Live Load Moment

L	6 ft. =	72 in.			
C	0.8		LRFD Continuity Factor	0.8	
Ix	31.887 in^4/ft =	2.657 in^4/in			
Iy	9.069 in^4/ft =	0.756 in^4/in			
E	29000 $kips/in^2$				
Dx		77059.67 $kips\text{-}in^2/in$			
Dy		21915.59 $kips\text{-}in^2/in$			
D		3.518			

$M_{LL\text{-}transverse}$ **	9.34 in kips/in=	9.34 ft kips/ft
$M_{LL\text{-}parallel}$ **	10.53 in kips/in=	10.53 ft kips/ft

DC - Dead Load Moment

w	71.09 PSF	
Dead Load Factor (DC)	1.25 AASHTO LRFD Table 3.4.1-2	
M_{DC} =	0.32 ft kips/ft	$\frac{(DC)wL^2}{8}(C)$

DW - FWS Dead Load Moment

w	26 PSF	
Wearing Surface Dead Load Factor (DW)	1.50 AASHTO LRFD Table 3.4.1-2	
M_{DW} =	0.14 ft kips/ft	$\frac{(DW)wE^2}{8}(C)$

Total Moment

$M = M_{LL} + M_{DC} + M_{DW}$ Mtransverse = 9.80 ft kips/ft

Check for Nominal Moment Capacity
Use cracked section
first concrete in positive bending

$M_{n\text{-}Concrete}$* 27.13995 ft-kips/ft

then check steel in positive bending

$M_{n\text{-}Bot\ fiber}$* 27.61085 ft-kips/ft

then check rebar in negative bending

$M_{n\text{-}Rebar}$* 14.18782 ft-kips/ft

Use lowest

M_n = 14.18782

Check against design moment

MN => Mtransverse ? YES - O.K. ← CHECK