

INDEX OF SHEETS

- 1 COVER SHEET
- 2-3 PLAN-PROFILE
- 4 CROSS SECTIONS
- 5-7 BRIDGE DETAILS
- 8 SCHEDULE OF QUANTITIES
- 9 STANDARDS

SUMMARY OF QUANTITIES

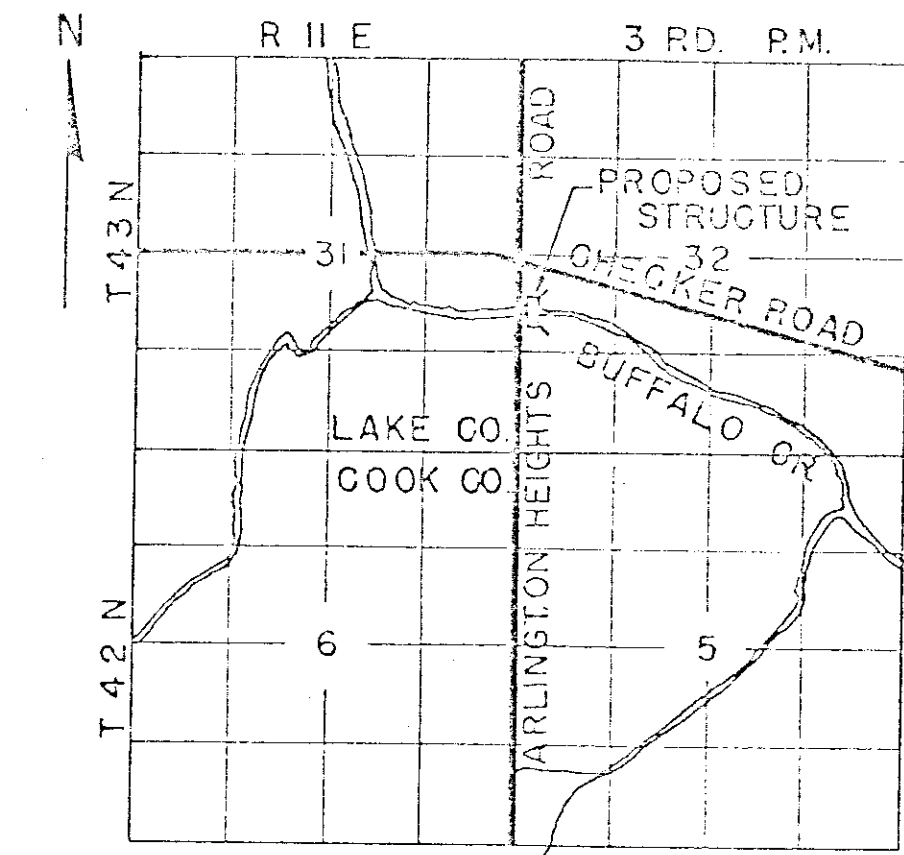
QUANTITY UNIT ITEM

- 32 IN. DIA. TREE REMOVAL (6 - 15 INCH DIA.)
- 74 IN. DIA. TREE REMOVAL (OVER 15 INCH DIA.)
- 751 CU.YD. EARTH EXCAVATION
- 5823 CU.YD. BORROW EXCAVATION
- 63 CU.YD. TRENCH BACKFILL
- 512 CU.YD. POROUS GRANULAR BACKFILL
- 24 TON AGGREGATE SHOULDERS, TYPE A
- 1185 TON AGGREGATE BASE COURSE, TYPE A
- 3 TON BITUMINOUS MATERIALS (PRIME COAT)
- 614 TON BITUMINOUS MIXTURE COMPLETE
- 1 EACH REMOVAL OF EXISTING STRUCTURE
- 345 CU.YD. CLASS A EXCAVATION FOR STRUCTURES
- 370 CU.YD. CLASS B EXCAVATION FOR STRUCTURES
- 202 CU.YD. CLASS X CONCRETE
- 1347.5 SQ.FT. PRECAST PRESTRESSED CONCRETE DECK BEAMS
- 65.33 LIN.FT. ALUMINUM RAILING
- 24795 LBS. REINFORCEMENT BARS
- 1 EACH NAME PLATE
- 110 LIN.FT. STORM SEWER TYPE 2, 12" DIA.
- 3 EACH CATCH BASIN, TYPE C, TYPE I2 FRAME & GRATE
- 429 LIN.FT. COMBINATION CONCRETE CURB & GUTTER, TYPE M-6.12
- 1072.5 SQ.FT. PORTLAND CEMENT CONCRETE SIDEWALK - 5"
- 437 LIN.FT. STEEL PLATE BEAM GUARD RAIL
- 0.9 ACRE SEEDING CLASS I
- 0.72 TON FERTILIZER NUTRIENTS
- 1.8 TON ASPHALT COATED MULCH
- 180 GAL. EMULSIFIED ASPHALT
- 128 SQ.YD. BRIDGE DECK SEALANT
- 144 LIN.FT. PIPE UNDERDRAIN - 8" (SPECIAL)

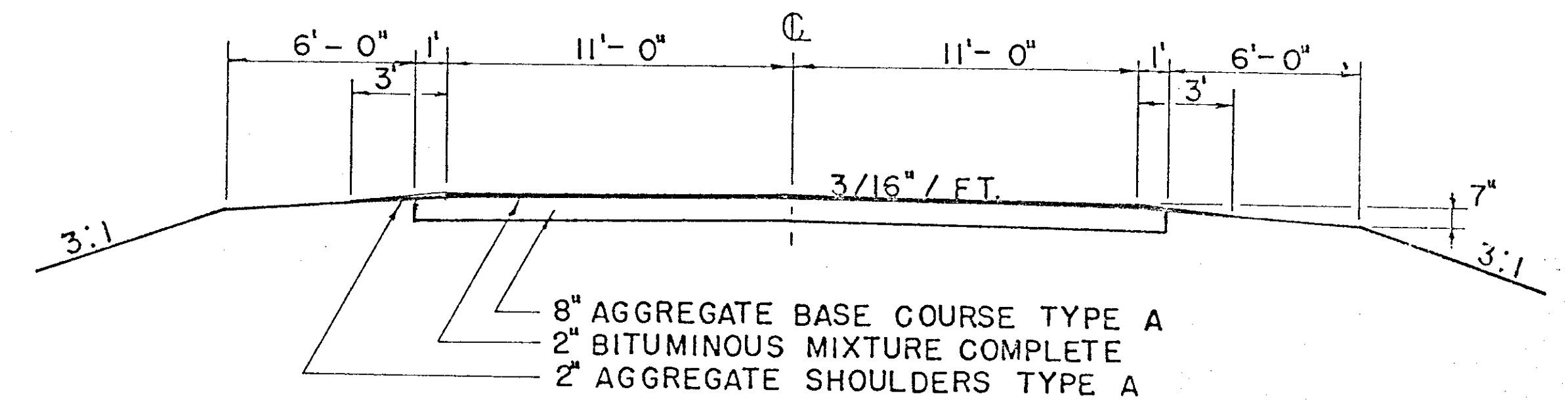
STATE OF ILLINOIS  
 LAKE COUNTY HIGHWAY DEPARTMENT  
 TOWN OF VERNON  
 PLANS FOR PROPOSED  
 ARLINGTON HEIGHTS ROAD BRIDGE  
 SECTION 43-II-3B-GA

ROUTE	SEC	COUNTY	SHEET
43-II	3B-GA	LAKE	1
COVER SHEET			
ILLINOIS			

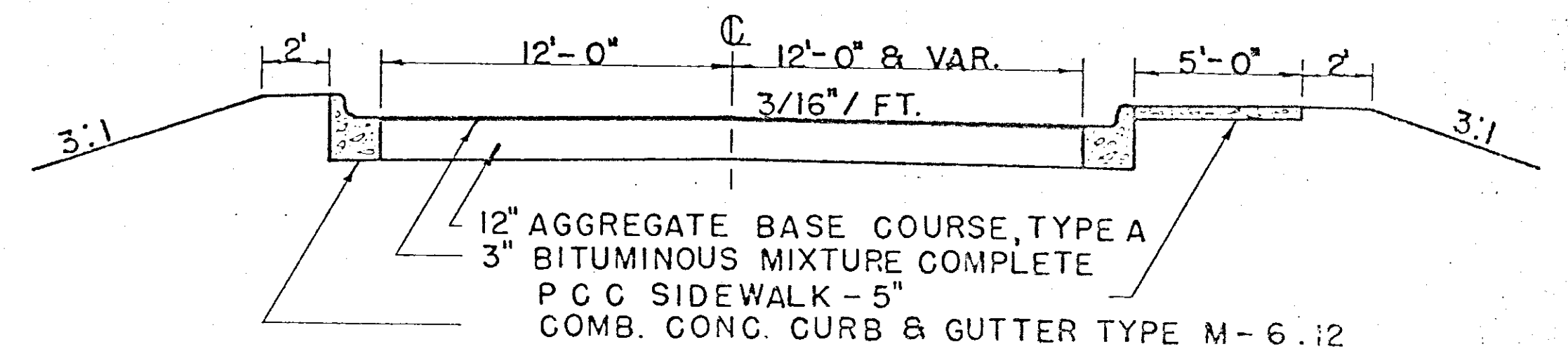
Revised "As Built" 11/17/79  
 For final quantities see final  
 pay estimate.



LOCATION MAP



TYPICAL SECTION  
 STA. 15+82 to 19+25  
 STA. 21+82 to 25+35



TYPICAL SECTION  
 STA. 19+25 to 21+82  
 (Except 20+10.75 to 20+53.25)

APPROVED BY Michael Conarty DATE \_\_\_\_\_  
 COUNTY SUPT OF HIGHWAYS  
 APPROVED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 TOWNSHIP HIGHWAY COMM.

SUMMARY OF LENGTH 953.00 LIN. FT. = 0.180 MILE

ARLINGTON HEIGHTS ROAD BRIDGE  
 OVER BUFFALO CREEK (1969)

**PLAN**  
 SUBMITTED BY: [ ]  
 DATE: [ ]  
 CHECKED BY: [ ]  
 DATE: [ ]  
 NO. OF WAY CHECKED: [ ]  
 NO. OF WAY CHECKED: [ ]

**PROFILE**  
 SUBMITTED BY: [ ]  
 DATE: [ ]  
 CHECKED BY: [ ]  
 DATE: [ ]  
 NO. OF WAY CHECKED: [ ]  
 NO. OF WAY CHECKED: [ ]

ROUTE	SEC	COUNTY	SHEET	SHEETS
43-11	38-CA	LAKE	2	9
PLAN-PROFILE 15+00 TO 26+00				
ILLINOIS				

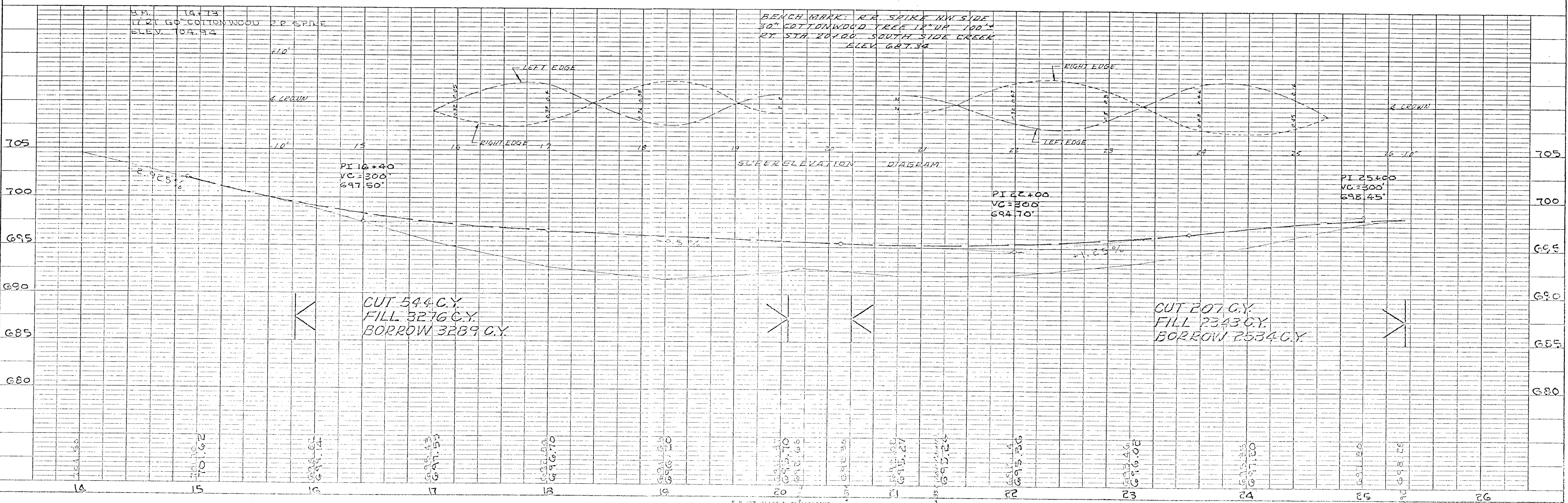
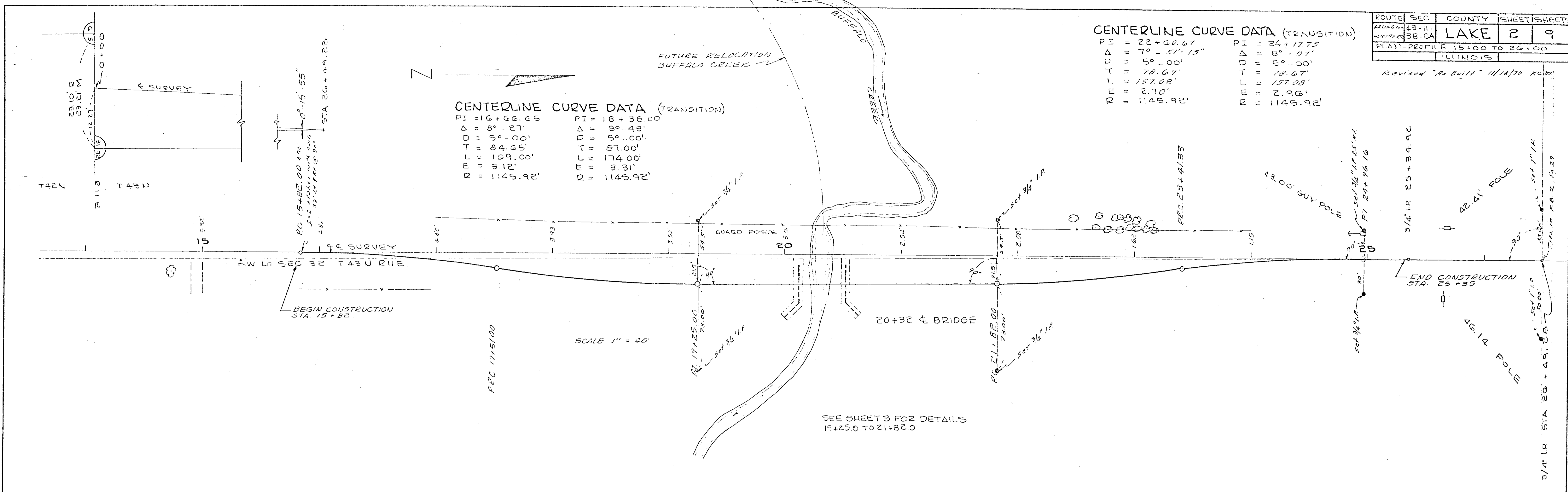
Revised "As Built" 11/18/70 KCM

**CENTERLINE CURVE DATA (TRANSITION)**

PI = 22+60.67	PI = 24+17.75
Δ = 7° - 51' - 15"	Δ = 8° - 07'
D = 5° - 00'	D = 5° - 00'
T = 78.69'	T = 78.67'
L = 157.08'	L = 157.08'
E = 2.70'	E = 2.96'
R = 1145.92'	R = 1145.92'

**CENTERLINE CURVE DATA (TRANSITION)**

PI = 16+66.65	PI = 18+38.00
Δ = 8° - 27'	Δ = 8° - 43'
D = 5° - 00'	D = 5° - 00'
T = 84.65'	T = 87.00'
L = 169.00'	L = 174.00'
E = 3.12'	E = 3.31'
R = 1145.92'	R = 1145.92'









ORIGINAL SURVEY NO. DATE

SURVEYED BY

PLATINUM

NOTE BOOK

AREA

APPROX. CHECKED

FINAL SURVEY NO. DATE

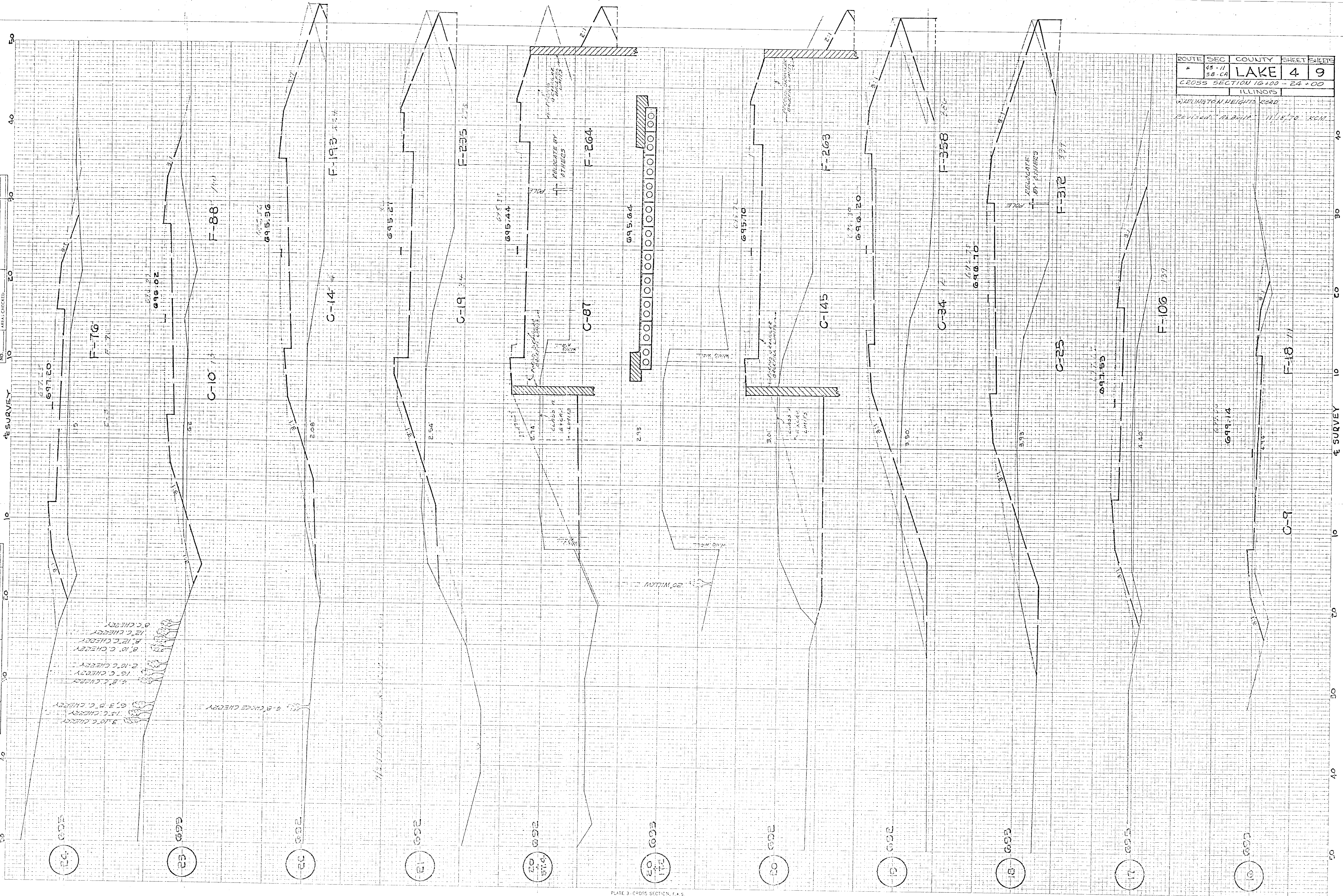
SURVEYED BY

PLATINUM

NOTE BOOK

AREA

APPROX. CHECKED

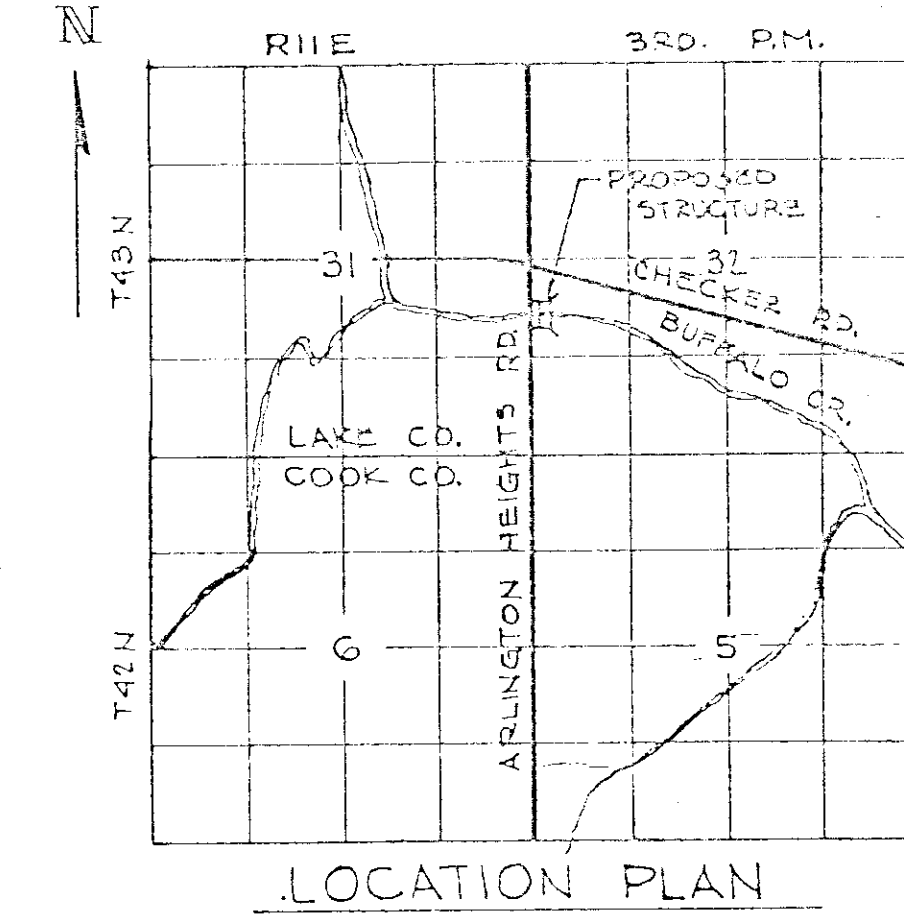


ROUTE	SEC	COUNTY	SHEET	SHEETS
* 45-11	38-CA	LAKE	4	9
CROSS SECTION 16+00 - 24+00				
ILLINOIS				
WASHINGTON HEIGHTS ROAD				
REVISED AS BUILT 11/16/70 KCM				

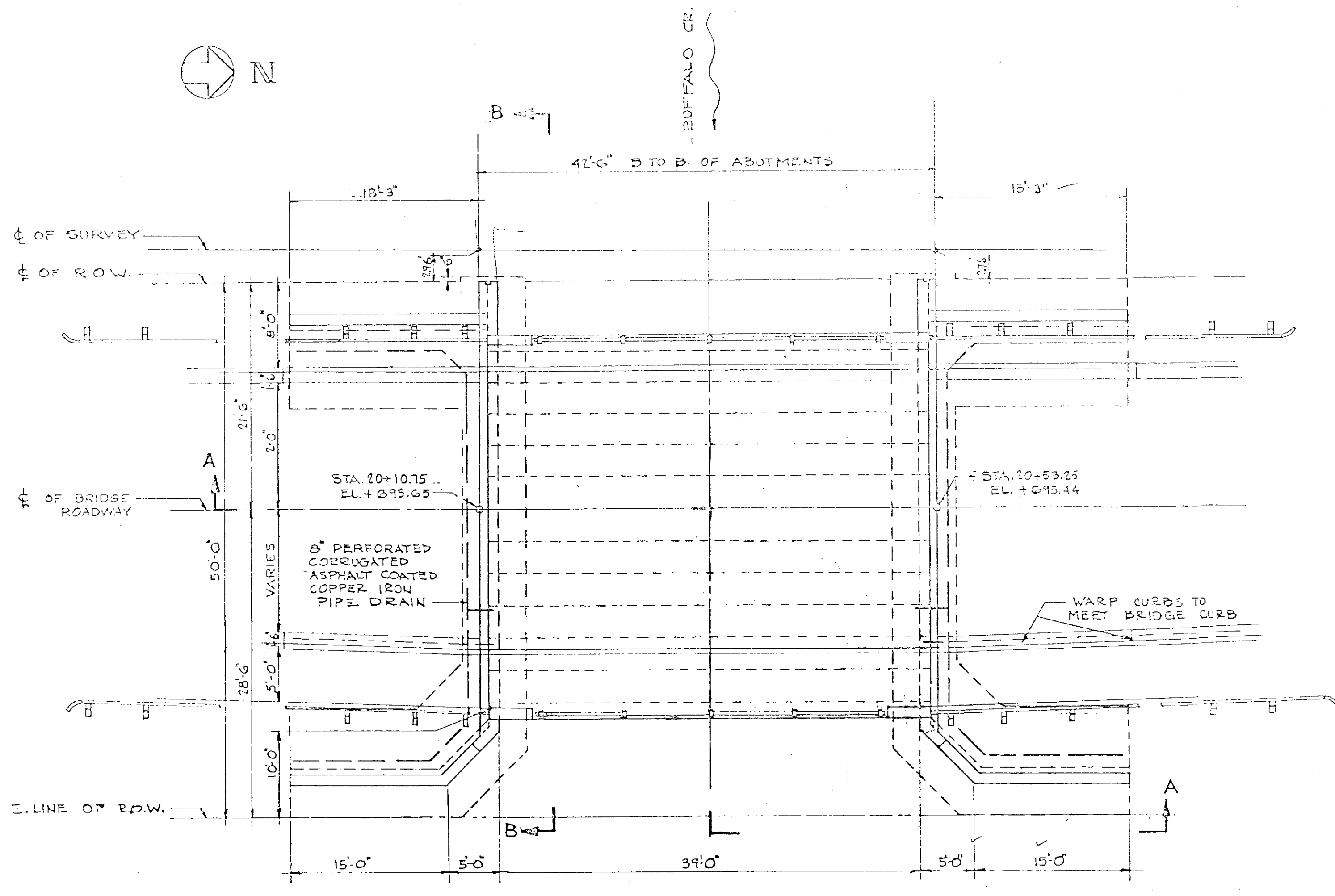


ROUTE	SECTION	COUNTY	SHEET	SHEETS
ARLINGTON HEIGHTS ROAD	43-11 33-CA	of LAKE	5	9

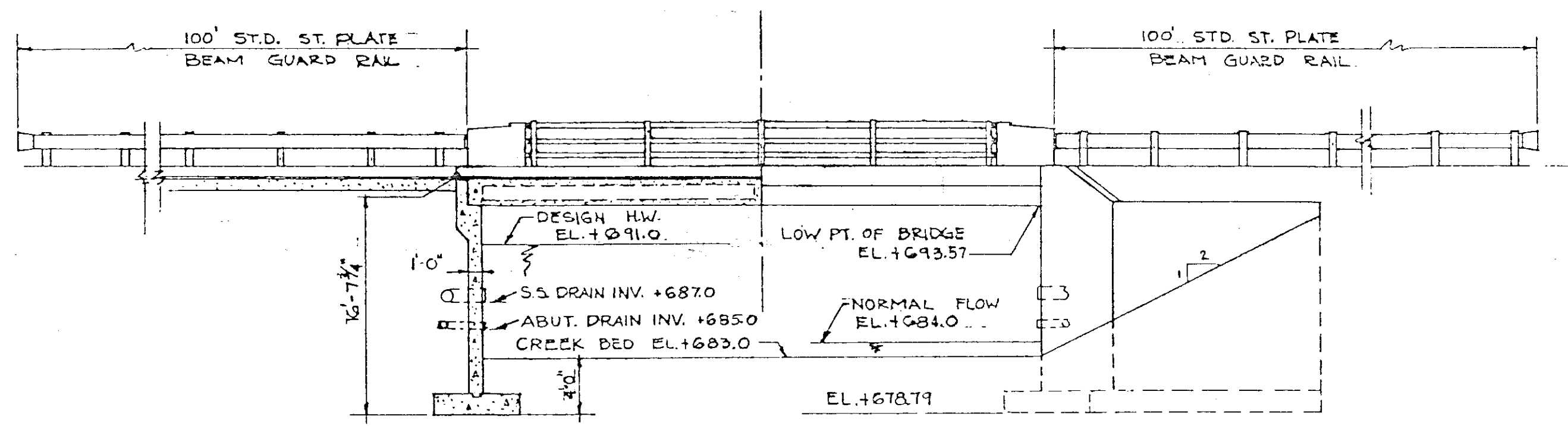
PLAN, ELEVATIONS & SECTIONS  
 Revised "As Built" 11/19/13 RDM



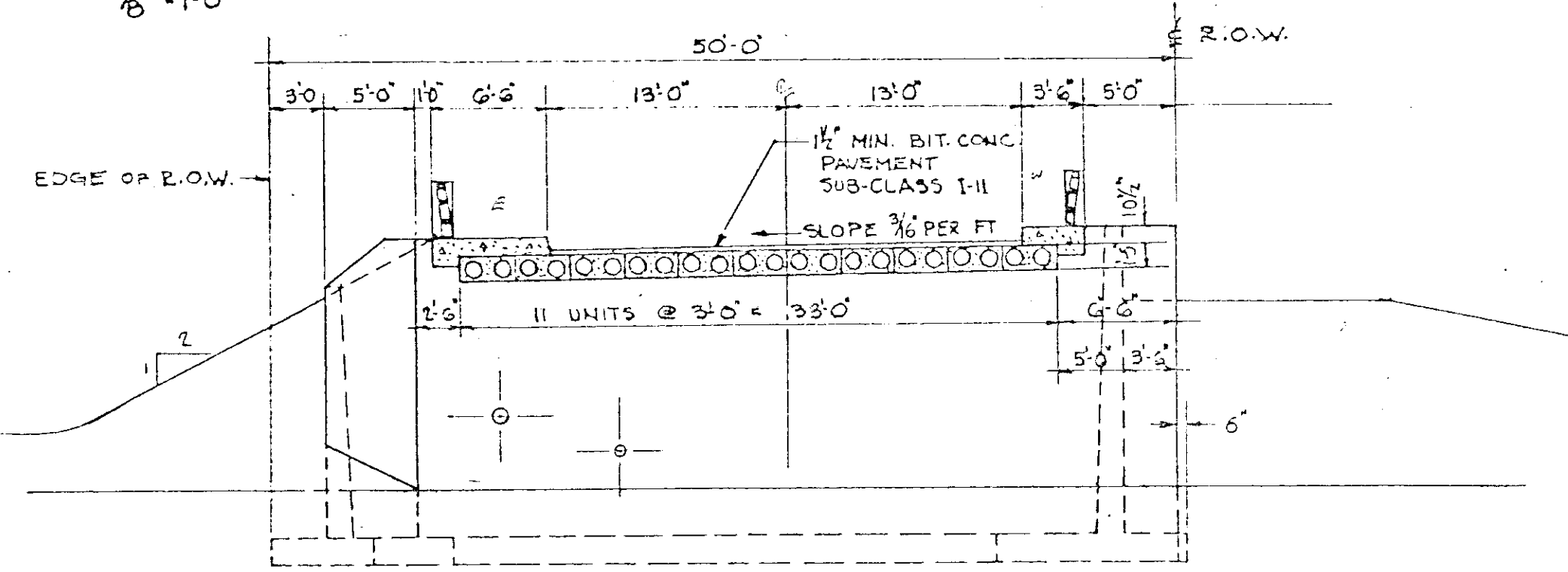
LOCATION PLAN



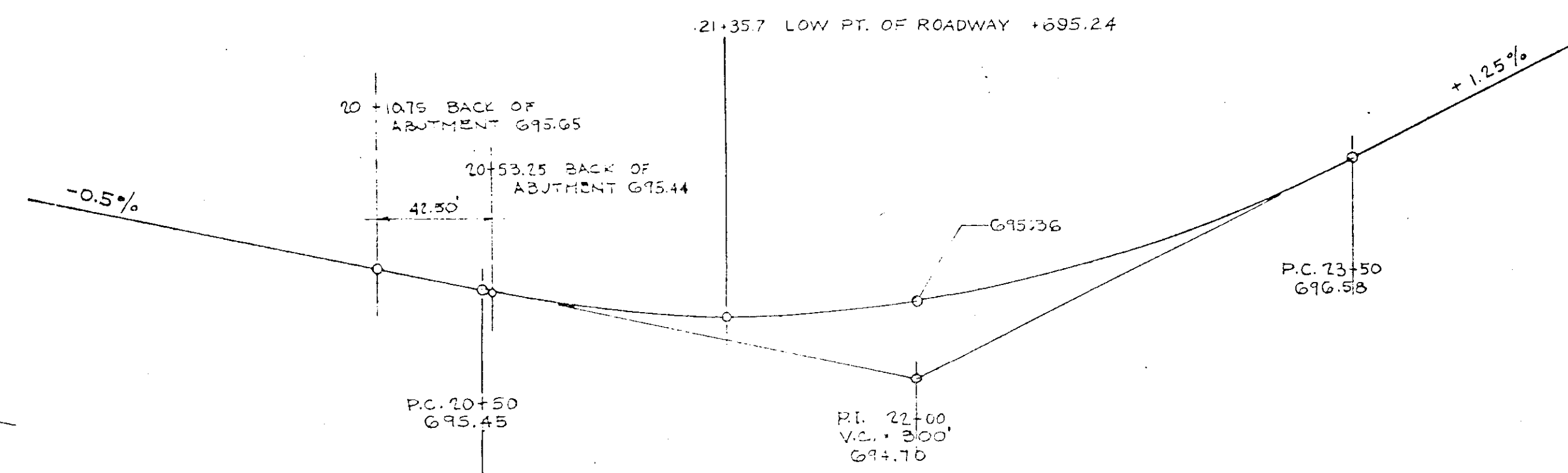
PLAN  
1/8" = 1'-0"



SECTION A-A  
1/8" = 1'-0"



SECTION B-B  
1/8" = 1'-0"



PROPOSED CENTERLINE PROFILE  
 HOR. 1" = 40.0' VER. 1" = 1.0'

EXISTING STRUCTURE

SINGLE SPAN STEEL TRUSS BRIDGE,  
 37.5 FT. LONG, ROADWAY 16' EXIST.  
 BRIDGE TO BE REMOVED  
 BY BRIDGE CONTRACTOR BEFORE  
 NEW BRIDGE IS BUILT.

DESIGN STRESSES - PRECAST UNITS

$f_c = 5000$  PSI  
 $f_{cp} = 2500$  PSI  
 $f_t = 210$  PSI  
 $f_s = 245,000$  ULT.  
 $f_{s1} = 176,600$  INLT.

WATERWAY INFORMATION

DRAINAGE AREA 10,400 A.  
 CHARACTER - ROLLING & CULTIVATED  
 REQUIRED OPENING (BELOW  
 HIGH WATER ELEV.) 917 SF  
 PROPOSED OPENING 917 SF  
 PRESENT OPENING 230 SF

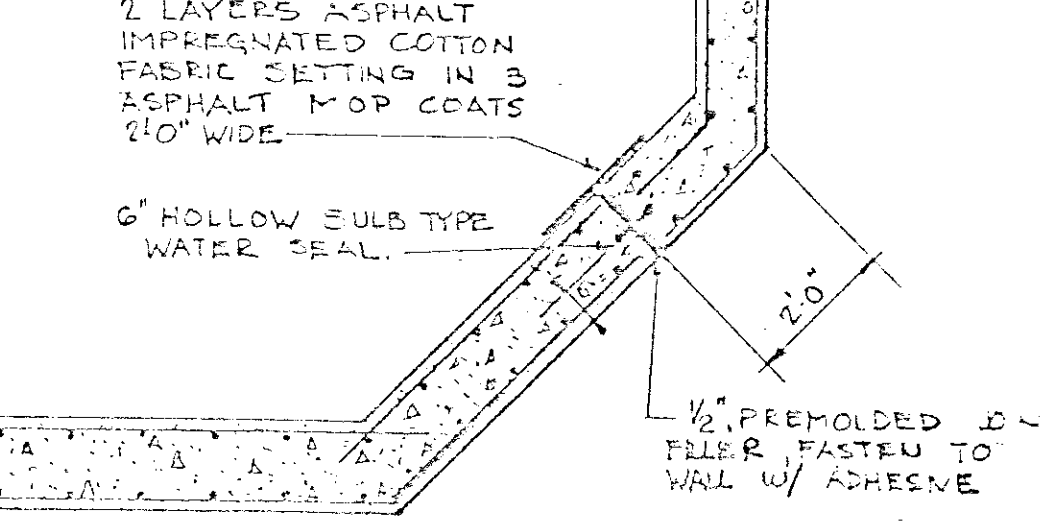
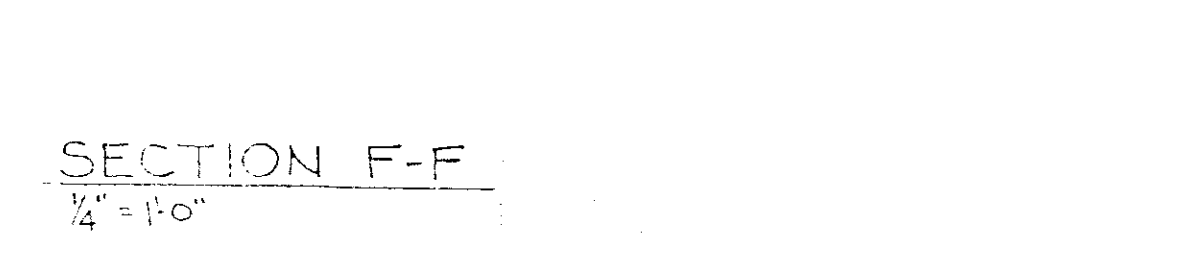
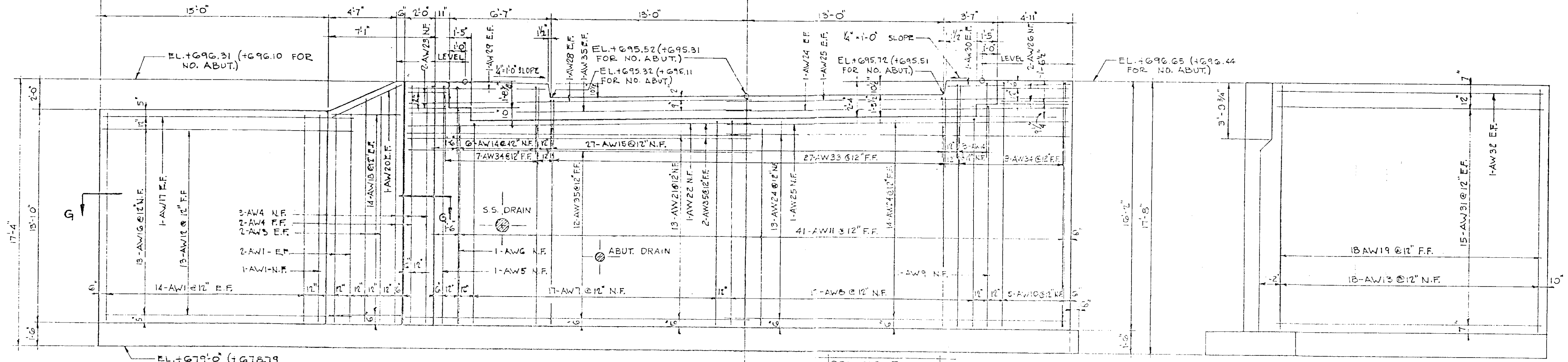
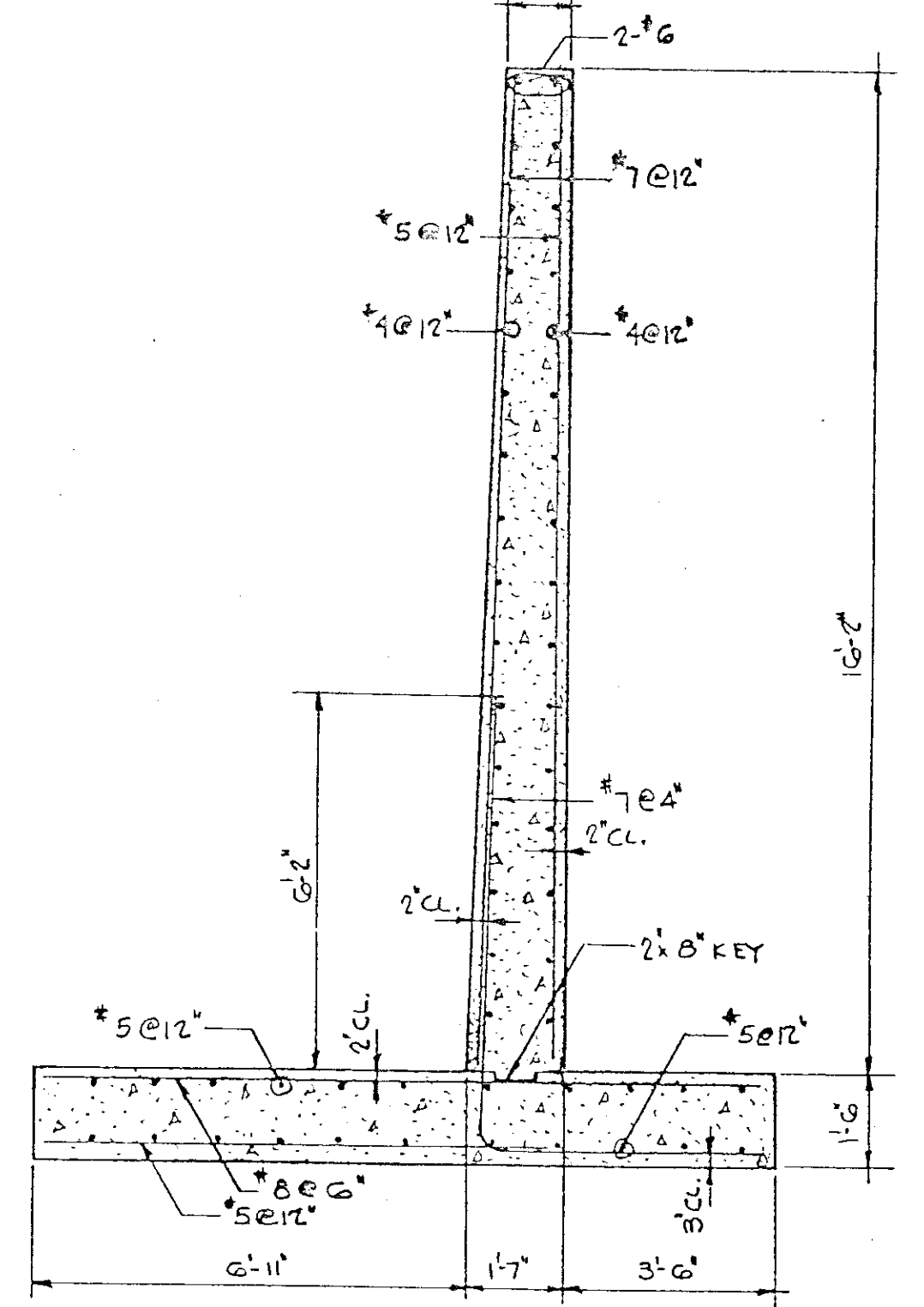
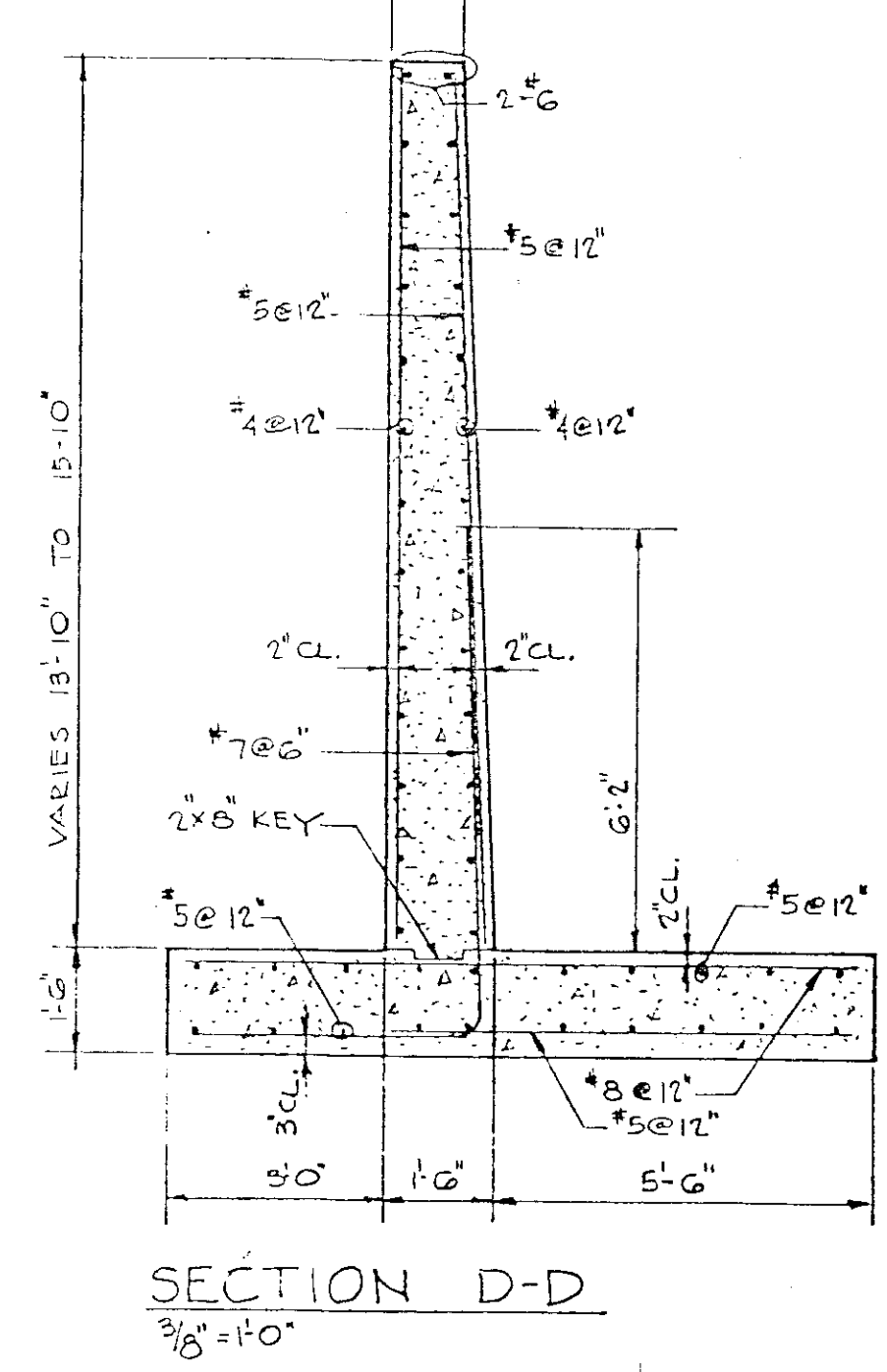
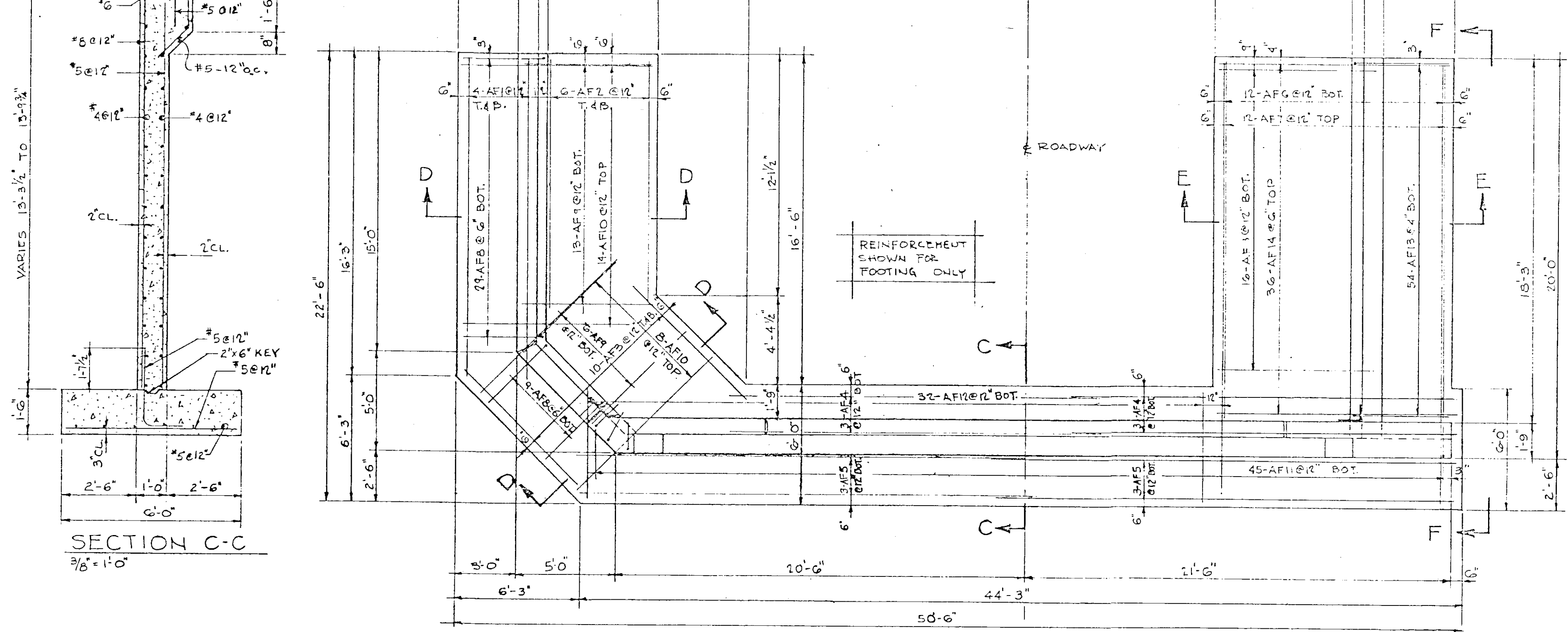
DESIGN STRESSES - CAST IN PLACE

$f_c = 1400$  PSI  
 $f_t = 10$  PSI  
 $f_s = 20,000$  PSI  
 $n = 10$   
 SOIL PRESSURE 4000 PSF  
 LADING HS 20'

REVISIONS				
NO.	DATE	ITEM	BY	APP.
1	5-15-69	GENERAL	WMS	[Signature]

PLAN, ELEVATIONS & SECTIONS  
 LAKE COUNTY HIGHWAY DEPARTMENT  
 SECTION 43-11-33-CA  
**ARLINGTON HEIGHTS ROAD BRIDGE**

DESIGN	SOMMERSCHILD-HEMMETER, INC.	DATE	1-31-69
DRAWN	ENGINEERS-DESIGN AND CONSULTING	JOB NO.	08-18
CHECKED	1725 NORTH LEWIS AVENUE, WAUKEGAN	DRAW. NO.	
APPROVED	711 DEVON AVENUE, PARK RIDGE		



**BENT BAR DIAGRAM**

MARK	SIZE	LENGTH	A	B	C	D
AW16	#4	16'-0"	14'-6"	1'-6"	1'-0"	1'-0"
AW17	#6	16'-0"	14'-6"	1'-6"	1'-0"	1'-0"
AW18	#4	22'-6"	20'-9"	1'-9"	1'-2 1/2"	1'-2 1/2"
AW19	#6	22'-6"	20'-9"	1'-9"	1'-2 1/2"	1'-2 1/2"
AW20	#4	2'-6"	0'-9"	1'-9"	1'-2 1/2"	1'-2 1/2"
AW33	#5	4'-1"	2'-8"	1'-5"	1'-0"	1'-0"
AW34	#5	4'-11"	3'-6"	1'-5"	1'-0"	1'-0"
AW35	#4	21'-10"	20'-6"	1'-4"	0'-11 1/2"	0'-11 1/2"
AF11	#5	4'-3"	2'-0"	1'-6"		
AW5	#6	13'-9"	13'-6"	1'-5"		
AW6	#6	13'-0"	12'-9"	1'-5"		
AW7	#6	14'-3"	13'-0"	1'-5"		
AW8	#6	14'-6"	13'-3"	1'-5"		
AW9	#6	15'-9"	14'-6"	1'-5"		
AW10	#6	17'-3"	16'-0"	1'-5"		
AW14	#5	4'-6"	4'-0"	0'-5"		
AW15	#5	3'-8"	3'-2"	0'-5"		
AF8	#7	11'-3"	7'-5"	4'-0"	0'-3"	
AF13	#7	11'-9"	7'-5"	4'-0"	0'-3"	

**BILL OF MATERIAL**

MARK	NO.	SIZE	LENGTH	TYPE	MARK	NO.	SIZE	LENGTH	TYPE
AF1	16	#5	10'-0"	STRAIGHT	AW1	66	#5	15'-0"	STRAIGHT
AF2	24	#5	10'-0"	"	AW2	1	#6	22'-0"	"
AF3	72	#5	10'-0"	"	AW3	4	#4	2'-6"	"
AF4	12	#5	19'-0"	"	AW4	58	#4	22'-6"	STRAIGHT
AF5	12	#5	23'-0"	"	AW5	6	#6	22'-6"	"
AF6	24	#5	23'-0"	"	AW6	4	#4	2'-6"	"
AF7	24	#5	17'-9"	"	AW7	54	#8	14'-3"	"
AF8	76	#7	11'-3"	"	AW8	4	#6	21'-0"	"
AF9	58	#5	6'-0"	STRAIGHT	AW9	4	#4	7'-0"	"
AF10	44	#8	9'-6"	"	AW10	4	#4	8'-0"	"
AF11	90	#5	4'-8"	"	AW11	10	#8	17'-5"	"
AF12	64	#5	5'-0"	STRAIGHT	AW12	60	#4	17'-9"	"
AF13	108	#7	11'-9"	"	AW13	4	#6	17'-9"	"
AF14	72	#6	11'-6"	STRAIGHT	AW14	4	#6	17'-9"	"
					AW15	54	#5	4'-11"	"
					AW16	30	#5	4'-11"	"
					AW17	32	#4	21'-0"	"
					AW18	54	#5	4'-11"	"
					AW19	30	#5	4'-11"	"
					AW20	32	#4	21'-0"	"

**DESIGN STRESSES**  
 f<sub>c</sub> = 3500 PSI  
 f<sub>s</sub> = 1000 PSI  
 f<sub>s</sub> = 20,000 PSI  
 n = 10

**QUANTITIES**  
 CLASS "X" CONCRETE - 183 CU.YDS.  
 REINFORCEMENT - 23,350 LBS

**REVISIONS**

NO.	DATE	ITEM	BY	APP.
1	5-15-69	GENERAL	AW	AW

**ABUTMENT DETAILS**  
 LAKE COUNTY HIGHWAY DEPARTMENT  
 SECTION 43-11-33-CA  
 ARLINGTON HEIGHTS ROAD BRIDGE

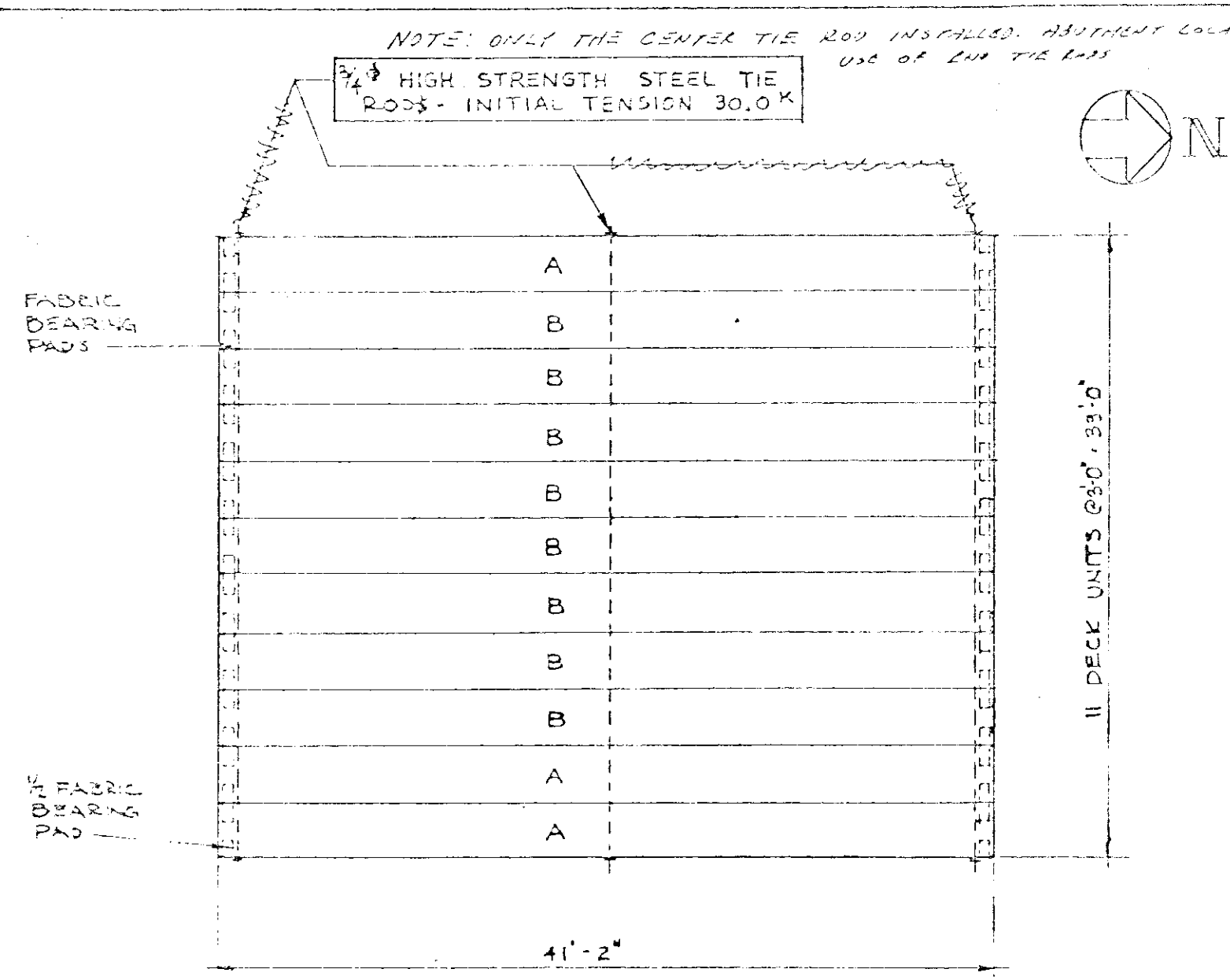
DESIGN: BH  
 DRAWN: BH  
 CHECKED: [Signature]  
 APPROVED: [Signature]

SOMMERSCHILDF-HEMMETER, INC.  
 ENGINEERS-DESIGN AND CONSULTING  
 1725 NORTH LEWIS AVENUE, WAUKEGAN  
 711 DEVON AVENUE, PARK RIDGE

DATE: 1-31-69  
 JOB NO.: GB-18  
 DRAW. NO.:

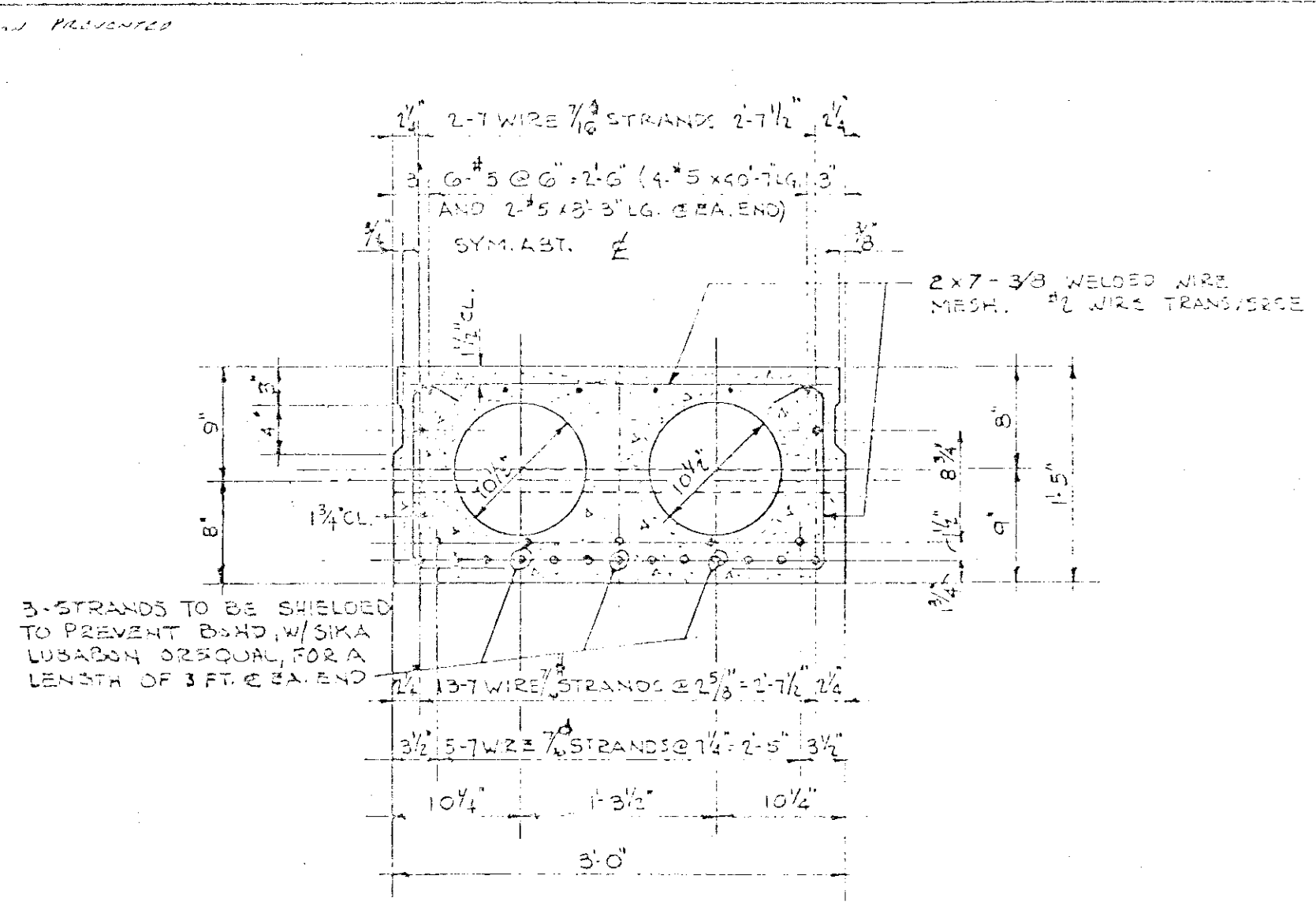
Revised "A. Brill" 11/19/11 KCM

ROUTE	SECTION	COUNTY	SHEET	SHEETS
ARLINGTON HEIGHTS ROAD	43-11-33-CA	OF LAKE	7	9
DECK & SIDE WALK DETAILS				

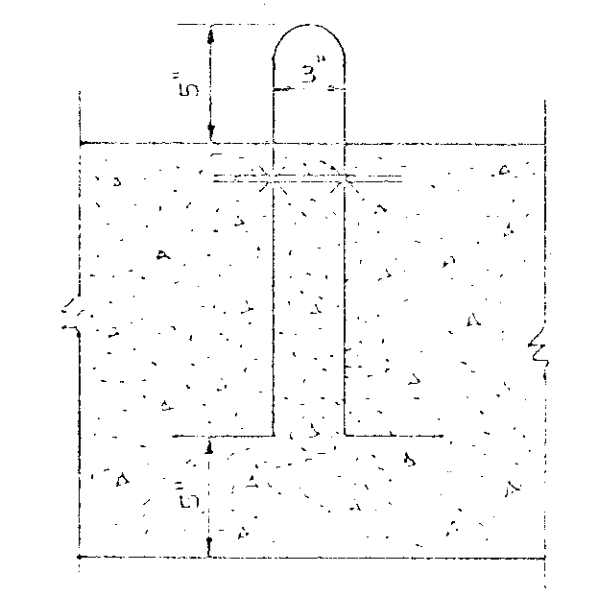


DECK PLAN  
1/8" = 1'-0"

TOTAL AREA  
1958.6 SQ. FT.



DECK UNIT SECTION  
1" = 1'-0"



LIFTING LOOP DETAIL  
1/2" = 1'-0"  
4 REQUIRED EACH BEAM

STATION 20+32  
SECTION 43-11-33-CA  
VERNON TOWNSHIP  
LAKE COUNTY  
LOADING H5 20-44

NAME PLATE DETAIL

BENT BAR DIAGRAM

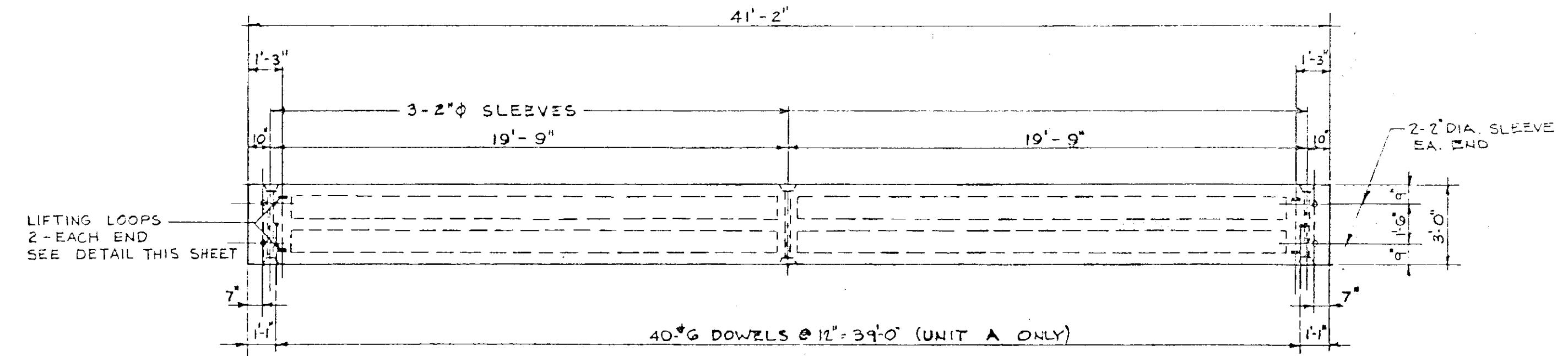
TYPE I		TYPE II		
MARK	SIZE	TYPE	LENGTH	A B C
AP1	#6	II	7'-6"	5'-7" 6'-7" 6'-7"
AS5	#5	II	5'-0"	2'-7" 6'-7" 6'-7"
AS1	#5	I	6'-0"	8'-1" 6'-0"
AS3	#5	I	2'-0"	1'-4" 1'-3"
AS4	#5	I	3'-0"	8'-1" 3'-0"

BILL OF MATERIALS

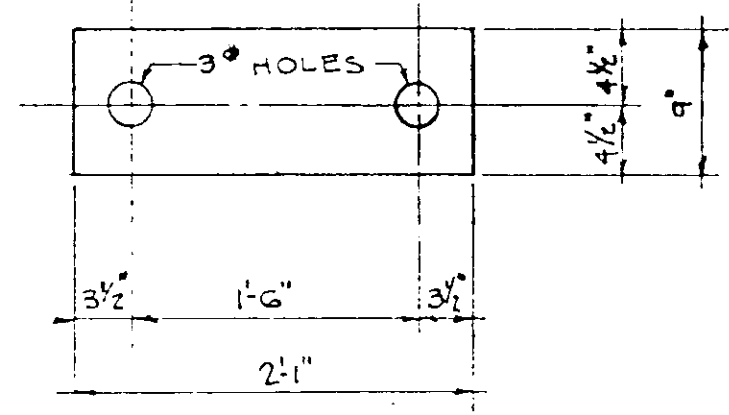
MARK	NO.	SIZE	LENGTH	TYPE
AP1	16	#6	7'-0"	II
AP2	24	#5	3'-0"	STRAIGHT
AS1	41	#5	6'-0"	I
AS2	30	#4	2'-0"	STRAIGHT
AS3	81	#5	2'-0"	I
AS4	41	#5	3'-0"	I
AS5	20	#5	5'-0"	II

QUANTITIES

PRECAST CONCRETE DECK	1947.5 SF
CLASS "X" CONCRETE	19 CY
REINFORCEMENT	1443 LBS.
ALUMINUM HANDRAIL	65'-4" L.F.
1 1/2" BITUMINOUS CONCRETE PAVEMENT	125 SF

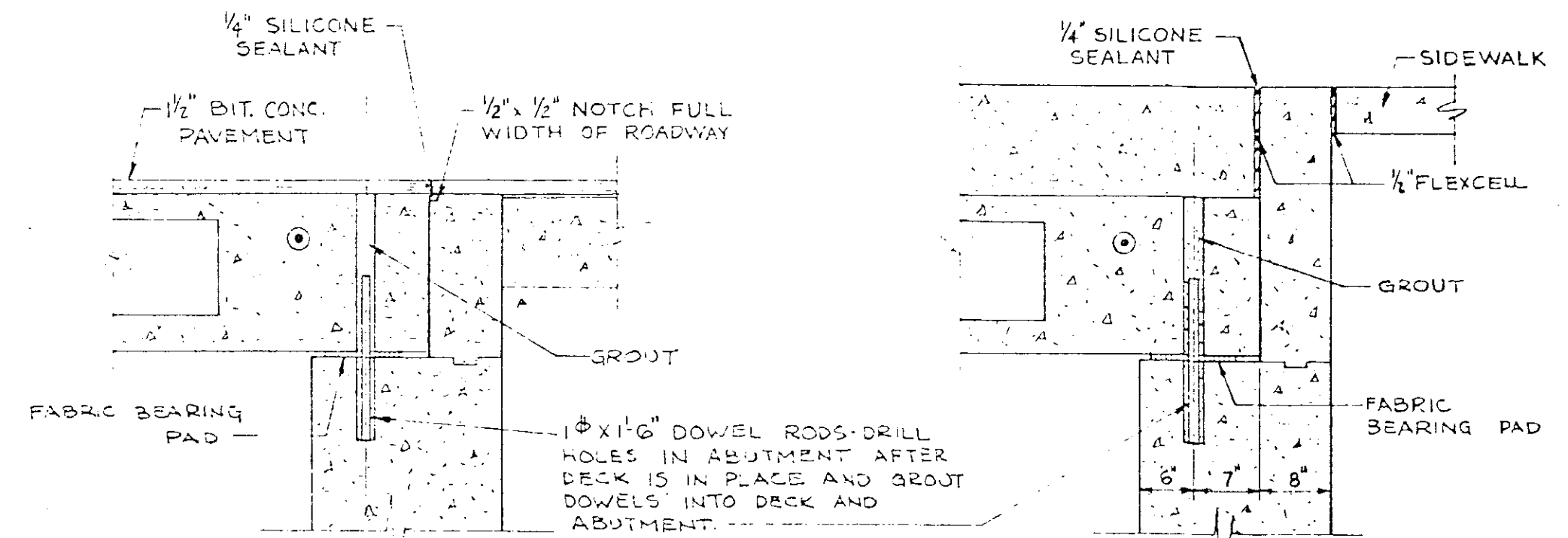


DECK UNIT PLAN  
1/4" = 1'-0"



1/2" FABRIC BEARING PAD  
1" = 1'-0"

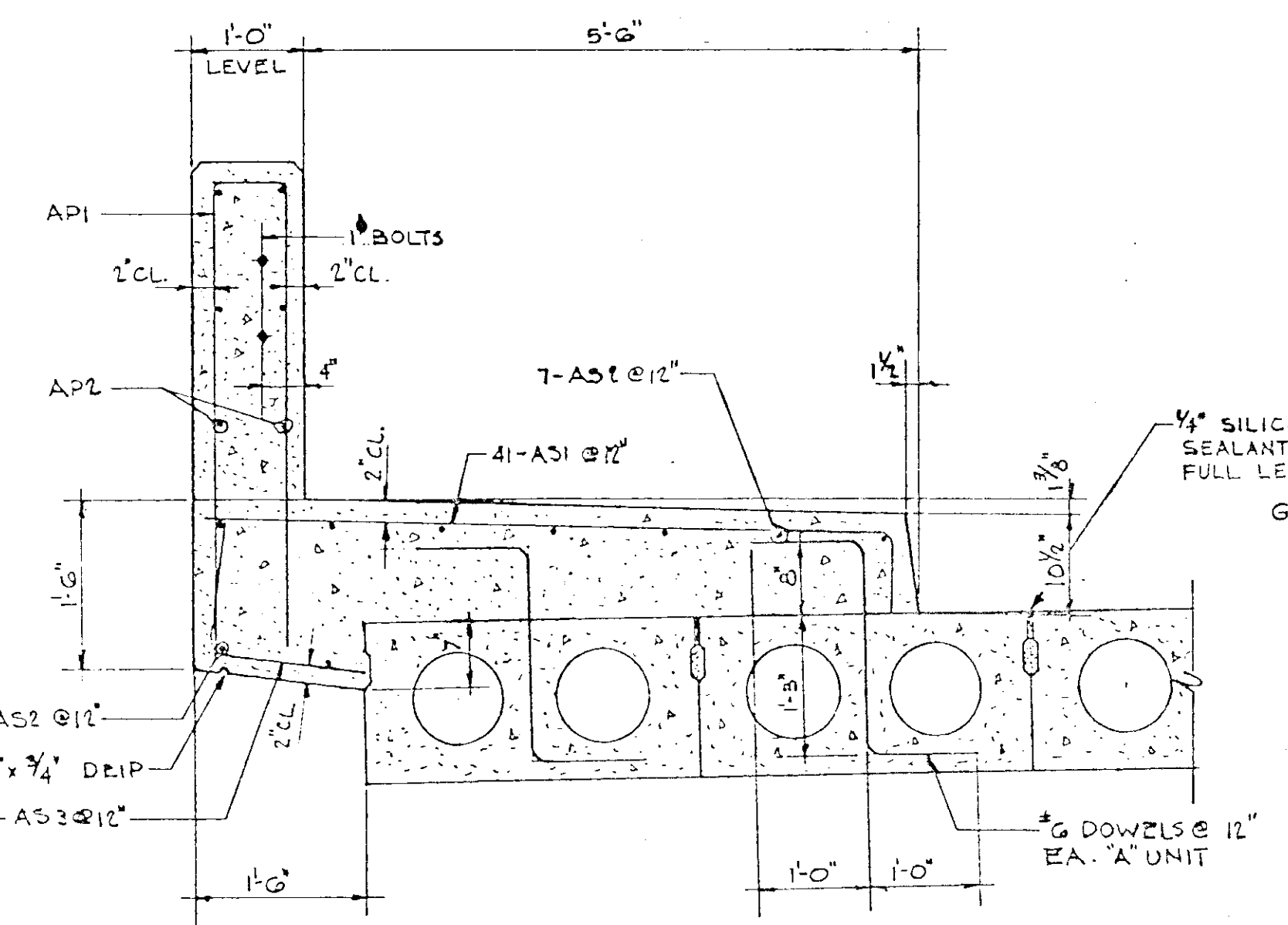
NOTE:  
TRANSVERSE TIE RODS TO BE TENSIONED BEFORE DOWEL ROD HOLES ARE DRILLED AND DOWELS GROUTED IN PLACE



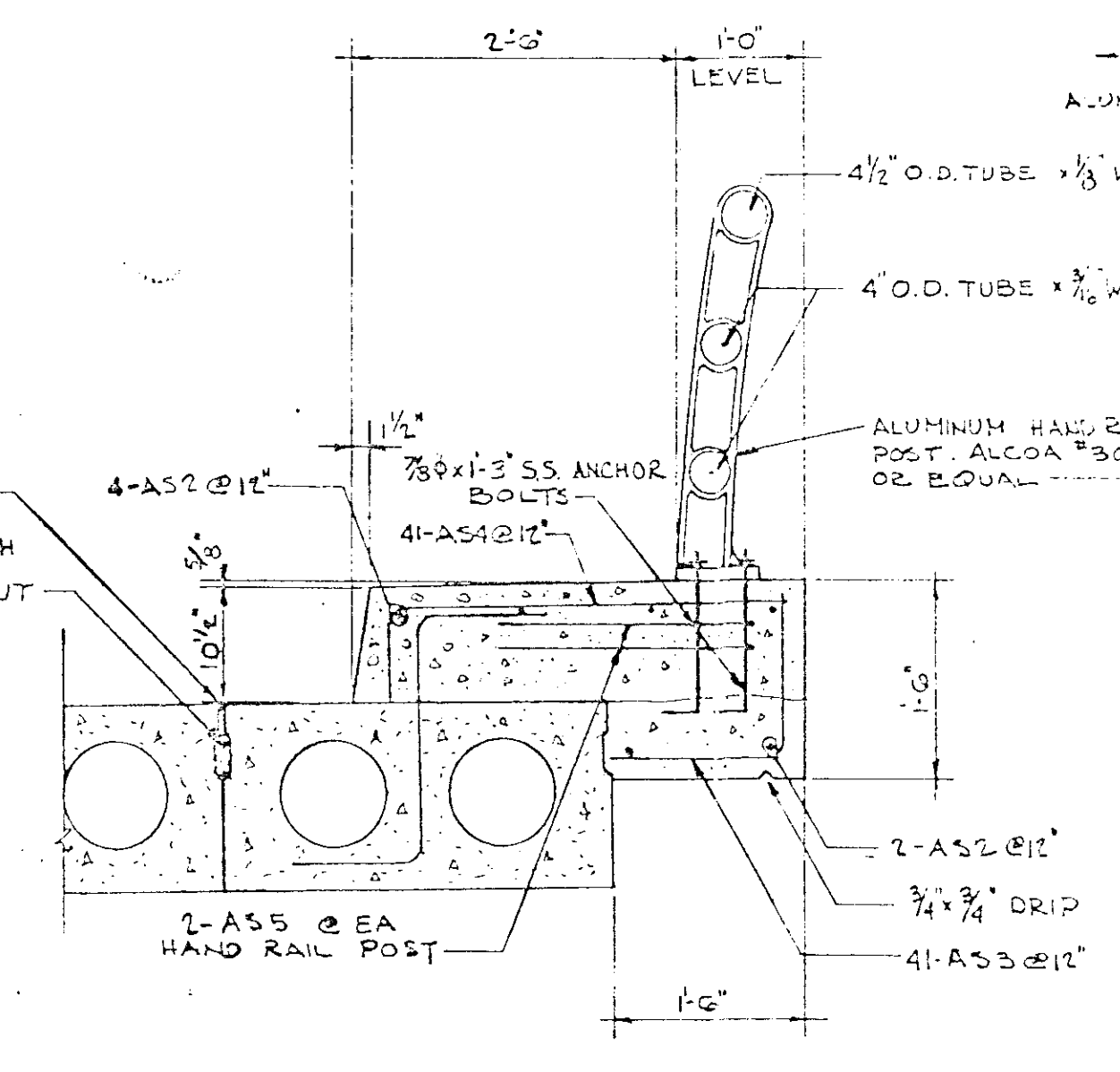
DECK UNITS BEARING DETAILS  
3/4" = 1'-0"

NOTES

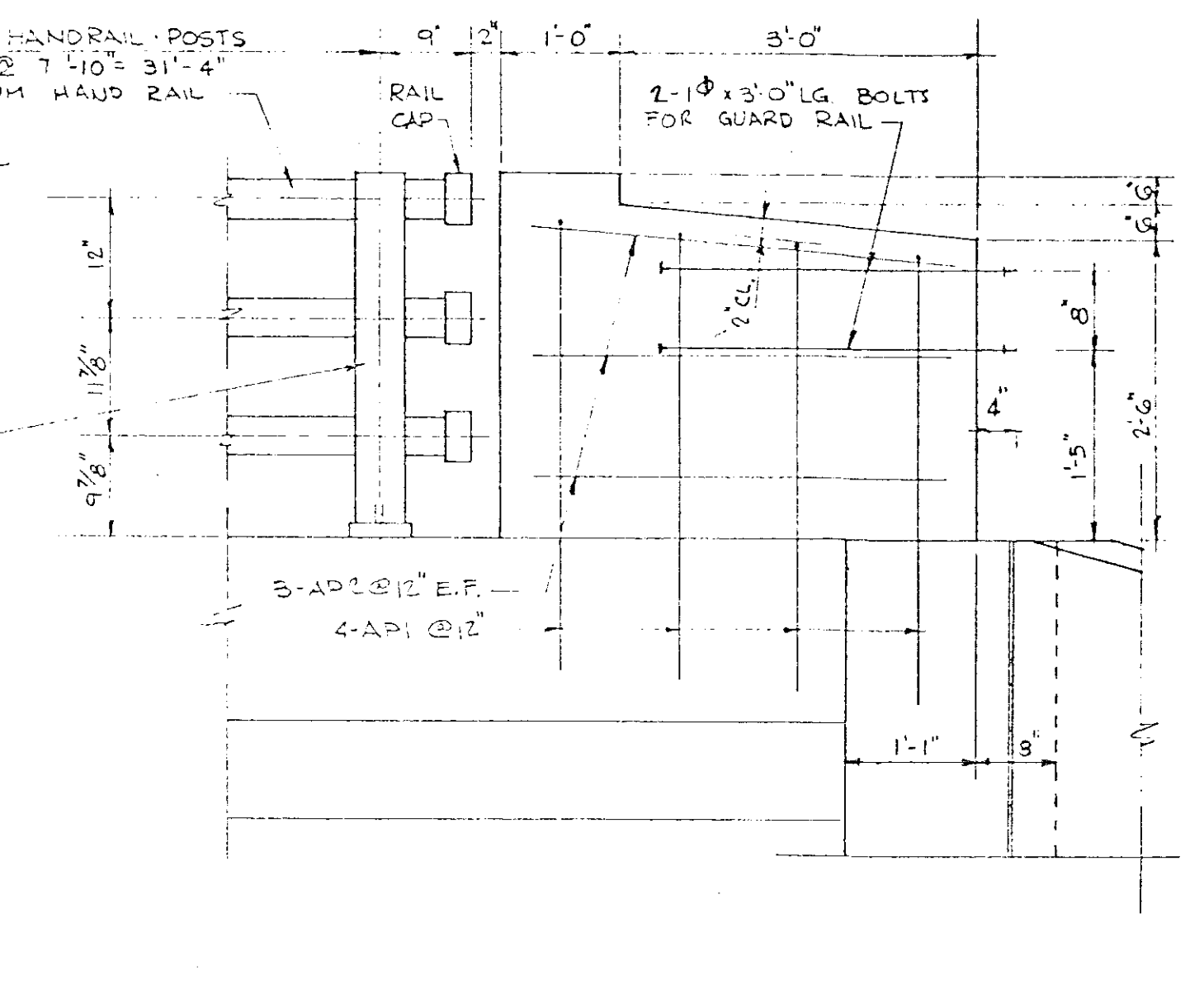
- TRANSVERSE TIES SHALL BE HIGH STRENGTH STEEL RODS WITH AN ULTIMATE TENSILE STRESS OF 145,000 PSI MIN. THEY SHALL BE 3/4" DIAMETER AND SHALL BE STRESSED TO A TENSION OF 30,000 LBS.
- AFTER FABRICATION, THE TRANSVERSE TIE ASSEMBLIES (TIE RODS, NUTS, WASHERS AND SLEEVES) SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-153.
- POCKETS THAT RECEIVE TRANSVERSE TIE ROD ON OUTSIDE BEAM SHALL BE FILLED WITH GROUT AFTER ASSEMBLY IS IN PLACE.
- PRESTRESSING STEEL SHALL BE NON-GALVANIZED HIGH STRENGTH STRESS-RELIEVED 7-WIRE STRAND THE NOMINAL CROSS-SECTIONAL AREA SHALL BE 0.109 SQ. IN. AN ALTERNATE STRAND PATTERN USING EXTRA HIGH STRENGTH PRESTRESSING STRAND IS PERMITTED. SEE SPECIAL PROVISIONS.
- LIFTING LOOPS SHALL BE MULTIPLE OF 7/8" OR 1/2" STRAND. LOOPS SHALL BE BURNED OFF AFTER BEAMS HAVE BEEN ERECTED.
- STEEL FOR DOWEL RODS SHALL BE S.A.E. 1020, STRUCTURAL STEEL A.S.T.M. DESIGNATION A-36 OR INTERMEDIATE GRADE A.S.T.M. DESIGNATION A-15.
- COST OF REINFORCEMENT AND ACCESSORIES CAST INTO BEAMS OF BEARING PADS, OF FURNISHING AND ASSEMBLING TRANSVERSE TIES, OF FURNISHING, DRILLING AND GROUTING DOWEL HOLES & RODS (OF GROUTING LONGITUDINAL SHEAR KEYS IS INCLUDED IN UNIT PRICE BID FOR "PRECAST PRESTRESSED CONCRETE BRIDGE DECK".



SECTION THRU END PIER  
3/4" = 1'-0"



SECTION THRU HAND RAIL  
3/4" = 1'-0"



END PIER ELEVATION  
3/4" = 1'-0"

REVISIONS				
NO.	DATE	ITEM	BY	APP.
1	5-15-69	GENERAL	AMG	[Signature]

DECK & SIDEWALK DETAILS  
LAKE COUNTY HIGHWAY DEPARTMENT  
SECTION 43-11-33-CA  
ARLINGTON HEIGHTS ROAD BRIDGE

DESIGN BH	SOMMERSCHILDE-HEMMETER, INC. ENGINEERS-DESIGN AND CONSULTING 1725 NORTH LEWIS AVENUE, WAUKEGAN 711 DEVON AVENUE, PARK RIDGE ILLINOIS	DATE 1-31-69
DRAWN BH		JOB NO. 68-16
CHECKED RJD APPROVED		DRAW. NO.



ROUTE	SEC.	COUNTY	SHEET	SHEETS
15+82 TO 25+35	43-11	LAKE	8	9
SCHEDULE OF QUANTITIES				
ILLINOIS				

Revised "As Built" 11/18/70 KCM  
For final quantities see final p7 estimate.

**SUMMARY OF LENGTH**  
15+82 TO 25+35 = 953.00 LIN. FT. = 0.180 MILE

**SUMMARY OF AREAS**

LOCATION	LENGTH	WIDTH	BASE AREA(S.Y.)	PAVEMENT WIDTH	AREA(S.Y.)
15+82 TO 19+25	3+43'	22'	915	22'	838
19+25 TO 20+10.75	75.75'	22'	189	22'	189
20+10.75 TO 20+53.25	42.5'	26'	123	26'	123
20+53.25 TO 21+82	128.75'	22'	320	22'	320
21+82 TO 25+35	353'	22'	922	22'	823
TOTALS			2438 S.Y.		2333 S.Y.

(1) BRIDGE DECK AREA

**SUMMARY OF QUANTITIES**

**TREE REMOVAL (6-15 INCH DIA.)**

47' RT	20+14	9" ELM
39' RT	20+36	10" COTTONWOOD
49' RT	20+47	13" ELM
TOTAL		32 INCH DIA.

**TREE REMOVAL (OVER 15 INCH DIA.)**

47' RT	20+14	20", 21" ELM
49' RT	20+47	16", 17" ELM
TOTAL		72 INCH DIA.

**EARTH & BORROW EXCAVATION**

LOCATION	EXCAVATION	EMBANKMENT
15+82 TO 20+06.6	544	3276
(3276 x 1.17) - 544 = 3289 C.Y. BORROW		
20+57.4 TO 25+35	207	2343
(2343 x 1.17) - 207 = 2534 C.Y. BORROW		
TOTALS	EARTH EXCAV. = 751 C.Y.	BORROW EXCAV. = 5823 C.Y.

**TRENCH BACKFILL**

19+87.5 TO 20+07.75	14 C.Y.
20+49.5 TO 21+35.7	47 C.Y.
TOTAL	63 C.Y.

**POROUS GRANULAR BACKFILL**

NORTH ABUTMENT	256 C.Y.
SOUTH ABUTMENT	256 C.Y.
TOTAL	512 C.Y.

**AGGREGATE SHOULDERS, TYPE A**

STA 15+82 TO 19+25	= 343'
STA 21+82 TO 25+35	= 353'
3 x 2/12 x 696 x 1/27 x 2 T/C.Y.	= 24 TONS

**AGGREGATE BASE COURSE, TYPE A**

15+82 TO 19+25	A=915 S.Y. 915 x 8/36 x 2 = 407 TONS
19+25 TO 20+10.75	A=189 S.Y. 189 x 12/36 x 2 = 126 TONS
20+10.75 TO 21+82	A=320 S.Y. 320 x 12/36 x 2 = 214 TONS
21+82 TO 25+35	A=941 S.Y. 941 x 8/36 x 2 = 418 TONS
BRIDGE APPROACHES	2(50 x 22 x 1/9 x 1.5/36 x 2) = 20 TONS
TOTAL =	1185 TONS

**BITUMINOUS MATERIALS (PRIME COAT)**

BASE & DECK AREAS	= 2488 S.Y.
2488 x 0.3 x 7.8 x 1/2000	= 3 TONS

**BITUMINOUS MIXTURE COMPLETE**

15+82 TO 19+25	A=838 S.Y. t=2" 838 x 240 ÷ 2000 = 101 TONS
19+25 TO 20+10.75	A=189 S.Y. t=3" 189 x 360 ÷ 2000 = 34 TONS
20+10.75 TO 20+53.25	A=123 S.Y. t=1 1/2" 123 x 180 ÷ 2000 = 11 TONS
20+53.25 TO 21+82	A=320 S.Y. t=3" 320 x 360 ÷ 2000 = 58 TONS
21+82 TO 25+35	A=863 S.Y. t=2" 863 x 240 ÷ 2000 = 104 TONS
TOTAL =	204 TONS

**REMOVAL OF EXISTING STRUCTURE**  
20+32 1 EACH

**CLASS A EXCAVATION FOR STRUCTURES**  
NORTH & SOUTH ABUTMENTS 345 C.Y.

**CLASS B EXCAVATION FOR STRUCTURES**  
NORTH & SOUTH ABUTMENTS 375 C.Y.

**CLASS X CONCRETE**  
20+32 202 C.Y.

**REINFORCEMENT BARS**  
20+32 24,795 LBS.

**PRECAST, PRESTRESSED CONCRETE DECK BEAMS**  
20+32 1347.5 SQ. FT.

**ALUMINUM RAILING**  
LT & RT 20+32 65.33 LIN. FT.

**NAME PLATE**  
20+32 1 EACH

**STORM SEWER, TYPE 2, 12" DIA.**  
19+87.5 TO 20+12.5 25 LIN. FT.  
20+56.3 TO 21+21.5 85 " "  
TOTAL 110 LIN. FT.

**CATCH BASIN, TYPE C, TYPE 12 FRAME & GRATE**  
RT 19+87.5 1 EACH  
RT 21+36.5 1 "  
RT 21+41.5 1 "  
TOTAL 3 EACH

**COMBINATION CONCRETE CURB & GUTTER, TYPE M-6.12**  
RT & LT 19+25 TO 20+10.75 171.50 LIN. FT.  
RT & LT 20+53.25 TO 21+82 257.50 LIN. FT.  
TOTAL 429.00 LIN. FT.

**PORTLAND CEMENT CONCRETE SIDEWALK - 5"**  
RT 19+25 TO 20+10.75 89.75 x 5 = 428.75 SQ. FT.  
RT 20+53.25 TO 21+82 128.75 x 5 = 643.75 SQ. FT.  
TOTAL = 1072.50 SQ. FT.

**STEEL PLATE BEAM GUARD RAIL**  
RT & LT 19+24.38 TO 20+10.75 2 x 86.37 = 172.74 LIN. FT.  
RT & LT 20+53.25 TO 21+85.37 2 x 132.12 = 264.24 LIN. FT.  
TOTAL = 436.98 LIN. FT.

**SEEDING CLASS I**  
15+82 TO 25+35 0.9 ACRES

**FERTILIZER NUTRIENTS**  
160#/A 160 x 0.9 ÷ 2000 = 0.72 TONS

**ASPHALT COATED MULCH**  
2 TONS/A 2 x 0.9 = 1.8 TONS

**EMULSIFIED ASPHALT**  
100 GAL/TON 100 x 1.8 = 180 GALS

**BRIDGE DECK SEALANT**  
20+32 128 S.Y.

**PIPE UNDERDRAIN, PER, CORR, BIT. COATED - 8"**  
NORTH ABUTMENT 72 LIN. FT.  
SOUTH ABUTMENT 72 LIN. FT.  
TOTAL 144 LIN. FT.