

Lpile Analyses Calculations Forward Abutment - Tangent Shaft Wall

**Bridge No. FRA-33-1747C
S. 3rd Street (U.S. 33) over I-70/71**

Structure File No. 2501554

Columbus, Ohio

Submitted: 7/11/2022



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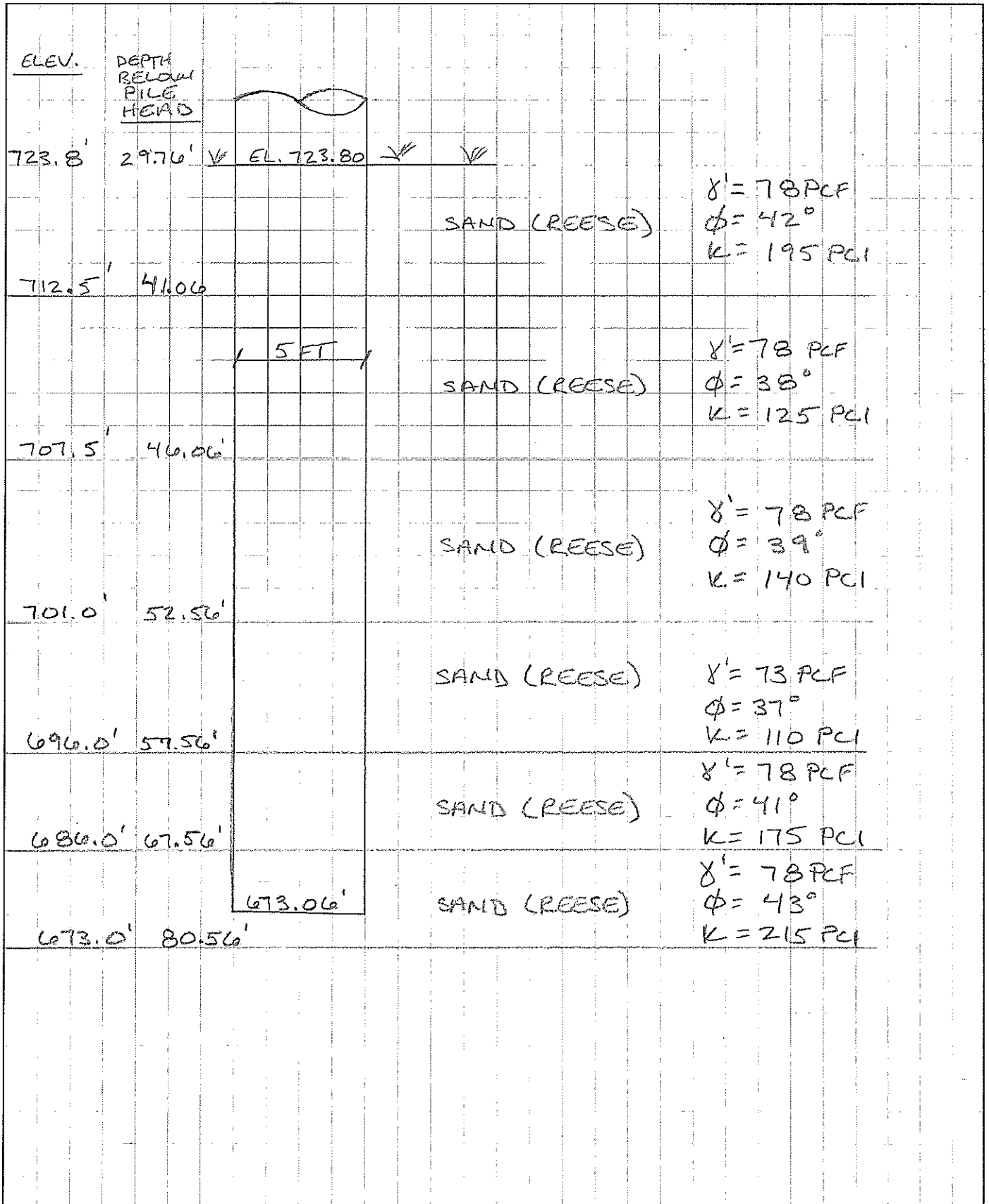


Job FRA-33-1747

Sheet No. 1 of 3

Calculated by MLS Date 4/10/19

Checked by RHC Date 4/20/19



IGNORE

K_a VALUES FOR LATERAL PRESSURE

DEPTH	γ	S_u / ϕ	K_a
753.0 - 746.0	125 PCF	2,000 PSF	
746.0 - 736.0	140 PCF	43°	0.18906
736.0 - 730.0	135 PCF	41°	0.207686
730.0 - 723.8	140 PCF	42°	0.19822858

LATERAL SOIL PRESSURE

DEPTH	SHAFT DIA	γ	K_a	DEPTH
29.76'	(5 FT)	(120 PCF)	(0.333)	(29.76 FT)

$$= 5,946.05 \text{ PLF}$$

$$= \underline{\underline{495.50 \text{ LB/IN}}}$$

DEAD LOADS

FACTORED

MERLIN DASH
 $D_w = 12.6 \text{ KIPS (1000 LBS/KIP)} = 12,600 \text{ LBS (1.50)} = 18,900 \text{ LBS}$

MERLIN DASH
 $P_c = 71.4 \text{ KIPS} + 48.9 \text{ KIPS (1,000 LBS/KIP)} = 60,300 \text{ LBS (1.25)} = 75,375 \text{ LBS}$

LOAD FACTOR FOR LPILE

$$\frac{18,900 \text{ LBS} + 75,375 \text{ LBS}}{12,600 \text{ LBS} + 60,300 \text{ LBS}} = \underline{\underline{1.2932}}$$

DEAD LOAD FOR LPILE

BEAM SPA SHAFT DIA
 $(12,600 \text{ LBS} + 60,300 \text{ LBS}) / 10 \text{ FT} = 7.290 \text{ PLF (5 FT)} = \underline{\underline{36,450 \text{ LBS}}}$

VERTICAL LIVE LOAD FOR LPILE

$$\begin{aligned}
 R_{LL} \text{ (W/O IMPACT) FOR ONE LANE} &= 93.09 \text{ KIPS} / 10 \text{ FT} = 9.309 \text{ PLF} \\
 &= 9.309 \text{ PLF (5 FT)} = \underline{\underline{46,545 \text{ LBS}}}
 \end{aligned}$$

BEARING DESIGN

BEAM SPA

SHAFT DIA

HORIZONTAL SHEAR FORCE FROM BEARINGS

$$H_{bu} = 5,562.44 \text{ lbs/PAD} / 10 \text{ FT} = 556.24 \text{ PLF (5 FT)} = \underline{\underline{2781.22 \text{ LBS}}}$$

BEARING DESIGN

BEAM SPA

SHAFT DIA

LIVE LOAD SURCHARGE

$$\begin{aligned}
 \text{DEPTH} &= 29.76' \\
 \text{SHAFT DIA} &= (5 \text{ FT}) (240 \text{ PSF}) (0.333) = 400 \text{ PLF} = \underline{\underline{33.3 \text{ LBS/IN}}}
 \end{aligned}$$

P-REDUCTION FACTOR

$$B_a = 0.64 (SID)^{0.34} = 0.64 (5.0625 / 5')^{0.34} = \underline{\underline{0.6427}}$$

LPILE DEFLECTIONS

$$\begin{aligned}
 \text{SOIL ONLY} &= 2.72" < 3.57" \therefore \text{OK} \\
 \text{SERVICE STRENGTH} &= 3.86" > 3.57" \therefore \text{N.G.}
 \end{aligned}$$

ALLOW. DEFLECTION

$$\begin{aligned}
 &(0.01) (29.76 \text{ FT}) (12 \text{ IN/FT}) \\
 &= \underline{\underline{3.57"}}
 \end{aligned}$$

\therefore EMBED W30X173

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LPIle for Windows, Version 2019-11.001

Analysis of Individual Piles and Drilled Shafts
Subjected to Lateral Loading Using the p-y Method
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Files Used for Analysis

Path to file locations:
\\2015\\2015370\\FRA\\96053\\structures\\FRA033_1747C\\design\\Final\\Abutment Design\\Forward Abutment\\

Name of input data file:
Forward Abutment with Embedded W30x173 Flange Rebar Only - Bridge.lp11

Name of output report file:
Forward Abutment with Embedded W30x173 Flange Rebar Only - Bridge.lp11

Name of plot output file:
Forward Abutment with Embedded W30x173 Flange Rebar Only - Bridge.lp11

Name of runtime message file:
Forward Abutment with Embedded W30x173 Flange Rebar Only - Bridge.lp11

Date and Time of Analysis

Date: April 19, 2019 Time: 8:55:05

Problem Title

Project Name: FRA-33-1747 - THIRD STREET BRIDGE

Job Number: 2015370

Client: ODOT District 6

Engineer: MLS

Description: Forward Abutment - Bridge

Program Options and Settings

Computational Options:
- Use Load and Resistance Factors (LRFD) in computations
Engineering Units Used for Data Input and Computations:
- US Customary System Units (pounds, feet, inches)

Analysis Control Options:

- Maximum number of iterations allowed	=	500
- Deflection tolerance for convergence	=	1.0000E-05 in
- Maximum allowable deflection	=	100.0000 in
- Number of pile increments	=	100

Loading Type and Number of Cycles of Loading:

- Static loading specified
- Analysis uses p-y modification factors for p-y curves
- Analysis uses layering correction (Method of Georgiadis)
- No distributed lateral loads are entered
- Loading by lateral soil movements acting on pile not selected
- Input of shear resistance at the pile tip not selected
- Input of moment resistance at the pile tip not selected
- Computation of pile-head foundation stiffness matrix not selected
- Push-over analysis of pile not selected
- Buckling analysis of pile not selected

Output Options:

- Output files use decimal points to denote decimal symbols.
- Values of pile-head deflection, bending moment, shear force, and soil reaction are printed for full length of pile.
- Printing Increment (nodal spacing of output points) = 1
- No p-y curves to be computed and reported for user-specified depths
- Print using wide report formats

Pile Structural Properties and Geometry

Number of pile sections defined	=	1
Total length of pile	=	75.010 ft
Depth of ground surface below top of pile	=	29.7600 ft

Pile diameters used for p-y curve computations are defined using 2 points.

p-y curves are computed using pile diameter values interpolated with depth over the length of the pile. A summary of values of pile diameter vs. depth follows.

Point No.	Depth Below Pile Head feet	Pile Diameter inches
1	0.000	60.0000
2	75.010	60.0000

Input Structural Properties for Pile Sections:

Pile Section No. 1:

Section 1 is a round drilled shaft, bored pile, or CIDH pile	
Length of section	= 75.010000 ft
Shaft Diameter	= 60.000000 in
Shear capacity of section	= 0.0000 lbs

Ground Slope and Pile Batter Angles

Ground Slope Angle	= 0.000 degrees
	= 0.000 radians
Pile Batter Angle	= 0.000 degrees
	= 0.000 radians

Soil and Rock Layering Information

The soil profile is modelled using 6 layers

Layer 1 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer	=	29.760000	ft
Distance from top of pile to bottom of layer	=	41.060000	ft
Effective unit weight at top of layer	=	78.000000	pcf
Effective unit weight at bottom of layer	=	78.000000	pcf
Friction angle at top of layer	=	42.000000	deg.
Friction angle at bottom of layer	=	42.000000	deg.
Subgrade k at top of layer	=	195.000000	pci
Subgrade k at bottom of layer	=	195.000000	pci

Layer 2 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer	=	41.060000	ft
Distance from top of pile to bottom of layer	=	46.060000	ft
Effective unit weight at top of layer	=	78.000000	pcf
Effective unit weight at bottom of layer	=	78.000000	pcf
Friction angle at top of layer	=	38.000000	deg.
Friction angle at bottom of layer	=	38.000000	deg.
Subgrade k at top of layer	=	125.000000	pci
Subgrade k at bottom of layer	=	125.000000	pci

Layer 3 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer	=	46.060000	ft
Distance from top of pile to bottom of layer	=	52.560000	ft
Effective unit weight at top of layer	=	78.000000	pcf
Effective unit weight at bottom of layer	=	78.000000	pcf
Friction angle at top of layer	=	39.000000	deg.
Friction angle at bottom of layer	=	39.000000	deg.
Subgrade k at top of layer	=	140.000000	pci
Subgrade k at bottom of layer	=	140.000000	pci

Layer 4 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer	=	52.560000	ft
Distance from top of pile to bottom of layer	=	57.560000	ft
Effective unit weight at top of layer	=	73.000000	pcf
Effective unit weight at bottom of layer	=	73.000000	pcf
Friction angle at top of layer	=	37.000000	deg.
Friction angle at bottom of layer	=	37.000000	deg.
Subgrade k at top of layer	=	110.000000	pci
Subgrade k at bottom of layer	=	110.000000	pci

Layer 5 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer	=	57.560000	ft
Distance from top of pile to bottom of layer	=	67.560000	ft
Effective unit weight at top of layer	=	78.000000	pcf
Effective unit weight at bottom of layer	=	78.000000	pcf
Friction angle at top of layer	=	41.000000	deg.
Friction angle at bottom of layer	=	41.000000	deg.
Subgrade k at top of layer	=	175.000000	pci
Subgrade k at bottom of layer	=	175.000000	pci

Layer 6 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer	=	67.560000	ft
Distance from top of pile to bottom of layer	=	80.560000	ft
Effective unit weight at top of layer	=	78.000000	pcf
Effective unit weight at bottom of layer	=	78.000000	pcf
Friction angle at top of layer	=	43.000000	deg.
Friction angle at bottom of layer	=	43.000000	deg.
Subgrade k at top of layer	=	215.000000	pci
Subgrade k at bottom of layer	=	215.000000	pci

(Depth of the lowest soil layer extends 5.550 ft below the pile tip)

Summary of Input Soil Properties

Layer Layer Num.	Soil Type Name (p-y Curve Type)	Layer Depth ft	Effective Unit Wt. pcf	Angle of Friction deg.	kpy pci
1	Sand	29.7600	78.0000	42.0000	195.0000
	(Reese, et al.)	41.0600	78.0000	42.0000	195.0000
2	Sand	41.0600	78.0000	38.0000	125.0000
	(Reese, et al.)	46.0600	78.0000	38.0000	125.0000
3	Sand	46.0600	78.0000	39.0000	140.0000
	(Reese, et al.)	52.5600	78.0000	39.0000	140.0000
4	Sand	52.5600	73.0000	37.0000	110.0000
	(Reese, et al.)	57.5600	73.0000	37.0000	110.0000
5	Sand	57.5600	78.0000	41.0000	175.0000
	(Reese, et al.)	67.5600	78.0000	41.0000	175.0000
6	Sand	67.5600	78.0000	43.0000	215.0000
	(Reese, et al.)	80.5600	78.0000	43.0000	215.0000

p-y Modification Factors for Group Action

Distribution of p-y modifiers with depth defined using 2 points

Point No.	Depth X ft	p-mult	y-mult
1	29.760	0.6427	1.0000
2	80.500	0.6427	1.0000

Static Loading Type

Static loading criteria were used when computing p-y curves for all analyses.

Unfactored Loading Groups for LRFD Analysis

Number of Loading Groups = 4

Load Group	Load Type	Horiz. Force lbs	Moment in-lbs	Axial Force lbs	Number of Dist. Lds.
1	Horiz. Soil (Hs)	0.00	0.00	0.00	2
2	Live Load (LL)	0.00	0.00	28500.00	2
3	Dead Load (DL)	0.00	0.00	36450.00	0
4	Temperature (Tm)	2781.22	0.00	0.00	0

Number of Distributed Loading Points Input for Load Group 1 = 2

Point	Depth in	Distributed Load lb/inch
1	0.00	0.00
2	357.12	495.50

Number of Distributed Loading Points Input for Load Group 2 = 2

Point	Depth in	Distributed Load lb/inch
1	0.00	33.50
2	357.12	33.50

Totals of Unfactored Loads by Load Type for LRFD Analyses:

Number of Defined Unfactored Load Cases = 4

This table presents the sum of unfactored pile-head loads for each load type.

Load Type	Horiz. Force lbs	Moment in-lbs	Axial Force lbs	Number of Loads
Dead Loads (DL)	0.00	0.00	36450.00	1
Live Loads (LL)	0.00	0.00	28500.00	1
Earthquake (EQ)	0.00	0.00	0.00	0
Impact Load (IM)	0.00	0.00	0.00	0
Wind Loads (W)	0.00	0.00	0.00	0
Water Loads (HW)	0.00	0.00	0.00	0
Ice Loads (Ice)	0.00	0.00	0.00	0
Horiz. Soil (Hs)	0.00	0.00	0.00	1
Live Roof (Lr)	0.00	0.00	0.00	0
Rain Loads (Rn)	0.00	0.00	0.00	0
Snow Loads (Sn)	0.00	0.00	0.00	0
Temperature (Tm)	2781.22	0.00	0.00	1
Special (Sp)	0.00	0.00	0.00	0

Load and Resistance Factors by Load Combinations for LRFD Analyses

Number of Factored Load Combinations = 3

Summary of Load and Resistance Factors:

No.	DL	LL	EQ	IM	Wind	Watr	Ice	Soil	Roof	Rain	Snow	Temp	Spec	M Rf	V Rf	Name
1	--	--	--	--	--	--	--	1.00	--	--	--	--	--	1.00	1.00	Soil Only
2	1.00	1.00	--	--	--	--	--	1.00	--	--	--	1.20	--	1.00	1.00	Service 1
3	1.29	1.75	--	--	--	--	--	1.50	--	--	--	0.50	--	0.90	0.90	Strength 1

Computed Factored Loads for LRFD Analyses

Factored Load Combination No. 1

Load Combination Name = Soil Only

Structural Resistance Factor for Flexure = 1.000
Structural Resistance Factor for Shear = 1.000

Factored Load = + 1.00*Hs

Factored Horizontal Force = 0.00 lbs
Factored Vertical Force = 0.00 lbs
Factored Moment = 0.00 in-lbs

Factored Load Combination No. 2

Load Combination Name = Service 1

Structural Resistance Factor for Flexure = 1.000
Structural Resistance Factor for Shear = 1.000

Factored Load = $1.00 \cdot DL + 1.00 \cdot LL + 1.00 \cdot HS + 1.20 \cdot Tm$

Factored Horizontal Force = 3337.46 lbs
Factored Vertical Force = 64950.00 lbs
Factored Moment = 0.00 in-lbs

Factored Load Combination No. 3

Load Combination Name = Strength 1

Structural Resistance Factor for Flexure = 0.900

Structural Resistance Factor for Shear = 0.900

Factored Load = $1.29 \cdot DL + 1.75 \cdot LL + 1.50 \cdot HS + 0.50 \cdot Tm$

Factored Horizontal Force = 1390.61 lbs
Factored Vertical Force = 96895.50 lbs
Factored Moment = 0.00 in-lbs

Totals of Factored Loads by Load Combination:

Load Combination Number	Factored Horiz. Force lbs	Factored Moment in-lbs	Factored Vert. Force lbs	Load Combination Name
1	0.00	0.00	0.00	Soil Only
2	3337.46	0.00	64950.00	Service 1
3	1390.61	0.00	96895.50	Strength 1

Sorted Values of Axial Thrust Forces Sorted for LRFD Computations:

Number of Unique Axial Thrust Values = 3

Number	Factored Axial Thrust
1	0.000
2	64950.000
3	107661.667

Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

Axial thrust force values were determined from LRFD load combinations

Number of Pile Sections Analyzed = 1

Pile Section No. 1:

Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	75.010000 ft
Shaft Diameter	=	60.000000 in
Number of Reinforcing Bars	=	55 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	2827. sq. in.
Total Area of Reinforcing Steel	=	60.860000 sq. in.
Area Ratio of Steel Reinforcement	=	2.15 percent
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$ = 13057.950 kips
Tensile Load for Cracking of Concrete = -1354.266 kips
Nominal Axial Tensile Capacity = -3651.600 kips

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar Number	Bar Diam. inches	Bar Area sq. in.	X inches	Y inches
1	1.128000	1.000000	22.936000	0.000000
2	1.128000	1.000000	22.399769	4.930562
3	1.128000	1.000000	20.816150	9.630576
4	1.128000	1.000000	18.259191	13.880276
5	1.128000	1.000000	14.848452	17.480949
6	1.128000	1.000000	10.743416	20.264232
7	1.128000	1.000000	6.136030	22.099983
8	1.128000	1.000000	1.241730	22.902362
9	1.128000	1.000000	-3.710632	22.633853
10	1.128000	1.000000	-8.489489	21.307010
11	1.128000	1.000000	-12.871387	18.983875
12	1.128000	1.000000	-16.651433	15.773075
13	1.128000	1.000000	-19.652876	11.824743
14	1.128000	1.000000	-21.735373	7.323500
15	1.128000	1.000000	-22.801548	2.479818
16	1.128000	1.000000	-22.801548	-2.479818
17	1.128000	1.000000	-21.735373	-7.323500
18	1.128000	1.000000	-19.652876	-11.824743
19	1.128000	1.000000	-16.651433	-15.773075
20	1.128000	1.000000	-12.871387	-18.983875
21	1.128000	1.000000	-8.489489	-21.307010
22	1.128000	1.000000	-3.710632	-22.633853
23	1.128000	1.000000	1.241730	-22.902362
24	1.128000	1.000000	6.136030	-22.099983
25	1.128000	1.000000	10.743416	-20.264232
26	1.128000	1.000000	14.848452	-17.480949
27	1.128000	1.000000	18.259191	-13.880276
28	1.128000	1.000000	20.816150	-9.630576
29	1.128000	1.000000	22.399769	-4.930562
30	0.375000	0.110000	-7.305000	14.687500
31	1.410000	1.560000	-6.087500	14.687500
32	1.410000	1.560000	-4.870000	14.687500
33	1.410000	1.560000	-3.652500	14.687500
34	1.410000	1.560000	-2.435000	14.687500
35	1.410000	1.560000	-1.217500	14.687500
36	0.375000	0.110000	0.000000	14.687500
37	1.410000	1.560000	1.217500	14.687500
38	1.410000	1.560000	2.435000	14.687500
39	1.410000	1.560000	3.652500	14.687500
40	1.410000	1.560000	4.870000	14.687500
41	1.410000	1.560000	6.087500	14.687500
42	0.375000	0.110000	7.305000	14.687500
43	0.375000	0.110000	-7.305000	-14.687500
44	1.410000	1.560000	-6.087500	-14.687500
45	1.410000	1.560000	-4.870000	-14.687500
46	1.410000	1.560000	-3.652500	-14.687500
47	1.410000	1.560000	-2.435000	-14.687500
48	1.410000	1.560000	-1.217500	-14.687500
49	0.375000	0.110000	0.000000	-14.687500
50	1.410000	1.560000	1.217500	-14.687500
51	1.410000	1.560000	2.435000	-14.687500
52	1.410000	1.560000	3.652500	-14.687500
53	1.410000	1.560000	4.870000	-14.687500
54	1.410000	1.560000	6.087500	-14.687500
55	0.375000	0.110000	7.305000	-14.687500

NOTE: The positions of the above rebars were input by the user

Minimum spacing between any two bars not equal to zero = 0.325 inches
between bars 30 and 31.

Ratio of bar spacing to maximum aggregate size = .43

Concrete Properties:

Compressive Strength of Concrete = 4000. psi
Modulus of Elasticity of Concrete = 3604997. psi
Modulus of Rupture of Concrete = -474.341649 psi
Compression Strain at Peak Stress = 0.001886
Tensile Strain at Fracture of Concrete = -0.0001154
Maximum Coarse Aggregate Size = 0.750000 in

Number of Axial Thrust Force Values Determined from LRFD Pile-head Loadings = 3

Number	Axial Thrust Force kips
1	0.000
2	64.950
3	107.662

Definitions of Run Messages and Notes:

C = concrete in section has cracked in tension.
Y = stress in reinforcing steel has reached yield stress.
T = ACI 318 criteria for tension-controlled section met, tensile strain in reinforcement exceeds 0.005 while simultaneously compressive strain in concrete more than 0.003. See ACI 318, Section 10.3.4.
Z = depth of tensile zone in concrete section is less than 10 percent of section depth.

Bending Stiffness (EI) = Computed Bending Moment / Curvature.
Position of neutral axis is measured from edge of compression side of pile.
Compressive stresses and strains are positive in sign.
Tensile stresses and strains are negative in sign.

Axial Thrust Force = 0.000 kips

Bending Curvature rad/in.	Bending Moment in-kip	Bending Stiffness kip-in ²	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in	Max Conc Stress ksi	Max Steel Stress ksi	Run Msg
4.16667E-07	1271.	3051243112.	29.9973208	0.00001250	-0.00001250	0.0523076	-0.2864074	
8.33333E-07	2538.	3045287899.	29.9973131	0.00002500	-0.00002500	0.1042710	-0.5728149	
0.00000125	3799.	3039332686.	29.9973054	0.00003750	-0.00003750	0.1558900	-0.8592227	
0.00000167	5056.	3033377473.	29.9972977	0.00005000	-0.00005000	0.2071648	-1.1456306	
0.00000208	6307.	3027422260.	29.9972899	0.00006249	-0.00006251	0.2580953	-1.4320387	
0.00000250	7554.	3021467047.	29.9972821	0.00007499	-0.00007501	0.3086815	-1.7184470	
0.00000292	8795.	3015511834.	29.9972743	0.00008749	-0.00008751	0.3589234	-2.0048555	
0.00000333	10032.	3009556621.	29.9972664	0.00009999	-0.00010000	0.4088210	-2.2912642	
0.00000375	11264.	3003601408.	29.9972584	0.0001125	-0.0001125	0.4583743	-2.5776731	
0.00000417	11264.	2703241267.	17.8684321	0.00007445	-0.0001755	0.3044373	-4.3296478	C
0.00000458	11264.	2457492061.	17.8738275	0.00008192	-0.0001931	0.3343188	-4.7618954	C
0.00000500	11264.	2252701056.	17.8792341	0.00008940	-0.0002106	0.3640974	-5.1940110	C
0.00000542	11264.	2079416359.	17.8846519	0.00009688	-0.0002281	0.3937729	-5.6259943	C
0.00000583	11264.	1930886619.	17.8900810	0.0001044	-0.0002456	0.4233452	-6.0578446	C
0.00000625	11264.	1802160845.	17.8955214	0.0001118	-0.0002632	0.4528141	-6.4895617	C
0.00000667	11264.	1689525792.	17.9009732	0.0001193	-0.0002807	0.4821794	-6.9211452	C
0.00000708	11264.	1590141922.	17.9064365	0.0001268	-0.0002982	0.5114410	-7.3525945	C
0.00000750	11264.	1501800704.	17.9119112	0.0001343	-0.0003157	0.5405987	-7.7839093	C
0.00000792	11264.	1422758562.	17.9173975	0.0001418	-0.0003332	0.5696523	-8.2150891	C
0.00000833	11264.	1351620633.	17.9228953	0.0001494	-0.0003506	0.5986016	-8.6461336	C
0.00000875	11264.	1287257746.	17.9284048	0.0001569	-0.0003681	0.6274465	-9.0770423	C
0.00000917	11264.	1228746030.	17.9339259	0.0001644	-0.0003856	0.6561868	-9.5078147	C
0.00000958	11264.	1175322290.	17.9394588	0.0001719	-0.0004031	0.6848223	-9.9384504	C
0.00001000	11264.	1126350528.	17.9450034	0.0001795	-0.0004205	0.7133528	-10.3689490	C
0.00001042	11264.	1081296507.	17.9505599	0.0001870	-0.0004380	0.7417782	-10.7993100	C
0.00001083	11264.	1039708180.	17.9561283	0.0001945	-0.0004555	0.7700983	-11.2295330	C
0.00001125	11264.	1001200469.	17.9617086	0.0002021	-0.0004729	0.7983129	-11.6596176	C
0.00001167	11264.	965443310.	17.9673008	0.0002096	-0.0004904	0.8264218	-12.0895632	C
0.00001208	11264.	932152161.	17.9729052	0.0002172	-0.0005078	0.8544248	-12.5193695	C
0.00001250	11264.	901080422.	17.9785216	0.0002247	-0.0005253	0.8823218	-12.9490359	C
0.00001292	11569.	895660246.	17.9841501	0.0002323	-0.0005427	0.9101126	-13.3785621	C
0.00001333	11938.	895344765.	17.9897909	0.0002399	-0.0005601	0.9377969	-13.8079475	C
0.00001375	12307.	895028693.	17.9954439	0.0002474	-0.0005776	0.9653747	-14.2371917	C
0.00001417	12675.	894712025.	18.0011092	0.0002550	-0.0005950	0.9928457	-14.6662943	C
0.00001458	13043.	894394760.	18.0067868	0.0002626	-0.0006124	1.0202097	-15.0952547	C
0.00001500	13411.	894076894.	18.0124769	0.0002702	-0.0006298	1.0474666	-15.5240725	C
0.00001542	13779.	893758427.	18.0181795	0.0002778	-0.0006472	1.0746161	-15.9527473	C

0.00001583	14146.	893439355.	18.0238945	0.0002854	-0.0006646	1.1016581	-16.3812784 C
0.00001625	14513.	893119675.	18.0296222	0.0002930	-0.0006820	1.1285924	-16.8096655 C
0.00001708	15247.	892478468.	18.0411155	0.0003082	-0.0007168	1.1821371	-17.6660059 C
0.00001792	15979.	891834816.	18.0526598	0.0003234	-0.0007516	1.2352485	-18.5217640 C
0.00001875	16710.	891188683.	18.0642555	0.0003387	-0.0007863	1.2879252	-19.3769362 C
0.00001958	17440.	890540048.	18.0759032	0.0003540	-0.0008210	1.3401657	-20.2315185 C
0.00002042	18169.	889888891.	18.0876033	0.0003693	-0.0008557	1.3919682	-21.0855068 C
0.00002125	18896.	889235189.	18.0993563	0.0003846	-0.0008904	1.4433312	-21.9388969 C
0.00002208	19623.	888578921.	18.1111626	0.0004000	-0.0009250	1.4942532	-22.7916849 C
0.00002292	20348.	887920065.	18.1230229	0.0004153	-0.0009597	1.5447324	-23.6438663 C
0.00002375	21072.	887258598.	18.1349375	0.0004307	-0.0009943	1.5947672	-24.4954371 C
0.00002458	21795.	886594498.	18.1469070	0.0004461	-0.0010289	1.6443559	-25.3463929 C
0.00002542	22517.	885927742.	18.1589319	0.0004615	-0.0010635	1.6934969	-26.1967294 C
0.00002625	23238.	885258306.	18.1710127	0.0004770	-0.0010980	1.7421885	-27.0464420 C
0.00002708	23958.	884586166.	18.1831500	0.0004925	-0.0011325	1.7904289	-27.8955264 C
0.00002792	24676.	883911299.	18.1953442	0.0005080	-0.0011670	1.8382163	-28.7439781 C
0.00002875	25393.	883233681.	18.2075960	0.0005235	-0.0012015	1.8855492	-29.5917924 C
0.00002958	26109.	882553286.	18.2199059	0.0005390	-0.0012360	1.9324256	-30.4389647 C
0.00003042	26824.	881870090.	18.2322744	0.0005546	-0.0012704	1.9788438	-31.2854903 C
0.00003125	27537.	881184067.	18.2447021	0.0005701	-0.0013049	2.0248019	-32.1313644 C
0.00003208	28249.	880495191.	18.2571897	0.0005858	-0.0013392	2.0702982	-32.9765822 C
0.00003292	28960.	879803437.	18.2697376	0.0006014	-0.0013736	2.1153307	-33.8211388 C
0.00003375	29670.	879108777.	18.2823465	0.0006170	-0.0014080	2.1598977	-34.6650292 C
0.00003458	30378.	878411234.	18.2950170	0.0006327	-0.0014423	2.2039973	-35.5082474 C
0.00003542	31086.	877711254.	18.3075063	0.0006484	-0.0014766	2.2476031	-36.3510403 C
0.00003625	31792.	877008736.	18.3198984	0.0006641	-0.0015109	2.2907211	-37.1933318 C
0.00003708	32496.	876303305.	18.3323500	0.0006798	-0.0015452	2.3333645	-38.0349602 C
0.00003792	33200.	875594934.	18.3448618	0.0006956	-0.0015794	2.3755315	-38.8759207 C
0.00003875	33902.	874883597.	18.3574343	0.0007114	-0.0016136	2.4172201	-39.7162081 C
0.00003958	34603.	874169266.	18.3700681	0.0007271	-0.0016479	2.4584284	-40.5558175 C
0.00004042	35302.	873451913.	18.3827639	0.0007430	-0.0016820	2.4991544	-41.3947437 C
0.00004125	36000.	872731509.	18.3955223	0.0007588	-0.0017162	2.5393960	-42.2329814 C
0.00004208	36697.	872008027.	18.4083439	0.0007747	-0.0017503	2.5791513	-43.0705252 C
0.00004292	37392.	871281437.	18.4212294	0.0007906	-0.0017844	2.6184181	-43.9073698 C
0.00004375	38087.	870551709.	18.4341793	0.0008065	-0.0018185	2.6571944	-44.7435098 C
0.00004458	38779.	869818813.	18.4471945	0.0008224	-0.0018526	2.6954781	-45.5789396 C
0.00004542	39471.	869082719.	18.4602756	0.0008384	-0.0018866	2.7332670	-46.4136536 C
0.00004625	40161.	868343396.	18.4734232	0.0008544	-0.0019206	2.7705591	-47.2476460 C
0.00004708	40850.	867600812.	18.4866380	0.0008704	-0.0019546	2.8073520	-48.0809112 C
0.00004792	41537.	866854936.	18.4999209	0.0008865	-0.0019885	2.8436437	-48.9134432 C
0.00004875	42223.	866105735.	18.5132724	0.0009025	-0.0020225	2.8794319	-49.7452361 C
0.00004958	42907.	865353175.	18.5266933	0.0009186	-0.0020564	2.9147142	-50.5762838 C
0.00005292	45631.	862308680.	18.5810861	0.0009832	-0.0021918	3.0507398	-53.8928998 C
0.00005625	48330.	859207681.	18.6366514	0.0010483	-0.0023267	3.1784846	-57.1970872 C
0.00005958	51006.	856041117.	18.6933938	0.0011138	-0.0024612	3.2977850	-60.0000000 CY
0.00006292	53485.	850090281.	18.7307897	0.0011785	-0.0025965	3.4063605	-60.0000000 CY
0.00006625	55697.	840706649.	18.7421668	0.0012417	-0.0027333	3.5036224	-60.0000000 CY
0.00006958	57760.	830083156.	18.7430534	0.0013042	-0.0028708	3.5913019	-60.0000000 CY
0.00007292	59726.	819098491.	18.7401012	0.0013665	-0.0030085	3.6701338	-60.0000000 CY
0.00007625	61609.	807992034.	18.7350766	0.0014285	-0.0031465	3.7403354	-60.0000000 CY
0.00007958	63287.	795232119.	18.7114547	0.0014891	-0.0032859	3.8007173	-60.0000000 CY
0.00008292	64027.	772180774.	18.5738292	0.0015401	-0.0034349	3.8452061	-60.0000000 CY
0.00008625	64529.	748160039.	18.4200456	0.0015887	-0.0035863	3.8824081	-60.0000000 CY
0.00008958	64988.	725443937.	18.2742925	0.0016371	-0.0037379	3.9143155	-60.0000000 CY
0.00009292	65399.	703841361.	18.1311159	0.0016847	-0.0038903	3.9408061	-60.0000000 CY
0.00009625	65787.	683498614.	17.9977979	0.0017323	-0.0040427	3.9624094	-60.0000000 CY
0.00009958	66129.	664053547.	17.8699491	0.0017795	-0.0041955	3.9790235	-60.0000000 CY
0.0001029	66458.	645745052.	17.7516177	0.0018269	-0.0043481	3.9908516	-60.0000000 CY
0.0001063	66760.	628330171.	17.6369984	0.0018739	-0.0045011	3.9978022	-60.0000000 CY
0.0001096	67026.	611644253.	17.5245893	0.0019204	-0.0046546	3.9996059	-60.0000000 CY
0.0001129	67281.	595842174.	17.4202480	0.0019670	-0.0048080	3.9995108	-60.0000000 CY
0.0001163	67527.	580880949.	17.3237775	0.0020139	-0.0049611	3.9975422	-60.0000000 CY
0.0001196	67744.	566497329.	17.2306709	0.0020605	-0.0051145	3.9999702	-60.0000000 CY
0.0001229	67935.	552692851.	17.1417148	0.0021070	-0.0052680	3.9984280	-60.0000000 CY
0.0001263	68119.	539556032.	17.0564733	0.0021534	-0.0054216	3.9993780	-60.0000000 CY
0.0001296	68295.	527032745.	16.9752009	0.0021997	-0.0055753	3.9985070	-60.0000000 CY
0.0001329	68457.	515036395.	16.8976532	0.0022460	-0.0057290	3.9997386	-60.0000000 CY
0.0001363	68602.	503498176.	16.8235573	0.0022922	-0.0058828	3.9978544	-60.0000000 CY
0.0001396	68733.	492415659.	16.7523425	0.0023383	-0.0060367	3.9999179	-60.0000000 CY
0.0001429	68860.	481821001.	16.6860586	0.0023847	-0.0061903	3.9960959	-60.0000000 CY
0.0001462	68985.	471689427.	16.6240023	0.0024313	-0.0063437	3.9992755	-60.0000000 CY
0.0001496	69106.	461989822.	16.5659125	0.0024780	-0.0064970	3.9973857	-60.0000000 CY
0.0001529	69214.	452628179.	16.5099661	0.0025246	-0.0066504	3.9972178	-60.0000000 CY
0.0001562	69315.	443614333.	16.4536307	0.0025709	-0.0068041	3.9996146	-60.0000000 CY
0.0001596	69400.	434882391.	16.3976656	0.0026168	-0.0069582	3.9961128	-60.0000000 CY
0.0001629	69483.	426491874.	16.3451118	0.0026629	-0.0071121	3.9966908	-60.0000000 CY
0.0001662	69564.	418428649.	16.2954109	0.0027091	-0.0072659	3.9992955	-60.0000000 CY
0.0001696	69643.	410671862.	16.2484915	0.0027555	-0.0074195	3.9986432	-60.0000000 CY
0.0001729	69720.	403198134.	16.2045378	0.0028020	-0.0075730	3.9945131	-60.0000000 CY

0.0001762	69795.	395999883.	16.1628757	0.0028487	-0.0077263	3.9979990	-60.0000000	CY
0.0001796	69861.	389019231.	16.1217299	0.0028952	-0.0078798	3.9997570	-60.0000000	CY
0.0001829	69926.	382282148.	16.0829301	0.0029418	-0.0080332	3.9959430	-60.0000000	CY
0.0002029	70227.	346088585.	15.8762098	0.0032215	-0.0089535	3.9952723	-60.0000000	CYT
0.0002229	70467.	316114392.	15.7090092	0.0035018	-0.0098732	3.9964307	60.0000000	CYT
0.0002429	70621.	290722800.	15.5727198	0.0037829	-0.0107921	3.9943292	60.0000000	CYT
0.0002629	70621.	268607595.	15.6017722	0.0041020	-0.0116730	3.9942237	60.0000000	CYT

Axial Thrust Force = 64.950 kips

Bending Curvature rad/in.	Bending Moment in-kip	Bending Stiffness kip-in2	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in	Max Conc Stress ksi	Max Steel Stress ksi	Run Msg
4.16667E-07	1271.	3049539395.	41.5756461	0.00001732	-0.00000768	0.0726080	0.4262474	
8.33333E-07	2537.	3044401386.	35.8001259	0.00002983	-0.00002017	0.1244846	0.7129197	
0.00000125	3798.	3038735043.	33.8752255	0.00004234	-0.00003266	0.1760177	0.9996019	
0.00000167	5055.	3032926103.	32.9128505	0.00005485	-0.00004515	0.2272064	1.2862878	
0.00000208	6306.	3027059071.	32.3354646	0.00006737	-0.00005763	0.2780506	1.5729760	
0.00000250	7553.	3021162779.	31.9505679	0.00007988	-0.00007012	0.3285500	1.8596662	
0.00000292	8794.	3015249695.	31.6756624	0.00009239	-0.00008261	0.3787048	2.1463581	
0.00000333	10031.	3009326102.	31.4695013	0.0001049	-0.00009510	0.4285149	2.4330518	
0.00000375	11263.	3003395489.	31.3091690	0.0001174	-0.0001076	0.4779803	2.7197471	
0.00000417	11263.	2703055940.	21.0093270	0.00008754	-0.0001625	0.3575953	-3.9501230	C
0.00000458	11263.	2457323582.	20.7508659	0.00009511	-0.0001799	0.3876611	-4.3794891	C
0.00000500	11263.	2252546617.	20.5317817	0.0001027	-0.0001973	0.4175281	-4.8093916	C
0.00000542	11263.	2079273800.	20.3459934	0.0001102	-0.0002148	0.4472622	-5.2393585	C
0.00000583	11263.	1930754243.	20.1874744	0.0001178	-0.0002322	0.4768893	-5.6692022	C
0.00000625	11263.	1802037294.	20.0493793	0.0001253	-0.0002497	0.5063748	-6.0991750	C
0.00000667	11263.	1689409963.	19.9270326	0.0001328	-0.0002672	0.5356965	-6.5294403	C
0.00000708	11263.	1590032906.	19.8196938	0.0001404	-0.0002846	0.5649118	-6.9595796	C
0.00000750	11263.	1501697745.	19.7248631	0.0001479	-0.0003021	0.5940204	-7.3895922	C
0.00000792	11263.	1422661021.	19.6405674	0.0001555	-0.0003195	0.6230222	-7.8194780	C
0.00000833	11263.	1351527970.	19.5652278	0.0001630	-0.0003370	0.6519170	-8.2492366	C
0.00000875	11263.	1287169495.	19.4974945	0.0001706	-0.0003544	0.6807022	-8.6788857	C
0.00000917	11263.	1228661791.	19.4346600	0.0001782	-0.0003718	0.7093188	-9.1088695	C
0.00000958	11263.	1175241713.	19.3777609	0.0001857	-0.0003893	0.7378288	-9.5387223	C
0.00001000	11263.	1126273308.	19.3260567	0.0001933	-0.0004067	0.7662321	-9.9684435	C
0.00001042	11263.	1081222376.	19.2789254	0.0002008	-0.0004242	0.7945284	-10.3980329	C
0.00001083	11263.	1039636900.	19.2358407	0.0002084	-0.0004416	0.8227176	-10.8274900	C
0.00001125	11263.	1001131830.	19.1963541	0.0002160	-0.0004590	0.8507996	-11.2568145	C
0.00001167	11263.	9653771122.	19.1600813	0.0002235	-0.0004765	0.8787740	-11.6860058	C
0.00001208	11599.	959923896.	19.1266911	0.0002311	-0.0004939	0.9066409	-12.1150636	C
0.00001250	11968.	957431917.	19.0958963	0.0002387	-0.0005113	0.9343999	-12.5439875	C
0.00001292	12336.	955079532.	19.0674469	0.0002463	-0.0005287	0.9620510	-12.9727771	C
0.00001333	12705.	952853599.	19.0411241	0.0002539	-0.0005461	0.9895938	-13.4014320	C
0.00001375	13073.	950742567.	19.0167357	0.0002615	-0.0005635	1.0170284	-13.8299516	C
0.00001417	13440.	948736245.	18.9941118	0.0002691	-0.0005809	1.0443544	-14.2583357	C
0.00001458	13808.	946825606.	18.9731025	0.0002767	-0.0005983	1.0715716	-14.6865837	C
0.00001500	14175.	945002626.	18.9535739	0.0002843	-0.0006157	1.0986800	-15.1146953	C
0.00001542	14542.	943260098.	18.9354072	0.0002919	-0.0006331	1.1256792	-15.5426704	C
0.00001583	14909.	941591724.	18.9184957	0.0002995	-0.0006505	1.1525692	-15.9705077	C
0.00001625	15275.	939991701.	18.9027437	0.0003072	-0.0006678	1.1793498	-16.3982073	C
0.00001708	16007.	936974431.	18.8735941	0.0003224	-0.0007026	1.2325343	-17.2535819	C
0.00001792	16737.	934174905.	18.8481794	0.0003377	-0.0007373	1.2852766	-18.1084250	C
0.00001875	17467.	931563985.	18.8260819	0.0003530	-0.0007720	1.3375802	-18.9626929	C
0.00001958	18195.	929117261.	18.8068847	0.0003683	-0.0008067	1.3894434	-19.8163817	C
0.00002042	18922.	926814303.	18.7902392	0.0003836	-0.0008414	1.4408647	-20.6694875	C
0.00002125	19649.	924637841.	18.7758518	0.0003990	-0.0008760	1.4918424	-21.5220068	C
0.00002208	20373.	922573337.	18.7634729	0.0004144	-0.0009106	1.5423751	-22.3739345	C
0.00002292	21097.	920608232.	18.7528896	0.0004298	-0.0009452	1.5924610	-23.2252674	C
0.00002375	21820.	918731771.	18.7439187	0.0004452	-0.0009798	1.6420986	-24.0760012	C
0.00002458	22541.	916934655.	18.7364021	0.0004606	-0.0010144	1.6912861	-24.9261318	C
0.00002542	23262.	915208802.	18.7302024	0.0004761	-0.0010489	1.7400220	-25.7756550	C
0.00002625	23981.	913547153.	18.7251998	0.0004915	-0.0010835	1.7883044	-26.6245666	C
0.00002708	24698.	911943513.	18.7212893	0.0005070	-0.0011180	1.8361318	-27.4728624	C
0.00002792	25415.	910392425.	18.7183784	0.0005226	-0.0011524	1.8835023	-28.3205378	C
0.00002875	26131.	908889061.	18.7163854	0.0005381	-0.0011869	1.9304143	-29.1675886	C
0.00002958	26845.	907429136.	18.7152381	0.0005537	-0.0012213	1.9768660	-30.0140102	C
0.00003042	27558.	906008830.	18.7148720	0.0005692	-0.0012558	2.0228556	-30.8597982	C
0.00003125	28270.	904624726.	18.7152297	0.0005849	-0.0012901	2.0683814	-31.7049480	C
0.00003208	28980.	903273762.	18.7162598	0.0006005	-0.0013245	2.1134414	-32.5494549	C
0.00003292	29689.	901953181.	18.7179161	0.0006161	-0.0013589	2.1580339	-33.3933142	C
0.00003375	30397.	900660498.	18.7201571	0.0006318	-0.0013932	2.2021570	-34.2365212	C
0.00003458	31104.	899393462.	18.7229454	0.0006475	-0.0014275	2.2458089	-35.0790710	C
0.00003542	31809.	898150032.	18.7262470	0.0006632	-0.0014618	2.2889877	-35.9209587	C
0.00003625	32514.	896928352.	18.7300314	0.0006790	-0.0014960	2.3316914	-36.7621795	C
0.00003708	33217.	895726731.	18.7342705	0.0006947	-0.0015303	2.3739180	-37.6027283	C

0.00003792	33918.	894543621.	18.7389391	0.0007105	-0.0015645	2.4156658	-38.4425999	C
0.00003875	34618.	893377609.	18.7440141	0.0007263	-0.0015987	2.4569326	-39.2817893	C
0.00003958	35317.	892227393.	18.7494743	0.0007422	-0.0016328	2.4977165	-40.1202911	C
0.00004042	36015.	891091779.	18.7553004	0.0007580	-0.0016670	2.5380154	-40.9581002	C
0.00004125	36711.	889969666.	18.7614748	0.0007739	-0.0017011	2.5778273	-41.7952110	C
0.00004208	37406.	888860037.	18.7679812	0.0007898	-0.0017352	2.6171502	-42.6316183	C
0.00004292	38100.	887761952.	18.7748047	0.0008058	-0.0017692	2.6559819	-43.4673163	C
0.00004375	38792.	886674539.	18.7819316	0.0008217	-0.0018033	2.6943203	-44.3022997	C
0.00004458	39483.	885596989.	18.7893494	0.0008377	-0.0018373	2.7321632	-45.1365625	C
0.00004542	40172.	884528549.	18.7970463	0.0008537	-0.0018713	2.7695086	-45.9700992	C
0.00004625	40860.	883468519.	18.8050116	0.0008697	-0.0019053	2.8063542	-46.8029038	C
0.00004708	41547.	882416243.	18.8132355	0.0008858	-0.0019392	2.8426978	-47.6349704	C
0.00004792	42232.	881371112.	18.8217088	0.0009019	-0.0019731	2.8785371	-48.4662930	C
0.00004875	42916.	880332551.	18.8304229	0.0009180	-0.0020070	2.9138699	-49.2968655	C
0.00004958	43599.	879300025.	18.8393701	0.0009341	-0.0020409	2.9486939	-50.1266816	C
0.00005292	46314.	875220663.	18.8773524	0.0009989	-0.0021761	3.0828544	-53.4382545	C
0.00005625	49005.	871204224.	18.9179483	0.0010641	-0.0023109	3.2086156	-56.7382217	C
0.00005958	51672.	867229843.	18.9606110	0.0011297	-0.0024453	3.3257931	-60.0000000	CY
0.00006292	54192.	861324993.	18.9915352	0.0011949	-0.0025801	3.4328620	-60.0000000	CY
0.00006625	56418.	851597899.	18.9951643	0.0012584	-0.0027166	3.5283482	-60.0000000	CY
0.00006958	58492.	840604045.	18.9890849	0.0013213	-0.0028537	3.6141812	-60.0000000	CY
0.00007292	60460.	829166370.	18.9791217	0.0013839	-0.0029911	3.6910193	-60.0000000	CY
0.00007625	62343.	817618328.	18.9676655	0.0014463	-0.0031287	3.7591461	-60.0000000	CY
0.00007958	64076.	805146127.	18.9459000	0.0015078	-0.0032672	3.8179885	-60.0000000	CY
0.00008292	65021.	784171947.	18.8303259	0.0015613	-0.0034137	3.8624418	-60.0000000	CY
0.00008625	65526.	759720482.	18.6692799	0.0016102	-0.0035648	3.8975205	-60.0000000	CY
0.00008958	65997.	736715889.	18.5192566	0.0016590	-0.0037160	3.9273960	-60.0000000	CY
0.00009292	66412.	714749373.	18.3757697	0.0017074	-0.0038676	3.9519535	-60.0000000	CY
0.00009625	66809.	694117669.	18.2406379	0.0017557	-0.0040193	3.9714051	-60.0000000	CY
0.00009958	67154.	674352151.	18.1074712	0.0018032	-0.0041718	3.9856592	-60.0000000	CY
0.0001029	67480.	655671900.	17.9831799	0.0018508	-0.0043242	3.9950468	-60.0000000	CY
0.0001063	67790.	638025180.	17.8676000	0.0018984	-0.0044766	3.9995631	-60.0000000	CY
0.0001096	68063.	621107731.	17.7567172	0.0019458	-0.0046292	3.9982852	-60.0000000	CY
0.0001129	68316.	605013210.	17.6503162	0.0019930	-0.0047820	3.9983951	-60.0000000	CY
0.0001163	68559.	589751060.	17.5492116	0.0020401	-0.0049349	3.9995252	-60.0000000	CY
0.0001196	68779.	575158544.	17.4532531	0.0020871	-0.0050879	3.9971581	-60.0000000	CY
0.0001229	68974.	561145158.	17.3610388	0.0021340	-0.0052410	3.9998776	-60.0000000	CY
0.0001263	69155.	547762228.	17.2743463	0.0021809	-0.0053941	3.9975942	-60.0000000	CY
0.0001296	69332.	535034476.	17.1937183	0.0022280	-0.0055470	3.9999258	-60.0000000	CY
0.0001329	69502.	522898918.	17.1188499	0.0022754	-0.0056996	3.9972437	-60.0000000	CY
0.0001363	69647.	511171342.	17.0424622	0.0023220	-0.0058530	3.9997840	-60.0000000	CY
0.0001396	69778.	499900560.	16.9684955	0.0023685	-0.0060065	3.9956608	-60.0000000	CY
0.0001429	69901.	489106616.	16.8986530	0.0024151	-0.0061599	3.9990839	-60.0000000	CY
0.0001462	70022.	478785749.	16.8331859	0.0024619	-0.0063131	3.9983673	-60.0000000	CY
0.0001496	70139.	468899009.	16.7721513	0.0025088	-0.0064662	3.9971260	-60.0000000	CY
0.0001529	70252.	459416321.	16.7143454	0.0025559	-0.0066191	3.9996155	-60.0000000	CY
0.0001562	70352.	450251581.	16.6581392	0.0026028	-0.0067722	3.9957867	-60.0000000	CY
0.0001596	70444.	441422489.	16.6045086	0.0026498	-0.0069252	3.9971507	-60.0000000	CY
0.0001629	70527.	432900999.	16.5524838	0.0026967	-0.0070783	3.9995289	-60.0000000	CY
0.0001662	70608.	424707934.	16.5034978	0.0027437	-0.0072313	3.9970025	-60.0000000	CY
0.0001696	70684.	416807272.	16.4543956	0.0027904	-0.0073846	3.9956079	-60.0000000	CY
0.0001729	70758.	409202649.	16.4075978	0.0028371	-0.0075379	3.9986425	-60.0000000	CY
0.0001762	70831.	401878231.	16.3632245	0.0028840	-0.0076910	3.9999468	-60.0000000	CY
0.0001796	70900.	394802749.	16.3211684	0.0029310	-0.0078440	3.9933803	-60.0000000	CY
0.0001829	70962.	387945361.	16.2800337	0.0029779	-0.0079971	3.9958501	-60.0000000	CY
0.0002029	71260.	351177775.	16.0631956	0.0032595	-0.0089155	3.9991861	-60.0000000	CYT
0.0002229	71501.	320750930.	15.8972576	0.0035438	-0.0098312	3.9997675	60.0000000	CYT
0.0002429	71646.	294939811.	15.7562361	0.0038275	-0.0107475	3.9992139	60.0000000	CYT

Axial Thrust Force = 107.662 kips

Bending Curvature rad/in.	Bending Moment in-kip	Bending Stiffness kip-in2	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in	Max Conc Stress ksi	Max Steel Stress ksi	Run Msg
4.16667E-07	1269.	3046475398.	49.1956653	0.00002050	-0.00000450	0.0859396	0.5183226	
8.33333E-07	2536.	3042671465.	39.6176617	0.00003301	-0.00001699	0.1377539	0.8051768	
0.00000125	3797.	3037551251.	36.4260798	0.00004553	-0.00002947	0.1892286	1.0920704	
0.00000167	5053.	3032027336.	34.8305414	0.00005805	-0.00004195	0.2403598	1.3789762	
0.00000208	6305.	3026334089.	33.8733260	0.00007057	-0.00005443	0.2911464	1.6658885	
0.00000250	7551.	3020554556.	33.2352459	0.00008309	-0.00006691	0.3415884	1.9528053	
0.00000292	8793.	3014725223.	32.7795189	0.00009561	-0.00007939	0.3916855	2.2397260	
0.00000333	10030.	3008864605.	32.4377590	0.0001081	-0.00009187	0.4414377	2.5266501	
0.00000375	11261.	3002983039.	32.1719748	0.0001206	-0.0001044	0.4908450	2.8135773	
0.00000417	11261.	2702684735.	22.8594443	0.00009525	-0.0001548	0.3887272	-3.7265672	C
0.00000458	11261.	2456986123.	22.4590206	0.0001029	-0.0001721	0.4191465	-4.1524468	C
0.00000500	11261.	2252237280.	22.1183966	0.0001106	-0.0001894	0.4492985	-4.5793325	C
0.00000542	11261.	2078988258.	21.8290815	0.0001182	-0.0002068	0.4792994	-5.0063901	C

0.00000583	11261.	1930489097.	21.5767663	0.0001259	-0.0002241	0.5090729	-5.4341804	C
0.00000625	11261.	1801789824.	21.3587664	0.0001335	-0.0002415	0.5387366	-5.8618486	C
0.00000667	11261.	1689177960.	21.1650111	0.0001411	-0.0002589	0.5681950	-6.2900978	C
0.00000708	11261.	1589814550.	20.9932178	0.0001487	-0.0002763	0.5975045	-6.7185182	C
0.00000750	11261.	1501491520.	20.8410824	0.0001563	-0.0002937	0.6267049	-7.1468146	C
0.00000792	11261.	1422465650.	20.7055025	0.0001639	-0.0003111	0.6557960	-7.5749867	C
0.00000833	11261.	1351342368.	20.5807475	0.0001715	-0.0003285	0.6846733	-8.0038193	C
0.00000875	11261.	1286992731.	20.4682330	0.0001791	-0.0003459	0.7134374	-8.4325608	C
0.00000917	11261.	1228493062.	20.3664242	0.0001867	-0.0003633	0.7420929	-8.8611756	C
0.00000958	11261.	1175080320.	20.2739258	0.0001943	-0.0003807	0.7706397	-9.2896631	C
0.00001000	11261.	1126118640.	20.1895755	0.0002019	-0.0003981	0.7990775	-9.7180231	C
0.00001042	11261.	1081073894.	20.1123966	0.0002095	-0.0004155	0.8274062	-10.1462552	C
0.00001083	11261.	1039494129.	20.0398854	0.0002171	-0.0004329	0.8555574	-10.5748860	C
0.00001125	11364.	1010153151.	19.9728173	0.0002247	-0.0004503	0.8835860	-11.0034933	C
0.00001167	11733.	1005704462.	19.9109276	0.0002323	-0.0004677	0.9115061	-11.4319695	C
0.00001208	12102.	1001539738.	19.8536817	0.0002399	-0.0004851	0.9393174	-11.8603140	C
0.00001250	12470.	997630523.	19.8006163	0.0002475	-0.0005025	0.9670197	-12.2885265	C
0.00001292	12839.	993952033.	19.7513280	0.0002551	-0.0005199	0.9946128	-12.7166067	C
0.00001333	13206.	990482583.	19.7054637	0.0002627	-0.0005373	1.0220966	-13.1445540	C
0.00001375	13574.	987203114.	19.6627131	0.0002704	-0.0005546	1.0494709	-13.5723681	C
0.00001417	13941.	984096812.	19.6228025	0.0002780	-0.0005720	1.0767355	-14.0000486	C
0.00001458	14308.	981148780.	19.5854895	0.0002856	-0.0005894	1.1038902	-14.4275950	C
0.00001500	14675.	978345781.	19.5505584	0.0002933	-0.0006067	1.1309349	-14.8550071	C
0.00001542	15042.	975676005.	19.5178171	0.0003009	-0.0006241	1.1578693	-15.2822842	C
0.00001583	15408.	973126710.	19.4867042	0.0003085	-0.0006415	1.1846714	-15.7096049	C
0.00001625	15774.	970687968.	19.4569719	0.0003162	-0.0006588	1.2113341	-16.1370270	C
0.00001708	16505.	966117815.	19.4027023	0.0003315	-0.0006935	1.2643295	-16.9914529	C
0.00001792	17234.	961909492.	19.3545599	0.0003468	-0.0007282	1.3168836	-17.8453182	C
0.00001875	17963.	958014413.	19.3117343	0.0003621	-0.0007629	1.3689950	-18.6986194	C
0.00001958	18690.	954392262.	19.2735533	0.0003774	-0.0007976	1.4206620	-19.5513528	C
0.00002042	19416.	951009298.	19.2394544	0.0003928	-0.0008322	1.4718831	-20.4035146	C
0.00002125	20142.	947837070.	19.2089636	0.0004082	-0.0008668	1.5226568	-21.2551011	C
0.00002208	20865.	944851421.	19.1816782	0.0004236	-0.0009014	1.5729813	-22.1061085	C
0.00002292	21588.	942031701.	19.1572545	0.0004390	-0.0009360	1.6228552	-22.9565329	C
0.00002375	22310.	939360158.	19.1353968	0.0004545	-0.0009705	1.6722768	-23.8063704	C
0.00002458	23030.	936821440.	19.1158498	0.0004699	-0.0010051	1.7212445	-24.6556170	C
0.00002542	23749.	934402210.	19.0983916	0.0004854	-0.0010396	1.7697566	-25.5042688	C
0.00002625	24467.	932090819.	19.0828285	0.0005009	-0.0010741	1.8178114	-26.3523217	C
0.00002708	25184.	929876999.	19.0689910	0.0005165	-0.0011085	1.8654072	-27.1997723	C
0.00002792	25900.	927751858.	19.0567295	0.0005320	-0.0011430	1.9125424	-28.0466149	C
0.00002875	26614.	925707376.	19.0459122	0.0005476	-0.0011774	1.9592152	-28.8928462	C
0.00002958	27327.	923736486.	19.0364218	0.0005632	-0.0012118	2.0054240	-29.7384618	C
0.00003042	28039.	921832895.	19.0281543	0.0005788	-0.0012462	2.0511669	-30.5834575	C
0.00003125	28750.	919990976.	19.0210166	0.0005944	-0.0012806	2.0964421	-31.4278289	C
0.00003208	29459.	918205686.	19.0149255	0.0006101	-0.0013149	2.1412479	-32.2715715	C
0.00003292	30167.	916472489.	19.0098061	0.0006257	-0.0013493	2.1855824	-33.1146810	C
0.00003375	30874.	914787294.	19.0055912	0.0006414	-0.0013836	2.2294439	-33.9571527	C
0.00003458	31580.	913146401.	19.0022198	0.0006572	-0.0014178	2.2728305	-34.7989820	C
0.00003542	32284.	911546457.	18.9996371	0.0006729	-0.0014521	2.3157402	-35.6401643	C
0.00003625	32987.	909984414.	18.9977932	0.0006887	-0.0014863	2.3581713	-36.4806949	C
0.00003708	33689.	908457495.	18.9966425	0.0007045	-0.0015205	2.4001218	-37.3205689	C
0.00003792	34389.	906963165.	18.9961440	0.0007203	-0.0015547	2.4415897	-38.1597816	C
0.00003875	35088.	905499104.	18.9962598	0.0007361	-0.0015889	2.4825732	-38.9983279	C
0.00003958	35786.	904063184.	18.9969555	0.0007520	-0.0016230	2.5230703	-39.8362030	C
0.00004042	36482.	902653452.	18.9981996	0.0007678	-0.0016572	2.5630788	-40.6734018	C
0.00004125	37177.	901268109.	18.9999631	0.0007837	-0.0016913	2.6025970	-41.5099191	C
0.00004208	37871.	899905494.	19.0022194	0.0007997	-0.0017253	2.6416226	-42.3457497	C
0.00004292	38563.	898564075.	19.0049439	0.0008156	-0.0017594	2.6801537	-43.1808885	C
0.00004375	39254.	897242433.	19.0081143	0.0008316	-0.0017934	2.7181881	-44.0153300	C
0.00004458	39944.	895939254.	19.0117095	0.0008476	-0.0018274	2.7557238	-44.8490689	C
0.00004542	40632.	894653314.	19.0157105	0.0008636	-0.0018614	2.7927586	-45.6820997	C
0.00004625	41319.	893383479.	19.0200994	0.0008797	-0.0018953	2.8292904	-46.5144167	C
0.00004708	42004.	892128690.	19.0248598	0.0008958	-0.0019292	2.8653169	-47.3460145	C
0.00004792	42688.	890887960.	19.0299764	0.0009119	-0.0019631	2.9008360	-48.1768872	C
0.00004875	43371.	889660366.	19.0354350	0.0009280	-0.0019970	2.9358454	-49.0070290	C
0.00004958	44052.	888445045.	19.0412225	0.0009441	-0.0020309	2.9703429	-49.8364341	C
0.00005292	46762.	883691065.	19.0674295	0.0010090	-0.0021660	3.1031673	-53.1465654	C
0.00005625	49448.	879076835.	19.0980597	0.0010743	-0.0023007	3.2276125	-56.4444149	C
0.00005958	52110.	874567054.	19.1326146	0.0011400	-0.0024350	3.3435200	-59.7295612	C
0.00006292	54648.	868571596.	19.1591895	0.0012054	-0.0025696	3.4495823	-60.0000000	CY
0.00006625	56888.	858684987.	19.1584158	0.0012692	-0.0027058	3.5439678	-60.0000000	CY
0.00006958	58971.	847491538.	19.1480835	0.0013324	-0.0028426	3.6286166	-60.0000000	CY
0.00007292	60941.	835755901.	19.1333783	0.0013951	-0.0029799	3.7041355	-60.0000000	CY
0.00007625	62823.	823907971.	19.1174127	0.0014577	-0.0031173	3.7708826	-60.0000000	CY
0.00007958	64592.	811621586.	19.0962583	0.0015197	-0.0032553	3.8286532	-60.0000000	CY
0.00008292	65669.	791982108.	18.9960957	0.0015751	-0.0033999	3.8730399	-60.0000000	CY
0.00008625	66180.	767304337.	18.8347658	0.0016245	-0.0035505	3.9069808	-60.0000000	CY
0.00008958	66656.	744064590.	18.6807008	0.0016735	-0.0037015	3.9354247	-60.0000000	CY
0.00009292	67072.	721846806.	18.5330580	0.0017220	-0.0038530	3.9585066	-60.0000000	CY

0.00009625	67474.	701029171.	18.3971943	0.0017707	-0.0040043	3.9765533	-60.0000000	CY
0.00009958	67827.	681106558.	18.2654203	0.0018189	-0.0041561	3.9893754	-60.0000000	CY
0.0001029	68149.	662178381.	18.1371373	0.0018666	-0.0043084	3.9971293	-60.0000000	CY
0.0001063	68464.	644362887.	18.0188821	0.0019145	-0.0044605	3.9999851	-60.0000000	CY
0.0001096	68737.	627257321.	17.9051379	0.0019621	-0.0046129	3.9994160	-60.0000000	CY
0.0001129	68989.	610973270.	17.7981709	0.0020097	-0.0047653	3.9976278	-60.0000000	CY
0.0001163	69235.	595566020.	17.6993687	0.0020576	-0.0049174	3.9999892	-60.0000000	CY
0.0001196	69458.	580836157.	17.6015794	0.0021049	-0.0050701	3.9988096	-60.0000000	CY
0.0001229	69655.	566683980.	17.5073059	0.0021519	-0.0052231	3.9976348	-60.0000000	CY
0.0001263	69833.	553131087.	17.4178711	0.0021990	-0.0053760	3.9991098	-60.0000000	CY
0.0001296	70006.	540242811.	17.3346998	0.0022463	-0.0055287	3.9968201	-60.0000000	CY
0.0001329	70175.	527960630.	17.2574425	0.0022938	-0.0056812	3.9989131	-60.0000000	CY
0.0001363	70326.	516150960.	17.1829749	0.0023412	-0.0058338	3.9983432	-60.0000000	CY
0.0001396	70462.	504800629.	17.1120533	0.0023886	-0.0059864	3.9980085	-60.0000000	CY
0.0001429	70584.	493882992.	17.0405510	0.0024354	-0.0061396	3.9999232	-60.0000000	CY
0.0001462	70702.	483431828.	16.9731070	0.0024823	-0.0062927	3.9956675	-60.0000000	CY
0.0001496	70817.	473428993.	16.9098028	0.0025294	-0.0064456	3.9989901	-60.0000000	CY
0.0001529	70930.	463847207.	16.8502807	0.0025767	-0.0065983	3.9992811	-60.0000000	CY
0.0001562	71029.	454588671.	16.7928616	0.0026239	-0.0067511	3.9960519	-60.0000000	CY
0.0001596	71124.	445687939.	16.7381122	0.0026711	-0.0069039	3.9990531	-60.0000000	CY
0.0001629	71206.	437069290.	16.6841409	0.0027181	-0.0070569	3.9996931	-60.0000000	CY
0.0001662	71284.	428776475.	16.6336048	0.0027653	-0.0072097	3.9947158	-60.0000000	CY
0.0001696	71361.	420801481.	16.5857322	0.0028127	-0.0073623	3.9981803	-60.0000000	CY
0.0001729	71436.	413125794.	16.5403797	0.0028601	-0.0075149	3.9998438	-60.0000000	CY
0.0001762	71509.	405726474.	16.4975516	0.0029077	-0.0076673	3.9947336	-60.0000000	CY
0.0001796	71578.	398579688.	16.4542255	0.0029549	-0.0078201	3.9955745	-60.0000000	CY
0.0001829	71641.	391658626.	16.4118493	0.0030020	-0.0079730	3.9984903	-60.0000000	CYT
0.0002029	71936.	354511730.	16.1872598	0.0032847	-0.0088903	3.9999966	-60.0000000	CYT
0.0002229	72173.	323764963.	16.0149051	0.0035700	-0.0098050	3.9962868	60.0000000	CYT
0.0002429	72317.	297702300.	15.8793936	0.0038574	-0.0107176	3.9989110	60.0000000	CYT

Summary of Results for Nominal (Unfactored) Moment Capacity for Section 1

Moment values interpolated at maximum compressive strain = 0.003
or maximum developed moment if pile fails at smaller strains.

Load No.	Axial Thrust kips	Nominal Mom. Cap. in-kip	Max. Comp. Strain
1	0.000	69988.443	0.00300000
2	64.950	70985.082	0.00300000
3	107.662	71638.230	0.00300000

Note that the values of moment capacity in the table above are not factored by a strength reduction factor (phi-factor).

In ACI 318, the value of the strength reduction factor depends on whether the transverse reinforcing steel bars are tied hoops (0.65) or spirals (0.70).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, Section 9.3.2.2 or the value required by the design standard being followed.

The following table presents factored moment capacities and corresponding bending stiffnesses computed for common resistance factor values used for reinforced concrete sections.

Axial Load No.	Resist. Factor for Moment	Nominal Moment Cap in-kips	Ult. (Fac) Ax. Thrust kips	Ult. (Fac) Moment Cap in-kips	Bend. Stiff. at Ult Mom kip-in^2
1	0.65	69988.	0.0000	45492.	862462965.
2	0.65	70985.	42.217500	46140.	875481273.
3	0.65	71638.	69.980083	46565.	884036899.
1	0.75	69988.	0.0000	52491.	852475150.
2	0.75	70985.	45.465000	53239.	863558453.
3	0.75	71638.	75.363167	53729.	870742419.
1	0.90	69988.	0.0000	62990.	797495553.
2	0.90	70985.	48.712500	63887.	806511079.
3	0.90	71638.	80.746250	64474.	812435396.

Layering Correction Equivalent Depths of Soil & Rock Layers

Layer No.	Top of Layer Below Pile Head ft	Equivalent Top Depth Below Grnd Surf ft	Same Layer Type As Layer Above	Layer is Rock or is Below Rock Layer	F0 Integral for Layer lbs	F1 Integral for Layer lbs
1	29.7600	0.00	N.A.	No	0.00	554128.
2	41.0600	13.0646	Yes	No	554128.	497775.
3	46.0600	17.3867	Yes	No	1051903.	1006326.
4	52.5600	25.5357	Yes	No	2058230.	1133501.
5	57.5600	26.9643	Yes	No	3191731.	4041770.
6	67.5600	34.6952	Yes	No	7233501.	N.A.

Notes: The F0 integral of Layer n+1 equals the sum of the F0 and F1 integrals for Layer n. Layering correction equivalent depths are computed only for soil types with both shallow-depth and deep-depth expressions for peak lateral load transfer. These soil types are soft and stiff clays, non-liquefied sands, and cemented c-phi soil.

Distributed Lateral Loads for LRFD:

Sums of Distributed Lateral Load Per Unit Length due to Live Loads

Depth in	Distributed Load lb/in
0.00	33.50
9.00	33.50
18.00	33.50
27.00	33.50
36.00	33.50
45.01	33.50
54.01	33.50
63.01	33.50
72.01	33.50
81.01	33.50
90.01	33.50
99.01	33.50
108.01	33.50
117.02	33.50
126.02	33.50
135.02	33.50
144.02	33.50
153.02	33.50
162.02	33.50
171.02	33.50
180.02	33.50
189.03	33.50
198.03	33.50
207.03	33.50
216.03	33.50
225.03	33.50
234.03	33.50
243.03	33.50
252.03	33.50
261.03	33.50
270.04	33.50
279.04	33.50
288.04	33.50
297.04	33.50
306.04	33.50
315.04	33.50
324.04	33.50
333.04	33.50
342.05	33.50
351.05	33.50
360.05	5.85

Distributed Lateral Loads for LRFD:

Sums of Distributed Lateral Load Per Unit Length due to Horizontal Soil Pressures

Depth in	Distributed Load lb/in
0.00	3.12
9.00	12.49
18.00	24.98
27.00	37.47
36.00	49.96
45.01	62.45
54.01	74.93
63.01	87.42
72.01	99.91
81.01	112.40
90.01	124.89
99.01	137.38
108.01	149.87
117.02	162.36
126.02	174.85
135.02	187.34
144.02	199.83
153.02	212.31
162.02	224.80
171.02	237.29
180.02	249.78
189.03	262.27
198.03	274.76
207.03	287.25
216.03	299.74
225.03	312.23
234.03	324.72
243.03	337.20
252.03	349.69
261.03	362.18
270.04	374.67
279.04	387.16
288.04	399.65
297.04	412.14
306.04	424.63
315.04	437.12
324.04	449.61
333.04	462.10
342.05	474.58
351.05	487.07
360.05	86.38

Computed Values of Pile Loading and Deflection
for Lateral Loading for LRFD Load Case Number 1

Load Case No. 1: Soil Only

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness in-lb^2	Soil Res. p lb/inch	Soil Spr. Es*h lb/inch	Distrib. Lat. Load lb/inch
0.00	1.7844	-1.34E-04	4.65E-07	-0.00389	0.00	3.05E+12	0.00	0.00	3.1223
0.7501	1.7493	126.4853	70.2603	-0.00389	0.00	3.05E+12	0.00	0.00	12.4891
1.5002	1.7143	1265.	238.8852	-0.00389	0.00	3.05E+12	0.00	0.00	24.9781
2.2503	1.6792	4427.	519.9266	-0.00389	0.00	3.05E+12	0.00	0.00	37.4672
3.0004	1.6441	10625.	913.3846	-0.00389	0.00	3.05E+12	0.00	0.00	49.9563
3.7505	1.6091	20870.	1419.	-0.00389	0.00	3.05E+12	0.00	0.00	62.4453
4.5006	1.5740	36175.	2038.	-0.00389	0.00	3.05E+12	0.00	0.00	74.9344
5.2507	1.5390	57551.	2768.	-0.00389	0.00	3.05E+12	0.00	0.00	87.4234
6.0008	1.5039	86010.	3611.	-0.00389	0.00	3.05E+12	0.00	0.00	99.9125
6.7509	1.4689	122564.	4567.	-0.00389	0.00	3.05E+12	0.00	0.00	112.4016

7.5010	1.4338	168226.	5635.	-0.00389	0.00	3.05E+12	0.00	0.00	124.8906
8.2511	1.3988	224006.	6815.	-0.00389	0.00	3.05E+12	0.00	0.00	137.3797
9.0012	1.3637	290917.	8108.	-0.00389	0.00	3.05E+12	0.00	0.00	149.8688
9.7513	1.3287	369970.	9513.	-0.00389	0.00	3.05E+12	0.00	0.00	162.3578
10.5014	1.2937	462178.	11031.	-0.00389	0.00	3.05E+12	0.00	0.00	174.8469
11.2515	1.2587	568552.	12661.	-0.00389	0.00	3.05E+12	0.00	0.00	187.3360
12.0016	1.2237	690105.	14403.	-0.00389	0.00	3.05E+12	0.00	0.00	199.8250
12.7517	1.1887	827848.	16258.	-0.00388	0.00	3.05E+12	0.00	0.00	212.3141
13.5018	1.1538	982792.	18226.	-0.00388	0.00	3.05E+12	0.00	0.00	224.8032
14.2519	1.1188	1155951.	20305.	-0.00388	0.00	3.05E+12	0.00	0.00	237.2922
15.0020	1.0839	1348335.	22497.	-0.00387	0.00	3.05E+12	0.00	0.00	249.7813
15.7521	1.0491	1560958.	24802.	-0.00387	0.00	3.05E+12	0.00	0.00	262.2703
16.5022	1.0143	1794829.	27219.	-0.00387	0.00	3.05E+12	0.00	0.00	274.7594
17.2523	0.9795	2050962.	29748.	-0.00386	0.00	3.05E+12	0.00	0.00	287.2485
18.0024	0.9448	2330369.	32390.	-0.00385	0.00	3.05E+12	0.00	0.00	299.7375
18.7525	0.9101	2634060.	35144.	-0.00385	0.00	3.04E+12	0.00	0.00	312.2266
19.5026	0.8755	2963049.	38011.	-0.00384	0.00	3.04E+12	0.00	0.00	324.7157
20.2527	0.8410	3318347.	40990.	-0.00383	0.00	3.04E+12	0.00	0.00	337.2047
21.0028	0.8066	3700966.	44081.	-0.00382	0.00	3.04E+12	0.00	0.00	349.6938
21.7529	0.7723	4111917.	47285.	-0.00381	0.00	3.04E+12	0.00	0.00	362.1829
22.5030	0.7381	4552213.	50602.	-0.00379	0.00	3.04E+12	0.00	0.00	374.6719
23.2531	0.7040	5022866.	54030.	-0.00378	0.00	3.03E+12	0.00	0.00	387.1610
24.0032	0.6700	5524887.	57571.	-0.00376	0.00	3.03E+12	0.00	0.00	399.6501
24.7533	0.6362	6059288.	61225.	-0.00375	0.00	3.03E+12	0.00	0.00	412.1391
25.5034	0.6026	6627081.	64991.	-0.00373	0.00	3.03E+12	0.00	0.00	424.6282
26.2535	0.5691	7229279.	68869.	-0.00371	0.00	3.02E+12	0.00	0.00	437.1172
27.0036	0.5359	7866892.	72860.	-0.00368	0.00	3.02E+12	0.00	0.00	449.6063
27.7537	0.5028	8540933.	76963.	-0.00366	0.00	3.02E+12	0.00	0.00	462.0954
28.5038	0.4700	9252414.	81179.	-0.00363	0.00	3.01E+12	0.00	0.00	474.5844
29.2539	0.4374	1.00E+07	85507.	-0.00360	0.00	3.01E+12	0.00	0.00	487.0735
30.0040	0.4051	1.08E+07	87892.	-0.00357	0.00	3.01E+12	-43.4898	966.3915	86.3782
30.7541	0.3731	1.16E+07	87224.	-0.00350	0.00	8.96E+11	-191.3184	4616.	0.00
31.5042	0.3421	1.24E+07	84772.	-0.00338	0.00	8.95E+11	-353.5220	9302.	0.00
32.2543	0.3122	1.31E+07	80835.	-0.00325	0.00	8.94E+11	-521.3151	15029.	0.00
33.0044	0.2836	1.38E+07	75364.	-0.00312	0.00	8.94E+11	-694.1858	22036.	0.00
33.7545	0.2561	1.45E+07	68360.	-0.00297	0.00	8.93E+11	-862.1437	30297.	0.00
34.5046	0.2300	1.50E+07	59894.	-0.00282	0.00	8.93E+11	-1019.	39866.	0.00
35.2547	0.2053	1.55E+07	50075.	-0.00267	0.00	8.92E+11	-1163.	50987.	0.00
36.0048	0.1820	1.59E+07	39039.	-0.00251	0.00	8.92E+11	-1289.	63775.	0.00
36.7549	0.1601	1.62E+07	26972.	-0.00235	0.00	8.92E+11	-1392.	78244.	0.00
37.5050	0.1397	1.64E+07	14085.	-0.00218	0.00	8.91E+11	-1472.	94836.	0.00
38.2551	0.1208	1.65E+07	550.8758	-0.00202	0.00	8.91E+11	-1535.	114404.	0.00
39.0052	0.1034	1.64E+07	-12828.	-0.00185	0.00	8.91E+11	-1438.	125153.	0.00
39.7553	0.08748	1.63E+07	-25216.	-0.00169	0.00	8.92E+11	-1315.	135307.	0.00
40.5054	0.07304	1.60E+07	-36447.	-0.00152	0.00	8.92E+11	-1180.	145461.	0.00
41.2555	0.06006	1.56E+07	-44755.	-0.00136	0.00	8.92E+11	-665.6490	99753.	0.00
42.0056	0.04850	1.52E+07	-50328.	-0.00121	0.00	8.93E+11	-572.5940	106263.	0.00
42.7557	0.03832	1.47E+07	-55066.	-0.00106	0.00	8.93E+11	-480.0878	112772.	0.00
43.5058	0.02947	1.42E+07	-58984.	-9.12E-04	0.00	8.93E+11	-390.5401	119281.	0.00
44.2559	0.02191	1.36E+07	-62120.	-7.71E-04	0.00	8.94E+11	-306.1836	125790.	0.00
45.0060	0.01559	1.31E+07	-64529.	-6.37E-04	0.00	8.94E+11	-229.0726	132299.	0.00
45.7561	0.01045	1.25E+07	-66285.	-5.08E-04	0.00	8.95E+11	-161.0815	138808.	0.00
46.5062	0.00644	1.19E+07	-67533.	-3.86E-04	0.00	8.95E+11	-116.3754	162755.	0.00
47.2563	0.00350	1.13E+07	-68355.	-2.98E-04	0.00	1.79E+12	-66.1569	170045.	0.00
48.0064	0.00108	1.07E+07	-68748.	-2.53E-04	0.00	3.01E+12	-21.2262	177335.	0.00
48.7565	-0.00106	1.00E+07	-68746.	-2.22E-04	0.00	3.01E+12	21.7439	184625.	0.00
49.5066	-0.00293	9414094.	-68367.	-1.93E-04	0.00	3.01E+12	62.4180	191916.	0.00
50.2567	-0.00454	8801237.	-67634.	-1.66E-04	0.00	3.02E+12	100.5133	199206.	0.00
51.0068	-0.00592	8196523.	-66570.	-1.41E-04	0.00	3.02E+12	135.7983	206496.	0.00
51.7569	-0.00708	7602812.	-65203.	-1.17E-04	0.00	3.02E+12	168.0891	213786.	0.00
52.5070	-0.00803	7022720.	-63558.	-9.55E-05	0.00	3.02E+12	197.2474	221076.	0.00
53.2571	-0.00880	6458609.	-61881.	-7.55E-05	0.00	3.03E+12	175.3530	179431.	0.00
54.0072	-0.00939	5908706.	-60223.	-5.71E-05	0.00	3.03E+12	193.1438	185159.	0.00
54.7573	-0.00982	5374451.	-58416.	-4.03E-05	0.00	3.03E+12	208.3373	190887.	0.00
55.5074	-0.01012	4857077.	-56484.	-2.51E-05	0.00	3.03E+12	220.9466	196615.	0.00
56.2575	-0.01028	4357603.	-54450.	-1.15E-05	0.00	3.04E+12	231.0107	202343.	0.00
57.0076	-0.01032	3876847.	-52336.	7.34E-07	0.00	3.04E+12	238.5922	208071.	0.00
57.7577	-0.01026	3415422.	-49517.	1.15E-05	0.00	3.04E+12	387.8254	340134.	0.00
58.5078	-0.01011	2985419.	-46006.	2.10E-05	0.00	3.04E+12	392.4232	349247.	0.00
59.2579	-0.00989	2587210.	-42468.	2.92E-05	0.00	3.04E+12	393.5537	358360.	0.00
60.0080	-0.00959	2220888.	-38935.	3.63E-05	0.00	3.05E+12	391.4104	367472.	0.00
60.7581	-0.00923	1886279.	-35436.	4.24E-05	0.00	3.05E+12	386.1931	376585.	0.00
61.5082	-0.00882	1582960.	-31996.	4.75E-05	0.00	3.05E+12	378.1046	385698.	0.00
62.2583	-0.00838	1310275.	-28641.	5.18E-05	0.00	3.05E+12	367.3472	394810.	0.00
63.0084	-0.00789	1067353.	-25394.	5.53E-05	0.00	3.05E+12	354.1193	403923.	0.00
63.7585	-0.00738	853123.	-22276.	5.81E-05	0.00	3.05E+12	338.6115	413036.	0.00
64.5086	-0.00684	666328.	-19308.	6.04E-05	0.00	3.05E+12	321.0045	422149.	0.00
65.2587	-0.00629	505541.	-16506.	6.21E-05	0.00	3.05E+12	301.4670	431261.	0.00
66.0088	-0.00573	369179.	-13888.	6.34E-05	0.00	3.05E+12	280.1543	440374.	0.00

66.7589	-0.00515	255516.	-11470.	6.43E-05	0.00	3.05E+12	257.2064	449487.	0.00
67.5090	-0.00457	162692.	-9265.	6.49E-05	0.00	3.05E+12	232.7472	458599.	0.00
68.2591	-0.00398	88725.	-7073.	6.53E-05	0.00	3.05E+12	254.1722	574618.	0.00
69.0092	-0.00339	35352.	-4936.	6.55E-05	0.00	3.05E+12	220.7849	585813.	0.00
69.7593	-0.00280	-132.4678	-3106.	6.56E-05	0.00	3.05E+12	185.8699	597009.	0.00
70.5094	-0.00221	-20558.	-1596.	6.55E-05	0.00	3.05E+12	149.4874	608205.	0.00
71.2595	-0.00162	-28871.	-420.9919	6.54E-05	0.00	3.05E+12	111.6747	619400.	0.00
72.0096	-0.00103	-28137.	407.6763	6.54E-05	0.00	3.05E+12	72.4493	630596.	0.00
72.7597	-4.46E-04	-21532.	876.9174	6.53E-05	0.00	3.05E+12	31.8126	641791.	0.00
73.5098	1.41E-04	-12350.	973.9842	6.52E-05	0.00	3.05E+12	-10.2451	652987.	0.00
74.2599	7.28E-04	-3998.	686.0131	6.52E-05	0.00	3.05E+12	-53.7399	664183.	0.00
75.0100	0.00132	0.00	0.00	6.52E-05	0.00	3.05E+12	-98.6871	337689.	0.00

* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

Output Summary for Load Case No. 1:

Pile-head deflection	=	1.78437459 inches
Computed slope at pile head	=	-0.00389473 radians
Maximum bending moment	=	16502033. inch-lbs
Maximum shear force	=	87892. lbs
Depth of maximum bending moment	=	38.25510000 feet below pile head
Depth of maximum shear force	=	30.00400000 feet below pile head
Number of iterations	=	99
Number of zero deflection points	=	2

Distributed Lateral Loads for LRFD:

Sums of Distributed Lateral Load Per Unit Length due to Live Loads

Depth in	Distributed Load lb/in
-----	-----
0.00	33.50
9.00	33.50
18.00	33.50
27.00	33.50
36.00	33.50
45.01	33.50
54.01	33.50
63.01	33.50
72.01	33.50
81.01	33.50
90.01	33.50
99.01	33.50
108.01	33.50
117.02	33.50
126.02	33.50
135.02	33.50
144.02	33.50
153.02	33.50
162.02	33.50
171.02	33.50
180.02	33.50
189.03	33.50
198.03	33.50
207.03	33.50
216.03	33.50
225.03	33.50
234.03	33.50
243.03	33.50
252.03	33.50
261.03	33.50
270.04	33.50
279.04	33.50
288.04	33.50
297.04	33.50
306.04	33.50
315.04	33.50

324.04	33.50
333.04	33.50
342.05	33.50
351.05	33.50
360.05	5.85

Distributed Lateral Loads for LRFD:

Sums of Distributed Lateral Load Per Unit Length due to Horizontal Soil Pressures

Depth in	Distributed Load lb/in
0.00	3.12
9.00	12.49
18.00	24.98
27.00	37.47
36.00	49.96
45.01	62.45
54.01	74.93
63.01	87.42
72.01	99.91
81.01	112.40
90.01	124.89
99.01	137.38
108.01	149.87
117.02	162.36
126.02	174.85
135.02	187.34
144.02	199.83
153.02	212.31
162.02	224.80
171.02	237.29
180.02	249.78
189.03	262.27
198.03	274.76
207.03	287.25
216.03	299.74
225.03	312.23
234.03	324.72
243.03	337.20
252.03	349.69
261.03	362.18
270.04	374.67
279.04	387.16
288.04	399.65
297.04	412.14
306.04	424.63
315.04	437.12
324.04	449.61
333.04	462.10
342.05	474.58
351.05	487.07
360.05	86.38

Computed Values of Pile Loading and Deflection
for Lateral Loading for LRFD Load Case Number 2

Load Case No. 2: Service 1

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness in-lb^2	Soil Res. p lb/inch	Soil Spr. Es*h lb/inch	Distrib. Lat. Load lb/inch
0.00	2.5209	-2.34E-04	3337.	-0.00556	0.00	3.05E+12	0.00	0.00	36.6223

0.7501	2.4708	34775.	3709.	-0.00556	0.00	3.05E+12	0.00	0.00	45.9891
1.5002	2.4208	73277.	4179.	-0.00556	0.00	3.05E+12	0.00	0.00	58.4781
2.2503	2.3707	116516.	4762.	-0.00556	0.00	3.05E+12	0.00	0.00	70.9672
3.0004	2.3207	165505.	5457.	-0.00556	0.00	3.05E+12	0.00	0.00	83.4563
3.7505	2.2707	221255.	6264.	-0.00556	0.00	3.05E+12	0.00	0.00	95.9453
4.5006	2.2206	284778.	7184.	-0.00556	0.00	3.05E+12	0.00	0.00	108.4344
5.2507	2.1706	357087.	8217.	-0.00556	0.00	3.05E+12	0.00	0.00	120.9234
6.0008	2.1206	439192.	9361.	-0.00556	0.00	3.05E+12	0.00	0.00	133.4125
6.7509	2.0706	532106.	10618.	-0.00555	0.00	3.05E+12	0.00	0.00	145.9016
7.5010	2.0206	636841.	11988.	-0.00555	0.00	3.05E+12	0.00	0.00	158.3906
8.2511	1.9706	754407.	13470.	-0.00555	0.00	3.05E+12	0.00	0.00	170.8797
9.0012	1.9207	885817.	15064.	-0.00555	0.00	3.05E+12	0.00	0.00	183.3688
9.7513	1.8708	1032082.	16771.	-0.00555	0.00	3.05E+12	0.00	0.00	195.8578
10.5014	1.8209	1194214.	18590.	-0.00554	0.00	3.05E+12	0.00	0.00	208.3469
11.2515	1.7710	1373224.	20521.	-0.00554	0.00	3.05E+12	0.00	0.00	220.8360
12.0016	1.7212	1570125.	22565.	-0.00553	0.00	3.05E+12	0.00	0.00	233.3250
12.7517	1.6714	1785927.	24722.	-0.00553	0.00	3.05E+12	0.00	0.00	245.8141
13.5018	1.6216	2021643.	26991.	-0.00552	0.00	3.05E+12	0.00	0.00	258.3032
14.2519	1.5720	2278283.	29372.	-0.00552	0.00	3.04E+12	0.00	0.00	270.7922
15.0020	1.5223	2556859.	31866.	-0.00551	0.00	3.04E+12	0.00	0.00	283.2813
15.7521	1.4728	2858383.	34472.	-0.00550	0.00	3.04E+12	0.00	0.00	295.7703
16.5022	1.4233	3183866.	37190.	-0.00549	0.00	3.04E+12	0.00	0.00	308.2594
17.2523	1.3739	3534318.	40021.	-0.00548	0.00	3.04E+12	0.00	0.00	320.7485
18.0024	1.3246	3910752.	42964.	-0.00547	0.00	3.04E+12	0.00	0.00	333.2375
18.7525	1.2754	4314179.	46020.	-0.00546	0.00	3.04E+12	0.00	0.00	345.7266
19.5026	1.2263	4745610.	49188.	-0.00545	0.00	3.03E+12	0.00	0.00	358.2157
20.2527	1.1773	5206056.	52469.	-0.00543	0.00	3.03E+12	0.00	0.00	370.7047
21.0028	1.1285	5696527.	55862.	-0.00542	0.00	3.03E+12	0.00	0.00	383.1938
21.7529	1.0799	6218036.	59367.	-0.00540	0.00	3.03E+12	0.00	0.00	395.6829
22.5030	1.0314	6771593.	62985.	-0.00538	0.00	3.02E+12	0.00	0.00	408.1719
23.2531	0.9830	7358209.	66715.	-0.00536	0.00	3.02E+12	0.00	0.00	420.6610
24.0032	0.9349	7978894.	70558.	-0.00533	0.00	3.02E+12	0.00	0.00	433.1501
24.7533	0.8870	8634661.	74513.	-0.00531	0.00	3.02E+12	0.00	0.00	445.6391
25.5034	0.8393	9326518.	78581.	-0.00528	0.00	3.01E+12	0.00	0.00	458.1282
26.2535	0.7919	1.01E+07	82761.	-0.00525	0.00	3.01E+12	0.00	0.00	470.6172
27.0036	0.7448	1.08E+07	87053.	-0.00522	0.00	3.01E+12	0.00	0.00	483.1063
27.7537	0.6979	1.16E+07	91458.	-0.00515	0.00	9.60E+11	0.00	0.00	495.5954
28.5038	0.6520	1.25E+07	95975.	-0.00504	0.00	9.54E+11	0.00	0.00	508.0844
29.2539	0.6072	1.34E+07	100604.	-0.00492	0.00	9.49E+11	0.00	0.00	520.5735
30.0040	0.5635	1.43E+07	103149.	-0.00478	0.00	9.44E+11	-47.3899	756.9666	92.2310
30.7541	0.5211	1.52E+07	102409.	-0.00464	0.00	9.40E+11	-209.1994	3614.	0.00
31.5042	0.4799	1.61E+07	99721.	-0.00449	0.00	9.36E+11	-388.0627	7278.	0.00
32.2543	0.4402	1.70E+07	95388.	-0.00433	0.00	9.33E+11	-574.7423	11753.	0.00
33.0044	0.4019	1.79E+07	89348.	-0.00416	0.00	9.30E+11	-767.3557	17186.	0.00
33.7545	0.3652	1.86E+07	81593.	-0.00399	0.00	9.28E+11	-955.8182	23558.	0.00
34.5046	0.3301	1.93E+07	72191.	-0.00380	0.00	9.26E+11	-1133.	30899.	0.00
35.2547	0.2967	1.99E+07	61249.	-0.00361	0.00	9.24E+11	-1298.	39373.	0.00
36.0048	0.2651	2.04E+07	48907.	-0.00342	0.00	9.22E+11	-1444.	49042.	0.00
36.7549	0.2352	2.08E+07	35362.	-0.00321	0.00	9.21E+11	-1565.	59899.	0.00
37.5050	0.2072	2.11E+07	20830.	-0.00301	0.00	9.21E+11	-1663.	72251.	0.00
38.2551	0.1811	2.12E+07	5494.	-0.00280	0.00	9.20E+11	-1744.	86712.	0.00
39.0052	0.1568	2.12E+07	-10428.	-0.00260	0.00	9.20E+11	-1793.	102964.	0.00
39.7553	0.1344	2.10E+07	-26636.	-0.00239	0.00	9.21E+11	-1808.	121130.	0.00
40.5054	0.1138	2.07E+07	-42939.	-0.00218	0.00	9.22E+11	-1814.	143543.	0.00
41.2555	0.09502	2.03E+07	-55844.	-0.00199	0.00	9.23E+11	-1053.	99753.	0.00
42.0056	0.07804	1.97E+07	-64729.	-0.00179	0.00	9.24E+11	-921.2687	106263.	0.00
42.7557	0.06279	1.91E+07	-72415.	-0.00160	0.00	9.26E+11	-786.6221	112772.	0.00
43.5058	0.04920	1.84E+07	-78890.	-0.00142	0.00	9.28E+11	-652.0418	119281.	0.00
44.2559	0.03723	1.77E+07	-84166.	-0.00125	0.00	9.31E+11	-520.2634	125790.	0.00
45.0060	0.02679	1.69E+07	-88280.	-0.00108	0.00	9.34E+11	-393.7684	132299.	0.00
45.7561	0.01782	1.61E+07	-91289.	-9.20E-04	0.00	9.37E+11	-274.7822	138808.	0.00
46.5062	0.01024	1.52E+07	-93359.	-7.69E-04	0.00	9.40E+11	-185.1094	162755.	0.00
47.2563	0.00397	1.44E+07	-94529.	-6.28E-04	0.00	9.44E+11	-75.0091	170045.	0.00
48.0064	-0.00106	1.35E+07	-94773.	-4.95E-04	0.00	9.48E+11	20.8891	177335.	0.00
48.7565	-0.00493	1.27E+07	-94224.	-3.70E-04	0.00	9.53E+11	101.1918	184625.	0.00
49.5066	-0.00773	1.19E+07	-93027.	-2.55E-04	0.00	9.58E+11	164.7532	191916.	0.00
50.2567	-0.00952	1.10E+07	-91337.	-1.83E-04	0.00	3.00E+12	210.6618	199206.	0.00
51.0068	-0.01101	1.02E+07	-89252.	-1.51E-04	0.00	3.01E+12	252.6542	206496.	0.00
51.7569	-0.01223	9414577.	-86807.	-1.21E-04	0.00	3.01E+12	290.5379	213786.	0.00
52.5070	-0.01320	8645041.	-84041.	-9.44E-05	0.00	3.02E+12	324.1772	221076.	0.00
53.2571	-0.01393	7901756.	-81332.	-6.98E-05	0.00	3.02E+12	277.7415	179431.	0.00
54.0072	-0.01445	7180959.	-78743.	-4.73E-05	0.00	3.02E+12	297.3449	185159.	0.00
54.7573	-0.01478	6484242.	-75994.	-2.70E-05	0.00	3.03E+12	313.5306	190887.	0.00
55.5074	-0.01494	5812916.	-73114.	-8.68E-06	0.00	3.03E+12	326.3435	196615.	0.00
56.2575	-0.01494	5168021.	-70134.	7.63E-06	0.00	3.03E+12	335.8595	202343.	0.00
57.0076	-0.01480	4550329.	-67082.	2.20E-05	0.00	3.03E+12	342.1840	208071.	0.00
57.7577	-0.01454	3960353.	-63069.	3.47E-05	0.00	3.04E+12	549.5760	340134.	0.00
58.5078	-0.01418	3414898.	-58119.	4.56E-05	0.00	3.04E+12	550.1452	349247.	0.00
59.2579	-0.01372	2914010.	-53185.	5.50E-05	0.00	3.04E+12	546.3524	358360.	0.00

60.0080	-0.01319	2457384.	-48302.	6.29E-05	0.00	3.04E+12	538.4683	367472.	0.00
60.7581	-0.01259	2044381.	-43508.	6.95E-05	0.00	3.05E+12	526.7681	376585.	0.00
61.5082	-0.01194	1674055.	-38835.	7.50E-05	0.00	3.05E+12	511.5250	385698.	0.00
62.2583	-0.01124	1345169.	-34314.	7.95E-05	0.00	3.05E+12	493.0069	394810.	0.00
63.0084	-0.01051	1056226.	-29973.	8.30E-05	0.00	3.05E+12	471.4720	403923.	0.00
63.7585	-0.00974	805481.	-25839.	8.58E-05	0.00	3.05E+12	447.1643	413036.	0.00
64.5086	-0.00896	590964.	-21935.	8.79E-05	0.00	3.05E+12	420.3110	422149.	0.00
65.2587	-0.00816	410500.	-18283.	8.93E-05	0.00	3.05E+12	391.1201	431261.	0.00
66.0088	-0.00735	261725.	-14903.	9.03E-05	0.00	3.05E+12	359.7786	440374.	0.00
66.7589	-0.00654	142099.	-11815.	9.09E-05	0.00	3.05E+12	326.4508	449487.	0.00
67.5090	-0.00572	48922.	-9035.	9.12E-05	0.00	3.05E+12	291.2773	458599.	0.00
68.2591	-0.00490	-20655.	-6317.	9.12E-05	0.00	3.05E+12	312.5184	574618.	0.00
69.0092	-0.00407	-64911.	-3717.	9.11E-05	0.00	3.05E+12	265.1739	585813.	0.00
69.7593	-0.00326	-87682.	-1552.	9.09E-05	0.00	3.05E+12	215.9013	597009.	0.00
70.5094	-0.00244	-92960.	160.9519	9.06E-05	0.00	3.05E+12	164.7481	608205.	0.00
71.2595	-0.00162	-84890.	1405.	9.04E-05	0.00	3.05E+12	111.7326	619400.	0.00
72.0096	-8.11E-04	-67768.	2164.	9.01E-05	0.00	3.05E+12	56.8490	630596.	0.00
72.7597	-1.03E-06	-46039.	2420.	9.00E-05	0.00	3.05E+12	0.07320	641791.	0.00
73.5098	8.08E-04	-24304.	2157.	8.99E-05	0.00	3.05E+12	-58.6299	652987.	0.00
74.2599	0.00162	-7319.	1356.	8.98E-05	0.00	3.05E+12	-119.2983	664183.	0.00
75.0100	0.00243	0.00	0.00	8.98E-05	0.00	3.05E+12	-181.9636	337689.	0.00

* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

Output Summary for Load Case No. 2:

Pile-head deflection	=	2.52087137 inches
Computed slope at pile head	=	-0.00555989 radians
Maximum bending moment	=	21205766. inch-lbs
Maximum shear force	=	103149. lbs
Depth of maximum bending moment	=	38.25510000 feet below pile head
Depth of maximum shear force	=	30.00400000 feet below pile head
Number of iterations	=	41
Number of zero deflection points	=	2

Distributed Lateral Loads for LRFD:

Sums of Distributed Lateral Load Per Unit Length due to Live Loads

Depth in	Distributed Load lb/in
-----	-----
0.00	33.50
9.00	33.50
18.00	33.50
27.00	33.50
36.00	33.50
45.01	33.50
54.01	33.50
63.01	33.50
72.01	33.50
81.01	33.50
90.01	33.50
99.01	33.50
108.01	33.50
117.02	33.50
126.02	33.50
135.02	33.50
144.02	33.50
153.02	33.50
162.02	33.50
171.02	33.50
180.02	33.50
189.03	33.50
198.03	33.50
207.03	33.50
216.03	33.50
225.03	33.50
234.03	33.50

243.03	33.50
252.03	33.50
261.03	33.50
270.04	33.50
279.04	33.50
288.04	33.50
297.04	33.50
306.04	33.50
315.04	33.50
324.04	33.50
333.04	33.50
342.05	33.50
351.05	33.50
360.05	5.85

Distributed Lateral Loads for LRFD:

Sums of Distributed Lateral Load Per Unit Length due to Horizontal Soil Pressures

Depth in	Distributed Load lb/in
0.00	3.12
9.00	12.49
18.00	24.98
27.00	37.47
36.00	49.96
45.01	62.45
54.01	74.93
63.01	87.42
72.01	99.91
81.01	112.40
90.01	124.89
99.01	137.38
108.01	149.87
117.02	162.36
126.02	174.85
135.02	187.34
144.02	199.83
153.02	212.31
162.02	224.80
171.02	237.29
180.02	249.78
189.03	262.27
198.03	274.76
207.03	287.25
216.03	299.74
225.03	312.23
234.03	324.72
243.03	337.20
252.03	349.69
261.03	362.18
270.04	374.67
279.04	387.16
288.04	399.65
297.04	412.14
306.04	424.63
315.04	437.12
324.04	449.61
333.04	462.10
342.05	474.58
351.05	487.07
360.05	86.38

Computed Values of Pile Loading and Deflection
for Lateral Loading for LRFD Load Case Number 3

Load Case No. 3: Strength 1

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness in-lb^2	Soil Res. p lb/inch	Soil Spr. Es*h lb/inch	Distrib. Lat. Load lb/inch
0.00	4.4452	-0.00114	1391.	-0.00963	0.00	3.05E+12	0.00	0.00	63.3084
0.7501	4.3584	23484.	2024.	-0.00963	0.00	3.05E+12	0.00	0.00	77.3586
1.5002	4.2717	53235.	2804.	-0.00963	0.00	3.05E+12	0.00	0.00	96.0922
2.2503	4.1850	90772.	3754.	-0.00963	0.00	3.05E+12	0.00	0.00	114.8258
3.0004	4.0983	137612.	4871.	-0.00963	0.00	3.05E+12	0.00	0.00	133.5594
3.7505	4.0116	195273.	6158.	-0.00963	0.00	3.05E+12	0.00	0.00	152.2930
4.5006	3.9249	265273.	7613.	-0.00963	0.00	3.05E+12	0.00	0.00	171.0266
5.2507	3.8382	349128.	9237.	-0.00963	0.00	3.05E+12	0.00	0.00	189.7602
6.0008	3.7515	448358.	11029.	-0.00963	0.00	3.05E+12	0.00	0.00	208.4938
6.7509	3.6649	564478.	12990.	-0.00963	0.00	3.05E+12	0.00	0.00	227.2274
7.5010	3.5782	699008.	15120.	-0.00963	0.00	3.05E+12	0.00	0.00	245.9610
8.2511	3.4916	853464.	17418.	-0.00962	0.00	3.05E+12	0.00	0.00	264.6946
9.0012	3.4050	1029364.	19885.	-0.00962	0.00	3.05E+12	0.00	0.00	283.4282
9.7513	3.3184	1228224.	22521.	-0.00962	0.00	3.05E+12	0.00	0.00	302.1618
10.5014	3.2318	1451564.	25325.	-0.00961	0.00	3.05E+12	0.00	0.00	320.8953
11.2515	3.1453	1700899.	28297.	-0.00961	0.00	3.05E+12	0.00	0.00	339.6289
12.0016	3.0588	1977747.	31439.	-0.00960	0.00	3.04E+12	0.00	0.00	358.3625
12.7517	2.9724	2283625.	34749.	-0.00960	0.00	3.04E+12	0.00	0.00	377.0961
13.5018	2.8861	2620050.	38227.	-0.00959	0.00	3.04E+12	0.00	0.00	395.8297
14.2519	2.7998	2988539.	41875.	-0.00958	0.00	3.04E+12	0.00	0.00	414.5633
15.0020	2.7136	3390608.	45691.	-0.00957	0.00	3.04E+12	0.00	0.00	433.2969
15.7521	2.6274	3827776.	49675.	-0.00956	0.00	3.04E+12	0.00	0.00	452.0305
16.5022	2.5414	4301558.	53828.	-0.00955	0.00	3.04E+12	0.00	0.00	470.7641
17.2523	2.4555	4813470.	58150.	-0.00954	0.00	3.03E+12	0.00	0.00	489.4977
18.0024	2.3698	5365031.	62640.	-0.00952	0.00	3.03E+12	0.00	0.00	508.2313
18.7525	2.2841	5957755.	67299.	-0.00950	0.00	3.03E+12	0.00	0.00	526.9649
19.5026	2.1987	6593159.	72127.	-0.00949	0.00	3.02E+12	0.00	0.00	545.6985
20.2527	2.1134	7272759.	77123.	-0.00946	0.00	3.02E+12	0.00	0.00	564.4321
21.0028	2.0283	7998072.	82288.	-0.00944	0.00	3.02E+12	0.00	0.00	583.1657
21.7529	1.9434	8770613.	87622.	-0.00942	0.00	3.01E+12	0.00	0.00	601.8993
22.5030	1.8587	9591898.	93124.	-0.00939	0.00	3.01E+12	0.00	0.00	620.6329
23.2531	1.7743	1.05E+07	98794.	-0.00936	0.00	3.01E+12	0.00	0.00	639.3665
24.0032	1.6902	1.14E+07	104634.	-0.00929	0.00	1.01E+12	0.00	0.00	658.1001
24.7533	1.6070	1.24E+07	110642.	-0.00919	0.00	9.87E+11	0.00	0.00	676.8337
25.5034	1.5249	1.34E+07	116818.	-0.00907	0.00	9.78E+11	0.00	0.00	695.5673
26.2535	1.4438	1.45E+07	123164.	-0.00894	0.00	9.70E+11	0.00	0.00	714.3009
27.0036	1.3640	1.56E+07	129678.	-0.00880	0.00	9.63E+11	0.00	0.00	733.0345
27.7537	1.2854	1.68E+07	136360.	-0.00865	0.00	9.56E+11	0.00	0.00	751.7681
28.5038	1.2083	1.81E+07	143211.	-0.00848	0.00	9.50E+11	0.00	0.00	770.5017
29.2539	1.1327	1.94E+07	150231.	-0.00830	0.00	9.44E+11	0.00	0.00	789.2353
30.0040	1.0588	2.08E+07	154161.	-0.00811	0.00	9.39E+11	-55.8579	474.8597	139.8097
30.7541	0.9867	2.22E+07	153422.	-0.00790	0.00	9.34E+11	-248.1470	2264.	0.00
31.5042	0.9165	2.36E+07	150218.	-0.00768	0.00	9.30E+11	-463.7284	4554.	0.00
32.2543	0.8484	2.49E+07	145014.	-0.00745	0.00	9.26E+11	-692.5127	7347.	0.00
33.0044	0.7824	2.62E+07	137715.	-0.00720	0.00	9.22E+11	-929.2200	10690.	0.00
33.7545	0.7188	2.74E+07	128295.	-0.00694	0.00	9.19E+11	-1164.	14574.	0.00
34.5046	0.6576	2.85E+07	116809.	-0.00666	0.00	9.16E+11	-1388.	19005.	0.00
35.2547	0.5989	2.95E+07	103358.	-0.00638	0.00	9.14E+11	-1600.	24053.	0.00
36.0048	0.5428	3.04E+07	88086.	-0.00608	0.00	9.12E+11	-1793.	29733.	0.00
36.7549	0.4894	3.11E+07	71203.	-0.00578	0.00	9.10E+11	-1958.	36018.	0.00
37.5050	0.4388	3.17E+07	52941.	-0.00547	0.00	9.09E+11	-2099.	43062.	0.00
38.2551	0.3910	3.21E+07	33485.	-0.00515	0.00	9.08E+11	-2224.	51188.	0.00
39.0052	0.3461	3.23E+07	13069.	-0.00483	0.00	9.08E+11	-2313.	60145.	0.00
39.7553	0.3041	3.23E+07	-7972.	-0.00451	0.00	9.08E+11	-2363.	69940.	0.00
40.5054	0.2649	3.22E+07	-29415.	-0.00419	0.00	9.08E+11	-2402.	81610.	0.00
41.2555	0.2286	3.18E+07	-48749.	-0.00387	0.00	9.09E+11	-1894.	74566.	0.00
42.0056	0.1952	3.13E+07	-65444.	-0.00356	0.00	9.10E+11	-1815.	83722.	0.00
42.7557	0.1645	3.06E+07	-81287.	-0.00325	0.00	9.11E+11	-1705.	93255.	0.00
43.5058	0.1366	2.98E+07	-96119.	-0.00296	0.00	9.13E+11	-1591.	104845.	0.00
44.2559	0.1113	2.89E+07	-109861.	-0.00267	0.00	9.15E+11	-1462.	118235.	0.00
45.0060	0.08859	2.79E+07	-122302.	-0.00239	0.00	9.18E+11	-1302.	132299.	0.00
45.7561	0.06833	2.67E+07	-132904.	-0.00212	0.00	9.21E+11	-1054.	138808.	0.00
46.5062	0.05041	2.55E+07	-141749.	-0.00187	0.00	9.24E+11	-911.5340	162755.	0.00
47.2563	0.03473	2.42E+07	-148804.	-0.00162	0.00	9.28E+11	-656.1716	170045.	0.00
48.0064	0.02117	2.28E+07	-153634.	-0.00140	0.00	9.32E+11	-416.9999	177335.	0.00
48.7565	0.00958	2.14E+07	-156395.	-0.00118	0.00	9.37E+11	-196.5198	184625.	0.00
49.5066	-1.52E-04	2.00E+07	-157265.	-9.86E-04	0.00	9.42E+11	3.2425	191916.	0.00
50.2567	-0.00817	1.86E+07	-156437.	-8.02E-04	0.00	9.48E+11	180.7088	199206.	0.00
51.0068	-0.01459	1.72E+07	-154118.	-6.33E-04	0.00	9.55E+11	334.7188	206496.	0.00
51.7569	-0.01956	1.58E+07	-150521.	-4.78E-04	0.00	9.62E+11	464.4969	213786.	0.00
52.5070	-0.02319	1.45E+07	-145867.	-3.37E-04	0.00	9.70E+11	569.6176	221076.	0.00

* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

File-head deflection	=	4.44515152	inches
Computed slope at pile head	=	-0.00963341	radians
Maximum bending moment	=	32340924.	inch-lbs
Maximum shear force	=	-157265.	lbs
Depth of maximum bending moment	=	39.75530000	feet below pile head
Depth of maximum shear force	=	49.50660000	feet below pile head
Number of iterations	=	108	
Number of zero deflection points	=	2	

Load Case No.	Pile-head Shear lbs	Pile-head Moment in-lbs	Axial Loading lbs	Pile-head Deflection inches	Maximum Moment in Pile in-lbs	Maximum Shear in Pile lbs	Pile-Head Rotation radians
1	0.000000	0.000000	0.000000	1.78437459	16502033.	87892.	-0.00389473
2	3337.	0.000000	64950.	2.52087137	21205766.	103149.	-0.00555989
3	1391.	0.000000	96896.	4.44515152	32340924.	-157265.	-0.00963341

LRFD Performance by Load Case Combination

			Factored	Maximum	Fact. Mom.	Pass/Fail	Maximum			
Load	Resistance		Moment	Moment	Fraction	for LRFD	Shear	Pile-top	Pile-top	
Case	Section	Factor	Capacity	Developed	Developed	Moment	Developed	Deflection	Rotation	
No.	No.	for Moment	of Section	in Section	in Section	of Section	in Section	Developed	Developed	Name

of Load Case Combination			in-lbs	in-lbs			lbs	inches	Radians	

1	1	1.00	69988443.	16502033.	0.235782	Pass	87892.	1.784375	-0.003895	Soil Only
2	1	1.00	70985082.	21205766.	0.298736	Pass	103149.	2.520871	-0.005560	Service 1
3	1	0.90	64474407.	32340924.	0.501609	Pass	-157265.	4.445152	-0.009633	Strength 1

All LRFD load combinations have passed for all pile sections.

The load case and pile section with the greatest level of developed moment capacity:

LRFD Load Case No. = 3
Pile Section No. = 1

The analysis ended normally.