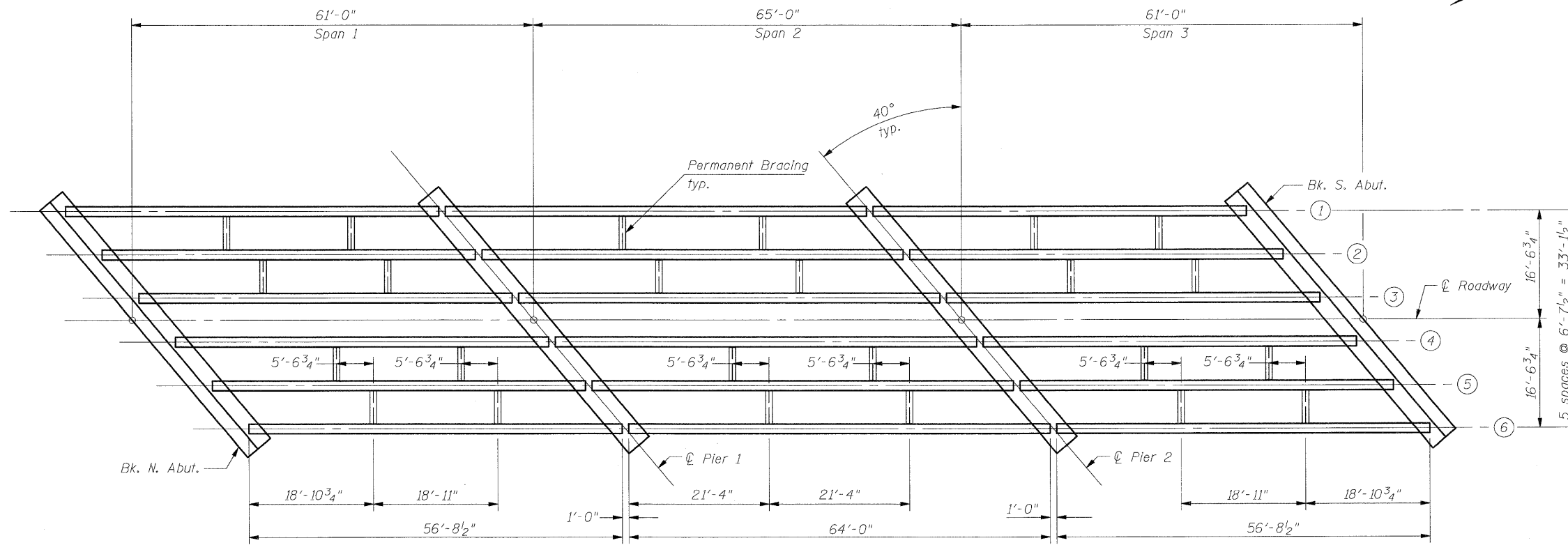
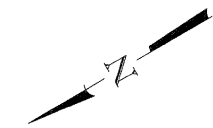


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FRAMING LAYOUT

- I : Non-composite moment of inertia of beam section (in^4).
- I' : Composite moment of inertia of beam section (in^4).
- S_b : Non-composite section modulus for the bottom fiber of the prestressed beam (in^3).
- S_b' : Composite section modulus for the bottom fiber of the prestressed beam (in^3).
- S_t : Non-composite section modulus for the top fiber of the prestressed beam (in^3).
- S_t' : Composite section modulus for the top fiber of the prestressed beam (in^3).
- $DC1$: Un-factored non-composite dead load (kips/ft.).
- M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).
- $DC2$: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_L + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

	N. Abut.	Pier 1, Span 1 Pier 2, Span 3	Pier 1, Span 2 Pier 2, Span 2	S. Abut.
R_{DC1}	(k) 29.0	29.0	32.8	29.0
R_{DC2}	(k) 3.2	5.1	4.7	3.2
R_{DW}	(k) 6.4	10.2	9.4	6.4
$R_{L + IM}$	(k) 66.0	48.5	48.5	66.0
R_{Total}	(k) 104.6	92.8	95.4	104.6

	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I	(in^4) 48,648	48,648	48,648	48,648	48,648
I'	(in^4) 185,794	---	185,794	---	185,794
S_b	(in^3) 3,165.1	3,165.1	3,165.1	3,165.1	3,165.1
S_b'	(in^3) 6,177.0	---	6,177.0	---	6,177.0
S_t	(in^3) 2,358.1	2,358.1	2,358.1	2,358.1	2,358.1
S_t'	(in^3) 31,374.3	---	31,374.3	---	31,374.3
$DC1$	(k/ft) 1.046	1.046	1.046	1.046	1.046
M_{DC1}	(k) 387.3	---	516.4	---	385.0
$DC2$	(k/ft) 0.150	0.150	0.150	0.150	0.150
M_{DC2}	(k) 34.7	52.0	22.1	52.0	24.1
DW	(k/ft) 0.3	0.3	0.3	0.3	0.3
M_{DW}	(k) 69.4	104.0	44.2	104.0	48.2
$M_L + IM$	(k) 635.7	576.2	573.9	577.0	633.5

*The total R_{DC2} , R_{DW} and $R_{L + IM}$ are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span.

DESIGNED	SCD
CHECKED	DRB
DRAWN	THW
CHECKED	SCD

ie CONSULTANTS, INC.
6420 SOUTH SIXTH STREET
SPRINGFIELD, ILLINOIS 62712
TEL. (217) 629-8027
FAX (217) 529-4543
WWW.IE-CONSULTANTS.COM

FRAMING PLAN
S.N. 018-0064

SHEET NO. 17 OF 33 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	116	(112BR1)B	CUMBERLAND	72	48
FED. ROAD DIST. NO. - ILLINOIS			FED. AID PROJECT		
CONTRACT NO. 74236					