

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
120- BR-4	Hancock	25	72

GENERAL NOTES

See Proposal for Boring Data.  
Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ " open holes  $\frac{1}{2}$ "  
unless otherwise noted.  
M 222 - 31370 Pivots  
Calculated weight of Structural Steel = 183,990 Pounds  
All structural steel shall be AASHTO H 222 unpainted except  
expansion joint angles and attached bars which shall be AASHTO H 183  
and shop primed with two coats of basic lead silico chromate paint.  
Field welding of construction accessories will not be permitted to the  
bottom flange of beams or girders nor to the top flange for a distance equal  
to one-fourth the span length each way from the pier supports. Field welding  
in other areas will be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting diaphragms over supports.

The concrete rail section above the mandatory construction joint  
at the top of the slab shall be constructed of Class X concrete, except  
the aggregate shall conform to the requirements of Hancock Concrete.  
Bearing seat surfaces shall be constructed or adjusted to the  
designated elevations within a tolerance of  $\frac{1}{8}$ ". Adjustment shall be  
made either by grinding the surface or by shimming the bearing. No  
adjusting shims of the dimensions of the bottom bearing plate, shall be  
provided for each bearing in addition to all other plates or shims.  
The Contractor shall drive two steel test piles in permanent location  
one test pile HP 8 x 36 and one test pile HP 8 x 36 x 50. About as directed by  
the Engineer before ordering the remainder of piles.  
Layout of Rip-Rap may be varied in the field to suit ground  
conditions as directed by the Engineer.  
The main load carrying members comprise a slab subject to tensile  
stress shall conform to the Supplemental Requirements for AASHTO  
Toughness Zone 2. These components are: 1) 4" x 12" x 12" Joists, webs  
and all spline plate material of the 4" x 12" wide Joist beams.

Reinforcement bars shall conform to the requirements of  
AASHTO M 31 Grade 60.

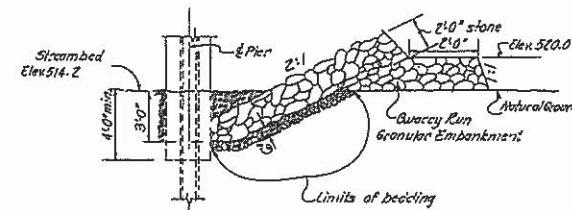
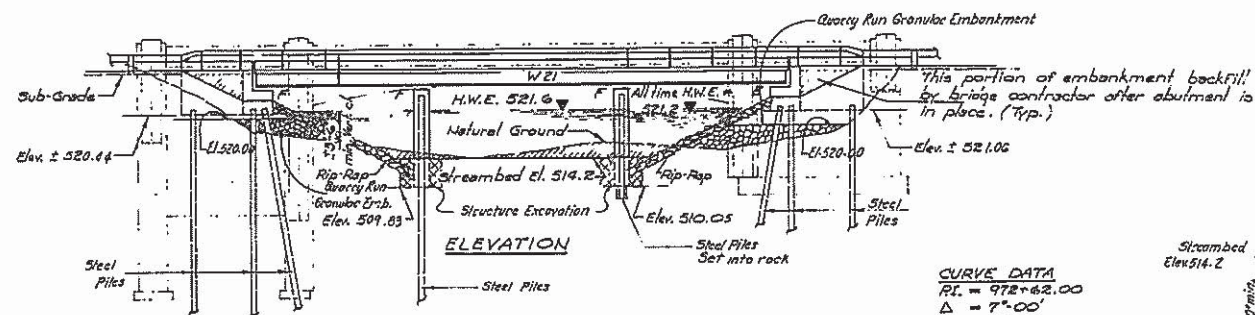
TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Callendaris	Each		2	2
Structure Excavation	Cu.Yd.		65	65
Removal of Existing Structure	Each		1	1
Protective Coat	Sq.Yd.	312		312
Structural Steel	L.S.			183,990
Class X Concrete	Cu.Yd.	71.3	132.4	203.7
Reinforcement Bars	Pound	7670	10,600	18,270
Reinforcement Bars (Epoxy coated)	Pound	11,230		11,230
Steel Piles HP 8 x 42	Lin.Ft.		246	246
Steel Piles HP 8 x 36	Lin.Ft.		555	555
Test Pile Steel HP 8 x 36	Each		2	2
Name Plates	Each		1	1
Stone Riprap	Sq.Yd.		599	599
Temporary Bridge Rail	Lin.Ft.	108		108
Set Pile in Rock	Each		6	6
Preformed Joint Sealer 2" x 2"	Lin.Ft.	36		36
Steel Rolling Tube T	Lin.Ft.	210		210
Bilinear Concrete Surface Course, Class I	Ton	151		151
Floor Drains	Each		8	8

\*\*\* See note on rail painting - Sht. #6

D.M. #54 Chilled 'x' in Hubguard, SW Corner of Bridge, R/L  
Sta. 975+21 El. 528.69  
Existing Structure: No. 034-0028 Built as SBI Rte. 96  
Sec. 120 B-WPH of Sta. 974+87. Built in 1935.  
The existing R.C. Structure to be removed by  
stage construction, replaced with W21 on pile bents  
abut. Traffic shall be maintained during constn.

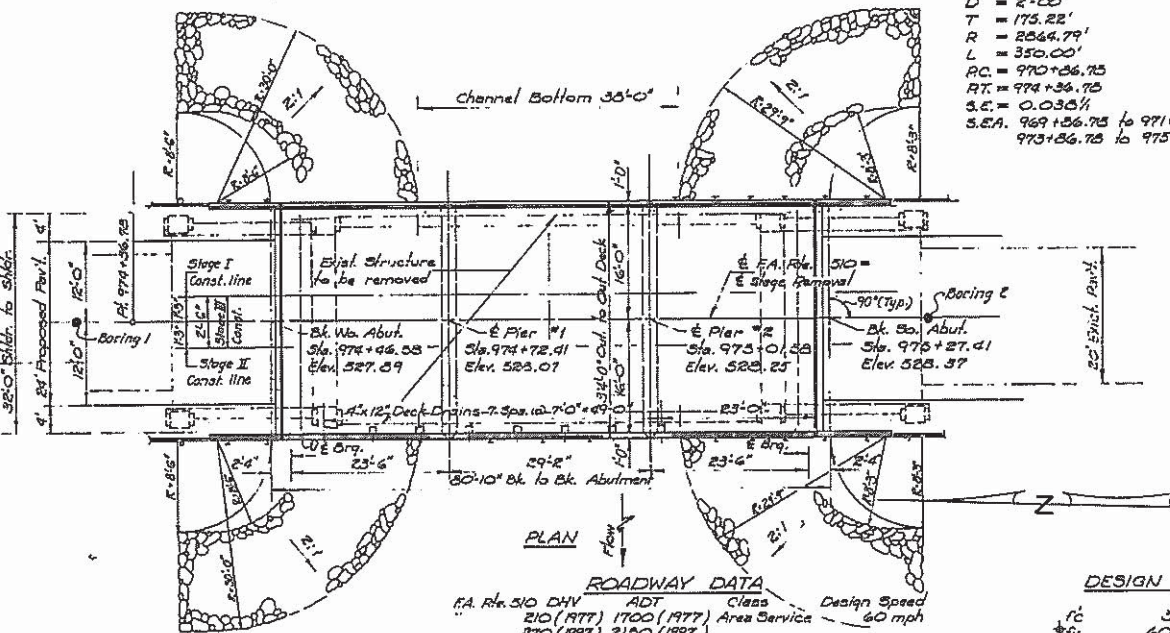
No Salvage:



SKETCH OF RIP-RAP

- 1) Quarry Run Granular Embankment is to be used as fill material up to an elevation of 520.00
- 2) 6" x 6" bedding material in those areas where Quarry Run Granular Embankment is placed.

CURVE DATA  
RI = 972+62.00  
 $\Delta = 7^{\circ}00'$   
D = 2^{\circ}00'  
T = 175.22'  
R = 2064.79'  
L = 350.00'  
P.C. = 970+06.75  
P.T. = 974+36.75  
S.E.A. 969+36.75 to 971+36.75  
973+36.75 to 975+36.75



ROADWAY DATA  
F.A. Rte. 510 DIV ADT Class Design Speed  
210 (1977) 1700 (1977) Area Service 60 mph  
270 (1997) 2100 (1997)

WATERWAY INFORMATION  
Existing Opening = 320 sq. ft.  
Required Opening = 340 sq. ft.  
Proposed Opening = 340 sq. ft.  
Drainage Area = 1.70 sq. mi.  
50 yr. = 1600 c.f.s.  
Created Head 50 yr. = 0.75'  
100 yr. = 1050 c.f.s.  
Created Head 100 yr. = 0.94'  
50 yr. Elev. = 521.6 el.  
100 yr. Elev. = 522.0 el.  
\*All time Mississippi River high water 521.2 el.

DESIGN STRESSES

$f_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)  
 $f_y = 50,000$  psi (Struct.)  
Epoxy coated Reinf. Bars shall be used in the top layer of the slab.

LOADING HS 20-44

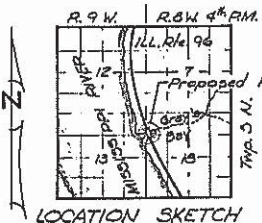
Allow 25% sq. ft. future wearing surface.  
Design Specification: 1977 AASHTO, 1978 Interim Specifications.

STATION 974+87  
BUILT 197 BY  
STATE OF ILLINOIS  
F.A. Rte. 510, SEC. 120 BR-4  
PROJECT GR-510 (7)  
LOADING HS 20  
# STR. NO.

NAME PLATE

(See Sht. 2113)  
\*\* Structure Number to be supplied by District.

PROFILE GRADE FA. Rte. 510



GENERAL PLAN & ELEVATION  
FA. Rte. 510 Over GRAY'S BAY  
FA. Rte. 510 SECTION 120 BR-4  
HANCOCK COUNTY  
Sta. 974+87.00

Rev. S.U. 3-27-1979