



CUY-90-14.90

PID 77332/85531

APPENDIX EX-06

Inner Belt Freeway – Central Viaduct Part 2 Substructure (CUY-42R-17.50)

(Reference Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

**Innerbelt Bridge
Construction Contract Group 1 (CCG1)**

6-0

CUY-90-15.45

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

UI-1057(4)

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

1
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42R - 17.50

PART 2

INNER BELT FREEWAY - CENTRAL VIADUCT

BR. NO. CU-42R-175
CUYAHOGA COUNTY
CITY OF CLEVELAND

PART 2 SUBSTRUCTURE

MAR 15 1952
GROUND PHOTOLAB

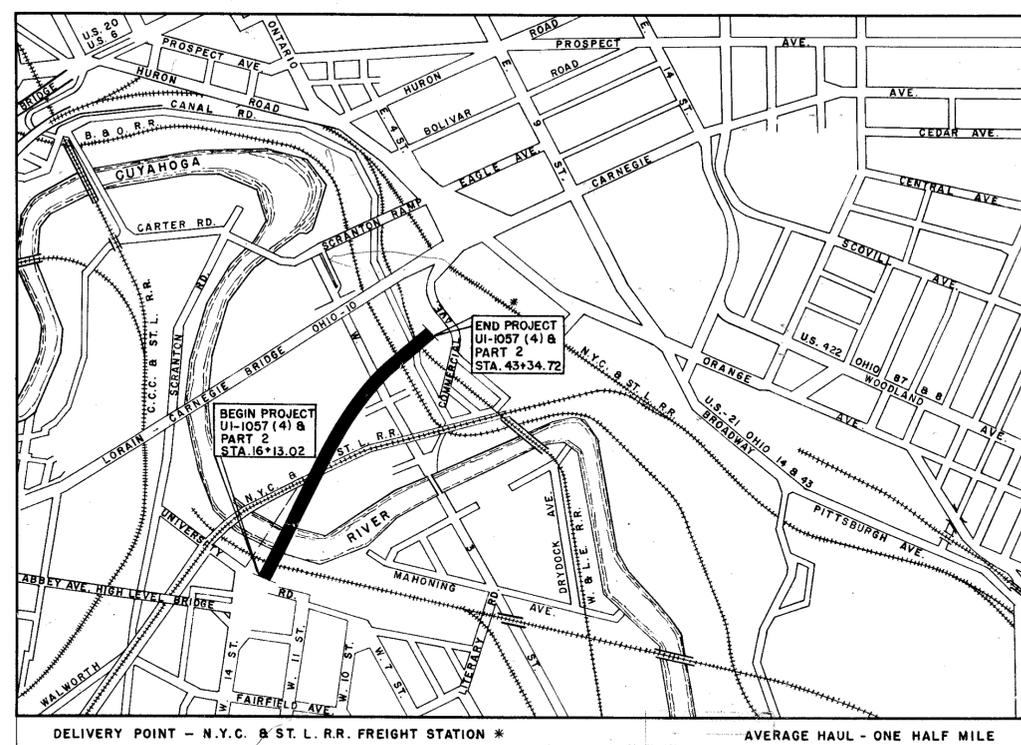
THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 REVISED CODE OF OHIO.

INDEX OF SHEETS

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4,5	GENERAL PLAN AND ELEVATION	33-37	STORM SEWER AND DRAINAGE DETAILS
6-9	GENERAL LAYOUT, TEST HOLE BORINGS, EXISTING CONDITIONS	38,39	DOCK WALL
10,11	RAILROAD TRACK MODIFICATIONS	40-43	CONSTRUCTION IN ERIE RAILROAD YARD
12,13	EXISTING CONDITIONS AT PIER LOCATIONS	10,11,35	R. R. FORCE ACCOUNT WORK
14-22	PIER FOOTINGS	36A	REVISED SHEET no. 36

LINE DATA

BEGIN PROJECT	UI-1057 (4)	STA. 16 + 13.02
END PROJECT	UI-1057 (4)	STA. 43 + 34.72
NET LENGTH	UI-1057 (4) AND WORK	2,721.7 LIN. FT. or 0.515 MILES



THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE PLANS AND ESTIMATE.

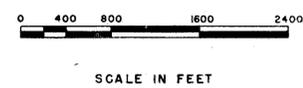
THE RIGHT OF WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

- APPROVED _____ DATE 9-2-54 DIRECTOR OF PUBLIC SERVICE, CITY OF CLEVELAND
- APPROVED _____ DATE 9-2-54 DIVISION DEPUTY DIRECTOR
- APPROVED _____ DATE 7/14/54 DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING
- APPROVED _____ DATE 9-8-54 ENGINEER OF BRIDGES
- APPROVED _____ DATE _____ ENGINEER OF LOCATION & DESIGN
- APPROVED _____ DATE 9-10-54 DEPUTY DIRECTOR OF DESIGN & CONSTRUCTION
- APPROVED _____ DATE 9-14-54 FIRST ASSISTANT DIRECTOR
- APPROVED _____ DATE 9-15-54 DIRECTOR OF HIGHWAYS
- PRINT APPROVED BY _____ DATE 8-31-54 CHIEF ENGINEER, ERIE RAILROAD
- PRINT APPROVED BY _____ DATE 8-31-54 CHIEF ENGINEER, NEW YORK CENTRAL SYSTEM
- APPROVED _____ DATE _____ CHIEF ENGINEER, NEW YORK, CHICAGO AND SAINT LOUIS RAILROAD CO.
- PRINT APPROVED BY _____ DATE 9-2-54 CHIEF ENGINEER, BALTIMORE AND OHIO RAILROAD

HOWARD NEEDLES TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

H.G. SOURS
ASSOCIATE
COLUMBUS

LOCATION PLAN



PORTION TO BE IMPROVED

SUPPLEMENTAL SPECIFICATIONS			
NUMBER	DATE	NUMBER	DATE
CE-107	5-21-53		
T-171.19	6-3-53		
M-101.7	1-24-53		

STANDARD DRAWINGS			
NUMBER	DATE	NUMBER	DATE
I-B MH No. 1	5-1-52		
G-7.07	1-2-53		
I-B MHV 1-A	6-1-54		
I-1,2,3,4 & 5	2-20-45		

* Accepted. ** Submitted to B.P.R. for approval.

MAR 15 1952
GROUND PHOTOLAB

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED _____ DATE _____

DISTRICT ENGINEER

FILE NO.	CUYAHOGA COUNTY
SEC	00077
DATE OF LETTING	_____, 195__
CONTRACT NO.	

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	TOTAL	UNIT	PIER 1		PIER 2		PIER 3		PIER 4		PIER 5		PIER 6		PIER 7		PIER 8		WEST END PIER		EAST END PIER		STRUCTURE REMOVAL	SEWER SYSTEM	PROJECT IN GENERAL
				IN	IS	2N	2S	3N	3S	4N	4S	5N	5S	6N	6S	7N	7S	8N	8S	WN	WS	EN	ES			
E-2	Cofferdams, Cribbs and Sheeting	20	Each	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/			
E-2	Unclassified Excavation	17,227	Cu. Yds.	1,395	1,419	829	816	975	1,035	802	975	829	916	829	829	776	975	1,150	776	543	610	355	393			
S-1	Class "E" Concrete, Footings	6,098	Cu. Yds.	395.6	395.6	308.0	351.3	395.4	395.4	308.0	395.7	308.0	395.7	308.2	308.0	308.0	395.7	307.9	307.9	125.1	125.1	123.0	140.4			
S-1	Class "E" Concrete, above Footings	5,171	Cu. Yds.	177.7	177.7	259.8	259.8	267.6	267.6	275.3	273.6	285.9	285.9	270.2	270.2	265.1	265.1	184.6	184.6	288.5	170.6	370.6	370.6			
S-4	Reinforcing Steel	4,333 4,333	Lbs.	78,627	78,627	79,962	75,499	83,018	83,018	81,411	85,231	82,639	86,592	80,941	80,941	80,532	84,485	74,470	74,470	26,237	16,910	27,980	31,968			
S-7	Structural Steel	29,148 29,148	Lbs.	1,649	1,649	1,575	1,575	1,617	1,617	1,617	1,622	1,608	1,608	1,608	1,617	1,608	1,608	1,449	1,449	842	847	926	10,57			
S-7	Wrought Iron Ladder Rungs	7,027 7,027	Lbs.	280	280	399	399	406	406	413	413	427	427	427	413	413	280	280	224	119	294	294				
S-8	Field Painting of Structural Steel 2 Coats		Lump Sum																							
S-9	1/2" Sponge Rubber Expansion Joint Material Sec. M-10.02	716	Sq. Ft.	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	25.0	25.0	25.0	25.0			
S-17	First Pile Test Load		Lump sum																							Lump Sum
S-17	Subsequent Pile Test Loads	9 9	Each																							5
S-18	Steel Bearing Piles (12 BP 53)	4,670 4,670	Lin. Ft.																	2,400	2,280					
S-18	14" Cast-in-place Reinforced Concrete Piles	125,291 125,291	Lin. Ft.	7,740	7,740	7,290	7,200	8,100	8,100	7,290	7,740	6,885	7,310	6,160	6,480	5,670	6,020	4,860	4,860			1,680	1,920			
S-24	Removal of Existing Structure No. 1		Lump sum																							/
S-24	Removal of Existing Structure No. 2		Lump sum																							/
S-24	Removal of Existing Structure No. 3		Lump sum																							/
S-24	Removal of Existing Structure No. 4		Lump sum																							/
S-24	Removing Existing Concrete Pedestals which Interfere with New Construction		Lump sum																							Lump Sum
S-25	Electrical Grounds		Lump sum																							Lump Sum
S-29	8" Wrought Iron Pipe, Including Specials	1,036	Lin. Ft.	33	33	59	59	59	59	61	61	63	63	61	61	60	60	45	45	39	22	45	48			
I-2	8" Pipe for Storm Sewers	6	Lin. Ft.																							6
I-2	12" Pipe for Storm Sewers	1,333	Lin. Ft.																							1,333
I-2	12" Pipe for Storm Sewers under Pavement	251	Lin. Ft.																							251
I-2	15" Pipe for Storm Sewers	335	Lin. Ft.																							335
I-2	15" Extra Strength Reinforced Concrete Culvert Pipe Sec. M-6.6 (c) for Storm Sewers	288	Lin. Ft.																							288
I-2	18" Pipe for Storm Sewers under Pavement	80	Lin. Ft.																							80
I-2	21" Pipe for Storm Sewers	142	Lin. Ft.																							142
I-2	24" Pipe for Storm Sewers	932	Lin. Ft.																							932
I-2	24" Extra Strength Reinforced Concrete Pipe Sec. M-6.6 (c) for Storm Sewers	290	Lin. Ft.																							290
I-2	24" Pipe for Storm Sewers Under Pavement	116 84	Lin. Ft.																							84
I-2	24" Paved Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4 (d) for Storm Sewers	90 90	Lin. Ft.																							90
I-2	27" Paved Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4 (d) for Storm Sewers	80	Lin. Ft.																							80
I-2	36" Extra Strength Reinforced Concrete Culvert Pipe Sec. M-6.6 (c) for Storm Sewers	30	Lin. Ft.																							30
I-5	Pipe Special, 12" 35° Wye	1	Each																							1
I-5	Pipe Specials, 8" to 12" Increaser	16	Each																							16
I-5	Pipe Specials, 8" to 15" Increaser	2	Each																							2
I-8	Manholes, Standard No. 1	16	Each																							16
Spec.	Outlet Structure "C"		Lump sum																							
I-8	Alteration to Manhole "A"		Lump sum																							
I-8	Alteration to Manhole "B"		Lump sum																							
I-8	Alteration to Manhole "C"		Lump sum																							
I-8	Alteration to Manhole "D"		Lump sum																							
I-8	Alteration to Manhole "F"		Lump sum																							
Spec.	Outlet Structure "A"		Lump sum																							
Spec.	Outlet Structure "B"		Lump sum																							
I-16	Removal of Manhole "E"		Lump sum																							

CONTINUATION OF GENERAL NOTES
(From Sheet 3)

32. PILING (Continued from Sheet 5)

An effort shall be made to avoid great differences in the penetrated length of the individual piles in a footing. In striving for additional penetration, beyond 65 tons, piles of relatively short penetration shall be driven to a greater rate of blows-per-foot than longer piles.

The Contractor shall submit to the Engineer, at least 15 days before the beginning of pile driving, for approval by the Director, a plan showing the order in which he proposes to drive the piles in a footing. It is intended that the piles nearest the middle of the footing be driven first, to insure as great penetration for them as for the outer piles, after which successive outer piles will be driven.

PENCIL REVISIONS
SEPT. 20, 1955

Revised As-Built D.L.M. 12/31/57

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

QUANTITIES

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE None
MADE G.A. DATE 6-22-54
TRCD. A.H. DATE 6-22-54
CKD. J.G.S. DATE 7-9-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET 1.02

SUPPORT FOR ERIE RAILROAD TRACKS			
ITEM	DESCRIPTION	TOTAL	UNIT
E-1 & Spec.	Roadway Excavation	5,940	Cu. Yds.
E-4 & Spec.	Borrow	3,000	Cu. Yds.
S-1	Class "E" concrete, anchor caps	7.3	Cu. Yds.
S-4	Reinforcing steel in anchor caps	7,900	Pounds

ITEM	DESCRIPTION	TOTAL	UNIT
S-7 & Spec.	Steel sheet piling including reinforcing plate, steel H anchor piles and steel wales, and timber connection angles, for dock wall	1,965	Pounds
S-7 & Spec.	Steel anchor rods, turnbuckles, pipe sleeves and fastenings for dockwalls (including payment for necessary excavation, sheeting and bracing)	4,300	Pounds
S-13	Cresosoted timber fenders for dockwall, including hardware	2.40	M.B.M.
Special	Temporary timber crib wall	1,965	Sq. Ft.

**CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT**

CUY-42R-17.50

Plans for sheeting and bracing to be used in cofferdams adjacent to railroad tracks and in trenches for sewers placed under operated tracks shall be submitted to the Director of Highways for approval by the Department of Highways and by the Railroad Company. The contractor must obtain such approval before work is begun.

Cofferdams, cribs and sheeting shall be paid for per unit of cofferdam per pier shaft, with all work to be done according to Item E-2. Any cofferdams, cribs and sheeting associated with the construction reconstruction and removal of parts of the sewer system, and the removal of existing structures, shall be considered as paid for in the prices bid for such construction and removal.

1. DESIGN SPECIFICATIONS

Design Specifications for Highway Structures, State of Ohio Department of Highways dated October, 1951 revised July 15, 1952 and April 1, 1954 (with a load frequency rating of CF 1200-S1) are used in the design of this project.

2. CONSTRUCTION SPECIFICATIONS

Construction and Material Specification, State of Ohio, Department of Highways, dated January 1, 1953, as modified by notes on the plans and in the proposal, shall govern.

3. SCOPE OF CONTRACT

Work scheduled in this contract consists of the construction of two end piers, piers 1 through 8, the construction of storm sewers, a 200' dockwall section, railroad roadbed grading, the removal of certain fenders and two existing piers from the river, and removal of some of the masonry pedestals of the former Central Viaduct. The steel superstructure of the former Central Viaduct has been removed but the masonry substructure remains in place. All track work will be handled by railroad forces. Railroad grading and cribwall construction in the vicinity of Pier 1 will be done by the contractor.

4. MINIMUM TEMPORARY CONSTRUCTION CLEARANCE FOR RAILROAD TRACKS

The minimum temporary construction clearance for railroad tracks shall be 2' - 0" vertically above top of rail and 8' - 0" horizontally from the centerline of the nearest track.

5. REOPENING OF STREETS

When any street is closed to traffic, and not then permanently closed, work on that particular street shall be prosecuted to the fullest to allow for its reopening as soon as possible. Existing streets adjacent to the project shall remain open as long as possible.

6. FIELD OFFICE

The contractor shall provide a suitable field office in accordance with sec. S-0.01(b) having a minimum of 300 sq. ft. of floor space. The contractor shall have a telephone installed and maintained for the duration of the contract.

7. WORK BY THE CITY - OF CLEVELAND

Within the corporate limits of the city of Cleveland the city will perform any pavement repair due to sewer construction and will seal and fill (by mud jack) the existing sewers that are to be abandoned.

The city will also wreck and remove certain existing buildings within the limits of the easement lines. The city will wreck the buildings to the ground line or tops of foundations near the ground surface, or to the top of the existing cellar foundations and remove all the resulting debris.

8. RAILROAD TRAFFIC

Portions of this project shall be constructed under traffic, and the contractor, to the satisfaction of the engineer, shall plan and conduct his operations so that traffic shall be maintained as herein specified.

At piers 1, 3, 4 and 5 construction operations will interfere with traffic on existing railroad tracks. The tracks will, in some cases, be relocated by the owners, and in other cases will be removed. Temporary trestles may be constructed to span across footing excavations, and the contractor shall coordinate his construction operations so as to interfere the least possible amount with train movements. Flagmen and watchmen shall be supplied as required by the railroads, at the expense of the contractor.

9. BLASTING

Where blasting is necessary, the contractor will be required to take all necessary precautions to protect the work already completed and the adjacent property and he shall be responsible for any and all damage to the work or to adjacent property and injury to persons.

10. BORINGS

The log of each of the test hole borings is shown on these plans.

11. PILING (See also No. 31 on this sheet and No. 32 on Sheet 2.)

The piles in the west end pier shall be 12BPS3 steel bearing piles, and in Piers 1 through 8 and in the east end pier 14" cast-in-place reinforced concrete piles.

Preliminary test piles were driven at this site and loaded. A copy of the report on this test pile project may be inspected by bidders in the Division Office of the Department of Highways at Cleveland or in the Bureau of Bridges at Columbus. Copies of this report will be made available to the Contractor for this substructure project and to the engineering personnel, and should be consulted as a guide in the driving of the piles.

A first pile test load shall be applied where directed by the engineer. Subsequent test loads shall be applied if and where directed by the Engineer. The Engineer may direct a subsequent load to be applied on the same pile as a previous load or on another pile in the same footing or in a different footing. The maximum amount of load required shall be equal to 3R unless the "yield point" is reached at a lesser tonnage. The purpose of this test-loading (in addition to that done in the preliminary test pile project) is to calibrate the capacity formula and determine the required number of blows per foot for the actual driving conditions which exist during construction (with respect to the type and size of hammer and the type, section and driven length of the pile) and/or to calibrate the formula for some locations which were not checked in the preliminary test pile project.

The nominal design capacity is 65 tons. The capacity formula shall be adjusted (according to test loading indications) to determine the number of blows per foot required to provide an "R" of 65 tons (that is, a "yield point" of 130 tons). After this rate of blows per foot has been attained, driving shall be continued to cause each pile to penetrate to an average penetration of 15 feet per pile beyond the greatest length of penetration at which the rate of blows per foot for an R of 65 tons has been observed. However, this additional driving (beyond 65 tons) shall be stopped if damage to a pile becomes apparent. The total penetration per pile at the west end pier shall be not less than 60 feet, and at Piers 1 thru 8 and at the east end pier not less than 40 feet.

The hammer used shall have an energy rating of not less than 15,000'ft-lb, and the type and size of hammer used when the required length of penetration to provide an R of 65 tons is being attained shall be the same as used in the driving of the pertinent test-loaded pile.

The average length of the piles is estimated as follows: West End Pier, 60 feet; Pier 1, 90 feet; Pier 2, 90 feet; Pier 3, 90 feet; Pier 4, 90 feet; Pier 5, 65 feet; Pier 6, 80 feet; Pier 7, 70 feet; Pier 8, 60 feet; and East End Pier, 40 feet.

12. DISPOSAL OF SURPLUS EXCAVATION

The contractor shall be responsible for the disposal of any surplus excavation outside the limits of the right-of-way at his own expense.

13. UTILITIES

Except as hereinafter provided any utility facilities encountered at the site of the work which will interfere with the construction of the substructure units included in this contract will be removed or relocated by others. The contractor shall coordinate his operations with the work of the utility owners, or others who may be making the re-

locations, and shall notify the owners of the utilities of his schedule sufficiently in advance to permit them to make the necessary alterations.

14. INTERFERENCES WITH CONSTRUCTION

VICINITY OF WEST END PIER

University Road near the west end pier will be temporarily closed to traffic. No utilities are known to exist which would interfere with pier construction.

VICINITY OF PIER 1

Pier 1 is located in the Erie Railroad yards southwest of the Cuyahoga River. Track relocation will be coordinated by the railroad company and the contractor during sewer, dockwall, roadbed and pier construction. See Note 30.

VICINITY OF PIER 2

The concrete drain trough from the wash stalls of the Goff-Kirby Ready-Mix Plant is to be reconstructed by the owners to clear the pier shafts. Existing concrete pedestals of the old Central Viaduct which fall within the limits of footing 2N are to be removed by the Contractor before Pier 2N can be built.

VICINITY OF PIER 3

C.C.C. & St. L. Tracks will be relocated by the owners until the pier is completed. Truck wash stalls will be removed by the owner and rebuilt after pier construction is completed. One existing concrete pedestal of the old Central Viaduct must be removed by the contractor before Pier 3 can be built.

VICINITY OF PIER 4

One existing pedestal of the old Central Viaduct must be removed by the Contractor before Pier 4N can be built. One track of the C.C.C. & St. L. will be relocated by the owners prior to the beginning of construction.

VICINITY OF PIER 5

C.C.C. & St. L. tracks will be temporarily relocated by the Railroad Co. prior to the beginning of construction, at the site of Pier 5S. A temporary trestle will be constructed by the Railroad Co. to bridge the C.C.C. & St. L. track over the corner of the excavation for Pier 5N. This work will be done prior to beginning construction at this site. The contractor's operations in excavating and pile driving must be coordinated with train movements on the C.C.C. & St. L. Track. Two existing pedestals of the old Central Viaduct must be removed by the contractor before Pier 5N can be built. *Track will be relocated by the railroad company as shown on Sheet 17.*

VICINITY OF PIER 6

One concrete pedestal of the old Central Viaduct must be removed by the contractor prior to beginning construction of Pier 6N. Pier 6S will be built on the site of a two story brick building owned by the United Garage and Service Corporation. The building will be removed by the City to the floor level. There is no basement but has a concrete floor with a lower level on the west side, roughly 15 ft by 40 ft, about 4 ft below the ground level. Two 10,000 gallon tanks and one 2,000 gallon tank are located below the floor and encased in concrete. The amount of encasement is not known. Plans for this structure are available for review by bidders at the Division Office of the Department of Highways at Cleveland, Ohio.

VICINITY OF PIER 7

An existing one story brick and frame building with a concrete floor at the site of Pier 7N will be removed by the City prior to the beginning of construction. Foundations and floor of this building shall be removed by the contractor and payment therefor will be made under Item E-2, Unclassified Excavation. Manhole No. "E" in West 3rd Street and the existing 18" brick sewer shall be removed and rebuilt by the Contractor as shown.

VICINITY OF PIER 8

One and two story brick buildings interfering with the construction of Pier 8 will be removed by the city prior to beginning construction. Foundations are sandstone blocks about 18 inches thick. Basements and stacks are at one level about 8 feet below ground on the street side and at the same level as the ground on the south side. Foundations and any other underground constructions connected with the buildings shall be removed by the contractor as Item E-2, Unclassified Excavation. 4-inch and 8-inch gas lines crossing the location of Pier 8S will be removed by the owners when so notified by the contractor.

VICINITY OF EAST END PIER

No attempt will be made to salvage materials of an existing 12" sewer line crossing the location of the north footing. This sewer will be abandoned and a by-pass constructed as described elsewhere. No other utilities are known to interfere with pier construction.

15. REMOVAL OF ABANDONED PIERS AND PEDESTALS OF FORMER CENTRAL VIADUCT

Seven masonry pedestals of the former Central Viaduct interfere with construction of piers 2N, 3N, 4N, 5N and 6N. They shall be removed to at least one foot below the surface of the ground. Payment therefor will be made as a lump sum, Item S-24, Removing Existing Concrete Pedestals which Interfere with New Construction. Removal of that portion of the pedestals below a point one foot below the surface of the ground shall be included in the unit price bid for Item E-2, Unclassified Excavation, for the respective pier footings.

Two piers of the former Central Viaduct in the Cuyahoga River are partially within the limits of the established dock lines. Plans for these piers are shown on Sheet 9. All portions of the pier walls shall be removed down to Elevation 576.0 and all masonry, concrete, timber, steel and piling shall be removed riverward of the established dock lines to Elevation 540.5. Also, piles below this elevation shall be extracted except portions which break off in extracting. Payment for the removal of Structure No. 1 shall be Item S-24, Removal of Existing Structure No. 1 and payment for the removal of Structure No. 2 shall be Item S-24, Removal of Existing Structure No. 2.

16. REMOVAL OF EXISTING FENDERS

Steel pile fenders (Structures Nos. 3 and 4) are to be removed from the Cuyahoga River to Elev. 540.5. Construction plans for these fenders are available. Payment for the removal of these fenders shall be the lump sum bid price for Item S-24, Removal of Existing Structure No. 3, and Item S-24, Removal of Existing Structure No. 4. *Out. Prints are available for reference in Cleveland.*

17. BRIDGE DRAINAGE AND STORM SEWER SYSTEM

Roadway drainage will be conducted thru pipes and flumes to the tops of the piers by others, in a subsequent contract. The contractor will place wrought iron pipes within the pier shafts extending to points below the ground surface where horizontal wrought iron pipes extend thru and 11"0" outside the pier shaft walls. Connection of these drainage pipes is made thru sewer pipe increasers to the storm sewer laterals. At the west end pier, a lateral from the SW End Pier Shaft connects to and the NW End Pier drainage empties through a short section of 8" sewer pipe into new manhole No. 13 near the north shaft. A new sewer extends and connects to existing manhole "A". At Pier 1, laterals will be connected to an existing manhole "B". A 12" Y pipe special will connect both laterals to a single drop pipe. Manholes "A" and "B" are on an existing No. 7 brick sewer running approximately parallel to the bridge center line and emptying into the Cuyahoga River. On this sewer line, about Sta. 18+76, existing manhole "C" shall be removed to elev. 585.0 and the opening covered with a 10" thick concrete slab. Eastward to the Cuyahoga River, the existing 12" cast iron sewer line shall be replaced by a 36" reinforced concrete pipe and outfall structure "C". A new storm sewer nearly parallel to the bridge center line from East bank of the Cuyahoga River to Pier 5. Laterals extend from each pier shaft to manholes Nos. 1, 2, 3 and 4 on the new sewer line near Piers 2, 3, 4 and 5 respectively.

Laterals from each shaft of Pier 8 connect into a new manhole No. 6 about Sta. 39+75, on a 15" sewer line from manhole No. 5 in Third Street, about Sta. 36+95. Laterals from the shafts of Pier 7 also connect to manhole No. 5. The existing 18" brick sewer is to be removed and de-watered around Pier 7 North footing. Existing manhole "E" is to be abandoned. A new storm sewer shall be built on Third Street, from manhole No. 5 Southeast to the Cuyahoga River. A lateral from the north shaft of Pier No. 6 runs to new manhole No. 12 into which the south shaft drainage empties through a short section of 8" sewer pipe. A new 12" sewer connects new manhole No. 12 to new manhole No. 8 in Harrison Street, (about Sta. 35+00). A new 12" sewer shall be built connecting manhole No. 8 with manhole No. 9 on the new Third Street sewer line.

On Third Street, at the north side of Stones Levee, manhole No. 16 shall be built on the new Third Street sewer line, and connection made to the existing catch basin at the N. E. corner of the street intersection, using the existing material. See Sheet 36.

At the east end pier, laterals from the pier shafts connect into new manhole No. 7 at Sta. 43+00. A 12" sewer shall be built from manhole No. 7 to the existing manhole "D" on an existing No. 4 sewer in Commercial Road.

The Contractor shall build manholes No. 14 and No. 15 with the connecting sewer lines, near the east end pier, to reroute an existing 12 inch sewer around the location of the north pier footing. See Sheet 36.

All wrought iron drainage pipes inside the piers, with couplings and specials, shall be standard weight and conform to Section M-6.10, "Welded Wrought Iron Pipe," ASTM designation A72. Joints may be threaded, welded, or have bolted flanges, or have any combination thereof.

The proposed elevations and locations of catch basins, manholes, and sewer pipes, and the estimated lengths of pipes may be adjusted by the Engineer during construction, as per Section 1-2.03.

Payment for the above drainage and storm sewer system will be made as follows: For the wrought iron pipes from the top of pier shafts to the connection to sewer laterals below ground, a unit price per linear foot for "Item S-29, 8" Wrought Iron Pipe, Including Specials." For the laterals and pipes of the drainage system from the pier shafts to the manholes or outlet structures at the Cuyahoga River, a unit price per linear foot for "Item 1-2, (size) inch pipe for Storm Sewers," (with a separate bid price for each size listed); "Item 1-2 (size) inch Pipe for Storm Sewers under Pavement"; "Item 1-2, (size) inch Extra Strength Reinforced Concrete Culvert Pipe, Sec. M-6.6(c) for Storm Sewers"; "Item 1-2 (size) inch Paved Invert Corrugated Metal Pipe, Sec. M-6.4(d) for Storm Sewers"; "Item 1-8 Each, Standard No. 1 Manholes"; Lump Sum, Alteration to Manhole "A", "B", "D", or "F"; Lump sum, "Outlet Structure "A", "B", or "C"; "Item 1-5 Pipe Specials", (description). The specials shall conform to the same strength class as the adjoining sewer. For payment purposes, each special shall be considered as having a length of 3 feet.

18. EXISTING PIPE AND UTILITIES

The location, size and depth of all existing pipe and utility appurtenances represent the best information obtainable at the time of survey, but the State of Ohio does not guarantee the correctness thereof.

19. CONCRETE

Concrete shall be Class "E". At least 15 days before concrete form construction is begun, the contractor shall submit to the Engineer for approval by the Director, a plan showing where he proposes to place construction joints and showing the extent and sequence of individual pours. The concrete shall be placed in one continuous operation between the construction joints that have been proposed and approved. Construction joints shall be so located and arranged as to least impair the strength and appearance of the concrete, and to reduce shrinkage stresses to a minimum. The concrete in shoe seat areas shall be finished 1/8 inch to 1/4 inch high and ground down to the elevations shown.

20. BAR CLEARANCES

The clearance between reinforcing bars and the surface of the concrete shall be 3 inches for the footing bars and 2 inches for the horizontal bars in the pier shafts.

21. REINFORCING BAR SIZE

The first digit in the bar mark if there are three digits, and the first two if there are four, indicates the bar size number.

22. MISCELLANEOUS METAL

Anchor bolts, nuts, washers, anchor bolt frames, doors, door frames, hand hold pipes in door openings and all fasteners for wrought iron pipes within the pier shafts, shall be structural carbon steel, ASTM-A7. Payment will be made by the pound on the computed weight in pounds as bid for "Item S-7, Structural Steel".

The ladder rungs shall be wrought iron and will be paid for at the price per pound bid for "Item S-7, Wrought Iron Ladder Rungs".

23. WELDING

All welding shall be class "A". - See section S-7.22.

24. DIMENSIONS

Dimensions given are measured horizontally and at 60° F.

25. DATUM PLANE FOR ELEVATIONS (See I.O.C. 11/26/54 H.R. Craig)

All elevations pertaining to the dock walls are shown in feet above mean tide at New York. All other elevations are regional geodetic survey datum. Elevation 570.50 above mean tide at New York City equals elevation 570.07 Cleveland regional geodetic survey datum.

26. MAINTAINING AND SAFEGUARDING TRAFFIC

The contractor shall provide for the maintaining and safeguarding of traffic on all of the streets and drives immediately beyond the ends of this project and within the limits of this project, that are affected by his operations, in accordance with the provisions of Sec. 6-7.07 and Sec. 6-4.05. Payment therefor will be made in the lump sum price bid for "Maintaining and safeguarding traffic, including lights, signs, barricades and watchmen".

27. ELECTRICAL GROUNDS

A solid No. 6 bare copper wire electrical ground shall be embedded in the concrete of all pier shafts. The wire shall be brazed to a concrete pile casing or a steel H pile at its lower end, and its upper end shall extend sufficiently above the top of the concrete to provide for a suitable splice and extension for connection, by the contractor for the superstructure. Payment therefor will be made at the lump sum price bid for "Item S-25, Electrical Grounds."

28. COFFERDAMS, CRIBS AND SHEETING

29. SHEET PILE DOCKWALL

The proposed 200 foot dockwall section in the vicinity of Pier 1 requires that structure #1 be removed before construction can be completed. The proposed dockwall shall consist of a front wall and anchor piles connected with tie rods. The front wall is located with the face of the timber fenders at the established dock line.

The existing 3 inch high pressure gas line will be raised or lowered as required by the utility company.

The cost of any excavation, sheeting and bracing incidental to the installation of the dockwall items shall be included in the price bid for the respective items.

The sheet piling shall be U. S. Steel section WZ-38 or Bethlehem section ZP-38 or approved equivalent. Fabricated connections shall be of size and strength to correspond with the rolled members. The fabricated members may be built up by either welding or riveting. Steel for sheet piling shall be in accordance with Sec. M-7.4(c).

The driving of a sheet pile, if directed by the Engineer, shall be stopped before the top of the pile reaches the required elevation, to permit cutting off of metal that is removed due to driving. Such cutting shall be neatly done to a straight line. Defective piles shall be removed and replaced. A pile shall be considered defective if injured to an extent that would reduce the strength of its section more than 20 percent.

The penetration of the sheet piles shall be such as to reach the elevations shown unless obstructions are encountered. In case obstructions, such as boulders or large stones, prevent the penetration of a sheet pile at least to Elev. 537.0, such obstructions shall be removed.

The vertical steel H anchor piles shall be 12 BP 53 except where otherwise shown on the plans and the battered pile 14 BP 73. The vertical piles shall be driven to a capacity of 40 tons and the battered piles to a capacity of 60 tons. The pile driving shall be governed by Item S-18.

The sheet piling will be paid for at the contract unit price per pound bid. The number of pounds paid for shall be the actual weight of piling in place and accepted, plus an allowance for cut-off. In determining the weight to be paid for, the length of each sheet pile (and special section) shall be considered the length below the specified top of sheeting plus the length of cut-off but not to exceed 6 inches of cut-off. Payment for the quantity determined as described above shall constitute full compensation for furnishing, fabricating, driving, cutting-off and connecting all steel sheet piling and special sections required, and for removal of obstructions.

The steel H Piling shall be paid for at the contract unit price per pound bid. The number of pounds paid for shall be the actual weight of the number of feet of piling in place plus the length of cut-off but not to exceed 2 feet of cut-off per pile.

Class "E" concrete shall be paid for at the contract unit price bid per cubic yard for Item "S-1, Class "E" concrete, anchor caps."

Payment for reinforcing steel will be made per contract unit price bid per pound, for Item "S-4, Reinforcing Steel in Anchor Caps."

Payment will be made for dockwall at the contract unit price bid per pound for Item "S-7 and Special, Steel Sheet Piling, Steel H Anchor Piles and Steel Wales, for dockwall."

Payment shall be made for anchor rods, turnbuckles, etc., at the contract unit price bid per pound for Item "S-7 and Special, Steel Anchor Rods, Turnbuckles, Pipe Sleeves and fastenings for dockwall (including payment for necessary excavation, sheeting and bracing)."

Payment shall be made for the timber fenders for the dockwall at the contract unit price bid per MBM for Item "S-13, Creosoted Timber Fenders for Dockwall including hardware."

30. ERIE RAILROAD TRACK WORK

The Erie Railroad Company shall furnish and place ballast and accomplish all track work upon the completed subgrades constructed by the contractor.

The several phases of work by the contractor and the railroad company will require close cooperation and coordination. The contractor shall notify the railroad company sufficiently in advance of all track moves so that traffic and work schedule interruptions will be held to a minimum.

The contract unit price bid for Item "Special Temporary Timber Crib Wall" per square foot shall be complete compensation for furnishing, installing and maintaining a temporary crib-wall and embankment to the elevations and grades shown on the plans for the period of time necessary and the subsequent removal thereof upon completion of the construction phase of which they are a part. Any track ballast remaining after any track shift and not reclaimed by the railroad shall be considered part of the temporary fill and removed from the site or deposited in permanent fill areas by the contractor. The basis of measurement shall be the number of square feet of surface on the face of the cribwall. The height shall be measured along the battered face of the wall. Any excavation and subsequent backfilling necessary in the course of the track shifts shall be considered as incidental to the performance of this pay item and the contract unit price bid shall include payment therefor.

31. PILING (Continued) REVISIONS ANNOUNCED Oct. 6, 1954, made Dec 6, 1954 PART 2

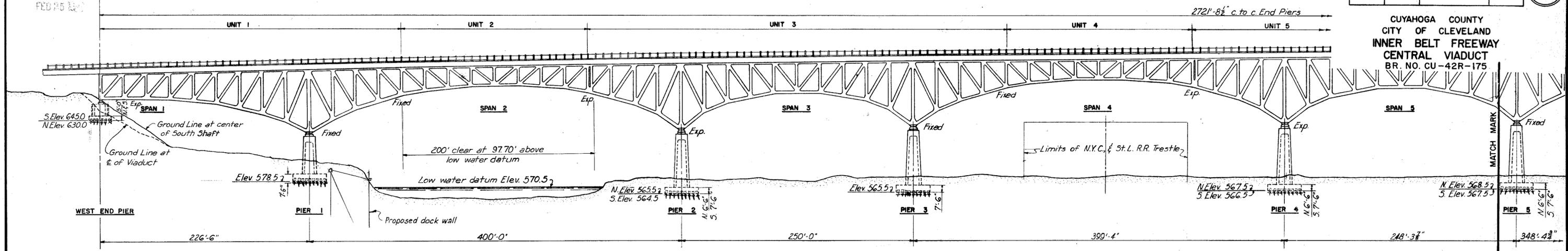
It will be the Contractor's responsibility to provide a shell or casing, for the cast-in-place reinforced concrete piles, of adequate wall thickness, but this thickness shall be not less than No. 7 gauge if the castings are driven without a mandrel.

No "Item S-16, First Test Pile" is provided in the quantities. The first test pile of each type, together with all labor, material, equipment and incidentals therefor, will be paid for per linear foot under the pertinent "S-16" item or per pound under the pertinent "S-7 and Special" item. Continued on Sheet 2.

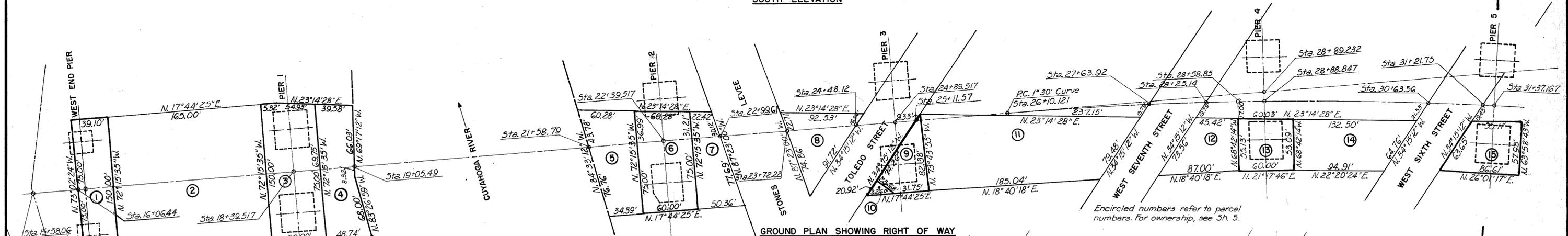
U. S. ROUTE 42 RELOCATION		
INNER BELT FREEWAY - CENTRAL VIADUCT		
GENERAL NOTES		
CLEVELAND	CUYAHOGA COUNTY	OHIO
SCALE MADE G.A. DATE 8-28-54	HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS.	
TRC:D.B. DATE 7-2-54	KANSAS CITY	CLEVELAND, NEW YORK
CKD:C.J.C. DATE 7-8-54	914-1A SHEET 1.03	
REV 9-24-54		

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS	4
2	OHIO	UI 1057 (4)		43

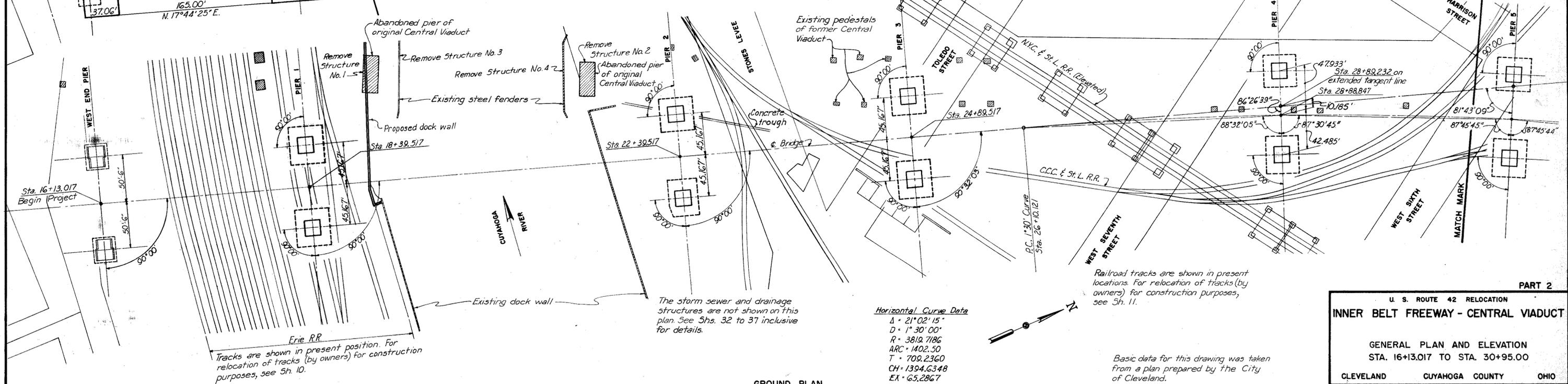
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
BR. NO. CU-42R-175



SOUTH ELEVATION



GROUND PLAN SHOWING RIGHT OF WAY



GROUND PLAN

Horizontal Curve Data
 Δ = 21°02'15"
 D = 1°30'00"
 R = 3819.7186
 ARC = 1402.250
 T = 709.2360
 CH = 1394.6348
 EA = 65.2867

Basic data for this drawing was taken from a plan prepared by the City of Cleveland.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

GENERAL PLAN AND ELEVATION
STA. 16+13.017 TO STA. 30+95.00

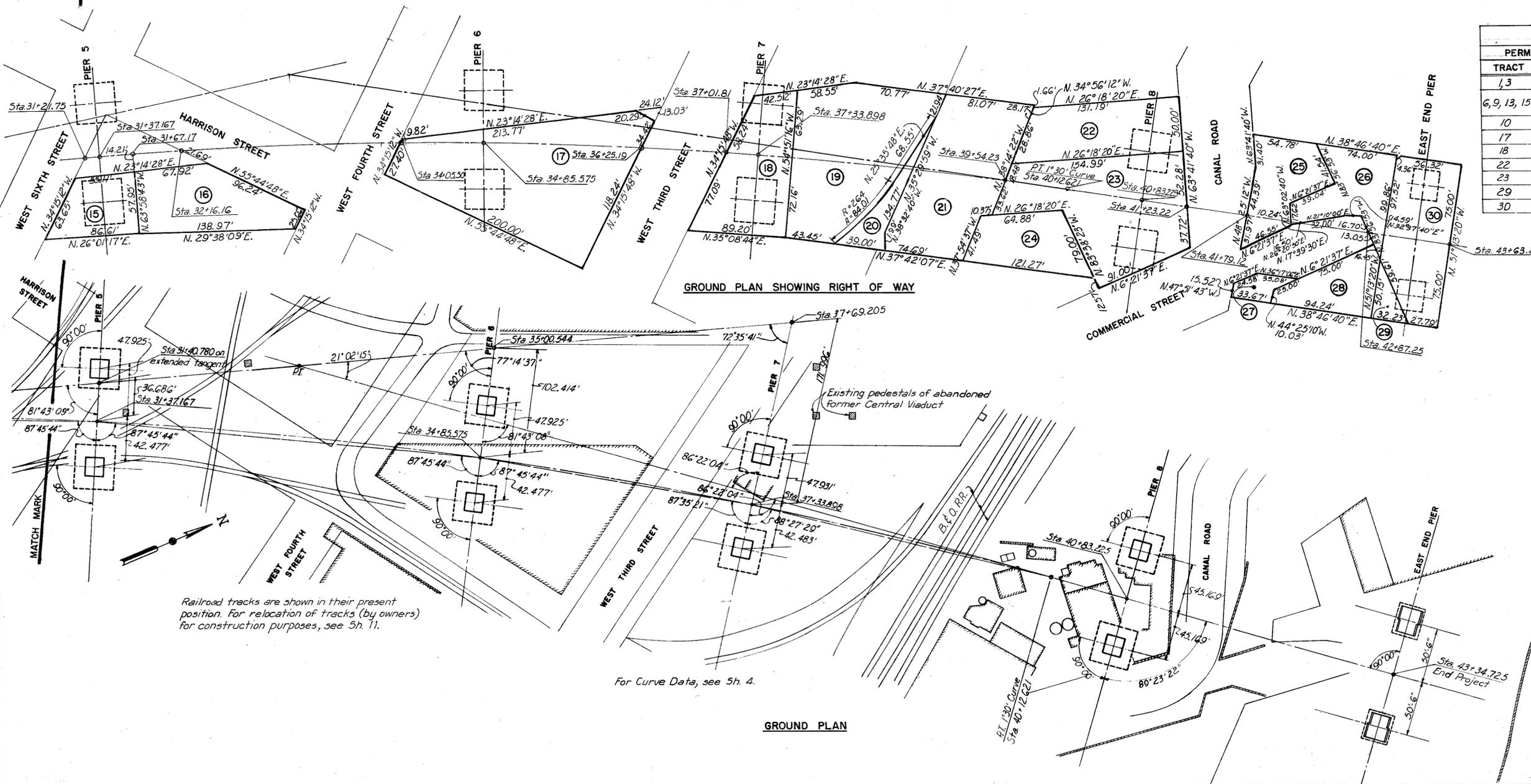
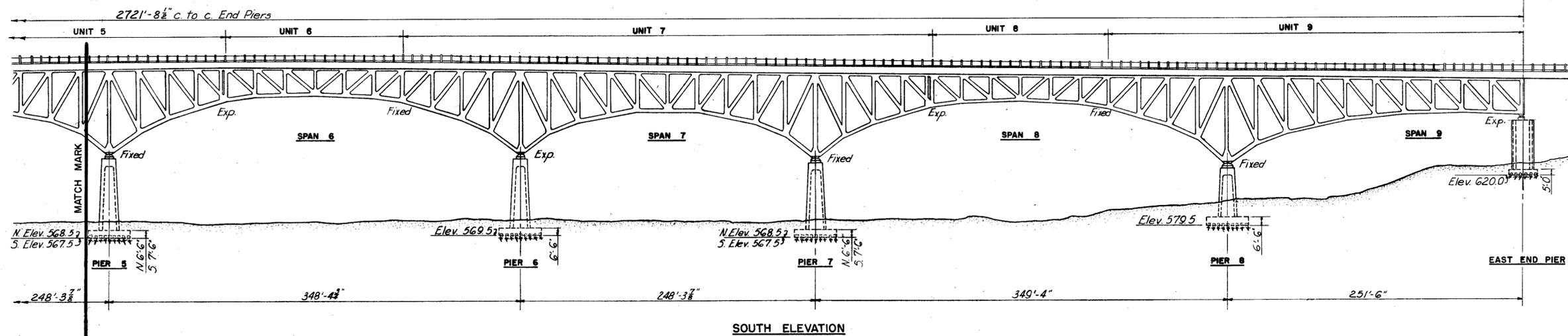
CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 50'-0"
 MADE N.A.M. DATE 1-10-54
 TRCD N.A.M. DATE 6-12-54
 CKD G.A. DATE 7-8-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

914-1A SHEET 1.04

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
BR. NO. CU-42R-175



RIGHT OF WAY ACQUISITION REQUIREMENTS			
PERMANENT ACQUISITION		AERIAL RIGHTS ONLY	
TRACT	OWNER	TRACT	OWNER
1, 3	Erie Railroad	2, 4	Erie Railroad
6, 9, 13, 15	C.C.C. & St. L. Railroad	5, 7, 8, 11, 12, 14, 16, 20	C.C.C. & St. L. Railroad
10	C.C.C. & St. L. Railroad	19, 21	B. & O. Railroad
17	United Garage & Service Corp.	24	Sidney C. Brant
18	B. & O. Railroad	25	W. & L. E. Railroad
22	Cleveland Trust Co.	26	Helen C. Lincoln
23	Mildred L. Richards	27	Wilson Terminals, Inc.
29	Louis J. Kaplan	28	Louis J. Kaplan
30	Helen C. Lincoln		

- Work included in this contract:
1. Two end piers
 2. Piers 1 to 8 inclusive
 3. Complete drainage and sewer system
 4. Removal of existing structures 1, 2, 3, and 4 from the Cuyahoga River
 5. Removal of 7 pedestals of former Central Viaduct
 6. Track modifications (force account by railroads)

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

GENERAL PLAN AND ELEVATION
STA. 30+95.00 TO STA. 43+34.725

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 30'-0"

MADE DRAWN DATE 1-10-54
TRCD PLAN DATE 6-12-54
CKD G.A. DATE 7-8-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

914-1A SHEET 1.05

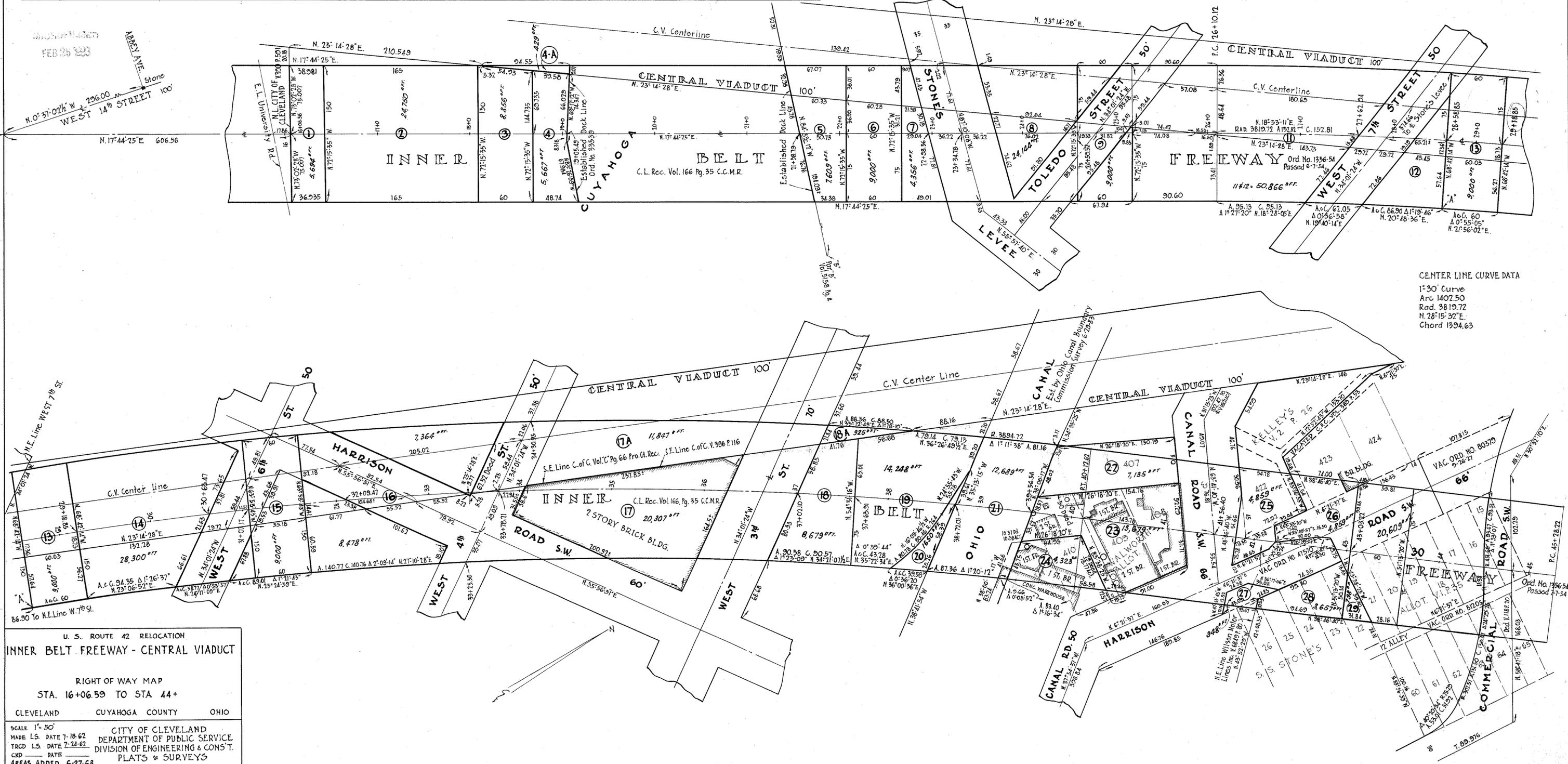
FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
2	OHIO	UI 1057 (4)	

5-A
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42-R-17.50

RIGHT OF WAY ACQUISITION REQUIREMENTS					RIGHT OF WAY ACQUISITION REQUIREMENTS				
PARCEL	GRANTOR	GRANTEE	DEED	RIGHTS	PARCEL	GRANTOR	GRANTEE	DEED	RIGHTS
1	Erie Railroad Company	City of Cleveland	V.8455 P.11	Permanent R. of W.	20	C.C.C. & St. L. R.R. Co. & Real Estate Imp. Co.	City of Cleveland	V.8673 P.247	Aerial Rights & Sewer Easement
2	Erie Railroad Company	City of Cleveland	Par. 2 V.8455 P.14	Aerial Rights	21	The Baltimore & Ohio R.R. Co.	City of Cleveland	V.8651 P.471	Aerial Rights
3	Erie Railroad Company	City of Cleveland	Par. 3 V.8455 P.13	Permanent R. of W.	22	The Cleveland Trust Co.	City of Cleveland	V.8723 P.239	Permanent acquisition
4	Erie Railroad Company	City of Cleveland	Par. 4 V.8455 P.15	Aerial Rights	23	Mildred L. Richards	City of Cleveland	V.8455 P.40	Permanent acquisition
5-7-8-11-12-14	The C.C.C. & St. L. & N.Y.C. R.R. Co's.	City of Cleveland	V.8673 P.235	Aerial Rights	24	Sidney C. Brant	City of Cleveland	V.8441 P.613	Permanent acquisition
6	The C.C.C. & St. L. & N.Y.C. R.R. Co's.	City of Cleveland	Par. 1 V.8673 P.135	Permanent acquisition	25	Wheeling & Lake Erie R.R.	City of Cleveland		Aerial Rights
9	The C.C.C. & St. L. & N.Y.C. R.R. Co's.	City of Cleveland	Par. 2 V.8673 P.135	Permanent acquisition	26-30	Helen C. Lincoln	City of Cleveland	V.8455 P.42	Permanent acquisition
13	The C.C.C. & St. L. & N.Y.C. R.R. Co's.	City of Cleveland	Par. 3 V.8673 P.135	Permanent acquisition	27	Wilson Terminals Inc.	City of Cleveland	V.8486 P.33	Permanent acquisition
15	The C.C.C. & St. L. & N.Y.C. R.R. Co's.	City of Cleveland	Par. 4 V.8673 P.135	Permanent acquisition	28	Louis J. Kaplan	City of Cleveland	Vol. 8439 P.128	Permanent acquisition
16	The C.C.C. & St. L. & N.Y.C. R.R. Co's.	City of Cleveland	V.8673 P.235	Aerial Rights	29	Louis J. Kaplan	City of Cleveland	V.8439 P.128	Permanent acquisition
17	United Garage & Service Corp. et al.	City of Cleveland	V.8068 P.460	Permanent acquisition	4A	N.Y. Penna and Ohio R.R.	City of Cleveland	Vol. 9300 P.591	Permanent acquisition
18	The Baltimore & Ohio R.R. Co.	City of Cleveland	V.8835 P.126	Permanent acquisition	17A	Margaretta Stone, S.L.M. Barlow, Chas. Day, Stephen Smith	City of Cleveland	V.396 P.116 Par. 3 V.C.P. 66 r. c. r.	Permanent acquisition
19	The Baltimore & Ohio R.R. Co.	City of Cleveland	V.8835 P.126	Permanent acquisition	18A	W.J. Gordon	City of Cleveland	Par. 4 V.C.P. 66 r. c. r.	Permanent acquisition

WEST 14th STREET 100'
N. 0° 31' 07" W 296.00'
N. 17° 44' 25" E 606.56'



U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

RIGHT OF WAY MAP
STA. 16+06.59 TO STA. 44+

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 50'
MADE L.S. DATE 7-18-62
TRCD L.S. DATE 7-24-62
CND DATE
AREAS ADDED 6-27-63

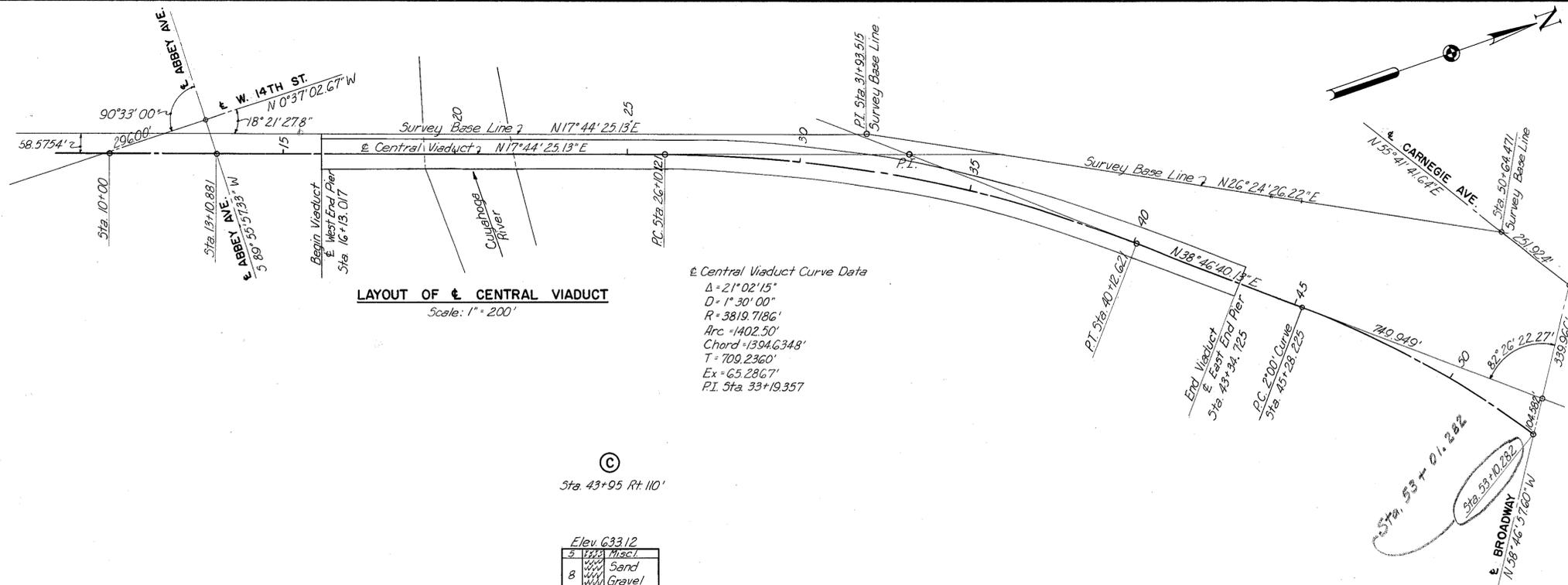
CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
PLATS & SURVEYS

REPRODUCED
FEB 25 1983

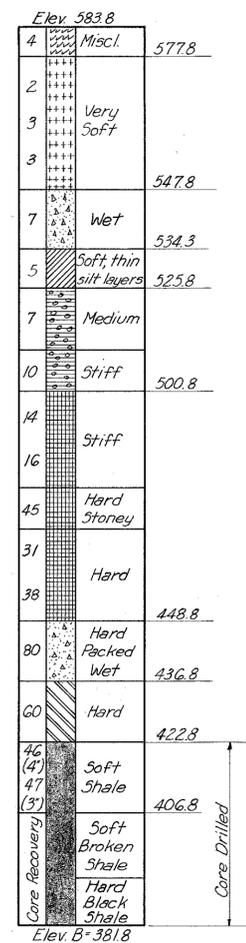
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

6
43

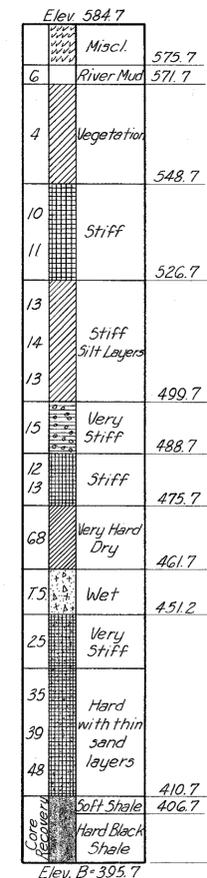
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42R - 17.50



(A)
Sta. 29+53 Rt. 265

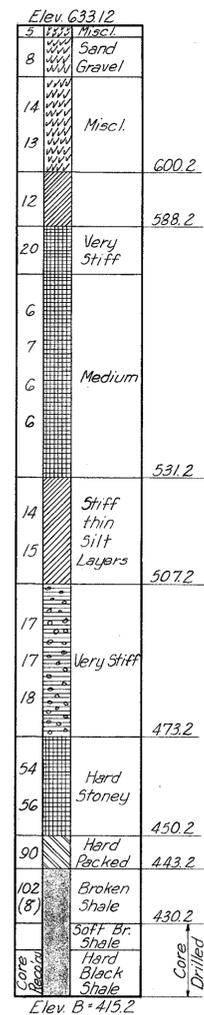


(B)
Sta. 37+10 Rt. 205'



TEST HOLE BORINGS A, B AND C

(C)
Sta. 43+95 Rt. 110'



GENERAL NOTES

SOIL LEGEND

- Misc.
- Fill
- Clay
- Sand
- Silt
- Silty Sand
- Silty Clay
- Sandy Clay
- Pebbly Clay
- Sand and Gravel
- Silt, Sand and Gravel
- Sand, Clay and Gravel
- Rock
- Ground Water
- Trap Sample T.S.
- Auger Sample A.S.
- Tube Trap T.T.

BORING LEGEND

(a)	(b)	(c)	(d)
			Elev. 100.0
A5	Fill		95.0
3	Soft & Wet		
2	Soft & Wet		
1.5	Soft & Wet		
10	Very Stiff		
12	Very Stiff		
14	Very Stiff		
20	Fine & Wet		60.0
25	Fine & Wet		55.0
30	Shale		
(8)	Shale		
			Elev. B = 50.0

- With reference to above example;
 1. In column (a) the figures 2, 3, etc. are the hammer blows required to advance the casing one foot unless otherwise noted.
 2. Column (b) shows the legend of soil types and ground water elevation.
 3. Column (c) shows soil classification.
 4. Column (d) shows the intermediate elevations of limits of different soil layers.

Misc. Notes: Vertical scale for boring 1" = 20'.
 All samples taken with Split Type Tube, 2" O.D. x 1.5" I.D. and 4" steel casing unless otherwise noted.
 Hammer wt. 140#. Average Fall 30'.

Revised 1-26-55

PART 2

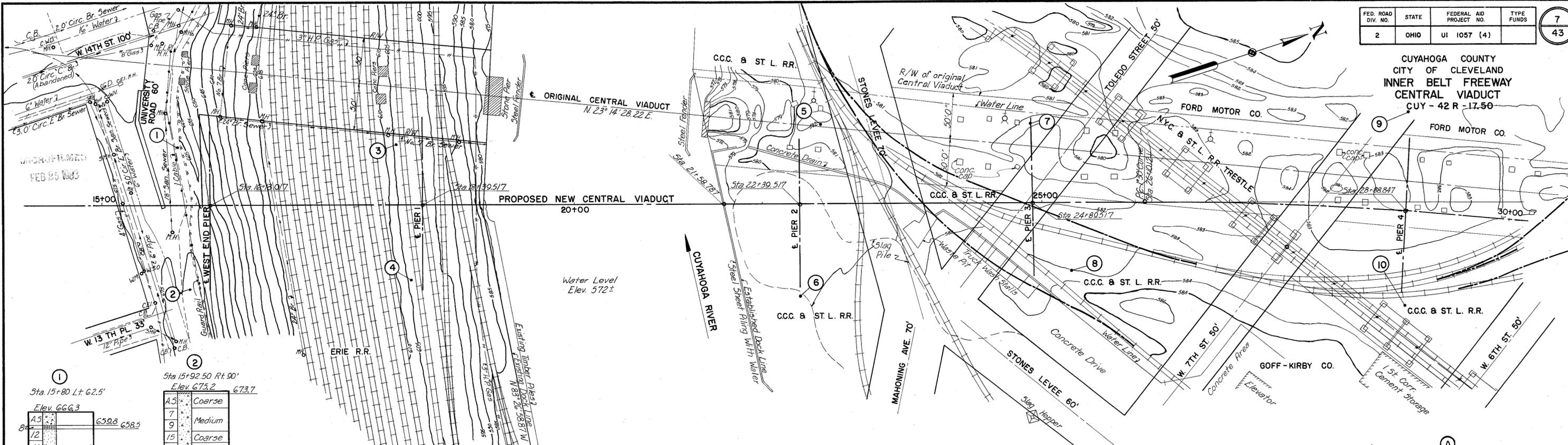
U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

GENERAL LAYOUT AND
TEST HOLE BORINGS

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: Vertical: 1" = 20'
 MADE: J.G.S. DATE: 1-22-54
 TRCD: H.A.M. DATE: 2-6-54
 CKD: C.L.G. DATE: 2-25-54
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY CLEVELAND NEW YORK
 914-1A SHEET 1.06

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50



1
Sta 15+80 Lt. 62.5'
Elev. 666.3

8.5	AS	659.8	658.5
12			
11	Compact Med.		
14			
18	Compact Med, Wet		
TS	Compact Fine, Wet		
21		615.0	
11	Stiff		
6	Medium		
16			
18			
15	Very Stiff		
20			

Elev. B = 546.3

2
Sta 15+92.50 Rt. 90'
Elev. 675.2 673.7

7	Coarse		
9	Medium		
15	Coarse		
18	Med, Wet	647.2	
TS	Med Wet		
35	Fine, Wet		
TS	Fine, Wet	617.2	614.2
9	Stiff		
15			
14	Very Stiff		
9	Medium		
16			
18			
15	Very Stiff		
19			

Elev. B = 545.2

3
Sta 18+11.50 Lt. 64'
Elev. 604.0

4	Cinder & Slag	592.0	
7	Fine, Brown		
8	Grey	578.0	
6	Fin Grey, Wet	573.0	
6	Med Grey		
14	Very Stiff		
9	Stiff		
7	Medium		
14			
15	Very Stiff		
12			
17	Very Stiff & Stony		
9	Stiff		
7	Medium	482.5	
TS	Coarse & Wet		

Elev. B = 474.0

4
Sta 18+27.50 Rt. 90'
Elev. 604.2

5	Cinder	591.7	
12	Grey	578.0	
8	Medium	572.2	
6	Soft		
7	Medium		
11	Stiff		
11			
17	Very Stiff		
11	Stiff		
25	Hard Stony		
26			
25	Very Stiff	486.2	
17	Stiff	475.2	
TS	Coarse, Wet		
22	Very Stiff with Thin Silt Layers	461.7	
TS	Wet		

Elev. B = 454.2

5
Sta 22+62 Lt. 85'
Elev. 581.5

3	Misc.	577.5	
4	Wet	574.5	
7	Wet	570.5	
TS	Wet	564.0	
TS	Med. Wet		
TS	Coarse, Wet	548.5	
9	Stiff	538.5	
7	Medium	528.5	
8			
12	Stiff		
15	Very Stiff		
9	Stiff	479.5	
37	Hard	468.0	
9	Medium	457.5	
TS	Coarse, Wet	453.0	
35 (6)	Hard	447.5	446.0
35 (6)	Hard	443.0	
50 (8)	Hard	428.0	

Elev. B = 427.0 Grey Shale

6
Sta 22+40 Rt. 100.5'
Elev. 580.6

AS	Brown Wet	575.1	
AS	Brown Wet	569.6	
2	Soft		
7	Medium	559.1	
8	Coarse	548.1	
TS	Coarse	548.1	
9	Stiff	538.6	
9			
11	Stiff		
12	Very Stiff		

Elev. B = 500.6

7
Sta 24+89 Lt. 85'
Elev. 581.9

3	Sand Under	573.4	
4	Brown Clay	569.9	
2	Fine, Wet	563.9	
2	Fine, Wet	559.6	
4	Med Wet		
I.T.	Wet	548.9	
12	Stiff with Thin Silt Layers		
13	Stiff with Thin Silt Layers		
8	Med with Thin Silt Layers	518.9	
9	Medium		
12	Stiff	501.9	
12	Stiff		

8
Sta 25+30 Rt. 75'
Elev. 583.0

4	Slag & Clay	579.0	
4	Loomy Fine, Wet	574.0	
6	Medium	568.0	
2	Fine, Wet	564.0	
5	Fine, Wet	558.0	
TS	Wet	544.0	
14	Stiff with Thin Silt Layers		
13	Stiff with Thin Silt Layers	524.0	
20	Very Stiff	514.0	
14	Stiff		

Elev. B = 503.0

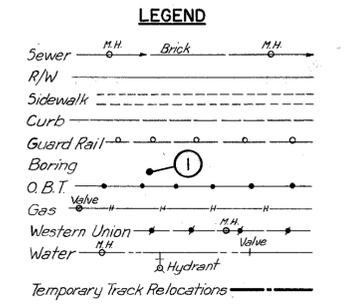
9
Sta 28+85 Lt. 105.5'
Elev. 582.0

4	Misc. (Cinder etc)	576.0	
3	Soft, Wet		
5	Med with vegetation	565.0	
2	Soft	560.0	
2	Soft Little Clay	552.0	
4	Wet & Gravel Loose	533.0	
6			
19	Very Stiff		
19			
13	Stiff		

Elev. B = 502.0

10
Sta 28+94 Rt. 104.5'
Elev. 583.3

4	Misc.	575.3	
6	Brn & Grey		
10	Med Veg.	566.3	
2			
2	Very Soft		
2		548.3	
6			
TS		531.3	
16			
15	Very Stiff		
15		503.3	
15	Very Stiff		



Notes: For general notes on borings and soil and boring legend, see Sheet 6.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

EXISTING CONDITIONS AND
TEST HOLE BORINGS

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 50', 20'

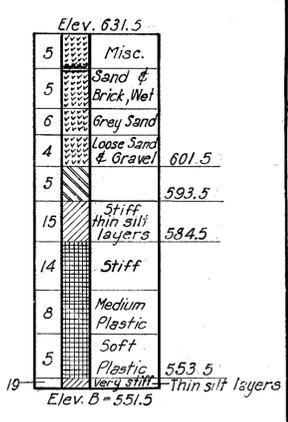
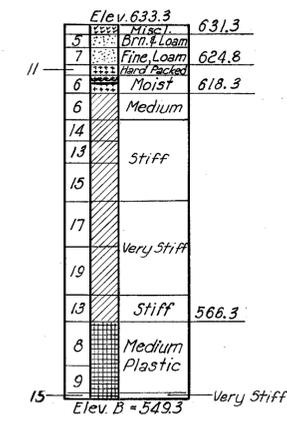
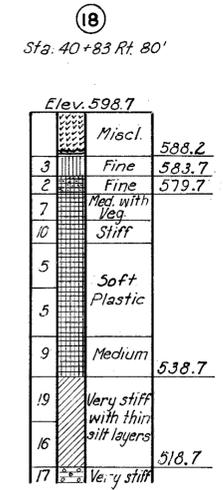
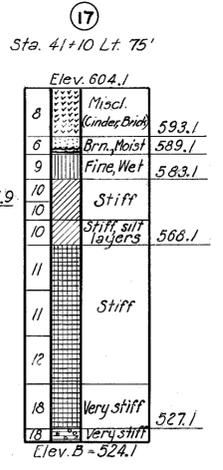
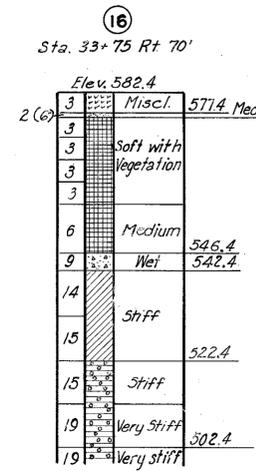
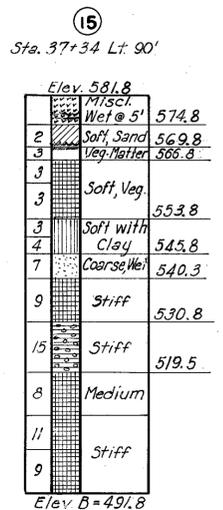
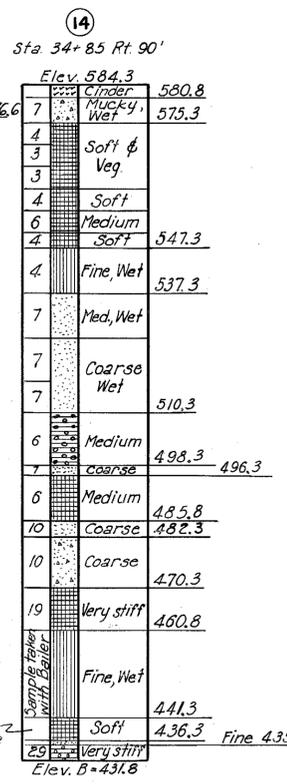
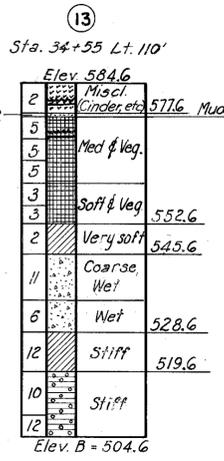
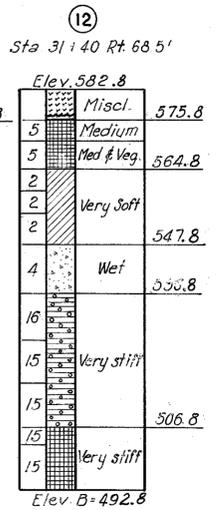
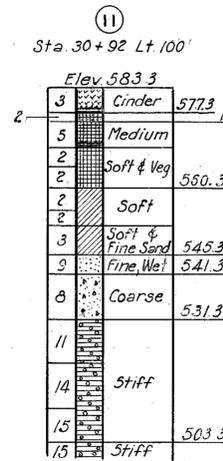
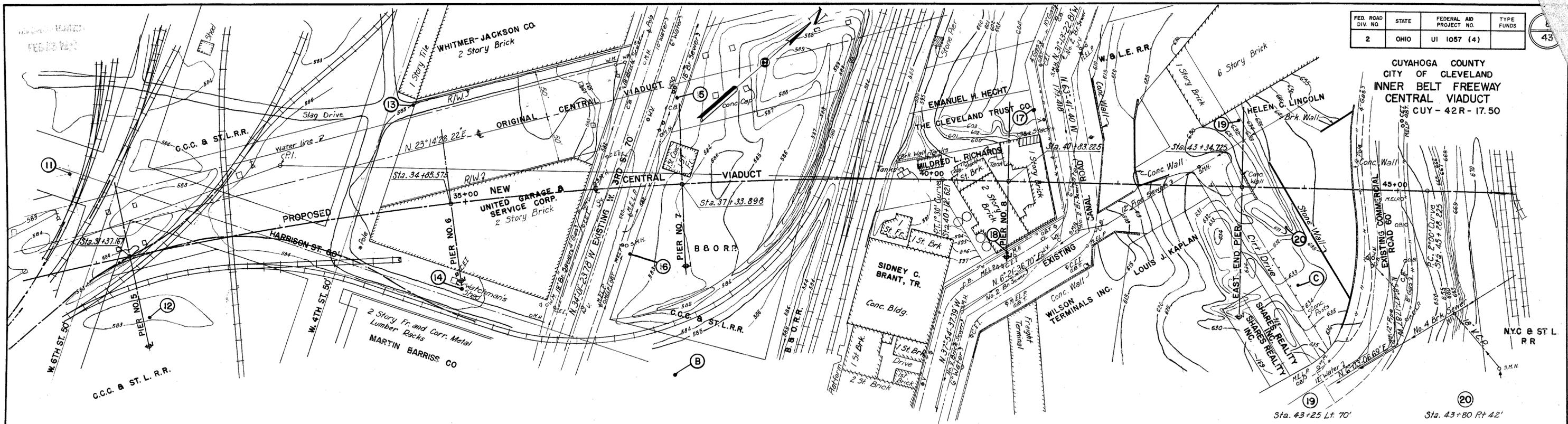
MADE 1/65 DATE 1-12-54
TRCD 1/11 DATE 2-11-54
CKD C.L.C. DATE 2-25-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

914-1A SHEET 1 OF 07

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50



Notes: For general notes on borings and soil and boring legend, see Sheet 6.
Vertical scale for borings: 1" = 20'.
For existing conditions legend, see Sheet 7.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

EXISTING CONDITIONS AND
TEST HOLE BORINGS

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 50', 20'
MADE U.G.S. DATE 1-13-54
TRC.R.K. DATE 1-19-54
KND.F.G. DATE 2-26-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS,
KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET-1.08

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50

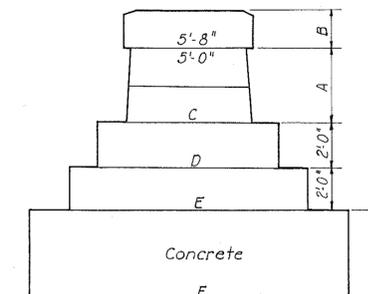
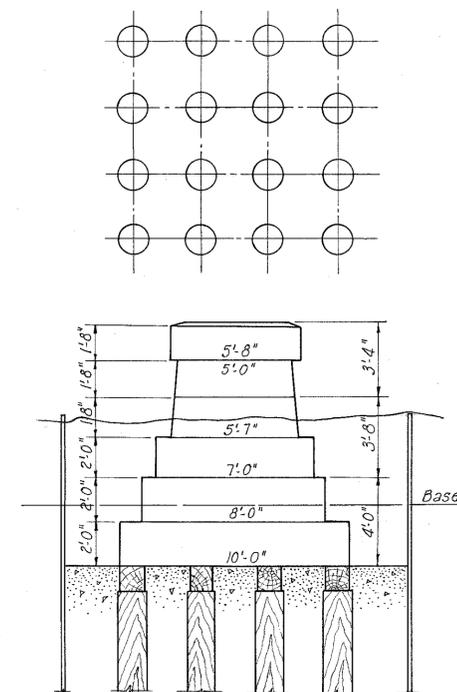
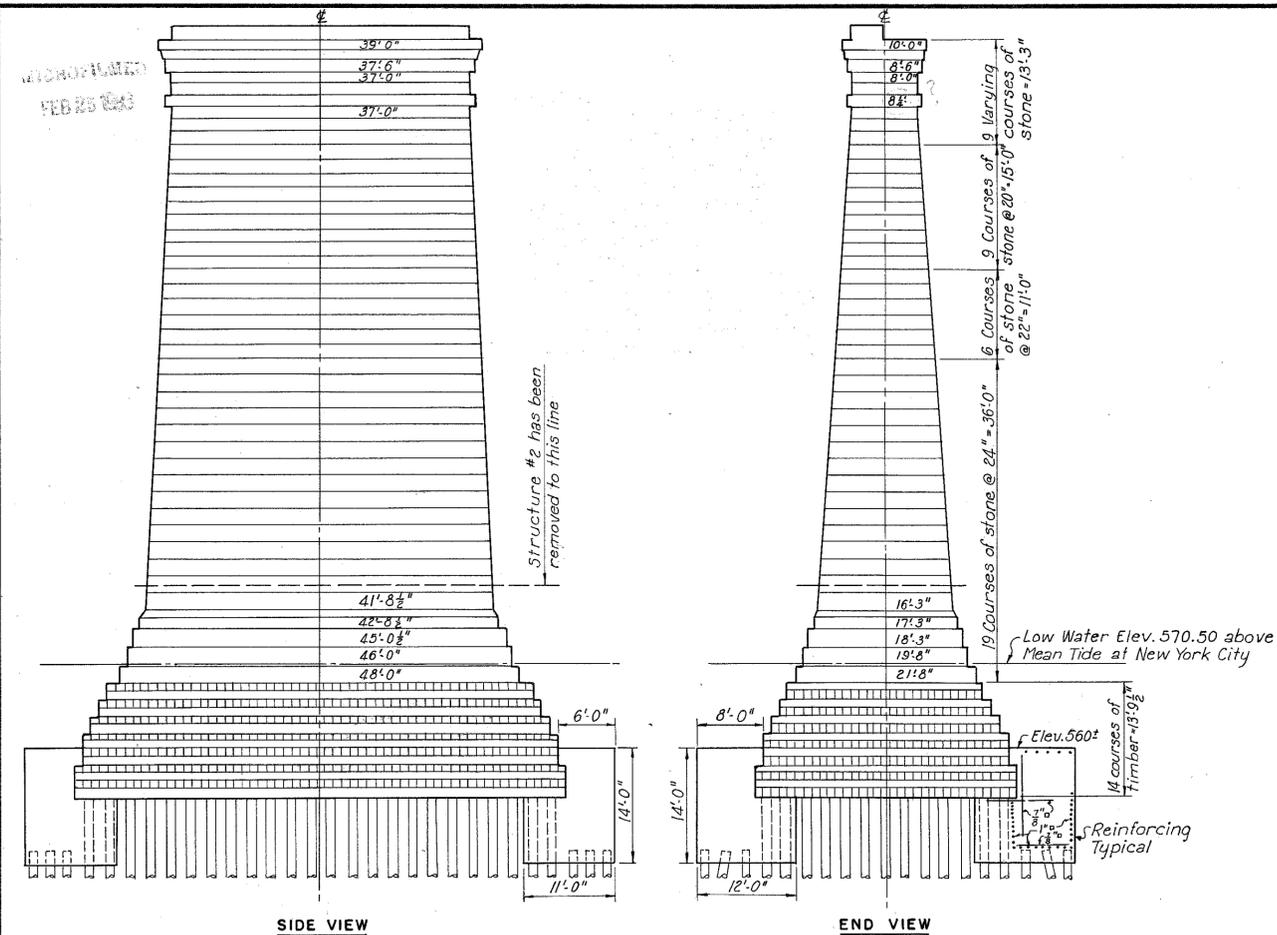
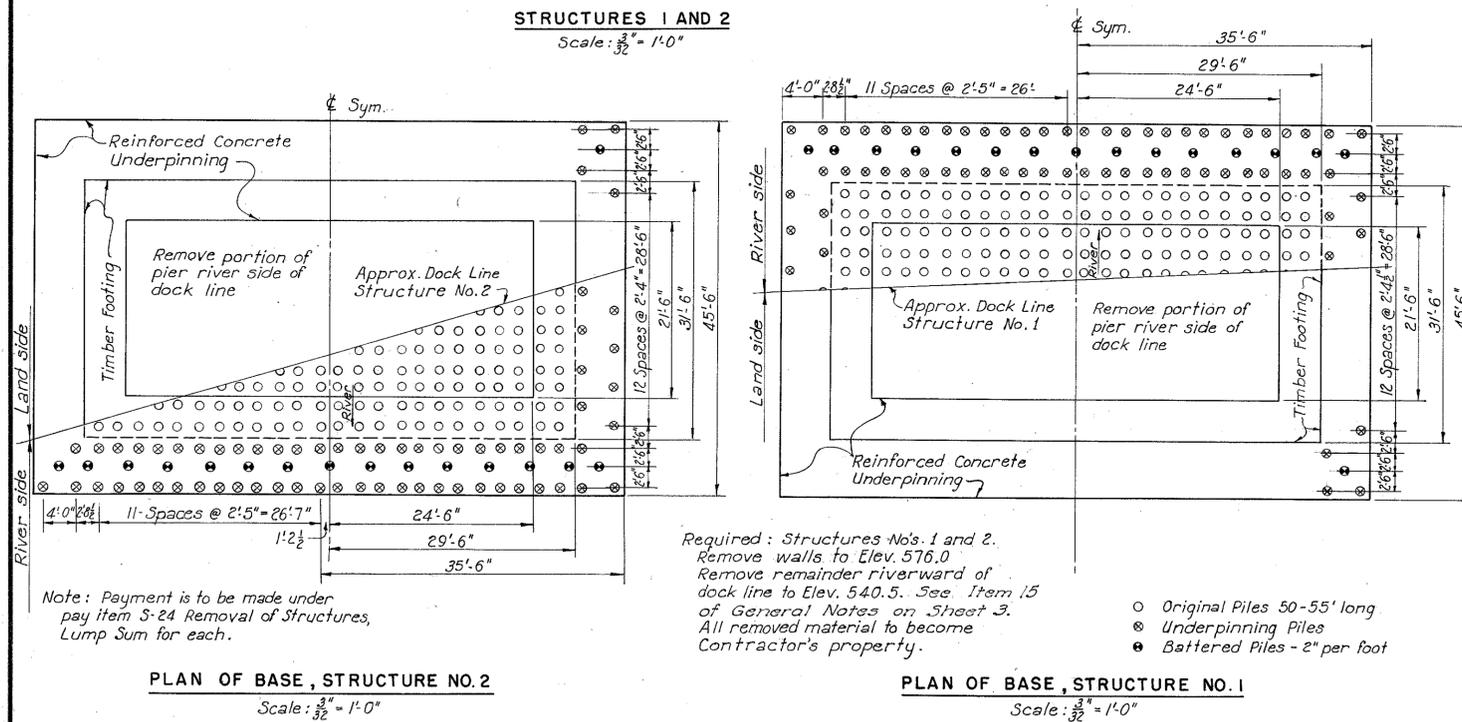


TABLE OF PEDESTAL DIMENSIONS						
Pier	A	B	C	D	E	F
3	3'-0"	1'-6"	5'-6"	7'-0"	9'-0"	11'-0"
4	3'-0"	1'-6"	5'-6"	7'-0"	9'-0"	11'-0"
5	3'-4"	1'-8"	5'-6 1/2"	7'-6"	10'-0"	13'-0"
	3'-0"	1'-6"	5'-6"	7'-0"	9'-0"	11'-0"
6	3'-4"	1'-8"	5'-6 1/2"	8'-0"	10'-6"	14'-0"

Existing pedestals of the old Central Viaduct substructure which interfere with new construction shall be removed as necessary to avoid interference with new construction, including pile driving. Payment for pedestal removal to at least one foot below the surface of the ground shall be made by Item S-24, "Removing existing concrete pedestals which interfere with new construction". That portion of the pedestals beneath one foot below the ground shall be removed by the contractor, payment therefor being included in the bid price per cubic yard under pay item E-2, unclassified excavation.



PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT
OHIO

EXISTING PIERS AND PEDESTALS TO BE REMOVED

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE As Shown
MADE C.J.C. DATE 3-8-54
TRCD. A.H. DATE 3-20-54
CKD. G.A. DATE 6-15-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

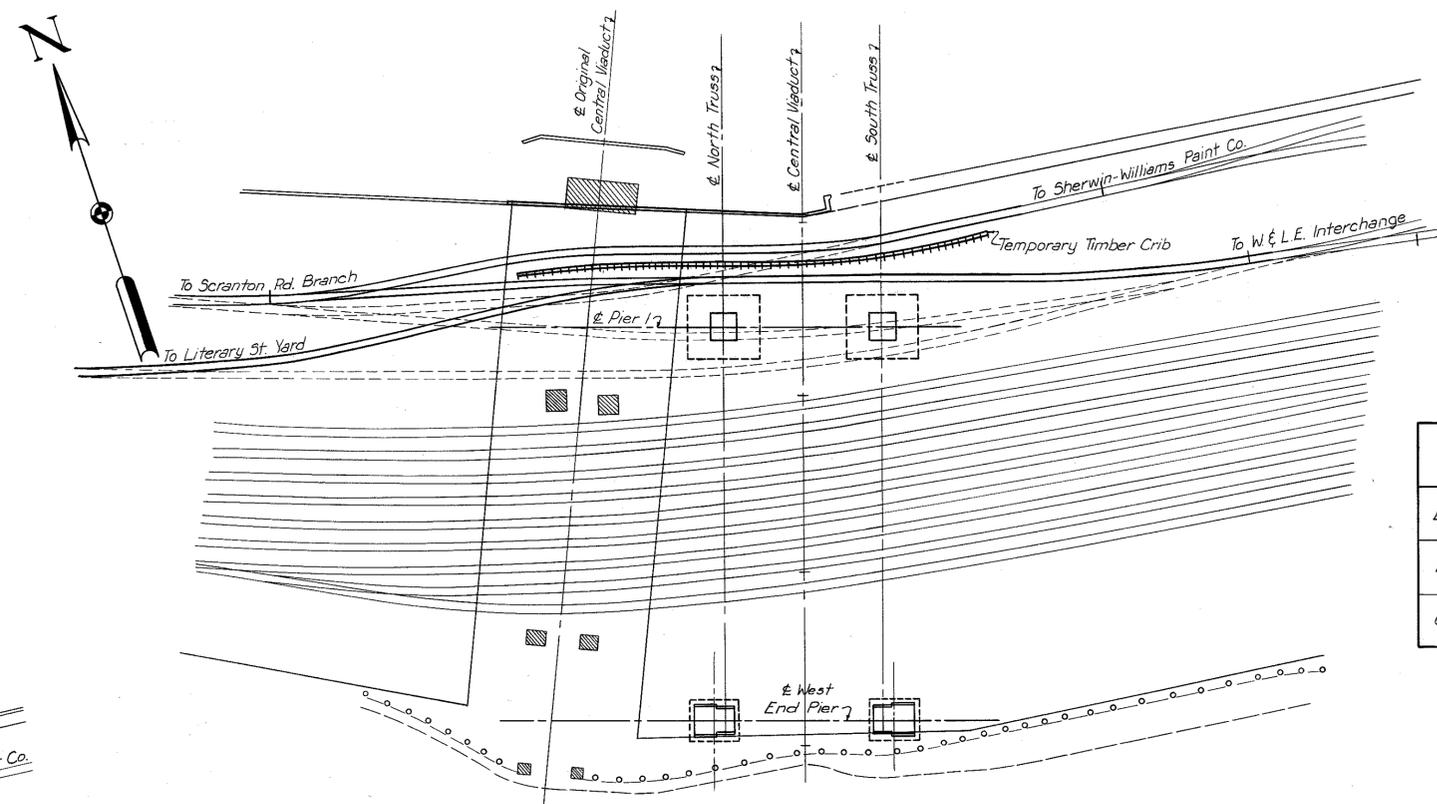
914-1A SHEET 1.09

REVISED
FEB 25 1954

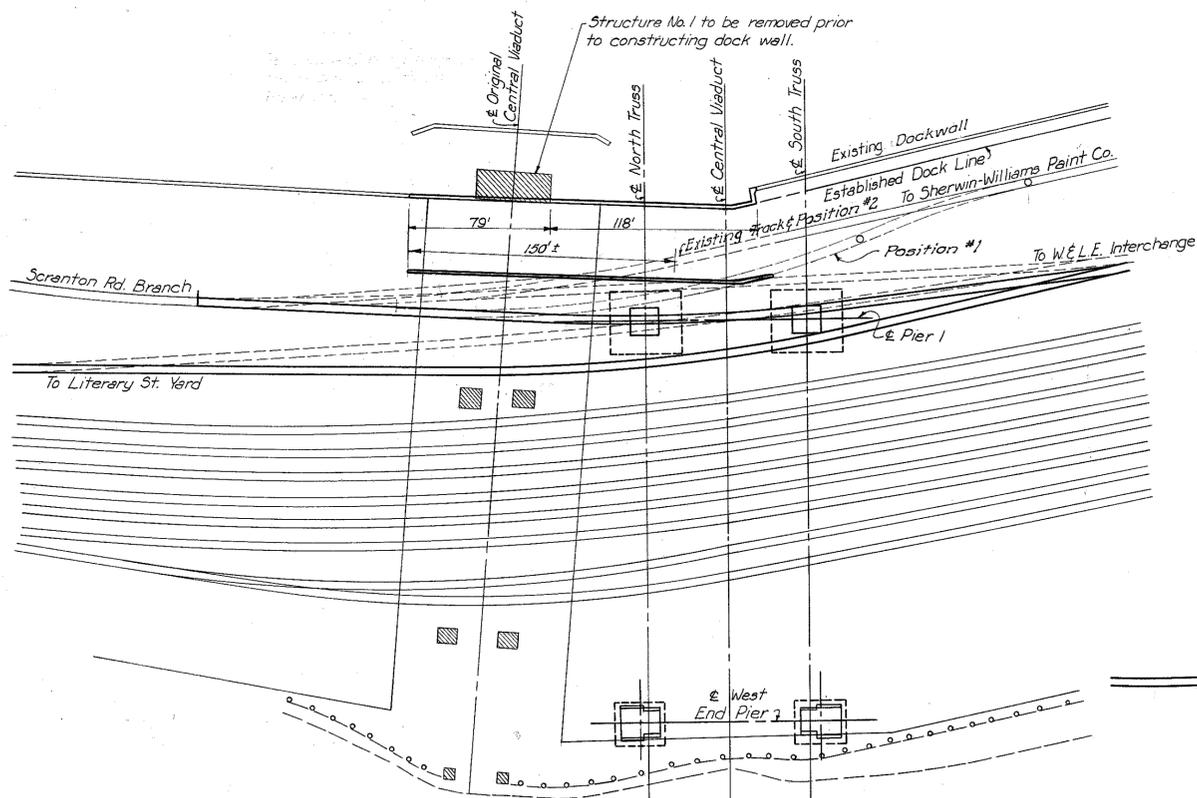
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS	10
2	OHIO	UI 1057 (4)		43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42R - 17.50

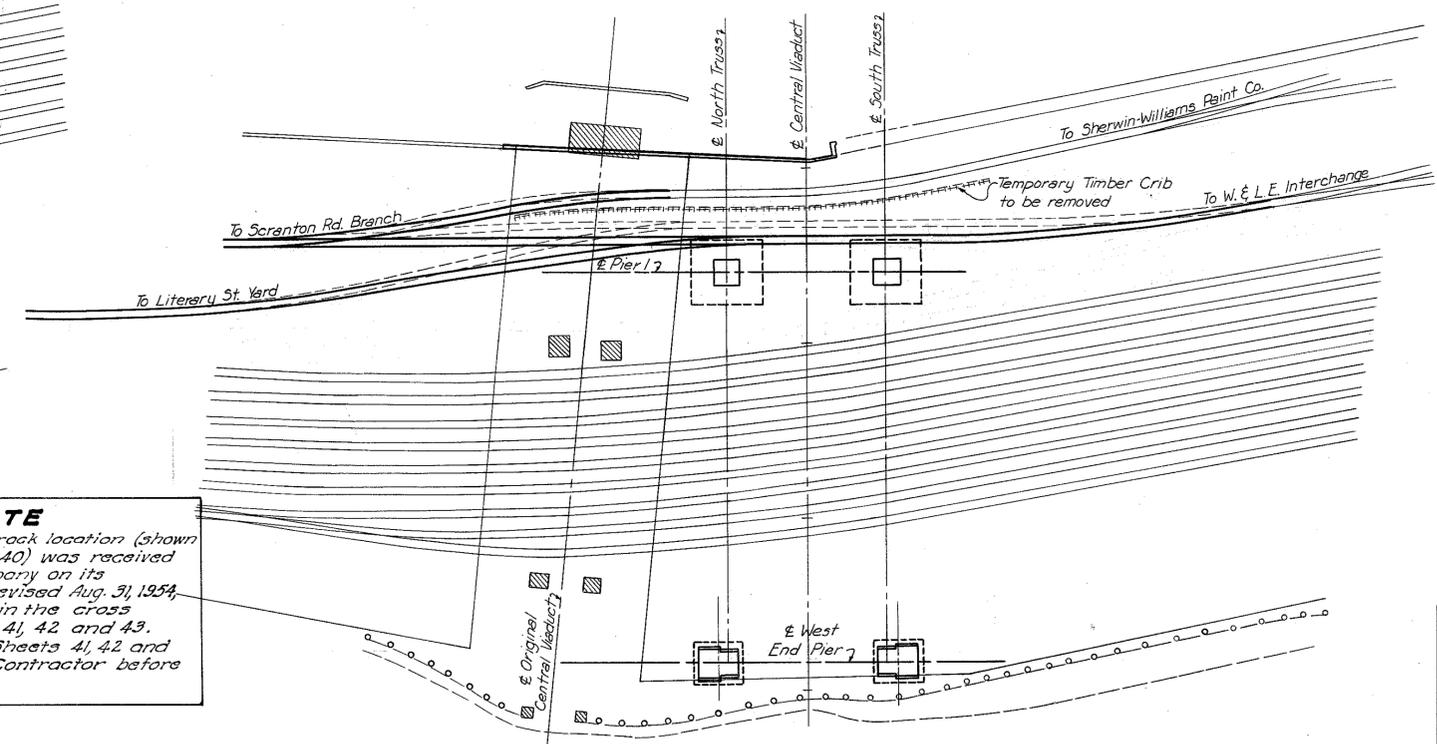
FORCE ACCOUNT WORK By the Erie Railroad Company	
Engineering and Inspection	Lump Sum
Track Work	Lump Sum
Communication Line Changes	Lump Sum



EXISTING CONDITIONS AND TRACK CHANGES
TO BE MADE FOR CONSTRUCTION OPERATIONS
FOR PIER 1



EXISTING CONDITIONS AND TRACK CHANGES
TO BE MADE FOR CONSTRUCTING
STEEL DOCKWALL



CONSTRUCTION CONDITIONS AND
PERMANENT TRACK RELOCATIONS

The labor and the furnishing of materials in connection with the temporary and permanent track work as shown on sheets 40, 41, 42 and 43 and as called for in the estimate will be performed by the Erie Railroad Company by force account.

LEGEND

- Present tracks to be undisturbed.
- - - Present tracks to be removed.
- Track relocations.

Notes:
For dockwall construction, see sheets 38 and 39.
For profiles of grading for tracks, see sheet 40.
For cross sections parallel to & of proposed Central Viaduct, see sheets 41, 42 and 43.

SPECIAL NOTE
Additional information for track location (shown here and in Phase I of Sheet 40) was received from the Erie Railroad Company on its drawings D-194 and D-196, revised Aug. 31, 1954, too late to be incorporated in the cross sections shown on Sheets 41, 42 and 43. However, revised prints of Sheets 41, 42 and 43 will be furnished to the Contractor before he is ready to begin work.

Information for track location was taken from Erie Railroad Company drawings D-194, D-195, and D-196. Revised Aug. 13, 1954

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

ERIE RAILROAD TRACK MODIFICATIONS

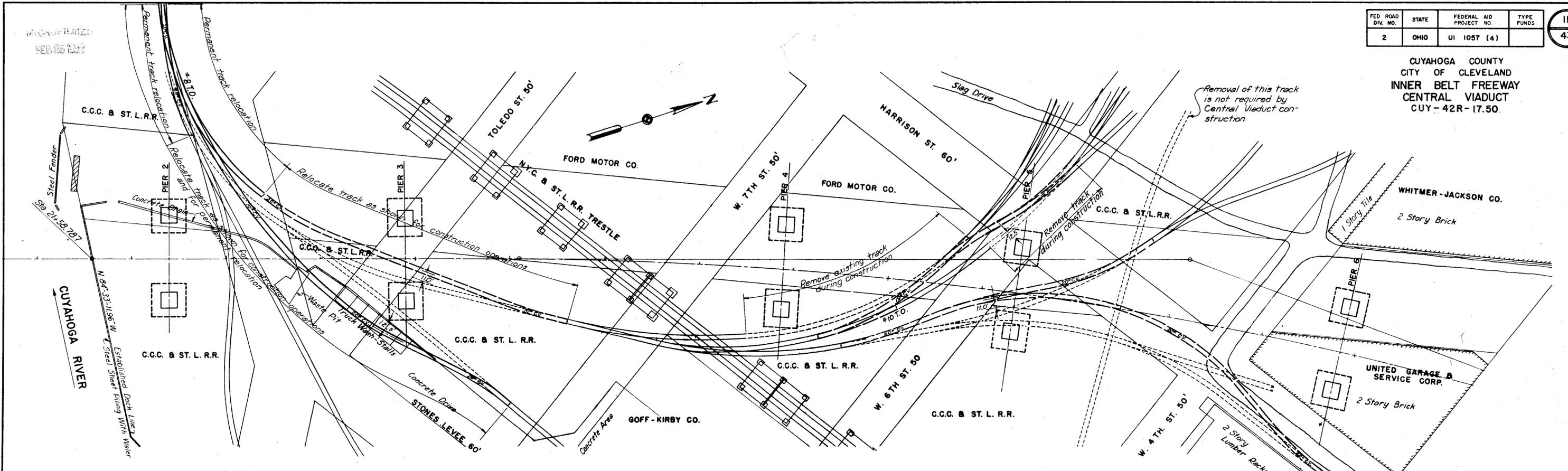
CLEVELAND	CUYAHOGA COUNTY	OHIO
-----------	-----------------	------

SCALE: 1" = 50'-0"

MADE N.A.M. DATE 4-16-54	HOWARD, NEEDLES, TAMMEN & BERGENOFF
TRCD N.A.M. DATE 4-30-54	CONSULTING ENGINEERS
CKD G.A. DATE 8-30-54	KANSAS CITY CLEVELAND NEW YORK

914-1A SHEET 1.10

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUI-42R-17.50



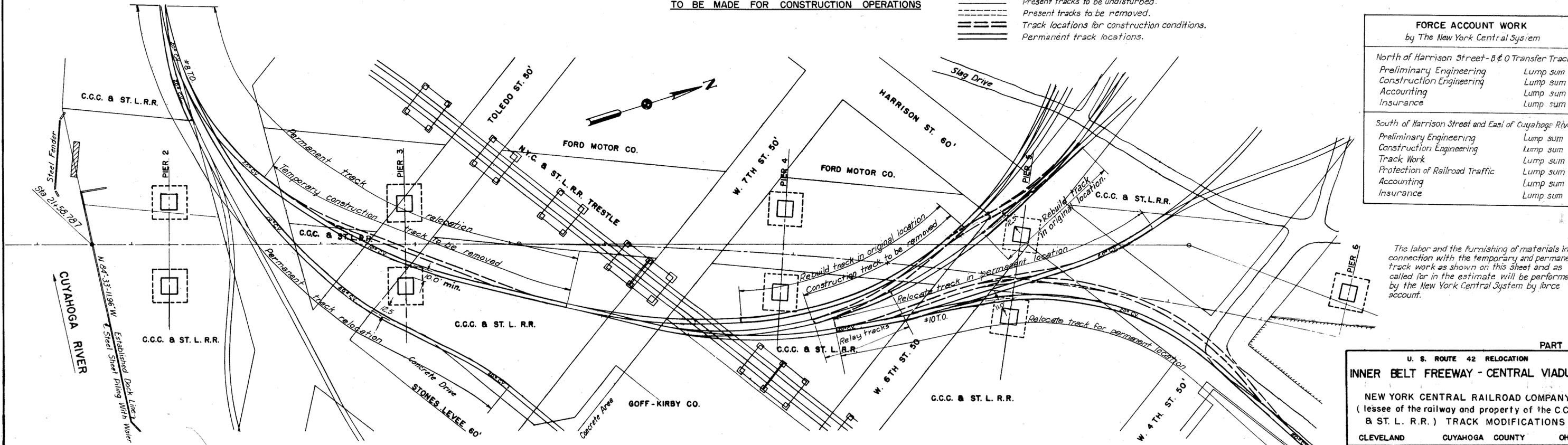
**EXISTING CONDITIONS AND TRACK CHANGES
TO BE MADE FOR CONSTRUCTION OPERATIONS**

- LEGEND**
- Present tracks to be undisturbed.
 - Present tracks to be removed.
 - Track locations for construction conditions.
 - Permanent track locations.

FORCE ACCOUNT WORK
by The New York Central System

North of Harrison Street - B & O Transfer Track	
Preliminary Engineering	Lump sum
Construction Engineering	Lump sum
Accounting	Lump sum
Insurance	Lump sum
South of Harrison Street and East of Cuyahoga River	
Preliminary Engineering	Lump sum
Construction Engineering	Lump sum
Track Work	Lump sum
Protection of Railroad Traffic	Lump sum
Accounting	Lump sum
Insurance	Lump sum

The labor and the furnishing of materials in connection with the temporary and permanent track work as shown on this sheet and as called for in the estimate will be performed by the New York Central System by force account.



**CONSTRUCTION CONDITIONS AND
PERMANENT TRACK RELOCATIONS**

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

NEW YORK CENTRAL RAILROAD COMPANY
(lessee of the railway and property of the C.C.C. & ST. L. R.R.) TRACK MODIFICATIONS

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 50'

MADE N.A.M. DATE 4-12-54 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCD N.A.M. DATE 4-13-54 CONSULTING ENGINEERS
CKD S.A. DATE 4-15-54 KANSAS CITY CLEVELAND NEW YORK

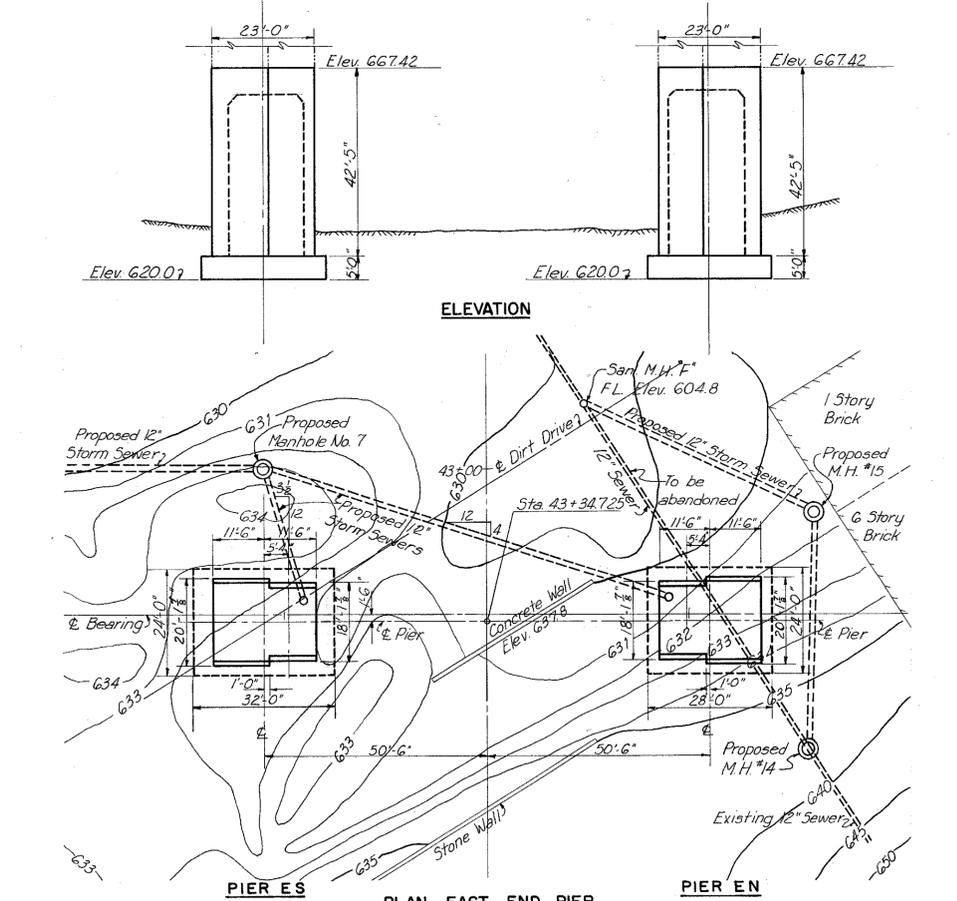
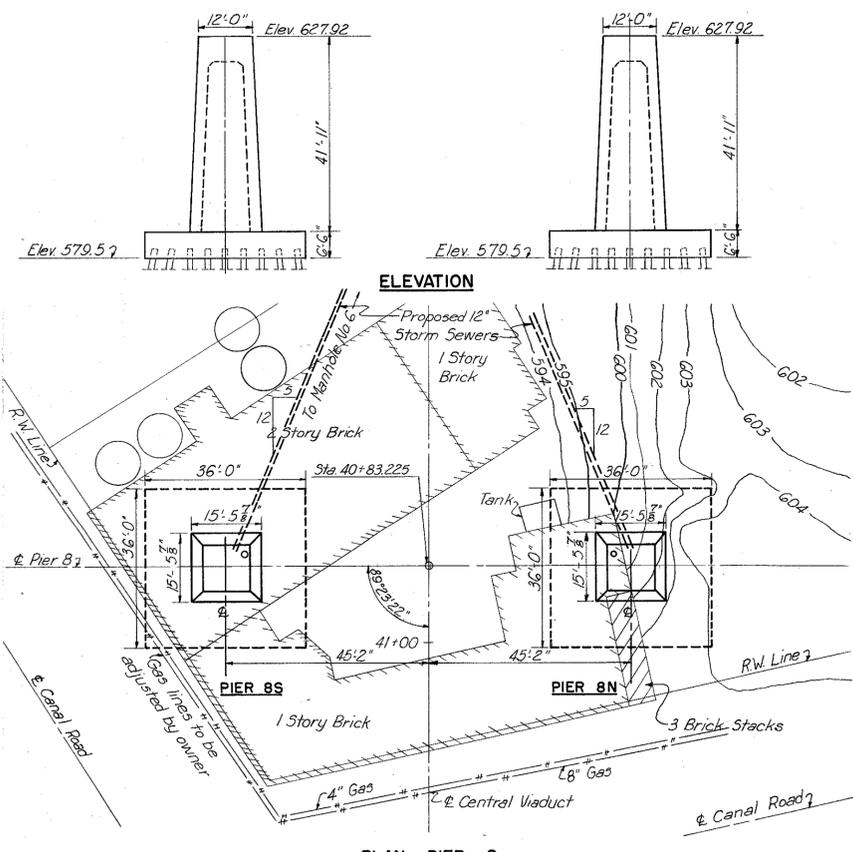
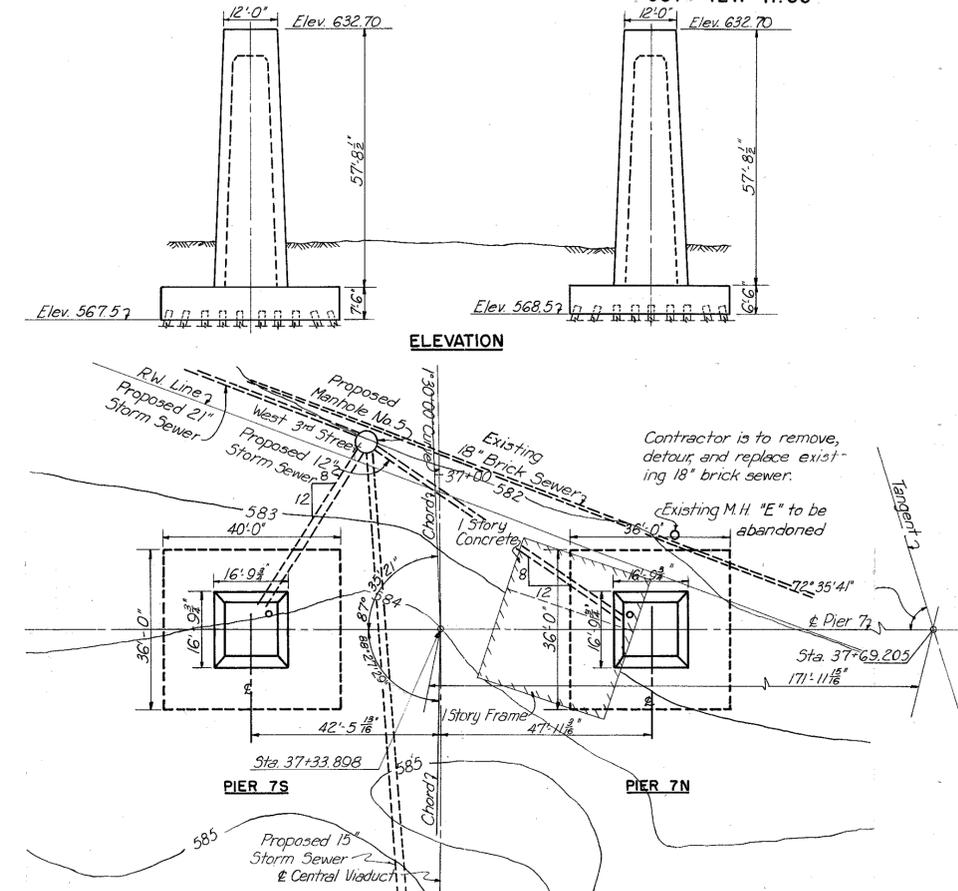
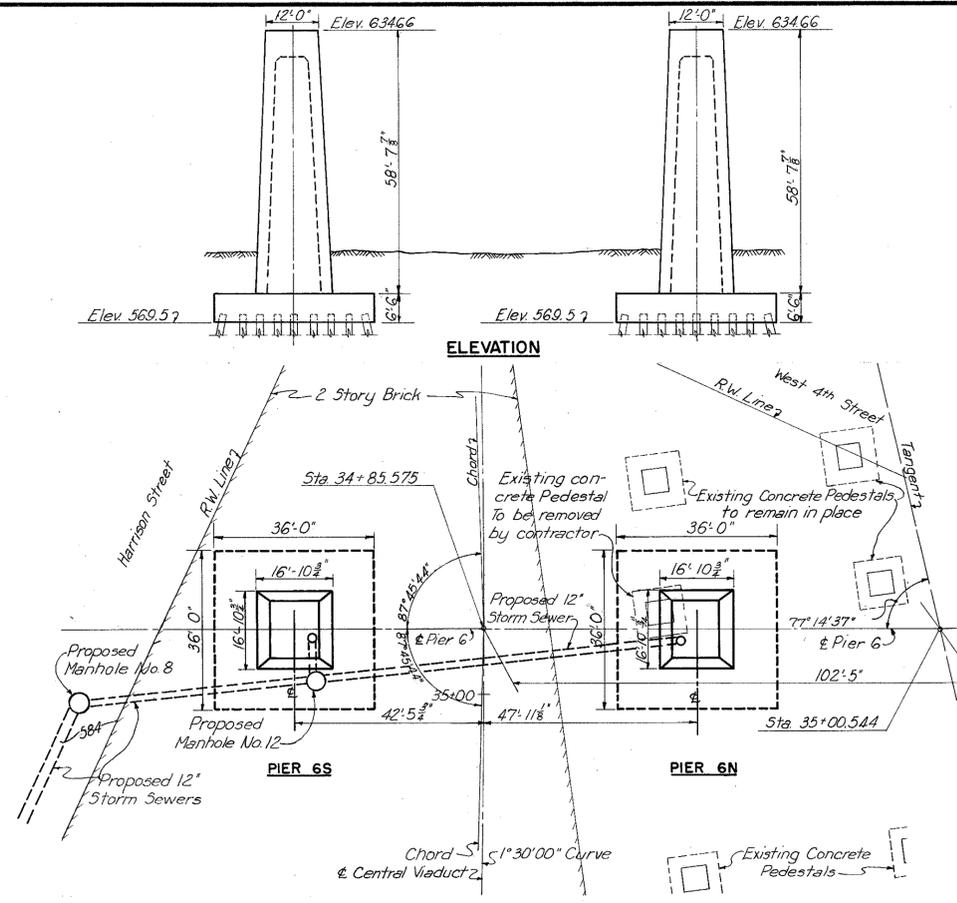
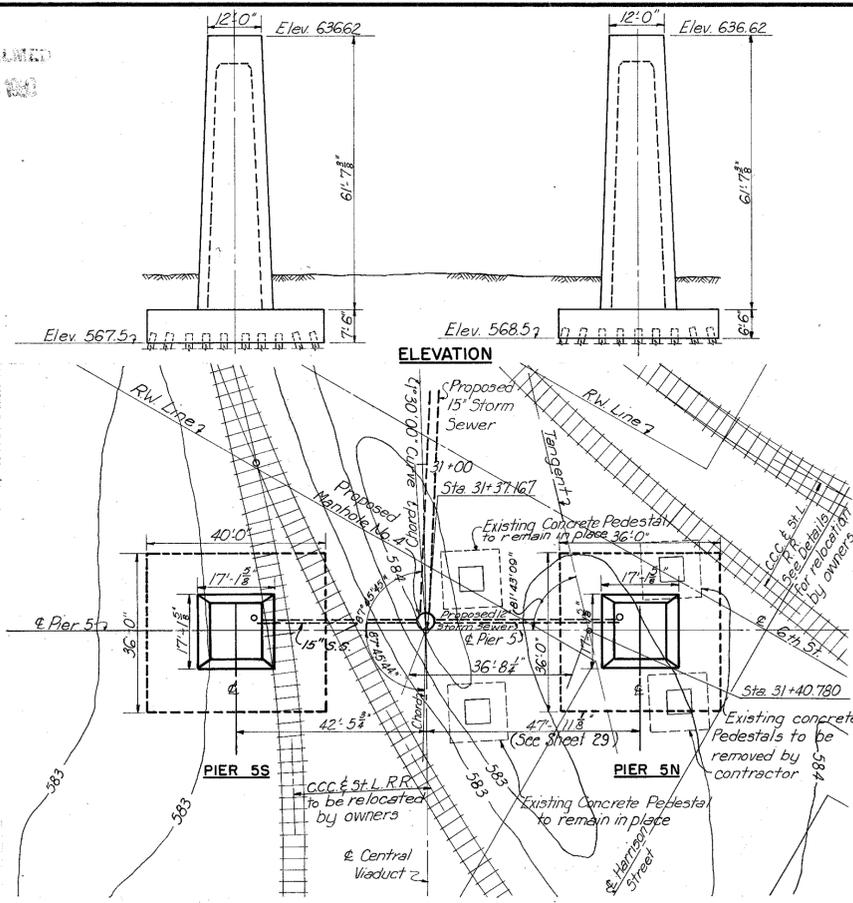
914-1A SHEET 111

UNCORRECTED
FEB 25 1954

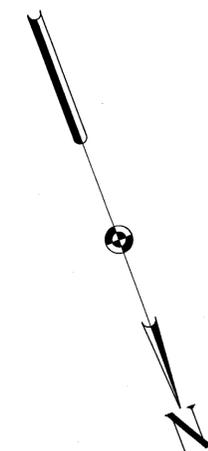
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

13
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50



Note: For storm sewer locations, flow lines, and details, see Shts. 33 to 36 inclusive. All railroad tracks are shown in their present locations for track relocation by the owners before the contractor begins construction of pier footings, see Sht. 11.



PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

EXISTING CONDITIONS AT
PIERS 5 TO 8 INC. AND EAST END PIER
CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: 1" = 20'-0"
MADE R.K. DATE: 1-15-54
TRCD N.A.M. DATE: 6-15-54
CKD C.J.C. DATE: 6-17-54

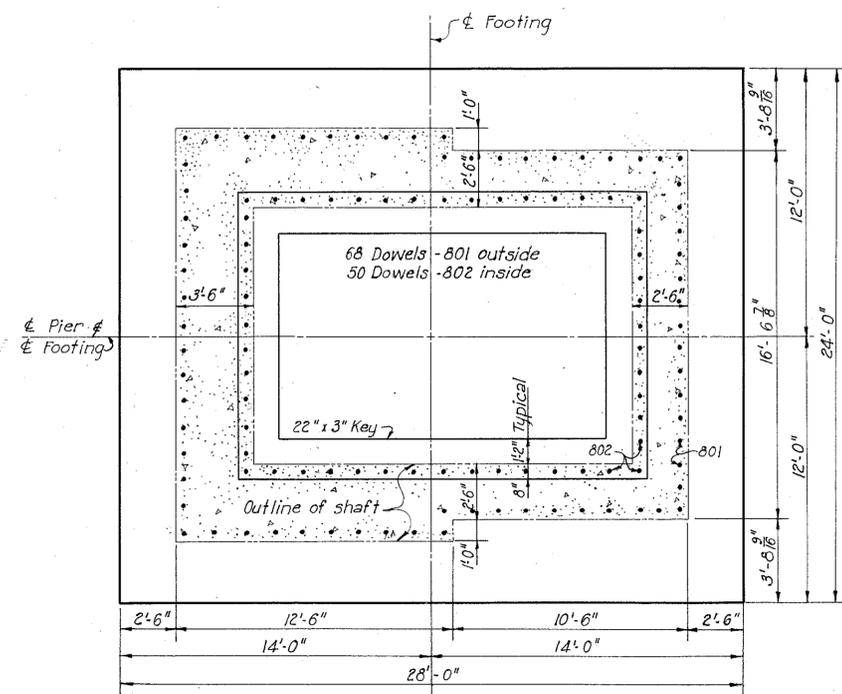
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET 1.13

REPRODUCTION
FEB 25 1953

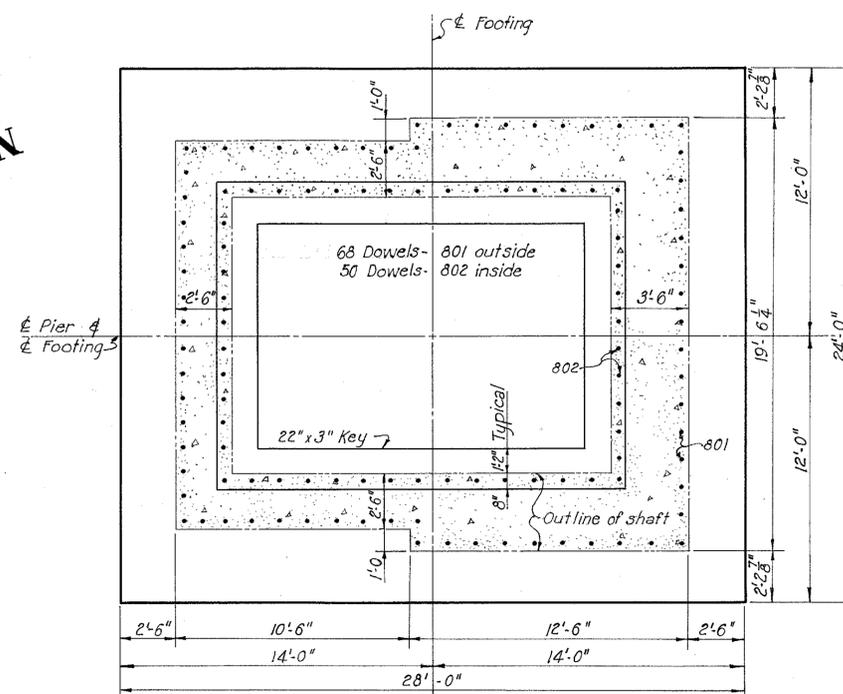
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2	OHIO	UI 1057 (4)	

14
43

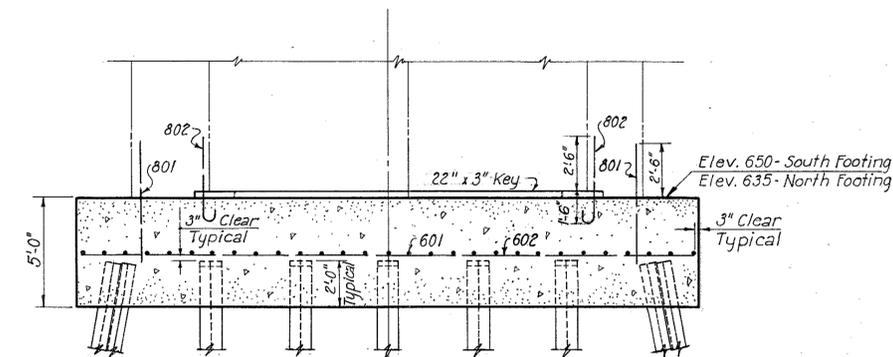
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42R-17.50



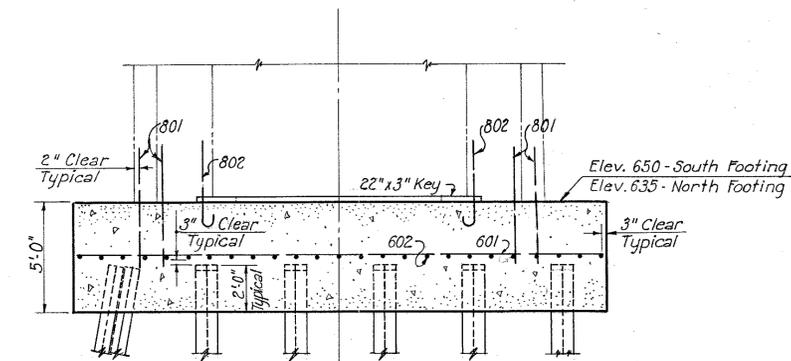
FOOTING PLAN WS



FOOTING PLAN WN

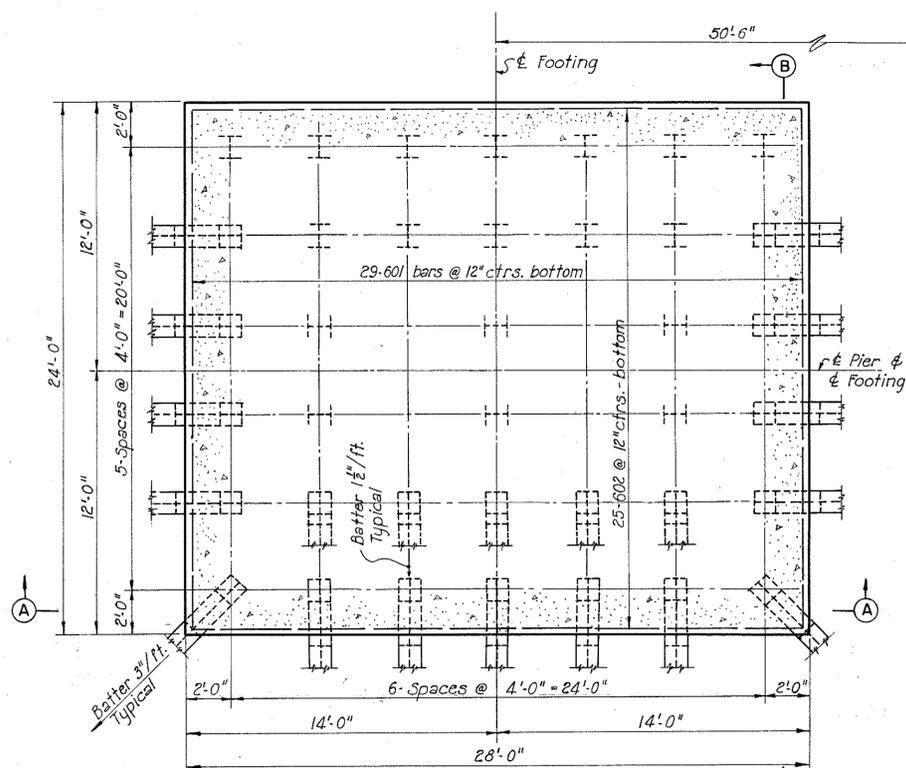


SECTION A-A

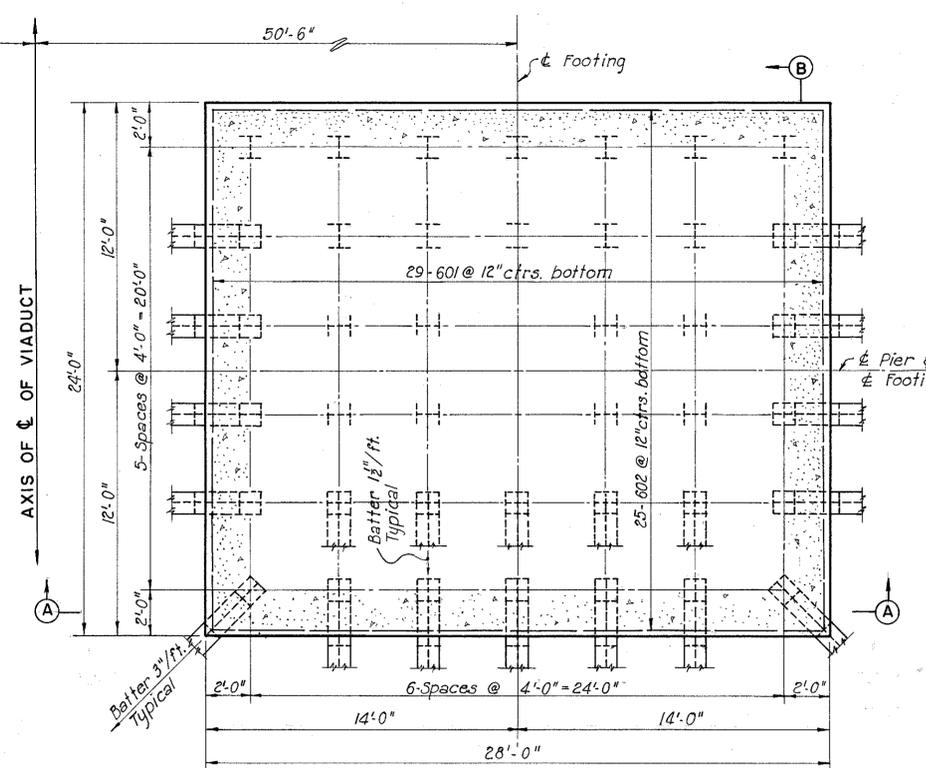


SECTION B-B

Note: 12" B.P. 53 steel piles with a nominal design capacity of 65 tons each.
40 piles, estimated length 60 feet each, for footing WN.
38 piles, estimated length 60 feet each, for footing WS.
Batter 3" per foot and 1 1/2" per foot as shown.
For reinforcing schedule, see Sheet 32.



PILE PLAN WS



PILE PLAN WN

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

WEST END PIER FOOTINGS, WN AND WS

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: 1/4" = 1'-0"
MADE P.K.D. DATE: 5-25-54
TRCD. A.H. DATE: 5-9-54
CKD. G.J.C. DATE: 7-1-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET 1.14

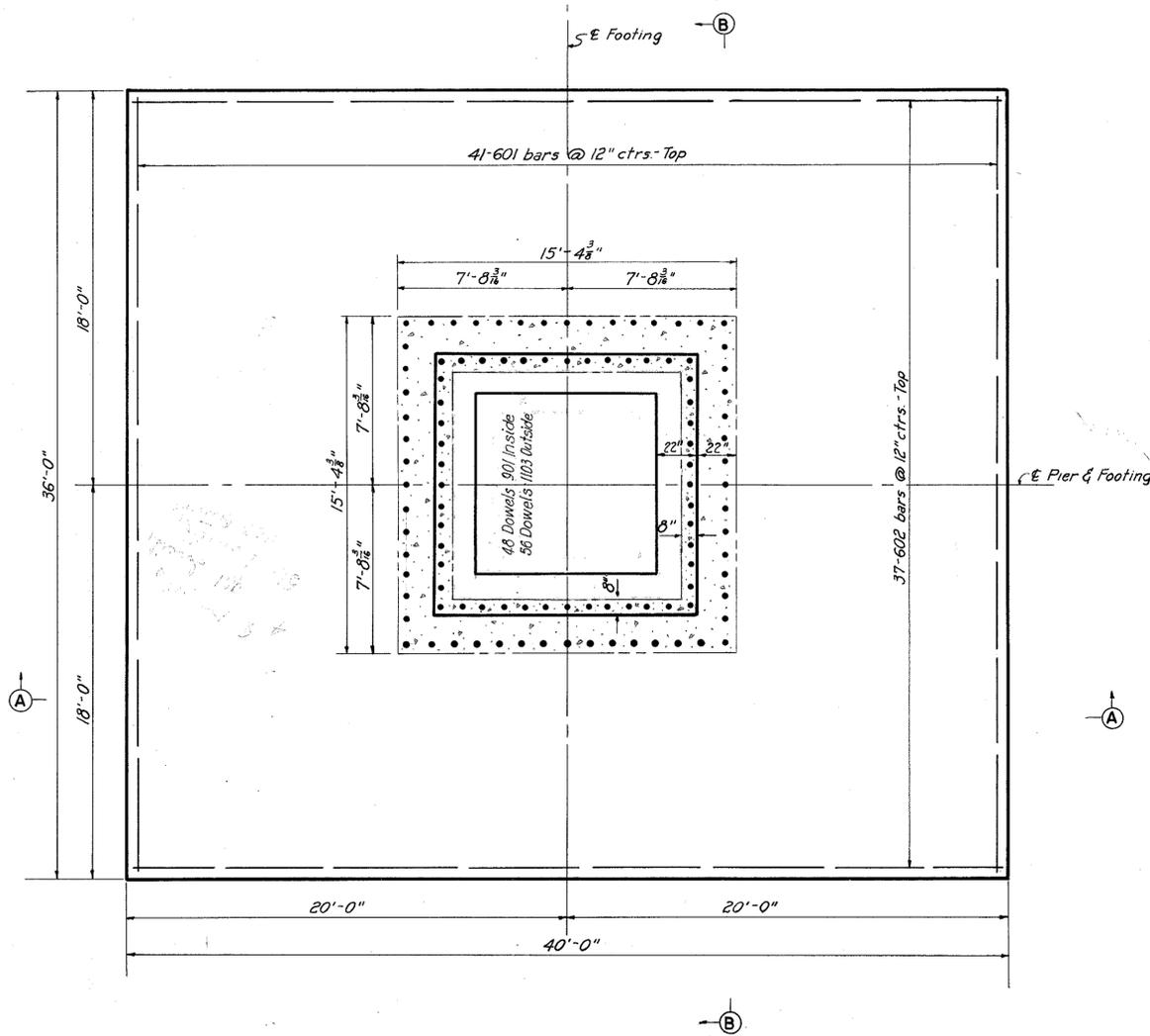
108

UNRECORDED
FEB 25 1953

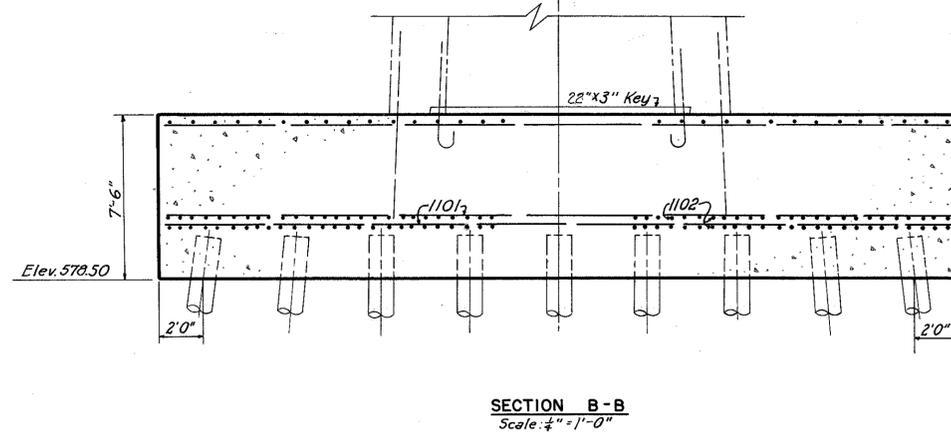
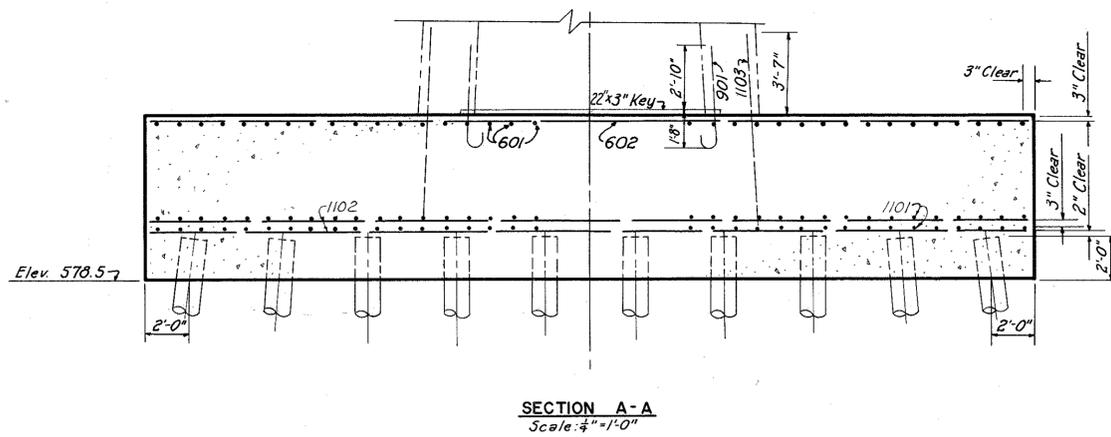
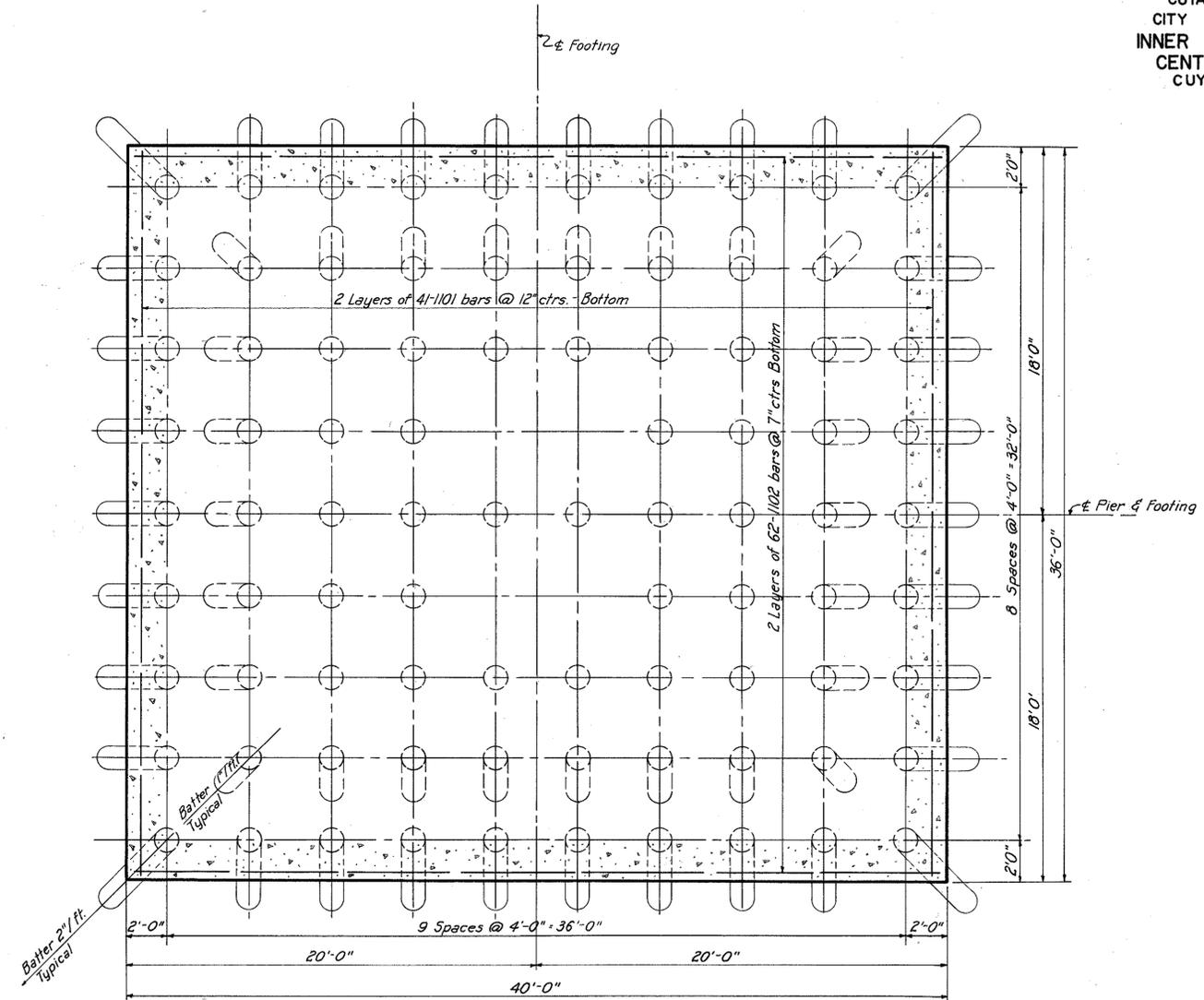
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

15
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42R-17.50



AXIS OF C. OF VIADUCT



Note:
86-14" x Cast-in-Place Reinforced Concrete Piles With a Nominal design capacity of 65 Tons. Estimated Length 90 ft. each. Batter Outside Row of Piles 2" per ft. and Batter Second Row of Piles 1" per ft.

For Reinforcement Schedule, See Sheets 30 and 31.
For Footing 1N, batter outside row of piles 2" per foot on East, South & West sides of footing. Batter second row of piles 1" per foot all sides and outside row of piles 1" per foot on North side of footing.

Revised pile batters, GA 2-15-55 PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

PIER FOOTINGS IN, AND IS

CLEVELAND CUYAHOGA COUNTY OHIO

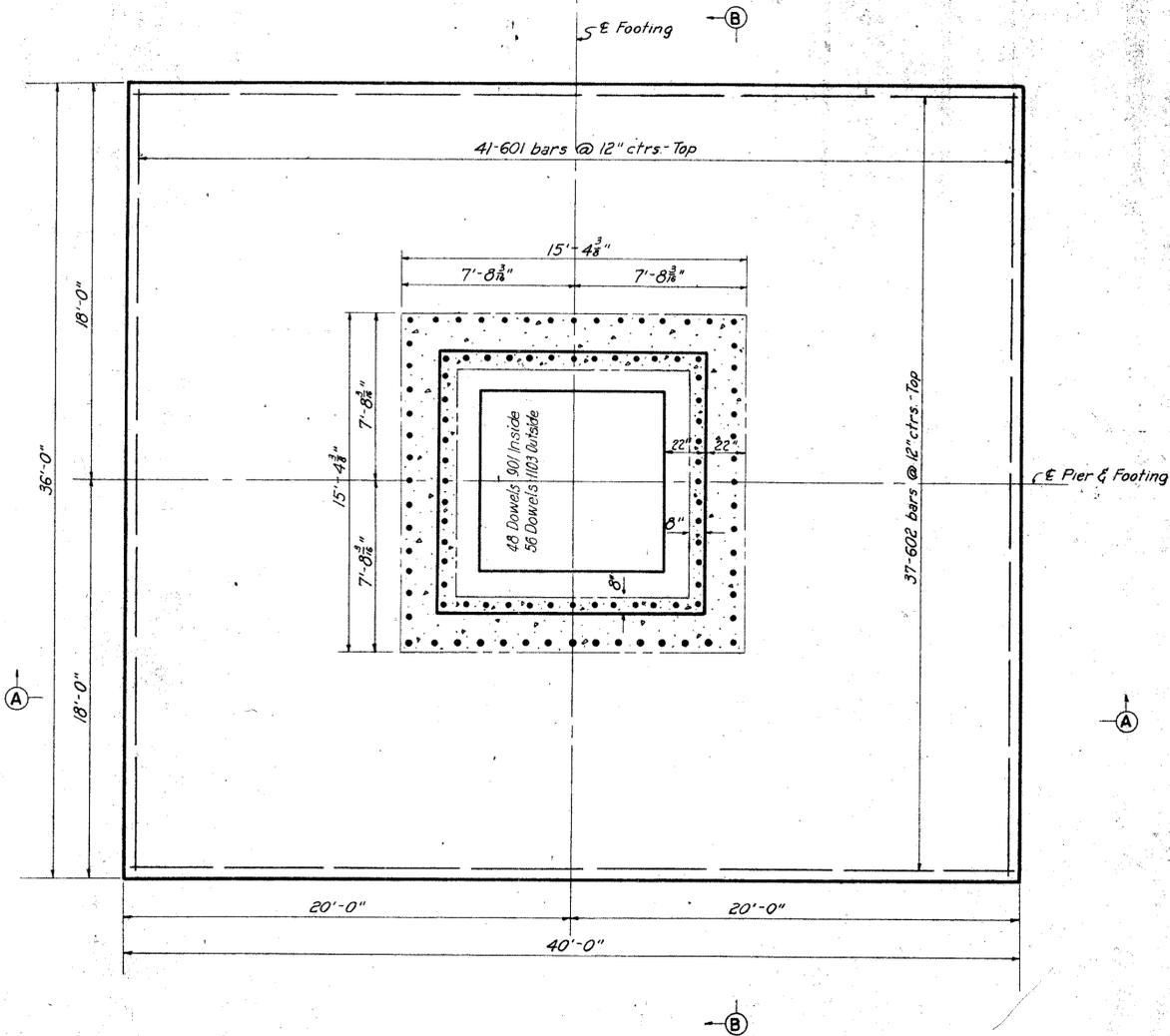
SCALE: as shown
MADE: DER DATE: 2-8-54
TRCD: E.J.B. DATE: 5-4-54
CKD: C.J.C. DATE: 2-25-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET: 115

Superseded by Sheet 15A
2-15-55

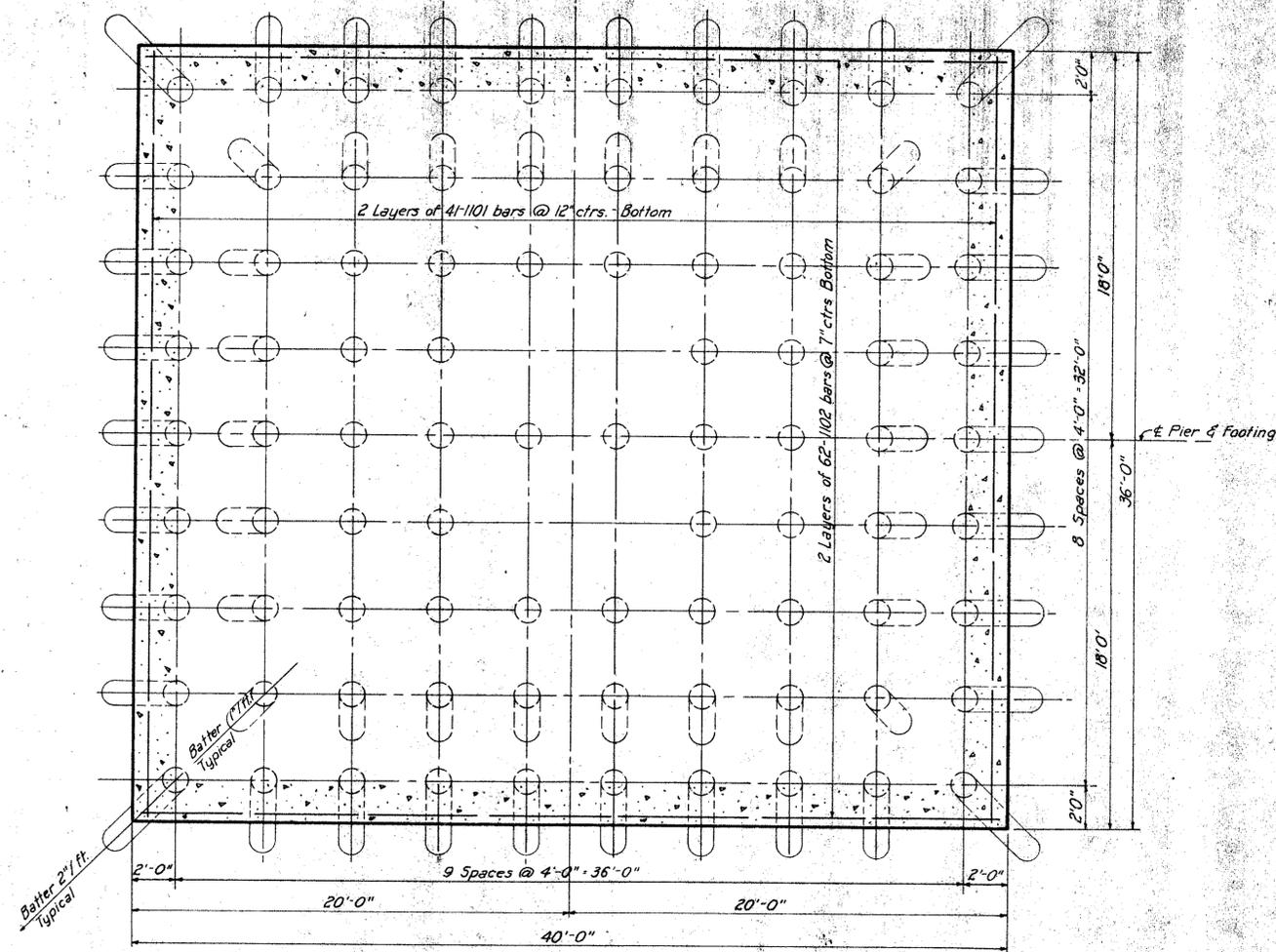
MICROFILMED
FEB 25 1983

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	15A 43

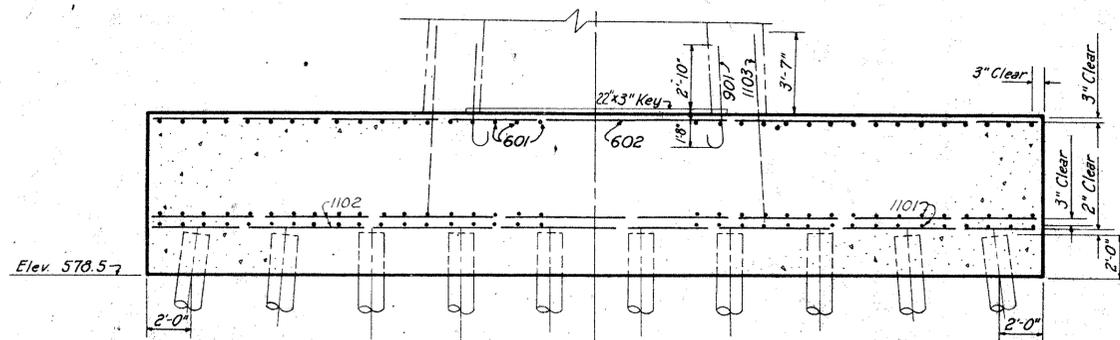
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50



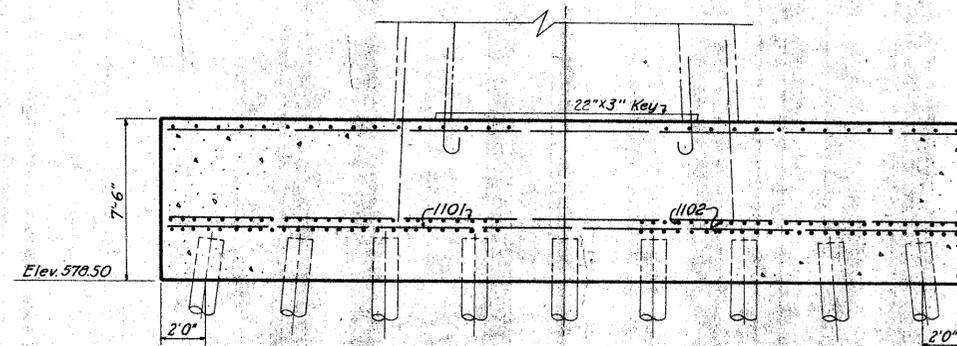
PLAN
Scale: 1/4" = 1'-0"



PILE PLAN
Scale: 1/4" = 1'-0"



SECTION A-A
Scale: 1/4" = 1'-0"



SECTION B-B
Scale: 1/4" = 1'-0"

Note:
66-14" Cast-in-Place Reinforced Concrete Piles With a Nominal design capacity of 65 tons. Estimated Length 90 ft. each. Batter Outside Row of Piles 2" per ft. and Batter Second Row of Piles 1" per ft. for Footing 15 only. For Reinforcement Schedule See Sheets 30 and 31.
For Footing 11, batter outside Row of piles 2" per foot on East, South and West sides of footing. Batter second row of piles 1" per ft. all sides and outside row of piles 1" per ft. on North side of footing.

PART 2
U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT
PIER FOOTINGS IN, AND IS

CLEVELAND	CUYAHOGA COUNTY	OHIO
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SCALE: AS SHOWN
MADE D.E.R. DATE: 2-8-54
TRCD. J.B. DATE: 6-7-54
CHK. C.J.C. DATE: 2-25-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET 115

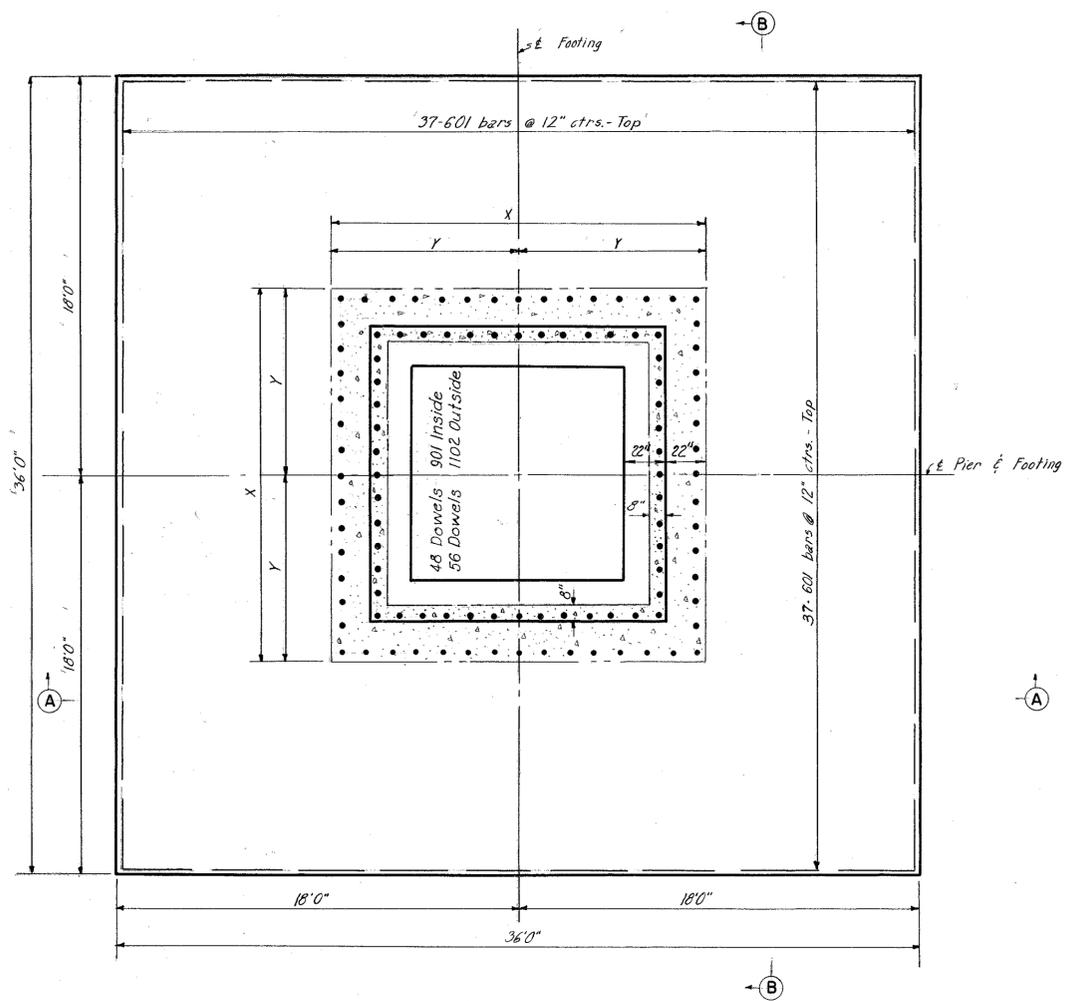
Supersedes Sheet 15
Revised pile batters. GA 2-15-55

MICROFILMED
FEB 25 1983

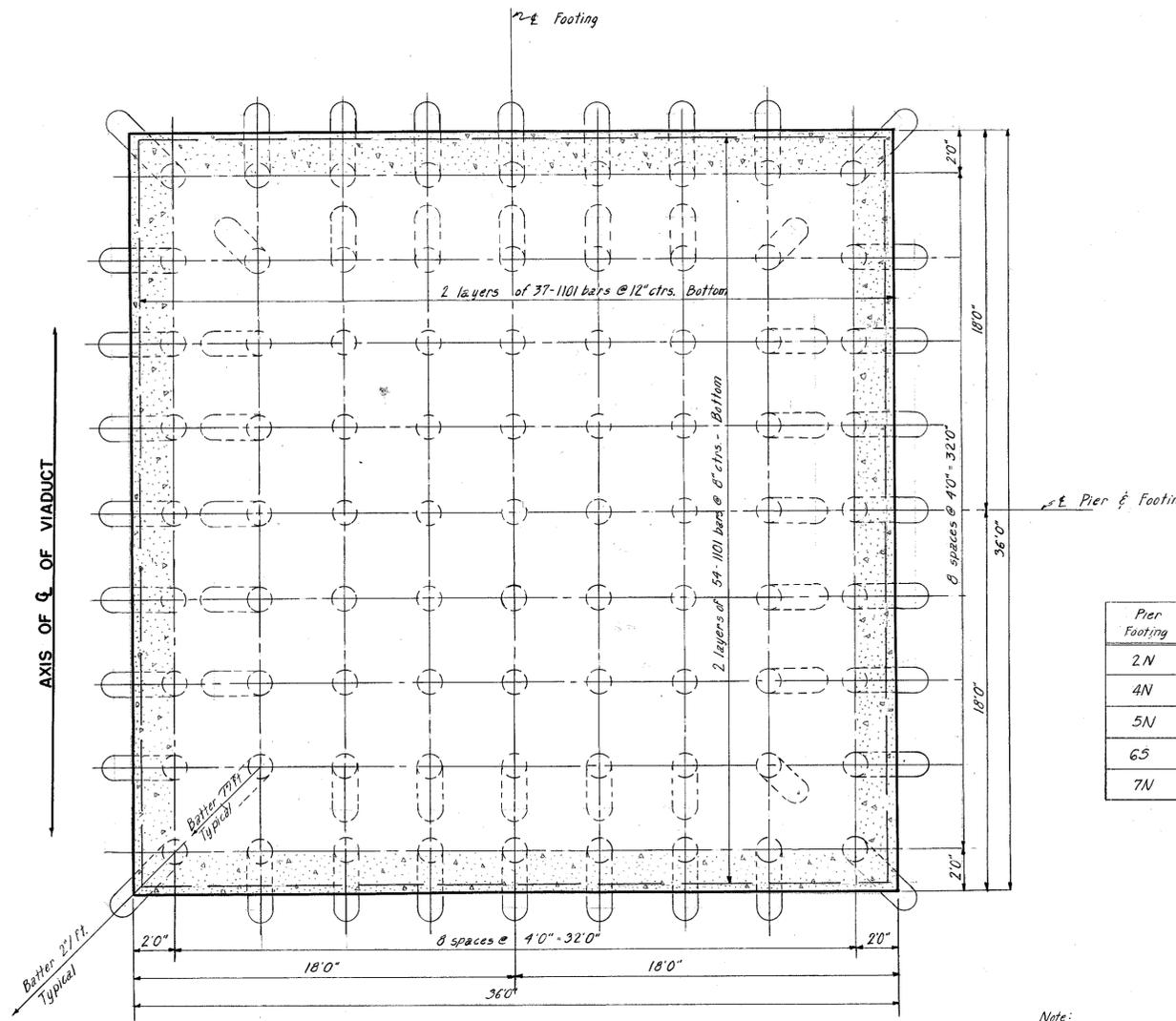
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

16
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50



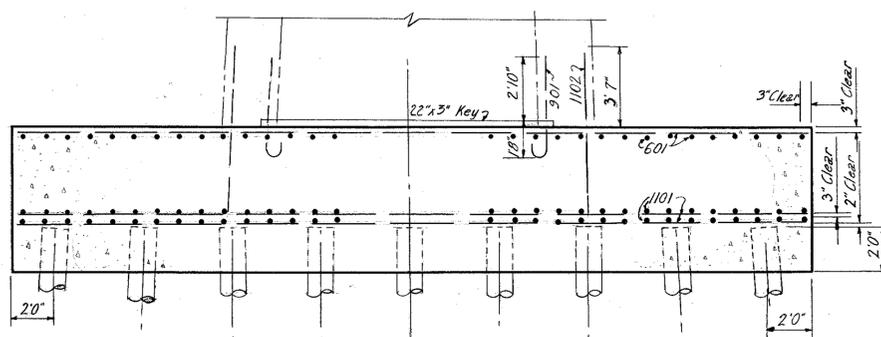
PLAN
Scale 1/4" = 1'-0"



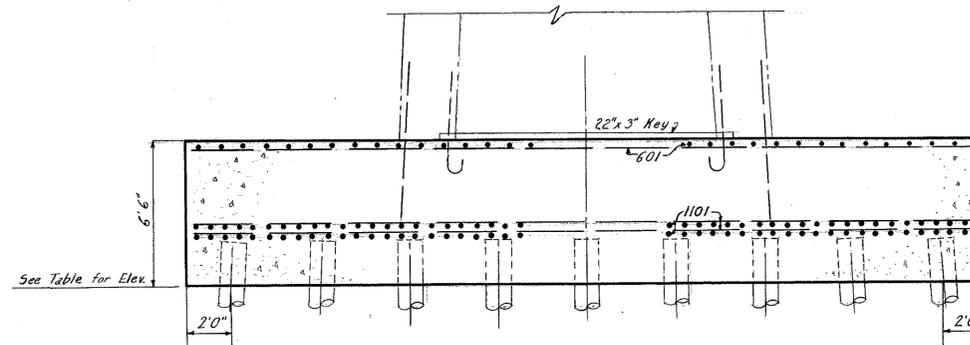
PILE PLAN
Scale 1/4" = 1'-0"

Pier Footing	X	Y	Bottom of Footing Elev.	Estimated Pile Lengths
2N	16'-0 7/8"	8'-1 7/8"	565.5	90'
4N	16'-1 1/8"	8'-5 1/8"	567.5	90'
5N	17'-1 1/8"	8'-6 1/8"	568.5	85'
6S	16'-10 3/8"	8'-5 3/8"	569.5	80'
7N	16'-9 3/8"	8'-4 3/8"	568.5	70'

Note:
81'-14" Cast-In-Place Reinforced Concrete Piles with a nominal design capacity of 65 Tons. Batter outside row of piles 2" per ft, and second row 1" per foot.
For reinforcement schedule, see Sbs. 30 and 31.



SECTION A-A
Scale 1/4" = 1'-0"



SECTION B-B
Scale 1/4" = 1'-0"

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

PIER FOOTINGS 2N, 4N, 5N, 6S, AND 7N

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE AS SHOWN
MADE BY DATE 2-6-59 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCD. C.B. DATE 5-7-58 CONSULTING ENGINEERS
CKD. C.W.C. DATE 2-25-58 KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET 1.16

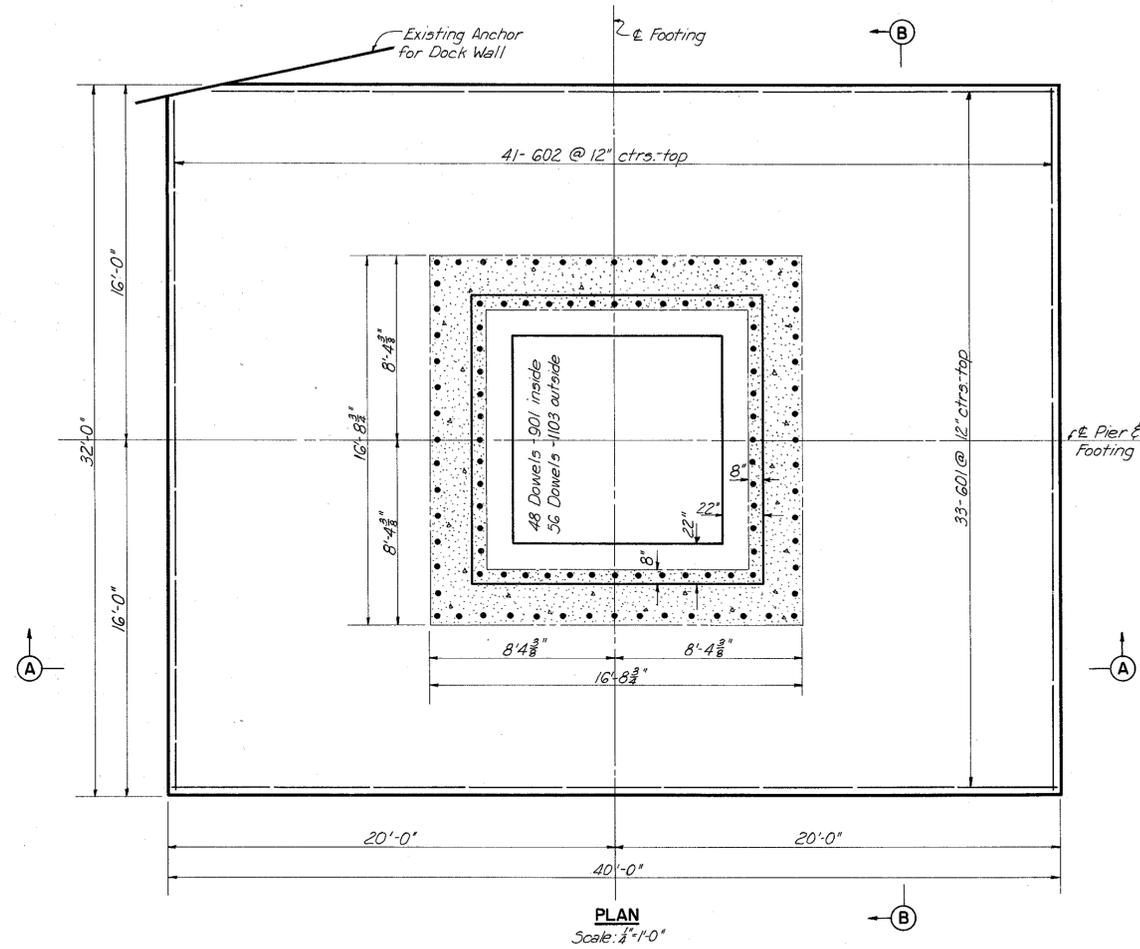
UNRECORDED
FEB 25 1954

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

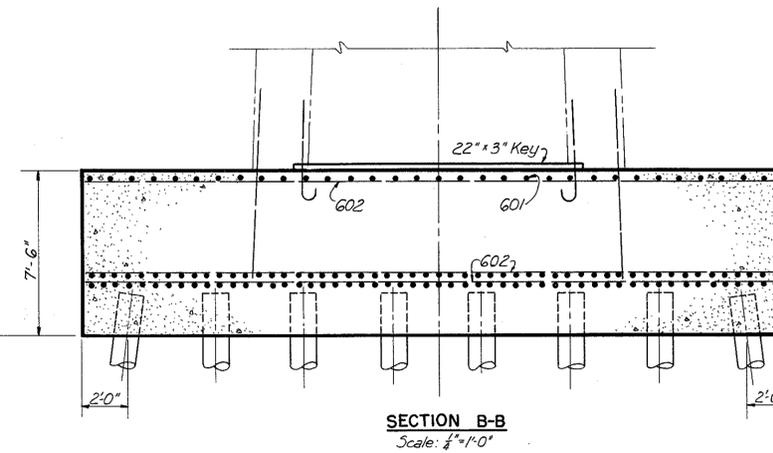
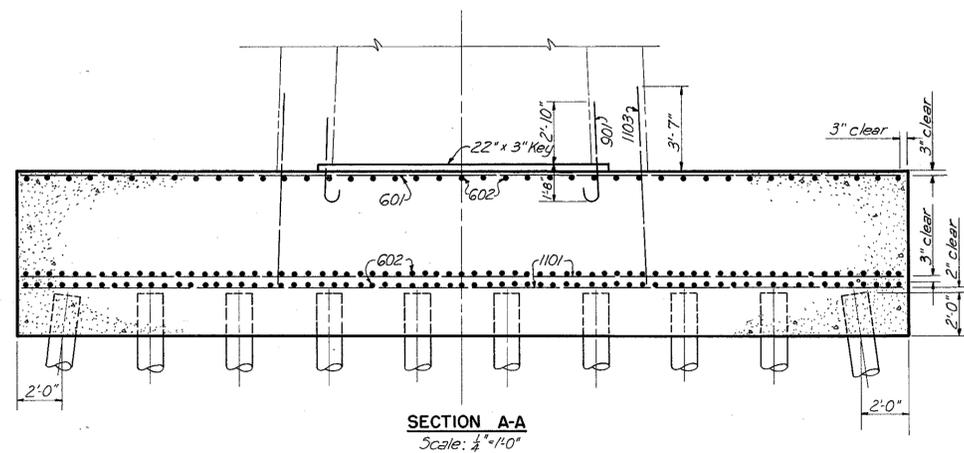
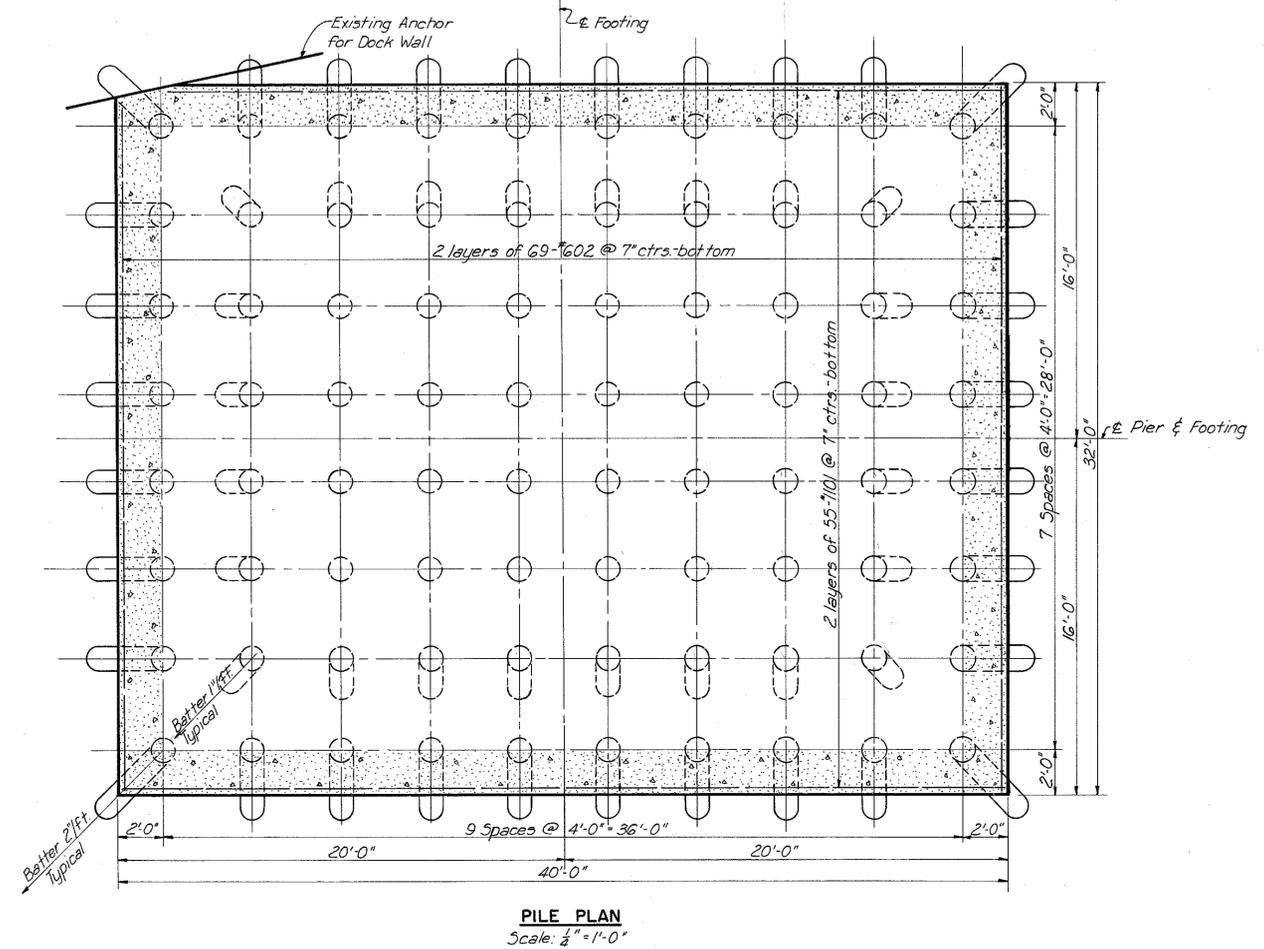
17
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50

Note: Cut or bend reinforcing steel in the field as required to clear the steel pile dock wall.
The exact location of the existing dock wall anchor is not known. After excavation is completed, it may be necessary to move the corner pile in toward the center of the footing. Maintain an edge distance of 1'-9" from the top center of the pile to the surface of concrete poured directly against the dock wall anchor.



AXIS OF ϵ OF VIADUCT



Note: 80-14" cast-in-place reinforced concrete piles with a nominal design capacity of 65 tons each. Estimated length 90 ft each. Batter outside row of piles 2" per ft, and batter second row of piles 1" per ft. For reinforcing schedule, see Shs. 30 and 31.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

PIER FOOTING 2S

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: AS SHOWN
MADE D.E.R. DATE 6-9-54
TRCD. M.A.M. DATE 6-25-54
CKD. V.S.S. DATE 6-28-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
CLEVELAND KANSAS CITY NEW YORK

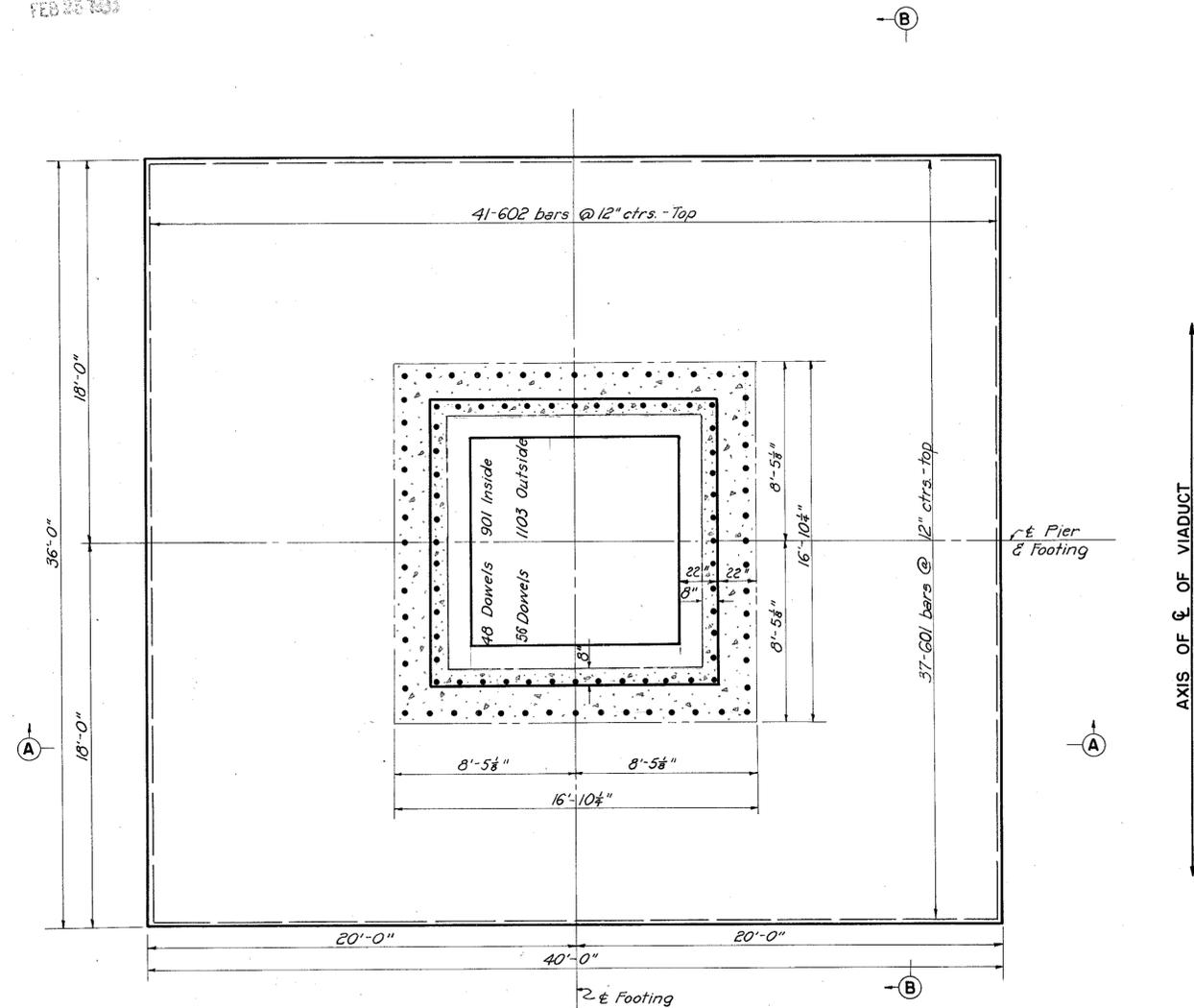
914-1A SHEET 1.17

MICROFILMED
FEB 28 1954

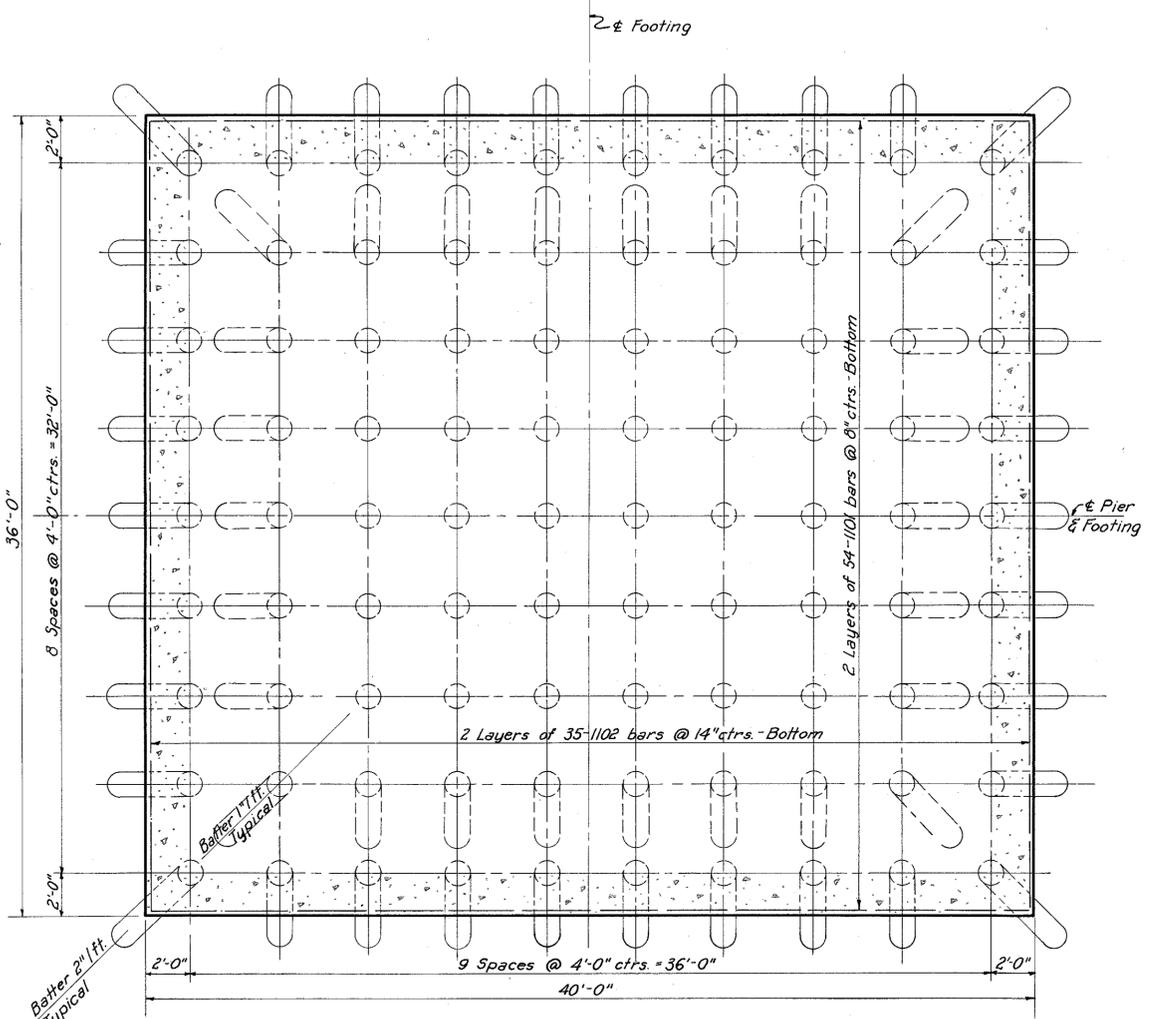
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

18
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50

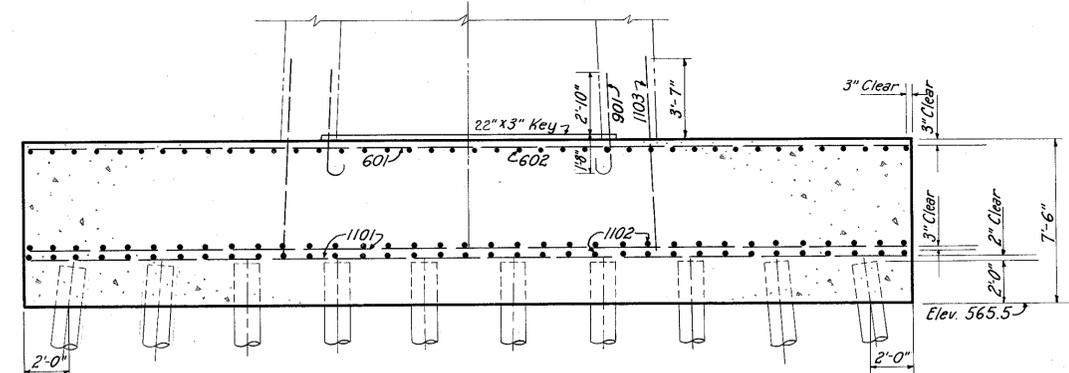


PLAN
Scale: 1/4" = 1'-0"

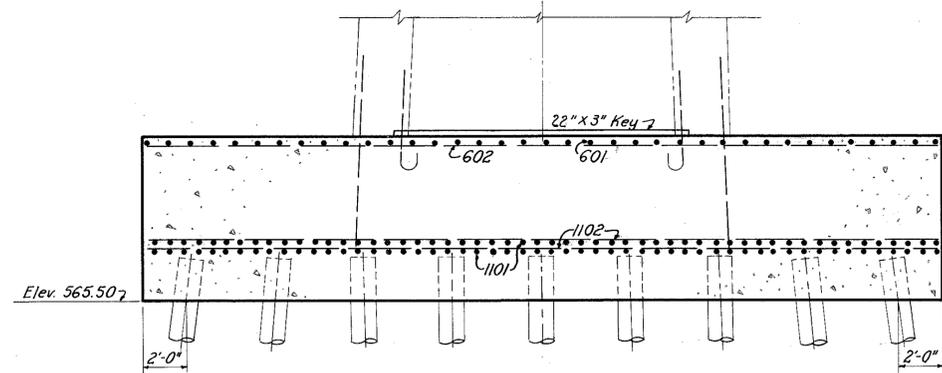


PILE PLAN
Scale: 1/4" = 1'-0"

Note:
90-14" ϕ Cast-in-Place Reinforced Concrete Piles With a Nominal Design Capacity of 65 Tons for Each Footing. Estimated Length 90 ft. Each. Batter Outside Row of Piles 2" per ft. and Batter Second Row 1" per ft. For Reinforcement Schedule, see Shs. 30 and 31.



SECTION A-A
Scale: 1/4" = 1'-0"



SECTION B-B
Scale: 1/4" = 1'-0"

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

PIER FOOTINGS 3N AND 3S

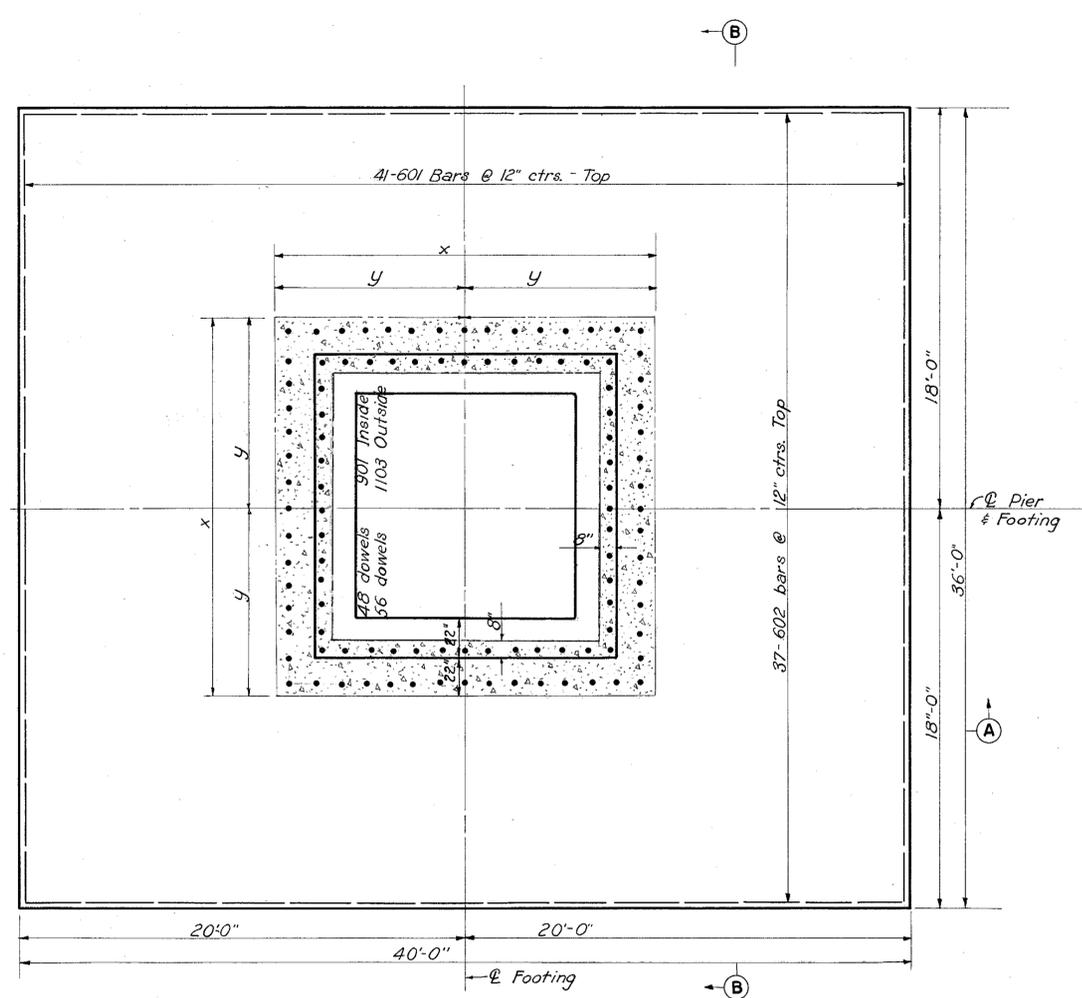
CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: as shown
MADE BY: H.C.G. DATE: 2-9-54
TRCD BY: E.J.B. DATE: 5-7-54
CHKD BY: C.J.C. DATE: 2-25-54

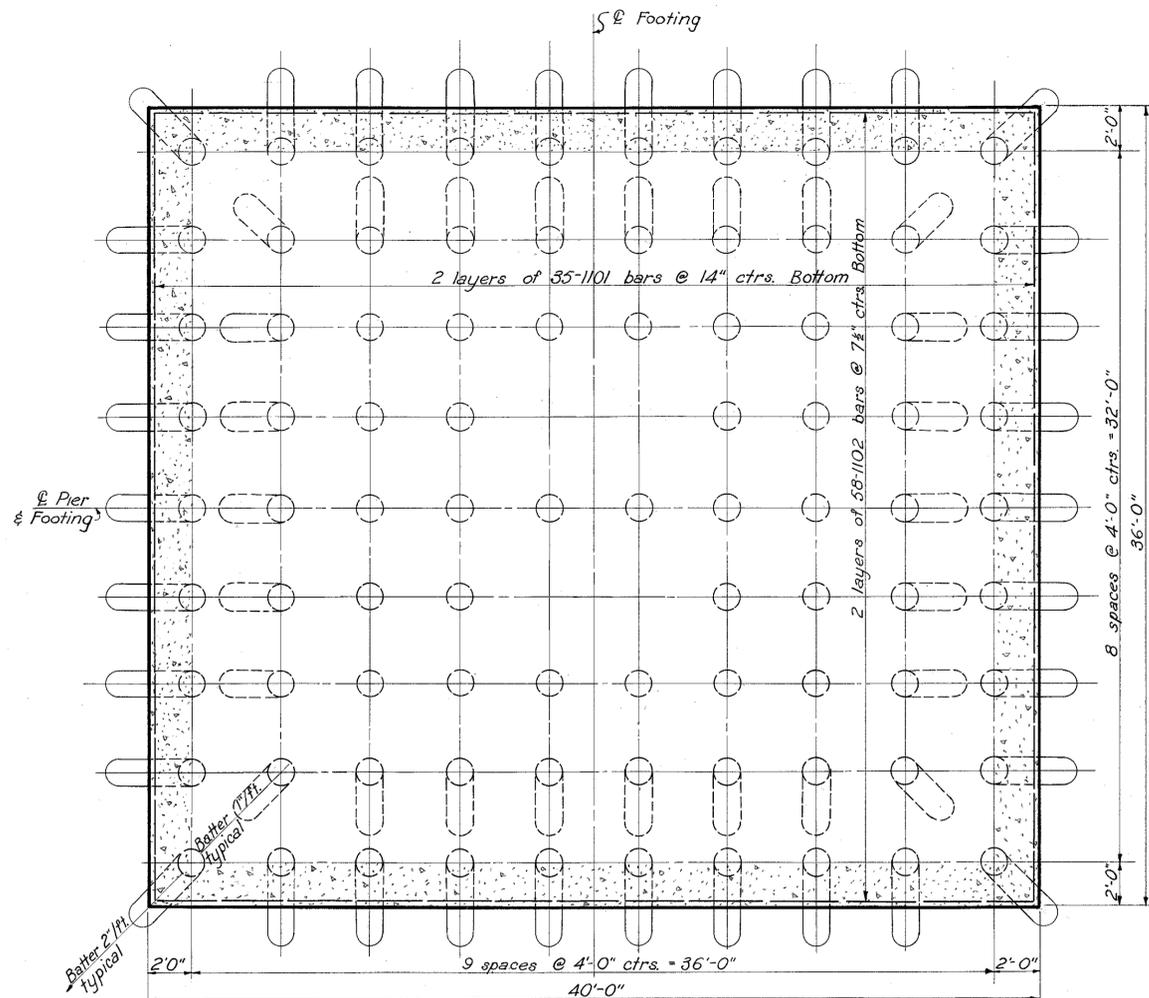
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

914-1A SHEET 1.18

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42 R-17.50



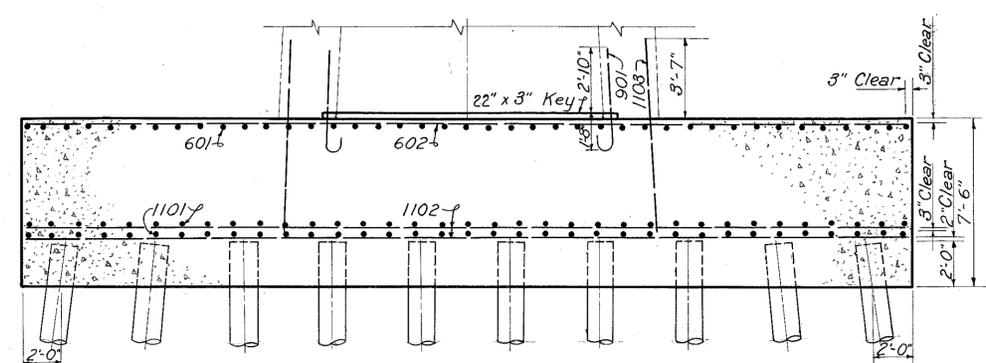
PLAN
Scale: 1/4" = 1'-0"



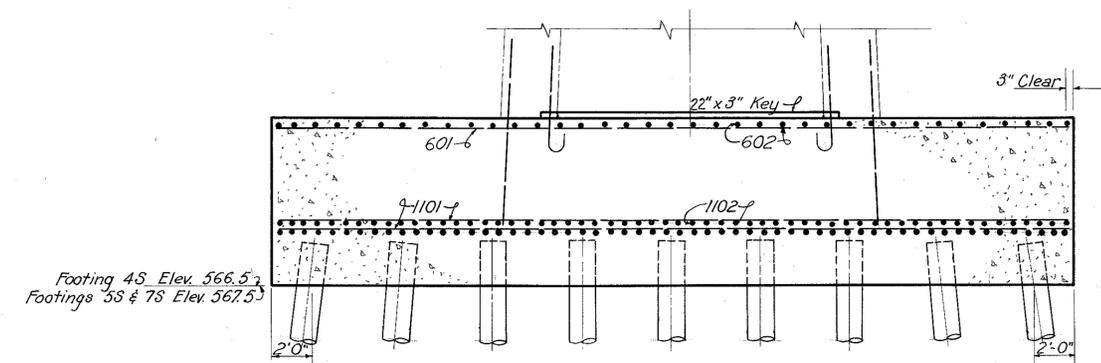
PILE PLAN
Scale: 1/4" = 1'-0"

Pier Footing	x	y	Estimated pile length
4S	16'-11 1/2"	8'-5 1/2"	90ft.
5S	17'-1 1/8"	8'-6 1/2"	85ft.
7S	16'-9 3/4"	8'-4 3/4"	70ft.

Note:
86-14" ϕ cast-in-place reinforced concrete piles with a nominal design capacity of 65 tons for each pile. Batter outside row 2" per foot, and batter second row 1" per foot.
For reinforcing schedule see sheets 30 and 31.



SECTION A-A
Scale: 1/4" = 1'-0"



SECTION B-B
Scale: 1/4" = 1'-0"

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

PIER FOOTINGS 4S, 5S, AND 7S

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE AS NOTED
MADE E.G. DATE 2-5-54
TRCD C.H.B. DATE 6-9-54
CKD C.I.C. DATE 2-22-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

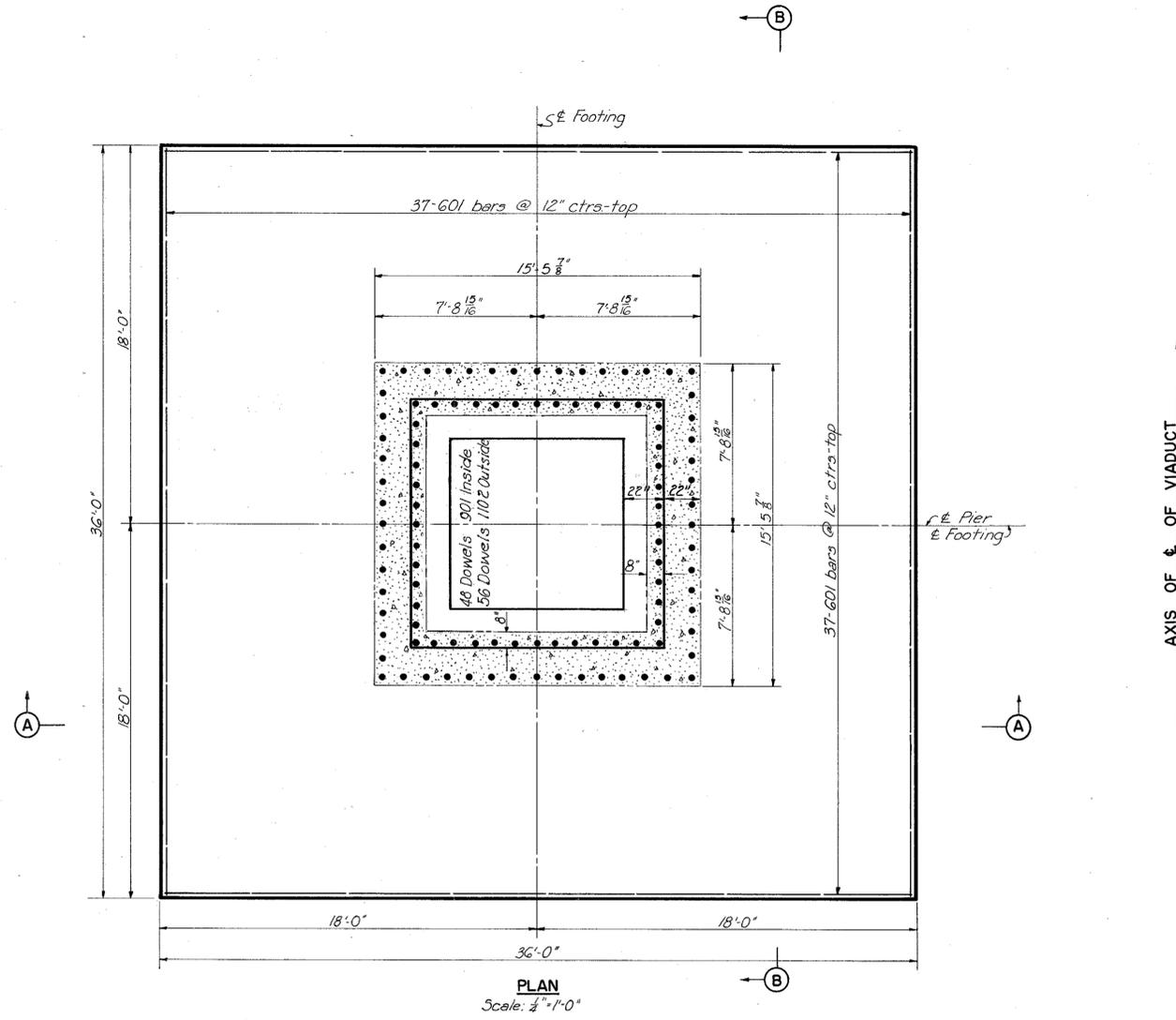
914-1A SHEET-1.19

PROPOSED
FEB 25 1954

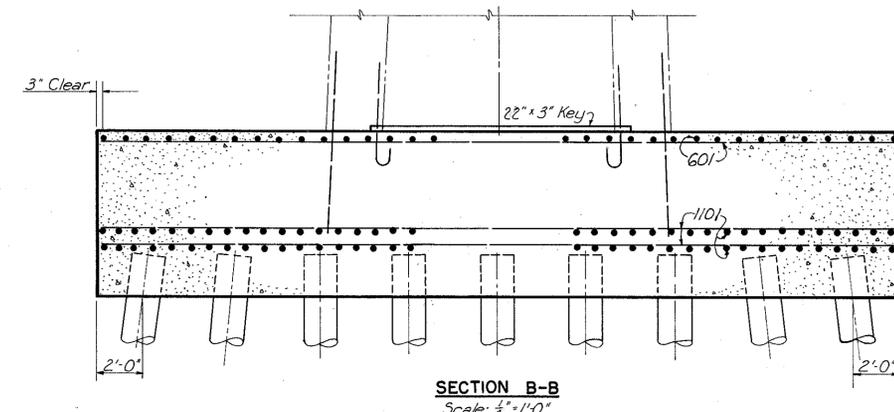
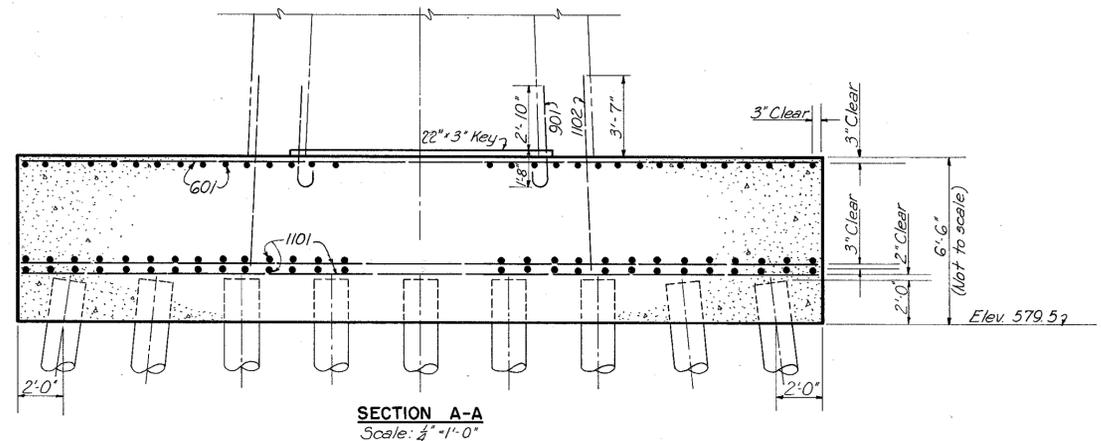
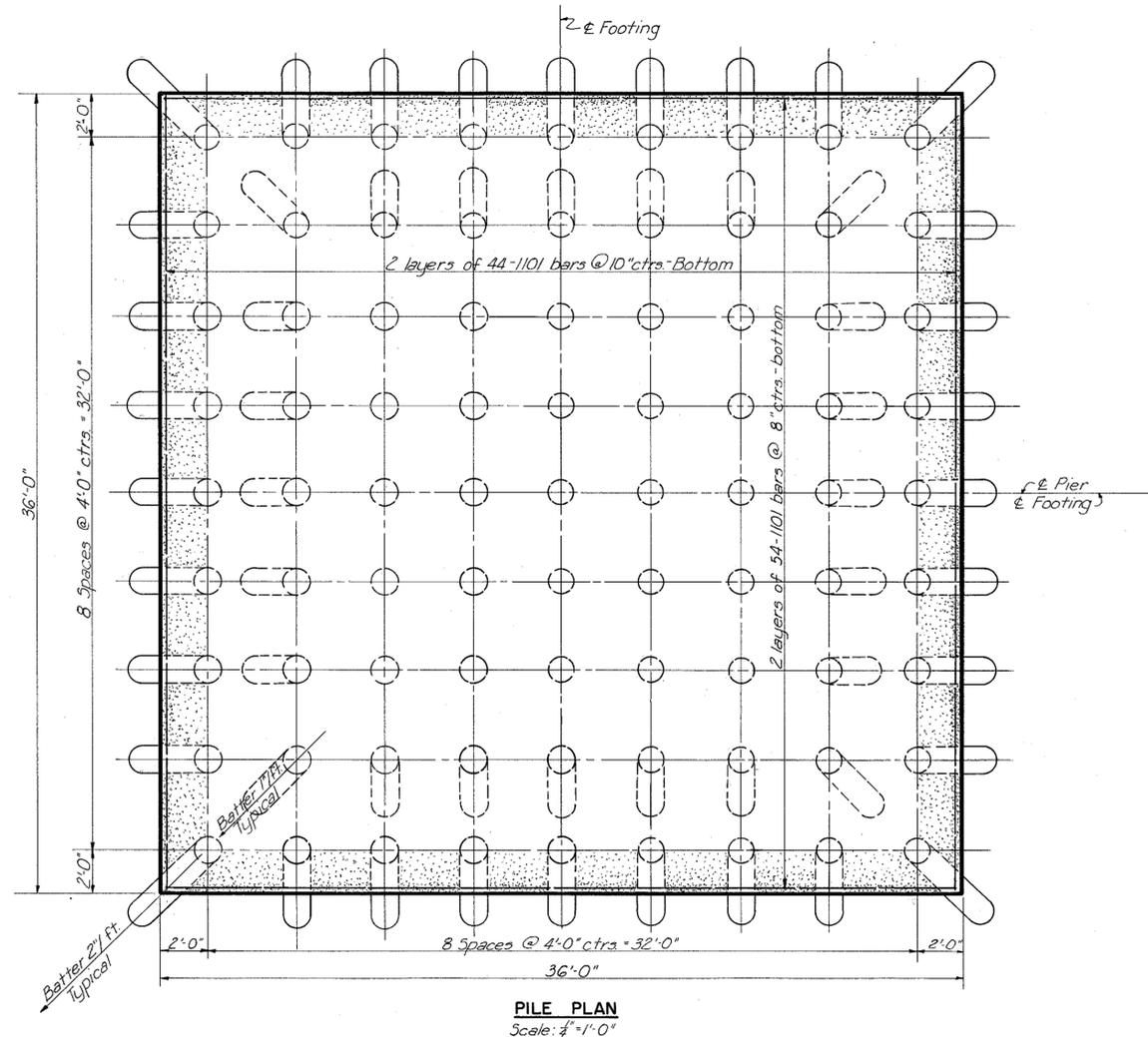
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

21
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50



AXIS OF \perp OF VIADUCT



Note:
8'-14" cast-in-place reinforced concrete piles required per footing. Nominal design capacity 65 tons per pile. Estimated length 60 feet each. Batter outside row 2" per foot, and batter second row 1" per foot. For Reinforcement Schedule, see 5hs. 30 and 31.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

PIER FOOTINGS 8N AND 8S

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE $\frac{1}{4}$ " = 1'-0"

MADE W.E.G. DATE 2-10-54 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCD. N.A.M. DATE 6-7-54 CONSULTING ENGINEERS
CKD. C.J.G. DATE 2-25-54 KANSAS CITY CLEVELAND NEW YORK

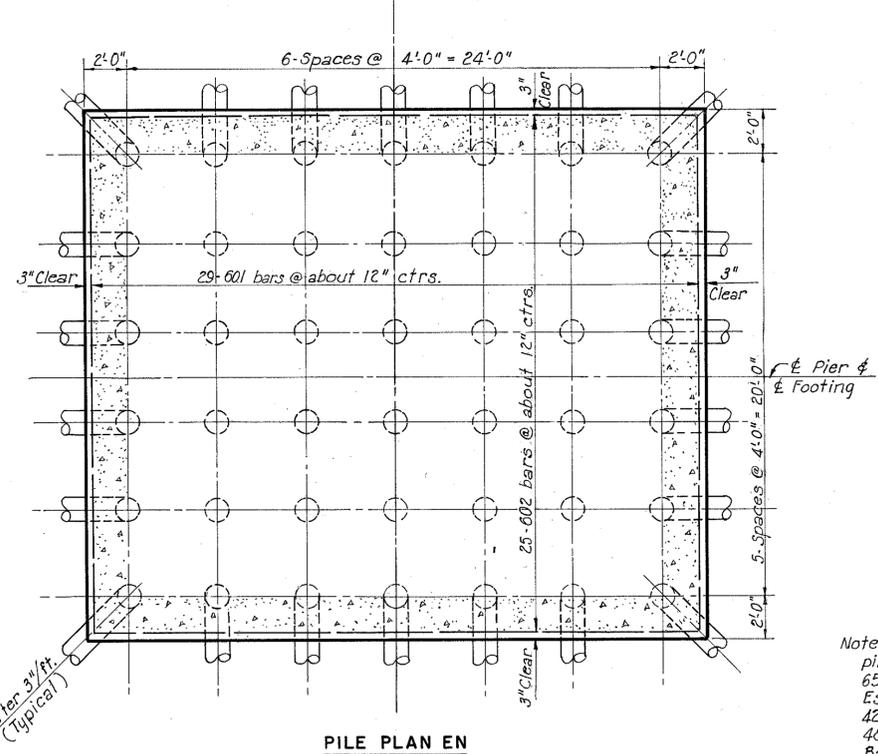
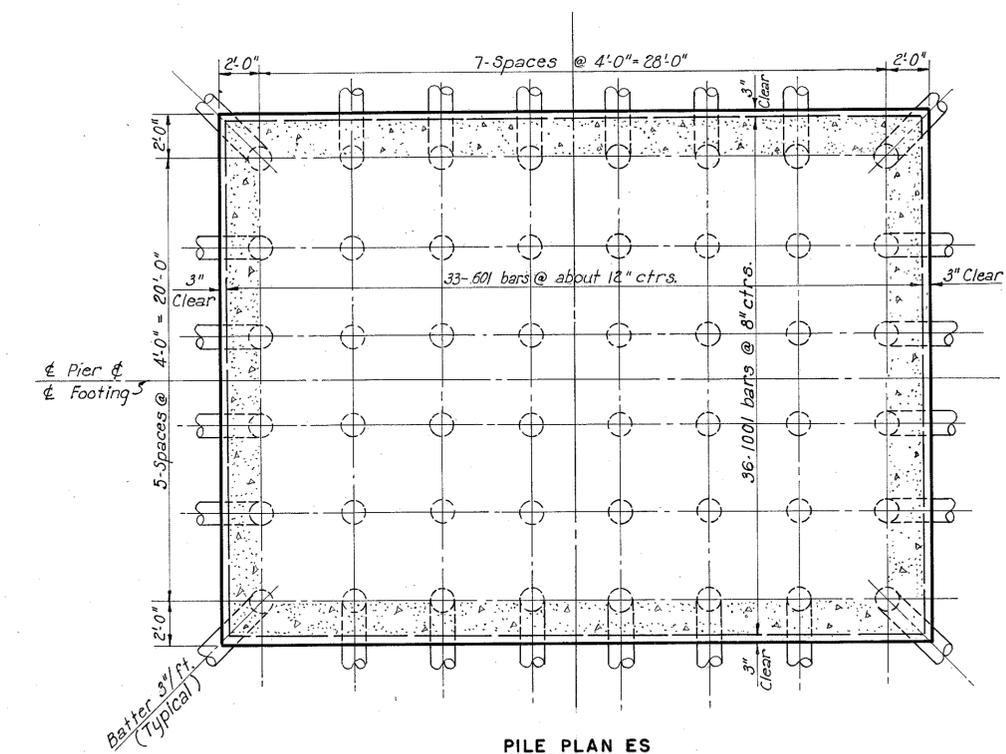
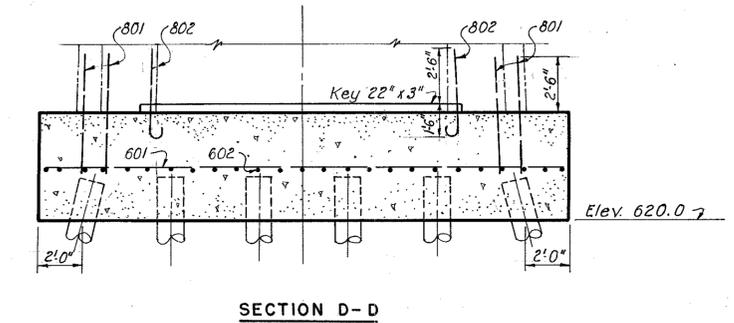
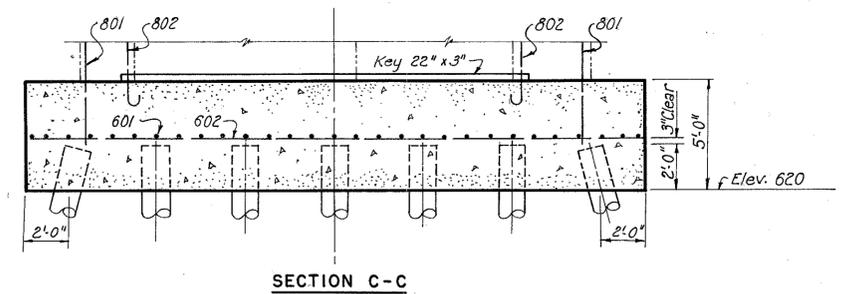
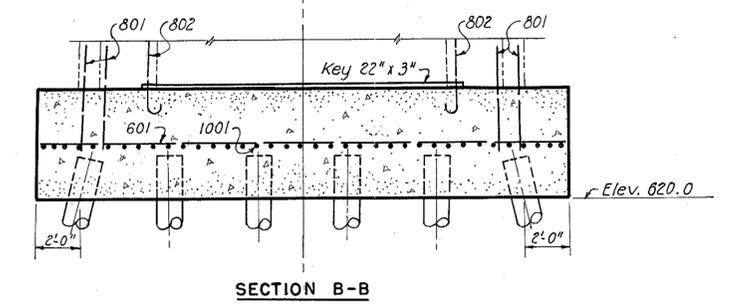
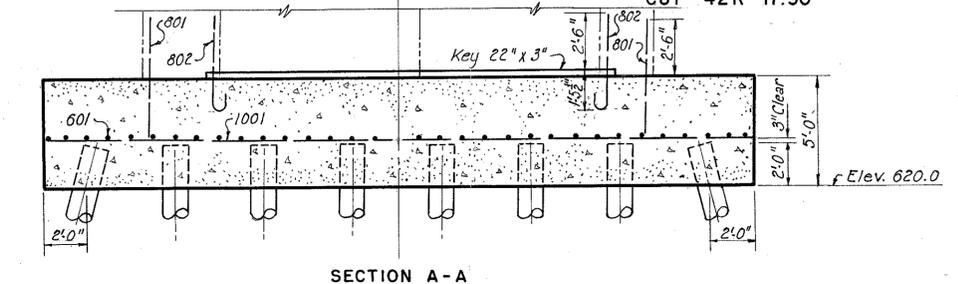
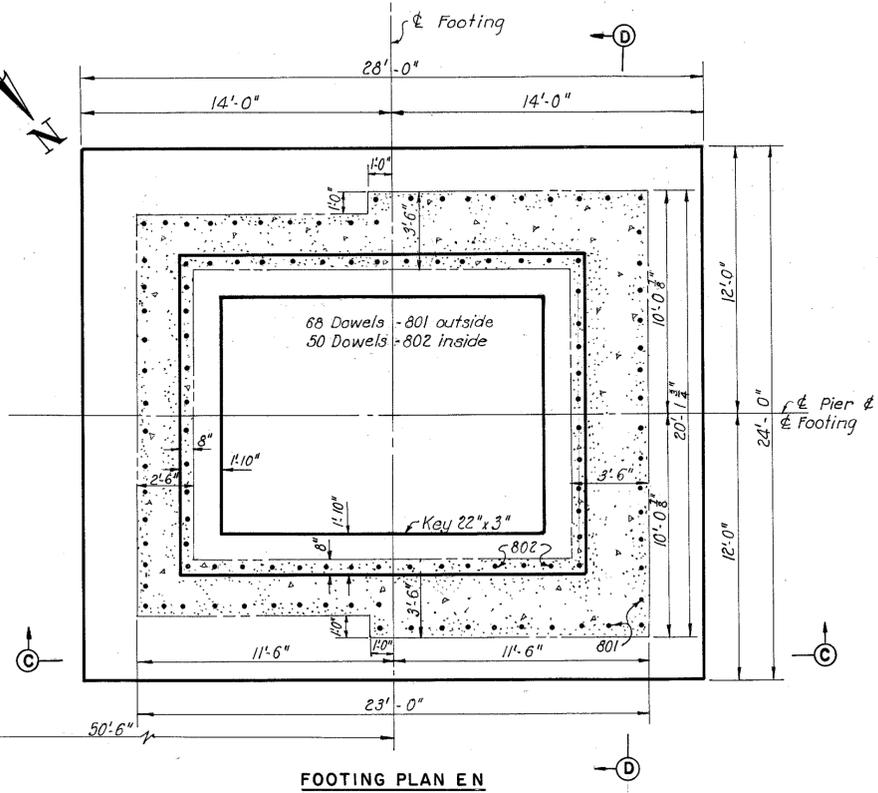
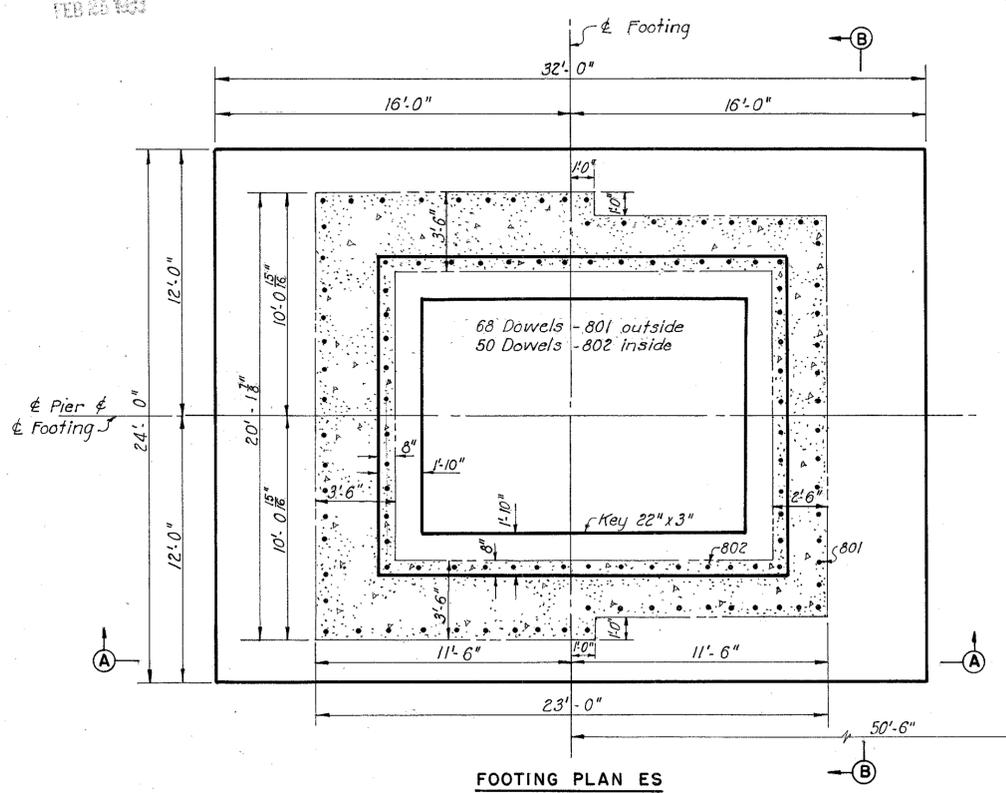
914-1A SHEET-1.21

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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50

MICROFILMED
FEB 28 1953



Note: 14" cast-in-place reinforced concrete piles with a nominal design capacity of 65 tons each.
Estimated length 40 feet each.
42 piles for footing EN.
48 piles for footing ES.
Batter outside row of piles 3" per foot.
For reinforcing schedule, see Sheet 32.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

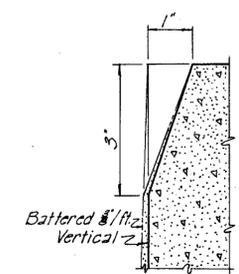
EAST END PIER FOOTINGS, EN AND ES

CLEVELAND CUYAHOGA COUNTY OHIO

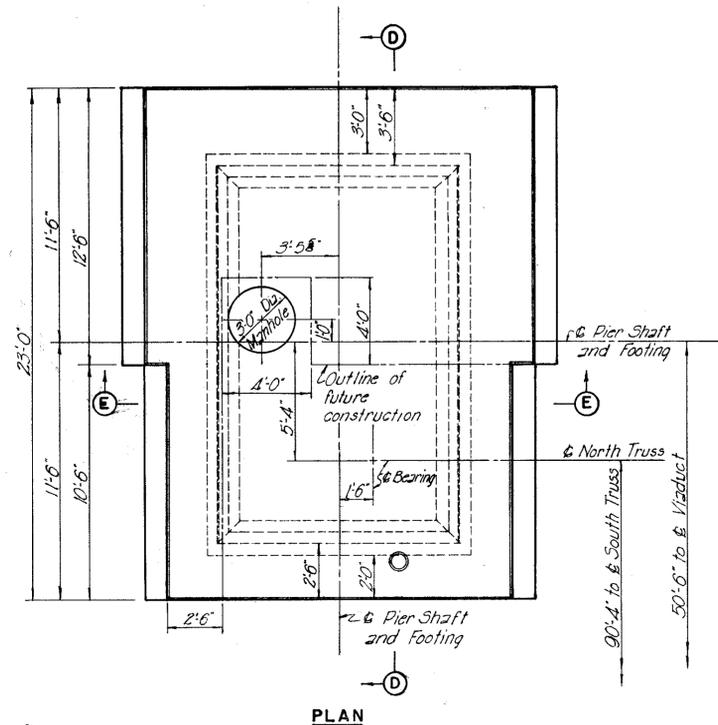
SCALE: 1/4" = 1'-0"

MADE D.E.R. DATE 6-25-54 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS
TRCD. A.H. DATE 6-28-54 KANSAS CITY CLEVELAND NEW YORK
CKD. D.E.R. DATE 7-6-54 914-1A SHEET 1.22

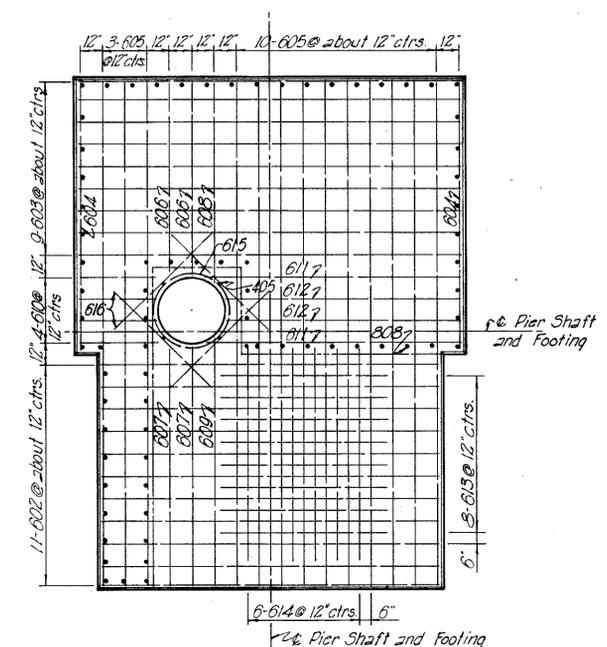
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42R - 17.50



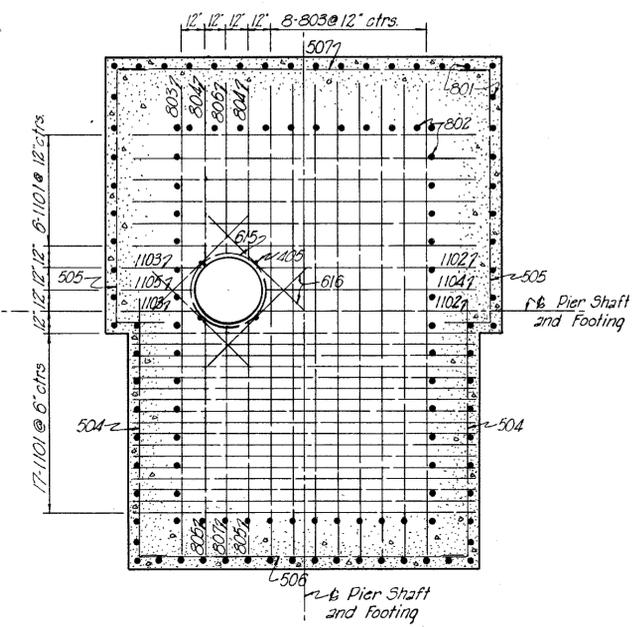
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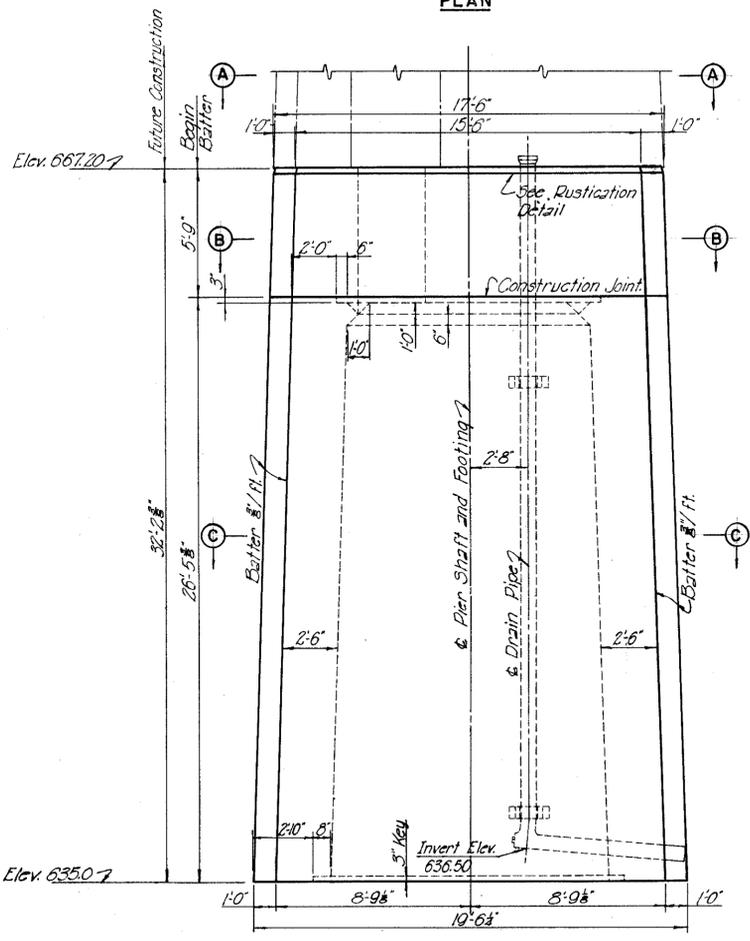
PLAN



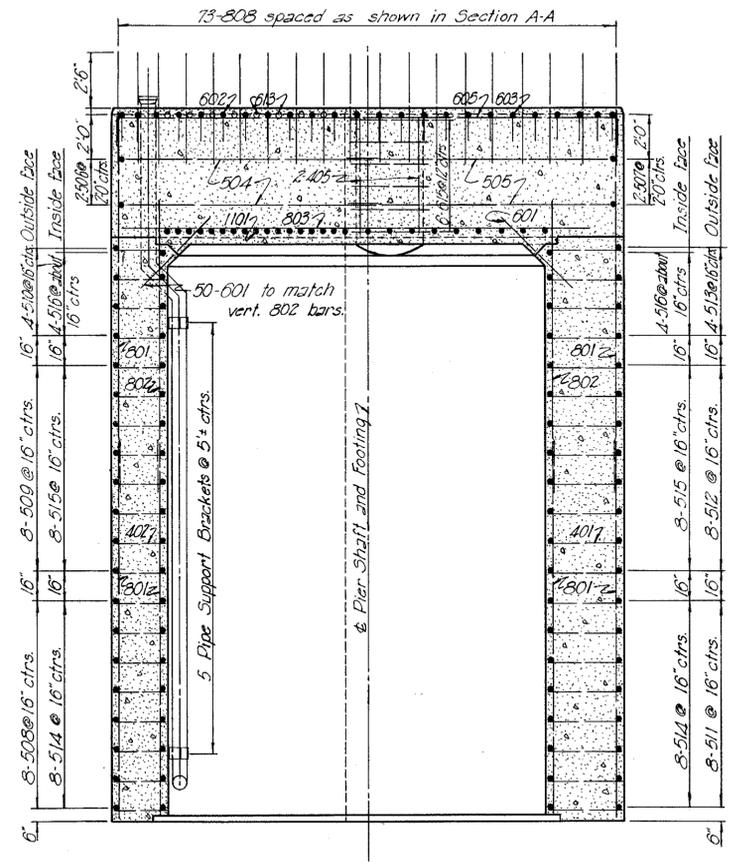
SECTION A-A



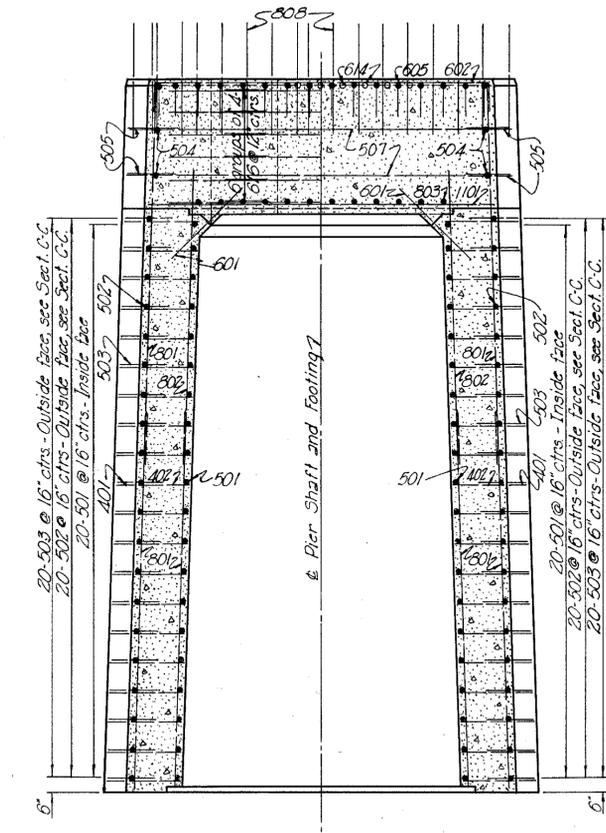
SECTION B-B



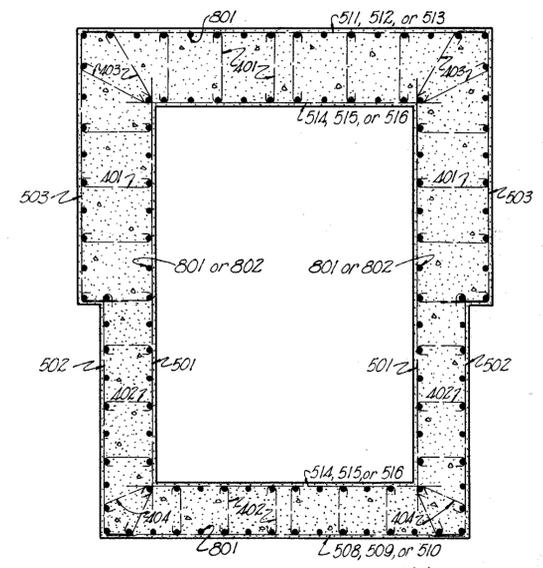
ELEVATION



SECTION D-D



SECTION E-E



SECTION C-C

Note:
All bars shall have a minimum clearance of 2" from face of concrete.
For location and details of ladder rungs see Sh. 28.
For details of drain pipe and manhole cover see Sh. 28.
For details of Footing see Sh. 14.
For Reinforcement Schedule see Sh. 32.
For Anchor Bolt Detail and Anchor Bolt Spacing see Sh. 29.

Note:
801 and 802 bars to be spaced as shown above.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

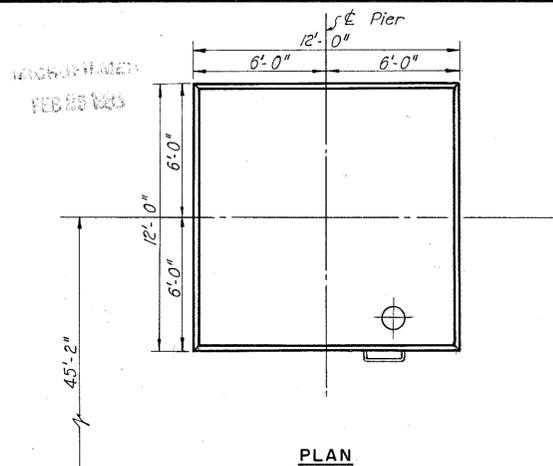
WEST END PIER SHAFT, WN

CLEVELAND	CUYAHOGA COUNTY	OHIO
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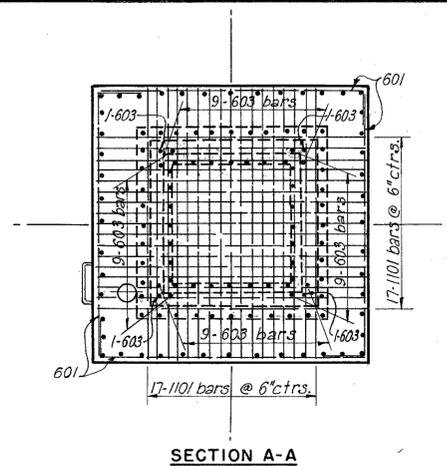
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MADE FOR DATE: 7-1-54
TRCD: DATE: _____
CKD: CJC DATE: 7-7-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET: 1.23

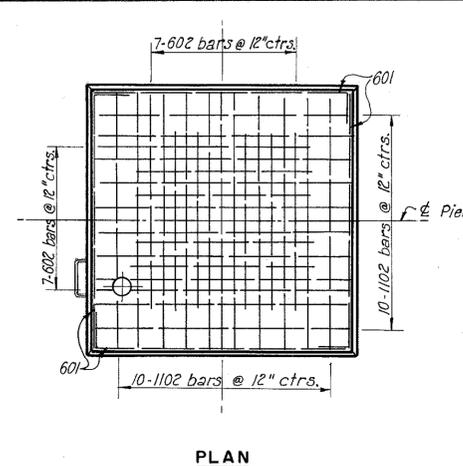
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50



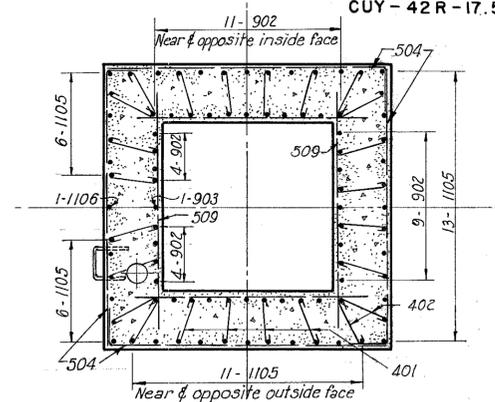
PLAN



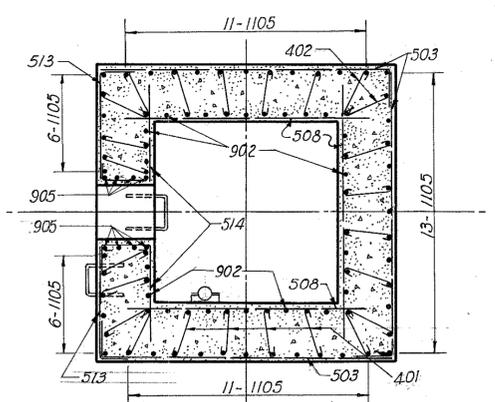
SECTION A-A



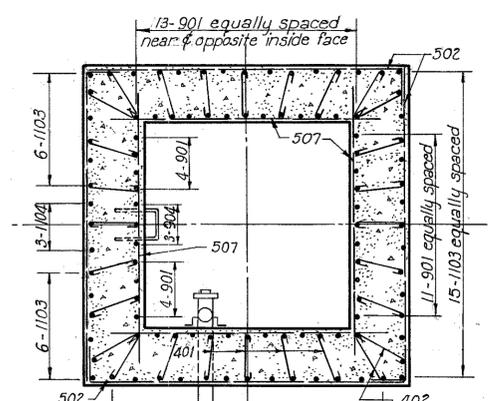
PLAN



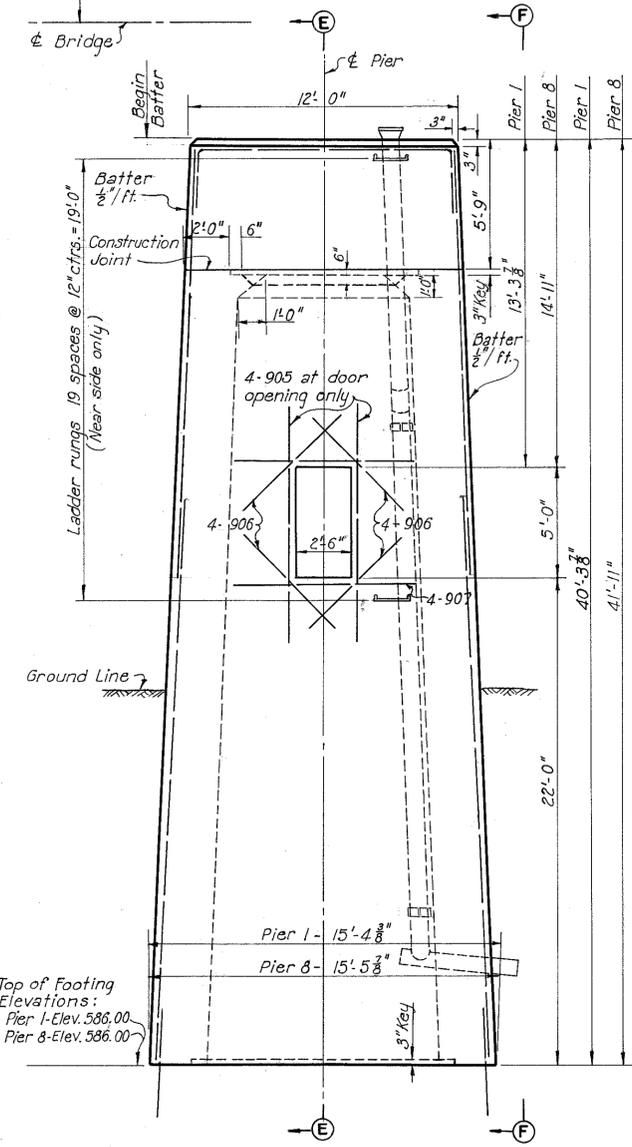
SECTION B-B



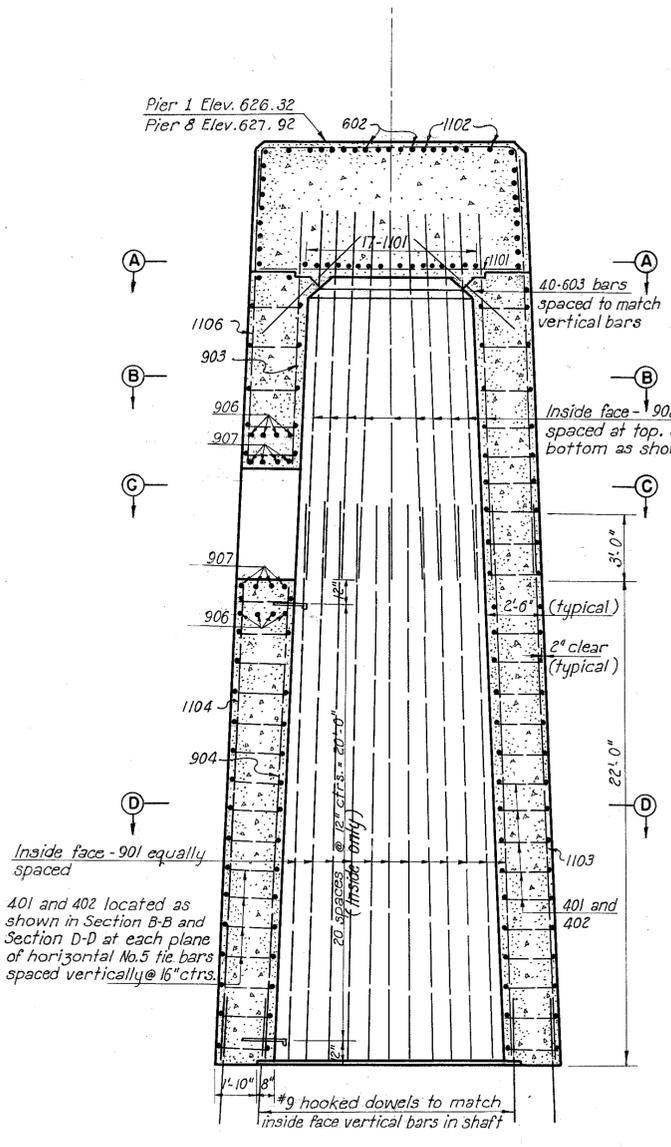
SECTION C-C



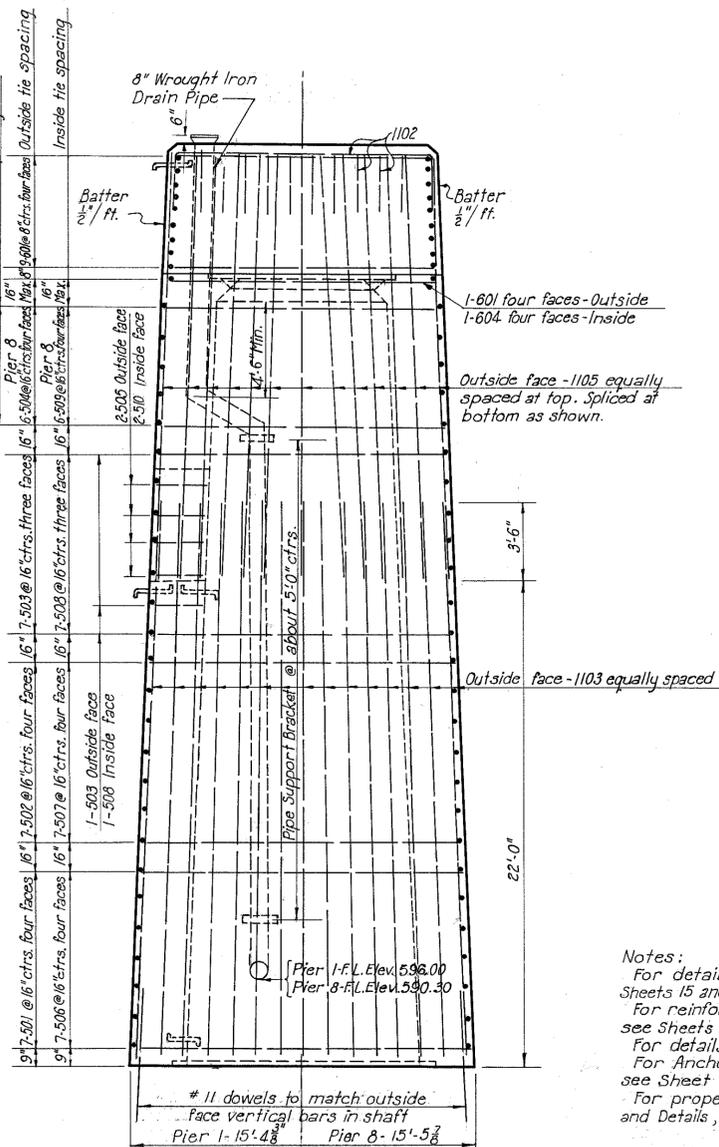
SECTION D-D



ELEVATION
Looking from Bridge



SECTION E-E



SIDE ELEVATION F-F

Notes:
For details of footings, see Sheets 15 and 21.
For reinforcement schedule, see Sheets 30 and 31.
For details of ladder, see Sheet 28.
For Anchor Bolt Plan and Details see Sheet 29.
For proper location of Drain Pipe and Details, see Sheet 28.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

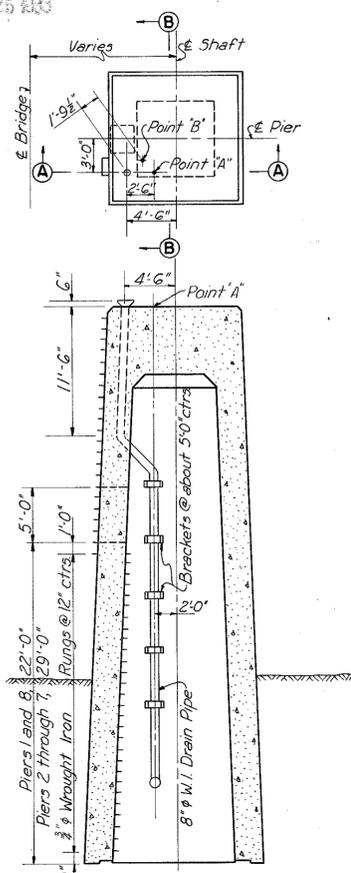
SHAFTS - PIERS I AND 8

CLEVELAND CUYAHOGA COUNTY OHIO

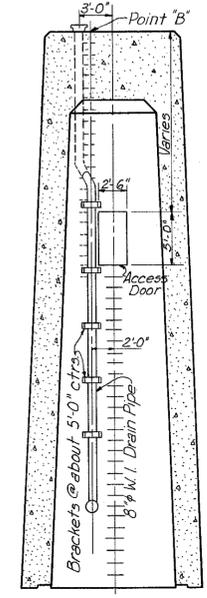
SCALE: 1/4" = 1'-0"

MADE L.I.B. DATE 3-5-54 HOWARD, NEEDLES, TAMMEN & BERGENOFF CONSULTING ENGINEERS
TRCD. A.H. DATE 6-8-54 KANSAS CITY CLEVELAND NEW YORK
CKD. J.G.S. DATE 6-16-54 914-1A SHEET 1.25

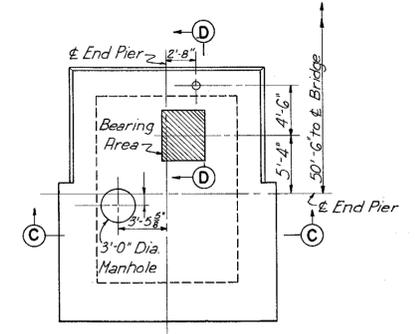
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUI-42R-17.50



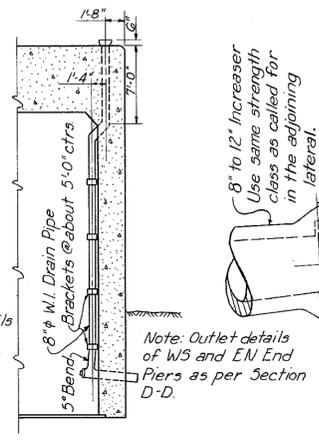
SECTION A-A
CASE 1-PIERS IN, 4N,
6S, 7S, 8S, 8N



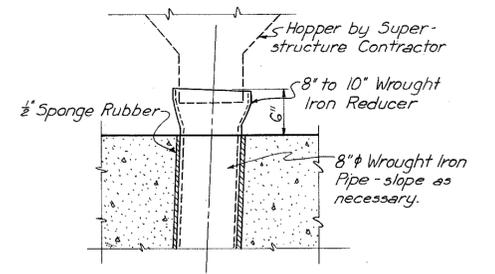
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CASE 2-PIERS IS, 2S,
2N, 3S, 3N, 4S, 5S,
5N, 6N, 7N



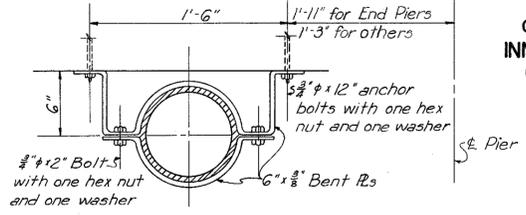
SECTION C-C
LADDER AND DRAIN PIPE DETAILS-END PIERS
No Scale



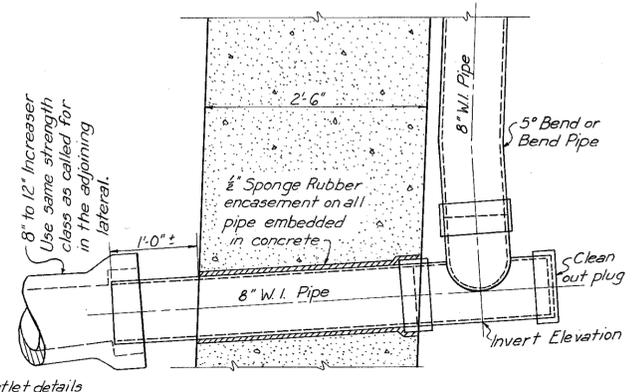
SECTION D-D
LADDER AND DRAIN PIPE DETAILS-END PIERS
No Scale



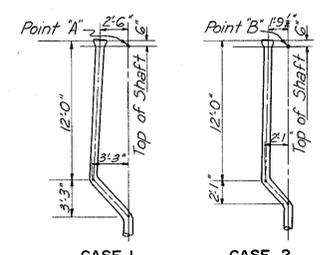
PIPE INLET DETAIL
Scale: 1/2"=1'-0"



PIPE SUPPORT DETAIL
Scale: 1/2"=1'-0"

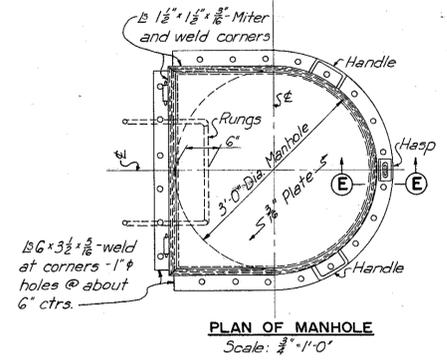


OUTLET DETAIL
Scale: 1/2"=1'-0"

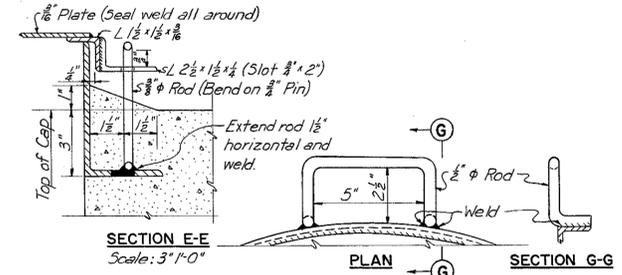


PIPE BENDING DIAGRAMS
Scale: 1/2"=1'-0"

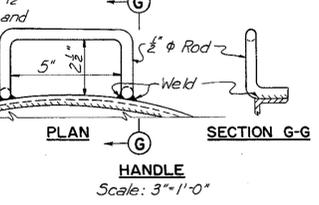
LADDER AND DRAIN PIPE DETAILS
Scale: 3/8"=1'-0"



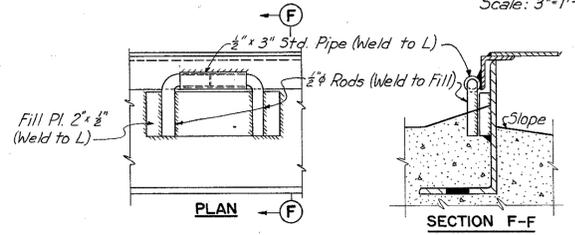
PLAN OF MANHOLE
Scale: 3/8"=1'-0"



SECTION E-E
Scale: 3"=1'-0"

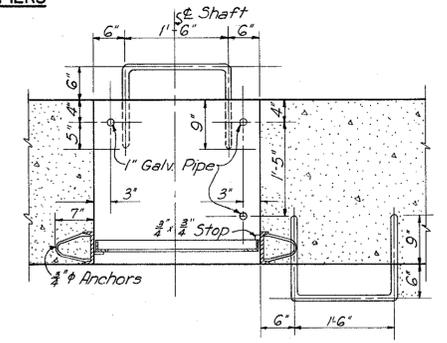


HANDLE
Scale: 3"=1'-0"

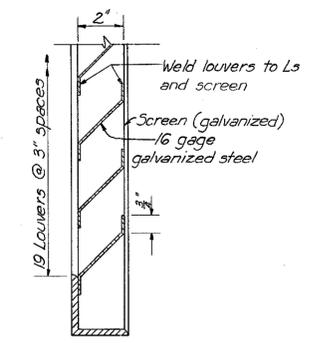


HINGE
Scale: 3"=1'-0"

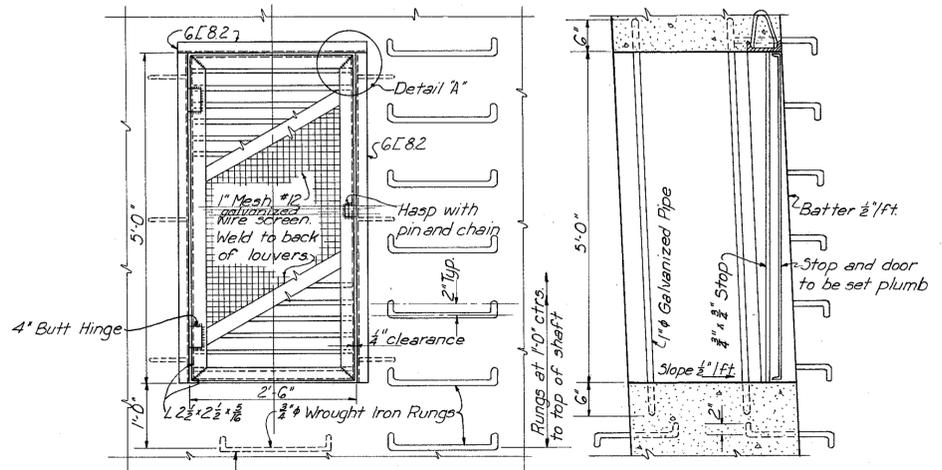
MANHOLE COVER DETAILS
Scale: as shown



DETAIL "A"
Scale: 1 1/2"=1'-0"



VERTICAL SECTION THROUGH DOOR SHOWING LOUVERS
Scale: 3"=1'-0"



ACCESS DOOR DETAIL
Scale: 3/8"=1'-0"

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

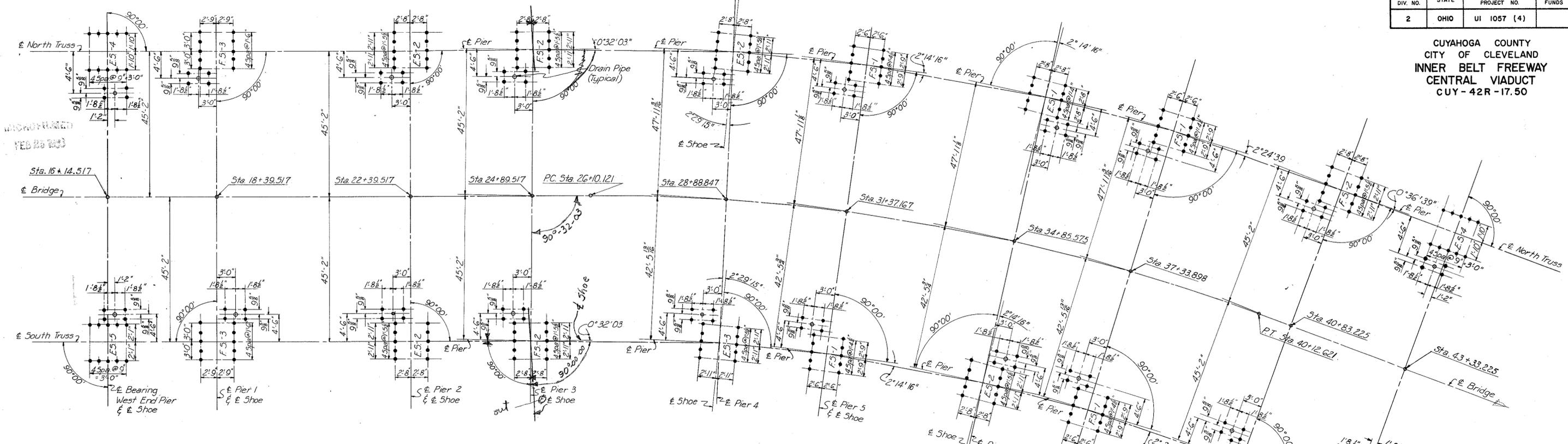
MISCELLANEOUS PIER DETAILS

CLEVELAND	CUYAHOGA COUNTY	OHIO
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SCALE as shown
MADE B.C. DATE 3-9-54
TRCD. N.A.M. DATE 7-6-54
CKD. C.I.C. DATE 7-7-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-IA SHEET 128

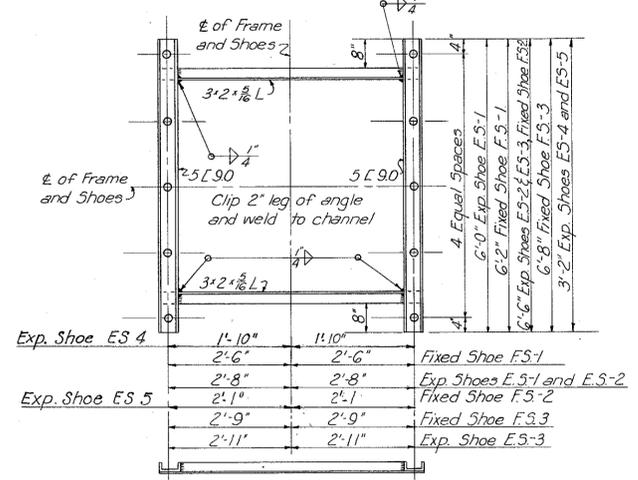
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50



ANCHOR BOLT PLAN
No Scale

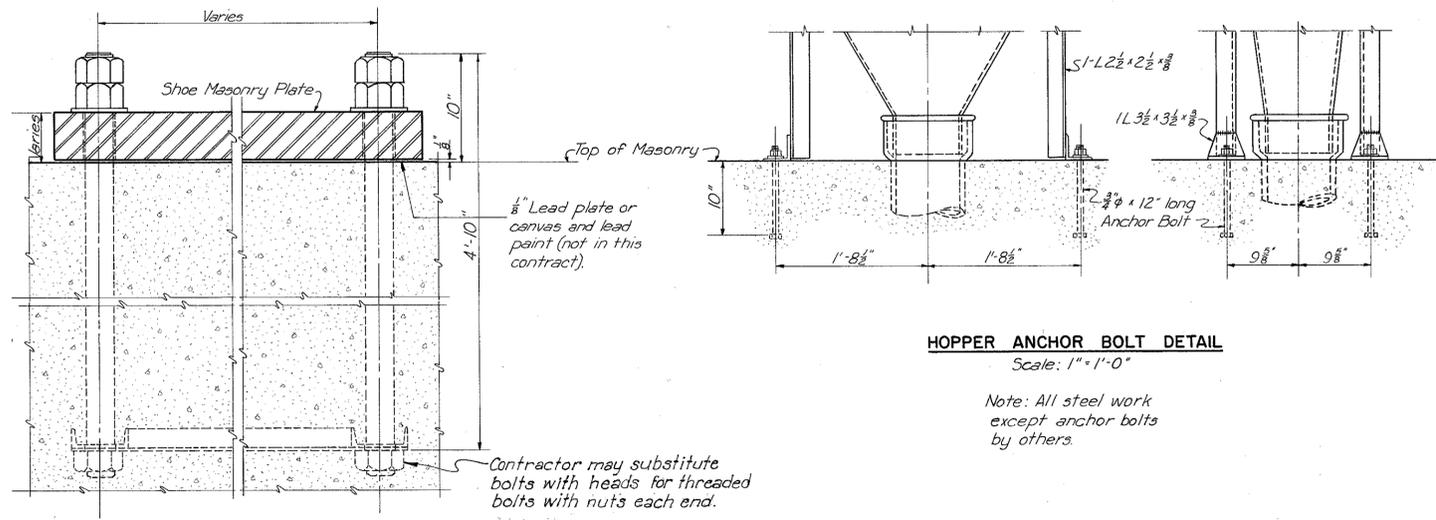
TABULATION OF BOLTS		
Bolt Size	Shoe Mark	Pier Number
1 1/2" φ	ES-4	WN, EN
1 3/4" φ	ES-5	WS, ES
2 1/4" φ	FS-1	5N, 5S, 7N, 7S
2 1/4" φ	FS-2	3N, 3S, 8N, 8S
2 1/4" φ	ES-1	GN
2 1/4" φ	ES-2	2N, 2S, 4N, 4S
2 1/4" φ	ES-3	4S
2 1/2" φ	FS-3	1N, 1S

All shoe anchor bolts to be threaded 8" and provided with lock washer and three hex nuts.



ANCHOR BOLT FRAME

Scale: 1/2" = 1'-0"
Holes in anchor bolt frame to be 1/8" larger than anchor bolt



HOPPER ANCHOR BOLT DETAIL

Scale: 1" = 1'-0"
Note: All steel work except anchor bolts by others.

ANCHOR BOLT DETAIL

Scale: 1/2" = 1'-0"

REVISED, DEC. 6, 1954

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

ANCHOR BOLT PLAN
AND DETAILS

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: As Shown
MADE P.L.R. DATE 3-9-54
TRCD N.R.M. DATE 6-4-54
CKD D.E.R. DATE 6-28-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

914-1A SHEET 1.29

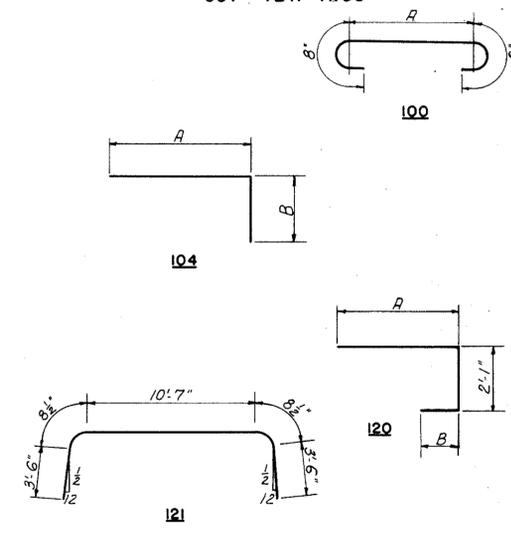
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42 R-17.50

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSION		WEIGHT LBS.
					A	B	
PIER FOOTING 1-N							
601	6	41	35' - 6"	Str.			2,186
602	6	37	39' - 6"	Str.			2,195
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	82	35' - 6"	Str.			15,466
1102	11	124	39' - 6"	Str.			26,023
1103	11	56	9' - 0"	Str.			2,678
PIER FOOTING 1-S							
601	6	41	35' - 6"	Str.			2,186
602	6	37	39' - 6"	Str.			2,195
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	82	35' - 6"	Str.			15,466
1102	11	124	39' - 6"	Str.			26,023
1103	11	56	9' - 0"	Str.			2,678
PIER FOOTING 2-N							
601	6	74	35' - 6"	Str.			3,946
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	182	35' - 6"	Str.			34,327
1102	11	56	8' - 0"	Str.			2,380
PIER FOOTING 2-S							
601	6	33	39' - 6"	Str.			1,958
602	6	179	31' - 6"	Str.			8,469
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	110	39' - 6"	Str.			23,085
1102	11	56	9' - 0"	Str.			2,678
PIER FOOTING 3-N							
601	6	37	39' - 6"	Str.			2,195
602	6	41	35' - 6"	Str.			2,186
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	108	39' - 6"	Str.			22,665
1102	11	70	35' - 6"	Str.			13,203
1103	11	56	9' - 0"	Str.			2,678
PIER FOOTING 3-S							
601	6	37	39' - 6"	Str.			2,195
602	6	41	35' - 6"	Str.			2,186
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	108	39' - 6"	Str.			22,665
1102	11	70	35' - 6"	Str.			13,203
1103	11	56	9' - 0"	Str.			2,678
PIER FOOTING 4-N							
601	6	74	35' - 6"	Str.			3,946
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	182	35' - 6"	Str.			34,327
1102	11	56	8' - 0"	Str.			2,380
PIER FOOTING 4-S							
601	6	41	35' - 6"	Str.			2,186
602	6	37	39' - 6"	Str.			2,195
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	70	35' - 6"	Str.			13,203
1102	11	116	39' - 6"	Str.			24,344
1103	11	56	9' - 0"	Str.			2,678

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSION		WEIGHT LBS.
					A	B	
PIER FOOTING 5-N							
601	6	74	35' - 6"	Str.			3,946
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	182	35' - 6"	Str.			34,327
1102	11	56	8' - 0"	Str.			2,380
PIER FOOTING 5-S							
601	6	41	35' - 6"	Str.			2,186
602	6	37	39' - 6"	Str.			2,195
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	70	35' - 6"	Str.			13,203
1102	11	116	39' - 6"	Str.			24,344
1103	11	56	9' - 0"	Str.			2,678
PIER FOOTING 6-N							
601	6	74	35' - 6"	Str.			3,946
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	182	35' - 6"	Str.			34,327
1102	11	56	8' - 0"	Str.			2,380
PIER FOOTING 6-S							
601	6	74	35' - 6"	Str.			3,946
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	182	35' - 6"	Str.			34,327
1102	11	56	8' - 0"	Str.			2,380
PIER FOOTING 7-N							
601	6	74	35' - 6"	Str.			3,946
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	182	35' - 6"	Str.			34,327
1102	11	56	8' - 0"	Str.			2,380
PIER FOOTING 7-S							
601	6	41	35' - 6"	Str.			2,186
602	6	37	39' - 6"	Str.			2,195
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	70	35' - 6"	Str.			13,203
1102	11	116	39' - 6"	Str.			24,344
1103	11	56	9' - 0"	Str.			2,678
PIER FOOTING 8-N							
601	6	74	35' - 6"	Str.			3,946
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	196	35' - 6"	Str.			36,968
1102	11	56	9' - 0"	Str.			2,678
PIER FOOTING 8-S							
601	6	74	35' - 6"	Str.			3,946
901	9	48	5' - 9"	101	4' - 1"	1'-8"	938
1101	11	196	35' - 6"	Str.			36,968
1102	11	56	9' - 0"	Str.			2,678

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSIONS		WEIGHT LBS.
					A	B	
PIER SHAFT 8N							
401	4	505	3' - 3"	100	1' - 11"		1,097
402	4	216	3' - 4"	100	2' - 0"		481
501	5	28	16' - 7"	104	14' - 2"	2'-5"	484
502	5	28	15' - 11"	104	13' - 6"	2'-5"	464
503	5	24	15' - 1"	104	12' - 8"	2'-5"	378
504	5	24	14' - 4"	104	11' - 11"	2'-5"	359
513	5	8	7' - 4"	104	4' - 11"	2'-5"	61
506	5	28	13' - 6"	104			394
507	5	28	12' - 9"	Str.			372
508	5	24	12' - 0"	Str.			300
509	5	24	11' - 3"	Str.			282
514	5	8	8' - 5"	120	4' - 5"	1'-11"	70
601	6	40	13' - 8"	104	11' - 2"	2'-6"	821
602	6	14	7' - 0"	Str.			147
603	6	40	6' - 0"	Str.			360
604	6	4	11' - 0"	Str.			66
901	9	45	24' - 9"	Str.			3,787
902	9	39	17' - 0"	Str.			2,255
903	9	1	11' - 9"	Str.			40
904	9	3	21' - 6"	Str.			219
905	9	8	11' - 0"	Str.			299
906	9	16	5' - 9"	Str.			313
907	9	8	8' - 6"	Str.			231
1101	11	34	12' - 0"	Str.			2,168
1102	11	20	19' - 0"	121			2,019
1103	11	53	32' - 6"	Str.			7,181
1104	11	3	21' - 9"	Str.			387
1105	11	47	19' - 6"	Str.			4,870
1106	11	1	14' - 3"	Str.			75
PIER SHAFT 8S							
401	4	505	3' - 3"	100	1' - 11"		1,097
402	4	216	3' - 4"	100	2' - 0"		481
501	5	28	16' - 7"	104	14' - 2"	2'-5"	484
502	5	28	15' - 11"	104	13' - 6"	2'-5"	464
503	5	24	15' - 1"	104	12' - 8"	2'-5"	378
504	5	24	14' - 4"	104	11' - 11"	2'-5"	359
513	5	8	7' - 4"	104	4' - 11"	2'-5"	61
506	5	28	13' - 6"	Str.			394
507	5	28	12' - 9"	Str.			372
508	5	24	12' - 0"	Str.			300
509	5	24	11' - 3"	Str.			282
514	5	8	8' - 5"	120	4' - 5"	1'-11"	70
601	6	40	13' - 8"	104	11' - 2"	2'-6"	821
602	6	14	7' - 0"	Str.			147
603	6	40	6' - 0"	Str.			360
604	6	4	11' - 0"	Str.			66
901	9	45	24' - 9"	Str.			3,787
902	9	39	17' - 0"	Str.			2,255
903	9	1	11' - 9"	Str.			40
904	9	3	21' - 6"	Str.			219
905	9	8	11' - 0"	Str.			299
906	9	16	5' - 9"	Str.			313
907	9	8	8' - 6"	Str.			231
1101	11	34	12' - 0"	Str.			2,168
1102	11	20	19' - 0"	121			2,019
1103	11	53	32' - 6"	Str.			7,181
1104	11	3	21' - 9"	Str.			387
1105	11	47	19' - 6"	Str.			4,870
1106	11	1	14' - 3"	Str.			75
PIER SHAFT 7N							
401	4	718	3' - 3"	100	1' - 11"		1,559
402	4	312	3' - 4"	100	2' - 0"		695
501	5	28	17' - 11"	104	15' - 6"	2'-5"	523
502	5	28	17' - 3"	104	14' - 10"	2'-5"	504
503	5	28	16' - 6"	104	14' - 1"	2'-5"	482
504	5	25	15' - 8"	104	13' - 3"	2'-5"	409
505	5	28	14' - 10"	104	12' - 5"	2'-5"	433
506	5	16	14' - 1"	104	11' - 8"	2'-5"	235
507	5	28	15' - 0"	Str.			438
508	5	28	14' - 3"	Str.			416
509	5	28	13' - 6"	Str.			394
510	5	25	12' - 9"	Str.			332
511	5	28	12' - 0"	Str.			350
512	5	16	11' - 3"	Str.			188
513	5	6	7' - 9"	104	5' - 4		

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42 R-17.50



BENDING DIAGRAM

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSIONS		WEIGHT LBS.
					A	B	
PIER SHAFT 1N							
401	4	489	3' - 3"	100	1' - 11"		1,062
402	4	208	3' - 4"	100	2' - 0"		463
501	5	28	16' - 7"	104	14' - 2"	2'-5"	484
502	5	28	15' - 11"	104	13' - 6"	2'-5"	464
503	5	28	16' - 1"	104	12' - 8"	2'-5"	378
504	5	20	14' - 4"	104	11' - 11"	2'-5"	299
505	5	8	7' - 4"	104	4' - 11"	2'-5"	61
506	5	28	13' - 6"	Str.			394
507	5	28	12' - 9"	Str.			372
508	5	24	12' - 0"	Str.			300
509	5	20	11' - 3"	Str.			235
514	5	8	8' - 5"	120	4' - 5"	1'-11"	71
601	6	40	13' - 8"	104	11' - 2"	2'-6"	821
602	6	14	7' - 0"	Str.			147
603	6	40	6' - 0"	Str.			360
604	6	4	11' - 0"	Str.			66
901	9	45	24' - 9"	Str.			3,787
902	9	39	15' - 6"	Str.			2,055
903	9	1	10' - 3"	Str.			35
904	9	3	21' - 6"	Str.			219
905	9	8	11' - 0"	Str.			299
906	9	16	5' - 9"	Str.			313
907	9	8	8' - 6"	Str.			231
1101	11	34	12' - 0"	Str.			2,168
1102	11	20	19' - 0"	121			2,019
1103	11	53	25' - 6"	Str.			7,181
1104	11	3	21' - 9"	Str.			347
1105	11	47	17' - 9"	Str.			4,442
1106	11	1	12' - 9"	Str.			68
PIER SHAFT 1S							
401	4	489	3' - 3"	100	1' - 11"		1,062
402	4	208	3' - 4"	100	2' - 0"		463
501	5	28	16' - 7"	104	14' - 2"	2'-5"	484
502	5	28	15' - 11"	104	13' - 6"	2'-5"	464
503	5	28	16' - 1"	104	12' - 8"	2'-5"	378
504	5	20	14' - 4"	104	11' - 11"	2'-5"	299
505	5	8	7' - 4"	104	4' - 11"	2'-5"	61
506	5	28	13' - 6"	Str.			394
507	5	28	12' - 9"	Str.			372
508	5	24	12' - 0"	Str.			300
509	5	20	11' - 3"	Str.			235
514	5	8	8' - 5"	120	4' - 5"	1'-11"	71
601	6	40	13' - 8"	104	11' - 2"	2'-6"	821
602	6	14	7' - 0"	Str.			147
603	6	40	6' - 0"	Str.			360
604	6	4	11' - 0"	Str.			66
901	9	45	24' - 9"	Str.			3,787
902	9	39	15' - 6"	Str.			2,055
903	9	1	10' - 3"	Str.			35
904	9	3	21' - 6"	Str.			219
905	9	8	11' - 0"	Str.			299
906	9	16	5' - 9"	Str.			313
907	9	8	8' - 6"	Str.			231
1101	11	34	12' - 0"	Str.			2,168
1102	11	20	19' - 0"	121			2,019
1103	11	53	25' - 6"	Str.			7,181
1104	11	3	21' - 9"	Str.			347
1105	11	47	17' - 9"	Str.			4,442
1106	11	1	12' - 9"	Str.			68

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSIONS		WEIGHT LBS.
					A	B	
PIER SHAFT 2N							
401	4	702	3' - 3"	100	1' - 11"		1,524
402	4	304	3' - 4"	100	2' - 0"		677
501	5	28	17' - 11"	104	15' - 6"	2'-5"	523
502	5	28	17' - 2"	104	14' - 9"	2'-5"	501
503	5	28	16' - 5"	104	14' - 0"	2'-5"	480
504	5	25	15' - 8"	104	13' - 3"	2'-5"	409
505	5	28	14' - 11"	104	12' - 6"	2'-5"	436
506	5	12	14' - 0"	104	11' - 7"	2'-5"	175
507	5	28	15' - 0"	Str.			438
508	5	28	14' - 3"	Str.			416
509	5	28	13' - 6"	Str.			394
510	5	25	12' - 9"	Str.			326
511	5	28	11' - 9"	Str.			343
512	5	12	11' - 0"	Str.			138
513	5	6	7' - 9"	104	5' - 4"	2'-5"	48
514	5	6	8' - 9"	120	4' - 9"	1'-11"	55
601	6	40	13' - 8"	104	11' - 2"	2'-6"	821
602	6	14	7' - 0"	Str.			147
603	6	40	6' - 0"	Str.			360
604	6	4	11' - 0"	Str.			66
901	9	45	31' - 9"	Str.			4,858
902	9	3	28' - 6"	Str.			291
903	9	39	25' - 0"	Str.			3,315
904	9	1	19' - 9"	Str.			67
905	9	8	11' - 0"	Str.			299
906	9	16	5' - 9"	Str.			313
907	9	8	8' - 6"	Str.			231
1101	11	34	12' - 0"	Str.			2,168
1102	11	20	19' - 0"	121			2,019
1103	11	53	32' - 6"	Str.			9,152
1104	11	3	28' - 9"	Str.			458
1105	11	47	27' - 3"	Str.			6,805
1106	11	1	22' - 3"	Str.			118
PIER SHAFT 2S							
401	4	702	3' - 3"	100	1' - 11"		1,524
402	4	304	3' - 4"	100	2' - 0"		677
501	5	28	17' - 11"	104	15' - 6"	2'-5"	523
502	5	28	17' - 2"	104	14' - 9"	2'-5"	501
503	5	28	16' - 5"	104	14' - 0"	2'-5"	480
504	5	25	15' - 8"	104	13' - 3"	2'-5"	409
505	5	28	14' - 11"	104	12' - 6"	2'-5"	436
506	5	12	14' - 0"	104	11' - 7"	2'-5"	175
507	5	28	15' - 0"	Str.			438
508	5	28	14' - 3"	Str.			416
509	5	28	13' - 6"	Str.			394
510	5	25	12' - 9"	Str.			326
511	5	28	11' - 9"	Str.			343
512	5	12	11' - 0"	Str.			138
513	5	6	7' - 9"	104	5' - 4"	2'-5"	48
514	5	6	8' - 9"	120	4' - 9"	1'-11"	55
601	6	40	13' - 8"	104	11' - 2"	2'-6"	821
602	6	14	7' - 0"	Str.			147
603	6	40	6' - 0"	Str.			360
604	6	4	11' - 0"	Str.			66
901	9	45	31' - 9"	Str.			4,858
902	9	3	28' - 6"	Str.			291
903	9	39	25' - 0"	Str.			3,315
904	9	1	19' - 9"	Str.			67
905	9	8	11' - 0"	Str.			299
906	9	16	5' - 9"	Str.			313
907	9	8	8' - 6"	Str.			231
1101	11	34	12' - 0"	Str.			2,168
1102	11	20	19' - 0"	121			2,019
1103	11	53	32' - 6"	Str.			9,152
1104	11	3	28' - 9"	Str.			458
1105	11	47	27' - 3"	Str.			6,805
1106	11	1	22' - 3"	Str.			118

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSIONS		WEIGHT LBS.
					A	B	
PIER SHAFT 3N							
401	4	718	3' - 3"	100	1' - 11"		1,559
402	4	312	3' - 4"	100	2' - 0"		695
501	5	28	18' - 1"	104	15' - 8"	2'-5"	528
502	5	28	17' - 4"	104	14' - 11"	2'-5"	506
503	5	28	16' - 7"	104	14' - 2"	2'-5"	484
504	5	25	15' - 9"	104	13' - 4"	2'-5"	411
505	5	28	15' - 0"	104	12' - 7"	2'-5"	438
506	5	16	14' - 2"	104	11' - 9"	2'-5"	236
507	5	28	15' - 0"	Str.			438
508	5	28	14' - 3"	Str.			416
509	5	28	13' - 6"	Str.			394
510	5	25	12' - 9"	Str.			332
511	5	28	12' - 0"	Str.			350
512	5	16	11' - 3"	Str.			188
513	5	6	7' - 10"	104	5' - 5"	2'-5"	49
514	5	6	8' - 11"	120	4' - 11"	1'-11"	56
601	6	40	13' - 8"	104	11' - 2"	2'-6"	821
602	6	14	7' - 0"	Str.			147
603	6	40	6' - 0"	Str.			360
604	6	4	11' - 0"	Str.			66
901	9	45	31' - 9"	Str.			4,858
902	9	3	28' - 6"	Str.			291
903	9	39	26' - 6"	Str.			3,514
904	9	1	21' - 3"	Str.			72
905	9	8	11' - 0"	Str.			299
906	9	16	5' - 9"	Str.			313
907	9	8	8' - 6"	Str.			231
1101	11	34	12' - 0"	Str.			2,168
1102	11	20	19' - 0"	121			2,019
1103	11	53	32' - 6"	Str.			9,152
1104	11						

REVISIONS
FEB 25 1954

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

32
43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSIONS		WEIGHT LBS.
					A	B	
WEST END PIER FOOTING WN							
601	6	29	23'-6"	Str.			1024
602	6	25	27'-6"	Str.			1033
801	8	68	5'-6"	Str.			999
802	8	50	5'-0"	101			668
WEST END PIER SHAFT							
401	4	280	4'-3"	100	2'-11"		795
402	4	240	3'-2"	100	1'-11"		508
403	4	80	4'-9"	100	3'-5"		254
404	4	80	3'-7"	100	2'-3"		192
405	4	4	5'-3"	Str.			14
501	5	40	19'-6"	Str.			818
502	5	40	12'-9"	103	1'-5"		532
503	5	40	15'-7"	105	1'-5" & 2'-1"	12'-1"	650
504	5	4	12'-8"	104	11'-7"	1'-1"	53
505	5	4	15'-0"	105	1'-1" & 2'-1"	11'-10"	63
506	5	2	15'-0"	Str.			31
507	5	2	17'-0"	Str.			35
508	5	8	16'-6"	Str.			138
509	5	8	15'-9"	Str.			131
510	5	4	15'-6"	Str.			65
511	5	8	18'-6"	Str.			154
512	5	8	17'-9"	Str.			148
513	5	4	17'-6"	Str.			73
514	5	16	15'-0"	Str.			250
515	5	16	14'-3"	Str.			238
516	5	8	14'-0"	Str.			1168
601	6	50	4'-6"	Str.			338
602	6	11	17'-6"	105	1'-3"	15'-0"	289
603	6	9	19'-6"	105	1'-3"	17'-0"	264
604	6	2	14'-6"	105	1'-3"	12'-0"	44
605	6	13	25'-0"	105	1'-3"	22'-6"	488
606	6	2	9'-9"	104	8'-6"	1'-3"	29
607	6	2	11'-9"	104	10'-6"	1'-3"	35
608	6	1	10'-1"	104	8'-10"	1'-3"	15
609	6	1	12'-1"	104	10'-10"	1'-3"	18
610	6	4	4'-6"	104	3'-3"	1'-3"	27
611	6	2	12'-6"	104	11'-3"	1'-3"	38
612	6	2	11'-8"	104	10'-5"	1'-3"	35
613	6	8	7'-6"	Str.			90
614	6	6	9'-6"	Str.			86
615	6	6	12'-0"	120	1'-3"		108
616	6	24	6'-3"	Str.			225
801	8	68	17'-0"	Str.			3087
802	8	50	13'-3"	Str.			1769
803	8	9	21'-3"	Str.			511
804	8	2	8'-0"	Str.			43
805	8	2	10'-9"	Str.			57
806	8	1	7'-9"	Str.			21
807	8	1	10'-6"	Str.			28
808	8	73	5'-0"	Str.			975
1101	11	23	15'-6"	Str.			1894
1102	11	2	10'-0"	Str.			106
1103	11	2	3'-6"	Str.			37
1104	11	1	9'-6"	Str.			50
1105	11	1	3'-0"	Str.			16

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSIONS		WEIGHT LBS.
					A	B	
WEST END PIER FOOTING WS							
601	6	29	23'-6"	Str.			1024
602	6	25	27'-6"	Str.			1033
801	8	68	5'-6"	Str.			999
802	8	50	5'-0"	101			668
WEST END PIER SHAFT							
401	4	126	4'-3"	100	2'-11"		358
402	4	108	3'-3"	100	1'-11"		234
403	4	36	4'-9"	100	3'-5"		114
404	4	36	3'-7"	100	2'-3"		86
405	4	4	5'-3"	Str.			14
501	5	18	19'-6"	Str.			366
502	5	18	12'-9"	103	1'-5"		239
503	5	18	15'-7"	105	1'-5" & 2'-1"	12'-1"	293
504	5	4	12'-8"	104	11'-7"	1'-1"	53
505	5	4	15'-0"	105	1'-1" & 2'-1"	11'-10"	63
506	5	2	15'-0"	Str.			31
507	5	2	17'-0"	Str.			35
508	5	9	15'-6"	Str.			145
509	5	18	14'-3"	Str.			268
510	5	9	17'-6"	Str.			164
601	6	50	4'-6"	Str.			338
602	6	11	17'-6"	105	1'-3"	15'-0"	289
603	6	9	19'-6"	105	1'-3"	17'-0"	264
604	6	2	14'-6"	105	1'-3"	12'-0"	44
605	6	13	25'-0"	105	1'-3"	22'-6"	488
606	6	2	9'-9"	104	8'-6"	1'-3"	29
607	6	2	11'-9"	104	10'-6"	1'-3"	35
608	6	1	10'-1"	104	8'-10"	1'-3"	15
609	6	1	12'-1"	104	10'-10"	1'-3"	18
610	6	4	4'-6"	104	3'-3"	1'-3"	27
611	6	2	12'-6"	104	11'-3"	1'-3"	38
612	6	2	11'-8"	104	10'-5"	1'-3"	35
613	6	8	7'-6"	Str.			90
614	6	6	9'-6"	Str.			86
615	6	6	12'-0"	120	1'-3"		108
616	6	24	6'-3"	Str.			225
801	8	68	17'-0"	Str.			3087
802	8	50	13'-3"	Str.			1769
803	8	9	21'-3"	Str.			511
804	8	2	8'-0"	Str.			43
805	8	2	10'-9"	Str.			57
806	8	1	7'-9"	Str.			21
807	8	1	10'-6"	Str.			28
808	8	73	5'-0"	Str.			975
1101	11	23	15'-6"	Str.			1894
1102	11	2	10'-0"	Str.			106
1103	11	2	3'-6"	Str.			37
1104	11	1	9'-6"	Str.			50
1105	11	1	3'-0"	Str.			16

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSIONS		WEIGHT LBS.
					A	B	
EAST END PIER FOOTING EN							
601	6	29	23'-6"	Str.			1024
602	6	25	27'-6"	Str.			1033
801	8	68	5'-6"	Str.			999
802	8	50	5'-0"	101			668
EAST END PIER SHAFT							
401	4	378	4'-3"	100	2'-11"		1073
402	4	324	3'-3"	100	1'-11"		703
403	4	108	4'-9"	100	3'-5"		343
404	4	108	3'-7"	100	2'-3"		259
405	4	4	5'-3"	Str.			14
501	5	54	20'-3"	Str.			1141
502	5	54	13'-6"	103	2'-2"		760
503	5	54	16'-8"	105	2'-2" & 2'-5"	12'-1"	939
504	5	4	13'-6"	104	11'-9"	1'-9"	56
505	5	4	16'-0"	105	1'-9" & 2'-5"	11'-10"	67
506	5	2	15'-0"	Str.			31
507	5	2	17'-0"	Str.			35
508	5	7	17'-3"	Str.			126
509	5	7	16'-6"	Str.			120
510	5	7	16'-0"	Str.			117
511	5	6	16'-6"	Str.			97
512	5	7	19'-3"	Str.			141
513	5	7	18'-6"	Str.			135
514	5	7	18'-0"	Str.			131
515	5	6	17'-6"	Str.			110
516	5	14	18'-3"	Str.			266
517	5	14	17'-9"	Str.			259
518	5	14	17'-3"	Str.			256
519	5	12	16'-6"	Str.			207
601	6	48	6'-0"	Str.			433
602	6	11	19'-0"	105	2'-0"	15'-0"	314
603	6	9	21'-0"	105	2'-0"	17'-0"	284
604	6	2	16'-0"	105	2'-0"	12'-0"	48
605	6	13	26'-6"	105	2'-0"	22'-6"	517
606	6	2	12'-5"	105	2'-0"	8'-5"	38
607	6	2	14'-5"	105	2'-0"	10'-5"	44
608	6	1	12'-8"	105	2'-0"	8'-8"	19
609	6	1	14'-8"	105	2'-0"	10'-8"	22
610	6	4	7'-5"	105	2'-0"	3'-5"	45
611	6	2	15'-3"	105	2'-0"	11'-3"	46
612	6	2	14'-5"	105	2'-0"	10'-5"	44
613	6	8	7'-6"	Str.			90
614	6	6	8'-6"	Str.			77
615	6	6	12'-9"	120	2'-0"		115
616	6	24	6'-3"	Str.			225
617	6	2	6'-0"	108			18
801	8	118	20'-0"	Str.			6301
802	8	68	24'-9"	Str.			4494
803	8	9	22'-6"	Str.			541
804	8	2	8'-9"	Str.			47
805	8	2	10'-9"	Str.			57
806	8	1	8'-6"	Str.			23
807	8	1	10'-6"	Str.			28
808	8	69	5'-0"	Str.			921
1101	11	23	15'-3"	Str.			1864
1102	11	2	10'-0"	Str.			106
1103	11	2	3'-9"	Str.			40
1104	11	1	9'-6"	Str.			50
1105	11	1	3'-6"	Str.			19

MARK	SIZE	NO.	LENGTH	TYPE	DIMENSIONS		WEIGHT LBS.
					A	B	
EAST END PIER FOOTING ES							
601	6	33	23'-6"	Str.			1165
801	8	68	5'-6"	Str.			99

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50

STORM SEWER DATA				
Location	Size	Class	Length	
WS End Pier to M.H. #13	12	A	77	
M.H. #13 to M.H. "A"	12	A	50	
Pier 15 to M.H. "B"	12	A	115	
Pier 1N to M.H. "B"	12	A	39	
Manhole "C" to Dock Line	36	C	30	
Outlet, Structure "A" to M.H. #1	27	D	80	
Pier 2N to M.H. #1	12	A	39	
Pier 2S to M.H. #1	12	A	29	
M.H. #1 to M.H. #2	24	C	250	
Pier 3N to M.H. #2	12	A	39	
Pier 3S to M.H. #2	15	C	29	
M.H. #2 to M.H. #3	24	A	370	
Pier 4N to M.H. #3	12	A	30	
Pier 4S to M.H. #3	12	A	71	
M.H. #3 to M.H. #4	15	A	180	
Pier 5N to M.H. #4	12	A	34	
Pier 5S to M.H. #4	15	C	34	
Outlet, Structure "B" to M.H. #11	24	D	60	90
M.H. #11 to M.H. #16	24	B	116	84
M.H. #16 to M.H. #10	24	A	240	
M.H. #10 to M.H. #9	24	A	322	
M.H. #9 to M.H. #8	12	B	140	
M.H. #8 to M.H. #12	12	A	55	
M.H. #12 to Pier 6N	12	A	78	
M.H. #9 to M.H. #5	21	A	142	
M.H. #5 to Pier 7N	12	A	62	
M.H. #5 to Pier 7S	12	A	40	
M.H. #5 to M.H. #6	15	A	175	
M.H. #6 to Pier 8N	12	A	109	
M.H. #6 to Pier 8S	12	A	109	
M.H. "D" to M.H. #7	12	A	240	
M.H. #7 to EN End Pier	12	A	92	
M.H. #7 to ES End Pier	12	A	25	
M.H. #14 to M.H. #15	12	B	54	
M.H. #15 to M.H. "F"	12	B	57	
Replacement at Pier 7N	18	B	80	
WN End Pier to M.H. #13	8	A	3	
Pier 6S to M.H. #12	8	A	3	

Class "C" Extra Strength Reinforced Concrete Culvert Pipe, Sec. M-6.6(c) for Storm Sewers.
Class "D" Paved Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(d) for Storm Sewers. 12 Gage for both 24" and 27" diameter.
Class "A" Pipe for Storm Sewers.
Class "B" Pipe for Storm Sewers under Pavement.

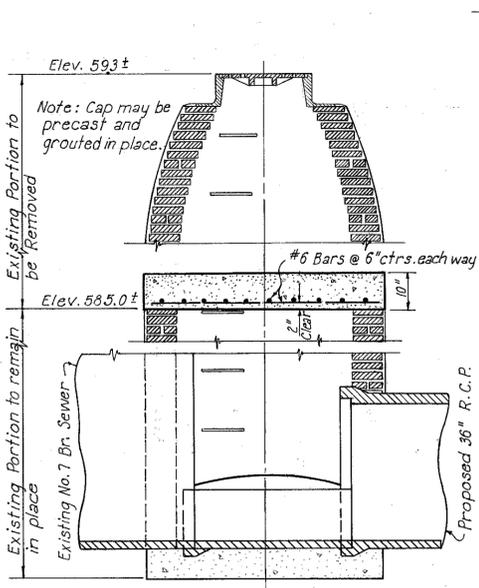
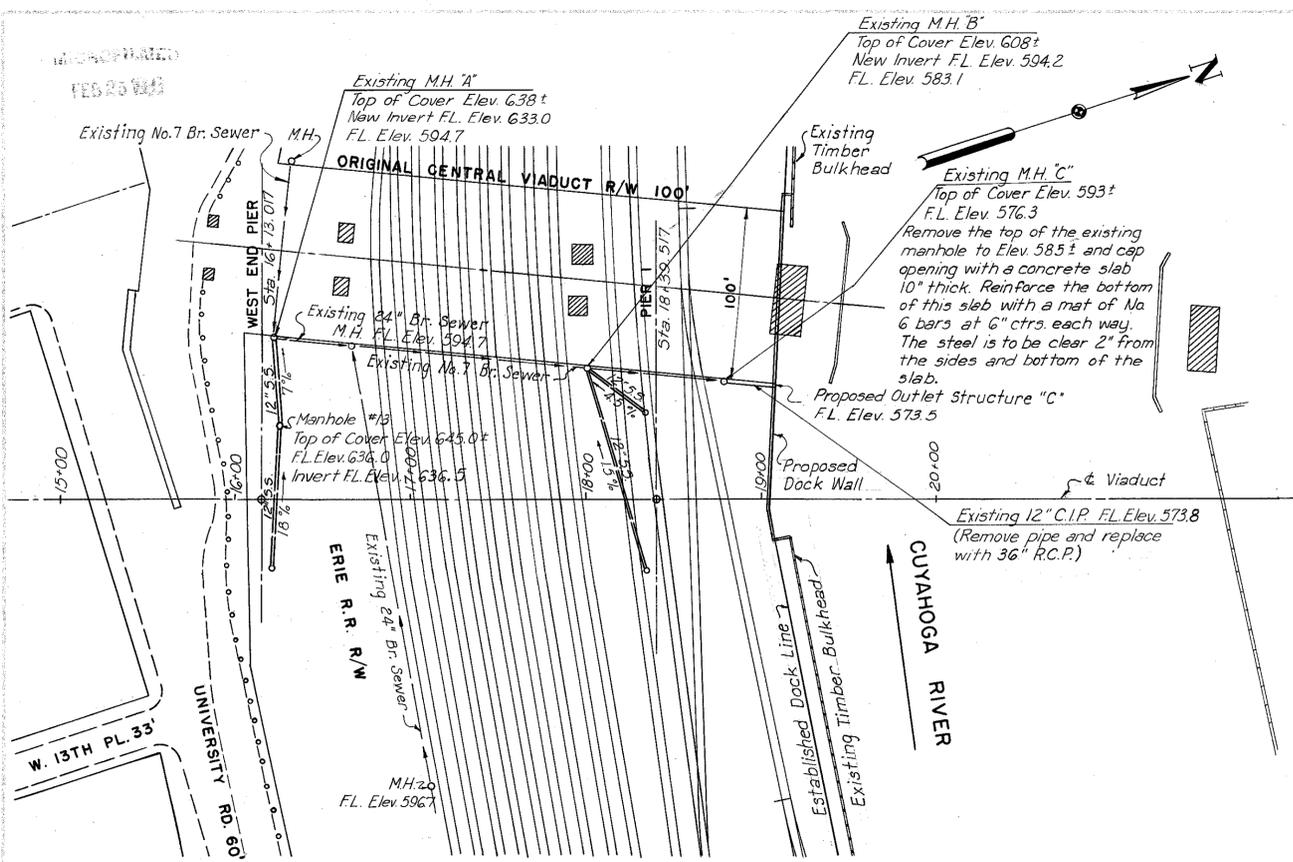
PENCIL REVISIONS
SEPT. 20, 1955

PART 2
U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

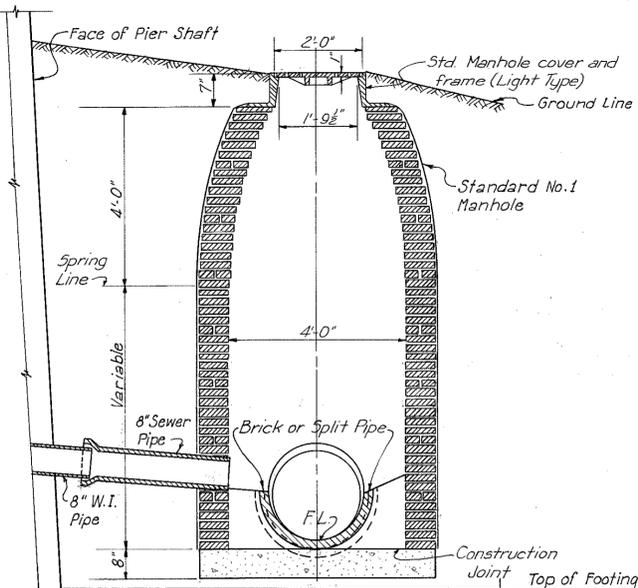
STORM SEWER LAYOUT

CLEVELAND CUYAHOGA COUNTY OHIO

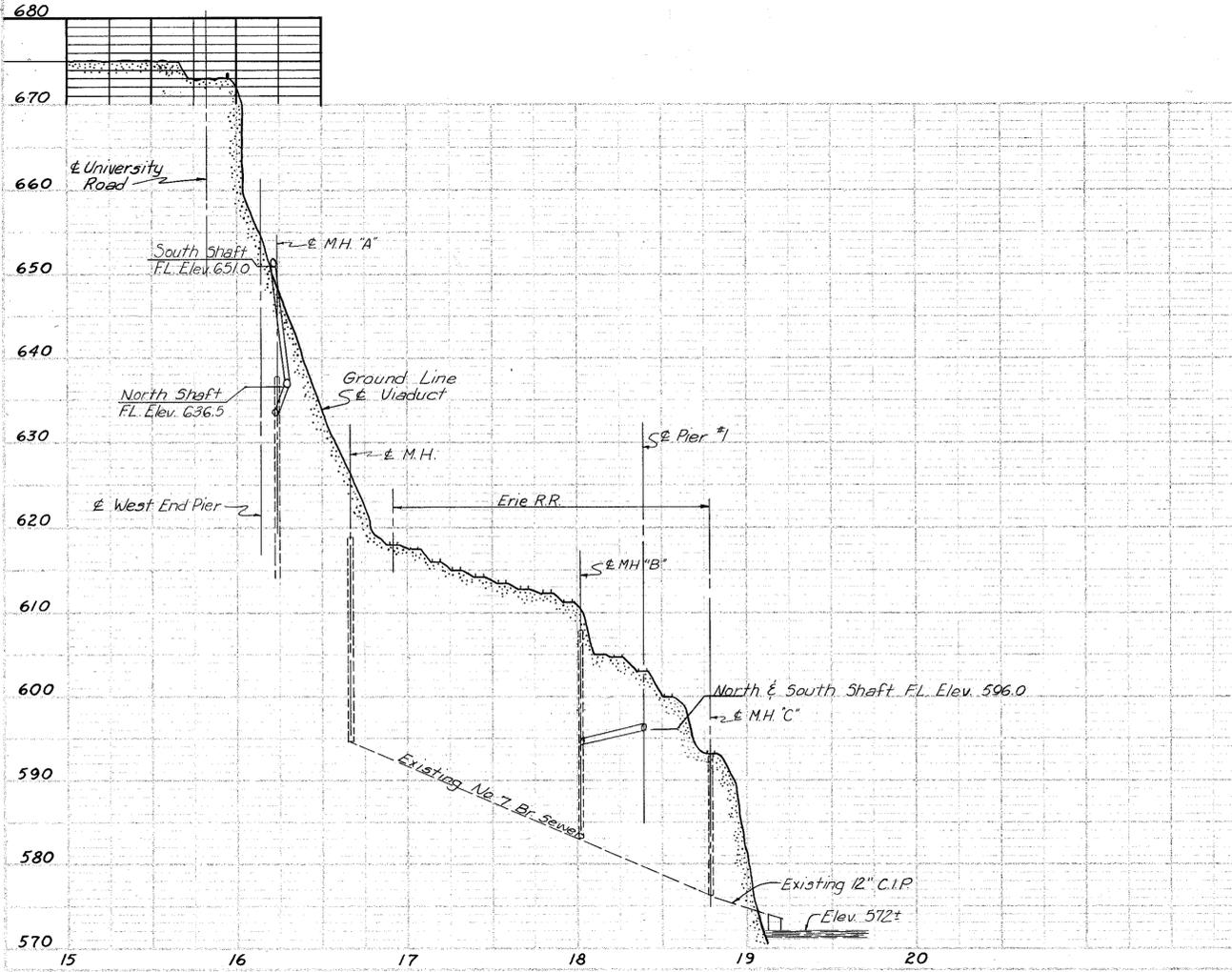
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MADE S.W.F. DATE 2-9-54 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRD DATE 5-25-54 CONSULTING ENGINEERS
CRD DATE 6-24-54 KANSAS CITY CLEVELAND NEW YORK
914 1A SHEET 1.33



DETAILS OF ALTERATIONS TO EXISTING MANHOLE "C"
No scale

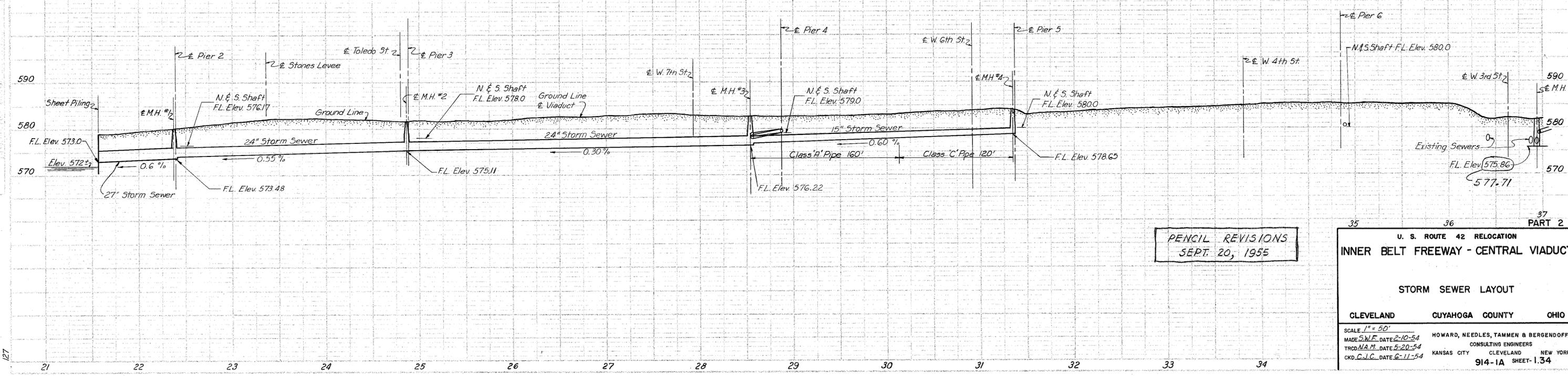
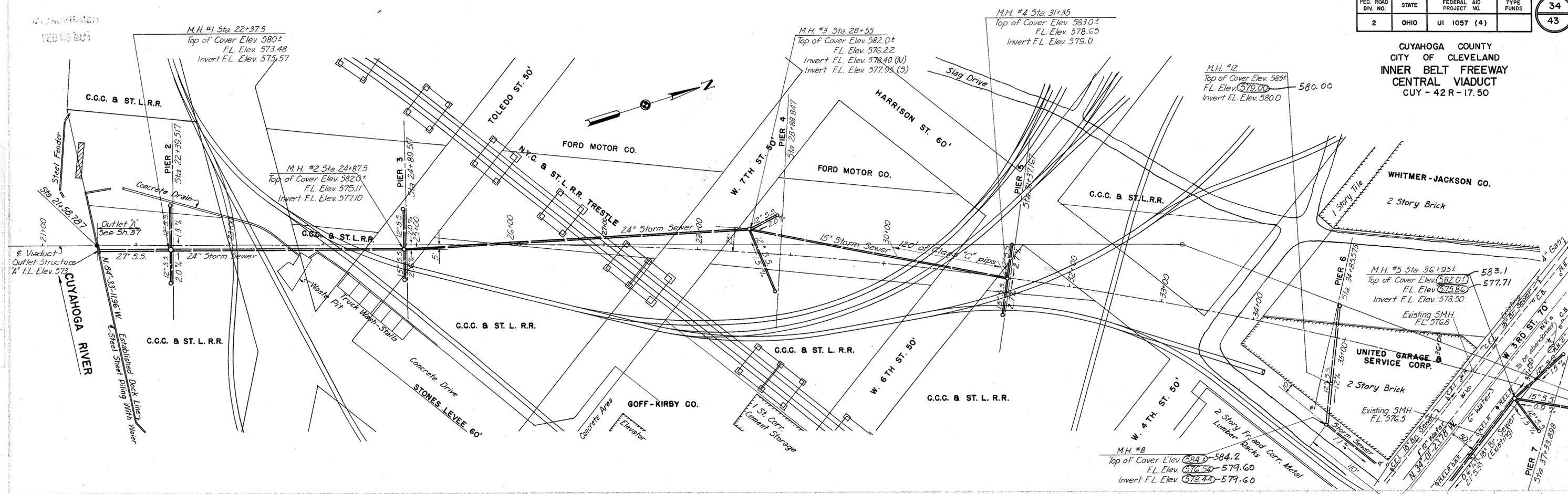


DETAILS OF DOWNPIPE CONNECTION AT MANHOLES NO. 12 AND NO. 13
No scale



FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS	34
2	OHIO	UI 1057 (4)		43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50



U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

STORM SEWER LAYOUT

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 50'

MADE S.W.E. DATE 2-10-54
TRCD N.A.M. DATE 5-20-54
CKD C.J.C. DATE 6-11-54

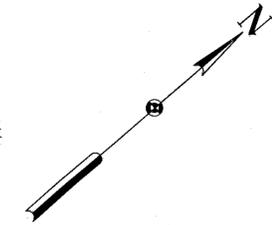
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

914-1A SHEET-134

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

35
43

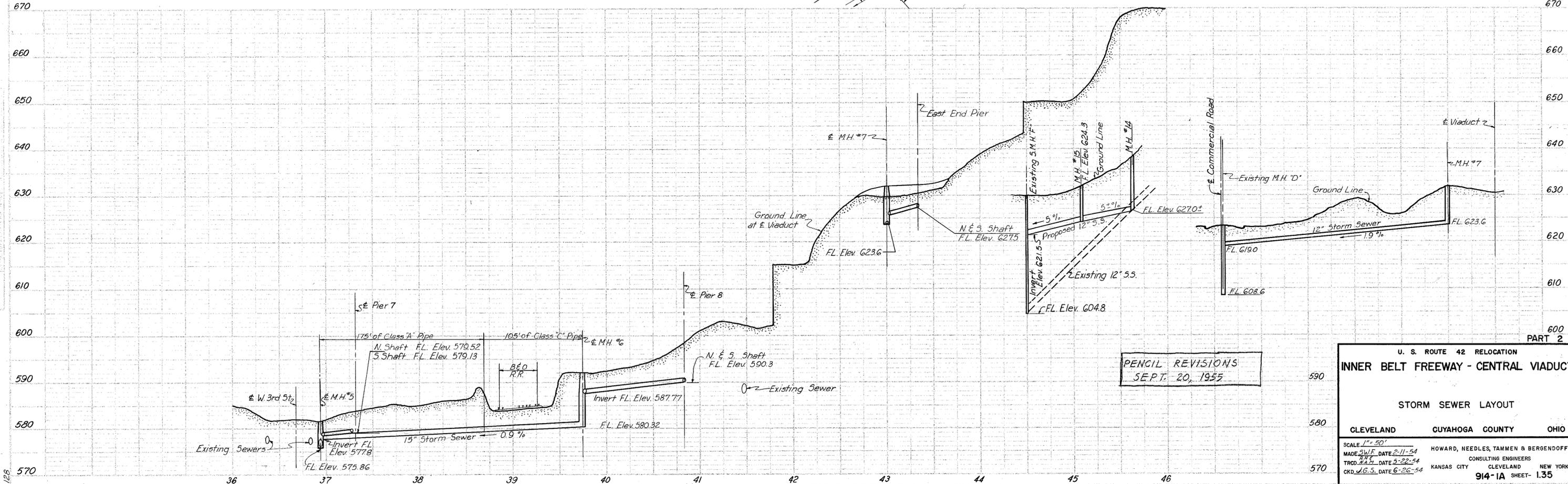
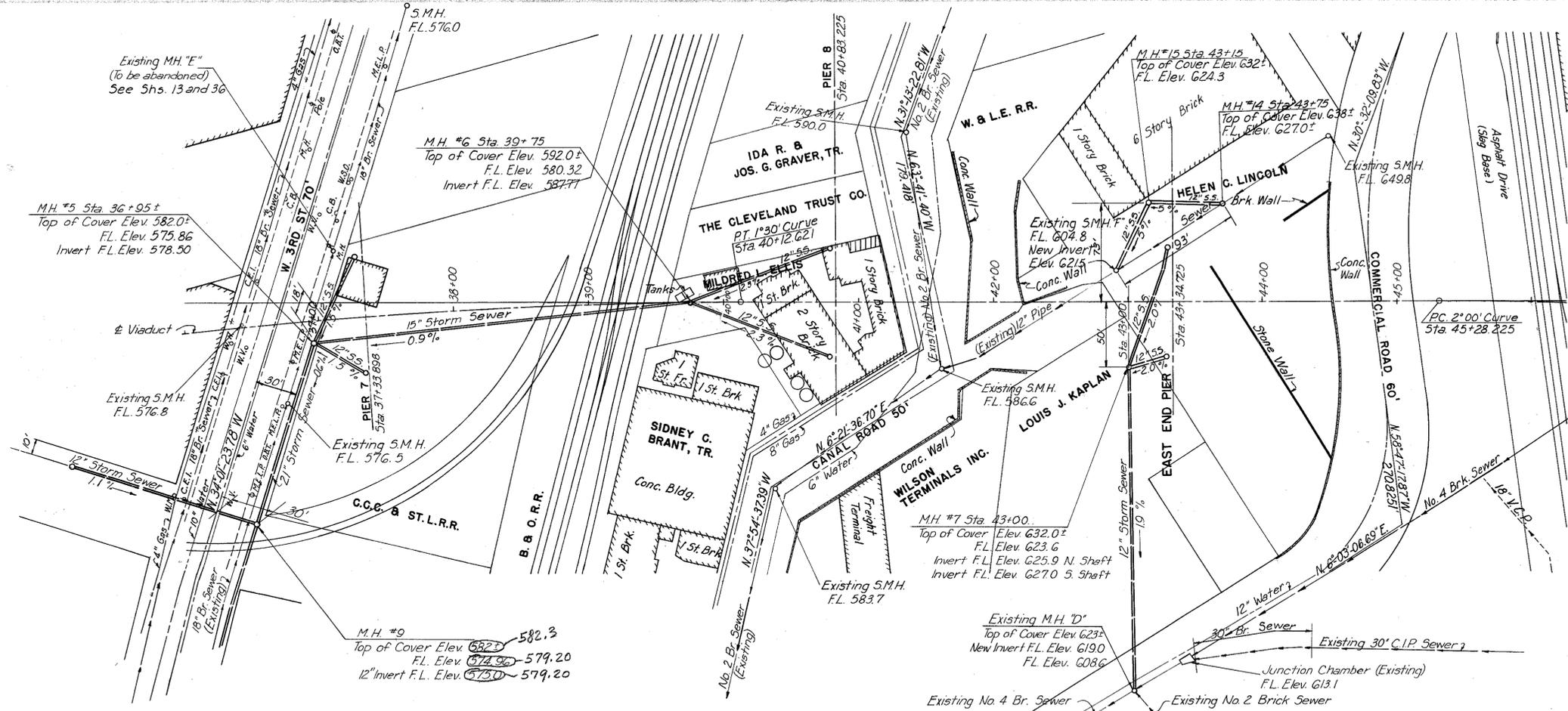
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42 R - 17.50



FORCE ACCOUNT WORK
by The Baltimore and Ohio Railroad Co.

A. Preliminary Engineering Lump Sum
B. Construction Engineering Lump Sum
C. Temporary Supporting Lump Sum

NOTE:
The labor and the furnishing of materials in connection with the temporary and permanent track work as shown on this sheet and as called for in the estimate will be performed by the Baltimore and Ohio Railroad Company by force account.



PENCIL REVISIONS
SEPT. 20, 1955

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

STORM SEWER LAYOUT

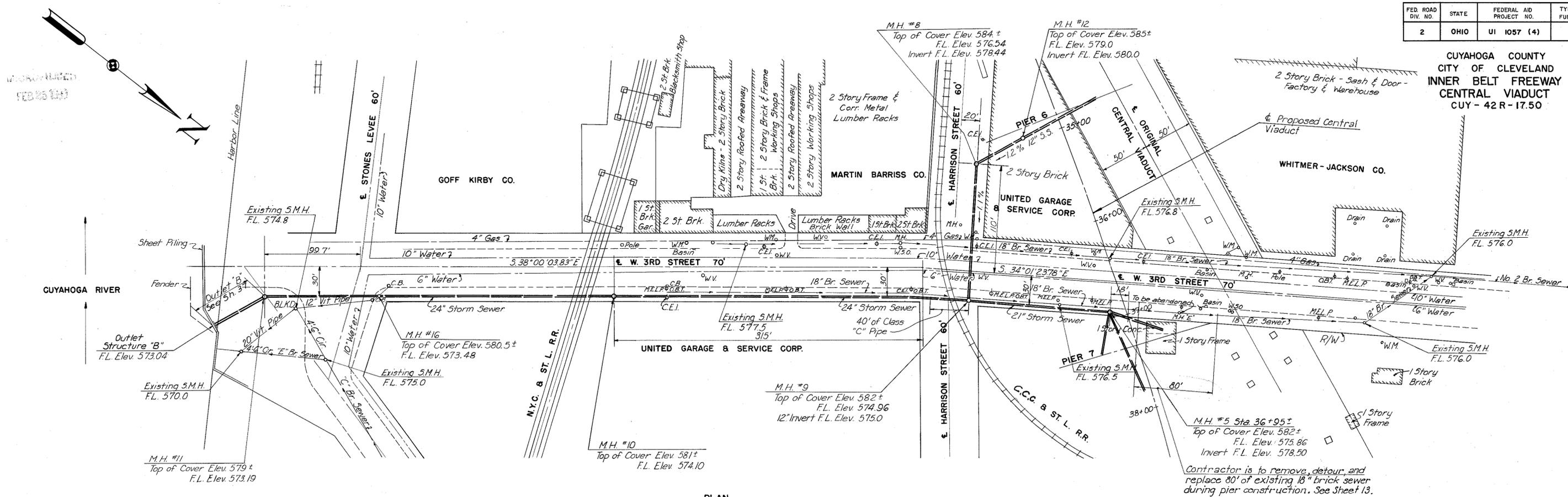
CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 20'
MADE BY W.F. DATE 2-11-54
TRD. DATE 5-22-54
CKD J.G.S. DATE 6-26-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

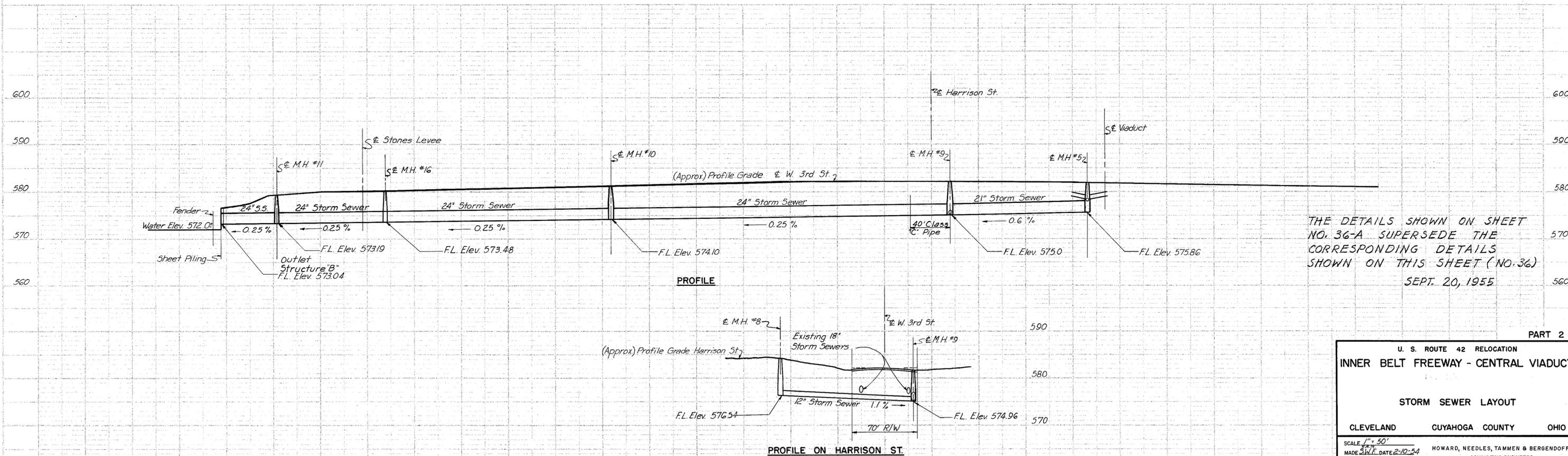
914-1A SHEET-1.35

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50



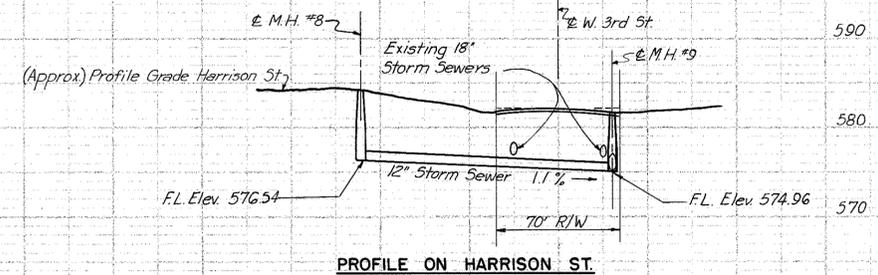
PLAN

Contractor is to remove, detour, and replace 80' of existing 18" brick sewer during pier construction. See Sheet 13.



PROFILE

THE DETAILS SHOWN ON SHEET NO. 36-A SUPERSEDE THE CORRESPONDING DETAILS SHOWN ON THIS SHEET (NO. 36) SEPT. 20, 1955



PROFILE ON HARRISON ST.

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

STORM SEWER LAYOUT

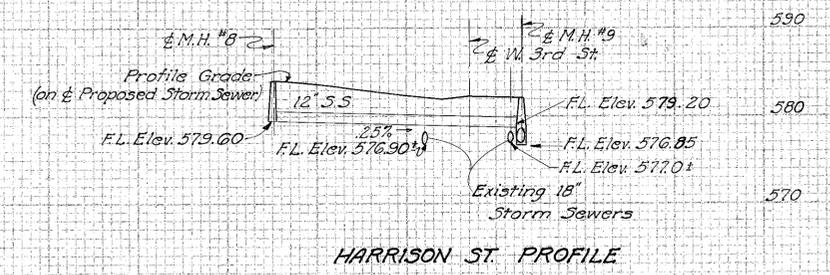
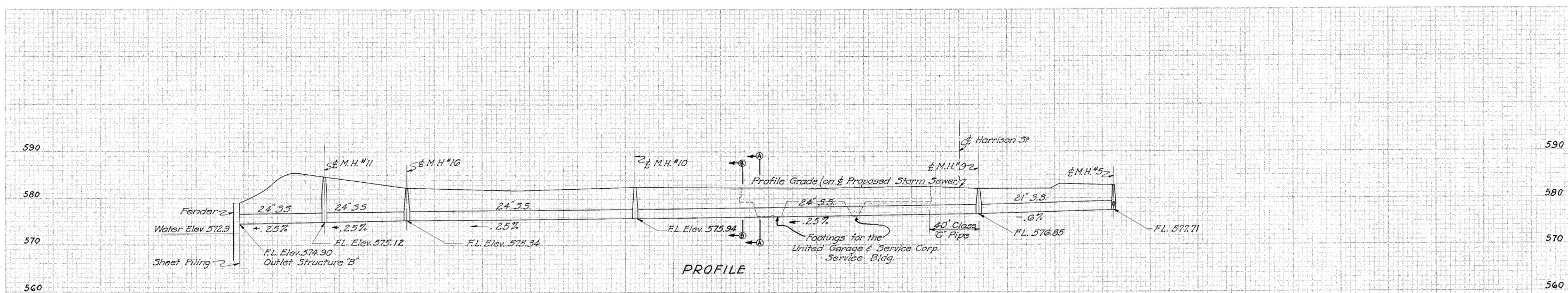
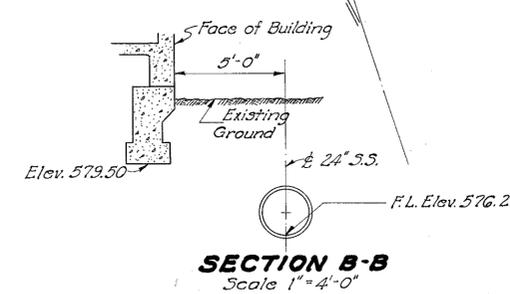
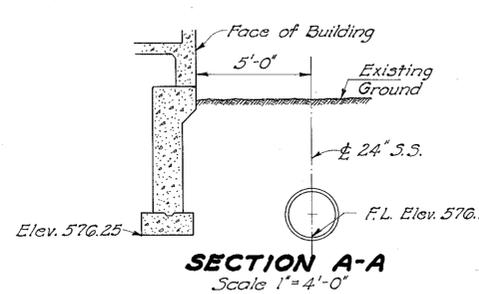
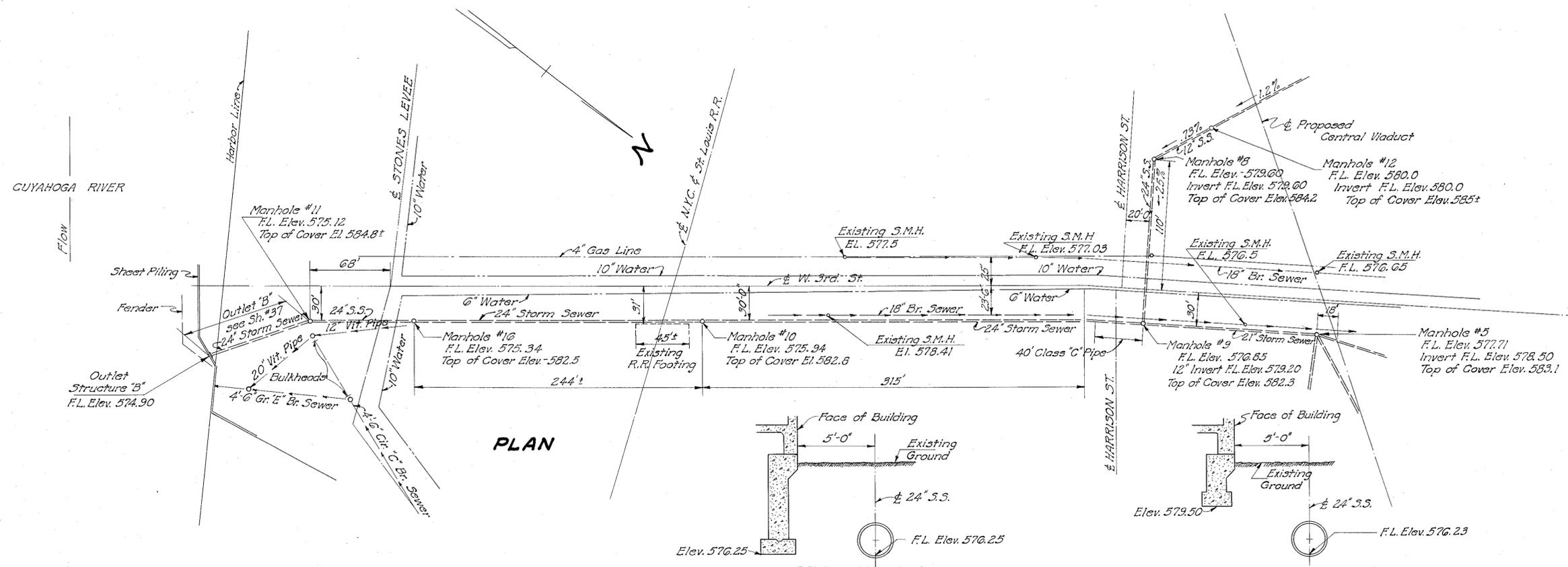
CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1" = 50'
MADE BY DATE 2-10-54
TRCD N.B.M. DATE 3-18-54
CKD C.J.C. DATE 6-12-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
CLEVELAND NEW YORK

914-1A SHEET-136

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50



The details shown on this sheet (No. 30-A) supersede the corresponding details on Sheet No. 30

This tracing prepared in the Bureau of Bridges from pencil drawing furnished by Howard, Needles, Tammen & Bergendoff, Consulting Engineers.

Note: For original storm sewer layout see Sheet 130

PART 2.

U.S. ROUTE 42 RELOCATION
INNER BELT FREEWAY-CENTRAL VIADUCT

REVISED STORM SEWER LAYOUT

CLEVELAND CUYAHOGA COUNTY OHIO

Scale: 1"=50'
 MADE: S.C. DATE: 9-20-55
 TRCD. J.D. DATE: 10-19-55
 CND. J.C. DATE: 9-30-55

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY, CLEVELAND, NEW YORK

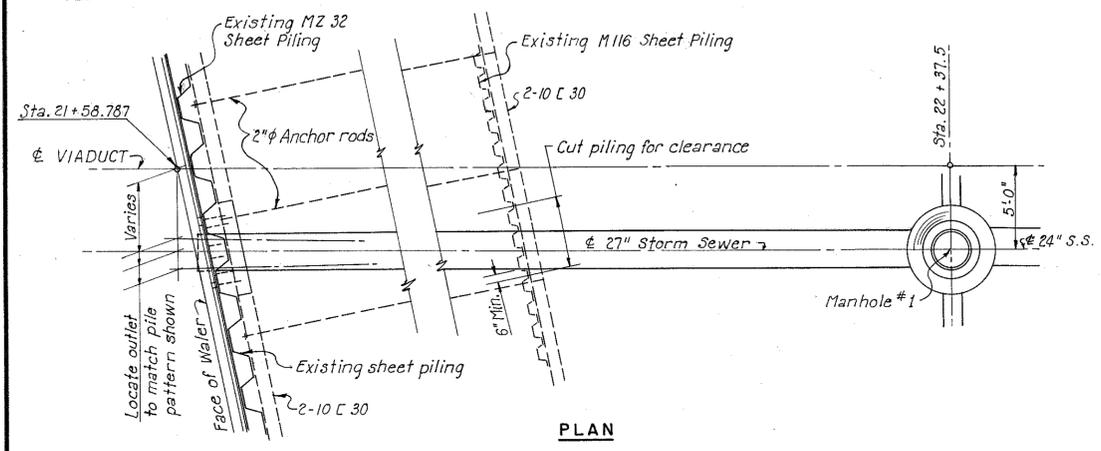
314-1A SHEET 136-A

WACO PLANNED
FEB 25 1955

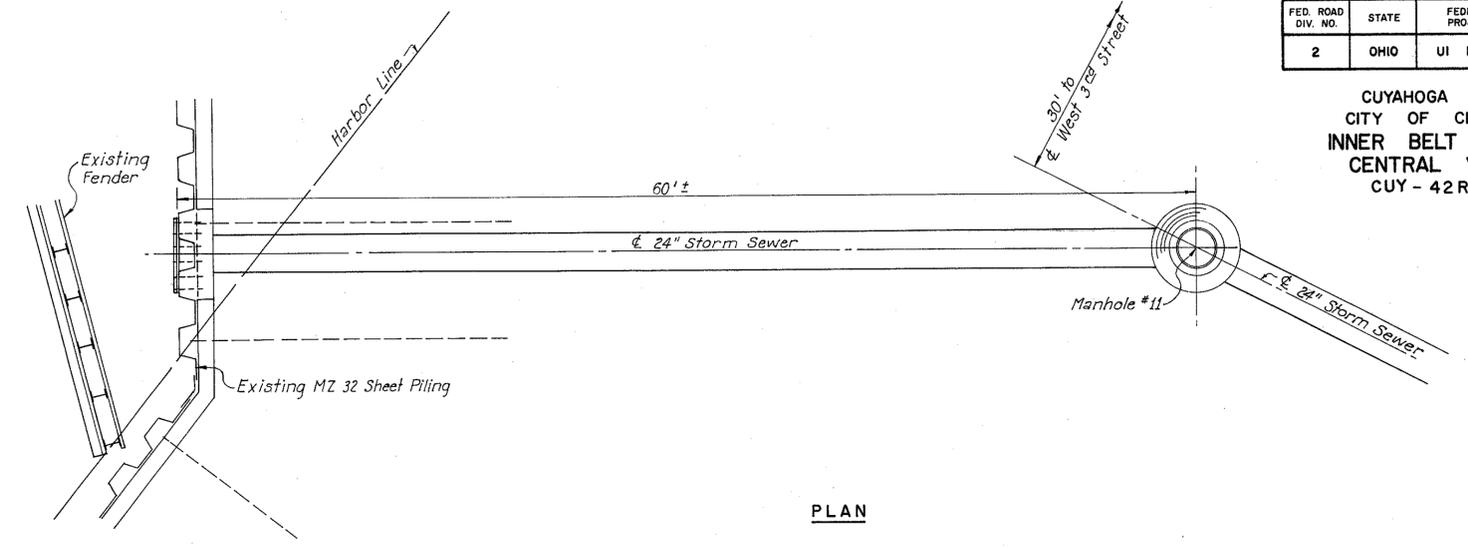
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

37
43

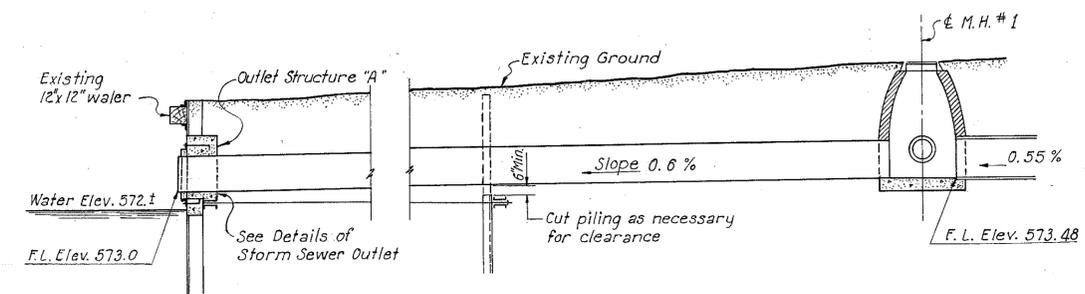
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY - 42R-17.50



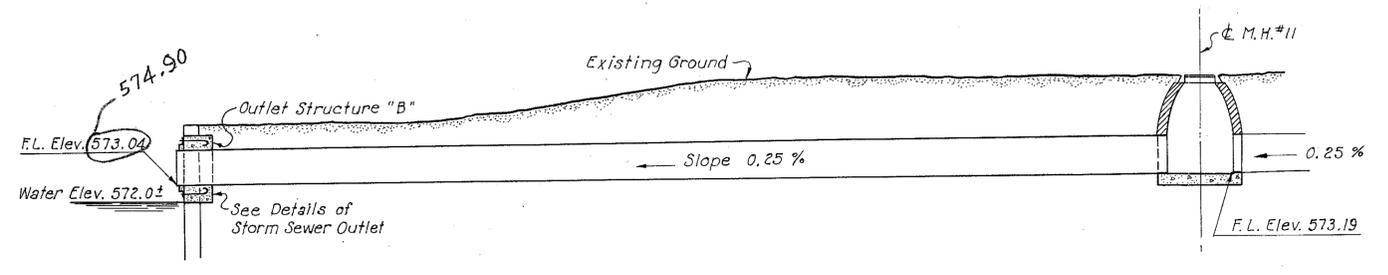
PLAN



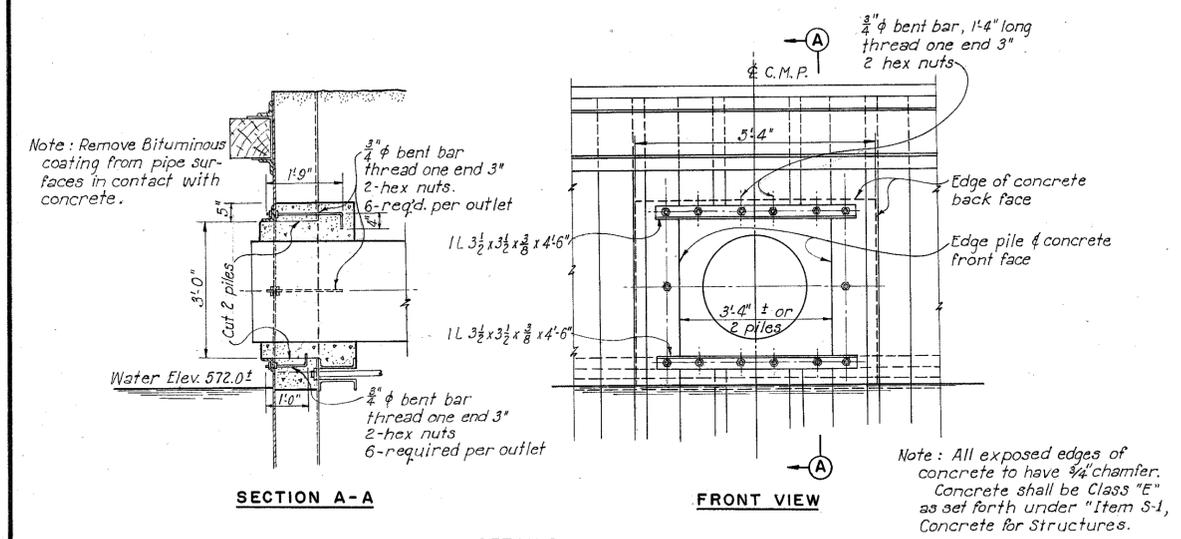
PLAN



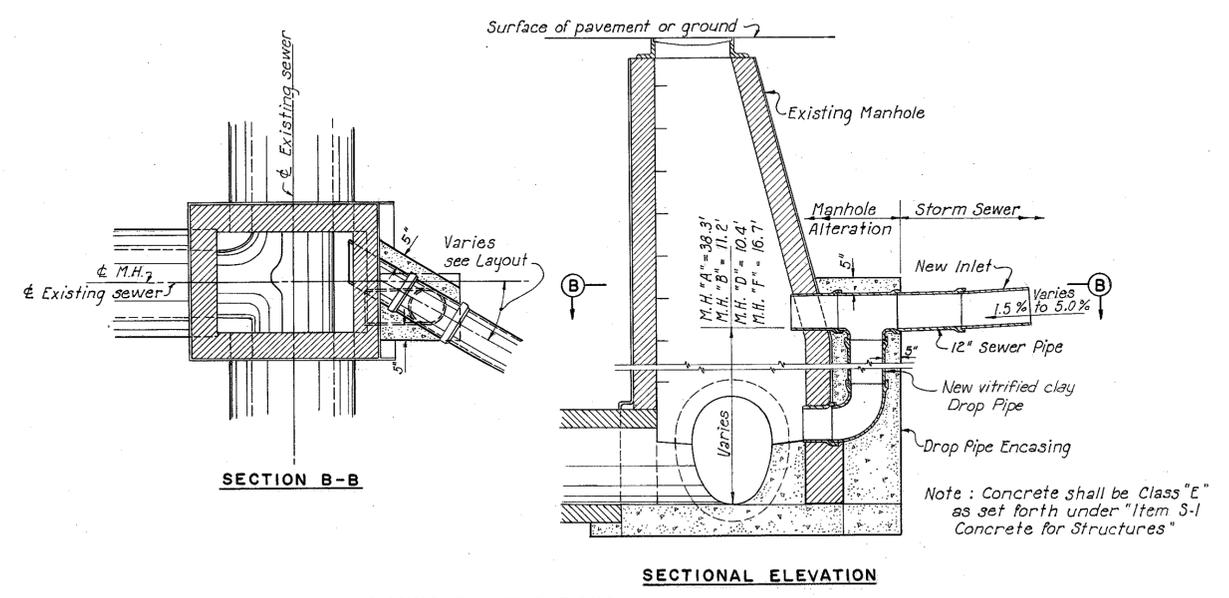
ELEVATION
STORM SEWER OUTLET "A"
Scale: 3/16" = 1'-0"



ELEVATION
STORM SEWER OUTLET "B"
Scale: 3/16" = 1'-0"



DETAILS OF
STORM SEWER OUTLETS "A" AND "B"
Scale: 1/2" = 1'-0"



MANHOLE ALTERATIONS

Manhole "D" shown
A, "B" & "F" similar
Scale: 3/8" = 1'-0"

SECTIONAL ELEVATION

PENCIL REVISIONS
SEPT. 20, 1955

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

STORM SEWER DETAILS

CLEVELAND CUYAHOGA COUNTY OHIO

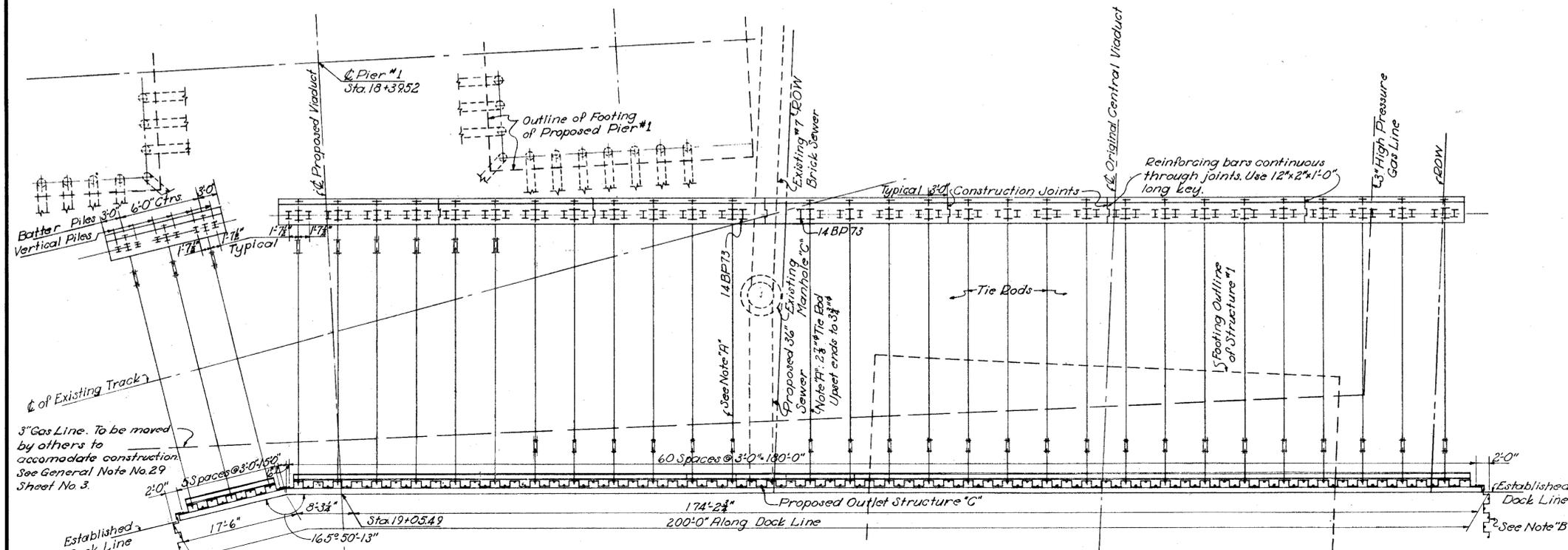
SCALE: As shown
MADE S.W.F. DATE: 3-19-54
TRCD. A.H. DATE: 6-24-54
CKD. C.V.C. DATE: 6-25-54

HOWARD, NEEDLES, TAMMEN & BERGENOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

914-1A SHEET: 1.37

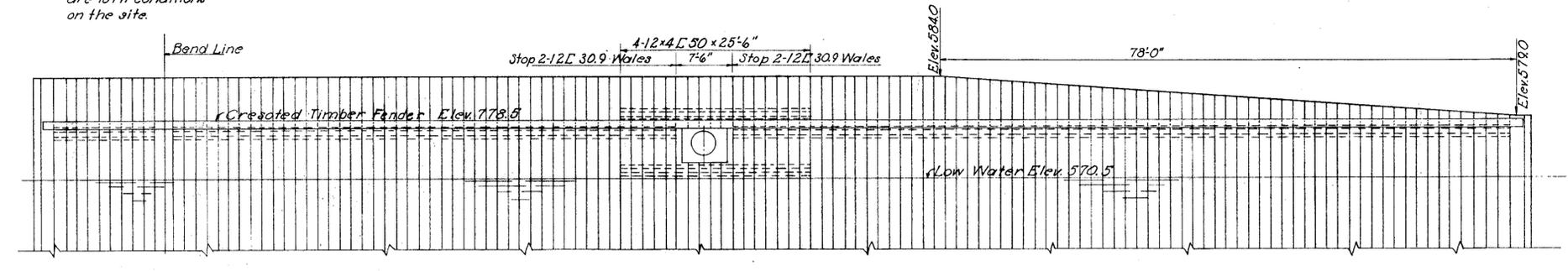
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS	38
2	OHIO	UI 1057 (4)		43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50

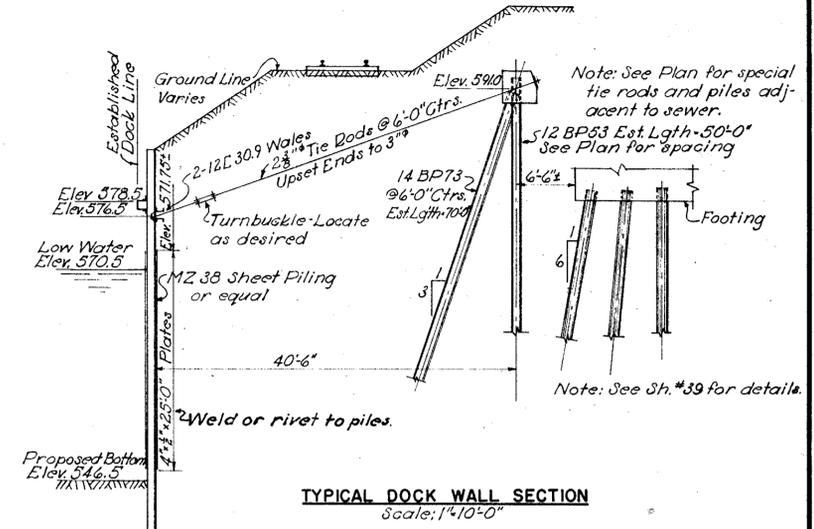


GENERAL NOTES
All splice plates to be fitted welded in shop to structural members. All bolted connections, including anchor rods, shall have the threads jammed to form a definite lock. The concrete anchor pile cap must be constructed in sections. Bar splices for the six construction joints shown are included in the estimated quantities. Locations may be shifted to any typical position.

LOCATION PLAN
Scale: 1"=10'-0"



FRONT ELEVATION
Scale: 1"=10'-0"



TYPICAL DOCK WALL SECTION
Scale: 1"=10'-0"

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

DOCK WALL
LOCATION PLAN AND TYPICAL SECTION

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: 1"=10'-0"
MADE C.U.C. DATE: 3-31-54
TRCD C.U.C. DATE: 2-1-54
CKD J.K. DATE: 8-31-54

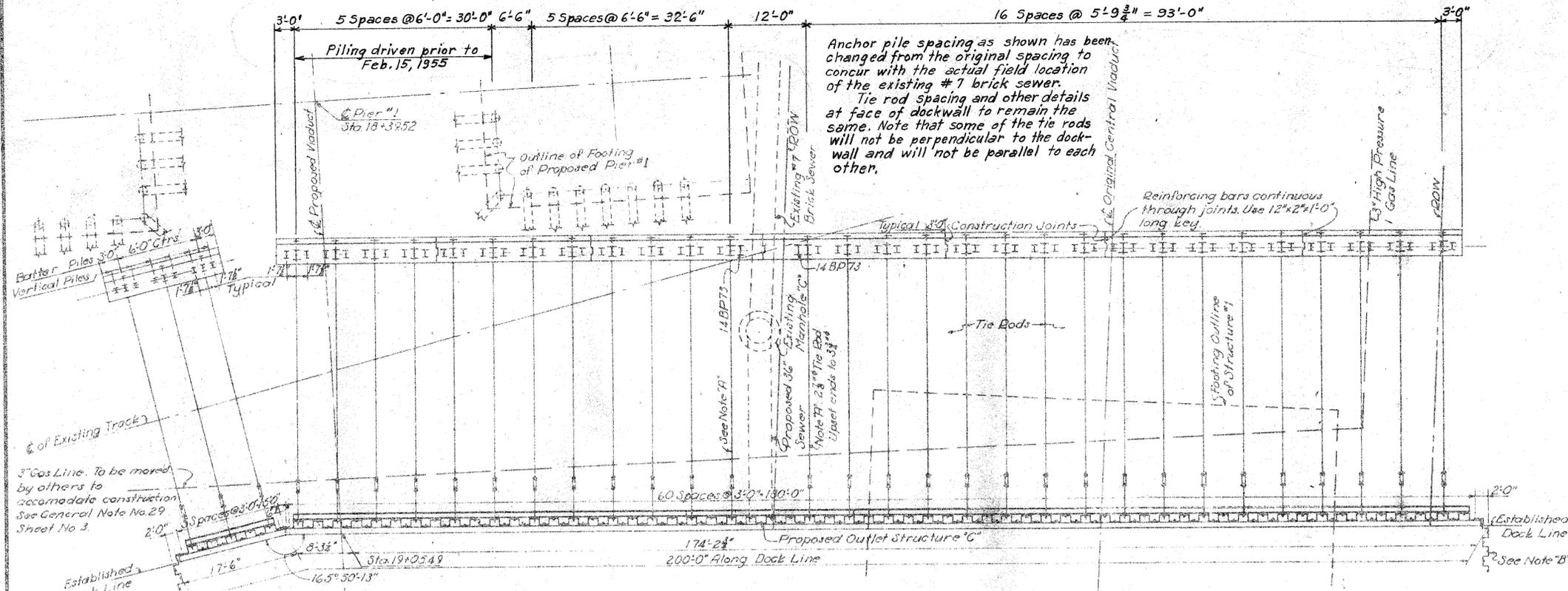
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET 1.38

Superseded by Sheet 38 A
2-15-55

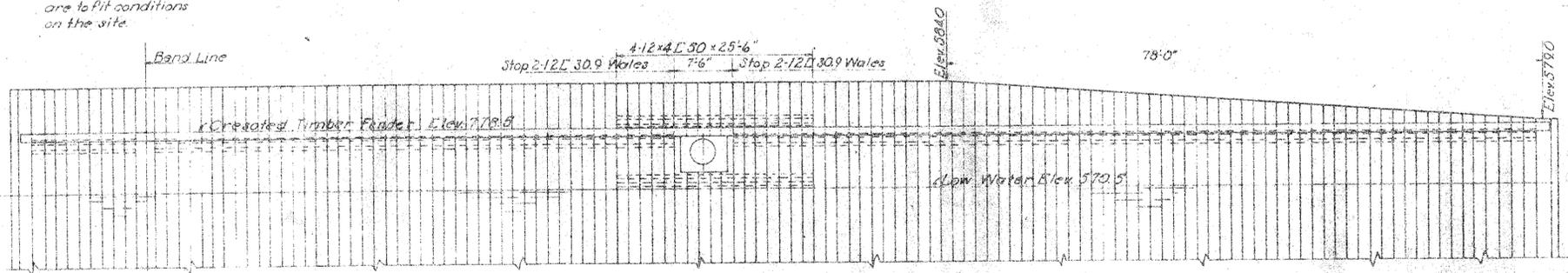
MICROFILMED
FEB 23 1983

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS	38A
2	OHIO	UI 1057 (4)		43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50



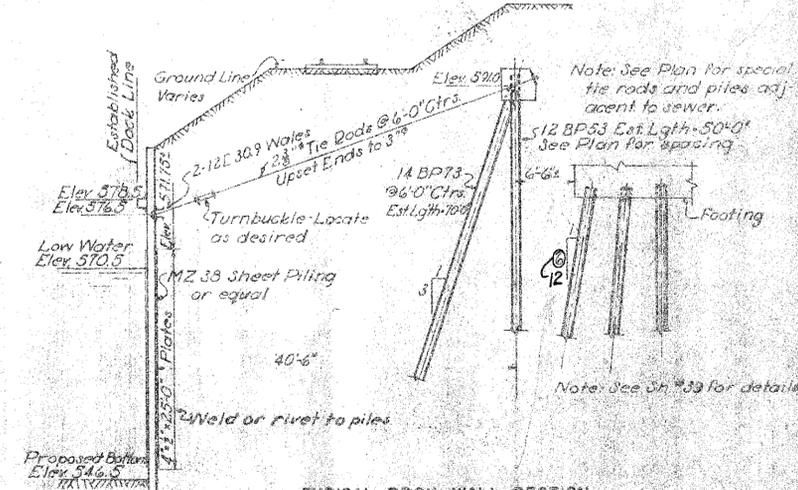
LOCATION PLAN
Scale: 1"=10'-0"



FRONT ELEVATION
Scale: 1"=10'-0"

GENERAL NOTES

All splice plates to be fillet welded in shop to structural members. All bolted connections, including anchor rods, shall have the threads jammed to form a definite lock. The concrete anchor pile cap must be constructed in sections. Bar splices for the six construction joints shown are included in the estimated quantities. Locations may be shifted to any typical position.



TYPICAL DOCK WALL SECTION
Scale: 1"=10'-0"

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT
DOCK WALL
LOCATION PLAN AND TYPICAL SECTION
CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: 1"=10'-0"

DATE: 2/15/54

HOWARD, HERRICK, TROTTEN & BERGMAN
CONSULTING ENGINEERS
CLEVELAND, OHIO

DATE: 2/15/54

REVISIONS: 1. DATE: 2/15/54

314-13 SHEET 136

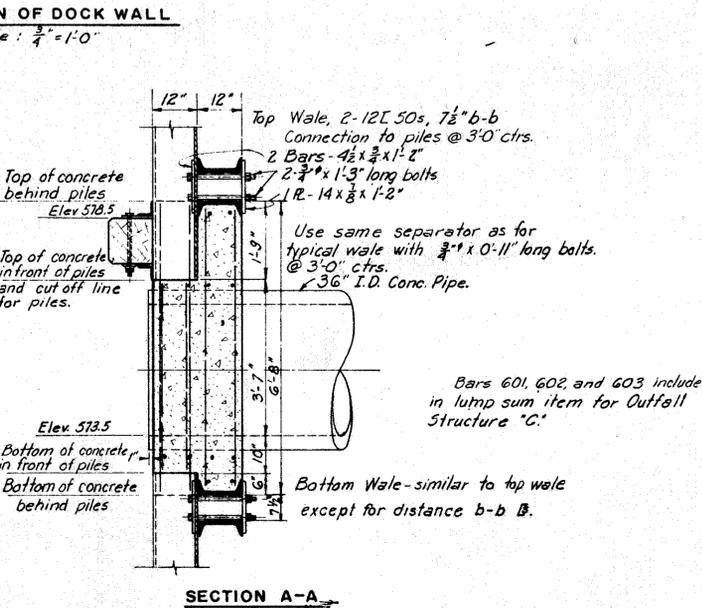
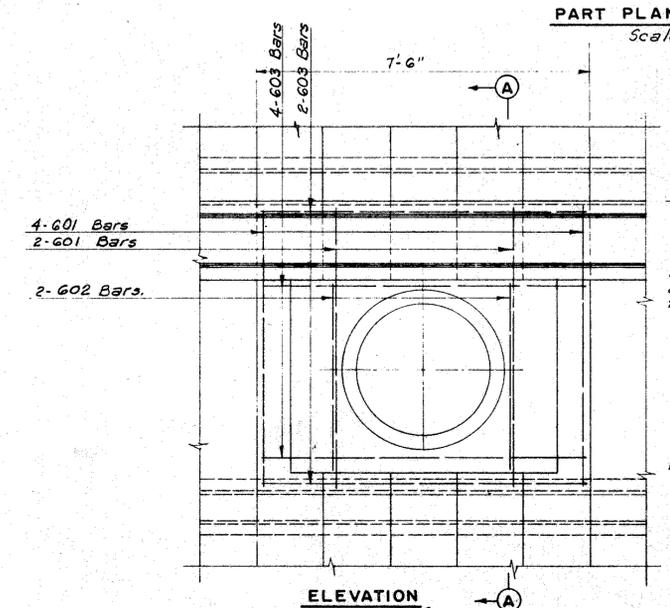
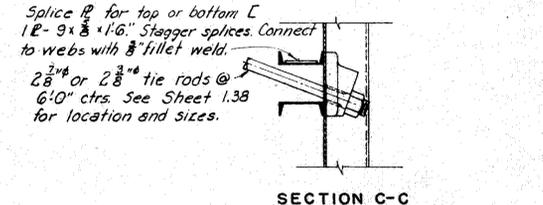
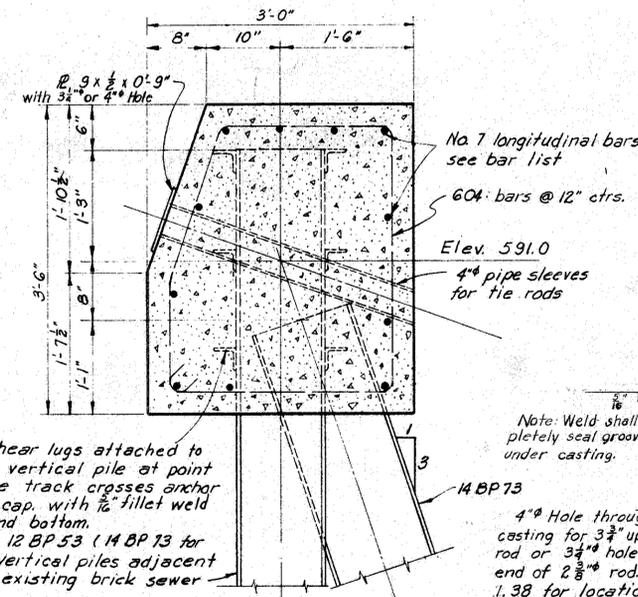
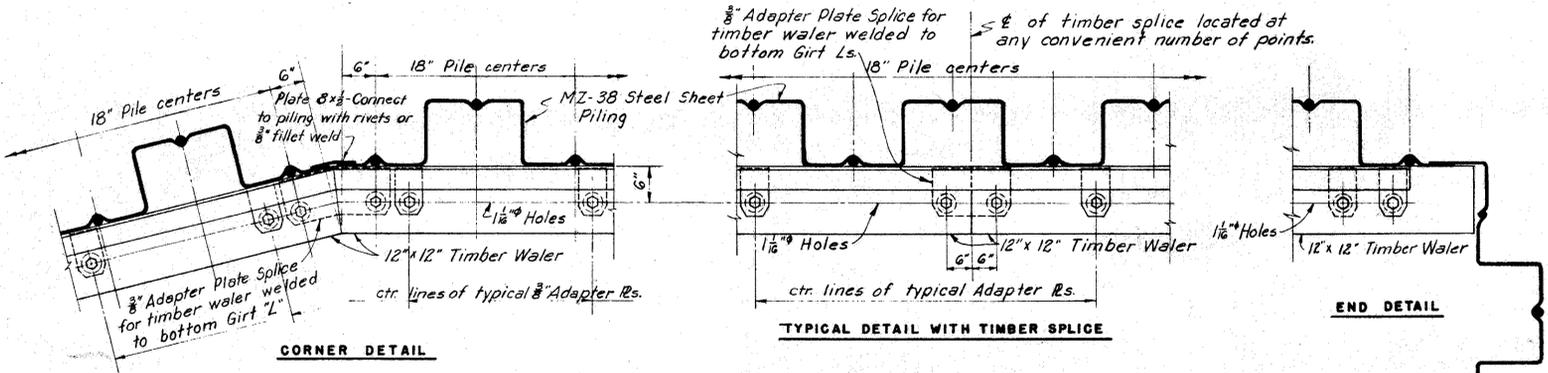
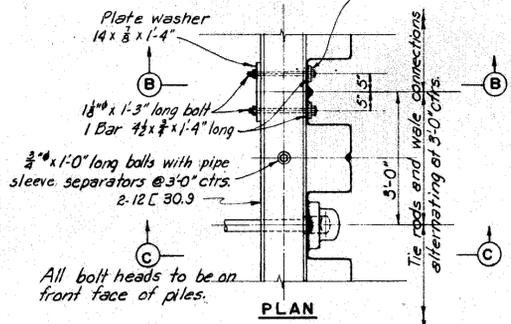
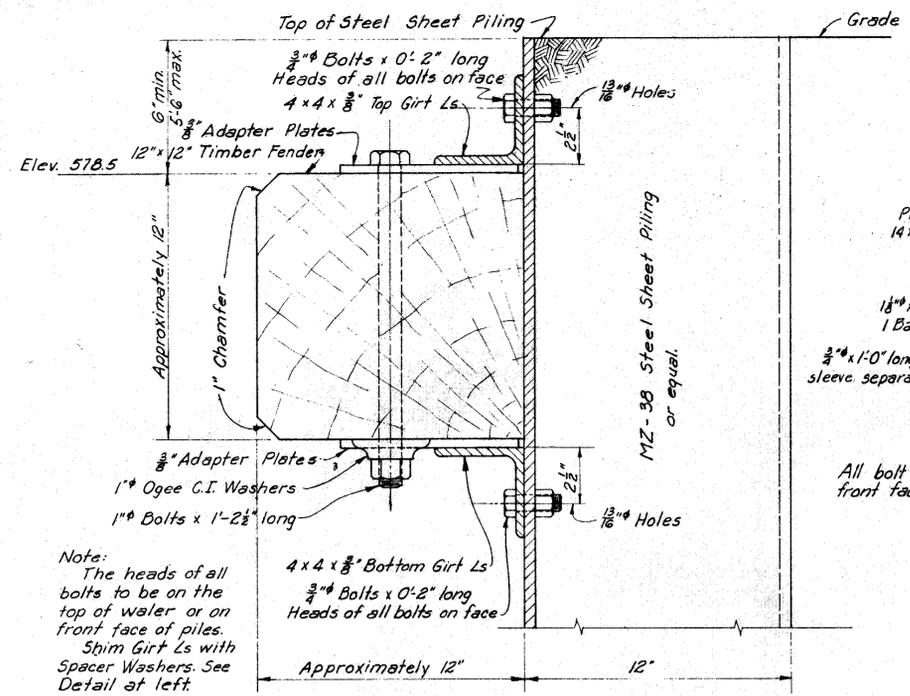
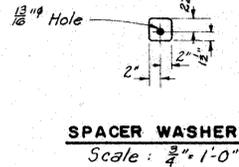
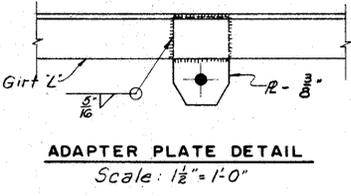
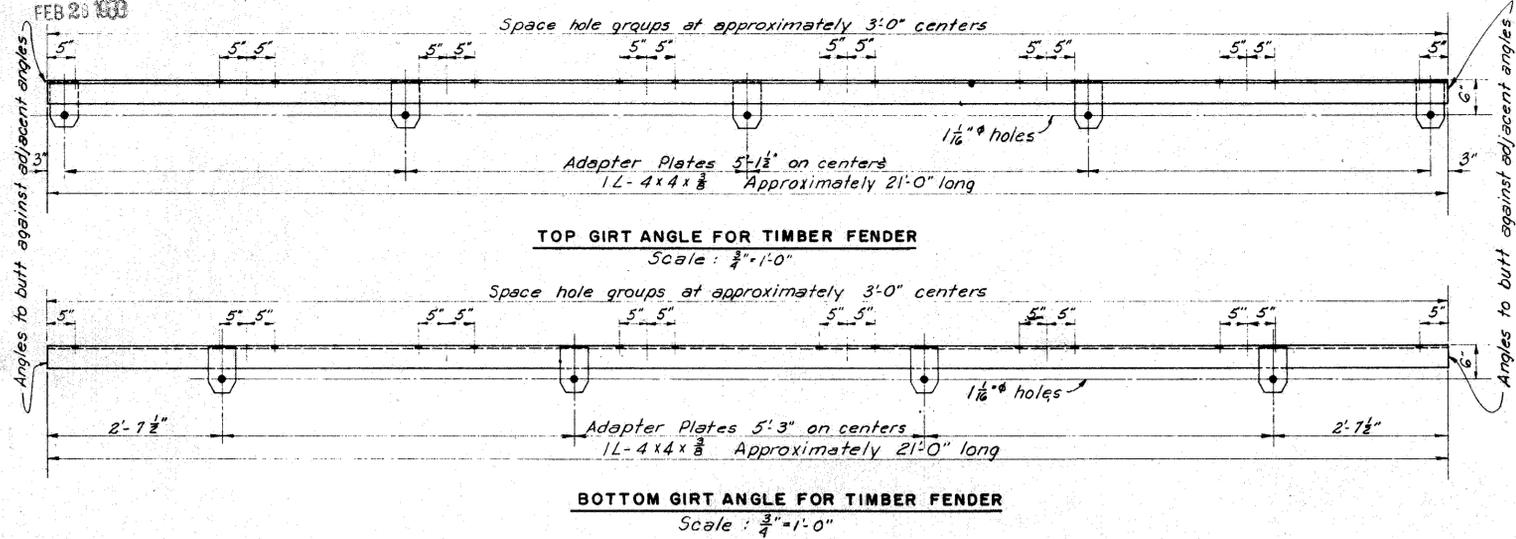
Supersedes Sheet 38
Revised anchor pile spacing - GA 2-15-55



FEB 23 1953

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50

Connect $\frac{3}{8}$ " Bars to piling with $\frac{3}{8}$ " continuous fillet weld



REINFORCEMENT SCHEDULE

Mark	Size	Type	Length	No.	Total Weight
601	Str.	6'-0"	12	108	
602	Str.	4'-0"	4	24	
603	Str.	7'-0"	12	126	
604	Bent	11'-0"	198	3268	
701	Str.	17'-6"	11	393	
702	Str.	23'-6"	44	2293	
703	Str.	26'-6"	22	1282	
704	Str.	29'-6"	11	663	

Bent Bar Dimensions

Lengths for bars 701, 702, 703, 704 subject to revision and dependent on location of construction joints in anchor pile cap

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

DOCK WALL DETAILS

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: As Shown
MADE: DME DATE: 3-31-54
TRCD: DATE: CONSULTING ENGINEERS
CHK: DATE: KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET 139

MICROFILMED
FEB 23 1983

**TIMBER CRIB WALL
INSTALLATION**

PREPARING BASE - The foundation or bed for the cribbing shall be firm and shall be approved by the Engineer before any cribbing is placed.

The foundation shall be sloped at right angles to the finished crib batter face.
FACE TIMBERS OR STRETCHERS - The timbers in the base tier and in alternate tiers above the base shall be as long as practicable. Preferably they shall have a minimum length of 8 feet. Joints in each tier shall stagger with joints in adjacent tiers.

Care shall be exercised in the erection of cribs to produce a true and even face built to line as shown on the plans. All face timbers shall be set parallel to grade.

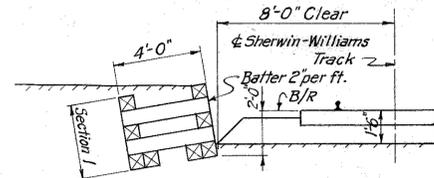
TIES OR HEADERS - Ties shall be anchored to the face by framing, drift bolting or other approved means.

Ties should be anchored in the fill to stretchers fastened to them at right angles by drift bolts or other suitable means.

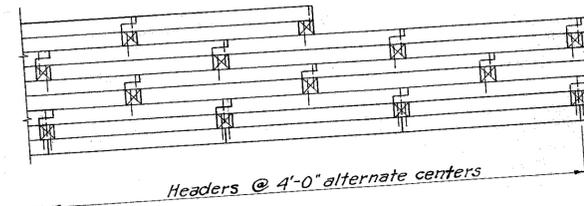
FASTENING - Each successive tier of open face cribbing shall be drift bolted together at each tie, using one 3/4" drift bolt at each intersection where no splice occurs or at lap joints and two 3/4" drift bolts at butt joints. Drift bolts shall be long enough to extend through one tier and at least 3/4 of the distance into the next tier. Stagger drift bolts from tier to tier.

FILLING - The filling of the interior of the crib shall follow closely the erection of the successive tiers of units and at no time shall the wall be laid up higher than 3 feet above the back filled portion.

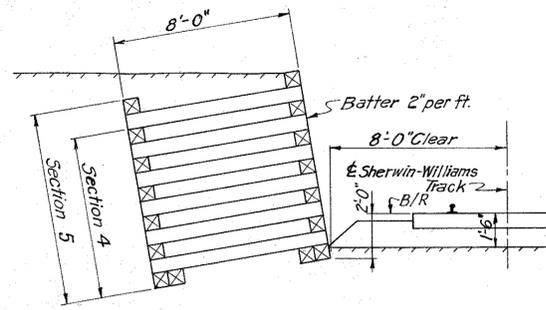
In open face cribbing a layer of hand-placed stone shall be placed in back of the front members of the cribbing to prevent loss of fill material through the openings.



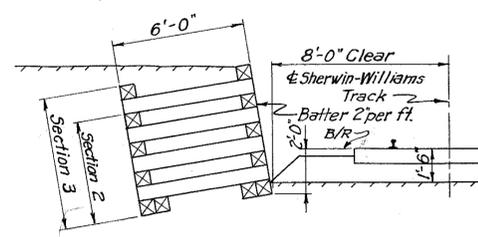
SECTION 1
Scale 1/4" = 1'-0"



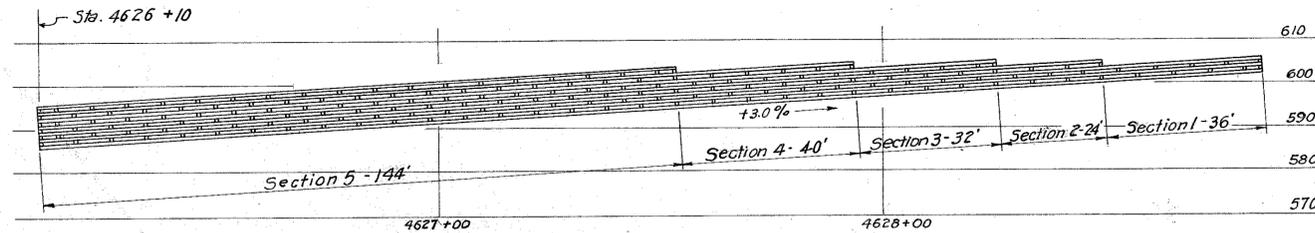
SPLICING DETAIL
Scale 1/4" = 1'-0"



SECTIONS 4 AND 5
Scale 1/4" = 1'-0"



SECTIONS 2 AND 3
Scale 1/4" = 1'-0"



FRONT ELEVATION
Scale 1" = 20'-0"

Note: All timbers are 8" x 8"

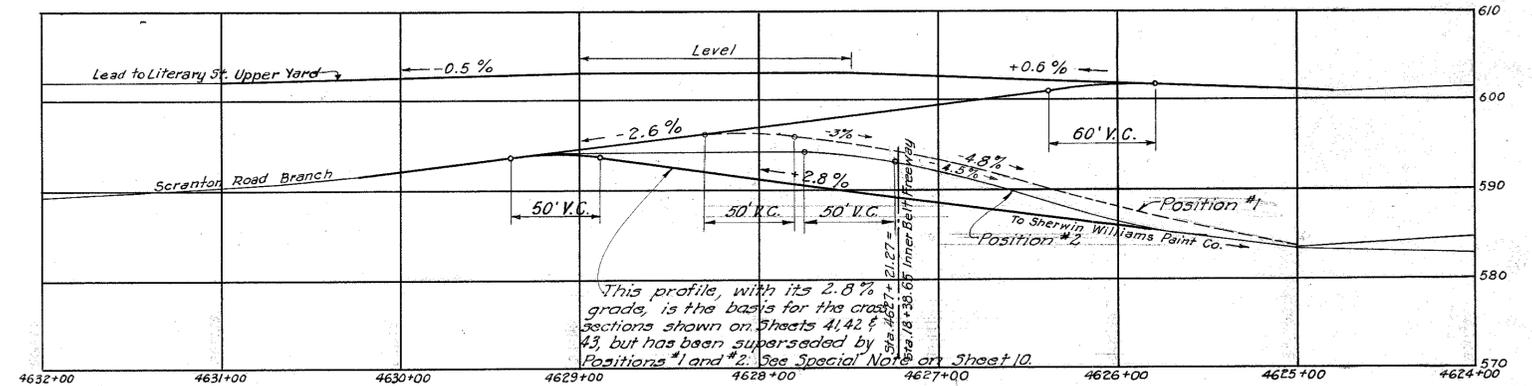
TEMPORARY TIMBER CRIB WALL

For location of crib wall in plan, see Sheet 10.

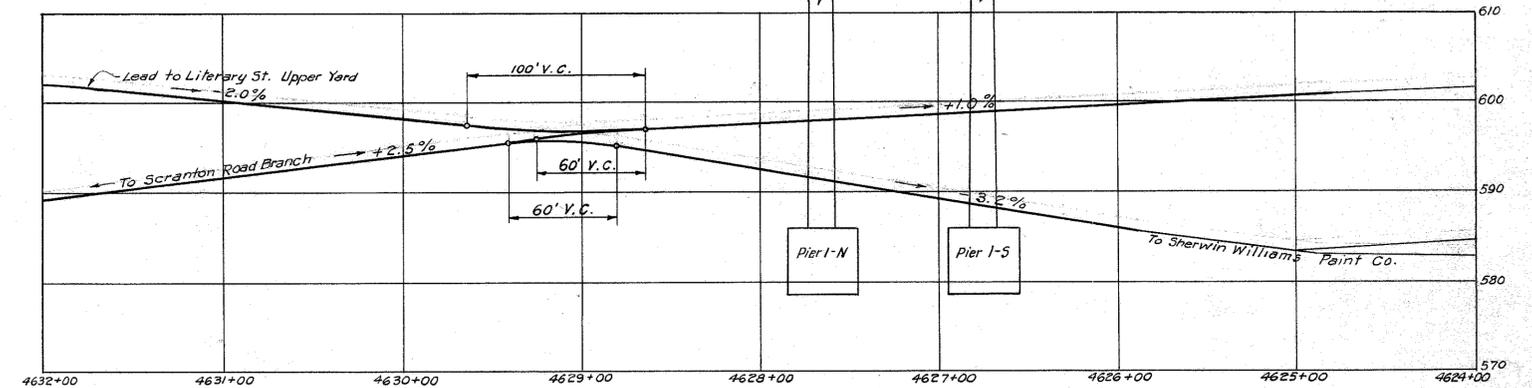
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
C U Y - 4 2 R - 1 7 . 5 0

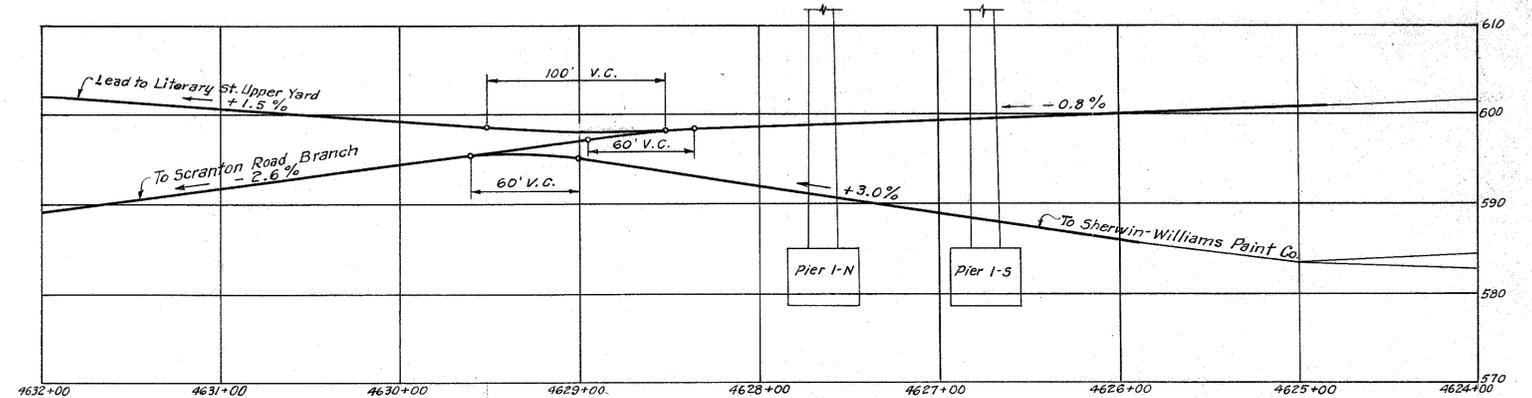
40
43



SUBGRADE PROFILES - PHASE I - CONSTRUCTING DOCKWALL



SUBGRADE PROFILES - PHASE II - CONSTRUCTION OF PIERS I-N AND I-S



SUBGRADE PROFILES - PHASE III - PERMANENT TRACK LOCATIONS

NOTE (Reference Phase I)
With tracks in position #1, construct entire dockwall and westerly 150'± of anchor piles. Install tie rods in easterly 50'± of dockwall to within 10'± of track in position #1.
With tracks in position #2, install easterly 50'± of anchor piles and complete tie rod connections.
If necessary, support the easterly 50'± of dockwall by temporary shoring.

Note:
Subgrade profiles are shown 1'-0" below base of rail elevations given on Erie Railroad Company drawings D-194, D-195 and D-196 revised Aug. 13, 1954.
For track locations in plan see Sheet 10.
For cross sections parallel to & proposed Central Viaduct see Sheets 41, 42 and 43.
Subgrade Profile Scale Hor. 1" = 50'-0" Vert. 1" = 10'-0"

PART 2

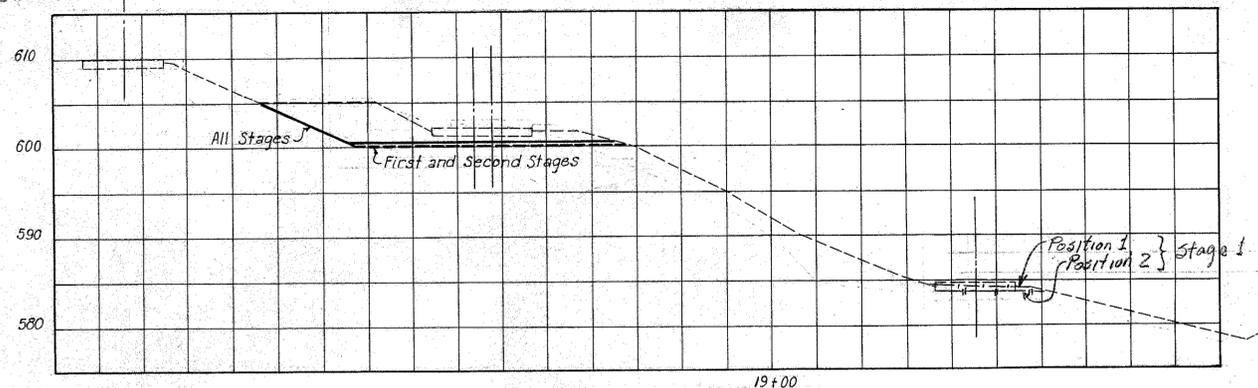
U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT
BR. NO.
SUBGRADE PROFILES AND
TEMPORARY TIMBER CRIB DETAILS
CLEVELAND CUYAHOGA COUNTY OHIO
SCALE: As Shown
MADE D.L.C. DATE 8-30-54
TRCD 273 DATE 8-30-54
CKD J.G.S. DATE 9-1-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
914-IA SHEET 1. 40

MICROFILMED
FEB 23 1983

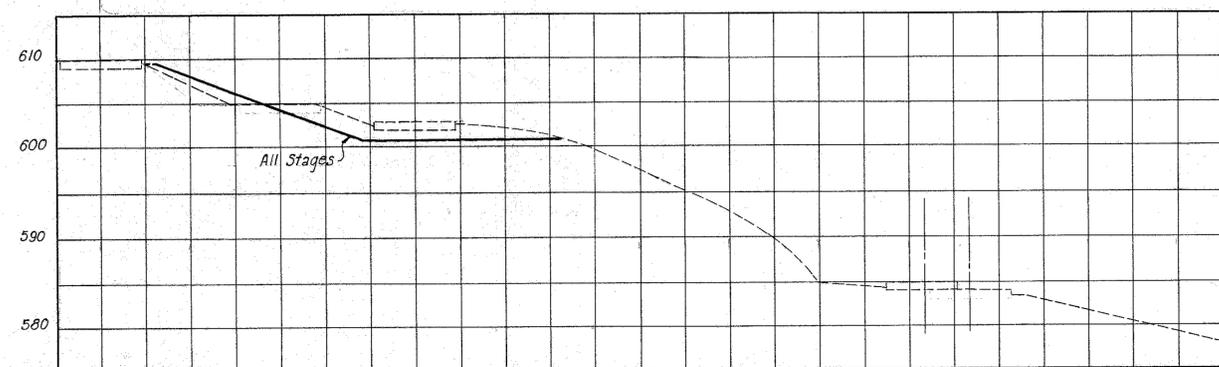
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

41
43

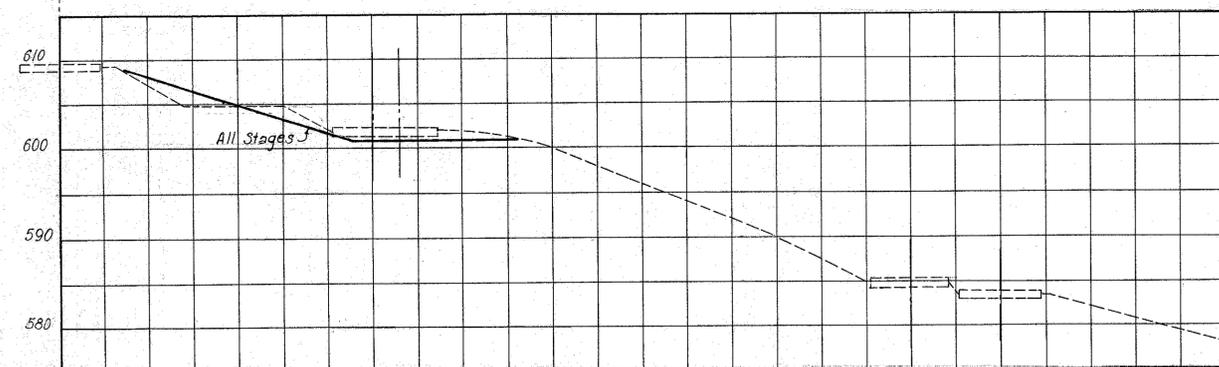
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUI - 42R - 17.50



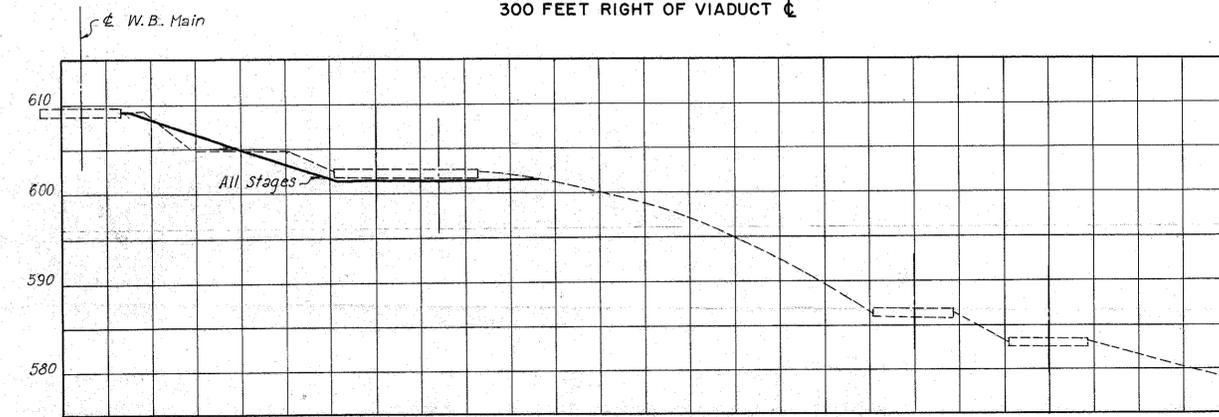
200 FEET RIGHT OF VIADUCT ϵ



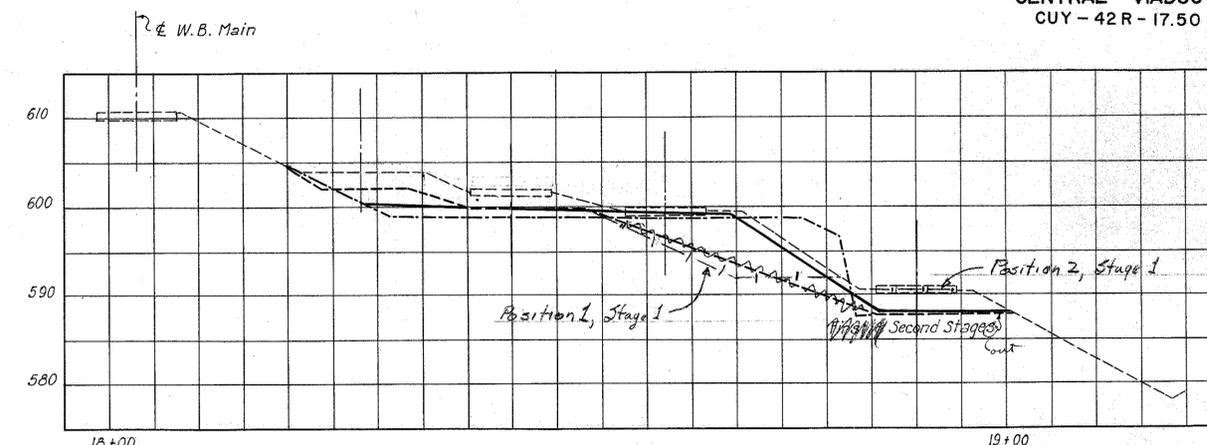
250 FEET RIGHT OF VIADUCT ϵ



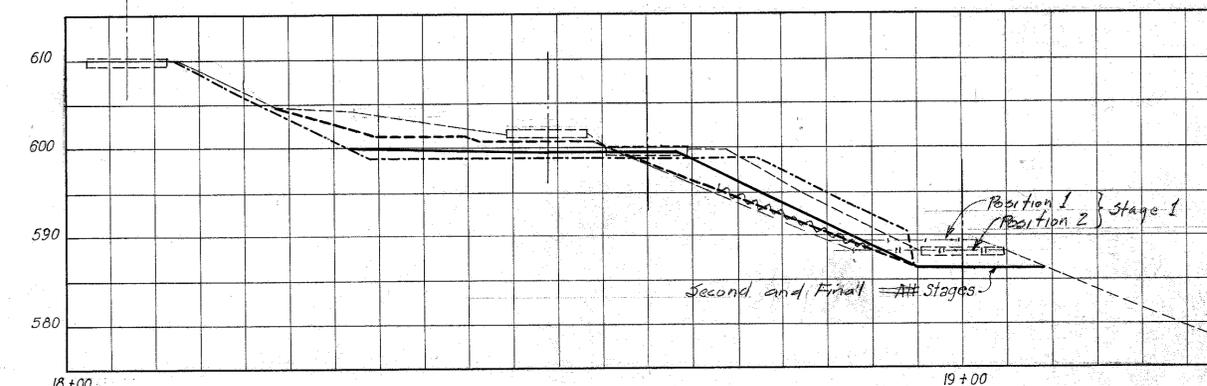
300 FEET RIGHT OF VIADUCT ϵ



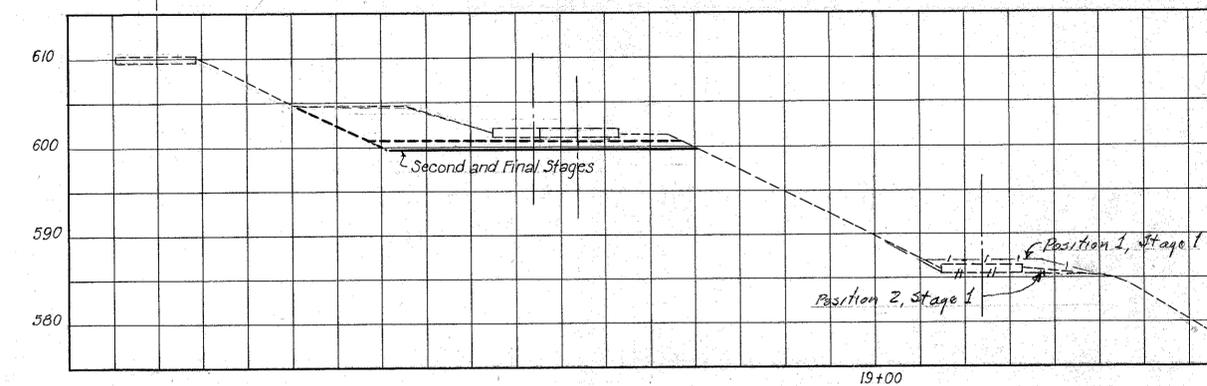
350 FEET RIGHT OF VIADUCT ϵ



50 FEET RIGHT OF VIADUCT ϵ



100 FEET RIGHT OF VIADUCT ϵ



150 FEET RIGHT OF VIADUCT ϵ

LEGEND
 Position 1 - - - - - Original ground line
 Position 2 - - - - - First stage - build anchor and dockwall
 - - - - - Second stage - shift tracks to build footing
 ——— Final condition

Note:
 Original ground line as shown by Erie Railroad Co.
 Track Cross Sections Inner Belt Freeway Viaduct
 at M.P. 1.58 July 7, 1954.
 For track locations in plan see Sheet 10.
 For profiles at ϵ of tracks see Sheet 40.

PENCILED REVISIONS 11-15-54

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

CROSS SECTIONS FOR
CONSTRUCTION IN ERIE RAILROAD YARD

CLEVELAND CUYAHOGA COUNTY OHIO

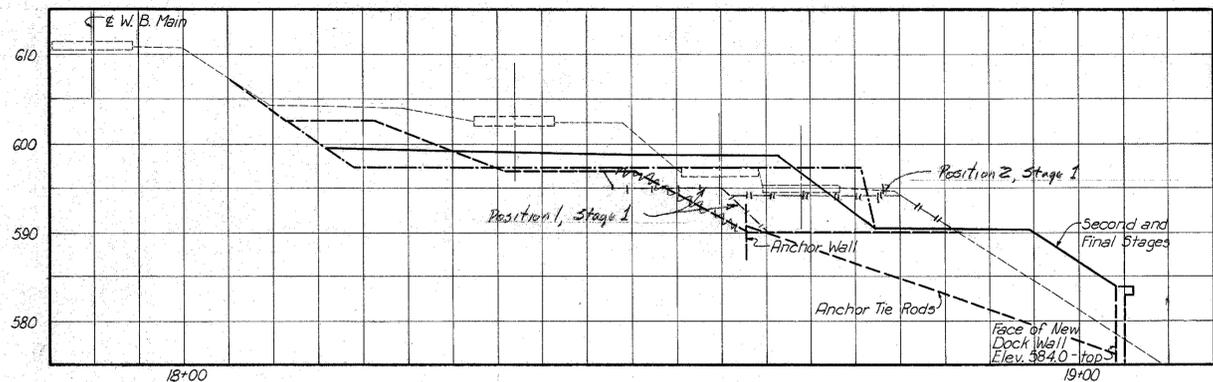
SCALE: 1" = 10' 0"
 MADE U.G.S. DATE 8-25-54 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 TRCD. A.H. DATE 8-20-54 CONSULTING ENGINEERS
 CKD U.G.S. DATE 8-31-54 KANSAS CITY CLEVELAND NEW YORK
 914-1A SHEET 1.41

MICROFILMED
FEB 25 1963

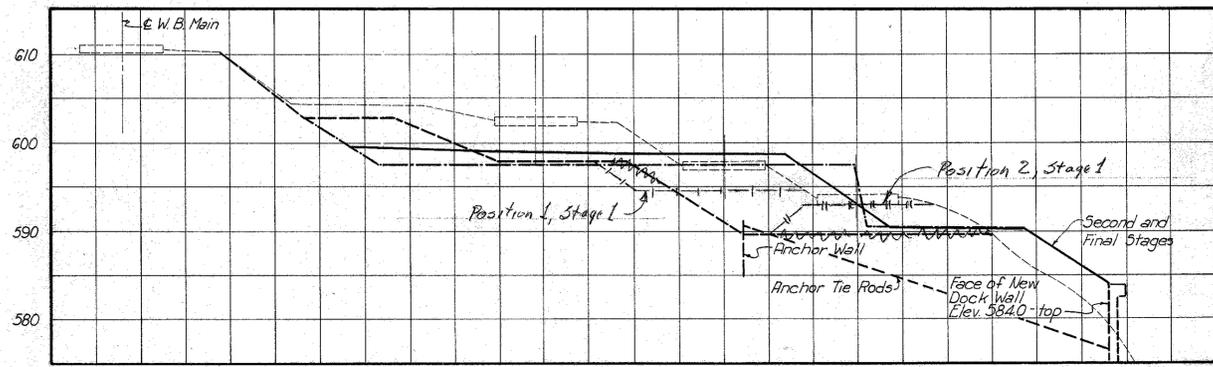
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO	UI 1057 (4)	

42
43

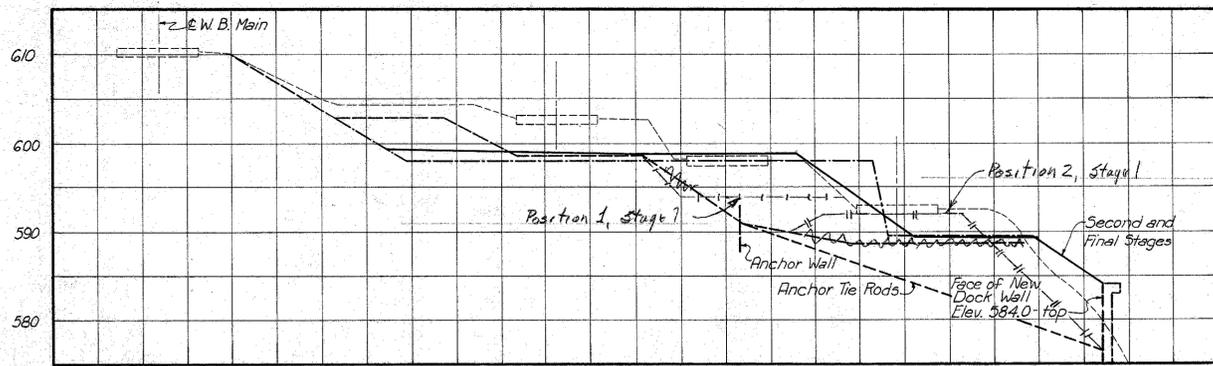
CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50



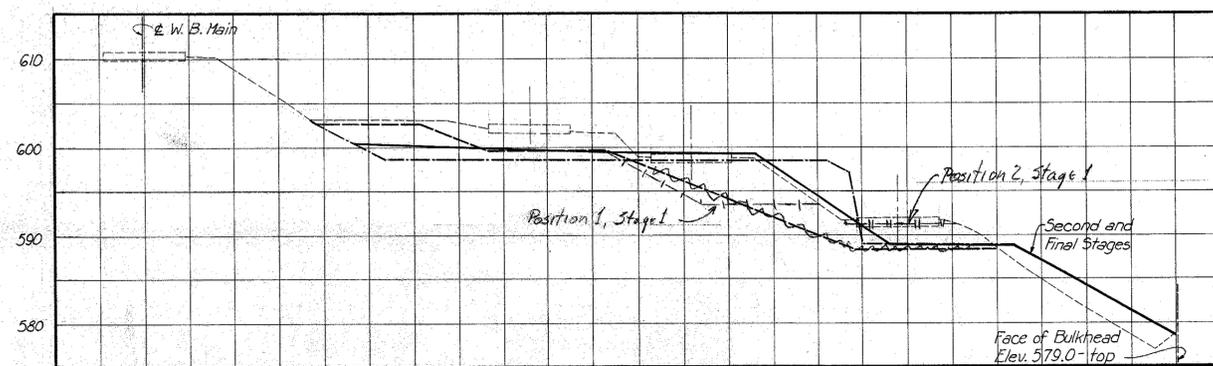
50 FEET LEFT OF VIADUCT C



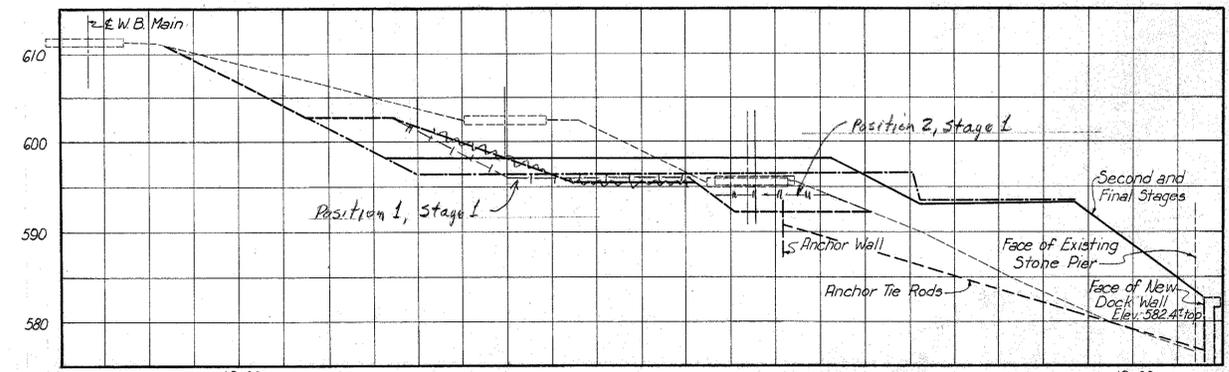
25 FEET LEFT OF VIADUCT C



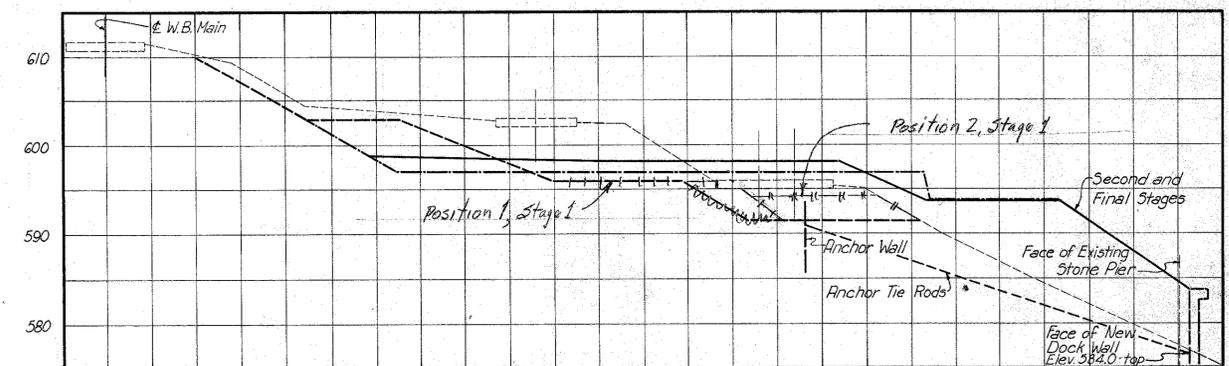
AT C OF VIADUCT



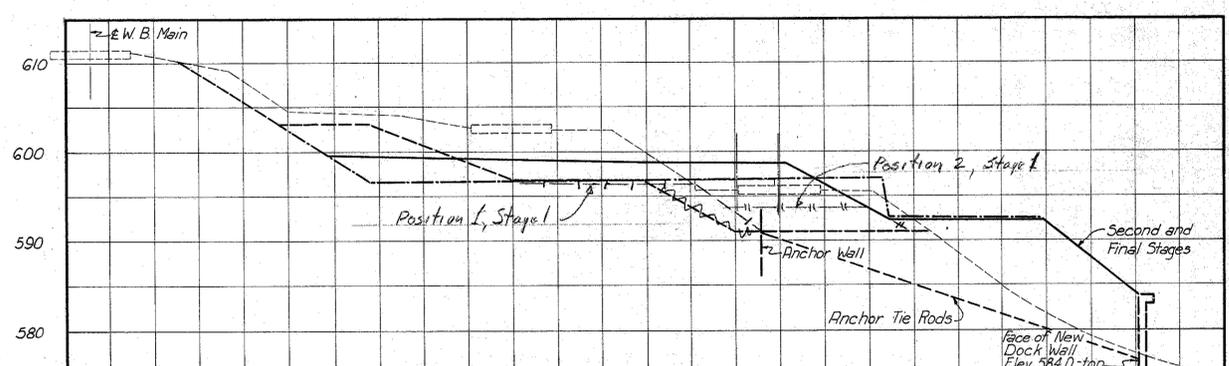
25 FEET RIGHT OF VIADUCT C



125 FEET LEFT OF VIADUCT C



100 FEET LEFT OF VIADUCT C



75 FEET LEFT OF VIADUCT C

LEGEND
 Original ground line
 Position 1 ————
 Position 2 ————
 First stage - build anchor and dockwall
 Second stage - shift tracks to build footing
 Final condition

Note: See Sheet 41.

PENCILLED REVISIONS 11-15-54

For detail of Existing Pier, see Sheet 9.

For detail of Existing Pier, see Sheet 9.

PART 2

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

CROSS SECTIONS FOR
CONSTRUCTION IN ERIE RAILROAD YARD

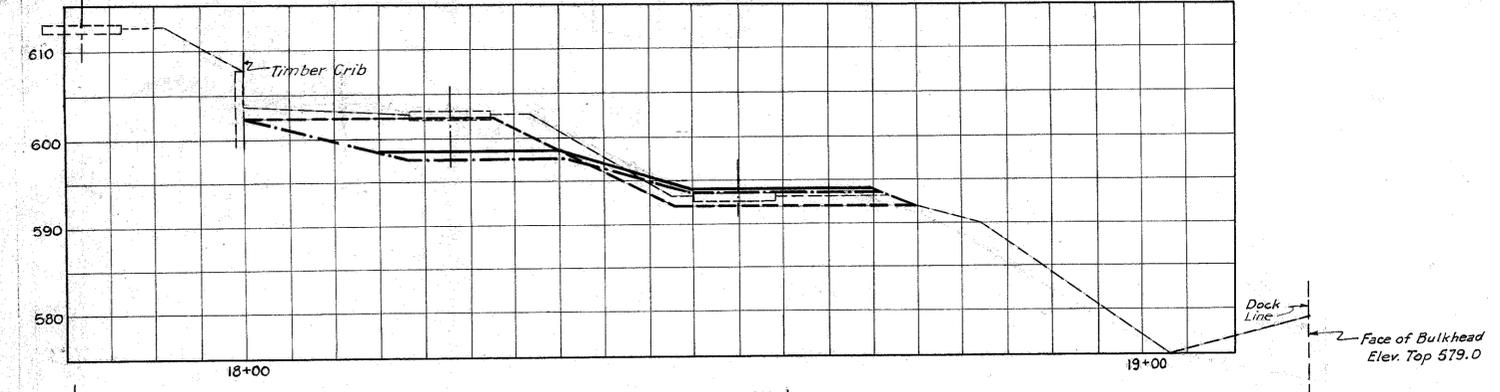
CLEVELAND CUYAHOGA COUNTY OHIO

SCALE 1"=10'-0"
 MADE I.G.S. DATE 8-25-54 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 TRCD I.A.M. DATE 8-30-54 CONSULTING ENGINEERS
 CKD I.G.S. DATE 8-31-54 KANSAS CITY CLEVELAND NEW YORK
 914-1A SHEET 1.42

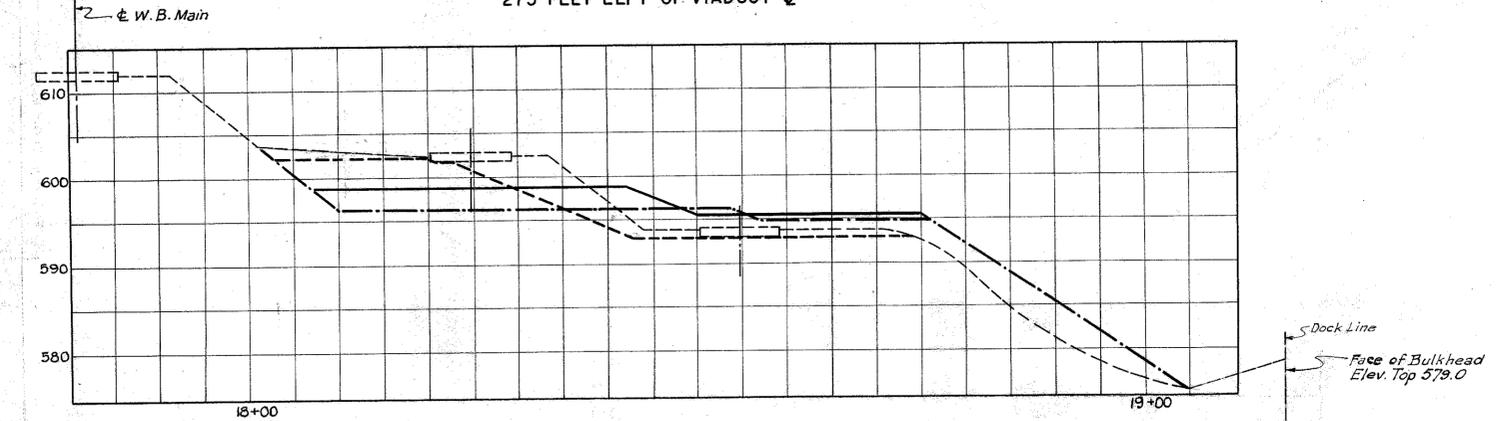
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS	43
2	OHIO	UI 1057 (4)		43

CUYAHOGA COUNTY
CITY OF CLEVELAND
INNER BELT FREEWAY
CENTRAL VIADUCT
CUY-42R-17.50

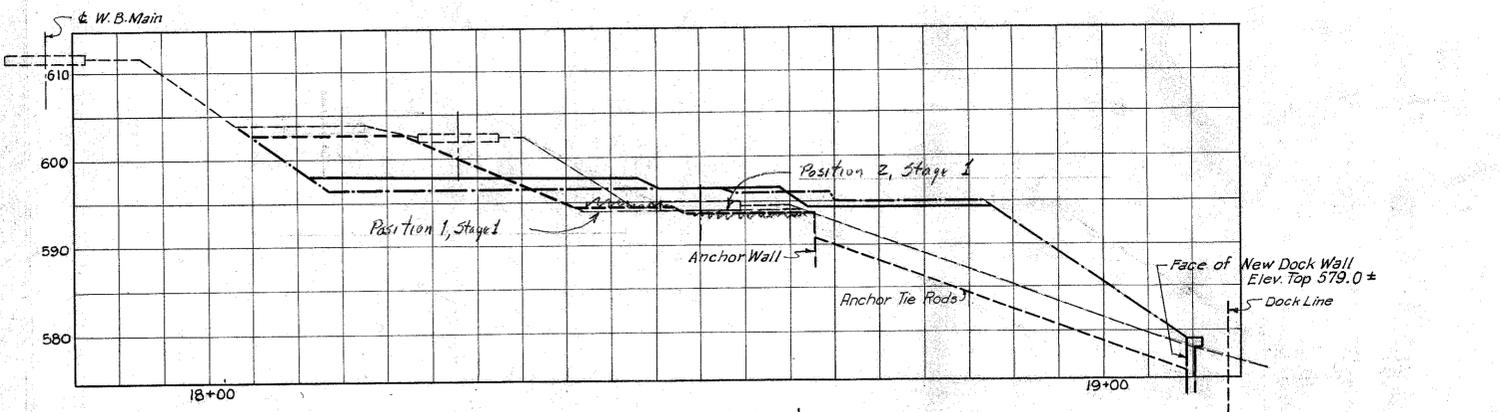
PROFILME
B 23 1953



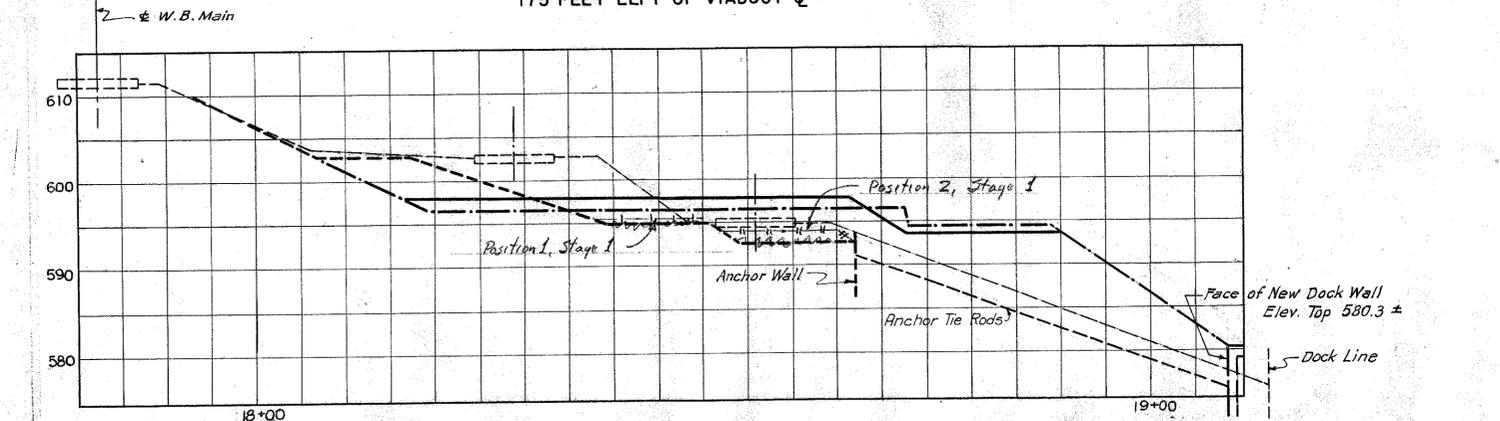
275 FEET LEFT OF VIADUCT CL



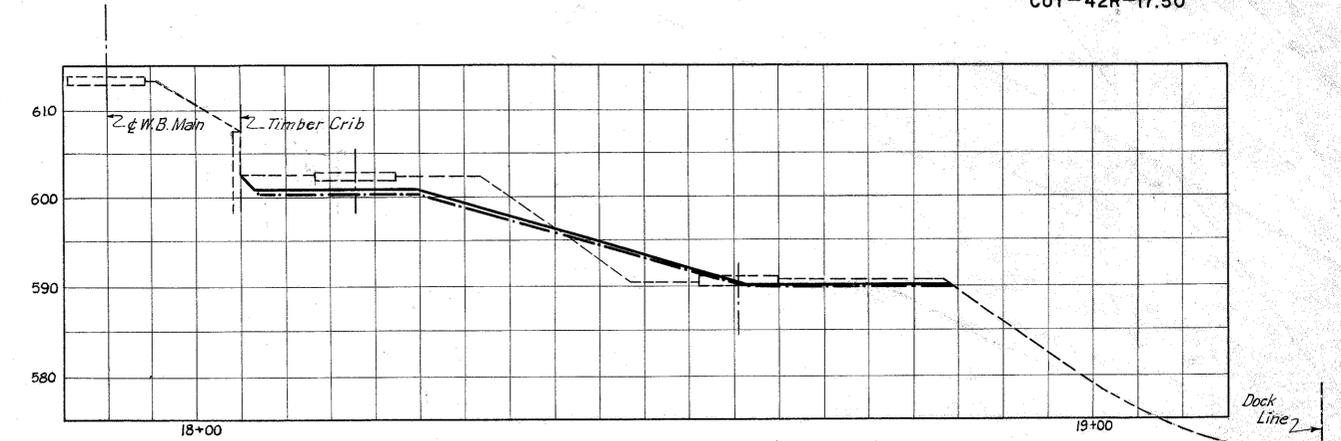
225 FEET LEFT OF VIADUCT CL



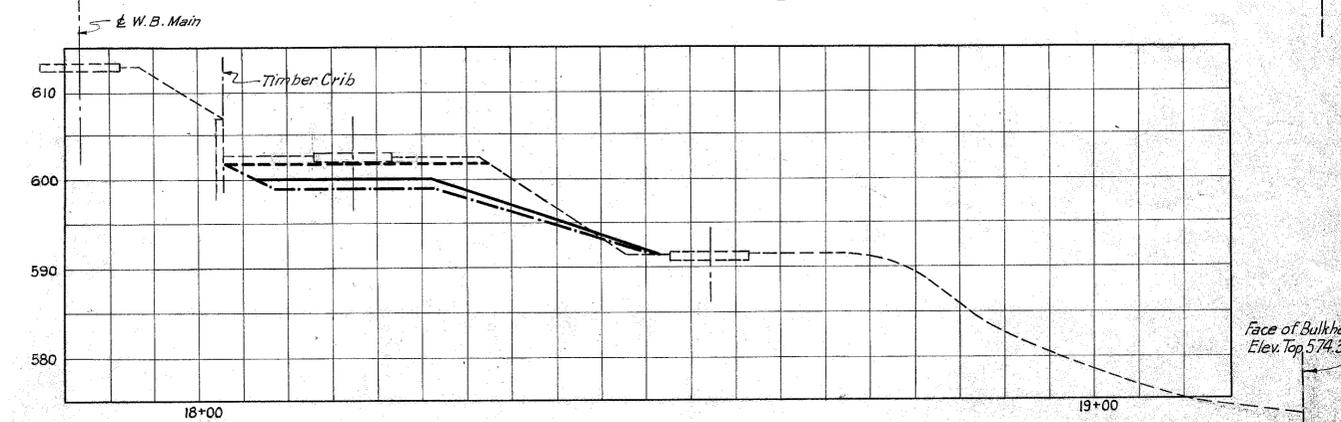
175 FEET LEFT OF VIADUCT CL



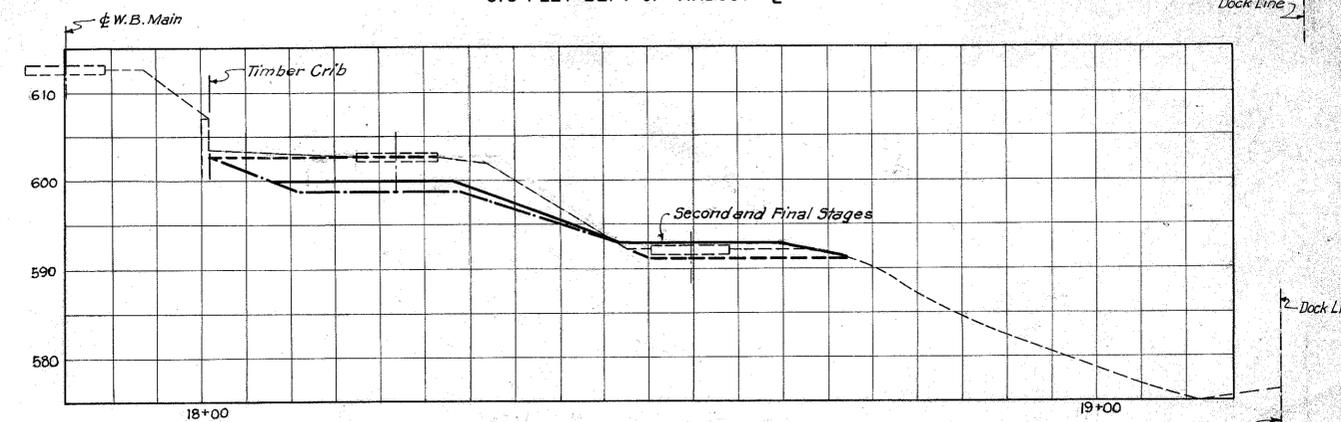
150 FEET LEFT OF VIADUCT CL



425 FEET LEFT OF VIADUCT CL



375 FEET LEFT OF VIADUCT CL



325 FEET LEFT OF VIADUCT CL

- LEGEND**
- Original ground line
 - First Stage - build anchor and dock wall
 - Second Stage - shift tracks to build footing
 - Final condition

PENCILED REVISIONS 11-15-54 Note: See Sheet 41.

U. S. ROUTE 42 RELOCATION
INNER BELT FREEWAY - CENTRAL VIADUCT

CROSS SECTIONS FOR
CONSTRUCTION IN ERIE RAILROAD YARD

CLEVELAND CUYAHOGA COUNTY OHIO

SCALE: 1" = 10'-0"
MADE I.G.S. DATE 8-25-54 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCD 2.7.5 DATE 8-30-54 CONSULTING ENGINEERS
CKO I.G.S. DATE 8-31-54 KANSAS CITY CLEVELAND NEW YORK
914-1A SHEET 1.43