Sam Page
County Executive

Saint Louis COUNTY TRANSPORTATION PUBLIC WORKS

Stephanie Leon Streeter, P.E.
Director

August 31, 2023

ADDENDUM NO. 1

RE: Notice to Consultants
Request for Qualifications – Addendum No. 1
Consulting Project Management & Engineering Services – Five-Project Bundle:

- Chambers Road – Bellefontaine Road to STL City Limits
  - St. Louis County Project No. AR-1871
  - Federal Project No. STBG-5401(723)
  - East-West Gateway TIP No. 7305A-24
- Howdershell Road – Utz to Lynn Haven
  - St. Louis County Project No. AR-1874
  - Federal Project No. STBG-9901(696)
  - East-West Gateway TIP No. 7305B-24
- Lucas-Hunt Road Bridge No. 157
  - St. Louis County Project No. AR-1856
  - Federal Project No. STBG-9901(697)
  - East-West Gateway TIP No. 7305C-24
- Schuetz Road – Gandy to Lindbergh
  - St. Louis County Project No. AR-1859
  - Federal Project No. STBG-9901(698)
  - East-West Gateway TIP No. 7305D-24
- Vernon Avenue – Midland to Westgate Avenue
  - St. Louis County Project No. AR-1737
  - Federal Project No. STBG-5527(603)
  - East-West Gateway TIP No. 7305E-24

ADDENDUM NO. 1 – REVISIONS TO SCHEDULE

Deadline for questions regarding this solicitation – 9:00 a.m. local time on **September 8, 2023**
Qualifications Statements submittal deadline – 2:00 p.m. local time on **September 15, 2023**

ADDENDUM NO. 1 – QUESTIONS AND ANSWERS

Question No. 1: Can the County provide the SI&A report for Lucas and Hunt Road Bridge No. 157 to provide the existing clearance between the top of rail and the bottom of beam?

Answer No. 1: The Construction Plans indicating the minimum clearance and the SI&A report are attached.

ADDENDUM NO. 1 – REVISED DESCRIPTION OF SERVICES REQUIRED

The following revisions have been made to the list of specific consultant scope items:

- **REPLACE** "Topographic Surveying" with "Pickup Surveying (as necessary)"
- **REPLACE** "Property Surveys" with "Pickup Property Surveys (as necessary)"

ADDENDUM NO. 1 – REVISED SERVICES TO BE PROVIDED BY ST. LOUIS COUNTY

The following services are **ADDED** to the list of services provided by St. Louis County:

- Topographic Surveying
- Property Surveys

PLATE 14

(REV: 11-79)

STRUCTURE INVENTORY & APPRAISAL SHEET

COUNTY St. Louis BRIDGE NO. 157 ROUTE Lucas Hunt Road

IDENTIFICATION

1 State MISSOURI
2 Hwy District 6
3 County St. Louis
4 City Town
5 Inventory Rte. route On [X] Under [ ]
6 Features Intersected Over Norfolk & Western Railroad
7
8 Facility Carried route 7A BSI
9 Structure No. 157 1 of
10 Location SEE REMARKS *R
11 Min. Vert. Clear., Inv. Rte. ' "
12 Milepoint
13 Road Section No. 0000
14 Defense Bridge Description
15 Defense Milepoint
16 Defense Section Length
17 Latitude 38° 43' 45"
18 Longitude 90° 16' 15"
19 Physical Vulnerability conc. & steel
20 By-pass, Detour Length
21 Toll Bridge [ ] On Toll Rd. [ ] On Free Rd [X]
22 Custodian XXXXXXXXXX St. Louis
23 Owner XXXXXXXXXX County
24
25 F. A. P. No.

CLASSIFICATION

24 Fed. Aid System FAU
25 Administrative County
26 Functional Arterial

	By	Date
Transfer of Data		
Condition Analysis	MTM	12/82
Appraisal	"	"
Cost		
General Review		
Maintenance Inspection	RES	9/10/82

STRUCTURE DATA

27 Year Built 1973
28 Lanes on Str. 2 Under
29 ADT on Str. 16,926 30 Year 11/79
31 Design Load HS20-44
32 Appr. Rdwy Width & Sh'ld. 23.4'
33 Br. Median [X] None [ ] Open [ ] Closed
34 Skew
35 Struct. Flared [ ] Yes [X] No
36 Traffic Safety Features 0 1 1 1
37 Drainage Area Sq. Mi.
38 Navigation Control [ ] Yes [X] No
39 -Vertical Ft
40 -Horizontal Ft
41 Open to Traffic [X] Load Posted [X] Closed [ ]
A Br. Sur. Report Available [X] Yes [ ] No
B Utility Attachments [ ] Yes [X] No

		Code
42	Type Service	1 2
43	Structure Type-Main	1 0 3
44	-Approach	
45	No. of Spans-Main	1
46	-Approach	
47	Total Horiz. Clear.	30.0 Ft
48	Max. Span Length	94.0 Ft
49	Structure Length	99.5 Ft
50	Sidewalk or Curb Lt 5.0 Ft. Rt .	Ft
51	Br. Width (Curb-Curb)	24 0 Ft
52	Deck Width (Out-Out)	32 0 Ft
53	Vert. Clearance Over Deck	' "
54	Under Clearance-Vertical	25 0 "
55	-Lateral-Right	11 7 Ft
56	-Left	Ft
57	Wearing Surface Type	1

CONDITION

	Material	Condition Analysis	Rating (9-0)
Deck	concrete		7
Superstructure	steel girders		7
Substructure	concrete		8
Channel & Channel Protection			N
Culvert & Retaining Walls			N
Estimated Remaining Life		65 Approach Roadway Alignment	8
Operating Rating	H-33.6	66 Inventory Rating H-20	

APPRAISAL

	Deficiencies	Rating (9-0)
Structural Condition		8
Deck Geometry		2
Under Clearances-Vert. & Lateral		9
Safe Load Capacity		6
Waterway Adequacy		N
Approach Roadway Alignment		8

REMARKS 33.6; 56; 67.2 ton load limit posted 1/16/80

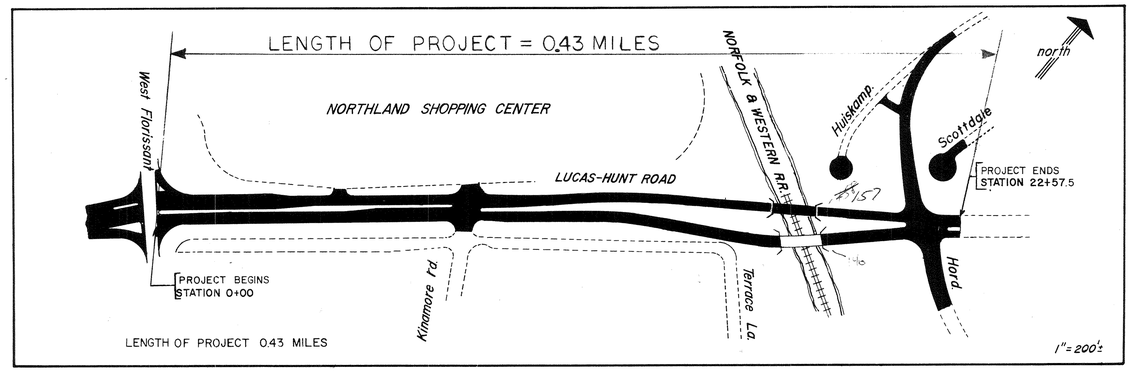
ST. LOUIS COUNTY	FISCAL YEAR	TOTAL SHEETS	SHEET NO.
BOND ISSUE PROJ# 11 Sec. A			1

ST. LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
RICHARD F. DAYKIN – DIRECTOR
CONSTRUCTION PLAN & PROFILE OF PROPOSED

L E G E N D

DESCRIPTION	EXISTING	NEW
RIGHT-OF-WAY	EXIST R/W	New R/W
PROPERTY LINE	℄	
CITY LIMITS		
PERMANENT DRAINAGE EASEMENT		P.D.E.
TEMPORARY SLOPE & CONSTRUCTION LICENSE		T.S.C.L.
TEMPORARY DEMOLITION BACKFILL LICENSE		T.D.B.L.
PERMANENT FOOTING EASEMENT		P.F.E.
UTILITY POLE (TYPE SPECIFIED)	TP PP	
UNDERGROUND CONDUIT OR CABLE (TYPE SPECIFIED) T-TELEPHONE P-POWER	T	
UTILITY MANHOLE (TYPE SPECIFIED) T-TELEPHONE P-POWER W-WATER	T	
LIGHT STANDARD		
TRAFFIC SIGNAL		
TRAFFIC CONTROLLER		
TRAFFIC PULL BOX		
PIPE LINE (OWNER SPECIFIED)	SHELL	
UTILITY MAIN (SIZE & TYPE SPECIFIED)	6"G	
GAS & WATER VALVE		
GAS & WATER SERVICE VALVE	G.S.V. W.S.V.	
WATER METER	W.M.	
SEWER VENT	S.V.	
FIRE HYDRANT		
SANITARY SEWER	8" V.C.P.	8" V.C.P.
STORM SEWER	12" R.C.P.	12" R.C.P.
SEWER MANHOLE		
GRATED INLET		
CURB INLET (SINGLE)		
CURB INLET (MULTIPLE UNIT)		
IDENT. OF NEW OR MOD. DRAINAGE STRUCT.		12
PIPE WITH HEADWALLS		
DRAINAGE V-DITCH (SODDED)		
DRAINAGE FLAT BOTTOM DITCH (SODDED)		
DRAINAGE V-DITCH (PAVED)		
DRAINAGE FLAT BOTTOM DITCH (PAVED)		
CONSTRUCTION LIMITS		SL
CONCRETE PAVEMENT		
ASPHALTIC CONCRETE PAVEMENT		
PAVEMENT REMOVAL		
TREE OR SHRUB (DESIGNATE DIA.)	14"	
HEDGE		
FENCE	x x	
GUARDRAIL		
RAILROAD		
SIGN		
BUILDING		
BUILDING REMOVAL		
MAILBOX	M.B.	
TO BE REMOVED	(T.B.R.)	
TO BE ABANDONED	(T.B.A.)	
USE IN PLACE	(U.I.P.)	
TO BE REMOVED AND REPLACED	(T.B.R.& R.)	
TO BE REMOVED BY OTHERS	(T.B.R.B.O.)	

REVISIONS
NEW 6-10-69
2-70



LUCAS–HUNT ROAD
BOND ISSUE PROJECT NO. 11. SEC. A
WEST FLORISSANT AVE. to HORD AVE.

ST. LOUIS COUNTY, MISSOURI

SCALES: PLAN ..... 1" = 20'
PROFILE ..... 1" = 20' HORIZ. & 5' VERT.
CROSS SECTION ..... 1" = 5' HORIZ. & VERT.
CULVERT SECTION ..... 1" = 5' HORIZ. & 5' VERT.

EQUATIONS: 21+54.29 Bk = 21+56.42 Ah ℄ S.B.L.

PREPARED BY:

CRAWFORD, BUNTE, RODEN, INC.

12161 LACKLAND ROAD
ST. LOUIS, MISSOURI
63141

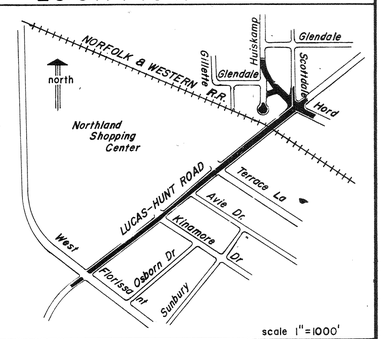
R-8-31-72

I N D E X

NOTE: SHEETS 9-12 & 63-69 of 120 FOR EARTHWORK ONLY

71 TOTAL SHEETS (INCLUDES 2A & 16A and 11 Sheets [illegible])

LOCATION MAP



ST. LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

LUCAS-HUNT ROAD
WEST FLORISSANT AVE. to HORD AVE.

APPROVED: Richard F. Daykin
DIRECTOR
DATE: March 30, 1972
PROJ.: 11-Sec. A

MSD P-7002

SEAL

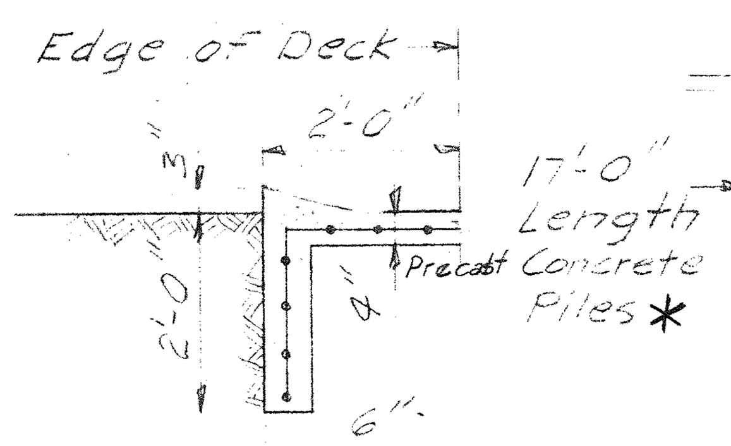
Lucas & Hunt Rd.
Br. # [redacted] 157

8-2

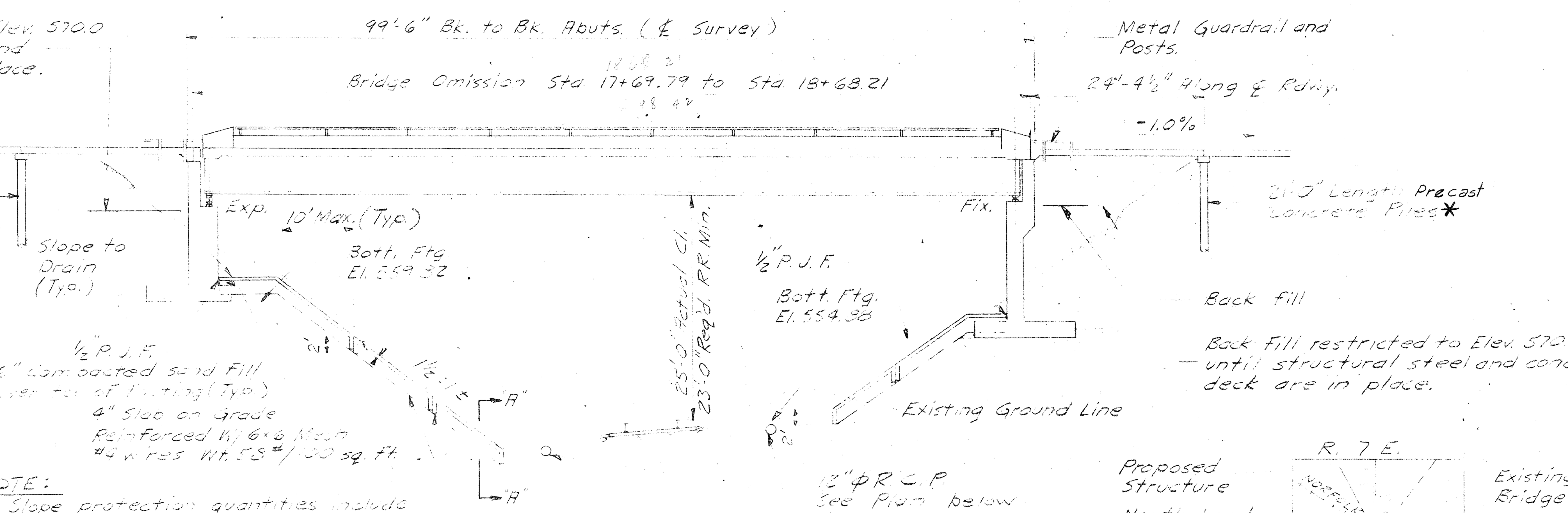
Record 6/21/73

ST. LOUIS COUNTY 1969 BOND ISSUE PROPOSITION NO. I LUCAS & HUNT ROAD	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	II SEC. A	27	78

B.M. - North West Corner Conc. ... North End Existing Bridge Elev. 581.65 (Paint Marked)
Design Specifications: AASHO 1969 As Applicable.



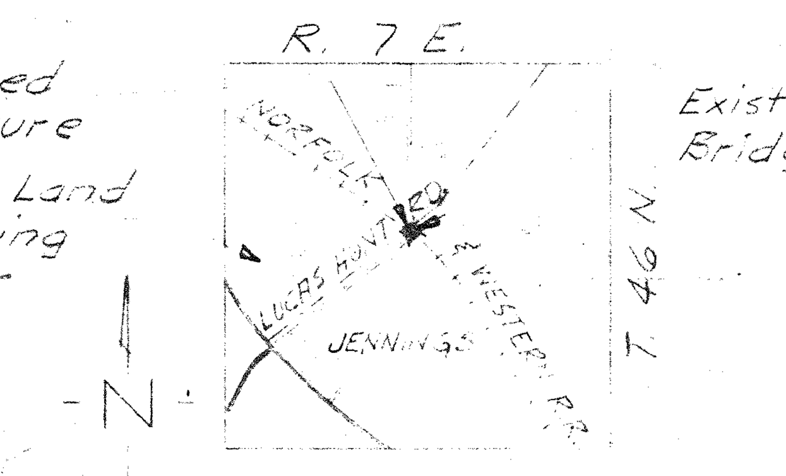
SECTION "A-A"



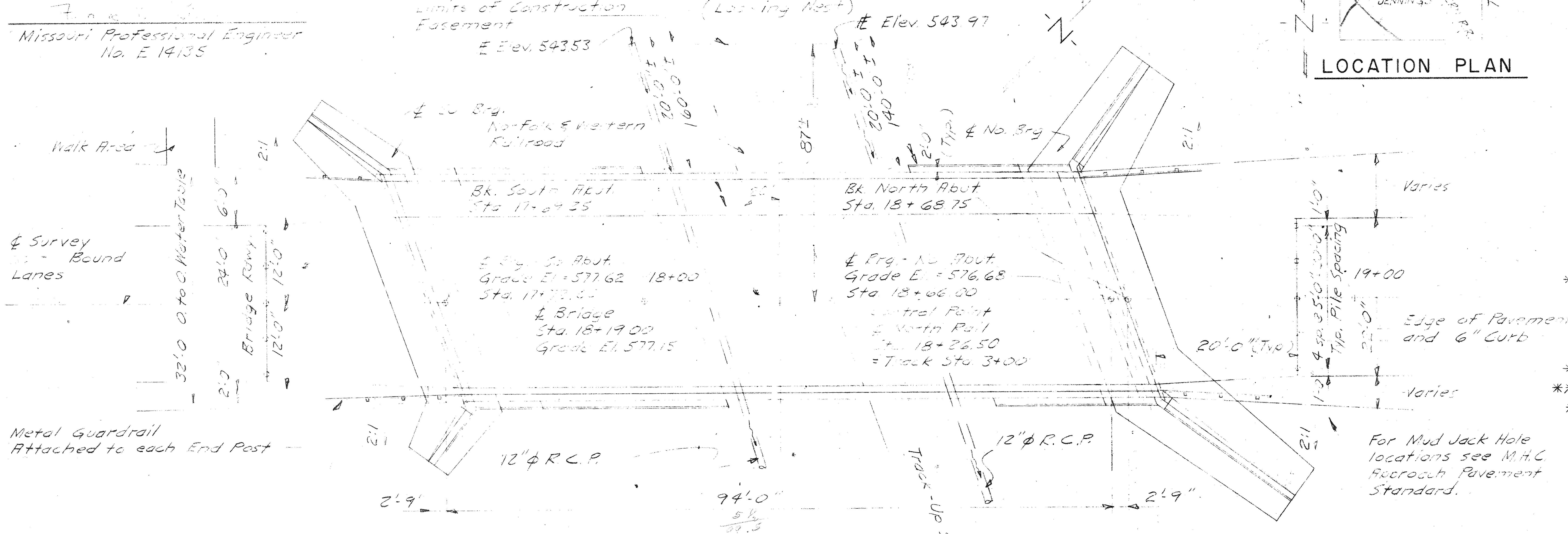
NOTE: Slope protection quantities include 2" vertical ... w/6×6 Mesh #4 Wires.

ELEVATION
(Proposed Structure)

Missouri Professional Engineer No. E 14135



LOCATION PLAN



PLAN
(Proposed Structure)

GENERAL NOTES

All Section and Article numbers referred to in the following general notes are included in the 1968 Standard Specifications for Highway Construction as adopted by the Missouri State Highway Commission.

All structural steel shall be ASTM A-36

The girders will not be shored or supported during erection to facilitate rail road traffic.

All structural steel shall be painted. The procedures and paint materials will be as required and as specified in the special provisions of the contract. (Shop and Field Painting are required.)

Field welding of construction accessories will not be permitted to the bottom flange of the girders. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting cross frames over supports.

Fasteners shall be A325 high strength bolts. Bolts are ¾" ∅; open holes ⅞" ∅ unless otherwise noted. Use plain hardened washer/calibrated wrench.

All reinforcement bars shall be lapped 24 diameters unless otherwise noted.

Coarse Aggregates for use in the handrail parapets, curb, and walkway areas above the mandatory construction joints shall comply with Article 1005.17.

The parapet mounted chain link fence shall meet the requirements of Section 607, & as approved by the Engineer.

Surface sealing shall be used on the top and vertical traffic faces of the concrete handrail parapets and end posts, top and vertical faces of curbs and walkways and the entire roadway, per Article 703.3.18.

The backs of the abutments and wingwalls shall be dampproofed from the top of footing to within two feet of final grades, per Section 708. (Ordinary damp proofing will surffice.)

It shall be the responsibility of the contractor to verify in the field all dimensions and conditions applicable to positioning the new structure, before ordering materials.

All materials and construction procedures for placement of steel, concrete, or other miscellaneous materials shall meet the requirements of the 1968 Standard Specifications for Highway Construction as adopted by the Missouri State Highway Commission and Special Provisions.

Six copies of shop drawings applicable to fencing, aluminum railing, and all structural steel shall be furnished to the Engineer. The Engineer's approval is required before fabrication may begin.

Utilities that interfere with construction are to be relocated by others.

For Preformed Joint Sealer Material Specification, see State of Missouri Standard Special Provisions.

TOTAL BILL OF MATERIAL (NEW & EXISTING)

	NO.	ITEM	UNIT	TOTAL
*	703-00.00	Renovation of Existing Structure	Lump Sum	1
	703-40.04	Class B-1 Concrete (Supstr. on Steel)	Cu. Yd.	118.0
	703-40.03	Class B-1 Concrete (Substr.)	Cu. Yd.	241.5
	706-10.00	Reinforcing Steel	Pound	56,865
	714-10.00	Bridge Rail (One Tube)	Lin. Ft.	90
*	607-10.10	Chain Link Fence (60 Type 9 on Bridge)	Lin. Ft.	90
**	611-60.10	Concrete Slope Protection	Sq. Yd.	1,026.2
*	702-12.00	Precast Concrete Piles	Lin. Ft.	190
	712-10.20	Fabricated Structural Carbon Steel (PLT. GIR.) (A-36)	Pound	107,380
	206-10.00	Class 1 Excavation	Cu. Yd.	455.0
	712-40.00	Painting	Ton	53.7

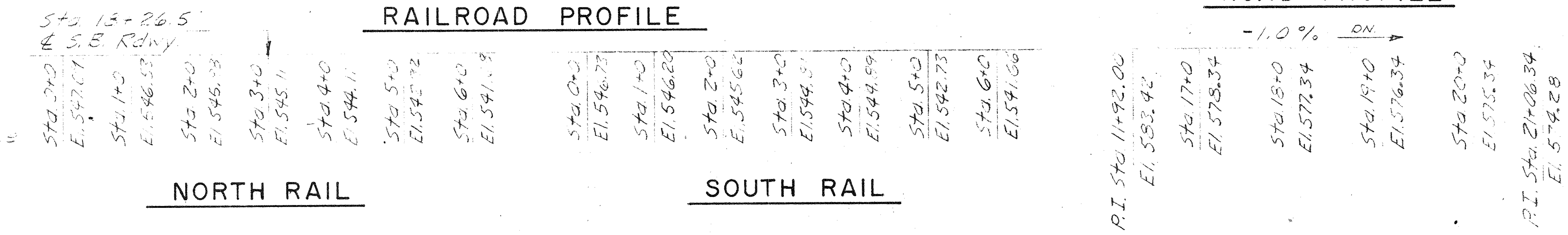
NOTE: Surface Sealing and Preformed Joint Sealer are incidental to Class B-1 Concrete 703-40.04.

* See Special Provisions
** Includes Slope Protection quantities for Existing Bridge Sht. 35.

DESIGN STRESSES

Fc = 1200 p.s.i. (Super)
Fc = 1000 p.s.i. (Sub)
Fs = 20,000 p.s.i. (Struct. A-36) & Reinf.
Vc = 75 p.s.i. (Footing)
n = 10
Allow 25#/sq. ft. for Future Class C Surface
Allow L.L. Deflection 1/1200 Composite

RAILROAD PROFILE



NORTH RAIL

SOUTH RAIL

SOUTH BOUND LANE ROAD PROFILE

LOADING HS20-44

CRAWFORD, BUNTE, RODEN, INC.
TRAFFIC ENGINEERS
ST. LOUIS, MISSOURI

RALPH HAHN & ASSOCIATES
CONSULTING AND DESIGN ENGINEERS
ST. LOUIS, MISSOURI

GENERAL PLAN & ELEVATION
LUCAS HUNT ROAD OVER
NORFOLK & WESTERN RAILROAD
ST. LOUIS COUNTY
STATION 18+19.00

ST. LOUIS COUNTY	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1969 BOND ISSUE PROPOSITION NO. 1	11 SEC. A	28	73
LUCAS & HUNT ROAD			

Surface Elev. 580.31 - South Abutment

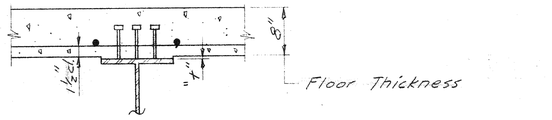
S	Depth	N	Description & Classification
1	1.2	10	Brown moist silt w/ rock fragments and roots. (Fill)
2	3.0	8	Brown moist silt
3	5.0	7	Brown moist silt trace clay
4		9	Brown moist silt w/ some clay
5		7	
6		11	
7	15.0	150	Brown very Fine sandstone
8		200	
9	30.5	200	

Note:
No water encountered

Surface Elev. 582.94 - North Abutment

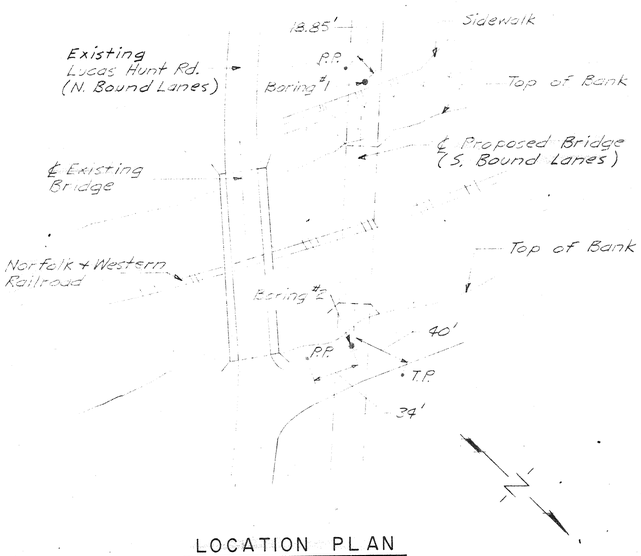
S	Depth	N	Description & Classification
	0.7		Brown stiff silt and crushed rock (Fill)
1	2.0	13	Brown stiff dry silt
2		14	Brown stiff damp silt
3	8.0	21	
4		11	Brown moist stiff silt
5		9	
6	20.0	10	
			Brown moist silt trace clay
7	23.0	18	Brown moist silt w/ some clay
8	26.0	200	Brown very Fine sandstone
9		200	
10	32.5	120	

Note:
No water encountered



After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on this sheet, minus floor thickness equals the fillet heights above top flange of beams.

METHOD OF DETERMINING FILLET HEIGHTS "t"



LOCATION PLAN

BORING NO. 1

BORING NO. 2

LEGEND
S = Sample Number
N = Blows / Foot, 140 LB. Hammer, 30" Drop, 2" O.D. Sampler

BILL OF MATERIAL (NORTH ABUT.)

BAR	NO	SIZE	LENGTH	SHAPE
H1	13	#5	32'-0"	
H2	13	#5	34'-6"	
H3	14	#5	15'-3"	
H4	14	#5	12'-3"	
H5	14	#4	13'-0"	
H6	14	#5	20'-3"	
H7	14	#5	20'-3"	
H8	14	#4	18'-6"	
H9	14	#5	5'-6"	
H10	14	#5	5'-6"	
H11	28	#5	5'-0"	
H12	14	#5	7'-6"	
H13	14	#5	6'-6"	
H14	13	#5	6'-6"	
M1	26	#4	5'-0"	L
M2	52	#5	5'-0"	
M3	52	#5	6'-5"	C
M4	21	#7	6'-5"	C
P1	4	#7	34'-0"	

BAR	NO.	SIZE	LENGTH	SHAPE
T1	6	#7	11'-9"	
T2	21	#8	11'-9"	
T3	9	#5	8'-3"	
T4	9	#6	9'-3"	
T5	9	#7	10'-0"	
T6	19	#8	10'-9"	
T7	7	#6	8'-3"	
T8	7	#6	9'-3"	
T9	11	#6	9'-9"	
T10	12	#6	10'-4"	
T11	11	#7	11'-0"	
T12	20	#7	11'-4"	
V1	65	#7	11'-2"	
V2	27	#5	13'-0"	
V3	81	#5	10'-6"	

BAR	NO	SIZE	LENGTH	SHAPE
V4	58	#5	6'-9"	
V5	47	#5	13'-3"	
V6	21	#7	13'-3"	
V7	21	#6	13'-3"	
V8	18	#4	5'-0"	
V9	18	#5	8'-0"	
V10	12	#5	20'-3"	
W1	13	#5	38'-0"	
W2	13	#6	38'-0"	
W3	9	#5	23'-0"	
W4	9	#5	25'-0"	
W5	9	#6	23'-0"	
W6	9	#6	25'-0"	
W7	9	#5	15'-6"	
W8	4	#5	20'-6"	
W9	9	#6	15'-6"	
W10	4	#6	20'-6"	
Class B-1 Concrete			Cu. Yd.	142.1
Reinforcing Steel			Pound	20,010

TOP OF SLAB ELEVATIONS

(Top Elev. = Theoretical Grade Elevation
Bottom Elev. = Adjusted for Dead Load Deflection)

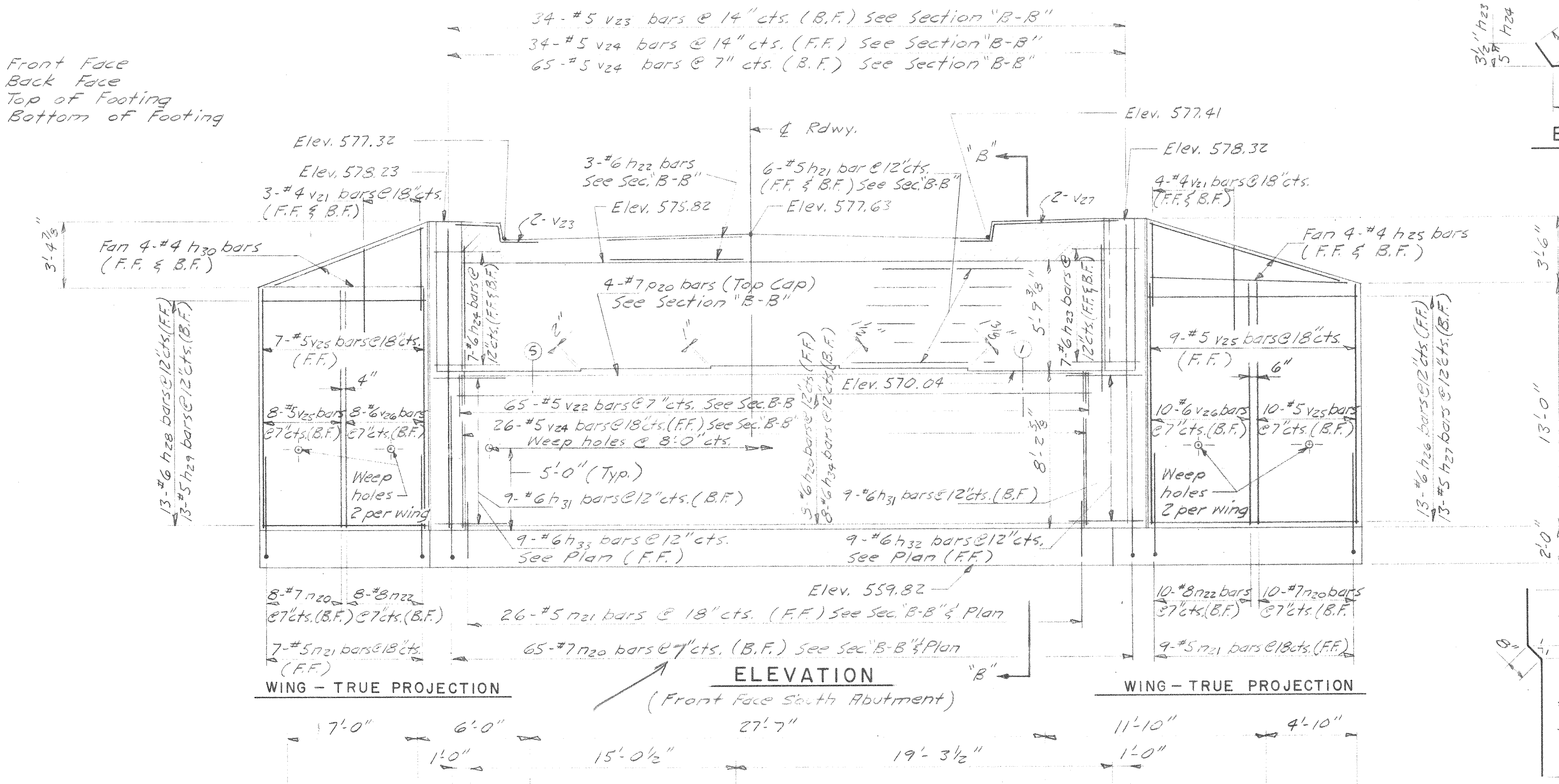
	End of Slab S.A.	℄ Brg. - S.A.	.125 L	.250 L	.375 L	.500 L	.625 L	.750 L	.875 L	℄ Brg. - N.A.	End of Slab N.A.
Girder #1	577.355	577.345	577.228	577.110	576.993	576.875	576.758	576.640	576.523	576.405	576.383
	577.355	577.345	577.273	577.192	577.099	576.990	576.864	576.722	576.568	576.405	576.383
West Curb	577.410	577.400	577.283	577.165	577.048	576.930	576.813	576.695	576.578	576.460	576.438
	577.410	577.400	577.328	577.247	577.154	577.045	576.919	576.777	576.623	576.460	576.438
Girder #2	577.474	577.464	577.347	577.229	577.112	576.994	576.877	576.759	576.642	576.524	576.502
	577.474	577.464	577.392	577.311	577.218	577.109	576.983	576.841	576.687	576.524	576.502
Girder #3	577.593	577.583	577.466	577.348	577.231	577.113	576.996	576.878	576.761	576.643	576.621
	577.593	577.583	577.511	577.430	577.337	577.228	577.102	576.960	576.806	576.643	576.621
℄ Rdwy.	577.630	577.620	577.503	577.385	577.268	577.150	577.033	576.915	576.798	576.680	576.658
	577.630	577.620	577.548	577.467	577.379	577.265	577.139	576.997	576.843	576.680	576.658
Girder #4	577.515	577.505	577.388	577.270	577.153	577.035	576.918	576.800	576.683	576.565	576.543
	577.515	577.505	577.433	577.352	577.259	577.150	577.024	576.882	576.728	576.565	576.543
Girder #5	577.348	577.338	577.221	577.103	576.986	576.868	576.751	576.633	576.516	576.397	576.376
	577.348	577.338	577.266	577.185	577.092	576.983	576.857	576.715	576.561	576.397	576.376
East Curb	577.322	577.312	577.195	577.077	576.960	576.842	576.725	576.607	576.490	576.372	576.350
	577.322	577.312	577.240	577.159	577.066	576.957	576.831	576.689	576.535	576.372	576.350

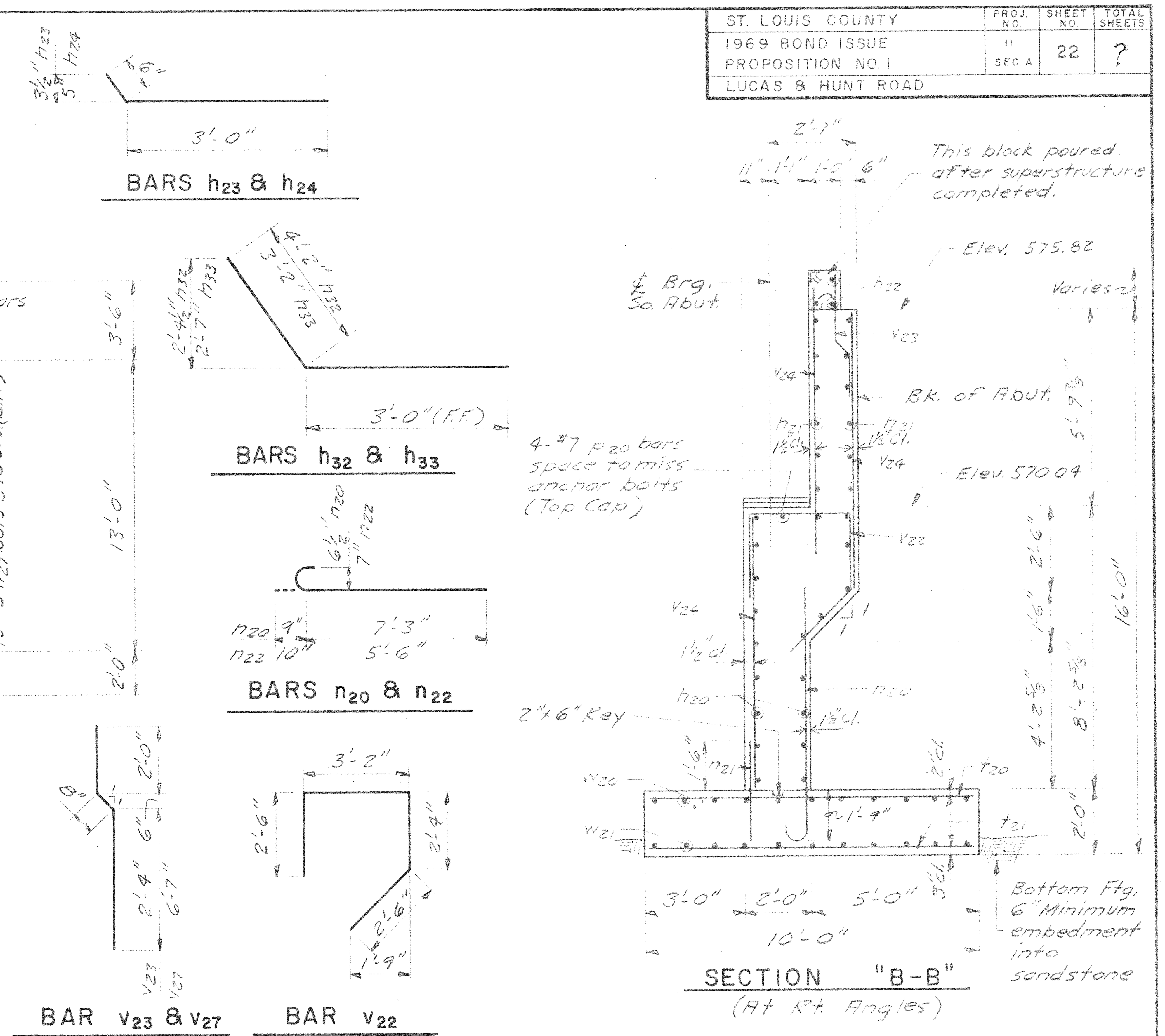
NOTE: .125 L = 11'-9" Consistent Increment
(Where L = 94'-0" Design Span)

BORINGS & MISC. INFO.
LUCAS HUNT ROAD
STATION 18+19.00

KEY

F.F. = Front Face
B.F. = Back Face
T. = Top of Footing
B. = Bottom of Footing

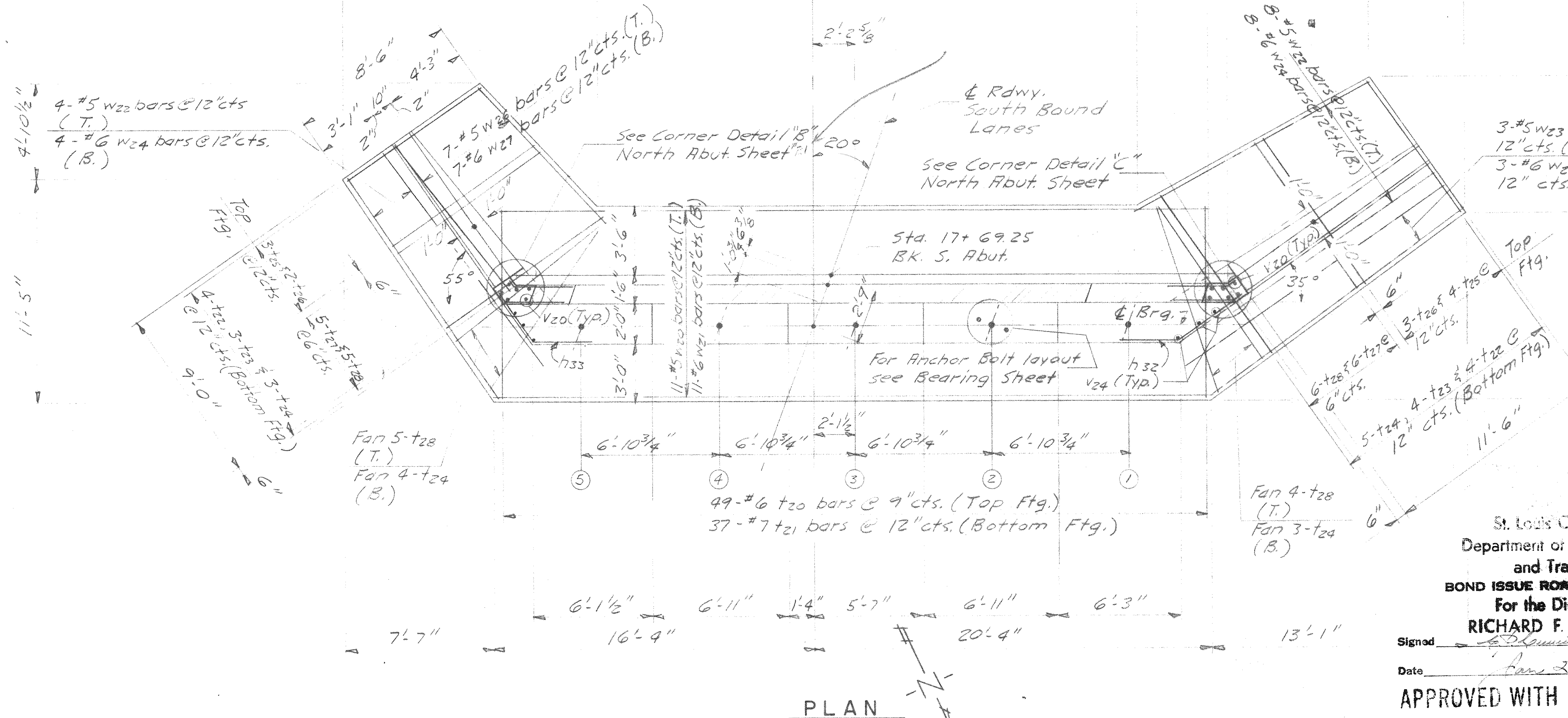




BILL OF MATERIAL (SOUTH ABUT.)

BAR	NO.	SIZE	LENGTH	SHAPE
h20	8	#6	33'-0"	
h21	12	#5	34'-0	
h22	3	#6	34'-0"	
h23	14	#6	3'-6"	
h24	14	#6	3'-6"	
h25	8	#4	10'-6"	
h26	13	#6	11'-3"	
h27	13	#5	11'-3"	
h28	13	#6	8'-9"	
h29	13	#5	8'-9"	
h30	8	#4	8'-6"	
h31	18	#6	5'-0"	
h32	9	#6	7'-2"	
h33	9	#6	6'-2"	
h34	8	#6	36'-0"	
n20	65	#7	8'-0"	
n21	42	#5	3'-0"	
n22	18	#8	6'-4"	
p20	4	#7	34'-0"	
t20	49	#6	9'-9"	
t21	37	#7	9'-9"	
t22	8	#5	8'-3"	
t23	7	#6	9'-0"	
t24	15	#7	9'-6"	

BAR	NO.	SIZE	LENGTH	SHAPE
t25	7	#6	8'-3"	
t26	5	#6	8'-9"	
t27	11	#6	9'-3"	
t28	20	#6	9'-6"	
v20	12	#5	16'-3"	
v21	14	#4	4'-6"	
v22	65	#5	24'-6"	
v23	36	#5	5'-0"	
v24	129	#5	8'-0"	
v25	34	#5	12'-9"	
v26	18	#6	12'-9"	
v27	2	#5	9'-3"	
w20	11	#5	36'-6"	
w21	11	#6	36'-6"	
w22	12	#5	13'-9"	
w23	3	#5	16'-0"	
w24	12	#6	13'-9"	
w25	3	#6	16'-0"	
w26	7	#5	9'-6"	
w27	7	#6	9'-6"	
Class A Concrete			Cu. Yd.	99.4
Reinforcement Bars			Pound	12,650



St. Louis County
Department of Highways
and Traffic
BOND ISSUE ROADS SECTION.
For the Director
RICHARD F. DAYKIN
Signed [signature]
Date [handwritten date]
APPROVED WITH CORRECTIONS

SOUTH ABUTMENT
ST. LOUIS COUNTY
STATION 18+19.00

12-14-71

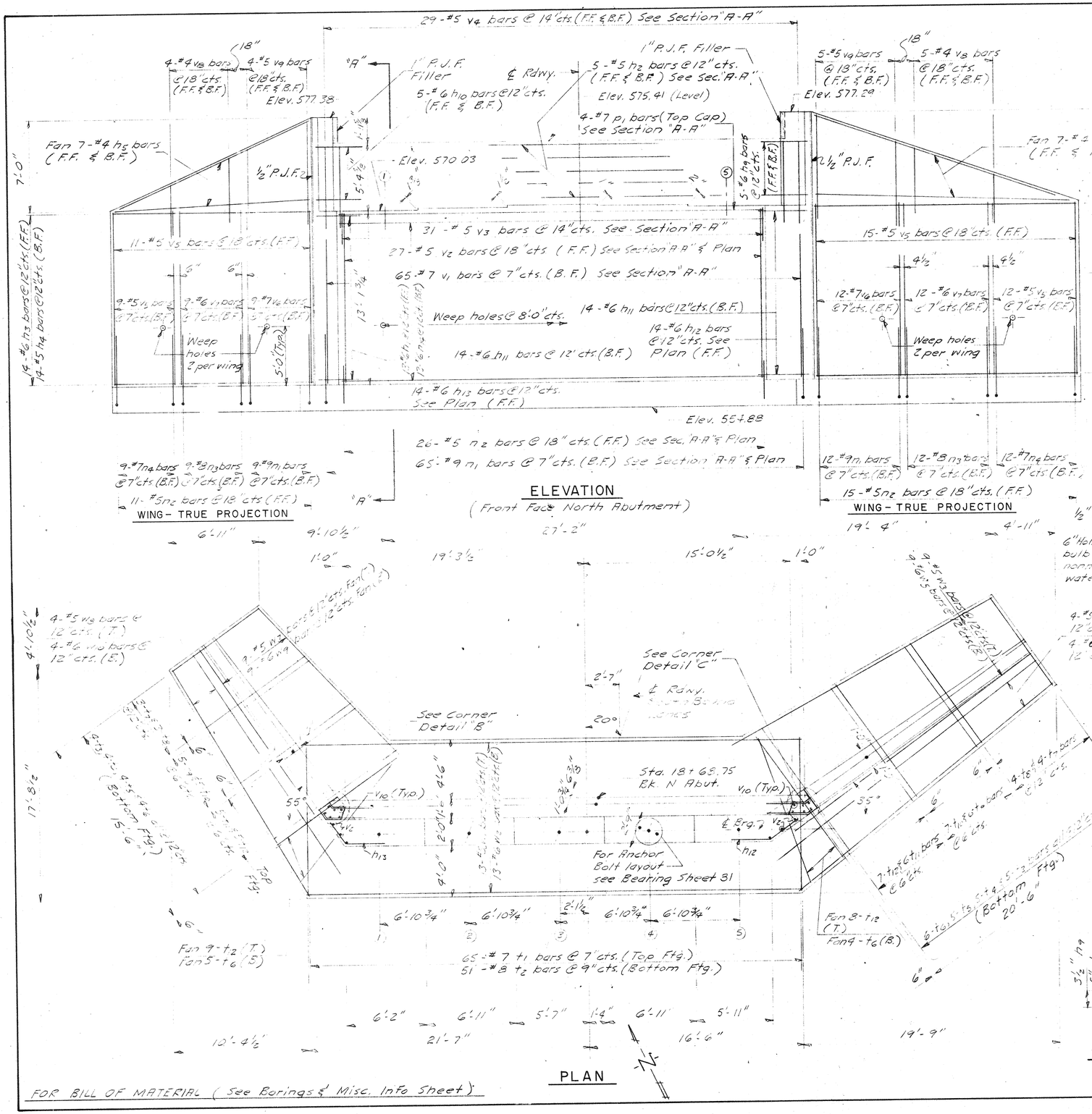
LUCAS & HUNT ROAD

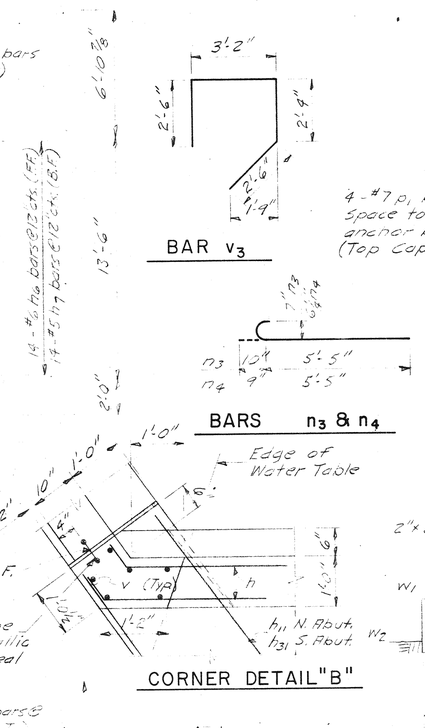
8-2

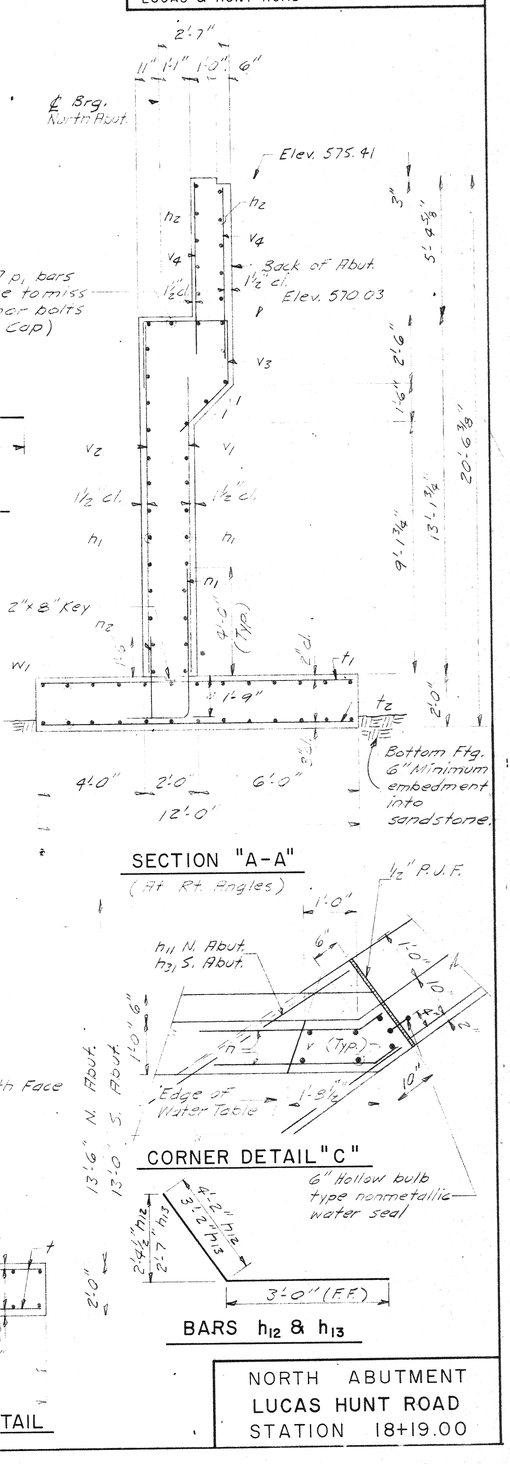
ST. LOUIS COUNTY	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1969 BOND ISSUE	11	29	78
PROPOSITION NO. 1	SEC A		
LUCAS & HUNT ROAD			

KEY

F. F. = Front Face
B. F. = Back Face
T. = Top of Footing
B. = Bottom of Footing







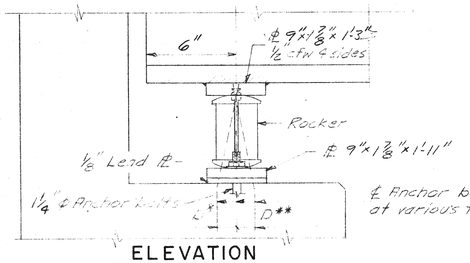
NORTH ABUTMENT
LUCAS HUNT ROAD
STATION 18+19.00

ST. LOUIS COUNTY	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1969 BOND ISSUE PROPOSITION NO. 1	11 SEC. A	31	72
LUCAS & HUNT ROAD			

NOTES ON SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS

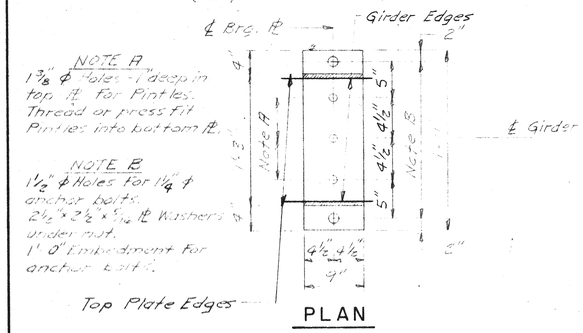
a.) D* (Side of brg. away from Fixed brg.)
D* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 60° F.
D** (Side of brg. toward Fixed brg.)
D** = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 60° F.

b.) After beams have been erected and dimensions D* or D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

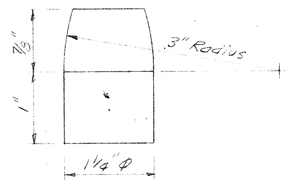


ELEVATION
(Expansion Abut)

℄ Anchor bolts for steel erection at various temperatures

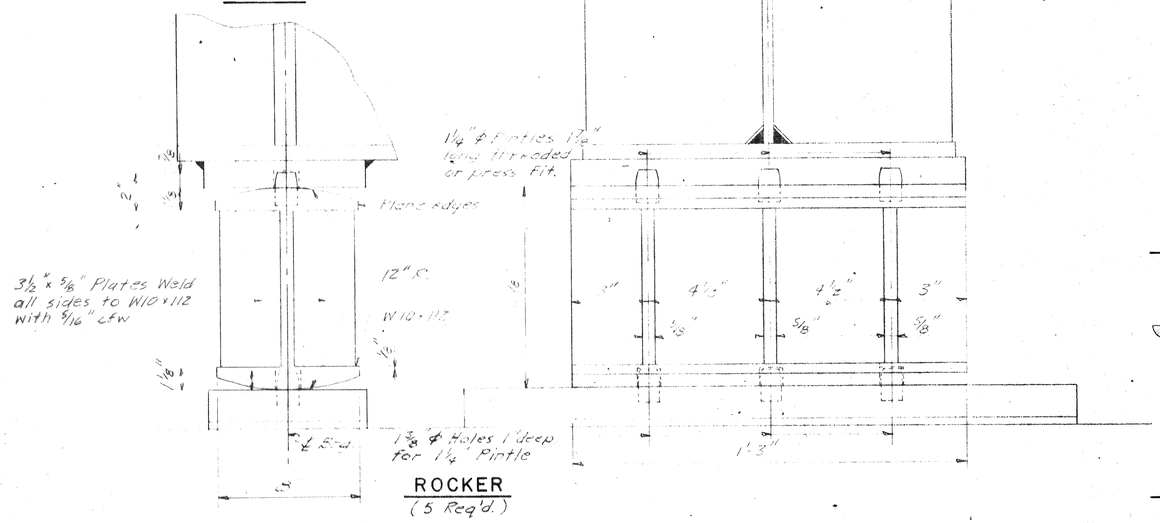


PLAN

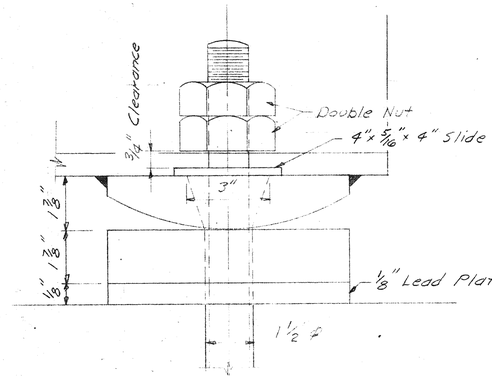


PINTLE

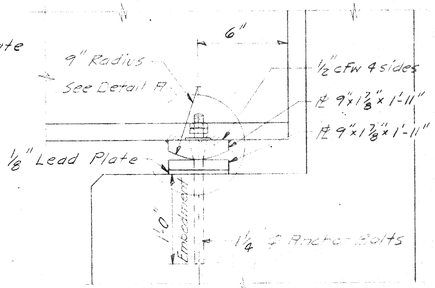
NOTE: No shim plates req'd.



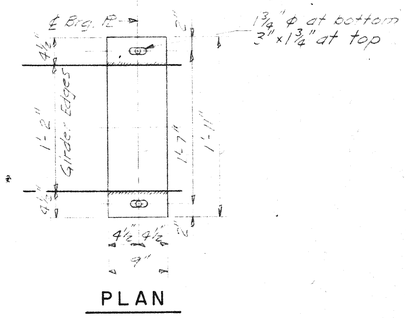
ROCKER
(5 Req'd.)



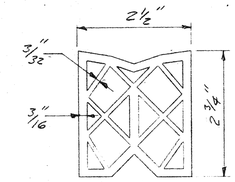
DETAIL "A"



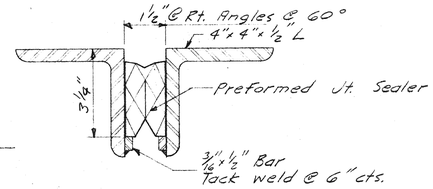
ELEVATION
(Fixed Abut.)



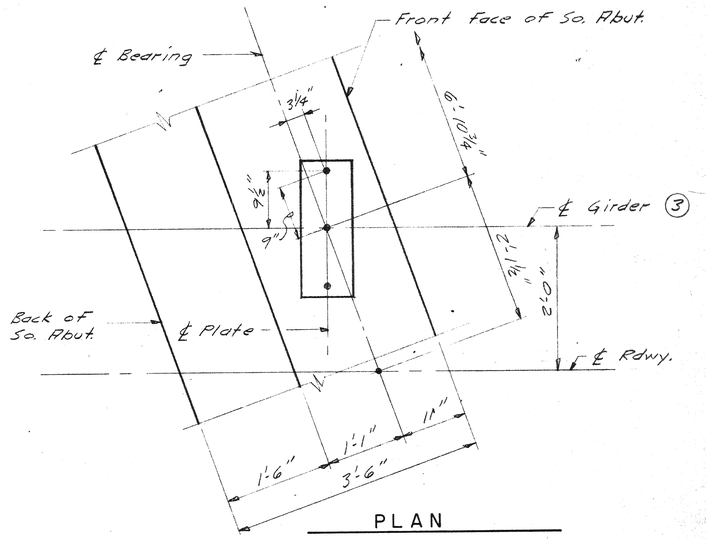
PLAN



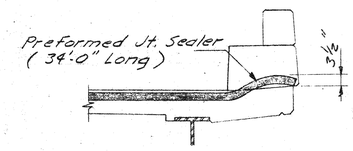
PREFORMED JOINT SEALER



SEALED DECK JOINT



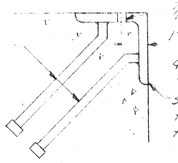
PLAN
(North Abut. Similar)



TYPICAL END OF SEALER TREATMENT

3/4" ϕ x 8" C.R. 1020 steel granular or solid flux filled headed studs, automatically end welded. (Alternate at 1'-0" cts.)

Cost of End Protective Angles incidental to structural steel weight = 710 Pounds



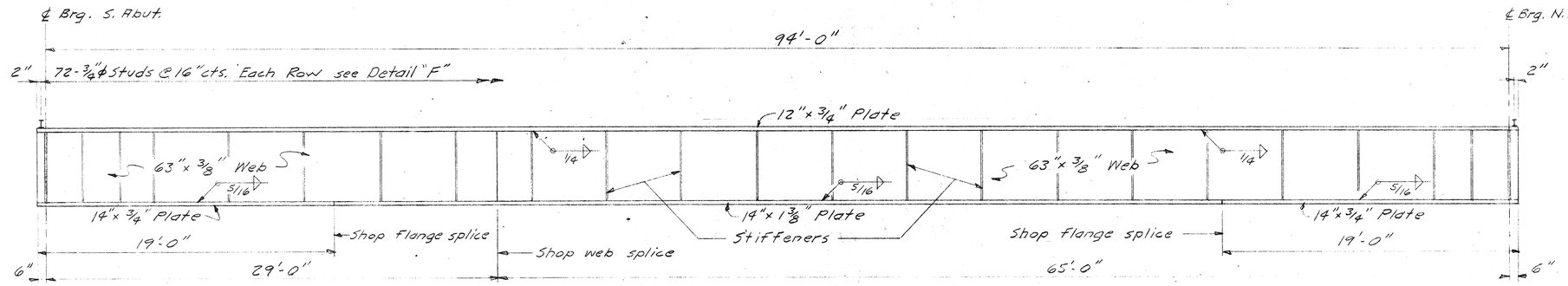
7/16" ϕ Vent holes @ 12" cts.
1 3/8"
4" x 4" x 1/2" Angle with 7/8" ϕ holes @ 12" cts. for 3/4 ϕ bolts set on 2 1/2" gage line. All bolts shall be burned, sawed or clipped off flushed with back of angles after forms are removed.

Angle 25'-0" Long - 2 Req'd.

DETAIL "B"

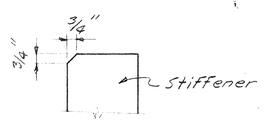
BEARING DETAILS
LUCAS HUNT ROAD
STATION 18+19.00

ST. LOUIS COUNTY	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1969 BOND ISSUE	11	32	78
PROPOSITION NO. 1	SEC. A		
LUCAS & HUNT ROAD			



TOP OF WEB ELEVATIONS

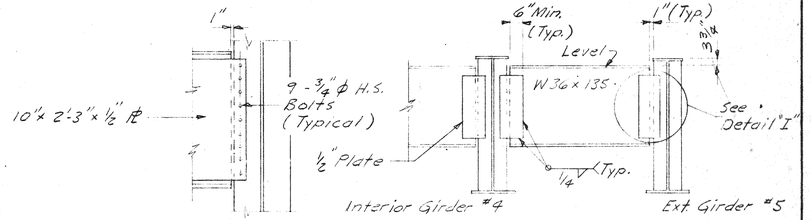
Girder	℄ Brg. So. Abut.	℄ Brg. No. Abut.
(1)	576.604	575.664
(2)	576.723	575.783
(3)	576.842	575.902
(4)	576.764	575.824
(5)	576.597	575.657



STIFFENER CLIP DETAIL
Top ℄ Bottom

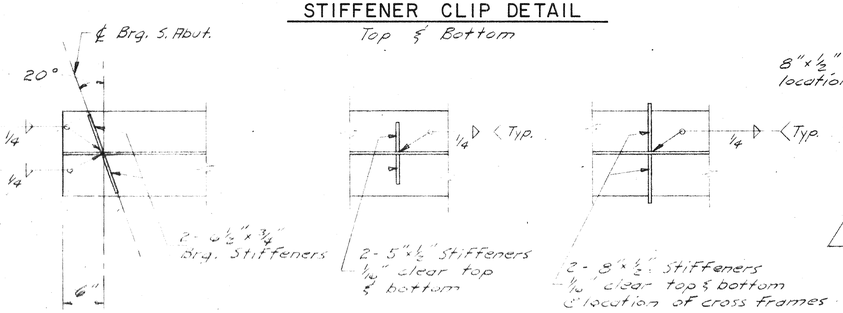
ELEVATION
(Looking West)

NOTE: S.A. = Submerged Arc Welding



DETAIL "I"

TYPICAL END CROSS FRAME



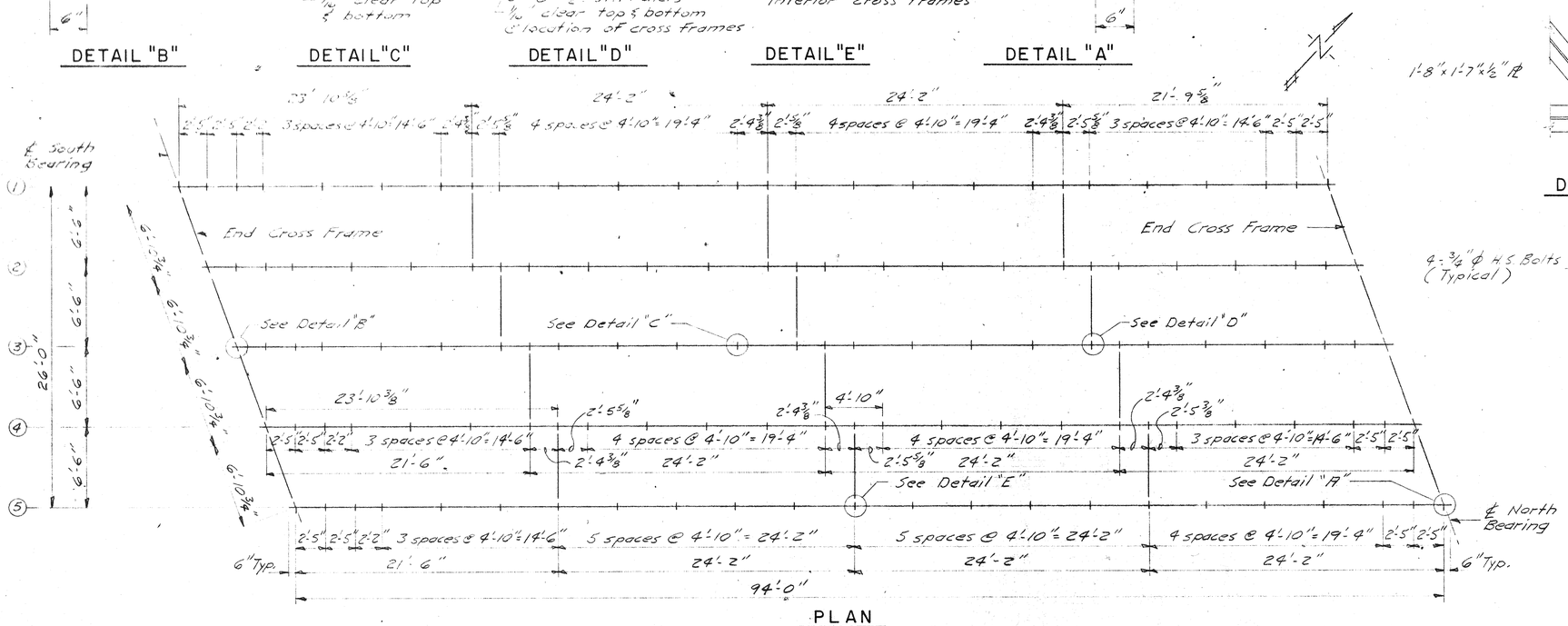
DETAIL "B"

DETAIL "C"

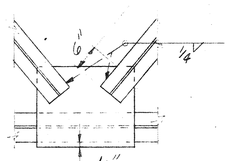
DETAIL "D"

DETAIL "E"

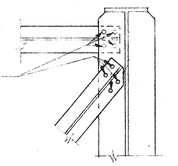
DETAIL "A"



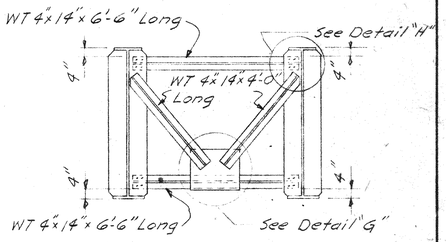
PLAN
(All dimensions given are on the horizontal.)



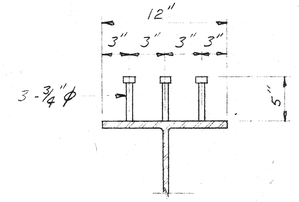
DETAIL "G"



DETAIL "H"



TYPICAL INTERIOR CROSS FRAME



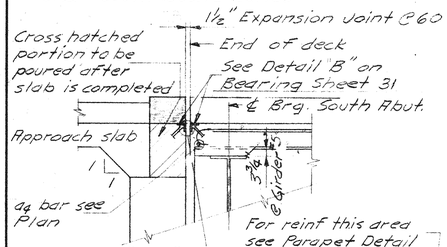
3/4"ϕ x 5" CR 1020 Stl. Grandular or Flux Filled headed studs automatically end welded. 1,080 Required.

DETAIL "F"

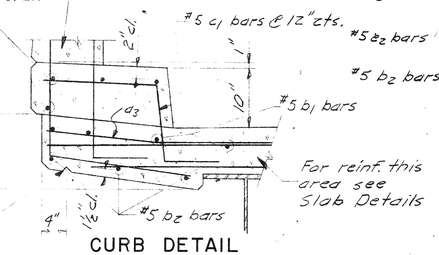
FRAMING PLAN
LUCAS HUNT ROAD
STATION 18+19.00

ST. LOUIS COUNTY	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1969 BOND ISSUE PROPOSITION NO. 1	11 SEC. A	33	78
LUCAS & HUNT ROAD			

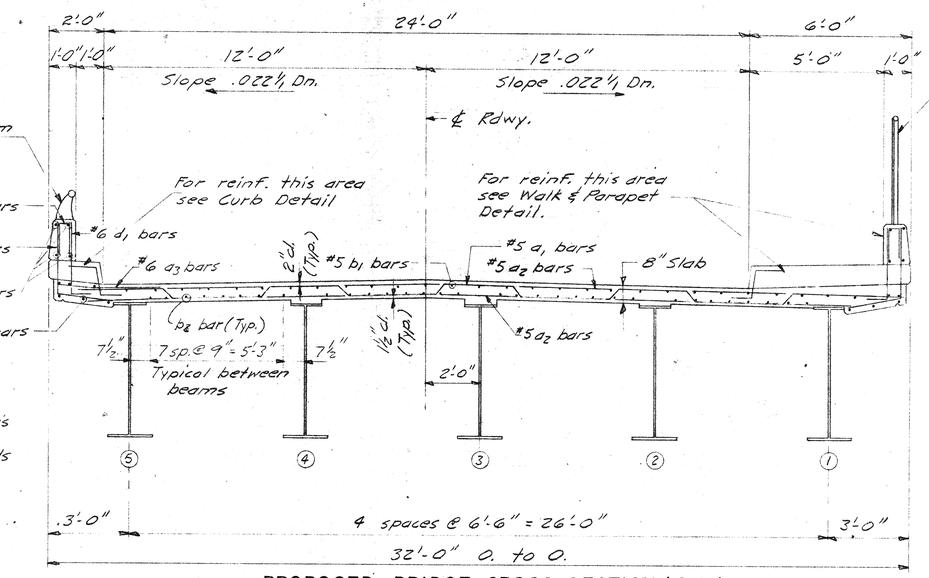
S.B. = South Bound Lanes



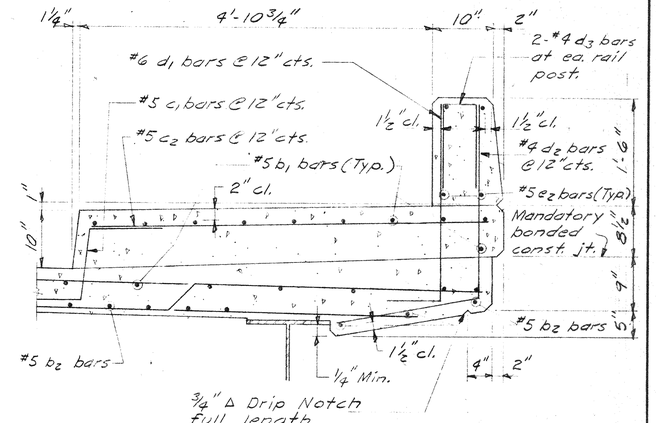
SECTION "B-B"
(Expansion)



CURB DETAIL



PROPOSED BRIDGE CROSS SECTION (S.B.)
(Looking South)



WALK & PARAPET DETAIL

℄ Brg. North Abut.
3'-0"
End of deck
Approach slab
3¾" @ Girder #5
a4 bars see Plan
#6 x1 bars @ 6" cts.

SECTION "A-A"
(Fixed)

*Note:
For this area cut bars to fit skew and use remainder in other end of deck.

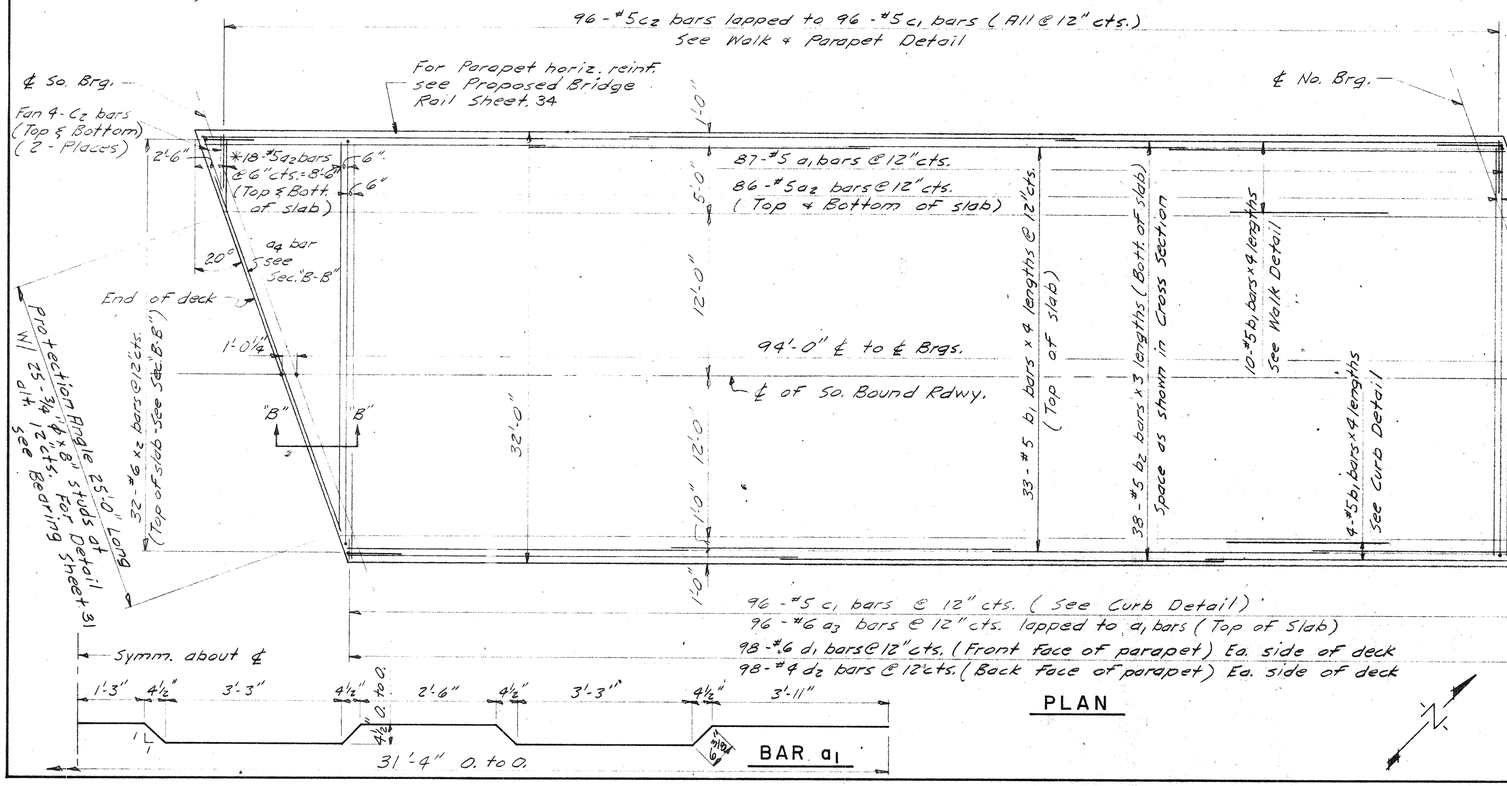
BAR a_3

BAR c_1

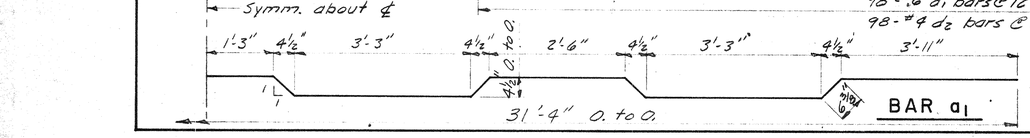
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	TYPE
a1	87	#5	32'-7"	
a2	208	#5	30'-6"	
a3	96	#6	4'-0"	
a4	4	#6	33'-0"	
b1	188	#5	25'-3"	
b2	114	#5	33'-2"	
c1	192	#5	3'-5"	
c2	112	#5	5'-6"	
d1	196	#6	4'-6"	
d2	196	#4	4'-9"	
x1	63	#6	5'-8"	
x2	32	#6	4'-8"	
Class B-1 Concrete			Cu. Yd.	105.9
Reinforcing Steel			Pound	23,280

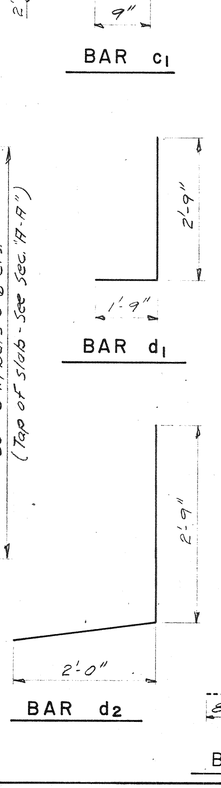
e & d3 Bars detail on Rail Sheet



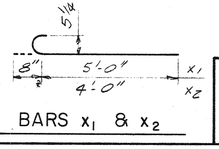
PLAN



BAR a_1



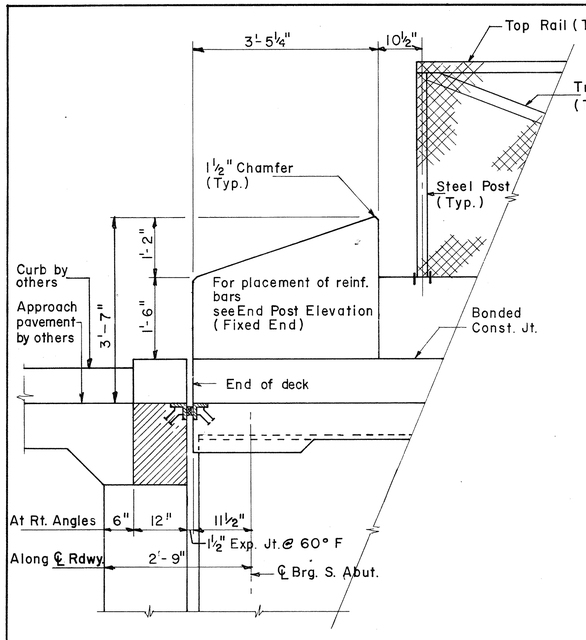
BAR d_1 BAR d_2



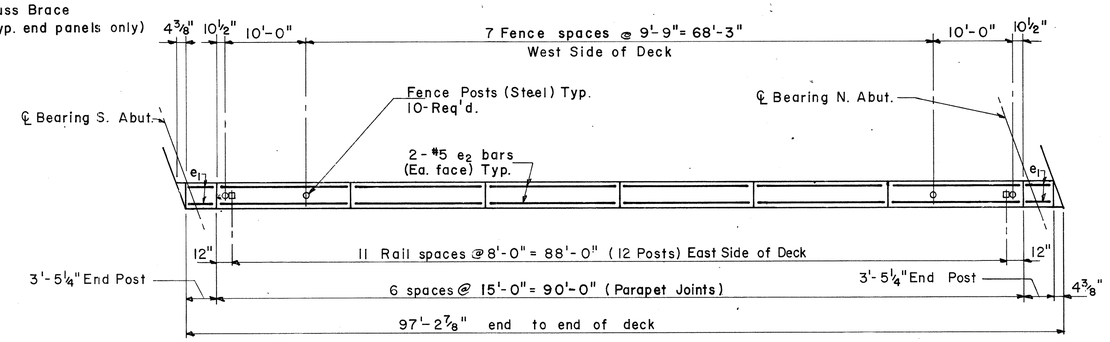
BARS x_1 & x_2

SUPERSTRUCTURE
LUCAS HUNT ROAD
STATION 18+19.00

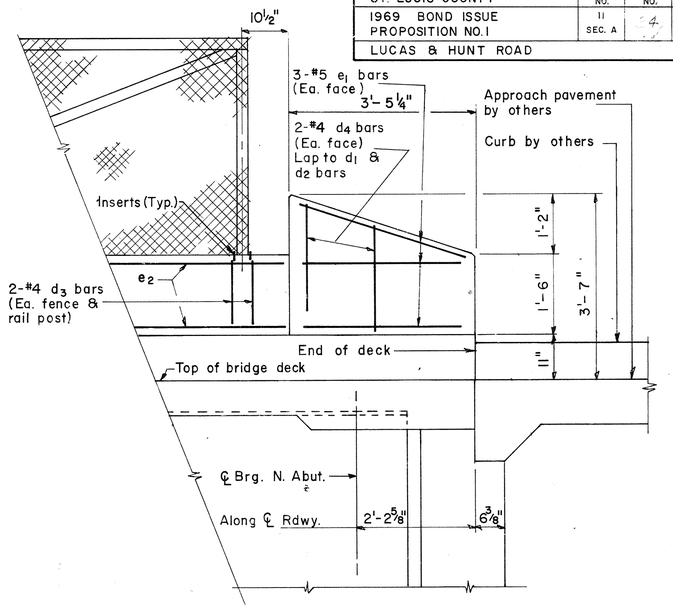
ST. LOUIS COUNTY	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1969 BOND ISSUE PROPOSITION NO. 1	11 SEC. A	4	78
LUCAS & HUNT ROAD			



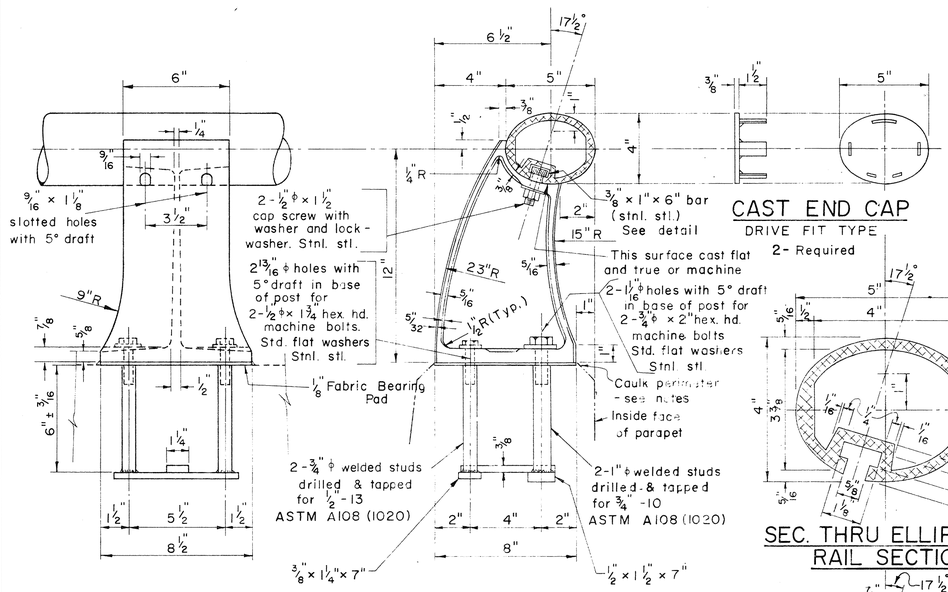
END POST ELEVATION
(Expansion end of west side of deck)



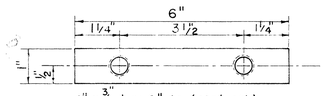
PLAN OF PROPOSED STRUCTURE PARAPET
(South Bound Lanes)
For fence details see M.S.H.D. Standard Drawing 607.11A



END POST ELEVATION
(Fixed end of west side of deck)

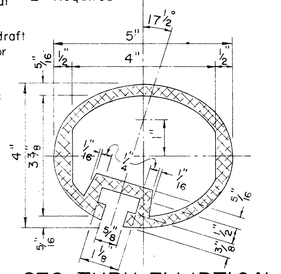


RAIL POST DETAILS

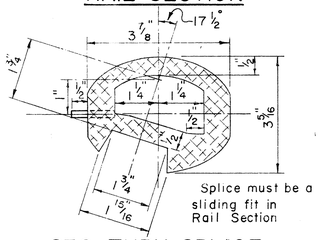


1" × ⅜" bar 6" lg. (stnl. stl.)
Drill & tap 2 holes ½"-13
CLAMP BAR

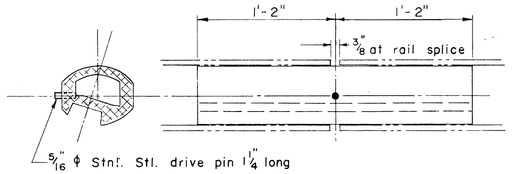
CAST END CAP
DRIVE FIT TYPE
2- Required



SEC. THRU ELLIPTICAL RAIL SECTION



Splice must be a sliding fit in Rail Section
SEC. THRU SPLICE



RAIL SPLICE

NOTES:

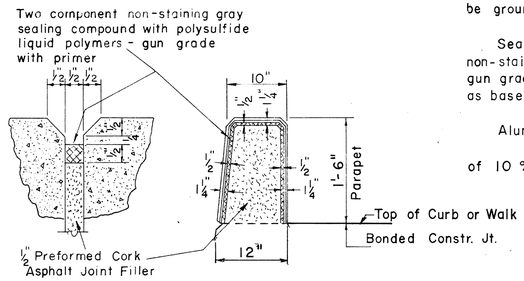
All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts

All joints in rail shall be spliced per detail.

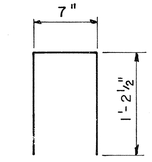
Provide 1-⅛" and 2-1/16" Aluminum Shims for 25% of the Posts Rail element shall be parallel to Grade - high spots shall be ground, and low spots shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

Aluminum alloy rail shall conform to ASTM B221 alloy 6061-T6 with min. yield 35 ksi, min. tensile 38 ksi, and elongation of 10 % in 2 inches.



PARAPET JOINT DETAIL
Preformed Cork Asphalt Joint Filler to be included in the cost of Concrete



d3 BAR

PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e_1	24	#5	3'-3"	——
e_2	48	#5	14'-8"	——
d_3	44	#4	3'-0"	□
d_4	16	#4	2'-0"	——
Class B-1 Concrete			Cu. Yds.	12.1
Reinforcing Steel			Lbs.	925
Bridge Rail (One Tube)			Lin. Ft.	90
Chain Link Fence			Lin. Ft.	90

FENCE AND RAIL
LUCAS HUNT ROAD
STATION 18+19.00