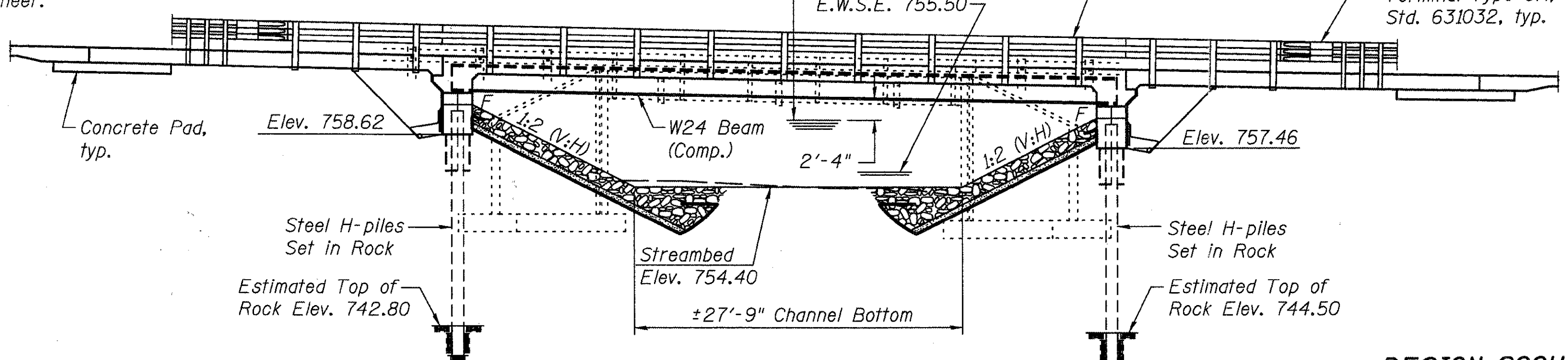
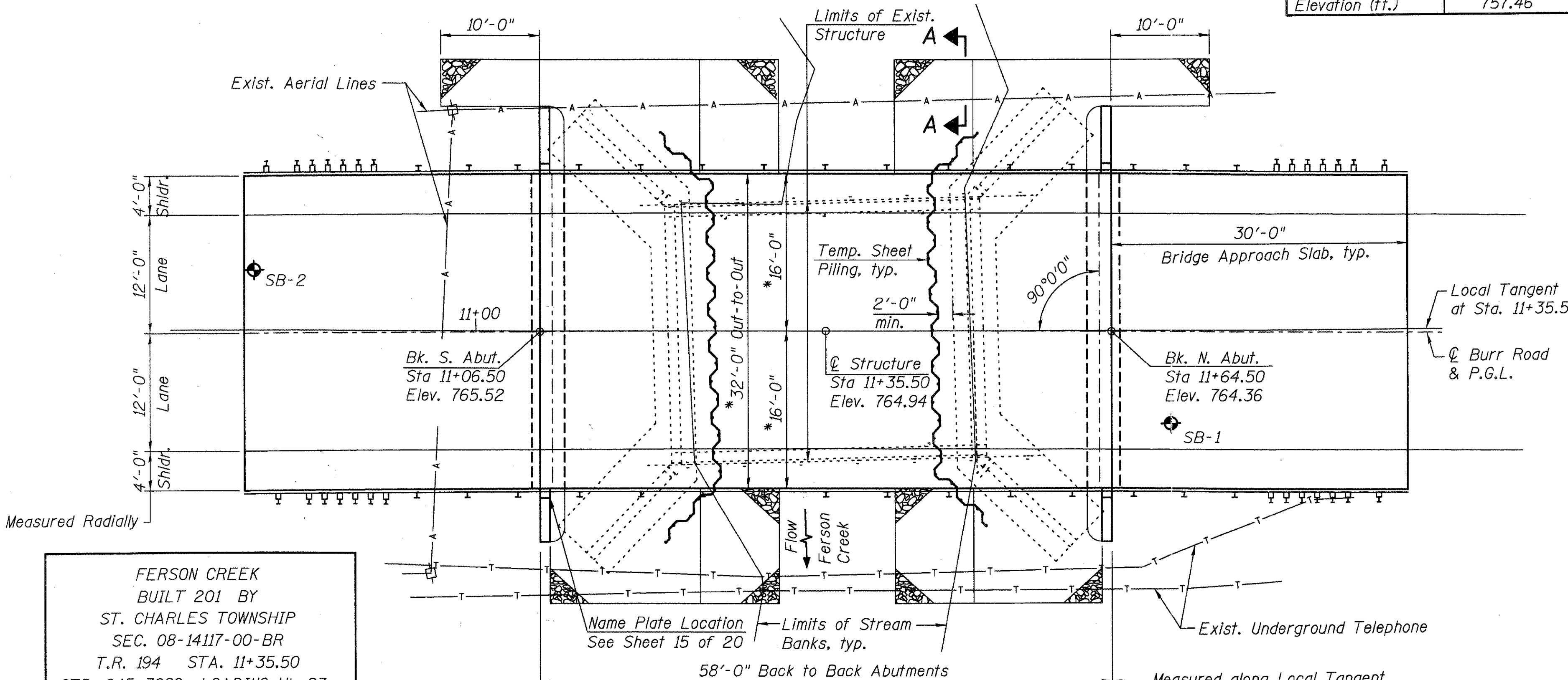
Bench Mark: C.P. #52, I.P. located 123 feet N. of bridge and 16 feet W. of centerline. Elev. 761.45

Existing Structure: S.N. 045-3079, built 1959 by St. Charles Township at Station 11+35.50 as a single span reinforced concrete slab bridge measuring 32'-0" bk.-to-bk abutments and 26'-0" out-to-out. Reinforced concrete closed abutments supported on spread footings. Guardrail and slab repairs in 2008. Existing bridge to be removed and replaced while traffic is detoured.

Existing bridge railing and guardrail to be salvaged. Contractor to deliver to location specified by Engineer.



ELEVATION



PLAN

* Measured Perpendicular to Local Tangent

FERSON CREEK
BUILT 201 BY
ST. CHARLES TOWNSHIP
SEC. 08-14117-00-BR
T.R. 194 STA. 11+35.50
STR. 045-3080 LOADING HL-93

NAME PLATE

See Std. 515001

WATERWAY INFORMATION

Drainage Area = 11.4 sq. mi.
Exist. Low Grade Elev. 761.80 at Sta. 13+50
Prop. Low Grade Elev. 762.10 at Sta. 13+60

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	342	131	137	758.15	0.06	0.00	758.21	758.03
Design	30	611	158	178	758.95	0.19	0.00	759.14	758.89
Base	100	843	177	207	759.34	0.46	0.12	759.80	759.46
Max. Calc.	500	1639	214	284	760.18	2.01	0.79	762.19	760.97

I certify that to the best of 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 compiles with requirements of the current "AASHTO LRFD Bridge Design Specifications".

STATE OF ILLINOIS
ANDREW E. UNDERWAGER
081-006218
CHICAGO, IL
LICENSED STRUCTURAL ENGINEER

Signature: [signature]

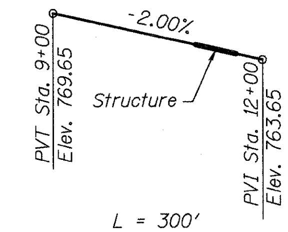
Date 10-21-2011

License Expires: 11-30-2012

CURVE DATA

(Burr-1)

Δ = 4° 08' 44" (RT)
D = 1° 08' 45"
T = 180.96'
L = 361.76'
E = 3.27'
R = 5,000.00
S.E. = 0.02 '/'
P.C. = Sta. 9+98.66
P.T. = Sta. 13+60.41
P.I. = Sta. 11+79.62



PROFILE GRADE

(along ℄ roadway)

DESIGN SCOUR ELEVATION TABLE

	North Abut.	South Abut.
Design Scour Elevation (ft.)	757.46	758.62

INDEX OF SHEETS

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 & 2009 Interims

DESIGN STRESSES

FIELD UNITS

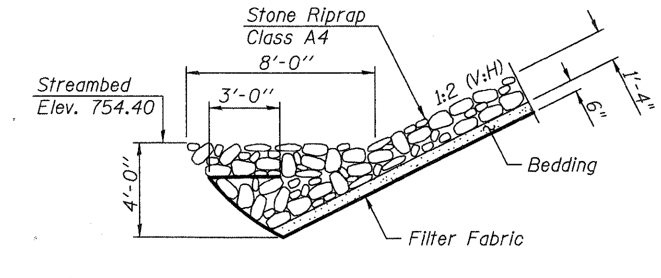
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

LOADING HL-93

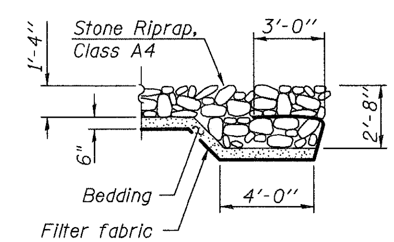
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

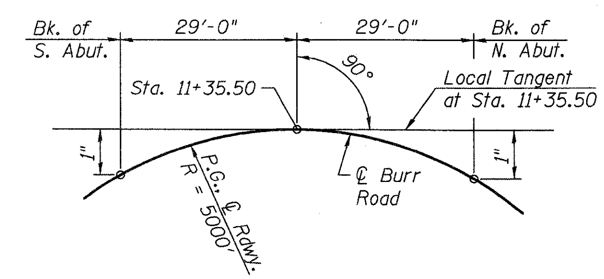
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.086g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.155g
Soil Site Class = D



RIPRAP ANCHOR DETAIL

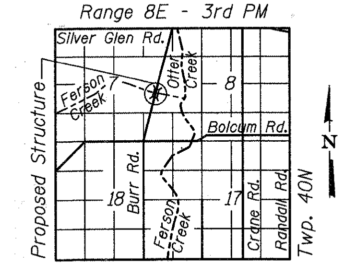


SECTION A-A



OFFSET SKETCH

Range 8E - 3rd PM



LOCATION SKETCH

GENERAL PLAN & ELEVATION
BURR ROAD OVER FERSON CREEK
SEC. 08-14117-00-BR
KANE COUNTY
STATION 11+35.50
STRUCTURE NO. 045-3080

WILLS BURKE KELSEY ASSOCIATES LTD.
116 West Main Street, Suite 201
St. Charles, Illinois 60174

USER NAME = nparris	DESIGNED - HLF	REVISED -
	CHECKED - AEU	REVISED -
PLOT SCALE =	DRAWN - HLF	REVISED -
PLOT DATE = 11/17/2011	CHECKED - AEU	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 045-3080
SHEET NO. 1 OF 20 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0194	08-14117-00-BR	KANE	76	34
		CONTRACT NO. 63645		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

FILE NAME = W:\Projects\2010\100025 BurrFerson\Road\Structural\Dgn\0453080-001-GP&E.dgn