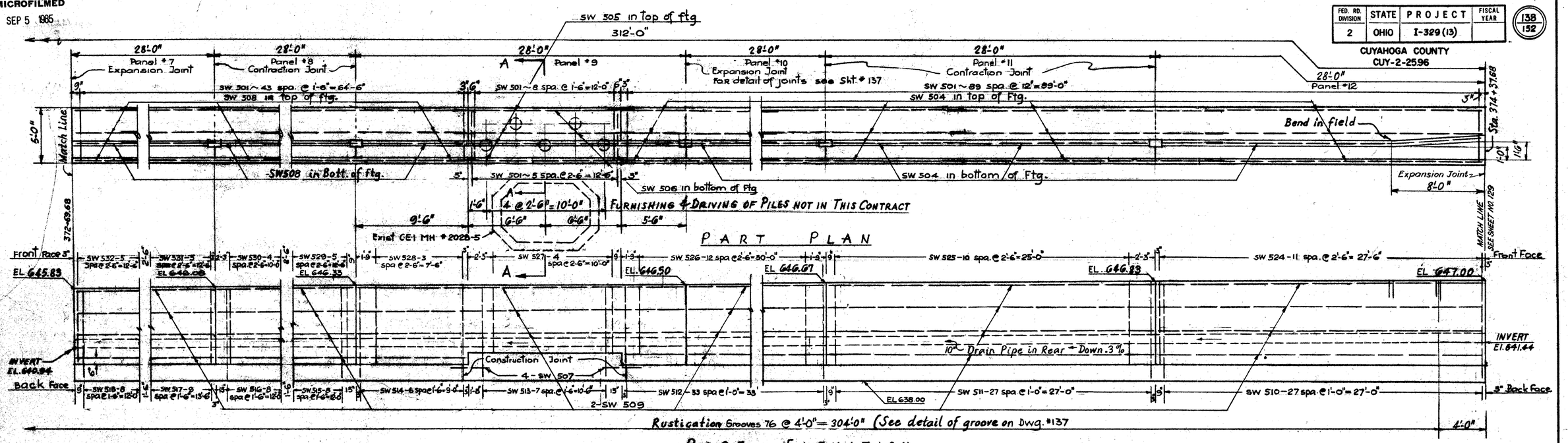

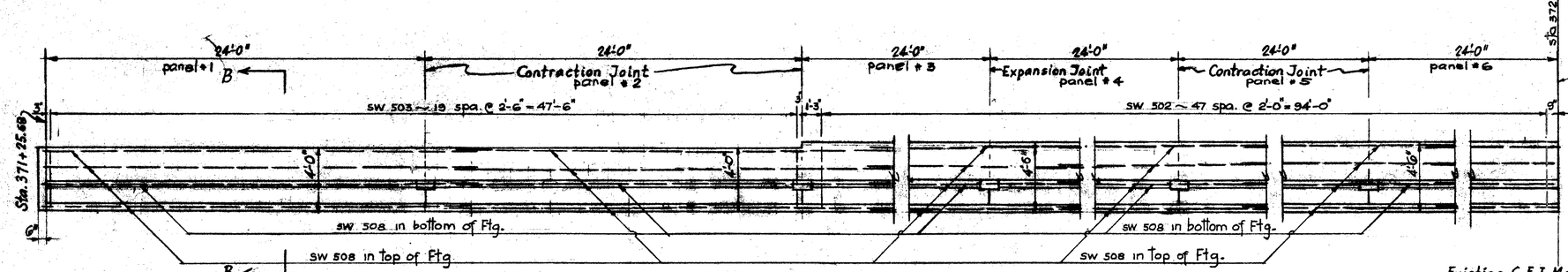

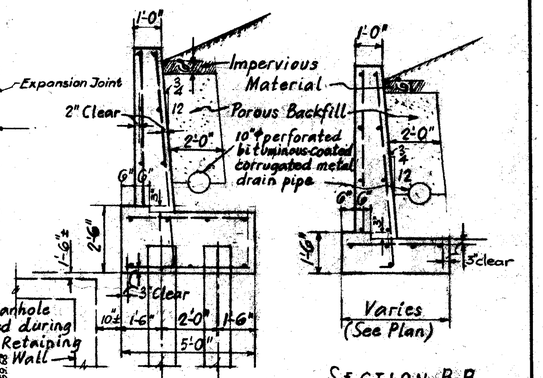

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

SOUTHWEST RETAINING WALL
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
ces	ces	LN	JSP			

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

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CUYAHOGA COUNTY
CUY-2-25.96

PART PLAN

PART ELEVATION

PART PLAN

PART ELEVATION

SECTION A-A

SECTION B-B

HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 8, Ohio

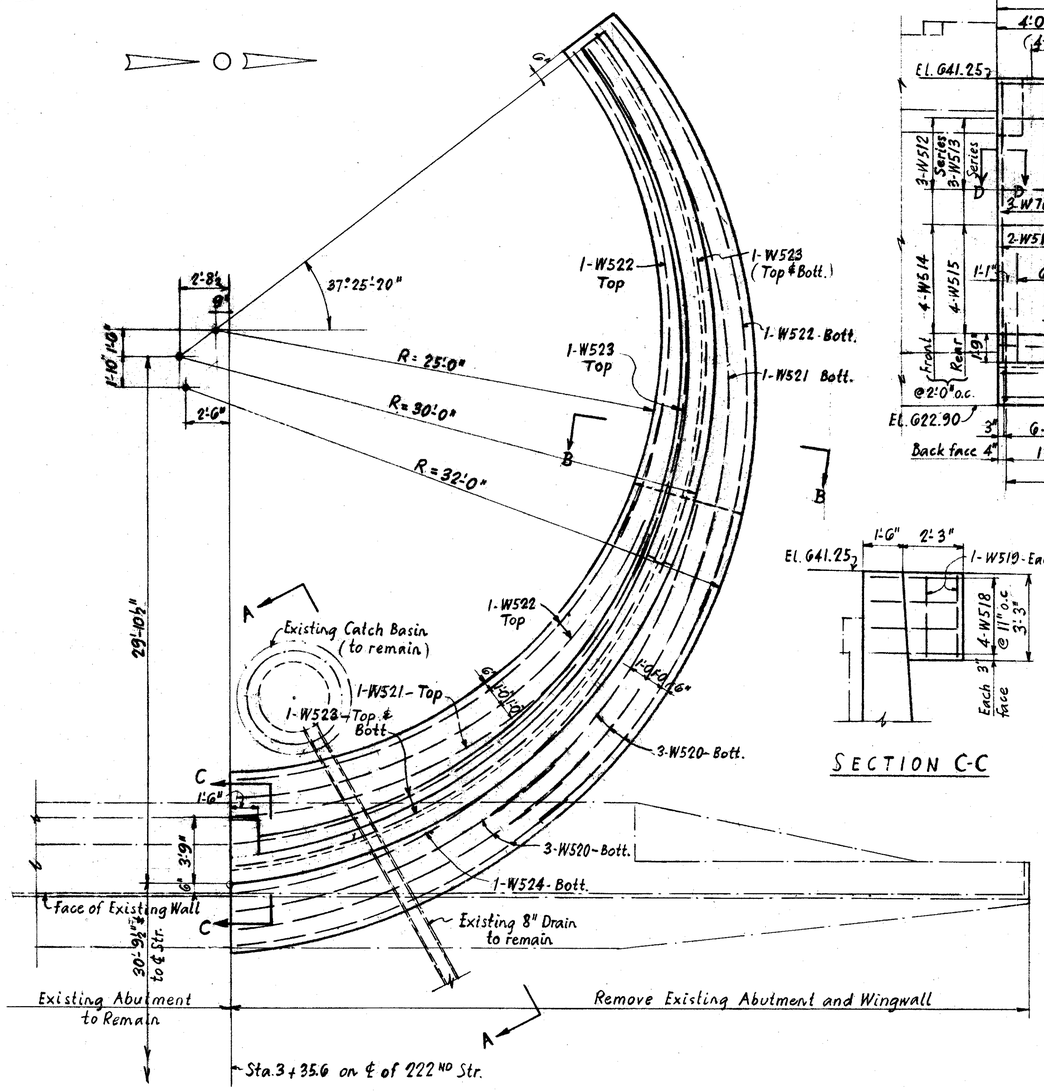
SOUTHEAST RETAINING WALL
BRIDGE NO. CUY-2-2756
LAKELAND FREEWAY OVER BABBITT ROAD

CUYAHOGA COUNTY STA. 374+84.47
SEC. CUY-2-25.96 TO STA. 376+92.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
CLS	CLS	L.N.				

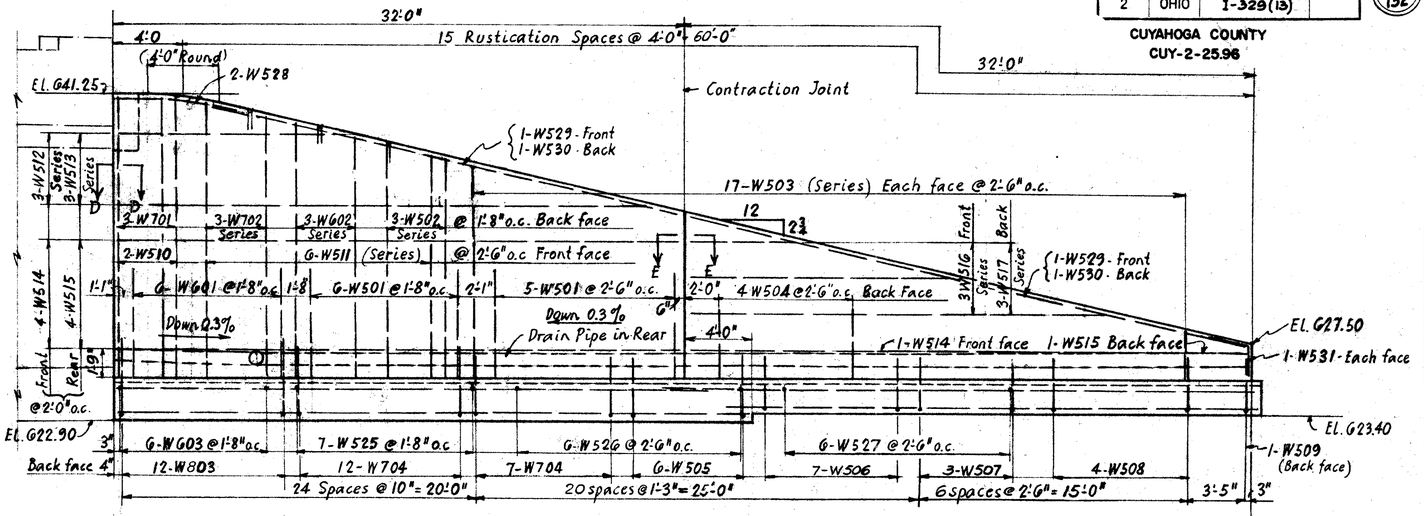
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(13)	

CUYAHOGA COUNTY
CUY-2-25.96

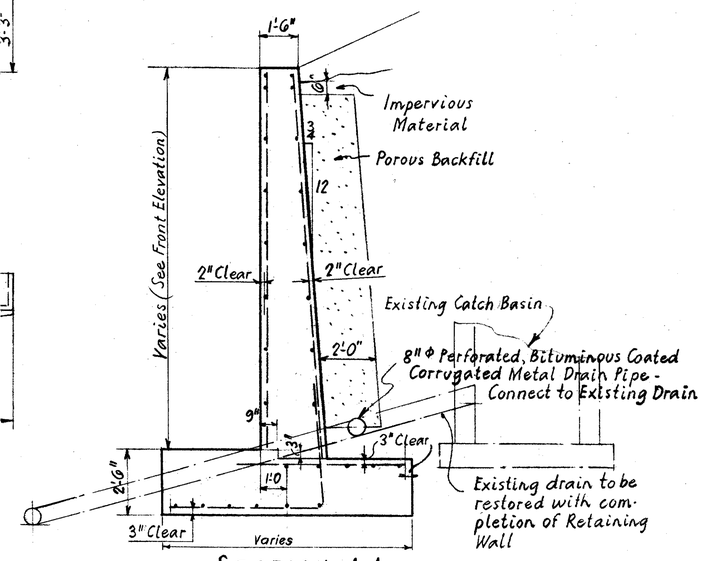


PLAN

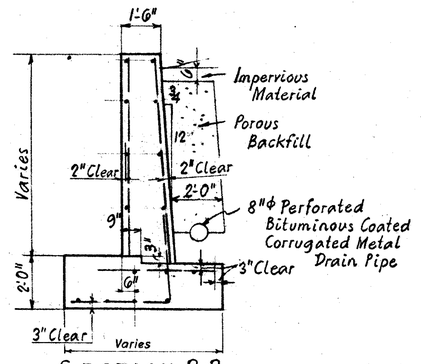
SECTION C-C



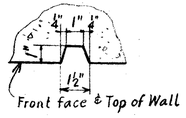
FRONT ELEVATION ~ DEVELOPED
(Dimensions measured on Front face of Wall)



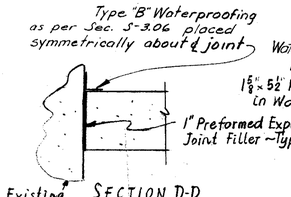
SECTION A-A



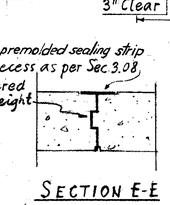
SECTION B-B



DETAIL OF RUSTICATION GROOVE



SECTION D-D
(DETAIL OF EXPANSION JOINT)



SECTION E-E
(DETAIL OF CONTRACTION JOINT)

MAXIMUM BEARING PRESSURE is 1.8 Tons / Sq. Ft.

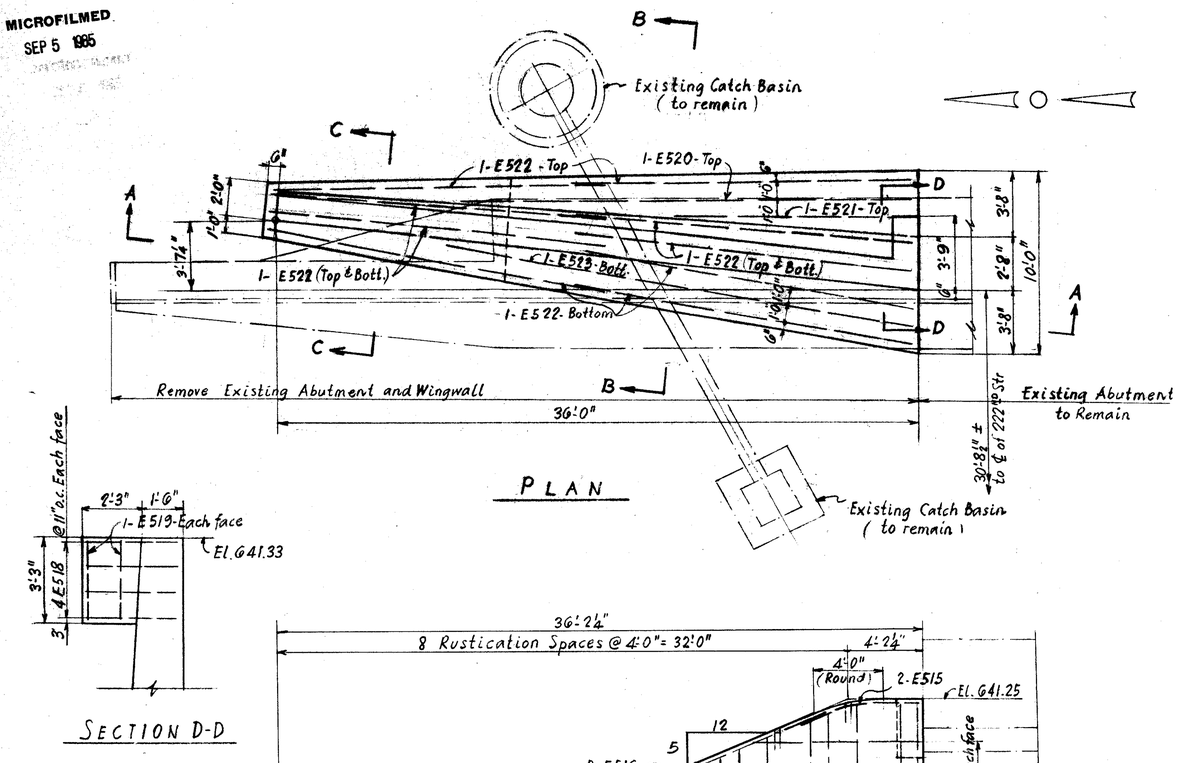
HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

WEST RETAINING WALL AT EAST 222ND STR. UNDERPASS

LAKELAND FREEWAY

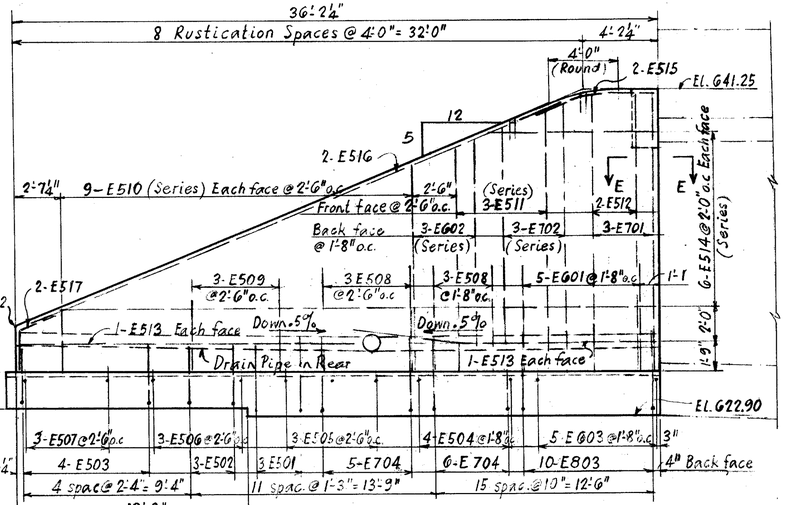
CUYAHOGA COUNTY
SEC. CUY. 2-25.96

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
CRS	CRS	CB	L.N.			

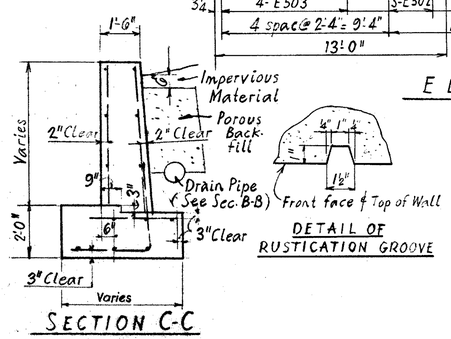


PLAN

SECTION D-D

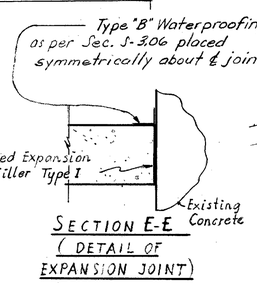


ELEVATION A-A

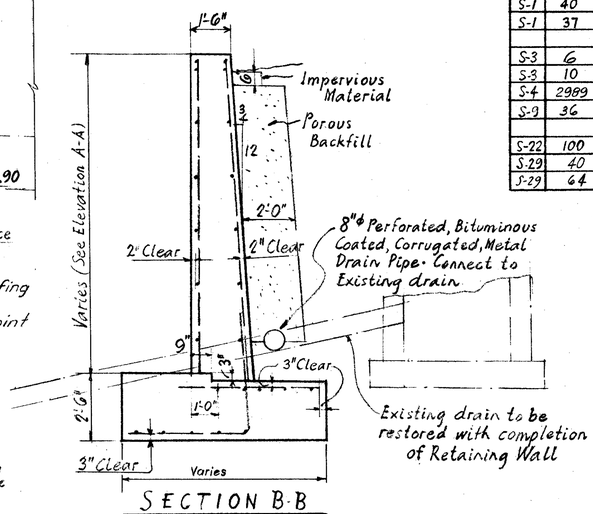


SECTION C-C

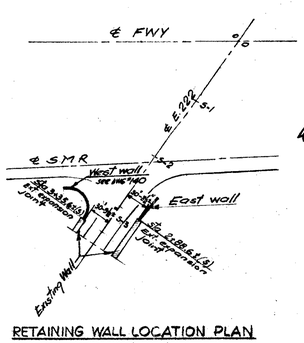
DETAIL OF RUSTICATION GROOVE



SECTION E-E
(DETAIL OF EXPANSION JOINT)



SECTION B-B



RETAINING WALL LOCATION PLAN

REINFORCING STEEL LIST

WEST WALL

MARK	No.	LENGTH	WEIGHT	SHP	INCR.
W701	3	15'-8"	97	S	
	SERIES	15'-4"			
W702	OF	TO	92	S	4½"
	3	14'-7"			
W803	12	10'-0"	320	B	
WG01	6	6'-0"	54	S	
	SERIES	14'-2"			
WG02	OF	TO	62	S	4½"
	3	13'-5"			
WG03	6	6'-0"	54	S	
W704	19	8'-9"	340	B	
W501	11	6'-0	69	S	
	SERIES	13'-0"			
W502	OF	TO	39	S	4½"
	3	12'-3"			
	2 SERIES	12'-0"			
W503	OF	TO	260	S	7"
	17	2'-8"			
W504	4	4'-0"	17	S	
W505	6	8'-1"	51	B	
W506	7	7'-3"	53	B	
W507	3	6'-6"	20	B	
W508	4	5'-9"	24	B	
W509	1	5'-6"	6	B	
W510	2	15'-9"	33	S	
	SERIES	15'-5"			
W511	OF	TO	88	S	7"
	6	12'-6"			
	SERIES	30'-0"			
W512	OF	TO	67	S	8'-8"
	3	12'-8"			

WEST WALL

MARK	No	LENGTH	WEIGHT	SHP	INCR
	SERIES	28'-4"			
W513	OF	TO	63	S	8'-2"
	3	12'-0"			
W514	5	31'-4"	163	S	
W515	5	29'-6"	154	S	
	SERIES	23'-10"			
W516	OF	TO	48	S	8'-8"
	3	6'-6"			
	SERIES	22'-9"			
W517	OF	TO	45	S	8'-3"
	3	6'-3"			
W518	8	3'-5"	29	S	
W519	4	2'-10"	12	S	
W520	6	20'-6"	128	S	
W521	2	19'-0"	40	S	
W522	4	29'-6"	123	S	
W523	6	32'-0"	200	S	
W524	1	26'-0"	27	S	
W525	7	4'-9"	35	S	
W526	6	4'-0"	25	S	
W527	6	3'-0"	19	S	
W528	2	6'-8"	14	S	
W529	2	27'-0"	56	S	
W530	2	26'-0"	54	S	
W531	2	4'-0"	8	B	

EAST WALL

MARK	No	LENGTH	WEIGHT	SHP	INCR
				B	
	2 SERIES	33'-6"			
E701	3	15'-8"	96	S	
	SERIES	18'-10"			
E702	OF	TO	89	S	8"
	3	15'-2"			
E803	10	9'-6"	254	B	
EG01	5	6'-0"	45	S	
	SERIES	11'-9"			
EG02	OF	TO	56	S	8"
	3	13'-1"			
E603	5	5'-6"	41	S	
E704	11	8'-6"	191	B	
E501	3	7'-3"	23	B	
E502	3	6'-6"	20	B	
E503	4	5'-6"	23	B	
E504	4	4'-0"	17	S	
E505	3	3'-4"	10	S	
E506	3	2'-8"	8	S	
E507	3	2'-0"	6	S	
E508	6	6'-0"	38	S	
E509	3	4'-0"	13	S	
	2 SERIES	3'-4"			
E510	OF	TO	141	S	1'-0½"
	9	11'-8"			
	SERIES	12'-9"			
E511	OF	TO	43	S	1'-0½"
	3	14'-10"			
E512	2	15'-8"	33	S	

EAST WALL

MARK	No	LENGTH	WEIGHT	SHP	INCR
E513	4	18'-9"	78	S	
E514	OF	TO	268	S	4-10
	6	5'-4"			
E515	2	6'-8"	14	S	
E516	2	32'-0"	68	S	
E517	2	4'-0"	8	B	
E518	8	3'-5"	29	S	
E519	4	2'-10"	12	S	
E520	1	25'-0"	26	S	
E521	1	14'-0"	15	S	
E522	13	19'-0"	258	S	
E523	1	27'-0"	28	S	

BENDING DIAGRAMS

MARK	A	B
W803	4'-6"	5'-8"
W704	4'-2"	4'-9"
W505	3'-10"	4'-4"
W506	3'-4"	4'-0"
W507	3'-4"	3'-3"
W508	3'-4"	2'-6"
W509	3'-4"	2'-3"
-		
E803	4'-6"	5'-2"
E704	4'-2"	4'-6"
E501	3'-10"	3'-6"
E502	3'-4"	3'-3"
E503	3'-4"	2'-3"

ESTIMATED QUANTITIES

ITEM	W. WALL	E. WALL	TOTAL	UNIT	DESCRIPTION
E-2	93	54	147	C.Y.	Unclassified Excavation
E-2	126	73	199	C.Y.	Shale Excavation
S-1	40	24	64	C.Y.	Class "E" Concrete, Walls above footings
S-1	37	21	58	C.Y.	Class "E" Concrete, Footings
S-3	6	6	12	S.Y.	Type "B" Waterproofing
S-3	10	–	10	L.F.	Waterproofing, premolded sealing strip
S-4	2989	1951	4940	LBS.	Reinforcing Steel
S-9	36	36	72	S.F.	1" Preformed Expansion Joint Filler Type I.
S-22	100	106	206	C.Y.	Removal of portions of existing structure
S-29	40	22	62	C.Y.	Porous Backfill
S-29	64	36	100	L.F.	8"ϕ Perforated Bituminous coated CMP (Including specials)

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	I-329(15)	

COYAHOGA COUNTY
CUY-2-25.96

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HARGETT, YANDA & BARBER
Consulting Engineers
4500 Euclid Ave. Cleveland 3, Ohio

EAST RETAINING WALL AT EAST 222ND STR. UNDERPASS

REINFORCING STEEL LIST & ESTIMATED QUANTITIES
LAKELAND FREEWAY

CUYAHOGA COUNTY
SEC. CUY. 2-25.96

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	DATE
CLS	CLS	CB	L.N.			