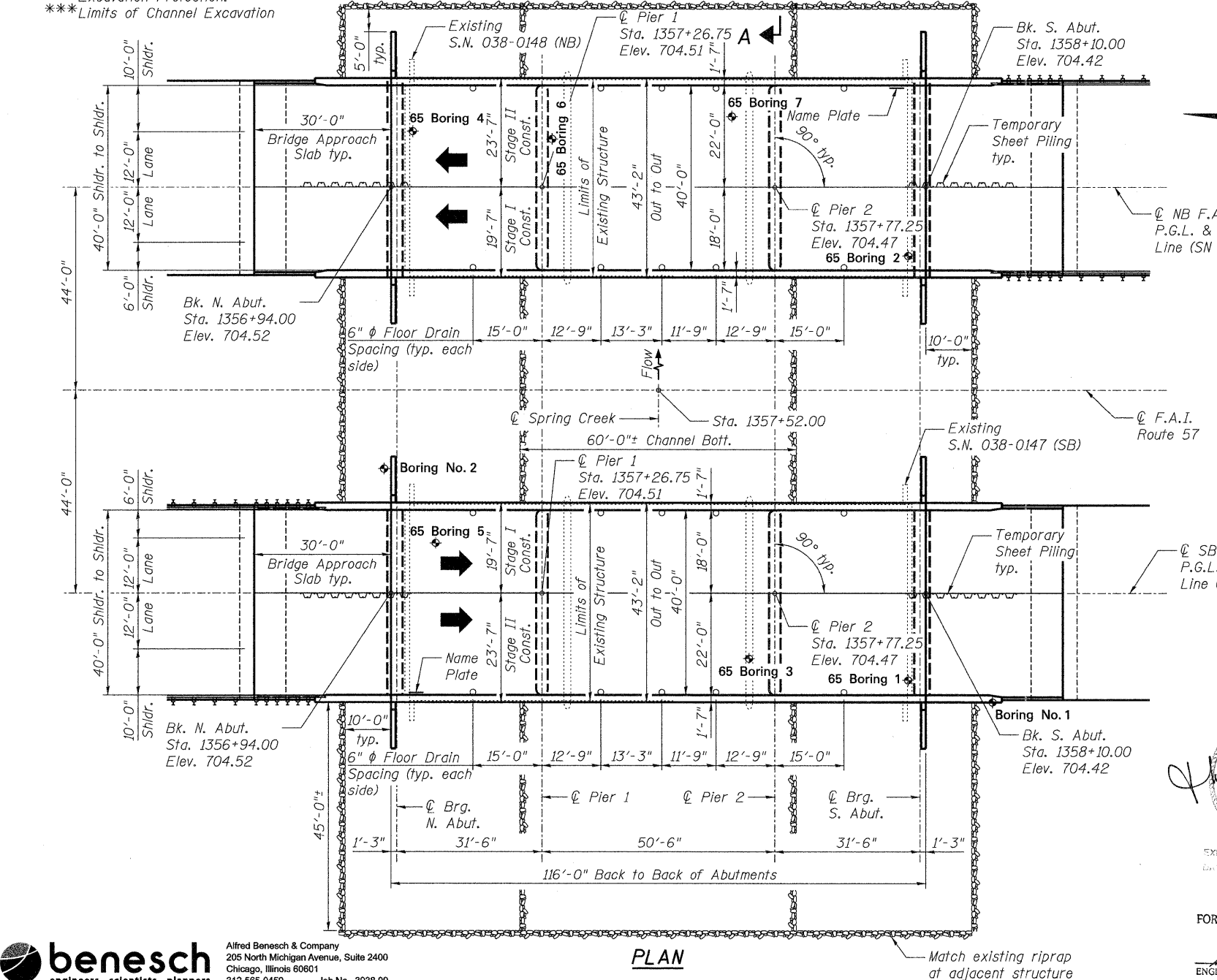
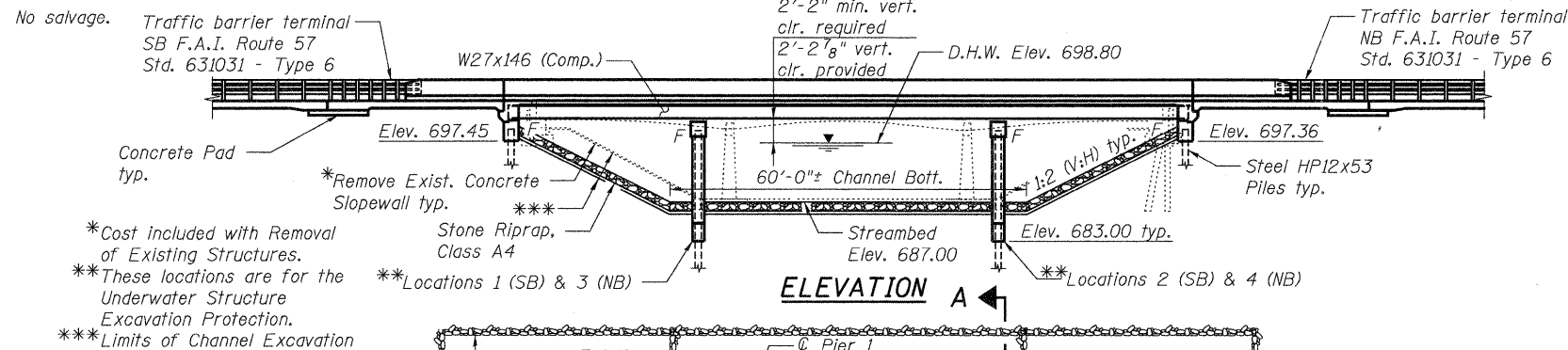


Bench Mark: BM#10 Cut "□" in top of northeast wingwall of Existing Structure No. 038-0148 (I-57 NB), Sta. 1357+01.48, 67.86' LT., Elev. 703.901

Existing Structures: S.N. 038-0147 SB and 038-0148 NB were originally constructed in 1968 as F.A.I. Route 57, Section 38-8B. The existing dual structures consist of 3-span continuous haunched concrete tee beams supported by open abutments and tapered solid concrete piers on spread footings. Each structure is 105'-0" back-to-back of abutments and 42'-6" wide out-to-out of the deck (40'-0" clear width between the bridge rails). The structures are to be removed and replaced. Traffic to be maintained using stage construction.

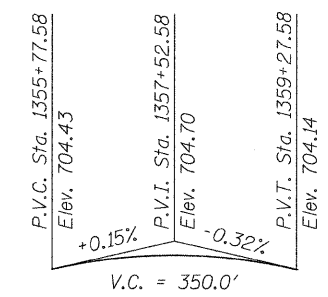


WATERWAY INFORMATION

Drainage Area = 32.3 sq. mi. Low Grade Elev. 703.14 @ Sta. 1367+09

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	10	2915	505	812	698.0	1.9	1.3	699.9	699.3
Base	100	5334	599	927	699.2	4.0	2.7	703.1	701.8
Overtopping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	7096	656	1003	699.9	4.4	2.9	704.3	702.8

10 Year Velocity Through Existing Structure = 5.0 fps
 10 Year Velocity Through Proposed Structure = 4.4 fps



DESIGN SCOUR ELEVATION TABLE

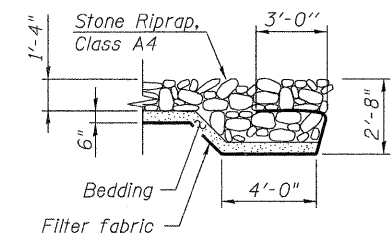
Design Scour Elevation (ft.)	N. Abut.	Pier 1	Pier 2	S. Abut.
	697.37	684.80	684.80	697.28

STATION 1357+52
 BUILT 20 BY
 STATE OF ILLINOIS
 F.A.I. RT. 57 SEC. (38-8) BR & BR-1
 LOADING HL-93
 STR. NO. 038-0222

STATION 1357+52
 BUILT 20 BY
 STATE OF ILLINOIS
 F.A.I. RT. 57 SEC. (38-8) BR & BR-1
 LOADING HL-93
 STR. NO. 038-0223

SB NAME PLATE
 See Std. 515001

NB NAME PLATE
 See Std. 515001

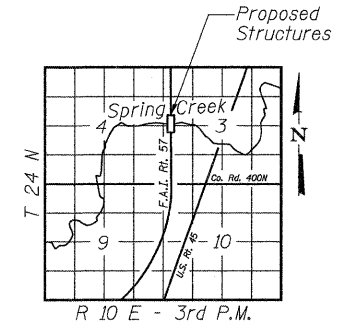


LOADING HL-93
 Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
 2010 AASHTO LRFD Bridge Design Specifications, 5th Edition

DESIGN STRESSES
FIELD UNITS
 f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)
 fy = 50,000 psi (AASHTO M270 Grade 50W)

SEISMIC DATA
 Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.083g
 Design Spectral Acceleration at 0.2 sec. (SD5) = 0.143g
 Soil Site Class = C



STATE OF ILLINOIS
 HOSSAM M. ABDULAZIZ
 081-005637
 CHICAGO, ILL.
 LICENSED PROFESSIONAL ENGINEER
 EXPIRATION DATE 11-30-2012
 DATE 5/19/2011
APPROVED
 FOR STRUCTURAL ADEQUACY ONLY
 ENGINEER OF BRIDGES AND STRUCTURES

benesch
 engineers · scientists · planners
 Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 3938.09

FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISED -
0380222&0223-66948-001_GPE.dgn		CHECKED - AAY	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 08/18/2011	CHECKED - KJN	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SHEET NO. S1 OF S41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(38-8) BR & BR-1	IROQUOIS	73	16
				CONTRACT NO. 66948
ILLINOIS FED. AID PROJECT				

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