

GENERAL NOTES

FOUNDATIONS

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DESIGN

IN ACCORDANCE WITH THE SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS FOR H20-44 LOADING, 1961 EDITION.

REINFORCING

ALL BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. DESIGNATION A305. UNLESS OTHERWISE SHOWN ON THE PLANS, REINFORCING BARS SHALL BE LAPPED 20 DIAMETERS TO MAKE A SPLICE, EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS, HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS, SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE.

DATE & SEAL

TO BE PLACED ON THE INSIDE FACE OF THE NORTHEASTERLY AND THE SOUTHWESTERLY END POST AS SHOWN IN DETAIL ON SHEET NO. 3.

A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. SEAL WILL BE FURNISHED BY THE COMMONWEALTH, AND SHALL BE PLACED BY THE CONTRACTOR.

BENCH MARK

STA. 103+00 - 246' LEFT - RAILROAD SPIKE IN 3" ELM. ELEVATION 461.99, MEAN SEA LEVEL DATUM OF 1929, U.S.C. & G.S.

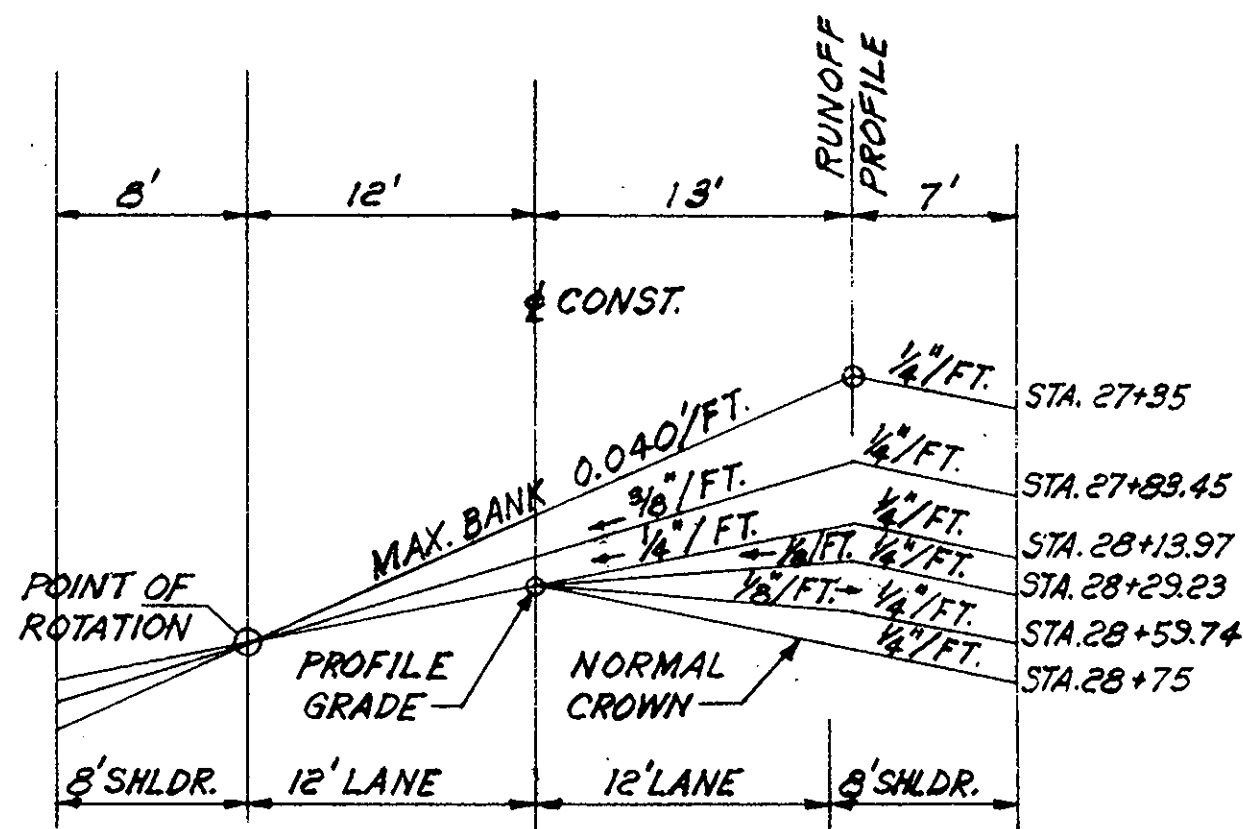
ESTIMATED QUANTITIES

(NOT GUARANTEED)

BRIDGE EXCAVATION	335 C.Y.
CLASS B ROCK EXCAVATION	363 C.Y.
GRAVEL BORROW	1,000 C.Y.
CLASS B CEMENT CONCRETE MASONRY	1,990 C.Y.
BITUMINOUS DAMPPROOFING	960 S.Y.
BRIDGE STRUCTURE (M-6-10)	1 L.S.

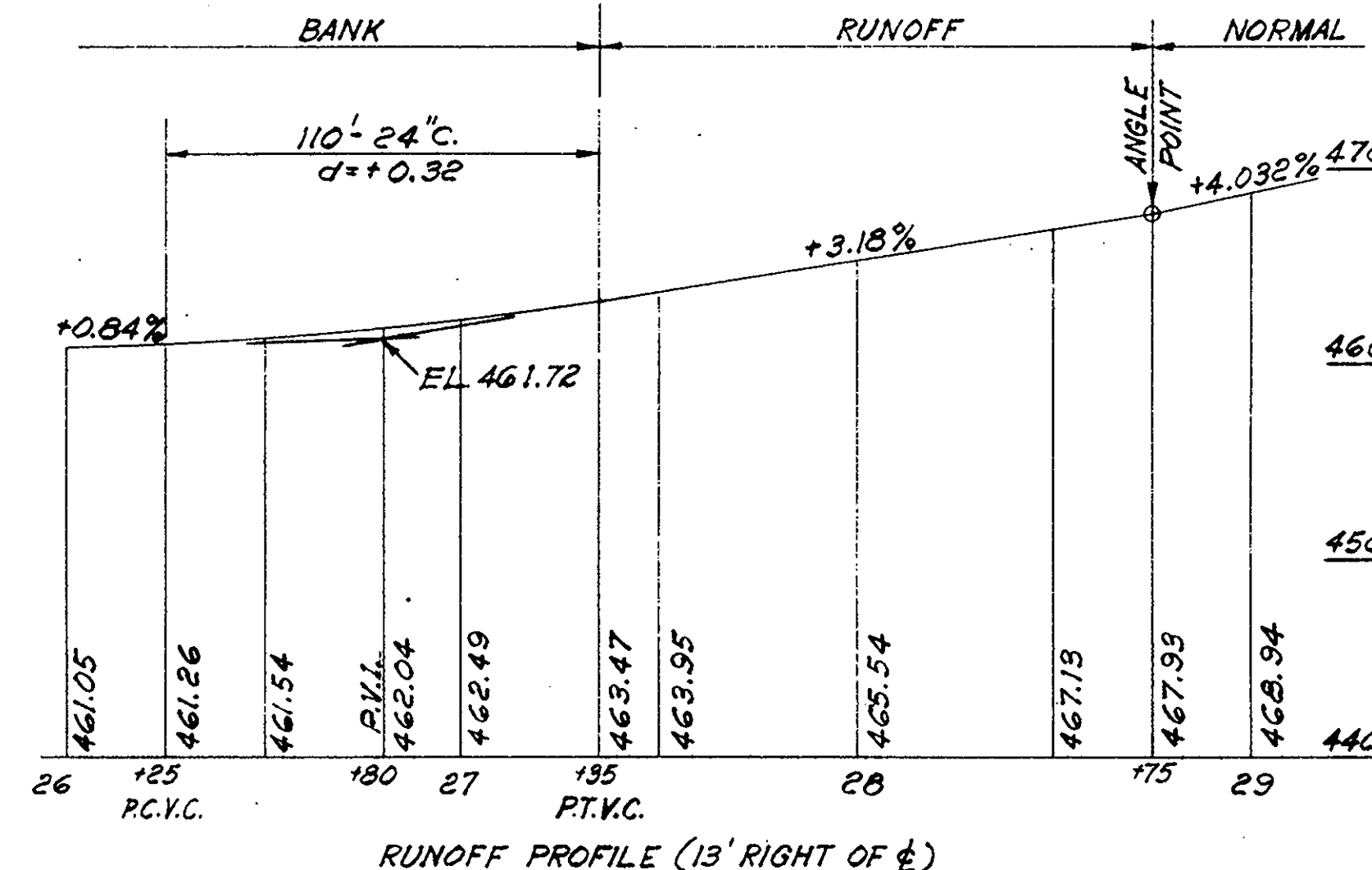
THESE ITEMS ARE INCLUDED IN LUMP SUM BRIDGE STRUCTURE (M-6-10), AND THE QUANTITIES ARE NOT GUARANTEED.

ESTIMATED WEIGHT OF STEEL REINF. FOR STRUCTURES 21,000 LBS.
ESTIMATED WEIGHT OF STRUCTURAL STEEL (A36) 221,000 LBS.



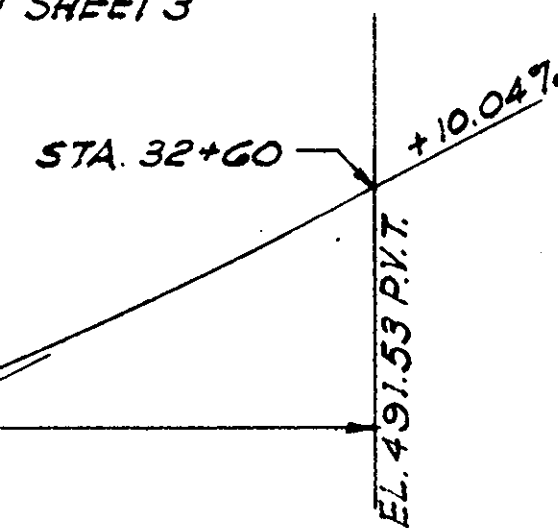
ELM STREET

NOT TO SCALE



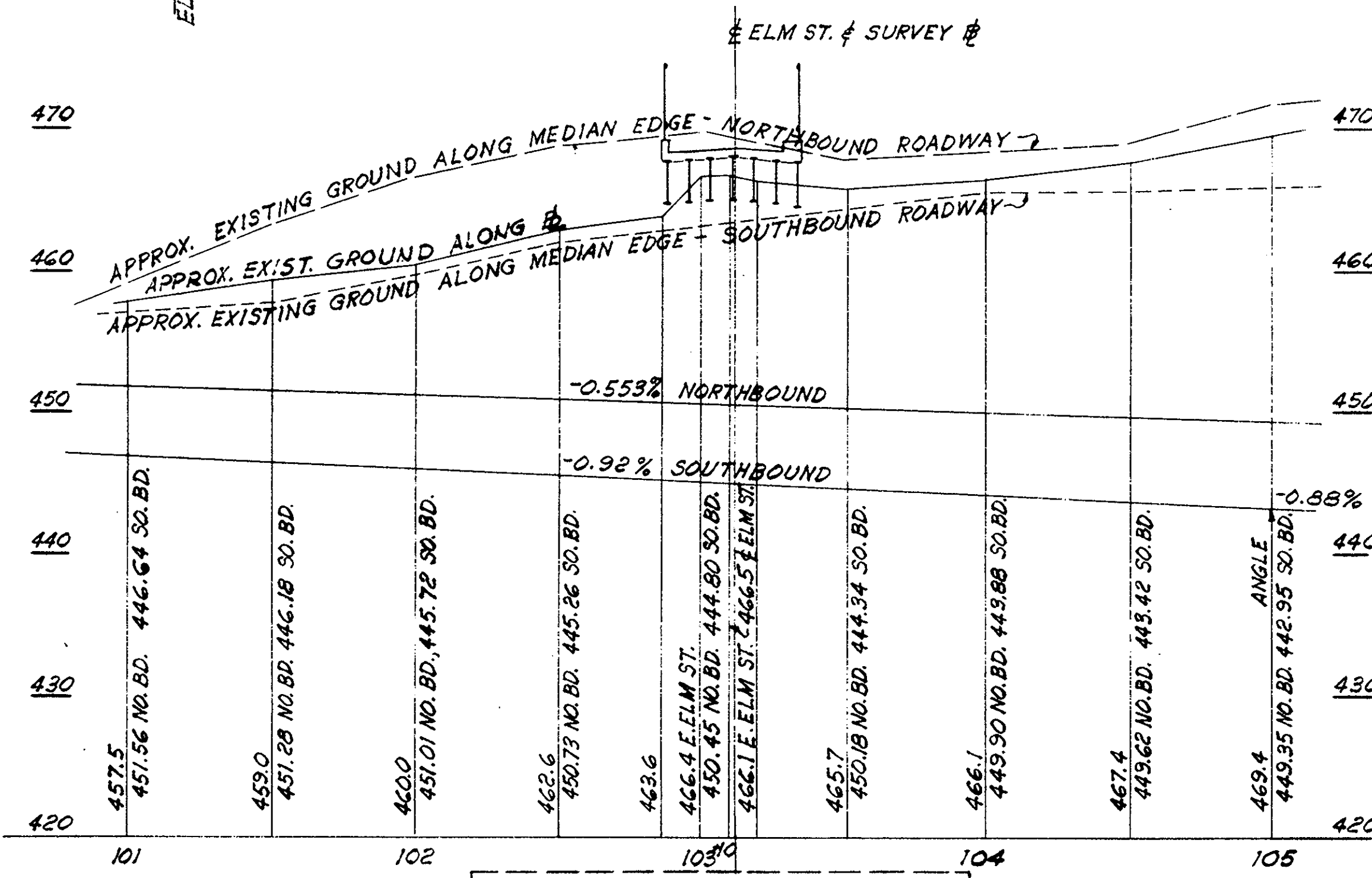
ELM STREET

SCALES: HORIZ. 1" = 40'
VERT. 1" = 3'



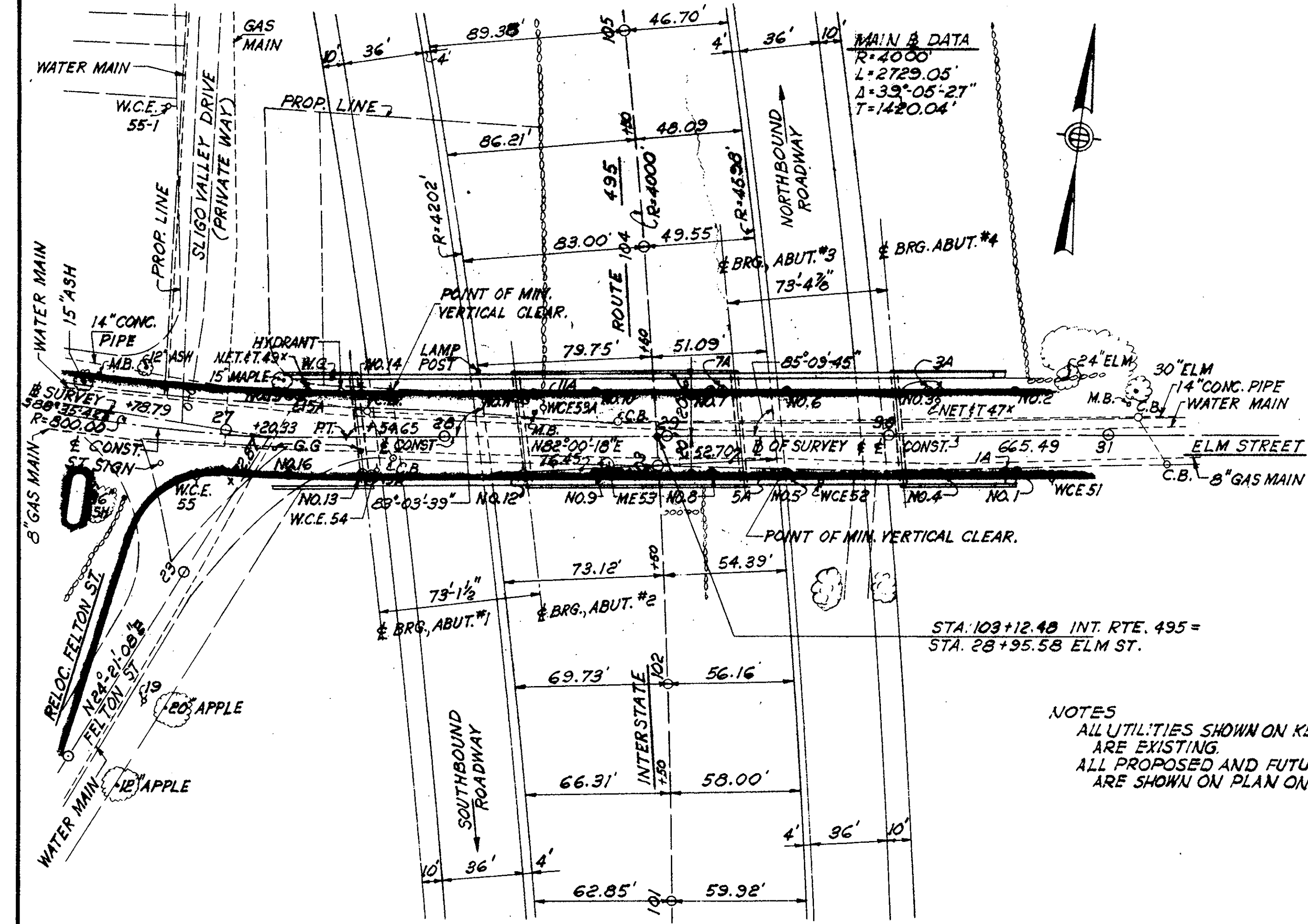
PROFILE INTERSTATE RTE 495

SCALE: HORIZ. 1" = 40', VERT. 1" = 8'



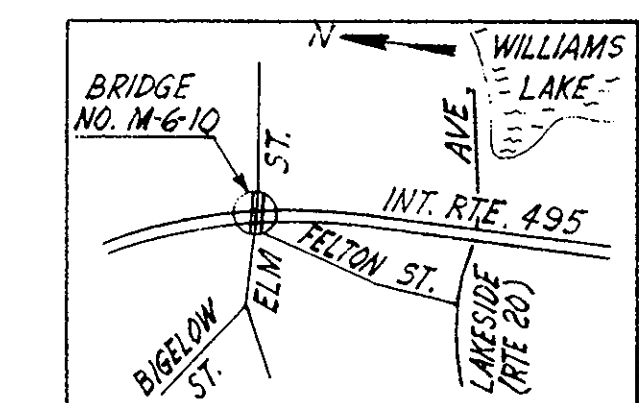
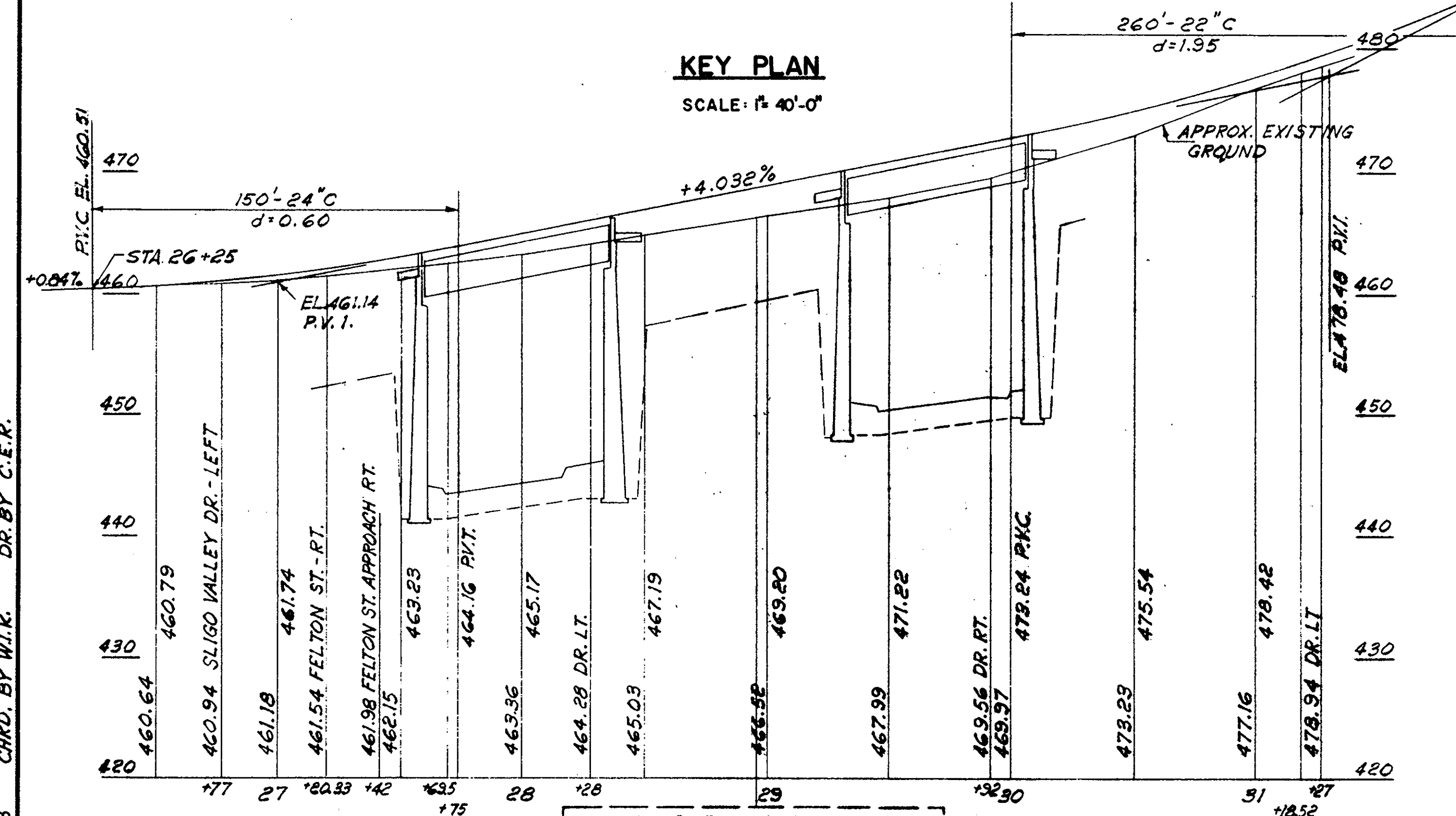
KEY PLAN

SCALE: 1" = 40'-0"



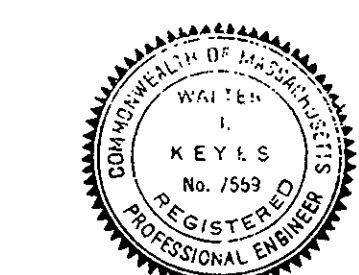
PROFILE ELM STREET

SCALE: HORIZ. 1" = 40', VERT. 1" = 8'



LOCUS

1000 0 1000 2000 3000 FEET



DESIGNING ENGINEERS
FENTON G. KEYES ASSOCIATES
WALTHAM, MASS.

MAY 25, 1963		ISSUED FOR CONSTRUCTION	
THE COMMONWEALTH OF MASSACHUSETTS			
PROPOSED BRIDGE			
MARLBOROUGH			
INTERSTATE ROUTE 495			
UNDER ELM STREET			
SCALES AS NOTED			
OFFICE OF			
DEPARTMENT OF PUBLIC WORKS			
100 NASHUA ST., BOSTON, MASS.			
BRIDGE ENGINEER		CHIEF ENGINEER	

DES. BY JLB CHKD. BY W.L.K. DR. BY C.E.R.

EL. 475.0
470.0
465.0
460.0
470.0
465.0
460.0
455.0
465.0
460.0
455.0
450.0

NO.1			NO.1A			NO.2		
474.3	FINE SAND, TRACE OF GRAVEL, DRY, LOOSE, BROWN	9	474.3	FINE SAND, TRACE OF GRAVEL & LOAM, DRY, FIRM, BROWN.	11	474.1	FINE SAND, TRACE OF GRAVEL & LOAM, DRY, FIRM, BROWN.	10
470.8	FINE SAND, SOME GRAVEL, DRY, VERY HARD, YELLOW	51	470.8	FINE SAND, SOME GRAVEL, DRY, HARD, YELLOW	49	470.1	FINE SAND & GRAVEL, SOME BOULDERS, DRY, VERY HARD, YELLOW	65
467.8	REFUSAL		467.8	REFUSAL LOCATED 5'-0" WEST OF NO. 1		467.8	BED ROCK DRILLED 5'-0" RECOVERED 1'-6"	

NO.3			NO.3A			NO.4		
471.5	LOAM		471.5	LOAM		471.7	FINE SAND, SOME LOAM, STONES, DRY, LOOSE, BROWN.	8
470.0	FINE SAND, TRACE OF GRAVEL, DRY, FIRM, YELLOW	11	470.0	FINE SAND, TRACE OF GRAVEL, DRY, FIRM, YELLOW	17	468.7	FINE SAND AND GRAVEL, DRY, HARD, YELLOW.	32
468.5	FINE SAND & GRAVEL, DRY, VERY HARD, YELLOW	75	467.5	FINE SAND & GRAVEL, DRY, HARD, YELLOW.	42	467.7	FINE SAND & GRAVEL, DRY, VERY HARD, YELLOW.	67
465.0	REFUSAL		465.0	REFUSAL LOCATED 5'-0" WEST OF NO. 3		465.2	BED ROCK DRILLED 5'-0" RECOVERED 1'-11"	

NO.5			NO.5A		
468.1	FINE SAND, TRACE OF GRAVEL & LOAM, DRY, LOOSE YELLOW.	10	468.1	FINE SAND, TRACE OF GRAVEL & LOAM, DRY, LOOSE, BROWN.	9
464.6	FINE SAND & GRAVEL, DRY, HARD, YELLOW	41	464.6	FINE SAND & GRAVEL, DRY, HARD, YELLOW	39
461.6	REFUSAL		460.6	REFUSAL LOCATED 5'-0" WEST OF NO. 5	

NO.6			NO.7			NO.7A		
467.0	FINE SAND, TRACE OF LOAM, DRY, LOOSE YELLOW	9	466.0	LOAM, TRACE OF SAND & GRAVEL, DRY, FIRM, BROWN.	18	466.0	LOAM, TRACE OF SAND & GRAVEL, DRY, FIRM, BROWN	19
465.0	FINE SAND & GRAVEL, DRY, VERY HARD, YELLOW.	62	462.0	FINE SAND & GRAVEL, DRY, VERY HARD, YELLOW	67	462.0	FINE SAND & GRAVEL, DRY, VERY HARD, YELLOW.	70
458.5	BED ROCK DRILLED 5'-0" RECOVERED 1'-8"		458.5	REFUSAL		458.5	REFUSAL LOCATED 5'-0" EAST OF NO. 7	

NO.8			NO.9			NO.9A		
467.4	FINE SAND, SOME LOAM, TRACE OF GRAVEL, DRY, LOOSE, BROWN	9	465.2	LOAM		465.2	LOAM	
463.4	FINE SAND, SOME GRAVEL, DRY, HARD, YELLOW.	46	464.2	FILL SAND, GRAVEL, SOME BRICK, DRY, FIRM, BROWN	11	464.2	FILL SAND, GRAVEL, SOME BRICK, DRY, FIRM, BROWN	12
461.4	BED ROCK DRILLED 5'-0" RECOVERED 2'-5"		460.7	FINE SAND, SOME GRAVEL, DRY, VERY HARD, YELLOW	57	460.7	FINE SAND, SOME GRAVEL, DRY, VERY HARD, YELLOW.	59
456.4	REFUSAL		457.7	REFUSAL		457.2	REFUSAL LOCATED 5'-0" EAST OF NO. 9	

NO.10			NO.11			NO.11A		
465.6	FINE SAND, SOME LOAM, DRY, LOOSE, BROWN	8	464.7	FINE SAND, SOME LOAM, TRACE OF GRAVEL, MOIST, LOOSE, BROWN	9	464.7	FINE SAND, SOME LOAM, TRACE OF GRAVEL, DRY, FIRM, BROWN	12
463.1	FINE SAND, SOME GRAVEL, DRY, HARD, YELLOW.	40	460.2	REFUSAL		460.2	REFUSAL LOCATED 5'-0" EAST OF NO. 11	
457.6	BED ROCK DRILLED 5'-0" RECOVERED 1'-8"							

NO.12			NO.13			NO.13A		
464.1	FINE SAND, SOME LOAM, TRACE OF GRAVEL, DRY, FIRM, BROWN.	10	462.2	LOAM		462.2	LOAM	
459.1	FINE SAND, SOME GRAVEL, DRY, VERY HARD, YELLOW	78	460.2	FINE SAND, SOME GRAVEL, DRY, HARD, YELLOW	31	460.2	FINE SAND, SOME GRAVEL, DRY, HARD, YELLOW	33
456.6	BED ROCK DRILLED 5'-0" RECOVERED 2'-1"		458.2	FINE SAND, SOME GRAVEL, DRY, VERY HARD, YELLOW.	52	458.2	FINE SAND, SOME GRAVEL, DRY, VERY HARD, YELLOW.	52
451.6	REFUSAL		454.7	REFUSAL		454.7	REFUSAL LOCATED 5'-0" EAST OF NO. 13	

NO.14			NO.15		
462.2	FINE SAND, SOME LOAM, TRACE OF GRAVEL, DRY, LOOSE, BROWN.	6	461.5	LOAM	
459.7	FINE SAND, SOME GRAVEL, BOULDERS, DRY, VERY HARD, BROWN	68	460.0	FINE SAND, SOME GRAVEL, DRY, FIRM, YELLOW	21
454.7	BED ROCK DRILLED 5'-0" RECOVERED 1'-8"		458.5	FINE SAND, SOME GRAVEL, DRY, VERY HARD, YELLOW	60
449.7	REFUSAL		454.0	FINE SAND, SOME GRAVEL, MOIST, HARD, YELLOW	45

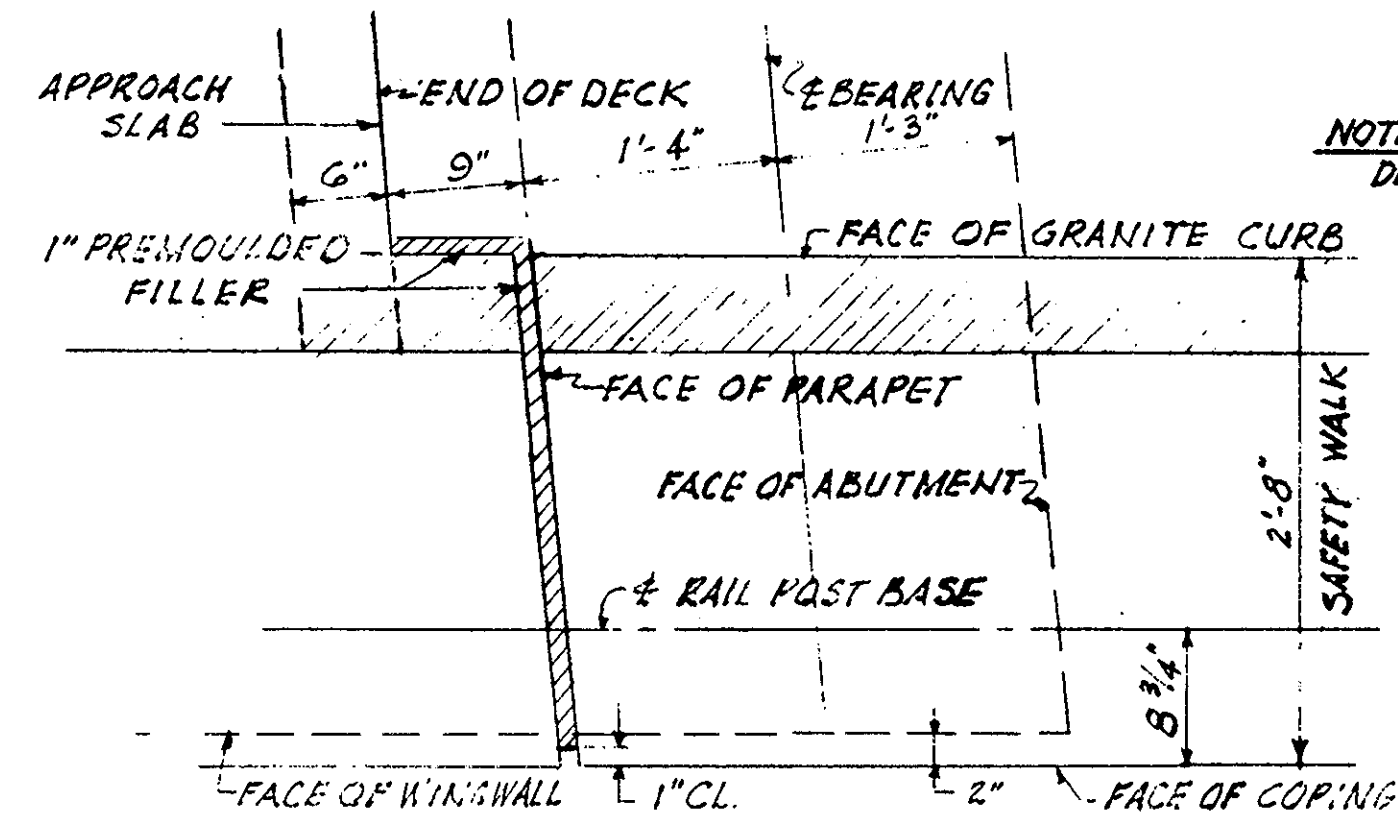
NO.15A			NO.16		
461.5	LOAM		461.6	LOAM	
460.0	FINE SAND, SOME GRAVEL, DRY, FIRM, YELLOW	19	458.6	FINE SAND, SOME GRAVEL, DRY, FIRM, YELLOW	15
458.5	FINE SAND, SOME GRAVEL, DRY, VERY HARD, YELLOW	58	455.1	FINE SAND, SOME GRAVEL & STONES, DRY, HARD, YELLOW.	49
454.5	FINE SAND, SOME GRAVEL, MOIST, HARD, YELLOW	49	452.6	FINE SAND, SOME GRAVEL, MOIST, FIRM, YELLOW	29
452.5	REFUSAL		447.6	BED ROCK DRILLED 5'-0" RECOVERED 2'-0"	

465.0
460.0
455.0
450.0

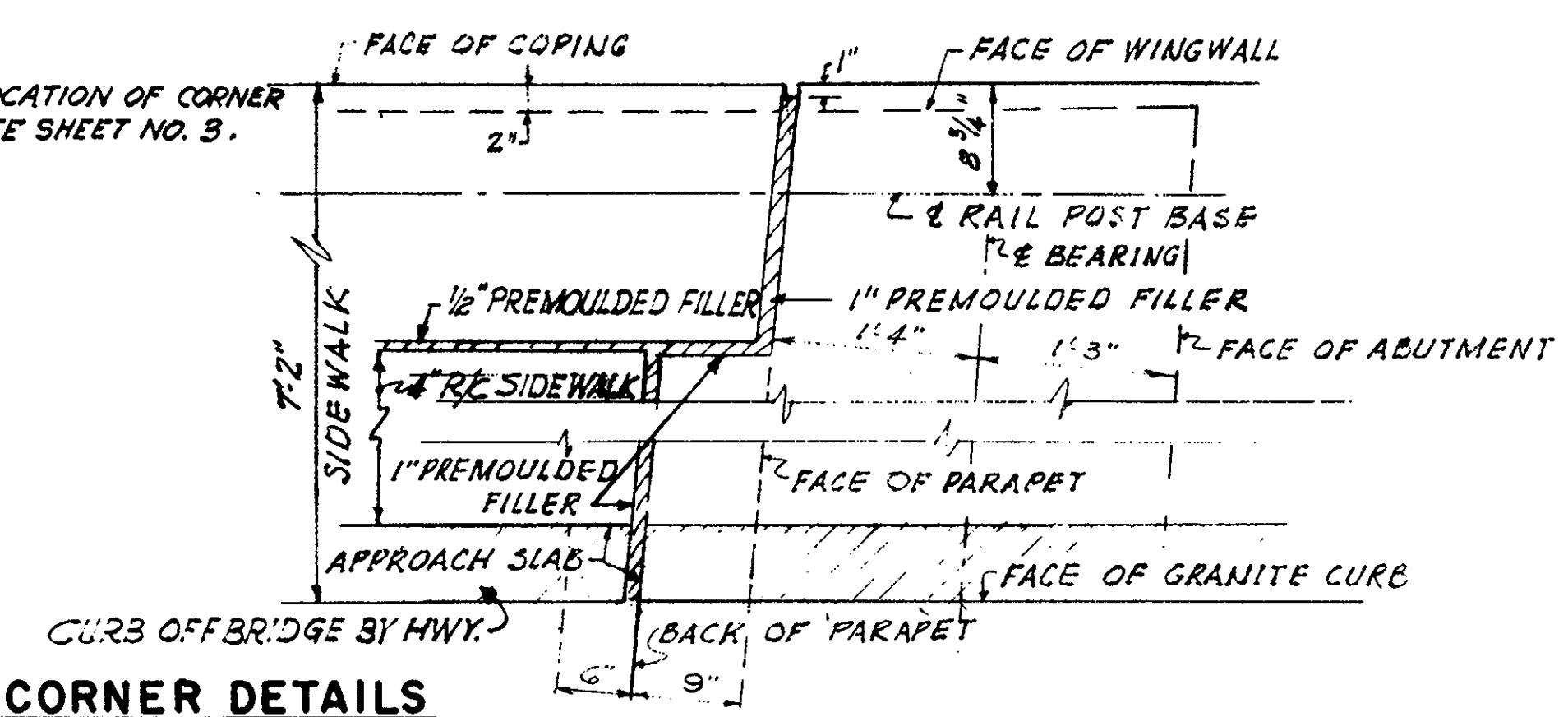
ABUT. NO. 2 - BOTTOM OF ABUT. - ELEV. 441.00

BORING DATA

VERTICAL SCALE: 1" = 4'-0"



NOTE: FOR LOCATION OF CORNER DETAILS, SEE SHEET NO. 3.



ABUTMENT CORNER DETAILS

SCALE: 1" = 1'-0"

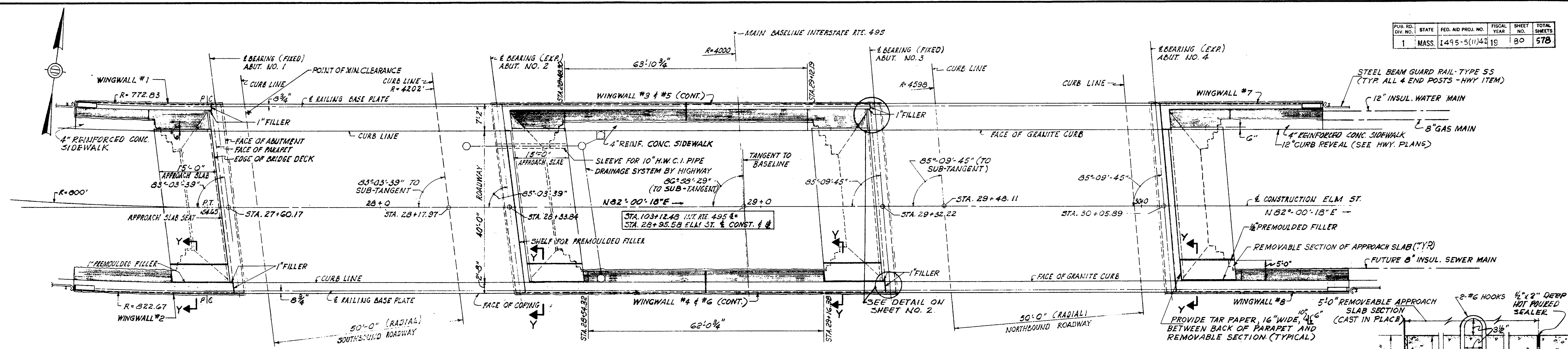
BORING NOTES

BORINGS TAKEN OCTOBER 1959 BY CARR-DEE TEST BORING AND CONSTRUCTION CORP., 6 BEACON ST., BOSTON, MASS. NO WATER ENCOUNTERED IN ANY OF THE BORINGS. D-DRY M-MOIST W-WET LOCATIONS OF BORINGS SHOWN ON KEY PLAN THUS: (●) NO. 1 (SEE SHEET NO. 1) BORINGS TAKEN FOR PURPOSE OF DESIGN & SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON 2" I.D. SPLIT-BARREL SAMPLER PRODUCED BY 30" FALL OF 140 LB. HAMMER. BORING SAMPLES MAY BE SEEN AT THE DEPARTMENT'S RESEARCH & MATERIALS DIVISION, 99 WORCESTER ST., WELLESLEY HILLS, AT THE INTERSECTION OF RTE. 9 & RTE. 128.

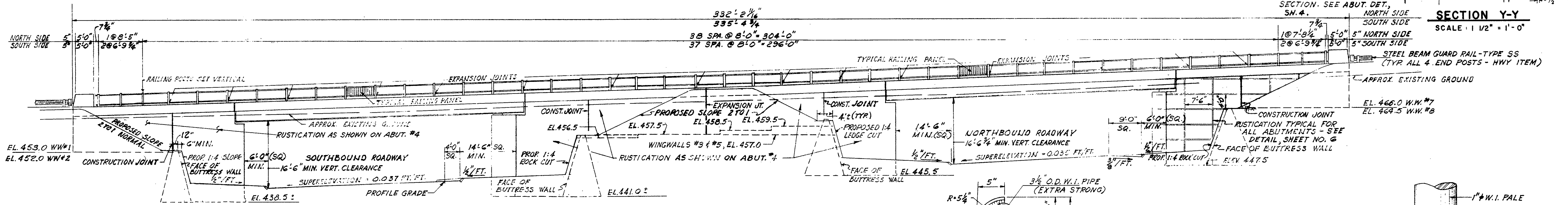
ABUT. NO. 1 - BOTTOM OF ABUT. - ELEV. 438.5

MAY 25, 1963	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

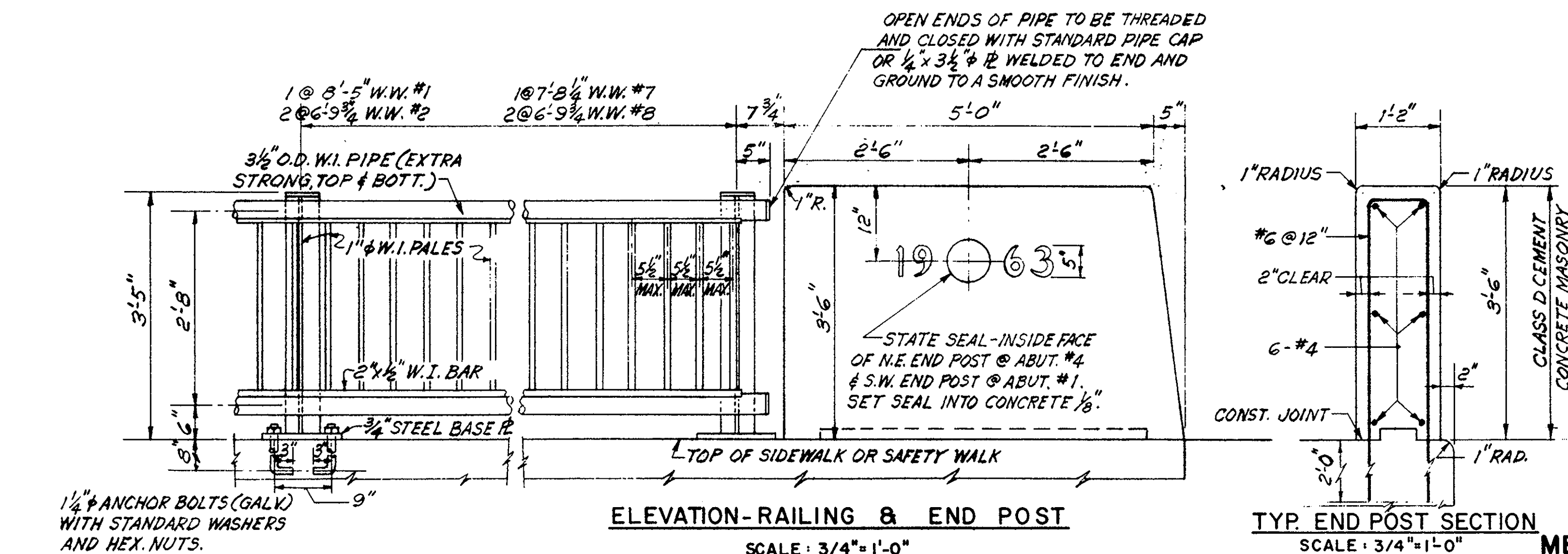
PUB. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	1495-5(11)42	19	80	578



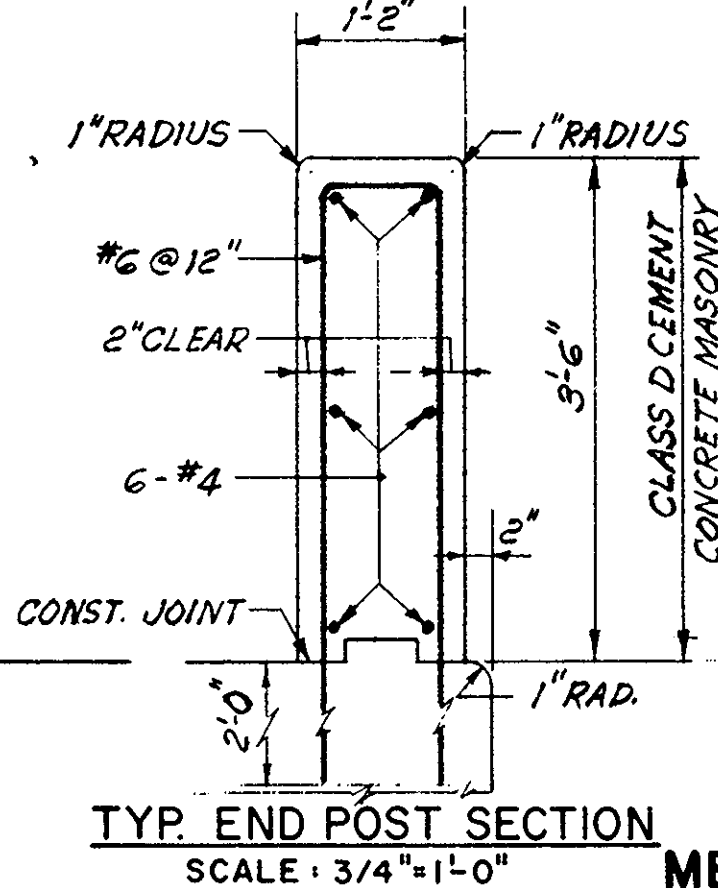
GENERAL PLAN
SCALE: 3/32"=1'-0"



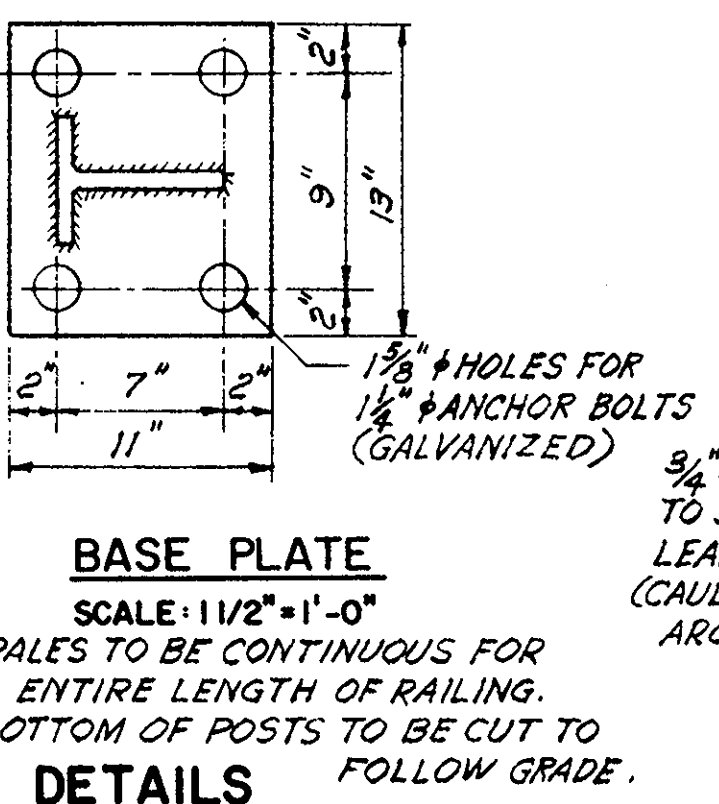
ELEVATION
SCALE: 3/32"=1'-0"



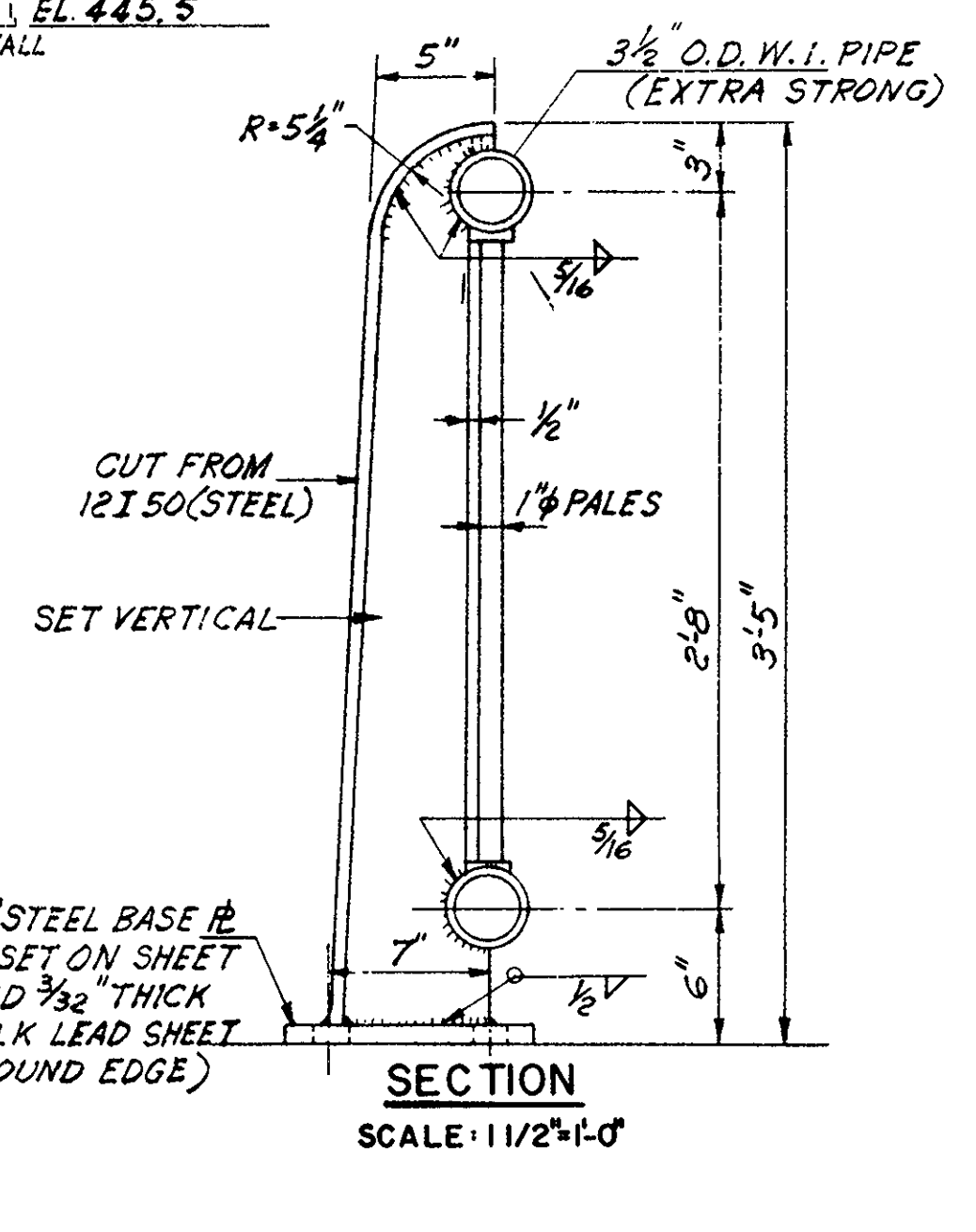
ELEVATION-RAILING & END POST
SCALE: 3/4"=1'-0"



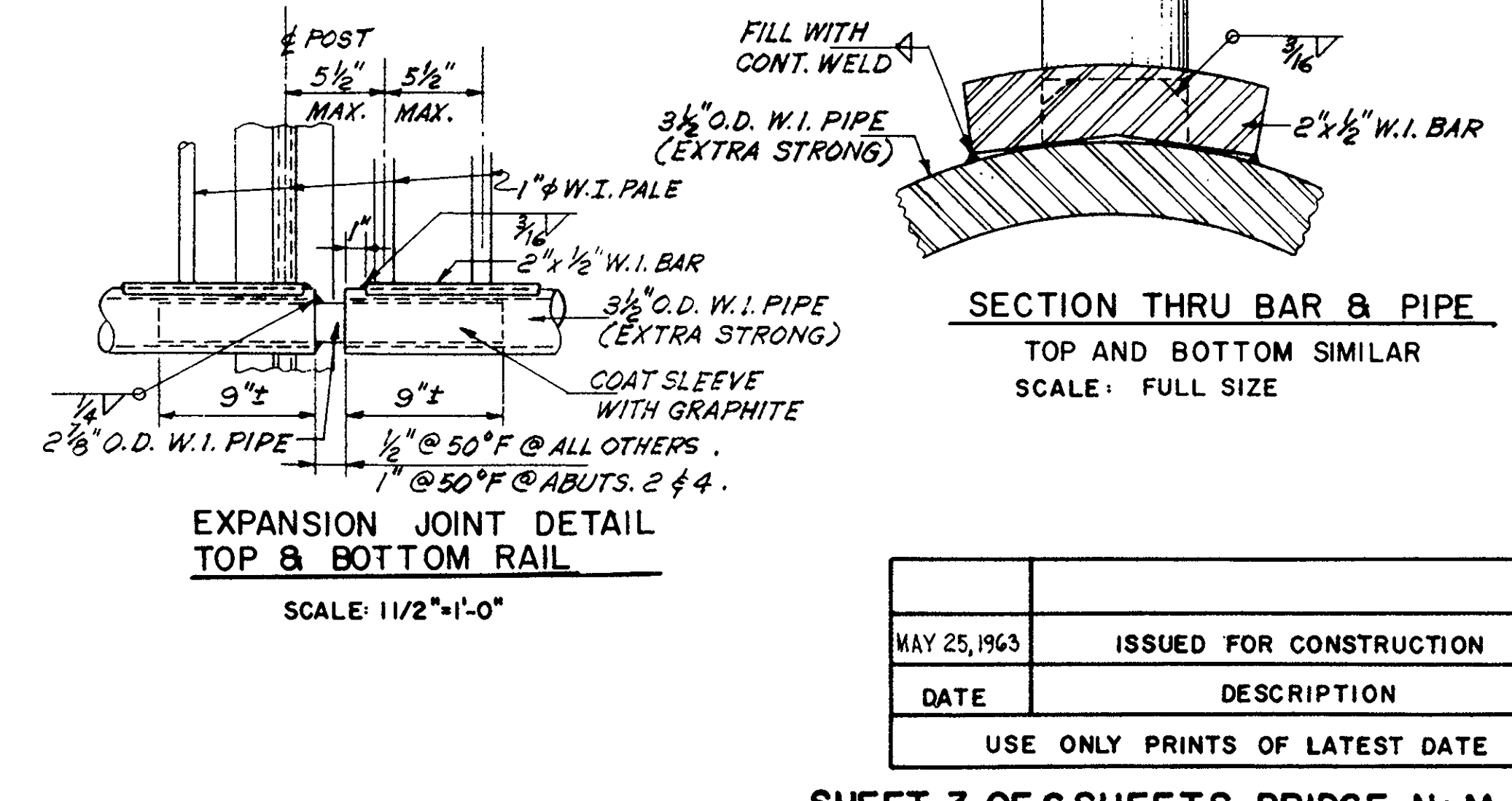
TYP. END POST SECTION
SCALE: 3/4"=1'-0"



BASE PLATE
SCALE: 1/2"=1'-0"
NOTE: PALES TO BE CONTINUOUS FOR ENTIRE LENGTH OF RAILING. BOTTOM OF POSTS TO BE CUT TO FOLLOW GRADE.



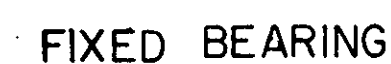
SECTION
SCALE: 1/2"=1'-0"



EXPANSION JOINT DETAIL TOP & BOTTOM RAIL
SCALE: 1/2"=1'-0"

MAY 25, 1963	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

DES. BY JLB CHKD. BY WIK. DRBY B.O.



ELEVATION "A-A"

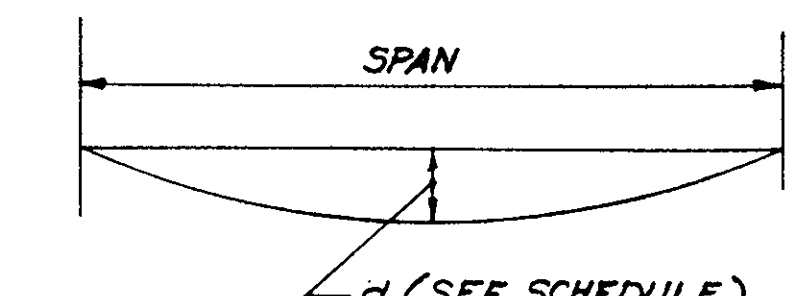
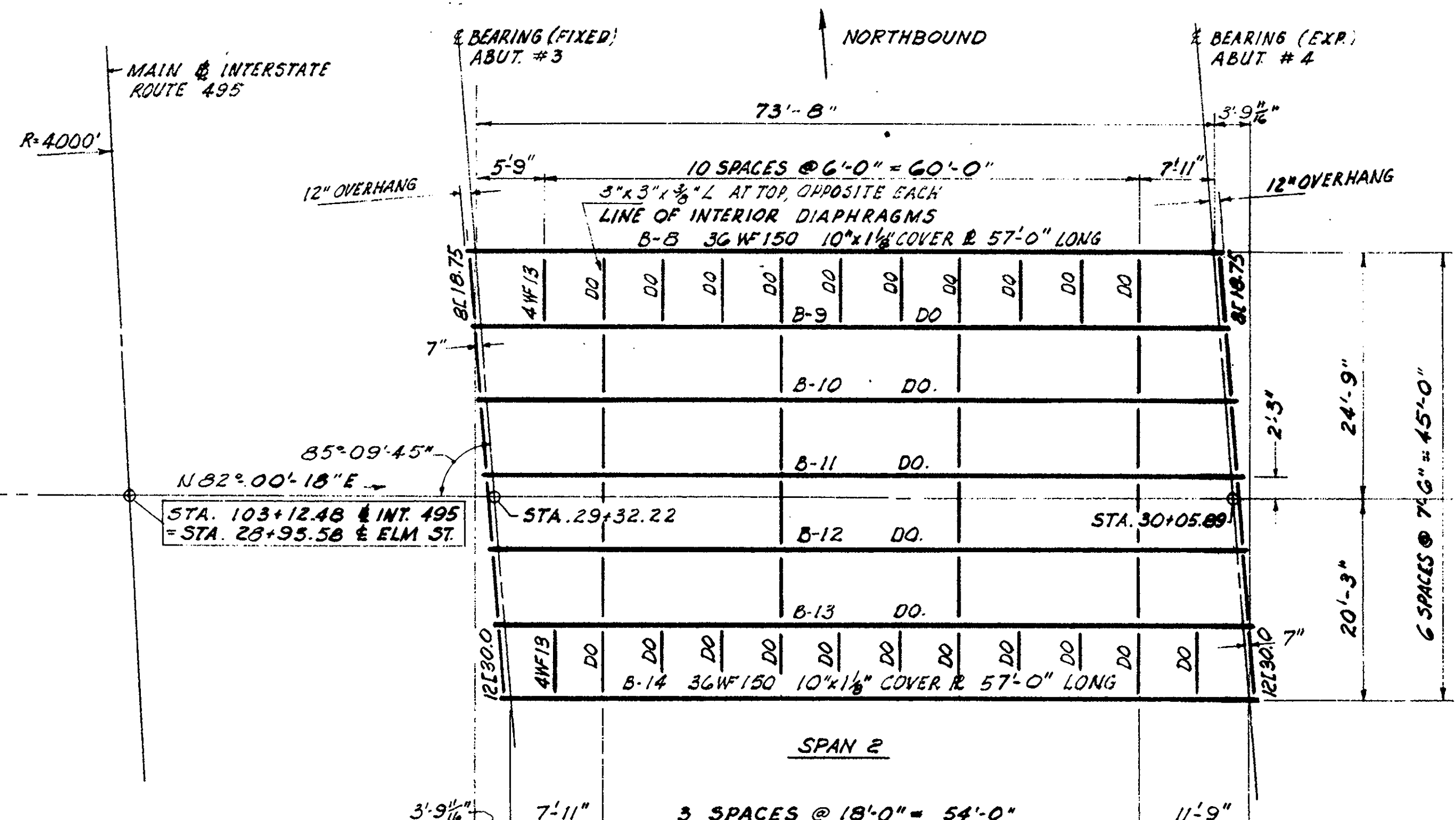
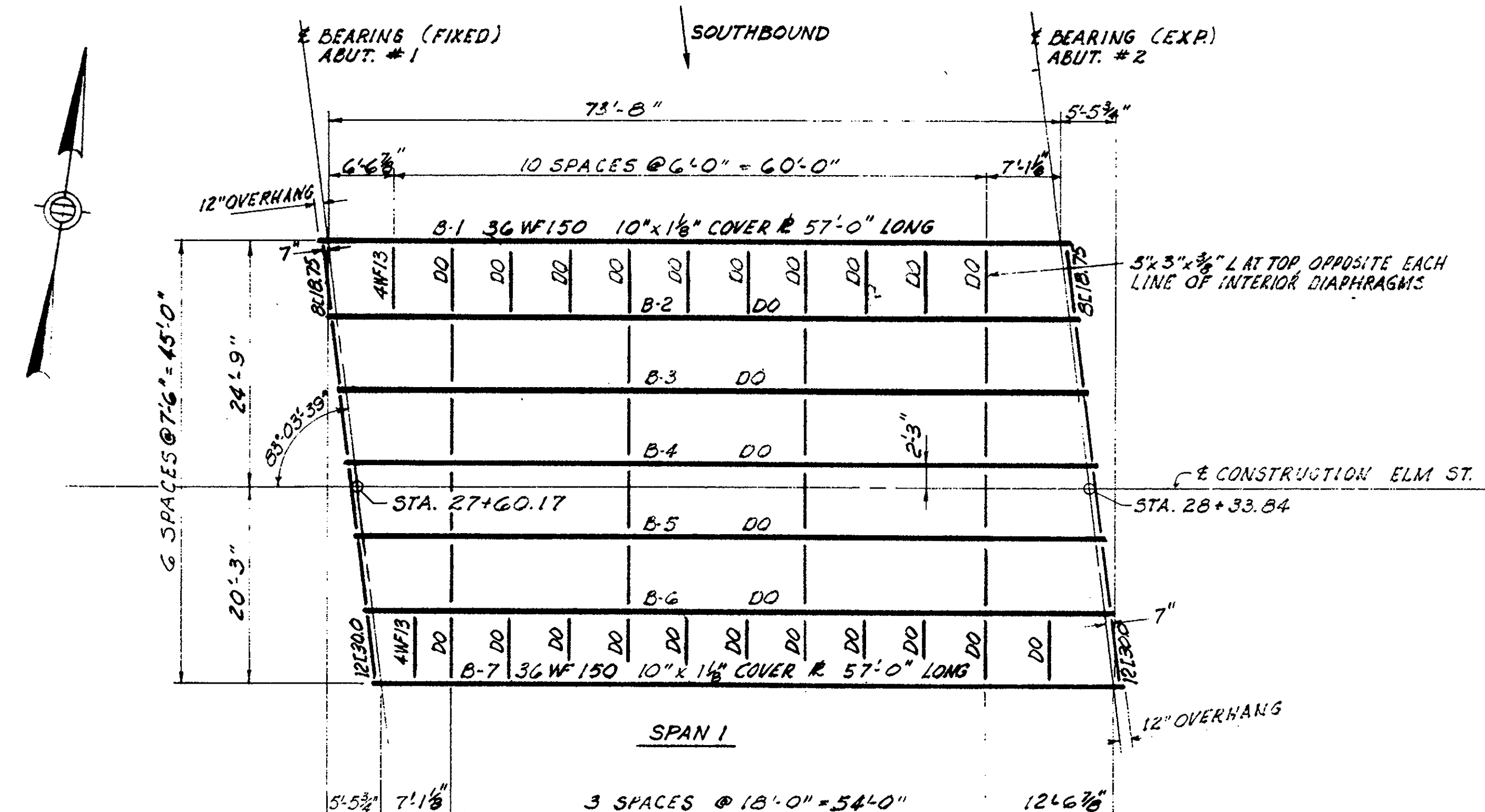


SCALE: 1"=1'-0"



$\nabla F = 125 \text{ MICRO-INCHES}$
 $\nabla J = 1000 \text{ MICRO-INCHES}$
 $\nabla K = 2000 \text{ MICRO-INCHES}$

MAY 25, 1963	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



NOTE: DEFLECTION COMPUTED FOR SLAB DEAD LOAD. FOR USE OF RESIDENT ENGINEER ONLY.

STRINGER NO.	d
1, 7, 8, 14	1 1/4"
2-6, 9-13	1 1/2"

NOTE: ALL INTERIOR DIAPHRAGMS TO BE 18 3/4" (EXCEPT AT UTILITY BAY). ALL END DIAPHRAGMS TO BE 15 1/2" UNLESS OTHERWISE NOTED. DO NOT ENCASE END DIAPHRAGMS WHICH LIE IN THE UTILITY BAY, AND GIVE THEM THE USUAL NUMBER OF COATS OF PAINT. ALL OTHER END DIAPHRAGMS MUST BE ENCASED IN CLASS D CEMENT CONCRETE MASONRY, AND SHALL NOT BE PAINTED.

FRAMING PLAN
SCALE: 3/32" = 1'-0"

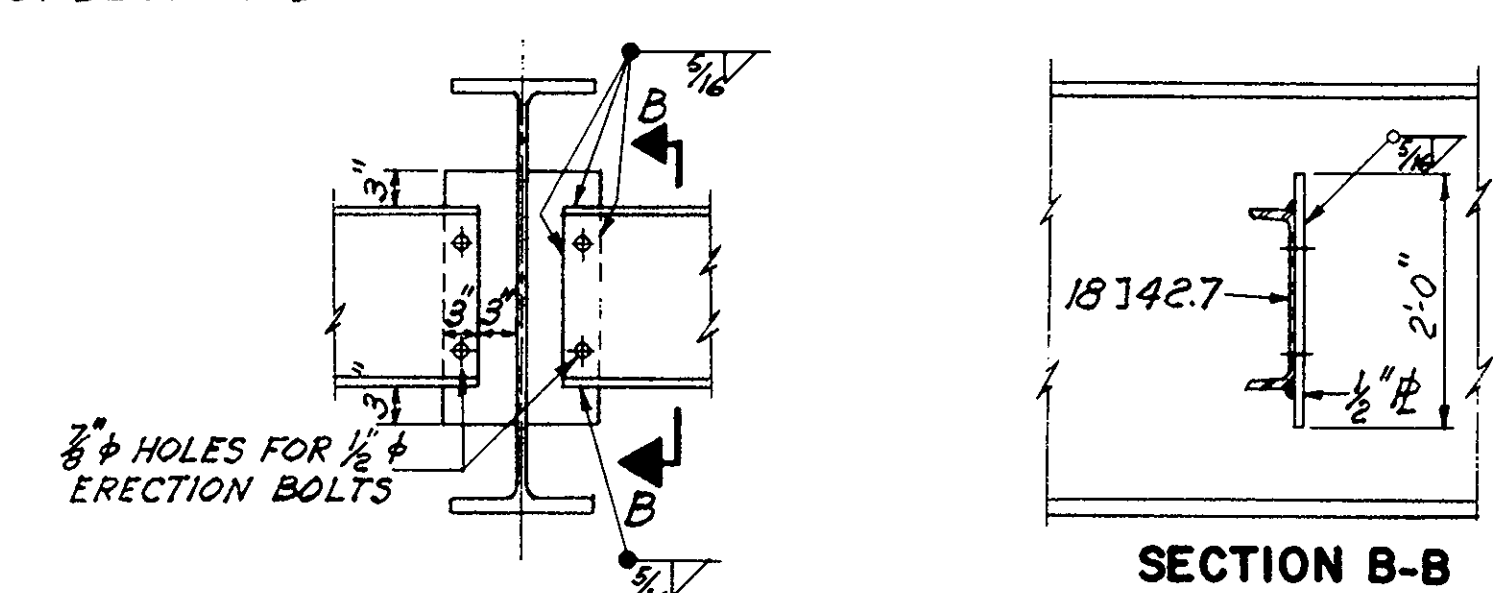
NOTE: ELEVATIONS SHOWN IN THE TABLE BELOW ARE WITHOUT DEAD LOAD OF SLAB APPLIED, BUT INCLUDE DEFLECTION DUE TO DEAD LOAD OF STRUCTURAL STEEL ONLY.

BEAM NO.	EAST BEARINGS	1/4 POINT	1/2 POINT	3/4 POINT	WEST BEARINGS
1	461.87	462.80	463.64	464.38	465.03
2	462.19	463.12	463.93	464.63	465.28
3	462.51	463.40	464.13	464.86	465.41
4	462.82	463.68	464.44	465.07	465.60
5	463.13	463.95	464.66	465.24	465.72
6	463.44	464.20	464.85	465.38	465.80
7	463.33	464.06	464.69	465.23	465.67
8	469.03	469.91	470.70	471.39	472.01
9	469.21	470.12	470.93	471.62	472.20
10	469.39	470.31	471.11	471.80	472.38
11	469.58	470.50	471.30	471.99	472.56
12	469.55	470.46	471.27	471.95	472.52
13	469.41	470.33	471.13	471.82	472.39
14	469.28	470.17	470.96	471.66	472.26

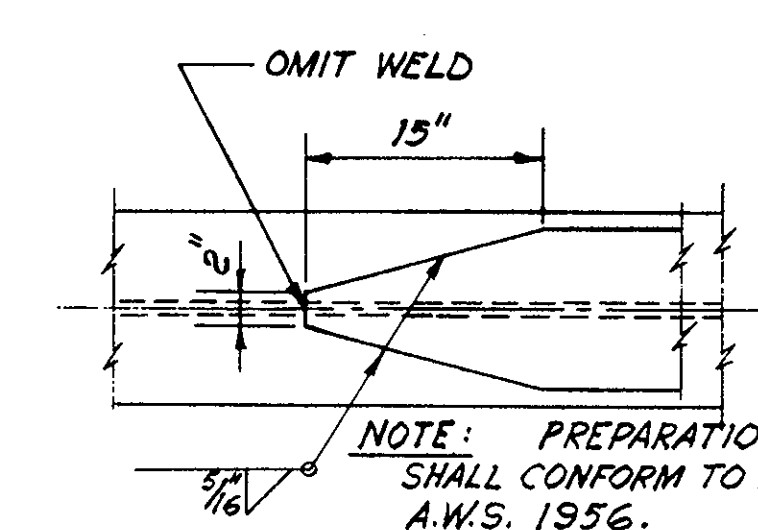
* FOR USE OF RESIDENT ENGINEER IN THE FIELD FOR COMPARISON OF:
(A) ELEVATIONS ALONG TOP FLANGE OF STRINGERS IN PLACE, AND
(B) THE DESIGN ELEVATIONS ABOVE.

STRINGER NO.	MINIMUM	MAXIMUM
1, 7, 8, 14	2 1/2"	3"
2-6, 9-14	3"	3 1/2"

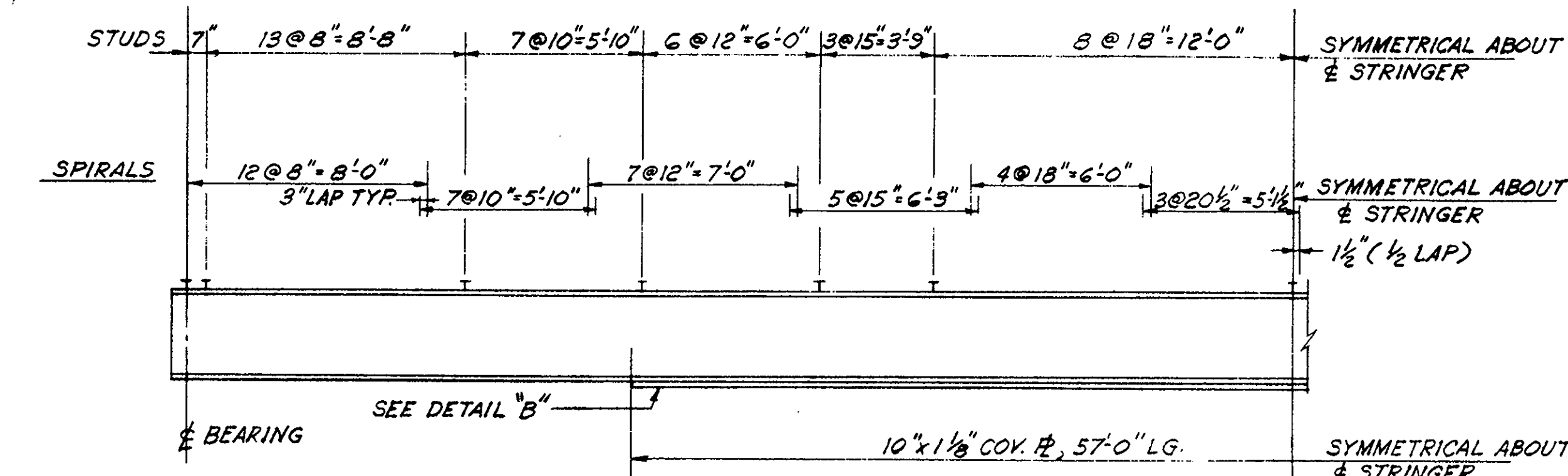
NOTE: FOR LOCATION OF SECTION X-X, SEE SHEET NO. G



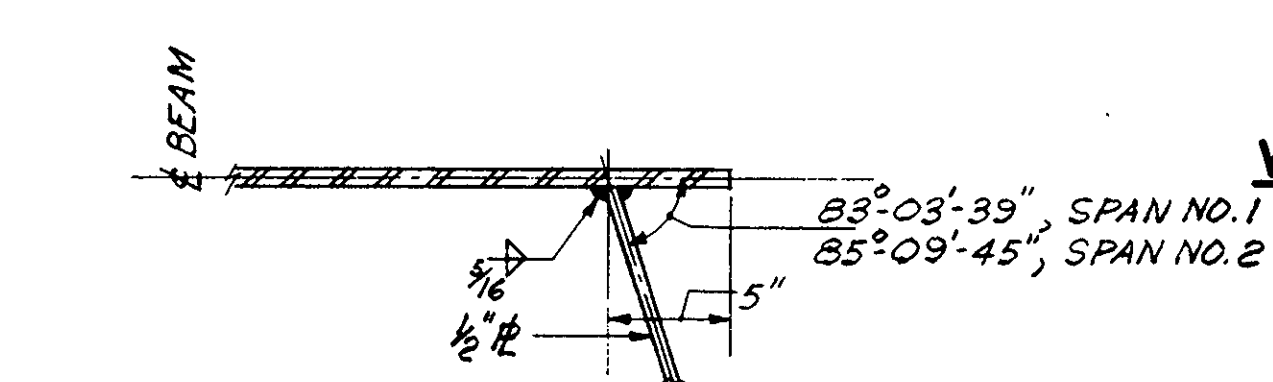
SECTION B-B



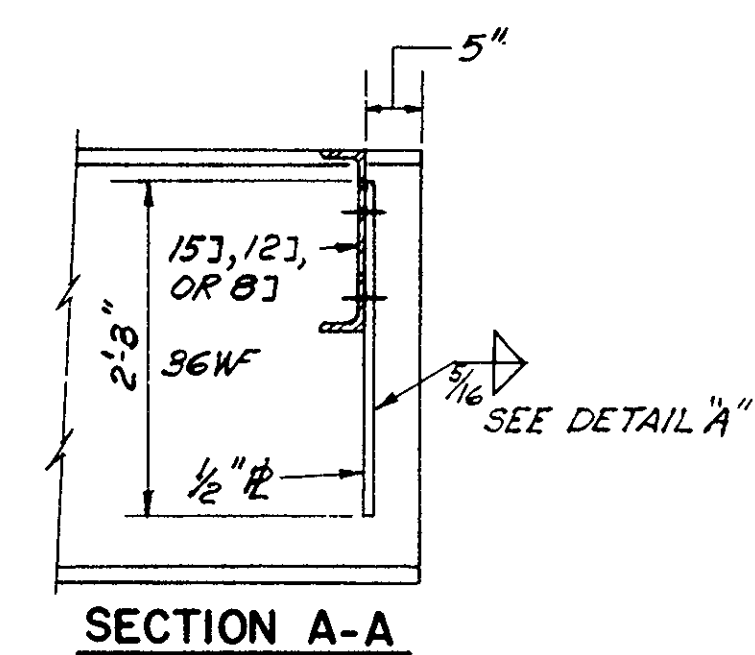
DETAIL 'B'
SCALE: 1" = 1'-0"



ELEVATION-SHEAR CONNECTOR PITCH
N.T.S.

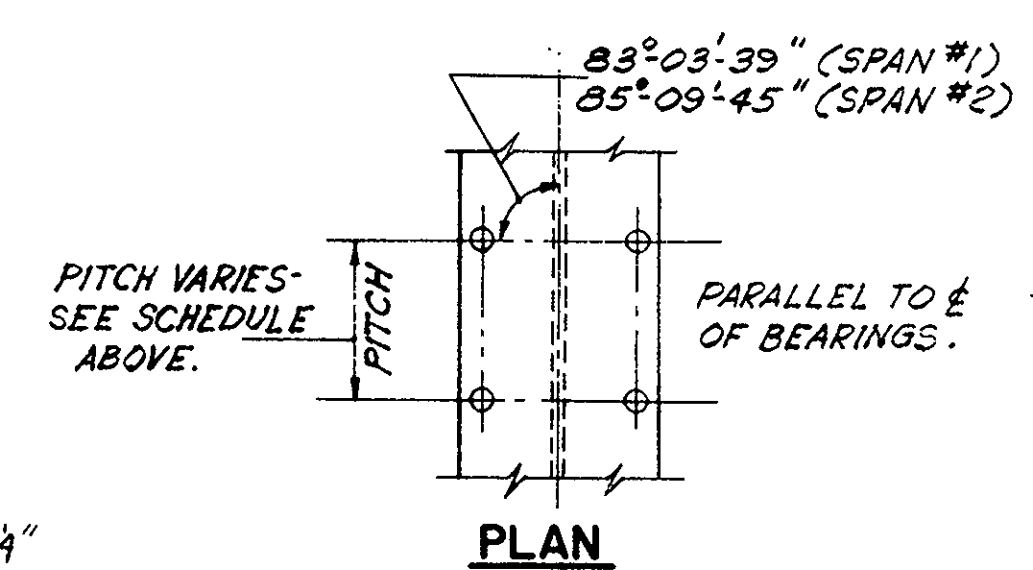


DETAIL 'A'
SCALE: 3/4" = 1'-0"

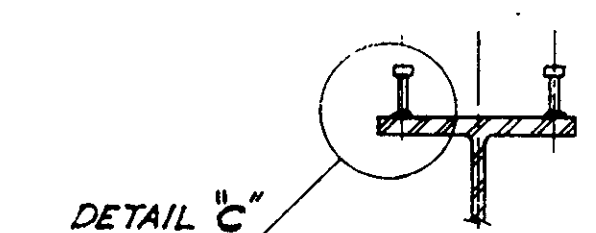


SECTION A-A

WELDED END DIAPHRAGM
SCALE: 3/4" = 1'-0"



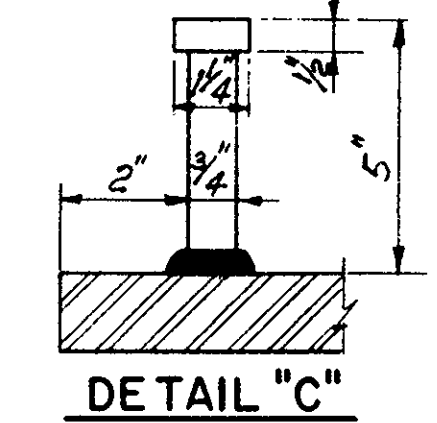
PLAN



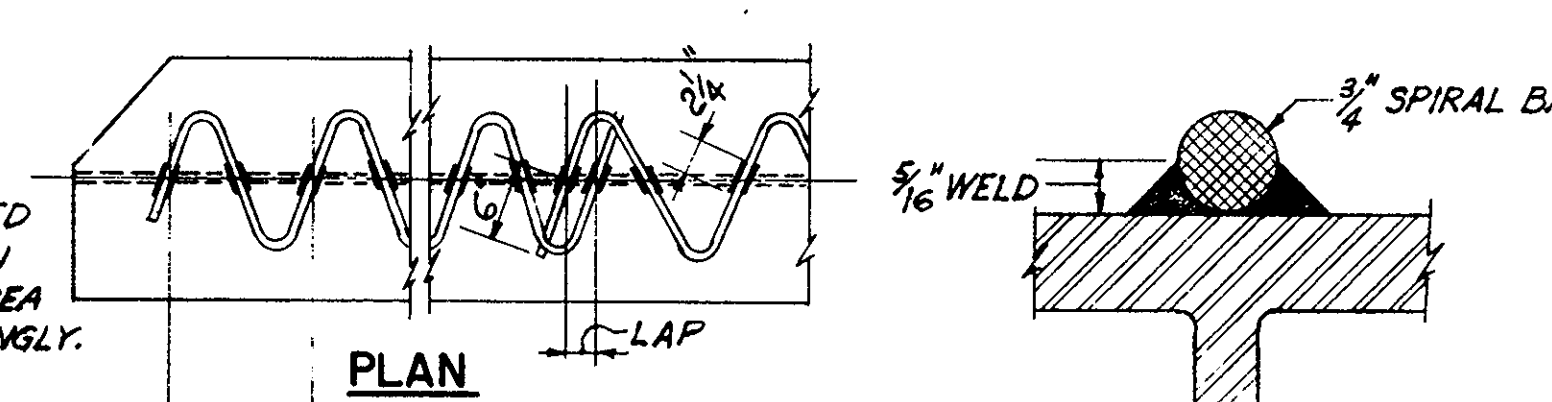
SECTION

DETAIL OF STUD SHEAR CONNECTORS
N.T.S.

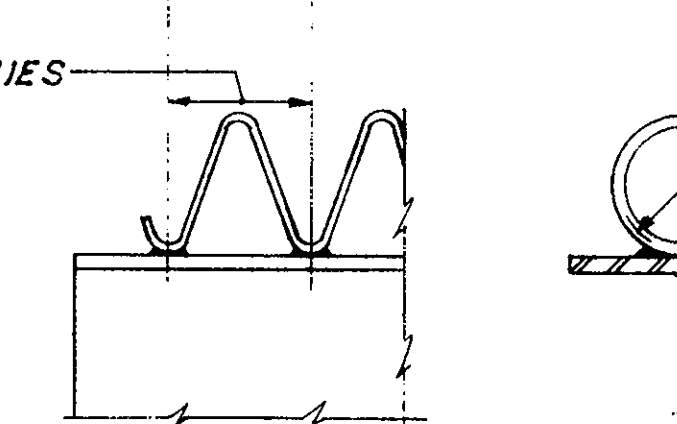
NOTE: 3/4" STUDS MAY BE SUBSTITUTED FOR 1/2" STUDS BY PROVIDING AN EQUIVALENT CROSS-SECTIONAL AREA AND ADJUSTING THE PITCH ACCORDINGLY.



DETAIL 'C'

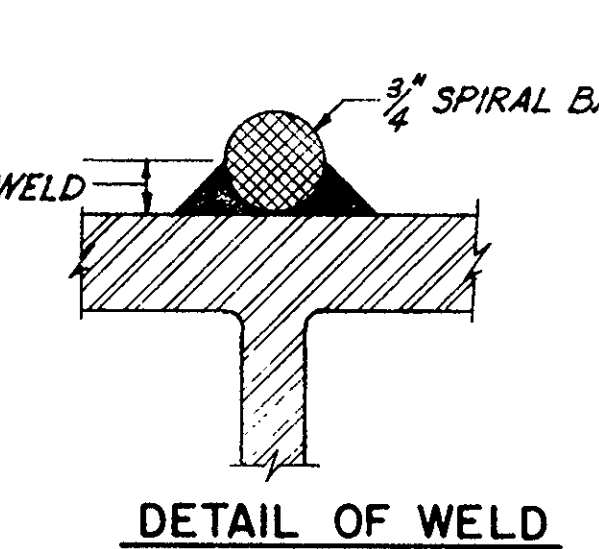


PLAN

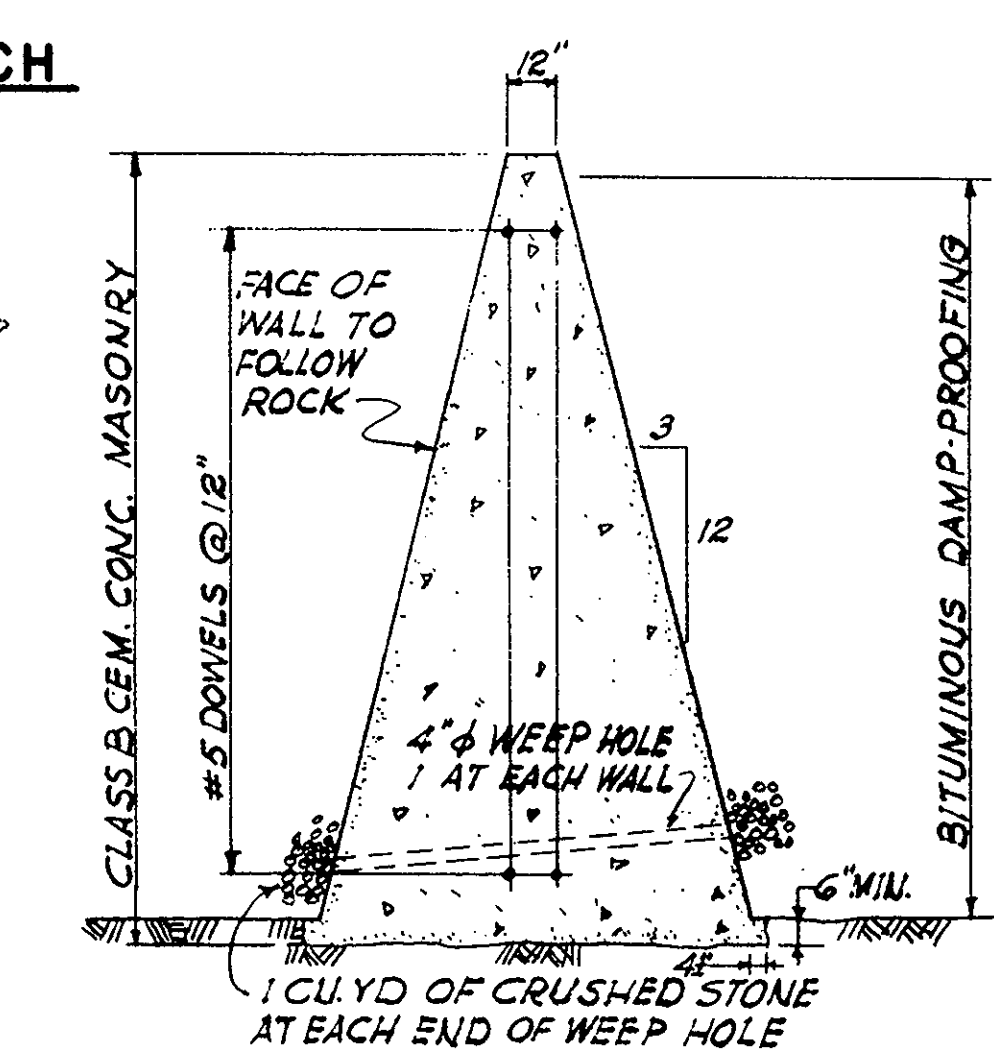


ELEVATION

DETAILS OF SPIRAL SHEAR CONNECTORS
N.T.S.

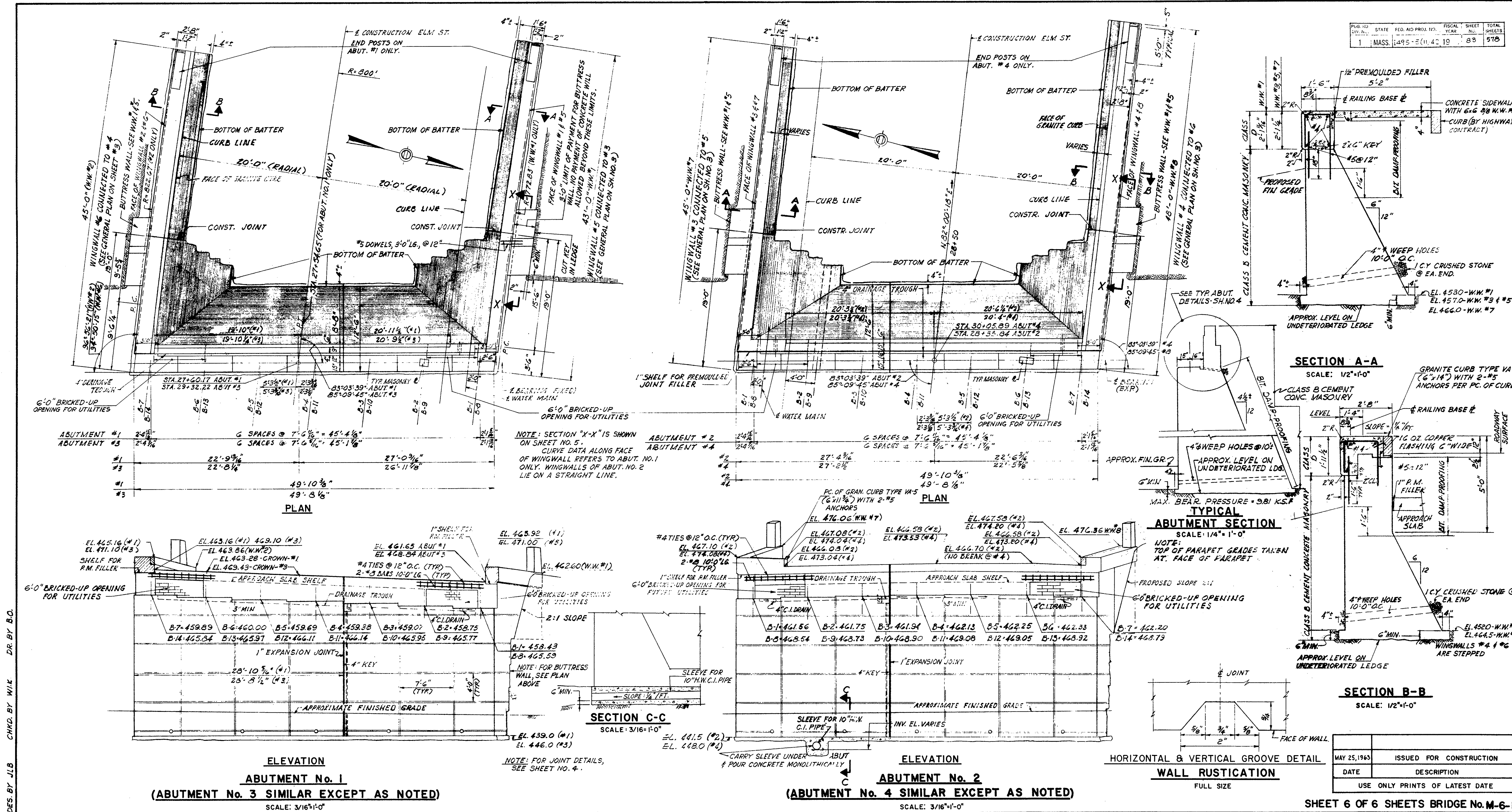


DETAIL OF WELD



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

MAY 25, 1943	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



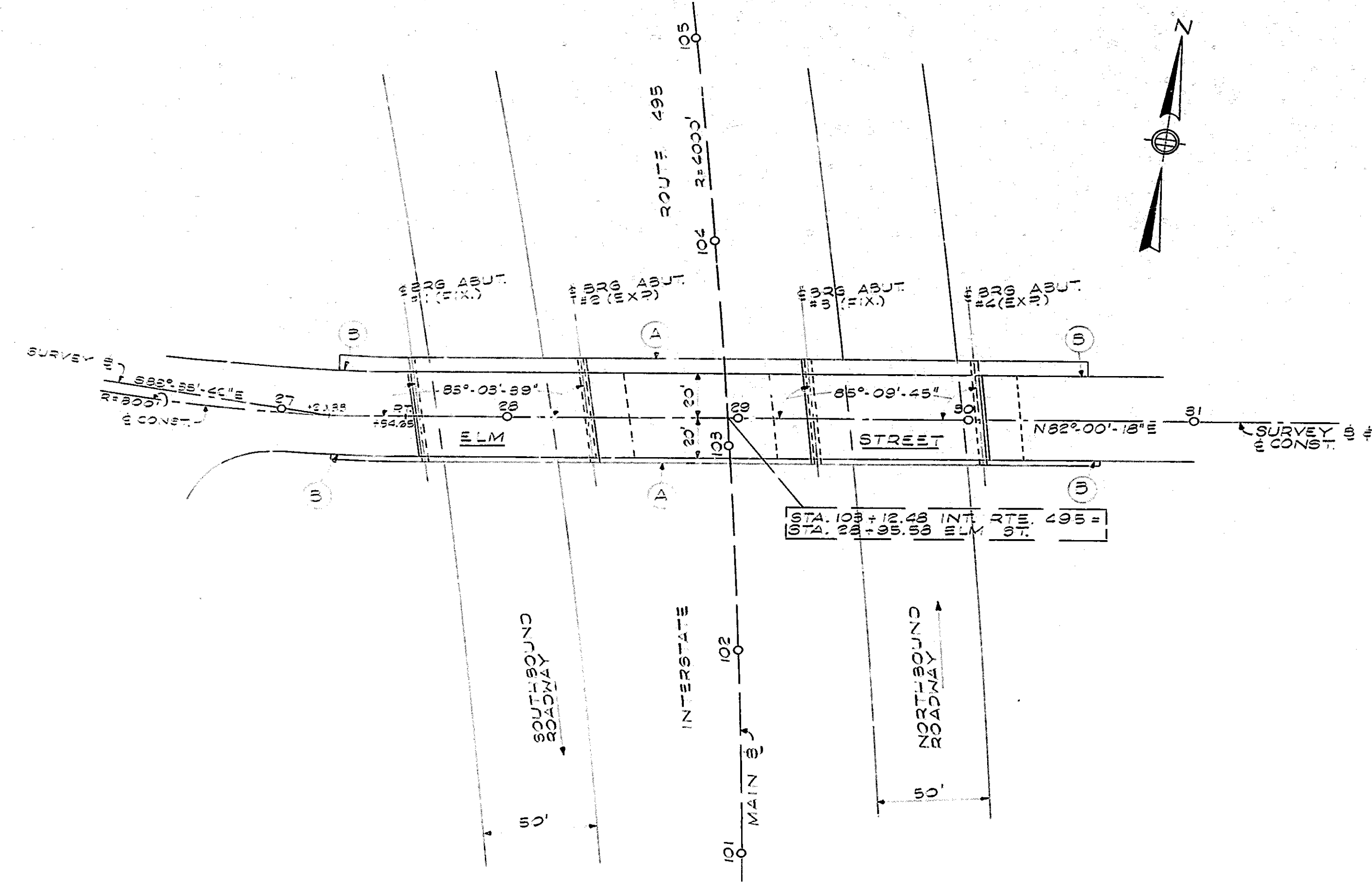
DES. BY JLB CHKD. BY WIK DR. BY B.O.

MAY 25, 1963	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

FILE NO. 7743

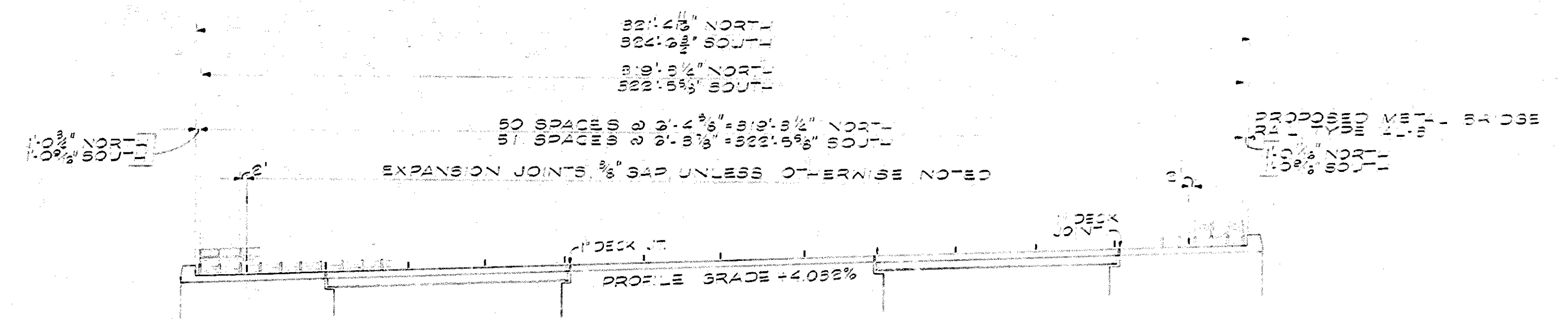
MARLBOROUGH INTERSTATE ROUTE 495						
PUB. DIV. NO.	STATE	FEDERAL PROJECT NO.	AID YEAR	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	1-495-5054K2	1976	73	350	

STRUCTURAL PLAN AND DETAILS

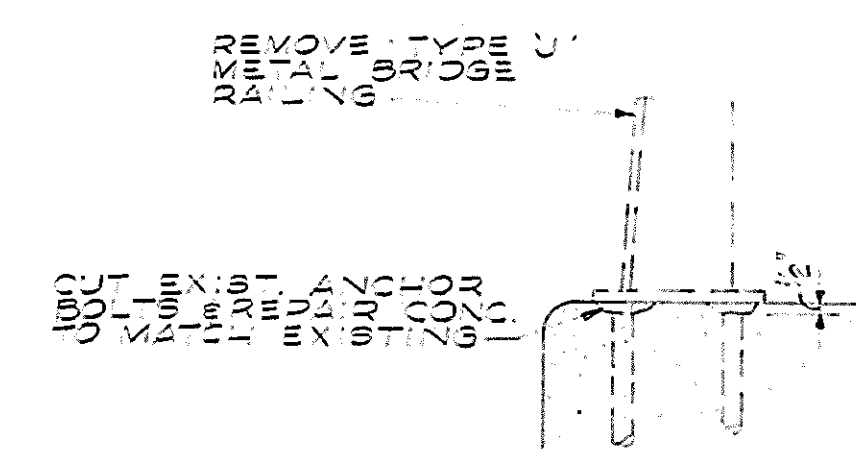


KEY PLAN
SCALE: 1"=40'

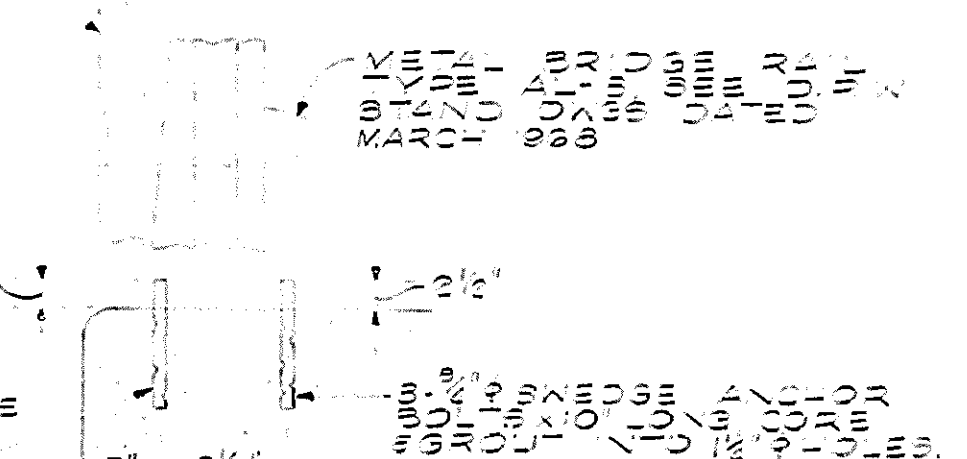
- (A) WHEN BRIDGE RAIL (GROUP) IS PROTECTED BY SCREEN
- (B) BRIDGE RAIL SIDE, SEE DETAILS, SHOULDER



SOUTH ELEVATION
NORTH ELEVATION SIMILAR
AS NOTED
SCALE: 1"=50'

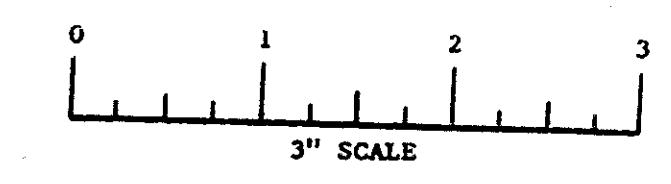


EXISTING
BRIDGE RAIL



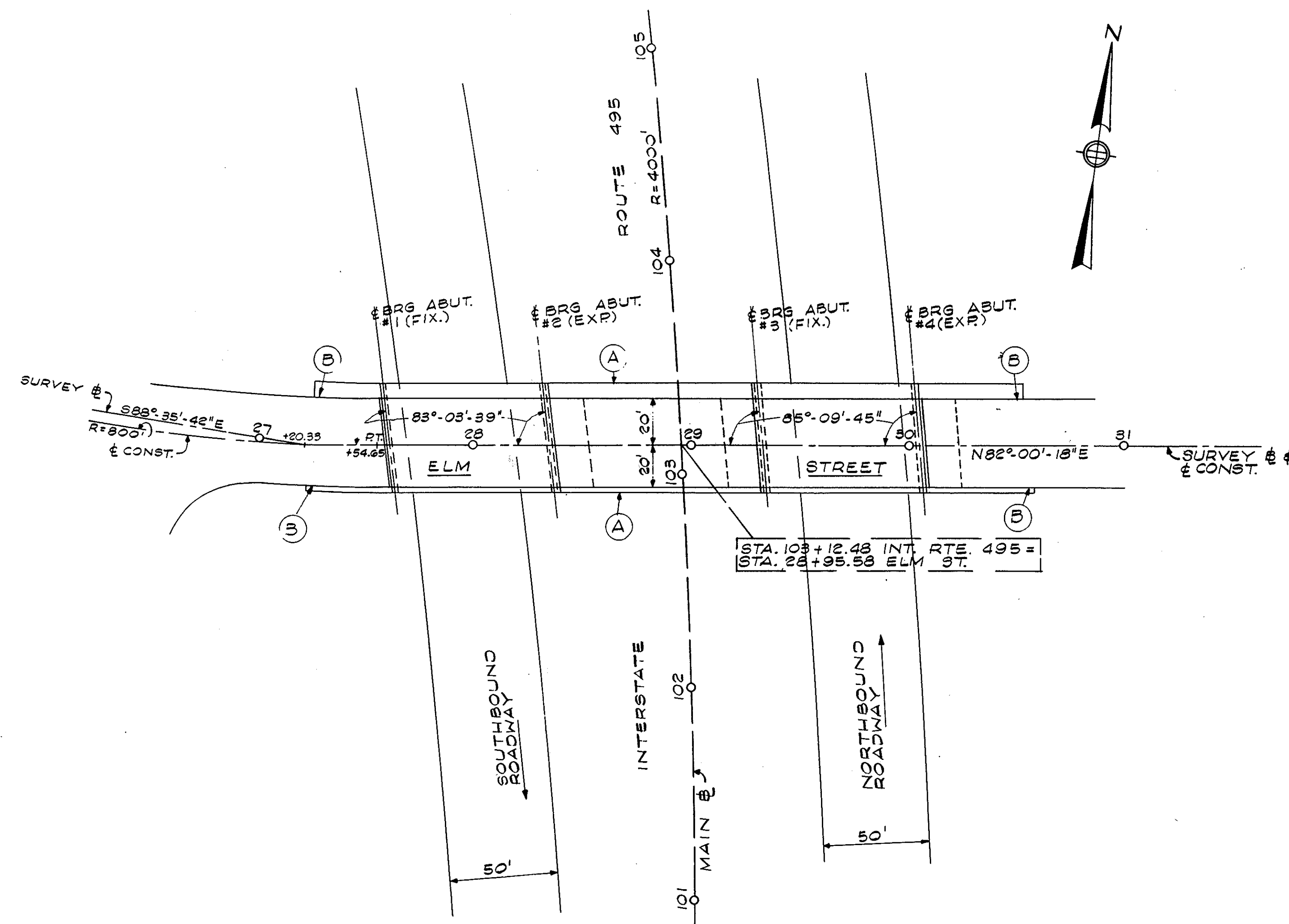
PROPOSED
BRIDGE RAIL

NOTES:
1. BRIDGE RAIL SHALL BE CONCRETE WITH A MINIMUM STRENGTH OF 4000 PSI.
2. BRIDGE RAIL SHALL BE 18\"/>



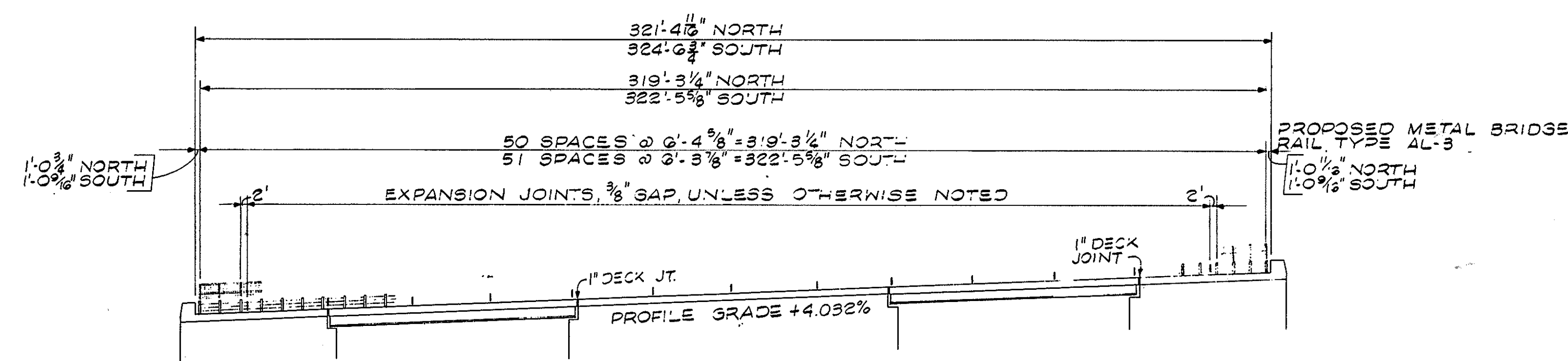
MARLBOROUGH INTERSTATE ROUTE 495						
PUB. DIV. NO.	STATE	FEDERAL PROJECT NO.	AID NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	1-495-5105442	109F-1-495-51054	1976	73	350

STRUCTURAL PLAN AND DETAILS

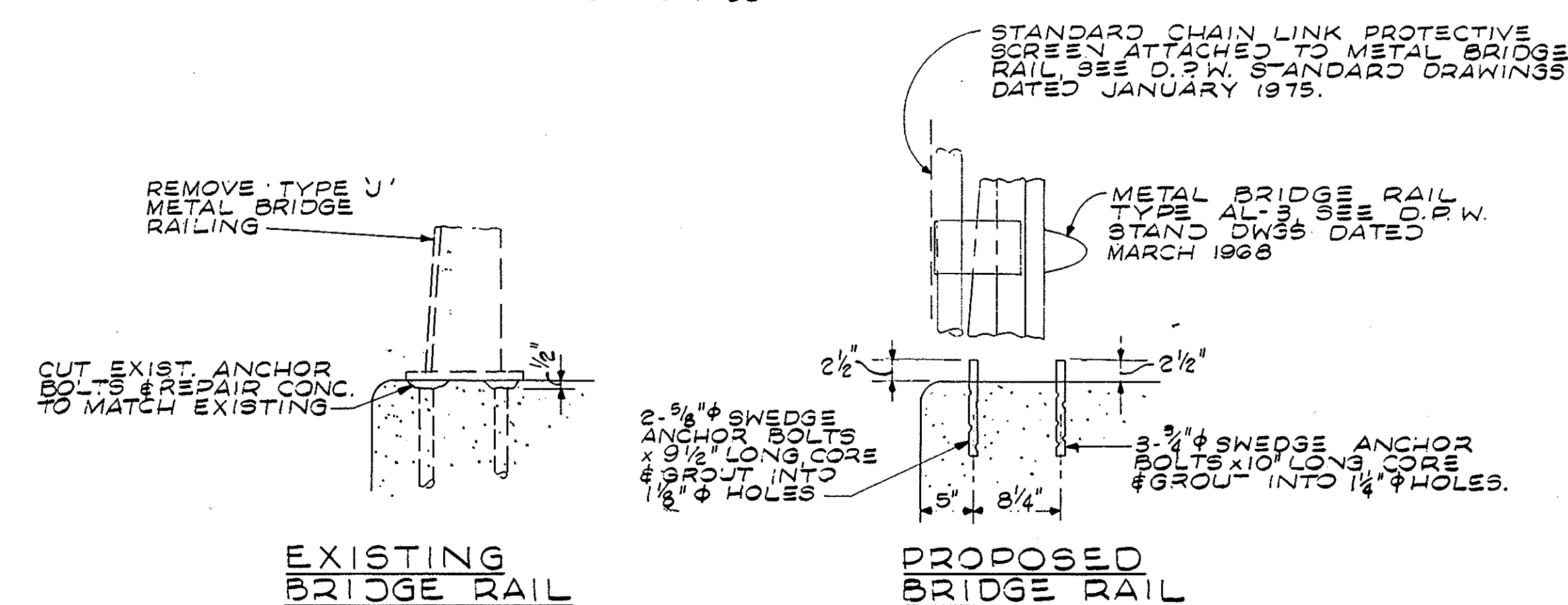


KEY PLAN
SCALE: 1"=40'

- (A) NEW BRIDGE RAIL (AL-3) & PROTECTIVE SCREEN SEE DETAILS THIS SHEET.
- (B) GUARD RAIL ATTACHMENT TO END POSTS SEE DETAILS, SHOULDER SIDE, ON SH. 3 OF 3 BR. N₂ M-G-T.

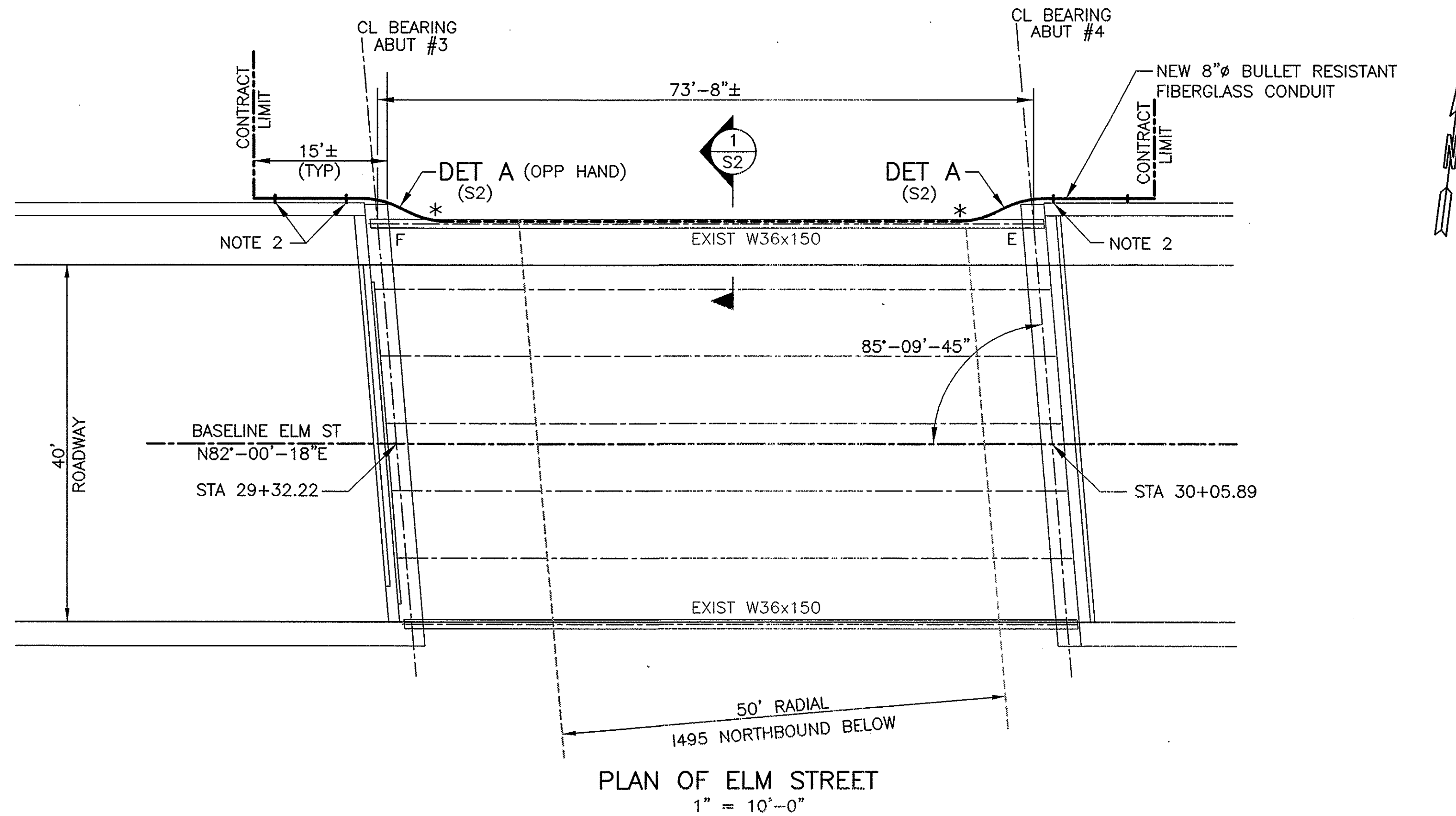


SOUTH ELEVATION
NORTH ELEVATION SIMILAR
AS NOTED
SCALE: 1"=30'



NOTE:
ALL DIMENSIONS AND DETAILS SHOWN FOR EXISTING STRUCTURE SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR. ALL DIMENSIONS NECESSARY FOR FABRICATION AND INSTALLATION OF PROPOSED BRIDGE RENOVATIONS SHALL BE MEASURED IN THE FIELD BY THE CONTRACTOR.

JUNE 12, 1976		ISSUED FOR CONSTRUCTION	
THE COMMONWEALTH OF MASSACHUSETTS BRIDGE RENOVATIONS MARLBOROUGH INTERSTATE ROUTE 495 UNDER ELM STREET SCALES AS NOTED OFFICE OF DEPARTMENT OF PUBLIC WORKS 100 NASHUA ST., BOSTON, MASS.			
CONGDON, GURNEY & TOWLE, INC. DESIGN ENGINEER		BRIDGE ENGINEER	CHIEF ENGINEER
53 STATE ST.	BOSTON, MASS.		



- NOTES:
- * CONDUIT EXPANSION COUPLING
 - 2' LG STD DOUBLE CHANNEL SUPPORT W/MOUNT CLAMPS (GALV).
USE 1/2"Ø HILTI HVA ANCHORS, MIN EMBED 6 3/8",
MIN EDGE DISTANCE 5". USE GALVANIZED SHIMS
TO ALIGN SUPPORT WITH CONDUIT, AS REQUIRED.

GENERAL NOTES

EXISTING BRIDGES PLANS

PLANS FOR THE EXISTING BRIDGE MAY BE SEEN AT THE C2C FIBER FIELD OFFICE LOCATED AT 168 AYER ROAD, LITTLETON, MASSACHUSETTS.

EXISTING CONDITION

EXISTING DIMENSIONS ARE TAKEN FROM ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND VERIFY ALL PRESENT LOCATIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE/SHE HAS MADE THE REQUIRED MEASUREMENTS AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

BENCHMARK

NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.

SURVEY NOTEBOOKS

HORIZONTAL CONTROL WAS ESTABLISHED BY GLOBAL POSITIONING SYSTEM METHODS, AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD-83), AND THE MASSACHUSETTS MAINLAND STATE COORDINATE SYSTEM, 1983. COPIES OF THE ELECTRONIC FILES MAY BE OBTAINED FROM THE MASSACHUSETTS HIGHWAY DEPARTMENT.

SCALES

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

CONSTRUCTION STABILITY

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING TRANSPORTATION, ERECTION AND CONSTRUCTION.

ADHESIVE ANCHORS

ALL ADHESIVE ANCHORS SHALL COMPLY WITH THE ADHESIVE SYSTEM BY HILTI OR AN ENGINEER APPROVED ALTERNATIVE. THE MIN EMBEDMENT DEPTH OF THE ANCHOR SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ROD MATERIAL SHALL AS A MIN MEET THE REQUIREMENTS OF ASTM A36. RODS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153. ADHESIVE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A PROCEDURE FOR DRILLING INTO THE EXISTING PIER AND/OR ABUTMENT INCLUDING NON-DESTRUCTIVE TESTING TO LOCATE THE REINFORCING PRIOR TO COMMENCING THE DRILLING OPERATION. NO REINFORCING BARS MAY BE CUT OR DAMAGED.

HOLES FOR ADHESIVE ANCHORS SHALL BE DRILLED WITH A MASONRY BIT. DIAMOND BITS ARE PROHIBITED.

HOLES FOR ADHESIVE ANCHORS MAY BE RELOCATED AS SHOWN ON THE DRAWINGS TO FACILITATE THE PLACEMENT OF THE ANCHORS. ONCE ANCHORS ARE SET, A TEMPLATE SHALL BE USED TO FIELD DRILL HOLES IN STEEL.

STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.

WELDING ELECTRODES SHALL BE E70XX. FILLET WELD SIZES NOT INDICATED SHALL BE MINIMUM AS SPECIFIED IN AWS D1.5.

BOLTS

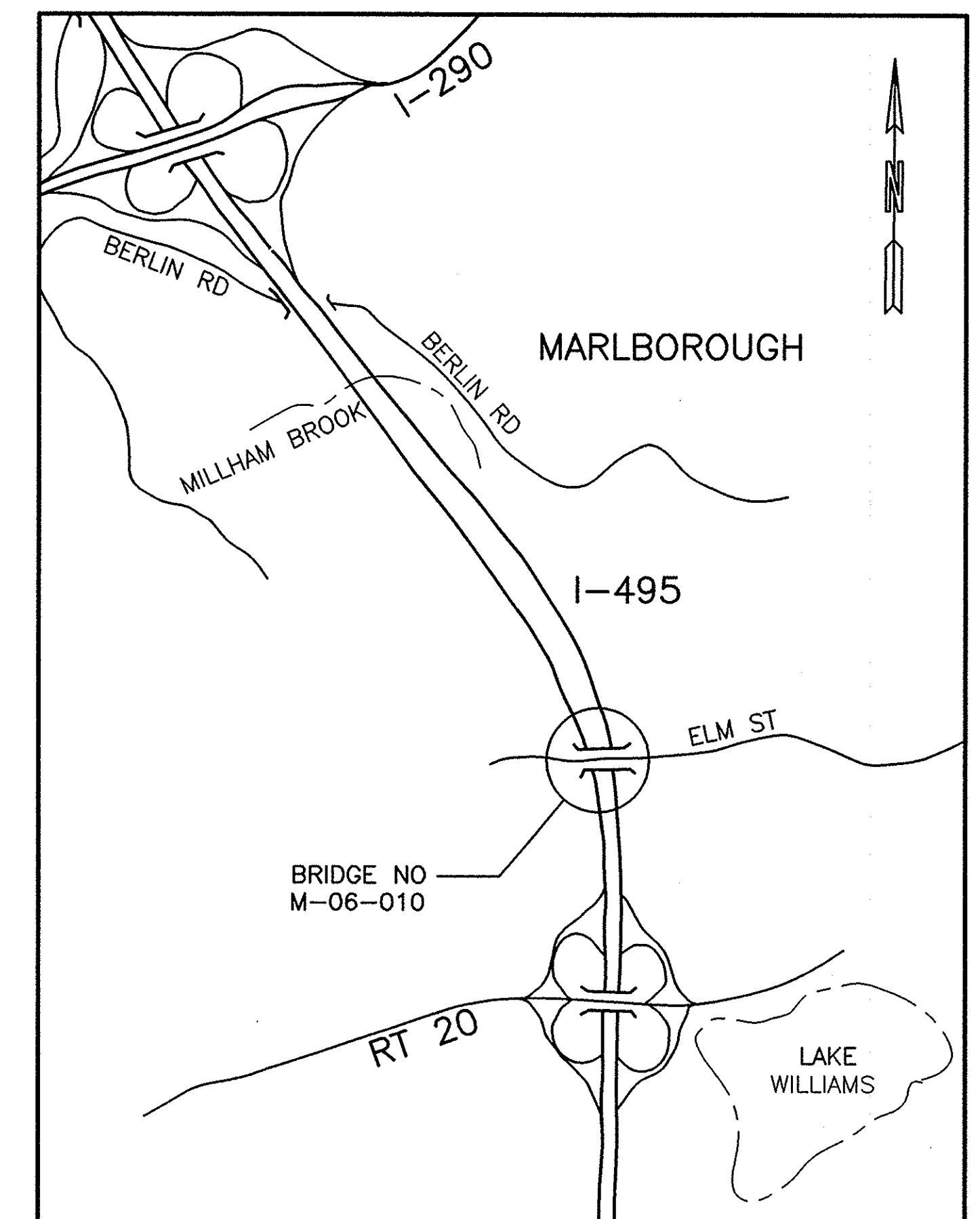
ALL BOLTS SHALL CONFORM TO AASHTO M164 (ASTM A 325) TYPE 1, ZINC COATED IN BEARING TYPE CONNECTIONS UNLESS OTHERWISE NOTED.

RELOCATION

THE MASSACHUSETTS HIGHWAY DEPARTMENT (MASSHIGHWAY) RESERVES THE RIGHT TO REMOVE OR RELOCATE THE TELECOMMUNICATIONS FACILITY, OR ANY PORTION THEREOF, WHEN IT DEEMS SUCH REMOVAL OR RELOCATION NECESSARY IN THE INTEREST OF PUBLIC SAFETY OR PUBLIC INTEREST. THE COST FOR THE REMOVAL OR RELOCATION OF THE TELECOMMUNICATIONS FACILITY, OR ANY PORTION THEREOF, SHALL BE THE RESPONSIBILITY OF THE OWNER(S) OF THE TELECOMMUNICATIONS FACILITY. THE EXACT TERMS OF THE REMOVAL/RELOCATION REQUIREMENTS ARE IN THE LEAD COMPANY AGREEMENT.

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	NA	2001	1	2
PROJECT FILE NO.				

DRAWING INDEX	
DESCRIPTION	SHEET NUMBER
TITLE SHEET, LOCUS, GEN NOTES & PLAN	1
SECTIONS	2



LOCUS PLAN

 STONE & WEBSTER MASSACHUSETTS, INC 100 TECHNOLOGY CENTER DR STOUGHTON, MASS. 02072 C2C FIBER, INC	10/9/01 ISSUED FOR CONSTRUCTION PROPOSED FIBER OPTIC CABLE SUPPORT MARLBOROUGH INTERSTATE ROUTE 495 UNDER ELM STREET THE COMMONWEALTH OF MASSACHUSETTS MASSACHUSETTS HIGHWAY DEPARTMENT 10 PARK PLAZA BOSTON, MASS
	SHEET 1 OF 2 SHEETS BRIDGE NO. M-06-010 (299)

