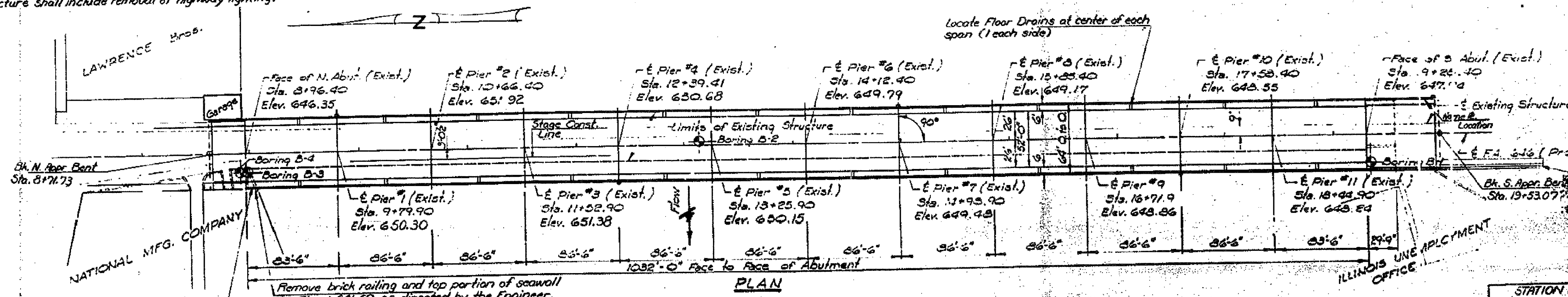
B.M. Chiseled "X" on S.E. Bolt N. End of W. Handrail 21' Rt.
Sta. 8+87, Elev. 645.84
Existing Structure: Twelve spans 80'-6" clear span each, plus two end spans. Built as First Avenue Bridge, @ Sta. 14+12.4 in 1923. Repaired under Sec. 1BR SBI Rte. 88 in 1953. Superstructure is an open spandrel concrete arch. Substructure is R.C. Pier and R.C. Abuts.. Rebuild the Superstructure above arch rings with P.P.C. Box beams, widen and rebuild the substructure as shown. Existing Bridge #098-0014 Maintain traffic at all time. Use stage Construction. Removal of existing superstructure shall include removal of highway lighting.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

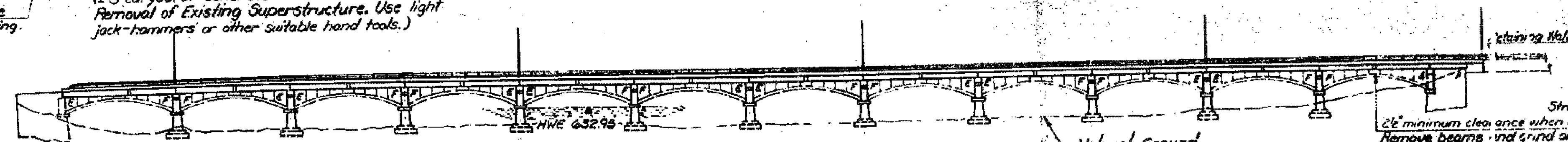
Because of the presence of storm sewers and foundations for adjacent structures precoring for the piles at the North Abutment and at the North Approach Bent will be required. In the areas of the storm sewers precoring can determine thier locations and the pile spacing shown on the plans can be altered ± 1.5 ft. accordingly. In the areas of adjacent footings precoring should be extended thru the subject footings so as to not damage the structures they support by trying to drive the piles thru.



Remove brick railing and top portion of seawall to Elev. ± 641.69, as directed by the Engineer. (± 3 cu. yds. of Concrete Removal included in Removal of Existing Superstructure. Use light jack-hammers or other suitable hand tools.)

Trim back Face of parapet for 2" min. clearance between parapet and National Mfg. Co. building. (6" min. thickness of parapet.)

PLAN



ELEVATION

STATION 14+12.40
BUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 646 SEC.(1BR)-1
F.R. PROJ. BR-F-646(12)
LOADING HS20
STR. NO.

NAME PLATE
Std. 2113
Structure number to be supplied by District

2½" minimum clearance when beams are first set. Remove beams and grind arch in the event that 2½" clearance is not obtained.

GENERAL NOTES

See Proposal for Boring Data.

All structural steel shall be shop painted with two coats of basic lead silico chromate paint.

Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(c) of the Standard Specifications and are included in quantity of structural steel.

The Contractor shall drive 2 Steel HP10x42 test piles one each in a permanent location at each approach bent as directed by the Engineer before ordering the remainder of piles.

A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams and Class X Concrete for parapets.

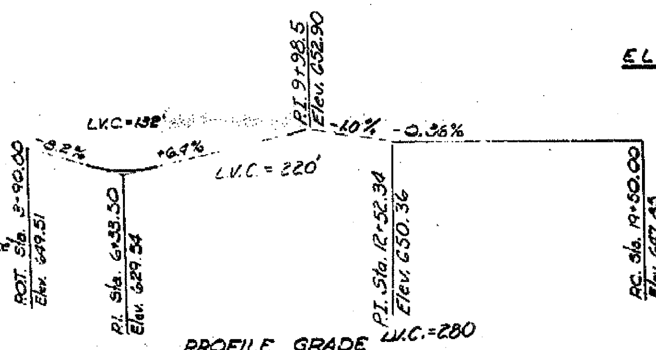
The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.

Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

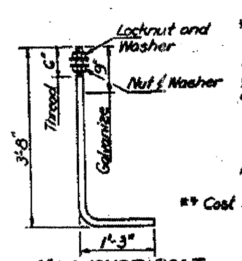
Expansion bolts shall consist of self drilling expansion anchors and ¾" ϕ x 12" hooked bolts.

Reinforcement bars shall conform to the requirements of AASHTO: M31 or M53 Grade 60.

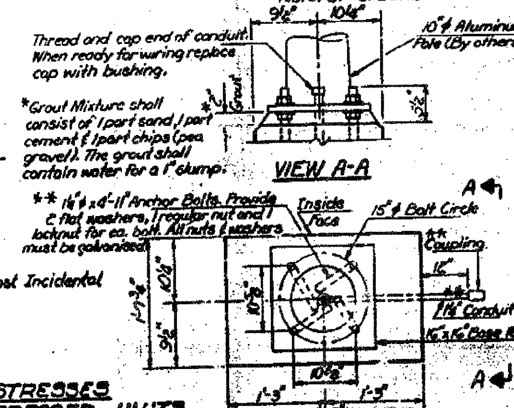
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.



PROFILE GRADE
℄ F.A. Rte. 646



1¼" ϕ ANCHOR BOLT



VIEW A-A

*Grout Mixture shall consist of 1 part sand, 1 part cement & 1 part chips (pea gravel). The grout shall contain water for a 1" slump.

** 1¼" ϕ x 4'-11" Anchor Bolts. Provide 2 flat washers, 1 regular nut and 1 locknut for ea. bolt. All nuts & washers must be galvanized.

*** Cost Incidental

LIGHT STANDARD MOUNTING PLAN

DESIGN STRESSES PRECAST PRESTRESSED UNITS

$f'c$ = 6,000 psi
$f's$ = 270,000 psi (½" ϕ Strands)
$f'si$ = 189,000 psi (½" ϕ Strands)

FIELD UNITS

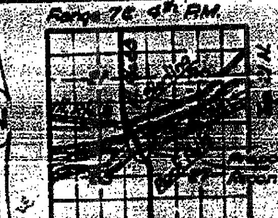
$f'c$ = 3,500 psi
fy = 60,000 psi
fs = 20,000 psi (Structural Steel)

LOADING HS 20-44

Allow 25#/sq. ft. future wearing surface.
Design Specification: 1977 AASHTO and 1978 & 1979 Interim Specifications.

WATERWAY INFORMATION

Drainage Area	=	8740 sq. mi.
Design Discharge (50 yr.)	=	57,900 c.f.s.
Existing Opening	=	11,750 sq. ft.
Required Opening	=	11,750 sq. ft.
Proposed Opening	=	11,750 sq. ft.
Created Head (50 yr., 100 yr.)	=	0
100 yr. Discharge	=	63,200 c.f.s.
Design 50 yr. H.W.E.	=	Elev. 632.95
100 yr. H.W.E.	=	Elev. 633.35



LOCATION SKETCH

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Bituminous Concrete Surface Course, Class I	Ton	885		885
Removal of Existing Superstructure	Each	1		[illegible]
Concrete Removal	Cu. Yd.		310	310
Expansion Bolts ¾" ϕ	Each		154	154
Floor Drain Special***	Each	24		24
Protective Coat	Sq. Yd.	2082	13	2095
Class X Concrete	Cu. Yd.	837.6	1997.1	2834.7
Cofferdams	Each		11	11
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	61,920		[illegible]
Aluminum Railing, Type "L"	Lin. Ft.	2113	57	[illegible]
Reinforcement Bars	Pound	89,950	95,010	[illegible]
Steel Piles HP 10x42	Lin. Ft.		648	[illegible]
Steel Piles HP 12x74	Lin. Ft.		1122	[illegible]
Test Pile Steel HP 10x42	Each		2	[illegible]
Name Plates	Each	1		[illegible]
Structural Steel	Pound	7260		[illegible]
Structure Excavation	Cu. Yd.		256	[illegible]
Waterproofing Membrane System	Sq. Yd.	[illegible]		[illegible]
Preformed Joint Sealer (2½")	Lin. Ft.	131		131
Neoprene Expansion Joints 2½"	Lin. Ft.	321		321
Temporary Bridge Rail	Lin. Ft.	1087		[illegible]
Portland Cement Mortar Fairing Course	Lin. Ft.	19,606		[illegible]
Cofferdam Excavation	Cu. Yd.		275	275
Repair of Concrete Structures	Sq. Ft.		835	835

*** See Special Provision

GENERAL PLAN AND ELEVATION
F.A. RTE. 646 OVER ROCK RIVER

February 29, 1980

DESIGNED	Dan Krull
CHECKED	M. J. Ryan J.R.S.
DRAWN	
CHECKED	MJR
EXAMINED	Carl E. [illegible]
PASSED	
APPROVED	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	1BR-1	Whiteside	64	32

SHEET NO.	TOTAL SHEETS	SHEET NO.
1 OF 31	257	212

CONTRACT NO. 64880

FOR INFORMATION ONLY