1-HH

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
REHABILITATION OF
MAIN AVENUE BRIDGE NO. 193 BHF-73(51)
CUY-2-14.66
CITY OF CLEVELAND
CUYAHOGA COUNTY

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73 (51)	

1/547

CUYAHOGA COUNTY
CUY-2-14.66

DESIGN DESIGNATION

CURRENT A.D.T.	(1989) 46,800
DESIGN YEAR A.D.T.	(2009) 67,730
D.H.V.	6800
D. (DIRECTIONAL DISTRIBUTION)	49-51
T. (PERCENT B.&C. TRUCKS)	5%
V. (DESIGN SPEED)	50 MPH
V. (POSTED SPEED)	50 MPH

MICROFILMED AUG 18 1993

FUNCTIONAL CLASSIFICATION DESIGN EXCEPTIONS	URBAN ARTERIAL APPROVAL DATE
STOPPING SIGHT DISTANCE	6-15-87
SHOULDER WIDTH	6-15-87
DESIGN SPEED	6-15-87

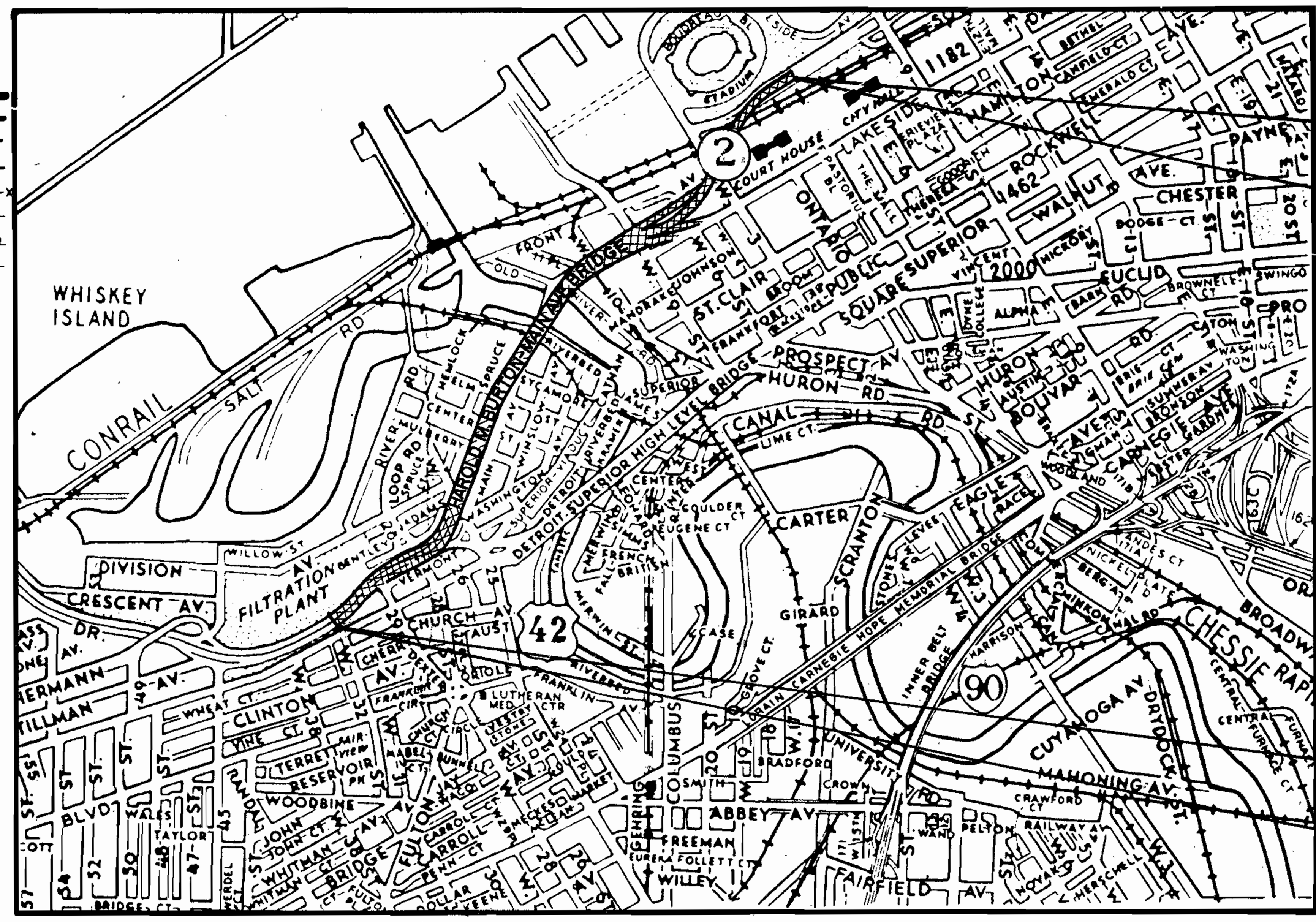
MICROFILMED JUL 20 1994

SEP 15 1993

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
FENCE LINE (EXISTING) —x—x— (PROPOSED) —x—x—
CENTER LINE
TREES ✿ STUMPS (TO BE REMOVED)
UTILITY POLES TELEPHONE POWER
LIMITED ACCESS —LA— LA
RIGHT OF WAY —RW— RW
TEMPORARY RIGHT OF WAY —T—
EXISTING RIGHT OF WAY
PROPERTY LINE —℞— (IN EXISTING FENCE) —℞—
RAILROAD
GUARD RAIL (EXISTING) (PROPOSED)
WORK LIMITS

INDEX OF SHEETS



END PROJECT STA. 80+85.97

BEGIN PROJECT STA. 2+50

N

LOCATION MAP

SCALE IN FEET

1000 500 0 1000 2000 3000 4000

BOARD OF COMMISSIONERS, CUYAHOGA COUNTY

APPROVED: Mary O. Boyle
DATE: Timothy F. Hagan
Virgil E. Brown

APPROVED: Thomas J. Neff P.E., P.S.
DATE: 10-17-89 COUNTY ENGINEER

1989 SPECIFICATIONS

THE STANDARD 1989 SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON THE PLANS.

APPROVED: Martin A. Gallito
DATE: 12-27-89 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED: B.D. Hahlsdam
DATE: 1/9/90 ENGINEER, BUREAU OF BRIDGES AND STRUCTURAL DESIGN

APPROVED: Theodore J. Stitt
DATE: 2/22/90 CHIEF ENGINEER, PLANNING AND DESIGN

APPROVED: Bernard B. Hurst
DATE: 2/22/90 DIRECTOR, DEPARTMENT OF TRANSPORTATION

LINE DATA	PROJECT	WORK		
	MAIN AVENUE			
BEGIN	102+50*	95+20*		
END	180+85.97	186+32*		
LENGTH	7835.97 L.F.	9112 L.F.		
NET LENGTH	7835.97 OR 1.484 MILES	9112 L.F. OR 1.726 MILES		

*SEE STATION EQUATIONS ON SHEET 5/547

UNDERGROUND UTILITIES
3 WORKING DAYS
BEFORE YOU DIG
Call 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

PORTION TO BE IMPROVED
STATE HIGHWAYS
U.S. HIGHWAYS
INTERSTATE HIGHWAYS

SCALES

PLAN	0 — 20
PROFILE - HORIZONTAL	0 — 50
PROFILE - VERTICAL	0 — 5
CROSS SECTIONS	0 — 10
RIGHT OF WAY	0 — 100
OTHERS	AS SHOWN

SUPPLEMENTAL SPECIFICATIONS	
802 - 5-4-88	
839 - 12-21-87	947 - 10-17-83
845 - 5-31-88	949 - 9-26-86
847 - 10-17-83	952 - 12-14-88
849 - 12-24-85	953 - 8-21-80
852 - 6-10-87	956 - 6-26-78
853 - 6-26-78	962 - 1-23-90
862 - 12-16-88	

SPECIAL PROVISIONS
DATE: 2-16-90

Subsummaries and reinforcing steel tables have not been varified as built

Use of the phrase, "AS BUILT," indicates that changes in the project design made during construction have been incorporated into these pages. Not all details of the work are shown. Reference is made to the project shop drawings for details of new and rehabilitated members.
RICHLAND ENGINEERING LIMITED
MANSFIELD, OHIO
FEBRUARY 1994

REVISED 4-4-90

FILE Nº	
	CUYAHOGA COUNTY Nº ______
	DATE OF LETTING ______, 19__
	CONTRACT Nº ______

REVIEWED BY: DESIGN DEPT. Donald A. Sundheim DATE 10-17-89
REVIEWED BY: BRIDGE DEPT. Sureen Dalal, P.E. DATE 10-18-89
APPROVED DATE 10/18/89 David ... ENGINEER OF DESIGN
APPROVED DATE 10/18/89 William A. Dobish, P.E. BRIDGE ENGINEER
APPROVED DATE 10/17/89 Jerome N. Shaeffer LAND DEPUTY
APPROVED DATE 10/17/89 Paul ... TRAFFIC ENGINEER

PREPARED AND RECOMMENDED BY
PAVLO ENGINEERING CO; P.C.
OHIO NEW YORK
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS OHIO

PAVLO ENGINEERING AND H.N.T.B. SHALL BE RESPONSIBLE FOR THEIR RESPECTIVE DRAWINGS

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS											
BP-2	1-11-85	HL-10.11	05-01-87	TC-7.65	03-01-79	TC-32.11	03-21-79	TC-65.11	04-05-82		
BP-3	12-6-76	HL-10.12	05-01-87	TC-12.30	01-20-84	TC-41.10	08-29-84	TC-71.10	04-09-79		
BP-4	10-1-87	HL-10.13	05-01-87			TC-41.20	03-26-79	TC-72.20	02-26-82		
BP-5	10-1-87	HL-20.11	05-01-87	TC-15.115	03-01-79	TC-41.40	06-18-79	TC-35.10	08-29-84		
BP-10	1-30-84	HL-20.14	05-01-87	TC-18.24	04-25-79	TC-41.50	3-26-79	MT-99.10	11-14-86		
MG-9	1-30-84	HL-20.15	05-01-87	TC-21.10	01-20-84	TC-42.10	08-19-77	MT-99.20	04-29-88		
EXJ-3-82	8-1-84	HL-20.31	05-01-87	TC-21.20	01-20-84	TC-42.20	03-26-79	MC-6	1-30-84		
EXJ-1-81	9-1-81	HL-30.11	05-01-87	TC-21.40	03-01-79	TC-51.10	01-20-84	PSF-1-87	6-1-87		
BP-7	10-1-87	HL-50.21	05-01-87	TC-22.10	03-01-79	TC-51.11	01-20-84	EXJ-2-81	4-02-84		
BP-13	5-8-87	HL-60.11	05-01-87	TC-22.20	03-01-79	TC-52.10	04-03-79	EXJ-4-87	1-5-89		
GR-1	1-11-85	GR-2B	2-5-82	MC-4	7-26-76	TC-52.20	04-03-79	MH-1	12-18-84		
GR-2C	2-5-82	GR-3	1-21-85	TC-31.21	03-06-79	TC-61.10	04-05-82	HL-30.22	5-1-87		
GR-4	2-5-82	GR-5	2-5-82	TC-32.10	03-08-79	TC-65.10	02-26-82	HL-30.31	5-1-87	HL-60.31	5-1-87

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: ______

DIVISION ADMINISTRATOR ______ DATE

FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF – 73 (51)	

102
547

CUYAHOGA COUNTY
CUY - 2 - 14.66

STRUCTURE FILE NUMBER: 1800035

MICROFILMED
JUL 21 1994

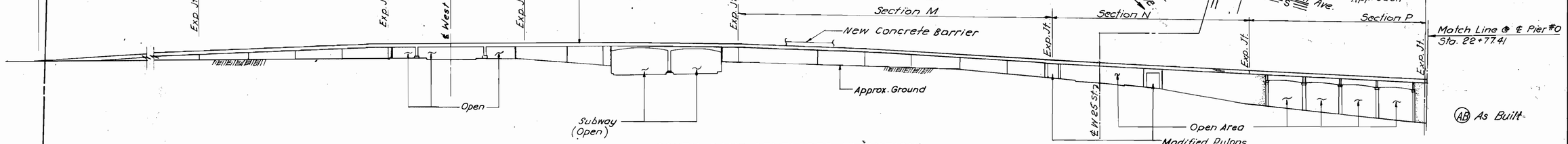
NOTE: All utilities to remain unless otherwise indicated.

NOTES:
1. See "Phasing of Construction," Sheet 627
2. For lighting drainage, and sign support structures, see roadway and deck plans.

* Denotes North Ramp Stationing.

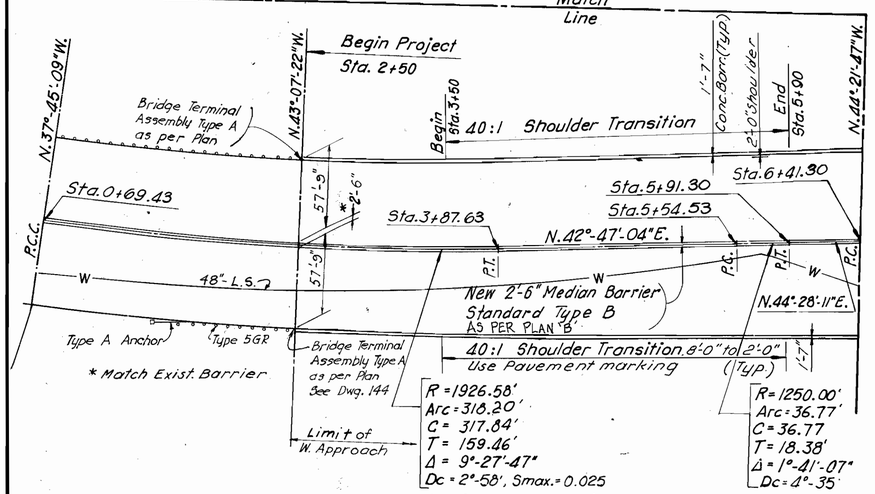
LEGEND:
- Cleveland Electric Illuminating Co. — CEI — E —
- East Ohio Gas — G —
- Ohio Bell Tel. Co. — B — T —
- Cleveland Public Power Co. — CPP — E —
- Water — W —
- Sewers — S —
- Manhole

PLAN



SOUTH RAMP DEVELOPED ELEVATION

50' 0 50' 100'



WEST APPROACH (SECTION I)

SCOPE OF REHABILITATION WORK

THE SECTION CONSISTS OF THE FOLLOWING:

a) TWO 1400 FOOT LONG, THREE LANE RAMPS (NORTH AND SOUTH), PART CONCRETE PAVEMENT ON GRADE, AND PART ELEVATED STRUCTURE OF CONCRETE AND STEEL FRAMING; INCLUDING SECTION N, 225 FEET LONG, A SIX LANE DIVIDED STRUCTURE WITH STEEL FRAMING, ADJOINING SECTION P, 177 FEET LONG, A SIX LANE DIVIDED STRUCTURE WITH CONCRETE FRAMING.

b) A 400 FOOT LONG, EIGHT LANE, DIVIDED, EXISTING PAVEMENT ON GRADE (WEST SHOREWAY), WEST OF RAMPS.

c) TWO 400 FOOT LONG, FOUR LANE, DIVIDED, GRADE SUPPORTED CONCRETE OR ASPHALT PAVEMENTS, PROVIDING EXIT AND ENTRANCE TO THE HIGHWAY (SUBWAY AND TRUCK RAMPS).

WORK TO BE DONE:

1. REMOVAL OF THE ENTIRE DECK (I-BEAM-LOK AND CONCRETE), THE RAILINGS, DRAINAGE, FASCIA PLATES, STRINGERS, ETC.
2. INSTALLATION OF NEW STEEL STRINGERS ON THE STRUCTURE.
3. REINFORCEMENT AND REPAIR OF REMAINING CONCRETE AND STEEL MEMBERS.
4. CONSTRUCTION OF A NEW LIGHTWEIGHT CONCRETE DECK SLAB.
5. CONSTRUCTION OF A NEW 10" CONCRETE PAVEMENT ON THE WEST SHOREWAY.
6. REPLACEMENT OF PAVEMENT AT SUBWAY RAMP.
7. CONSTRUCTION OF NEW 9" CONCRETE PAVEMENT AND 1 1/4" WEARING SURFACE ON TRUCK RAMP.
8. ALTERATION OF EXISTING RETAINING WALLS TO PROVIDE FOR ROAD WIDENING AND FOR NEW BARRIERS.
9. ALTERATION OF FOUR STONE PYLONS AT 25TH STREET.
10. INSTALLATION OF NEW DRAINAGE SYSTEM.
11. INSTALLATION OF NEW LIGHTING AND TRAFFIC CONTROL SYSTEMS.
12. FIELD COATING OF SOME EXISTING STRUCTURAL STEEL, AND PAINTING OF NEW STRUCTURAL STEEL.
13. COATING OF THE EXPOSED EXISTING AND NEW CONCRETE SURFACES.

The Contractor shall make provisions to protect all areas under the Bridge used by Pedestrians or vehicles from falling debris during removal of the existing superstructure and during erection.

REFERENCES:

	DWG. No.
General Notes	G6-G23
Typical Cross Sections	106-116
Developed North Ramp Elevation	103
Alignment	G35-G37

PAVLO ENGINEERING CO., P.C.
NEW YORK, NEW YORK

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH
PROPOSED PLAN & ELEVATION - I

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1993

NO. B-136

104
991

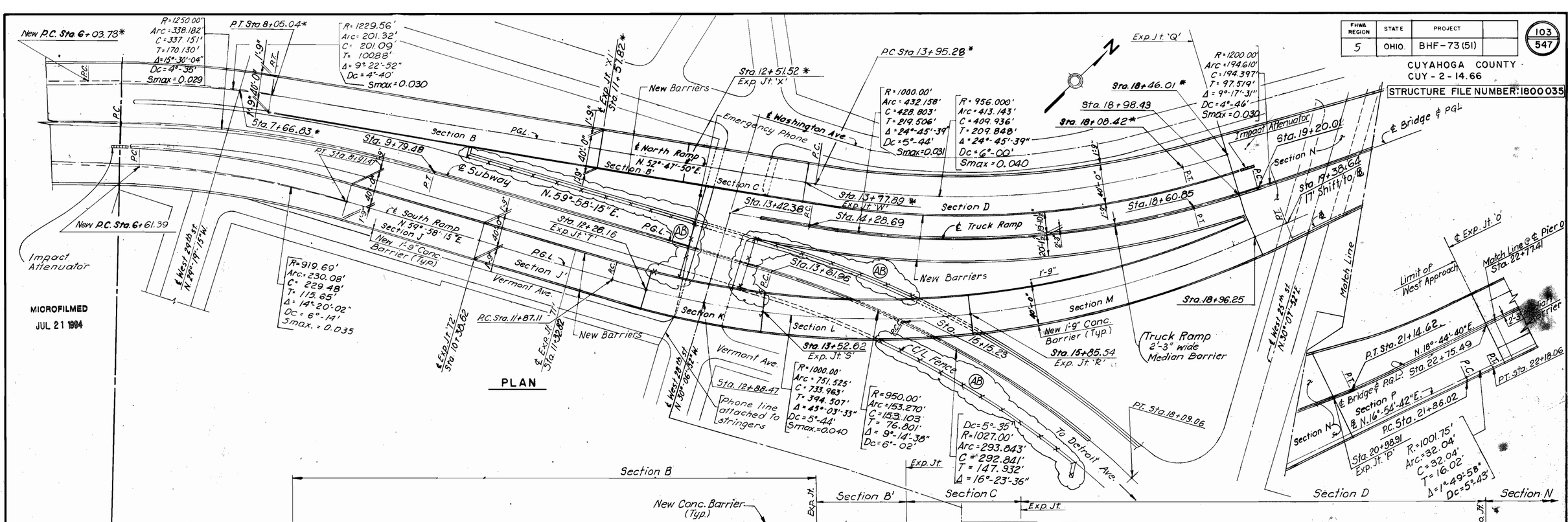
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
S.H.	C.P.J.	C.K.D.	AS BUILT 2/94

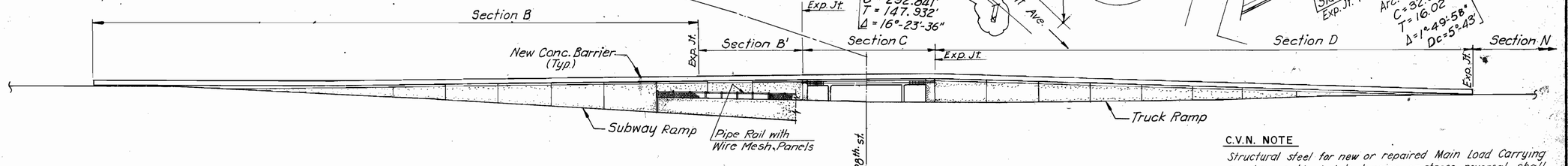
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73 (51)	

103
547

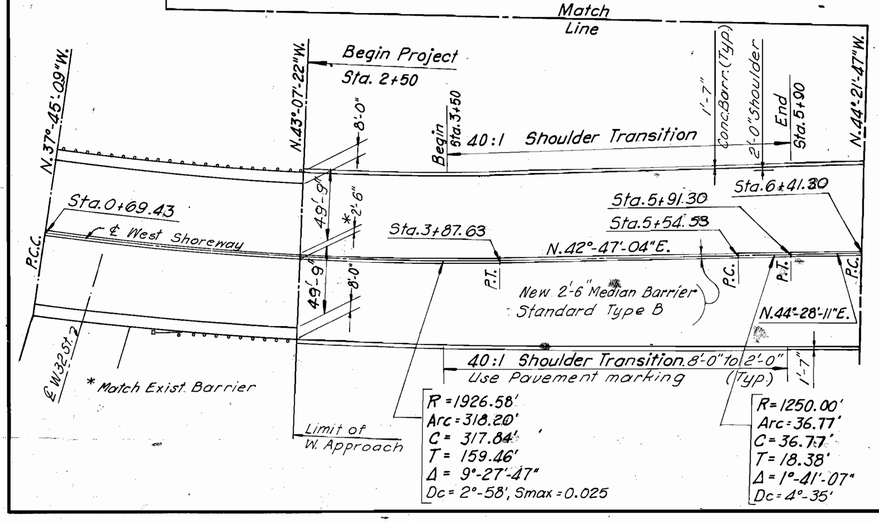
CUYAHOGA COUNTY
CUY - 2 - 14.66

STRUCTURE FILE NUMBER: 1800035





NORTH RAMP DEVELOPED ELEVATION
50' 0 50' 100'



NOTES:
For Existing Utilities see Dwg. 104 & 142.
See "Staging of Construction", Dwg. 627

C.V.N. NOTE
Structural steel for new or repaired Main Load Carrying members subjected to tension or stress reversal, shall meet the "Longitudinal Charpy V-notch" requirements of 15 Ft-Lb @ 40°F. Main load carrying members for this section are limited to: Stringers Floor beam Flanges & Web, Bracket Top Flange and Web & Tie Plates.

See also "GENERAL NOTES" Item 513

(AB) As Built

REFERENCE	DWG. NO.
General Notes	GG-G23
Typical Cross-Sections	106+116
Developed South Ramp Elevation	104
Subway Ramp	620

Note 1: * Denotes North Ramp Stationing.

The Contractor shall make provisions to protect all areas under the Bridge used by Pedestrians or vehicles from falling debris during removal of the existing superstructure and during erection.

MICROFILMED
JUL 21 1994

PAVLO ENGINEERING CO., P.C.
NEW YORK, NEW YORK

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH
PROPOSED PLAN & ELEVATION-II

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1993

NO. B-136

105
991

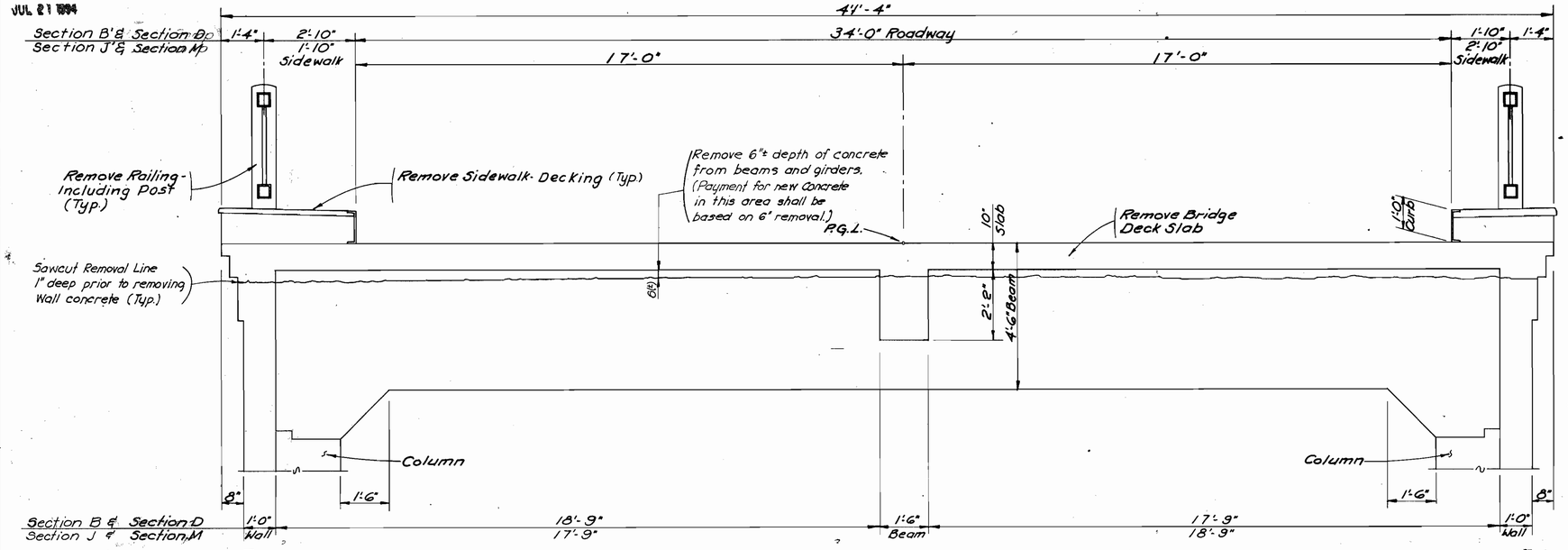
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
S.H.	C.P.J.	C.K.D.	AS BUILT 2/94

MICROFILMED
JUL 21 1994

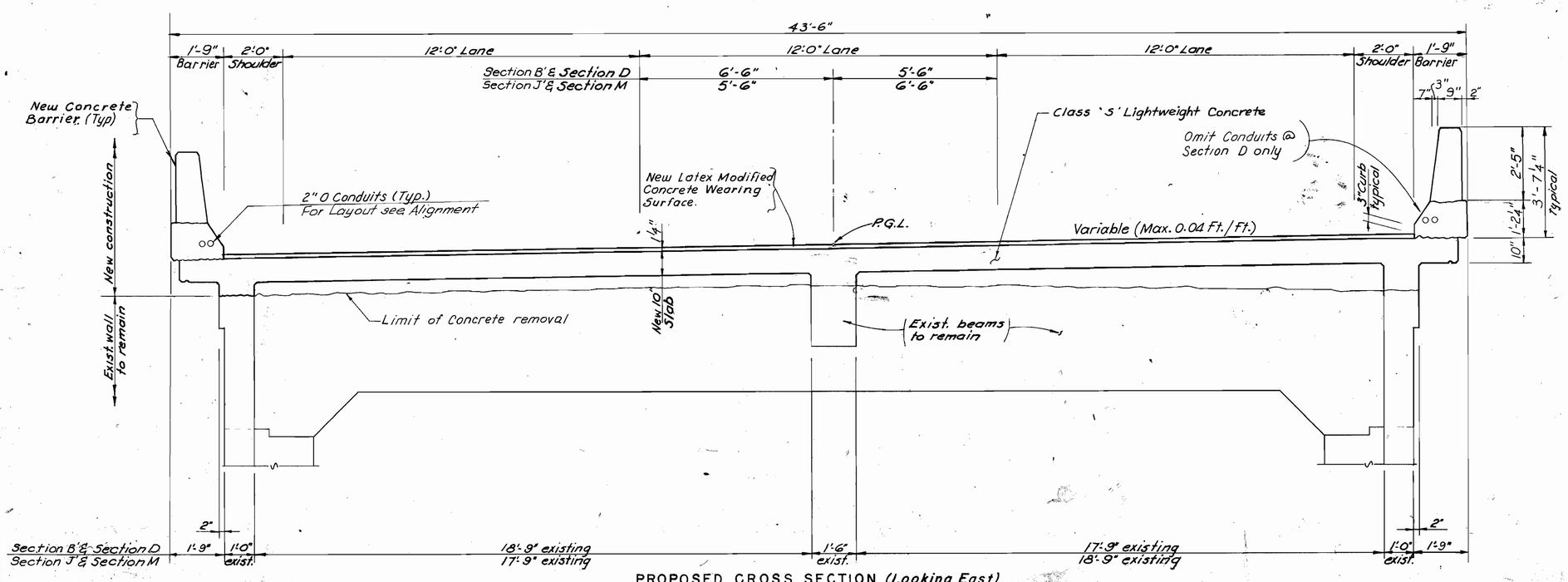
FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF -73(51)	

109
547

CUYAHOGA COUNTY
CUY - 2 - 14.66



EXISTING CROSS SECTION *(Looking East)*



PROPOSED CROSS SECTION *(Looking East)*

NOTE:
All removal shall be paid for under Item 202 "Portions of Structures Removed", as per plan.

REFERENCES:

	DWG. NO.
Existing Plan & Elevation	101 & 102
Proposed Plan & Elevation	104 & 105
Bridge Lighting Plan	G64
Alignment	G36

PAVLO ENGINEERING CO., P.C.
NEW YORK, NEW YORK

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH - SECTIONS B,D,J & M
TYPICAL CROSS SECTIONS

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1982

NO. B-136

11
991

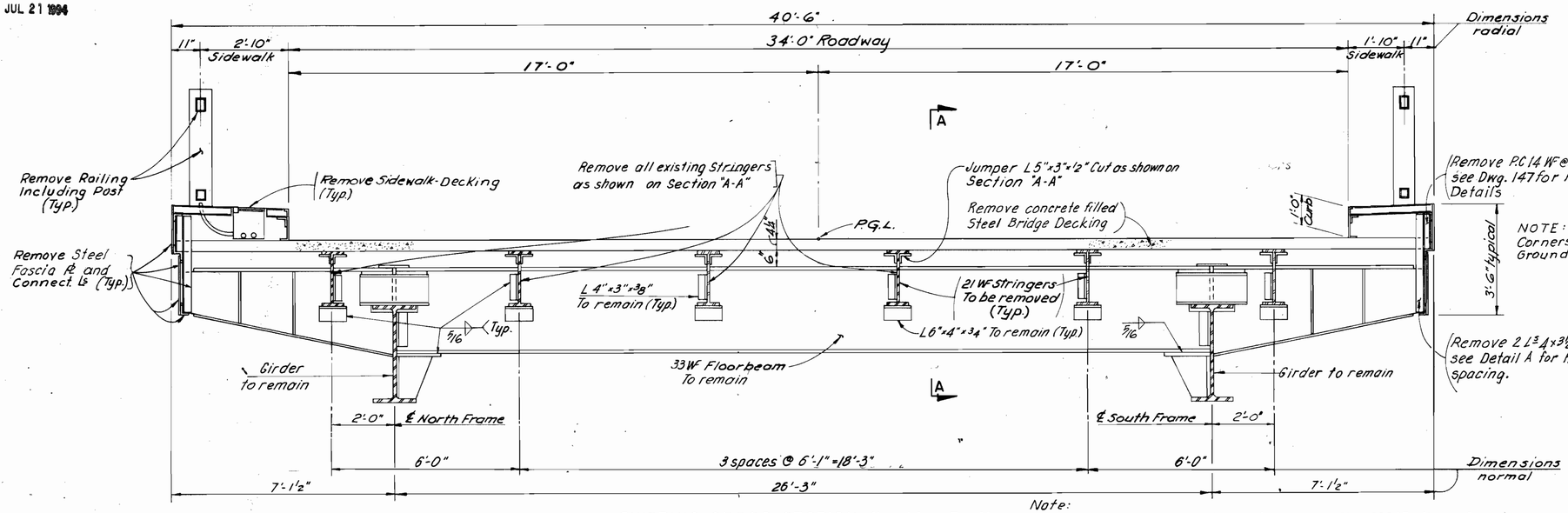
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	T.C./R.S.	C.K.D.	AS BUILT 27 9 94

MICROFILMED
JUL 21 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73(51)	

110
547

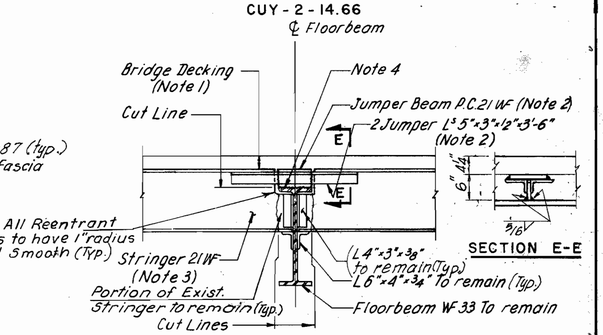
CUYAHOGA COUNTY
CUY - 2 - 14.66



EXISTING CROSS SECTION *(Looking East)*

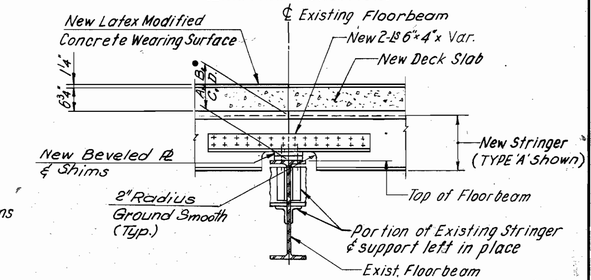
1' 6" 0 1' 2' 3' 4'

Note:
All Removal shall be paid for under Item 202, "Portions of Structures Removed, As Per Plan."

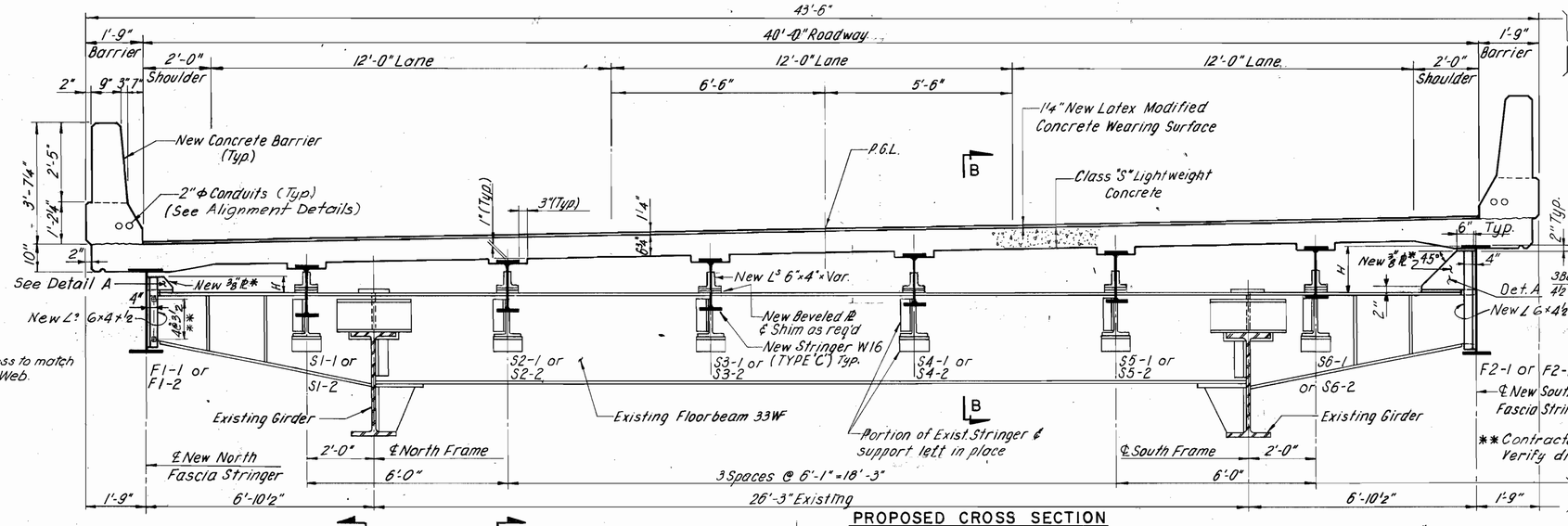


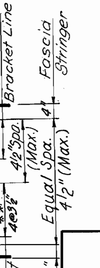
Notes:
1. Remove Bridge Decking.
2. Remove Jumper Beam and Angles.
3. Remove existing Stringers
4. Grind smooth top flange of Floorbeam in direction of Stress, taking care not to gouge or undercut flange.

SECTION A-A
(EXISTING CONDITION)



SECTION B-B
(NEW STRINGERS)
All bolts to be 7/8" H. S.





REFERENCES:	DWG. NO.
Existing Plan & Elevation	101 & 102
Proposed Plan & Elevation	104 & 105
Bridge Lighting Plan	G64
Framing Plan	147
Stringer Details & Schedules	158 & 160
Fascia Stringer Setting Dim. H & Camber	163
Alignment Details	G36
Floor beam Replacement	155

PAVLO ENGINEERING CO., P.C.
NEW YORK, NEW YORK

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

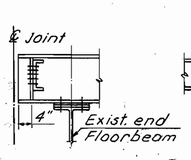
WEST APPROACH - SECTION C
TYPICAL CROSS SECTIONS

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

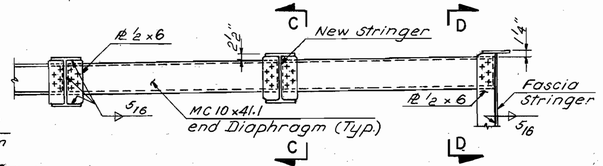
NO. B-136

112
991

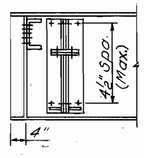
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
BG / DG	A.D.	J.B.M	AS BUILT 2/94



SECTION C-C



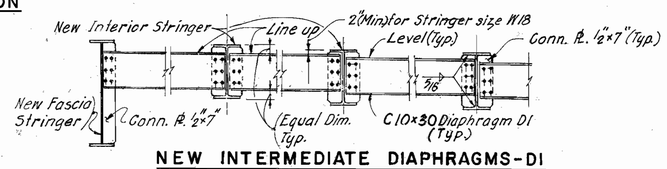
END DIAPHRAGM D2



SECTION D-D

PROPOSED CROSS SECTION
(LOOKING EAST)

1' 6" 0 1' 2' 3' 4' 5'



NEW INTERMEDIATE DIAPHRAGMS-D1

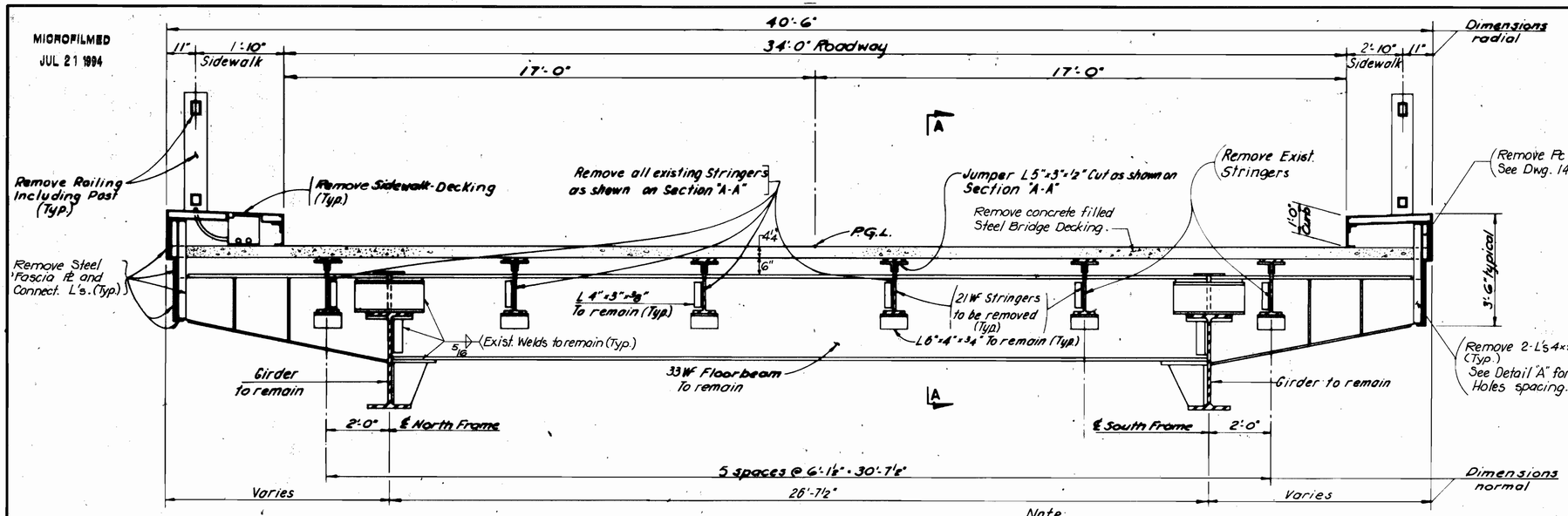
1' 6" 0 1' 2'

MICROFILMED
JUL 21 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

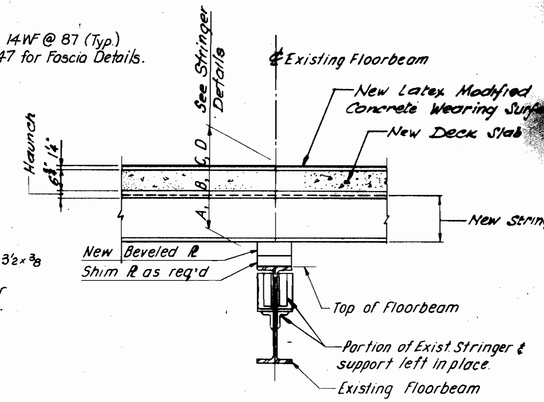
III / 547

CUYAHOGA COUNTY
CUY-2-14.66



EXISTING CROSS SECTION (Looking East)

1' 6" 0 1' 2' 3' 4'

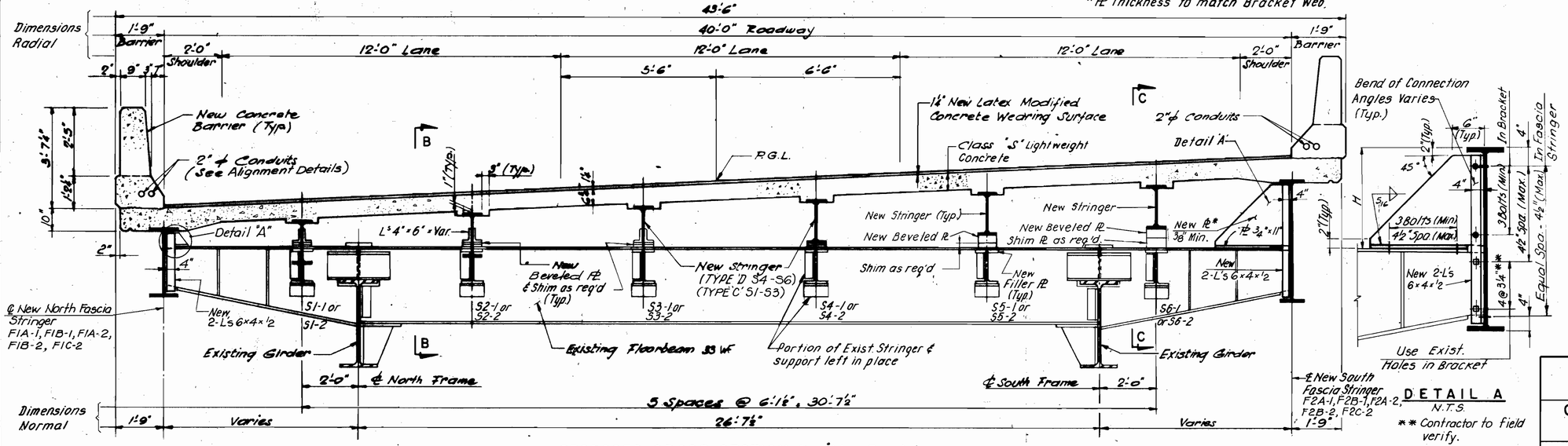


SECTION C-C

1' 6" 0 1' 2' 3' 4'

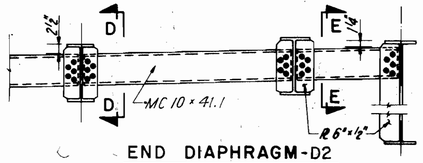
Note:
All Removal shall be paid for under Item 208, "Portions of Structures Removed, As Per Plan".

* Pl. Thickness to match Bracket Web.

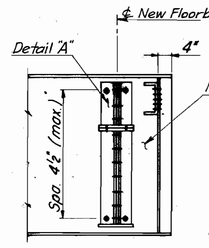


PROPOSED CROSS SECTION (Looking East)

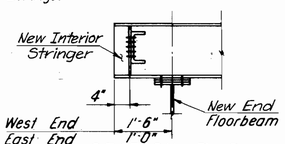
1' 6" 0 1' 2' 3' 4'



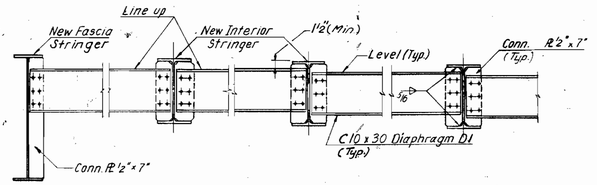
END DIAPHRAGM-D2
(FLOORBEAM NOT SHOWN)



SECTION E-E



SECTION D-D



NEW INTERMEDIATE DIAPHRAGMS-D1

1' 6" 0 1' 2

REFERENCES:

	DWG. NO.
Existing Plan & Elevation	101 & 102
Proposed Plan & Elevation	104 & 105
Bridge Lighting Plan	G64
Framing Plan	147
Stringer Details	158
Stringer Schedules	160
Fascia Stringer Setting Dim. "H" & Camber	163
Sections A-A & B-B	112
Alignment Details	G36
Floorbeam Replacements	155

Note: All bolts to be 7/8" ϕ H.S.

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH - SECTION K

TYPICAL CROSS SECTIONS

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

NO. B-136

113 / 991

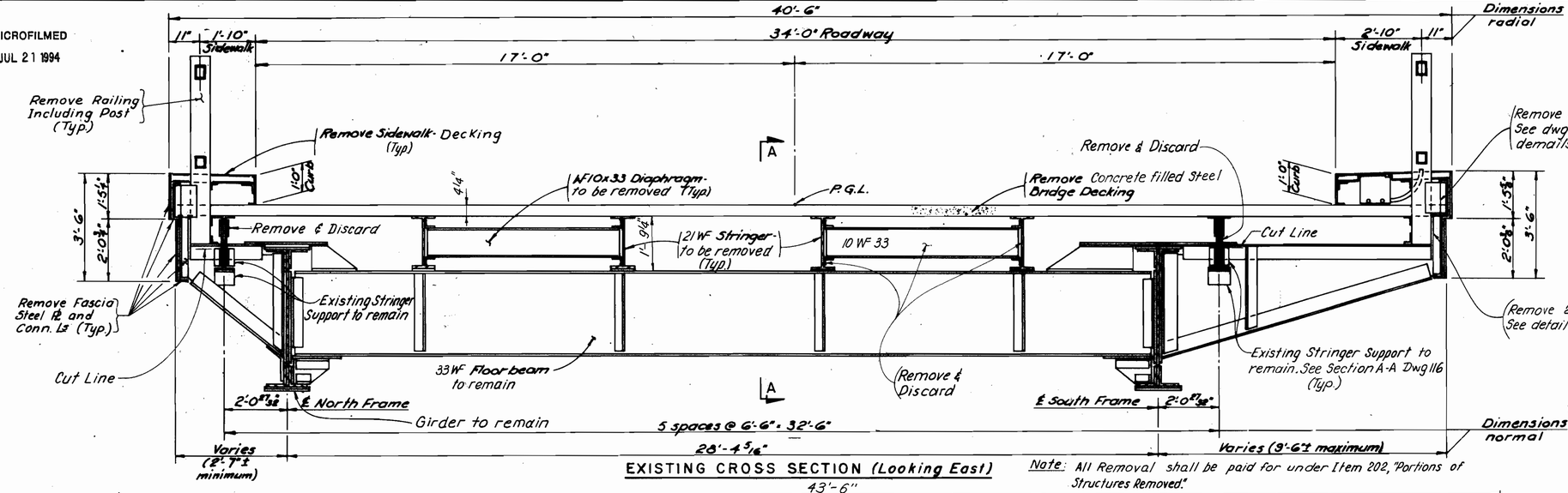
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G./D.G.	A.D.	J.B.M.	AS BUILT 2/94

MICROFILMED
JUL 21 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

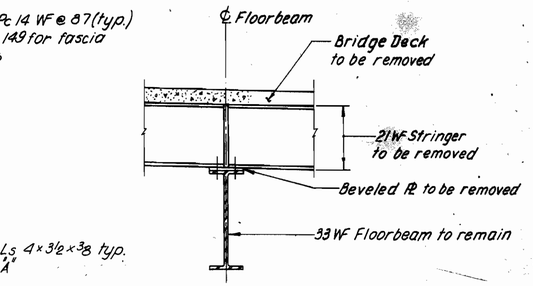
112 / 547

CUYAHOGA COUNTY
CUY-2-14.66

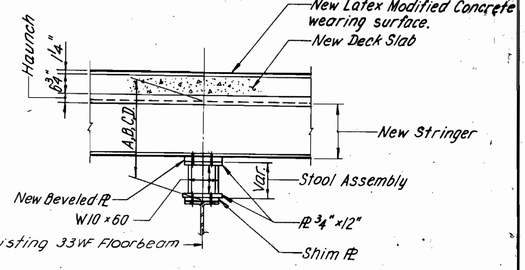


EXISTING CROSS SECTION (Looking East)

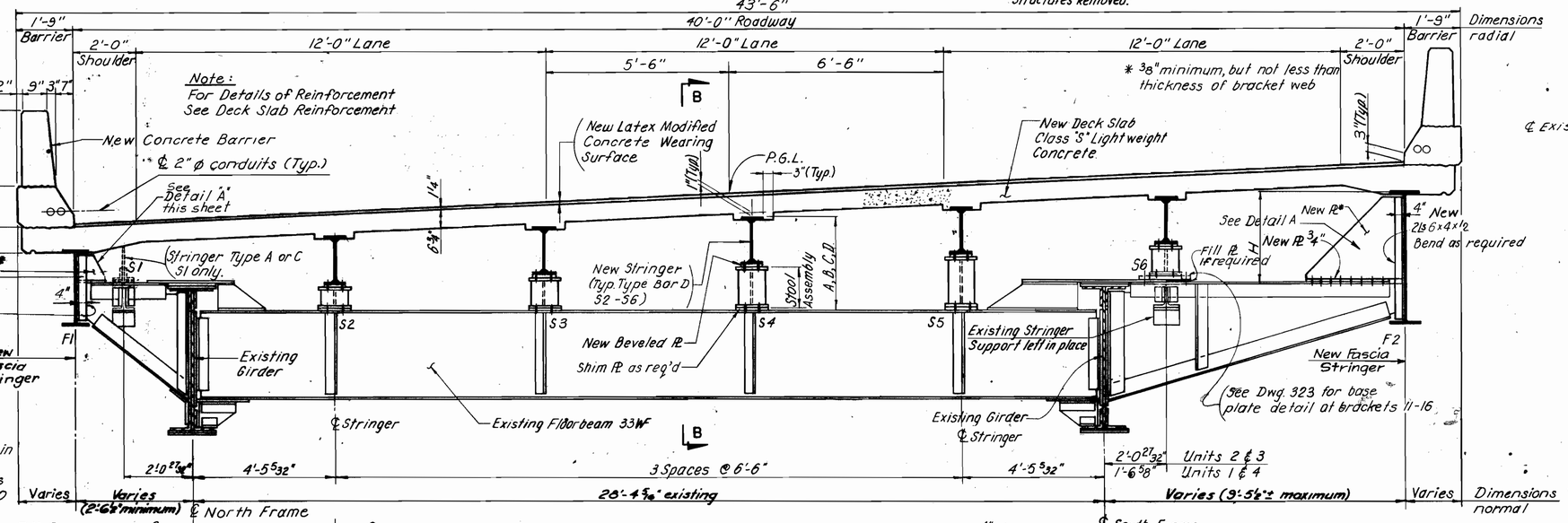
Note: All Removal shall be paid for under Item 202, "Portions of Structures Removed."



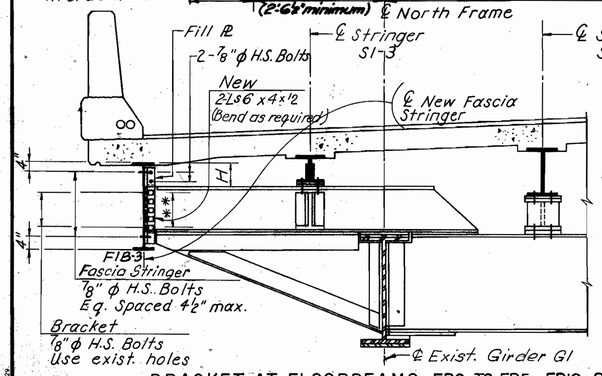
SECTION A-A
(EXISTING CONDITION)



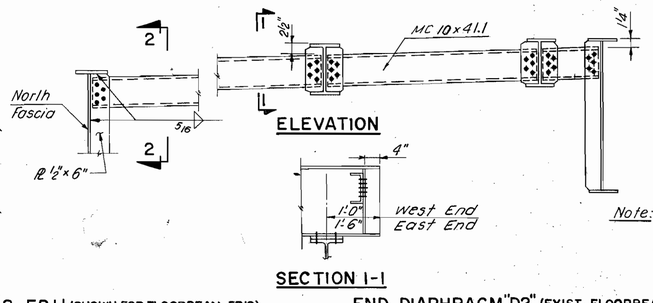
SECTION B-B

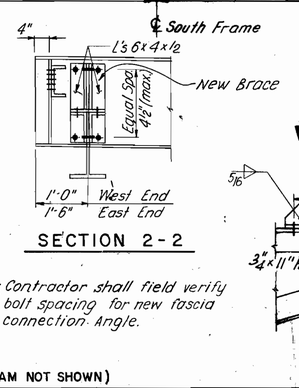


PROPOSED CROSS SECTION (Looking East)

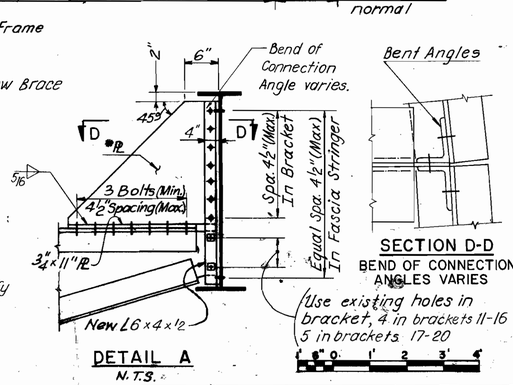


BRACKET AT FLOORBEAMS FB2 TO FB5, FB10 & FB11 (SHOWN FOR FLOORBEAM FB10)





Note: Contractor shall field verify bolt spacing for new fascia connection Angle.



Use existing holes in bracket, 4 in brackets 11-16, 5 in brackets 17-20

END DIAPHRAGM "D2" (EXIST. FLOORBEAM NOT SHOWN)

REFERENCES:

	DWG NO.
Bridge Lighting Plan	664
Existing Plan & Elevation	101 & 102
Proposed Plan & Elevation	104 & 105
Framing Plan	149
Stringers Details	158
Fascia Stringer Setting Dim. H & Camber	163
Connection of Intermediate Diaphragms	113

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH-SECTION L

TYPICAL CROSS SECTIONS

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

NO. B-136

114 / 991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	T.C./J.H.	R.D.M./J.B.M.	AS BUILT 2/94

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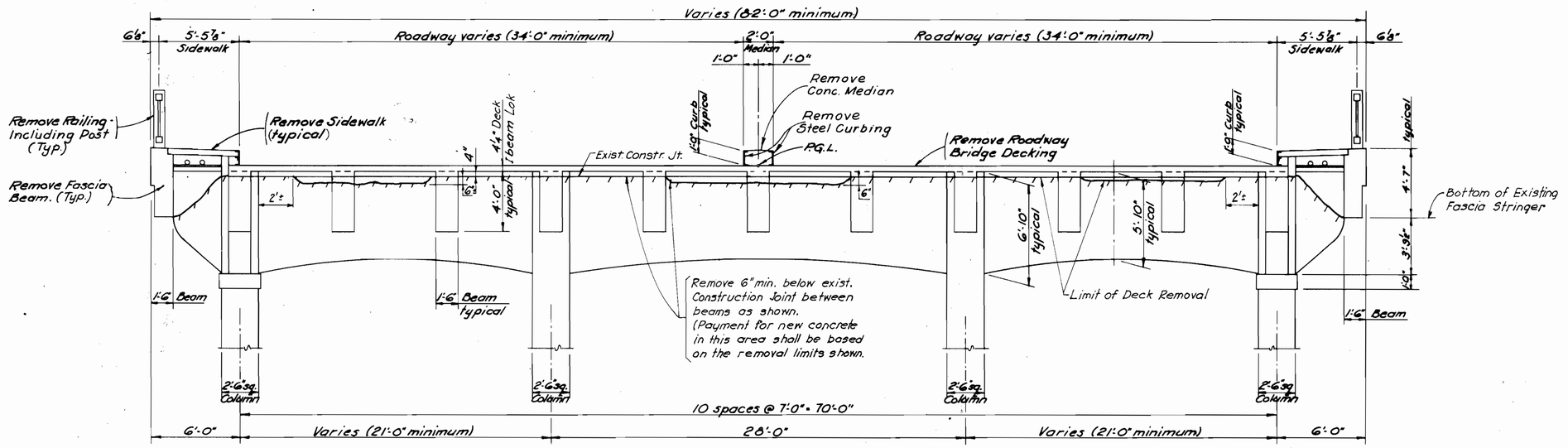
FHWA REGION 5 | STATE OHIO | PROJECT BHF-7300
CUYAHOGA COUNTY
CUY-2-14.66
℄ Bridge
Remove Railing & Fascia
Remove Sidewalk (Typ.)
3 Lane varies (48'-9¾" min.)
Remove Roadway Bridge Decking
3 Lane varies (39'-8 9/16" min.)
Surface to be ground smooth
Remove Railing and part of Fascia
Portion of Stringer & Support to be left in place
Grind existing 3/8"×4 fillet welds smooth (Typ.)
21 WF Stringer to be removed (Typ)
36 WF Floorbeam to remain
Cover PL to remain
Remove L's
Bolster to remain
Remove Existing PC 14 WF @ 87
Stringer Support to be left in place
Bracket
Existing Stringer seat & Stiffener angles to remain
36 WF Floorbeam to remain
Cover PL to remain
Part of Fascia to remain on this side only
Varies
Varies | 21'-0" | 38'-0" | 49'-6"
℄ Col. CN 30 | ℄ Col. CN 24 | ℄ Girder G2 | ℄ Girder G3
SECTION B-B
Equal Dim. (Typ.)
New Stringer
Level
Conn. PL 7"×½" (Typ.)
C 10×30 Diaphragm-D1
CONNECTION OF DIAPHRAGM-D1 (TYP.)
EXISTING CROSS SECTION (Looking East)
Note:
All Removal shall be Paid for under Item 202, "Portions of Structures Removed."
At locations where existing floorbeam rivets interfere with the installation of new stringers, see typical base plate detail - Dwg. 165
Contractor shall field verify bolt spacing for new fascia connection angle to existing brackets.
℄ Existing Floorbeam
New Latex Modified Concrete Wearing Surface
New Deck Slab
New Stringer
Haunch
New Beveled PL
W10×60
Shim PL
New Bolster
7/8" ϕ H.S. Bolts @ 4½" c/c
Stool Assembly
Stiffener PL ½"×4"
Top of Floorbeam
Exist. Floorbeam 36 WF
Exist. Cover PL
New Bolts
SECTION C-C
1'-9" Barrier
1'-9" Barrier | 2'-0" Shoulder
3 Lane varies
Shoulder | Lane | Shoulder
1¼" New Latex Modified Concrete Wearing Surface
New Median Concrete Barrier (Typ.)
New Concrete Barrier (Typ)
New Deck Slab Class "S" Lightweight Concrete
2" ϕ Conduits
New Stringer (TYPE B)
New Stringer (TYPE D)
New Stringer (TYPE C)
New Bolster B16A W12×87
Stiffener PL ½"×4" (Typ)
New Bolster B17A
New Beveled PL
W10×60
Shim PL
New Bolster BR13A
New Brace PL ⅜"
New L 6×4×½ Bend as required
7/8" ϕ H.S. Bolts @ 4½" max.
New Fascia Stringer F2C1
Top of Exist. Bracket
Use Exist. Holes
New Fascia Stringer
Exist. Bracket BR4
New Bolster B15A (W12×87)
7/8" ϕ H.S. Bolts @ 4½" max c/c Both sides
Existing 36 WF Floorbeam B15
SEE DETAIL 'B' Dwg. 164
Exist. 36 WF Floorbeam B16
Exist. Girder
Existing 36 WF Floorbeam B17
Exist. Cover PL
New 7/8" ϕ H.S. Bolts See Detail Sheet 2
Exist. Bracket BR13
Exist. Fascia
Portion of Exist. Stringer & Support left in place
Exist. Girder
3 Spaces @ 7'-0" = 21'-0" | 5 Spaces @ 7'-0" = 35'-0" | 3'-0" | 4'-0" | 6 Sp. @ 7'-0" = 42'-0" | 3'-6" | 3'-6"
21'-0" | 38'-0" | 49'-6"
℄ Col. CN 30 & ℄ New Stringer | ℄ Col. CN 24 & ℄ New Stringer | ℄ Girder G2 | ℄ Girder G3
PROPOSED CROSS SECTION (Looking East)
(Floorbeam B15, B16, B17 Shown)
SECTION 1-1
* Equal Spacing 3"-4½" (max.) minimum of 2 fasteners
REFERENCES: | DWG. NO.
Section A-A | 112
Framing Plan | 131
Stringer Details | 138
Stringer Schedules | 162
Fascia Stringer Setting Dim. "H" & Camber | 163
Bolster Schedule & Fan beams-Schematic Elevations | 154
Fascia Stringer Elevation | 159
Detail Sheets 1 Thru 9 | 164 Thru 168 D
Floorbeam Bent Replacement Details | 168E Thru 168J
Rev. 1 | Plan Revisions | 01-03-92
PAVLO ENGINEERING CO., P.C. NEW YORK, NEW YORK
CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO
MAIN AVENUE BRIDGE
CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY
WEST APPROACH-SECTION N
TYPICAL CROSS SECTION
BRIDGE NO. 193
ODOT 1-14-92 T.E.S.
NO. B-136
DESIGN B.G./D.G. | DRAWN A.D. | CHECKED J.BM. | AS BUILT 2/94

MICROFILMED
JUL 21 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

114
547

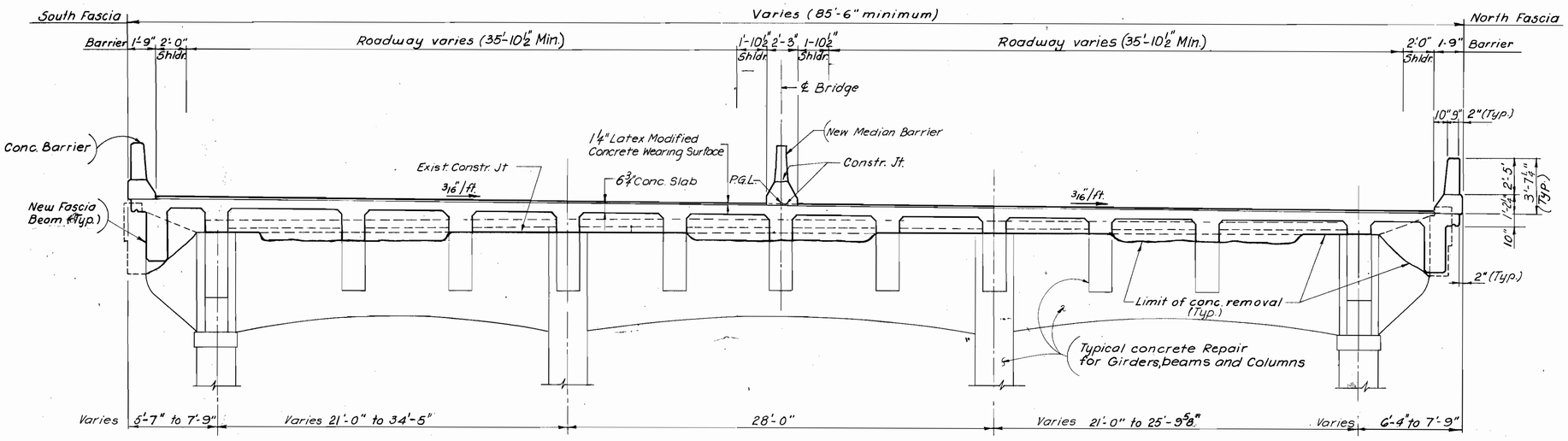
CUYAHOGA COUNTY
CUY-2-14.66



EXISTING CROSS SECTION *(Looking East)*

0 4' 8'

NOTE:
All Removal shall be paid for Under Item 202, "Portions of Structures Removed".



PROPOSED CROSS SECTION *(Looking East)*

1' 0 4' 8'

References and Notes See Dwg. No. 179.

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH — SECTION P

TYPICAL CROSS SECTION

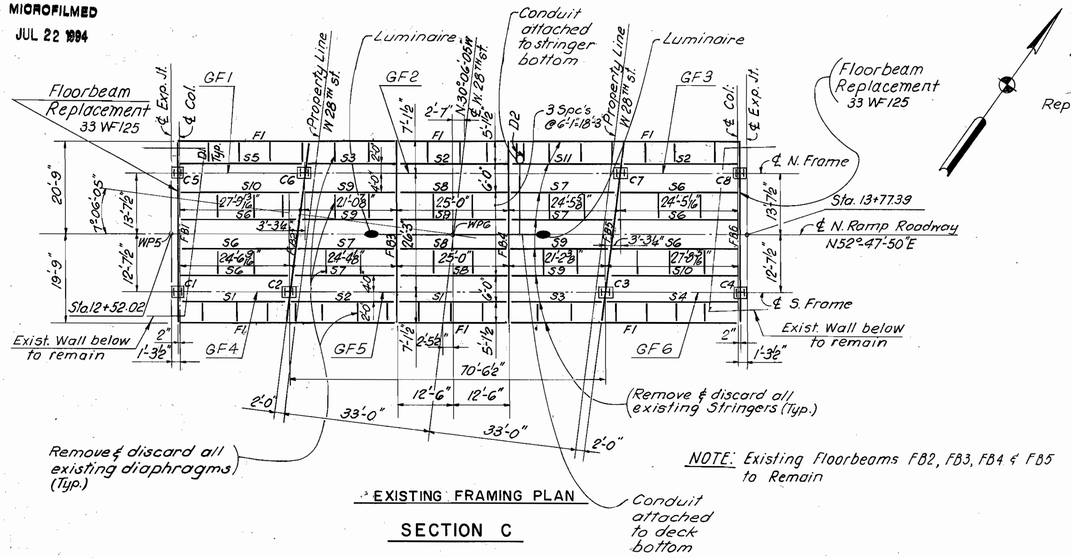
BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

NO. B-136

116
991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	R.S.	C.K.D.	AS BUILT 2/94

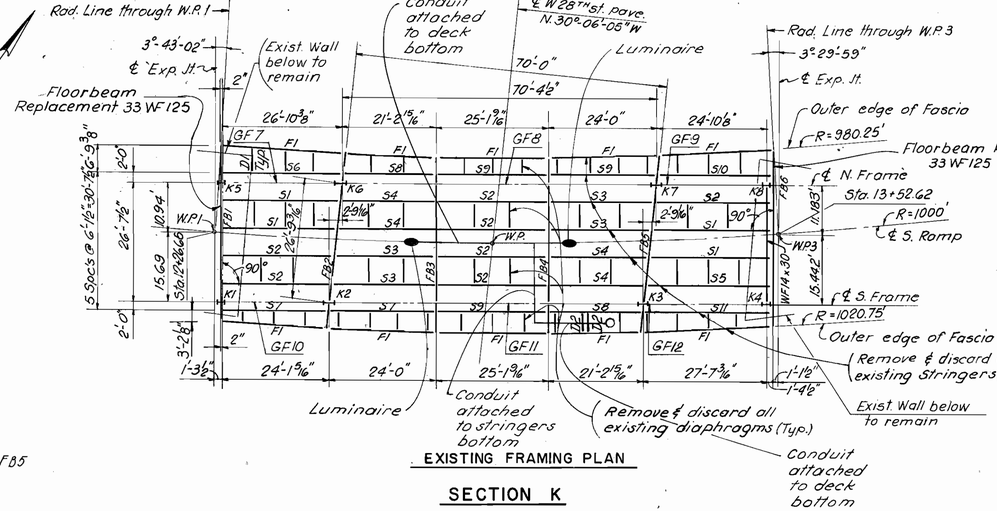
MICROFILMED
JUL 22 1994



EXISTING FRAMING PLAN

SECTION C

NOTE: Existing Floorbeams FB2, FB3, FB4 & FB5 to Remain



EXISTING FRAMING PLAN

SECTION K

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73(51)	

145
547

CUYAHOGA COUNTY
CUY - 2 - 14.66

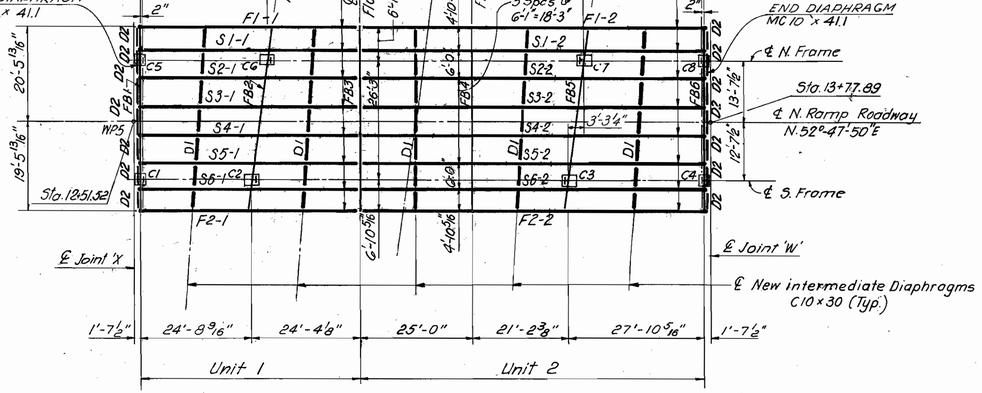
EXISTING SPAN

MARK	SECTION C STRINGERS	SECTION K STRINGERS
S1	21W73	21W96
S2	21W69	21W89
S3	21W59	21W82
S4	21W89	21W73
S5	21W82	21W96
S6	21W89	21W96
S7	21W73	21W59
S8	21W82	21W68
S9	21W68	21W73
S10	21W96	21W89
S11	21W63	21W68

	DIAPHRAGMS
D1	10 W 33
D2	8 W 17 (at Lamppost)

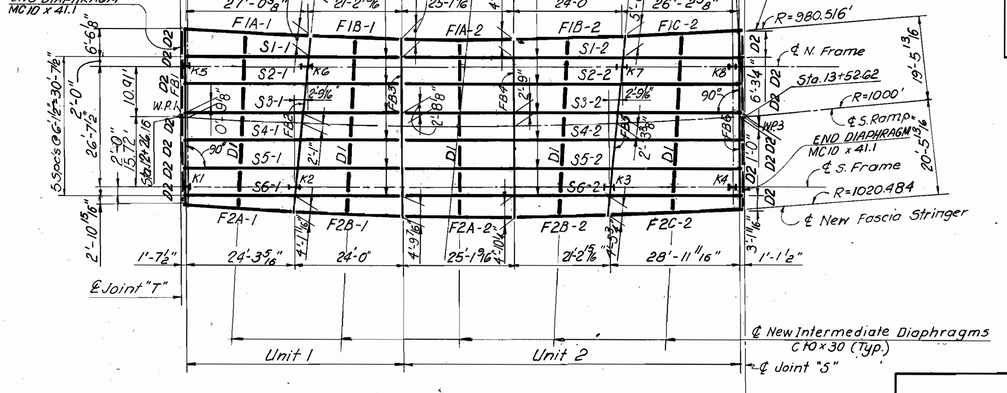
	FASCIAS
F1	1 - PL - 18 x ⅜ 1 - L - 4 x 3 x ⅜ 1 - Z - 3 x 2 11/16 x ⅜ 1 - PL - 24 x ⅜ 1 - L - 4 x 3½ x ⅜

Note: For Existing Underbridge Lighting see General Notes "Existing Underbridge Lighting."



PROPOSED FRAMING PLAN

SECTION C



PROPOSED FRAMING PLAN

SECTION K

Notes:

1. All new stringers shall be installed vertical
2. For finishing machine support notes, see Dwg. 69
3. Welding of attachments shall not be permitted in the tension zone of the stringers.
4. Tension zone is 4'-0" each side of interior supports.
5. All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I
6. All new Welded members including Fascia Stringers, replacement Floor Beams, and Brackets shall be ASTM A36, AISC Category III

Note: ℄ of new intermediate diaphragms between Floorbeams to be located at the midpoints of the various fascia stringer elements.

REFERENCES

	DWG. NO.
Floor Beam Replacements	155
Typical Cross Sections	112 & 113
Stringer Details	158
Stringer Schedules	160
CVN Note	105
Existing Underbridge Lighting	620

1" 0 8' 16' 32'

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH SECTION C & K
EXISTING & PROP. FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

NO. B-136

147
991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	L.T.	R.D.M.	AS BUILT 2/94

MICROFILMED
JUL 22 1994

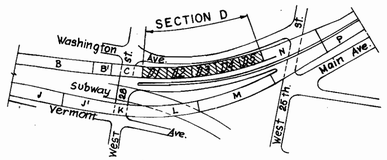
FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

146
547

CUYAHOGA COUNTY
CUY-2-14.66

℄ EXP. JOINT & GUTTER

Remove existing railings, sidewalks, deck slab and upper part of wall.



KEY PLAN
N.T.S.

THESE DIMENSIONS ON FACE OF WALL

℄ EXP. JOINT & GUTTER

N 52°-47'-50" E

N 28°-02'-11" E

P.C. OF H.C. STA. 13+93.28

P.T. OF H.C. STA. 18+06.42

STA. 13+77.89

STA. 18+46.01

R=956'

1'-6"x4'-6" Exist. Girder

FACE OF WALL

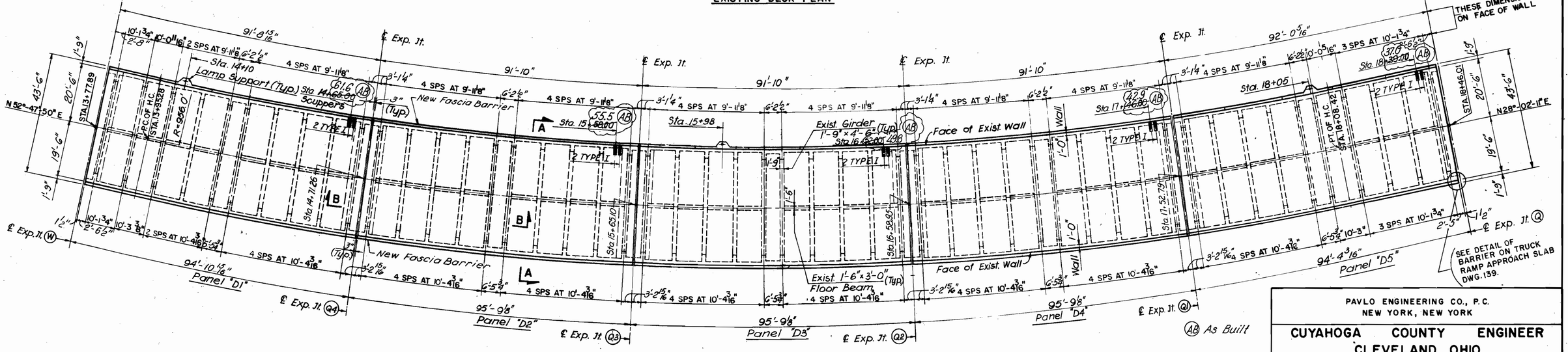
CURB LINE

4 SPS AT 9'-11⅛"

3'-1¼" ℄ EXP. JOINT

45'-11"

EXISTING DECK PLAN



(AB) As Built

NOTE:
For notes 1 to 4 see Dwg. 145

PROPOSED DECK PLAN

SECTION D

REFERENCES

	DWG. NO.
Sections A-A & B-B	173
Summary of concrete repairs.	190
Expansion Joints	191 & 194
Scupper Details	G54 & G55

0 8' 16' 32'

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH - SECTION D

EXIST. & PROP. DECK PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

NO. B-136

148
991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
R.R/A.S.	J.H.	C.K.D.	AS BUILT 2/94

139

MICROFILMED
JUL 22 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

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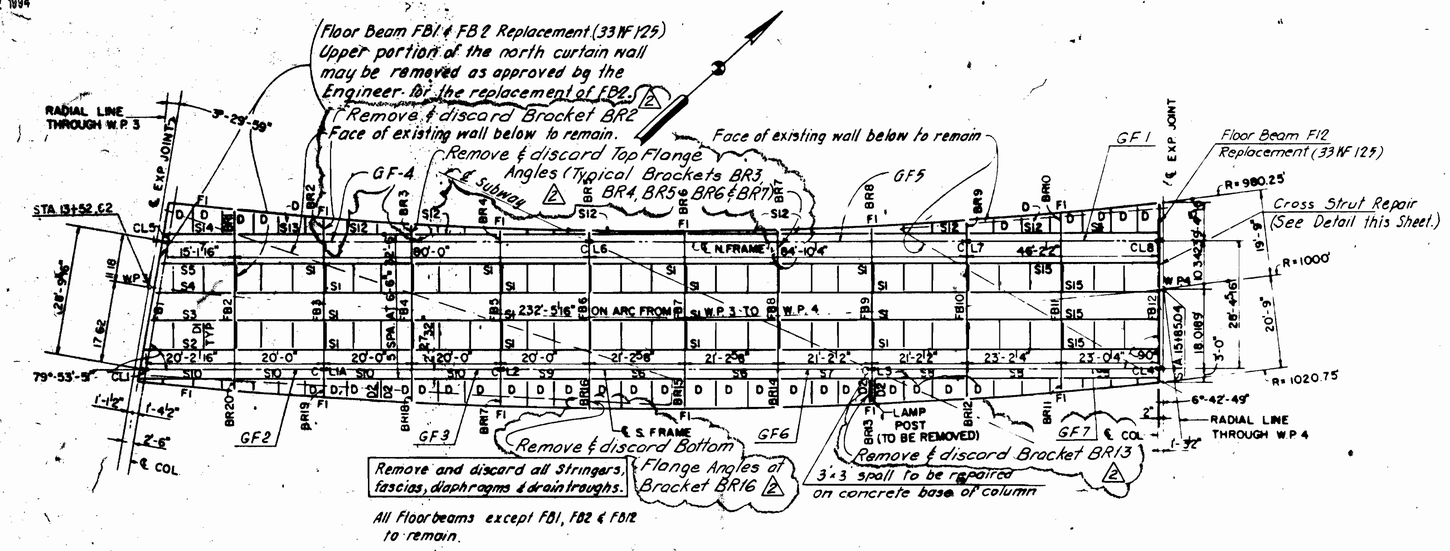
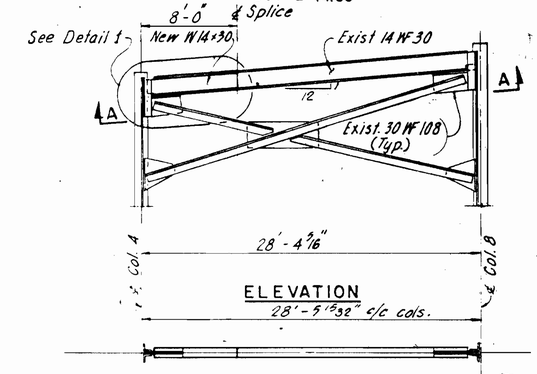
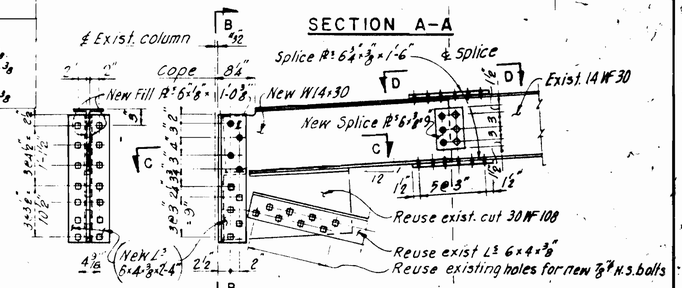
CUYAHOGA COUNTY
CUY-2-14.66

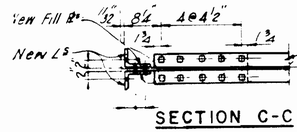


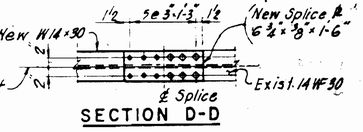
EXISTING FRAMING PLAN

MARK	STRINGERS OF EXISTING SPAN
S1	W21×59
S2	W21×68
S3	W21×68
S4	W21×63
S5	W21×59
S6	W21×73
S7	W21×68
S8	W21×59
S9	W21×63
S10	W21×59
S11	W21×73
S12	W21×59
S13	W21×59
S14	W21×59
S15	W21×63
FI	1@ - 18 × ⅜ 1L - 4 × 3 × ⅜ 1L - 3 × 2½ × ⅜ 1@ - 24 × ⅜ 1L - 4 × 3½ × ⅜







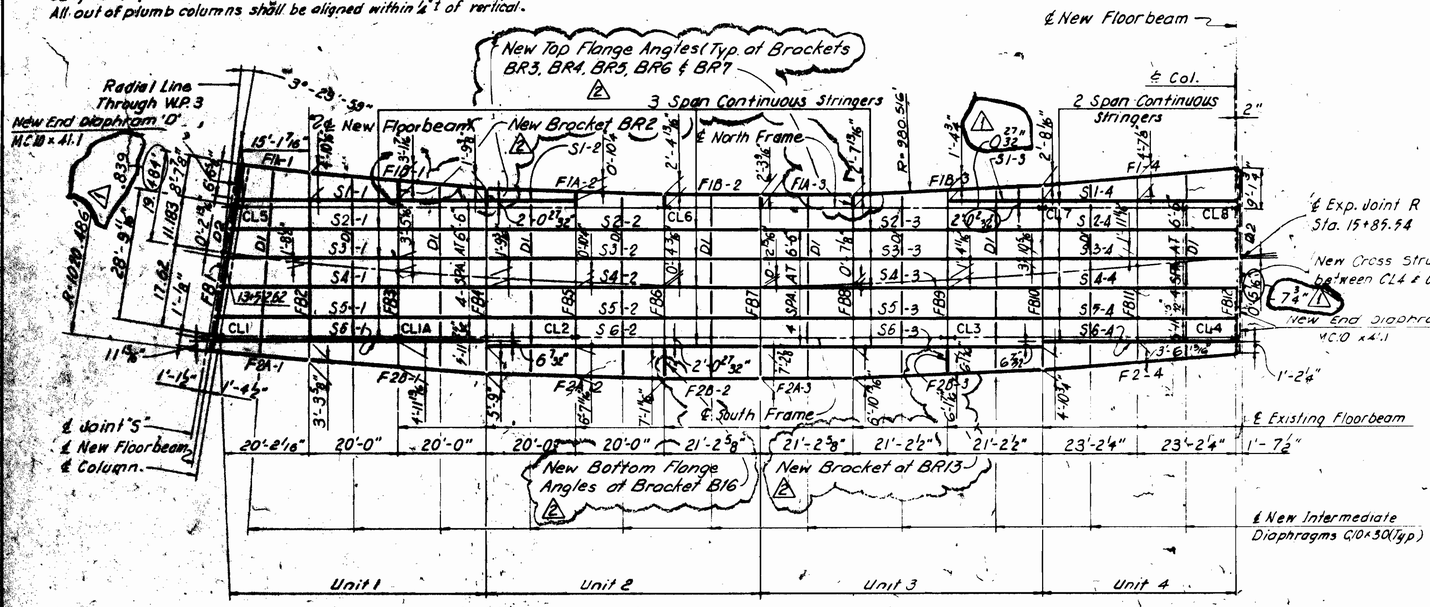


CROSS STRUT REPAIR

REFERENCES:

	DWG. NO.
Fastener Symbols	167
Floor Beam Replacement	156 & 157
Concrete deterioration summary	190
Stringer Schedules.	161
Typical Cross Section	114
CVN Note	105
Notes	147

COLUMN NOTE
The following Columns were found to be out of proper alignment during surveys done prior to Nov. 1988:
CL1, CL1A & CL2.
All out of plumb columns shall be aligned within ½"± of vertical.



PROPOSED FRAMING PLAN

SECTION L

NOTES:
℄ of new intermediate diaphragms between floorbeams to be located at the midpoint of the various fascia stringer elements.
All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I
All new Welded Members including Fascia Stringers, placement Floor Beams and Brackets shall be ASTM A36, AISC Category III

Rev. 2	2 Plan Revisions	7/24/91
Rev. 1	1 Plan Revisions	3-7-91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH-SECTION L
EXISTING & PROP. FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 7118 DATE Nov 11 1989

NO. B-136

149/991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	V.B.	R.D.M.	AS BUILT 2/94

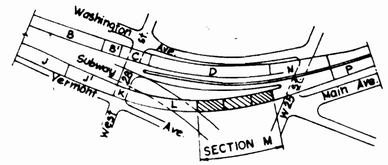
O.D.O.T. 12-9-91 T.E.S.

MICROFILMED
JUL 22 1994

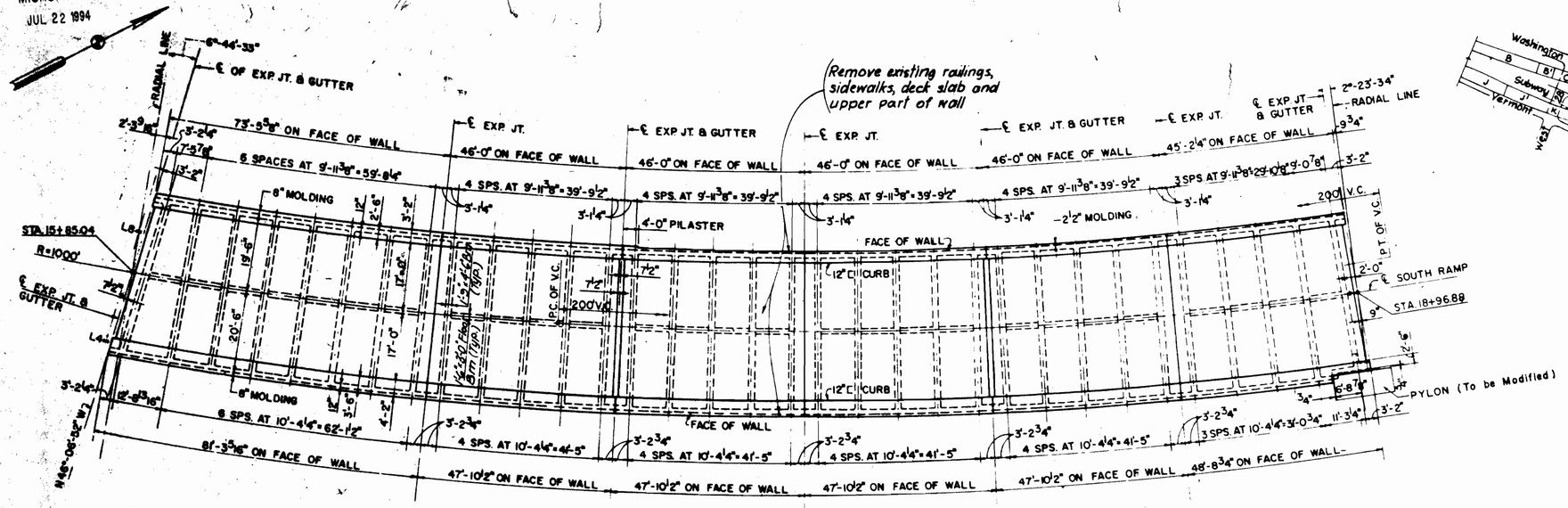
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

148
547

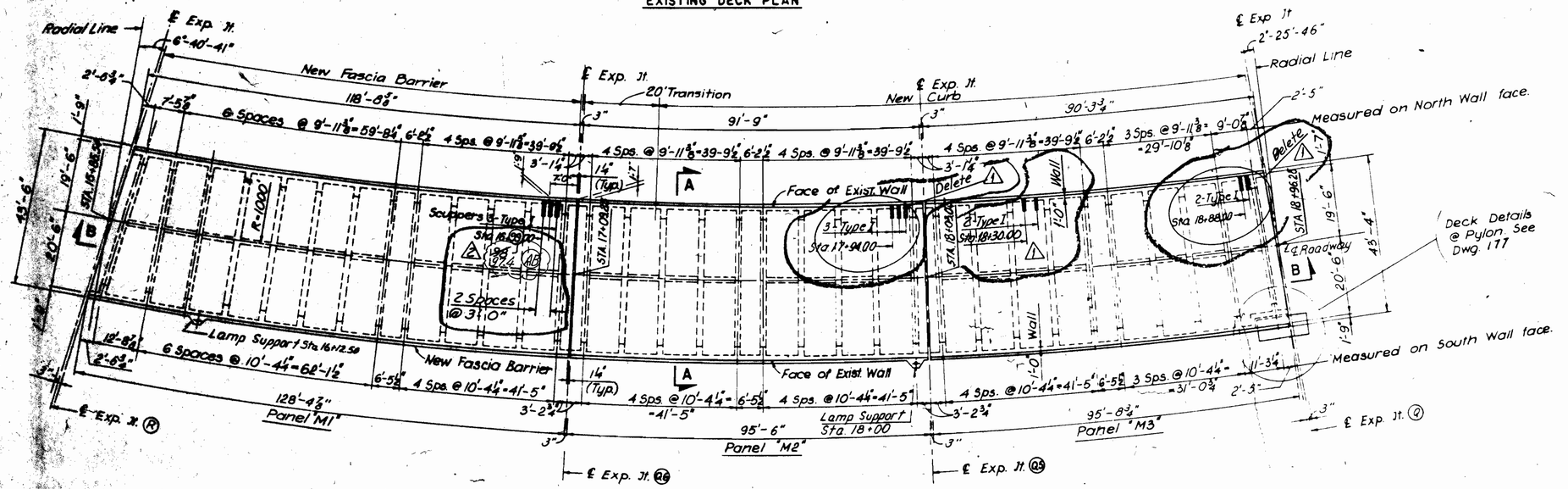
CUYAHOGA COUNTY
CUY-2-14.66



KEY PLAN
N.T.S.



EXISTING DECK PLAN



PROPOSED DECK PLAN

SECTION M

NOTES
For notes 1 to 4 see Drg. 145.

REFERENCES	DWG No.
Section A-A & B-B	181
Summary of concrete repair	190
Expansion Joints	191 & 195
Scupper Details	654 & 655
Transition Barrier and New Curb	182

(AB) As Built

Rev. 2	(2) Plan Revisions	4-8-91
Rev 1	(1) Plan Revisions	3-7-91

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH-SECTION M

EXIST. & PROP. DECK PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

NO. B-136

150
991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	J.H.	A.K./R.M.	AS BUILT 2/94

ODOT 4-18-91 T.E.S

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

149 / 547

CUYAHOGA COUNTY
CUY-2-14.66

JUL 22 1994

NOTE 'G'
The Contractor shall notify the County Maintenance Department to provide temporary Support for the Garage Door during replacement of Stringers.

Connection Ls' to be replaced
Remove and discard existing Bracket BR1
Remove and Discard
Remove top 13'-10" stone masonry at Pylon 'B'
Remove and Discard Floorbeam B2 & B1 (33 WF 125) and Columns CN17 and CN13
Bracket BR2 to be replaced
New Bracket BR1 (For details, see Sheet 168D/99I)
New Floorbeam B25 (For details, see Sheet 168D/99I)
Jack, clean and reset Girder Rocker Bearing See Dwg. 169.
Remove top 13'-10" stone masonry at Pylon 'A'
Remove and discard existing Floorbeam B25
Remove and discard existing Bracket BR10
Remove top 14'-10" stone masonry of Pylon 'D'.
Remove top 13'-9" stone masonry of Pylon 'C'
Floorbeam B3 to be replaced (33 WF 125)
Bare cable attached to nearby power pole, typ. both sides of ℄ W25th St.*
Remove and discard Existing Stair See details on Dwg 152.
Remove & Discard Existing Bracket Top Flange Angles
New Bracket BR10 (See Sheet 168D/99I)
New Bracket BR9 See Sheet 168B/99I
New Column CN31
New Floor Beam
Bracket Extended
New Top Flange Angles For Details See Sheet 166/99I
New Bracket BR18 For Details Sheet 168B/99I

EXISTING FRAMING PLAN

SECTION N
Scale: 1/16" = 1'-0"

PROPOSED FRAMING PLAN

SECTION N
Scale 1/16" = 1'-0"

NOTE: Remove and discard all Stringers, Fascias, Diaphragms and Lamp Post supports.

* For Existing Underbridge Lighting see General Notes "Existing Underbridge Lighting"

COLUMN NOTE
The following Columns were out of proper alignment during surveys done prior to Nov. 1988: CN5, CN6, CN7, CN10, CN11, C12, CN13 & CN17. All out of plumb columns shall be aligned to within 1/4" of vertical.

EXISTING FRAMING REMOVAL

MARK	SECTION	MARK	SECTION	MARK	SECTION
S-1	21 WF 59	S-15	21 WF 82	F1, F2 F7 & F8	1-30×3/8" PL; 1-L4"×3"×3/8"; 1-C9@13.4#; 1-L4"×3"×3/8"; 1-PL 28"×3/8"; 1-L4"×3"×3/8"
S-2	21 WF 59	S-16	21 WF 89		
S-3	21 WF 63	S-17	21 WF 59		
S-4	21 WF 73	S-18	21 WF 59		
S-5	20 I 65.4	S-19	21 WF 73		
S-6	21 WF 68	S-20	21 WF 89	F3 & F4	1-PL 18"×3/8"; 1-L4"×3"×3/8"; 1-Z3"×2 11/16"×3/8"; 1-PL 24"×3/8"; 1-L4"×3 1/2"×3/8"
S-7	21 WF 59	S-21	21 WF 68		
S-8	21 WF 68	S-22	21 WF 68		
S-9	21 WF 82	S-23	21 WF 68		
S-10	21 WF 59	S-24 TO S-31 incl.	21 WF 68	F-5 & F6	1-PL 30"×3/8"; 1-L4"×3"×3/8"; 1-C9@13.4#; 1-L4"×3"×3/8"; 1-PL 28"×3/8"; 1-C15@33.9#
S-11	21 WF 73	S-32	21 WF 73		
S-12	21 WF 73	S-33	21 WF 73		
S-13	20 I 65.4	S-34	21 WF 59		
S-14	21 WF 82	S-35	21 WF 59		

ADDITIONAL REFERENCES	DWG. NO.
New Column CN1	168F
New Columns CN8, CN18, CN21, CN27	168E
New Columns CN4, CN10	168G
New Columns CN5, CN11	168H
New Columns CN6, CN12, CN16	168I
New Floorbeam B28	168F
New Floorbeams B26, B27	168E
New Floorbeams B11, B12	168G
New Floorbeams B8, B9	168H
New Floorbeams B4, B5, B6	168I

NOTES:

All new Rolled Beams, Shapes and plates shall be ASTM A36, AISC Category I.

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III.

REFERENCES:	DWG. NO.
CVN Note	105
Stone Pylons Modifications	153
Stringer Details	158
Stringer Schedules	162
Floorbeams - Schematic Elev.	154
Typical Cross-Section	115
Floorbeam Replacement B2 & B3	156, 168
Details Sheets: 1, 2, 3, 4, 5	164, 165, 166, 167, 168
Fascia Stringer Elevations	159
Fascia Stringer Setting Dim.	163
Bolster Schedule	154
Pylon modifications	153
D1 Diaphragm	115
D2 Diaphragm	112
D3 Diaphragm	155
~~New Connection Angles @ CN18 & Exist. Floorbeam Details~~	~~169~~
Column Details	168A
Floorbeam Replacement B1	168C

Rev. 4	4	Plan Revisions	01-03-92
Rev. 3	3	Plan Revisions	10-10-91
Rev. 2	2	Plan Revisions	8-26-91
Rev. 1	1	Plan Revisions	2-26-91

O.D.O.T. 1-14-92 T.E.S.

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH-SECTION N
EXISTING & PROPOSED FRAM. PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

NO. B-136 151/99I

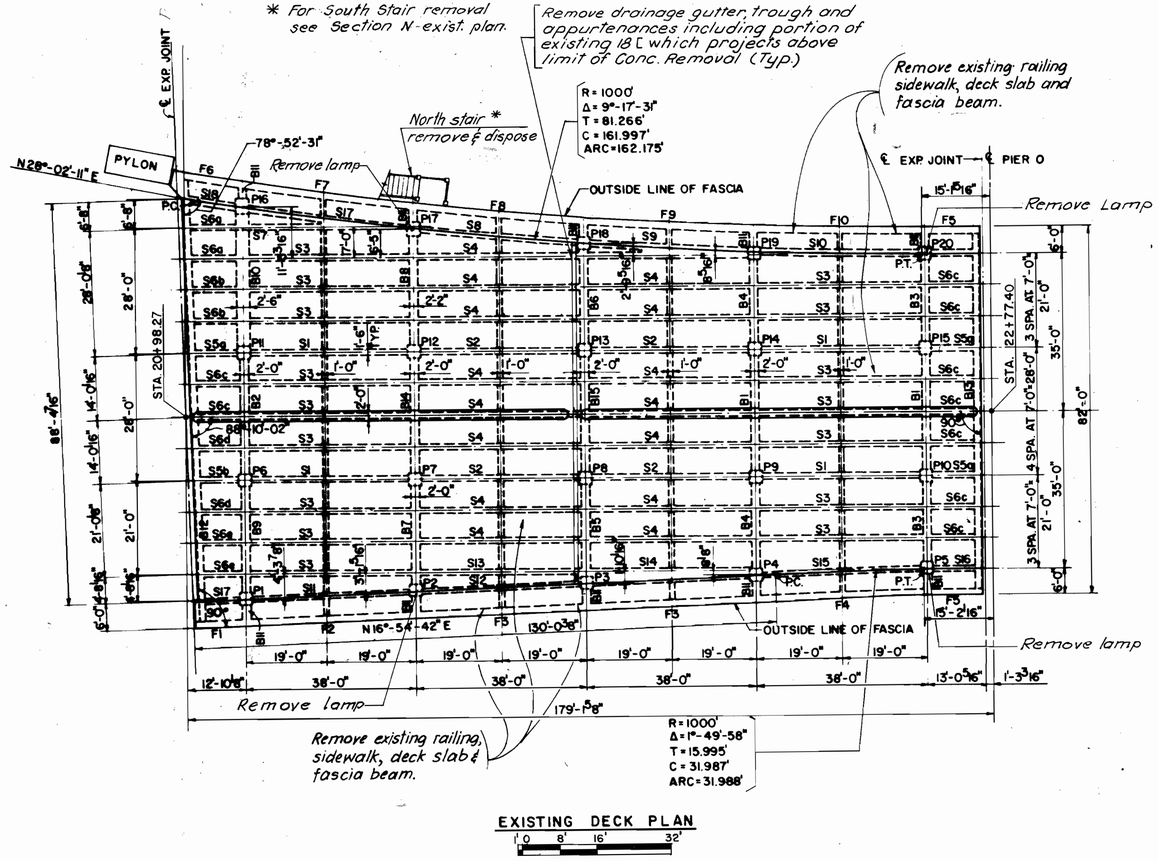
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	A.D.	J.B.M.	AS BUILT 2/94

MICROFILMED
JUL 22 1994

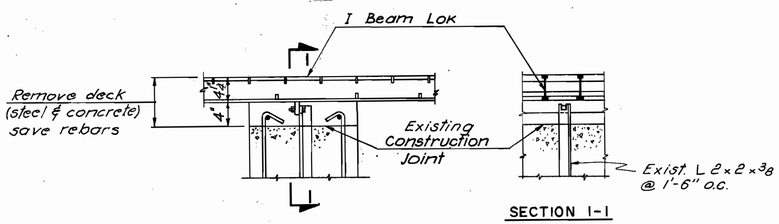
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

150
547

CUYAHOGA COUNTY
CUY-2-14.66

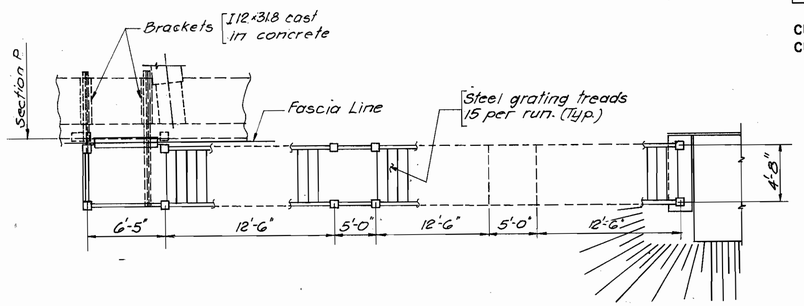


EXISTING DECK PLAN
1" 0 8' 16' 32'

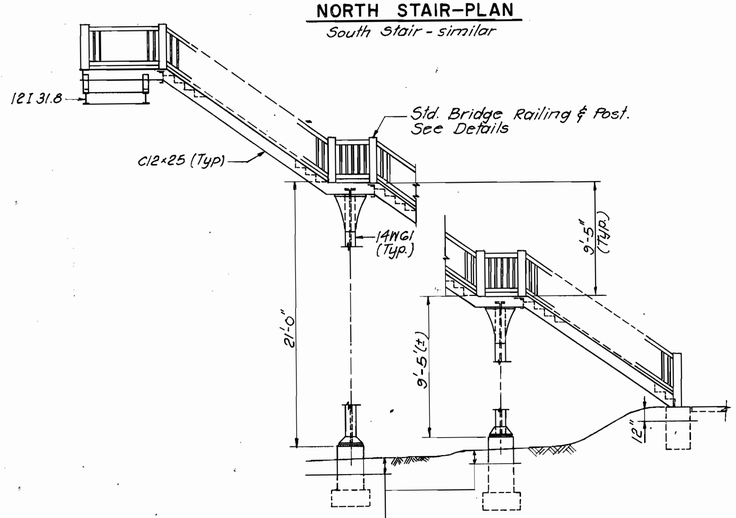


SECTION 1-1

ROADWAY DECK DETAIL
1" 6" 0 1'



NORTH STAIR-PLAN
South Stair - similar



NORTH STAIR-ELEVATION
South Stair - similar

NOTES

Remove entire existing stairway and its supports as shown.
All Removals shall be paid for under Item 202 "Portions of Structures Removed"

REFERENCES

	DWG. NO.
Existing Plan	101 & 102
Concrete repairs	190
Typical Section	116

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH-SECTION P
EXISTING PLAN AND MISC. DETAILS

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1966

NO. B-136

152
991

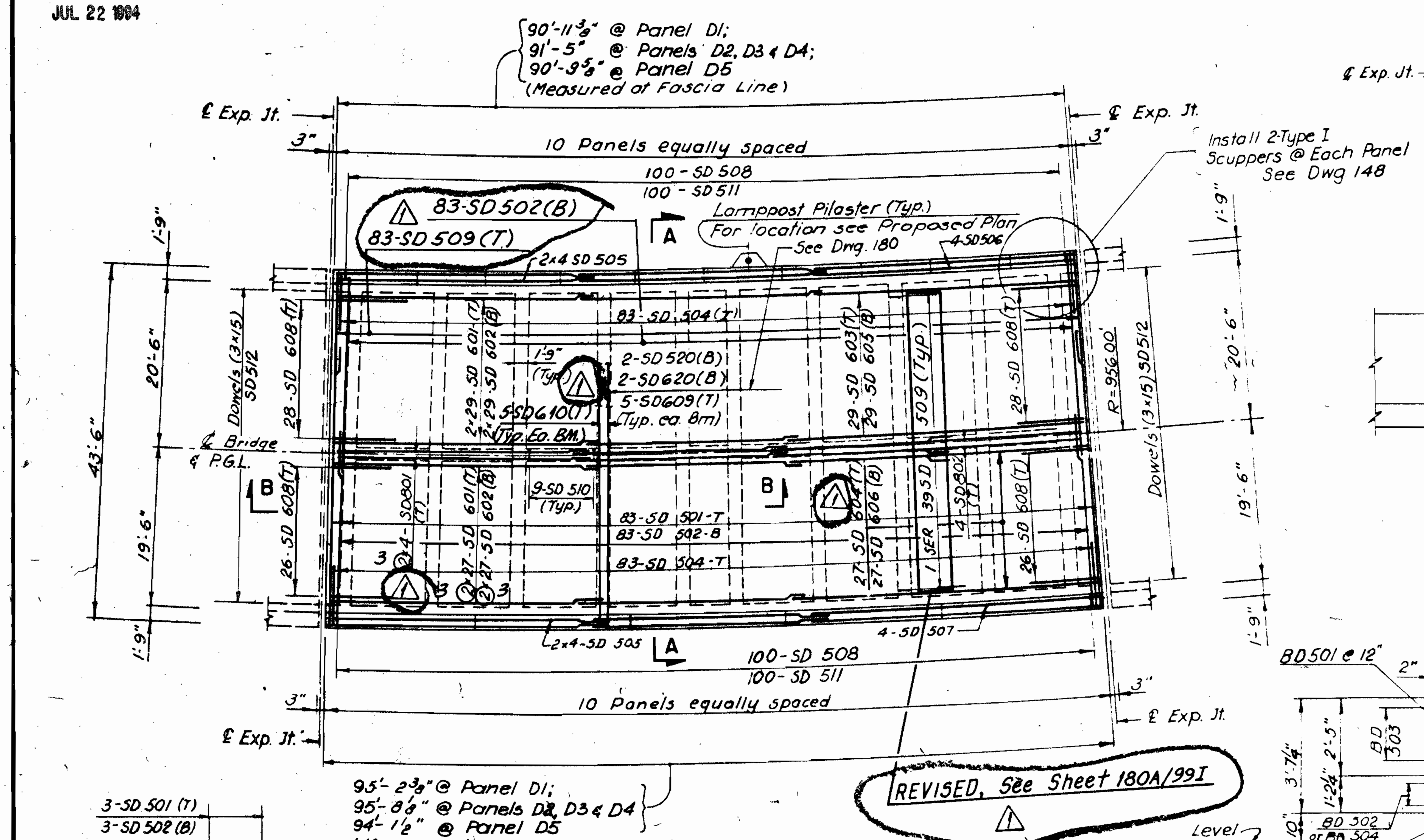
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	L.T.	A.S.	AS BUILT 2/94

MICROFILMED
JUL 22 1994

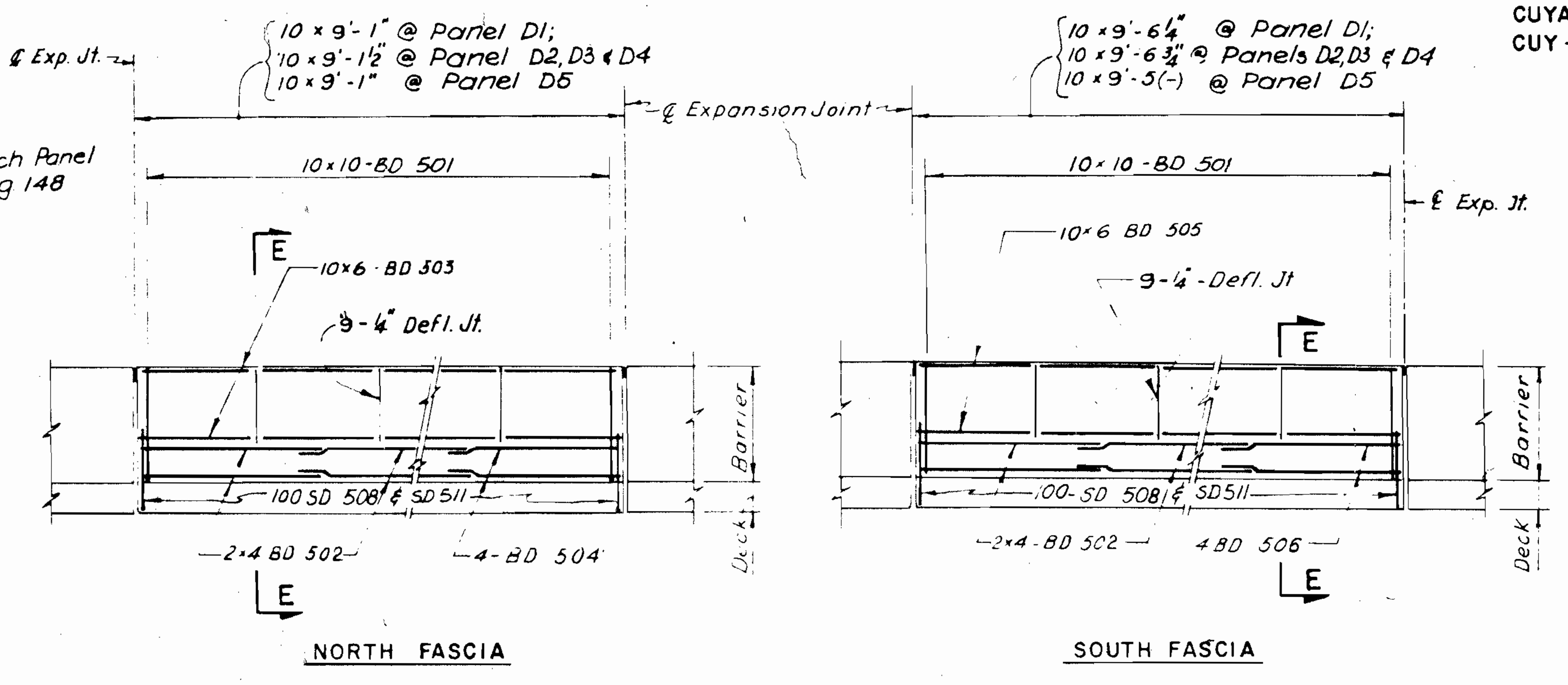
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

171/547

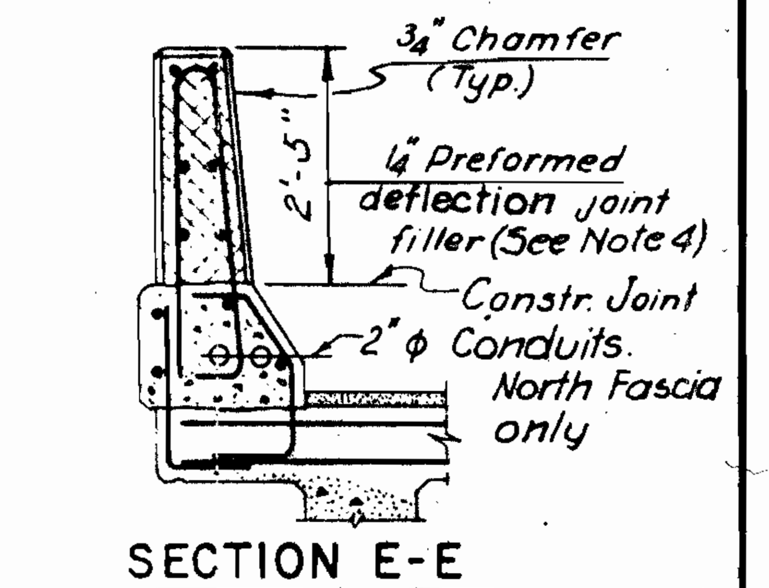
CUYAHOGA COUNTY
CUY-2-14.66



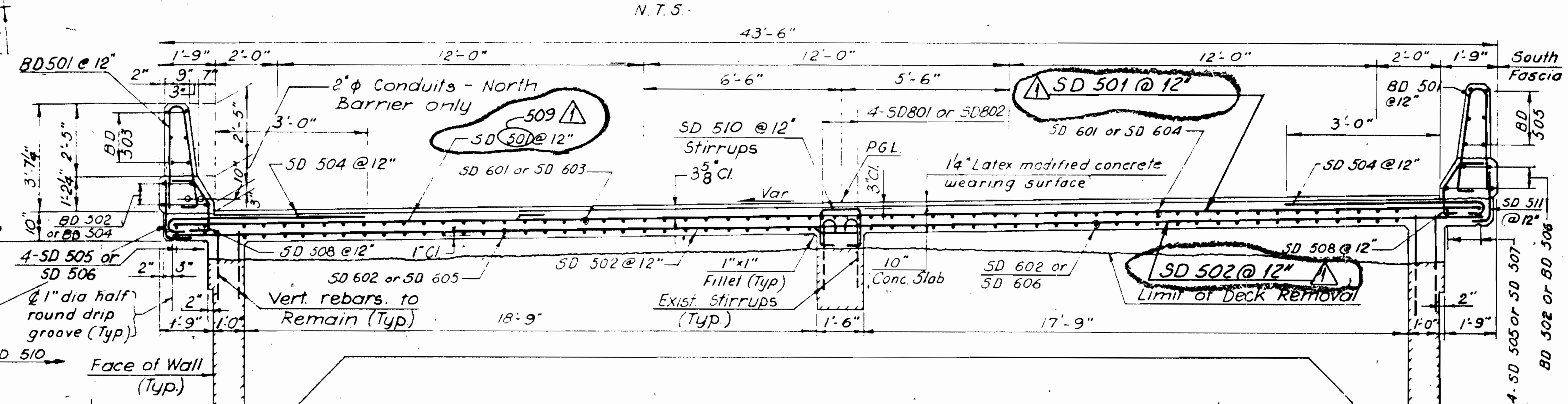
TYPICAL PANEL



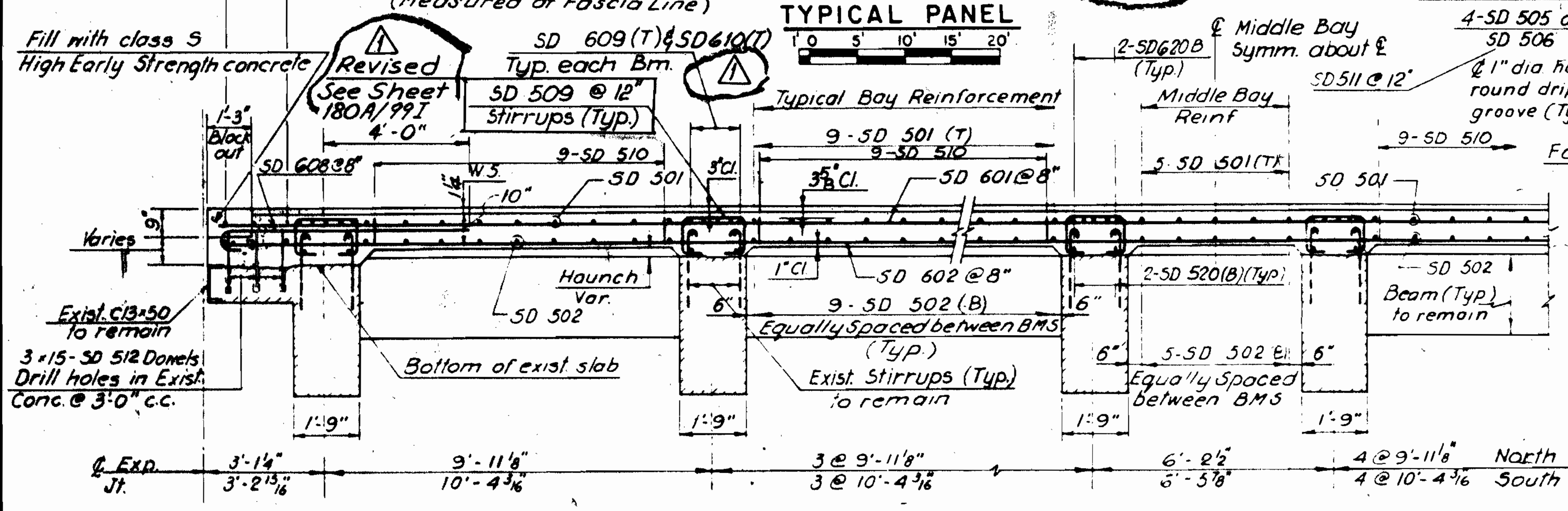
BARRIER DETAILS
N.T.S.



SECTION E-E



SECTION A-A



SECTION B-B

MINIMUM LAP LENGTHS (TYPICAL UNLESS NOTED)*	
BAR SIZE	LENGTH REQ'D.
#5	2'-3"
#6	2'-8"
#8	4'-7"

*Lightweight Concrete

NOTES

For Notes 1 to 4 see Dwg. 145
5. Deck reinforcing details are for all 5 panels of bridge Section D
6. See Dwg. 145 for suggested temporary frame support.
7. All new reinforced concrete in slab and beams shall be lightweight Class 'S'.

REFERENCES	DWG No.
Existing & Proposed Deck Plan	148
Beam modifications	180
Lamp support pilaster	G68
Bar List	199C
Scupper Details & Reinforcement	G54 & G55

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH — SECTION D
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1989

NO. B-136 173/991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	L.T.	A.K./R.M.	AS BUILT 2/94

Rev 1 Plan Revisions 3-10-91

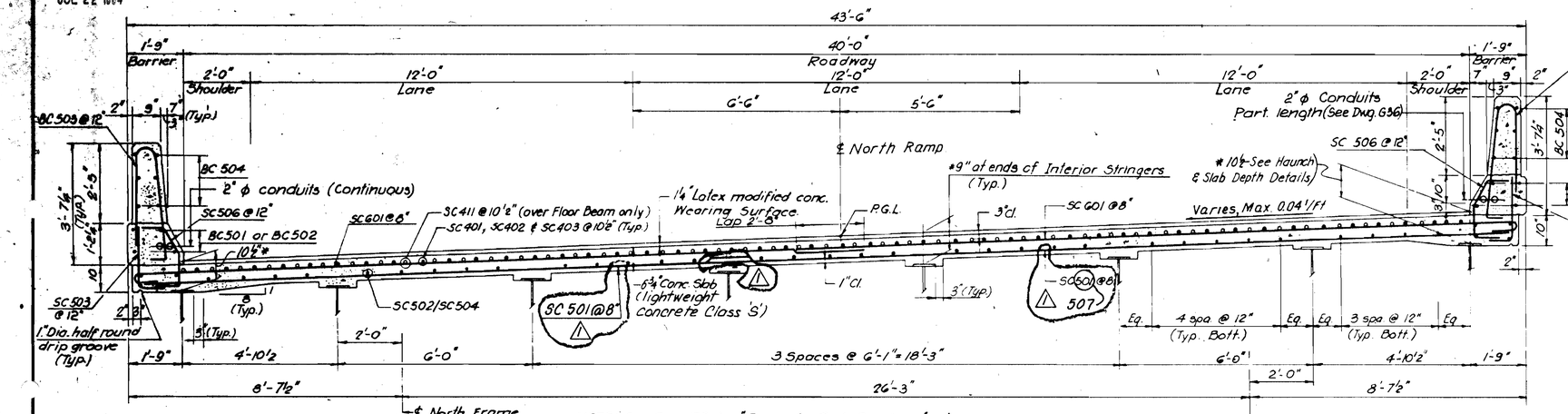
ODOT 3-27-91 TES

MICROFILMED
JUL 22 1994

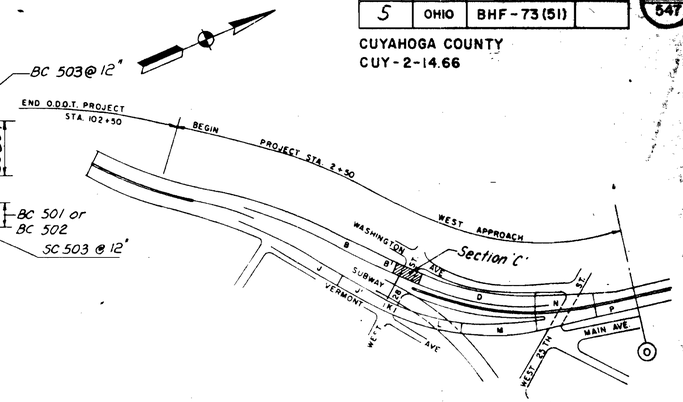
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

172 / 547

CUYAHOGA COUNTY
CUY-2-14.66

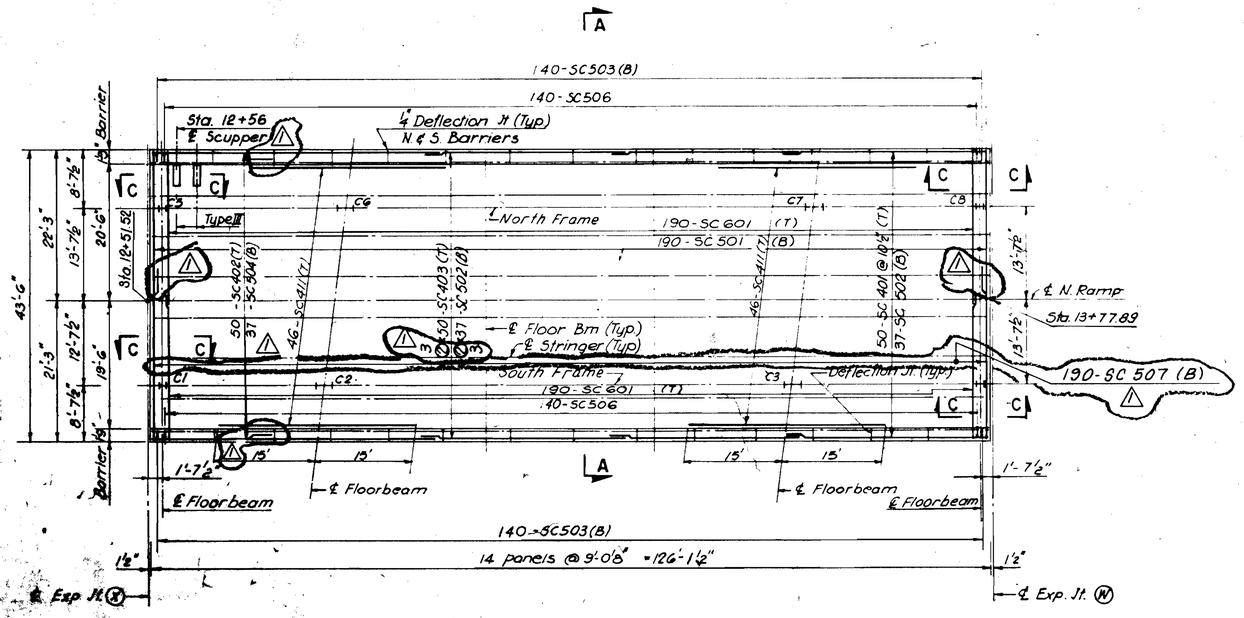


NOTE: See Dwg. 170 for "Forms for Deck Overhang" note.

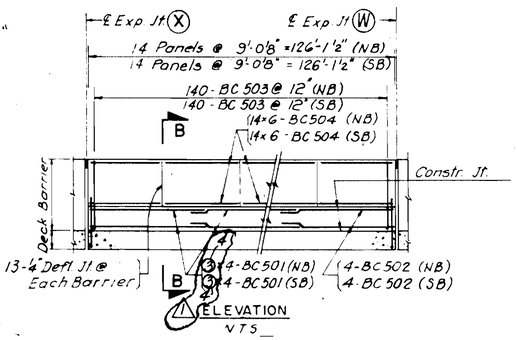


KEY PLAN

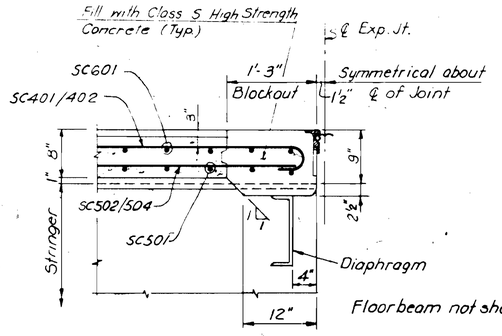
SECTION A-A



PLAN



FASCIA BARRIER DETAILS



SECTION C-C
N.T.S.

MINIMUM BAR LAP LENGTH

BAR SIZE	MIN. LAP
4	1'-10"
5	2'-3"
6	2'-8"

NOTES:

A Haunch Width as shown on Haunch & Depth of Slab Details shall be used for computing quantity of concrete.

DECK SLAB DEPTH:

The distance shown from top of Deck Slab to top of Steel Beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, less 1¼" wearing surface, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or configuration required to place it parallel to the finished grade.

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, less 1¼" wearing surface, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

The Contractor shall bend or field cut reinforcing steel as required at scuppers.

REFERENCES

	DWG. NO.
Section B-B	176
Top of Deck Elevations & Deflections	170
Scupper Details & Reinforcement	654 & 655
Framing Plan	147
Expansion Joints	191
Bar List	199E
Haunch and Slab Depth Details	170

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH - SECTION C
DECK SLAB REINFORCEMENT

BRIDGE NO. 135 REPORT NO. 7119 DATE Nov. 1993

NO. B-136

174 / 991

DESIGN	DRAWN	CHECKED	REVISED 2/94
B.G.	J.H.	A.R./R.M.	AS BUILT 2/94

Rev.1	Plan Revisions	2-25-91

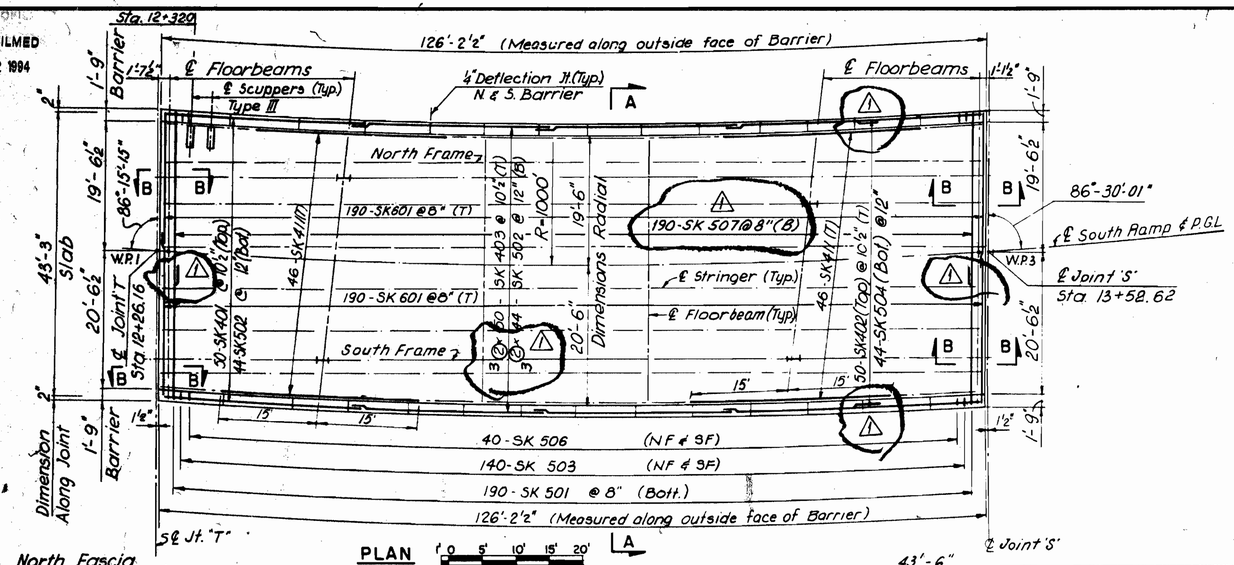
ODOT 3-14-91 TES

MICROFILMED
JUL 22 1994

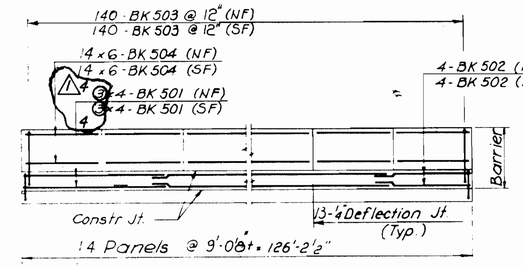
FHWA REGION	STATE	PROJECT	#
5	OHIO	BHF-73(51)	

173/547

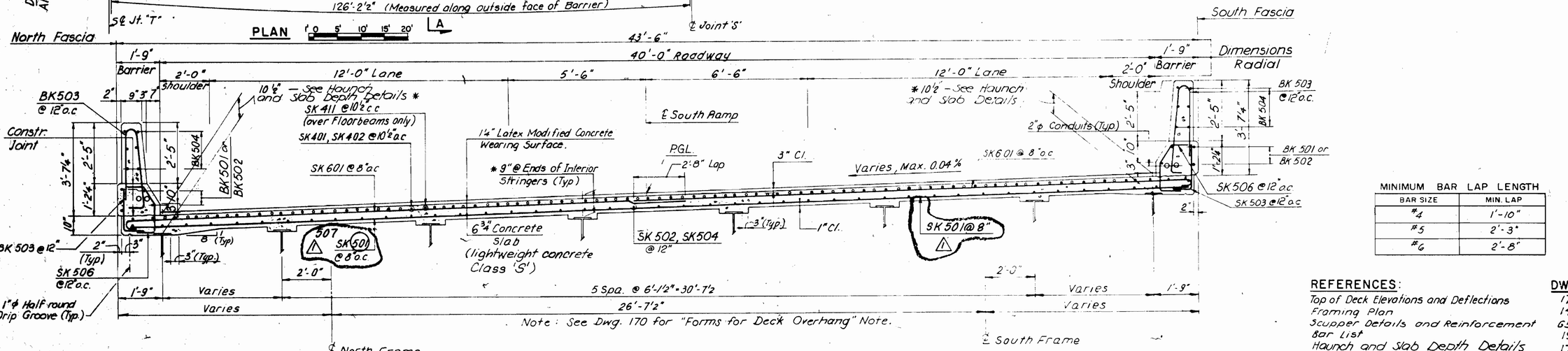
CUYAHOGA COUNTY
CUY-2-14.66



PLAN 1" 0 5' 10' 15' 20'

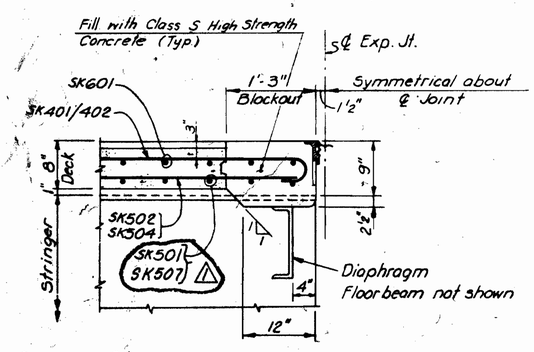


BARRIER (North & South Fascia)
N.T.S.



Note: See Dwg. 170 for "Forms for Deck Overhang" Note.

CROSS SECTION A-A
1" 6" 0 1' 2' 3' 4'



SECTION B-B

MINIMUM BAR LAP LENGTH

BAR SIZE	MIN. LAP
#4	1'-10"
#5	2'-3"
#6	2'-8"

REFERENCES:

	DWG. NO.
Top of Deck Elevations and Deflections	170
Framing Plan	147
Scupper Details and Reinforcement	G54 & G55
Bar List	199E
Haunch and Slab Depth Details	170
* Haunch and Slab Depth Notes	174

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH-SECTION K

DECK SLAB REINFORCEMENT

BRIDGE NO. 193 - REPORT NO. 7119 DATE Nov. 1989

NO. B-136

175/991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	A.M.	R.D.M.	AS BUILT 2/01

Rev. 1 | Plan Revisions | 2-25-91

ODOT 3-14-91 JES

MICROFILMED
JUL 22 1994

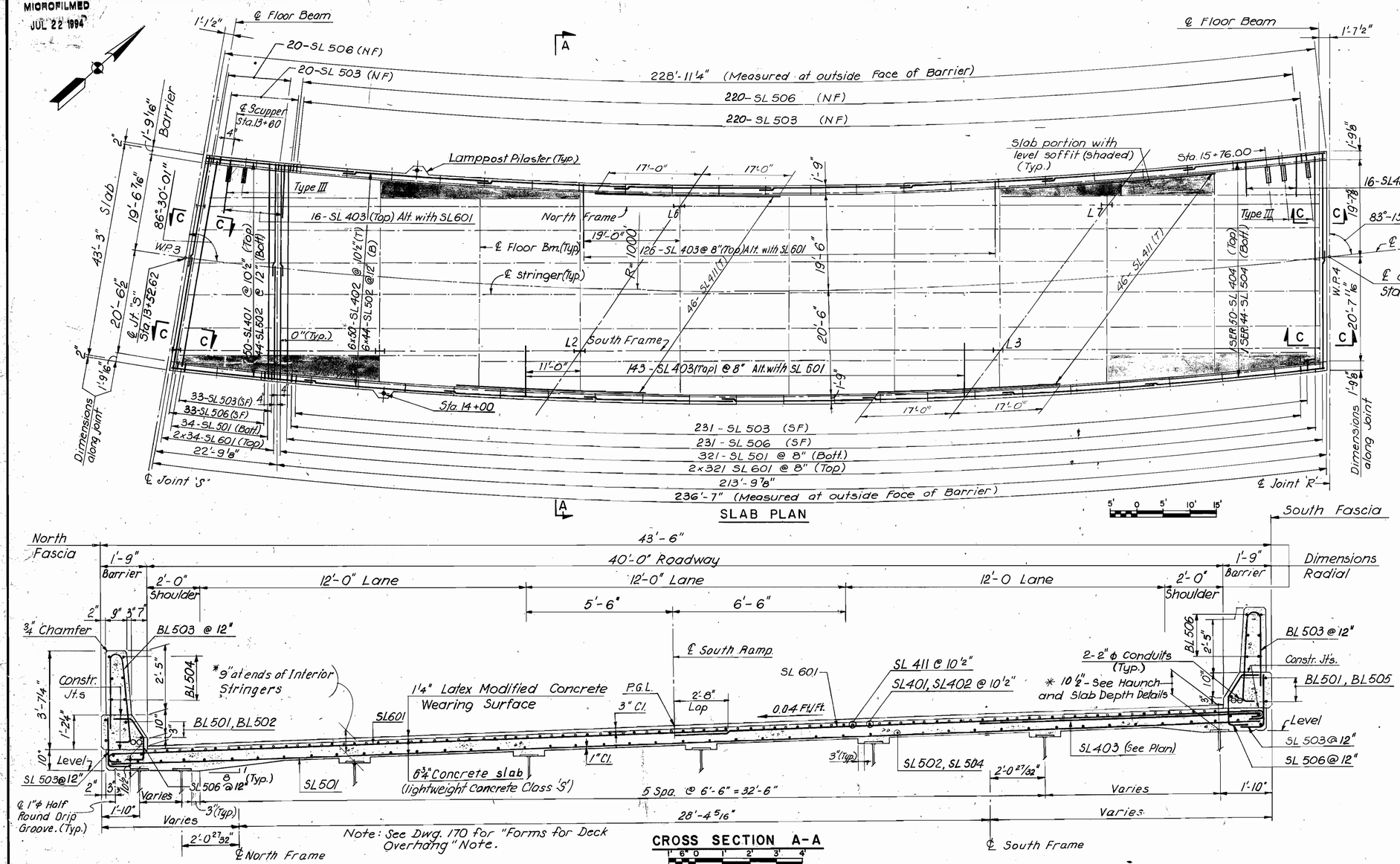
CUYAHOGA COUNTY
CUY-2-14.66

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

174
547

REFERENCES:

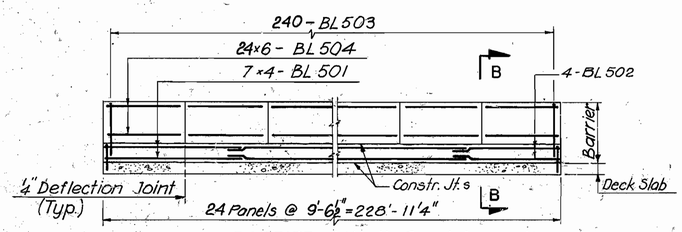
	DWG. NO.
Top of Deck Elevations and Deflections	171
Framing Plan	149
Scupper Details and Reinforcement	G548,G55
Lamp Support Pilasters & Reinforcement	668
Bar List	199F
Haunch and Slab Depth Details	170
* Haunch and Slab Depth Notes	174



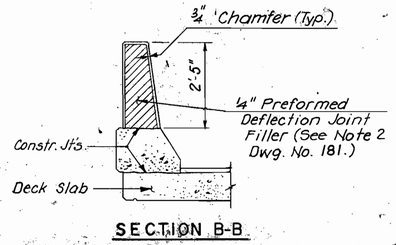
SLAB PLAN

CROSS SECTION A-A

Note: See Dwg. 170 for "Forms for Deck Overhang" Note.

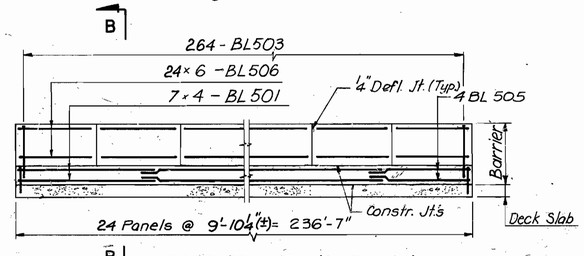


BARRIER (North Fascia)
N.T.S.

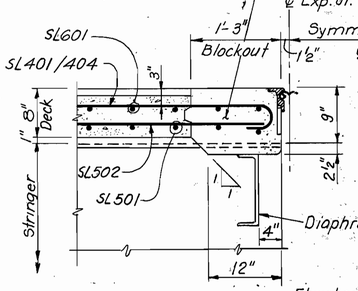


SECTION B-B

TYPICAL BARRIER JOINT DETAIL
N.T.S.



BARRIER (South Fascia)
N.T.S.



SECTION C-C

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NEW YORK, NEW YORK

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH SECTION L
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE NOV. 1993

NO. B-136

176
99

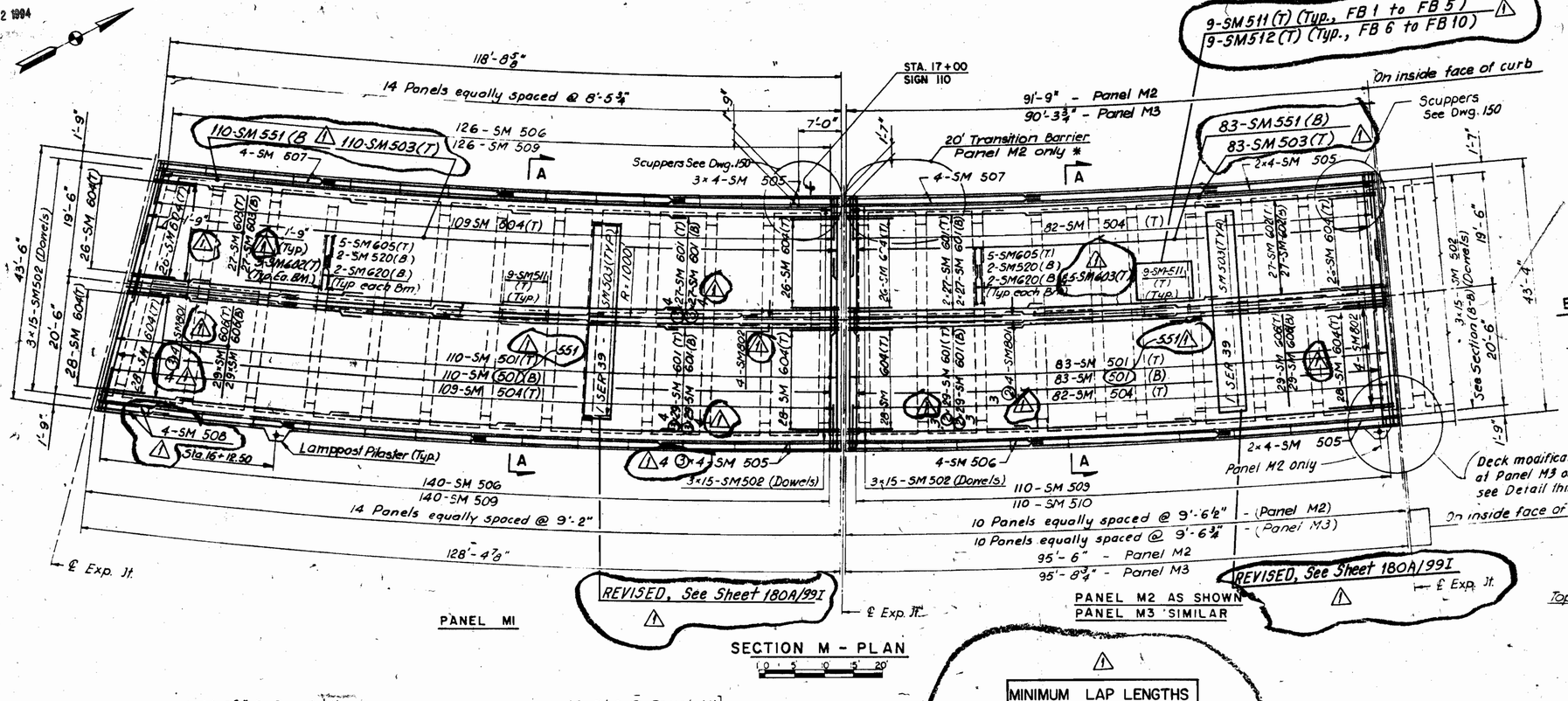
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	A.M.	R.D.M.	2/96

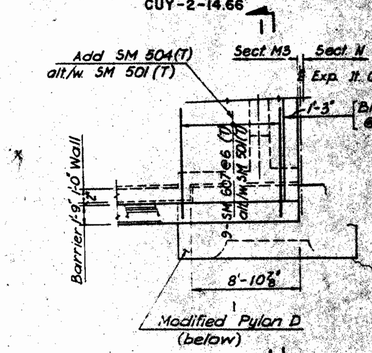
MICROFILMED
JUL 22 1994

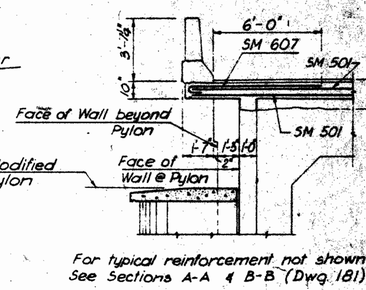
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

CUYAHOGA COUNTY
CUY-2-14.66

173
1547

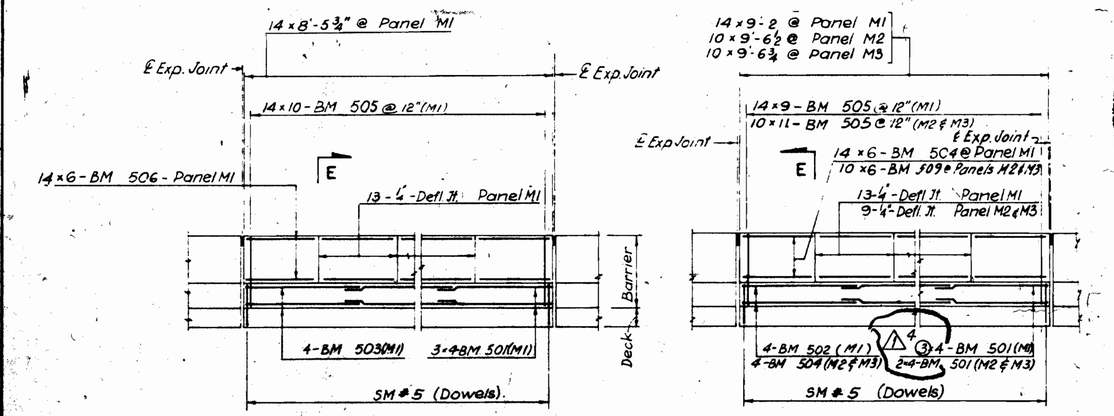






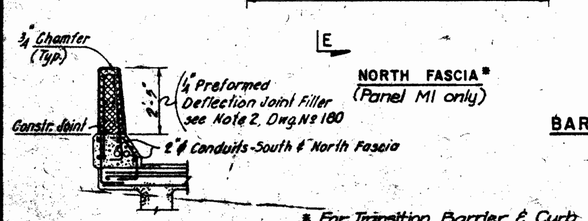
For typical reinforcement not shown
See Sections A-A & B-B (Dwg. 181)

SECTION I-I
DECK MODIFICATION @ PANEL M3
SOUTH WALL @ PYLON D
0 4' 8'



NORTH FASCIA* (Panel M1 only)

SOUTH FASCIA



SECTION E-E

BARRIER DETAILS
N.T.S.

MINIMUM LAP LENGTHS * (TYPICAL UNLESS NOTED)	
BAR SIZE	LENGTH REQ'D.
#5	2'-3"
#6	2'-8"
#8	4'-7"

*Lightweight Concrete

REFERENCES:

	DWG. NO.
Sections A-A & B-B	181
Transition Barrier and Reinforcement	182
Other References	145
Notes	180
Bar List	199A & 199B
Proposed Deck Plan	150

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH - SECTION M
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1990

NO. B-136

177
307

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	L.T.	R.D.M.	AS BUILT 2/94

Rev. 1	1 Plan Revision	3-11-91

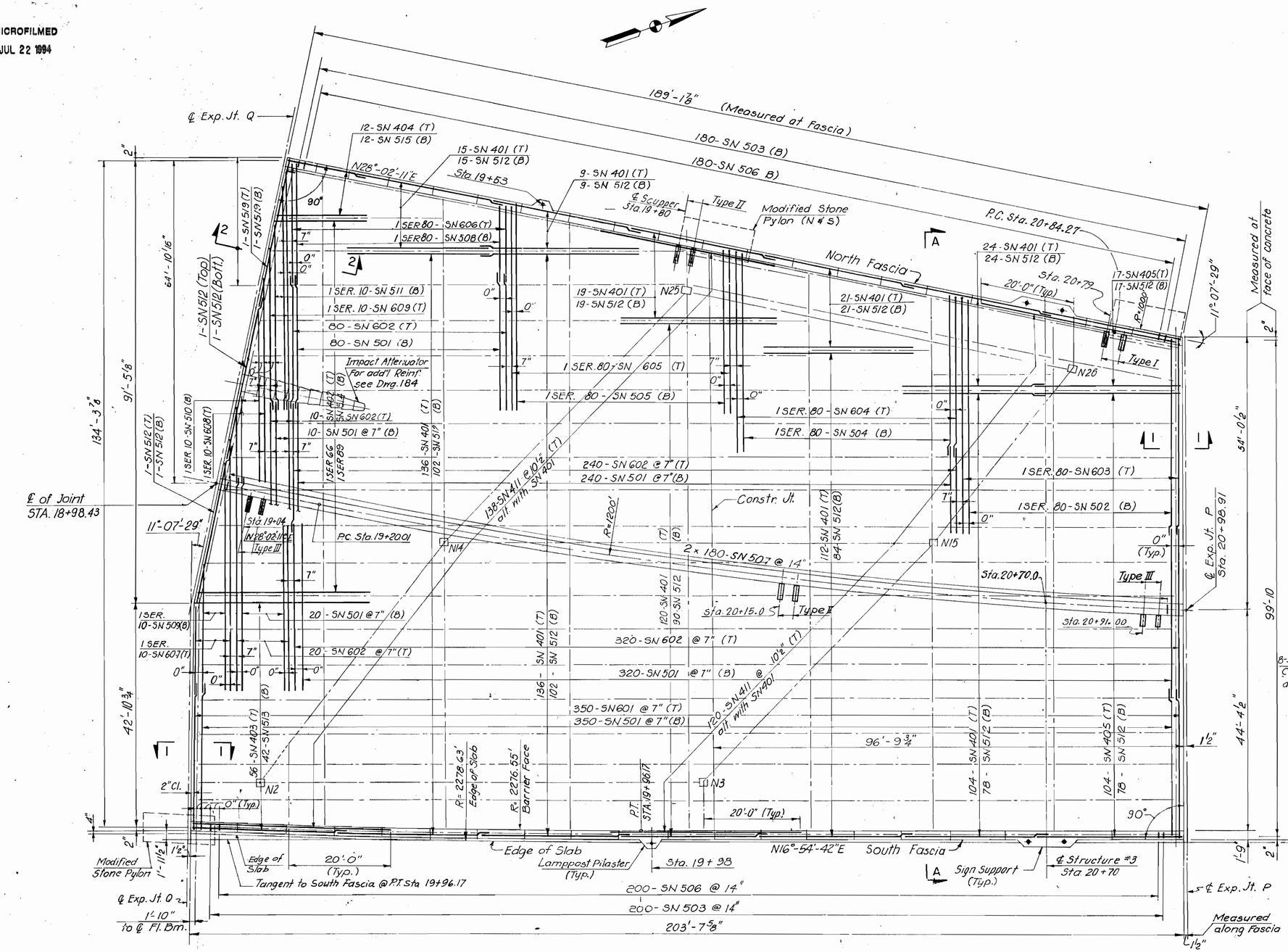
ODOT 3-27-91 IES

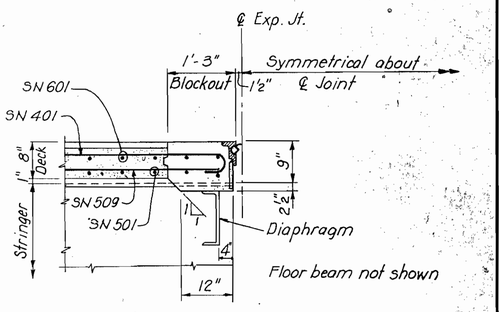
MICROFILMED
JUL 22 1994

FHWA REGION	STATE	PROJECT		
5	OHIO	BHF - 73(51)		

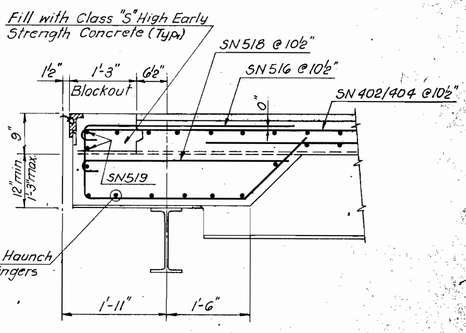
176
547

CUYAHOGA COUNTY
CUY - 2 - 14.66





SECTION 1-1



SECTION 2-2

(AB) As Built

The Contractor shall bend or field cut reinforcing steel as required at scuppers

MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
# 4	1'-10"
# 5	2'-3"
# 6	2'-8"

SLAB PLAN
1" 0 5' 10' 15' 20

REFERENCES	DWG. NO
Proposed Plan & Elevation	104 & 105
Deck Slab Sections & Details	183
Top of Deck Elevations & Deflections	172
Framing Plan	151
Expansion Joint P	193
Expansion Joint Q	194
Sign Structure No. 3 Support Details	183
Pylon Modifications	153
Scupper Reinforcement	G54 & G55
Lighting Standard	668
Impact Attenuator	184
Bar List	1996
(AB) Typical Stay-in-Place Forms	69A

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH SECTION N
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 11, 1969

NO. B-136

178
991

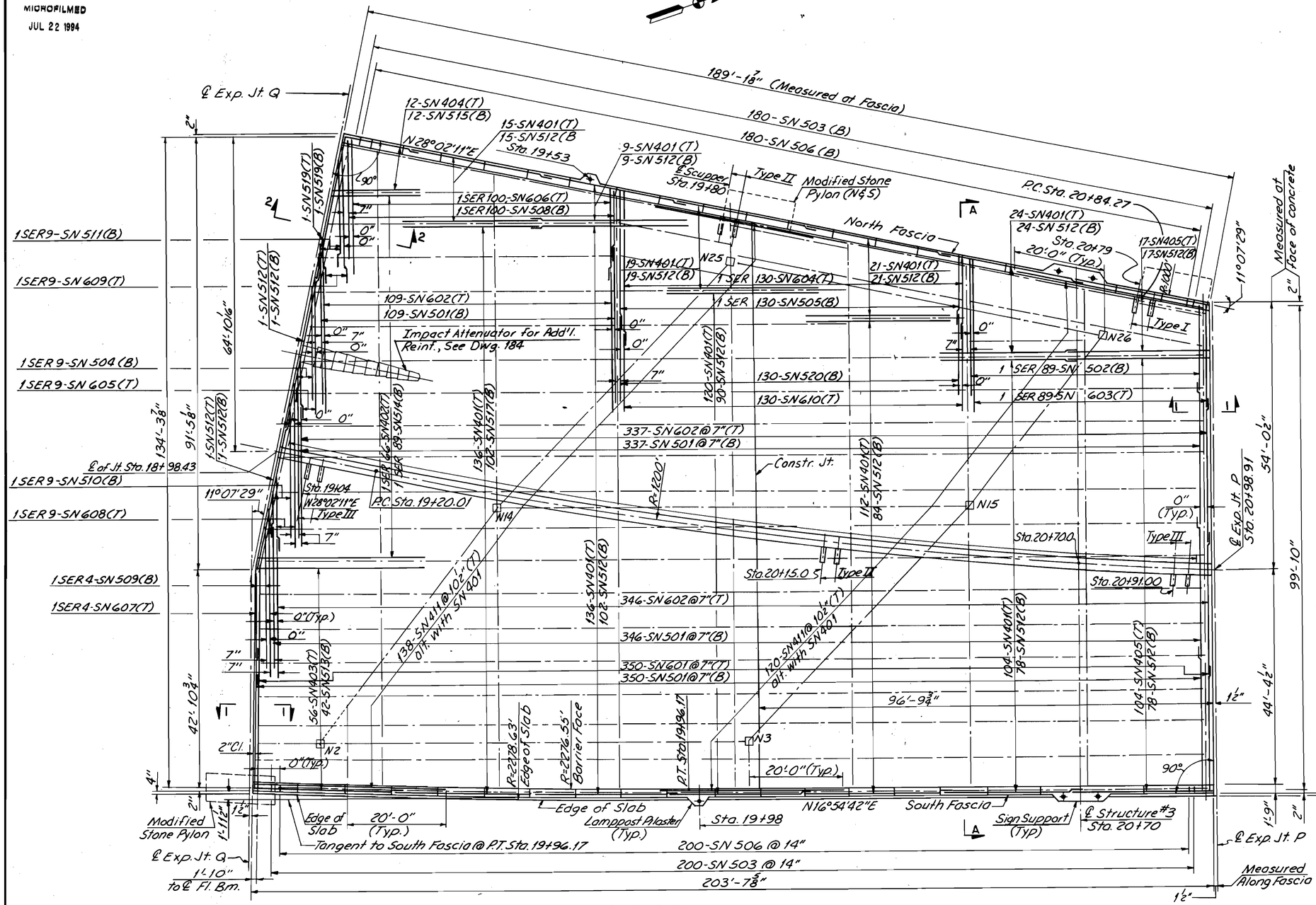
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	A.M.	R.D.M.	AS BUILT 2/94

MICROFILMED
JUL 22 1994

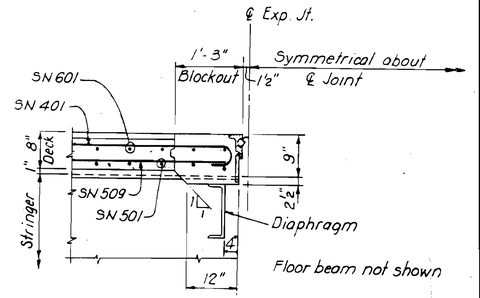
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73(51)	

176A / 547

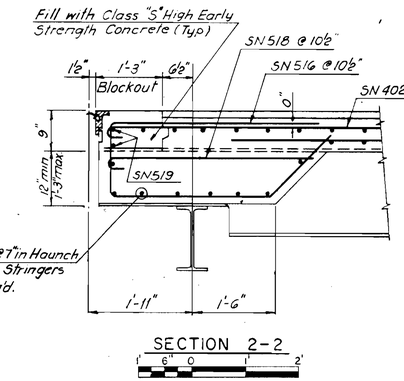
CUYAHOGA COUNTY
CUY - 2 - 14.66



SLAB PLAN
1' 0 5' 10' 15' 20



SECTION 1-1
6" 0 1' 2'



SECTION 2-2
6" 0 1' 2'

The contractor shall bend or field cut reinforcing steel as required at scuppers

MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
# 4	1'-10"
# 5	2'-3"
# 6	2'-8"

REFERENCES

	DWG. NO		
Proposed Plan & Elevation	104 & 105	Pylon Modifications	153
Deck Slab Sections & Details	183	Scupper Reinforcement	G54 & G55
Top of Deck Elevations & Deflections	172	Lighting Standard	668
Framing Plan	151	Impact Attenuator	184
Expansion Joint P	193	Bar List	1996
Expansion Joint Q	194	Typical Stay-in-Place Forms	G9A (AB)
Sign Structure No. 3 Support Details	183		

AS BUILT 2/94

EXTRA SHEET
ADDITIONAL REPAIRS DETERMINED NECESSARY DURING CONSTRUCTION PHASE

DISTRICT 12 APPVD. T.E.S. DATE 3-27-91

(AB) As Built

HOWARD NEEDLES TAMMEN & BERGENDOFF
ARCHITECTS ENGINEERS PLANNERS HNTB

WEST APPROACH SECTION N
DECK SLAB REINFORCEMENT
MAIN AVENUE BRIDGE

BR. NO. 193
CUYAHOGA COUNTY OHIO

DRAWN	TRACED	CHECKED	REVIEWED	REVISED
B.P. 2-27-91	R.D.J. 3-5-91	N.A.F. 3-6-91	C.A.B. 3-22-91	

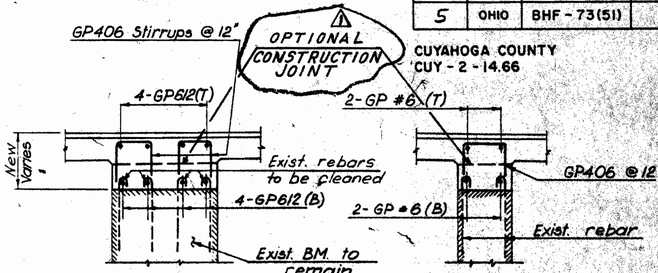
SHEET 178A / 991

MICROFILMED
JUL 22 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

177
547

CUYAHOGA COUNTY
CUY-2-14.66



SECTION C-C
Not to Scale

SECTION D-D
Not to Scale

NOTES:

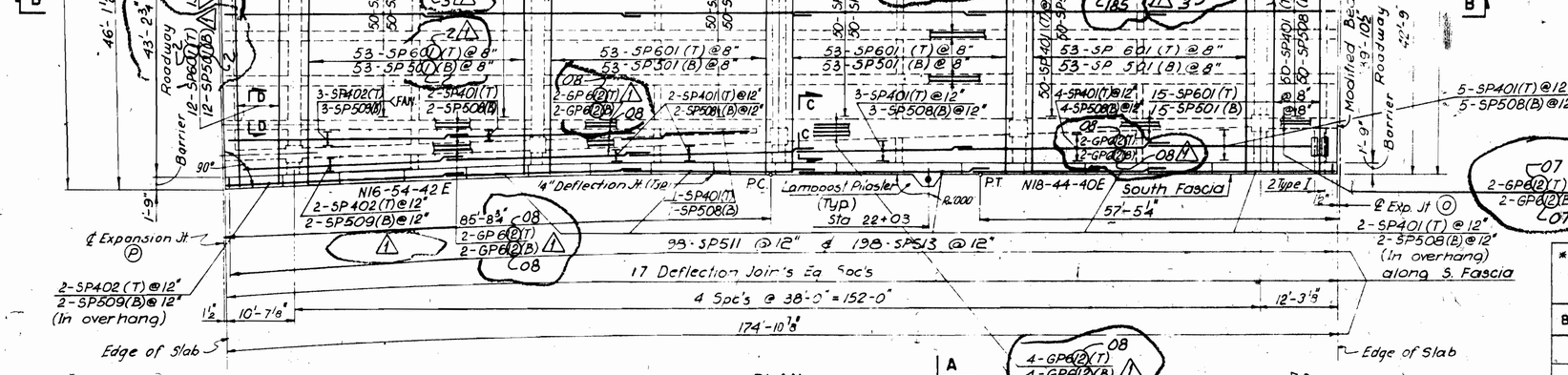
1 - All Deck concrete shall be "Lightweight class "S"

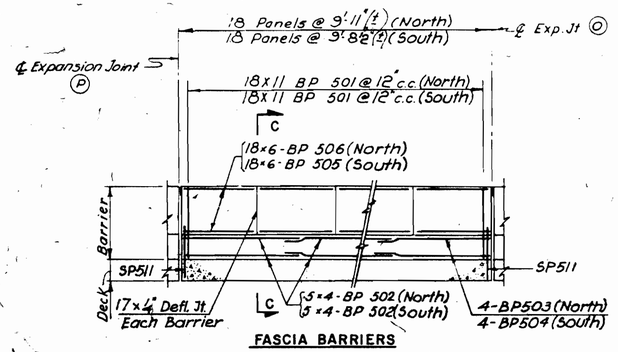
2 - Preformed deflection joint filler in barriers shall be either 4" thick gray sponge rubber (AASHTO M-153) or 4" gray cellular polyvinyl chloride (PVC) sponge. Concrete parapets above upper construction joints, shall be placed in alternate sections by the use of bulkheads. Closing sections shall be placed after removal of bulkheads and after placement of expansion joint filler.

3 - Embedded Lighting conduits (size and layout) Junction Boxes, grounding etc, are detailed in the Dwg's G64-G69 "Proposed Bridge Lighting."

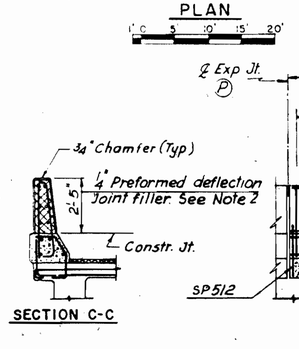
REFERENCES

	DWG NO.
General Notes	66-623
General Plan & Elevation (Existing and Proposed)	101-105 (Incl.)
Typical Cross Section	116
Sections A-A & B-B	185
Lamp Support Details	668
Scupper Reinforcement & Details	654 & 655
Bar list	199H & 199J



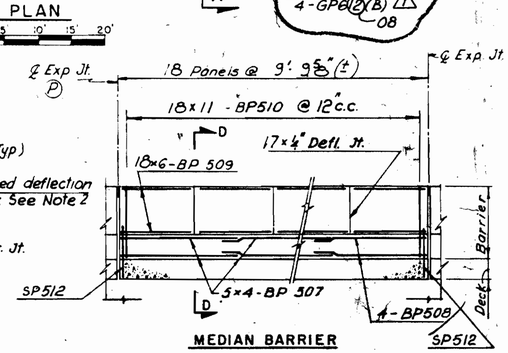


FASCIA BARRIERS

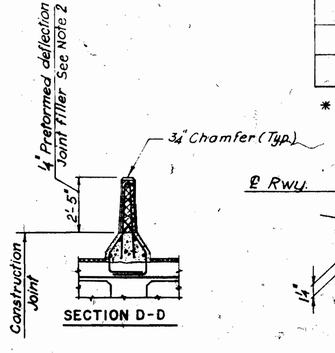


SECTION C-C

PLAN



MEDIAN BARRIER

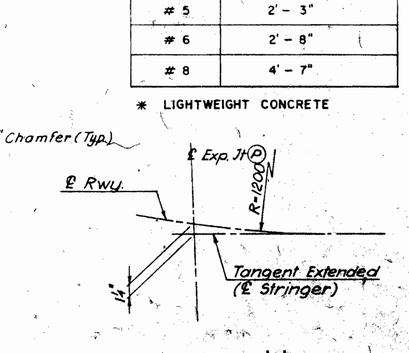


SECTION D-D

BARRIER DETAILS
No Scale.

*MINIMUM LAP LENGTHS (TYPICAL UNLESS NOTED)	
BAR SIZE	LENGTH REQUIRED
# 4	1'-10"
# 5	2'-3"
# 6	2'-8"
# 8	4'-7"

* LIGHTWEIGHT CONCRETE



DETAIL 'A'
No Scale

Rev 1	Plan Revisions	3-2931

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH - SECTION P
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Nov. 1, 1993

NO. B-136

179/991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	R.S.	C.K.L.	AS BUILT 2/94

0007

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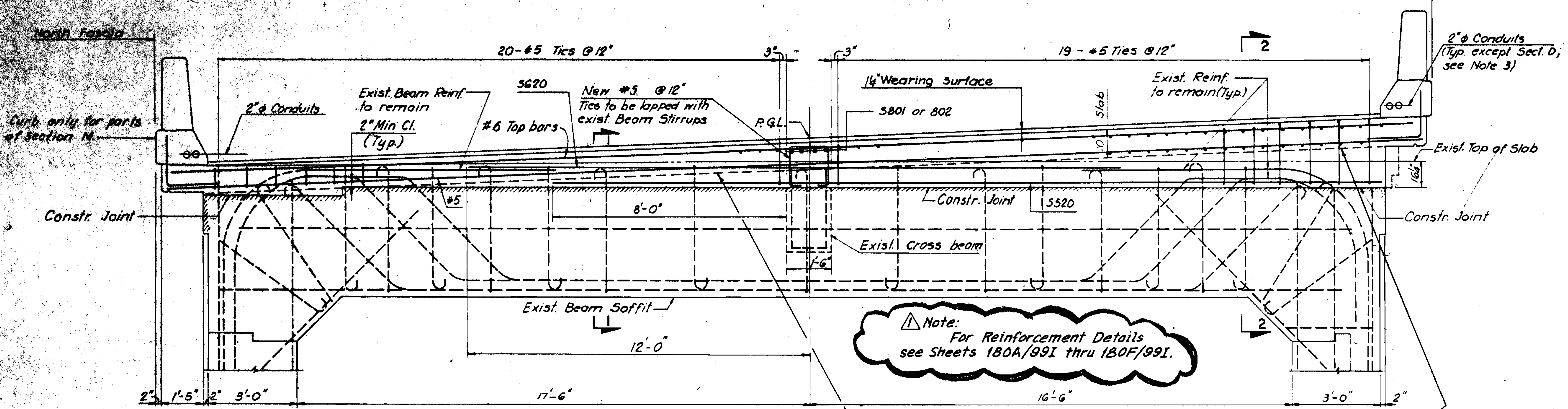
JUL 22 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73(51)	

CUYAHOGA COUNTY
CUY-2-14.66



TYPICAL ELEVATION (MODIFIED)

Remove existing Concrete as shown. Clean exposed reinforcement; install new rebars as shown.

NOTES

1 - All new reinforced concrete in slab and beams shall be Lightweight Class S

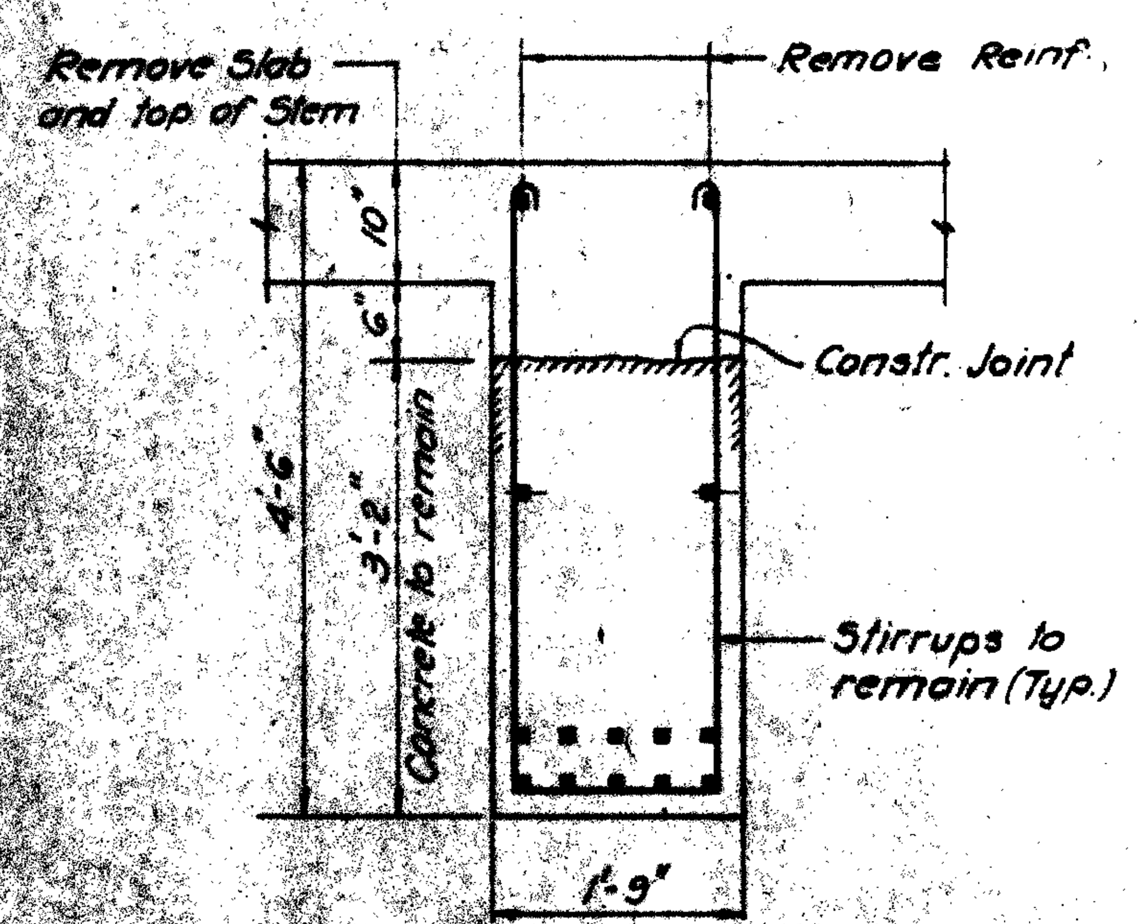
2 - Preformed deflection joint filler in barriers shall be either ¼" thick gray sponge rubber (AASHTO M-153) or ¼" gray cellular polyvinyl chloride (PVC) sponge. Concrete parapets above upper construction joints shall be placed in alternate sections by the use of bulkheads. Closing sections shall be placed after removal of bulkheads and after placement of expansion joint filler.

3 - Embedded lighting conduits (size and layout) junction boxes, grounding etc. are detailed in Drg's G64 thru G69, "Proposed Bridge Lighting".

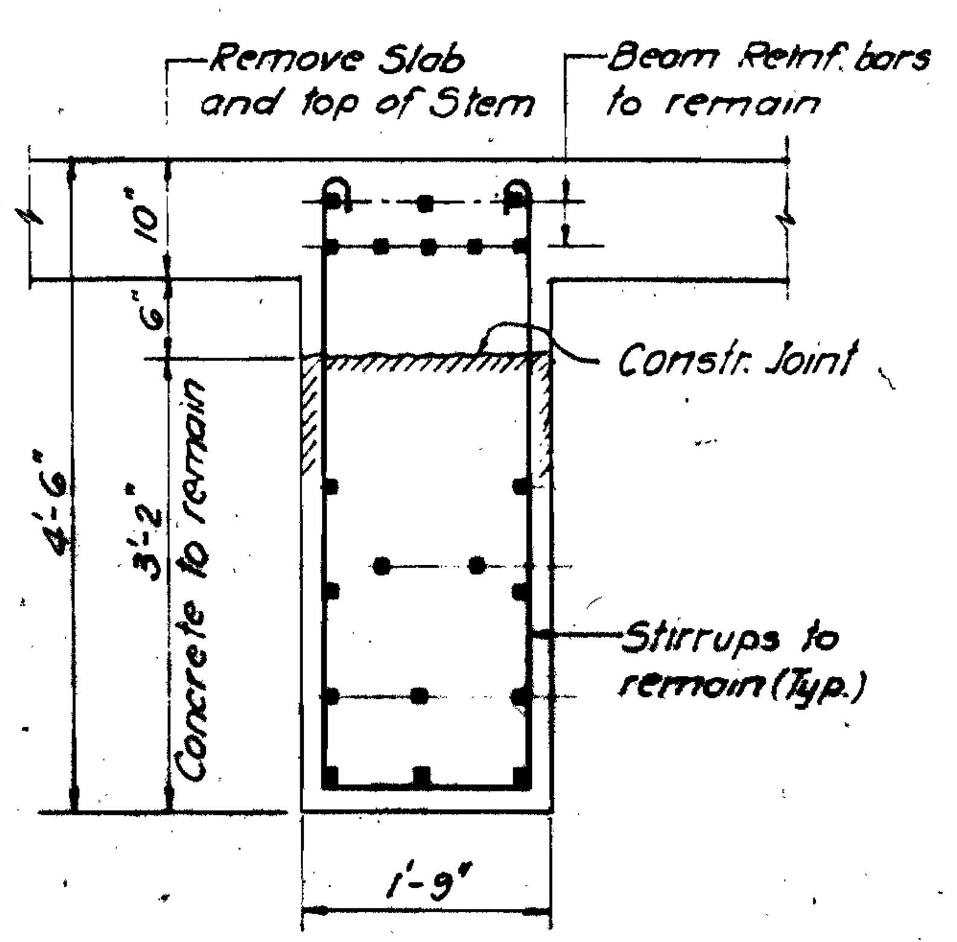
4 - Bar numbers are prefixed with the Section designation.

REFERENCE:

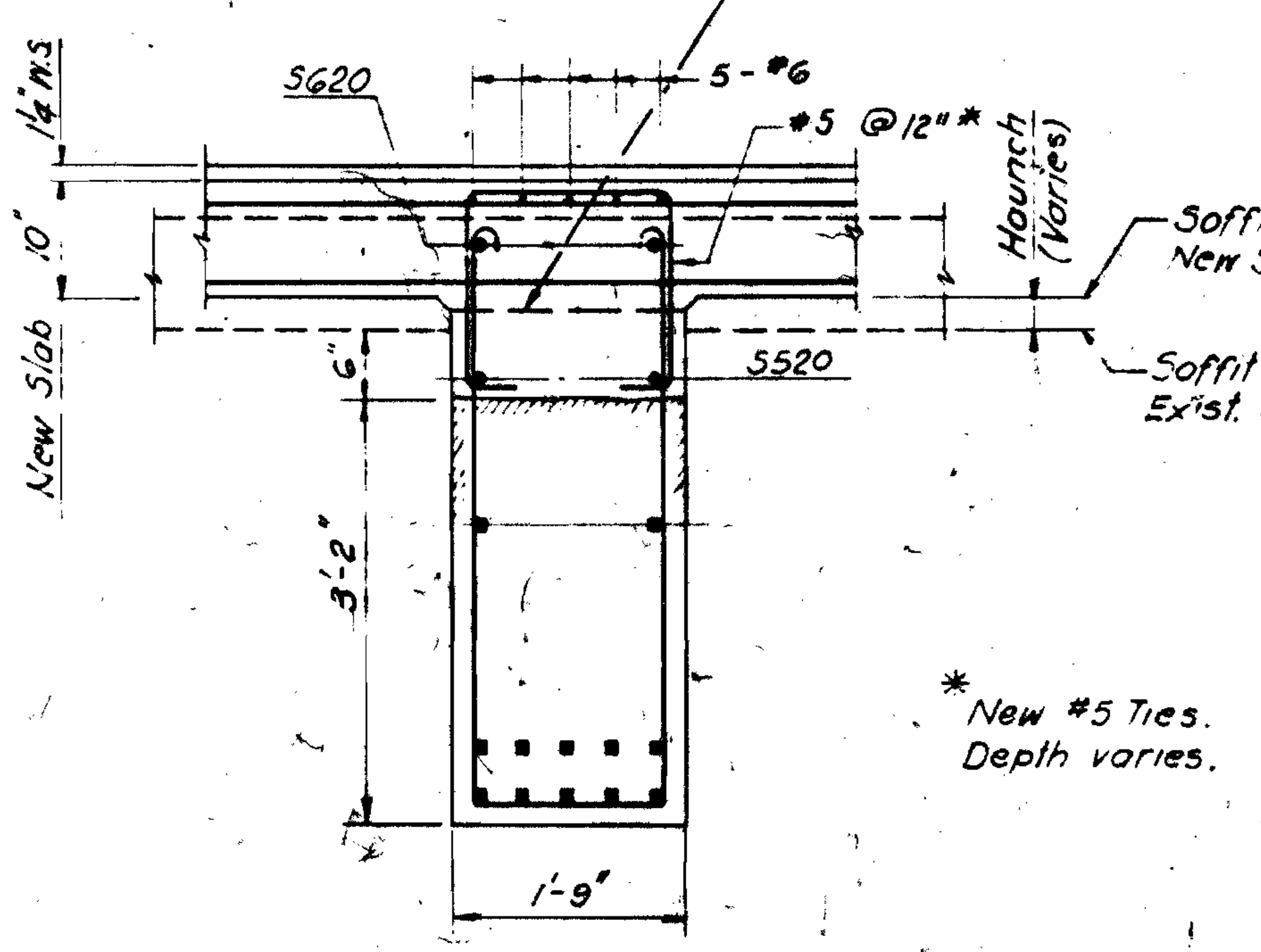
REFERENCE	DWG. No.
Temporary support Details	143
Details and procedures apply to all beams in Sections: B', D, J' & M.	145
Section B' Proposed Deck Plan	145
Section D Proposed Deck Plan	148
Section J' Proposed Deck Plan	146
Section M Proposed Deck Plan	150
Bridge Lighting Plan	G64
Sections B, J' M Deck Slab Details	181



SECTION 1-1 (EXISTING)

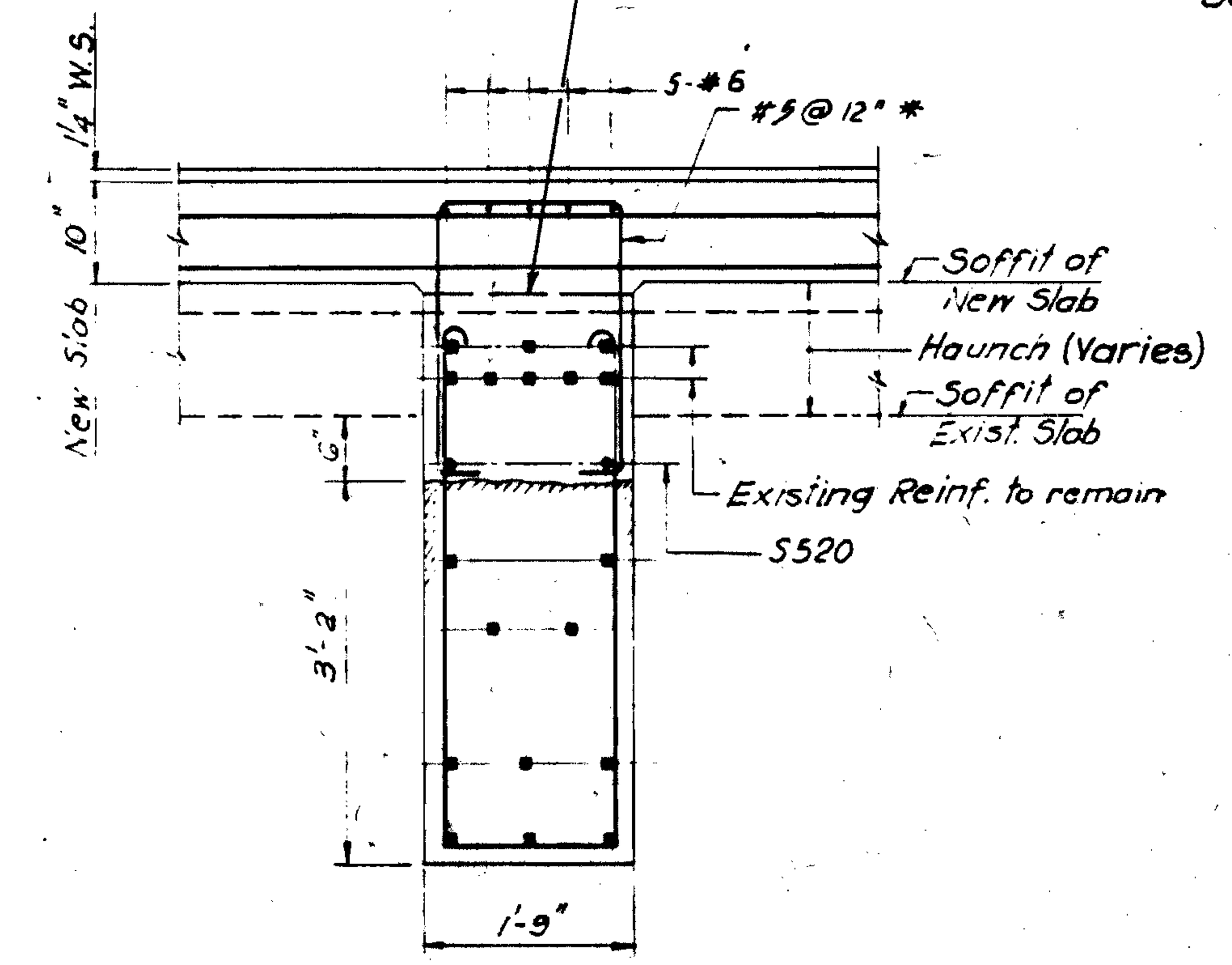


SECTION 2-2 (EXISTING)



* New #5 Ties. Depth varies.

SECTION 1-1 (MODIFIED)



SECTION 2-2 (MODIFIED)

Rev. 1	⚠ Plan Revisions	3-?-91

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

WEST APPROACH - SECTION B', D, J' & M BEAM MODIFICATIONS

BRIDGE NO. 193 REPORT NO. 718 DATE

NO. B-136 180/991

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
R.R./A.S.	J.H.	C.K.D.	AS BUILT

ODOT 3-27-91 TES

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JUL 25 1994

MAIN TRUSS SPAN (SECTION II)
SCOPE OF REHABILITATION WORK

THE SECTION IS A 2520 FOOT LONG, SIX LANE, DIVIDED, STEEL VIADUCT, CONSISTING OF TEN SUSPENDED AND CANTILEVER DECK TYPE ARCH TRUSS SPANS, WITH I-BEAM-LOK DECK, SUPPORTED BY STRINGERS AND FLOOR BEAMS.

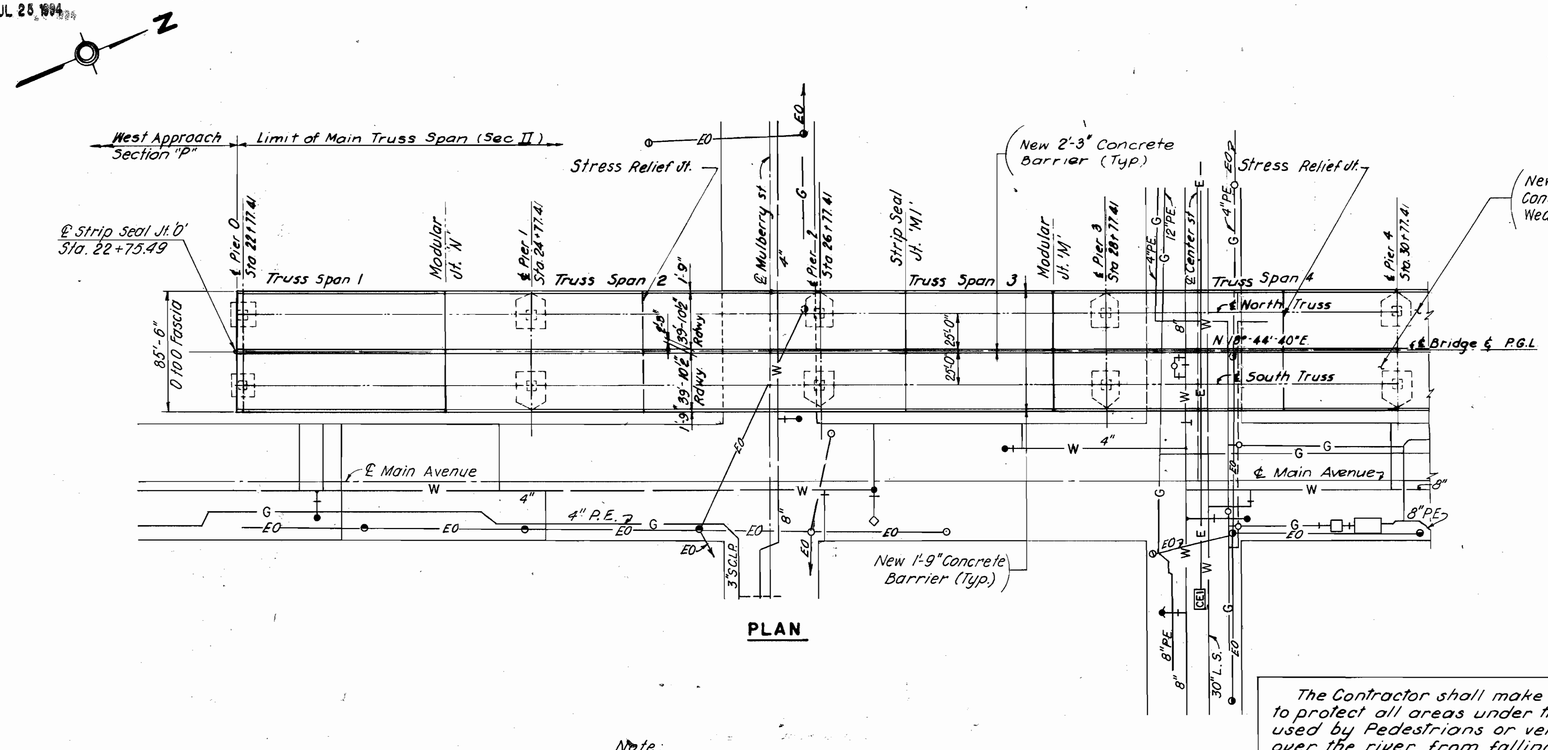
THE WORK INCLUDES :

1. THE REMOVAL OF THE EXISTING DECK, SIDEWALKS, RAILINGS, STRINGERS, FASCIAS, CATWALKS, LADDERS, ETC.
2. REMOVAL, REPLACEMENT OR REPAIR OF DETERIORATED FLOOR BEAMS, BRACKETS AND TIE PLATES.
3. REPAIR AND REINFORCEMENT OF TRUSS MEMBERS.
4. INSTALLATION OF NEW STEEL STRINGERS, FASCIA BEAMS AND NEW INSPECTION WALK.
5. CONSTRUCTION OF NEW LIGHTWEIGHT CONCRETE DECK SLABS, BARRIERS, LUMINAIRE SUPPORTS, DRAINAGE DEVICES AND ARMORED JOINTS.
6. INSTALLATION OF NEW LIGHTING SYSTEM AND TRAFFIC SIGNS.
7. FIELD COATING OF SOME EXISTING STRUCTURAL STEEL & PAINTING OF NEW STRUCTURAL STEEL.
8. COATING OF THE EXPOSED EXISTING AND NEW CONCRETE SURFACES.
9. REPLACEMENT OF GREASE BOX AT EXPANSION BEARINGS.
10. REPLACEMENT OF PIER ACCESS LADDERS.

C.V.N. NOTE

All new Structural steel for Main Load Carrying members subjected to tension or stress reversal, shall meet the "Longitudinal Charpy V-notch" requirements of 15 Ft-Lb @ 40°F. Main load carrying members for this section. are limited to: Stringers, Floor beam Flanges & Web, Bracket Top Flange and Web, and Tie Plates.

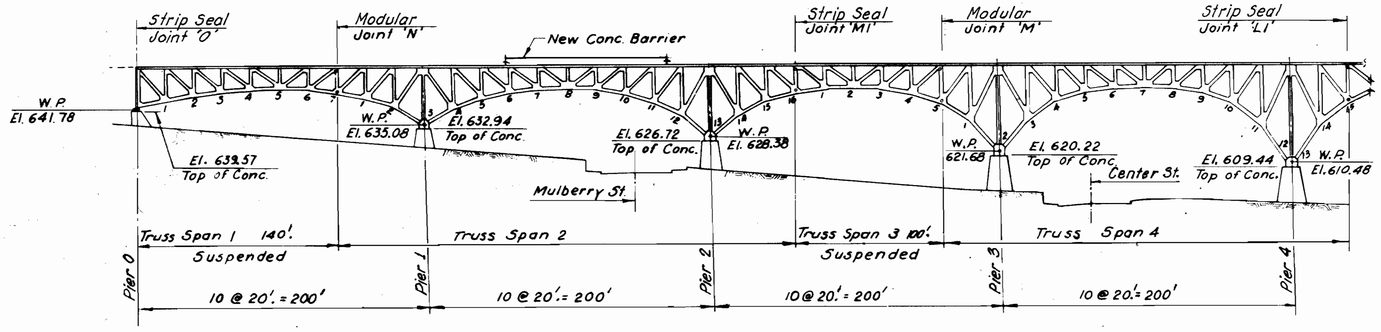
See also "GENERAL NOTES" Item 513.



PLAN

The Contractor shall make provisions to protect all areas under the bridge used by Pedestrians or vehicles and over the river, from falling debris during removal of the existing superstructure and during erection.

Note:
New Lighting, Drainage and Traffic Sign Structures are not shown.
See Deck Plans.



ELEVATION

LEGEND

East Ohio Gas — G — G —
Ohio Bell Tel. Co. — B — T — T —
Cleveland Public Power Co. — EPP — E — E —
Water — W — W —
Sewers — S — S —
Manhole
Cleveland Electric Illuminating Co. — CEI — E — E —
Overhead Electric Lines — CEI — EO — EO —
C.E.I. Utility Poles

50' 0 50' 100'

REFERENCES

	DWG. NO.
General Notes	G6 - G23
Typical Cross Section	207
Drainage - Main Truss Span	G44
Drainage Details	G46 - G59
Lighting	G64 - G73
Pavement Marking and Traffic Signs	G75 - G83
Grease Box Details	220
Pier Access Ladders Details	259

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CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN—PART 1 OF 3
PROPOSED PLAN & ELEVATION

BRIDGE NO. 193 REPORT NO. 7119 ' DATE Oct. 25, 1989

NO. B-136 204/89

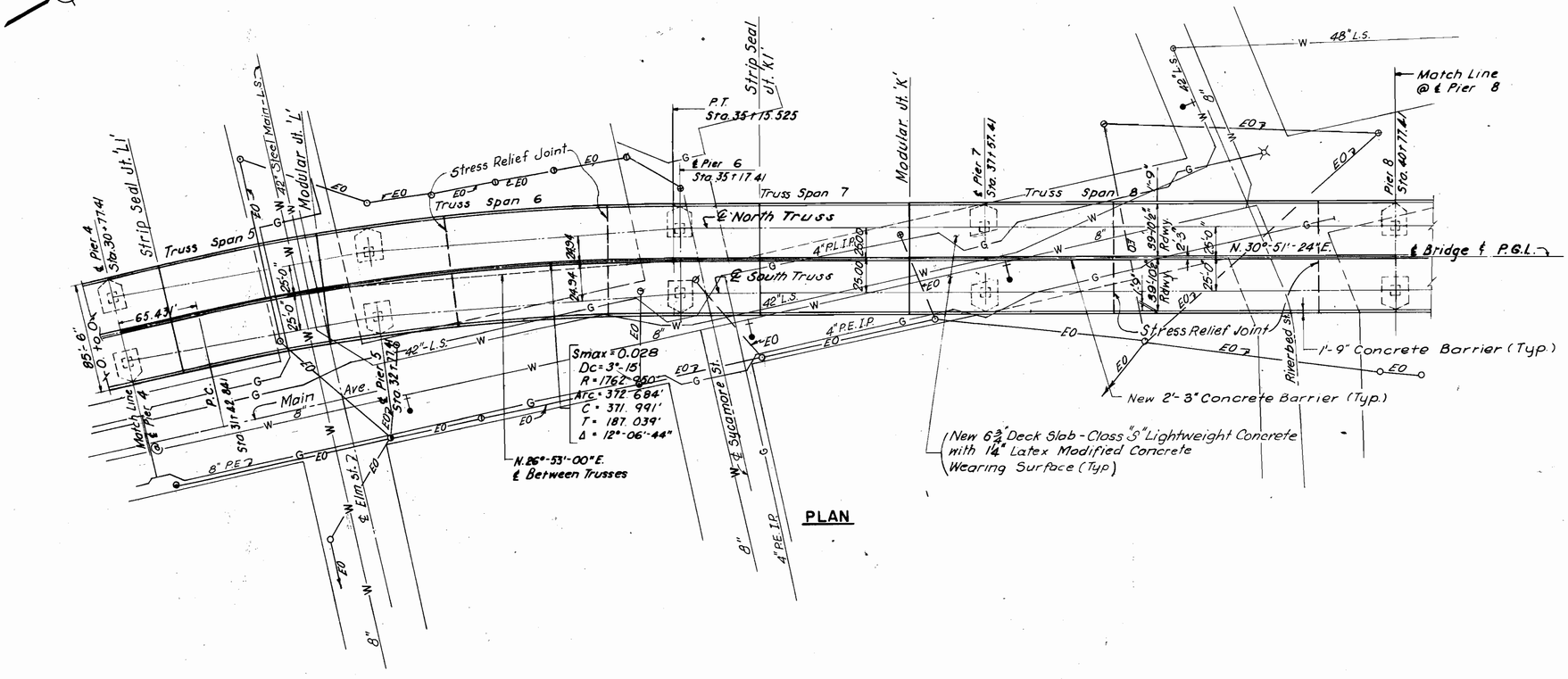
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A. T.	C.P.J.	A.S.	AS BUILT 2/94

MICROFILMED
JUL 25 1996

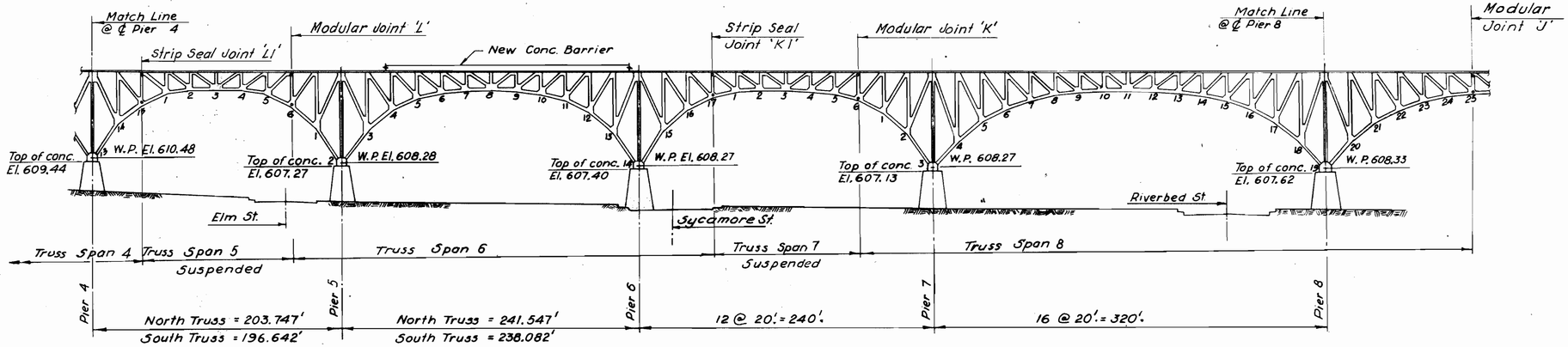
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73 (51)	

211
547

CUYAHOGA COUNTY
CUY-2-14.66



PLAN



ELEVATION

50' 0 50' 100'

REFERENCES

Typical Cross Sections. — DWG. NO. 207
Notes, Legend, and References — DWG. NO. 204

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN — PART 2 OF 3
PROPOSED PLAN & ELEVATION

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 25, 1989

NO. B-136 — 205/89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.T.	C.P.J.	A.S.	AS BUILT 2/94

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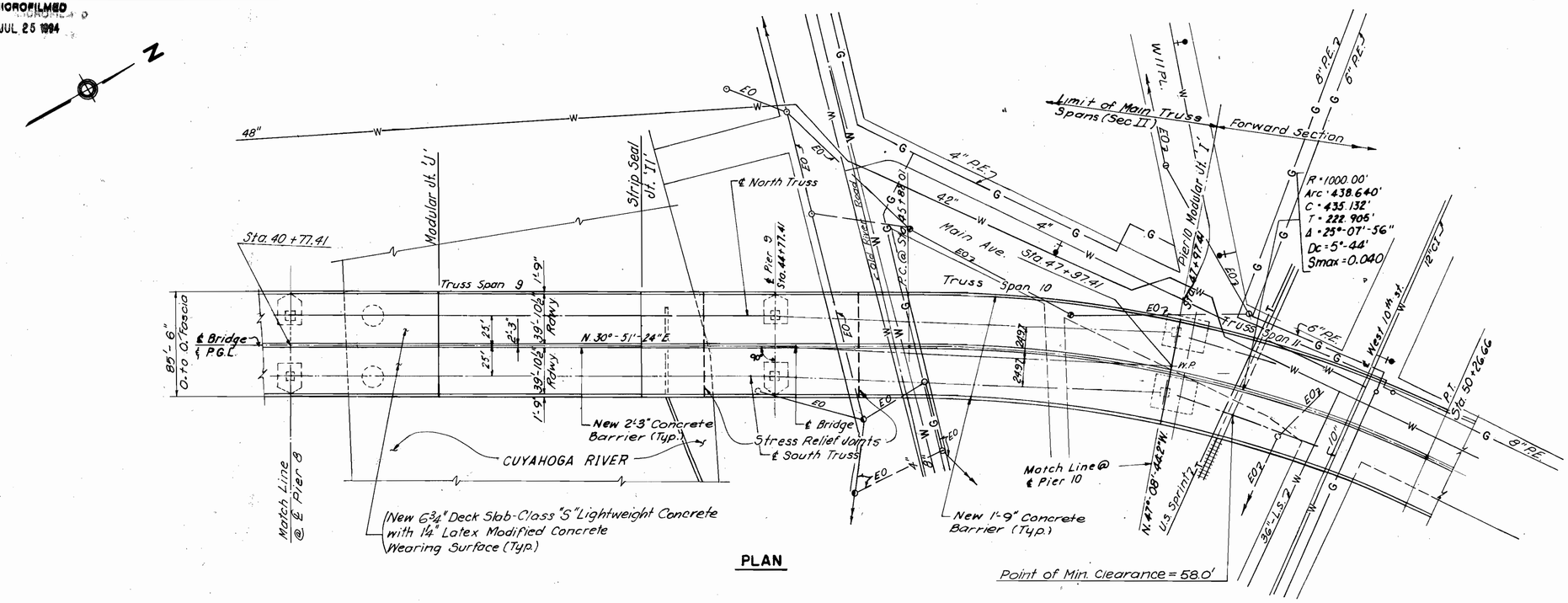
JUL 25 1994

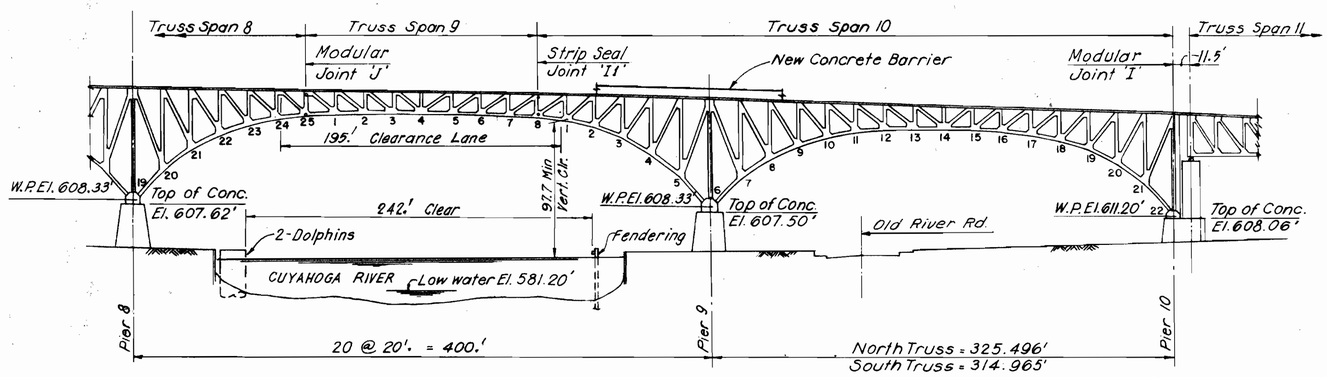
FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

212/547

CUYAHOGA COUNTY
CUY-2-14.66



PLAN



ELEVATION

50' 0 50' 100'

REFERENCES

	DWG. NO.
Typical Cross Sections	207
Notes, Legend, and References	204

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN – PART 3 OF 3
PROPOSED PLAN & ELEVATION

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 25, 1989

NO. B-136 206/89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.T.	C.P.J.	A.S.	AS BUILT 2/94

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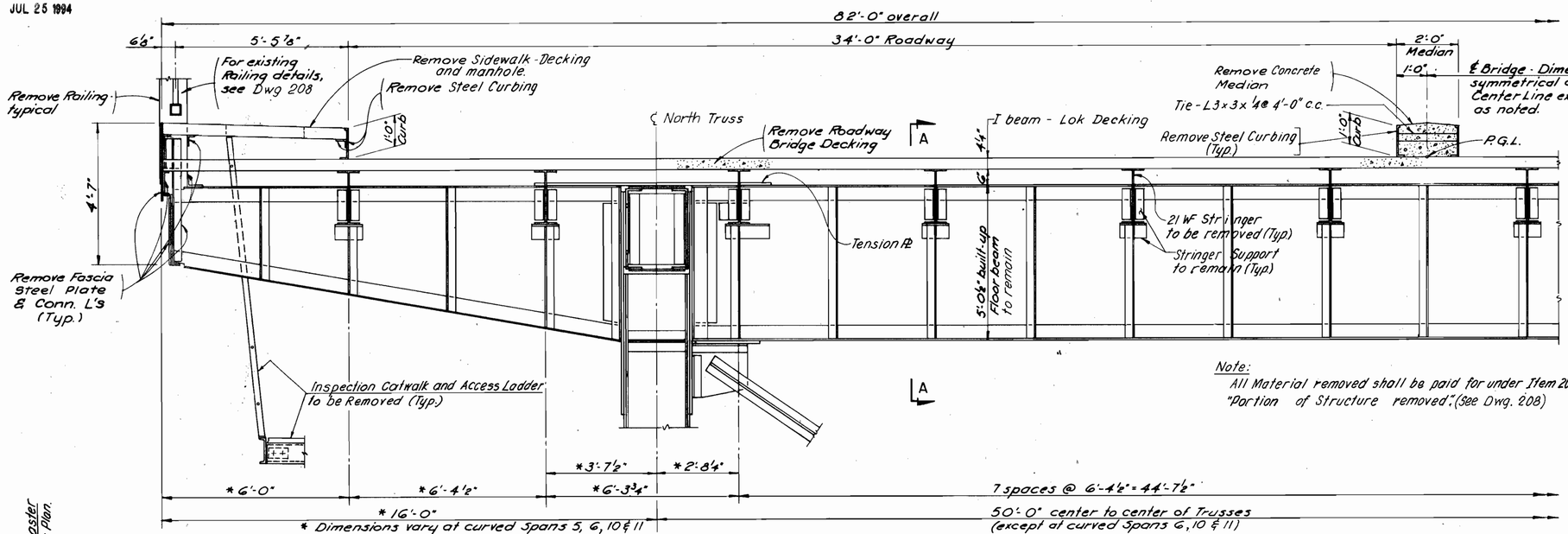
JUL 25 1994

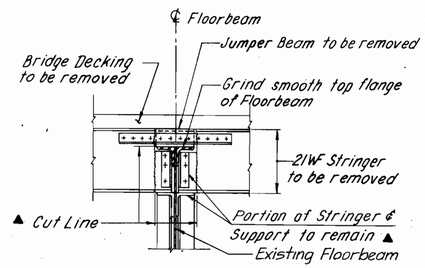
CUYAHOGA COUNTY
CUY - 2 - 14.66

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

213
547

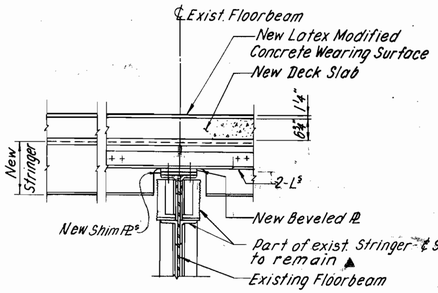


EXISTING CROSS SECTION (Looking East)

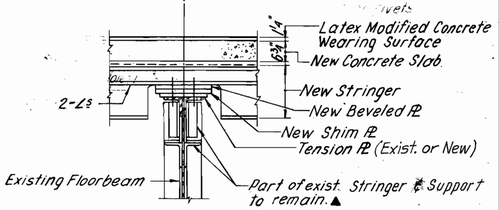


SECTION A-A
EXISTING CONDITION

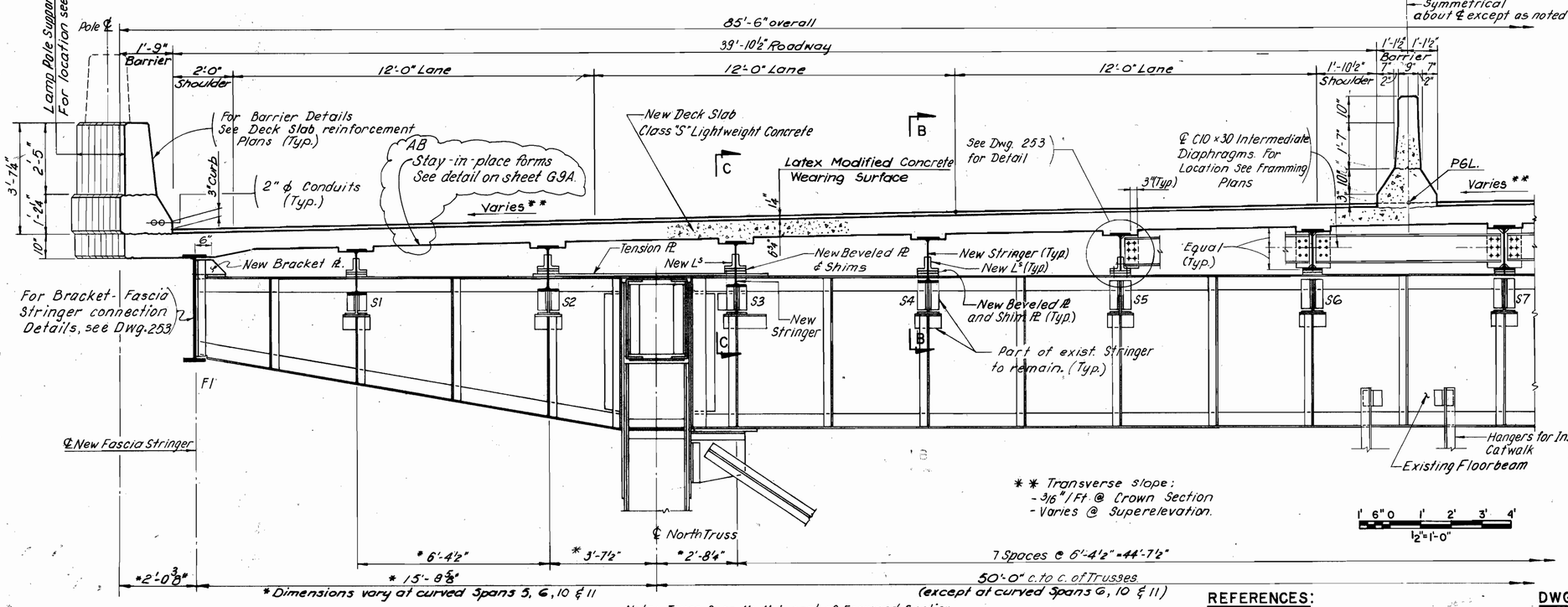
▲ Unless noted otherwise (Expansion Joint Stringers)



SECTION B-B



SECTION C-C
Stringers S2, S3, S10 & S11 (AB) As Built



Note: Truss Span No. 11 is part of Forward Section.

PROPOSED CROSS SECTION (Looking East)

REFERENCES:

	DWG. NO.
General Notes	G6 to G23
Existing and Proposed Plan & Elevation	201 to 206
Framing Plans	210 to 216
Stringer Details	231 & 251 to 253
Stringer Schedules	232 to 248

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN
TYPICAL CROSS SECTION

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 25, 1989

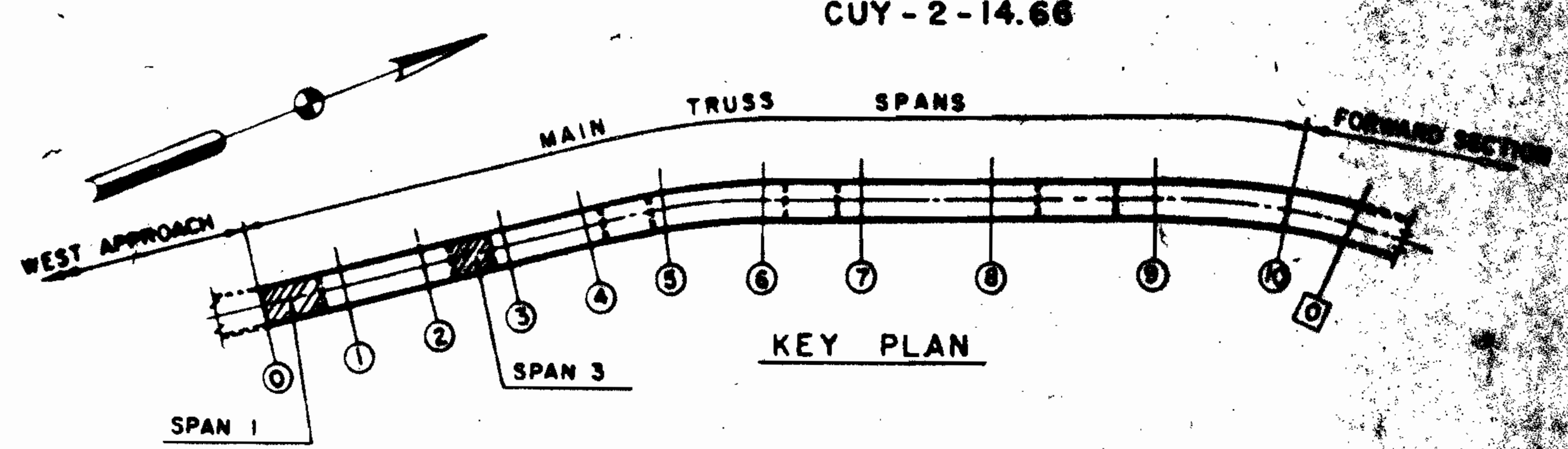
NO. B-136

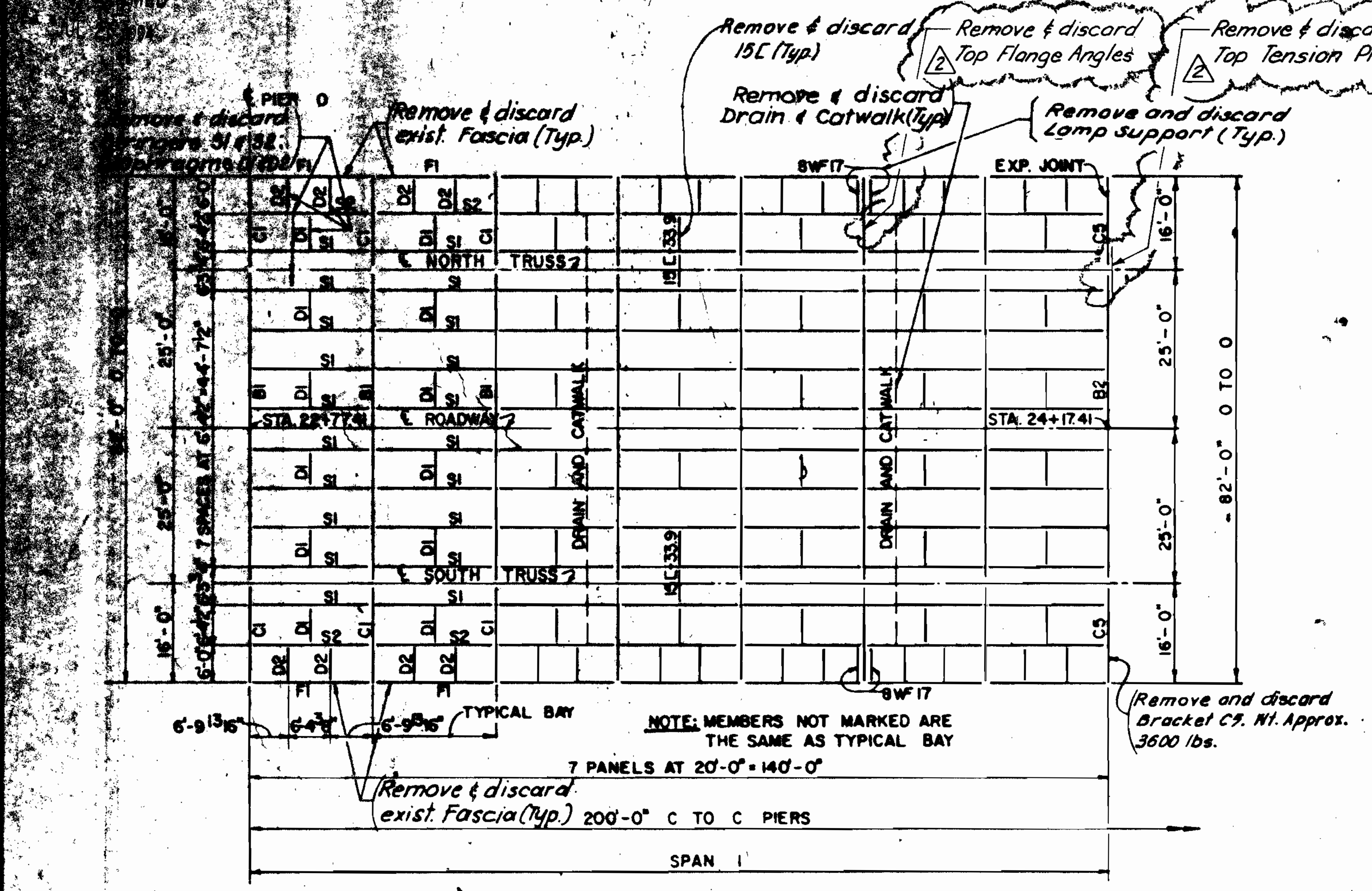
207
89

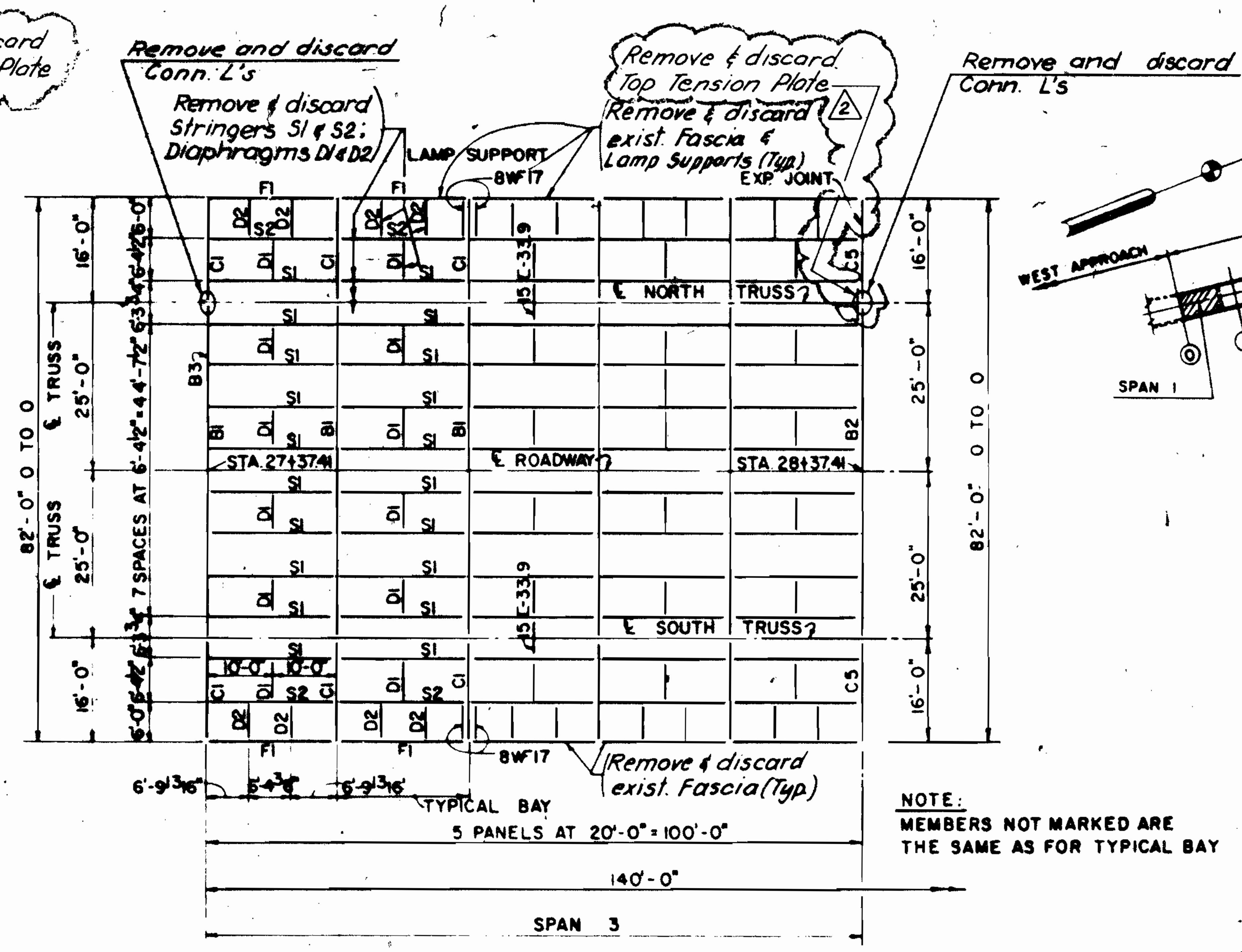
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
D.G.	A.D.	A. S.	AS BUILT 2/94

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

CUYAHOGA COUNTY
CUY-2-14.66







NOTE:
MEMBERS NOT MARKED ARE THE SAME AS FOR TYPICAL BAY

EXISTING FRAMING PLANS

EXISTING FRAMING REMOVAL

MARK	DESIGNATION	TRUSS SPAN 1 QUANT.		TRUSS SPAN 3 QUANT.		REMARKS
S1	21W63	70		50		
S2	21W59	14		10		
D1	10W33	42		30		
D2	9C13.4	28		20		
F1	PL 30×3/8	14		10		
	2-L's 4×3×3/8	28		20		
—	8W17	4		4		Lamp Support
—	15C33.9	2		2		Diaphragm

NOTES:

All existing dimensions and details were obtained from original Contract Plans and Shop Dwg's, and shall be verified in field by the Contractor prior to making alterations.

All longitudinal and transverse dimensions are measured horizontally.

New steel (shapes and plates) shall conform to ASTM-A36 (AASHTO-M183) unless otherwise noted.

All High Strength bolted connections shall be of the "Friction Type" unless noted otherwise.

Welding details and procedures shall conform to the A.W.S. and A.A.S.H.T.O. latest Specifications as modified by ODOT Supplement 1011.

All new stringers shall be installed vertical.

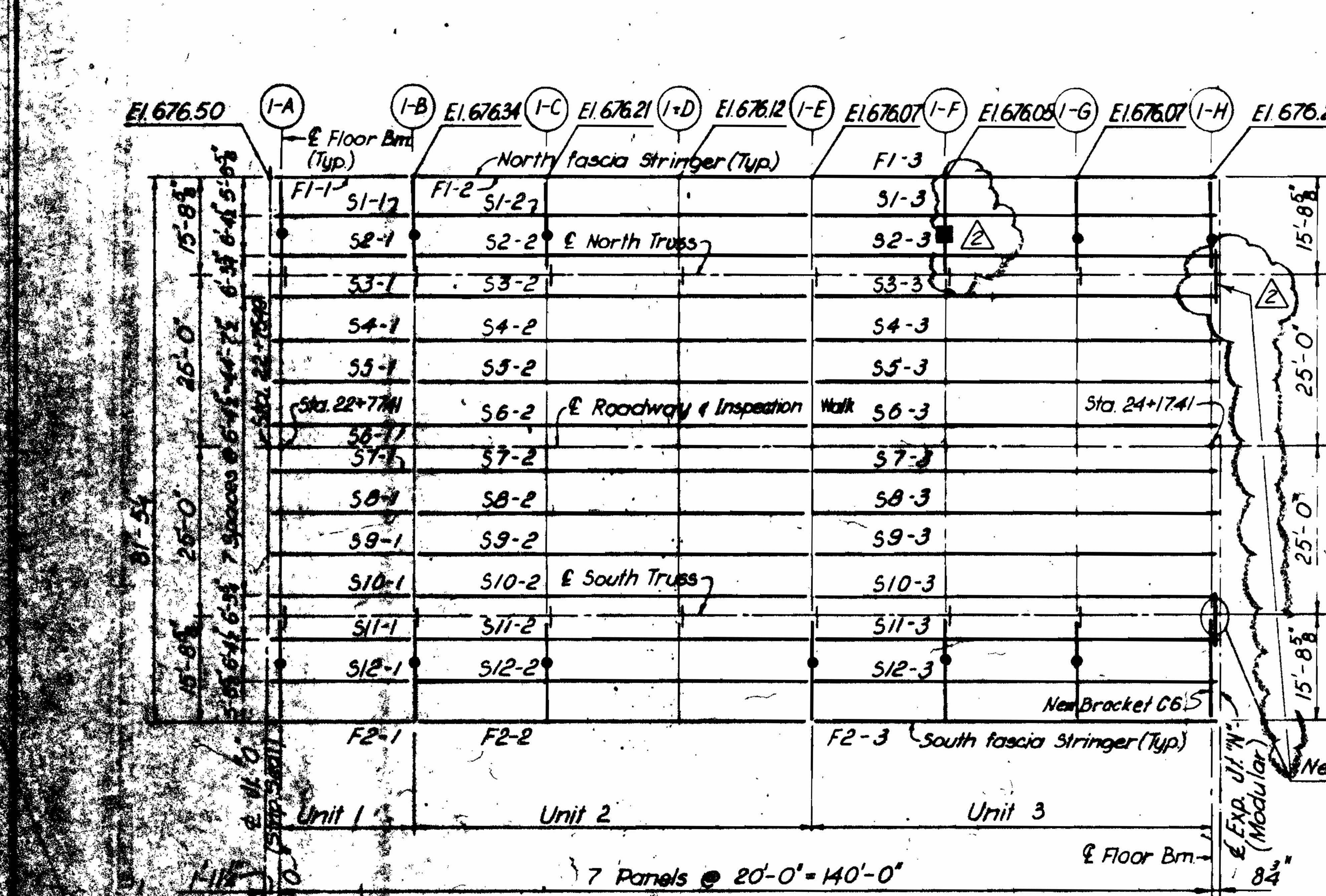
For Finishing Machine Support notes see Dwg. 68.

Welding of attachments shall not be permitted in the tension zone of the stringers.

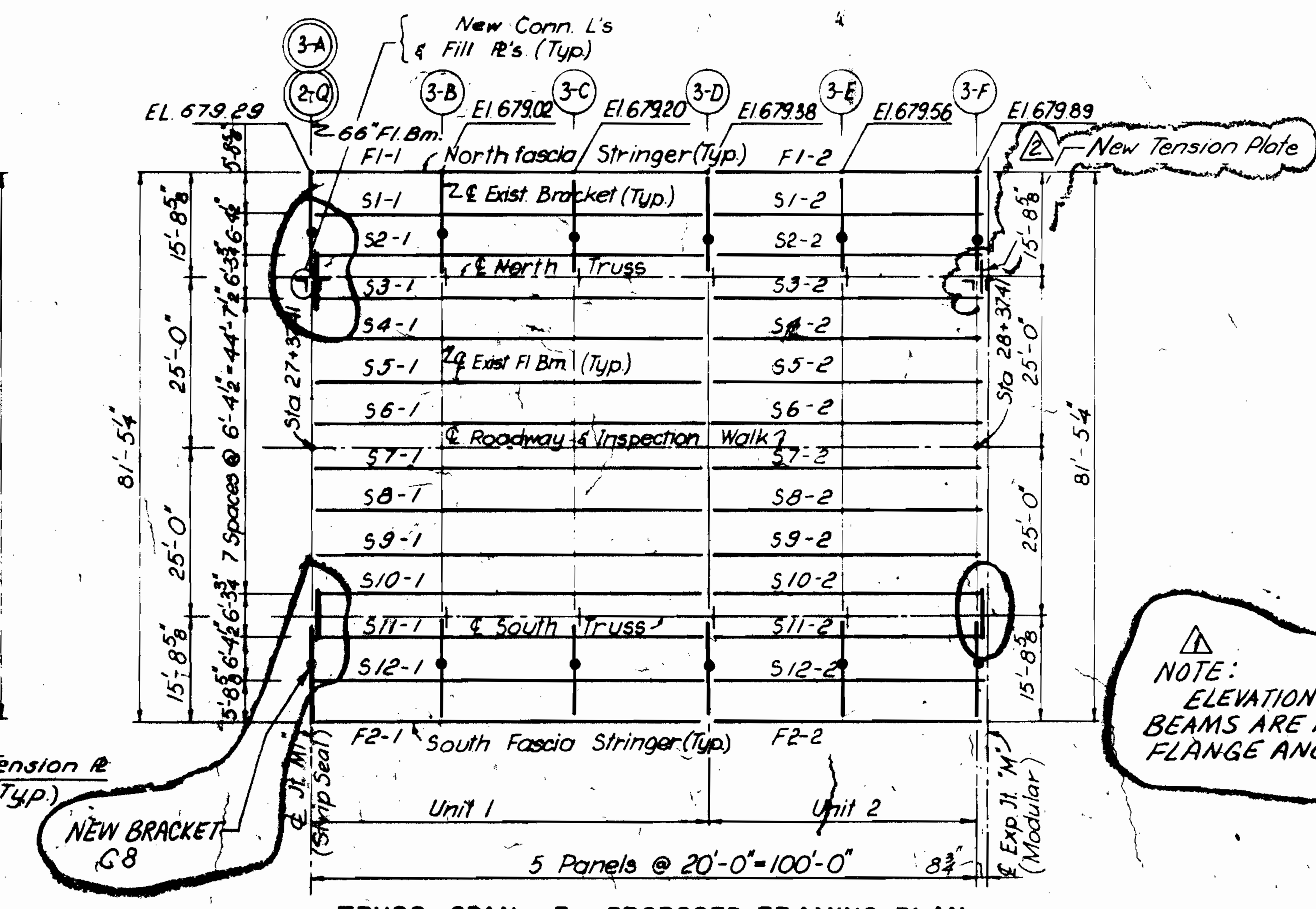
For Stringers in truss spans the tension zone is 5'-0" each side of interior Supports.

All new rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I.

All new welded Members including Fascia Stringers, replacement Floor beams and Brackets shall be ASTM A36 AISC Category II.



TRUSS SPAN 1 – PROPOSED FRAMING PLAN



NOTE: ELEVATIONS AT 66" FLOOR BEAMS ARE AT TOP OF FLANGE ANGLES.

TRUSS SPAN 3 – PROPOSED FRAMING PLAN

● denotes Bracket Replacement ⚠1

Denotes Top Flange Angles Replacement

Denotes new or modified framing member

Indicates elevation @ top of existing floor beam (Floor beam is horizontal)

Denotes 66" deep Floor Beam (Typical floorbeams are 60" deep)

REFERENCES	DWG. NO.
Typical Cross Section	207
Stringer Schedules	232 to 248
Stringer Details	231, 251, 252 & 253
New Floor Beams	254
New Brackets	255
Fascia Stringer Camber Table	249
Fascia Stringer Setting Dimensions	250

REFERENCES	DWG. NO.
Floor Beam & Brackets repair	256
Miscellaneous Structural Details	260, 261
Inspection Walk	257, 258, 259
Stress Relief Joints	276
C.V.N. Note	204

Rev. 2	⚠2	Plan Revisions	7/19/91
REV. 1	⚠1	PLAN REVISIONS	2-11-91

0 8' 16' 32'

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN - 1 AND 3
EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 719

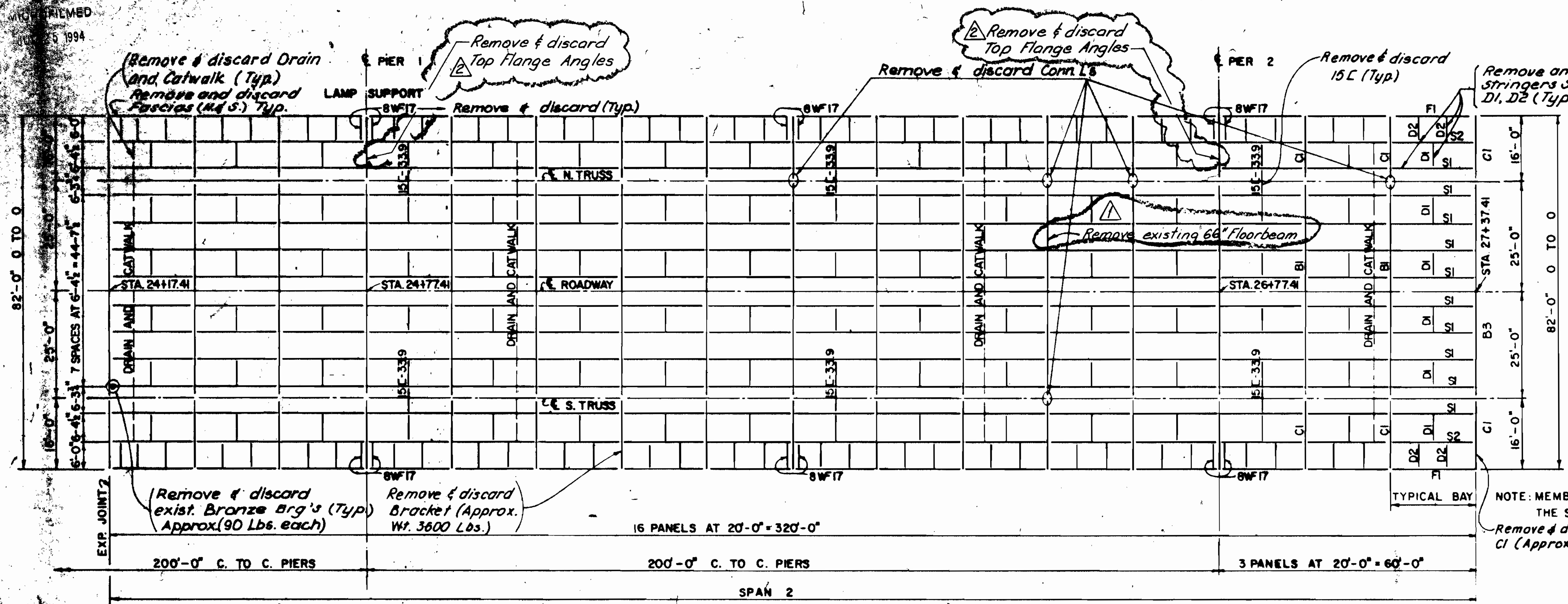
NO. B-136

DESIGN	DRAWN	CHECKED	REVISED
A.S.	L.T.		AS BUILT 2/94

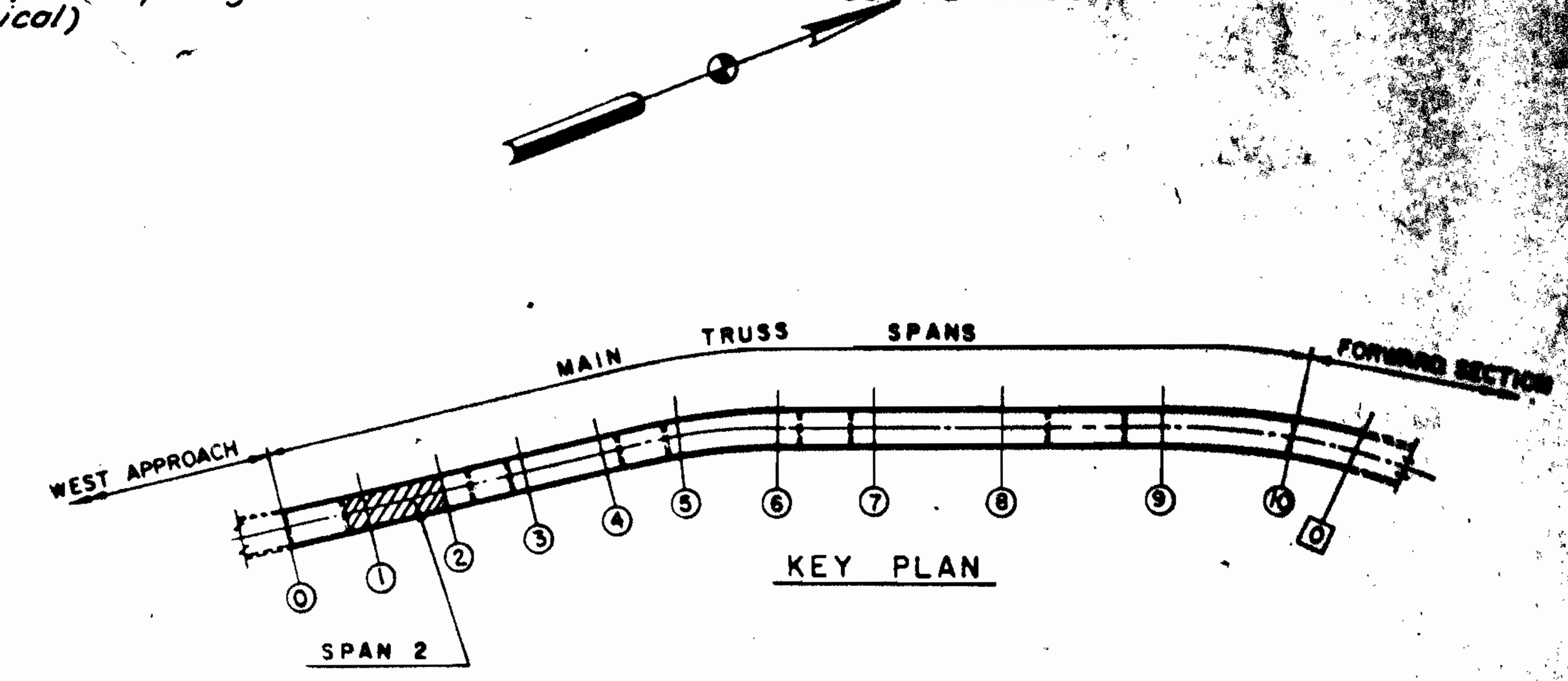
ODOT 12-9-91 T.E.

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-7305

CUYAHOGA COUNTY
CUY - 2 - 14.66



EXISTING FRAMING PLAN



EXISTING FRAMING REMOVAL

MARK	DESIGNATION	TRUSS SPAN 2 QUANTITY		
S1	21W63	160		
S2	21W59	32		
D1	10W33	96		
D2	9C13.4	64		
F1	PL 30×3/8	32		
F1	2-L's 4×3×3/8	64		
–	8W17	12		Lamp Support
–	15C33.9	6		Diaphragm

NOTES:

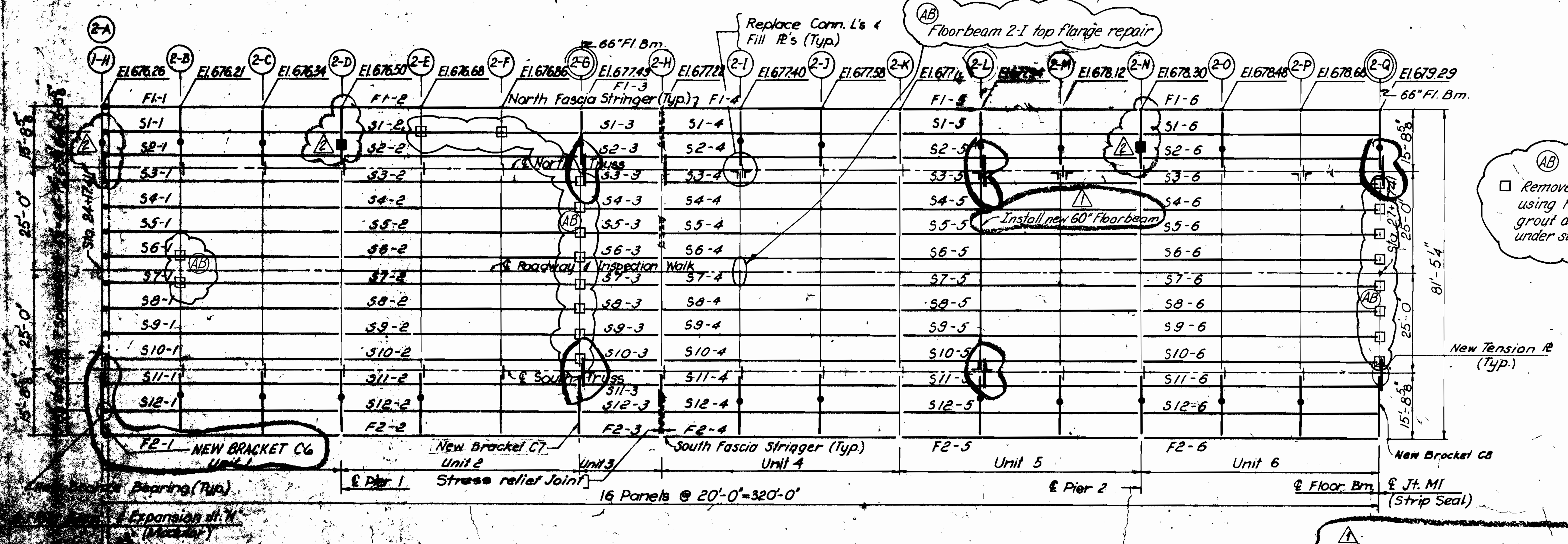
1. All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I.
2. All new Welded Members including Fascia Stringers, replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III

(AB) ☐ Remove paint, level area using high strength epoxy grout at these locations under stringer shim packs.

REFERENCES:

References & Notes — DWG. NO. 2H

(AB) As Built



TRUSS SPAN 2-PROPOSED FRAMING PLAN

- ■ Denotes Top Flange Angles Replacement
- Denotes Bracket Replacement
- Denotes existing framing member
- Denotes new or modified framing member
- Indicates elevation @ top of existing floor beam (Floor beam is horizontal)
- ◯ Denotes 66" deep Floor Beam. (Typical floor beams are 60" deep)

For Brackets Type C1 to C5 See "Existing Framing Plan" above

NOTE.: ELEVATIONS AT 66" FLOORBEAMS ARE AT TOP OF FLANGE ANGLES.

Rev. 2	2	Plan Revisions	9/12/91
REV. 1	1	PLAN REVISIONS	1-11-91

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY
MAIN TRUSS SPAN 2
EXIST. & PROP. FRAMING PLAN

NO. B-136

AS BUILT 2/94

MICROFILMED
JUL 25 1994

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

CUYAHOGA COUNTY
CUY-2-14.66

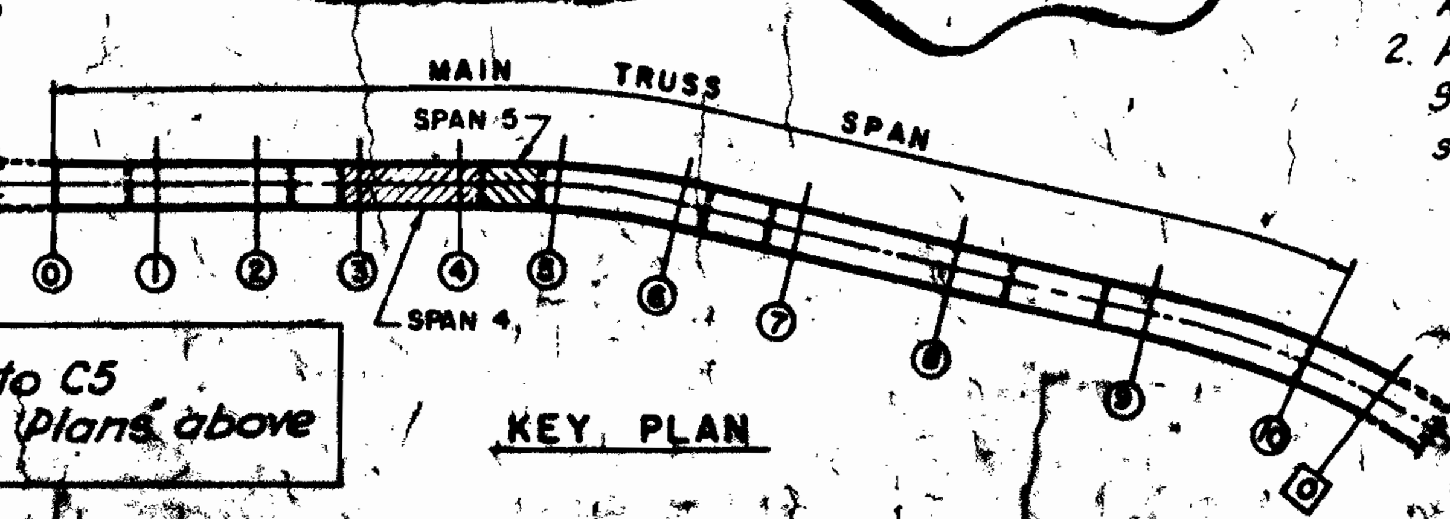
—— Denotes existing framing member
—— Denotes new or modified framing member
Indicates elevation at top of exist. floor beam (Floor beam is horizontal)
Denotes 66" deep floor beam
Denotes Bracket Replacement
Denotes Top Flange Angles Replacement

For Brackets Type C1 to C5 See "Existing Framing Plans" above

⚠ NOTE: ELEVATIONS AT 66" FLOORBEAMS ARE AT TOP OF FLANGE ANGLES.

EXISTING FRAMING REMOVAL

MARK	DESIGNATION	TRUSS SPAN 4	TRUSS SPAN 4 QUANT.	TRUSS SPAN 5	TRUSS SPAN 5 QUANT.	REMARKS
S1	21W63		140		53	
S2,S5 to S9 & S11	21W59		28		14	Span 4 S2 only
S3	21W68		—		3	
S4	21W73		—		2	
D1	10W33		84		36	
D2	9C13.4		56		24	
F1	PL 30 x 3/8		28		12	
F1	2-L 4 x 3 x 3/8		56		24	
—	8W17		12		4	Lamp Support
—	15C33.9		4		2	Diaphragms



NOTES:
1. All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I
2. All new welded Members including Fascia Stringers, replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III

REFERENCES:	DWG. NO.
References and Notes	210
Intermediate Diaphragms	233

Rev. 2	⚠	Plan Revisions	7/19/91
REV. 1	⚠	Plan Revisions	2/11/91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN 4 AND 5
EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 728

NO. B-136

DESIGN	DRAWN	CHECKED	
A.S.	J.P.N.	R.D.W.	AS BUILT 2/94

O.D.O.T. 12-9-91 T.E.S.

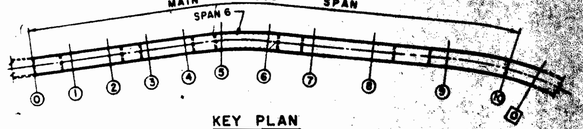
MICROFILMED
JUL 25 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

CUYAHOGA COUNTY
CUY-2-14.66

219
247

NOTE: MEMBERS NOT MARKED ARE THE SAME AS TYPICAL BAY.



KEY PLAN

EXISTING FRAMING REMOVAL

MARK	DESIGNATION	TRUSS SPAN 6 QUANT.		REMARKS
S1	21W63	144		
S2 & S5 to S9 & S11	21W59	59		
S3	21W68	4		
S4	21W73	5		
D1	10W33	99		
D2	9C13.4	68		
F1	PL 30×3/8	34		
	2-L's 4×3×3/8	68		
–	8W17	12		Lamp Support
–	15C33.9	4		Diaphragms

EXISTING FRAMING PLAN

TRUSS SPAN 6 – PROPOSED FRAMING PLAN

Denotes existing framing member
Denotes new or modified framing member
Indicates elevation at top of exist. floor beam (Floor beam is horizontal)
Denotes 66" deep floor beam (Typical floor beams are 60" deep)
Denotes Bracket Replacement

For Brackets Type C1 to C6 See "Existing Framing Plan" above

Denote Top Flange Angles Replacement

Note: Elevations at 66" floor beams are at top of flange angles

REFERENCES:

References & Notes
Intermediate Diaphragms

NOTES:

All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I.

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category II.

DWG. NO. 210 of 259

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN 6
EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 136 REPORT NO. 136

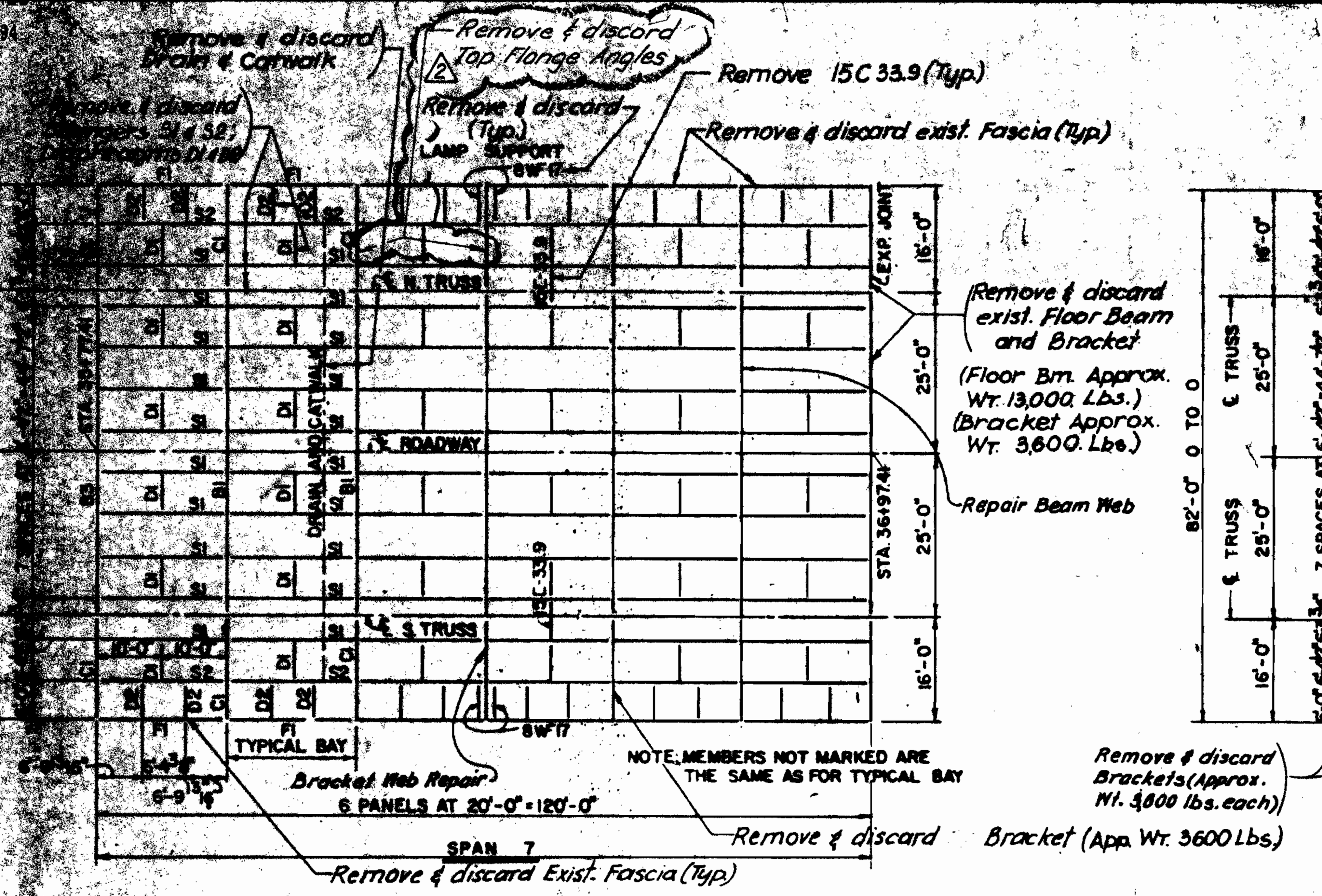
NO B-136

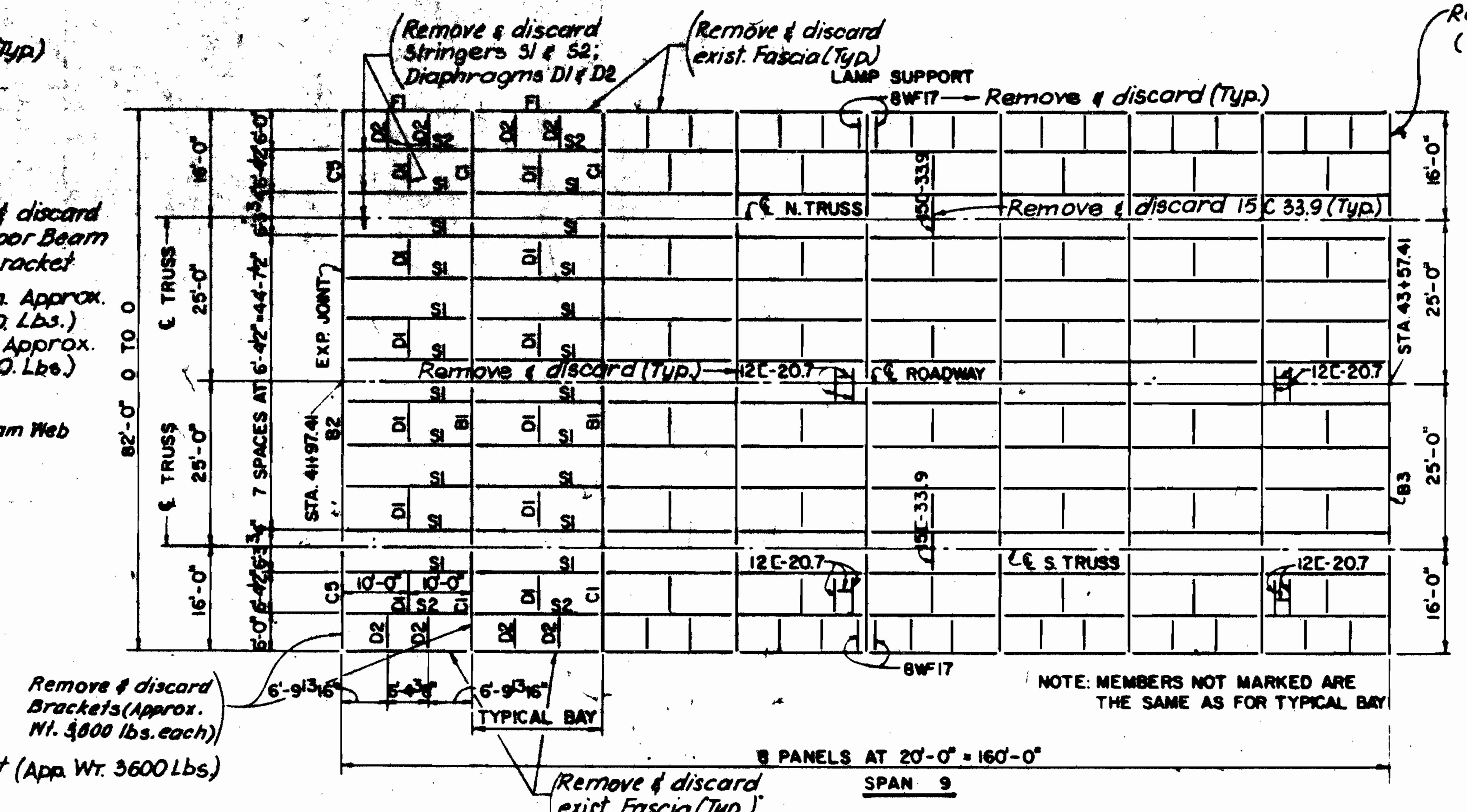
REV.	Plan Revisions	7/23/91
REV. 1	Plan Revisions	2/11/94

DESIGN A.S. | DRAWN L.T. | CHECKED | AS BUILT 2/94

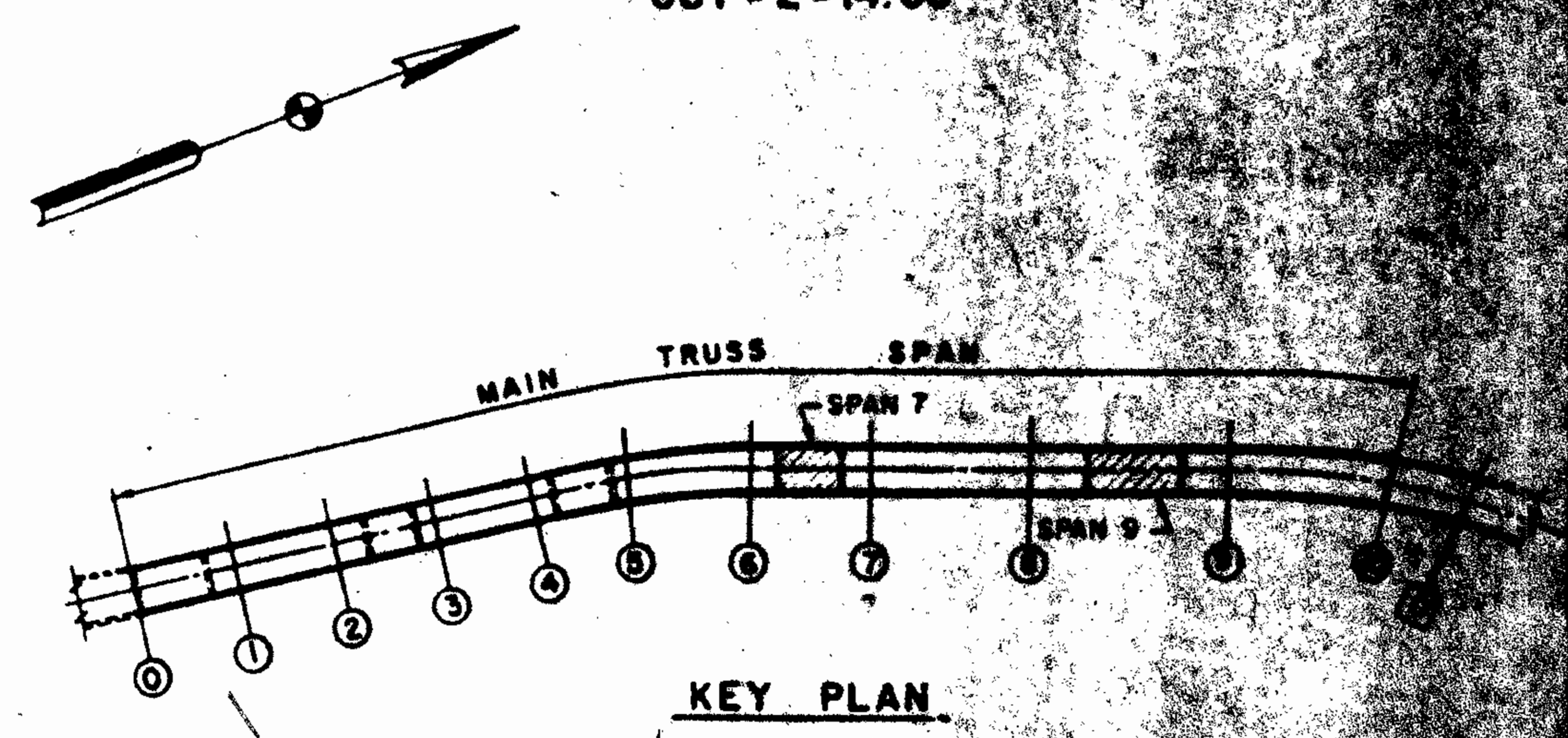
FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

CUYAHOGA COUNTY
CUY - 2 - 14.66





EXISTING FRAMING PLANS



KEY PLAN

EXISTING FRAMING REMOVAL

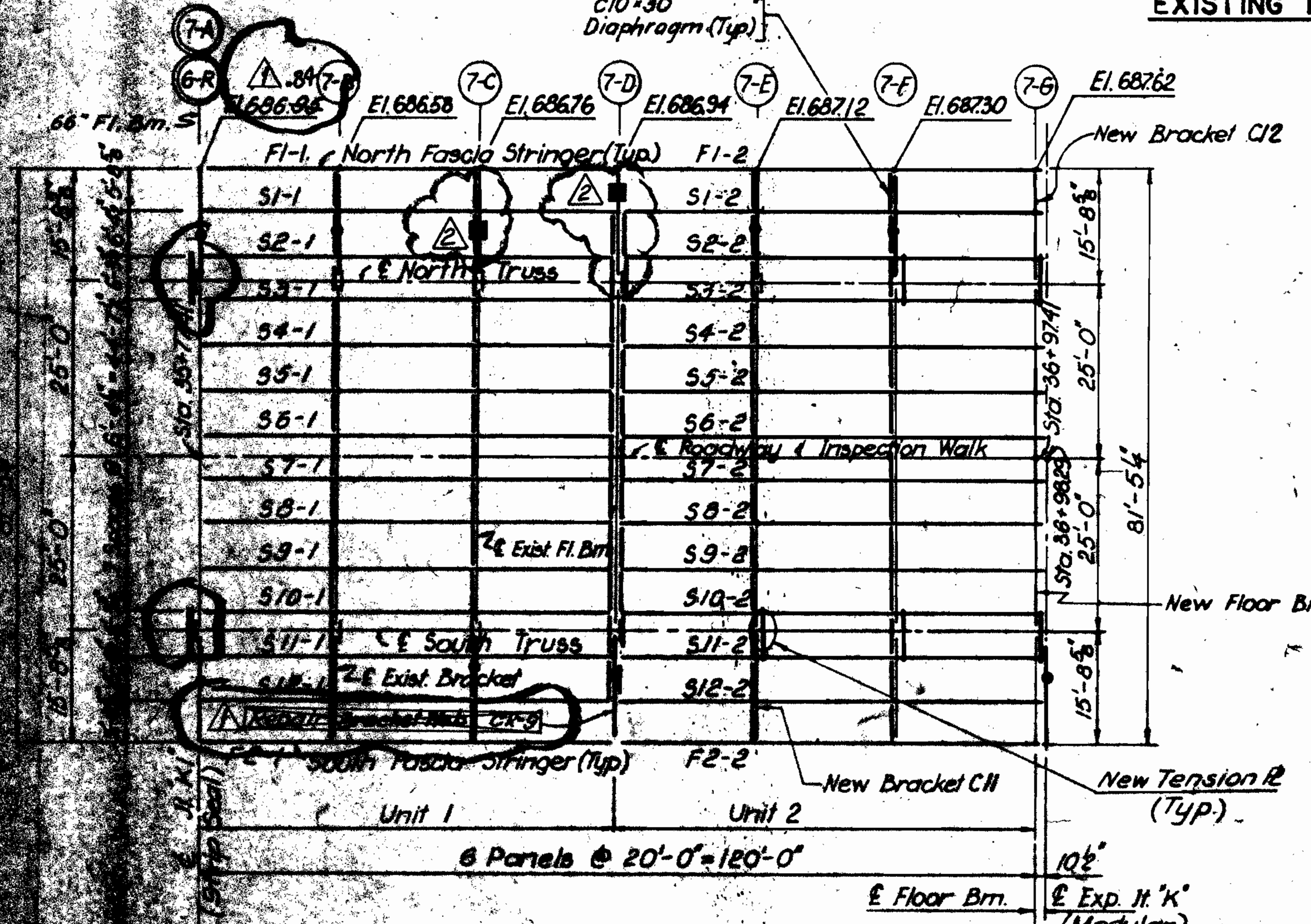
MARK	DESIGNATION	TRUSS SPAN#7		TRUSS SPAN#9		REMARKS
		QUANT.		QUANT.		
S1	21W63	60		80		
S2	21W59	12		16		
D1	10W33	36		48		
D2	9C13.4	24		32		
F1	PL 30×3/8	12		16		
F1	2-L's 4×3×3/8	24		32		
–	8W17	4		4		Lamp Support
–	15C33.9	2		2		Diaphragms

REFERENCES:	DWG. NO.
References and Notes	210
Intermediate Diaphragms	253

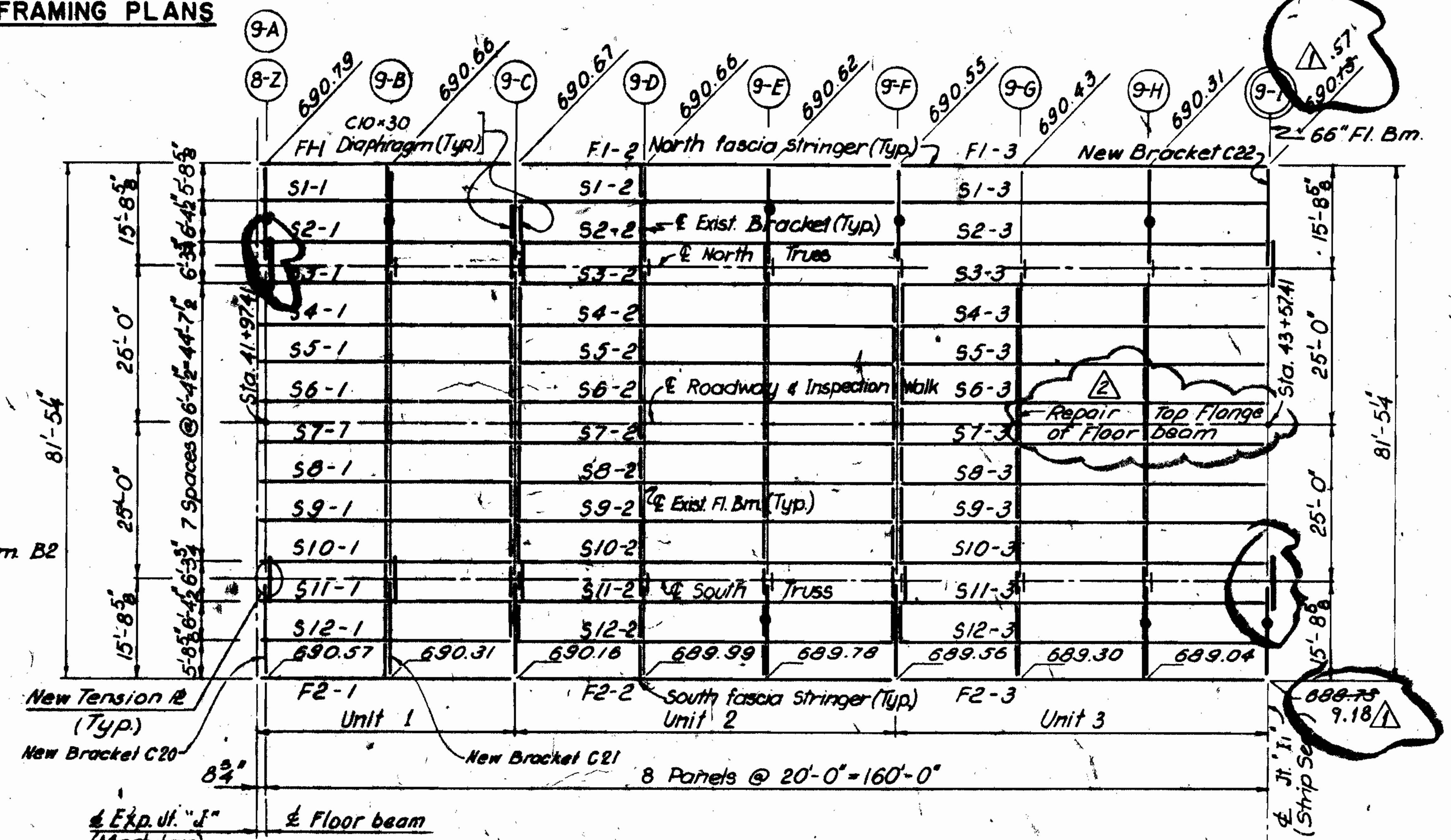
NOTES:

All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III



TRUSS SPAN 7 - PROPOSED FRAMING PLAN



TRUSS SPAN 9 - PROPOSED FRAMING PLAN

Denotes existing framing member
Denotes new or modified framing member
Indicates elevation @ top of existing floor beam (Floor beam is horizontal)
Denotes 66" deep Floor beam (Typical Floor beams are 60" deep)
Denotes Top Flange Angles Replacement

For Brackets Type C1 to C5 See: "Existing Framing Plans" - above

Denotes Bracket Replacement
Denotes new or modified framing member
Indicates elevation @ top of existing floor beam.

NOTE: ELEVATIONS AT 66" FLOORBEAMS ARE AT TOP OF FLANGE ANGLES.

Rev. 2	2	Plan Revisions	9/18/91
REV. 1	1	Plan REVISIONS	7/11/91

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CLEVELAND OHIO

MAIN AVENUE BRIDGE
CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY
MAIN TRUSS SPAN-7 AND 9
EXIST. & PROP. FRAMING PLANS

BRIDGE NO. 193

NO. B-136

AS BUILT 2/94

CUYAHOGA COUNTY
CUY-2-14.66

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

Remove & discard Stringers S1 & S2; Diaphragms D1 & D2
Remove & discard exist. Fascia (Typ.)
℄ PIER 7
LAMP SUPPORT 8WF17
Remove & discard (Typ)
Remove & discard Drain & Catwalk (Typ)
Repair Stiffener L's
Remove & Discard
Remove & discard Bracket (Approx. Wt. 3600 Lbs. Each)
Remove & discard Conn. L's & Fills.
Remove & discard Top Fl. L's & stiff L's (App. Wt. 4000 Lbs) & Conn. L's N. & S. Trusses
PIER 8 ℄
Repair Bracket Web
℄ N. TRUSS
℄ ROADWAY
℄ S. TRUSS
EXPANSION JOINT
STA. 36+97.41
STA. 37+57.41
STA. 40+77.41
DRAIN AND CATWALK
15C33.9
NOTE: MEMBERS NOT MARKED ARE THE SAME AS FOR TYPICAL BAY
TYPICAL BAY
3 PANELS AT 20'-0" = 60'-0"
Bracket Web Repair
Remove & discard Bracket (Approx. Wt. 3,600 Lbs.)
Remove & discard Bracket
Bracing to remain. Disconnect & discard Stringers (Typ.)
Remove & discard exist. bronze ...
6 PANELS AT 20'-0" = 120'-0"
320'-0" ℄ TO ℄ PIERS
Remove & discard exist. Fascia (Typ.)
25 PANELS AT 20'-0" = 500'-0" SPAN 8
EXISTING FRAMING PLAN
Remove & discard exist Bronze Bearings (Typ.)
NEW BRACKET C16
New Bronze Bearings (Typ)
℄ Pier 7
C10 x 30 Diaphragm Typ.
North Fascia Stringer (Typ)
Stress relief Joint
66" Fl. Bm.
New Bracket C14
New Bracket C13
Replace Conn. L's & Fill Pl's (Typ)
New Floor beam (see detail, sh. 254A & 9)
New Bracket C17
66" Fl Bm
New Bracket C19
Floor Beam BR-2 Replace Top Flange & Web Stiffeners, Angles & Fill Plates as Required
Repair Bracket Web C15
℄ Pier 8
New Bronze Bearings (Typ)
℄ North Truss
New Tension R (Typ)
Exist. Floor Beam (Typ)
Repair Floor Beam BR-1
℄ Roadway & Inspection Walkway
Repair Top Flange of Floorbeam
℄ South Truss
New Bracket C20
Exist. Bracket Typ.
South Fascia Stringer (Typ.)
New Bracket C18
℄ Floor Beam
℄ Exp. Jt. "K" (Modular)
Repair Bracket Web C10
Repair Bracket Web C11
Repair Bracket C16
Repair Bracket Web C12
66" Fl Beam
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
Unit 7
Unit 8
Unit 9
Unit 10
(Floor Beams are horizontal in Units 1 to 9 only)
25 Panels @ 20'-0" = 500'-0"
687.62
687.66
687.84
688.38
688.56
688.74
689.37
689.10
689.46
690.09
689.82
690.00
690.16
690.75
690.42
690.51
690.98
690.67
690.63

TRUSS SPAN 8-PROPOSED FRAMING PLAN

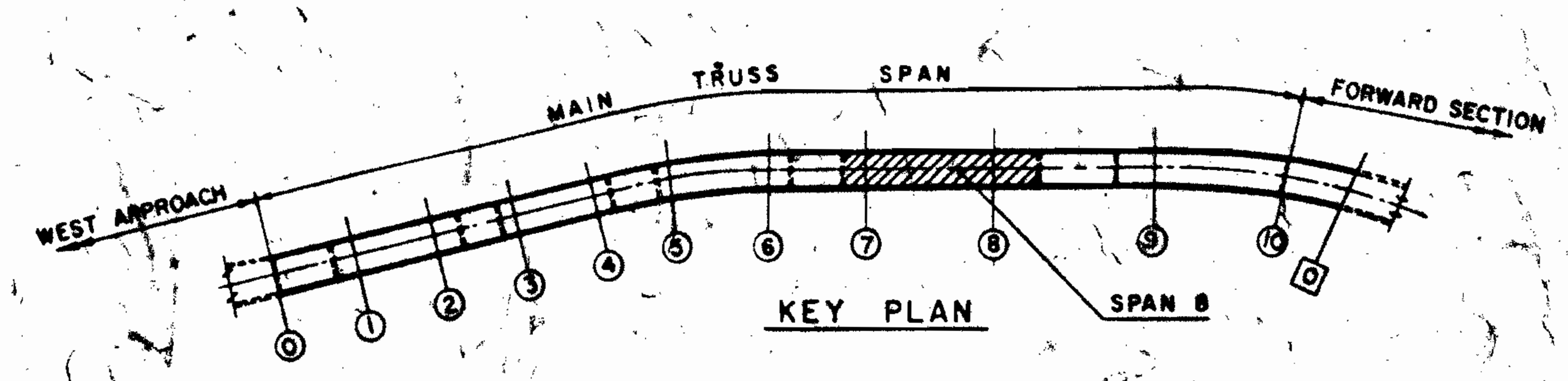
- Denotes existing frame member
- Denotes new or modified framing member
- Indicates elevation @ top of existing floor beam
- Denotes 66" deep Floor beam (Typical floor beams are 60" deep)
- Denotes Bracket Replacement

For Brackets Type C1 to C5
See: "Existing Framing Plan" - above

⚠ NOTE:
ELEVATIONS AT 66" FLOORBEAMS ARE AT TOP OF FLANGE ANGLES.

EXISTING FRAMING REMOVAL

MARK	DESIGNATION	TRUSS SPAN 8 QUANTITY	
S1	21W63	250	
S2	21W59	50	
D1	10W33	150	
D2	9C13.4	100	
F1	℞ 30 x 3/8	50	
F1	2-L's 4x3x3/8	100	
—	8W17	16	Lamp Support
—	15C33.9	8	Diaphragms



NOTES:

All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I.

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III.

REFERENCES	DWG. NO.
References and Notes	210
Intermediate Diaphragms	253

Rev. 2	⚠ Plan Revisions	9/10/91	
REV. 1	⚠ Plan Revisions	2/11/91	

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CUYAHOGA COUNTY ENGINEER
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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN - 8
EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 193

NO. B-136

DESIGN	DRAWN	CHECKED	
A.S.	J.P.W.	R.D.M.	AS BUILT 2/94

MICROFILMED JUL 25 1994

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(31)

CUYAHOGA COUNTY CUY-2-14.66

TRUSS SPAN 10 PROPOSED FRAMING PLAN

EXISTING FRAMING REMOVAL

MARK	DESIGNATION	TRUSS SPAN 10 QUANT.		REMARKS
S1 & S12	21W63	197		
S2 & S5 to S9 & S11	21W59	67		
S3	21W68	4		
S4	21W73	4		
S10	21W82	1		
D1	10W33	127		
D2	9C13.4	88		
F1	℞ 30×3/8	44		
F1	2-L's 4×3×3/8	88		
—	8W17	20		Lamp Support
—	15C33.9	8		Diaphragms

——— Denotes existing frame member.

━━━ Denotes new or modified framing member.

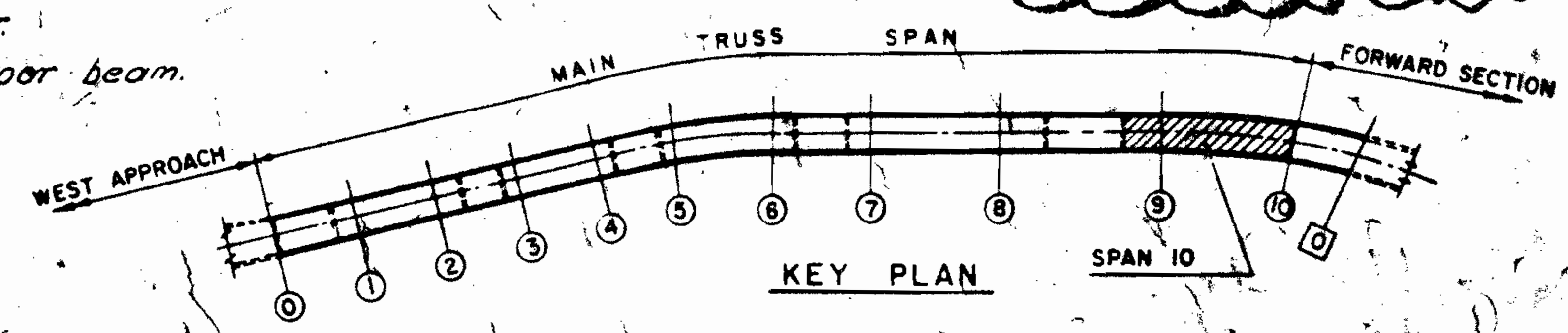
Indicates elevation at top of exist. floor beam.

◯ Denotes 66" deep floor beam. (Typical floor Beams are 60" deep.)

Denotes Bracket Replacement

For Brackets Type C1 to C5 See: "Existing Framing Plan" - above

⚠ NOTE: ELEVATIONS AT 66" FLOORBEAMS ARE AT TOP OF FLANGE ANGLES



NOTES:

All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I.

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III.

REFERENCES	DWG. NO.
References and Notes	210
Intermediate Diaphragms	253

Rev. 2	⚠2	Plan Revisions	9/10/91
REV 1	⚠1	Plan Revisions	2/11/91

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MAIN AVENUE BRIDGE
CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER
MAIN TRUSS SPAN 10
EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 133

NO. B-136

DESIGN A.S. DRAWN L.P.W.

AS BUILT 2/94

MICROFILMED
JUL 26 1994

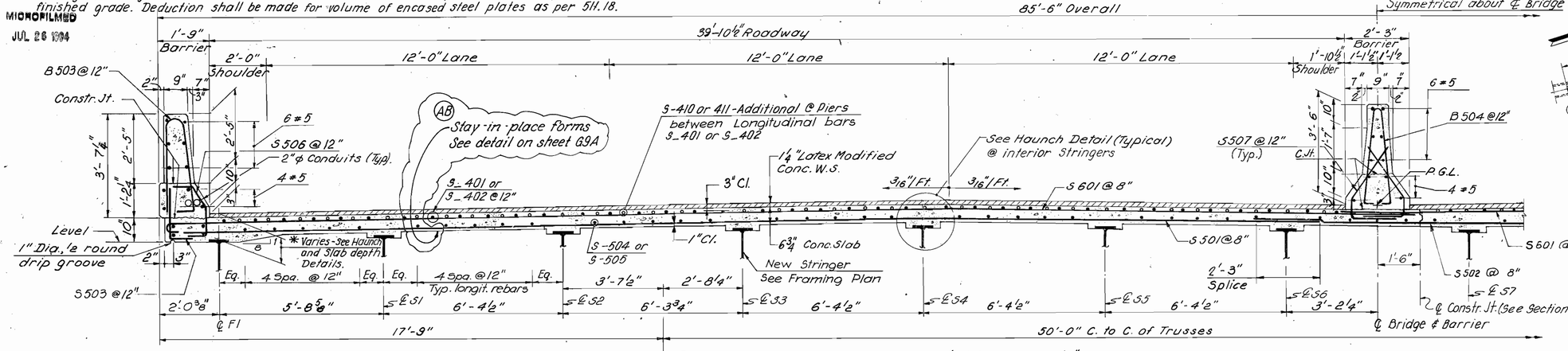
CUYAHOGA COUNTY
CUY-2-14.66

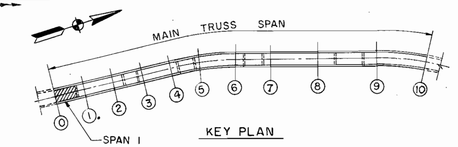
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

274
547

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension less 1¼" W.S. even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

Note: See Dwg. 262 for "Forms for Deck Overhang" note



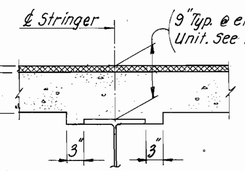


MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
#4	1'-10"
#5	2'-3"
#6	2'-8"

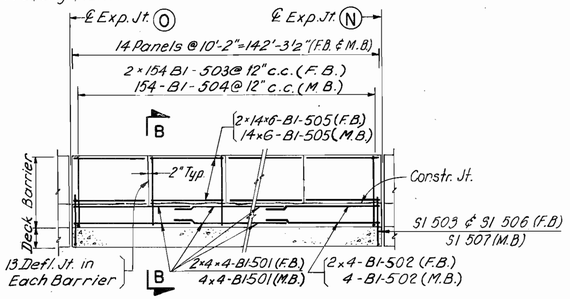
- Deck Slab Depth: The distance shown from top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, less 1¼" W.S. even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.
- A Haunch Width as shown on Haunch & Depth of Slab Details shall be used for Computing quantity of Concrete.

SECTION A-A (Looking East)

1' 6" 0 1' 2' 3' 4'



HAUNCH DETAIL



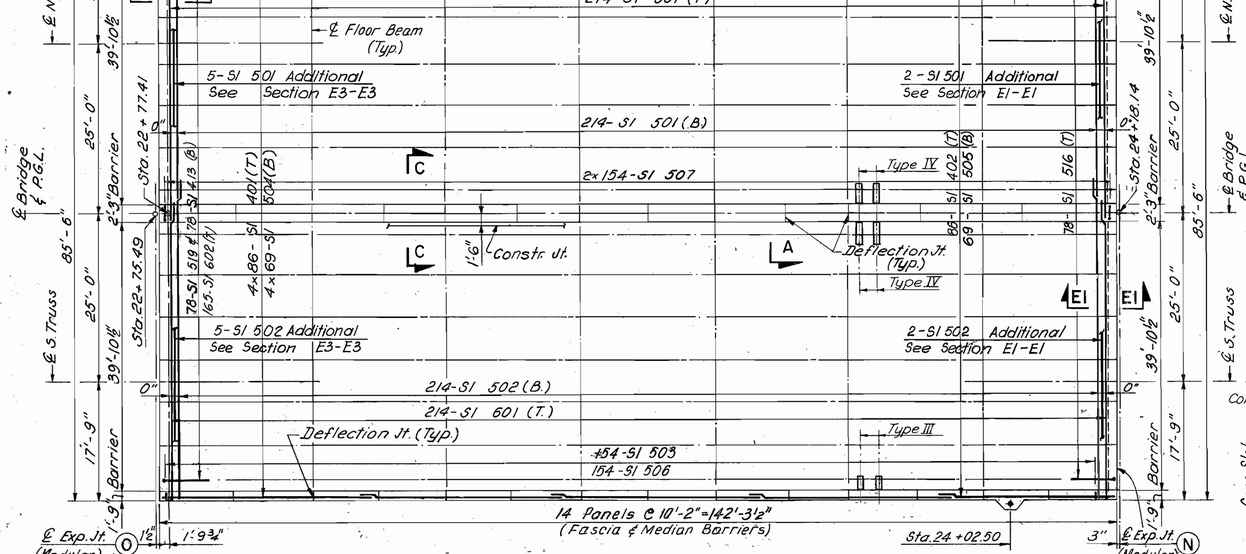
BARRIER DETAILS SPAN NO. 1
N.T.S.

NOTES

1. All Deck concrete shall be "Lightweight class S"
2. Deck pouring sequences and directions are indicated in Dwg. N° 275 "Deck Slab Details 1".
3. Preformed deflection joint filler in barriers shall be either ¼" thick gray sponge rubber (AASHTO M-153) or ¼" gray cellular polyvinyl chloride (PVC) sponge. Concrete parapets above upper construction joints shall be placed in alternate sections by the use of bulkheads. Closing sections shall be placed after removal of bulkheads and after placement of expansion joint filler.
4. Embedded Lighting conduits (size & layout), junction boxes, grounding etc. are detailed in the Dwgs. N° G64 to G69 "Proposed Bridge Lighting"
5. For details of Deck supporting Traffic Signs, see Dwgs. N° 275 & 277.
6. The contractor shall bend or field cut reinforcing Steel as required at scuppers.

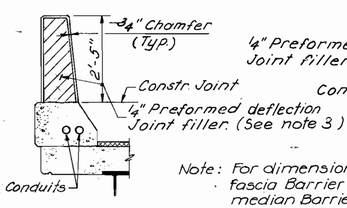
REFERENCES

	DWG. NO.
General Notes	GG to G23
General Plan & Elevation (Existing and Proposed)	201 to 206
Typical Cross Section.	207
Top of Deck Elevations and Deflections	262 to 267
End of slab sections E1-E1 & E3-E3	276
Scupper Details.	G54 & G55
Lighting Post-Pilaster Details & Barrier Cavities for Conduit	G68
Expansion Joints	278 to 282
Sign Support details	275
Bar List	283
Haunch and Slab Depth details	262
Stay-in-place forms	6.94



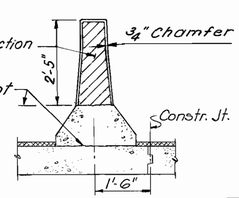
TRUSS SPAN NO. 1 - PLAN
0 5' 10' 15' 20'

NOTE A:
Field cut and bend reinf. bars to clear boxes.



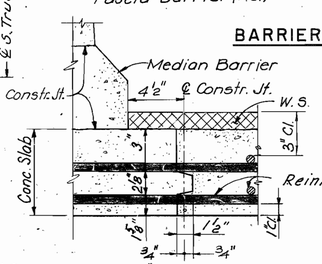
SECTION B-B
Fascia Barrier (F.B.)

Note: For dimensions of fascia Barrier and of median Barrier, see Section A-A this Sheet.



SECTION B-B
Median Barrier (M.B.)

BARRIER JOINT DETAILS
N.T.S.



SECTION C-C
(Longitudinal Construction Joint)
N.T.S.

Support Boxes for Exp. Jt. Not Shown See Dwg. 278 See also Note A.

(AB) As Built

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN - 1
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct-25-1989

NO. B-136

268/89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
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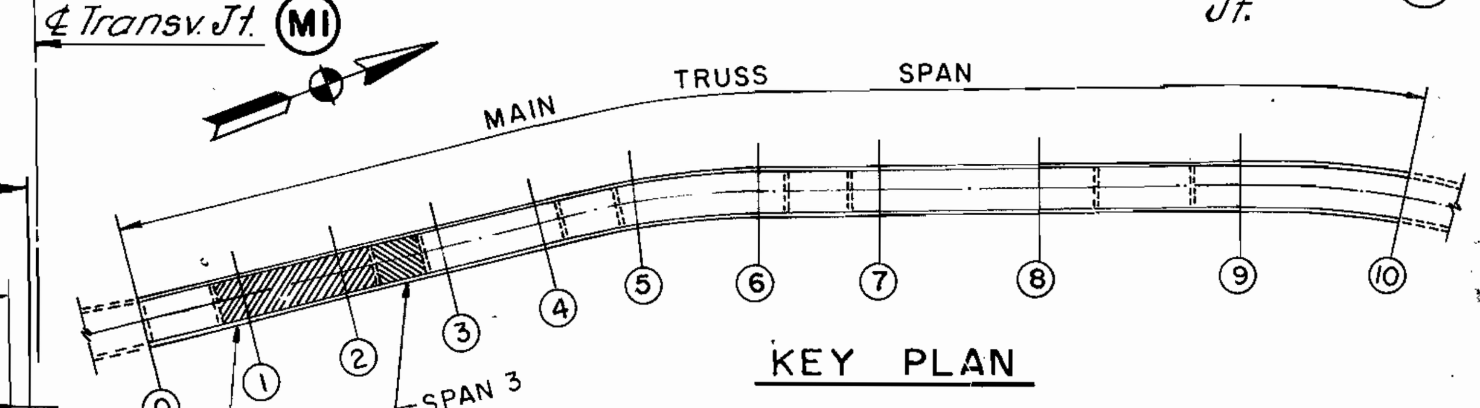
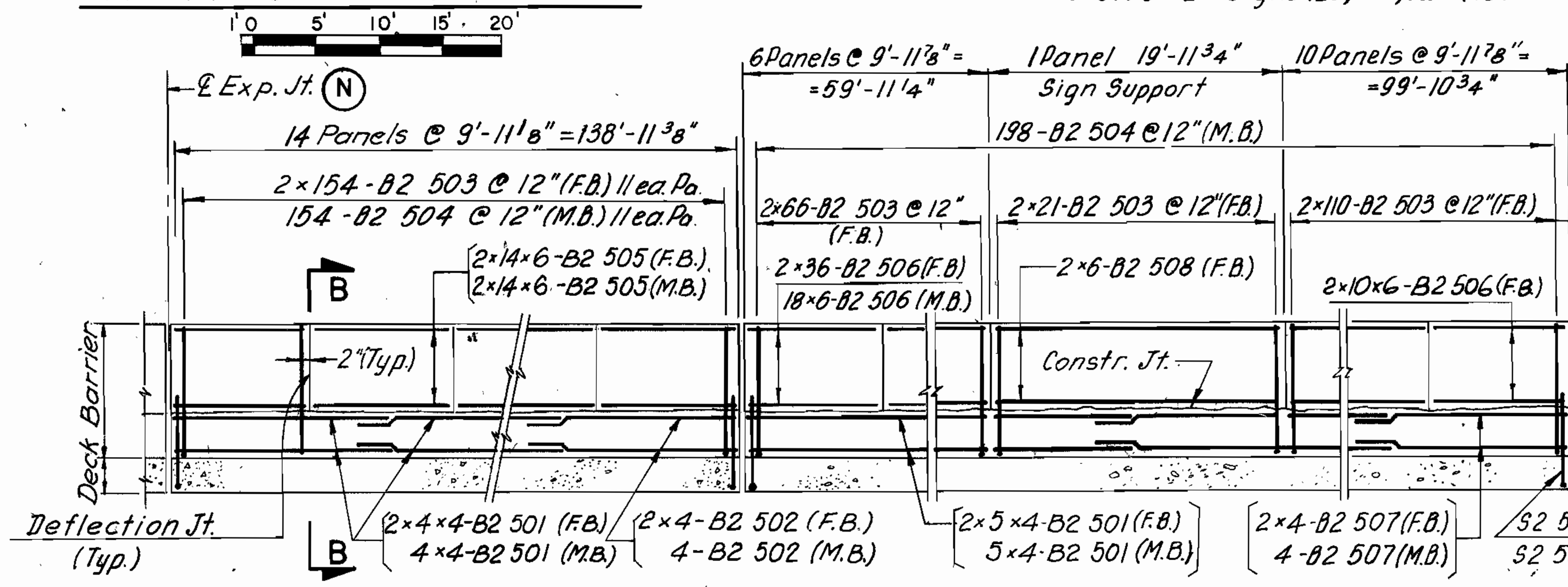
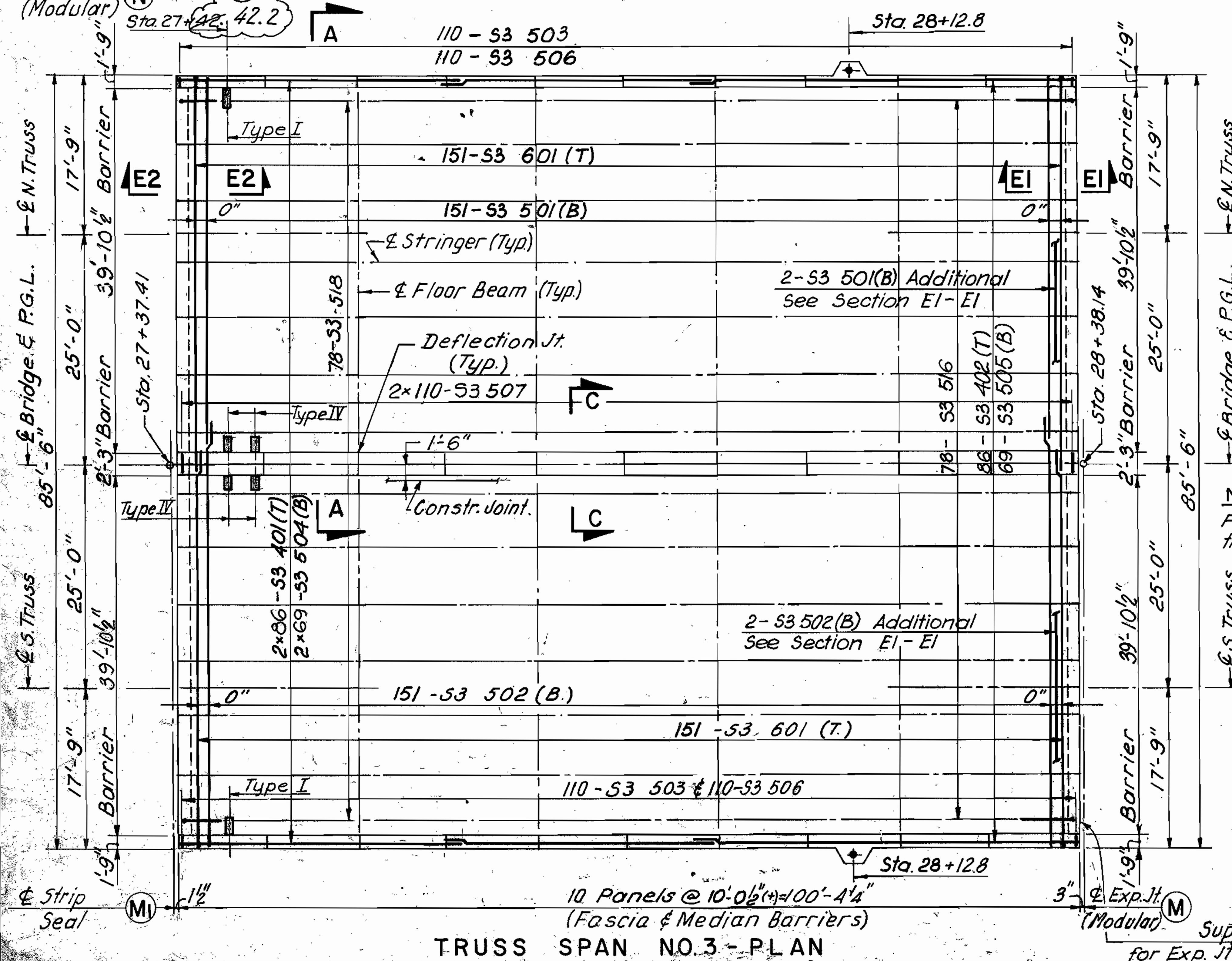
TRUSS SPAN NO. 2 - PLAN



KEY PLAN



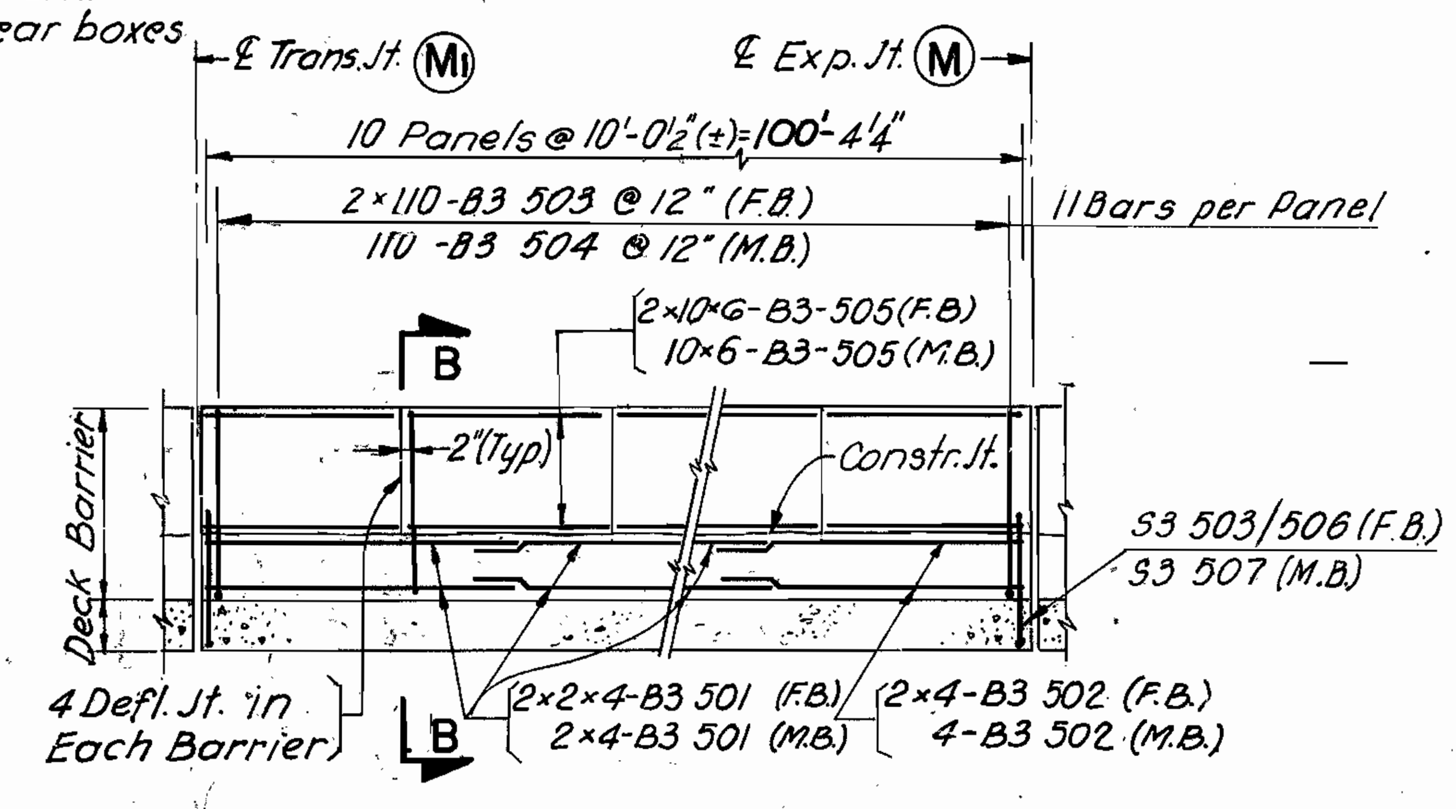
BARRIER DETAILS SPAN NO. 2



TRUSS SPAN NO. 3 - PLAN

NOTE 1
Field cut and bend the bars to clear boxes

Support Boxes for Exp. Jt. Not Shown See Dwg. 278 See also Note 1 above.



BARRIER DETAILS SPAN NO. 3
N.T.S.

REFERENCES:

	DWG. NO.
For References and Notes	268
Sections A-A, B-B, C-C	268
Sections E1-E1, E2-E2 & X-X	276
Exp. Joints	278
Bar Lists	283 & 284

(AB) As Built

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
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MAIN TRUSS SPANS - 2 AND 3.
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 25, 1989

NO. B-136

269
89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
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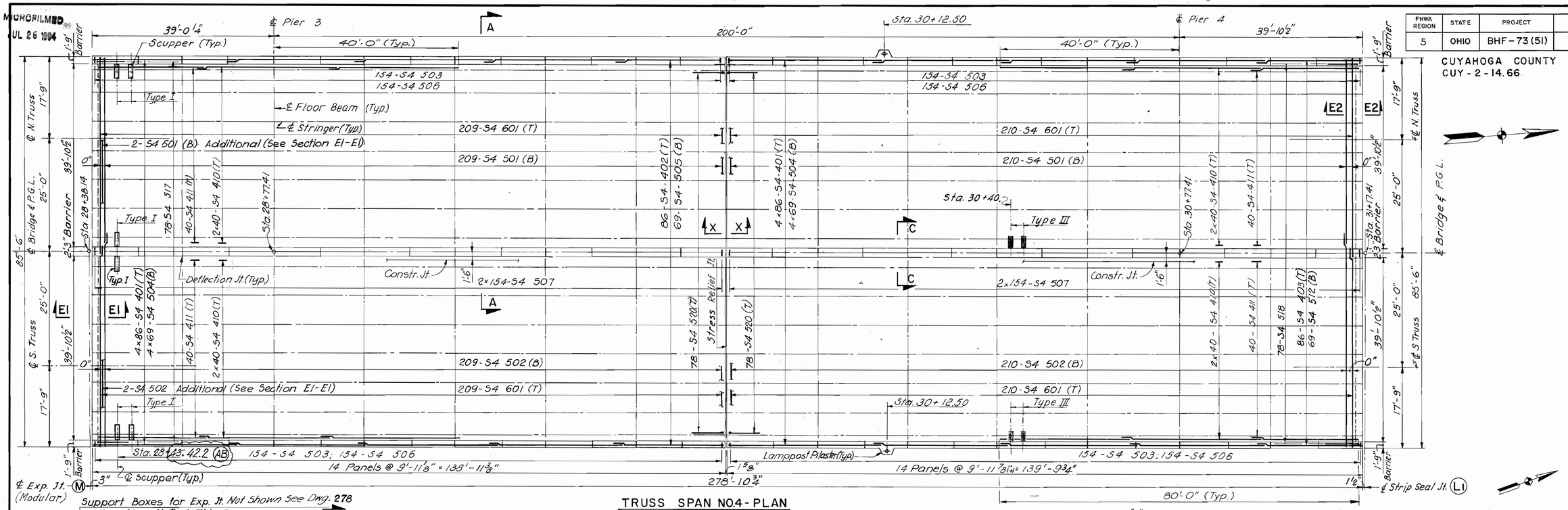
MICROFILMED
JUL 25 1994

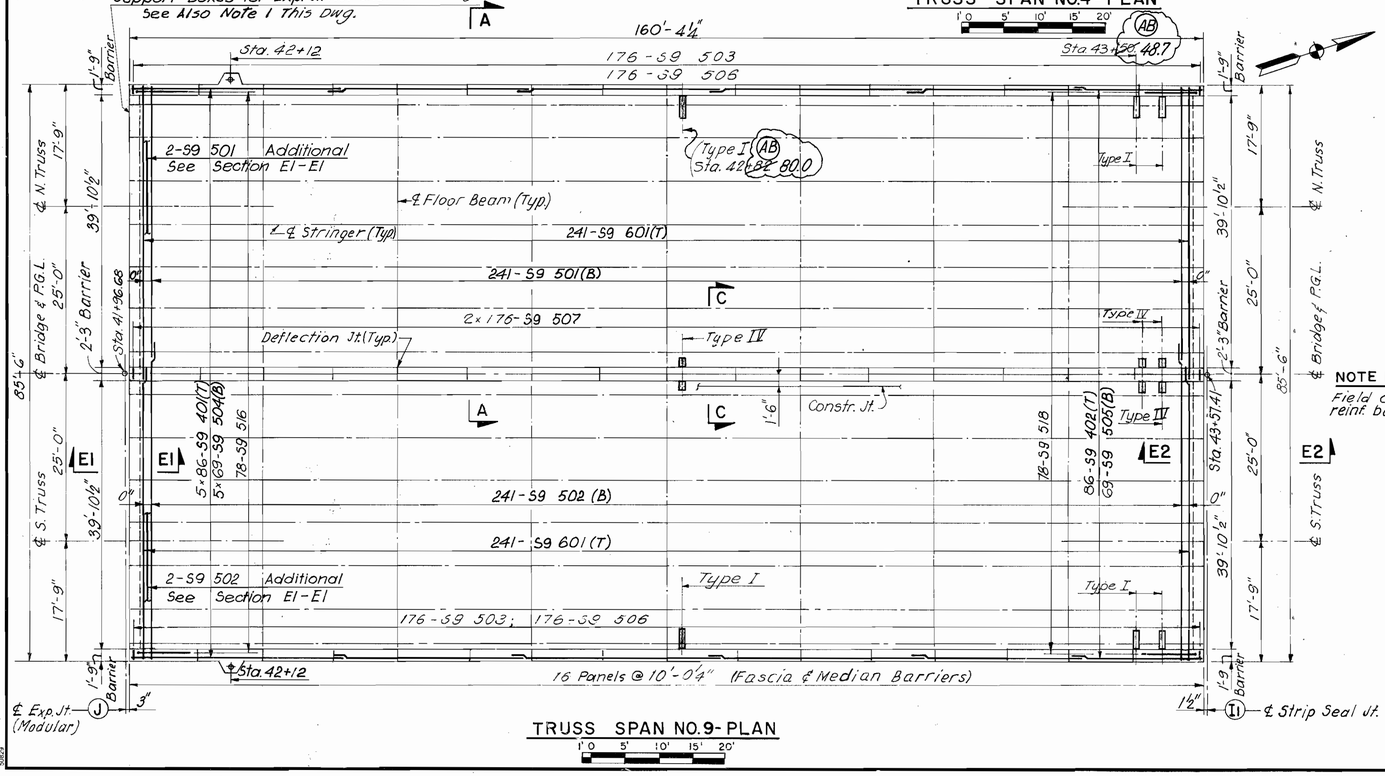
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

276
547

CUYAHOGA COUNTY
CUY-2-14.66

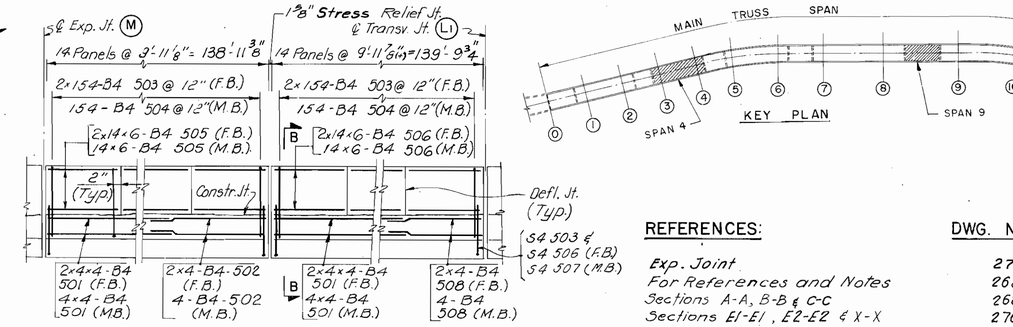


Support Boxes for Exp. Jt. Not Shown See Dwg. 278
See Also Note 1 This Dwg.



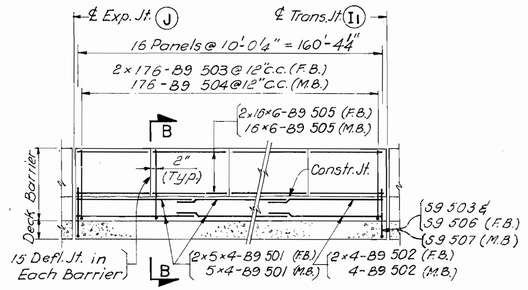
TRUSS SPAN NO.4 - PLAN

TRUSS SPAN NO.9 - PLAN



BARRIER DETAILS - SPAN NO. 4
N.T.S.

NOTE 1
Field cut and bend reinf. bars to clear boxes.



BARRIER DETAILS - SPAN NO. 9
N.T.S.

(AB) As Built

REFERENCES:

	DWG. No.
Exp. Joint	278
For References and Notes	268
Sections A-A, B-B & C-C	268
Sections E1-E1, E2-E2 & X-X	276
Bars List Span 4	284
Bars List Span 9	287

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPANS - 4 AND 9
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 25, 1989

NO. B-136

270/89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
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CUY-2-14.66

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277/547

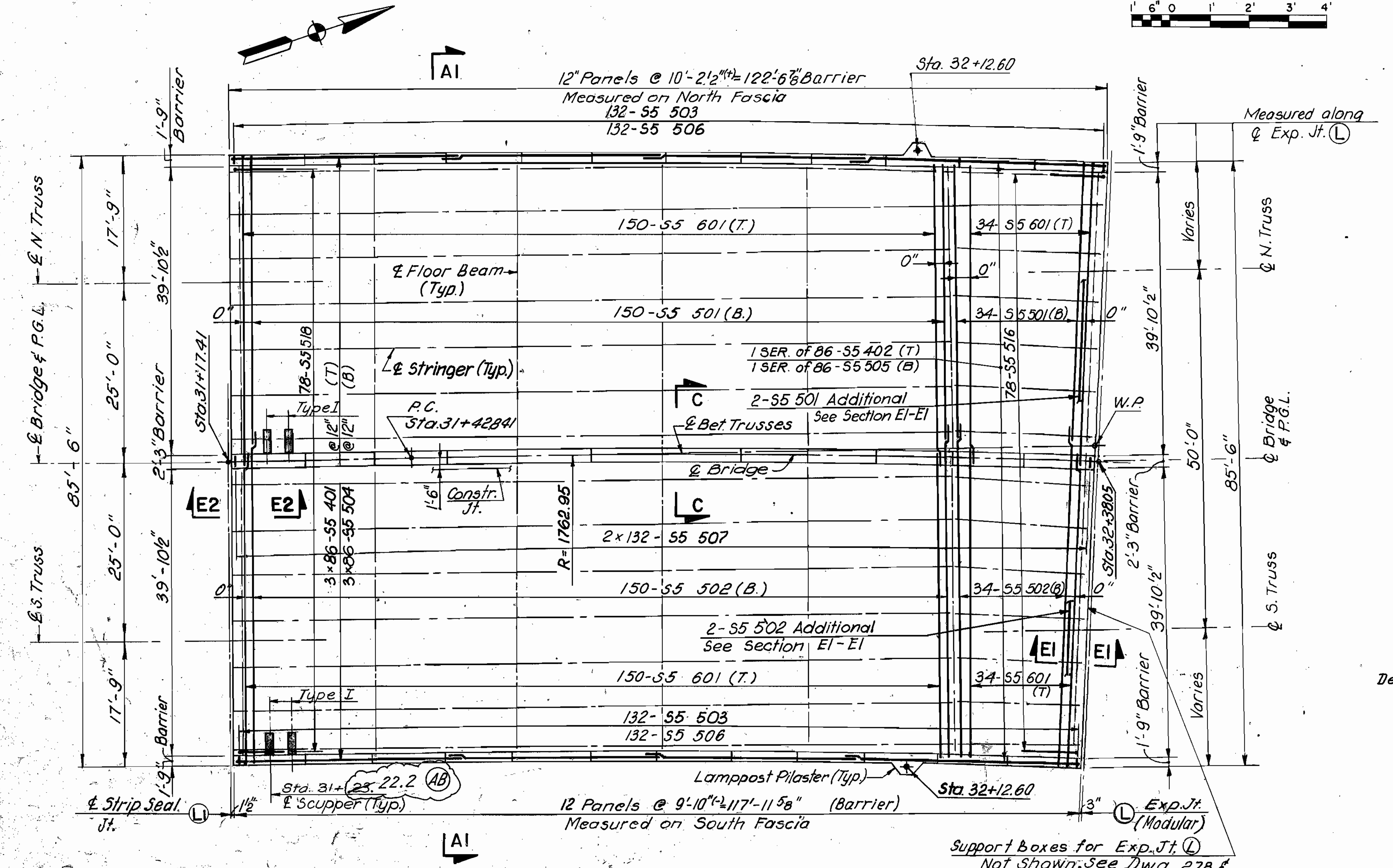
Note: See Dwg. 262 for "Forms for Deck Overhang" note.

℄ North Truss

* Varies at curved areas.

℄ South Truss

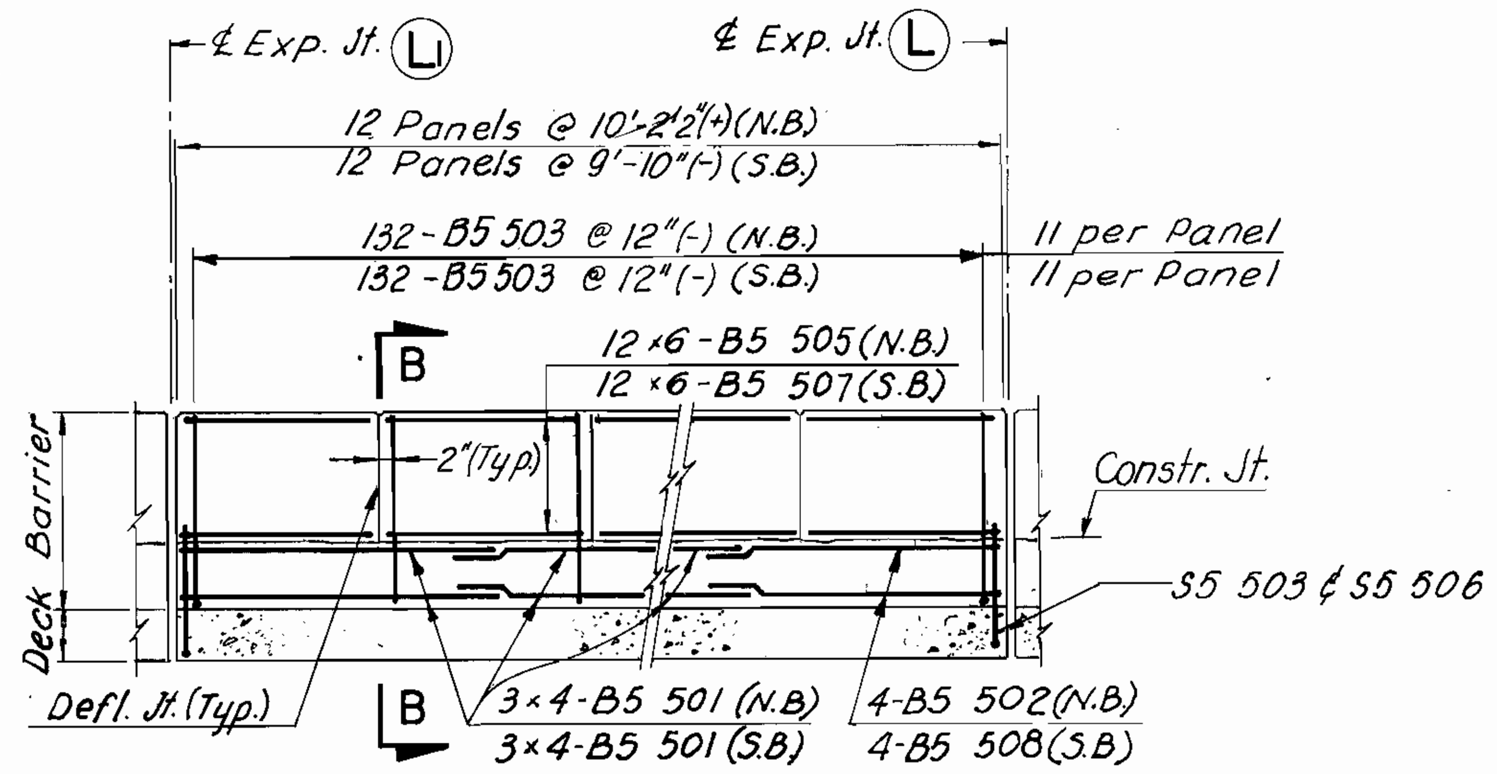
SECTION A1-A1 (Looking East)



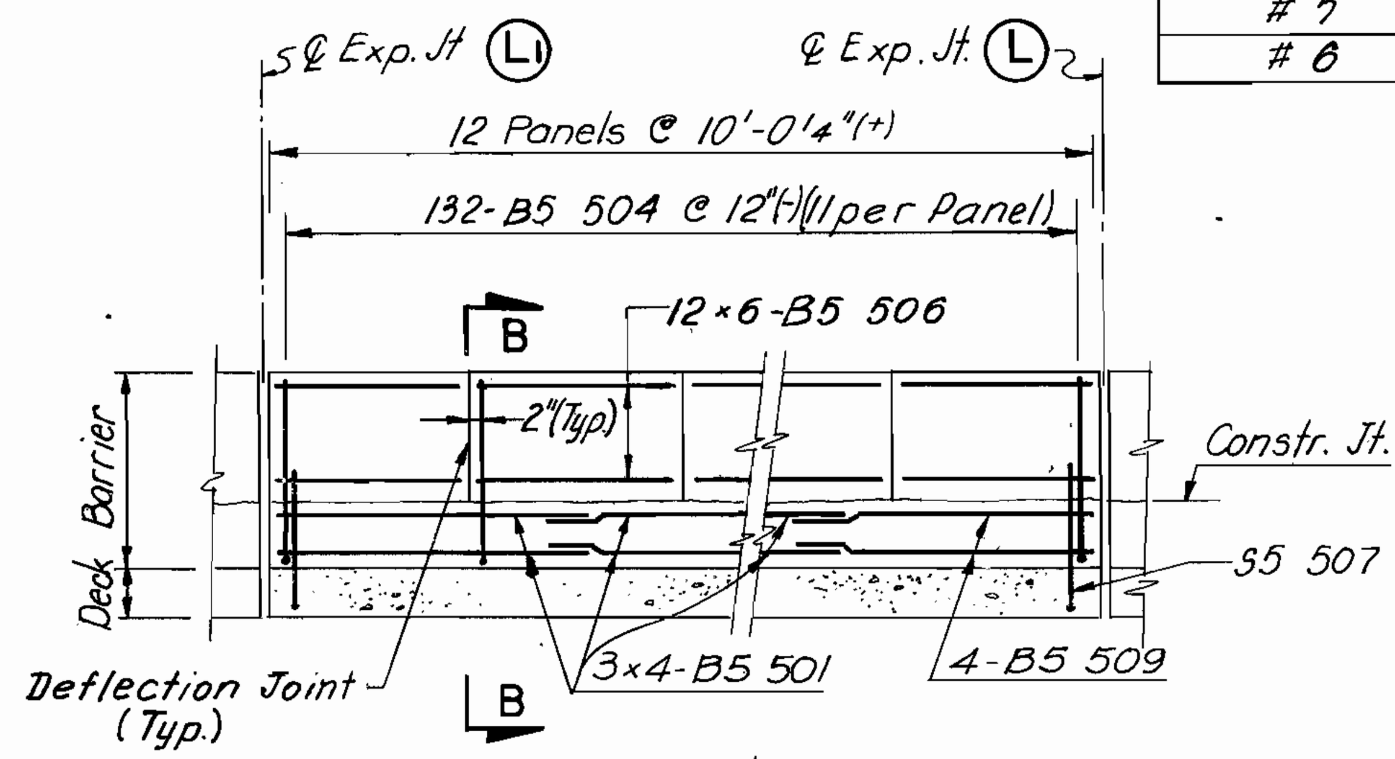
TRUSS SPAN NO. 5 - PLAN

Support Boxes for Exp. Jt. Ⓛ Not Shown. See Dwg. 278 & Note 1 below.

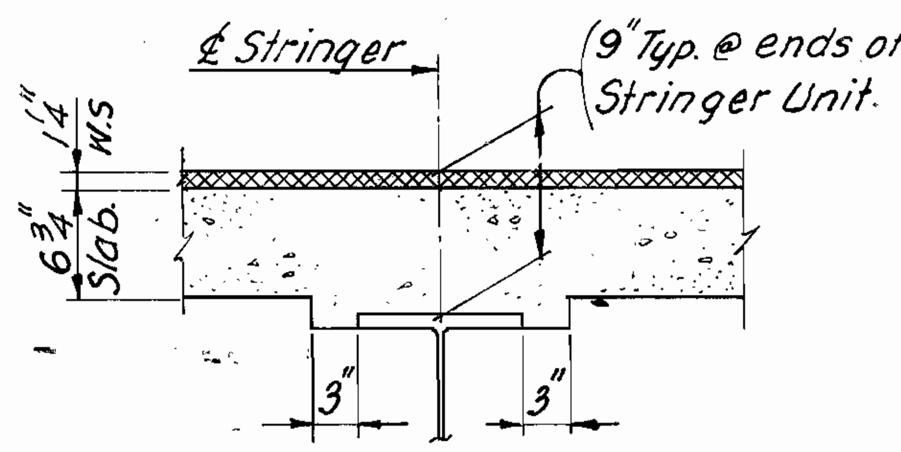
NOTE 1:
Field cut and bend reinf. bars to clear boxes.



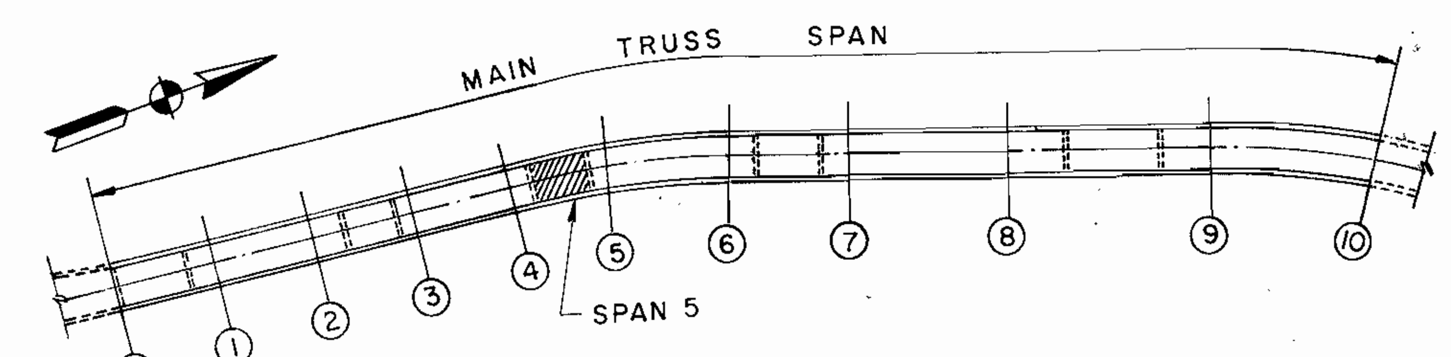
FASCIA BARRIER



MEDIAN BARRIER



HAUNCH DETAIL



KEY PLAN

MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
# 4	1'-10"
# 5	2'-3"
# 6	2'-8"

REFERENCES	DWG. NO.
Notes and References	268
Sections A-A, B-B & C-C	268
Sections E1-E1 & E2-E2	276
Exp. Joint	278
Bar List Span 5	285
Haunch and Slab depth Details	262
Exist. & Proposed Framing Plan	212
Pilaster Details	G68
Haunch and Slab Notes	268
Stay-in-place forms (AB)	G9A

(AB) As Built

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN - 5
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 25, 1989

NO. B-136 271/89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
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213

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73 (51)	

278 / 547

CUYAHOGA COUNTY
CUY-2-14.66

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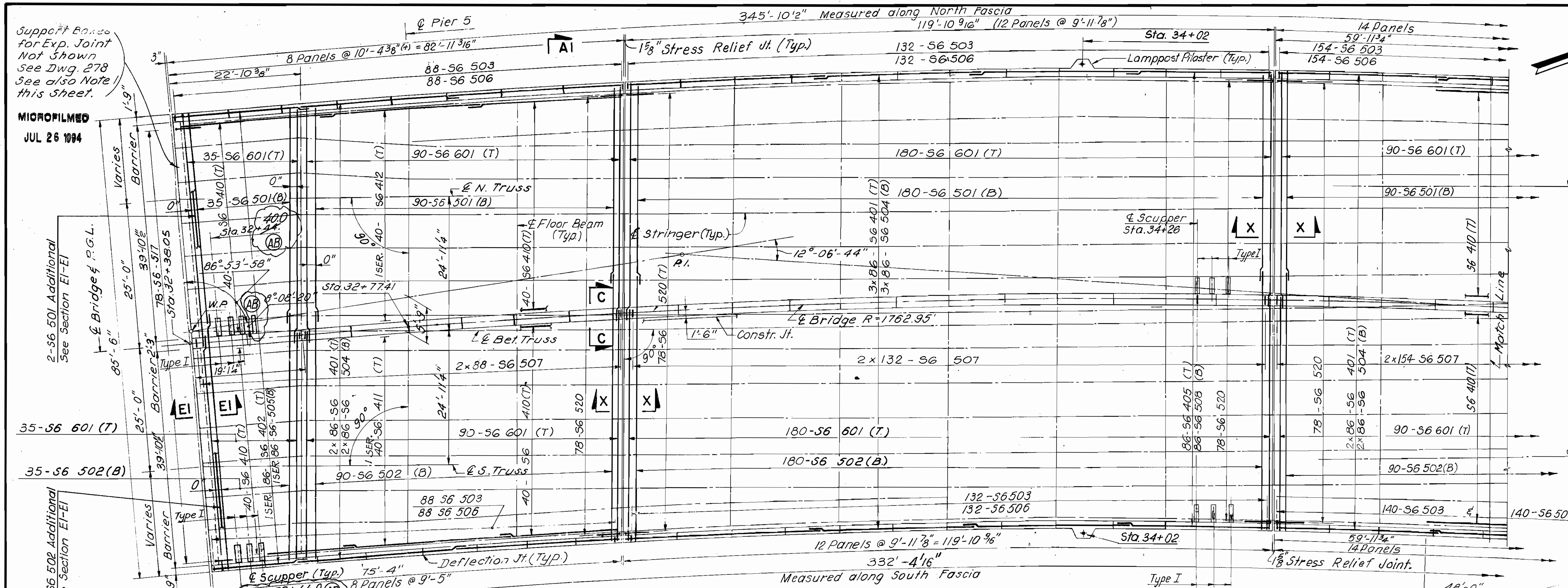
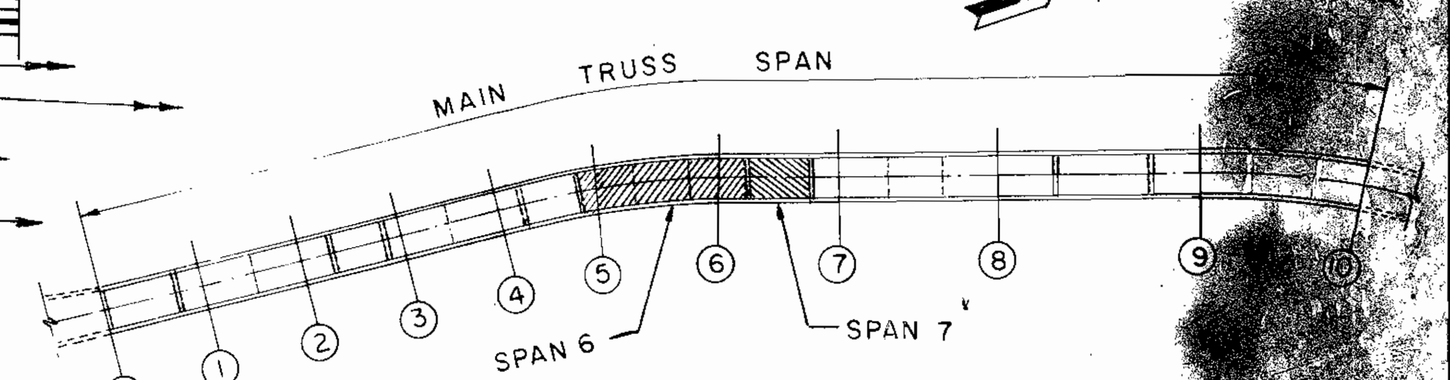
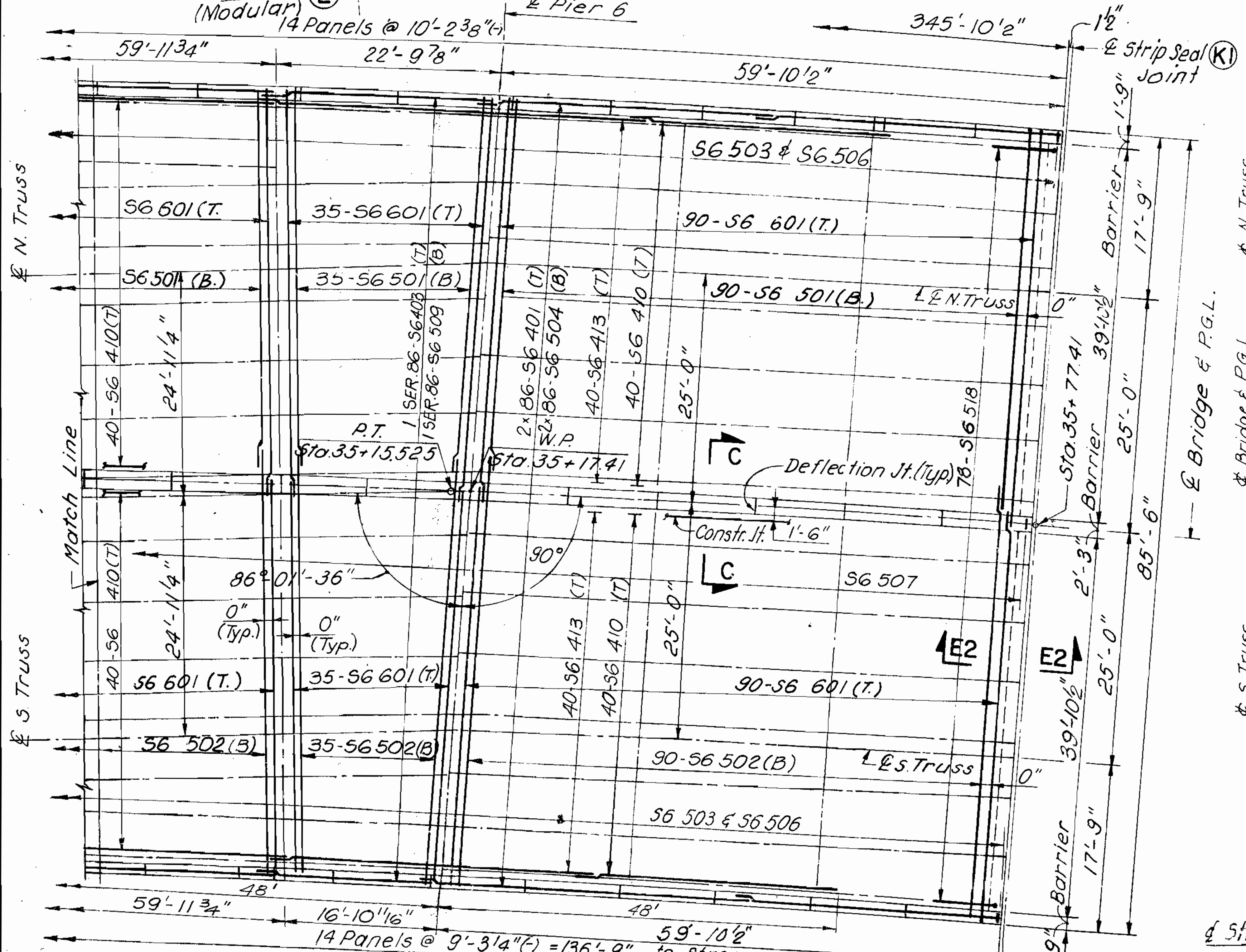
JUL 26 1994



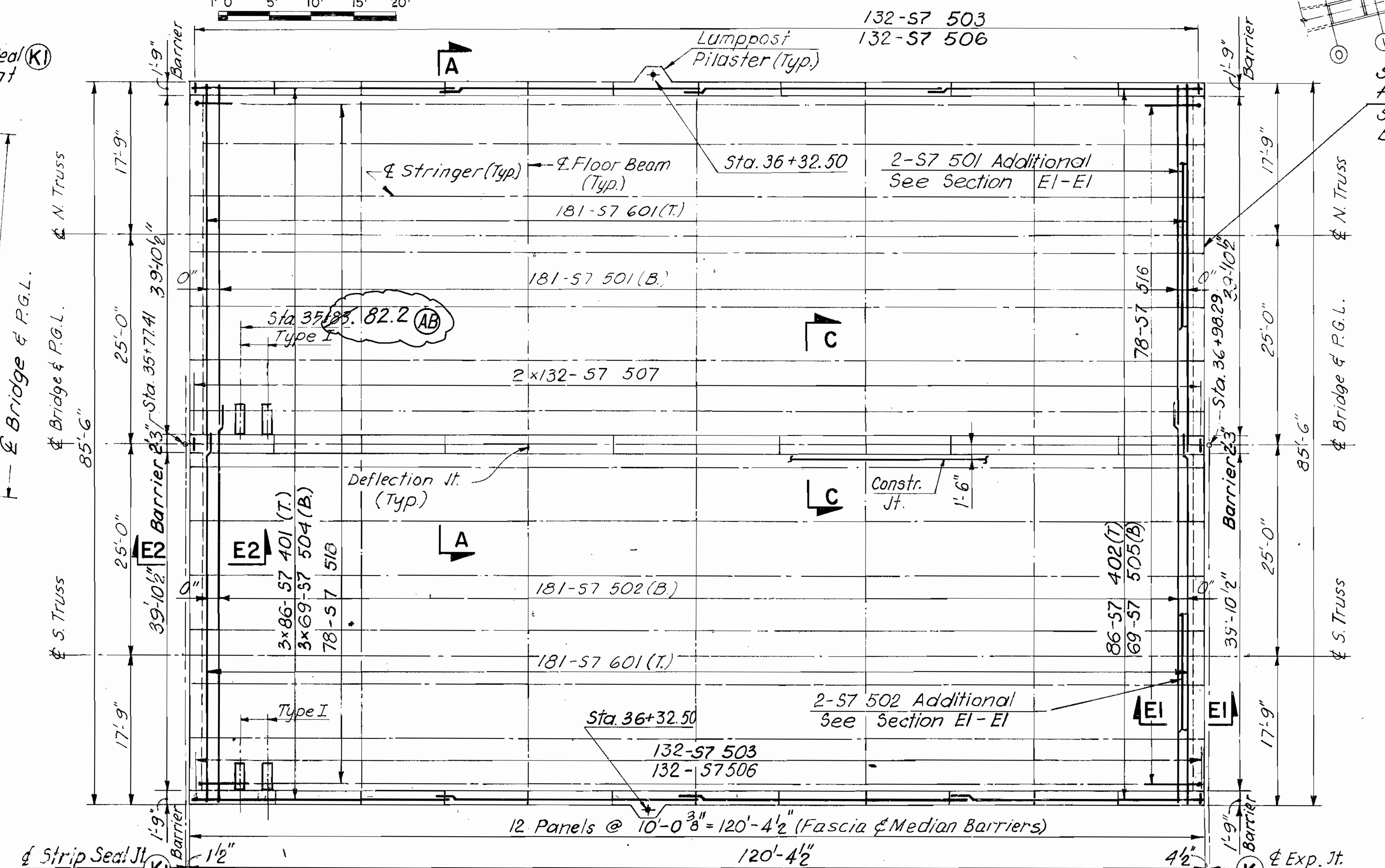
TRUSS SPAN NO. 6 - PART PLAN



KEY PLAN



TRUSS SPAN NO. 6 - PART PLAN



TRUSS SPAN 7 - PLAN

Support Boxes for Exp. Jt. Not Shown See Dwg. 278 & Note 1 below.

NOTE 1

Field cut and bend Reinf. bars to clear boxes.

(AB) As Built

REFERENCES:	DWG. NO.
Exp. Joint	278
References, Notes & Sections	268
Section A-A and C-C	268
Deck Slab Details 1 & 3	275 & 277
Section A1-A1	271
Sections E1-E1, E2-E2 & X-X	276
Bar Lists Span 6 & 7	286 & 287

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPANS - 6 AND 7
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 25, 1989

NO. B-136 — 272 / 89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
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JUL 26 1994

FHWA REGION	STATE	PROJECT	
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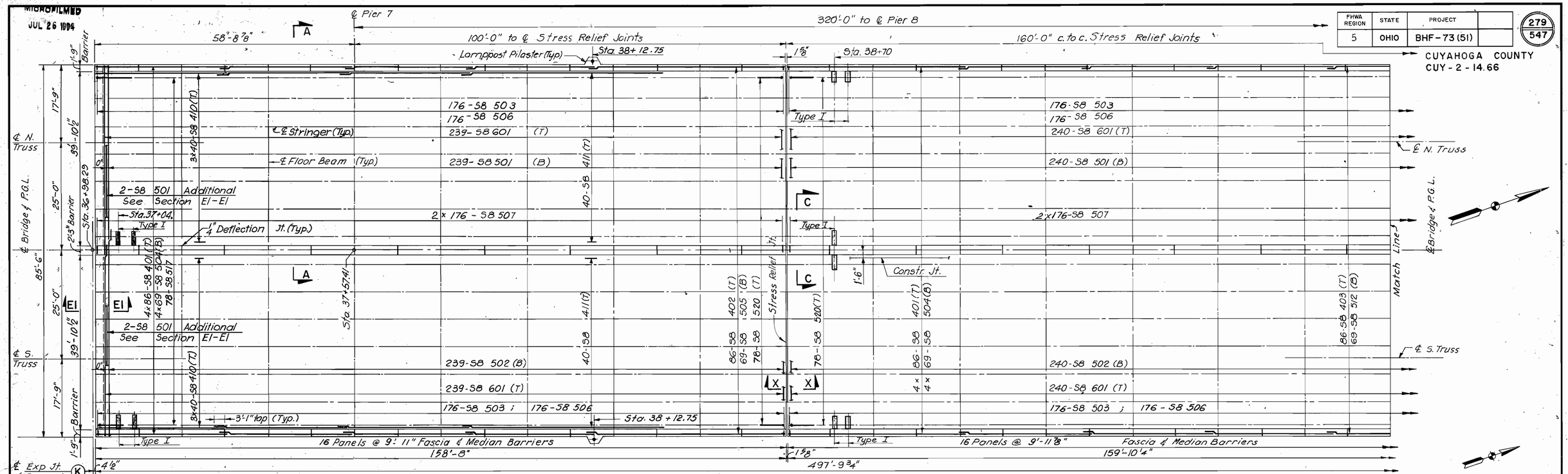
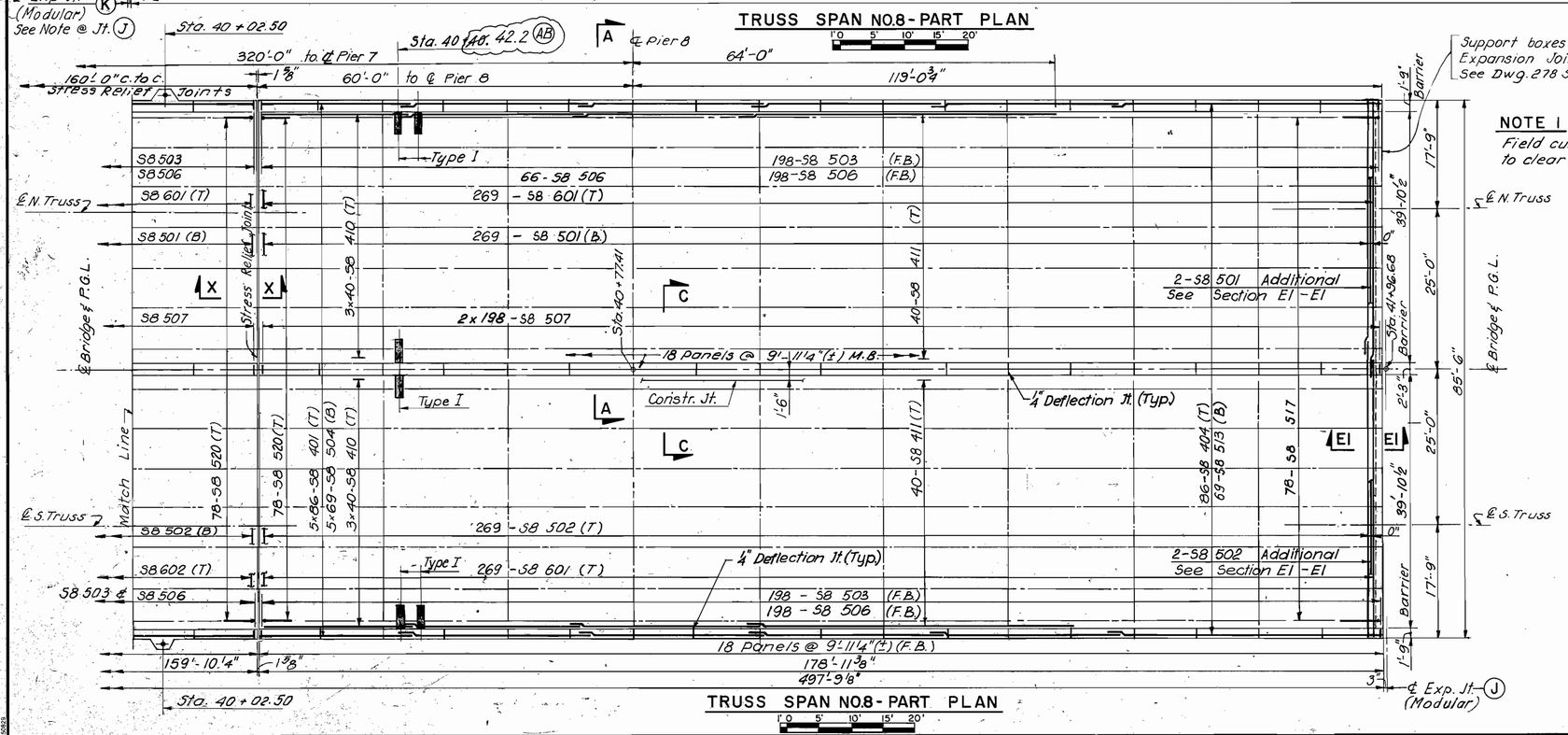
279/547

CUYAHOGA COUNTY
CUY-2-14.66



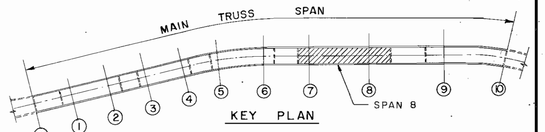
TRUSS SPAN NO.8 - PART PLAN



Support boxes for Expansion Joints Not shown See Dwg. 278 See also Note 1 below.

NOTE 1

Field cut and bend reinf. bars to clear boxes.



REFERENCES	DWG. No.
References, Notes & Sections	268
Section A-A and C-C	268
Barrier Details	275
Sections E1-E1 & X-X	276
Bar List	288
Exp. Joint	278

(AB) As Built

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN - 8
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 25 1989

NO. B-136 273/89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S./B.P.	T.C.	E.G.	AS BUILT 2/94

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JUL 26 1994

FHWA REGION	STATE	PROJECT	
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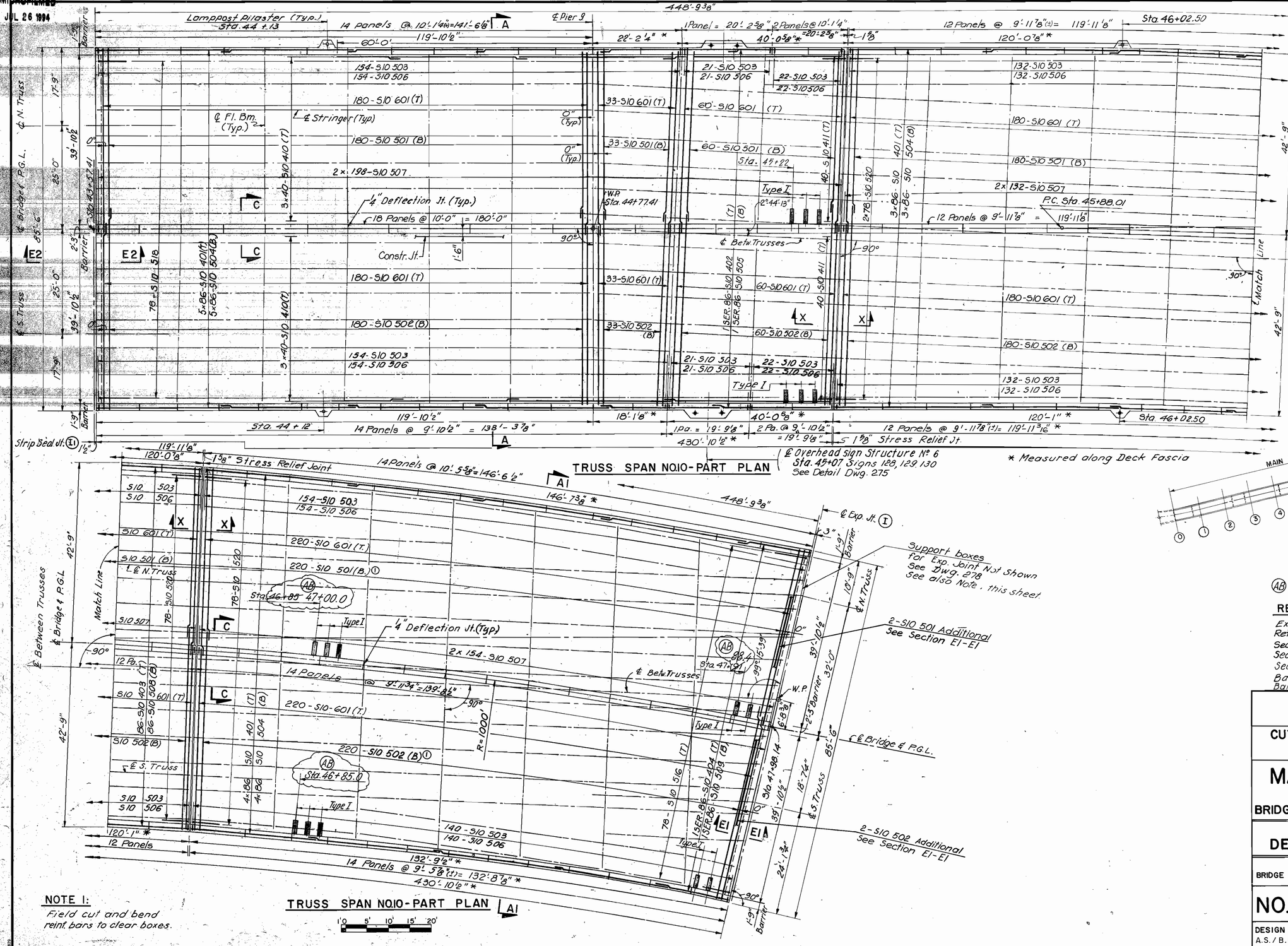
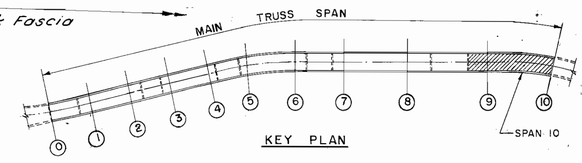
280/547

CUYAHOGA COUNTY
CUY-2-14.66





(AB) As Built

REFERENCES	DWG. NO.
Exp. Joint	278
References, Notes and Sections	268
Section A-A and C-C	268
Section A1-A1	271
Sections E1-E1, E2-E2 & X-X	276
Barrier Details	277
Bar List	289

NOTE 1:
Field cut and bend reinf. bars to clear boxes.

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

MAIN TRUSS SPAN - 10
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 25, 1989

NO. B-136 274/89

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S. / B.P.	T.C.	E.G.	AS BUILT 2/94

MICROFILMED
JUL 26 1994

CUYAHOGA COUNTY
CUY - 2 - 14.66

FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF - 73(51)	

297
347

STRUCTURE FILE NUMBER : 1800 035

EAST APPROACH FORWARD SECTION
SCOPE OF REHABILITATION WORK

THE SECTION IS A 759 FOOT LONG, SIX LANE DIVIDED, STEEL VIADUCT, CONSISTING OF ONE TRUSS SPAN AND FOURTEEN FLOOR BEAM AND STRINGER SPANS, FRAMING INTO BRACED COLUMNS.

THE WORK INCLUDES

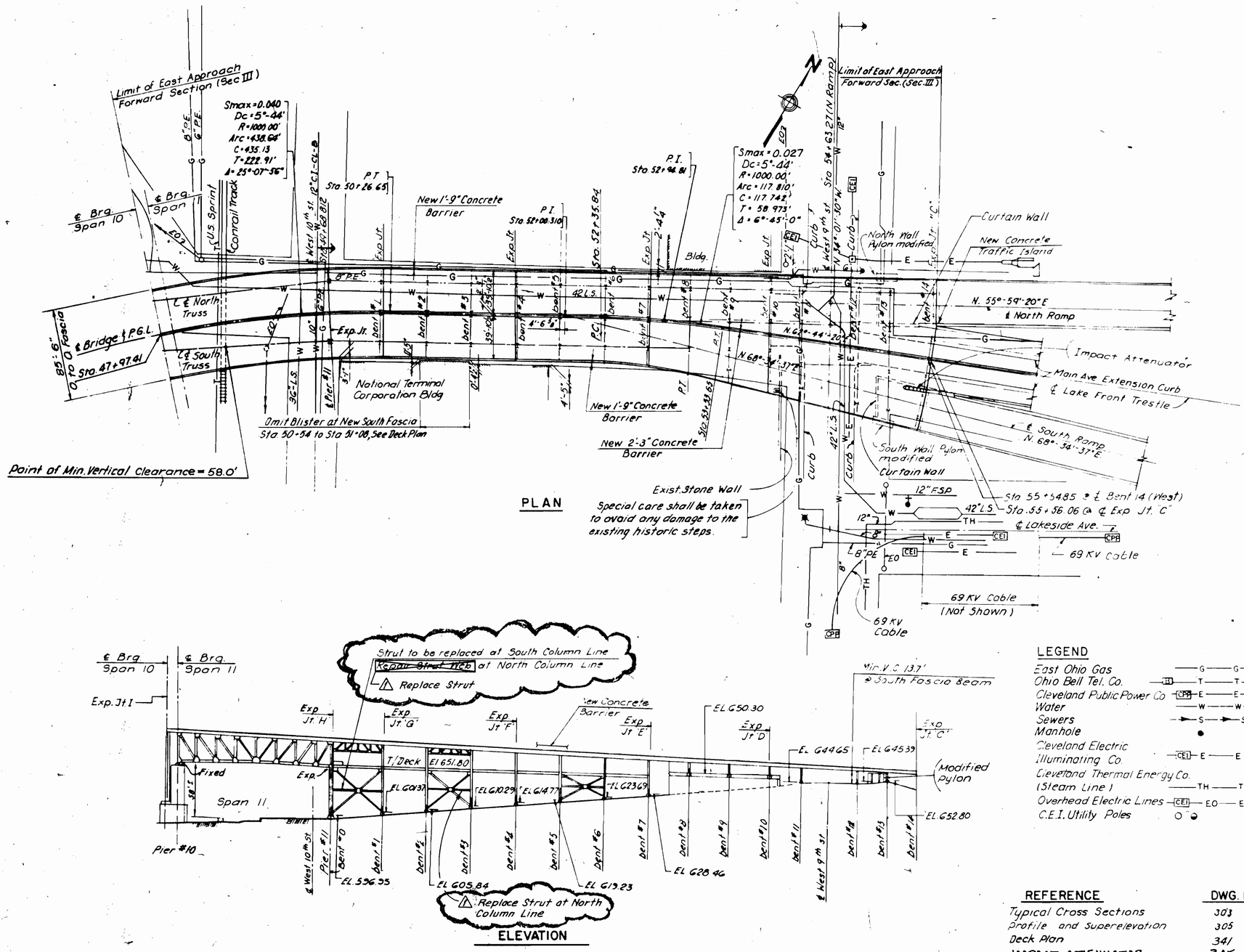
1. REMOVAL OF EXISTING I-BEAM-LOK DECK, SIDEWALKS, RAILINGS, FASCIA PLATES, STRINGERS, CATWALKS, DIAPHRAGMS, ETC.
2. REPAIR AND REINFORCEMENT OF THE FLOOR BEAMS, COLUMNS AND TRUSS MEMBERS.
3. INSTALLATION OF NEW STEEL STRINGERS, FLOORBEAMS AND FASCIA STRINGERS.
4. CONSTRUCTION OF NEW LIGHTWEIGHT CONCRETE DECK SLABS, BARRIERS, LUMINAIRE SUPPORTS, DRAINAGE DEVICES AND ARMORED JOINTS.
5. ALTERATION OF TWO EXISTING STONE PYLONS AT 9TH STREET.
6. FIELD COATING OF SOME EXISTING STRUCTURAL STEEL AND PAINTING OF NEW STRUCTURAL STEEL
7. INSTALLATION OF NEW LIGHTING AND TRAFFIC CONTROL SYSTEMS.
8. CONCRETE REPAIRS.
9. COATING OF THE EXPOSED EXISTING AND NEW CONCRETE SURFACES.

The Contractor shall make provision to protect all areas under the Bridge used by pedestrians or vehicles and over the river, from falling debris during removal of the existing superstructure and during erection

C.V.N. NOTE

Structural steel for new or repaired Main Load Carrying Members subjected to tension or stress reversal, shall meet the "Longitudinal Charpy V-notch" requirements of 15 Ft.-Lb. @ 40°F. Main load carrying members for this Section are limited to: Stringers, Floor Beam Flanges & Web, Bracket Top Flange and Web & Tie Plates.

See also "GENERAL NOTES" Structural Steel.



PLAN

ELEVATION

LEGEND

East Ohio Gas	G — G
Ohio Bell Tel. Co.	T — T
Cleveland Public Power Co	E — E
Water	W — W
Sewers	S — S
Manhole	●
Cleveland Electric Illuminating Co.	CEI E — E
Cleveland Thermal Energy Co. (Steam Line)	TH — TH
Overhead Electric Lines	CEI EO — EO
C.E.I. Utility Poles	○ ◒

REFERENCE	DWG. NO.
Typical Cross Sections	303
Profile and Superelevation	305
Deck Plan	341
IMPACT ATTENUATOR	345

NOTE:
1. For lighting, drainage and sign support structures, see deck plans.

50' 0 50' 100'

Rev. 1	⚠ Plan Revision	3-15-91

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CLEVELAND OHIO

MAIN AVENUE BRIDGE
CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH-FORWARD SECTION
PROPOSED PLAN & ELEVATION

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 20, 1989

NO. B-136

302
54

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT.
S.H.	C.P.J.	C.K.D.	AS BUILT 2/94

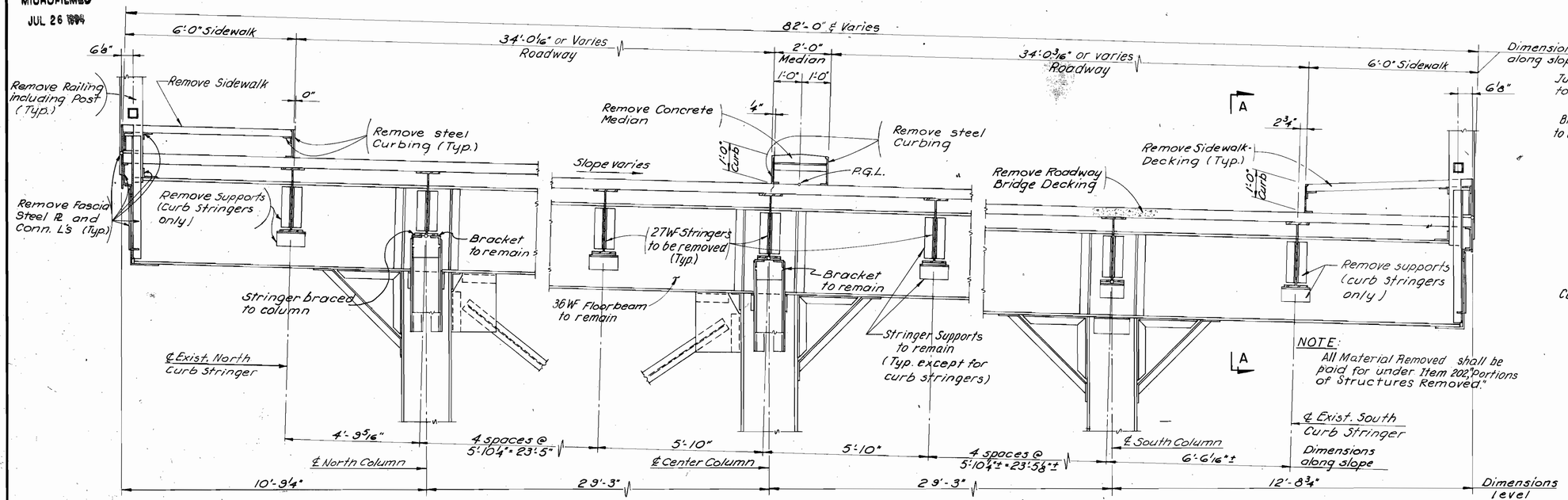
O.D.O.T. 9-18-91 T.E.S.

MICROFILMED
JUL 26 1994

FHWA REGION	STATE	PROJECT	
5	OHIO.	BOF-[illegible](51)	

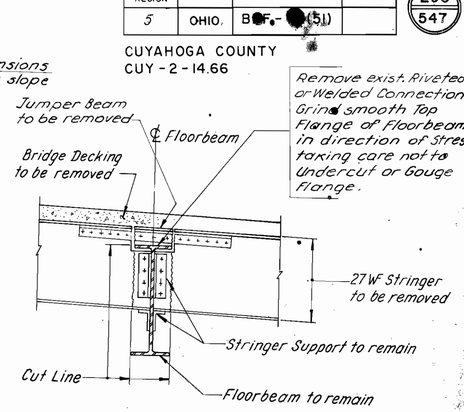
298
547

CUYAHOGA COUNTY
CUY - 2 - 14.66



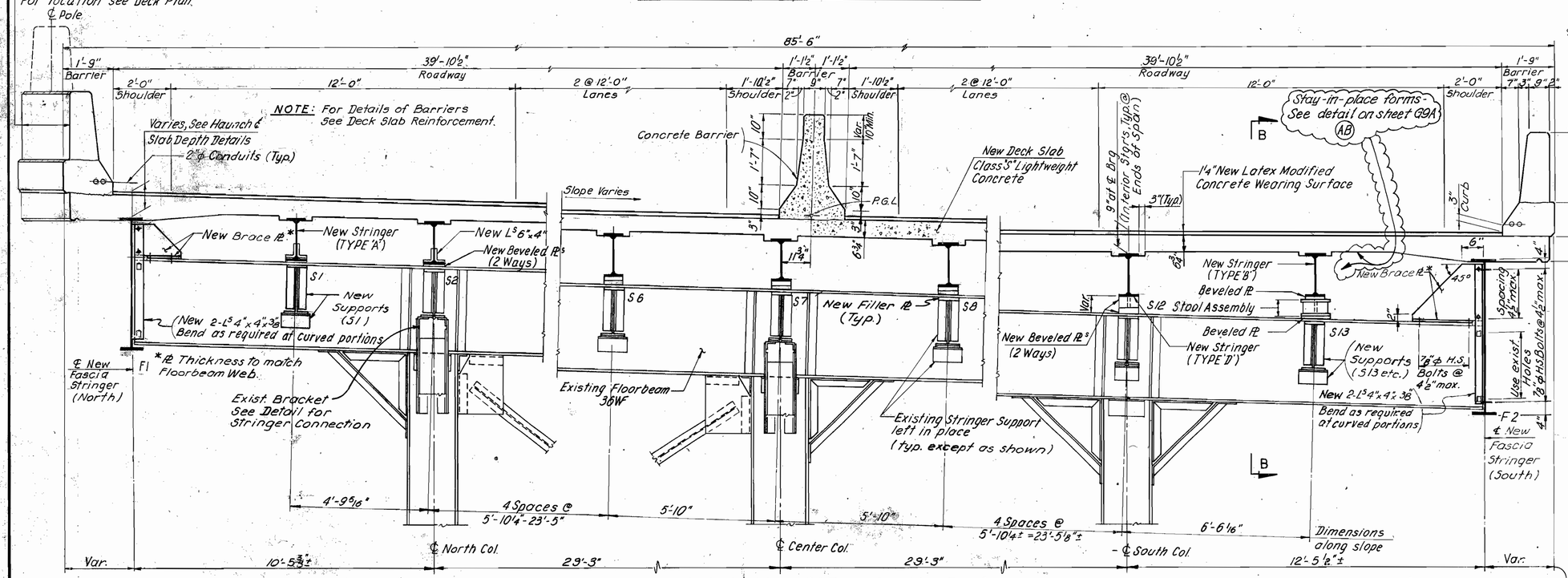
NOTE:
All Material Removed shall be paid for under Item 202 "Portions of Structures Removed."

EXISTING CROSS SECTION *(Looking East)*



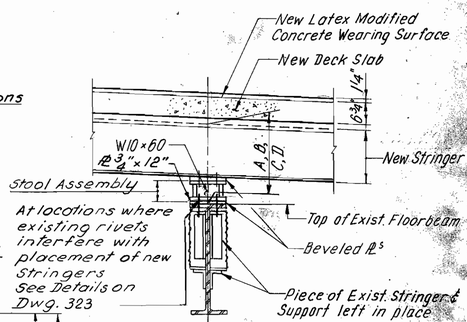
SECTION A-A
(EXISTING CONDITION)

Lamp Pole Support Pilaster
For location see Deck Plan.



PROPOSED CROSS SECTION *(Looking East)*

Note:
Sections shown are typical at straight portions of bridge. At curved portions, total width and other dimensions vary.



SECTION B-B

(AB) - As Built

REFERENCES:

	DWG. NO.
Existing Plan & Elevation	301
Proposed Plan & Elevation	302
Haunch and Slab Depth Details	338
Framing Plans	310, 311, 312
Stringer Schedules	325 to 330 incl.
Stringer Details	324
Fascia Stringer Setting Dim.	331
Deck Slab	340-344

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - FORWARD SECTION
TYPICAL CROSS SECTIONS

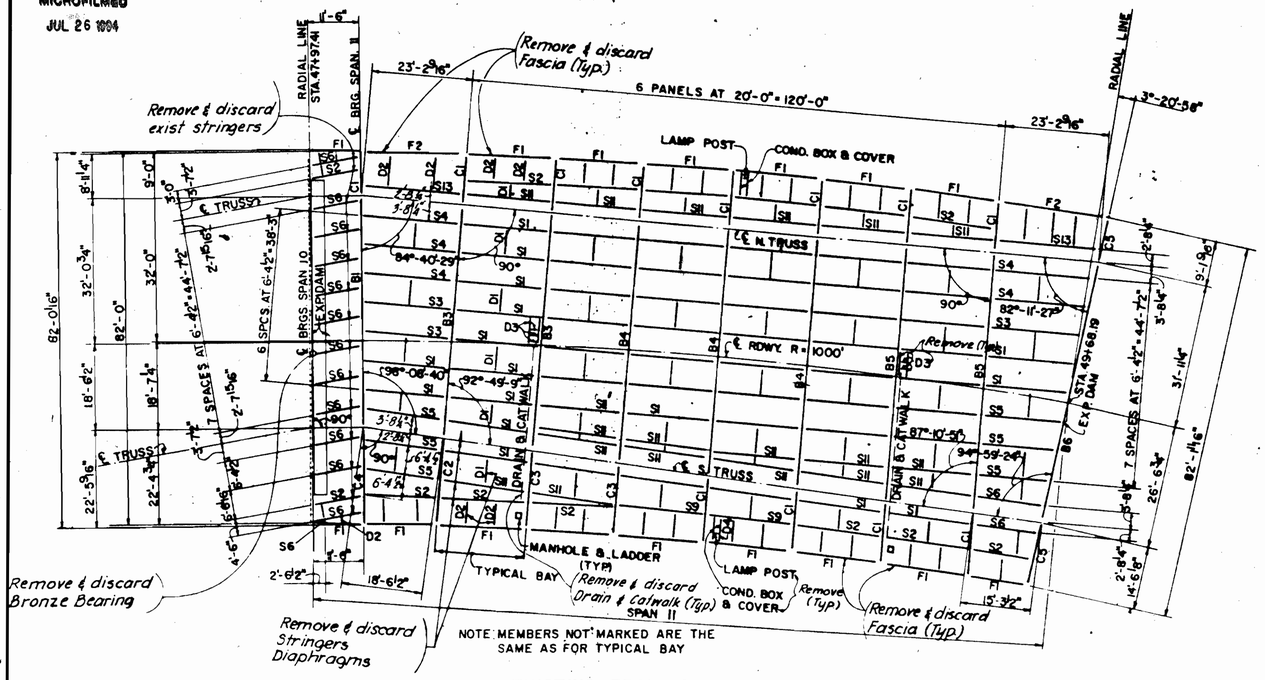
BRIDGE NO. 193 REPORT NO. 7119 DATE

NO. B-136

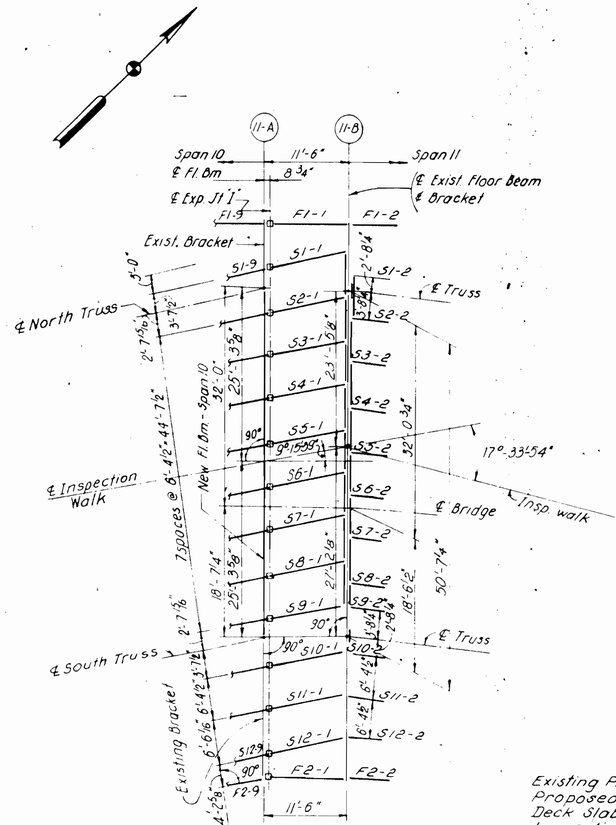
303
54

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G./D.G.	A.D.	V.H./R.M.	AS BUILT 2/94

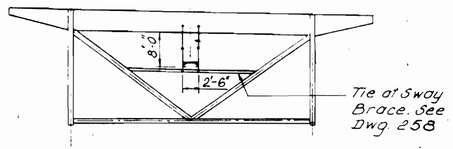
MICROFILMED
JUL 26 1994



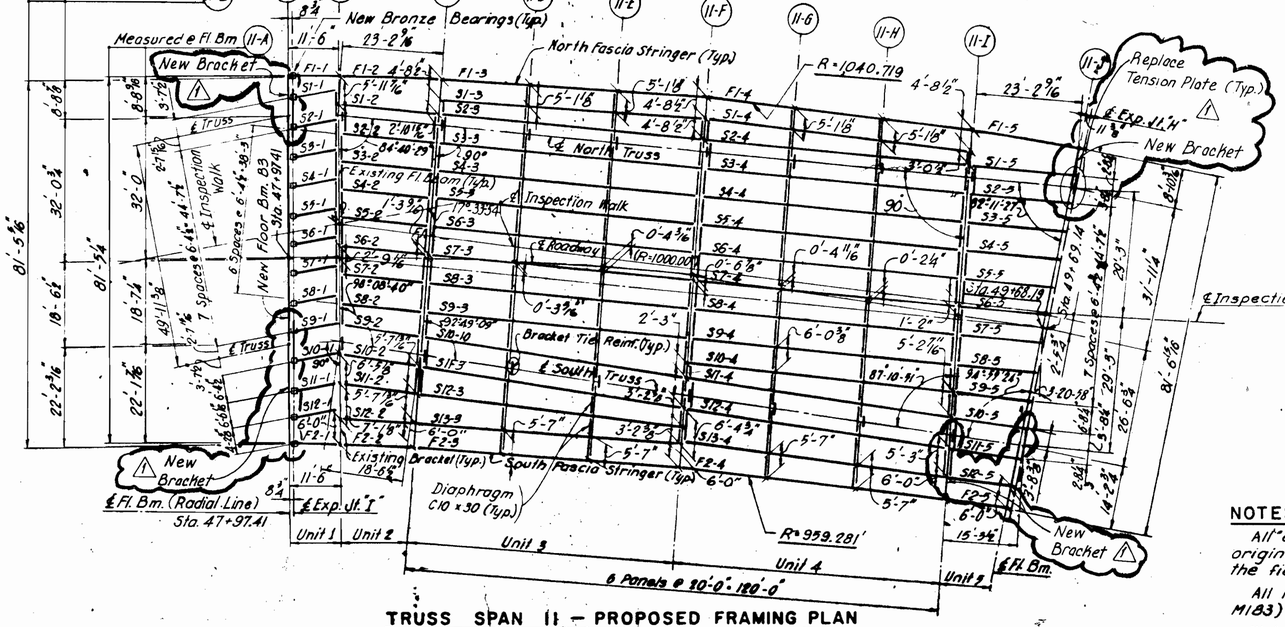
EXISTING FRAMING PLAN



PARTIAL FRAMING PLAN



TYPICAL SECTION - INSPECTION WALK
(LOOKING EAST)



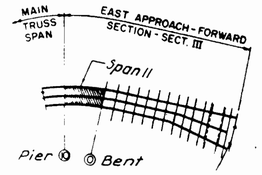
TRUSS SPAN II — PROPOSED FRAMING PLAN

——— Denotes existing framing member
——— Denotes new framing member

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

304
547

CUYAHOGA COUNTY
CUY-2-14.66



KEY PLAN

EXISTING FRAMING REMOVAL

MARK	DESIGNATION	SPAN II QUANT.	REMARKS
S1	21W63	56	
S2,S5,S6,S9,S11,S13	21W59	57	
S3	21W68	3	
S4	21W73	5	
D1	14W30	49	
D2	9C13.4	34	
D3	10C20	8	Drain
D4	12W25	4	Lamp Post
F1 & F2	1-PL 26½ x ⅜	18	L
	2-L's 4x3x⅜	36	

REFERENCES

	DWG. NO.
Existing Plan and Elevation	301
Proposed Plan and Elevation	302
Deck Slab Reinforcement	340
Inspection Walkway	257, 258, 259
Miscellaneous Structural Details (Span II)	336
Stringer Schedules (Span II)	325 & 326
Top of Deck Elevations & Deflections	337
Fascia Stringer Setting Dimensions and Camber	331
Typical Stringer Detail	231
Exp. Joint "H"	349
Exp. Joint 'I'	278
New Floorbeam B3	254
New Brackets	309A

NOTES:

All "existing dimensions, elevations and details were obtained from original contract plans and shop Dwg's and shall be verified in the field by the Contractor, prior to making structure alterations.

All new shapes and plates shall be ASTM-A36 steel (AASHTO-M183) unless noted otherwise.

Welding details and procedures shall conform to the A.W.S. and AASHTO latest specifications.

All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I.

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III.

Rev. 1	⚠ Plan Revisions	2-10-91

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH-FORWARD SECTION-SPAN II

EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 20, 1989

NO. B-136

309

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	J.P.W.	A.P./R.M.	AS BUILT 2/94

O.D.O.T. 12-9-91 T.E.S.

CUYAHOGA COUNTY
CUY-2-14.66

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

308 / 547

MICROFILMED JUL 26 1994

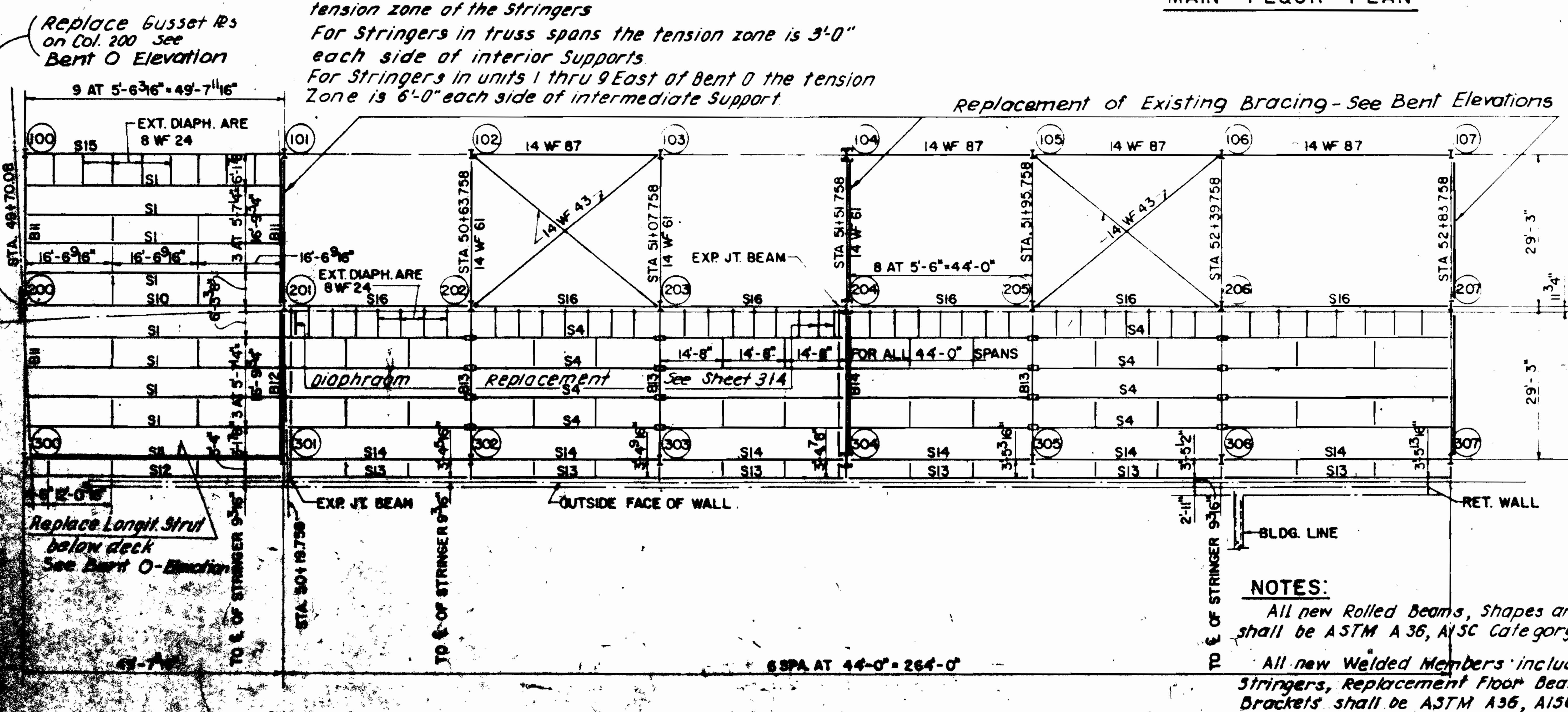
End Diaphragm D2 (Typ.)
Exp. Jt. 'G'
Exp. Jt. 'F'
Exp. Jt. 'E'
Exp. Jt. 'D'
New Braces (Typ.)
End Diaphragm D2 (Typ.)
Remove loose and hanging Support Angles under floorbeam
Floorbeam Extension
Knee brace
Intermediate Diaphragm D1 Between Floorbeams (Typ.) See Framing Details
Intermediate Diaphragm D1 at Floorbeams (Typ.) See Dwg. 312 for Details.
Intermediate Diaphragms equally spaced between bents (Typical for all Units)
New Stringer Extension attached to exist. Stringer (1)
Detail D See Dwg. No. 331
See Detail 'B'
STRINGERS BRACED TO COLUMNS
(1) Connection Type 1 - Dwg. 321
(2) Connection Type 2 - Dwg. 321
(3) Connection Type 3 - Dwg. 322
(4) Connection Type 4 - Dwg. 322
STRINGERS BRACED TO FLOOR BEAMS
(7) Expansion Joint Bracing - Dwg. 334 & 335
(2A) Connection Type 2A Dwg. 321A
Knee brace See Bent Elevations
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
Unit 7
Unit 8
Unit 9
Floorbeam Extension
Detail 'C'
Detail 'D'

NOTE: All stationing shown on plan is based on ℄ Main Ave. stations

* Grind Welds smooth in direction of stress as required to install Flange Reinforcement at column 410. Care shall be taken not to undercut or gouge Flange.

MAIN FLOOR PLAN

All new stringers shall be installed vertical.
For Finishing Machine Support notes see Dwg. G8
Welding of attachments shall not be permitted in the tension zone of the stringers
For Stringers in truss spans the tension zone is 3'-0" each side of interior Supports
For Stringers in units 1 thru 9 East of Bent 0 the tension Zone is 6'-0" each side of intermediate Support



Replace Gusset Rs on Col. 200 See Bent 0 Elevation
Replacement of Existing Bracing - See Bent Elevations
EXT. DIAPH. ARE 8 WF 24
EXP. JT. BEAM
Diaphragm Replacement See Sheet 314
FOR ALL 44-0" SPANS
OUTSIDE FACE OF WALL
RET. WALL
BLDG. LINE
Replace Longit. Strut below deck See Bent 0 Elevation
6 SPA. AT 44-0" = 264-0"

LOWER DECK AND BRACING PLAN

NOTES:

All new Rolled Beams, Shapes and Plates shall be ASTM A 36, AISC Category I.

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III.

PEDESTAL DETERIORATION (Requires Type M-1 repair)

Column #	Damage
300	Exposed rebars on 3 sides
101	5" deep spalls, rebars corroded
202	Spalls & exposed rebars
302	Delaminated concrete, 6 S.F.
103	Delaminated concrete, 9 S.F.; exposed rebar
303	Cracked & delaminated concrete, 24 S.F.
104	Deteriorated rebar 4 sides, & 24 S.F. delaminated concrete, 5" deep.
304	Spalled & delaminated concrete 4 sides 24 S.F.
305	Delaminated concrete, 2 sides, 12 S.F.
106	3 S.F. delaminated & cracked concrete
306	6 S.F. delaminated concrete
307	Spalls & corroded rebars, all sides; 18 S.F. delaminated concrete, 5" deep.
108	Exposed rebars, & 5" deep delaminated conc. 3 sides
308	12 S.F. cracked + delaminated concrete, 2 sides
109	7 S.F. " " " "
209	10 S.F. " " " "
309	6 S.F. cracked + delaminated concrete,
110	3 S.F. cracked one side of Pedestal.
210	Spalls & exposed rebars, all sides, 36 S.F.
310	18 S.F. spalled & delaminated concrete, exposed bars
410	4 sides of pedestal deteriorated, 24 S.F.
	Summary: 290 S.F. of concrete to be repaired

Bent floorbeams and columns may be straightened by heat if required.
Columns which are out of plumb shall be plumbed to within 1/4" of vertical and made straight from the base up. See General Notes.

REFERENCES:	DWG. NO.
C.V.N. Note	302
Typical Cross Section	303
Existing Framing Plan	310
Stringer Connection Detail at Exp. Joint	333
Curb Stringer, Details at Exp. Joint	334, 335
Stringer Details	324
Stringer Schedules	327 to 330
Framing & Brg. Details, Detail 'C'	332
Fascia Stringer setting Dimension	331
Bent Elevations 0-13	313 to 317
Stringer to Col. Bracing Sh. 1 & 2	321 & 322
Exp. Joint Detail	346 to 350
Stringer to Col. Connect. Types 1 to 4	321 & 322
Detail "B"	314
Concrete Repairs	G74

Rev. 1	△ Plan Revisions	9/15/91

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPR.-FORWARD SECTION-BENTS 0-13
PROPOSED FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE [illegible]

NO. B-136

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	A.D.	AP/RN	AS BUILT [illegible]

ODOT TES 4-12-91

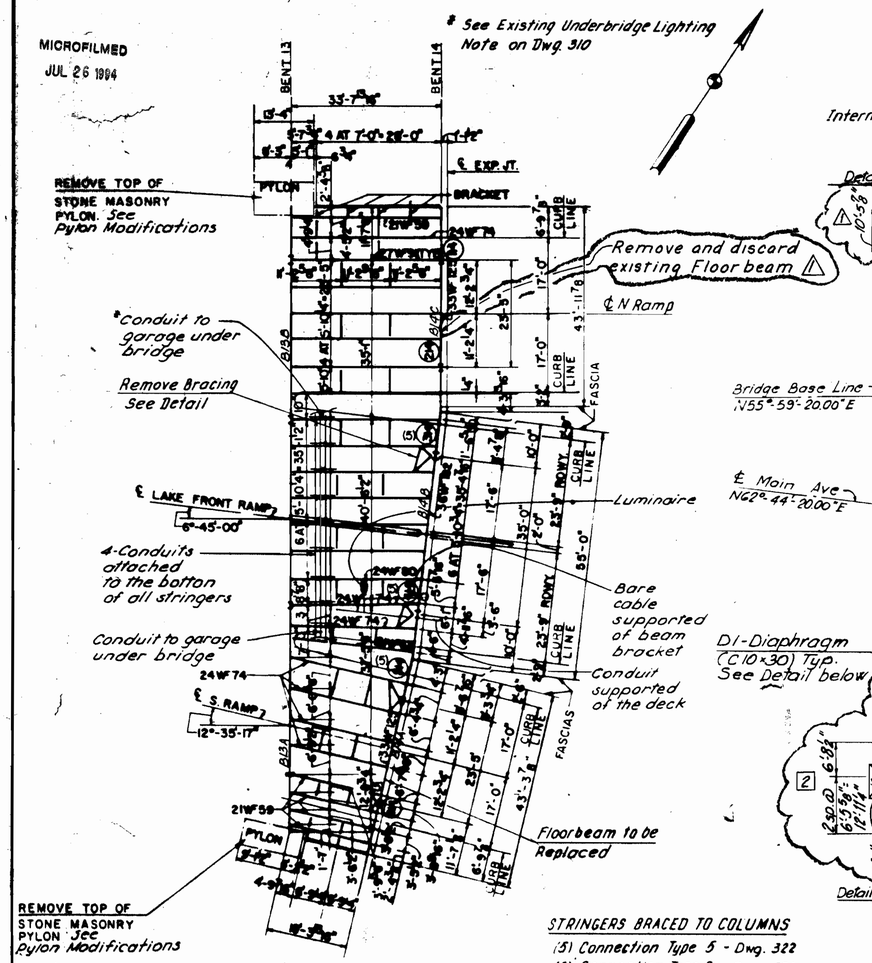
2-12 3-55

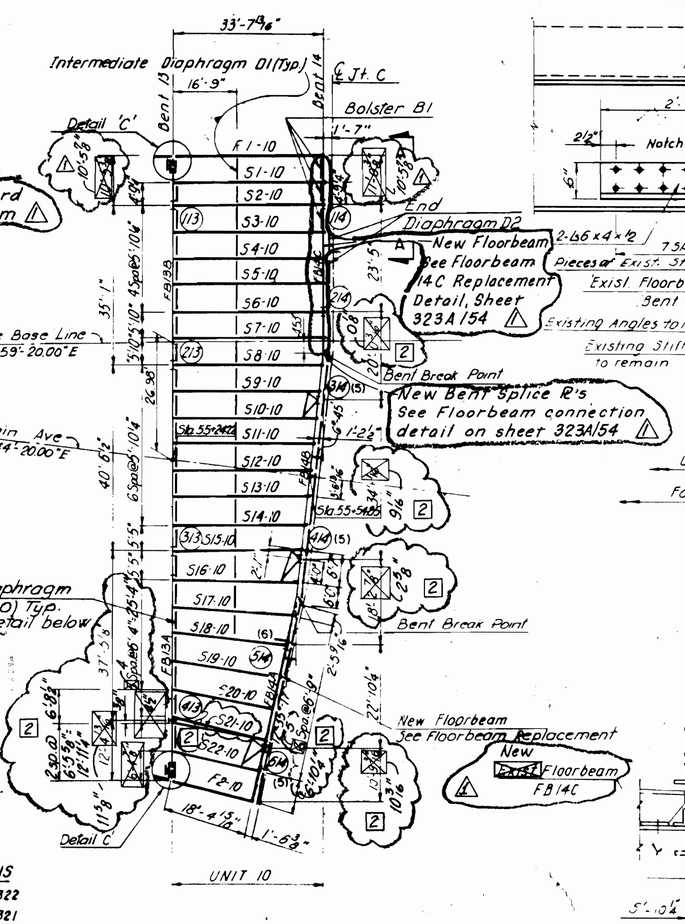
MICROFILMED
JUL 26 1994

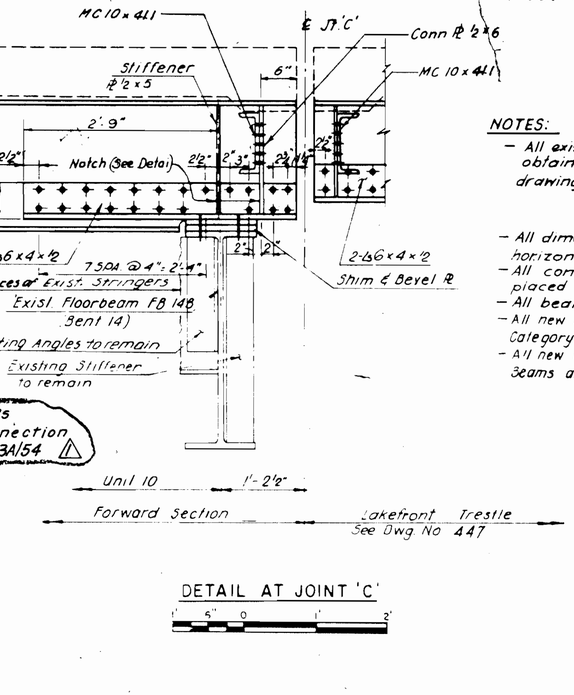
CUYAHOGA COUNTY
CUY - 2 - 14.66

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

307
547







DETAIL AT JOINT 'C'

NOTES:

- All existing dimensions, elevations and details were obtained from original contract plans and shop drawings and shall be verified in the field by the contractor.
- All dimensions shown on proposed plans are measured horizontally.
- All connection plates for intermediate diaphragms shall be placed perpendicular to flanges.
- All bearing stiffeners shall be vertical under full Dead Load.
- All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I.
- All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III.

LEGEND

- ⊕ Existing fastener (rivet or bolt) to remain in place.
- ● New bolts in all new steel, ⅞" Φ high strength bolt, unless otherwise noted.
- ⊖ Replace existing fastener with new bolt for the attachment of new steel to existing steel, ⅞" Φ high strength bolt unless otherwised noted.
- ⊕ New bolt for the attachment of new steel to existing steel, field drilled holes in existing steel to match shop drilled holes in new materials. ⅞" Φ H.S. bolt unless otherwise noted.

EXISTING FRAMING PLAN

0 8' 16' 32'

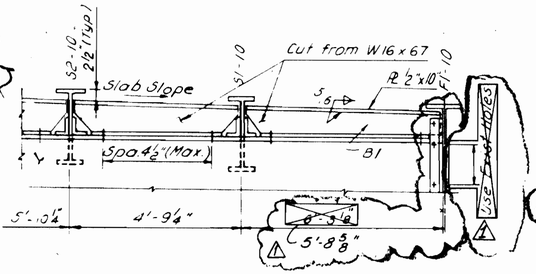
NOTE
Remove and discard all existing stringers, fascias and diaphragms.

STRINGERS BRACED TO COLUMNS
(5) Connection Type 5 - Dwg. 322
(6) Connection Type 6 - Dwg. 321

COLUMN NOTE
The following Columns were out of proper alignment during surveys done prior to Nov. 1988: 114, 214, 314, 414, 514 & 614.

PROPOSED FRAMING PLAN

0 8' 16' 32



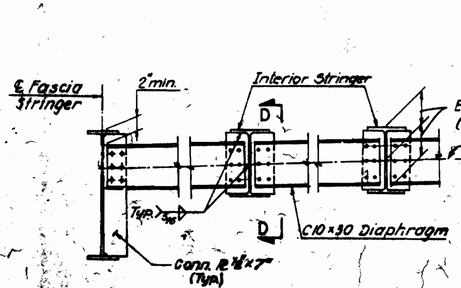
END BOLSTER SUPPORT-B1

SECTION A-A

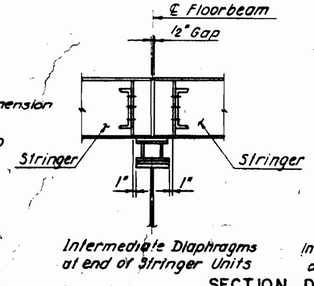
0 6" 1' 2' 3' 4'

REFERENCES:

	DWG. NO.
Concrete Repair Details	674
Stringer Details	324
Stringer Schedules	327-330
Fascia Stringer setting Dimension	331
Floorbeam replacement	323
Stringers-Column bracing Sh 1 & 2	321, 322
Detail "C"	332
Pylon Modifications	308
⚠ Floorbeam 14C Replacement Detail	323A

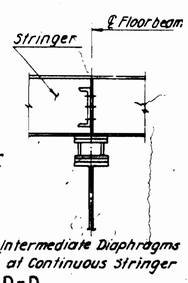


NEW INTERMEDIATE DIAPHRAGMS AT FLOORBEAM

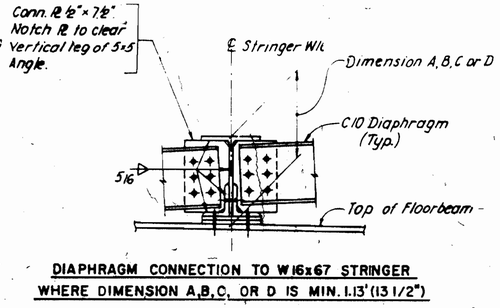


Intermediate Diaphragms at end of Stringer Units

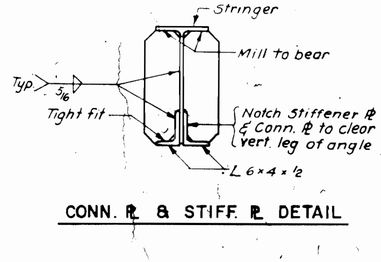
SECTION D-D



Intermediate Diaphragms at Continuous Stringer



DIAPHRAGM CONNECTION TO W16×67 STRINGER WHERE DIMENSION A, B, C, OR D IS MIN. 1.13' (13 1/2")



CONN. ℞ & STIFF. ℞ DETAIL

Rev. 2	2 Plan Revisions	5/2/91
Rev. 1	⚠ Plan Revisions	3-1-91

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

E. APPR.- FORWARD SECTION - BENTS 13 & 14

EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 20 1989

NO. B-136

312
54

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	T.C.	AR/RMV	AS BUILT 2/94

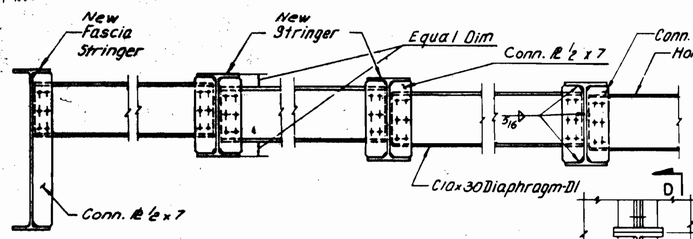
ODOT 5-15-91 TES

MICROFILMED
JUL 27 1994

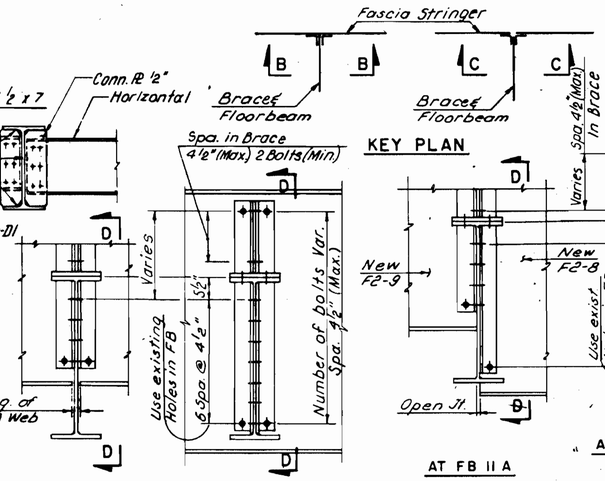
FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

327
547

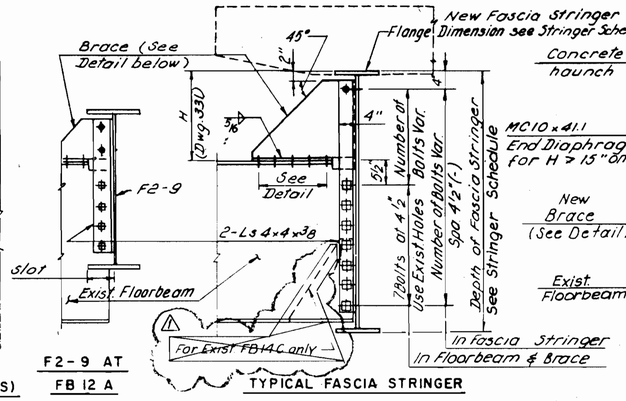
CUYAHOGA COUNTY
CUY - 2 - 14.66



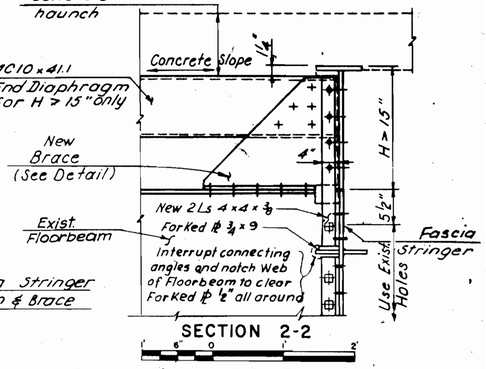
NEW INTERMEDIATE DIAPHRAGM - DI



AT FB 12A | AT FB-3, FB-6 (N), FB-9 & FB 12B | AT FB 11A | AT FB-2, FB-5, FB-6 (S) FB-8 & FB 11B



F2-9 AT FB 12A | TYPICAL FASCIA STRINGER



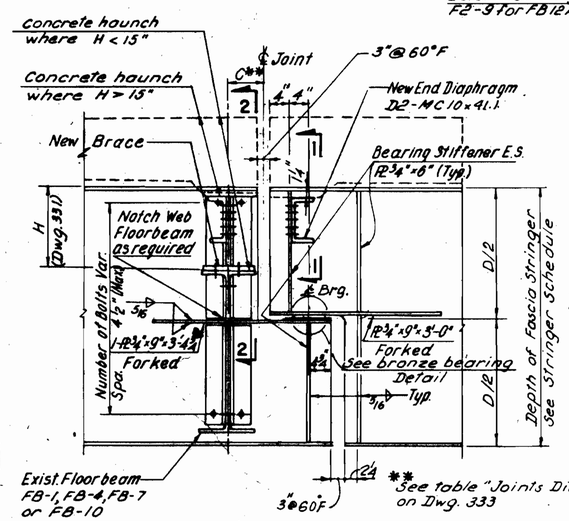
SECTION 2-2

CONCRETE HAUNCH AT FIX. END SUPPORTED BY END DIAPHRAGM WHERE H > 15" BY FLOORBEAM WHERE H < 15"

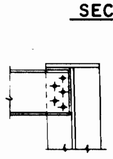
SECTION D-D

SECTION C-C

TYPICAL FASCIA STRINGER CONNECTION

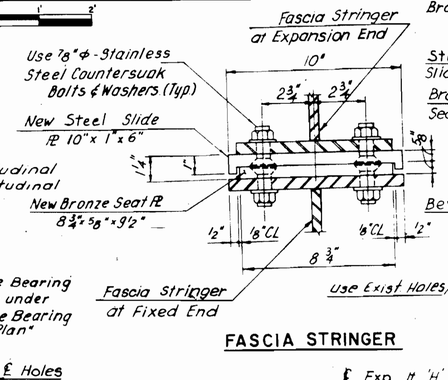


SECTION B-B

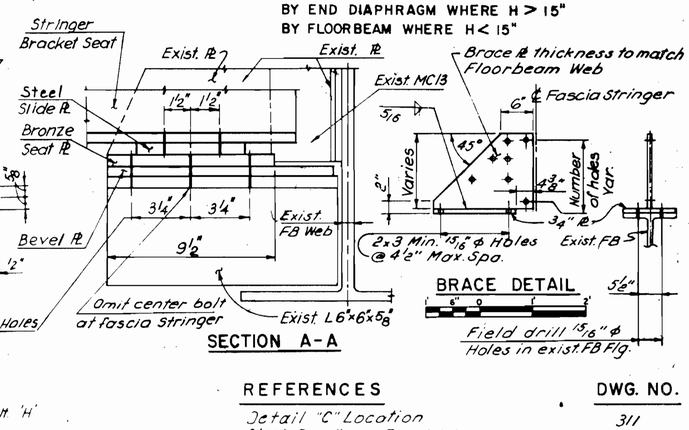


SECTION 1-1

Note: New Bronze Bearing Shall be paid for under Item 516 "Bronze Bearing Devices as per Plan"



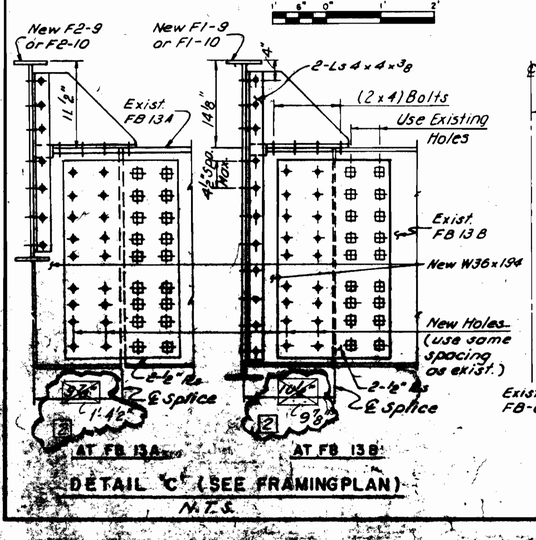
FASCIA STRINGER



SECTION A-A

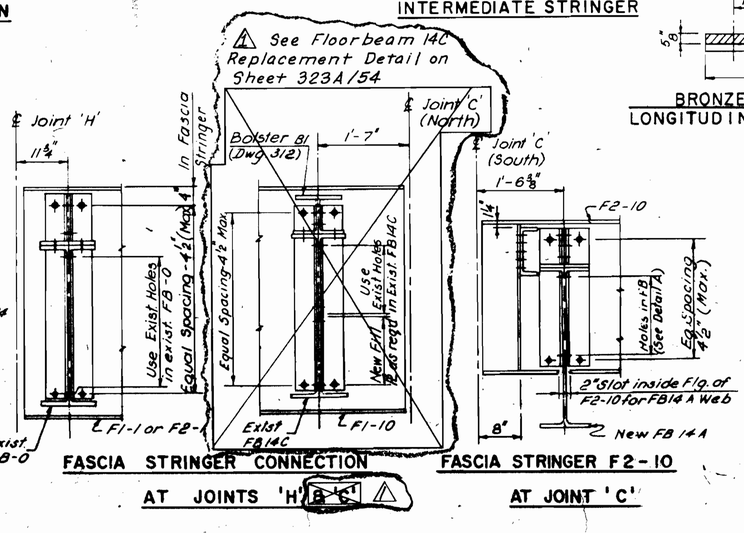
BRACE DETAIL

FASCIA STRINGER CONNECTION AT EXPANSION JOINTS



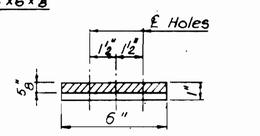
DETAIL 'C' (SEE FRAMING PLAN)
N.T.S.

INTERMEDIATE STRINGER

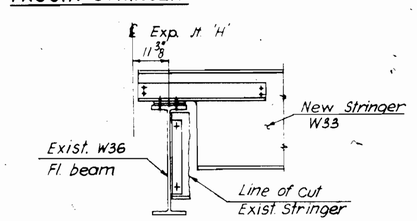


FASCIA STRINGER CONNECTION AT JOINTS 'H' & 'C' ⚠

FASCIA STRINGER F2-10 AT JOINT 'C'

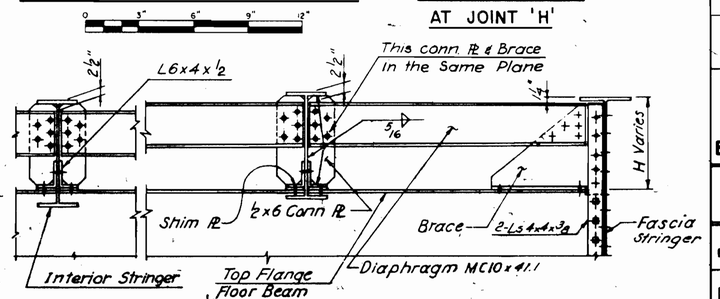


BRONZE SLIDE DETAIL
LONGITUDINAL SECTION



STRINGER DETAIL AT JOINT 'H'

EXPANSION BEARING DETAILS



(CONNECTION TO PART OF EXIST. STRINGERS NOT SHOWN)

TYPICAL END DIAPHRAGM CONNECTION D2 (FIX SIDE)

REFERENCES	DWG. NO.
Detail "C" Location	311
Steel Details at Exp. Joint	333
Stringer Schedules	325-330
New Floorbeam FB 14A & Detail A	323
Framing Plan and Legend	312

Rev. 2	2	Plan Revisions	5/2/91
Rev. 1	⚠	Plan Revisions	2-28-91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - FORWARD SECTION
FRAMING AND BEARING DETAILS

BRIDGE NO. 193 | REPORT NO. 7119 | DATE Oct. 20, 1988

NO. B-136

332
54

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	T.C.	V.H.	AS BUILT 2/94

ODOT 5-15-91 TES

MICROFILMED
JUL 27 1994

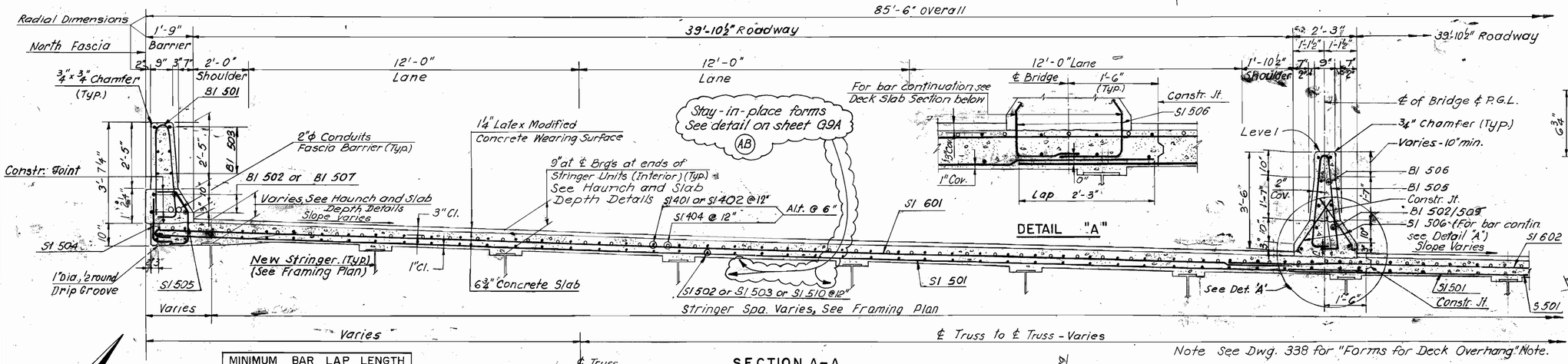
Note: Bars in Span 1 are designated S1500, S1600, B1500 etc.
Bars in Span 2 are designated S2500, S2600, B2500 etc.

NOTES: For Deck Slab Depth Note, see Dwg. Deck Slab Reinf.-3
For Stringer Haunch Details see Dwg. Deck Slab Reinf.-4

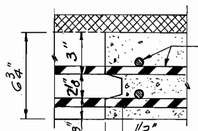
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

335
547

CUYAHOGA COUNTY
CUY-2-14.66

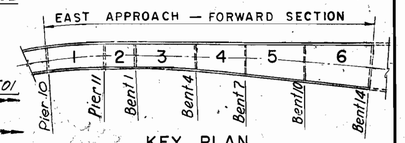


Note See Dwg. 338 for "Forms for Deck Overhang" Note.



LONGITUDINAL

CONSTRUCTION JOINT DETAILS
N.T.S. (TYP.)

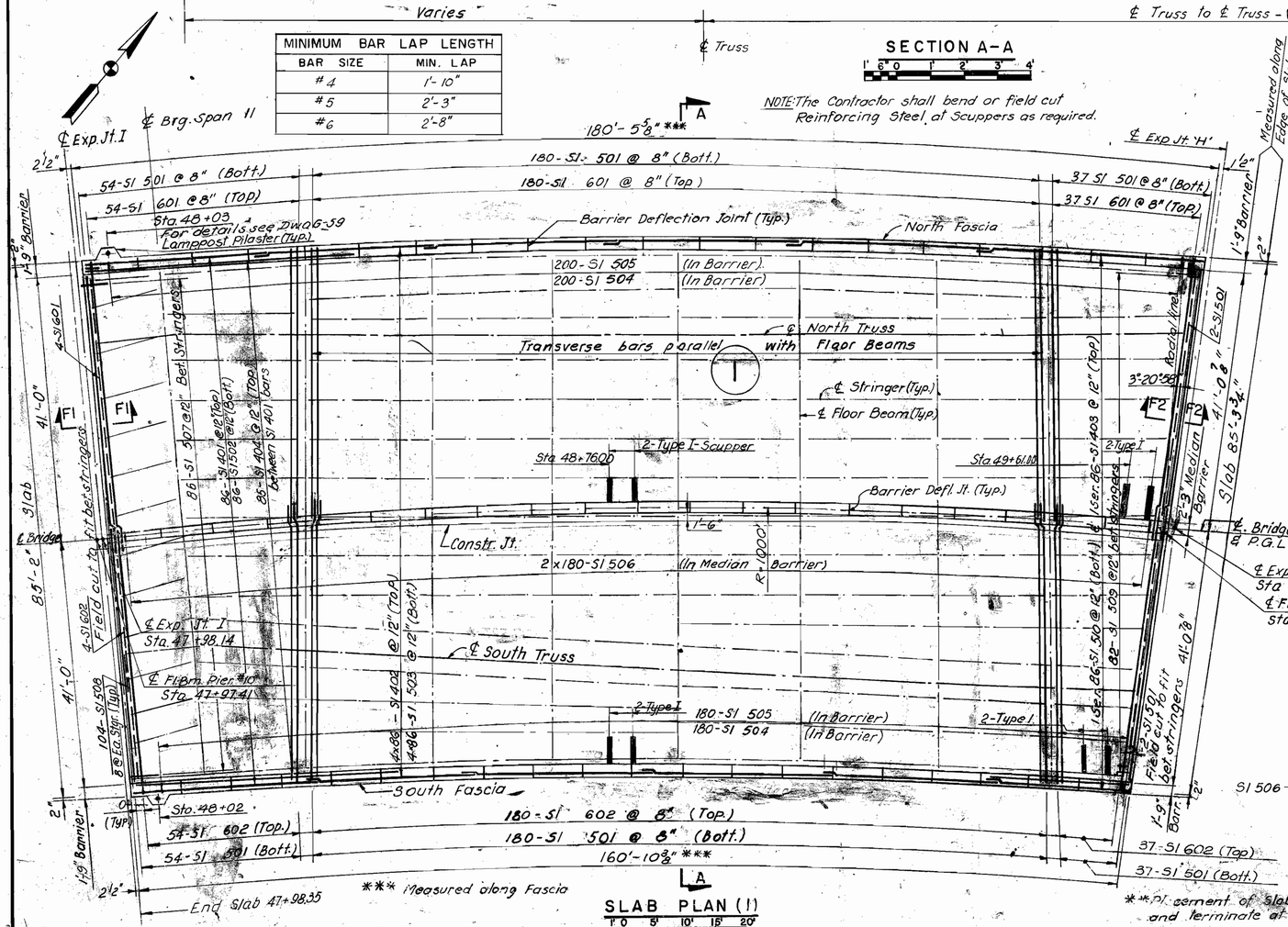


KEY PLAN

MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
#4	1'-10"
#5	2'-3"
#6	2'-8"

SECTION A-A
1' 6" 0 1' 2' 3' 4'

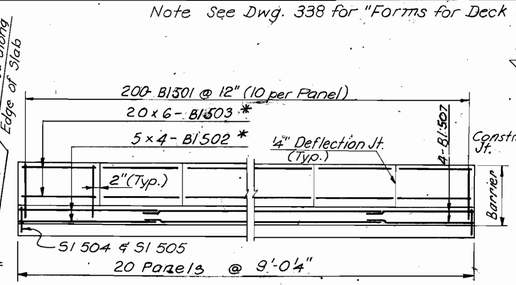
NOTE: The Contractor shall bend or field cut Reinforcing Steel at Scuppers as required.



SLAB PLAN (1)
1' 0 5' 10' 15' 20'

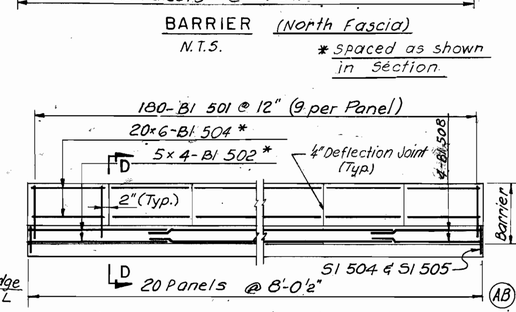
*** Measured along Fascia

** Pl. cement of slab (1) shall begin at Joint 'H' and terminate at Joint 'I'

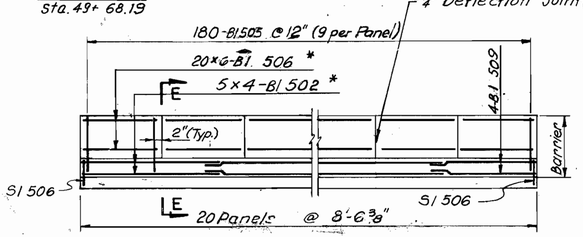


BARRIER (North Fascia)
N.T.S.

* Spaced as shown in Section.

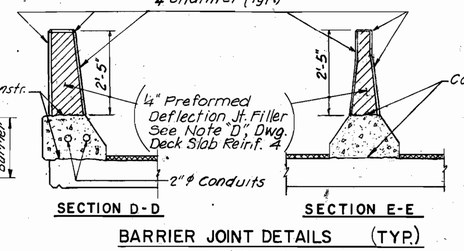


BARRIER (South Fascia)
N.T.S.



MEDIAN BARRIER
N.T.S.

NOTE: All Reinforcing Bars for the East Approach-Forward Section shall be prefixed F.S.



BARRIER JOINT DETAILS (TYP.)
N.T.S.

REFERENCES:

	DWG. NO.
Haunch and Slab Depth Details	338
Deck Slab Depth Note and Deck Slab Reinf.-3	342
Deck Slab Reinf.-4	343
General Notes	66 to 623
Proposed Plan and Elevation	302
Roadway Elevations	305 to 307
End Haunch Dimensions	344
Deflection Charts	337 to 339
Scupper details	GS4-655
Lighting Post-Pilaster	668
Deck Joint Details	350
Framing Plans	309 to 312
Sections F1-F1 & F2-F2	344
Bar List	351-354
(Stay-in-place forms	G9A)

PAVLO ENGINEERING CO., P.C.
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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE
CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH — FORWARD SECTION
DECK SLAB REINFORCEMENT - I

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 20 1989

NO. B-136

340/54

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B. G.	J.H.	R. D. M.	AS BUILT 2/94

MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
#4	1'-10"
#5	2'-3"
#6	2'-8"

CUYAHOGA COUNTY
CUY - 2 - 14.66

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

Rev. 1 △ Plan Revision 3-7-91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH – FORWARD SECTION
DECK SLAB REINFORCEMENT-2

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 70 1989

NO. B-136

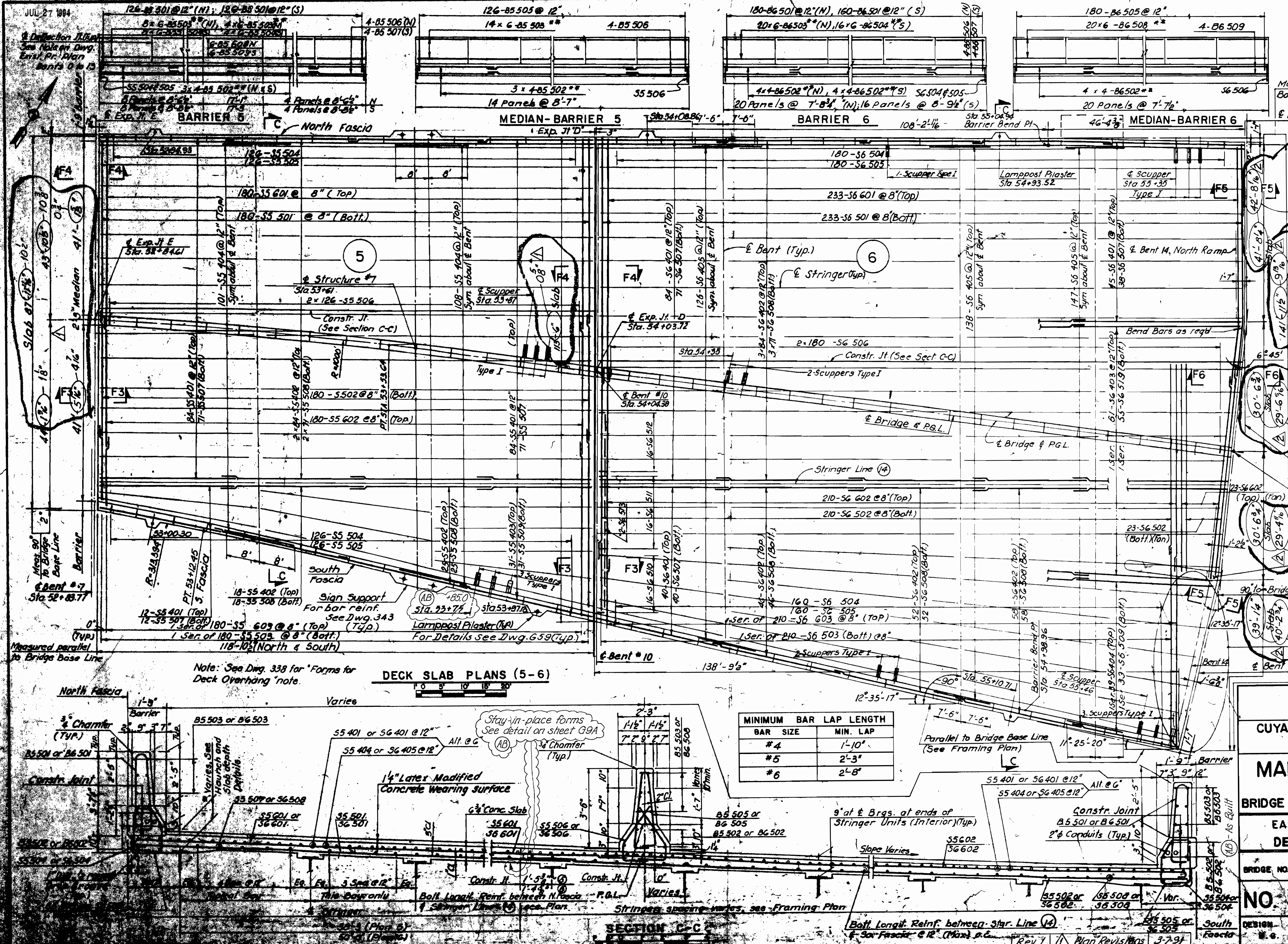
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B. G.	J.H	R.D.M.	AS BUILT 2/94

ODOT 3-27-91 TES

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

337/547

CUYAHOGA COUNTY
CUY-2-14.66



** Spaced as shown in Sections.
All Barriers N.T.S.

NOTE: The Contractor shall bend or field cut reinforcing steel at Scuppers as required.

NOTES:

A Haunch Width as shown on Haunch and Depth of Slab Details shal be used for computing quantity of Concrete

DECK SLAB DEPTH:
The distance shown from top of deck to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, less 1¼" wearing surface even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, less 1¼" even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

For References and Details, see Dwg. 340

"G.R.E.A.T." System Impact Attenuator and backup unit. For bar Reinf. see Dwg. 345

NOTE: All reinforcing bars for the East Approach-Forward Section shall be prefixed FS.

See Det. T Dwg. Deck Slab Reinf.-4

MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
#4	1'-10"
#5	2'-3"
#6	2'-8"

Rev.		Description	Date
Rev. 3	3	Plan Revisions	11-15-91
Rev. 2	2	Plan Revisions	10-1-91
Rev. 1	1	Plan Revisions	3-7-91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH — FORWARD SECTION
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO.

NO. B-136

342/54

AS BUILT 2/94

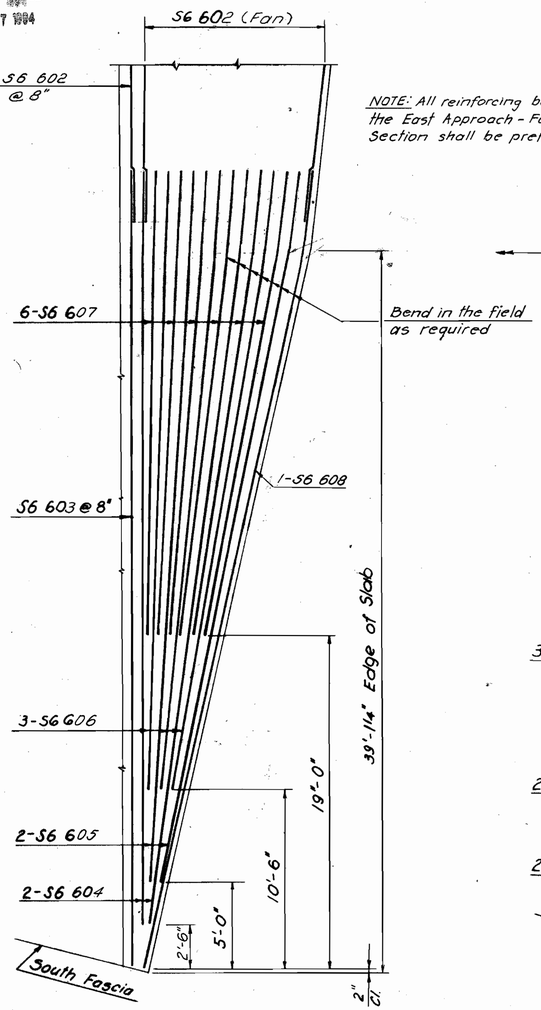
MICROFILMED JUL 27 1994

MICROFILMED
JUL 27 1994

FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

338
547

CUYAHOGA COUNTY
CUY-2-14.66

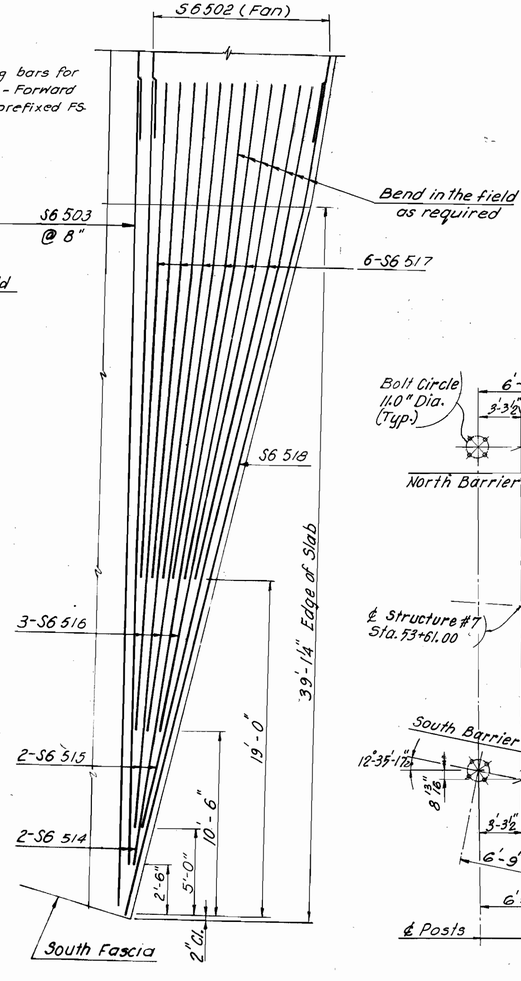


DETAIL I - Top of Slab

1' 0 4' 8'

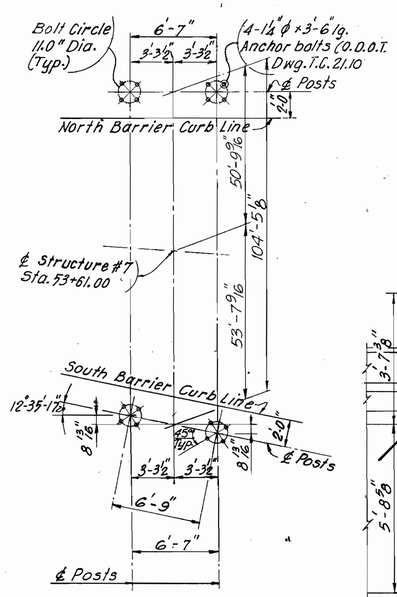
NOTE: For location of Detail I, see Dwg. Deck Slab Reinf.-3

NOTE: All reinforcing bars for the East Approach - Forward Section shall be prefixed FS.



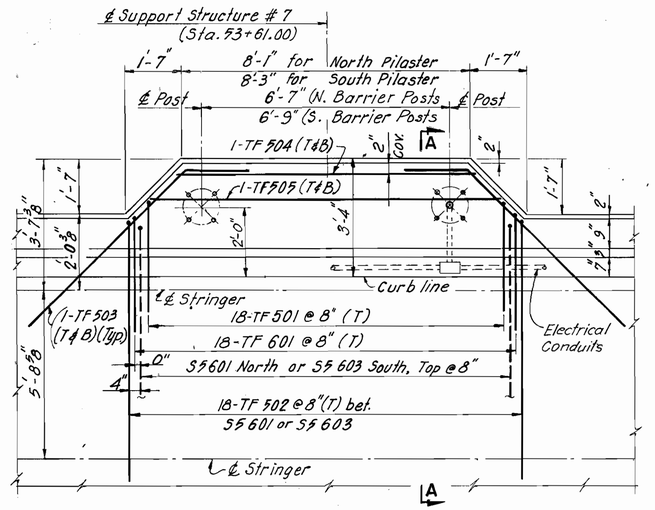
DETAIL I - Bott. of Slab

1' 0 4' 8'



KEY PLAN

See Dwg. "Deck Slab Reinforcement-3"



ADDITIONAL REINFORCEMENT AT SIGN SUPPORT

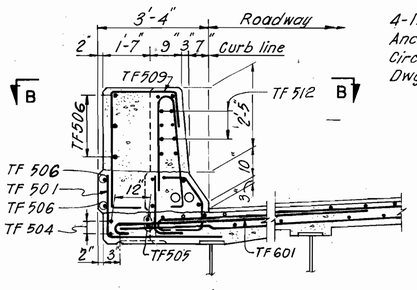
Note: Typical Slab & Barrier Reinforcement omitted for clarity. (See Dwg. 342)
- North Pilaster shown
- South Pilaster similar.
- For location and details, see Key Plan this Dwg.

REFERENCES
Deck Slab Reinf.-3 & Notes

DWG. NO.
342

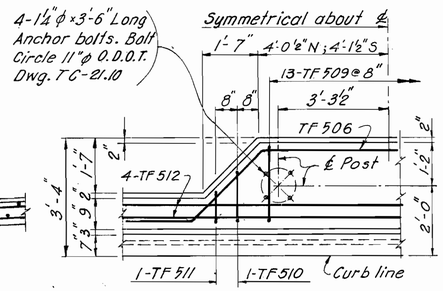
NOTE "D"
Preformed deflection joint filler in barriers shall be either ¼" thick gray sponge rubber (AASHTO M-153) or ½" gray cellular polyvinyl chloride (PVC) sponge. Concrete parapets above upper construction joints shall be placed in alternate sections by the use of bulkheads. Closing sections shall be placed after removal of bulkheads and after placement of joint filler.

MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
#4	1'-10"
#5	2'-3"
#6	2'-8"



SECTION A-A

1' 6" 0 1' 2' 3' 4'



SECTION B-B

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - FORWARD SECTION

DECK SLAB REINFORCEMENT-4

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 20, 1989

NO. B-136

343/54

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	J.H.	R.D.M.	AS BUILT 2/94

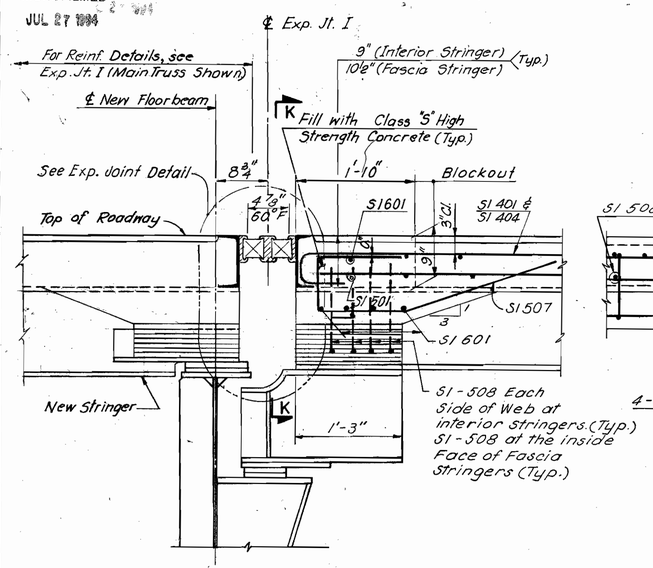
338

MICROFILMED
JUL 27 1994

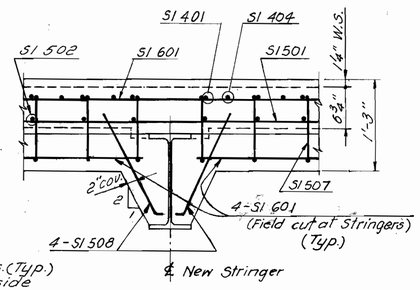
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

339
547

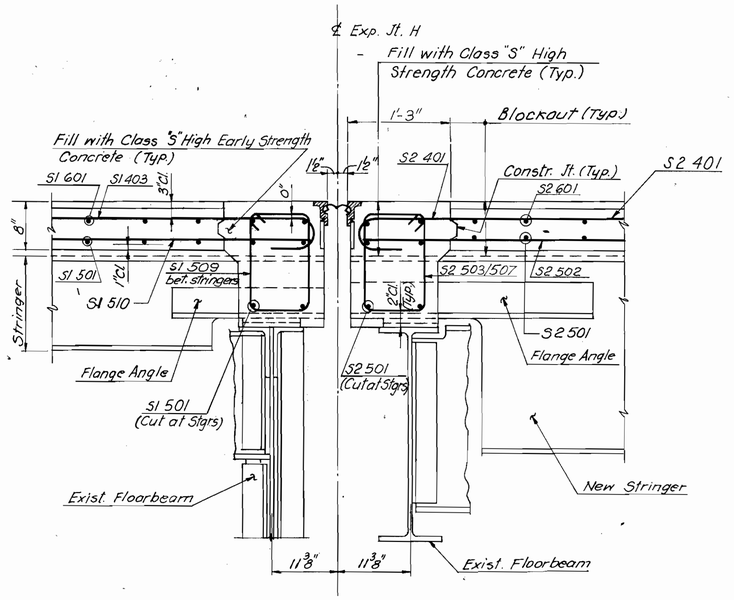
CUYAHOGA COUNTY
CUY-2-14.66



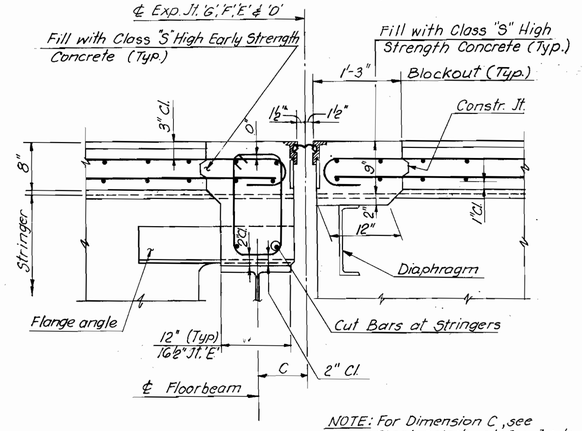
SECTION F1-F1



SECTION K-K

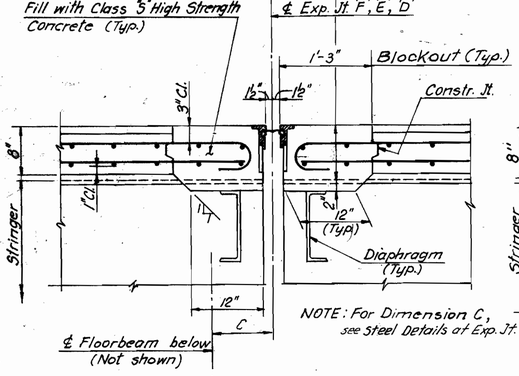


SECTION F2-F2



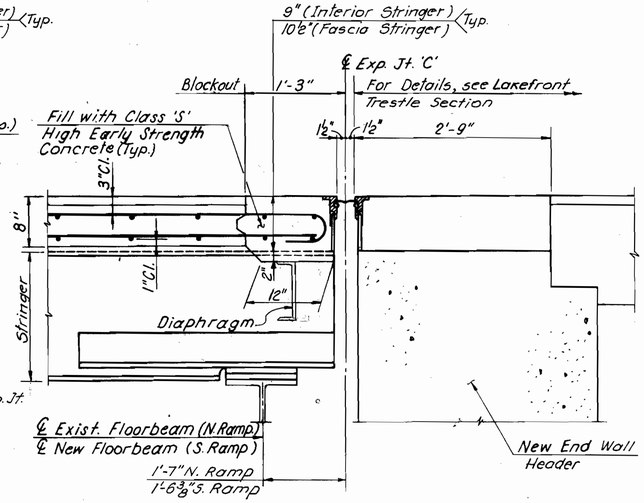
NOTE: For Dimension C, see Steel Details at Exp. Joints.

SECTION F3-F3

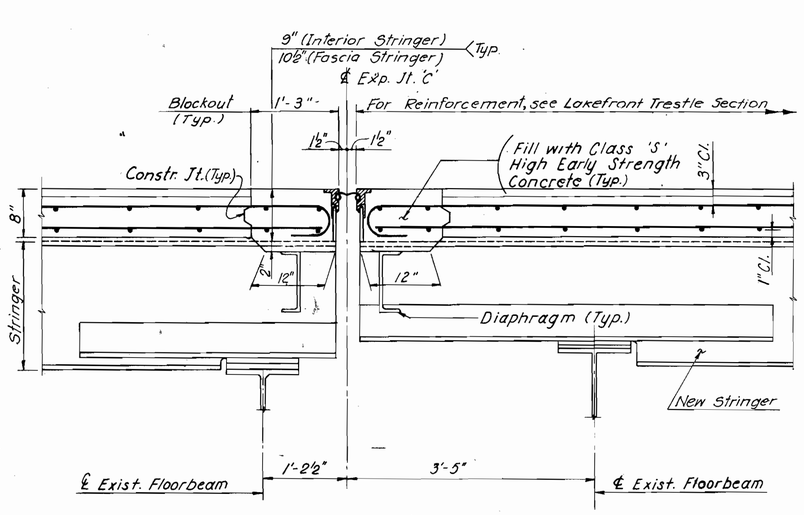


NOTE: For Dimension C, see Steel Details at Exp. Jt.

SECTION F4-F4



SECTION F5-F5



SECTION F6-F6

REFERENCES	DWG. NO.
Slab Plans	340-343
Steel Details at Exp. Jt. C	333
Steel Details at other Exp. Jts	333
Expansion Joint I - Plan & Detail	278 & 279
Expansion Joint H	349
Expansion Joints F & G	348
Expansion Joints D & E	347
Expansion Joint C	346
Location of Section F1-F1	340
Location of Sections F2-F2, F3-F3 & F4-F4	341
Location of Sections F5-F5 & F6-F6	342
Dimension 'C'	333
Stay-in-place forms - (AB) G9A	

(AB) As Built

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - FORWARD SECTION
DECK SLAB REINFORCEMENT - 5

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 20, 1989

NO. B-136

344/54

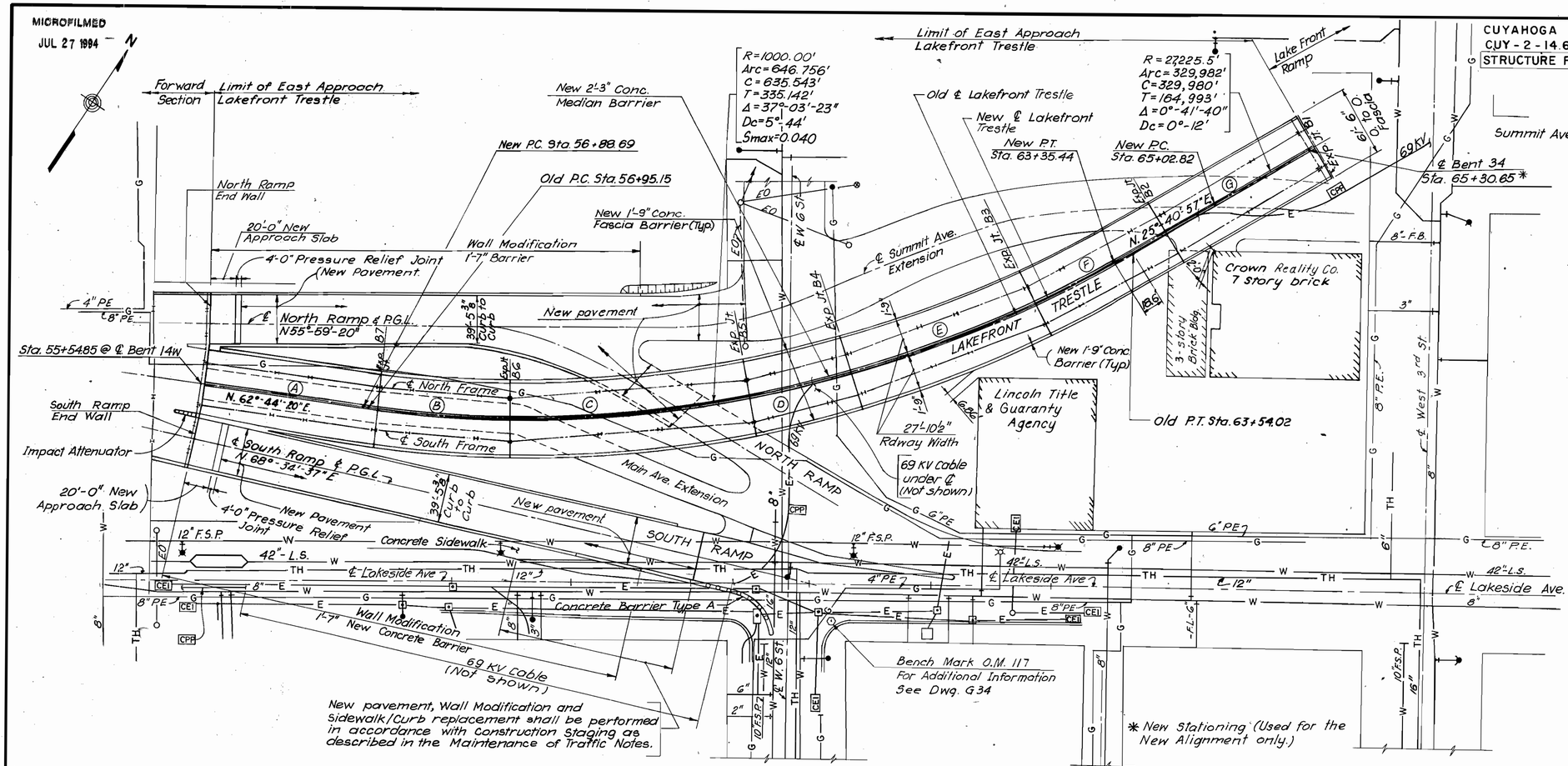
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
M.M.	J.H.	B.P.	AS BUILT 2/94

MICROFILMED
JUL 27 1994

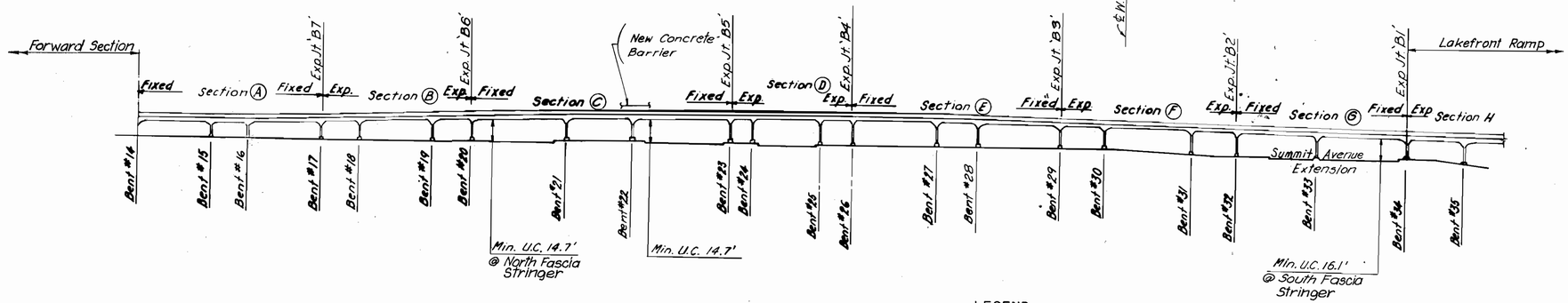
CUYAHOGA COUNTY
CUY-2-14.66
STRUCTURE FILE NUMBER 1800 035

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

351/547



PLAN



SOUTH ELEVATION (DEVELOPED)

LEGEND

- Overhead Electric Lines — CEI — EO — EO —
- C.E.I. Utility Poles
- Cleveland Thermal Energy Co. (Steam Line) — TH — TH —
- East Ohio Gas — G — G —
- Ohio Bell Tel. Co. — B — T — T —
- Cleveland Public Power Co. — CPP — E — E —
- Water — W — W —
- Sewers — S — S —
- Manhole
- Cleveland Electric Illuminating Co. — CEI — E — E —

EAST APPROACH LAKEFRONT TRESTLE

SCOPE OF REHABILITATION WORK

THE SECTION IS A 974 FOOT LONG, FOUR LANE, DIVIDED, STEEL VIADUCT, CONSISTING OF TWENTY TRESTLE SPANS OF CONTINUOUS LONGITUDINAL STEEL GIRDER FRAMES, CARRYING FLOOR BEAMS AND STRINGERS, AND TWO RAMPS ON FILL.

THE WORK INCLUDES :

1. REMOVAL OF EXISTING I-BEAM-LOK DECK, SIDEWALKS, RAILINGS, FASCIA PLATES, STRINGERS, ETC.
2. REINFORCEMENT OF RIGID FRAMES AND BRACKETS.
3. INSTALLATION OF NEW STEEL STRINGERS AND FASCIA BEAMS.
4. CONSTRUCTION OF NEW LIGHTWEIGHT CONCRETE DECK SLABS, BARRIERS, LUMINAIRE SUPPORTS, DRAINAGE DEVICES AND ARMORED JOINTS.
5. MODIFICATION OF ABUTMENTS AND REPLACEMENT OF PAVEMENT AT SOUTH AND NORTH RAMPS.
6. REPAIR OF DAMAGED CONCRETE WALLS AND COLUMN PEDESTALS.
7. INSTALLATION OF NEW LIGHTING AND TRAFFIC CONTROL SYSTEMS.
8. FIELD COATING OF SOME EXISTING STRUCTURAL STEEL, AND PAINTING OF NEW STRUCTURAL STEEL.
9. COATING OF THE EXPOSED EXISTING AND NEW CONCRETE SURFACES.

The Contractor shall make provisions to protect all areas under the Bridge used by Pedestrians or vehicles, from falling debris during removal of the existing superstructure and during erection.

C.V.N. NOTE

Structural steel for new or repaired Main Load Carrying members subjected to tension or stress reversal, shall meet the "Longitudinal Charpy V-notch" requirements of 15 Ft.-Lb. @ 40° F.
Main load carrying members for this section are limited to: Stringers, Floor Beam Flanges & Web, Bracket Top Flange and Web & Tie Plates, Reinforcing Plates for frames and Link Plates.
See also "GENERAL NOTES" Item 513.

NOTES:

For lighting, drainage and sign support structures, see roadway and deck plans.

REFERENCE	DWG. NO.
Typical Cross Sections	403
Profiles & Superelevation	405 & 406
Alignment Details	G34 & 639
Maintenance of Traffic Notes	627
Lakeside Ave at 6th St.	
Final Alignment	614
IMPACT ATTENUATOR	345

50' 0 50' 100'

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NEW YORK, NEW YORK

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH—LAKEFRONT TRESTLE
PROPOSED PLAN & ELEVATION

BRIDGE NO. 193 REPORT NO. 7119 DATE OCT. 28, 1989

NO. B-136

402/71

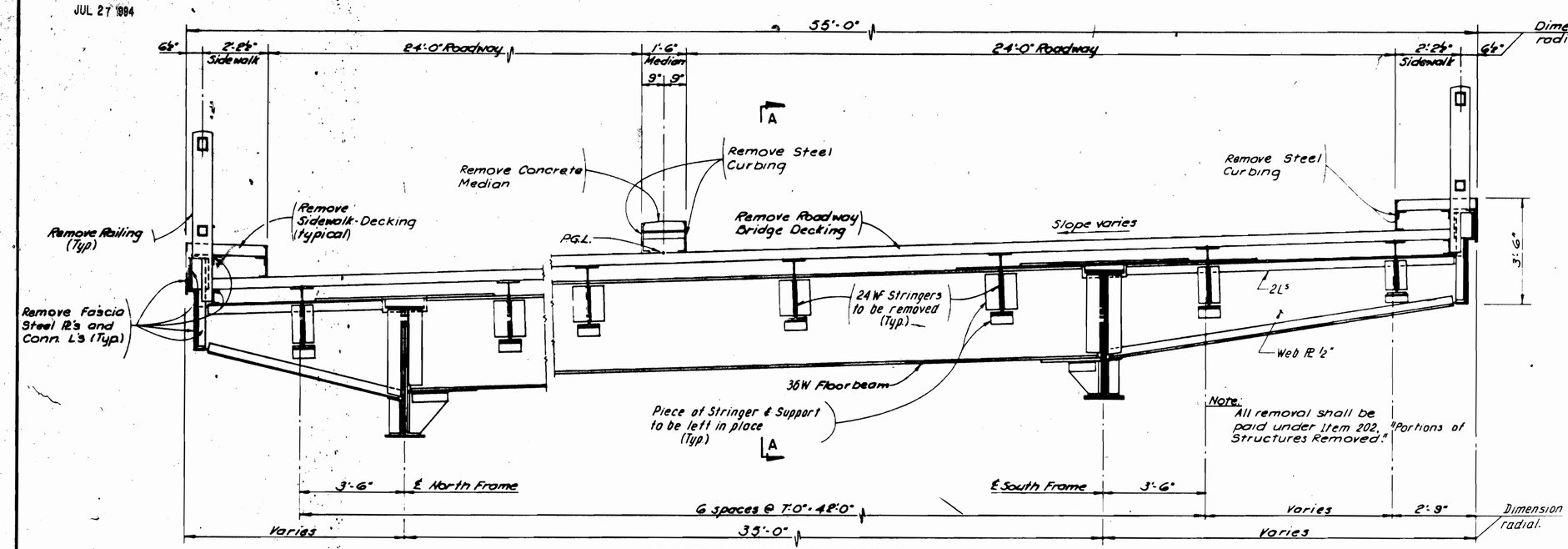
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
S.H.	C.P.J.	C.K.D./D.G.	AS BUILT 2/94

MICROFILMED
JUL 27 1994

CUYAHOGA COUNTY
CUY - 2 - 14.66

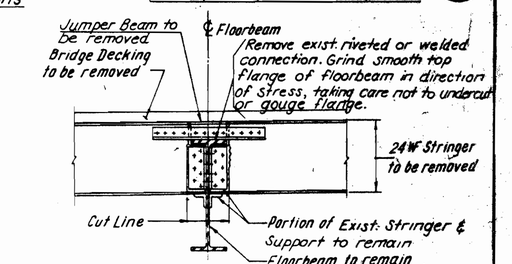
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

352
547

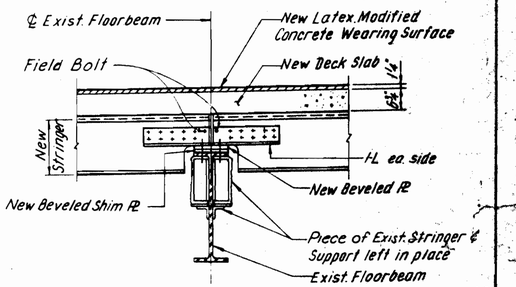


EXISTING CROSS SECTION *(Looking East)*

1' 6" 0 1' 2' 3' 4'



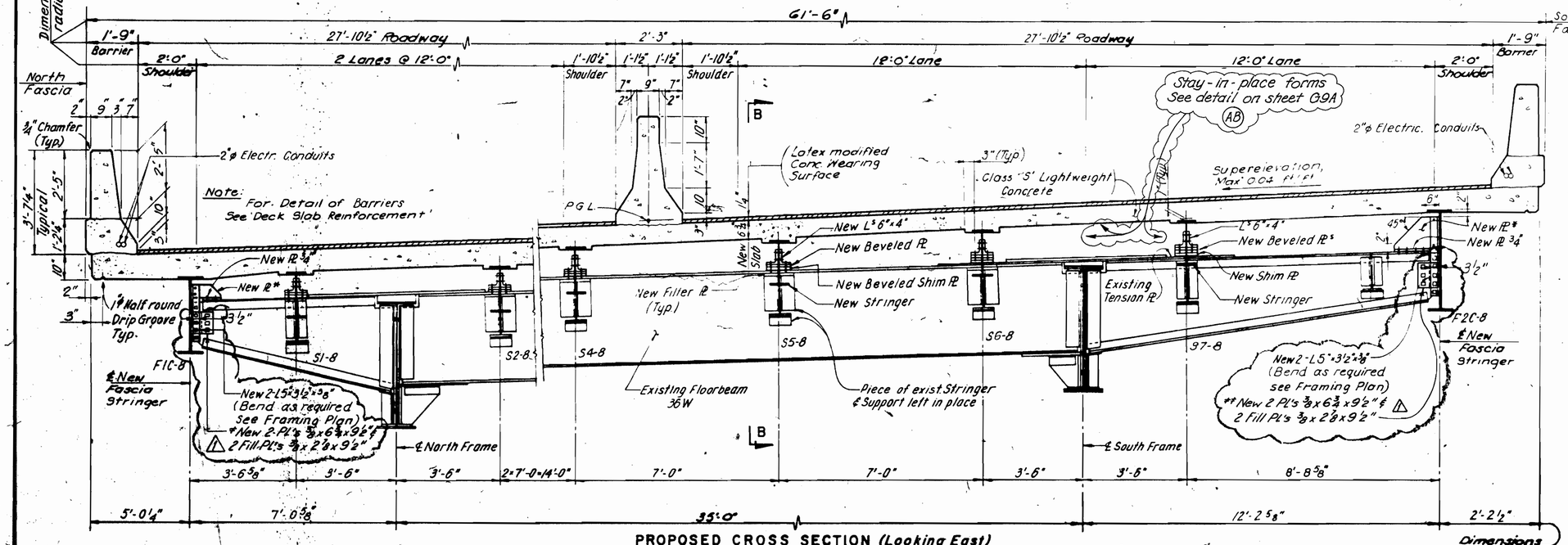
SECTION A-A
EXISTING CONDITION



SECTION B-B
NEW STRINGERS

NOTE:
For stringer connection details to floorbeams with rivets at top flange see Drawing No. 446

*Only at Brackets 14N, 16N, 16AN, 18N, 18AN 19N, 20BN, and 21N.
⚠ **Only at Brackets 14S, 14AS, 15S, 16S, 16AS, 18S, 18AS, 19S and 22AS.



* Pl Thickness to match Bracket Web

PROPOSED CROSS SECTION *(Looking East)*
(SECTION "C" UNIT 8 AT C5 SHOWN)
For all others see Deck / Framing Offsets Table

1' 6" 0 1' 2' 3' 4'

REFERENCES:

	DWG. NO.
Existing Plan & Elevation	401
Proposed Plan & Elevation	402
Framing Plan	427, 428
Deck / Framing Offsets Table	460

(AB) - As Built

Rev. 1	⚠ Plan Revisions	7/22/91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH-LAKEFRONT TRESTLE
TYPICAL CROSS SECTIONS

BRIDGE NO. 193 REPORT NO. 7119 DATE OCT. 28, 1971

NO. B-136

403
71

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G./D.G.	A.D.	C.K.D.	AS BUILT 2/92

O.D.O.T. 12-9-91 T.E.S.

MICROFILMED
JUL 27 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73 (51)	

376
547

CUYAHOGA COUNTY
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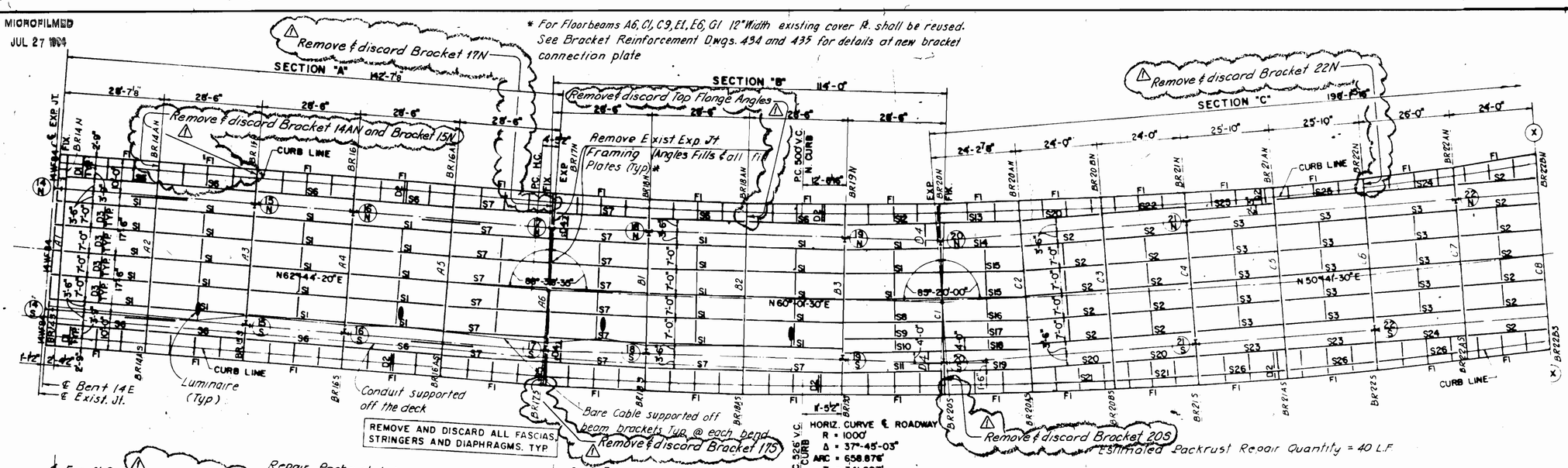
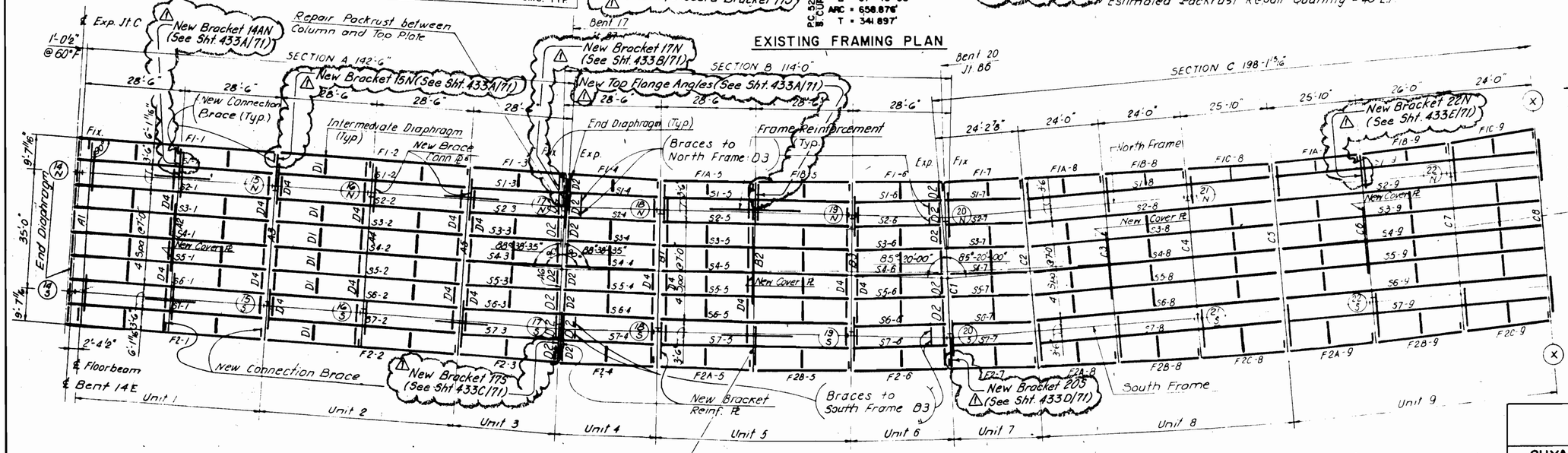
* For Floorbeams A6, C1, C9, E1, E6, G1 12" Width existing cover Pl. shall be reused. See Bracket Reinforcement Dwgs. 434 and 435 for details at new bracket connection plate



EXISTING FRAMING PLAN



PROPOSED FRAMING PLAN

LEGEND
- Existing member to remain
- New member or Reinf. Pl
- Reinforcement of Existing Bracket

Bent floor beams may be straightened by heat if required. See General Notes

Place all new Stringers at existing Stringer Locations except for Stringers 34-11 and 31-8

DAMAGE TO CONCRETE OF COLUMNS

Column	Damage
14S	North face heavily spalled; exposed bars.
15N	Spalls + exposed rebars on East face
22S	Spalls on East face

Summary of concrete deterioration for dwg's 427 & 428
100 S.F. require type M-1 repairs
(See "Concrete repair details)

NOTES:
- All intermediate Diaphragms shall be located halfway between floorbeams
- See C.V.N. Note on Dwg. 402

Notes:
1. All new stringers shall be installed vertical
2. For finishing machine support notes, see Dwg. G-7
3. Welding of attachments shall not be permitted in the tension zone of the stringers.
4. Tension zone is 5'-0" each side of interior supports.

NOTES:
- All existing dimensions, elevations and details were obtained from original contract plans and shop drawings and shall be verified in the field by the contractor.
- All dimensions shown on proposed plans are measured horizontally.
- All connection plates for intermediate diaphragms shall be placed perpendicular to flanges.
- All bearing stiffeners shall be vertical under full Dead load.
- All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I
- All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III

REFERENCES:

	DWG. NO.
Typical Cross Section	403
Bracket and Floor Beam Reinforcement Details	434
Frame Girder Reinforcement Details	429, 430, 431
Fascia Beam Setting Dimensions	444
Miscellaneous Details	445, 446
Concrete Repair Details	074
Connection Braces and Diaphragm Details	403
Stringer Schedules	438 to 443
Detail at Expansion Joints	447, 448
Deck/Framing Offset Table	460

Rev. 1	⚠ Plan Revisions	3/15/91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

E. APPR.-LAKEFRONT TRESTLE, BENT 14-22

EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE: OCT. 28, 1989

NO. B-136

427/71

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	J.H.	W.T.	AS BUILT 2/94

O.D.O.T. 5-20-91 T.E.S.

428

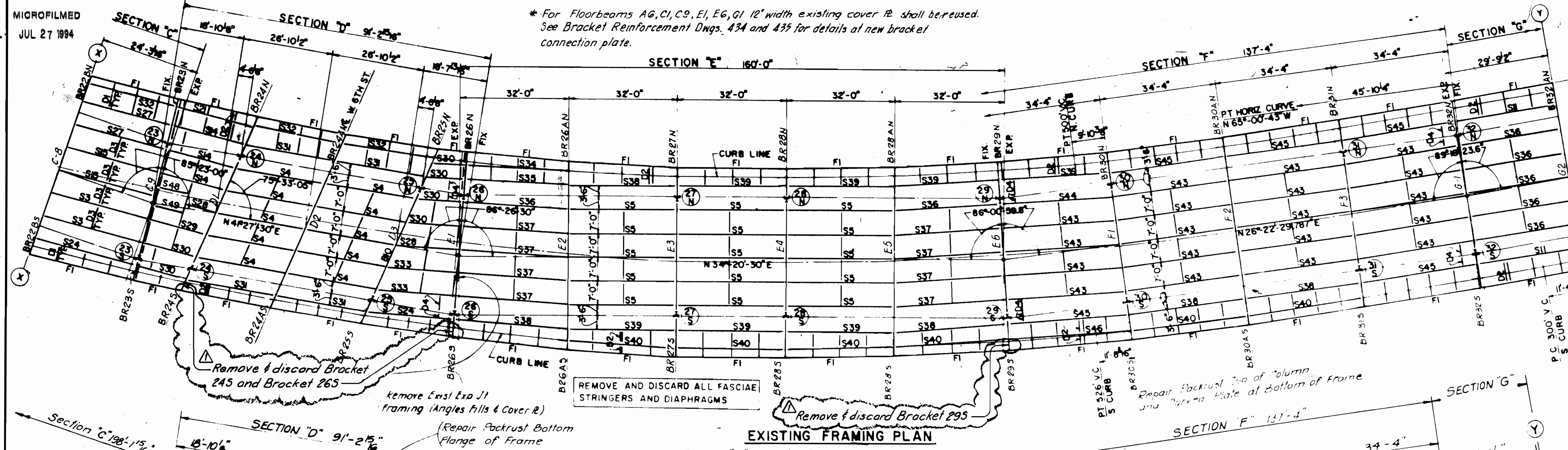
MICROFILMED
JUL 27 1994

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

377 / 547

CUYAHOGA COUNTY
CUY-2-14.66

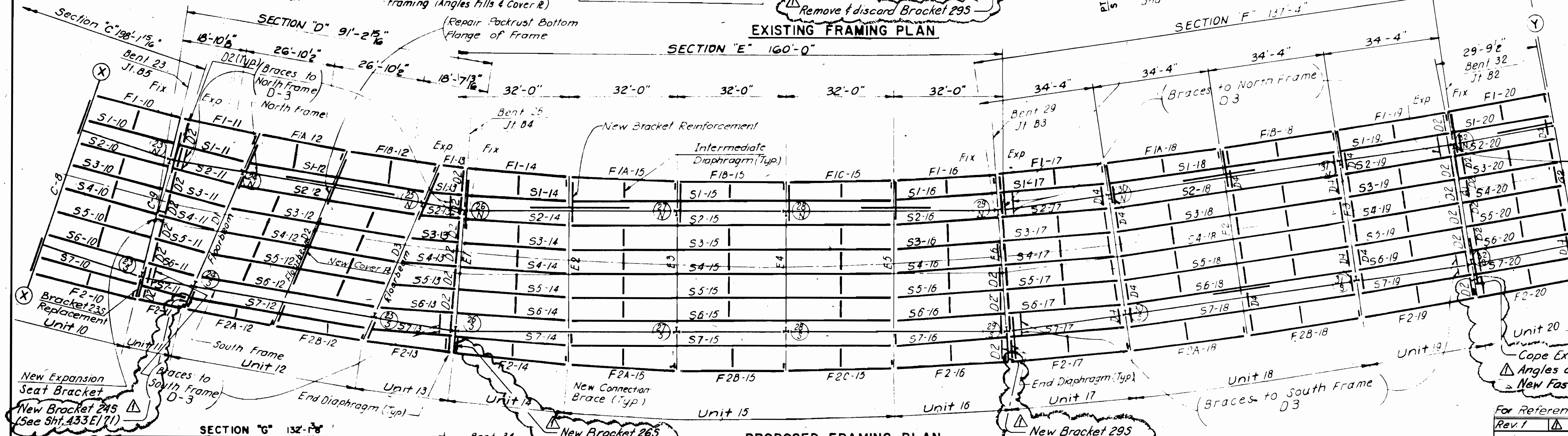
* For Floorbeams AG, C1, C9, E1, E6, G1 12" width existing cover ℞ shall be reused. See Bracket Reinforcement Dwgs. 434 and 435 for details at new bracket connection plate.



EXISTING FRAMING PLAN

EXISTING STRINGERS

STRINGERS	SECTION
S1, S4, S7, S11, S39	27W91
S2, S15, S19, S24, S31, S35, S46	24W80
S3, S6, S8, S12, S23	24W87
S5, S37, S44, S45	27W106
S9, S10, S13, S14, S16, S20, S22, S25, S27, S40	24W74
S17, S26, S29, S34, S42	21W63
S18, S28, S41	21W68
S21, S30, S32	21W59
S36, S38	27W98
S43	27W114
S47	24W94
S48, S49	14W34
F1	



PROPOSED FRAMING PLAN

Repair Packrust at N.W. Column Flange

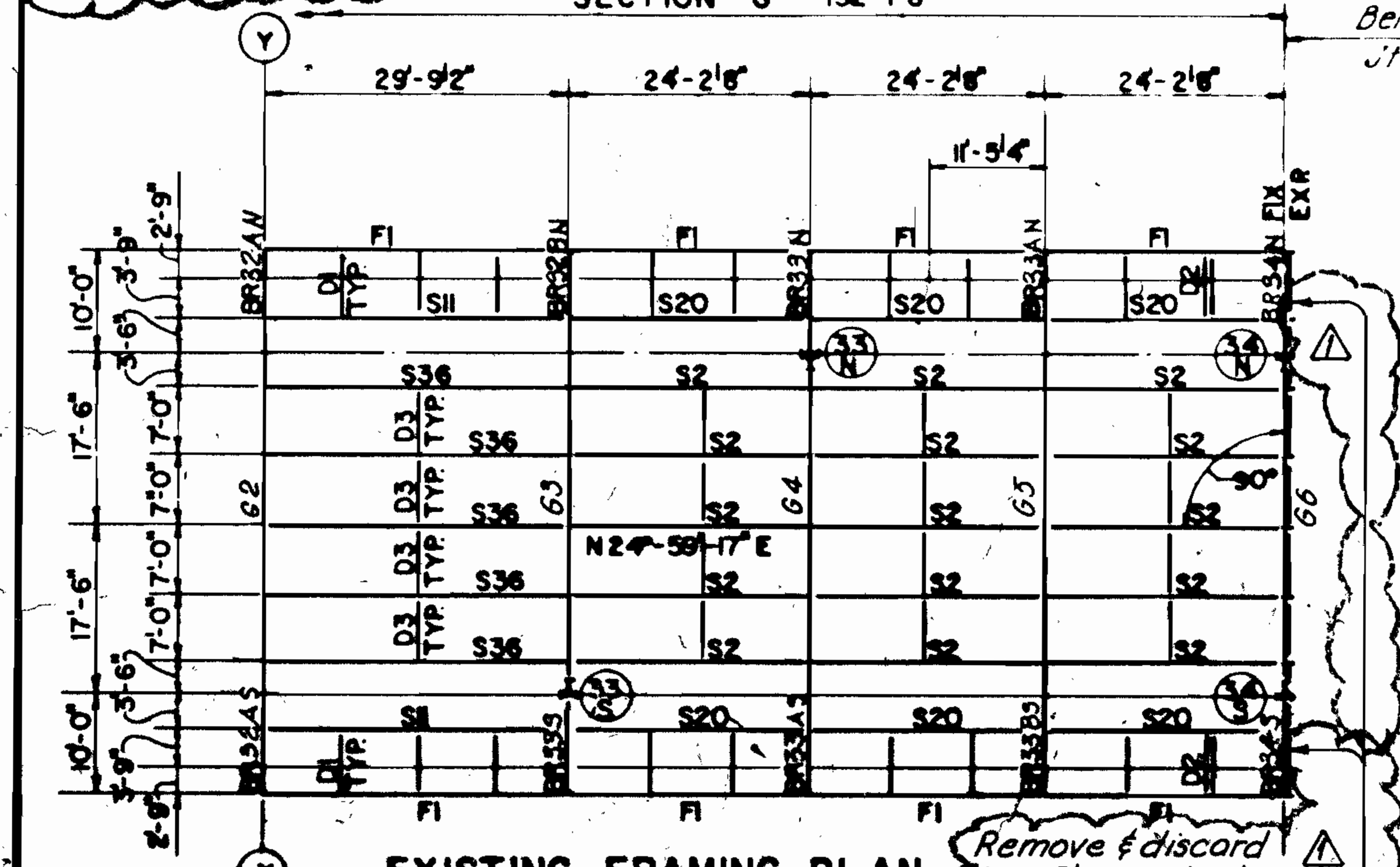
DAMAGE TO CONCRETE PEDESTALS

Column	Deterioration
23N	16 S.F. spall
29N	Spalls & exposed rebars on East & South faces.
32N	8 S.F. Spall
34N	18 S.F. Spall
34S	Large spalls on North & East faces; 15 S.F. delamination.

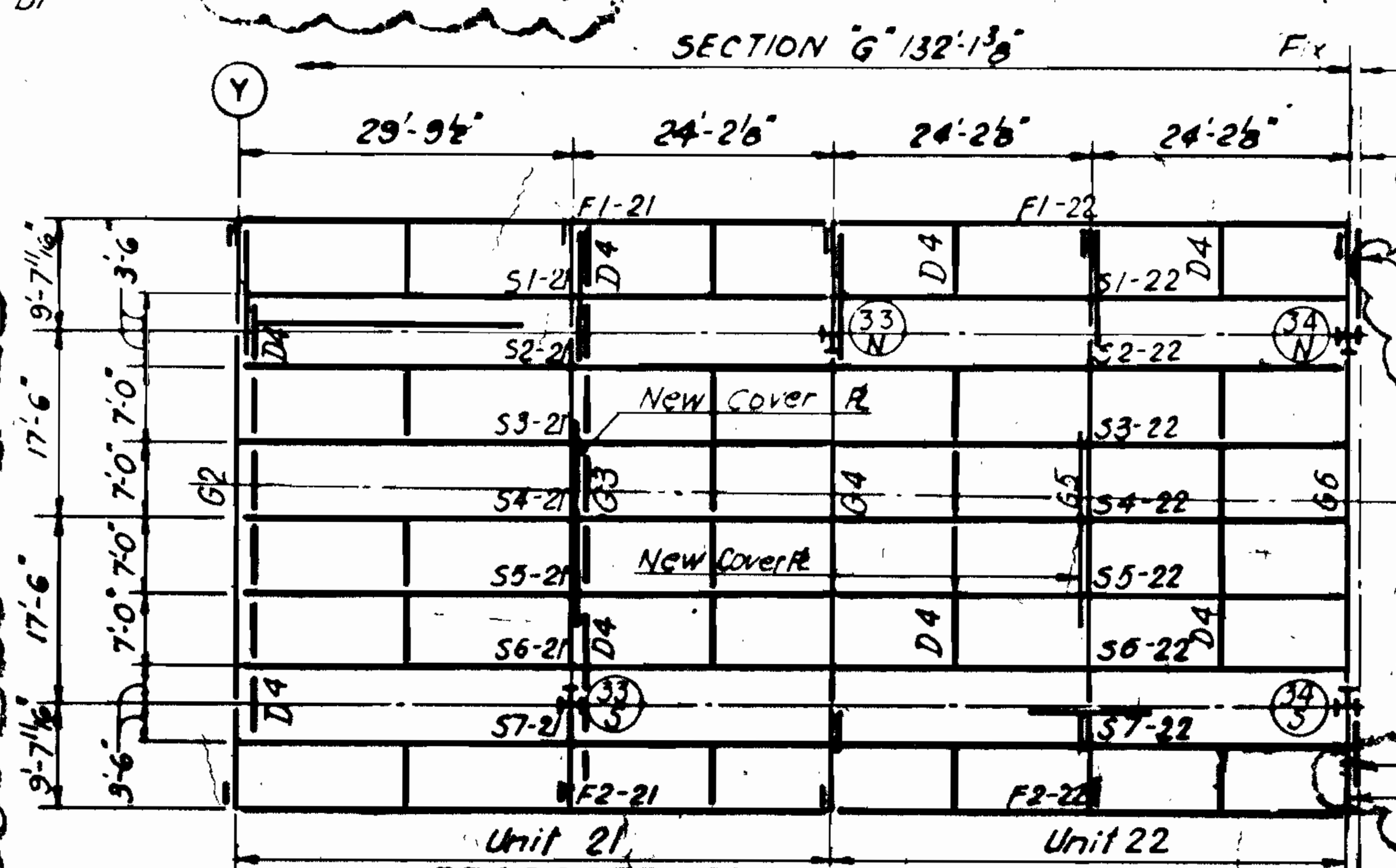
See Summary on Dwg. 427

See C.V.N. Note on Dwg. 402

For References see Dwg. 427.



EXISTING FRAMING PLAN



PROPOSED FRAMING PLAN

Estimated Packrust Repair Quantity = 80 L.F.

Bent floor beams may be straightened by heat if required. See General Notes.

NOTES:

All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III

Rev. 1	△ Plan Revisions	3/15/91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

E. APPR.-LAKEFRONT TRESTLE, BENT 23-34
EXIST. & PROP. FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE OCT. 28, 1989

NO. B-136 428/71

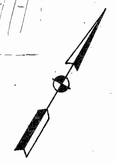
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	J.H.	W.T.	AS BUILT 2/94

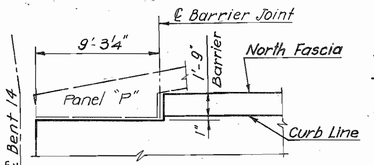
F1-30 O.D.O.T. 5-20-91 T.E.S.

CUYAHOGA COUNTY
CUY - 2 - 14.66

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73 (51)	

401 / 547

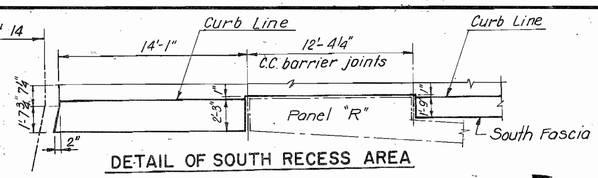




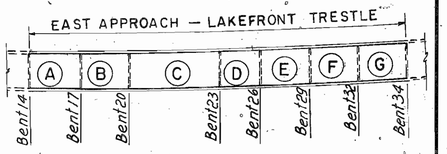
DETAIL OF NORTH RECESS AREA

NOTES:

- All Deck Concrete shall be "Lightweight Class S".
- Embedded lighting conduits (size and layout), Junction Boxes, grounding, etc. are detailed in the "Proposed Bridge Lighting." dwgs.



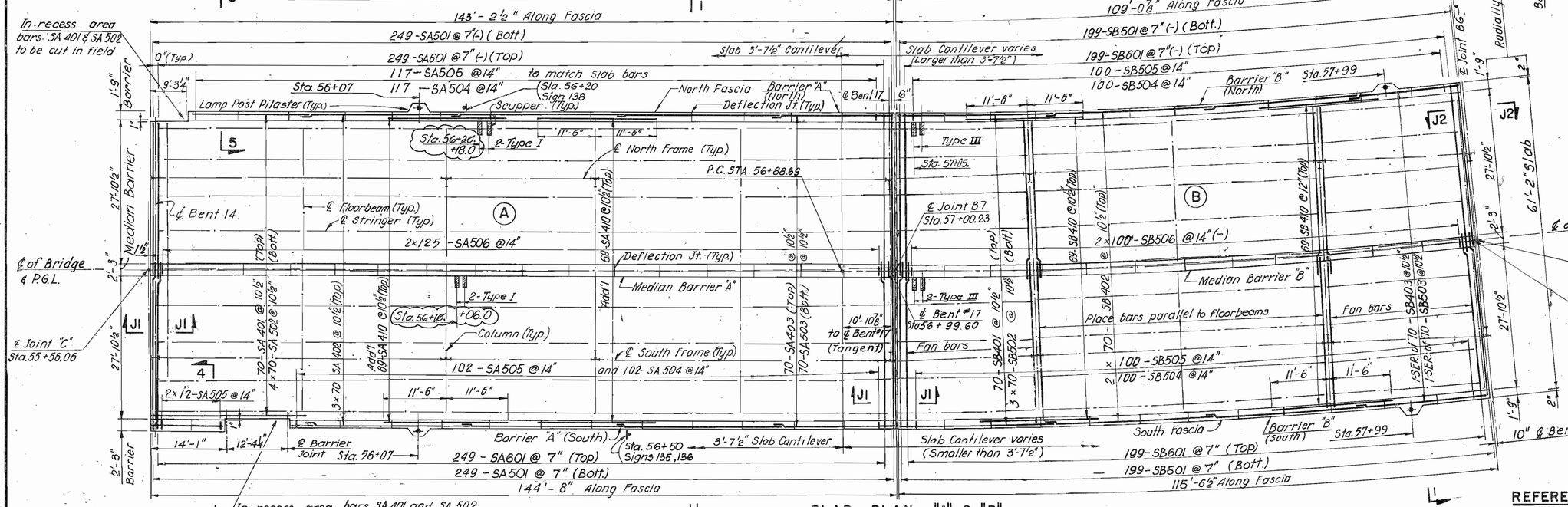
DETAIL OF SOUTH RECESS AREA



KEY PLAN
N.T.S.

MINIMUM SPLICE LENGTH

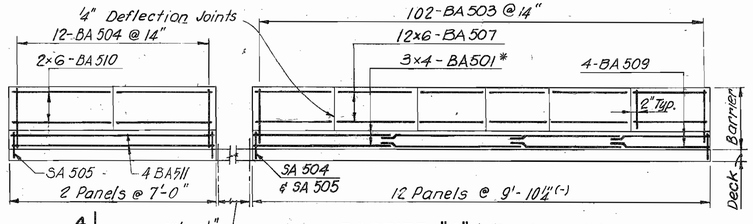
Bar	Lap Length
#4	1'-10"
#5	2'-3"
#6	2'-8"



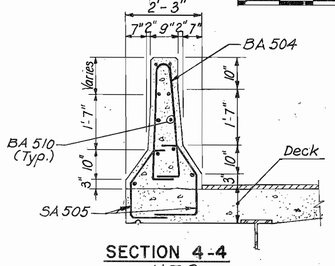
SLAB PLAN "A" & "B"
1'0 5' 10' 15' 20'

Notes

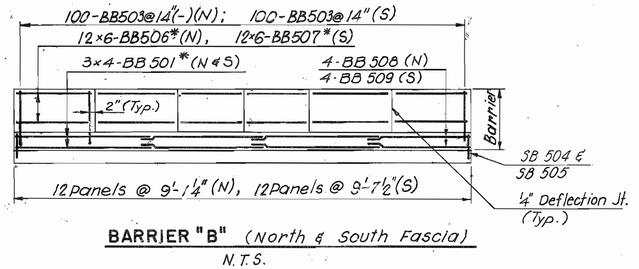
- Expansion Joints are parallel to Bents.
- All reinforcing bars for Lakefront Trestle deck slab and barriers shall be prefixed LT.
- The Contractor shall bend or field cut reinforcing steel at scuppers as required.



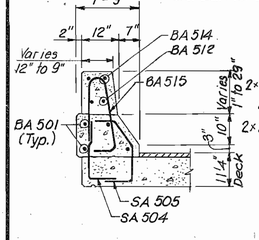
BARRIER "A" (South Fascia)
N.T.S.



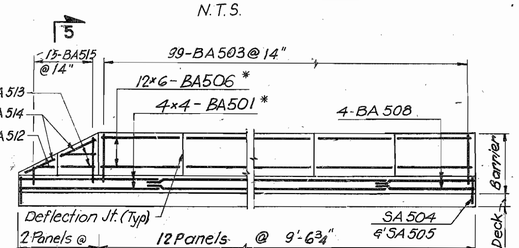
SECTION 4-4
N.T.S.



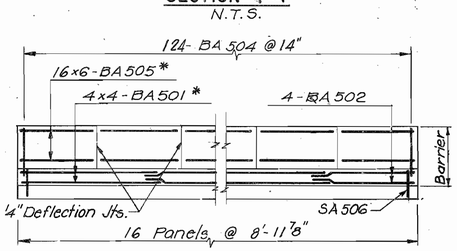
BARRIER "B" (North & South Fascia)
N.T.S.



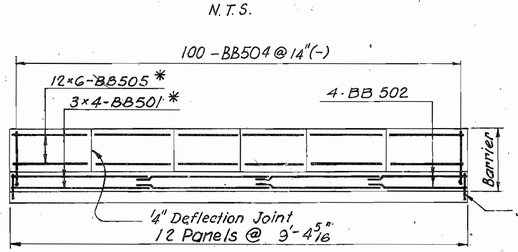
SECTION 5-5
N.T.S.



BARRIER "A" (North Fascia)



MEDIAN BARRIER "A"
N.T.S.



MEDIAN BARRIER "B"
N.T.S.

* Spaced as shown in Cross-Sections 1-1 and 2-2

REFERENCES:

	DWG. NO.
General Notes	G6 & G23
Proposed Plan and Elevation	402
Roadway Elevations	407, 408 & 409
Reinforcing Bar List-1	463
Scupper Details & Reinforcement	G54 & G55
Lighting Standard Pilaster Details	G68
Section 1-1	456
Section 2-2	457
Sections J1-J1 and J2-J2	458
Barrier details - Panel "P"	420
Barrier details - Panel "R"	422

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH — LAKEFRONT TRESTLE
DECK SLAB REINFORCEMENT - I

BRIDGE NO. 193 REPORT NO. 7119 DATE: OCT. 28, 1969

NO. B-136

452 / 71

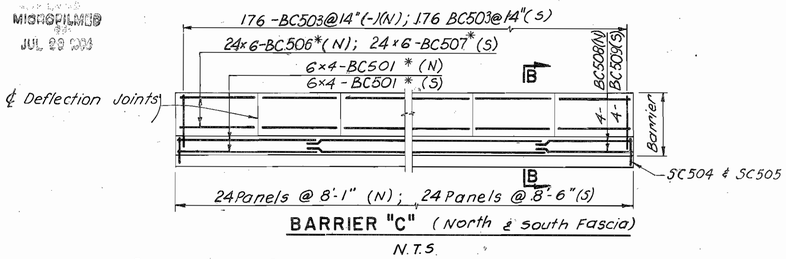
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B. G.	L. M.	D.G./E.G	AS BUILT 2/94

MICROFILMED
JUL 29 1983

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73 (51)	1

402
547

CUYAHOGA COUNTY
CUY - 2 - 14.66

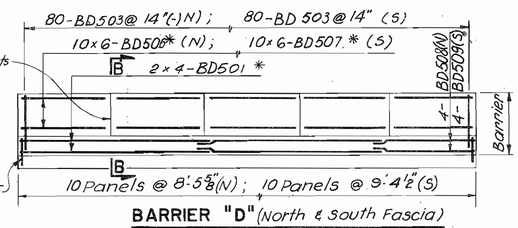


BARRIER "C" (North & South Fascia)

N.T.S.

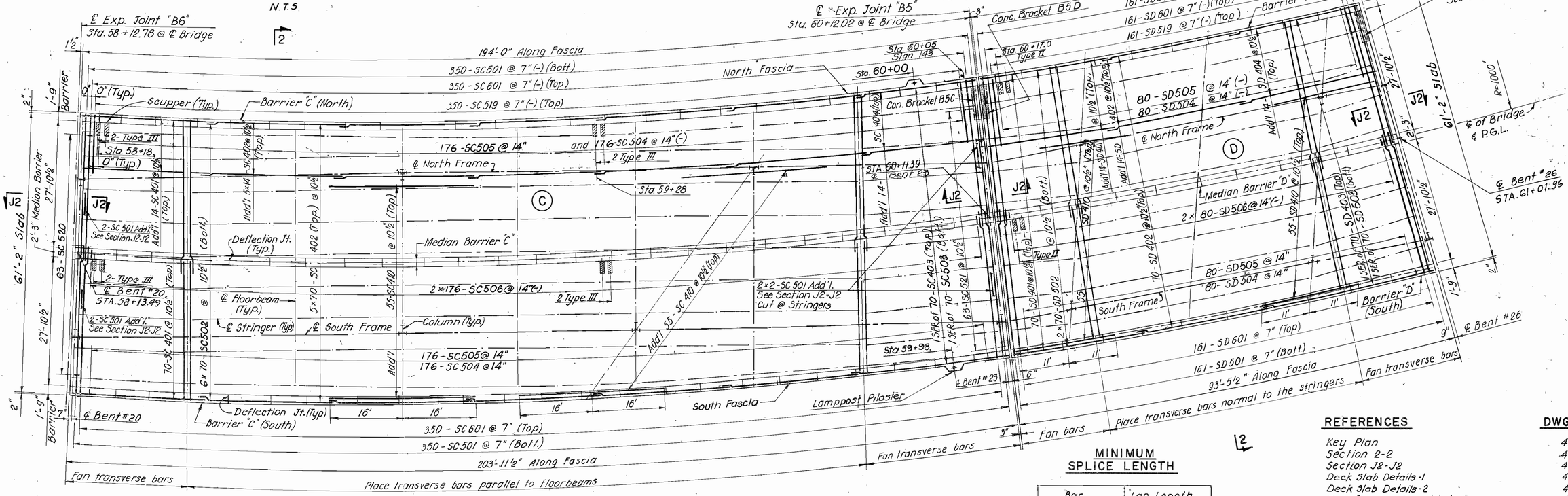
4-1/4" Deflection Joints in each Barrier

* Spaced as shown in Typical Cross Section 2-2.



BARRIER "D" (North & South Fascia)

N.T.S.



SLAB PLAN "C" & "D"

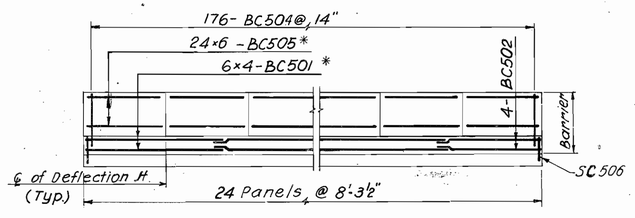
1' 0 5' 10' 15' 20'

MINIMUM SPLICE LENGTH

Bar	Lap Length
# 4	1'-10"
# 5	2'-3"
#6	2'-8"

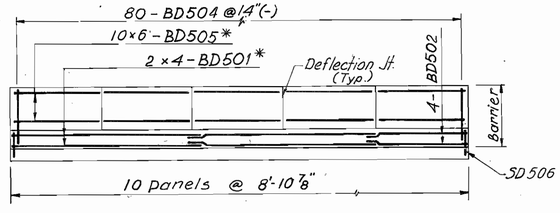
NOTES:

- Expansion joints are parallel to bents.
- All reinforcing bars for Lakefront Trestle deck slab and barriers shall be prefixed LT.
- The Contractor shall bend or field cut reinforcing steel at scuppers as required.



MEDIAN BARRIER "C"

N.T.S.



MEDIAN BARRIER "D"

N.T.S.

REFERENCES

	DWG. NO.
Key Plan	452
Section 2-2	457
Section J2-J2	458
Deck Slab Details-1	458
Deck Slab Details-2	459
Reinforcing Bar List-2	464

For additional references, see dwg. 452

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH — LAKEFRONT TRESTLE

DECK SLAB REINFORCEMENT-2

BRIDGE NO. 193 REPORT NO. 7119 DATE OCT. 29, 1981

NO. B-136

453
71

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	L.M.	DG/EG	AS BUILT 2/84

MICROFILMED
JUL 29 1994

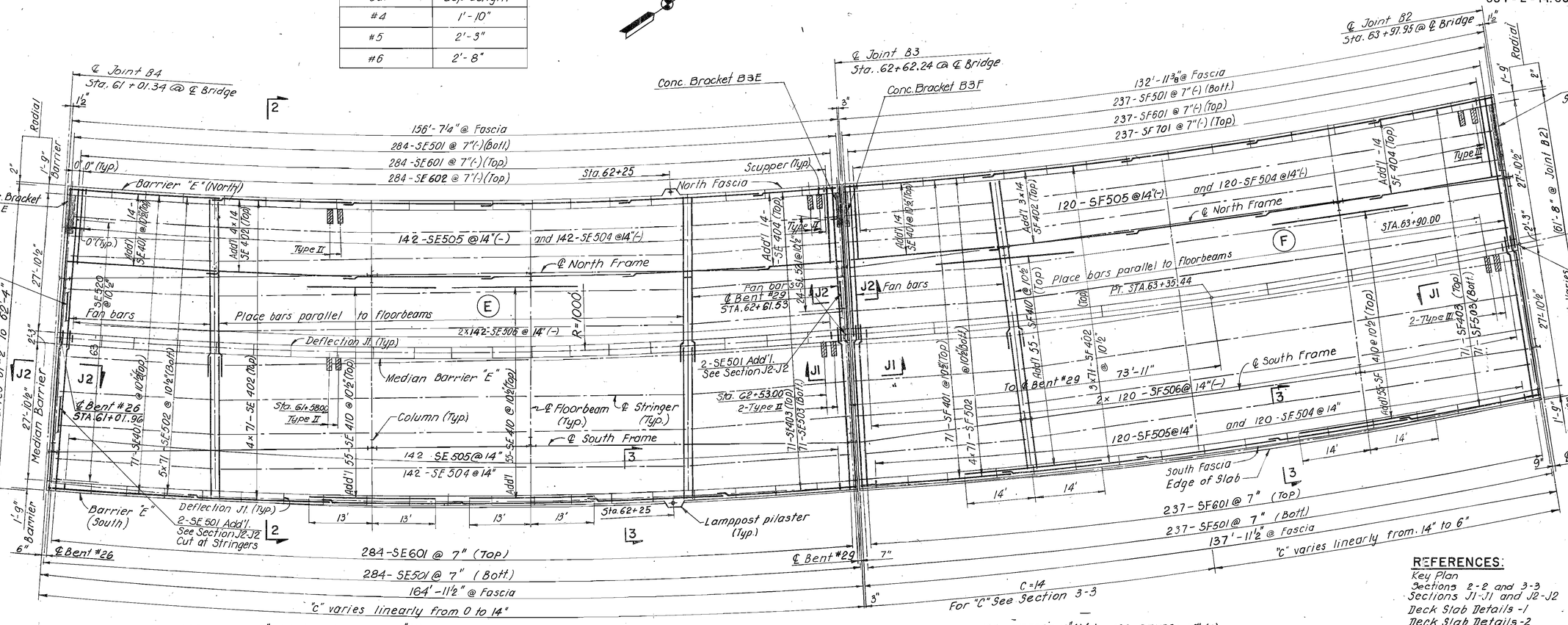
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

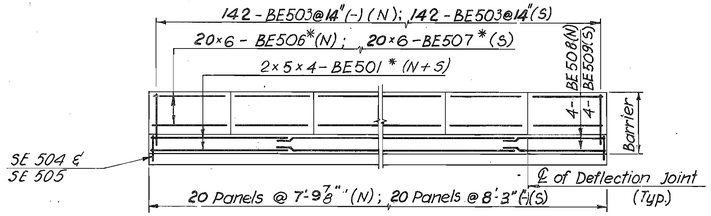
403
547

CUYAHOGA COUNTY
CUY-2-14.66

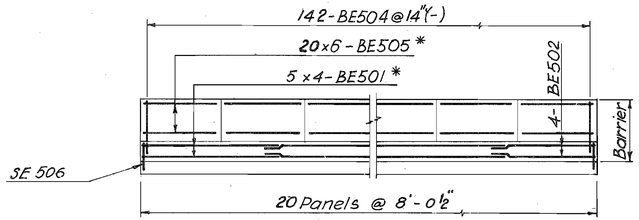
MINIMUM SPLICE LENGTH

Bar	Lap Length
#4	1'-10"
#5	2'-3"
#6	2'-8"





BARRIER "E" (North & South Fascia)
N.T.S.

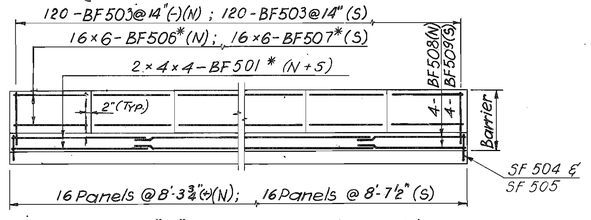


MEDIAN BARRIER "E"
N.T.S.

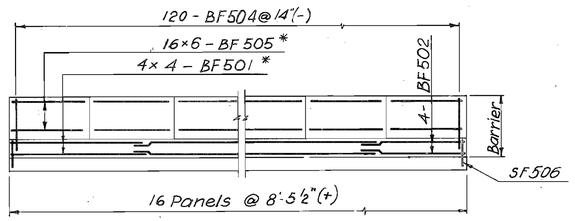
SLAB PLAN "E" & "F"
1' 0' 5' 10' 15' 20'

NOTES:
- Expansion joints are parallel to bents.
- All reinforcing bars for Lakefront Trestle deck slab and barriers shall be prefixed LT.
- The Contractor shall bend or field cut reinforcing steel at Scuppers as required.

* Spaced as shown in cross-sections 2-2 and 3-3.



BARRIER "F" (North & South Fascia)
N.T.S.



MEDIAN BARRIER "F"
N.T.S.

REFERENCES:	DWG. NO.
Key Plan	452
Sections 2-2 and 3-3	457
Sections J1-J1 and J2-J2	458
Deck Slab Details -1	458
Deck Slab Details -2	459
Reinforcing Bar List-3	465

For additional references see dwg. 452

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH — LAKEFRONT TRESTLE
DECK SLAB REINFORCEMENT-3

BRIDGE NO. 193 REPORT NO. 7119 DATE OCT. 26, 1989

NO. B-136 454/71

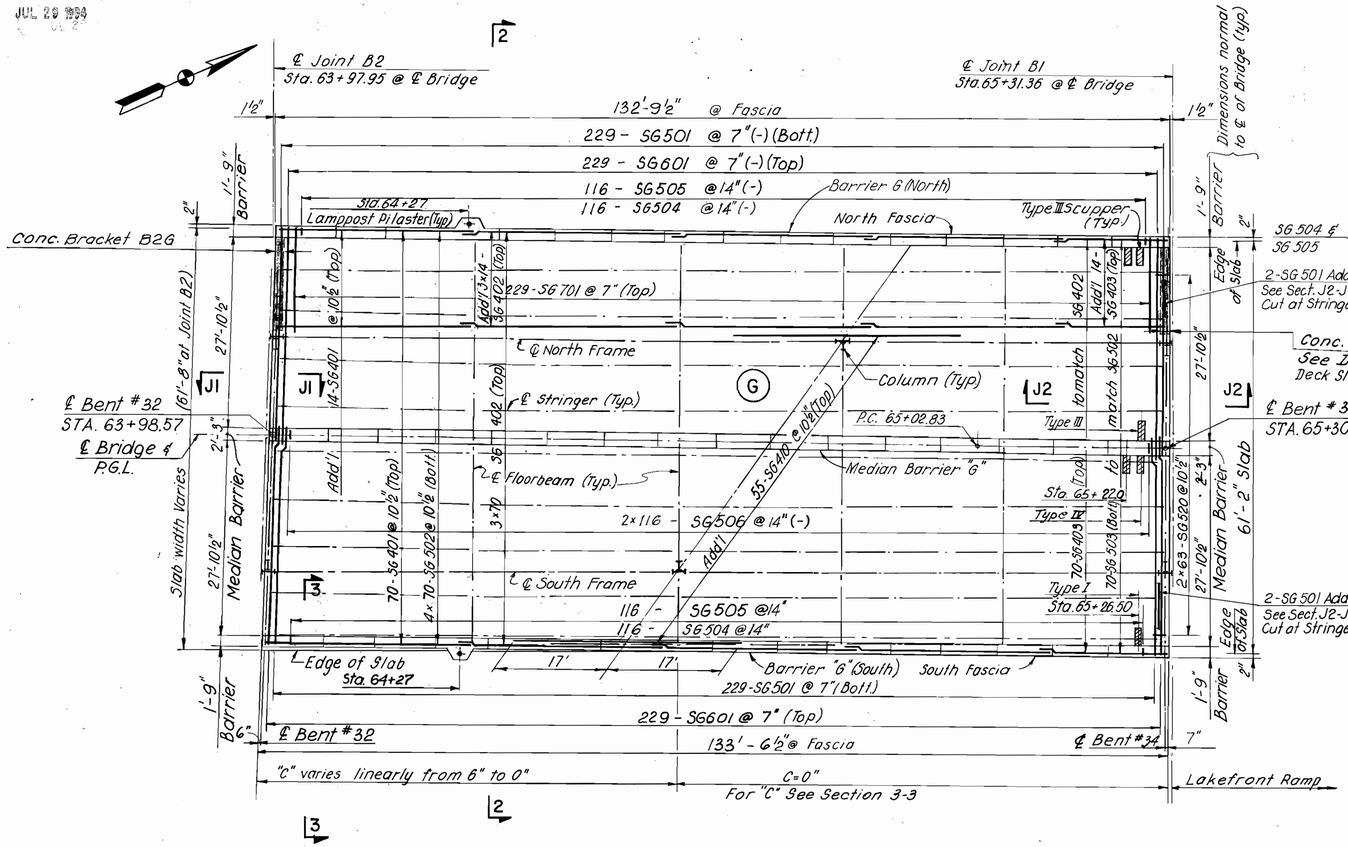
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	L.M.	D.G./E.G.	AS BUILT 2/94

MICROFILMED
JUL 29 1994

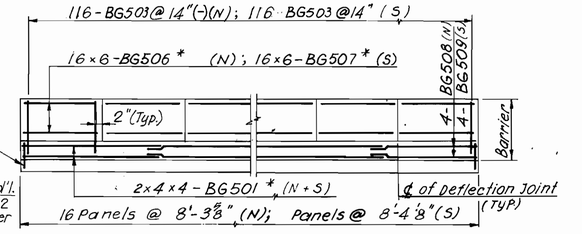
FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

404
547

CUYAHOGA COUNTY
CUY-2-14.66

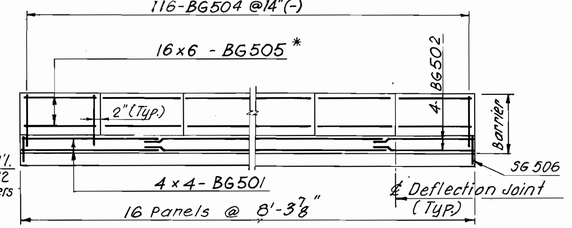


SLAB PLAN "G"
1" 0' 5' 10' 15' 20'

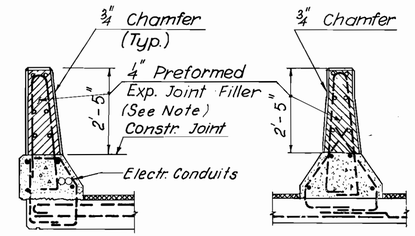


BARRIER "G" (North & South Fascia)
N.T.S.

* Spaced as shown in Section.

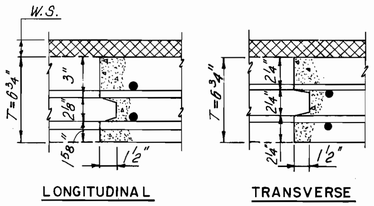


MEDIAN BARRIER "G"
N.T.S.



FASCIA BARRIER — MEDIAN BARRIER

BARRIER JOINT DETAILS
N.T.S.



LONGITUDINAL — TRANSVERSE

CONSTRUCTION JOINT DETAILS
N.T.S. (Typ.)

MINIMUM SPLICE LENGTH

BAR	LAP LENGTH
#4	1'-10"
#5	2'-3"
#6	2'-8"

NOTES:
- Expansion joints are parallel to bents.
- All reinforcing bars for Lakefront Trestle deck slab and barriers shall be prefixed LT.
- The Contractor shall bend or field cut reinforcing Steel at Scuppers as required.

Preformed expansion joint filler in barriers shall be either 14" gray sponge rubber (AASHTO M-153) or 14" gray cellular polyvinyl chloride (PVC) Sponge. Concrete parapets above upper construction joints shall be placed in alternate sections by the use of bulkheads. Closing sections shall be placed after removal of bulkheads and after placement of expansion joint filler.

REFERENCES:

	DWG. NO.
Key Plan	452
Sections 2-2 and 3-3	457
Sections J1-J1 and J2-J2	458
Deck Slab Details-1	458
Deck Slab Details-2	459
Reinforcing Bar List-4	466

For additional references, see drawing 452

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH — LAKEFRONT TRESTLE
DECK SLAB REINFORCEMENT-4

BRIDGE NO. 193 REPORT NO. 7119 DATE OCT. 28, 1989

NO. B-136

455/71

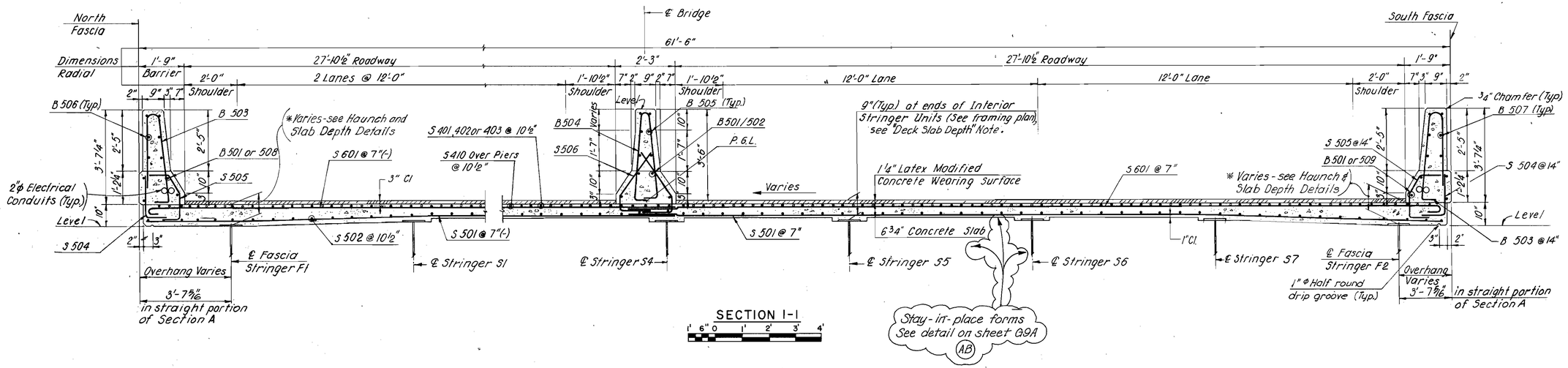
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	L.M.	D.G./E.G.	AS BUILT 2/94

MICROFILMED
JUL 29 1994

FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF - 73(51)	

405
547

CUYAHOGA COUNTY
CUY - 2 - 14.66



SECTION I-I

1' 6" 0 1' 2' 3' 4'

NOTES:

- All reinforcing bars for Lakefront Trestle deck slab and barriers shall be prefixed LT.
- A Haunch Width as shown on Haunch & Depth of Slab Details shall be used for computing quantity of concrete
- DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, less 1¼" wearing surface even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.
- * This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, less 1¼" wearing surface, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

REFERENCES:

	DWG. NO.
Deck Slab Reinforcement - I	452
Location of Section I-I	452
Haunch and Slab Depth Details	449
Deck - Framing Offset Table	460
Reinforcing Bar List	463
Forms for Deck Overhang Note	450
Stay-in-place forms (AB)	G9A

(AB) - As Built

PAVLO ENGINEERING CO., P.C.
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CUYAHOGA COUNTY ENGINEER
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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH – LAKEFRONT TRESTLE
DECK SECTIONS - I

BRIDGE NO. 193 REPORT NO. 7119 DATE: OCT. 28, 1989

NO. B-136

456/71

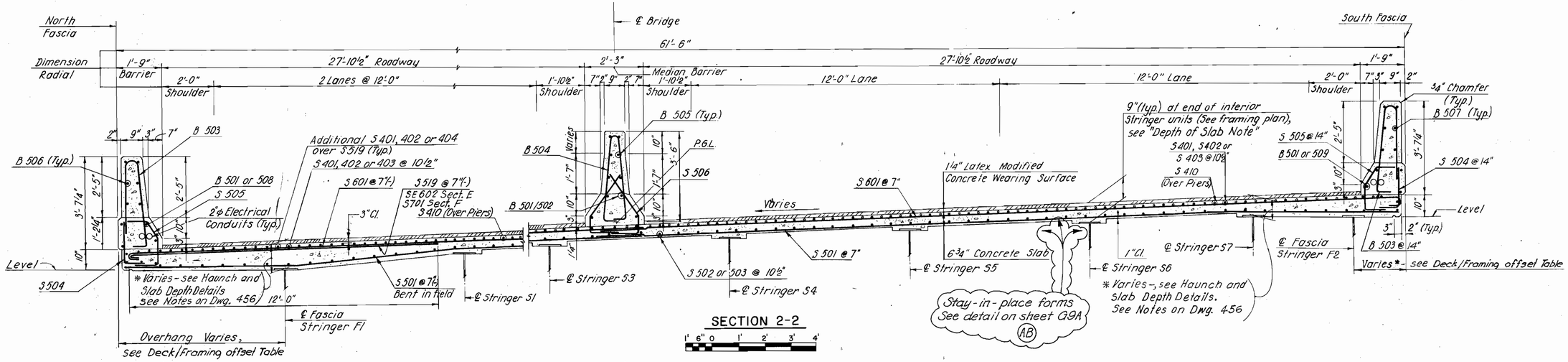
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	L.M.	D.G./E.G.	AS BUILT 2/94

MICROFILMED
JUL 29 1994

FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

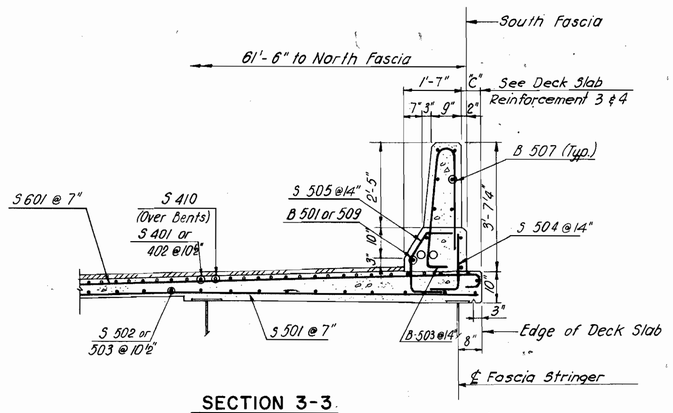
406
547

CUYAHOGA COUNTY
CUY-2-14.66



SECTION 2-2

1' 6" 0 1' 2' 3' 4'



SECTION 3-3

NOTES:

- All reinforcing bars for Lakefront Trestle shall be prefixed LT.

* See Section 3-3 Where Overhang is less than 10"

REFERENCES:

	DWG. NO.
Deck slab Reinf. 2, 3 & 4	453-455
Location of Sections 2-2 & 3-3.	453-455
Haunch and Slab Depth Details.	449
Deck/Framing offset Table	460
Reinforcing Bar List 1, 2, 3 & 4	463 thru 466
Haunch width and Depth of Slab Note.	456
Forms for Deck Overhang - Note	450
Stay-in-place forms (AB)	G9A

(AB) - As Built

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH – LAKEFRONT TRESTLE
DECK SECTIONS -2

BRIDGE NO. 193 REPORT NO. 7119 DATE: OCT. 28, 1989

NO. B-136

457
71

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	L.M.	D.G./E.G.	AS BUILT 2/94

MICROFILMED
JUL 29 1994

FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

407
547

CUYAHOGA COUNTY
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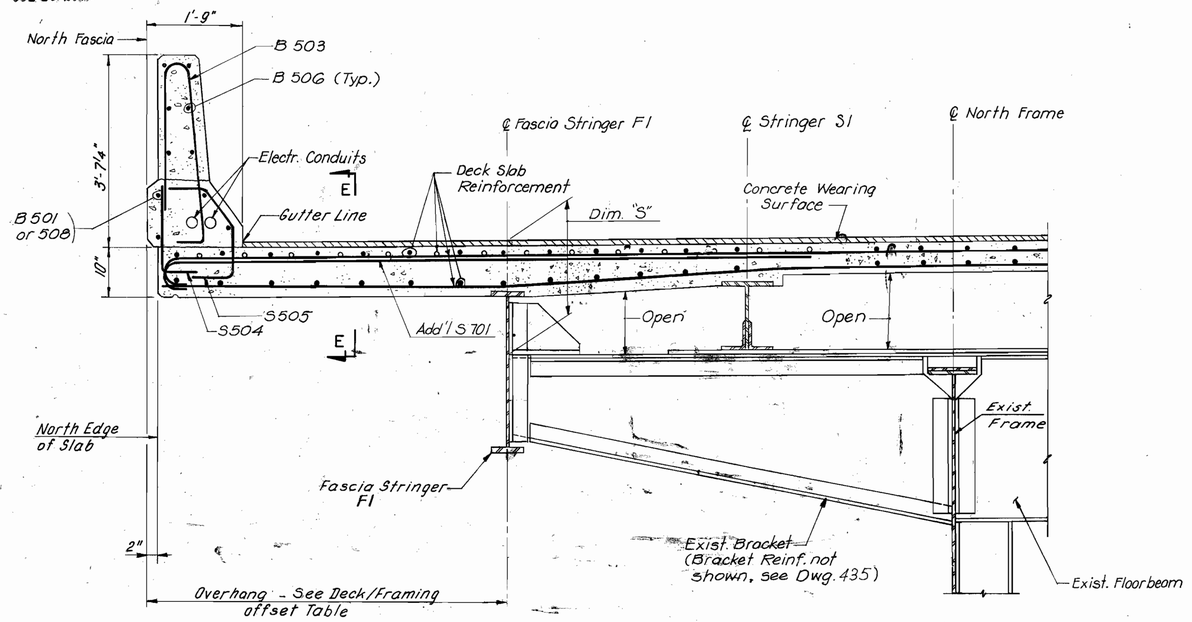
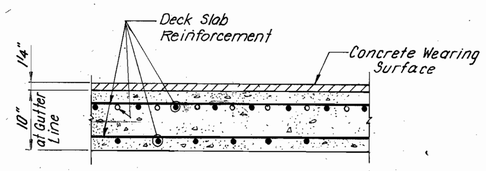
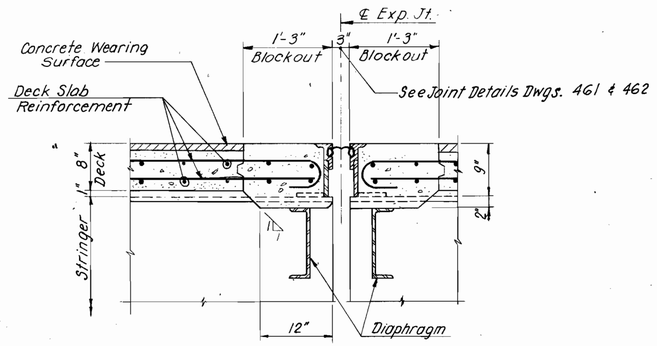


DECK SLAB DETAILS AT FASCIA

1' 6" 0 1' 2'



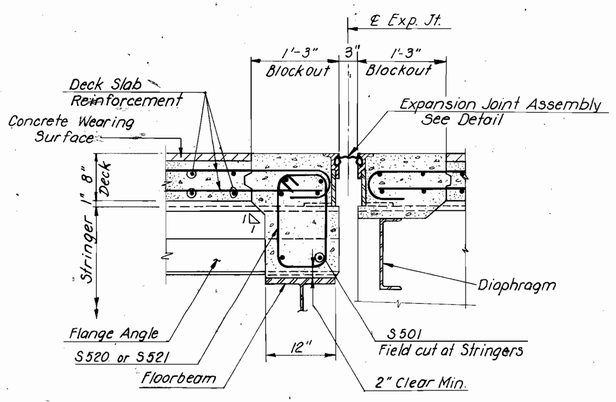
SECTION E-E



Note: Floor Beam not shown.

SECTION J1-J1

NOTE -
All reinforcing bars for Lakefront Trestle shall be prefixed LT.



SECTION J2-J2

1' 6" 0 1' 2'

REFERENCES	DWG. NO.
Deck Slab Reinforcement	452 thru 455
Deck Sections	456 & 457
Existing & Proposed Framing Plan	427 & 428
Expansion Joint	461 & 462
Location of Sections J1-J1 & J2-J2	452 thru 455
Stay-in-place forms (AB)	G9A

(AB) - As Built

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - LAKEFRONT TRESTLE

DECK SLAB DETAILS - I

BRIDGE NO. 193 REPORT NO. 7119 DATE: OCT. 28, 1989

NO. B-136

458/71

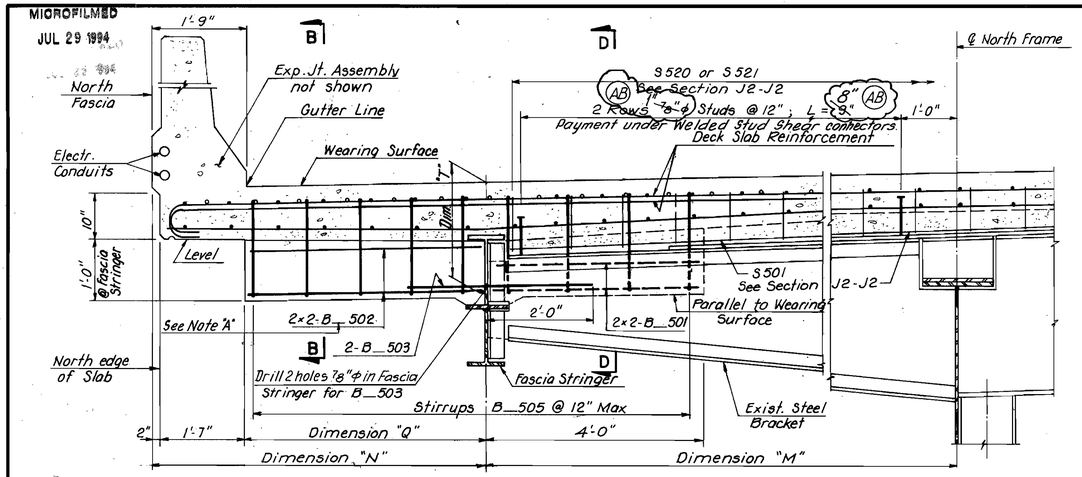
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G.	T.C.	D.G./E.G.	AS BUILT 2/94

MICROFILMED
JUL 29 1994

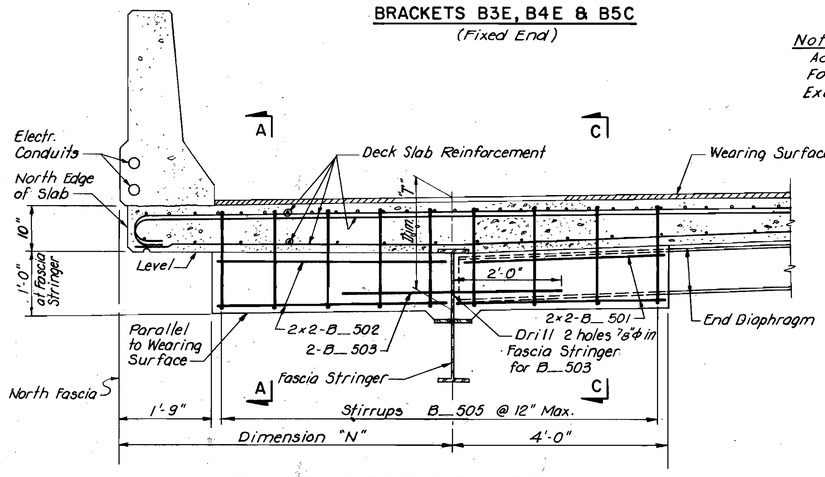
FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

408
547

CUYAHOGA COUNTY
CUY-2-14.66



BRACKETS B3E, B4E & B5C
(Fixed End)



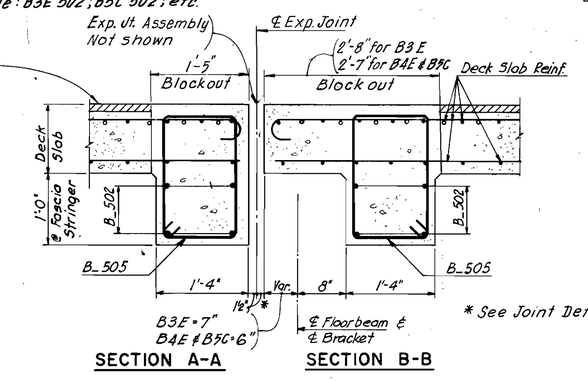
BRACKETS B2F, B3F, B4D & B5D
(Expansion End)

1' 6" 0 1' 2'

BRACKETS DIMENSIONS						
BRACKET NUMBER	M (Ft)	N (Ft)	Q (Ft)	R (Ft)	S (Ft)	T (Ft)
B 5C	12.57	5.65	3.90	—	—	2.10
B 5D						
B 4D	11.73	6.19	4.44	—	—	2.12
B 4E						
B3E	10.40	7.10	5.35	—	—	2.15
B3F						
B2F	9.63	6.88	5.13	—	—	2.02
B2G	9.63	6.88	5.13	2.83	3.08	2.02
B1G	9.64	5.29	3.54	2.58	2.71	2.01

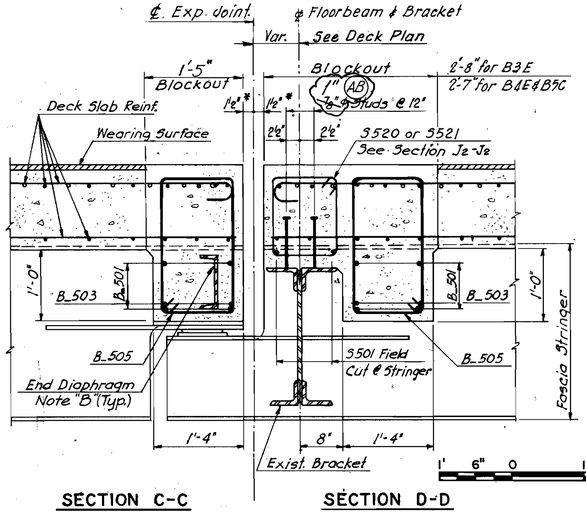
NOTE "B"
Blast clean parts of steel to be embedded prior to placing concrete.

Note: "A"
Add Number of Bracket to Bar Mark Following Prefix B.
Example: B3E 502; B5C 502; etc.



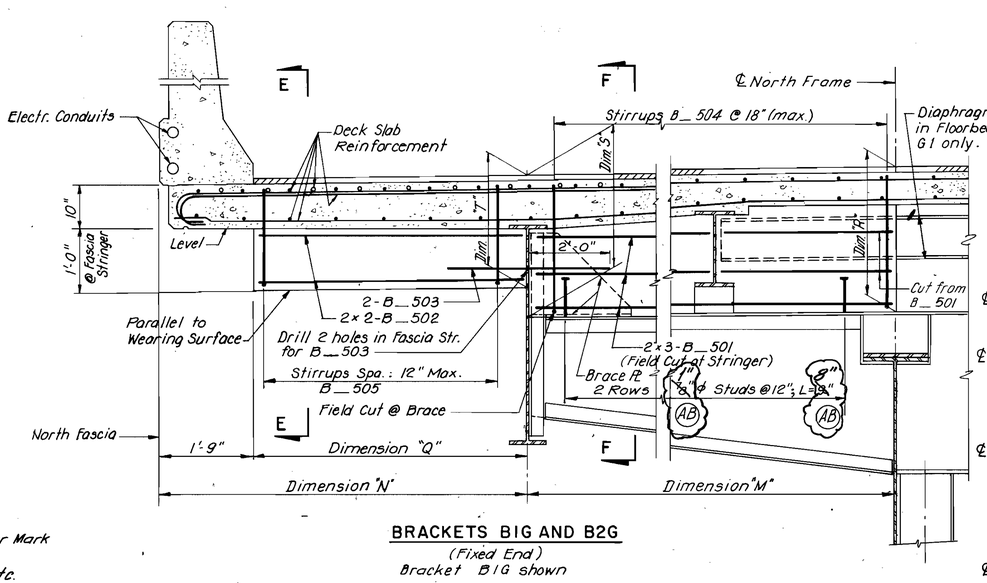
SECTION A-A

SECTION B-B

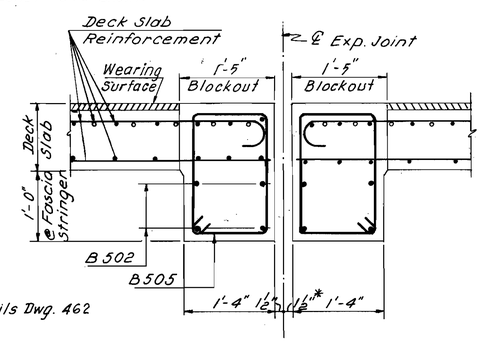


SECTION C-C

SECTION D-D



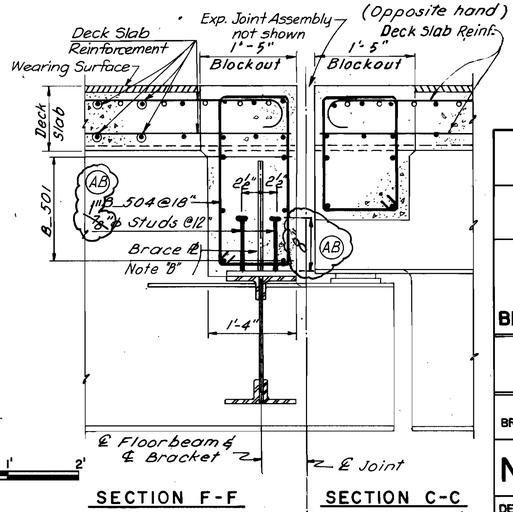
BRACKETS B1G AND B2G
(Fixed End)
Bracket B1G shown



* See Joint Details Dwg. 462

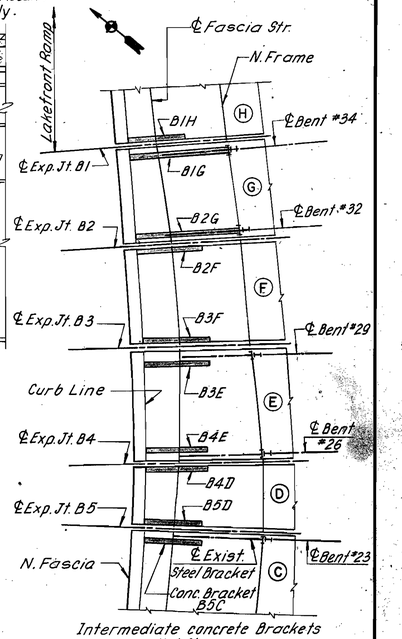
SECTION E-E

SECTION A-A
(Opposite hand)



SECTION F-F
B1G shown – (B2G opposite hand)

SECTION C-C
(Opposite hand)



Intermediate concrete Brackets Not Shown

KEY PLAN
N.T.S

(AB) As Built

REFERENCES	DWG. NO.
Deck Slab Reinforcement	452-455
Deck Sections	456, 457
Framing Plan	427, 428
Section J2-J2	458
Joint Details	462
Stay-in-place forms (AB)	G9A

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CLEVELAND OHIO

MAIN AVENUE BRIDGE
CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY
EAST APPROACH LAKEFRONT TRESTLE
DECK SLAB DETAILS – 2

BRIDGE NO. 193 REPORT NO. 7119 DATE: OCT. 28, 1989

NO. B-136

459/71

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.G./O.G.	A.D./V.K.	E.G.	AS BUILT 2/94

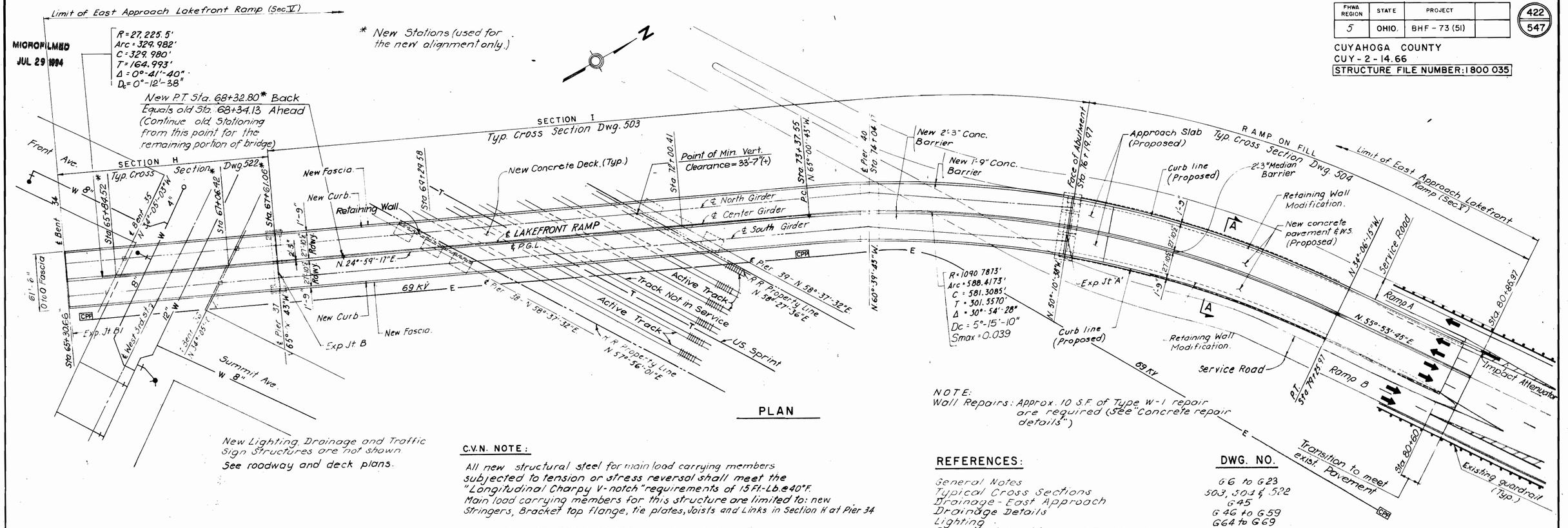
451A

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73 (51)	

422
547

CUYAHOGA COUNTY
CUY - 2 - 14.66
STRUCTURE FILE NUMBER: 1800 035

MICROFILMED
JUL 29 1994



PLAN

New Lighting, Drainage and Traffic Sign Structures are not shown.
See roadway and deck plans.

C.V.N. NOTE:

All new structural steel for main load carrying members subjected to tension or stress reversal shall meet the "Longitudinal Charpy V-notch" requirements of 15 Ft-Lb. @ 40°F. Main load carrying members for this structure are limited to: new Stringers, Bracket top flange, tie plates, Joists and Links in Section H at Pier 34.

See also "GENERAL NOTES" Structural Steel

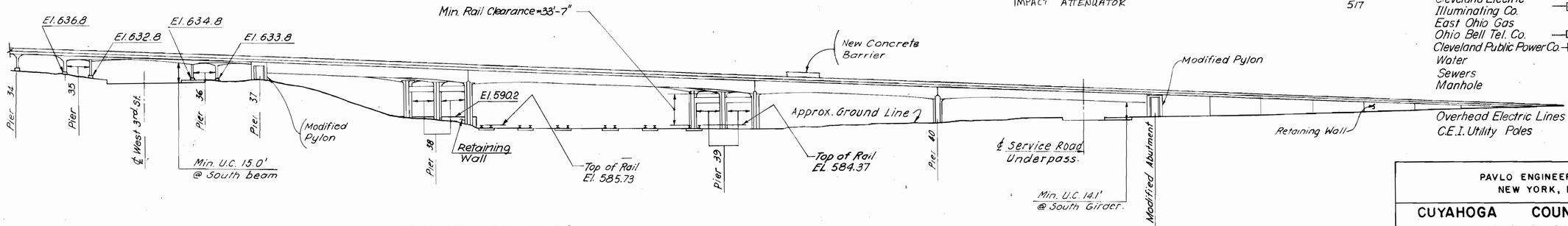
NOTE:
Wall Repairs: Approx. 10 S.F. of Type W-1 repair are required (See "Concrete repair details")

REFERENCES:

	DWG. NO.
General Notes	G 6 to G 23
Typical Cross Sections	503, 504 & 522
Drainage - East Approach	G 45
Drainage Details	G 46 to G 59
Lighting	G 64 to G 69
Pavement Marking and Traffic Signs	G 82
Typical Concrete repairs	G 74
Profiles and superelevations.	506
IMPACT ATTENUATOR	517

LEGEND:

Cleveland Electric Illuminating Co.	CEI — E — E
East Ohio Gas	G — G
Ohio Bell Tel. Co.	T — T
Cleveland Public Power Co.	CPP — E — E
Water	W — W
Sewers	S — S
Manhole	●
Overhead Electric Lines	CEI — EO — EO
C.E.I. Utility Poles	○ ◒



ELEVATION

EAST APPROACH - LAKEFRONT RAMP (SECTION V)

SCOPE OF REHABILITATION WORK:

THE SECTION CONSISTS OF 1089.3 FEET OF A FOUR LANE, DIVIDED, STEEL VIADUCT MADE UP OF A THREE SPAN STEEL FRAME TRESTLE, FOUR CONTINUOUS STEEL GIRDER SPANS, AND 466 FEET OF FOUR LANE DIVIDED PAVEMENT ON FILL BETWEEN RETAINING WALLS.

THE WORK INCLUDES :

1. REMOVAL OF EXISTING I-BEAM-LOK DECKING, SIDEWALKS, RAILINGS, FASCIA PLATES, STRINGERS, IN SECTION H.
2. REMOVAL AND REPLACEMENT OR REPAIR OF DETERIORATED MEMBERS.
3. INSTALLATION OF NEW STEEL STRINGERS AND FASCIA BEAMS.
4. CONSTRUCTION OF NEW LIGHTWEIGHT CONCRETE DECK SLABS, BARRIERS, LUMINAIRE SUPPORTS, DRAINAGE DEVICES AND ARMORED JOINTS.
5. CONSTRUCTION OF NEW PAVEMENT, MEDIAN AND ALTERATION OF RETAINING WALLS.
6. ALTERATION OF THE EAST ABUTMENT AND STONE PYLON.
7. FIELD COATING OF SOME EXISTING STRUCTURAL STEEL, AND PAINTING OF NEW STRUCTURAL STEEL.
8. INSTALLATION OF NEW LIGHTING SYSTEM AND TRAFFIC SIGNS.
9. COATING OF THE EXPOSED EXISTING AND NEW CONCRETE SURFACES.

The Contractor shall make provisions to protect all areas under the bridge used by Pedestrians, vehicles and railroad, from falling debris during removal of the existing superstructure and during erection.

50' 0 50' 100'

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - LAKEFRONT RAMP
PROPOSED PLAN & ELEVATION

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 23, 1989

NO B-136

502/46

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
S.H.	C.P.J.	C.K.D.	AS BUILT 2/94

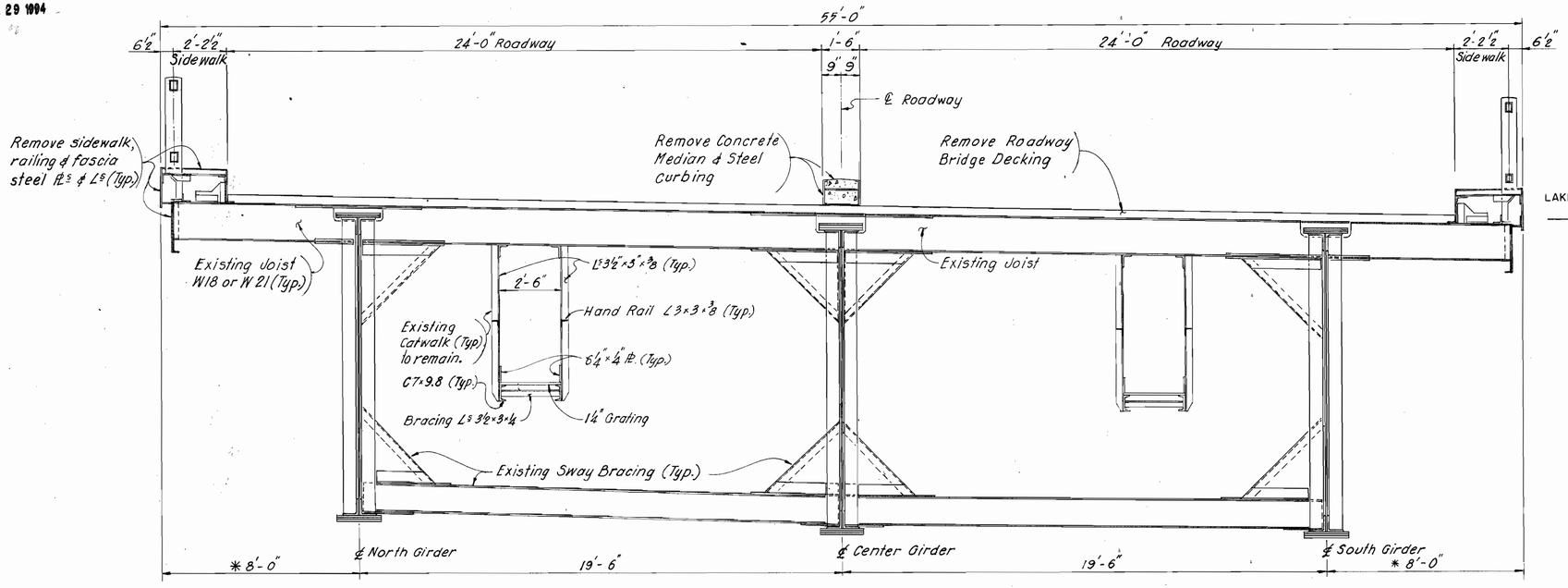
502

MICROFILMED
JUL 29 1994

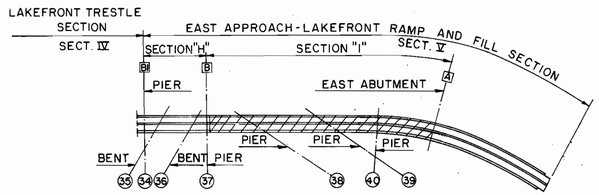
FHWA REGION	STATE	PROJECT	
5	OHIO	BHF - 73(51)	

423
547

CUYAHOGA COUNTY
CUY - 2 - 14.66

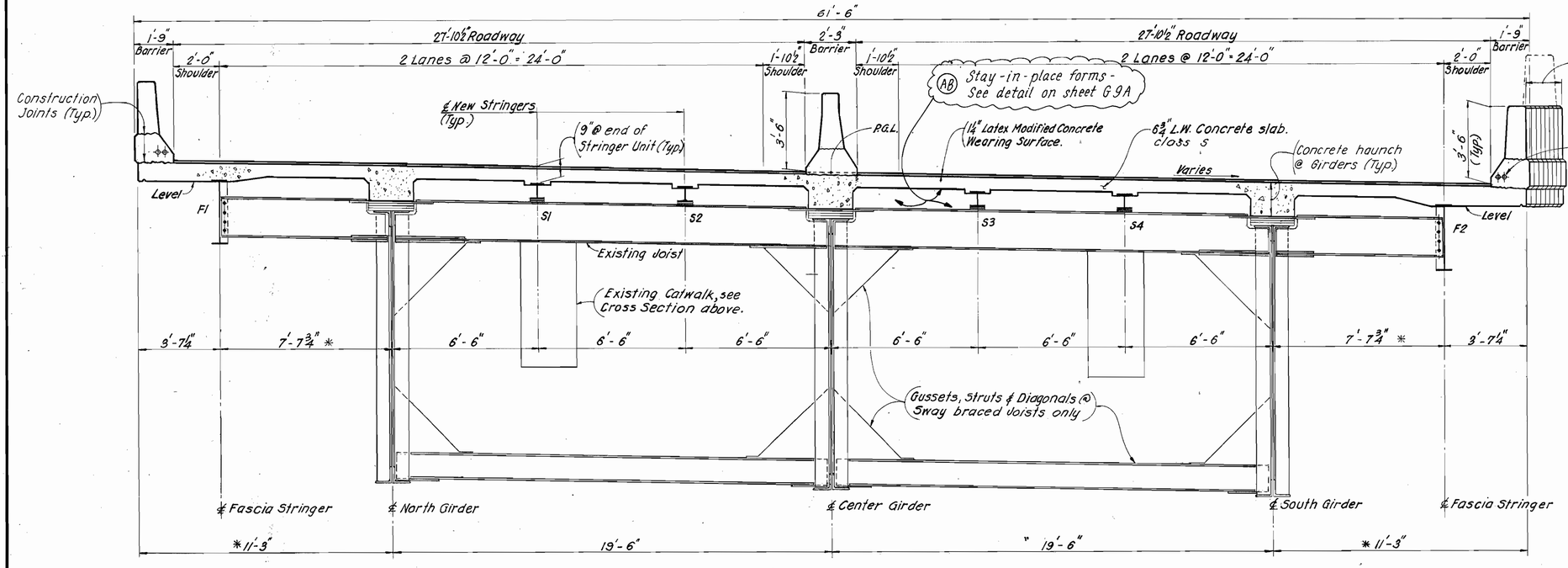


EXISTING CROSS SECTION *(Looking East)*
(Sway Braced Section Shown : see Framing Plan Dwg. 524 & 525)
Bridge Section I - From Sta. 67+61.06 to Sta. 76+19.97



KEY PLAN

Note: -For Proposed Bridge Section "H" Typical Cross Section See Dwg. 522.
-For Ramp on fill Typical Cross Section See Dwg. 504.
For Existing Section "H" Typical Cross Section See Dwg. 403.



* Dimensions vary at curve.

PROPOSED CROSS SECTION *(Looking East)*

REFERENCES:

	DWG. NO.
Existing Plan & Elevation	501
Proposed Plan & Elevation	502
Section H - Typical Cross - Section	522
Notes	502

Ⓐⓑ *As built*

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

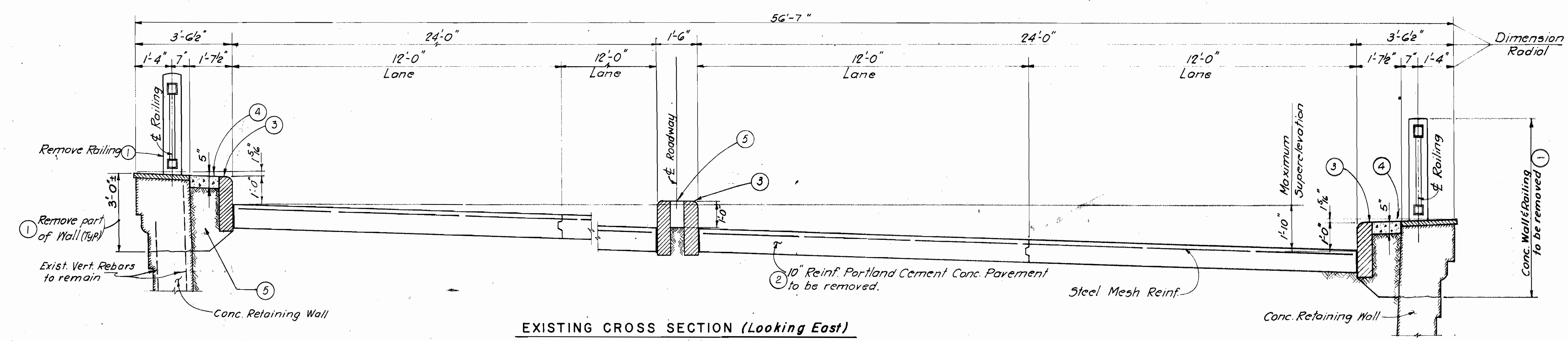
EAST APPROACH-LAKEFRONT RAMP SECTION I
TYPICAL CROSS SECTION - I

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 23, 1989

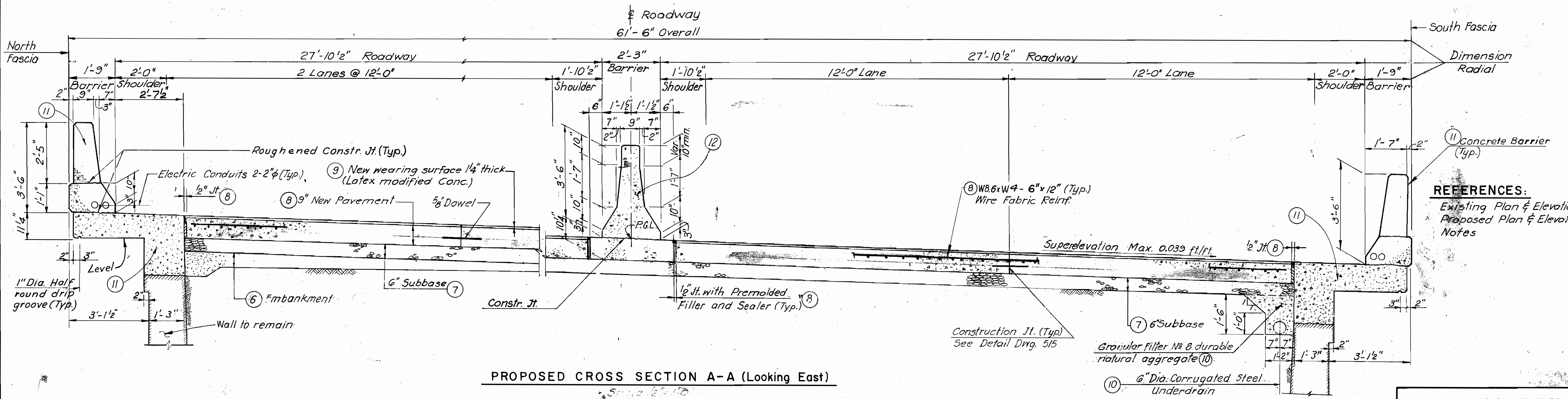
NO. B-136 503/46

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	J.P.W.	R.D.M.	AS BUILT 2/94

MICROFILMED
JUL 29 1994



EXISTING CROSS SECTION (Looking East)
Sta. 76+20 to Sta. 80+60



PROPOSED CROSS SECTION A-A (Looking East)

REFERENCES:

	DWG. NO.
Existing Plan & Elevation	501
Proposed Plan & Elevation	502
Notes	502

PAY ITEMS

①	Item 202	Portions of structures removed
②	Item 202	Pavement removed
③	Item 202	Curb removed
④	Item 202	Walk removed
⑤	Item 203	Excavation, not including embankment construction
⑥	Item 203	Embankment
⑦	Item 310	6" subbase
⑧	Item 451	9" reinforced concrete pavement
⑨	Item 845	1¼" latex-modified concrete overlay
⑩	Item 605	Shallow pipe underdrain
⑪	Item 511	Class "C" concrete, Retaining Walls (above footings)
⑫	Item 622	Concrete barrier, type B, as per plan "A" *

Note: * For Reinforcing Details See Section D-D on Dwg. 514.

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - LAKEFRONT RAMP
TYPICAL CROSS SECTION - II

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct. 23, 1989

NO. B-136 504/46

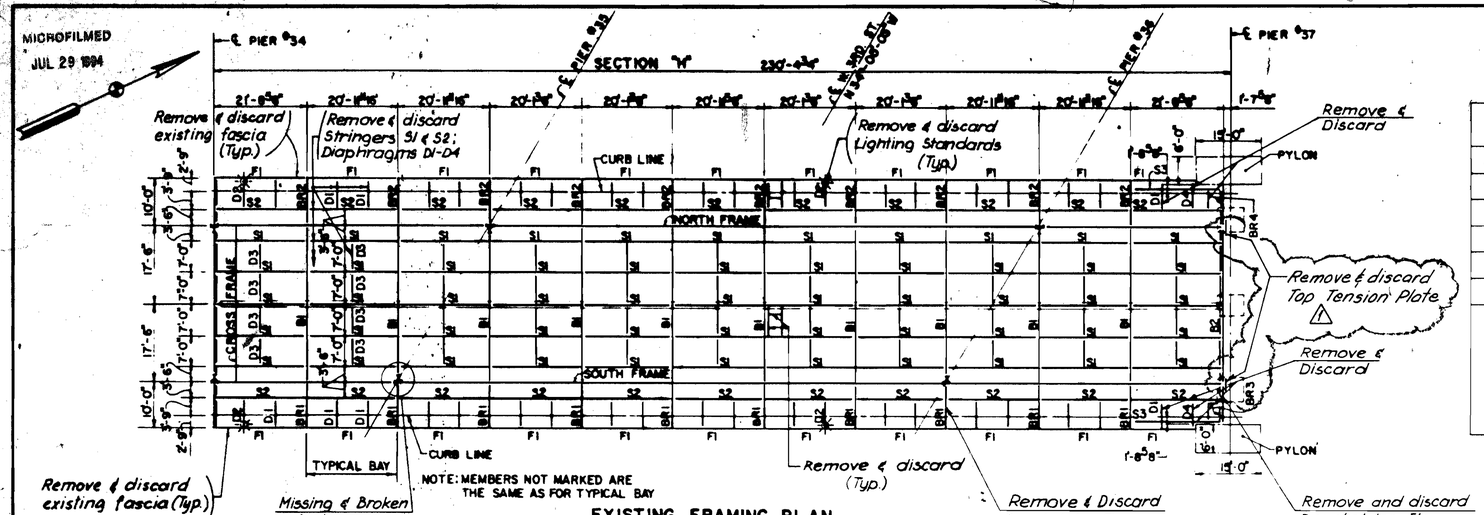
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	R.S.	R.D.M.	AS BUILT 2/94

MICROFILMED
JUL 29 1994

CUYAHOGA COUNTY
CUY-2-14.66

FHWA REGION	STATE	PROJECT	
5	OHIO.	BHF-73(51)	

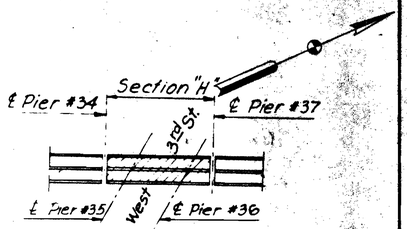
439
547



EXISTING FRAMING PLAN

EXISTING FRAMING REMOVAL

MARK	DESIGNATION	SECTION "H" QUANT.		REMARKS
S1 & S2	24W74	77		
S3	21W59	2		
D1	10W29	40		
D2	10C25	4		
D3	14W30	44		
D4	10W33	2		
F1	1-L 4x3x3/8	22		
	1-PL 18x3/8	22		
	1-Z 4 1/8x3 3/16x3/8	22		
	1-PL 24x3/8	22		
	1-L 4x3 1/2x3/8	22		



KEY PLAN
N.T.S.

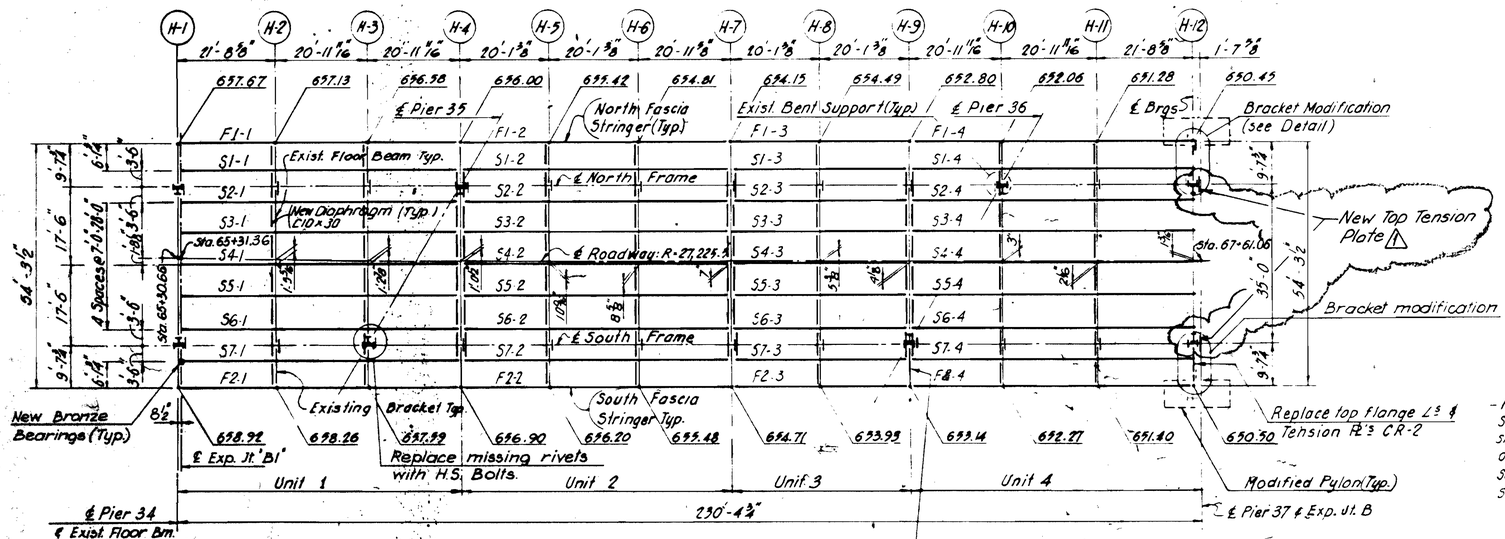
DECK OVERHANG TABLE

FLOORBEAM	OVERHANG * NORTH	SOUTH
H-1	5'-3 1/2"	1'-11 1/4"
H-2	5'-0 5/8"	2'-1 7/8"
H-3	4'-10 1/8"	2'-4 3/8"
H-4	4-7 3/4"	2'-6 3/4"
H-5	4'-5 3/4"	2'-8 3/4"
H-6	4'-4"	2'-10 5/8"
H-7	4'-2 1/8"	3'-0 3/8"
H-8	4'-0 3/4"	3'-1 3/4"
H-9	3'-11 3/8"	3'-3 1/8"
H-10	3'-10 1/4"	3'-4 3/8"
H-11	3'-9 1/4"	3'-5 1/4"
H-12	3'-8 3/8"	3'-6 1/8"

* Measured radially at point of intersection of the floorbeam and the Fascia Stringers.

NOTES:

- All existing dimensions, elevations and details were obtained from original contract plans and shop drawings and shall be verified in the field by the Contractor, prior to making structure alterations.
- All dimensions shown on proposed plans are measured horizontally.
- All new shapes and plates shall be ASTM-A36 steel (A.A.S.H.T.O. - M183) unless noted otherwise.
- All High strength bolted Connections shall be of the Friction type unless noted otherwise.
- Welding details and procedures shall conform to the A.W.S. and A.A.S.H.T.O latest specifications.
- All new Rolled Beams, Shaped and Plates shall be ASTM A36, AISC Category I.
- All new welded Members including Fascia Stringers, replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III



SECTION "H" - PROPOSED FRAMING PLAN

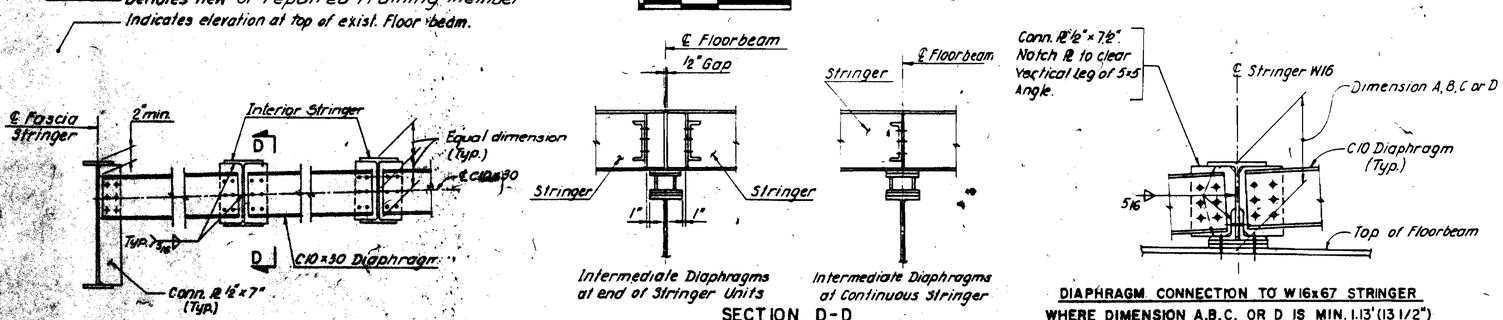
- For Finishing Machine Support notes See Dwg. GB Welding of attachments shall not be permitted in the tension Zone of the Stringers. For the Stringers in Section H, tension Zone is 3'-3" each Side of interior Supports.

REFERENCES

	DWG. NO.
Notes	524
Existing Plan and Elevation	501
Proposed Plan and Elevation	502
Typical Cross Section	522
Stringers Schedule and Fascia Stringers Data	521
Typical Stringer Details	520
Stringer Details 1	522
Miscellaneous Struct. Details	532
Charpy V Notch requirements	502

Denotes existing framing member
Denotes new or repaired framing member
Indicates elevation at top of exist. Floor beam.

1'0 8' 16' 32'



SECTION D-D

NEW INTERMEDIATE DIAPHRAGMS AT FLOORBEAMS

DIAPHRAGM CONNECTION TO W16x67 STRINGER WHERE DIMENSION A,B,C, OR D IS MIN. 1.13' (13 1/2")

Rev. 1	⚠ Plan Revisions	8/15/91

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH — LAKEFRONT RAMP-SEC. H
EXIST. & PROPOSED FRAMING PLAN

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 23, 1990

NO. B-136

519
46

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	J.P.W.	R.D.M.	AS BUILT 2/94

O.D.O.T. 12-9-91 T.E.S.

MICROFILMED JUL 29 1994

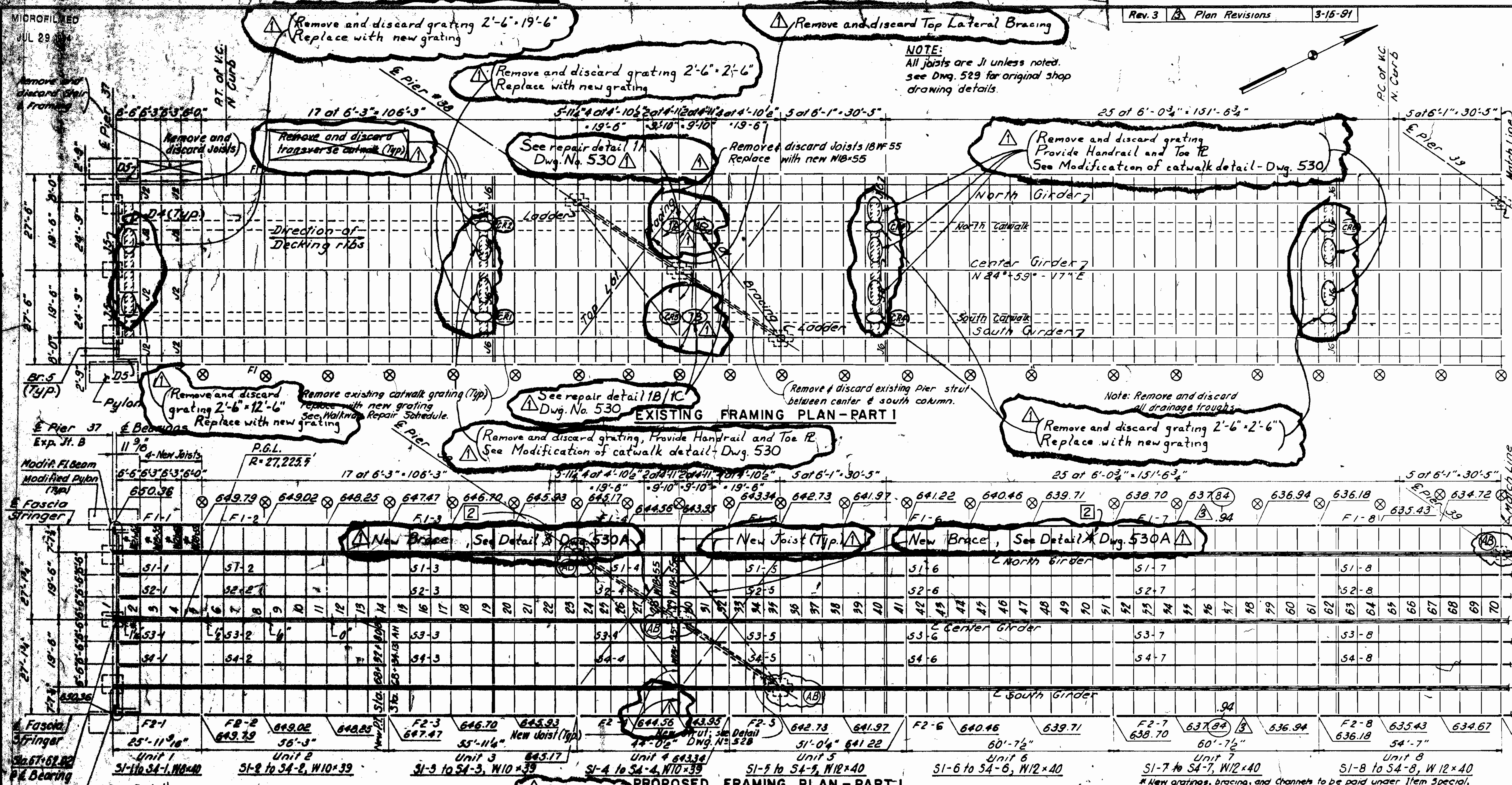
FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

444/547

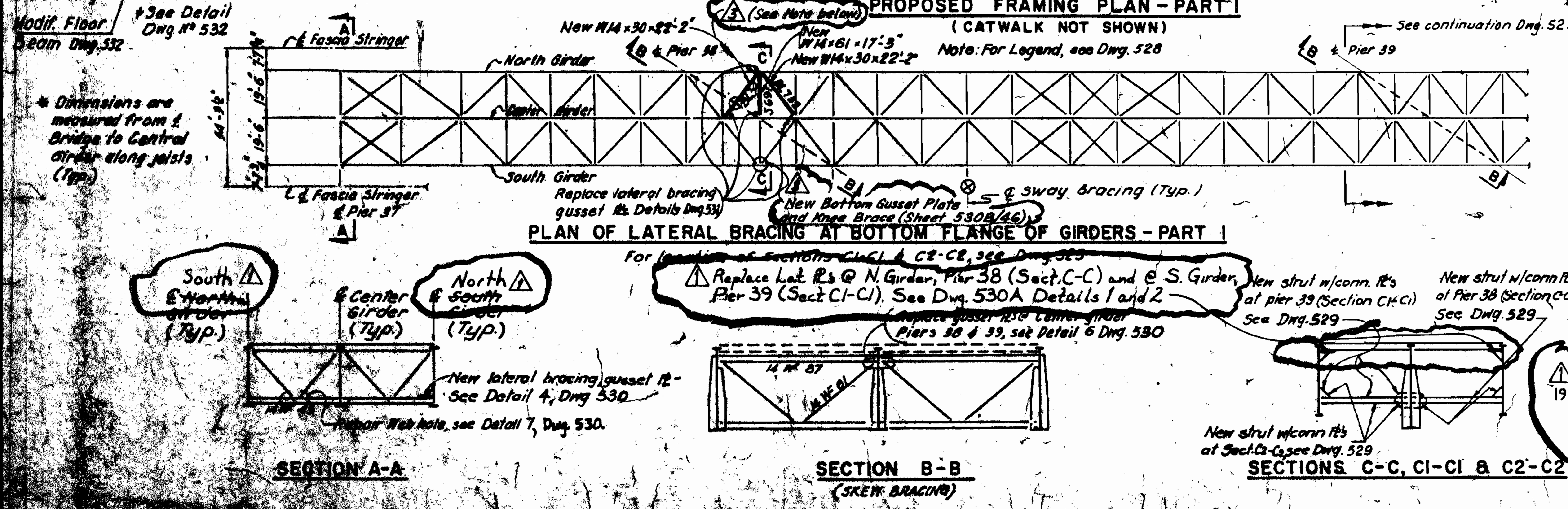
CUYAHOGA COUNTY
CUY-2-14.66 (AB) As Built see sht. 525/446

Rev.	Description	Date
Rev. 3	△3 Plan Revisions	3-15-91
Rev. 1	△1 Plan Revisions	2-14-91
Rev. 2	2 Plan Revisions	2-26-91

NOTE: All joists are J1 unless noted. See Dwg. 529 for original shop drawing details.



EXISTING FRAMING PLAN - PART I
△ Remove and discard grating 2'-6" × 19'-6". Replace with new grating
△ Remove and discard Top Lateral Bracing
△ Remove and discard grating 2'-6" × 2'-6". Replace with new grating
Remove and discard transverse catwalk (Typ)
See repair detail 1A, Dwg. No. 530 △
Remove & discard Joists 18WF55. Replace with new W18×55
△ Remove and discard grating. Provide Handrail and Toe PL. See Modification of catwalk detail - Dwg. 530
Remove and discard Joists
Remove and discard stair & framing
Direction of Decking ribs
North Girder
North Catwalk
Center Girder
N 24°-59'-V7" E
South Catwalk
South Girder
Ladder
Top Lat.
Bracing
Match Line
℄ Pier 38
℄ Pier 39
17 at 6'-3" = 106'-3"
25 at 6'-0¾" = 151'-6¾"
5 at 6'-1" = 30'-5"
Br.5 (Typ)
Pylon
△ Remove and discard grating 2'-6" × 12'-6". Replace with new grating
Remove existing catwalk grating (Typ). Replace with new grating. See Walkway Repair Schedule.
See repair detail 1B/1C Dwg. No. 530
Remove & discard existing Pier strut between center & south column.
Note: Remove and discard all drainage troughs.
△ Remove and discard grating 2'-6" × 2'-6". Replace with new grating
△ Remove and discard grating, Provide Handrail and Toe PL. See Modification of catwalk detail - Dwg. 530
PROPOSED FRAMING PLAN - PART I
(CATWALK NOT SHOWN)
Note: For Legend, see Dwg. 528
℄ Pier 37 Exp. Jt. B
℄ Bearings
4-New Joists
P.G.L. R = 27,225.5'
Modif. Fl. Beam
Modified Pylon (Typ)
℄ Fascia Stringer
△ New Brace, See Detail 3 Dwg. 530A
△ New Joist (Typ.)
△ New Brace, See Detail 4 Dwg. 530A
North Girder
Center Girder
South Girder
Unit 1 S1-1 to S4-1, W18×40
Unit 2 S1-2 to S4-2, W10×39
Unit 3 S1-3 to S4-3, W10×39
S1-4 to S4-4, W10×39
Unit 5 S1-5 to S4-5, W12×40
S1-6 to S4-6, W12×40
Unit 7 S1-7 to S4-7, W12×40
Unit 8 S1-8 to S4-8, W12×40
Modif. Floor Beam Dwg. 532
+See Detail Dwg. No. 532
PL Bearing



PLAN OF LATERAL BRACING AT BOTTOM FLANGE OF GIRDERS - PART I
For Location of Sections C1-C1 & C2-C2, see Dwg. 525
△3 (See Note below)
New W14×30×22'-2"
New W14×61×17'-3"
New W14×30×22'-2"
℄ Pier 38
℄ Pier 39
See continuation Dwg. 525
℄ Fascia Stringer
North Girder
Center Girder
South Girder
Replace lateral bracing gusset PLs. Details Dwg. 531
New Bottom Gusset Plate and Knee Brace (Sheet 530B/46)
℄ Sway Bracing (Typ.)
℄ Pier 37
* Dimensions are measured from ℄ Bridge to Central Girder along joists (Typ.)
South △ (Typ.)
℄ Center Girder (Typ.)
North △ (Typ.)
△ Replace Lat. PLs @ N. Girder, Pier 38 (Sect. C-C) and @ S. Girder, Pier 39 (Sect. C1-C1). See Dwg. 530A Details 1 and 2
Replace gusset PLs @ center girder Piers 38 & 39, see Detail 6 Dwg. 530
New lateral bracing gusset PL - See Detail 4, Dwg. 530
Repair Web hole, see Detail 7, Dwg. 530
New strut w/conn. PLs at pier 39 (Section C1-C1) See Dwg. 529
New strut w/conn PLs at Pier 38 (Section C-C) See Dwg. 529
New strut w/conn PLs at Sect. C2-C2 see Dwg. 529
SECTION A-A
SECTION B-B (SKEW BRACING)
SECTIONS C-C, C1-C1 & C2-C2

* New gratings, bracing, and Channels to be paid under Item Special, "Steel Grating".

CATWALK REPAIR SCHEDULE *

REPAIR	LOCATION UNIT/WALK		REPAIR - REMOVE AND DISCARD - REPLACE WITH NEW
CR1	3	South	Grating 2'-6" × 6'-0" long
CR2	3	North	Grating 2'6" × 6'-0" long Bracing 2-L^s 3½×3×¼, 4'-0"
CR3	4	South	Grating 2'-6" × 12'-0" long Channels 2-C7×9.8 × Full length Bracing 4-L^s 3½×3×¼×4'-0"
CR4	5	South	Grating 2'-6" × 8'-0" long Channels 2-C7×9.8 × Full length Bracing 3-L^s 3½×3×¼×4'-0"
CR5	6	North	Same as for CR3
CR6	8	North	Same as for CR4
CR7	9	South	Same as for CR3
CR8	9	North	Same as for CR3
CR9	13	North	Grating 2'-6" × 10'-0" long Channels 2-C7×9.8 × Full length Bracing 4-L^s 3½×3×¼×4'-0"
CR10	16	South	Grating 2'-6" × 3'-0" long
CR11	16	North	Same as for CR10

△1 19

Note: New gratings shall be press-locked rectangular design, galvanized steel. Main bars shall be 1¼" × 3/16" spaced 1 3/16" on centers. Cross bars shall be ¾" × 3/16" spaced 4" on centers.

△1 ADDITIONAL CATWALK REPAIRS

REPAIR	LOCATION UNIT/WALK		REPAIR - REMOVE AND DISCARD - REPLACE WITH NEW
1A	4	North	Grating 2'-6" × 9'-0" long Channels 2-C7×9.8 × 9'-0" Bracing 2-L^s 3½×3×¼×4'-0"
1B	4	South	Grating 2'-6" × 6'-0" long Channels 2-C7×9.8 × 6'-0" Bracing 1-L^s 3½×3×¼×4'-0"
1C	4	North	Same as for 1B

NOTES:

All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III

All existing dimensions and details were obtained from original Contract Plans and Shop Dwg's. and shall be verified in field by the Contractor prior to making alterations.

All longitudinal dimensions are sloping dimensions.

See C.V.N. Requirements Dwg. 502.

New steel (shapes and plates) shall conform to ASTM-A36 (AASHTO-M183) unless otherwise noted.

All High Strength bolted connections shall be of the "Friction Type" unless noted otherwise.

Welding details and procedures shall conform to the A.W.S. and A.A.S.H.T.O. latest Specifications.

All new Stringers shall be installed vertical.

Welds on top flange of new Stringers are not permitted.

REFERENCES:	DWG. NO.
Proposed Plan and Elevation	502
Typical Cross Section	503
Depth of Support Table	526
Deck Framing Details	527, 532
Structural Replacement and repairs	528, 529, 530, 531
Catwalk Details	530
Attachment of New Catwalk grating	258

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MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - LAKEFRONT RAMP SECTION I
EXIST. & PROPOSED FRAMING PLAN - I

BRIDGE NO. 193 REPORT NO. 7119 DATE

NO. B-136 524/46

DESIGN	DRAWN	CHECKED	REVISED
A.S.	J.P.W.	R.D.H.	AS BUILT 2/94

ODOT 4-18-91 T.E.S.

MICROFILMED
JUL 29 1994

FHWA REGION	STATE	PROJECT
5	OHIO	BHF - 73(51)

445/547

CUYAHOGA COUNTY
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Existing Joists Schedule

Mark	Section
J-1	WF 18 x 55
J-2	WF 21 x 59
J-3	WF 21 x 63
J-4	WF 21 x 68
J-5	WF 27 x 98
J-6	2 - C18 x 42
F-1	2∠4 x 3½ x ⅜ 2 ℄ ⅜ Z Bar 4½ x 3½ x ⅜

Existing Framing Schedule

Mark	Section
Br. 5	27WF 98
D 4	12 WF 25
D 5	12 WF 40

Remove and discard, Replace with new Grating 2'-6" x 10'-0" long Channels 2-C7 x 9.8 x Full length Bracing 2-∠ 3½ x 3 x ¼, 4'-0"
Remove and discard grating 2'-6" x 2'-0" Replace with new grating
Remove and discard transverse catwalk (Typ)
Remove and discard Top Lateral Bracing
Remove and discard joists 21 WF 59
25 at 6'-2¼" = 154'-8¼"
26 at 6'-2¼" = 160'-10½"
Curb Line
North Girder
Center Girder
South Girder
Top Lat. bracing
Direction Decking Ribs
North Catwalk
South Catwalk
Ladder
Pylon
Face of wall & Abut.
Radial Line
Remove & discard Existing Strut between center column & south column. Dwg 528
Remove and discard 18 WF 55
Remove existing catwalk, replace with new grating (Typ) see Walkway Repair's Schedule.
Bare cable attached to Frame and joists at various locations
Luminaire attached to bottom joist
Dimensions a, b, c1, c2, d, e were obtained from existing shop Dwg's and are measured along exist. fascia and shall be verified by the Contractor.
℄ Pier 39
℄ Pier 40

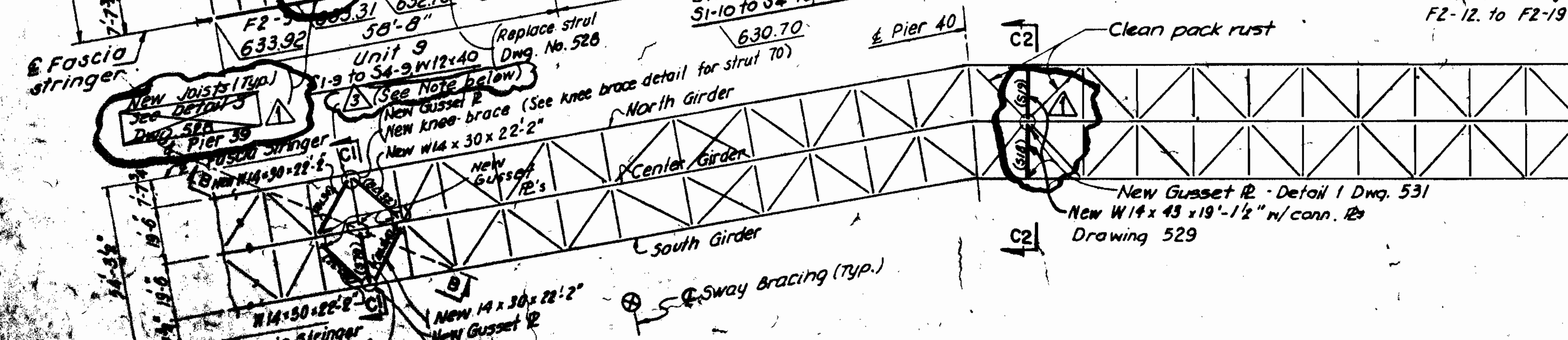
EXISTING FRAMING PLAN - PART 2

a	b	c_1	c_2	d	e
5'-8 3/32	3'-9 3/32	1'-10⅛"	1'-2⅝"	4'-4⅝	5'-7 29/32

Note: All joists are J2 unless noted.

Remove and discard catwalk hangers Replace with new catwalk hangers Refer to original shop drawings 668 and 670
New Bracing; See Detail * Dwg. 530A
See Part framing Plan Det. Dwg. 527
New Joist (Typ)
New Joist
North Girder
Center Girder
South Girder
℄ Bridge
℄ Roadway
Sta. 76+16.47 @ ℄ Bearing
Modif. Bracket
Modif. Bracket Dwg. No. 532
R = 1117.933'
R = 1063.642'
R = 1090.7875
℄ Fascia stringer
New Joists (Typ) See Detail 3 Dwg. 528
Replace strut Dwg. No. 528
℄ Pier 39
℄ Pier 40
* Dimensions are measured from ℄ Bridge to Central Girder along joists (Typ.)

PROPOSED FRAMING PLAN - PART 2
(CATWALK NOT SHOWN)
NOTE: Fascia stringers F1-12 to F1-19 and F2-12 to F2-19 are curved.

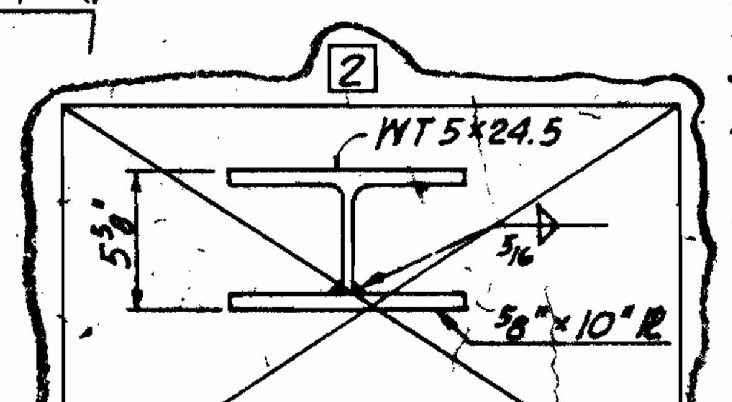


Clean pack rust
New Gusset ℙ - Detail 1 Dwg. 531
New W14 x 43 x 19'-1½" w/conn. ℙs Drawing 529
See Note below
New Gusset ℙ
New knee brace (See knee brace detail for strut 70)
New W14 x 30 x 22'-2"
North Girder
Center Girder
South Girder
℄ Sway Bracing (Typ.)
℄ Fascia Stringer
℄ East Abutment Brgs.

PLAN OF LATERAL BRACING AT BOTTOM FLANGE OF GIRDERS - PART 2

For Sections B-B, C1-C1 & C2-C2, see Dwg. No. 524 & 518

3 New Bottom Gusset Plate and Knee Brace (Sheet 530B/46)



STRINGER S4-16

LEGEND

- Existing frame member
- New or modified frame member
- Elevation at top of existing braced joists
- (CR) Catwalk grating repair
- ⊗ Denotes Sway Bracings location

NOTES:

All new Rolled Beams, Shapes and Plates shall be ASTM A36, AISC Category I.

All new Welded Members including Fascia Stringers, Replacement Floor Beams and Brackets shall be ASTM A36, AISC Category III

REFERENCES:	DWG. NO.
Notes and References	524
New bottom strut, bracing, joists and gusset plates	529 - 531

Rev.	Description	Date
Rev. 2	2 Plan Revisions	2-25-91
Rev. 1	△ Plan Revisions	2-14-91

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MAIN AVENUE BRIDGE

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BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - LAKEFRONT RAMP SECTION
EXIST. & PROPOSED FRAMING PLAN - 2

BRIDGE NO. 193 REPORT NO. 7119 DATE

NO. B-136 525/46

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S.	J.P.N.	R.D.M.	AS BUILT 2/94

Rev. 3 △ Plan Revisions 3-15-91 AS BUILT see sht.

0007 4-18-91 T.E.S.

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AUG 1 1994

Note:
A Haunch width as shown on Haunch and Depth of Slab details on Dwg. 533 shall be used for computing quantities of concrete.

CUYAHOGA COUNTY
CUY-2-14.66

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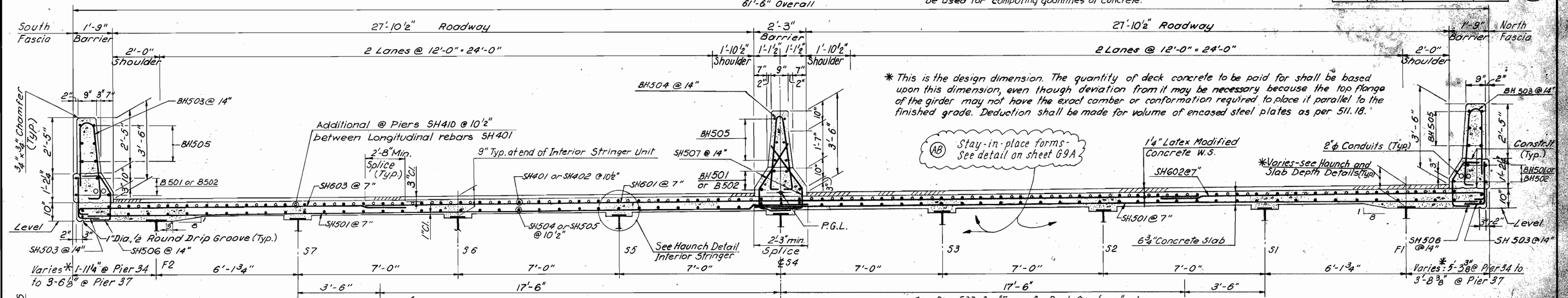
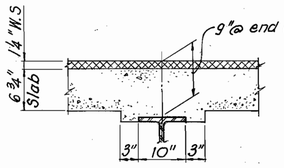
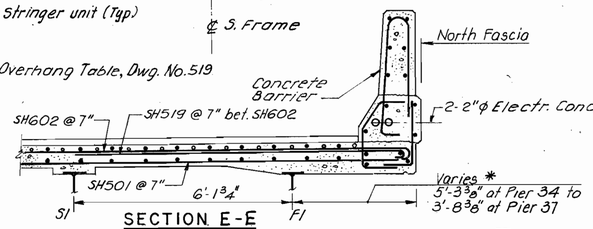
5	OHIO	BHF-73(51)	

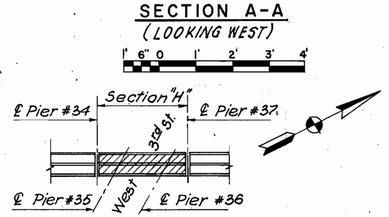




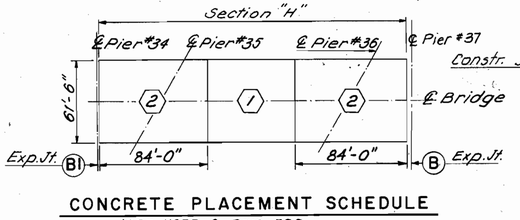
HAUNCH DETAIL



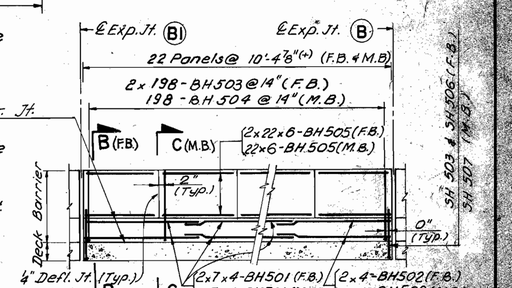
SECTION E-E



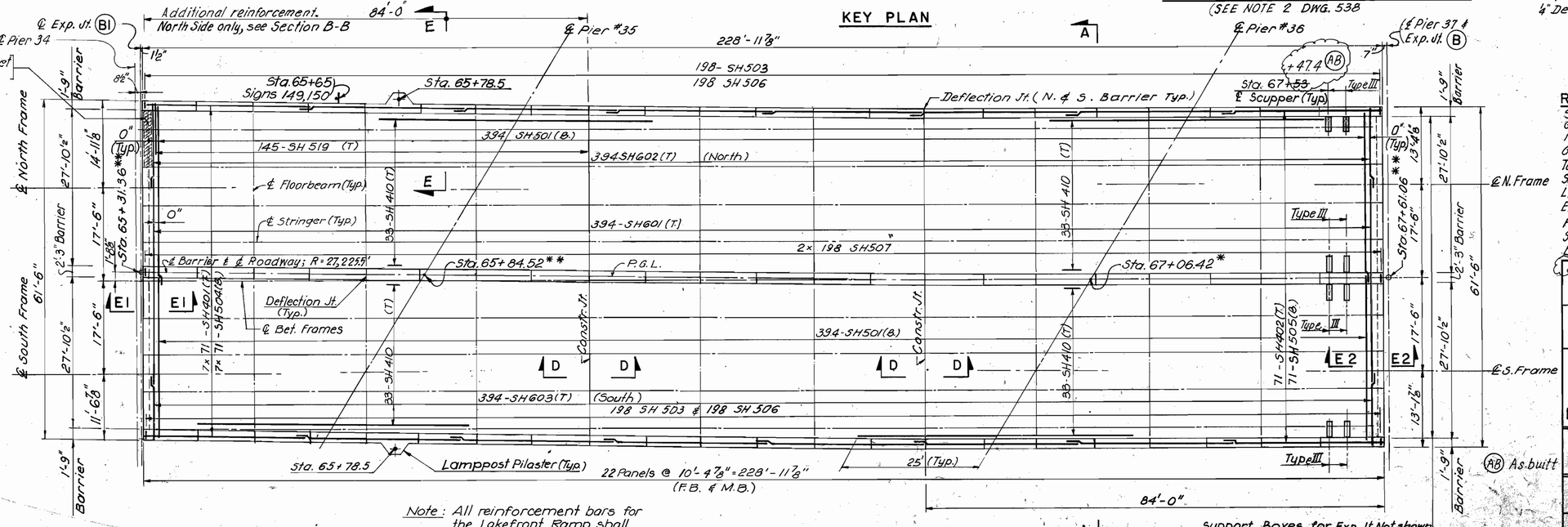
KEY PLAN



CONCRETE PLACEMENT SCHEDULE
(SEE NOTE 2 DWG. 538



BARRIER DETAILS SECTION H
N.T.S. (F.B.) Fascia Barrier (M.B.) Median Barrier



Note: All reinforcement bars for the Lakefront Ramp shall be prefixed "LR"

SECTION - H - PLAN
1' 0 5' 10' 15' 20'

Support Boxes for Exp. Jt. Not shown
For Number & Location See Exp. Jt. Det.
Note: Field cut and bend the bars to clear boxes.

** New Stations (Used for the New Alignment only) See Dwg. 502.

REFERENCES

	DWG. NO.
Sections B-B And C-C	537
General Notes	661 to 663
Notes & Section D-D	538
General Plan and Elevation.	502
Top of Deck Elevations and Deflections.	533
Scupper Details and Reinforcement	G54 & G55
Lighting Post-Pilaster and Reinforcement	G63
Expansion Joints.	542, 543
Haunch & Slab depth details	533
Sections E1-E1 & E2-E2, & Bracket BIH	539
Bar List.	544
Stay-in-place forms	G9A

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CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - LAKEFRONT RAMP SECT. H
DECK SLAB REINFORCEMENT

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 23 1984

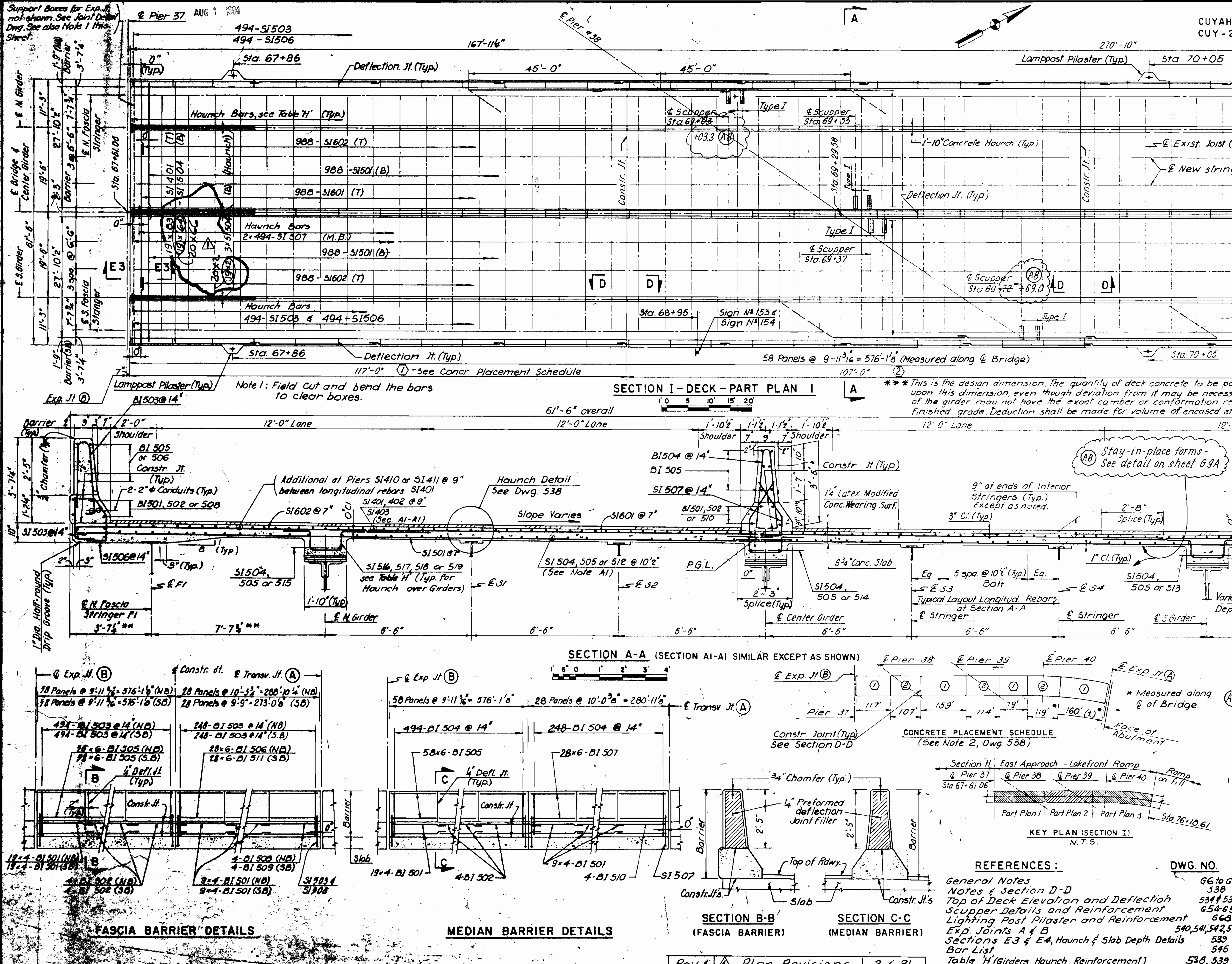
NO. B-136

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
AS/B.P.	L.T.	R.M.Mc	AS BUILT 2/94

CUYAHOGA COUNTY
CUY-2-14.66

FHWA REGION	STATE	PROJECT
5	OHIO	BHF-73(51)

457
547



REFERENCES:

	DWG. NO.
General Notes	G6 to G23
Notes & Section D-D	538
Top of Deck Elevation and Deflection	534 & 535
Scupper Details and Reinforcement	G54-655
Lighting Post Pilaster and Reinforcement	G68
Exp. Joints A & B	540, 541, 542, 543
Sections E3 & E4, Haunch & Slab Depth Details	539
Bar List	545
Table 'H' (Girders Haunch Reinforcement)	538, 539

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NEW YORK, NEW YORK

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH-LAKEFRONT RAMP-SECTION I
DECK SLAB REINFORCEMENT-1

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 23 1989

NO. B-136

537

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S./B.P.	L.T.	R.W.Mc	AS BUILT 2/94

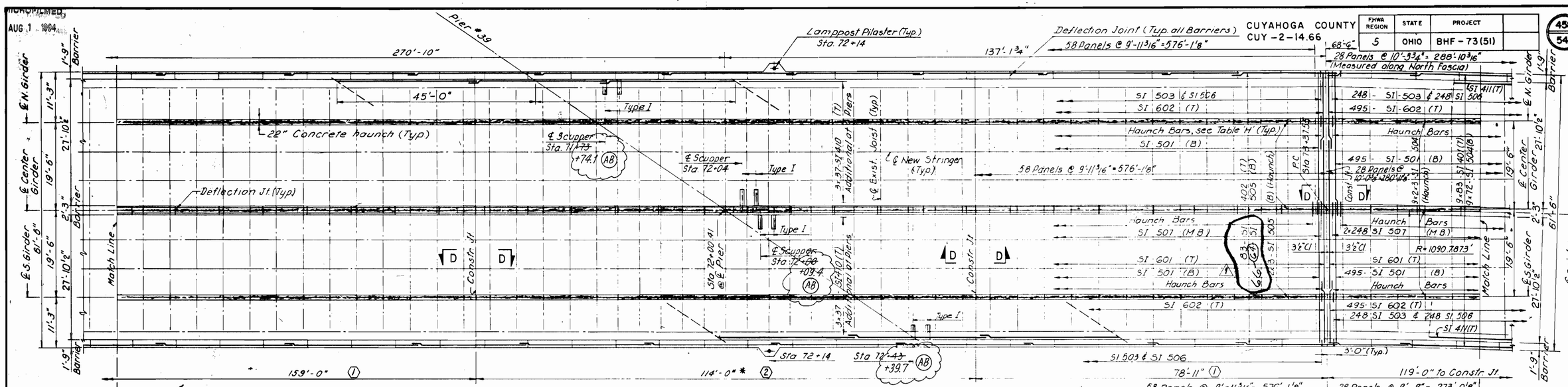
ODOT 3-14-91 TES

MICROFILMED AUG 1 1994

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

CUYAHOGA COUNTY
CUY-2-14.66

458
547



SECTION I - DECK - PART PLAN 2

*Measured along ℄ Roadway

SECTION I - DECK - PART PLAN 3

MINIMUM BAR LAP LENGTH	
BAR SIZE	MIN. LAP
# 4	1'-10"
# 5	2'-3"
# 6	2'-8"

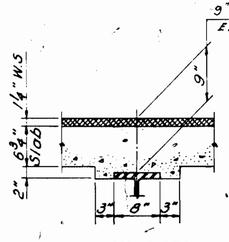
- DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension less 1/4" N.S. even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.
- A Haunch width as shown on Haunch & Depth of Slab Details on Dng's 534 and 526 shall be used for computing quantities of Concrete.

NOTES:

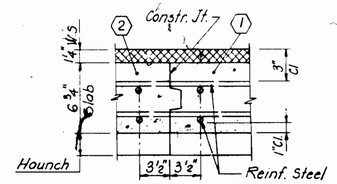
1. All Deck concrete shall be "Lightweight Class S"
2. Alternate pouring schemes may be considered, which the Contractor shall submit to the Engineer for approval.
3. The Contractor shall bend or field cut reinforcing steel as required.
4. Preformed deflection joint filler in barriers shall be either ½" thick gray sponge rubber (AASHTO M-153) or ½" gray cellular polyvinyl chloride (PVC) sponge. Concrete in Barriers above upper construction joints shall be placed in alternate sections by the use of bulkheads. Closing sections shall be placed after removal of bulkheads & after placement of expansion joint filler.
5. Embedded lighting conduits (size & layout), junction boxes, grounding, etc. are detailed in the Dng's No. 668 & 669, Proposed Bridge Lighting.

TABLE 'H' - HAUNCH REINFORCEMENT OVER GIRDERS

STA. BEGINS	STA. ENDS	N. & S. GIRDER		CENTER GIRDER	
		BAR MARK	NO. OF BARS	BAR MARK	NO. OF BARS
67+60.66	69+44.58	SI 518	316	SI 517	158
69+44.58	72+25.40	SI 519	482	SI 518	241
72+25.40	72+79.77	SI 518	92	SI 518	46
72+79.77	73+37.55	SI 517	98	SI 517	49
73+37.55	74+02.07	SI 517	114	SI 517	57
74+02.07	75+78.90	SI 516	310	SI 516	155
75+78.91	76+18.48	SI 517	70	SI 517	35



HAUNCH DETAILS
N.T.S.



SECTION D-D

0 5' 10' 15' 20'

(AB) As built

REFERENCES:

	DWG. NO.
For References	537

Rev. 1	⚠ Plan Revision	3-7-91

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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

MAIN AVENUE BRIDGE

CITY OF CLEVELAND
BRIDGE OVER THE CUYAHOGA RIVER VALLEY

EAST APPROACH - LAKEFRONT RAMP SECTION I
DECK SLAB REINFORCEMENT - 2

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 23 1990

NO. B-136

538/46

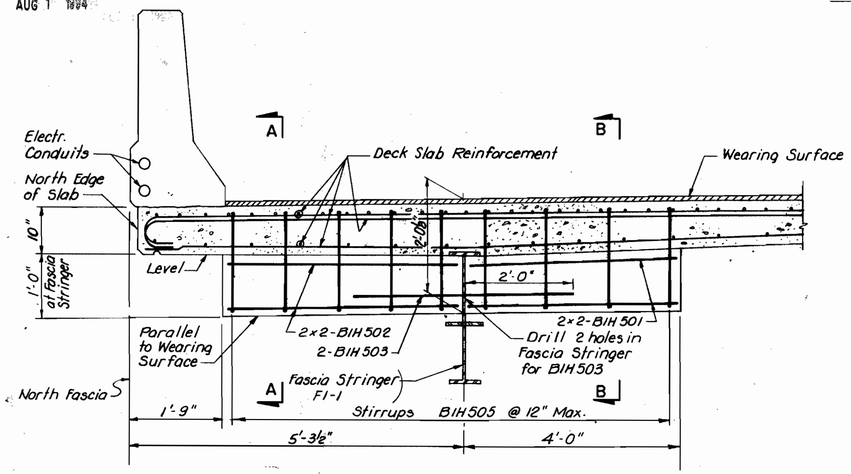
DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
A.S./B.P.	T.C.	R.W.Mc.	AS BUILT 2/94

ODOT 3-14-91 TES

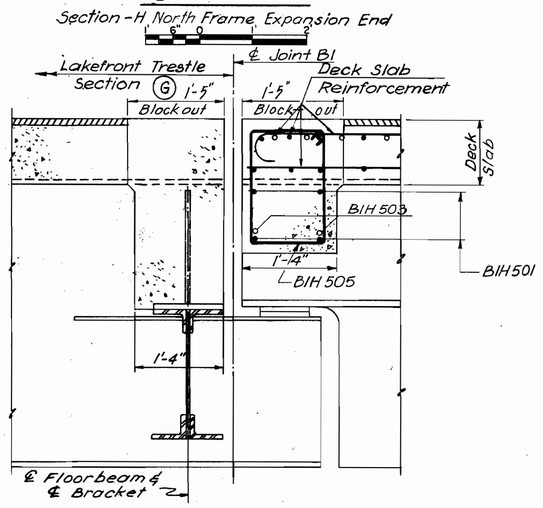
MICROFILMED
AUG 1 1994

FHWA REGION	STATE	PROJECT		459 / 547
5	OHIO	BHF-73(51)		

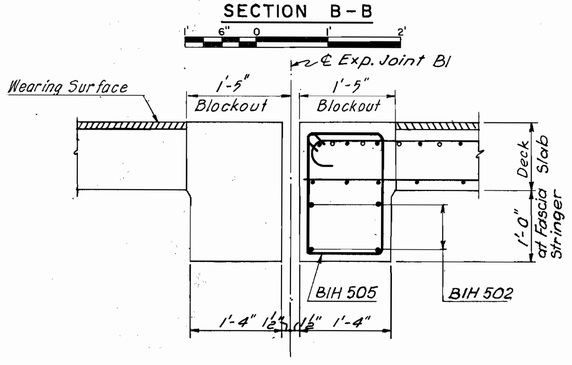
CUYAHOGA COUNTY
CUY-2-14.66



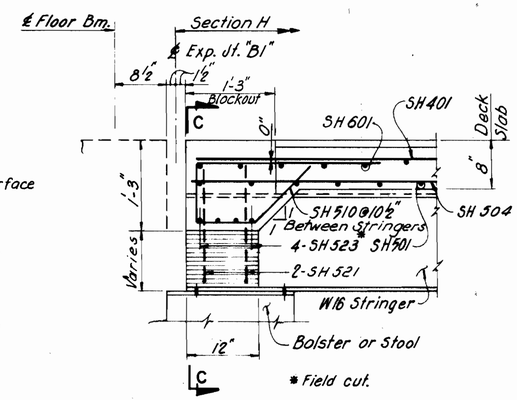
BRACKET BIH



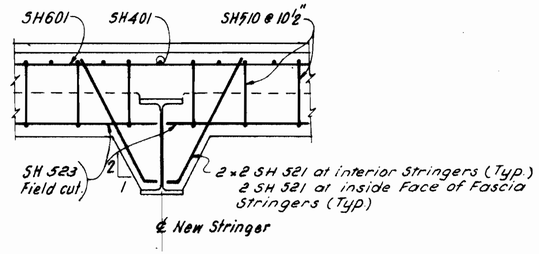
SECTION B-B



SECTION A-A

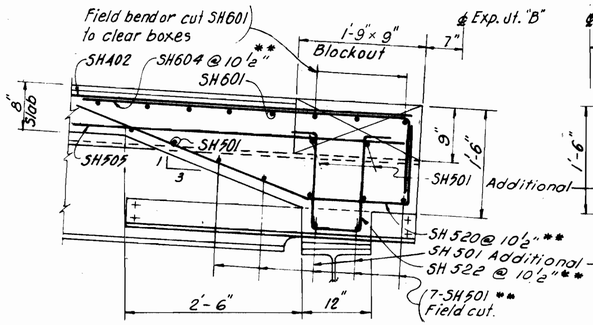


SECTION E1-E1

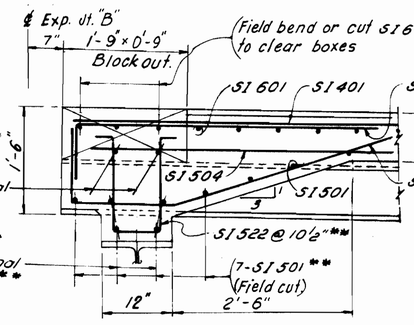


ELEVATION C-C

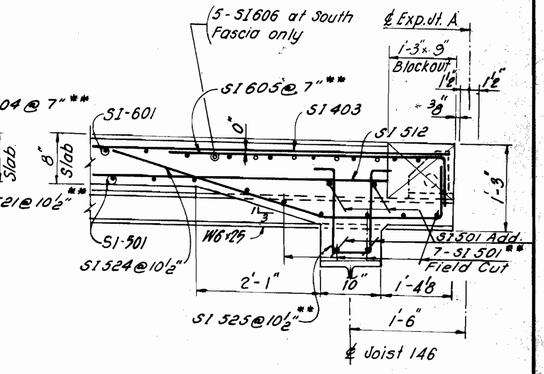
** Bars shall be arranged between the Fascia Stringers.



SECTION E2-E2



SECTION E3-E3



SECTION E4-E4

REFERENCES:

	DWG. NO.
Deck Slab Reinforcement Section H	536
Deck Slab Reinforcement-1 & 2 Section I	537 & 538
Location Sections E1-E1 & E2-E2	536
Location Section E3-E3	537
Location of Bracket B-1H	536
For Details of Exp. Jt. B1, see	461
For Details of Exp. Jt. B, see	542
For Details of Exp. Jt. A, see	540
Bar Lists	544, 547

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EAST APPROACH LAKEFRONT RAMP-SECTION H & I
DECK SLAB REINFORCEMENT-DETAILS

BRIDGE NO. 193 REPORT NO. 7119 DATE Oct 23 1989

NO. B-136 539/46

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
B.P.	T.C.	R.Mc.	AS BUILT 2/94

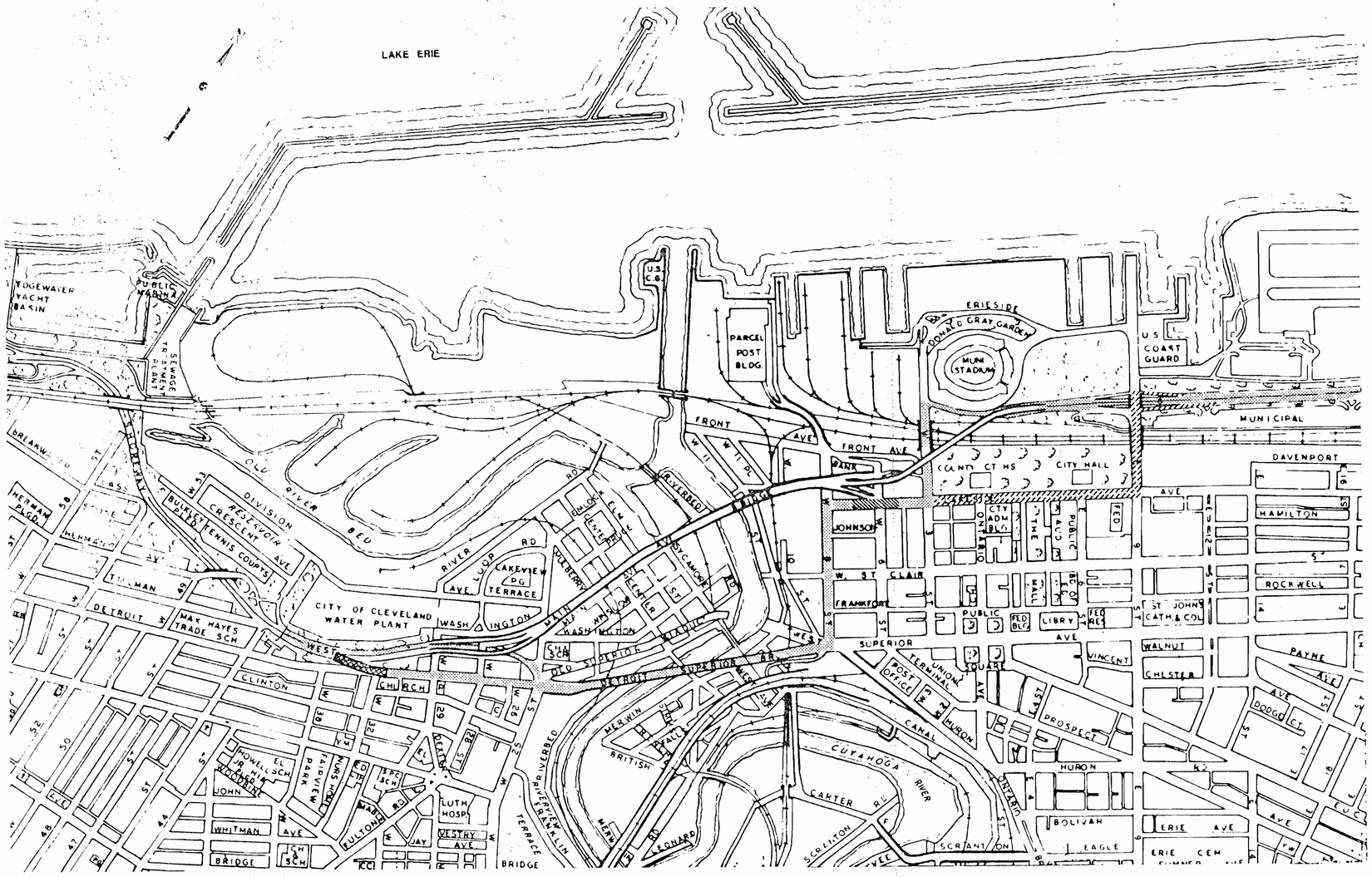
SCHEMATIC LOCATION PLAN

FHWA REGION	STATE	PROJECT	
5	OHIO	BHF-73(51)	

467/547

601/677

CUYAHOGA COUNTY
CUY- 2 - 14.66



INDEX

PROPOSED LAKESIDE AVE. IMPROVEMENTS (AFTER DETOUR CONDITION)

REMOVAL OF S.R.2 & DETROIT AVE. CONNECTION (AFTER DETOUR CONDITIONS)

EXISTING MAIN AVE.BRIDGE DETOUR ROUTE

EXISTING SPECIAL EVENT DETOUR

MADE I.M.H. DATE 1-30-80
TRACED J.D. DATE 1-30-80
CHECKED P.F. DATE 1-31-80
SCALE NO SCALE

Howard, Needles, Tammen & Bergendoff
CONSULTING ENGINEERS
CLEVELAND, OHIO

HNTB