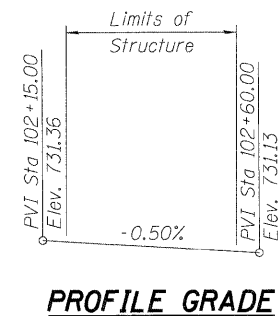
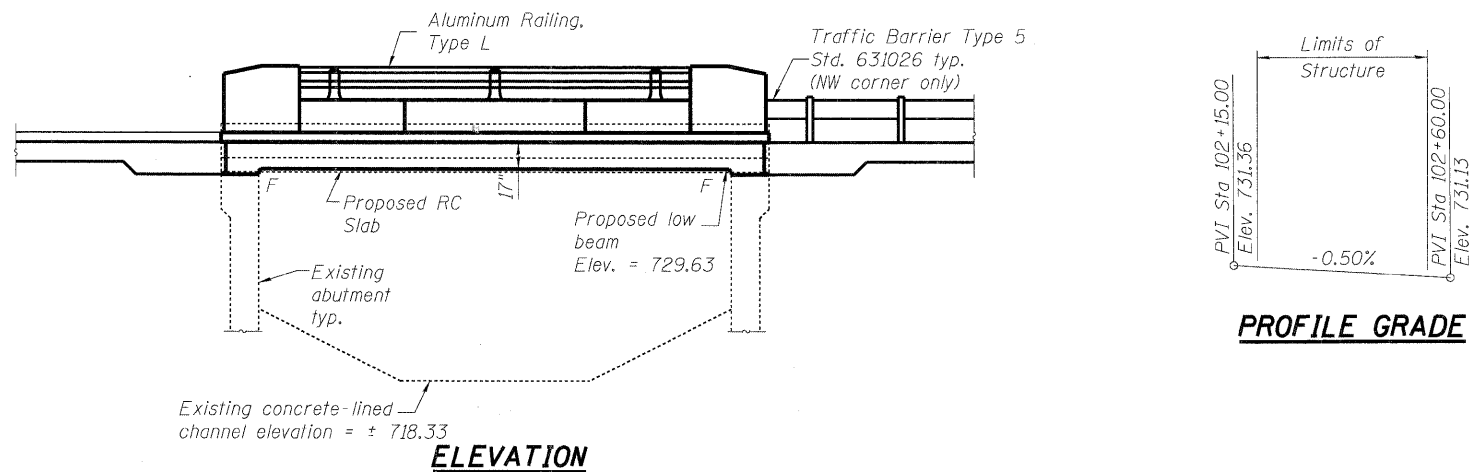


- Benchmark 1: City of Rockford Benchmark on northwest wing wall.  
Elev. = 730.72
- Benchmark 2: Railroad spike in west face of the first power pole to the north of the bridge on the east side of Searles Avenue.  
Elev. = 732.00
- Benchmark 3: Found 16P nail in south face of the first power pole south of the bridge on the east side of Searles Avenue.  
Elev. = 732.89

Existing Structure: S.N. 101-6004 This existing structure was built in 1962 by the City of Rockford as a single-span precast, prestressed concrete deck beam bridge supported on closed abutments. The design loading used was HS 20 according to the bridge inventory. The scope of improvements includes removal of the existing precast, prestressed concrete deck beam superstructure and placement of a reinforced concrete slab superstructure. The existing abutments and wing walls are to remain. The project will be constructed under a temporary detour of Searles Avenue.



**LOADING HS 20-44**  
No future wearing surface allowed.

**DESIGN SPECIFICATIONS**  
2002 AASHTO Standard Specifications

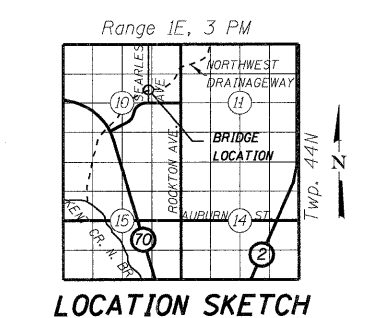
**DESIGN STRESSES**  
**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

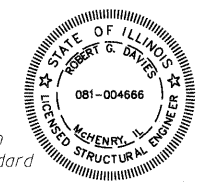
**SEISMIC DATA**

Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 4%g  
Site Coefficient (S) = 1.0

- INDEX OF SHEETS**
- S-1 General Plan and Elevation
  - S-2 General Notes and Total Bill of Material
  - S-3 Superstructure Plan and Cross Section
  - S-4 Superstructure Details
  - S-5 Aluminum Railing, Type L
  - S-6 Abutment Details

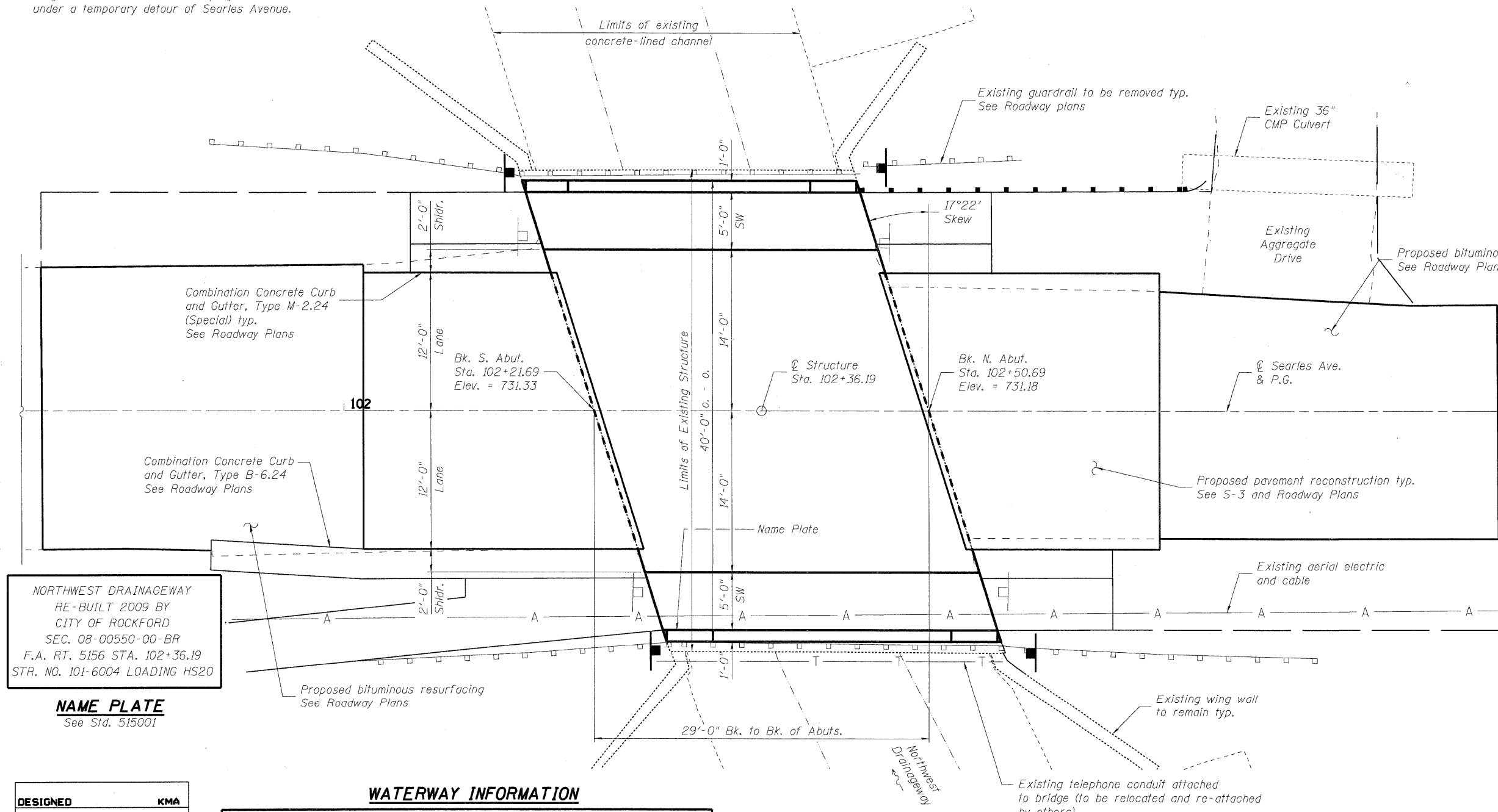


To the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO Standard Specifications for Highway Bridges".



*Robert G. Dames*  
Structural Engineer  
SEC Group Inc. Date 2/4/2009

**GENERAL PLAN AND ELEVATION**  
**SEARLES AVENUE (FAU ROUTE 5156)**  
**OVER THE NORTHWEST DRAINAGEWAY**  
**CITY OF ROCKFORD**  
**WINNEBAGO COUNTY**  
**S.N. 101-6004**



**NAME PLATE**  
See Std. 515001

NORTHWEST DRAINAGEWAY  
RE-BUILT 2009 BY  
CITY OF ROCKFORD  
SEC. 08-00550-00-BR  
F.A. RT. 5156 STA. 102+36.19  
STR. NO. 101-6004 LOADING HS20

**WATERWAY INFORMATION**

Drainage Area = 2.75 sq. mi. Low Grade Elev. 729.63 @ Sta. 100+30

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design									
Base	100	985							

**PLAN**



**SEC GROUP, INC.**  
Illinois Professional Design Firm # 184-000108  
• Engineering • Surveying • Planning • Landscape Architecture  
4500 Prime Parkway, McHenry, IL 60050  
T. 815.385.1778 F. 815.385.1781  
www.secgroupinc.com  
• McHenry, IL • Yorkville, IL • New Lenox, IL • Chicago, IL

SHEET NO. S-1 S-6 SHEETS	F.A.U. RTE. 5156	SECTION 08-00550-00-BR	COUNTY Winnebago	TOTAL SHEETS 15	SHEET NO. 8
	CONTRACT NO. 85444			FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT BHM 5099 (077)	