

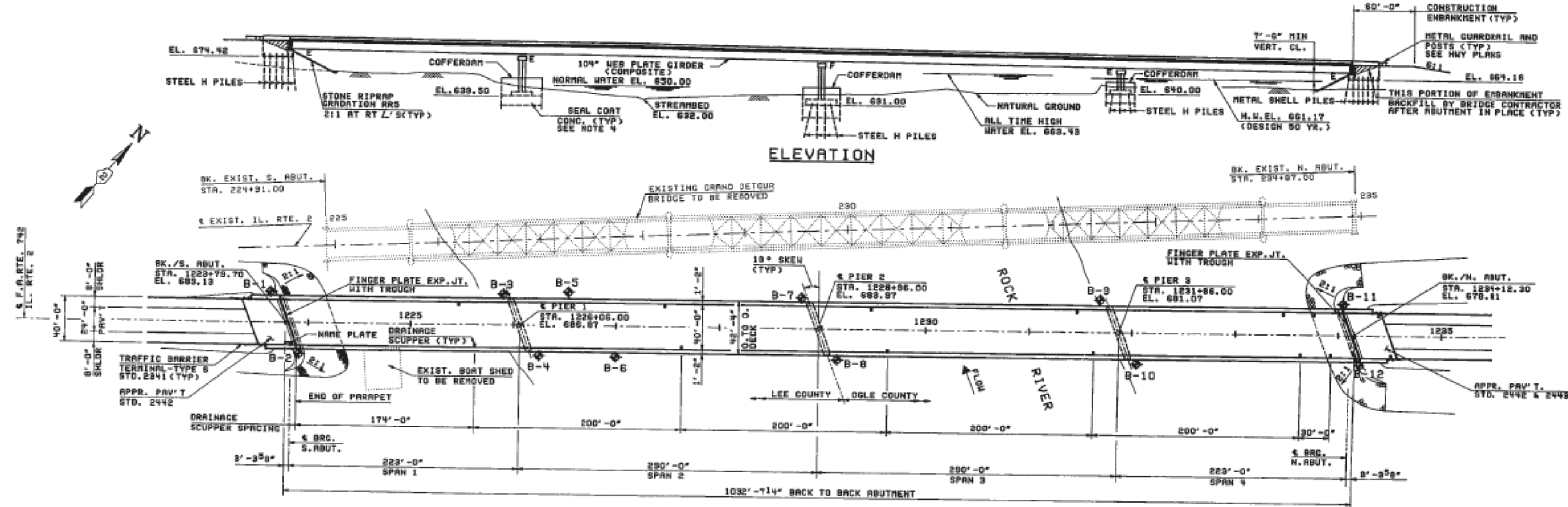
052-0063

FOR INFORMATION ONLY

BENCH MARK:

CHISELED SQUARE, EAST END OF EXISTING SOUTH ABUTMENT AT STA. 224+90 (ALONG EXIST. 4) 20' RT. ELEV. 660.47.

SHEET NO. 1 OF 30	ROUTE NO. SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. RTE. 742	39RB-1	LEE & OGLE	86	25
ILLINOIS FED. AID PROJECT				
STP-DRP-742(25)				



EXISTING STRUCTURE

STRUCTURE NO. 052-0036 SECTION 39RB-1
 GRAND DETOUR BRIDGE ON IL. RTE. 2 AT STA. 228+88 (ALONG EXIST. 4), BUILT IN 1947.
 SUPERSTRUCTURE: 3 TIED ARCH SPANS & 2 PLATE GIRDER APPROACH SPANS WITH CONCRETE FILLED GRATING DECK.
 SUBSTRUCTURE: 4 PIERS WITH HEBBELL CONNECTING TWO OUTSIDE COLUMNS AND ABUTMENTS WITH WALL CONNECTING THREE COLUMNS.
 EXISTING BRIDGE TO BE REMOVED AFTER NEW BRIDGE IS OPEN TO TRAFFIC.

DESIGN STRESSES

STRUCTURAL STEEL: LOAD FACTOR DESIGN
 σ = 50,000 PSI - A270 GRADE 50
 σ = 36,000 PSI - A270 GRADE 36
 CONCRETE: LOAD FACTOR DESIGN
 σ = 3,500 PSI
 σ = 60,000 PSI (REINFORCEMENT)

DESIGN SPECIFICATIONS

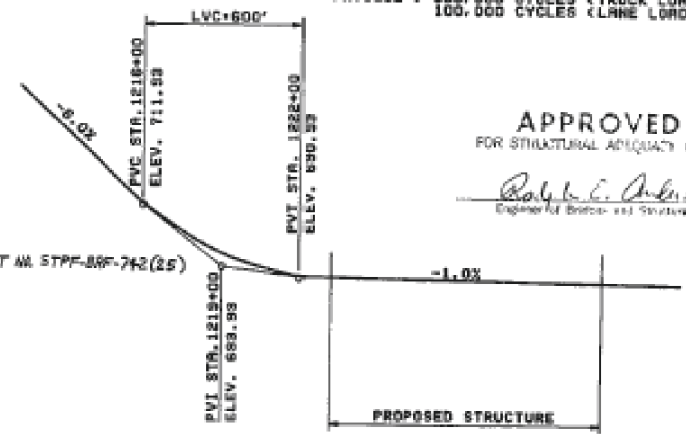
1989 AASHTO, 1990 & 1991 INTERIM SPECIFICATIONS
 LOADS: HS 20-44 ALLOW 25 LB/SQ. FT. FOR FUTURE WEARING SURFACE
 DESIGN FORCES FOR SEISMIC PERFORMANCE CATEGORY - A
 FATIGUE: 500,000 CYCLES (TRUCK LOADING)
 100,000 CYCLES (LANE LOADING)

STATION 1228+06
 BUILT 199. BY
 STATE OF ILLINOIS
 F.A. RT. 742, SEC. 39RB-1
 LOADING HS20
 STR. NO. 052-0063

NAME PLATE
 (SEE STANDARD 2119)

WATERWAY INFORMATION

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		OVERTOPPING	HAX. CALC.		
DESIGN	50	54,000	13,220	13,040	661.15	0.01	0.01	661.16	661.17
BASE	100	58,200	13,920	14,370	661.80	0.02	0.01	661.92	661.92
OVERTOPPING	500+		15,940	15,850					
HAX. CALC.	500	70,800			669.41	0.02	0.01	669.43	669.43



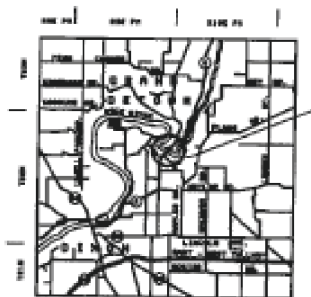
PROFILE GRADE
 F.A. RTE. 742 (IL. RTE. 2)
 (ALONG & ROADWAY)



Vishal R. Patel
 REGISTERED STRUCTURAL ENGINEER
 EXPIRES 11/30/24

APPROVED
 FOR STRUCTURAL ADVISORY ONLY

Robert L. Johnson
 Engineer of Bridges and Structures



LOCATION PLAN

NOTES:

- FOR GENERAL NOTES, INDEX OF DRAWINGS, TOTAL BILL OF MATERIAL AND STONE RIPRAP DETAILS SEE DWG. NO. GD-02.
- FOR BORING LOGS SEE DWG. NOS. GD-03, GD-04 & GD-05.
- FOR REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL AT NORTH ABUTMENT SEE ROADWAY DRAWINGS.
- SEAL COAT CONCRETE IS DESIGNED FOR WATER ELEVATION (661.17 + 25) = 686.5. CONTRACTOR SHALL CHECK THE SEAL COAT CONCRETE THICKNESS IN ACCORDANCE WITH ARTICLE 502.07 OF THE CONSTRUCTION MANUAL.

◆ - BORINGS

REVISION	DATE	DESCRIPTION

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 BRIDGE PLANS
 GENERAL PLAN & ELEVATION
 GRAND DETOUR BRIDGE
 OVER ROCK RIVER
 F.A. RTE. 742 SECTION 39RB-1
 STA. 1228+98 LEE & OGLE COUNTIES
 STRUCTURE NUMBER 052-0063

STEINMARK BOYNTON INC.
 CONSULTING ENGINEERS - CHICAGO, ILLINOIS

DRAWING NO. GD-01	SCALE N.T.S.	DATE 4-19-93	SHEET NO. 25
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CHECKED BY: KRP
 DRAFTED BY: SBR
 ESTIMATED BY: UG
 CHECKED BY: KRP
 DESIGNED BY: KRP
 IN CHARGE: PCU

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
 SN: 052-0063

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	9
CONTRACT NO. 64J52				
ILLINOIS				