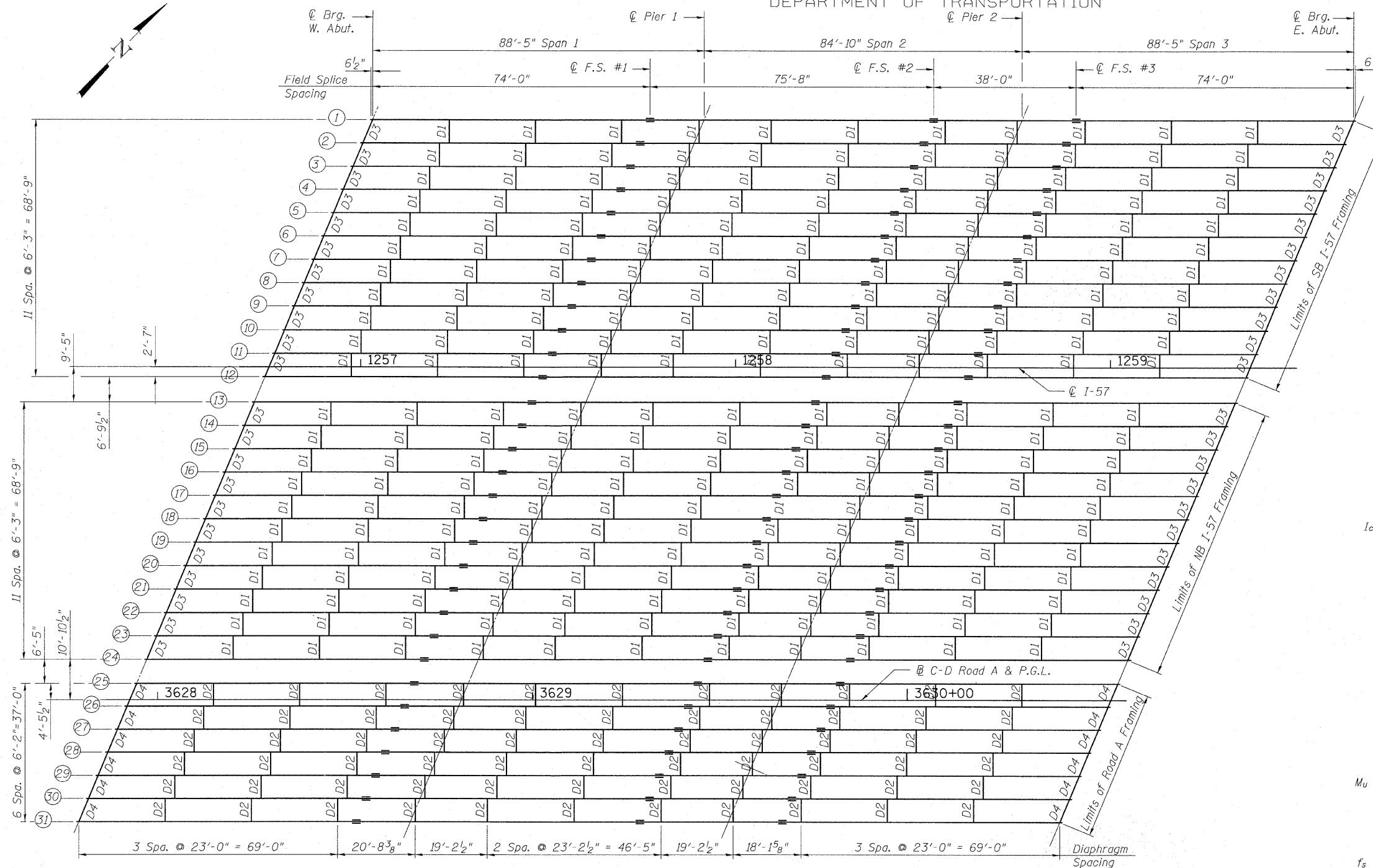


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I_s	(in ⁴) 9290	11,600	11,600
$I_c(n)$	(in ⁴) 22,301	-	25,882
$I_c(3n)$	(in ⁴) 16,314	-	18,970
S_s	(in ³) 549	686	686
$S_c(n)$	(in ³) 766	-	920
$S_c(3n)$	(in ³) 692	-	835
Z	(in ³)	772	
DC1	(k/ft.) 0.825	0.858	0.858
M _{DC1}	(k) 511	660	112
DC2	(k/ft.) 0.128	0.128	0.128
M _{DC2}	(k) 85	89	26
DW	(k/ft.) 0.308	0.308	0.308
M _{DW}	(k) 203	214	63
$M_L + IM$	(k) 1065	793	833
M_u (Strength I)	(k) 2913	2645	1725
$\phi_r M_n, \phi_r M_{nc}$	(k) 3728	3221	4305
f_s DC1	(ksi) 11.2	11.5	1.9
f_s DC2	(ksi) 1.5	1.6	0.4
f_s DW	(ksi) 3.5	3.7	0.9
f_s 1.3(L+IM)	(ksi) 21.7	18.0	14.1
f_s (Service II)	(ksi) 37.9	34.8	17.3
V_r	(k) 27.3	-	16.3

(Controlling cases are beams over C-D Road A)

* Compact sections

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in⁴ and in³).
- Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (in³).
- 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.).
- M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- $\phi_r M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
- f_s (Service II): Sum of stresses as computed from the moments below (ksi).
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_L + IM$
- V_r : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

NOTES

1. All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
2. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
3. All structural steel for beams and splices shall conform to the requirements of AASHTO M270, Grade 50. All other structural steel shall conform to the requirements of AASHTO M270, Grade 36.

FRAMING PLAN

	Abut.	Pier
R_{DC1}	(k) 29.8	80.8
R_{DC2}	(k) 4.6	12.1
R_{DW}	(k) 11.2	29.1
$R_L + IM$	(k) 81.2	118.8
R_{Total}	(k) 126.8	240.8

(Controlling cases are beams over C-D Road A)

**FRAMING PLAN
STRUCTURE NO. 016-1251**

TYLIN INTERNATIONAL	DESIGNED - SP	REVISIONS		SHEET NO. 39	F.A.I RTE. 57	SECTION 1414.2B	COUNTY COOK	TOTAL SHEETS 516	SHEET NO. 284
	CHECKED - SP,	NAME	DATE						
	DRAWN - SP								
	CHECKED - SP, PDF								
	DATE - 03/18/10				CONTRACT NO. 60J27				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT									

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3/17/2010