

REFERENCE: N/A

PROJECT: N/A

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	100.01.00202	1	

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY YANCEY
PROJECT DESCRIPTION NORTH CAROLINA EMERGENCY
MANAGEMENT-PRIVATE ROADS, BRIDGE REPAIR
AND REPLACEMENT PROGRAM
SITE DESCRIPTION BRIDGE OVER CANE RIVER ON
SOUTH FACE LANE BETWEEN EWART WILSON RD.
(SR 1100) AND NO OUTLET

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2, 2A	LEGEND (SOIL & ROCK)
2B, 2C	SUPPLEMENTAL LEGEND (GSI)
3	SITE PLAN
4-9	BORE LOG(S), CORE REPORT(S) & CORE PHOTOGRAPH(S)
10	SITE PHOTOGRAPH(S)

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DATE OCTOBER 2025

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**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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GEOTECHNICAL ENGINEERING UNIT**

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS (PAGE 1 OF 2)

SOIL DESCRIPTION

SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS ($\leq 35\%$ PASSING #200)							SILT-CLAY MATERIALS ($> 35\%$ PASSING #200)				ORGANIC MATERIALS			
GROUP CLASS.	A-1		A-3		A-2			A-4	A-5	A-6	A-7	A-1, A-2 A-3		A-4, A-5 A-6, A-7	
SYMBOL															
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX 10 MX	51 MN 10 MX	35 MX 35 MX 35 MX	35 MX 35 MX 35 MX	35 MX 35 MX 35 MX	35 MX 35 MX 35 MX	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	GRANULAR SOILS	SILT- CLAY SOILS	MUCK, PEAT	
MATERIAL PASSING #40 LL PI	— 6 MX		— NP	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS	
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	NO MX				
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS, GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS					
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR				FAIR TO POOR	POOR	UNSATISFACTORY	

PI OF A-7-5 SUBGROUP IS $\leq$ LL - 30; PI OF A-7-6 SUBGROUP IS $>$ LL - 30

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30	< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE OPENING (MM)	4	10	40	60	200	270
	4.75	2.00	0.42	0.25	0.075	0.053
BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)
GRAIN SIZE	MM 305 IN. 12	75 3	2.0	0.25	0.05	0.005

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
LL PLASTIC RANGE (PI) PL	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
OM SL	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

NON PLASTIC	SLIGHTLY PLASTIC	MODERATELY PLASTIC	HIGHLY PLASTIC
0-5	6-15	16-25	26 OR MORE
VERY LOW	SLIGHT	MEDIUM	HIGH

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS:
ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC.
ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE LL $<$ 31
MODERATELY COMPRESSIBLE LL = 31 - 50
HIGHLY COMPRESSIBLE LL $>$ 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME
HIGHLY ORGANIC	$>$ 10%	$>$ 20%	HIGHLY
			35% AND ABOVE

GROUND WATER

WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
 STATIC WATER LEVEL AFTER 24 HOURS
 PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
 SPRING OR SEEP

MISCELLANEOUS SYMBOLS

	ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION		25°/025° DIP & DIP DIRECTION OF ROCK STRUCTURES
	SOIL SYMBOL		SPT OPT DMT VST PMT TEST BORING
	ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT		AUGER BORING
	INFERRED SOIL BOUNDARY		CORE BORING
	INFERRED ROCK LINE		MONITORING WELL
	ALLUVIAL SOIL BOUNDARY		PIEZOMETER INSTALLATION
			SLOPE INDICATOR INSTALLATION
			CONE PENETROMETER TEST
			SOUNDING ROD
			TEST BORING WITH CORE
			SPT N-VALUE

RECOMMENDATION SYMBOLS

	UNDERCUT		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL
	SHALLOW UNDERCUT		UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK		

ABBREVIATIONS

AR - AUGER REFUSAL	MED. - MEDIUM	VST - VANE SHEAR TEST
BT - BORING TERMINATED	MICA - MICACEOUS	WEA - WEATHERED
CL - CLAY	MOD. - MODERATELY	γ - UNIT WEIGHT
CPT - CONE PENETRATION TEST	NP - NON PLASTIC	γ _d - DRY UNIT WEIGHT
CSE. - COARSE	ORG. - ORGANIC	
DMT - DILATOMETER TEST	PMT - PRESSUREMETER TEST	SAMPLE ABBREVIATIONS
DPT - DYNAMIC PENETRATION TEST	SAP. - SAPROLITIC	S - BULK
e - VOID RATIO	SD. - SAND, SANDY	SS - SPLIT SPOON
F - FINE	SL. - SILT, SILTY	ST - SHELBY TUBE
FOSS. - FOSSILIFEROUS	SLI. - SLIGHTLY	RS - ROCK
FRAC. - FRACTURED, FRACTURES	TCR - TRICONE REFUSAL	RT - RECOMPACTED TRIAXIAL
FRAGS. - FRAGMENTS	w - MOISTURE CONTENT	CBR - CALIFORNIA BEARING
HI. - HIGHLY	V - VERY	RATIO

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:	ADVANCING TOOLS:	HAMMER TYPE:
☐ CME-45C	☐ CLAY BITS	☒ AUTOMATIC ☐ MANUAL
☐ CME-55	☐ 6" CONTINUOUS FLIGHT AUGER	CORE SIZE:
☐ CME-550	☒ 8" HOLLOW AUGERS	☐ -B ☐ -H
☐ VANE SHEAR TEST	☐ HARD FACED FINGER BITS	☒ -N Q3
☐ PORTABLE HOIST	☐ TUNG.-CARBIDE INSERTS	HAND TOOLS:
☒ CME-750X	☒ CASING ☒ W/ ADVANCER	☐ POST HOLE DIGGER
☐	☐ TRICONE _____ " STEEL TEETH	☐ HAND AUGER
☐	☐ TRICONE _____ " TUNG.-CARB.	☐ SOUNDING ROD
☐	☒ CORE BIT	☐ VANE SHEAR TEST
☐	☐	☐

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SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS (PAGE 2 OF 2)

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:

WEATHERED ROCK (WR)		NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)		FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)		FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)		COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SL.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN. CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SL.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. <u>IF TESTED, WOULD YIELD SPT REFUSAL.</u>
SEVERE (SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. <u>IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF</u>
VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. <u>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</u>
COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.

ROCK HARDNESS

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
HARD	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
MODERATELY HARD	CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
MEDIUM HARD	CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
VERY SOFT	CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FOOT
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
AQUIFER - A WATER BEARING FORMATION OR STRATA.
ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL.
FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
SAPROLITE (SAP) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.
STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS IN OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
STRATA CORE RECOVERY (SREC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
TOPSOIL (TS) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK: GPS-2(50002)= N: 769,806J5, E: 1,017,652.26

ELEVATION: 2,973.8 FEET

NOTES:

FIAD= FILLED IMMEDIATELY AFTER DRILLING

NM= NOT MEASURED

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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SUBSURFACE INVESTIGATION

SUPPLEMENTAL LEGEND, GEOLOGICAL STRENGTH INDEX (GSI) TABLES FROM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (PAGE 1 OF 2)

AASHTO LRFD Figure 10.4.6.4-1 — Determination of GSI for Jointed Rock Mass (Marinos and Hoek, 2000)

GEOLOGICAL STRENGTH INDEX (GSI) FOR JOINTED ROCKS (Hoek and Marinos, 2000)

From the lithology, structure and surface conditions of the discontinuities, estimate the average value of GSI. Do not try to be too precise. Quoting a range from 33 to 37 is more realistic than stating that GSI = 35. Note that the table does not apply to structurally controlled failures. Where weak planar structural planes are present in an unfavorable orientation with respect to the excavation face, these will dominate the rock mass behaviour. The shear strength of surfaces in rocks that are prone to deterioration as a result of changes in moisture content will be reduced if water is present. When working with rocks in the fair to very poor categories, a shift to the right may be made for wet conditions. Water pressure is dealt with by effective stress analysis.

SURFACE CONDITIONS

VERY GOOD
Very rough, fresh unweathered surfaces

GOOD
Rough, slightly weathered, iron stained surfaces

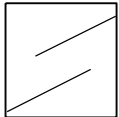
FAIR
Smooth, moderately weathered and altered surfaces

POOR
Slackensided, highly weathered surfaces with compact coatings or fillings or angular fragments

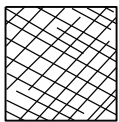
VERY POOR
Slackensided, highly weathered surfaces with soft clay coatings or fillings

STRUCTURE

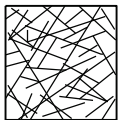
DECREASING SURFACE QUALITY →



INTACT OR MASSIVE - intact rock specimens or massive in situ rock with few widely spaced discontinuities



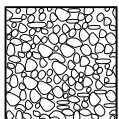
BLOCKY - well interlocked undisturbed rock mass consisting of cubical blocks formed by three intersecting discontinuity sets



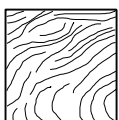
VERY BLOCKY - interlocked, partially disturbed mass with multi-faceted angular blocks formed by 4 or more joint sets



BLOCKY/DISTURBED/SEAMY - folded with angular blocks formed by many intersecting discontinuity sets. Persistence of bedding planes or schistosity

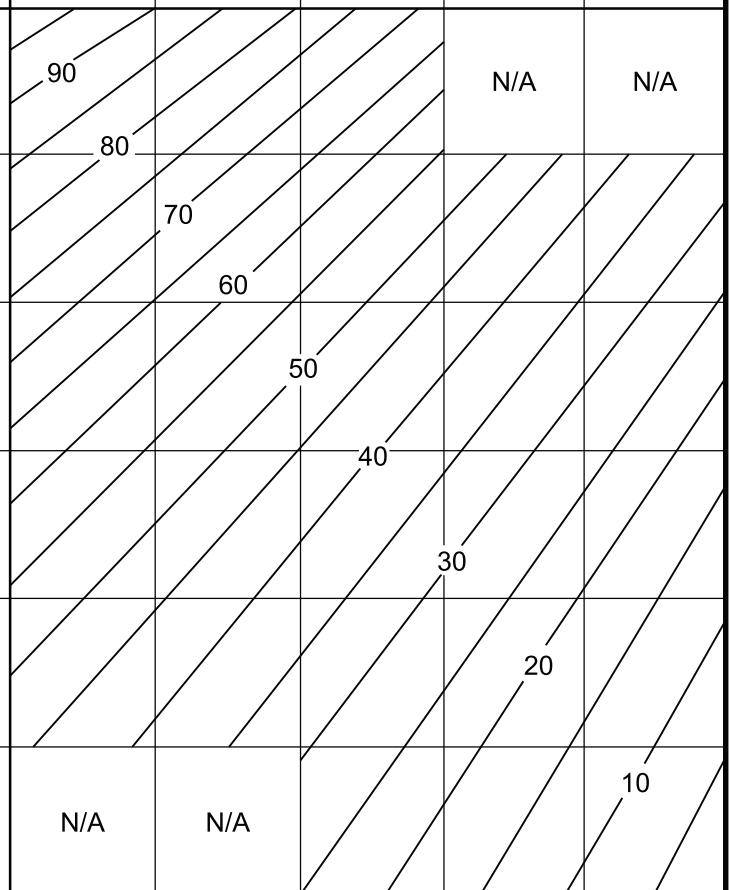


DISINTEGRATED - poorly interlocked, heavily broken rock mass with mixture of angular and rounded rock pieces



LAMINATED/SHEARED - Lack of blockiness due to close spacing of weak schistosity or shear planes

DECREASING INTERLOCKING OF ROCK PIECES
↓



100.01.00202

2C

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT**

SUBSURFACE INVESTIGATION

SUPPLEMENTAL LEGEND, GEOLOGICAL STRENGTH INDEX (GSI) TABLES FROM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (PAGE 2 OF 2)

AASHTO LRFD Figure 10.4.6.4-2 — Determination of GSI for Tectonically Deformed Heterogeneous Rock Masses (Marinos and Hoek, 2000)

GSI FOR HETEROGENEOUS ROCK MASSES SUCH AS FLYSCH (Marinos, P and Hoek E., 2000)

From a description of the lithology, structure and surface conditions (particularly of the bedding planes), choose a box in the chart. Locate the position in the box that corresponds to the condition of the discontinuities and estimate the average value of GSI from the contours. Do not attempt to be too precise. Quoting a range from 33 to 37 is more realistic than giving GSI = 35. Note that the Hoek-Brown criterion does not apply to structurally controlled failures. Where unfavourably oriented continuous weak planar discontinuities are present, these will dominate the behaviour of the rock mass. The strength of some rock masses is reduced by the presence of groundwater and this can be allowed for by a slight shift to the right in the columns for fair, poor and very poor conditions. Water pressure does not change the value of GSI and it is dealt with by using effective stress analysis.

SURFACE CONDITIONS OF
DISCONTINUITIES
(Predominantly bedding planes)

VERY GOOD - Very Rough, fresh
unweathered surfaces

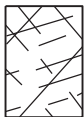
GOOD - Rough, slightly weathered
surfaces

FAIR - Smooth, moderately
weathered and altered surfaces

POOR - Very smooth, occasionally
slickensided surfaces with compact
coatings or fillings with angular
fragments

VERY POOR - Very smooth, slicken-
sided or highly weathered surfaces
with soft clay coatings or fillings

COMPOSITION AND STRUCTURE



A. Thick bedded, very blocky sandstone
The effect of pelitic coatings on the bedding planes is minimized by the confinement of the rock mass. In shallow tunnels or slopes these bedding planes may cause structurally controlled instability.



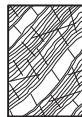
B. Sandstone with thin inter-layers of siltstone



C. Sandstone and siltstone in similar amounts



D. Siltstone or silty shale with sandstone layers



E. Weak siltstone or clayey shale with sandstone layers

C, D, E, and G - may be more or less folded than illustrated but this does not change the strength. Tectonic deformation, faulting and loss of continuity moves these categories to **F** and **H**.



F. Tectonically deformed, intensively folded/faulted, sheared clayey shale or siltstone with broken and deformed sandstone layers forming an almost chaotic structure



G. Undisturbed silty or clayey shale with or without a few very thin sandstone layers



H. Tectonically deformed silty or clayey shale forming a chaotic structure with pockets of clay. Thin layers of sandstone are transformed into small rock pieces.

Means deformation after tectonic disturbance

PROJECT REFERENCE NO.	SHEET NO.
100.01.00202	3
SITE PLAN	



GEOTECHNICAL BORING REPORT
BORE LOG

WBS 100.01.00202			TIP N/A		COUNTY YANCEY			GEOLOGIST J. Baskin							
SITE DESCRIPTION Replace Bridge over Cane River on S. Face Lane								GROUND WTR (ft)							
BORING NO. EB1		STATION N/A		OFFSET N/A		ALIGNMENT N/A									
COLLAR ELEV. 2,964.3 ft		TOTAL DEPTH 64.5 ft		NORTHING 769,877		EASTING 1,017,499		0 HR. Dry							
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024				DRILL METHOD NW Casing w/ Advancer			HAMMER TYPE Automatic								
DRILLER S. Davis			START DATE 09/30/25		COMP. DATE 09/30/25		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					ELEV. (ft)
2965	2,964.3	0.0	5	8	8								2,964.3	GROUND SURFACE	0.0
2960	2,960.3	4.0	33	44	22						M		2,962.8	ROADWAY EMBANKMENT Tan-Brown, Silty Fine to Coarse Sandy BOULDERS and GRAVEL (A-1-b)	1.5
2955	2,955.3	9.0	11	11	17						W		2,956.8		
2950	2,951.3	13.0	9	9	16						Sat.		2,955.3	ALLUVIAL Brown-Tan, Silty Fine to Coarse SAND (A-2-4) with Trace Gravel and Mica	9.0
2945	2,945.3	19.0	25	9	6						Sat.		2,944.8	RESIDUAL Orange-Brown, Fine to Coarse Sandy SILT (A-4) with Trace Rock Fragments and Mica	19.5
2940	2,940.3	24.0	3	6	7						M				
2935	2,935.3	29.0	WOH	1	2						W				
2930	2,930.3	34.0	3	6	8						M				
2925	2,925.3	39.0	4	5	9						M		2,926.8	Brown-Black, Silty Fine to Coarse SAND (A-2-4) with Trace Mica	37.5
2920	2,920.7	43.6	10	18	27						M				
2915	2,915.3	49.0	29	36	43						M				
2910	2,910.3	54.0	53	47/0.2									2,911.8	WEATHERED ROCK Tan MICA GNEISS	52.5
2905	2,905.3	59.0	16	32	37						M		2,906.8	RESIDUAL Tan-White, Fine to Coarse Sandy SILT (A-4) with Trace Mica	57.5
2900	2,900.3	64.0											2,900.3		64.0
	2,899.8	64.5	100/0.5										2,899.8	WEATHERED ROCK MICA GNEISS Boring Terminated with Standard Penetration Test Refusal at Elevation 2,899.8 ft on CRYSTALLINE ROCK (MICA GNEISS)	64.5
Notes: 1. Started Coring at 1.5' and Stopped at 9.0' and Continued with Casing Advancer to Termination 2. Dry, Caved at 6.3'															

NCDOT BORE SINGLE PRB_100.01.00202 GEO.BH.GPJ NC_DOT.GDT 10/8/25

SHEET 5

NCNDOT CORE SINGLE PRB_100.01.00202 GEO_BH.GPJ NC_DOT.GDT 10/8/25



Project # 100.01.00202
Bridge over Cane River on South Face Lane
CORE PHOTOGRAPHS (EB1)



SHEET 7

NC DOT BORE SINGLE PRB_100.01.00202 GEO_BH.GPJ NC DOT.GDT 10/8/25

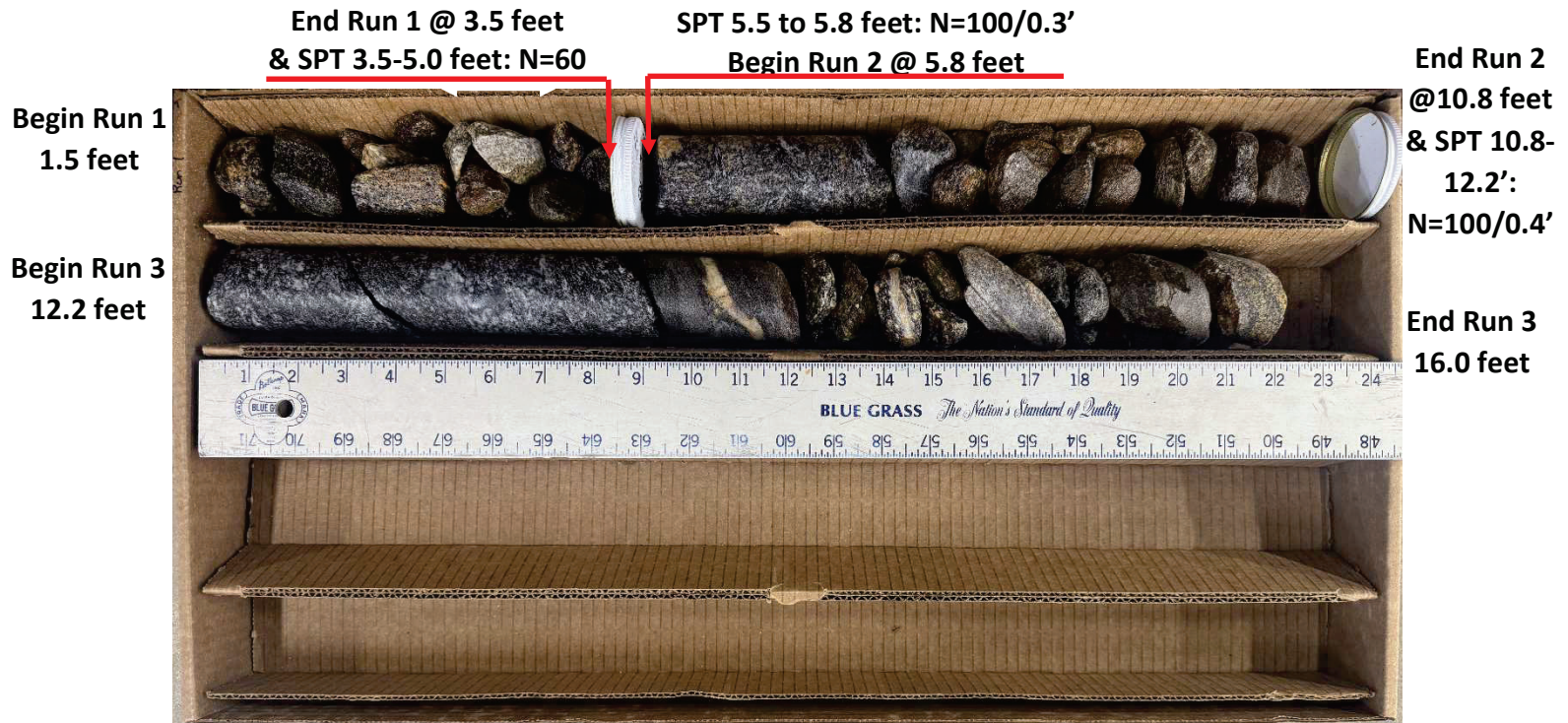
GEOTECHNICAL BORING REPORT
BORE LOG

WBS 100.01.00202				TIG N/A		HOUNTY YANCEY				FEOLOFIST J. Baskin					
SITE DESHRIGATION Replace Bridge over Cane River on S. Face Lane										F ROUN D WTR .(ft					
BORINF NOP EB2				STATION N/A				OZZSET N/A				ALIF NMENT N/A		0) RP NM	
HOLLAR ELEVP 2,963.7 ft				TOTAL DEGT) 54.8 ft				NORT) INF 769,898				EASTINF 1,017,562		24) RP FIAD	
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024							DRILL METHOD NW Casing w/ Advancer				HAMMER TYPE Automatic				
DRILLER S. Davis				START DATE 09/24/25				HOMGDATE 09/25/25				SURZAHE WATER DEGT) N/A			
HORE SICE NQ3				TOTAL RUN 10.8 ft											
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		L O G	DESCRIPTION AND REMARKS				
					REC. (ft) %	RQD (ft) %		REC. (ft) %	RQD (ft) %					ELEV. (ft)	DEPTH (ft)
2962.2											Begin Coring @ 1.5 ft				
2960	2,962.2	1.5	2.0	0:58/1.0	(0.7)	(0.0)		(3.7)	(0.0)	○○○	2,961.7	2.0			
	2,960.2	3.5		1:19/1.0	35%	0%					ROADWAY EMBANKMENT				
				N=60						○○○	Tan, Silty Fine to Coarse SAND (A-1-b) with Gravel (continued)				
	2,957.9	5.8								○○○	ALLUVIAL				
										○○○	Tan-Brown BOULDERS & COBBLES (A-1-b)				
2955			5.0	N=100/0.3	(1.2)	(0.0)				○○○					
				N=60/0.0	24%	0%				○○○					
				4:29/1.0						○○○					
				1:29/1.0						○○○					
	2,952.9	10.8		0:27/1.0						○○○					
	2,951.5	12.2		0:59/1.0						○○○					
				0:35/1.0						○○○					
2950			3.8	N=100/0.4	(1.8)	(0.0)		(0.0)	(0.0)	○○○	2,949.7	14.0			
	2,947.7	16.0		1:59/0.8	47%	0%				○○○					
				1:14/1.0						○○○					
				1:07/1.0						○○○	2,947.7	16.0			
				N=31						○○○	RESIDUAL				
										○○○	Tan-Gray and Orange-Tan, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Mica				
2945				N=77						○○○					
2940				N=9						○○○					
2935				N=4						○○○					
2930				N=10						○○○					
2925				N=13						○○○					
2920				N=15						○○○					
2915				N=14						○○○					
2910				N=60/0.1						○○○	2,909.0	54.7			
										○○○	2,908.9	54.8			
										○○○	CRYSTALLINE ROCK				
										○○○	Black-Tan SCHIST				
										○○○	Boring Terminated with Standard Penetration Test Refusal at Elevation 2,908.9 ft in CRYSTALLINE ROCK (SCHIST)				
										○○○	Note: Started Coring at 1.5' and Ended at 3.5'. Casing Advancer to 5.8' then Cored to 16.0' and then Casing Advancer to Termination				

NCDOT CORE SINGLE PRB 100.01.00202 GEO.BH.GPJ NC_DOT.GDT 10/8/25

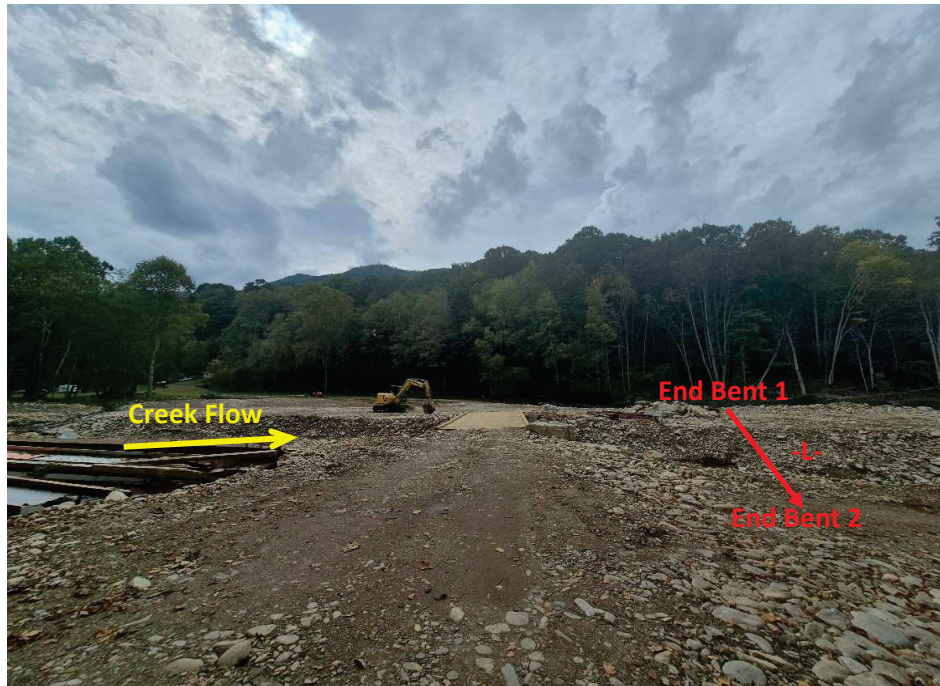


Project # 100.01.00202
Bridge over Cane River on South Face Lane
CORE PHOTOGRAPHS (EB2)

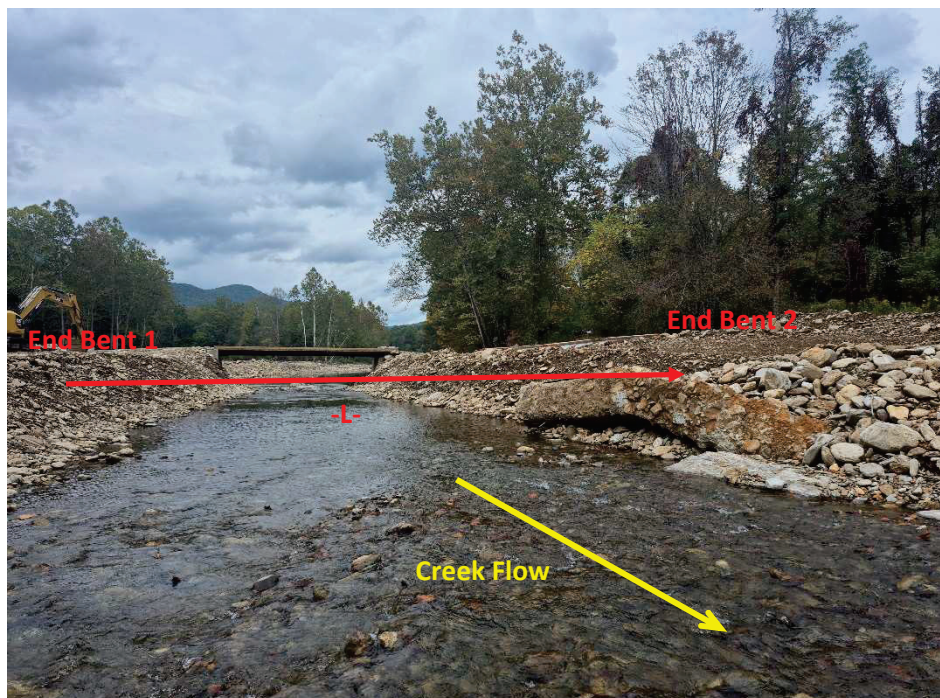




SITE PHOTOGRAPHS:
Bridge over Cane River on South Face Lane



Photograph No. 1: Looking west at the existing and proposed bridges



Photograph No. 2: Looking south at the existing and proposed bridges



Mr. Barry Hobbs, PE
Project Manager
Johnson, Mirmiran & Thompson, Inc.

March 17, 2026

TIP NUMBER: 100-01-00205
COUNTY: Yancey
DESCRIPTION: Bridge on Sweetbitch Rd. over East of US 19W Over Cane River
SUBJECT: Foundation Design Recommendations

Dear Mr. Hobbs,

HDR Engineering, Inc. of the Carolinas has completed the foundation recommendations for the proposed Structure on Sweetbitch Rd over Cane River. Boring performed from nearby proposed bridge end bent was utilized for the foundation design calculations. Also attached are the foundation recommendations with notes to be placed on the structure plans and supporting calculations.

Please contact me if you have any questions.

Sincerely,
HDR ENGINEERING, INC. OF THE CAROLINAS

Saket Kabra 3/17/2026

Saket Kabra, PE
Geotechnical Engineer

Anil Kumar Varri 3/17/2026

Anil Varri, PE
Senior Geotechnical Engineer

Attachments
Foundation Recommendations
Boring Location Plan View and Boring logs
Geometry and Loading Information
Supporting Calculations



FOUNDATION RECOMMENDATIONS



FOUNDATION RECOMMENDATIONS

WBS # 100-01-00205

T.I.P. NO. 100-01-00205

COUNTY YANCEY

STATION 11+20.4 -L6-

BRIDGE NO. 205

DESCRIPTION BRIDGE ON -L6- (SWEETBIRCH RD.)
EAST OF US 19W OVER CANE RIVER

	INITIALS	DATE
DESIGN	AKV	12/15/2025
CHECK	SMV	12/19/2025
APPROVAL		



	STATION	FOUNDATION TYPE	FACTORED RESISTANCE	MISCELLANEOUS DETAILS
END BENT 1	10+69.00 -L6-	36" Dia Drilled Piers	395 kips/pier	Top of Drilled Piers El. = 2403 ft Piers Minimum Tip El. = 2389.5 ft Pt of Fixity El. = 2395 ft Number of Piers = 4
BENT 1	11+20.40 -L6-	36" Dia Drilled Piers	615 kips/pier	Top of Drilled Piers El. = 2406 ft Piers Minimum Tip El. = 2389.5 ft Pt of Fixity El. = 2395 ft Number of Piers = 2
END BENT 2	11+71.79 -L6-	36" Dia Drilled Piers	400 kips/pier	Top of Drilled Piers El. = 2403 ft Piers Minimum Tip El. = 2389.5 ft Pt of Fixity El. = 2395 ft Number of Piers = 4

NOTES ON PLANS & COMMENTS

(See following page)



HDR Engineering, Inc. of the Carolinas
 555 Fayetteville Street, Suite 900
 Raleigh, NC 27601
 (919) 232-6600

SUMMARY OF DRILLED PIER INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Number of Piers per Line	Factored Resistance per Pier KIPS	Required Drilled Pier Tip Elevation FT	Required Tip Resistance per Pier KSF	Scour Critical Elevation FT	Minimum Drilled Pier Penetration Into Rock per Pier LIN FT	Drilled Pier Length* per Pier LIN FT	Drilled Pier Length Not In Soil* per Pier LIN FT	Drilled Pier Length In Soil* per Pier LIN FT	Permanent Steel Casing Required? YES	Permanent Steel Casing Tip Elevation (Elevation Not To Extend Casing Below) FT	Permanent Steel Casing Length** per Pier LIN FT
End Bent 1, Piers 1-4	4	395	2389.50	130		8.6	13.5***	8.6	4.9			
Bent 1, Piers 1-2	2	615	2389.50	200	2398.10	8.5	16.5***	8.6	4.9	YES	2398.10	7.9
End Bent 2, Piers 1-4	4	400	2389.50	130		8.5	13.5***	8.6	4.9			
TOTAL QUANTITY:								86	49			15.8

* Drilled Pier Length, Drilled Pier Length Not in Soil and Drilled Pier Length in Soil represent estimated drilled pier quantities and are measured and paid for as either "36" Dia. Drilled Piers" or "36" Dia. Drilled Piers Not in Soil" and "36" Dia. Drilled Piers in Soil" in accordance with Article 411-7 of the NCDOT Standard Specifications. For bents with a not in soil pay item, drilled piers through air or water will be paid at the contract unit price for "36" Dia. Drilled Piers in Soil."

** Permanent Steel Casing Length equals the difference between the ground line or top of drilled pier elevation, whichever is higher, and the permanent casing tip elevation and is measured and paid for as "Permanent Steel Casing for 36" Dia. Drilled Pier" in accordance with Article 411-7 of the NCDOT Standard Specifications.

*** Drilled pier lengths are based on assumption that rock elevation is approximately at Elevation 2398 ft. If different subsurface conditions are encountered, Engineer shall be contacted for updated pier lengths.

SUMMARY OF DRILLED PIER TESTING

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Standard Penetration Test (SPT) EACH	Crosshole Sonic Logging (CSL) EACH	Thermal Integrity Profiler (TIP) EACH	Shaft Inspection Device (SID) EACH	Pile Integrity Test (PIT) EACH
End Bent 1, Piers 1-4		1			
Bent 1, Piers 1-2		1			
End Bent 2, Piers 1-4		1			
TOTAL QUANTITY:		3			

NOTES:

- The Drilled Pier Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Saket Kabra, #053059) on 03-17-2026.
- The design presented herein is based on subsurface information obtained from borings performed for Site-0217A. It has been assumed that similar subsurface conditions exist at the current site. Actual rock elevations may vary from those indicated. If significant variations in rock elevation are encountered during construction, the Engineer must be contacted immediately to review and verify the design.
- The Engineer may adjust the quantity for Permanent Steel Casing, SPTs, TIPs, CSL Testing, SID Inspections and PITs when necessary.
- For Drilled Piers, see Section 411 of the Standard Specifications.
- CSL tubes are required and CSL testing may be required for drilled piers. The engineer will determine the need for CSL testing. For CSL testing, see section 411 of the Standard Specifications.
- SID inspections may be required for drilled piers. The engineer will determine the need for SID inspections.
- Permanent steel casings are required for drilled piers at Bent No. 1. Do not extend permanent casings below elevation 2398 ft without prior approval from the Engineer.
- Test Holes are required for drilled piers at End Bent No. 1, End Bent No.2 and Bent No. 1 to confirm continuous rock. For Test holes, see Section 411 of the Standard Specifications.

PROJECT NO. GROW NC 100-01-00205
YANCEY COUNTY
STATION: 11+20.40 -L6-



SIGNATURE _____ DATE _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE AND DRILLED PIER
FOUNDATION
TABLES

REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

 HDR Engineering, Inc., of the Carolinas 555 Fayetteville Street, Suite 900 Raleigh, NC 27601	SUBJECT: BRIDGE ON -L6- (SWEETBIRCH RD.)		WBS Element: 100-01-00205
	EAST OF US 19W OVER CANE RIVER		YANCEY County
	PREPARED BY:	AKV	100-01-00205
	DATE:	12/15/25	
	CHECKED BY:	SMV	SHEET:
	DATE:	12/19/2025	

END BENTS SUMMARY

END BENT 1

Foundation Type:	36" Drilled Piers	
Bottom of Column/ Top of		
Drilled Pier Elevation:	2403 +/- ft.	Provided by HDR Structural Engineer
Number of Piers	4	Provided by HDR Structural Engineer
Max Factored Load:	395 kips/pier	Provided by HDR Structural Engineer
Provided Factored Resistance:	395 kips/pier	Required factored Resistance including weight of column and pier
Drilled Pier Minimum Tip Elevat	2389.5 ft.	Determined from NCDOT Drilled Pier Axial Resistance
		Spreadsheet and LPILE
Drilled Pier Length:	13.5 ft	Top of Pier - Pier Tip Elevation
Point of Fixity EL:	2395.0 ft	From LPILE

END BENT 2

Foundation Type:	36" Drilled Piers	
Bottom of Column/ Top of		
Drilled Pier Elevation:	2403 +/- ft.	Provided by HDR Structural Engineer
Number of Piers	4	Provided by HDR Structural Engineer
Max Factored Load:	400 kips/pier	Provided by HDR Structural Engineer
Provided Factored Resistance:	400 kips/pier	Required factored Resistance including weight of column and pier
Drilled Pier Minimum Tip Elevat	2389.5 ft.	Determined from NCDOT Drilled Pier Axial Resistance
		Spreadsheet and LPILE
Drilled Pier Length:	13.5 ft	Top of Pier - Pier Tip Elevation
Point of Fixity EL:	2395.0 ft	From LPILE

Comments:
Tip elevations are based on good quality rock encountered at elevation 2398 ft based on borings performed at Site 0217-A.
It is anticipated that revisions to the tip elevations will be made when actual conditions at each drilled pier location are known.
Engineer shall be contacted if rock elevations vary from above assumed elevation.

 HDR Engineering, Inc., of the Carolinas 555 Fayetteville Street, Suite 900 Raleigh, NC 27601	SUBJECT: BRIDGE ON -L6- (SWEETBIRCH RD. EAST OF US 19W OVER CANE RIVER		WBS Element: 100-01-00205
	PREPARED BY:	AKV	YANCEY County
	DATE:	12/15/25	100-01-00205
	CHECKED BY:	SMV	SHEET:
	DATE:	12/19/2025	

INTERIOR BENTS SUMMARY

BENT 1

Foundation Type:	36" Drilled Piers	
Bottom of Column/ Top of		
Drilled Pier Elevation:	2406 +/- ft.	<i>Provided by HDR Structural Engineer</i>
Number of Piers	2	<i>Provided by HDR Structural Engineer</i>
Max Factored Load:	615 kips/pier	<i>Provided by HDR Structural Engineer</i>
Provided Factored Resistance:	622 kipspier	<i>Required factored Resistance including weight of column and pier</i>
Drilled Pier Minimum Tip Elevation:	2389.5 ft.	<i>Determined from NCDOT Drilled Pier Axial Resistance</i>
		<i>Spreadsheet and LPILE</i>
Drilled Pier Length:	16.5 ft	<i>Top of Pier - Pier Tip Elevation</i>
Point of Fixity EL:	2395.0 ft	<i>From LPILE</i>

Comments:
Tip elevations are based on good quality rock encountered at elevation 2398 ft based on borings performed at Site 0217-A.
It is anticipated that revisions to the tip elevations will be made when actual conditions at each drilled pier location are known.
Engineer shall be contacted if rock elevations vary from above assumed elevation.

BORING LOCATION PLAN AND BORING LOGS

Note: Borings are not preformed at Site 205 location.
Boring performed at nearby structure Site 217 is used for
this design recommendations.

PROJECT REFERENCE NO.	SHEET NO.
100-01-00217A	3
SITE PLAN	
0100200 FEET	



GEOTECHNICAL BORING REPORT

BORE LOG

WBS 00217A			TIP 100-01-00217a			COUNTY YANCEY			GEOLOGIST WATKINS, A.						
SITE DESCRIPTION Site 100-01-00217A									GROUND WTR (ft)						
BORING NO. B-1			STATION N/A			OFFSET N/A			ALIGNMENT N/A						
COLLAR ELEV. 2,404.2 ft			TOTAL DEPTH 16.1 ft			NORTHING 817,508			EASTING 998,700						
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024									DRILL METHOD SPT Core Boring			HAMMER TYPE Automatic			
DRILLER DAVIS, S.			START DATE 09/02/25			COMP. DATE 09/02/25			SURFACE WATER DEPTH 5.0ft						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100		MOI		ELEV. (ft)	DEPTH (ft)
2405	2,404.2	0.0												2,404.2	GROUND SURFACE 0.0
2400	2,400.6	3.6	2	7	3							M		2,401.2	Brown, loose to medium dense, silty SAND (A-2-4), trace mica, trace gravel 3.0
	2,398.1	6.1	2	2	12							M		2,398.1	Brown, stiff, grey, sandy SILT (A-4), highly micaceous 6.1
2395		60/0.0													CRYSTALLINE ROCK Light grey, white, black, migmatic biotite-horneblend GNEISS
2390														2,388.1	Black and brown 16.1
														Boring Terminated at Elevation 2,388.1 ft In Crystalline Rock	

GEOTECHNICAL BORING REPORT

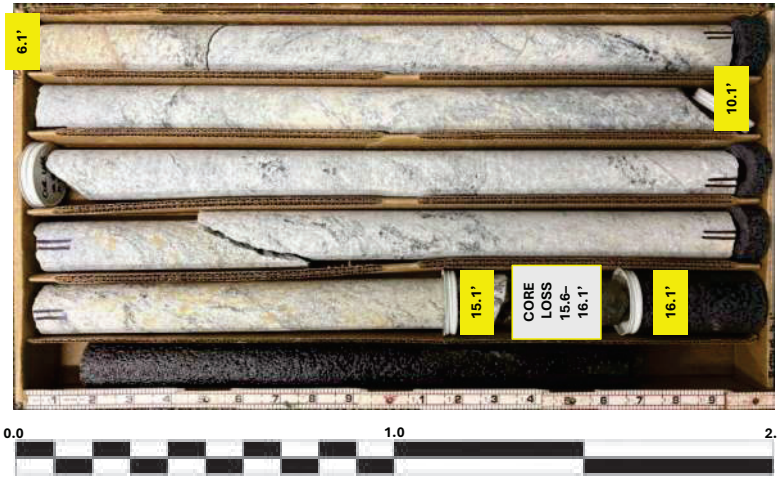
CORE LOG

WBS 00217A				TIP 100-01-00217a				COUNTY YANCEY				GEOLOGIST WATKINS, A.							
SITE DESCRIPTION Site 100-01-00217A												GROUND WTR (ft)							
BORING NO. B-1				STATION N/A				OFFSET N/A				ALIGNMENT N/A				0 HR. 5.5			
COLLAR ELEV. 2,404.2 ft				TOTAL DEPTH 16.1 ft				NORTHING 817,508				EASTING 998,700				24 HR. 3.9			
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024								DRILL METHOD SPT Core Boring				HAMMER TYPE Automatic							
DRILLER DAVIS, S.				START DATE 09/02/25				COMP. DATE 09/02/25				SURFACE WATER DEPTH 5.0ft							
CORE SIZE N				TOTAL RUN 10.0 ft															
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		L O G	DESCRIPTION AND REMARKS								
					REC. (ft) %	ROD (ft) %		REC. (ft) %	ROD (ft) %								ELEV. (ft)	DEPTH (ft)	
2398.1											Begin Coring @ 6.1 ft								
2395	2,398.1	6.1	4.0	3:21/1.0 4:56/1.0 7:22/1.0	(3.9) 98%	(3.9) 98%					2,398.1	CRYSTALLINE ROCK				6.1			
	2,394.1	10.1		10:20/1.0							Light grey, white, black, slight to fresh weathering, moderately hard to hard, close to wide fracture spacing, migmatic biotite-hornblend GNEISS.								
2390			5.0	3:10/1.0 3:48/1.0 4:00/1.0	(5.0) 100%	(5.0) 100%					GSI=75-85								
	2,389.1	15.1		4:17/1.0 4:43/1.0															
	2,388.1	16.1	1.0	1:56/1.0	(0.5) 50%	(0.0) 0%	2,388.1	Black and brown, very severe to moderately severe weathering				16.1							
											GSI=15-25								
											Boring Terminated at Elevation 2,388.1 ft In Crystalline Rock								

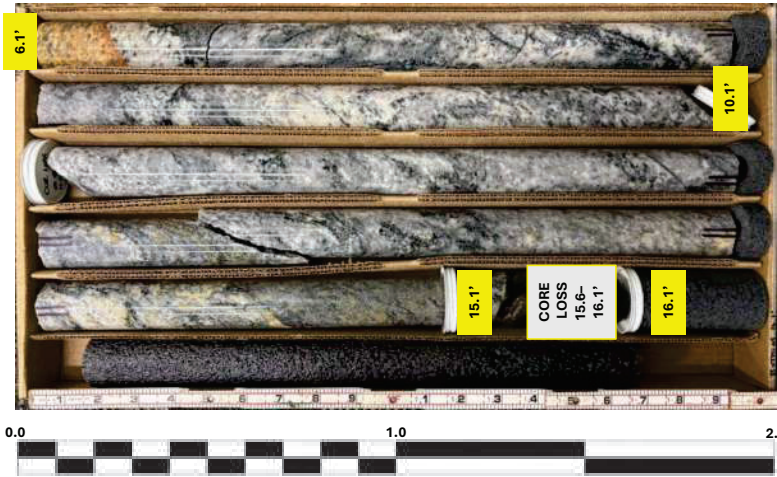
NCDOT CORE SINGLE SITE-0217A.GPJ NC_DOT.GDT 9/25/25

CORE PHOTOGRAPHIC RECORD
Site 100-01-00217A
Grow NC/SCEM-Support for the Private Road and Bridge

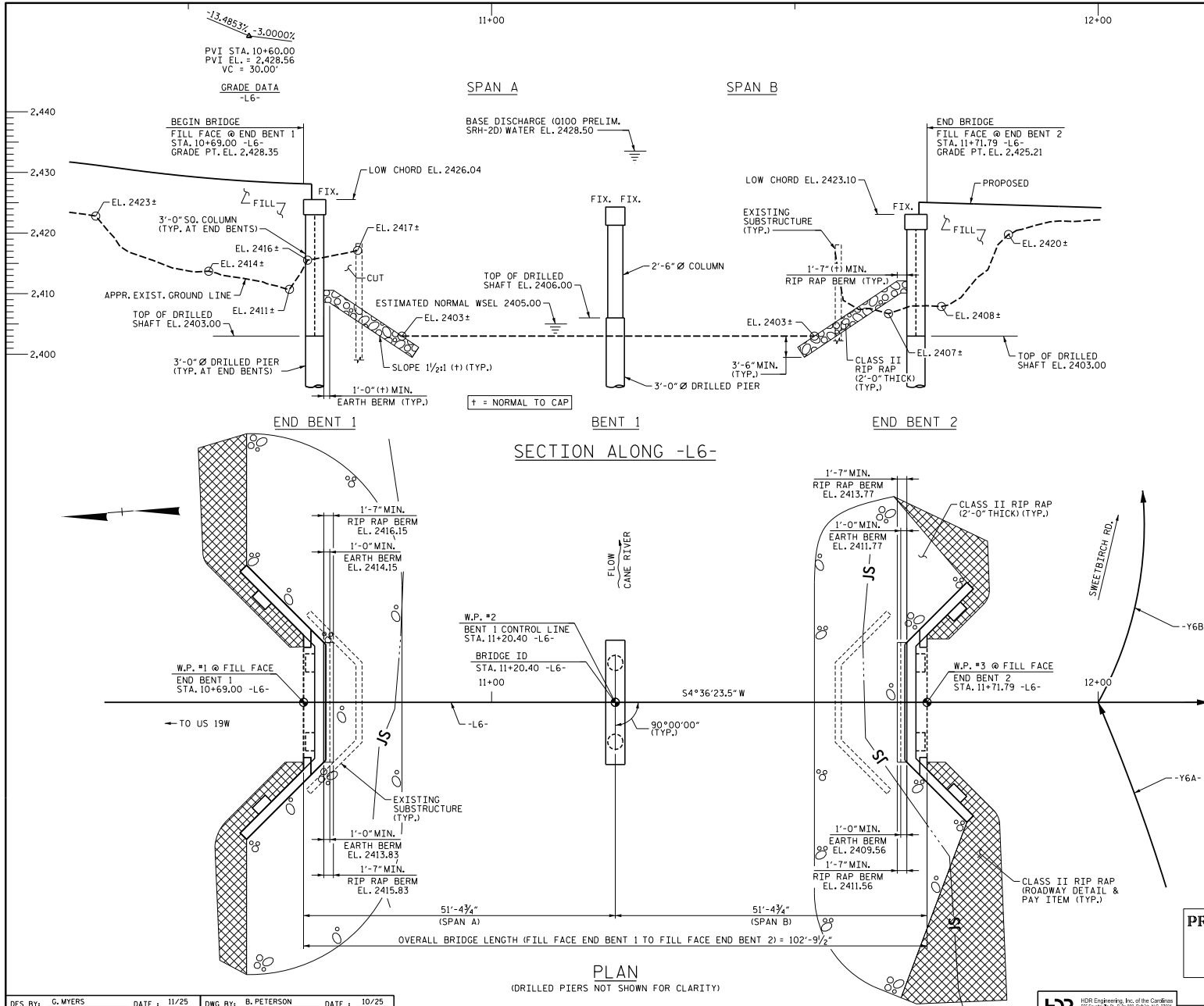
B-1 DRY
Box 1 of 2: 6.1 – 16.1 FEET



B-1 DRY
Box 1 of 2: 6.1 – 16.1 FEET



GEOMETRY AND LOADING INFORMATION



**PRELIMINARY
PLANS**

DO NOT USE FOR
CONSTRUCTION

GROW NC
PROJECT NO. 100-01-00205
YANCEY COUNTY
STATION: 11+20.40 -L6-
SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
BRIDGE ON -L6- (SWEETBIRCH RD.)
EAST OF US 19W OVER CANE RIVER

DES BY: G. MYERS
DES CHK: G. CASTREJON

DATE: 11/25
DATE: 11/25

DWG BY: B. PETERSON
CHK BY: J. PATT

DATE: 10/25
DATE: 12/25

HR

HR Engineering, Inc. of the Carolinas
10000 Highway 99, Suite 100, Raleigh, NC 27615
N.C. REG. NO. 10000, License Number: P-0110

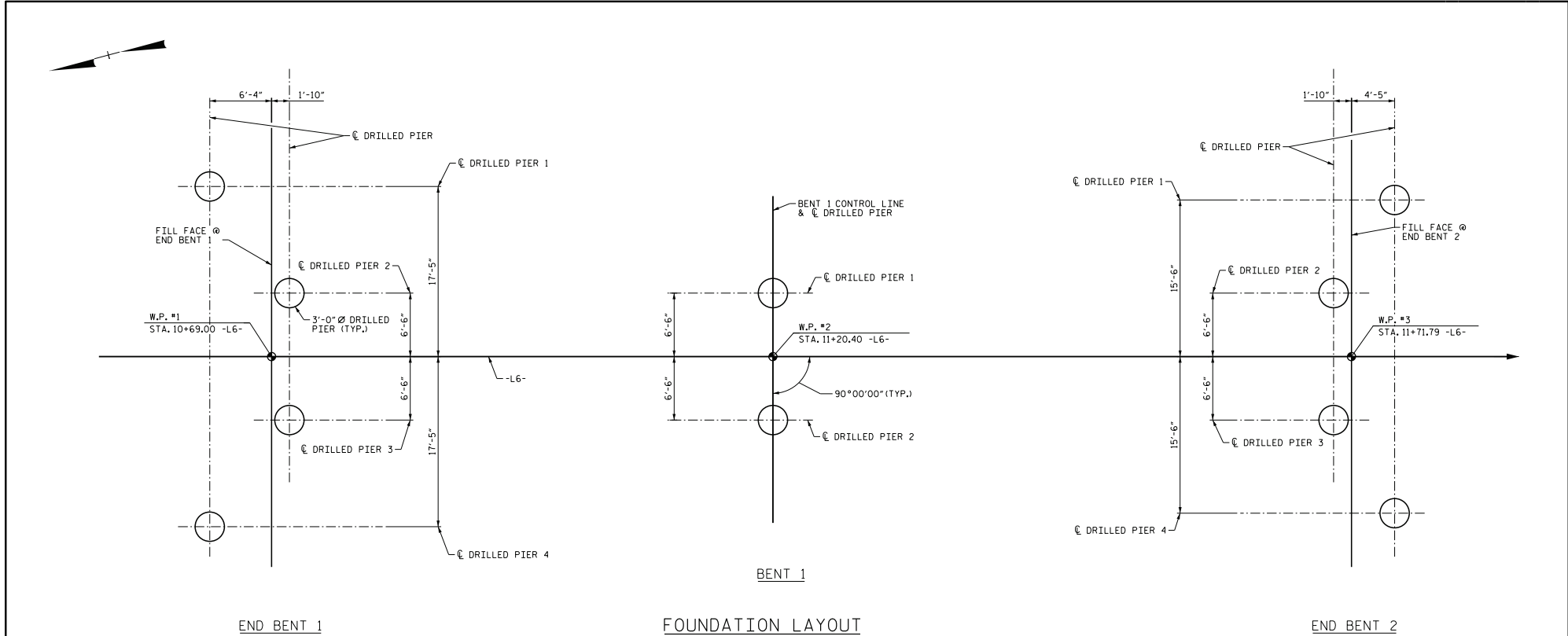
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO. 5-01
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	--	--	3	--	--	TOTAL SHEETS 21
2	--	--	4	--	--	

PLOT DRIVER: NCDDOT STRUCTURES DEFAULT PEN.tbl
TIME: 12/6/2005 3:08 PM

PLOT DRIVER: NCDDOT STRUCTURES DEFAULT PLOTTER.ppt
USER: GMYERS DATE: 12/16/2005
FILE: ...\\CAD\\Plan Production Set1\\3

DES BY: G. MYERS	DATE: 10/25	DWG BY: B. PETERSON	DATE: 10/25
DES CHK: G. CASTREJON	DATE: 10/25	CHK BY: G. MYERS	DATE: 12/25



NOTES
FOR GEOTECHNICAL FOUNDATION TABLES, SEE
SHEET S-03.

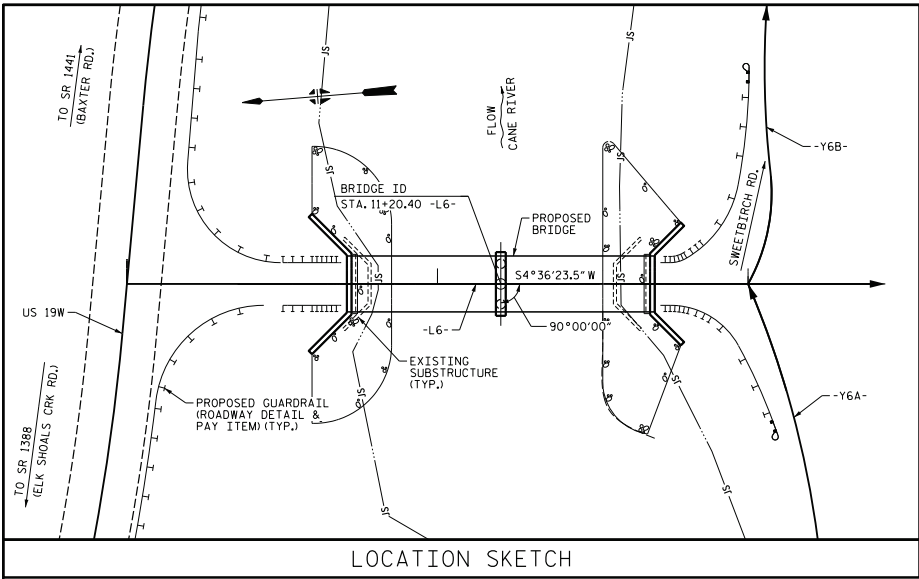
GROW NC
PROJECT NO. 100-01-00205
YANCEY COUNTY
STATION: 11+20.40 -L6-
SHEET 2 OF 5

PRELIMINARY
PLANS
DO NOT USE FOR
CONSTRUCTION

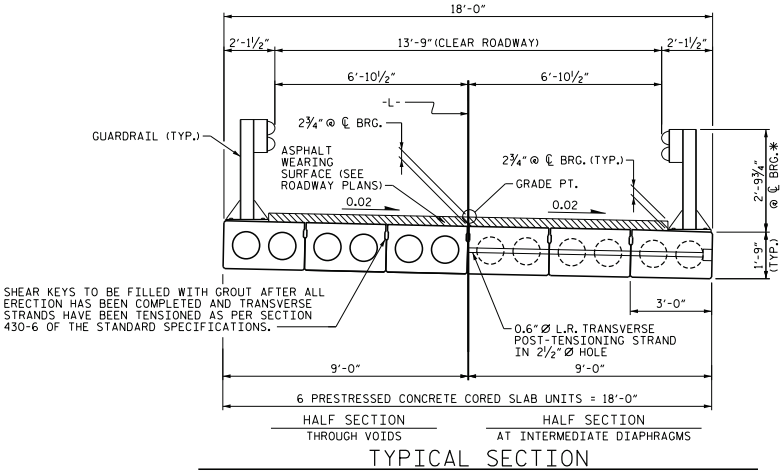
HDR Engineering, Inc. of the Carolinas
2000 North 9th Street, Suite 100 Raleigh, NC 27601
N.C.B.E.L.S. License Number: F-0110

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO. 5-02
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	--	--	3	--	--	TOTAL SHEETS 21
2	--	--	4	--	--	



NOTES
ASSUMED LIVE LOAD = HS-20 OR ALTERNATE LOADING
THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.



* - THE MAXIMUM GUARDRAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE GUARDRAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE GUARDRAIL FOLLOWS THE PROFILE OF THE GUTTERLINE.

GROW NC
PROJECT NO. 100-01-00205
YANCEY COUNTY
STATION: 11+20.40 -L6-
SHEET 2 OF 2

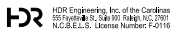
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRELIMINARY
GENERAL DRAWING
BRIDGE ON -L6- (SWEETBIRCH RD.)
EAST OF US 19W OVER CANE RIVER

REVISIONS				SHEET	
NO.	BY:	DATE:	NO.	BY:	DATE:
1	--	--	3	--	--
2	--	--	4	--	--

TOTAL
SHEETS
2

PRELIMINARY
PLANS
DO NOT USE FOR
CONSTRUCTION



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DES BY: G. MYERS DATE: 11/25
DES CHK: G. CASTREJON DATE: 11/25
DWG BY: B. PETERSON DATE: 10/25
CHK BY: J. PATT DATE: 11/25

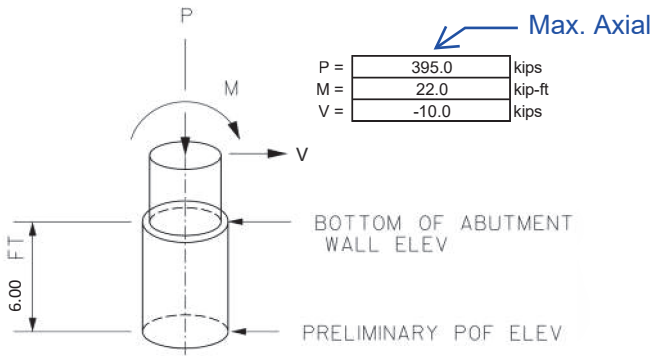
PENITABLE: NCDOT STRUCTURES DEFAULT PEN-10
TIME: 2011:17 PM

PLOT DRIVER: NCDOT STRUCTURES DEFAULT PLOTTER.DWT
USER: MSHELLS DATE: 12/1/2025
FILE: ...\\CAD\\Plan Production Set\\17



Project:	NC GROW Driveway over Cane River	Computed:	JGP	Date:	12/16/2025
Subject:	Site 100-01-00205	Checked:	SKD	Date:	12/16/25
Task:	Foundation Loads	Page:		of:	
Job #:	00000010434317	No:			

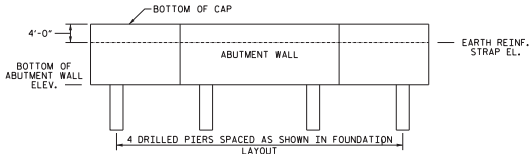
End Bent 1 - Strength Limit State



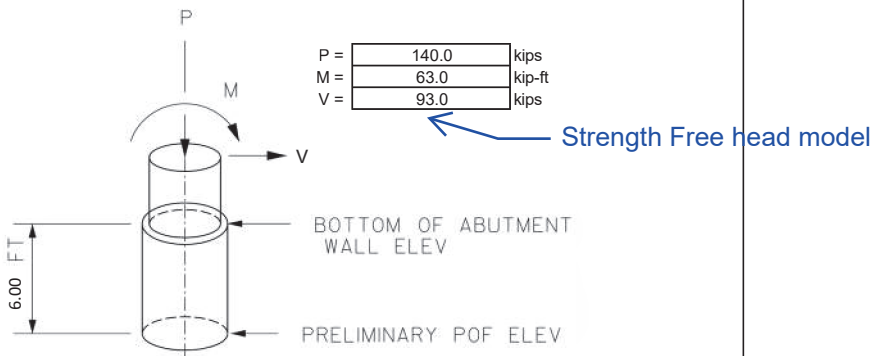
MAXIMUM AXIAL LOAD WITH LONGITUDINAL SHEAR & MOMENT

END BENT 1

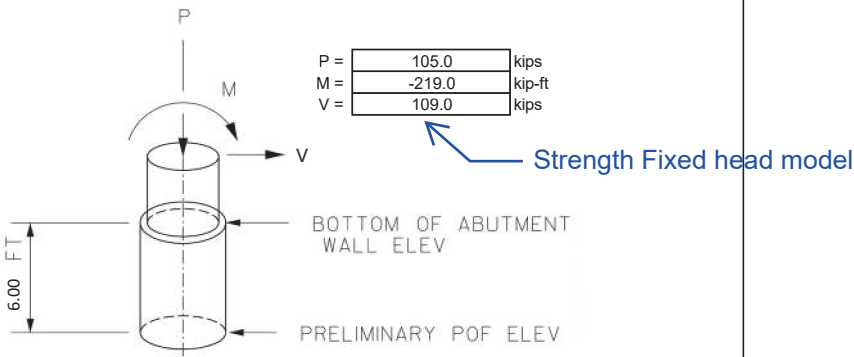
Drilled Shaft $\varnothing =$	3.00	ft.
Bottom of Abutment Wall Elev. =	2403.00	ft.
Preliminary POF Elev. =	2397.00	ft.



Total Resultant Load Applied to Straps = 11.7 kips/ft



MAXIMUM LONGITUDINAL SHEAR WITH AXIAL LOAD & LONGITUDINAL MOMENT

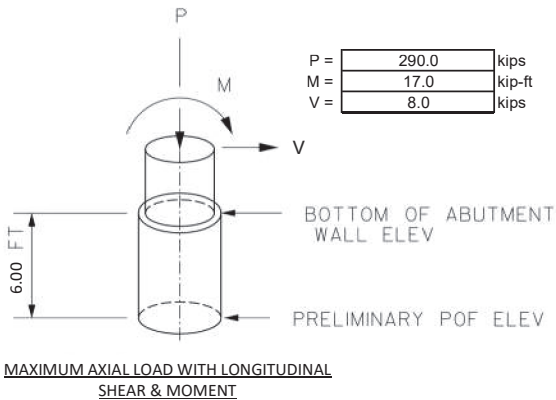


MAXIMUM TRANSVERSE SHEAR WITH AXIAL LOAD & TRANSVERSE MOMENT



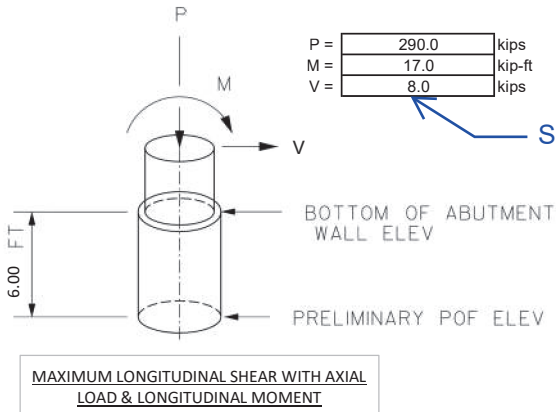
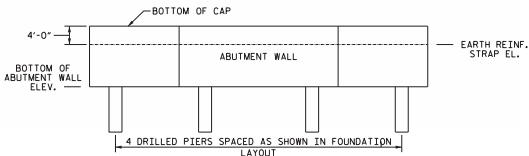
Project:	NC GROW Driveway over Cane River	Computed:	JGP	Date:	12/16/2025
Subject:	Site 100-01-00205	Checked:	SKD	Date:	12/16/25
Task:	Foundation Loads	Page:		of:	
Job #:	000000010434317	No:			

End Bent 1 - Service Limit State

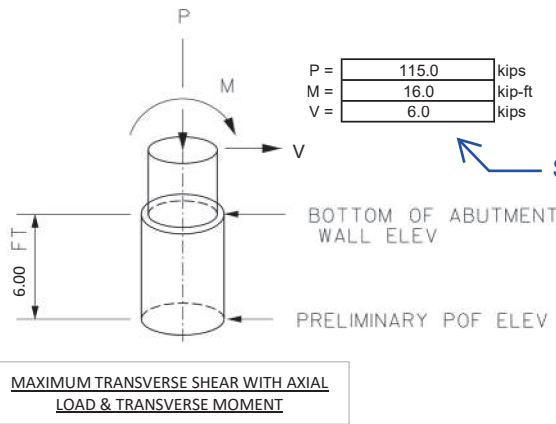


END BENT 1

Drilled Shaft Ø =	3.00
Bottom of Abutment Wall Elev. =	2403.00 ft.
Preliminary POF Elev. =	2397.00 ft.



Service Free head model

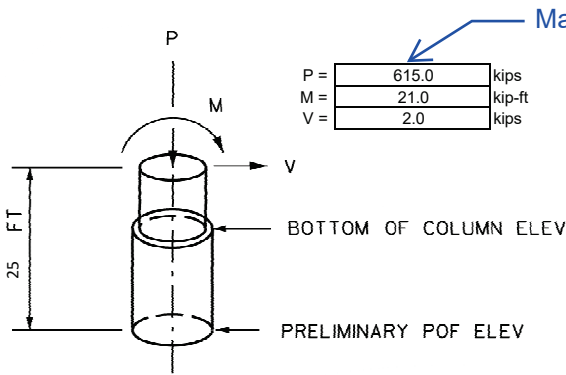


Service Fixed head model



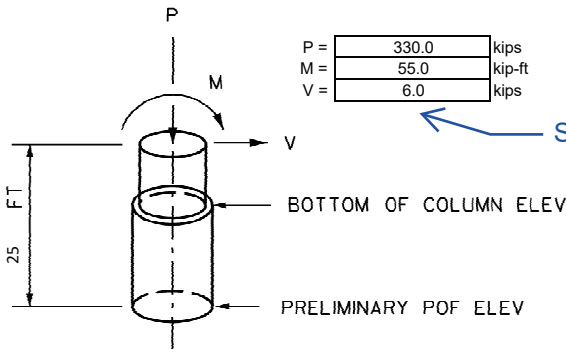
Project:	NC GROW Driveway over Cane River	Computed:	AJA	Date:	11/21/2025
Subject:	Site 100-01-00205	Checked:	SKD	Date:	11/21/25
Task:	Foundation Loads	Page:		of:	
Job #:	00000010434317	No:			

Bent 1 - Strength Limit State



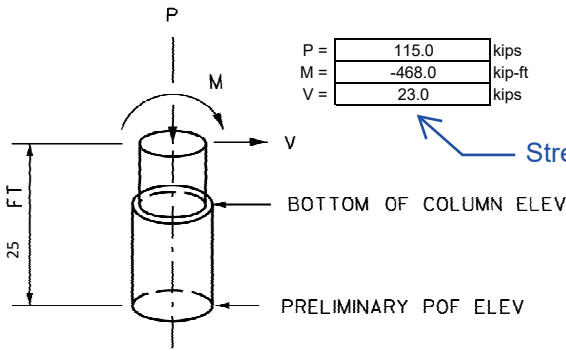
P =	615.0	kips
M =	21.0	kip-ft
V =	2.0	kips

MAXIMUM AXIAL LOAD WITH LONGITUDINAL
SHEAR & MOMENT



P =	330.0	kips
M =	55.0	kip-ft
V =	6.0	kips

MAXIMUM LONGITUDINAL SHEAR WITH
AXIAL LOAD & LONGITUDINAL MOMENT

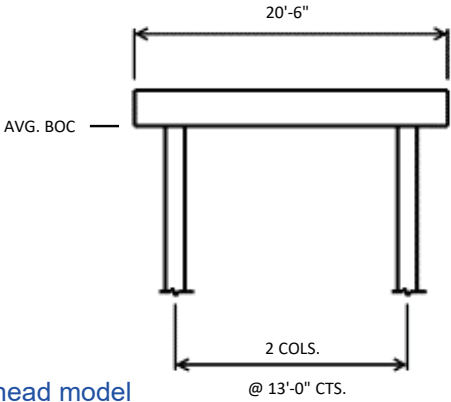


P =	115.0	kips
M =	-468.0	kip-ft
V =	23.0	kips

MAXIMUM TRANSVERSE SHEAR WITH AXIAL
LOAD & TRANSVERSE MOMENT

BENT 1

Column Ø =	2.50	ft.
Drilled Shaft Ø =	3.00	ft.
Bottom of Column Elev. =	2406.00	ft.
Preliminary POF Elev. =	2395.00	ft.

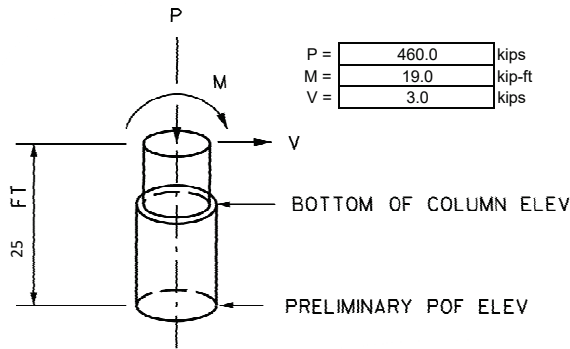


Average Bottom of Cap Elevation
Bent 1 = 2420.35 ft.



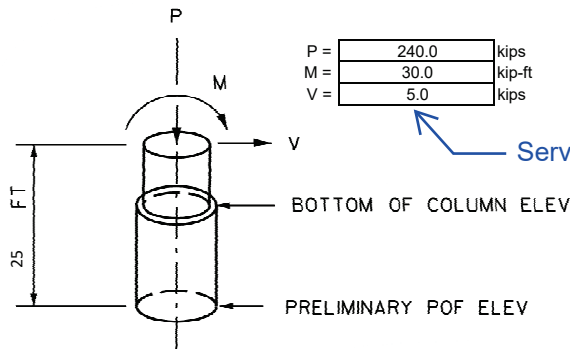
Project:	NC GROW Driveway over Cane River	Computed:	AJA	Date:	11/21/2025
Subject:	Site 100-01-00205	Checked:	SKD	Date:	11/21/25
Task:	Foundation Loads	Page:		of:	
Job #:	00000010434317	No:			

Bent 1 - Service Limit State



P =	460.0	kips
M =	19.0	kip-ft
V =	3.0	kips

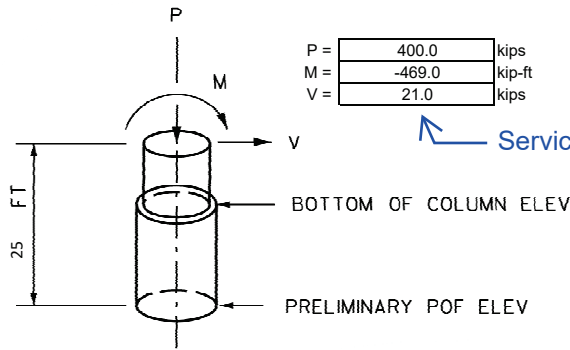
MAXIMUM AXIAL LOAD WITH LONGITUDINAL
SHEAR & MOMENT



P =	240.0	kips
M =	30.0	kip-ft
V =	5.0	kips

Service Free head model

MAXIMUM LONGITUDINAL SHEAR WITH
AXIAL LOAD & LONGITUDINAL MOMENT



P =	400.0	kips
M =	-469.0	kip-ft
V =	21.0	kips

Service Fixed head model

MAXIMUM TRANSVERSE SHEAR WITH AXIAL
LOAD & TRANSVERSE MOMENT

BENT 1

Column Ø =	2.50	ft.
Drilled Shaft Ø =	3.00	ft.
Bottom of Column Elev. =	2406.00	ft.
Preliminary POF Elev. =	2395.00	ft.

20'-6"

AVG. BOC

2 COLS.

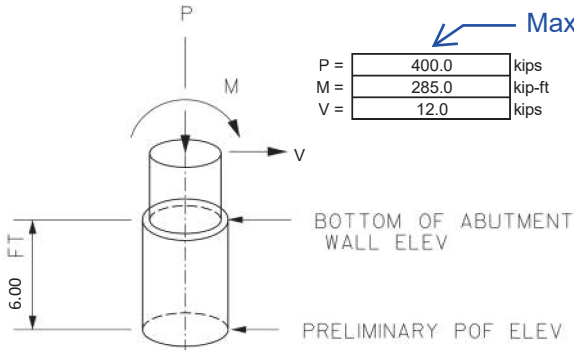
@ 13'-0" CTS.

Average Bottom of Cap Elevation
Bent 1 = 2420.35 ft.



Project:	NC GROW Driveway over Cane River	Computed:	JGP	Date:	11/17/2025
Subject:	Site 100-01-00205	Checked:	SKD	Date:	11/21/25
Task:	Foundation Loads	Page:		of:	
Job #:	00000010434317	No:			

End Bent 2 - Strength Limit State



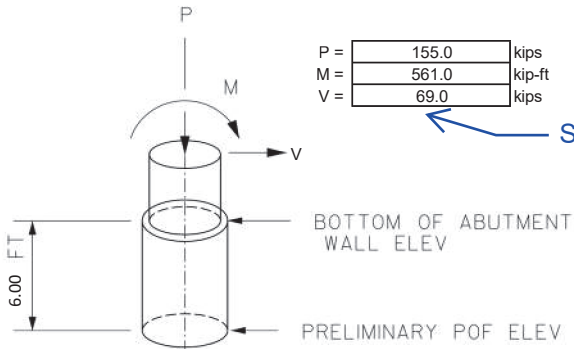
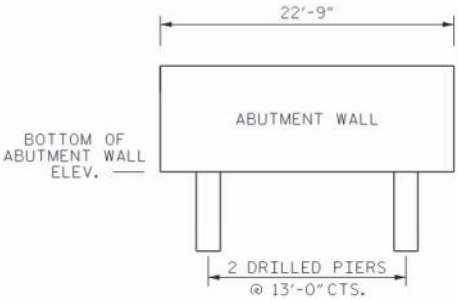
MAXIMUM AXIAL LOAD WITH LONGITUDINAL
SHEAR & MOMENT

Max. Axial

P =	400.0	kips
M =	285.0	kip-ft
V =	12.0	kips

END BENT 2

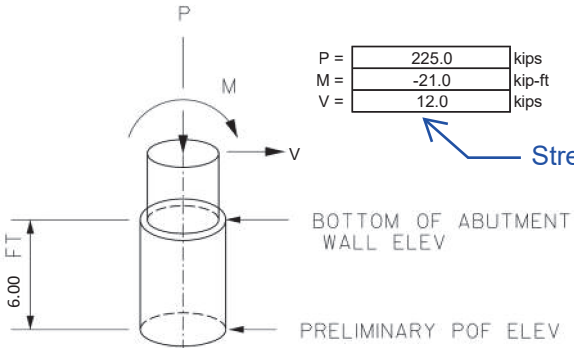
Drilled Shaft Ø =	3.00	ft.
Bottom of Abutment Wall Elev. =	2403.00	ft.
Preliminary POF Elev. =	2397.00	ft.



MAXIMUM LONGITUDINAL SHEAR WITH AXIAL
LOAD & LONGITUDINAL MOMENT

Strength Free head model

P =	155.0	kips
M =	561.0	kip-ft
V =	69.0	kips



MAXIMUM TRANSVERSE SHEAR WITH AXIAL
LOAD & TRANSVERSE MOMENT

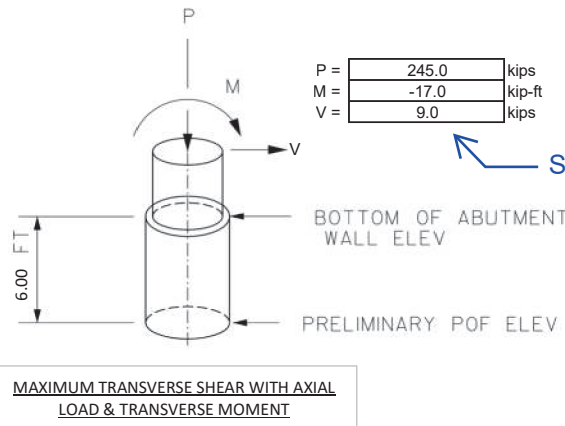
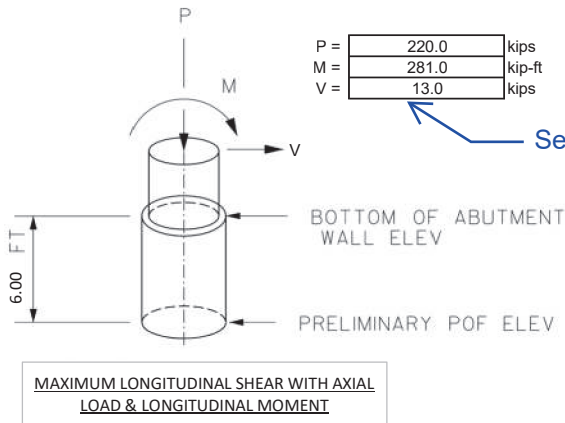
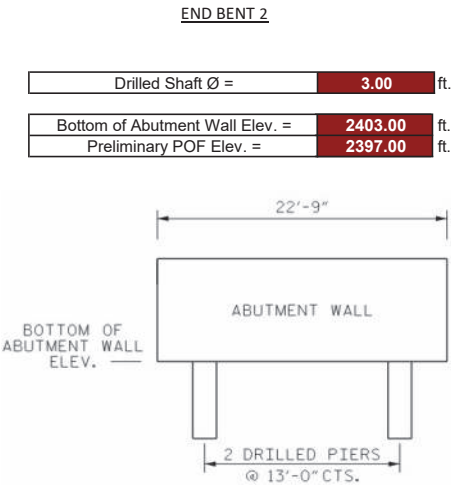
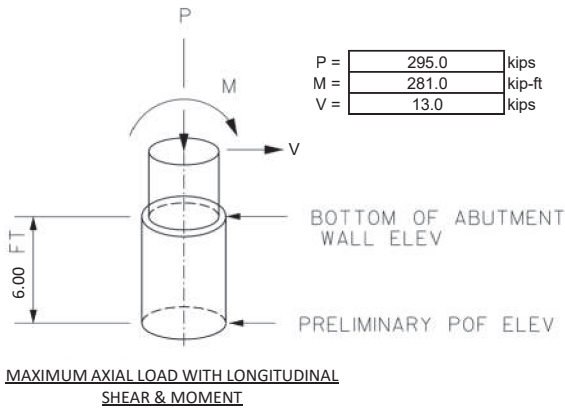
Strength Fixed head model

P =	225.0	kips
M =	-21.0	kip-ft
V =	12.0	kips



Project:	NC GROW Driveway over Cane River	Computed:	JGP	Date:	11/17/2025
Subject:	Site 100-01-00204	Checked:	SKD	Date:	11/21/25
Task:	Foundation Loads	Page:		of:	
Job #:	000000010434317	No:			

End Bent 2 - Service Limit State



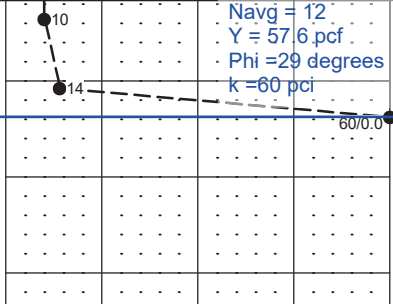
SUPPORTING CALCULATIONS

SUPPORTING CALCULATIONS

END BENT 1

For End Bent 1

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 00217A				TIP 100-01-00217a				COUNTY YANCEY				GEOLOGIST WATKINS, A.					
SITE DESCRIPTION Site 100-01-00217A												GROUND WTR (ft)					
BORING NO. B-1				STATION N/A				OFFSET N/A				ALIGNMENT N/A				0 HR. 5.5	
COLLAR ELEV. 2,404.2 ft				TOTAL DEPTH 16.1 ft				NORTHING 817,508				EASTING 998,700				24 HR. 3.9	
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024								DRILL METHOD SPT Core Boring				HAMMER TYPE Automatic					
DRILLER DAVIS, S.				START DATE 09/02/25				COMP. DATE 09/02/25				SURFACE WATER DEPTH 5.0ft					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)		
Top of Pier = 2403																	
2405	2,404.2	0.0	2	7	3									2,404.2	GROUND SURFACE 0.0		
2400	2,400.6	3.6	2	2	12							M		2,401.2	Brown, loose to medium dense, silty SAND (A-2-4), trace mica, trace gravel 3.0		
	2,398.1	6.1	60/0.0								M	2,398.1		Brown, stiff, grey, sandy SILT (A-4), highly micaceous 6.1			
2395															CRYSTALLINE ROCK Light grey, white, black, migmatic biotite-horneblend GNEISS		
2390															2,388.1	Black and brown 16.1	
															Boring Terminated at Elevation 2,388.1 ft In Crystalline Rock		
Tip Elevation from spreadsheet = 2397 ft Tip elevation from L-pile = 2389.5 ft Say Tip elevation no higher than El 2389.5 ft Strength Freehead Max axial loading condition point of fixity = El 2394.6 ft Strength Freehead loading condition point of fixity = El 2395.4 ft Strength Fixedhead loading condition point of fixity = El 2394.6 ft Say Point of fixity = El 2395 ft																	

Tip Elevation from spreadsheet = 2397 ft
Tip elevation from L-pile = 2389.5 ft
Say Tip elevation no higher than El 2389.5 ft

Strength Freehead Max axial loading condition point of fixity = El 2394.6 ft
Strength Freehead loading condition point of fixity = El 2395.4 ft
Strength Fixedhead loading condition point of fixity = El 2394.6 ft

Say Point of fixity = El 2395 ft

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 00217A				TIP 100-01-00217a				COUNTY YANCEY				GEOLOGIST WATKINS, A.					
SITE DESCRIPTION Site 100-01-00217A												GROUND WTR (ft)					
BORING NO. B-1				STATION N/A				OFFSET N/A				ALIGNMENT N/A				0 HR. 5.5	
COLLAR ELEV. 2,404.2 ft				TOTAL DEPTH 16.1 ft				NORTHING 817,508				EASTING 998,700				24 HR. 3.9	
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024								DRILL METHOD SPT Core Boring				HAMMER TYPE Automatic					
DRILLER DAVIS, S.				START DATE 09/02/25				COMP. DATE 09/02/25				SURFACE WATER DEPTH 5.0ft					
CORE SIZE N				TOTAL RUN 10.0 ft													
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) % RQD (ft) %		SAMP. NO.	STRATA REC. (ft) % RQD (ft) %		L O G	DESCRIPTION AND REMARKS						
											ELEV. (ft)	DEPTH (ft)					
2398.1												Begin Coring @ 6.1 ft					
	2,398.1	6.1	4.0	3:21/1.0 4:56/1.0 7:22/1.0 10:20/1.0	(3.9) 98%	(3.9) 98%					2,398.1	6.1					
2395	2,394.1	10.1															
			5.0	3:10/1.0 3:48/1.0 4:00/1.0 4:17/1.0	(5.0) 100%	(5.0) 100%											
2390	2,389.1	15.1		4:43/1.0													
	2,388.1	16.1	1.0	1:56/1.0	(0.5) 50%	(0.0) 0%					2,388.1	16.1					
No lab testing available for rock cores. Compressive strength are assumed conservatively based on quality of rock and previous experience																	
Y = 140pcf UCS = 2000 psi																	
Black and brown, very severe to moderately severe weathering																	
GSI=15-25																	
Boring Terminated at Elevation 2,388.1 ft In Crystalline Rock																	

~ Min Tip
= El. 2389.5'



Elevations

Bottom of Cap (BOC) Elevation =	2,403.00	ft
Top of Pier/Bottom of Column Elevation =	2,403.00	ft
Natural Ground / Finished Grade Elevation =	2,411.00	ft
Groundwater Table (GWT) Elevation =	2,405.00	ft
Design Scour (DSE) Elevation =	2,403.00	ft
Amount of Contraction Scour (from BSR) =	0.00	ft
Is Permanent Casing Required? ☐ Yes / Maybe ☒ No		
Bottom of Permanent Casing Elevation =	N/A	ft
Drilled Pier Tip Elevation =	2,397.00	ft

Drilled Pier Information

Maximum Factored Axial Load (P_r) =	395.0	kips
Number of Drilled Piers per Bent =	4	
Diameter of Column (d_{Column}) =	36	in
Diameter of Drilled Pier (d_{DP}) =	36	in
Unit Weight of Concrete (γ_c) =	0.150	kcf
Compressive Strength of Concrete (f'_c) =	4.500	ksi

Subsurface Information and Soil/Rock Layer Properties

internally calculate N_{160} values at midpoint of each layer ☒

Subsurface Boring Name / ID No. =	B-1	
SPT Hammer Energy Efficiency Rating (ER) =	87	%
Top of Boring (Collar) Elevation =	2404.20	ft
Depth to Groundwater Table (for actual boring) =	2400.30	ft

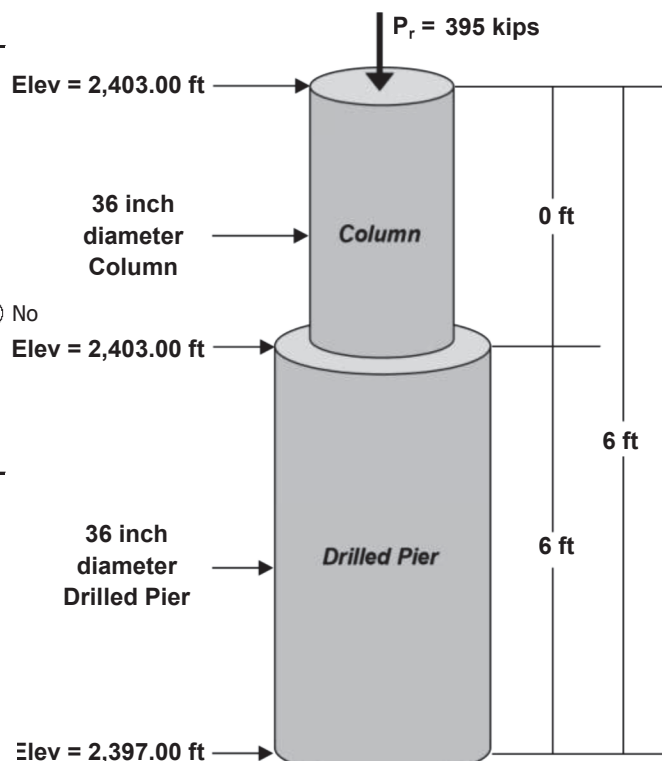


Figure shows typical drilled pier

Calculate GSI using RQD values : ☐
(Use if GSI is not shown on boring)

Layer No.	Material Description	Layer Elevations		Total γ (kcf)	N (bpf)	N_{60} (bpf)	N_{160} (bpf)	RQD (%)	⁽²⁾ GSI	q_u (ksf)	E_i (ksi)	ν
		Top ⁽¹⁾ (ft)	Bottom (ft)									
1	Cohesionless Soil (Sand)	2,403.00	2,398.10	0.120	12	17	26				X	
2	Hard Rock	2,398.10	2,397.00	0.140			N/A	98	75	400		
3												
4												
5												
6												
7												
8												
TIP ⁽³⁾	Hard Rock	2,397.00	2,391.00	0.140			N/A	98	75	400	4,000	0.220

Notes

- Resistance from subsurface layers above the Bottom of Column Elevation, Drilled Pier Design Scour Elevation, and Permanent Casing Elevation will be ignored.
- Hard rock layers with poor or very poor quality rock mass ($GSI < 30$) will be modeled as weathered rock.
- Input the subsurface information for the soil / rock at the base of the drilled pier to a distance of 2 pier diameters below the base of the drilled pier.

DISCLAIMER: The application of this spreadsheet is the responsibility of the user. It is imperative that the user understands the potential accuracy limitations and examines the reasonableness of the results with engineering knowledge and experience. There are no expressed or implied warranties.



Correcting SPT Values for Hammer Efficiency and Overburden Pressure

SPT-N Value Corrected for Hammer Efficiency, (N_{60})

$$N_{60} = (ER/60\%)(N)$$

AASHTO Eqn. 10.4.6.2.4-2

 N_{60} = SPT blow count corrected for hammer efficiency (blows/ft)

ER = hammer efficiency expressed as percent of theoretical free fall energy delivered by the hammer system actually used. If ER is not known, use 80% for automatic hammers and 60% for drop hammers.

N = uncorrected SPT blow count (blows/ft)

SPT-N Value Corrected for Overburden Pressure, (N_1)

$$N_1 = (C_N)(N)$$

AASHTO Eqn. 10.4.6.2.4-1

 N_1 = SPT blow count corrected for overburden pressure (blows/ft)

 C_N = correction factor = $[0.77 \log_{10}(40/\sigma'_v)] < 2.0$
 $\sigma'_v = \sigma_v - \mu$ = effective vertical stress at the depth of the SPT-N value (ksf)

 σ_v = total vertical stress at the depth of the SPT-N value (ksf)

 μ = total pore water pressure at the depth of the SPT-N value (ksf)

N = uncorrected SPT blow count (blows/ft)

SPT-N Value Corrected for both Overburden Pressure and Hammer Efficiency, (N_{160})

$$N_{160} = (C_N)(N)$$

AASHTO Eqn. 10.4.6.2.4-3

Summary of Corrected N Values for Boring

Top of Boring (Collar) Elevation = 2,404.2 ft

Depth to Groundwater Table = 2,400.3 ft

Hammer Efficiency (ER) = 87 %

Unit Weight of Water = 0.0624 kcf

Layer No.	Layer Elevations		σ_v at top (ksf)	Δz (ft)	Total γ (kcf)	σ_v at bottom (ksf)	σ_v at midpoint (ksf)	z_{water} (ft)	μ at midpoint (ksf)	σ'_{vo} at midpoint (ksf)	N (bpf)	N_{60} (bpf)	C_N	N_{160} (bpf)
	Top (ft)	Bottom (ft)												
1	2403.00	2398.10	0.144	4.90	0.120	0.732	0.438	0.00	0.000	0.438	12	17	1.51	26
2	2398.10	2397.00	0.732	1.10	0.140	0.886	0.809	0.00	0.000	0.809	N/A			N/A
3														
4														
5														
6														
7														
8														
TIP	2397.00	2391.00	0.886	6.00	0.140	1.726	1.306	0.00	0.000	1.306	N/A			N/A



Selecting Design Properties for Hard Rock

- q_u values for rock should be based on AASHTO Table 10.4.6.4-1 (which uses Point Load Index Testing) or actual values from Uniaxial Compressive Strength Testing. If neither of these options is available, the NCDOT Rock Core Database may be used to estimate compressive strength.
- E_i and ν values for rock should be based on AASHTO Tables C10.4.6.5-1, and 2 if lab test data is not available

Unconfined Compressive Strength from Point Load Strength Index for Hard Rock AASHTO Table C10.4.6.4-1

Parameter			Ranges of Values					
1	Strength of intact rock material	Point load strength index	>175 ksf	85–175 ksf	45–85 ksf	20–45 ksf	For this low range, uniaxial compressive test is preferred	
		Uniaxial compressive strength	>4320 ksf	2160–4320 ksf	1080–2160 ksf	520–1080 ksf	215–520 ksf	70–215 ksf
	Relative Rating		15	12	7	4	2	1

Summary of Elastic Moduli for Intact Rock, E_i (modified by Kulhawy, 1978)

AASHTO Table C10.4.6.5-1

Rock Type	No. of Values	No. of Rock Types	Elastic Modulus, E_i (ksi $\times 10^3$)			Standard Deviation (ksi $\times 10^3$)
			Maximum	Minimum	Mean	
Granite	26	26	14.5	0.93	7.64	3.55
Diorite	3	3	16.2	2.48	7.45	6.19
Gabbro	3	3	12.2	9.8	11.0	0.97
Diabase	7	7	15.1	10.0	12.8	1.78
Basalt	12	12	12.2	4.20	8.14	2.60
Quartzite	7	7	12.8	5.29	9.59	2.32
Marble	14	13	10.7	0.58	6.18	2.49
Gneiss	13	13	11.9	4.13	8.86	2.31
Slate	11	2	3.79	0.35	1.39	0.96
Schist	13	12	10.0	0.86	4.97	3.18
Phyllite	3	3	2.51	1.25	1.71	0.57
Sandstone	27	19	5.68	0.09	2.13	1.19
Siltstone	5	5	4.76	0.38	2.39	1.65
Shale	30	14	5.60	0.001	1.42	1.45
Limestone	30	30	13.0	0.65	5.7	3.73
Dolostone	17	16	11.4	0.83	4.22	3.44

Summary of Poisson's Ratio for Intact Rock, ν (modified by Kulhawy, 1978)

AASHTO Table C10.4.6.5-2

Rock Type	No. of Values	No. of Rock Types	Poisson's Ratio, ν			Standard Deviation
			Maximum	Minimum	Mean	
Granite	22	22	0.39	0.09	0.20	0.08
Gabbro	3	3	0.20	0.16	0.18	0.02
Diabase	6	6	0.38	0.20	0.29	0.06
Basalt	11	11	0.32	0.16	0.23	0.05
Quartzite	6	6	0.22	0.08	0.14	0.05
Marble	5	5	0.40	0.17	0.28	0.08
Gneiss	11	11	0.40	0.09	0.22	0.09
Schist	12	11	0.31	0.02	0.12	0.08
Sandstone	12	9	0.46	0.08	0.20	0.11
Siltstone	3	3	0.23	0.09	0.18	0.06
Shale	3	3	0.18	0.03	0.09	0.06
Limestone	19	19	0.33	0.12	0.23	0.06
Dolostone	5	5	0.35	0.14	0.29	0.08

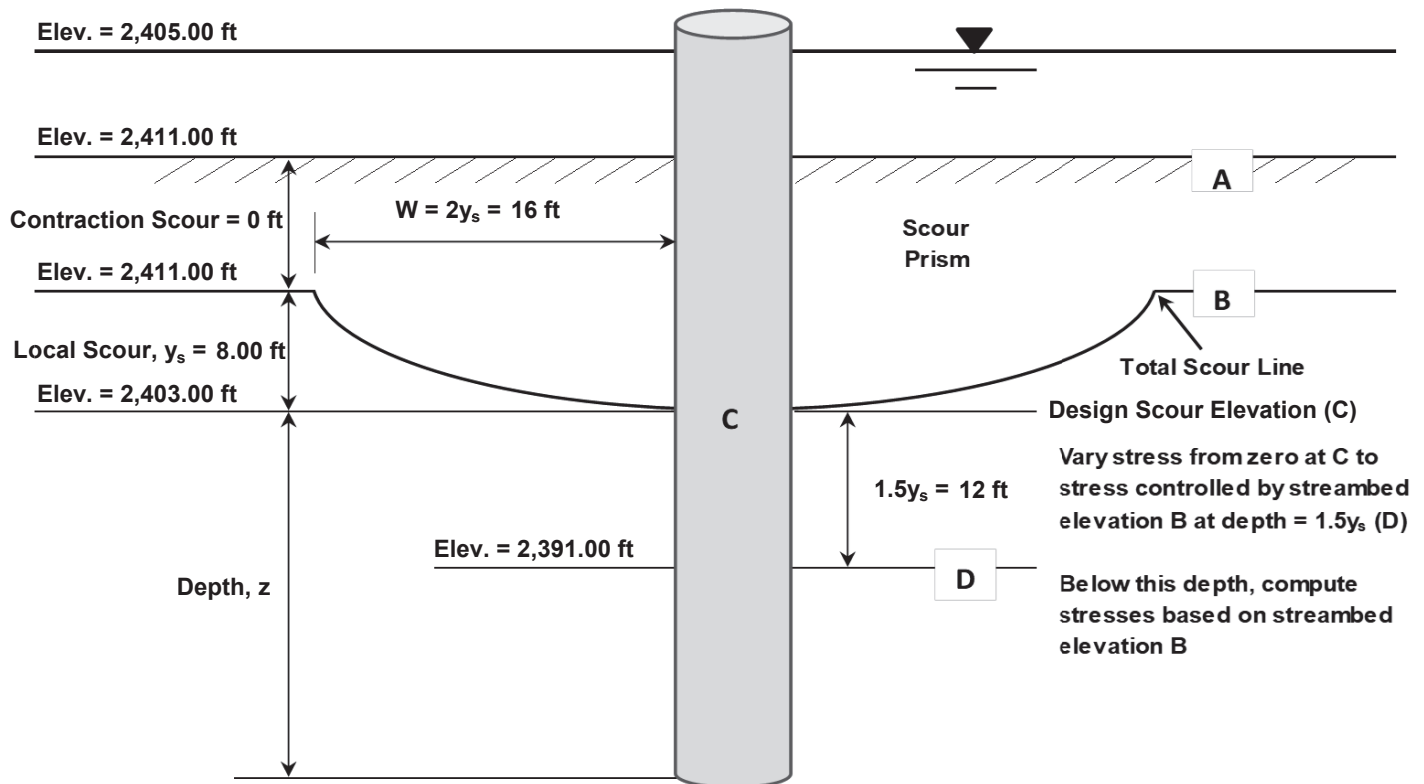


Calculating Design Stresses for Drilled Piers based on Scour Prism used in FHWA GEC 010

For analysis purposes, lower ground line to the contraction scour elevation (CSE) to account for contraction scour reported in the bridge survey report.

- If the CSE is lower than or equal to the design scour elevation (DSE), consider all scour as contraction scour and lower the ground line to the design scour elevation (DSE).
- If the CSE is higher than the DSE, consider the difference between the CSE and the DSE as local scour.

Groundwater Elevation =	2405.00	ft	
Original Pre-Scour Streambed Elevation (Point A) =	2411.00	ft	= Natural Ground / Finished Grade Elevation
Amount of Contraction Scour =	0.00	ft	
Streambed Elevation after General Scour (Point B) =	2411.00	ft	= Point A - Contraction Scour $\geq$ Design Scour Elevation
Amount of Local Scour (y_s) =	8.00	ft	
Top of the embedded length of the drilled pier (Point C) =	2403.00	ft	= Design Scour Elevation
Depth of 1.5(y_s) =	12.00	ft	
Elevation corresponding to a depth of 1.5(y_s), (Point D) =	2391.00	ft	= Point C - 1.5 y_s



Adapted from FHWA GEC 010 Figure 13.18: Illustration of Scour Prism and Effects on Drilled Pier

Per FHWA GEC 010 page 13-46, vertical stress along any depth of the drilled pier can be estimated as follows;

- 1) At the top of the embedded drilled pier (Point C) the vertical stress is equal to zero.
- 2) At a depth of 1.5 y_s (Point D) or greater, assume the vertical stress is controlled by the streambed elevation (Point B).
- 3) Assume a linear variation in vertical stress from 0 at Point C to the vertical stress value controlled by the streambed at Point B.





Soil Layer Profile and Effective Vertical Stress controlled by the streambed elevation (Point B)

- Assume the streambed elevation is equal to the contraction scour elevation (Elevation 2,411.00 ft).

Layer No.	Top (ft)	Midpoint (ft)	Bottom (ft)	σ_{v_top} (ksf)	μ_{top} (ksf)	σ'_{v_top} (ksf)	ΔZ (ft)	γ (kcf)	σ_{v_bottom} (ksf)	μ_{bottom} (ksf)	σ'_{v_bottom} (ksf)
0	2411.00	2407.00	2403.00	0.000	0.000	0.000	8.00	0.120	0.960	0.125	0.835
1	2403.00	2400.55	2398.10	0.960	0.125	0.835	4.90	0.120	1.548	0.431	1.117
2	2398.10	2397.55	2397.00	1.548	0.431	1.117	1.10	0.140	1.702	0.499	1.203
3											
4											
5											
6											
7											
8											

Variation in Vertical Stress from Point C to Point D

- Assume the top of the embedded drilled pier is equal to the design scour elevation.
- Vertical stress at elevation 2403 ft (Point C) = 0 ksf
- Assume a linear variation in vertical stress from 0 ksf at elevation 2,403.00 ft (Point C) to a stress value controlled by the elevation 2,411.00 ft (Point B) at the depth Point D, elevation 2,391.00 ft.
- Point D lies below the tip of the drilled pier,

Point D Elevation (ft)	Tip Elev. (ft)	σ_v at 2,397.00 ft	Depth Below Tip (ft)	γ for Pier Tip	μ at Point D (ksf)	σ'_v at Point D (ksf)
2391.00	2397.00	1.702	6.00	0.140	0.874	1.668

Point	Elevation (ft)	z (ft)	σ'_v (ksf)	Equation for linear variation over a depth of $1.5y_s$
C	2,403.00	0.00	0.000	σ'_v (for $z = 0$ to 12 ft) = $(0.1390)z$
D	2,391.00	12.00	1.668	

- All stress calculations below elevation 2,391.00 ft (Point D) will be based on elevation 2,411.00 ft (Point B).

Summary of Design Stress at the Midpoint of each Soil Layer and at Tip of Drilled Pier

Layer	Top (ft)	Bottom (ft)	Midpoint (ft)	z (ft)	Is $z < 1.5y_s$?	$\sigma_{v_midpoint}$ (ksf)	μ (ksf)	$\sigma'_{v_midpoint}$ (ksf)
1	2403.00	2398.10	2400.55	2.45	yes	----	----	0.341
2	2398.10	2397.00	2397.55	5.45	yes	----	----	0.758

Tip Elev. (ft)	z (ft)	σ_{v_bottom} (ksf)	μ (ksf)	σ'_{v_bottom} (ksf)
2397.00	6.00	----	----	0.834



Side Resistance in Weathered and Hard Rock

$$R_s = (A_s)(q_s)$$

AASHTO Eqn. 10.8.3.5-3

q_s = unit side resistance for weathered or hard rock layer (ksf)

For weathered rock layers or hard rock layers with a GSI < 30

= 8 ksf

NCDOT Policy

For drilled piers socketed into hard rock

$$= \left(C \sqrt{\frac{q_u}{p_a}} \right) p_a$$

AASHTO Eqn. 10.8.3.5.4b-1

C = regression coefficient taken as 1.0 for normal rock sockets (see AASHTO C10.8.3.5.4b-1 for details)

For fractured rock that caves and cannot be drilled without artificial support

$$= \left(0.65 \alpha_E \sqrt{\frac{q_u}{p_a}} \right) p_a$$

AASHTO Eqn. 10.8.3.5.4b-2

α_E = reduction factor to account for jointing in rock (from AASHTO Table 10.8.3.5.4b-1)

RQD (%)	Joint Modification Factor, α_E	
	Closed Joints	Open or Gouge-Filled Joints
100	1.00	0.85
70	0.85	0.55
50	0.60	0.55
30	0.50	0.50
20	0.45	0.45

q_u = Uniaxial Compressive Strength of Intact Rock (ksf) $\leq f'_c$

f'_c = 28 day Compressive Strength of Concrete (4.5 ksi = 648 ksf)

p_a = atmospheric pressure (2.12 ksf)

A_s = area of drilled pier side resistance (ft²)

$$= (\pi)(B)(\Delta z)$$

B = diameter of drilled pier (subtract 2 inches to account for possible reduction of drilled pier in rock)

= (36 inches - 2 inches) / 12 inches per ft = 2.83 ft

Δz = effective thickness of the soil layer (ft)

Layer No.	Rock Type	Layer Elevations		AASHTO Equation and Rock Joint Condition to use	RQD (%)	α_E	q_u (ksf)	q_s (ksf)	Δz (ft)	A_s (ft ²)	R_s (kips)
		Top (ft)	Bottom (ft)								
2	Hard Rock	2,398.10	2,397.00	10.8.3.5.4b-2 (open joints)	98	0.82	400	15.521	1.10	9.79	152

Total Side Resistance in Weathered and Hard Rock = 152



Tip Resistance in Hard Rock

$$R_p = (q_p)(A_p)$$

AASHTO Eqn. 10.8.3.5-2

 q_p = unit tip resistance (ksf)

If rock to a depth of 2B below drilled pier tip is intact or tightly jointed and the depth of socket > 1.5 D

$$= 2.5q_u$$

AASHTO Eqn. 10.8.3.5.4c-1

If the rock to a depth of 2D below the drilled pier tip is jointed with random orientation

$$= A + q_u \left[m_b \left(\frac{A}{q_u} \right) + s \right]^a$$

AASHTO Eqn. 10.8.3.5.4c-2

 q_u = Uniaxial Compressive Strength of Intact Rock (ksf)

 σ'_{vb} = vertical effective stress at the socket bearing elevation

$$A = \sigma'_{vb} + q_u \left[m_b \left(\frac{\sigma'_{vb}}{q_u} \right) + s \right]^a$$

AASHTO Eqn. 10.8.3.5.4c-3

$$s = \exp \left(\frac{GSI - 100}{9} \right)$$

AASHTO Eqn. 10.4.6.4-2

$$a = \frac{1}{2} + \frac{1}{6} \left(e^{\frac{-GSI}{15}} - e^{\frac{-20}{3}} \right)$$

AASHTO Eqn. 10.4.6.4-3

$$m_b = \exp \left(\frac{GSI - 100}{28} \right) m_i$$

AASHTO Eqn. 10.4.6.4-4

 m_i = constant for intact rock

AASHTO Table 10.4.6.4-1

GSI = Global Strength Index

***Hard Rock Layers with an GSI less than 30 will be modeled as weathered rock.**
 A_p = area of drilled pier tip resistance (ft²)

$$= (\pi)(B^2)/4$$

B = diameter of drilled pier - 2 inches to account for possible reduction for drilled pier in rock (B = 2.83 ft)

Tip Elevation (ft)	AASHTO Equation used to calculate q_u	q_u (ksf)	GSI	m	m_b	s	a	A	q_p (ksf)	A_p (ft ²)	R_p (kips)
2397.00	10.8.3.5.4c-2	400	75	25	10.237	0.06218	0.50091	116.177	814	6.31	5,136



Tip Resistance in Hard Rock (continued)

Table 10.4.6.4-1—Values of the Constant m_i by Rock Group

Rock type	Class	Group	Texture			
			Coarse	Medium	Fine	Very fine
SEDIMENTARY	Clastic		Conglomerate (21 ± 3)	Sandstone 17 ± 4	Siltstone 7 ± 2	Claystone 4 ± 2
			Breccia (19 ± 5)		Greywacke (18 ± 3)	Shale (6 ± 2)
						Marl (7 ± 2)
	Non-Clastic	Carbonates	Crystalline Limestone (12 ± 3)	Sparitic Limestone (10 ± 5)	Micritic Limestone (8 ± 3)	Dolomite (9 ± 3)
		Evaporites		Gypsum 10 ± 2	Anhydrite 12 ± 2	
		Organic				Chalk 7 ± 2
METAMORPHIC	Non Foliated		Marble 9 ± 3	Hornfels (19 ± 4)	Quartzite 20 ± 3	
				Metasandstone (19 ± 3)		
	Slightly foliated		Migmatite (29 ± 3)	Amphibolite 26 ± 6	Gneiss 28 ± 5	
	Foliated*			Schist (10 ± 3)	Phyllite (7 ± 3)	Slate 7 ± 4
IGNEOUS	Plutonic	Light	Granite 32 ± 3	Diorite 25 ± 5		
			Granodiorite (29 ± 3)			
	Dark		Gabbro 27 ± 3	Dolerite (16 ± 5)		
			Norite 20 ± 5			
	Hypabyssal		Porphyries (20 ± 5)		Diabase (15 ± 5)	Peridotite (25 ± 5)
	Volcanic	Lava		Rhyolite (25 ± 5)	Dacite (25 ± 3)	
				Andesite 25 ± 5	Basalt (25 ± 5)	
		Pyroclastic	Agglomerate (19 ± 3)	Volcanic breccia (19 ± 5)	Tuff (13 ± 5)	

Summary of Nominal and Factored Side Resistance

	Nominal Side Resistance (kips)	Resistance Factor from AASHTO Table 10.5.5.2.4-1	Factored Side Resistance (kips)	Percentage of Side Resistance produced by Material Type
Cohesionless IGM				
Cohesive Soil	0	0.45	0	0.0%
Cohesionless Soil	29	0.55	16	16.0%
Cohesive IGM	0	0.60	0	0.0%
Weathered Rock	0	0.60	0	0.0%
Hard Rock	152	0.55	84	84.0%
Total	181		100	100%

Note: When drilled piers are socketed in hard rock, the side resistance above the hard rock will be ignored. For the purpose of this spreadsheet, a drilled pier will be considered socketed in hard rock if either of these conditions are met;

1. The pier is embedded the greater of 3 feet or 1 pier diameter into hard rock.
2. At least 50% of the total nominal side resistance is produced by the hard rock layer(s).





Summary of Nominal and Factored Side Resistance (continued)

Total Nominal Side Resistance = 152 kips

Side Resistance Factor = 0.55

for Hard Rock, see AASHTO Table 10.5.5.2.4-1.

Total Factored Side Resistance = 84 kips

Summary of Total Nominal and Factored Tip Resistance

Total Nominal Tip Resistance = 5,136 kips

Tip Resistance Factor = 0.50

the drilled pier is bearing on Hard Rock

for Hard Rock, see AASHTO Table 10.5.5.2.4-1.

Total Factored Tip Resistance = 2,568 kips

Required Factored Resistance

$$R_{req} = P_r + \gamma_{DC}(W_{Column} + W_{Pier}) - \gamma_{WA}W_{Water} - \gamma_{DC}W_{Soil/Rock} \geq P_r$$

Required Factored Resistance

$$P_r = 395 \text{ kips}$$

Maximum Factored Axial Load Reported by Structure Design

$$\gamma_{DC} = 1.25$$

Factor for Permanent Dead Loads, from AASHTO Table 3.4.1-2

$$\gamma_{WA} = 1.00$$

Factor for Water Loads, from AASHTO Table 3.4.1-1

$$W_{Column} = (A_{Column})(L_{Column})(\gamma_c)$$

Unfactored Weight of Column

$$A_{Column} = 7.07 \text{ ft}^2$$

Area of Column

$$L_{Column} = 0 \text{ ft}$$

Length of Column

$$\gamma_c = 0.150 \text{ kcf}$$

Unit Weight of Concrete

$$= 0 \text{ kips}$$

$$W_{Pier} = (A_{Pier})(L_{Pier})(\gamma_c)$$

Unfactored Weight of Drilled Pier

$$A_{Pier} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$L_{Pier} = 6 \text{ ft}$$

Length of Drilled Pier

$$\gamma_c = 0.150 \text{ kcf}$$

Unit Weight of Concrete

$$= 6 \text{ kips}$$

$$W_{Water} = (A_{Pier})(z_w)(\gamma_w)$$

Unfactored Weight of Water Displaced by Drilled Pier

$$A_{Pier} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$z_w = 8 \text{ ft}$$

Depth from water surface to the drilled pier tip

$$\gamma_w = 0.0624 \text{ kcf}$$

Unit Weight of Water

$$= 4 \text{ kips}$$

$$W_{Soil/Rock} = (A_{Pier})(\sigma'_{vo})$$

Unfactored Effective Weight of Soil / Rock that will be displaced

$$A_{Pier} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$\sigma'_{vo} = 0.834 \text{ ksf}$$

effective vertical stress at drilled pier tip as defined in FHWA GEC 010 pages 13-46

$$W_{Soil/Rock} = 6 \text{ kips}$$

$$R_{req} = 395 \text{ kips} + 1.25(0 \text{ kips} + 6 \text{ kips}) - 1.00(4 \text{ kips}) - 1.25(6 \text{ kips}) = 391 \text{ kips (Use 395 kips)}$$



Load Transfer of Side and Tip Resistance for Drilled Piers Socketed in Hard Rock

Per AASHTO Section 10.8.3.5.4a, The Factored Geotechnical Resistance for Drilled Piers socketed in hard rock will be based on side resistance, tip resistance, or a combination of both. Using a combination of both side and tip resistance requires a displacement based analysis and falls outside the limitations of this spreadsheet. For details on displacement based analysis, see *FHWA GEC 010 Appendix D.3.1* .

Developed Factored Resistance, (R_{rd})

Select which value to use for the Factored Developed Resistance

- ☐ Use the Factored Side Resistance of the rock socket.
- ☒ Use the Factored Tip Resistance of the rock socket.

2,568 kips ≥ 395 kips

The axial resistance requirement is satisfied.

Required Tip Resistance

q_{req} = required tip resistance (rounded up to the nearest 10 ksf or 5 tsf)

$$= \frac{R_{req} - \phi_{qs}R_{sd}}{\phi_{qp}} \leq q_p$$

NCDOT policy

- R_r = required factored geotechnical resistance (kips)
- ϕ_{qs}R_{sd} = factored developed side resistance (kips)
- A_T = area of drilled pier tip (ft²)
- ϕ_{qp} = tip resistance factor
- q_p = unit tip resistance (ksf)

R _{req} (kips)	ϕ _{qs} R _{sd} (kips)	A _{Tip} (ft ²)	ϕ _{qp}	q _p (ksf)	q _{req} (ksf)
395	0	6.31	0.50	814	130

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LPIle for Windows, Version 2022-12.009

Analysis of Individual Piles and Drilled Shafts
Subjected to Lateral Loading Using the p-y Method
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Path to file locations:
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Name of input data file:
NC GROW_SITE 205_EB1.lp12d

Name of output report file:
NC GROW_SITE 205_EB1.lp12o

Name of plot output file:
NC GROW_SITE 205_EB1.lp12p

Name of runtime message file:
NC GROW_SITE 205_EB1.lp12r

Date and Time of Analysis

Date: December 17, 2025 Time: 16:45:09

Problem Title

Project Name: NC GROW DRIVEWAY OVER CANE RIVER

Job Number: 10434317

Client:

Engineer: AV

Description: SITE 100-01-00205 EB1

Program Options and Settings

Computational Options:
- Conventional Analysis
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

- Use of p-y modification factors for p-y curves not selected
- 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 = 2
Total length of pile = 13.500 ft
Depth of ground surface below top of pile = 0.0000 ft

Pile diameters used for p-y curve computations are defined using 4 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	36.0000
2	4.900	36.0000
3	4.900	34.0000
4	13.500	34.0000

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 = 4.900000 ft
Shaft Diameter = 36.000000 in

Pile Section No. 2:

Section 2 is a round drilled shaft, bored pile, or CIDH pile
Length of section = 8.600000 ft
Shaft Diameter = 34.000000 in

Soil and Rock Layering Information

The soil profile is modelled using 2 layers

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

Distance from top of pile to top of layer = 0.0000 ft
Distance from top of pile to bottom of layer = 4.900000 ft
Effective unit weight at top of layer = 57.600000 pcf
Effective unit weight at bottom of layer = 57.600000 pcf
Friction angle at top of layer = 29.000000 deg.
Friction angle at bottom of layer = 29.000000 deg.
Subgrade k at top of layer = 60.000000 pci
Subgrade k at bottom of layer = 60.000000 pci

Layer 2 is strong rock (vuggy limestone)

Distance from top of pile to top of layer = 4.900000 ft
Distance from top of pile to bottom of layer = 15.000000 ft
Effective unit weight at top of layer = 77.600000 pcf
Effective unit weight at bottom of layer = 77.600000 pcf
Uniaxial compressive strength at top of layer = 2000. psi
Uniaxial compressive strength at bottom of layer = 2000. psi

(Depth of the lowest soil layer extends 1.500 ft below the pile tip)

Summary of Input Soil Properties

Layer Num.	Soil Type Name (p-y Curve Type)	Layer Depth ft	Effective Unit Wt. pcf	Angle of Friction deg.	Uniaxial qu psi	kpy pci
1	Sand (Reese, et al.)	0.00 4.9000	57.6000 57.6000	29.0000 29.0000	-- --	60.0000 60.0000
2	Strong Rock (Vuggy Limestone)	4.9000 15.0000	77.6000 77.6000	-- --	2000. 2000.	-- --

Static Loading Type

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

Pile-head Loading and Pile-head Fixity Conditions

Number of loads specified = 5

Load No.	Load Type	Condition 1	Condition 2	Axial Thrust Force, lbs	Compute Top y vs. Pile Length	Run Analysis
1	1	V = -10000. lbs	M = 264000. in-lbs	395000.	No	Yes
2	1	V = 93000. lbs	M = 756000. in-lbs	140000.	No	Yes
3	2	V = 109000. lbs	S = 0.0000 in/in	105000.	No	Yes
4	1	V = 8000. lbs	M = 204000. in-lbs	290000.	No	Yes
5	2	V = 6000. lbs	S = 0.0000 in/in	115000.	No	Yes

V = shear force applied normal to pile axis
M = bending moment applied to pile head
y = lateral deflection normal to pile axis
S = pile slope relative to original pile batter angle
R = rotational stiffness applied to pile head
Values of top y vs. pile lengths can be computed only for load types with specified shear loading (Load Types 1, 2, and 3).
Thrust force is assumed to be acting axially for all pile batter angles.

Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 2

Pile Section No. 1:

Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	4.900000 ft
Shaft Diameter	=	36.000000 in
Concrete Cover Thickness (to edge of long. rebar)	=	3.000000 in
Number of Reinforcing Bars	=	12 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	1018. sq. in.
Total Area of Reinforcing Steel	=	12.000000 sq. in.
Area Ratio of Steel Reinforcement	=	1.18 percent
Edge-to-Edge Bar Spacing	=	6.344623 in
Maximum Concrete Aggregate Size	=	0.750000 in
Ratio of Bar Spacing to Aggregate Size	=	8.46
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$	=	4567.476 kips
Tensile Load for Cracking of Concrete	=	-482.982 kips
Nominal Axial Tensile Capacity	=	-720.000 kips

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar	Bar Diam.	Bar Area	X	Y
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Number	inches	sq. in.	inches	inches
1	1.128000	1.000000	14.436000	0.000000
2	1.128000	1.000000	12.501943	7.218000
3	1.128000	1.000000	7.218000	12.501943
4	1.128000	1.000000	0.000000	14.436000
5	1.128000	1.000000	-7.218000	12.501943
6	1.128000	1.000000	-12.50194	7.218000
7	1.128000	1.000000	-14.43600	0.000000
8	1.128000	1.000000	-12.50194	-7.218000
9	1.128000	1.000000	-7.218000	-12.50194
10	1.128000	1.000000	0.000000	-14.436000
11	1.128000	1.000000	7.218000	-12.50194
12	1.128000	1.000000	12.501943	-7.218000

NOTE: The positions of the above rebars were computed by LPile

Minimum spacing between any two bars not equal to zero = 6.345 inches
between bars 7 and 8.

Ratio of bar spacing to maximum aggregate size = 8.46

Concrete Properties:

Compressive Strength of Concrete = 4500. psi
Modulus of Elasticity of Concrete = 3823676. psi
Modulus of Rupture of Concrete = -503.11529 psi
Compression Strain at Peak Stress = 0.002001
Tensile Strain at Fracture of Concrete = -0.0001152
Maximum Coarse Aggregate Size = 0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 5

Number	Axial Thrust Force kips
1	105.000
2	115.000
3	140.000
4	290.000
5	395.000

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 318-14, Section 21.2.3.
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 = 105.000 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
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6.25000E-07	248.5223213	397635714.	52.6625495	0.00003291	0.00001041	0.1463465	0.8990462
0.00000125	497.0407828	397632626.	35.3490231	0.00004419	-8.13721E-07	0.1955846	1.1704771
0.00000188	745.4018914	397547675.	29.5847054	0.00005547	-0.00001203	0.2445990	1.4422809
0.00000250	993.1601314	397264053.	26.7050884	0.00006676	-0.00002324	0.2933603	1.7142689
0.00000313	1240.	396842905.	24.9782521	0.00007806	-0.00003444	0.3418533	1.9863416
0.00000375	1486.	396339200.	23.8274596	0.00008935	-0.00004565	0.3900721	2.2584612
0.00000438	1732.	395784101.	23.0057026	0.0001006	-0.00005685	0.4380142	2.5306110
0.00000500	1976.	395195274.	22.3895326	0.0001119	-0.00006805	0.4856781	2.8027822
0.00000563	2220.	394583260.	21.9103904	0.0001232	-0.00007925	0.5330631	3.0749699
0.00000625	2462.	393954687.	21.5271514	0.0001345	-0.00009046	0.5801688	3.3471712
0.00000688	2462.	358140624.	17.3362259	0.0001192	-0.000128	0.5149469	-3.111002 C
0.00000750	2462.	328295572.	16.8184598	0.0001261	-0.000144	0.5438471	-3.506435 C
0.00000813	2462.	303042067.	16.3664835	0.0001330	-0.000160	0.5721687	-3.905135 C
0.00000875	2462.	281396205.	15.9667763	0.0001397	-0.000175	0.5999378	-4.306955 C
0.00000938	2462.	262636458.	15.6115843	0.0001464	-0.000191	0.6272650	-4.711163 C
0.00001000	2462.	246221679.	15.2937388	0.0001529	-0.000207	0.6542028	-5.117416 C
0.00001063	2462.	231738051.	15.0060148	0.0001594	-0.000223	0.6807264	-5.525909 C
0.00001125	2462.	218863715.	14.7451805	0.0001659	-0.000239	0.7069223	-5.936060 C
0.00001188	2462.	207344572.	14.5083711	0.0001723	-0.000255	0.7328602	-6.347392 C
0.00001250	2462.	196977343.	14.2911728	0.0001786	-0.000271	0.7585005	-6.760200 C
0.00001313	2462.	187597470.	14.0911604	0.0001849	-0.000288	0.7838655	-7.174340 C
0.00001375	2462.	179070312.	13.9076157	0.0001912	-0.000304	0.8090481	-7.589163 C
0.00001438	2462.	171284646.	13.7365703	0.0001975	-0.000320	0.8339431	-8.005430 C
0.00001500	2462.	164147786.	13.5786326	0.0002037	-0.000336	0.8586843	-8.422195 C
0.00001563	2462.	157581875.	13.4314222	0.0002099	-0.000353	0.8832215	-8.839825 C
0.00001625	2462.	151521033.	13.2934284	0.0002160	-0.000369	0.9075381	-9.258447 C
0.00001688	2462.	145909143.	13.1658189	0.0002222	-0.000385	0.9317837	-9.676990 C
0.00001750	2462.	140698102.	13.0444950	0.0002283	-0.000402	0.9557495	-10.096969 C
0.00001813	2462.	135846444.	12.9309119	0.0002344	-0.000418	0.9795895	-10.517277 C
0.00001875	2462.	131318229.	12.8250451	0.0002405	-0.000435	1.0033596	-10.937507 C
0.00001938	2482.	128103107.	12.7243601	0.0002465	-0.000451	1.0269231	-11.358663 C
0.00002000	2533.	126643398.	12.6287006	0.0002526	-0.000467	1.0503070	-11.780554 C
0.00002063	2584.	125270843.	12.5389680	0.0002586	-0.000484	1.0736224	-12.202367 C
0.00002125	2635.	123977748.	12.4546398	0.0002647	-0.000500	1.0968693	-12.624103 C
0.00002188	2685.	122750265.	12.3737227	0.0002707	-0.000517	1.1199170	-13.046732 C
0.00002250	2736.	121584660.	12.2963014	0.0002767	-0.000533	1.1427989	-13.470013 C
0.00002313	2786.	120480922.	12.2231799	0.0002827	-0.000550	1.1656135	-13.893217 C
0.00002375	2837.	119434164.	12.1540189	0.0002887	-0.000566	1.1883605	-14.316344 C
0.00002438	2887.	118440002.	12.0885140	0.0002947	-0.000583	1.2110399	-14.739394 C
0.00002500	2987.	116581128.	11.9641351	0.0003066	-0.000616	1.2558757	-15.587690 C
0.00002688	3088.	114887730.	11.8508115	0.0003185	-0.000649	1.3003514	-16.436386 C
0.00002813	3188.	113341191.	11.7479412	0.0003304	-0.000682	1.3445603	-17.284773 C
0.00002938	3288.	111917168.	11.6525219	0.0003423	-0.000715	1.3883184	-18.134270 C
0.00003063	3387.	110600731.	11.5636423	0.0003541	-0.000748	1.4316288	-18.984878 C
0.00003188	3487.	109384376.	11.4820725	0.0003660	-0.000782	1.4746756	-19.835172 C
0.00003313	3586.	108256761.	11.4069863	0.0003779	-0.000815	1.5174579	-20.685151 C
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0.00003563	3784.	106223641.	11.2710762	0.0004015	-0.000881	1.6019099	-22.386707 C
0.00003688	3883.	105303356.	11.2093694	0.0004133	-0.000914	1.6435936	-23.238193 C
0.00003813	3982.	104440793.	11.1519999	0.0004252	-0.000947	1.6850147	-24.089358 C
0.00003938	4080.	103630443.	11.0985558	0.0004370	-0.000980	1.7261727	-24.940199 C
0.00004063	4179.	102867476.	11.0486760	0.0004489	-0.001014	1.7670668	-25.790716 C
0.00004188	4277.	102147640.	11.0020427	0.0004607	-0.001047	1.8076963	-26.640907 C
0.00004313	4376.	101465502.	10.9575811	0.0004725	-0.001080	1.8479424	-27.491763 C
0.00004438	4474.	100817930.	10.9151213	0.0004844	-0.001113	1.8878088	-28.343266 C
0.00004563	4572.	100203647.	10.8752410	0.0004962	-0.001146	1.9274126	-29.194434 C
0.00004688	4670.	99619978.	10.8377349	0.0005080	-0.001179	1.9667531	-30.045267 C
0.00004813	4767.	99064529.	10.8024192	0.0005199	-0.001213	2.0058294	-30.895761 C
0.00004938	4865.	98535148.	10.7691288	0.0005317	-0.001246	2.0446408	-31.745916 C
0.00005063	4963.	98029895.	10.7377147	0.0005436	-0.001279	2.0831868	-32.595730 C
0.00005188	5060.	97547017.	10.7080424	0.0005555	-0.001312	2.1214664	-33.445201 C
0.00005313	5158.	97084926.	10.6799901	0.0005674	-0.001345	2.1594790	-34.294328 C
0.00005438	5255.	96642180.	10.6534472	0.0005793	-0.001378	2.1972238	-35.143108 C
0.00005563	5352.	96217467.	10.6283129	0.0005912	-0.001411	2.2347000	-35.991540 C
0.00005688	5449.	95808731.	10.60339010	0.0006031	-0.001444	2.2718000	-36.840603 C
0.00005813	5546.	95415362.	10.5804476	0.0006150	-0.001478	2.3085770	-37.689820 C
0.00005938	5643.	95036817.	10.5581910	0.0006269	-0.001511	2.3450866	-38.538677 C
0.00006063	5740.	94672171.	10.5370586	0.0006388	-0.001544	2.3813281	-39.387171 C

0.00006188	5836.	94320573.	10.5169831	0.0006507	-0.001577	2.4173008	-40.235301	C
0.00006313	5933.	93981240.	10.4979028	0.0006627	-0.001610	2.4530038	-41.083064	C
0.00006438	6029.	93653450.	10.4797609	0.0006746	-0.001643	2.4884363	-41.930459	C
0.00006563	6125.	93336536.	10.4625048	0.0006866	-0.001676	2.5235975	-42.777483	C
0.00006688	6221.	93029880.	10.4460858	0.0006986	-0.001709	2.5584867	-43.624135	C
0.00006813	6317.	92732911.	10.4304589	0.0007106	-0.001742	2.5931030	-44.470412	C
0.00006938	6413.	92445097.	10.4155823	0.0007226	-0.001775	2.6274457	-45.316313	C
0.00007063	6509.	92165945.	10.4014173	0.0007346	-0.001808	2.6615138	-46.161835	C
0.00007188	6605.	91894996.	10.3879276	0.0007466	-0.001841	2.6953065	-47.006976	C
0.00007313	6701.	91631821.	10.3750796	0.0007587	-0.001874	2.7288231	-47.851734	C
0.00007438	6796.	91376022.	10.3628420	0.0007707	-0.001907	2.7620626	-48.696107	C
0.00007938	7177.	90419475.	10.3194380	0.0008191	-0.002038	2.8922331	-52.069706	C
0.00008438	7556.	89555034.	10.2837687	0.0008677	-0.002170	3.0179016	-55.436966	C
0.00008938	7934.	88766691.	10.2543593	0.0009165	-0.002301	3.1389585	-58.798345	C
0.00009438	8289.	87829925.	10.2217872	0.0009647	-0.002433	3.2534561	-60.000000	CY
0.00009938	8587.	86413737.	10.1736298	0.0010110	-0.002566	3.3586811	-60.000000	CY
0.0001044	8810.	84408514.	10.1026169	0.0010545	-0.002703	3.4530551	-60.000000	CY
0.0001094	8968.	81994094.	10.0149898	0.0010954	-0.002842	3.5381080	-60.000000	CY
0.0001144	9125.	79783368.	9.9363191	0.0011365	-0.002981	3.6198529	-60.000000	CY
0.0001194	9281.	77747521.	9.8637068	0.0011775	-0.003120	3.6978478	-60.000000	CY
0.0001244	9436.	75865574.	9.7964499	0.0012184	-0.003259	3.7721162	-60.000000	CY
0.0001294	9589.	74120734.	9.7355030	0.0012595	-0.003398	3.8430246	-60.000000	CY
0.0001344	9714.	72288096.	9.6678579	0.0012991	-0.003538	3.9078391	-60.000000	CY
0.0001394	9786.	70211437.	9.5836710	0.0013357	-0.003682	3.9646717	-60.000000	CY
0.0001444	9848.	68213562.	9.5004014	0.0013716	-0.003826	4.0175934	-60.000000	CY
0.0001494	9910.	66341350.	9.4210849	0.0014073	-0.003970	4.0674235	-60.000000	CY
0.0001544	9971.	64587497.	9.3476710	0.0014430	-0.004114	4.1146933	-60.000000	CY
0.0001594	10031.	62940817.	9.2796140	0.0014789	-0.004259	4.1593769	-60.000000	CY
0.0001644	10091.	61391485.	9.2164348	0.0015150	-0.004403	4.2014480	-60.000000	CY
0.0001694	10150.	59928493.	9.1562905	0.0015508	-0.004547	4.2406197	-60.000000	CY
0.0001744	10208.	58543189.	9.0981287	0.0015865	-0.004691	4.2767816	-60.000000	CY
0.0001794	10266.	57232581.	9.0439066	0.0016223	-0.004835	4.3103456	-60.000000	CY
0.0001844	10323.	55990544.	8.9933142	0.0016581	-0.004979	4.3412838	-60.000000	CY
0.0001894	10380.	54811606.	8.9460745	0.0016942	-0.005123	4.3695678	-60.000000	CY
0.0001944	10436.	53690859.	8.9019395	0.0017303	-0.005267	4.3951685	-60.000000	CY
0.0001994	10492.	52623888.	8.8606863	0.0017666	-0.005411	4.4180560	-60.000000	CY
0.0002044	10547.	51606706.	8.8221144	0.0018030	-0.005554	4.4381997	-60.000000	CY
0.0002094	10601.	50632963.	8.7836541	0.0018391	-0.005698	4.4553443	-60.000000	CY
0.0002144	10652.	49690685.	8.7460657	0.0018749	-0.005843	4.4696367	-60.000000	CY
0.0002194	10699.	48769741.	8.7083441	0.0019104	-0.005987	4.4810629	-60.000000	CY
0.0002244	10733.	47836509.	8.6661982	0.0019445	-0.006133	4.4895089	-60.000000	CY
0.0002294	10758.	46899368.	8.6205936	0.0019773	-0.006280	4.4953039	-60.000000	CY
0.0002344	10777.	45980485.	8.5746257	0.0020097	-0.006428	4.4987607	-60.000000	CY
0.0002394	10792.	45085143.	8.5291175	0.0020417	-0.006576	4.4999949	-60.000000	CY
0.0002444	10807.	44224881.	8.4860465	0.0020738	-0.006724	4.4961029	-60.000000	CY
0.0002494	10822.	43396456.	8.4438830	0.0021057	-0.006872	4.4990109	-60.000000	CY
0.0002544	10836.	42596968.	8.4016816	0.0021372	-0.007020	4.4999991	-60.000000	CY
0.0002594	10849.	41826728.	8.3617303	0.0021688	-0.007169	4.4952053	-60.000000	CY
0.0002644	10862.	41084805.	8.3236786	0.0022006	-0.007317	4.4983717	-60.000000	CY
0.0002694	10875.	40369641.	8.2874190	0.0022324	-0.007465	4.4998711	-60.000000	CY
0.0002744	10887.	39679272.	8.2530141	0.0022644	-0.007613	4.4937010	-60.000000	CY
0.0003044	10956.	35994934.	8.0759989	0.0024581	-0.008499	4.4985714	-60.000000	CY
0.0003344	11014.	32940090.	7.9303273	0.0026517	-0.009386	4.4998627	-60.000000	CY
0.0003644	11067.	30372493.	7.8180594	0.0028487	-0.010269	4.4999760	-60.000000	CY
0.0003944	11115.	28182918.	7.7296234	0.0030484	-0.011149	4.4996699	-60.000000	CYT
0.0004244	11157.	26290621.	7.6527638	0.0032476	-0.012030	4.4970023	-60.000000	CYT
0.0004544	11197.	24641942.	7.5914791	0.0034494	-0.012908	4.4875401	-60.000000	CYT
0.0004844	11232.	23189206.	7.5447126	0.0036545	-0.013783	4.4999913	60.000000	CYT
0.0005144	11264.	21897905.	7.5105476	0.0038632	-0.014654	4.4924790	60.000000	CYT

Axial Thrust Force = 115.000 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
6.25000E-07	248.2855203	397256833.	55.9809958	0.00003499	0.00001249	0.1555186	0.9591931	
0.00000125	496.5673203	397253856.	37.0082638	0.00004626	0.00000126	0.2047048	1.2306245	

0.00000188	744.7606438	397205677.	30.6913778	0.00005755	-0.00000995	0.2536712	1.5024562
0.00000250	992.4448734	396977949.	27.5360946	0.00006884	-0.00002116	0.3023913	1.7745169
0.00000313	1239.	396601955.	25.6441196	0.00008014	-0.00003236	0.3508464	2.0466858
0.00000375	1485.	396132319.	24.3833501	0.00009144	-0.00004356	0.3990290	2.3189143
0.00000438	1731.	395603251.	23.4830999	0.0001027	-0.00005476	0.4469358	2.5911808
0.00000500	1975.	395034750.	22.8080961	0.0001140	-0.00006596	0.4945651	2.8634739
0.00000563	2219.	394438967.	22.2832170	0.0001253	-0.00007716	0.5419157	3.1357873
0.00000625	2461.	393823613.	21.8634041	0.0001366	-0.00008835	0.5889872	3.4081170
0.00000688	2461.	358021467.	17.9189077	0.0001232	-0.000124	0.5318870	-2.994830 C
0.00000750	2461.	328186345.	17.3713673	0.0001303	-0.000140	0.5613184	-3.386178 C
0.00000813	2461.	302941241.	16.8926089	0.0001373	-0.000155	0.5901139	-3.781167 C
0.00000875	2461.	281302581.	16.4703890	0.0001441	-0.000171	0.6183703	-4.179164 C
0.00000938	2461.	262549076.	16.0943833	0.0001509	-0.000187	0.6461307	-4.579902 C
0.00001000	2461.	246139758.	15.7569504	0.0001576	-0.000202	0.6734419	-4.983084 C
0.00001063	2461.	231660949.	15.4523525	0.0001642	-0.000218	0.7003546	-5.388381 C
0.00001125	2461.	218790896.	15.1762363	0.0001707	-0.000234	0.7269238	-5.795428 C
0.00001188	2461.	207275586.	14.9252801	0.0001772	-0.000250	0.7532095	-6.203819 C
0.00001250	2461.	196911807.	14.6936453	0.0001837	-0.000266	0.7791080	-6.614304 C
0.00001313	2461.	187535054.	14.4815197	0.0001901	-0.000282	0.8047803	-7.025759 C
0.00001375	2461.	179010733.	14.2858919	0.0001964	-0.000299	0.8302080	-7.438326 C
0.00001438	2461.	171227658.	14.1041213	0.0002027	-0.000315	0.8553644	-7.852207 C
0.00001500	2461.	164093172.	13.9358888	0.0002090	-0.000331	0.8803368	-8.266788 C
0.00001563	2461.	157529445.	13.7788866	0.0002153	-0.000347	0.9050835	-8.682380 C
0.00001625	2461.	151470621.	13.6319893	0.0002215	-0.000363	0.9296168	-9.098900 C
0.00001688	2461.	145860598.	13.4960189	0.0002277	-0.000380	0.9540692	-9.515398 C
0.00001750	2461.	140651291.	13.3660630	0.0002339	-0.000396	0.9781801	-9.933773 C
0.00001813	2462.	135822534.	13.2452221	0.0002401	-0.000412	1.0022197	-10.352868 C
0.00001875	2513.	134045658.	13.1323448	0.0002462	-0.000429	1.0261701	-10.770412 C
0.00001938	2565.	132363289.	13.0237059	0.0002523	-0.000445	1.0498060	-11.190468 C
0.00002000	2616.	130784659.	12.9219930	0.0002584	-0.000462	1.0733718	-11.610444 C
0.00002063	2667.	129300334.	12.8265767	0.0002645	-0.000478	1.0968675	-12.030341 C
0.00002125	2718.	127894533.	12.7354646	0.0002706	-0.000494	1.1201740	-12.451045 C
0.00002188	2769.	126560211.	12.6482191	0.0002767	-0.000511	1.1432866	-12.872598 C
0.00002250	2819.	125298802.	12.5659405	0.0002827	-0.000527	1.1663303	-13.294074 C
0.00002313	2870.	124104392.	12.4882261	0.0002888	-0.000544	1.1893050	-13.715471 C
0.00002375	2921.	122970864.	12.4145343	0.0002948	-0.000560	1.2121942	-14.136914 C
0.00002438	2971.	121884262.	12.3425113	0.0003008	-0.000577	1.2348068	-14.559850 C
0.00002563	3072.	119866959.	12.2093194	0.0003129	-0.000610	1.2798286	-15.405487 C
0.00002688	3172.	118033340.	12.0889183	0.0003249	-0.000643	1.3245786	-16.250812 C
0.00002813	3272.	116347775.	11.9767514	0.0003368	-0.000676	1.3687549	-17.098150 C
0.00002938	3372.	114798457.	11.8735609	0.0003488	-0.000709	1.4125595	-17.945973 C
0.00003063	3472.	113372207.	11.7791477	0.0003607	-0.000742	1.4560956	-18.793482 C
0.00003188	3572.	112053629.	11.6922050	0.0003727	-0.000775	1.4993302	-19.640930 C
0.00003313	3671.	110822655.	11.6094784	0.0003846	-0.000808	1.5419721	-20.490632 C
0.00003438	3770.	109678235.	11.5330868	0.0003964	-0.000841	1.5843486	-21.340016 C
0.00003563	3869.	108611244.	11.4623648	0.0004083	-0.000874	1.6264589	-22.189082 C
0.00003688	3968.	107613798.	11.3967371	0.0004203	-0.000907	1.6683023	-23.037827 C
0.00003813	4067.	106678617.	11.3355437	0.0004322	-0.000940	1.7098565	-23.886427 C
0.00003938	4166.	105794949.	11.2765437	0.0004440	-0.000973	1.7508692	-24.736959 C
0.00004063	4264.	104963168.	11.2214516	0.0004559	-0.001007	1.7916177	-25.587165 C
0.00004188	4362.	104178614.	11.1699187	0.0004677	-0.001040	1.8321010	-26.437042 C
0.00004313	4461.	103437172.	11.1216366	0.0004796	-0.001073	1.8723186	-27.286591 C
0.00004438	4559.	102735188.	11.0763319	0.0004915	-0.001106	1.9122696	-28.135808 C
0.00004563	4657.	102069409.	11.0337609	0.0005034	-0.001139	1.9519534	-28.984692 C
0.00004688	4755.	101436929.	10.9937063	0.0005153	-0.001172	1.9913693	-29.833243 C
0.00004813	4853.	100833345.	10.9550827	0.0005272	-0.001205	2.0303738	-30.682700 C
0.00004938	4950.	100257276.	10.9181722	0.0005391	-0.001238	2.0690330	-31.532505 C
0.00005063	5048.	99707633.	10.8833184	0.0005510	-0.001272	2.1074262	-32.381965 C
0.00005188	5145.	99182494.	10.8503737	0.0005629	-0.001305	2.1455524	-33.231081 C
0.00005313	5242.	98680121.	10.8192044	0.0005748	-0.001338	2.1834110	-34.079851 C
0.00005438	5340.	98198937.	10.7896892	0.0005867	-0.001371	2.2210013	-34.928271 C
0.00005563	5437.	97737505.	10.7617177	0.0005986	-0.001404	2.2583224	-35.776341 C
0.00005688	5534.	97294513.	10.7351892	0.0006106	-0.001437	2.2953737	-36.624060 C
0.00005813	5630.	96868763.	10.7100116	0.0006225	-0.001470	2.3321543	-37.471424 C
0.00005938	5727.	96459159.	10.6861007	0.0006345	-0.001503	2.3686634	-38.318433 C
0.00006063	5824.	96064694.	10.6633792	0.0006465	-0.001536	2.4049004	-39.165084 C
0.00006188	5920.	95684443.	10.6417761	0.0006585	-0.001569	2.4408643	-40.011375 C
0.00006313	6017.	95317552.	10.6212258	0.0006705	-0.001602	2.4765545	-40.857306 C
0.00006438	6113.	94962288.	10.6009552	0.0006824	-0.001635	2.5118329	-41.704204 C

0.00006563	6209.	94618877.	10.5816072	0.0006944	-0.001668	2.5468303	-42.550816	C
0.00006688	6305.	94286705.	10.5631760	0.0007064	-0.001701	2.5815550	-43.397053	C
0.00006813	6401.	93965149.	10.5456121	0.0007184	-0.001734	2.6160060	-44.242912	C
0.00006938	6497.	93653626.	10.5288697	0.0007304	-0.001767	2.6501827	-45.088393	C
0.00007063	6593.	93351595.	10.5129063	0.0007425	-0.001800	2.6840841	-45.933491	C
0.00007188	6689.	93058555.	10.4976821	0.0007545	-0.001833	2.7177094	-46.778206	C
0.00007313	6784.	92774036.	10.4831604	0.0007666	-0.001866	2.7510578	-47.622535	C
0.00007438	6880.	92497602.	10.4693067	0.0007787	-0.001899	2.7841284	-48.466476	C
0.00007938	7260.	91464939.	10.4199600	0.0008271	-0.002030	2.9136157	-51.838317	C
0.00008438	7639.	90533282.	10.3790727	0.0008757	-0.002162	3.0385885	-55.203769	C
0.00008938	8016.	89685264.	10.3452834	0.0009246	-0.002293	3.1589885	-58.562681	C
0.00009438	8375.	88745878.	10.3117561	0.0009732	-0.002424	3.2734780	-60.000000	CY
0.00009938	8675.	87295828.	10.2623884	0.0010198	-0.002558	3.3785760	-60.000000	CY
0.0001044	8908.	85349717.	10.1921680	0.0010638	-0.002694	3.4732376	-60.000000	CY
0.0001094	9066.	82889576.	10.1009142	0.0011048	-0.002833	3.5575545	-60.000000	CY
0.0001144	9223.	80637081.	10.0189448	0.0011459	-0.002972	3.6385535	-60.000000	CY
0.0001194	9379.	78566023.	9.9451143	0.0011872	-0.003110	3.7161987	-60.000000	CY
0.0001244	9534.	76652513.	9.8773306	0.0012285	-0.003249	3.7902022	-60.000000	CY
0.0001294	9687.	74876567.	9.8138423	0.0012697	-0.003388	3.8603296	-60.000000	CY
0.0001344	9816.	73052417.	9.7460034	0.0013096	-0.003528	3.9248507	-60.000000	CY
0.0001394	9893.	70983754.	9.6616157	0.0013466	-0.003671	3.9813943	-60.000000	CY
0.0001444	9956.	68962143.	9.5781709	0.0013828	-0.003815	4.0339889	-60.000000	CY
0.0001494	10018.	67067867.	9.4987858	0.0014189	-0.003959	4.0834600	-60.000000	CY
0.0001544	10079.	65288936.	9.4231890	0.0014547	-0.004103	4.1298862	-60.000000	CY
0.0001594	10139.	63618732.	9.3530938	0.0014906	-0.004247	4.1737165	-60.000000	CY
0.0001644	10199.	62047285.	9.2880081	0.0015267	-0.004391	4.2149241	-60.000000	CY
0.0001694	10258.	60565805.	9.2274985	0.0015629	-0.004535	4.2534819	-60.000000	CY
0.0001744	10317.	59165597.	9.1706128	0.0015991	-0.004678	4.2892653	-60.000000	CY
0.0001794	10374.	57836224.	9.1147341	0.0016350	-0.004823	4.3218969	-60.000000	CY
0.0001844	10431.	56576422.	9.0625836	0.0016709	-0.004967	4.3518902	-60.000000	CY
0.0001894	10488.	55380636.	9.0138767	0.0017070	-0.005110	4.3792162	-60.000000	CY
0.0001944	10544.	54243886.	8.9683589	0.0017432	-0.005254	4.4038453	-60.000000	CY
0.0001994	10599.	53161684.	8.9258011	0.0017796	-0.005398	4.4257472	-60.000000	CY
0.0002044	10654.	52129994.	8.8859973	0.0018161	-0.005541	4.4448908	-60.000000	CY
0.0002094	10709.	51145155.	8.8487615	0.0018527	-0.005685	4.4612441	-60.000000	CY
0.0002144	10761.	50197215.	8.8127182	0.0018892	-0.005828	4.4746870	-60.000000	CY
0.0002194	10809.	49273186.	8.7751425	0.0019250	-0.005972	4.4850977	-60.000000	CY
0.0002244	10845.	48333996.	8.7326995	0.0019594	-0.006118	4.4924995	-60.000000	CY
0.0002294	10873.	47401113.	8.6881680	0.0019928	-0.006265	4.4972863	-60.000000	CY
0.0002344	10893.	46475056.	8.6416975	0.0020254	-0.006412	4.4996564	-60.000000	CY
0.0002394	10908.	45568933.	8.5952283	0.0020575	-0.006560	4.4948594	-60.000000	CY
0.0002444	10923.	44697842.	8.5510850	0.0020897	-0.006708	4.4979229	-60.000000	CY
0.0002494	10938.	43860644.	8.5091567	0.0021220	-0.006856	4.4997986	-60.000000	CY
0.0002544	10952.	43054892.	8.4694343	0.0021544	-0.007003	4.4938636	-60.000000	CY
0.0002594	10965.	42275987.	8.4292807	0.0021863	-0.007151	4.4974329	-60.000000	CY
0.0002644	10978.	41524794.	8.3902478	0.0022182	-0.007299	4.4995295	-60.000000	CY
0.0002694	10991.	40800479.	8.3531191	0.0022501	-0.007447	4.4973771	-60.000000	CY
0.0002744	11003.	40101238.	8.3179001	0.0022822	-0.007595	4.4953691	-60.000000	CY
0.0003044	11071.	36372965.	8.1383471	0.0024771	-0.008480	4.4996876	-60.000000	CY
0.0003344	11129.	33283305.	7.9925216	0.0026725	-0.009365	4.4963444	-60.000000	CY
0.0003644	11181.	30684342.	7.8769692	0.0028702	-0.010247	4.4936823	-60.000000	CY
0.0003944	11228.	28469377.	7.7866024	0.0030708	-0.011127	4.4979981	-60.000000	CYT
0.0004244	11270.	26557137.	7.7125884	0.0032730	-0.012004	4.4992253	-60.000000	CYT
0.0004544	11309.	24888357.	7.6495332	0.0034758	-0.012882	4.4930018	60.000000	CYT
0.0004844	11343.	23418263.	7.6011779	0.0036818	-0.013756	4.4907843	60.000000	CYT
0.0005144	11343.	22052435.	7.6044247	0.0039115	-0.014606	4.4987380	60.000000	CYT

Axial Thrust Force = 140.000 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
6.25000E-07	247.6925070	396308011.	64.2912773	0.00004018	0.00001768	0.1784456	1.1098169	
0.00000125	495.3815768	396305261.	41.1634479	0.00005145	0.00000645	0.2275017	1.3812500	
0.00000188	743.0540920	396295516.	33.4620428	0.00006274	-0.00000476	0.2763421	1.6531111	
0.00000250	990.4669239	396186770.	29.6159845	0.00007404	-0.00001596	0.3249520	1.9253089	
0.00000313	1237.	395923734.	27.3103480	0.00008534	-0.00002716	0.3733075	2.1976878	

0.00000375	1483.	395544778.	25.7741846	0.00009665	-0.00003835	0.4213963	2.4701676
0.00000438	1729.	395086814.	24.6774192	0.0001080	-0.00004954	0.4692124	2.7427101
0.00000500	1973.	394574737.	23.8551445	0.0001193	-0.00006072	0.5167529	3.0152960
0.00000563	2216.	394024472.	23.2157945	0.0001306	-0.00007191	0.5640160	3.2879140
0.00000625	2459.	393446451.	22.7044539	0.0001419	-0.00008310	0.6110008	3.5605573
0.00000688	2701.	392847706.	22.2861888	0.0001532	-0.00009428	0.6577063	3.8332214
0.00000750	2701.	360110397.	18.6786495	0.0001401	-0.000130	0.6024735	3.3970562 C
0.00000813	2701.	332409597.	18.1392455	0.0001474	-0.000145	0.6324704	3.5530472 C
0.00000875	2701.	308666054.	17.6620516	0.0001545	-0.000160	0.6618117	-3.876779 C
0.00000938	2701.	288088317.	17.2376791	0.0001616	-0.000176	0.6906220	-4.269069 C
0.00001000	2701.	270082798.	16.8567322	0.0001686	-0.000191	0.7189271	-4.664148 C
0.00001063	2701.	254195574.	16.5123686	0.0001754	-0.000207	0.7467673	-5.061764 C
0.00001125	2701.	240073598.	16.1994280	0.0001822	-0.000223	0.7741896	-5.461612 C
0.00001188	2701.	227438145.	15.9139316	0.0001890	-0.000239	0.8012452	-5.863352 C
0.00001250	2701.	216066238.	15.6527955	0.0001957	-0.000254	0.8279893	-6.266612 C
0.00001313	2701.	205777370.	15.4105540	0.0002023	-0.000270	0.8543189	-6.672145 C
0.00001375	2701.	196423853.	15.1875268	0.0002088	-0.000286	0.8803980	-7.078799 C
0.00001438	2701.	187883685.	14.9813077	0.0002154	-0.000302	0.9062341	-7.486530 C
0.00001500	2701.	180055198.	14.7882712	0.0002218	-0.000318	0.9317372	-7.896002 C
0.00001563	2701.	172852990.	14.6097907	0.0002283	-0.000334	0.9570941	-8.305876 C
0.00001625	2701.	166204799.	14.4412776	0.0002347	-0.000350	0.9821175	-8.717523 C
0.00001688	2701.	160049065.	14.2846169	0.0002411	-0.000366	1.0070100	-9.129478 C
0.00001750	2701.	154333027.	14.1368891	0.0002474	-0.000383	1.0316582	-9.542579 C
0.00001813	2701.	149011199.	13.9977021	0.0002537	-0.000399	1.0561016	-9.956545 C
0.00001875	2715.	144804176.	13.8679505	0.0002600	-0.000415	1.0804701	-10.370427 C
0.00001938	2767.	142813779.	13.7432161	0.0002663	-0.000431	1.1044981	-10.786193 C
0.00002000	2819.	140944603.	13.6261905	0.0002725	-0.000447	1.1284346	-11.202010 C
0.00002063	2871.	139187217.	13.5163967	0.0002788	-0.000464	1.1522976	-11.617743 C
0.00002125	2922.	137514094.	13.4104348	0.0002850	-0.000480	1.1758600	-12.035095 C
0.00002188	2974.	135932095.	13.3101653	0.0002912	-0.000496	1.1993088	-12.452676 C
0.00002250	3025.	134436649.	13.2155918	0.0002974	-0.000513	1.2226853	-12.870176 C
0.00002313	3076.	133018167.	13.1258028	0.0003035	-0.000529	1.2459498	-13.287896 C
0.00002375	3127.	131659733.	13.0385160	0.0003097	-0.000545	1.2689301	-13.707147 C
0.00002438	3178.	130369773.	12.9558195	0.0003158	-0.000562	1.2918396	-14.126318 C
0.00002563	3279.	127975245.	12.8028551	0.0003281	-0.000594	1.3374455	-14.964416 C
0.00002688	3380.	125779506.	12.6606379	0.0003403	-0.000627	1.3823746	-15.805228 C
0.00002813	3481.	123771408.	12.5307539	0.0003524	-0.000660	1.4269501	-16.646291 C
0.00002938	3582.	121929201.	12.4120342	0.0003646	-0.000693	1.4712165	-17.487261 C
0.00003063	3682.	120218215.	12.2998372	0.0003767	-0.000726	1.5148062	-18.331045 C
0.00003188	3782.	118637991.	12.1967872	0.0003888	-0.000759	1.5581203	-19.174507 C
0.00003313	3881.	117173711.	12.1018501	0.0004009	-0.000792	1.6011579	-20.017648 C
0.00003438	3981.	115806525.	12.0124928	0.0004129	-0.000825	1.6437152	-20.862109 C
0.00003563	4080.	114527014.	11.9283225	0.0004249	-0.000858	1.6858205	-21.707689 C
0.00003688	4179.	113331334.	11.8501623	0.0004370	-0.000891	1.7276526	-22.552945 C
0.00003813	4278.	112211229.	11.7742221	0.0004490	-0.000923	1.7692109	-23.397875 C
0.00003938	4377.	111159490.	11.7095870	0.0004611	-0.000956	1.8104947	-24.242478 C
0.00004063	4475.	110163555.	11.6441994	0.0004730	-0.000989	1.8512218	-25.089115 C
0.00004188	4574.	109223503.	11.5826523	0.0004850	-0.001022	1.8916291	-25.935829 C
0.00004313	4672.	108335482.	11.5249386	0.0004970	-0.001055	1.9317648	-26.782211 C
0.00004438	4770.	107495086.	11.4707357	0.0005090	-0.001088	1.9716281	-27.628259 C
0.00004563	4868.	106698389.	11.4197560	0.0005210	-0.001121	2.0112182	-28.473973 C
0.00004688	4966.	105941886.	11.3717428	0.0005331	-0.001154	2.0505344	-29.319350 C
0.00004813	5064.	105221158.	11.3259514	0.0005451	-0.001187	2.0894945	-30.165106 C
0.00004938	5161.	104531931.	11.2815741	0.0005570	-0.001220	2.1279964	-31.012158 C
0.00005063	5259.	103874647.	11.2396227	0.0005690	-0.001253	2.1662267	-31.858866 C
0.00005188	5356.	103246984.	11.1999230	0.0005810	-0.001287	2.2041848	-32.705228 C
0.00005313	5453.	102646845.	11.1623170	0.0005930	-0.001320	2.2418698	-33.551243 C
0.00005438	5550.	102072322.	11.1266615	0.0006050	-0.001352	2.2792811	-34.396908 C
0.00005563	5647.	101521680.	11.0928260	0.0006170	-0.001385	2.3164177	-35.242222 C
0.00005688	5744.	100993334.	11.0606917	0.0006291	-0.001418	2.3532790	-36.087184 C
0.00005813	5841.	100485839.	11.0301497	0.0006411	-0.001451	2.3898642	-36.931791 C
0.00005938	5937.	99997869.	11.0011006	0.0006532	-0.001484	2.4261725	-37.776042 C
0.00006063	6034.	99527758.	10.9732043	0.0006653	-0.001517	2.4621574	-38.620372 C
0.00006188	6130.	99073495.	10.9458717	0.0006773	-0.001550	2.4977227	-39.465714 C
0.00006313	6226.	98635503.	10.9198223	0.0006893	-0.001583	2.5330126	-40.310688 C
0.00006438	6322.	98212828.	10.8949824	0.0007014	-0.001616	2.5680263	-41.155292 C
0.00006563	6418.	97804585.	10.8712840	0.0007134	-0.001649	2.6027630	-41.999525 C
0.00006688	6514.	97409957.	10.8486641	0.0007255	-0.001682	2.6372219	-42.843384 C
0.00006813	6610.	97028188.	10.8270643	0.0007376	-0.001715	2.6714021	-43.686868 C

0.00006938	6706.	96658574.	10.8064305	0.0007497	-0.001748	2.7053027	-44.529975	C
0.00007063	6801.	96300463.	10.7867124	0.0007618	-0.001781	2.7389230	-45.372702	C
0.00007188	6897.	95953246.	10.7678632	0.0007739	-0.001814	2.7722621	-46.215047	C
0.00007313	6992.	95616359.	10.7498394	0.0007861	-0.001846	2.8053191	-47.057009	C
0.00007438	7087.	95289272.	10.7326003	0.0007982	-0.001879	2.8380931	-47.898585	C
0.00007938	7467.	94069529.	10.6707685	0.0008470	-0.002011	2.9663426	-51.260987	C
0.00008438	7845.	92972278.	10.6188135	0.0008960	-0.002142	3.0899843	-54.617153	C
0.00008938	8220.	91974915.	10.5734397	0.0009450	-0.002272	3.2085960	-57.971328	C
0.00009438	8586.	90980870.	10.5324115	0.0009940	-0.002404	3.3218968	-60.000000	CY
0.00009938	8892.	89475255.	10.4760024	0.0010411	-0.002536	3.4257397	-60.000000	CY
0.0001044	9147.	87636166.	10.4086134	0.0010864	-0.002671	3.5212079	-60.000000	CY
0.0001094	9310.	85118401.	10.3147899	0.0011282	-0.002809	3.6050968	-60.000000	CY
0.0001144	9467.	82767253.	10.2272044	0.0011697	-0.002948	3.6847976	-60.000000	CY
0.0001194	9622.	80600487.	10.1458021	0.0012112	-0.003086	3.7605308	-60.000000	CY
0.0001244	9776.	78600742.	10.0722149	0.0012527	-0.003225	3.8328462	-60.000000	CY
0.0001294	9929.	76748531.	10.0055586	0.0012945	-0.003363	3.9017052	-60.000000	CY
0.0001344	10072.	74955086.	9.9409776	0.0013358	-0.003502	3.9662139	-60.000000	CY
0.0001394	10161.	72907106.	9.8581958	0.0013740	-0.003644	4.0223911	-60.000000	CY
0.0001444	10225.	70819189.	9.7690159	0.0014104	-0.003787	4.0730220	-60.000000	CY
0.0001494	10286.	68863432.	9.6863550	0.0014469	-0.003931	4.1209238	-60.000000	CY
0.0001544	10348.	67031145.	9.6098572	0.0014835	-0.004074	4.1661294	-60.000000	CY
0.0001594	10409.	65310529.	9.5388885	0.0015203	-0.004217	4.2085988	-60.000000	CY
0.0001644	10468.	63683818.	9.4690015	0.0015565	-0.004361	4.2476139	-60.000000	CY
0.0001694	10527.	62150284.	9.4039942	0.0015928	-0.004505	4.2839521	-60.000000	CY
0.0001744	10585.	60701862.	9.3434577	0.0016293	-0.004648	4.3175844	-60.000000	CY
0.0001794	10643.	59331391.	9.2870290	0.0016659	-0.004792	4.3484815	-60.000000	CY
0.0001844	10700.	58032481.	9.2343848	0.0017026	-0.004935	4.3766131	-60.000000	CY
0.0001894	10756.	56799416.	9.1852364	0.0017395	-0.005078	4.4019484	-60.000000	CY
0.0001944	10812.	55623165.	9.1365900	0.0017759	-0.005222	4.4241457	-60.000000	CY
0.0001994	10867.	54502901.	9.0907522	0.0018125	-0.005365	4.4435350	-60.000000	CY
0.0002044	10921.	53434956.	9.0478526	0.0018492	-0.005508	4.4601280	-60.000000	CY
0.0002094	10975.	52415525.	9.0076930	0.0018860	-0.005652	4.4738911	-60.000000	CY
0.0002144	11028.	51441173.	8.9700940	0.0019230	-0.005795	4.4847900	-60.000000	CY
0.0002194	11077.	50494807.	8.9331809	0.0019597	-0.005938	4.4927214	-60.000000	CY
0.0002244	11122.	49567168.	8.8959057	0.0019960	-0.006081	4.4977173	-60.000000	CY
0.0002294	11156.	48635046.	8.8553844	0.0020312	-0.006226	4.4998695	-60.000000	CY
0.0002344	11179.	47697080.	8.8108902	0.0020651	-0.006372	4.4956502	-60.000000	CY
0.0002394	11197.	46775846.	8.7636076	0.0020978	-0.006520	4.4988368	-60.000000	CY
0.0002444	11211.	45877760.	8.7167370	0.0021302	-0.006667	4.4999930	-60.000000	CY
0.0002494	11225.	45013913.	8.6724042	0.0021627	-0.006815	4.4956157	-60.000000	CY
0.0002544	11239.	44183030.	8.6302556	0.0021953	-0.006962	4.4986767	-60.000000	CY
0.0002594	11253.	43383257.	8.5901513	0.0022281	-0.007109	4.4999587	-60.000000	CY
0.0002644	11266.	42612128.	8.5521810	0.0022610	-0.007257	4.4940382	-60.000000	CY
0.0002694	11278.	41868653.	8.5160503	0.0022940	-0.007403	4.4976114	-60.000000	CY
0.0002744	11291.	41151503.	8.4816063	0.0023271	-0.007550	4.4995828	-60.000000	CY
0.0003044	11356.	37310197.	8.2925423	0.0025240	-0.008433	4.4929282	-60.000000	CY
0.0003344	11414.	34134733.	8.1472566	0.0027242	-0.009313	4.4961010	-60.000000	CY
0.0003644	11464.	31461567.	8.0280895	0.0029252	-0.010192	4.4960507	-60.000000	CY
0.0003944	11508.	29181248.	7.9304862	0.0031276	-0.011070	4.4928240	-60.000000	CYT
0.0004244	11549.	27215131.	7.8529432	0.0033326	-0.011945	4.4875029	-60.000000	CYT
0.0004544	11586.	25499118.	7.7928431	0.0035409	-0.012817	4.4997865	60.000000	CYT
0.0004844	11618.	23986307.	7.7475957	0.0037527	-0.013685	4.4930036	60.000000	CYT
0.0005144	11618.	22587348.	7.7507459	0.0039868	-0.014531	4.4843341	60.000000	CYT

Axial Thrust Force = 290.000 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
6.25000E-07	244.1035399	390565664.	114.5857643	0.00007162	0.00004912	0.3159070	2.0214045	
0.00000125	488.2053593	390564287.	66.3109588	0.00008289	0.00003789	0.3641758	2.2928473	
0.00000188	732.2968643	390558328.	50.2273886	0.00009418	0.00002668	0.4122291	2.5647268	
0.00000250	976.3728992	390549160.	42.1916276	0.0001055	0.00001548	0.4600658	2.8370430	
0.00000313	1220.	390537058.	37.3749906	0.0001168	0.00000430	0.5076848	3.1097960	
0.00000375	1464.	390519897.	34.1678888	0.0001281	-0.00000687	0.5550845	3.3829829	
0.00000438	1708.	390463090.	31.8800626	0.0001395	-0.00001802	0.6022554	3.6565455	
0.00000500	1952.	390332262.	30.1660983	0.0001508	-0.00002917	0.6491822	3.9303843	

0.00000563	2194.	390124038.	28.8342615	0.0001622	-0.00004031	0.6958538	4.2044264
0.00000625	2437.	389846413.	27.7696381	0.0001736	-0.00005144	0.7422625	4.4786219
0.00000688	2678.	389509735.	26.8991778	0.0001849	-0.00006257	0.7884032	4.7529361
0.00000750	2918.	389123844.	26.1742298	0.0001963	-0.00007369	0.8342721	5.0273450
0.00000813	3158.	388697141.	25.5611419	0.0002077	-0.00008482	0.8798666	5.3018316
0.00000875	3397.	388236557.	25.0358959	0.0002191	-0.00009594	0.9251848	5.5763836
0.00000938	3397.	362354120.	22.8848280	0.0002145	-0.0001123	0.9065917	5.3898751 C
0.00001000	3397.	339706988.	22.2992190	0.0002230	-0.000137	0.9400167	5.5793735 C
0.00001063	3397.	319724224.	21.7698127	0.0002313	-0.000151	0.9727485	5.7649610 C
0.00001125	3397.	301961767.	21.2859731	0.0002395	-0.000166	1.0047379	5.9462237 C
0.00001188	3397.	286069042.	20.8433881	0.0002475	-0.000180	1.0361280	6.1241543 C
0.00001250	3397.	271765590.	20.4363265	0.0002555	-0.000195	1.0669476	6.2989184 C
0.00001313	3397.	258824371.	20.0601987	0.0002633	-0.000209	1.0972273	6.4707007 C
0.00001375	3397.	247059627.	19.7113004	0.0002710	-0.000224	1.1269999	6.6397061 C
0.00001438	3397.	236317904.	19.3866241	0.0002787	-0.000239	1.1563007	6.8061615 C
0.00001500	3415.	227669476.	19.0837181	0.0002863	-0.000254	1.1851676	6.9703174 C
0.00001563	3482.	222833113.	18.8005796	0.0002938	-0.000269	1.2136412	7.1324502 C
0.00001625	3547.	218294764.	18.5355749	0.0003012	-0.000284	1.2417651	7.2928647 C
0.00001688	3611.	213996096.	18.2849902	0.0003086	-0.000299	1.2694331	7.4507296 C
0.00001750	3674.	209955699.	18.0497135	0.0003159	-0.000314	1.2968110	7.6072796 C
0.00001813	3737.	206156033.	17.8287213	0.0003231	-0.000329	1.3239395	-7.942866 C
0.00001875	3798.	202538553.	17.6181795	0.0003303	-0.000345	1.3506504	-8.331240 C
0.00001938	3858.	199135607.	17.4203070	0.0003375	-0.000360	1.3771821	-8.720128 C
0.00002000	3918.	195891357.	17.2313929	0.0003446	-0.000375	1.4033473	-9.110992 C
0.00002063	3977.	192825757.	17.0529564	0.0003517	-0.000391	1.4293279	-9.502438 C
0.00002125	4035.	189896106.	16.8820528	0.0003587	-0.000406	1.4549660	-9.895710 C
0.00002188	4093.	187125566.	16.7206016	0.0003658	-0.000422	1.4804714	-10.289181 C
0.00002250	4150.	184463015.	16.5647857	0.0003727	-0.000437	1.5055942	-10.684827 C
0.00002313	4207.	181942457.	16.4175584	0.0003797	-0.000453	1.5306261	-11.080362 C
0.00002375	4264.	179520785.	16.2755080	0.0003865	-0.000468	1.5553307	-11.477669 C
0.00002438	4320.	177210362.	16.1399391	0.0003934	-0.000484	1.5798611	-11.875543 C
0.00002563	4430.	172883418.	15.8854647	0.0004071	-0.000515	1.6283217	-12.673651 C
0.00002688	4540.	168918005.	15.6519867	0.0004206	-0.000547	1.6761206	-13.473845 C
0.00002813	4647.	165240881.	15.4339623	0.0004341	-0.000578	1.7229916	-14.278362 C
0.00002938	4754.	161853677.	15.2330804	0.0004475	-0.000610	1.7693249	-15.084082 C
0.00003063	4860.	158704720.	15.0454724	0.0004608	-0.000642	1.8149359	-15.892577 C
0.00003188	4966.	155780803.	14.8710048	0.0004740	-0.000673	1.8599900	-16.702527 C
0.00003313	5070.	153048204.	14.7071968	0.0004872	-0.000705	1.9043790	-17.514887 C
0.00003438	5174.	150504125.	14.5549457	0.0005003	-0.000737	1.9483502	-18.327601 C
0.00003563	5276.	148106258.	14.4101130	0.0005134	-0.000769	1.9915550	-19.143690 C
0.00003688	5379.	145866947.	14.2754589	0.0005264	-0.000801	2.0344350	-19.959394 C
0.00003813	5481.	143755075.	14.1477570	0.0005394	-0.000833	2.0767091	-20.777174 C
0.00003938	5582.	141762115.	14.0268470	0.0005523	-0.000865	2.1184481	-21.596457 C
0.00004063	5683.	139888255.	13.9136998	0.0005652	-0.000897	2.1598668	-22.415360 C
0.00004188	5783.	138112093.	13.8059032	0.0005781	-0.000929	2.2007333	-23.235969 C
0.00004313	5883.	136425273.	13.7030000	0.0005909	-0.000962	2.2410533	-24.058273 C
0.00004438	5983.	134830324.	13.6061867	0.0006038	-0.000994	2.2810577	-24.880201 C
0.00004563	6083.	133319680.	13.5149639	0.0006166	-0.001026	2.3207454	-25.701752 C
0.00004688	6182.	131873274.	13.4264723	0.0006294	-0.001058	2.3597649	-26.526202 C
0.00004813	6280.	130496495.	13.3423661	0.0006421	-0.001090	2.3984004	-27.350948 C
0.00004938	6379.	129186644.	13.2627812	0.0006548	-0.001123	2.4367236	-28.175318 C
0.00005063	6477.	127938752.	13.1873840	0.0006676	-0.001155	2.4747334	-28.999310 C
0.00005188	6575.	126744250.	13.1150257	0.0006803	-0.001187	2.5122978	-29.824196 C
0.00005313	6672.	125595763.	13.0447358	0.0006930	-0.001219	2.5493001	-30.651141 C
0.00005438	6770.	124497607.	12.9779177	0.0007057	-0.001252	2.5859931	-31.477708 C
0.00005563	6867.	123446375.	12.9143381	0.0007184	-0.001284	2.6223757	-32.303896 C
0.00005688	6964.	122438959.	12.8537848	0.0007311	-0.001316	2.6584471	-33.129701 C
0.00005813	7061.	121472524.	12.7960634	0.0007438	-0.001349	2.6942063	-33.955124 C
0.00005938	7157.	120538626.	12.7395726	0.0007564	-0.001381	2.7294140	-34.782611 C
0.00006063	7253.	119638723.	12.6850693	0.0007690	-0.001413	2.7642172	-35.610700 C
0.00006188	7349.	118773023.	12.6329835	0.0007817	-0.001446	2.7987117	-36.438402 C
0.00006313	7445.	117939485.	12.5831726	0.0007943	-0.001478	2.8328966	-37.265717 C
0.00006438	7541.	117136225.	12.5355050	0.0008070	-0.001511	2.8667711	-38.092641 C
0.00006563	7636.	116361502.	12.4898592	0.0008196	-0.001543	2.9003341	-38.919174 C
0.00006688	7732.	115613706.	12.4461228	0.0008323	-0.001575	2.9335847	-39.745313 C
0.00006813	7827.	114889287.	12.4035903	0.0008450	-0.001608	2.9664142	-40.572245 C
0.00006938	7922.	114185796.	12.3618325	0.0008576	-0.001640	2.9987597	-41.400701 C
0.00007063	8016.	113505312.	12.3217480	0.0008702	-0.001672	3.0307957	-42.228757 C
0.00007188	8111.	112846633.	12.2832506	0.0008829	-0.001705	3.0625214	-43.056412 C

0.00007313	8205.	112208630.	12.2462597	0.0008955	-0.001737	3.0939358	-43.883663	C
0.00007438	8300.	111590253.	12.2107004	0.0009082	-0.001769	3.1250380	-44.710508	C
0.00007938	8675.	109294282.	12.0814449	0.0009590	-0.001899	3.2463041	-48.013786	C
0.00008438	9048.	107234661.	11.9666194	0.0010097	-0.002028	3.3618032	-51.319241	C
0.00008938	9418.	105378837.	11.8665340	0.0010606	-0.002157	3.4720855	-54.619789	C
0.00009438	9786.	103695858.	11.7796233	0.0011117	-0.002286	3.5772435	-57.913306	C
0.00009938	10146.	102101894.	11.7020588	0.0011629	-0.002415	3.6768432	-60.000000	CY
0.0001044	10448.	100095891.	11.6124732	0.0012121	-0.002545	3.7670751	-60.000000	CY
0.0001094	10716.	97971266.	11.5224180	0.0012603	-0.002677	3.8504524	-60.000000	CY
0.0001144	10884.	95161629.	11.4084122	0.0013048	-0.002813	3.9229481	-60.000000	CY
0.0001194	11039.	92471745.	11.2996061	0.0013489	-0.002949	3.9903695	-60.000000	CY
0.0001244	11191.	89980333.	11.1980154	0.0013928	-0.003085	4.0533336	-60.000000	CY
0.0001294	11343.	87672626.	11.1057005	0.0014368	-0.003221	4.1123907	-60.000000	CY
0.0001344	11493.	85527948.	11.0216514	0.0014810	-0.003356	4.1674914	-60.000000	CY
0.0001394	11641.	83524745.	10.9432979	0.0015252	-0.003492	4.2183173	-60.000000	CY
0.0001444	11767.	81504318.	10.8614873	0.0015681	-0.003629	4.2636094	-60.000000	CY
0.0001494	11848.	79315245.	10.7686003	0.0016086	-0.003769	4.3026115	-60.000000	CY
0.0001544	11910.	77151761.	10.6759460	0.0016481	-0.003909	4.3373370	-60.000000	CY
0.0001594	11972.	75115436.	10.5884463	0.0016875	-0.004050	4.3686248	-60.000000	CY
0.0001644	12031.	73191540.	10.5043514	0.0017267	-0.004191	4.3963587	-60.000000	CY
0.0001694	12090.	71377232.	10.4261539	0.0017659	-0.004332	4.4209025	-60.000000	CY
0.0001744	12147.	69663010.	10.3533607	0.0018054	-0.004472	4.4422166	-60.000000	CY
0.0001794	12205.	68040424.	10.2855340	0.0018450	-0.004613	4.4602604	-60.000000	CY
0.0001844	12260.	66497215.	10.2199476	0.0018843	-0.004753	4.4748474	-60.000000	CY
0.0001894	12315.	65028843.	10.1572161	0.0019235	-0.004894	4.4860842	-60.000000	CY
0.0001944	12369.	63632434.	10.0985816	0.0019629	-0.005035	4.4940470	-60.000000	CY
0.0001994	12422.	62302505.	10.0437516	0.0020025	-0.005175	4.4986922	-60.000000	CY
0.0002044	12474.	61033990.	9.9924808	0.0020422	-0.005315	4.4982243	-60.000000	CY
0.0002094	12525.	59821832.	9.9446229	0.0020822	-0.005455	4.4988774	-60.000000	CY
0.0002144	12576.	58662649.	9.8998447	0.0021223	-0.005595	4.4978151	-60.000000	CY
0.0002194	12625.	57547714.	9.8551731	0.0021620	-0.005736	4.4985307	-60.000000	CY
0.0002244	12673.	56479692.	9.8132529	0.0022018	-0.005876	4.4999993	-60.000000	CY
0.0002294	12720.	55453986.	9.7742014	0.0022420	-0.006016	4.4974370	-60.000000	CY
0.0002344	12766.	54469566.	9.7375193	0.0022822	-0.006155	4.4997867	-60.000000	CY
0.0002394	12809.	53508259.	9.7013150	0.0023223	-0.006295	4.4950691	-60.000000	CY
0.0002444	12847.	52571159.	9.6656216	0.0023620	-0.006435	4.4986585	-60.000000	CY
0.0002494	12876.	51633875.	9.6269009	0.0024007	-0.006577	4.4999823	-60.000000	CY
0.0002544	12899.	50708938.	9.5873323	0.0024388	-0.006719	4.4951654	-60.000000	CY
0.0002594	12916.	49795886.	9.5464648	0.0024761	-0.006861	4.4983646	-60.000000	CY
0.0002644	12929.	48903169.	9.5032082	0.0025124	-0.007005	4.4998449	-60.000000	CY
0.0002694	12940.	48036968.	9.4608790	0.0025485	-0.007149	4.4945719	-60.000000	CY
0.0002744	12951.	47201174.	9.4206064	0.0025848	-0.007293	4.4962245	-60.000000	CY
0.0003044	13011.	42747596.	9.2144625	0.0028047	-0.008153	4.4996417	-60.000000	CY
0.0003344	13060.	39059311.	9.0441501	0.0030241	-0.009013	4.4999033	-60.000000	CYT
0.0003644	13102.	35957825.	8.9096469	0.0032465	-0.009871	4.4999998	60.000000	CYT
0.0003944	13135.	33306478.	8.8066057	0.0034731	-0.010724	4.4996225	60.000000	CYT
0.0004244	13158.	31006604.	8.7218674	0.0037013	-0.011576	4.4964413	60.000000	CYT
0.0004544	13158.	28959401.	8.6985968	0.0039524	-0.012405	4.4902860	60.000000	CYT

Axial Thrust Force = 395.000 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
6.25000E-07	241.5588643	386494183.	150.2458861	0.00009390	0.00007140	0.4120247	2.6677442	
0.00000125	483.1172267	386493781.	84.1412141	0.0001052	0.00006018	0.4597353	2.9391940	
0.00000188	724.6651639	386488087.	62.1144415	0.0001165	0.00004896	0.5072303	3.2110853	
0.00000250	966.1974645	386478986.	51.1071441	0.0001278	0.00003777	0.5545086	3.4834180	
0.00000313	1208.	386466853.	44.5076371	0.0001391	0.00002659	0.6015691	3.7561921	
0.00000375	1449.	386451815.	40.1120258	0.0001504	0.00001542	0.6484106	4.0294078	
0.00000438	1691.	386433925.	36.9757838	0.0001618	0.00000427	0.6950320	4.3030651	
0.00000500	1932.	386412117.	34.6266347	0.0001731	-0.00000687	0.7414318	4.5771620	
0.00000563	2173.	386367319.	32.8019649	0.0001845	-0.00001799	0.7876032	4.8516580	
0.00000625	2414.	386274665.	31.3440029	0.0001959	-0.00002910	0.8335343	5.1264755	
0.00000688	2655.	386125168.	30.1524073	0.0002073	-0.00004020	0.8792150	5.4015486	
0.00000750	2894.	385919400.	29.1603613	0.0002187	-0.00005130	0.9246380	5.6768286	
0.00000813	3134.	385661572.	28.3216560	0.0002301	-0.00006239	0.9697975	5.9522777	

0.00000875	3372.	385357100.	27.6033197	0.0002415	-0.00007347	1.0146892	6.2278674
0.00000938	3609.	385011539.	26.9811988	0.0002529	-0.00008455	1.0593097	6.5035759
0.00001000	3846.	384630060.	26.4371951	0.0002644	-0.00009563	1.1036565	6.7793866
0.00001063	4082.	384217259.	25.9574811	0.0002758	-0.000107	1.1477276	7.0552864
0.00001125	4082.	362871855.	24.2056414	0.0002723	-0.000133	1.1337462	6.8987653 C
0.00001188	4082.	343773337.	23.6773858	0.0002812	-0.000146	1.1676767	7.1001121 C
0.00001250	4082.	326584670.	23.1916510	0.0002899	-0.000160	1.2009393	7.2977232 C
0.00001313	4082.	311033019.	22.7419660	0.0002985	-0.000174	1.2335214	7.4914483 C
0.00001375	4082.	296895154.	22.3251813	0.0003070	-0.000188	1.2655234	7.6819911 C
0.00001438	4082.	283986669.	21.9373736	0.0003153	-0.000202	1.2969714	7.8695051 C
0.00001500	4082.	272153892.	21.5753145	0.0003236	-0.000216	1.3278937	8.0541618 C
0.00001563	4082.	261267736.	21.2363342	0.0003318	-0.000231	1.3583204	8.2361515 C
0.00001625	4138.	254617252.	20.9182171	0.0003399	-0.000245	1.3882836	8.4156848 C
0.00001688	4213.	249686859.	20.6191202	0.0003479	-0.000260	1.4178178	8.5929945 C
0.00001750	4288.	245010714.	20.3375105	0.0003559	-0.000274	1.4469597	8.7683366 C
0.00001813	4360.	240537004.	20.0701766	0.0003638	-0.000289	1.4756193	8.9409741 C
0.00001875	4430.	236288586.	19.8175328	0.0003716	-0.000303	1.5039282	9.1119085 C
0.00001938	4500.	232256993.	19.5787590	0.0003793	-0.000318	1.5319320	9.2814778 C
0.00002000	4568.	228395530.	19.3510892	0.0003870	-0.000333	1.5595266	9.4488318 C
0.00002063	4635.	224714455.	19.1346967	0.0003947	-0.000348	1.5868041	9.6146780 C
0.00002125	4701.	221211679.	18.9293317	0.0004022	-0.000363	1.6138242	9.7794757 C
0.00002188	4765.	217840472.	18.7321267	0.0004098	-0.000378	1.6404380	9.9420054 C
0.00002250	4829.	214642892.	18.5454496	0.0004173	-0.000393	1.6668941	10.1042557 C
0.00002313	4892.	211550467.	18.3650887	0.0004247	-0.000408	1.6929172	10.2639751 C
0.00002375	4955.	208616499.	18.1942959	0.0004321	-0.000423	1.7188266	10.4237463 C
0.00002438	5016.	205778505.	18.0290729	0.0004395	-0.000438	1.7443422	10.5812635 C
0.00002500	5137.	200468983.	17.7204463	0.0004541	-0.000468	1.7948098	-11.310031 C
0.00002688	5256.	195572963.	17.4361633	0.0004686	-0.000499	1.8444056	-12.083303 C
0.00002813	5373.	191023819.	17.1718288	0.0004830	-0.000530	1.8930301	-12.860915 C
0.00002938	5487.	186798214.	16.9261239	0.0004972	-0.000560	1.9408200	-13.641821 C
0.00003063	5601.	182875996.	16.6981938	0.0005114	-0.000591	1.9879328	-14.424754 C
0.00003188	5712.	179200423.	16.4840393	0.0005254	-0.000622	2.0341727	-15.211479 C
0.00003313	5822.	175767868.	16.2839458	0.0005394	-0.000653	2.0797534	-16.000222 C
0.00003438	5931.	172550033.	16.0961963	0.0005533	-0.000684	2.1246607	-16.791167 C
0.00003563	6039.	169524274.	15.9192741	0.0005671	-0.000715	2.1688767	-17.584537 C
0.00003688	6146.	166678087.	15.7527438	0.0005809	-0.000747	2.2124877	-18.379622 C
0.00003813	6252.	163996560.	15.5957061	0.0005946	-0.000778	2.2555140	-19.176285 C
0.00003938	6357.	161456874.	15.4464813	0.0006082	-0.000809	2.2978645	-19.975412 C
0.00004063	6462.	159069163.	15.3068089	0.0006218	-0.000841	2.3398584	-20.774103 C
0.00004188	6565.	156787493.	15.1720832	0.0006353	-0.000872	2.3810096	-21.576914 C
0.00004313	6669.	154632489.	15.0453155	0.0006488	-0.000904	2.4217845	-22.379540 C
0.00004438	6771.	152591628.	14.9255879	0.0006623	-0.000935	2.4621496	-23.182296 C
0.00004563	6873.	150634634.	14.8096507	0.0006757	-0.000967	2.5017401	-23.988718 C
0.00004688	6974.	148778480.	14.7002064	0.0006891	-0.000998	2.5409852	-24.794720 C
0.00004813	7075.	147015304.	14.5967503	0.0007025	-0.001030	2.5798840	-25.600298 C
0.00004938	7175.	145319548.	14.4962183	0.0007158	-0.001062	2.6180603	-26.409190 C
0.00005063	7275.	143700721.	14.4004238	0.0007290	-0.001093	2.6558201	-27.218416 C
0.00005188	7374.	142156783.	14.3095238	0.0007423	-0.001125	2.6932383	-28.027223 C
0.00005313	7474.	140682448.	14.2231739	0.0007556	-0.001157	2.7303140	-28.835610 C
0.00005438	7572.	139256294.	14.1384355	0.0007688	-0.001189	2.7666472	-29.647717 C
0.00005563	7670.	137890760.	14.0576623	0.0007820	-0.001221	2.8026277	-30.459571 C
0.00005688	7768.	136582457.	13.9806925	0.0007952	-0.001252	2.8382700	-31.271008 C
0.00005813	7866.	135327678.	13.9072818	0.0008084	-0.001284	2.8735732	-32.082027 C
0.00005938	7963.	134118663.	13.8364217	0.0008215	-0.001316	2.9084118	-32.893974 C
0.00006063	8060.	132948204.	13.7671641	0.0008346	-0.001348	2.9426613	-33.708242 C
0.00006188	8157.	131822521.	13.7009378	0.0008477	-0.001380	2.9765760	-34.522092 C
0.00006313	8253.	130738942.	13.6375637	0.0008609	-0.001412	3.0101548	-35.335523 C
0.00006438	8349.	129695000.	13.5768767	0.0008740	-0.001443	3.0433966	-36.148532 C
0.00006563	8445.	128688432.	13.5187242	0.0008872	-0.001475	3.0763006	-36.961115 C
0.00006688	8541.	127710698.	13.4616392	0.0009002	-0.001507	3.1086434	-37.775846 C
0.00006813	8636.	126763462.	13.4062193	0.0009133	-0.001539	3.1405422	-38.591425 C
0.00006938	8731.	125848137.	13.3530079	0.0009264	-0.001571	3.1721070	-39.406580 C
0.00007063	8826.	124963017.	13.3018888	0.0009394	-0.001603	3.2033365	-40.221307 C
0.00007188	8920.	124106514.	13.2527538	0.0009525	-0.001635	3.2342298	-41.035604 C
0.00007313	9015.	123277149.	13.2055023	0.0009657	-0.001667	3.2647857	-41.849470 C
0.00007438	9109.	122473555.	13.1600401	0.0009788	-0.001699	3.2950032	-42.662901 C
0.00007563	9483.	119470203.	12.9889336	0.0010310	-0.001827	3.4115028	-45.924861 C
0.00008438	9854.	116790554.	12.8403456	0.0010834	-0.001954	3.5224770	-49.181343 C
0.00008938	10222.	114373356.	12.7084661	0.0011358	-0.002082	3.6275009	-52.437607 C

0.00009438	10587.	112178542.	12.5911702	0.0011883	-0.002209	3.7266652	-55.692203	C
0.00009938	10949.	110178718.	12.4883148	0.0012410	-0.002336	3.8203973	-58.939201	C
0.0001044	11291.	108178067.	12.3913714	0.0012933	-0.002464	3.9072368	-60.000000	CY
0.0001094	11578.	105860539.	12.2868132	0.0013439	-0.002594	3.9854828	-60.000000	CY
0.0001144	11824.	103378721.	12.1804458	0.0013931	-0.002724	4.0564254	-60.000000	CY
0.0001194	11986.	100405194.	12.0583757	0.0014395	-0.002858	4.1182678	-60.000000	CY
0.0001244	12138.	97591300.	11.9404826	0.0014851	-0.002992	4.1746222	-60.000000	CY
0.0001294	12289.	94984402.	11.8332863	0.0015309	-0.003127	4.2267054	-60.000000	CY
0.0001344	12438.	92561172.	11.7356213	0.0015770	-0.003261	4.2744592	-60.000000	CY
0.0001394	12585.	90294156.	11.6437757	0.0016229	-0.003395	4.3174810	-60.000000	CY
0.0001444	12730.	88169968.	11.5581191	0.0016687	-0.003529	4.3559342	-60.000000	CY
0.0001494	12862.	86104187.	11.4754064	0.0017141	-0.003663	4.3895505	-60.000000	CY
0.0001544	12950.	83888686.	11.3832319	0.0017573	-0.003800	4.4173181	-60.000000	CY
0.0001594	13014.	81655884.	11.2866083	0.0017988	-0.003939	4.4402301	-60.000000	CY
0.0001644	13074.	79534932.	11.1939069	0.0018400	-0.004078	4.4592953	-60.000000	CY
0.0001694	13132.	77534201.	11.1077632	0.0018814	-0.004216	4.4747716	-60.000000	CY
0.0001744	13190.	75643230.	11.0276308	0.0019229	-0.004355	4.4866096	-60.000000	CY
0.0001794	13247.	73848987.	10.9514626	0.0019644	-0.004493	4.4947154	-60.000000	CY
0.0001844	13301.	72141159.	10.8778719	0.0020056	-0.004632	4.4991014	-60.000000	CY
0.0001894	13354.	70518644.	10.8092355	0.0020470	-0.004771	4.4964800	-60.000000	CY
0.0001944	13407.	68974502.	10.7452271	0.0020886	-0.004909	4.4996731	-60.000000	CY
0.0001994	13458.	67502593.	10.6855454	0.0021304	-0.005047	4.4972232	-60.000000	CY
0.0002044	13509.	66098036.	10.6298142	0.0021725	-0.005185	4.4998337	-60.000000	CY
0.0002094	13557.	64750619.	10.5751771	0.0022142	-0.005323	4.4971525	-60.000000	CY
0.0002144	13604.	63461152.	10.5234384	0.0022560	-0.005462	4.4997523	-60.000000	CY
0.0002194	13651.	62226155.	10.4750869	0.0022980	-0.005600	4.4962041	-60.000000	CY
0.0002244	13696.	61042564.	10.4297976	0.0023402	-0.005737	4.4993528	-60.000000	CY
0.0002294	13741.	59907216.	10.3873447	0.0023826	-0.005875	4.4961296	-60.000000	CY
0.0002344	13785.	58816441.	10.3476643	0.0024252	-0.006012	4.4982441	-60.000000	CY
0.0002394	13828.	57768869.	10.3103126	0.0024680	-0.006149	4.4999507	-60.000000	CY
0.0002444	13871.	56760338.	10.2754565	0.0025111	-0.006286	4.4957527	-60.000000	CY
0.0002494	13912.	55788172.	10.2413591	0.0025539	-0.006424	4.4989685	-60.000000	CY
0.0002544	13949.	54836986.	10.2060443	0.0025962	-0.006561	4.4999127	-60.000000	CY
0.0002594	13984.	53912571.	10.1720305	0.0026384	-0.006699	4.4955896	-60.000000	CY
0.0002644	14009.	52988375.	10.1346083	0.0026793	-0.006838	4.4986096	-60.000000	CY
0.0002694	14031.	52088612.	10.0976028	0.0027200	-0.006977	4.4999287	-60.000000	CY
0.0002744	14045.	51190534.	10.0578576	0.0027596	-0.007118	4.4932025	-60.000000	CY
0.0003044	14106.	46342889.	9.8399603	0.0029950	-0.007962	4.4975569	-60.000000	CY
0.0003344	14148.	42311283.	9.6634446	0.0032312	-0.008806	4.4987447	60.000000	CYT
0.0003644	14177.	38907648.	9.5335453	0.0034738	-0.009644	4.4985896	60.000000	CYT
0.0003944	14194.	35989994.	9.4264519	0.0037176	-0.010480	4.4962412	60.000000	CYT
0.0004244	14194.	33445783.	9.3818505	0.0039814	-0.011296	4.4924900	60.000000	CYT

Summary of Results for Nominal 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	Max. Tens. Strain
1	105.000	11103.092	0.00300000	-0.01093586
2	115.000	11211.017	0.00300000	-0.01081624
3	140.000	11480.267	0.00300000	-0.01051654
4	290.000	13055.051	0.00300000	-0.00891873
5	395.000	14106.504	0.00300000	-0.00798019

Note that the values of moment capacity in the table above are not factored by a strength reduction factor (ϕ -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 (0.75).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, 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	Nominal Ax. Thrust kips	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	105.000000	11103.	68.250000	7217.	90328362.
2	0.65	115.000000	11211.	74.750000	7287.	91398194.
3	0.65	140.000000	11480.	91.000000	7462.	94084293.
4	0.65	290.000000	13055.	188.500000	8486.	110452022.
5	0.65	395.000000	14107.	256.750000	9169.	121989640.
1	0.75	105.000000	11103.	78.750000	8327.	87647834.
2	0.75	115.000000	11211.	86.250000	8408.	88586802.
3	0.75	140.000000	11480.	105.000000	8610.	90863092.
4	0.75	290.000000	13055.	217.500000	9791.	103673761.
5	0.75	395.000000	14107.	296.250000	10580.	112220497.
1	0.90	105.000000	11103.	94.500000	9993.	63986294.
2	0.90	115.000000	11211.	103.500000	10090.	64985807.
3	0.90	140.000000	11480.	126.000000	10332.	67498990.
4	0.90	290.000000	13055.	261.000000	11750.	81787349.
5	0.90	395.000000	14107.	355.500000	12696.	88664160.

Pile Section No. 2:

Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	8.600000 ft
Shaft Diameter	=	34.000000 in
Concrete Cover Thickness (to edge of long. rebar)	=	3.000000 in
Number of Reinforcing Bars	=	12 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	907.920277 sq. in.
Total Area of Reinforcing Steel	=	12.000000 sq. in.
Area Ratio of Steel Reinforcement	=	1.32 percent
Edge-to-Edge Bar Spacing	=	5.826985 in
Maximum Concrete Aggregate Size	=	0.750000 in
Ratio of Bar Spacing to Aggregate Size	=	7.77
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$	=	4146.895 kips
Tensile Load for Cracking of Concrete	=	-434.566 kips
Nominal Axial Tensile Capacity	=	-720.000 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	13.436000	0.000000
2	1.128000	1.000000	11.635917	6.718000
3	1.128000	1.000000	6.718000	11.635917
4	1.128000	1.000000	0.000000	13.436000
5	1.128000	1.000000	-6.718000	11.635917
6	1.128000	1.000000	-11.63592	6.718000
7	1.128000	1.000000	-13.43600	0.000000
8	1.128000	1.000000	-11.63592	-6.718000

9	1.128000	1.000000	-6.71800	-11.63592
10	1.128000	1.000000	0.00000	-13.43600
11	1.128000	1.000000	6.718000	-11.63592
12	1.128000	1.000000	11.635917	-6.71800

NOTE: The positions of the above rebars were computed by LPile

Minimum spacing between any two bars not equal to zero = 5.827 inches
between bars 7 and 8.

Ratio of bar spacing to maximum aggregate size = 7.77

Concrete Properties:

Compressive Strength of Concrete	=	4500. psi
Modulus of Elasticity of Concrete	=	3823676. psi
Modulus of Rupture of Concrete	=	-503.11529 psi
Compression Strain at Peak Stress	=	0.002001
Tensile Strain at Fracture of Concrete	=	-0.0001152
Maximum Coarse Aggregate Size	=	0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 5

Number	Axial Thrust Force kips
-----	-----
1	105.000
2	115.000
3	140.000
4	290.000
5	395.000

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 318-14, Section 21.2.3.
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 = 105.000 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
-----	-----	-----	-----	-----	-----	-----	-----	-----
0.00000125	397.7282656	318182612.	36.3137538	0.00004539	0.00000289	0.2009435	1.2116111	
0.00000250	795.0636233	318025449.	26.6859718	0.00006671	-0.00001829	0.2932612	1.7252080	
0.00000375	1190.	317443800.	23.4816056	0.00008806	-0.00003944	0.3846559	2.2393371	
0.00000500	1583.	316652067.	21.8806026	0.0001094	-0.00006060	0.4750720	2.7536374	
0.00000625	1974.	315763650.	20.9204741	0.0001308	-0.00008175	0.5644961	3.2680235	
0.00000750	1974.	263136375.	16.8975912	0.0001267	-0.000128	0.5466662	-3.091199	C
0.00000875	1974.	225545464.	16.0184168	0.0001402	-0.000157	0.6021962	-3.829489	C
0.00001000	1974.	197352281.	15.3233089	0.0001532	-0.000187	0.6558482	-4.578140	C
0.00001125	1974.	175424250.	14.7587744	0.0001660	-0.000216	0.7080184	-5.334587	C

0.00001250	1974.	157881825.	14.2884275	0.0001786	-0.000246	0.7588725	-6.097820 C
0.00001375	1974.	143528932.	13.8916543	0.0001910	-0.000276	0.8087142	-6.865815 C
0.00001500	1974.	131568187.	13.5515401	0.0002033	-0.000307	0.8576467	-7.637930 C
0.00001625	1974.	121447558.	13.2565355	0.0002154	-0.000337	0.9057814	-8.413445 C
0.00001750	2045.	116877506.	12.9985562	0.0002275	-0.000368	0.9532382	-9.191558 C
0.00001875	2134.	113817281.	12.7711909	0.0002395	-0.000398	1.0000983	-9.971728 C
0.00002000	2222.	111105576.	12.5672795	0.0002513	-0.000429	1.0462552	-10.754778 C
0.00002125	2310.	108701861.	12.3865372	0.0002632	-0.000459	1.0920375	-11.538334 C
0.00002250	2397.	106540091.	12.2218939	0.0002750	-0.000490	1.1371659	-12.324489 C
0.00002375	2484.	104601909.	12.0750062	0.0002868	-0.000521	1.1820323	-13.110352 C
0.00002500	2571.	102836633.	11.9390621	0.0002985	-0.000552	1.2262383	-13.898930 C
0.00002625	2657.	101235377.	11.8162997	0.0003102	-0.000582	1.2701712	-14.687329 C
0.00002750	2744.	99773341.	11.7042244	0.0003219	-0.000613	1.3137581	-15.476106 C
0.00002875	2830.	98425817.	11.5995965	0.0003335	-0.000644	1.3568005	-16.266799 C
0.00003000	2916.	97187598.	11.5040241	0.0003451	-0.000675	1.3995879	-17.057199 C
0.00003125	3001.	96045557.	11.4164217	0.0003568	-0.000706	1.4421196	-17.847305 C
0.00003250	3087.	94982908.	11.3339878	0.0003684	-0.000737	1.4841697	-18.638891 C
0.00003375	3172.	93993795.	11.2571130	0.0003799	-0.000768	1.5258611	-19.431013 C
0.00003500	3258.	93072811.	11.1860221	0.0003915	-0.000798	1.5672995	-20.222838 C
0.00003625	3343.	92212898.	11.1201177	0.0004031	-0.000829	1.6084843	-21.014364 C
0.00003750	3428.	91407940.	11.0588824	0.0004147	-0.000860	1.6494149	-21.805590 C
0.00003875	3513.	90648345.	11.0001319	0.0004263	-0.000891	1.6898518	-22.598464 C
0.00004000	3597.	89933304.	10.9450157	0.0004378	-0.000922	1.7299945	-23.391382 C
0.00004125	3682.	89259476.	10.8934950	0.0004494	-0.000953	1.7698853	-24.183994 C
0.00004250	3766.	88623217.	10.8452534	0.0004609	-0.000984	1.8095235	-24.976300 C
0.00004375	3851.	88021298.	10.8000110	0.0004725	-0.001015	1.8489085	-25.768298 C
0.00004500	3935.	87450849.	10.7575190	0.0004841	-0.001046	1.8880397	-26.559988 C
0.00004625	4020.	86909310.	10.7175554	0.0004957	-0.001077	1.9269163	-27.351366 C
0.00004750	4104.	86392344.	10.6788431	0.0005072	-0.001108	1.9653647	-28.143919 C
0.00004875	4188.	85899600.	10.6420838	0.0005188	-0.001139	2.0035185	-28.936516 C
0.00005125	4355.	84981058.	10.5745887	0.0005419	-0.001201	2.0790670	-30.520755 C
0.00005375	4523.	84141354.	10.5141975	0.0005651	-0.001262	2.1535988	-32.103707 C
0.00005625	4690.	83369921.	10.4599706	0.0005884	-0.001324	2.2271085	-33.685360 C
0.00005875	4856.	82657991.	10.4111284	0.0006117	-0.001386	2.2995905	-35.265702 C
0.00006125	5022.	81998084.	10.3669105	0.0006350	-0.001448	2.3710188	-36.844913 C
0.00006375	5188.	81382432.	10.3255269	0.0006583	-0.001509	2.4411456	-38.425295 C
0.00006625	5354.	80807741.	10.2879837	0.0006816	-0.001571	2.5102402	-40.004299 C
0.00006875	5519.	80269492.	10.2538692	0.0007050	-0.001633	2.5782966	-41.581911 C
0.00007125	5683.	79763802.	10.2228295	0.0007284	-0.001694	2.6453089	-43.158116 C
0.00007375	5847.	79287314.	10.1945591	0.0007518	-0.001756	2.7112710	-44.732899 C
0.00007625	6011.	78837108.	10.1687925	0.0007754	-0.001817	2.7761768	-46.306245 C
0.00007875	6175.	78410636.	10.1452979	0.0007989	-0.001879	2.8400200	-47.878138 C
0.00008125	6338.	78005663.	10.1238724	0.0008226	-0.001940	2.9027943	-49.448563 C
0.00008375	6501.	77620219.	10.1043375	0.0008462	-0.002001	2.9644932	-51.017503 C
0.00008625	6663.	77252561.	10.0865354	0.0008700	-0.002063	3.0251102	-52.584941 C
0.00008875	6825.	76901144.	10.0703261	0.0008937	-0.002124	3.0846386	-54.150860 C
0.00009125	6987.	76564589.	10.0555853	0.0009176	-0.002185	3.1430716	-55.715245 C
0.00009375	7148.	76241665.	10.0422021	0.0009415	-0.002246	3.2004023	-57.278075 C
0.00009625	7308.	75931267.	10.0300771	0.0009654	-0.002307	3.2566238	-58.839334 C
0.00009875	7469.	75630386.	10.0186128	0.0009893	-0.002368	3.3116128	-60.000000 CY
0.0001013	7622.	75274949.	10.0055013	0.0010131	-0.002429	3.3648519	-60.000000 CY
0.0001038	7756.	74754319.	9.9858106	0.0010360	-0.002491	3.4152193	-60.000000 CY
0.0001063	7883.	74191322.	9.9647047	0.0010587	-0.002554	3.4639067	-60.000000 CY
0.0001088	8007.	73624694.	9.9437873	0.0010814	-0.002616	3.5112970	-60.000000 CY
0.0001113	8110.	72900299.	9.9156962	0.0011031	-0.002679	3.5557188	-60.000000 CY
0.0001138	8188.	71980283.	9.8783142	0.0011237	-0.002744	3.5967082	-60.000000 CY
0.0001163	8255.	71014409.	9.8387349	0.0011438	-0.002809	3.6359163	-60.000000 CY
0.0001188	8323.	70086153.	9.8010491	0.0011639	-0.002874	3.6743065	-60.000000 CY
0.0001213	8390.	69194611.	9.7652134	0.0011840	-0.002938	3.7118919	-60.000000 CY
0.0001238	8457.	68337546.	9.7311179	0.0012042	-0.003003	3.7486683	-60.000000 CY
0.0001263	8524.	67512897.	9.6986618	0.0012245	-0.003068	3.7846316	-60.000000 CY
0.0001288	8590.	66717059.	9.6666589	0.0012446	-0.003133	3.8195310	-60.000000 CY
0.0001313	8656.	65949462.	9.6357522	0.0012647	-0.003198	3.8535303	-60.000000 CY
0.0001338	8722.	65209141.	9.6062829	0.0012848	-0.003263	3.8867209	-60.000000 CY
0.0001363	8787.	64494582.	9.5781743	0.0013050	-0.003327	3.9190983	-60.000000 CY
0.0001388	8853.	63804382.	9.5513554	0.0013253	-0.003392	3.9506582	-60.000000 CY
0.0001413	8917.	63127799.	9.5251330	0.0013454	-0.003457	3.9812605	-60.000000 CY
0.0001438	8976.	62438685.	9.4977392	0.0013653	-0.003522	4.0105416	-60.000000 CY
0.0001463	9024.	61704589.	9.4669245	0.0013845	-0.003588	4.0380540	-60.000000 CY

0.0001488	9060.	60905547.	9.4311689	0.0014029	-0.003655	4.0635260	-60.000000	CY
0.0001588	9168.	57750371.	9.2835580	0.0014738	-0.003924	4.1550642	-60.000000	CY
0.0001688	9272.	54942464.	9.1514319	0.0015443	-0.004193	4.2354722	-60.000000	CY
0.0001788	9374.	52439322.	9.0367366	0.0016153	-0.004462	4.3056681	-60.000000	CY
0.0001888	9473.	50185607.	8.9322272	0.0016860	-0.004732	4.3647723	-60.000000	CY
0.0001988	9569.	48148034.	8.8392640	0.0017568	-0.005001	4.4133180	-60.000000	CY
0.0002088	9665.	46297348.	8.7576634	0.0018282	-0.005269	4.4513534	-60.000000	CY
0.0002188	9758.	44607654.	8.6859451	0.0019001	-0.005537	4.4786432	-60.000000	CY
0.0002288	9849.	43054364.	8.6196712	0.0019717	-0.005806	4.4948275	-60.000000	CY
0.0002388	9932.	41598328.	8.5567921	0.0020429	-0.006075	4.4993794	-60.000000	CY
0.0002488	9989.	40158023.	8.4869600	0.0021111	-0.006346	4.4996968	-60.000000	CY
0.0002588	10021.	38727910.	8.4092222	0.0021759	-0.006622	4.4977493	-60.000000	CY
0.0002688	10045.	37376275.	8.3349577	0.0022400	-0.006897	4.4959147	-60.000000	CY
0.0002788	10066.	36111977.	8.2625136	0.0023032	-0.007174	4.4990395	-60.000000	CY
0.0002888	10087.	34931862.	8.1962186	0.0023667	-0.007451	4.4935369	-60.000000	CY
0.0002988	10106.	33827928.	8.1358191	0.0024306	-0.007727	4.4991680	-60.000000	CY
0.0003088	10125.	32792974.	8.0806898	0.0024949	-0.008003	4.4922287	-60.000000	CY
0.0003188	10143.	31820578.	8.0303119	0.0025597	-0.008278	4.4984532	-60.000000	CY
0.0003288	10160.	30905105.	7.9835012	0.0026246	-0.008553	4.4965782	-60.000000	CY
0.0003388	10176.	30038810.	7.9371703	0.0026887	-0.008829	4.4958696	-60.000000	CY
0.0003488	10191.	29221102.	7.8942924	0.0027531	-0.009104	4.4996237	-60.000000	CY
0.0003588	10205.	28447311.	7.8548995	0.0028179	-0.009380	4.4908408	-60.000000	CY
0.0003688	10220.	27714177.	7.8185521	0.0028831	-0.009654	4.4962294	-60.000000	CY
0.0003788	10233.	27018920.	7.7847813	0.0029485	-0.009929	4.4996350	-60.000000	CY
0.0003888	10247.	26358104.	7.7536837	0.0030142	-0.010203	4.4916569	-60.000000	CYT
0.0003988	10260.	25729370.	7.7249312	0.0030803	-0.010477	4.4940478	-60.000000	CYT
0.0004088	10272.	25130775.	7.6981199	0.0031466	-0.010751	4.4985933	-60.000000	CYT
0.0004188	10285.	24560094.	7.6731528	0.0032131	-0.011024	4.4991549	-60.000000	CYT
0.0004288	10296.	24014751.	7.6502975	0.0032801	-0.011297	4.4874896	-60.000000	CYT
0.0004388	10307.	23492811.	7.6264792	0.0033461	-0.011571	4.4942145	60.000000	CYT
0.0004488	10318.	22993576.	7.6042172	0.0034124	-0.011845	4.4983969	60.000000	CYT
0.0004588	10329.	22515698.	7.5833551	0.0034789	-0.012119	4.4999855	60.000000	CYT
0.0004688	10339.	22057298.	7.5642146	0.0035457	-0.012392	4.4883815	60.000000	CYT
0.0004788	10349.	21617694.	7.5462637	0.0036128	-0.012665	4.4894100	60.000000	CYT
0.0004888	10358.	21193742.	7.5310278	0.0036808	-0.012937	4.4952881	60.000000	CYT
0.0004988	10367.	20786308.	7.5169042	0.0037491	-0.013208	4.4988363	60.000000	CYT
0.0005088	10376.	20394557.	7.5037215	0.0038175	-0.013480	4.4997792	60.000000	CYT

Axial Thrust Force = 115.000 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
0.00000125	397.3090771	317847262.	38.1624877	0.00004770	0.00000520	0.2110983	1.2786277	
0.00000250	794.3567474	317742699.	27.6112359	0.00006903	-0.00001597	0.3033160	1.7922896	
0.00000375	1190.	317233358.	24.1001887	0.00009038	-0.00003712	0.3946289	2.3066080	
0.00000500	1582.	316487238.	22.3461609	0.0001117	-0.00005827	0.4849691	2.8211433	
0.00000625	1973.	315628526.	21.2943334	0.0001331	-0.00007941	0.5743198	3.3357854	
0.00000750	1973.	263023771.	17.4691353	0.0001310	-0.000124	0.5647193	3.1709619	C
0.00000875	1973.	225448947.	16.5383799	0.0001447	-0.000153	0.6212208	-3.697549	C
0.00001000	1973.	197267829.	15.8028831	0.0001580	-0.000182	0.6757618	-4.439064	C
0.00001125	1973.	175349181.	15.2030365	0.0001710	-0.000211	0.7286290	-5.189647	C
0.00001250	1973.	157814263.	14.7044921	0.0001838	-0.000241	0.7801739	-5.946997	C
0.00001375	1973.	143467512.	14.2824474	0.0001964	-0.000271	0.8305742	-6.709987	C
0.00001500	1973.	131511886.	13.9205845	0.0002088	-0.000301	0.8800158	-7.477396	C
0.00001625	2029.	124843625.	13.6064462	0.0002211	-0.000331	0.9286047	-8.248550	C
0.00001750	2119.	121071106.	13.3312896	0.0002333	-0.000362	0.9764546	-9.022695	C
0.00001875	2208.	117766748.	13.0888632	0.0002454	-0.000392	1.0236885	-9.798993	C
0.00002000	2297.	114833048.	12.8709008	0.0002574	-0.000423	1.0701449	-10.578678	C
0.00002125	2385.	112228189.	12.6768696	0.0002694	-0.000453	1.1161469	-11.359417	C
0.00002250	2473.	109890911.	12.5015246	0.0002813	-0.000484	1.1615881	-12.142030	C
0.00002375	2560.	107785867.	12.3429974	0.0002931	-0.000514	1.2065721	-12.925773	C
0.00002500	2647.	105875281.	12.1981056	0.0003050	-0.000545	1.2510392	-13.711123	C
0.00002625	2734.	104142673.	12.0673165	0.0003168	-0.000576	1.2952342	-14.496243	C
0.00002750	2820.	102548546.	11.9449695	0.0003285	-0.000607	1.3387691	-15.284112	C
0.00002875	2906.	101089816.	11.8336150	0.0003402	-0.000637	1.3820443	-16.071686	C
0.00003000	2992.	99749546.	11.7318802	0.0003520	-0.000668	1.4250593	-16.858964	C

0.00003125	3078.	98502637.	11.6355121	0.0003636	-0.000699	1.4674556	-17.648755 C
0.00003250	3164.	97348647.	11.5468128	0.0003753	-0.000730	1.5095880	-18.438304 C
0.00003375	3249.	96277439.	11.4649880	0.0003869	-0.000761	1.5514631	-19.227555 C
0.00003500	3335.	95280063.	11.3892779	0.0003986	-0.000791	1.5930772	-20.016533 C
0.00003625	3420.	94341756.	11.3166380	0.0004102	-0.000822	1.6341155	-20.807772 C
0.00003750	3505.	93463622.	11.2491177	0.0004218	-0.000853	1.6748991	-21.598709 C
0.00003875	3590.	92639826.	11.1862227	0.0004335	-0.000884	1.7154274	-22.389345 C
0.00004000	3675.	91865266.	11.1275207	0.0004451	-0.000915	1.7556996	-23.179676 C
0.00004125	3759.	91135457.	11.0726313	0.0004567	-0.000946	1.7957152	-23.969702 C
0.00004250	3844.	90443940.	11.0201752	0.0004684	-0.000977	1.8353199	-24.760709 C
0.00004375	3928.	89788049.	10.9701881	0.0004799	-0.001008	1.8745530	-25.552386 C
0.00004500	4012.	89166619.	10.9232163	0.0004915	-0.001038	1.9135316	-26.343753 C
0.00004625	4097.	88576846.	10.8790165	0.0005032	-0.001069	1.9522553	-27.134806 C
0.00004750	4181.	88016225.	10.8373708	0.0005148	-0.001100	1.9907232	-27.925547 C
0.00004875	4265.	87482504.	10.7980838	0.0005264	-0.001131	2.0289347	-28.715971 C
0.00005125	4433.	86487861.	10.7258994	0.0005497	-0.001193	2.1045859	-30.295869 C
0.00005375	4600.	85575751.	10.6594820	0.0005729	-0.001255	2.1788964	-31.877245 C
0.00005625	4766.	84737356.	10.5992468	0.0005962	-0.001316	2.2520859	-33.458166 C
0.00005875	4933.	83964133.	10.5449129	0.0006195	-0.001378	2.3242452	-35.037767 C
0.00006125	5099.	83248049.	10.4957652	0.0006429	-0.001440	2.3953689	-36.616034 C
0.00006375	5265.	82582330.	10.4512007	0.0006663	-0.001501	2.4654512	-38.192955 C
0.00006625	5430.	81961226.	10.4107074	0.0006897	-0.001563	2.5344863	-39.768516 C
0.00006875	5595.	81379820.	10.3738482	0.0007132	-0.001624	2.6024682	-41.342702 C
0.00007125	5759.	80832588.	10.3391470	0.0007367	-0.001686	2.6691660	-42.917775 C
0.00007375	5923.	80317186.	10.3073361	0.0007602	-0.001747	2.7347823	-44.491697 C
0.00007625	6087.	79830590.	10.2782663	0.0007837	-0.001809	2.7993394	-46.064171 C
0.00007875	6250.	79370011.	10.2516834	0.0008073	-0.001870	2.8628308	-47.635180 C
0.00008125	6413.	78933001.	10.2273646	0.0008310	-0.001932	2.9252503	-49.204709 C
0.00008375	6576.	78517406.	10.2051140	0.0008547	-0.001993	2.9865913	-50.772742 C
0.00008625	6738.	78121319.	10.1847585	0.0008784	-0.002054	3.0468472	-52.339260 C
0.00008875	6900.	77743046.	10.1661447	0.0009022	-0.002115	3.1060113	-53.904247 C
0.00009125	7061.	77381081.	10.1491359	0.0009261	-0.002176	3.1640766	-55.467686 C
0.00009375	7222.	77034076.	10.1336105	0.0009500	-0.002237	3.2210363	-57.029559 C
0.00009625	7382.	76700821.	10.1194593	0.0009740	-0.002299	3.2768833	-58.589847 C
0.00009875	7542.	76379562.	10.1065576	0.0009980	-0.002359	3.3316042	-60.000000 CY
0.0001013	7697.	76019588.	10.0927756	0.0010219	-0.002421	3.3847289	-60.000000 CY
0.0001038	7835.	75514825.	10.0735709	0.0010451	-0.002482	3.4352361	-60.000000 CY
0.0001063	7962.	74933712.	10.0516200	0.0010680	-0.002545	3.4837442	-60.000000 CY
0.0001088	8088.	74370519.	10.0308733	0.0010909	-0.002607	3.5311656	-60.000000 CY
0.0001113	8195.	73665096.	10.0029387	0.0011128	-0.002670	3.5756131	-60.000000 CY
0.0001138	8277.	72760779.	9.9655449	0.0011336	-0.002734	3.6165957	-60.000000 CY
0.0001163	8345.	71784567.	9.9247047	0.0011537	-0.002799	3.6555043	-60.000000 CY
0.0001188	8412.	70838887.	9.8854383	0.0011739	-0.002864	3.6935037	-60.000000 CY
0.0001213	8479.	69930630.	9.8480898	0.0011941	-0.002928	3.7306958	-60.000000 CY
0.0001238	8546.	69057516.	9.8125455	0.0012143	-0.002993	3.7670762	-60.000000 CY
0.0001263	8612.	68217444.	9.7787005	0.0012346	-0.003058	3.8026407	-60.000000 CY
0.0001288	8679.	67408477.	9.7464583	0.0012549	-0.003123	3.8373848	-60.000000 CY
0.0001313	8745.	66628825.	9.7157297	0.0012752	-0.003187	3.8713041	-60.000000 CY
0.0001338	8811.	65876565.	9.6862552	0.0012955	-0.003252	3.9043553	-60.000000 CY
0.0001363	8877.	65148632.	9.6569188	0.0013158	-0.003317	3.9363095	-60.000000 CY
0.0001388	8942.	64445529.	9.6289193	0.0013360	-0.003381	3.9674429	-60.000000 CY
0.0001413	9006.	63761769.	9.6019101	0.0013563	-0.003446	3.9976917	-60.000000 CY
0.0001438	9068.	63084453.	9.5750403	0.0013764	-0.003511	4.0268885	-60.000000 CY
0.0001463	9118.	62343977.	9.5435019	0.0013957	-0.003577	4.0540546	-60.000000 CY
0.0001488	9156.	61554230.	9.5081019	0.0014143	-0.003643	4.0794115	-60.000000 CY
0.0001588	9267.	58376846.	9.3609298	0.0014860	-0.003911	4.1701922	-60.000000 CY
0.0001688	9371.	55530143.	9.2254718	0.0015568	-0.004181	4.2489239	-60.000000 CY
0.0001788	9472.	52991410.	9.1072874	0.0016279	-0.004450	4.3172782	-60.000000 CY
0.0001888	9572.	50711893.	9.0038742	0.0016995	-0.004718	4.3751125	-60.000000 CY
0.0001988	9668.	48645277.	8.9080297	0.0017705	-0.004987	4.4216409	-60.000000 CY
0.0002088	9763.	46768258.	8.8238583	0.0018420	-0.005256	4.4576018	-60.000000 CY
0.0002188	9856.	45054556.	8.7498395	0.0019140	-0.005523	4.4827551	-60.000000 CY
0.0002288	9947.	43482470.	8.6847243	0.0019866	-0.005791	4.4968481	-60.000000 CY
0.0002388	10030.	42012230.	8.6217650	0.0020584	-0.006059	4.4953940	-60.000000 CY
0.0002488	10092.	40572066.	8.5529996	0.0021276	-0.006330	4.4999986	-60.000000 CY
0.0002588	10127.	39137669.	8.4756900	0.0021931	-0.006604	4.4991470	-60.000000 CY
0.0002688	10150.	37768807.	8.3996329	0.0022574	-0.006880	4.4955233	-60.000000 CY
0.0002788	10173.	36494654.	8.3306583	0.0023222	-0.007155	4.4998823	-60.000000 CY
0.0002888	10193.	35299568.	8.2628128	0.0023859	-0.007432	4.4963994	-60.000000 CY

0.0002988	10212.	34182163.	8.2007238	0.0024500	-0.007708	4.4999314	-60.000000	CY
0.0003088	10230.	33134124.	8.1442233	0.0025145	-0.007983	4.4954632	-60.000000	CY
0.0003188	10248.	32150033.	8.0923480	0.0025794	-0.008258	4.4996628	-60.000000	CY
0.0003288	10265.	31223469.	8.0449365	0.0026448	-0.008533	4.4923562	-60.000000	CY
0.0003388	10281.	30349862.	8.0013739	0.0027105	-0.008807	4.4983019	-60.000000	CY
0.0003488	10296.	29523067.	7.9583278	0.0027755	-0.009082	4.4984856	-60.000000	CY
0.0003588	10310.	28739691.	7.9178802	0.0028405	-0.009357	4.4936821	-60.000000	CY
0.0003688	10324.	27997949.	7.8803031	0.0029059	-0.009632	4.4986115	-60.000000	CY
0.0003788	10338.	27294409.	7.8454530	0.0029715	-0.009906	4.4981391	-60.000000	CY
0.0003888	10351.	26625507.	7.8134748	0.0030375	-0.010180	4.4915510	-60.000000	CYT
0.0003988	10363.	25989517.	7.7836506	0.0031037	-0.010454	4.4972621	-60.000000	CYT
0.0004088	10376.	25384009.	7.7558345	0.0031702	-0.010727	4.4998439	-60.000000	CYT
0.0004188	10388.	24806260.	7.7302273	0.0032370	-0.011000	4.4901889	-60.000000	CYT
0.0004288	10399.	24254735.	7.7064186	0.0033041	-0.011273	4.4925458	-60.000000	CYT
0.0004388	10411.	23727707.	7.6842480	0.0033715	-0.011546	4.4975805	60.000000	CYT
0.0004488	10422.	23223681.	7.6635187	0.0034390	-0.011818	4.4998602	60.000000	CYT
0.0004588	10432.	22740504.	7.6437544	0.0035066	-0.012091	4.4909525	60.000000	CYT
0.0004688	10442.	22276893.	7.6237918	0.0035737	-0.012364	4.4886501	60.000000	CYT
0.0004788	10451.	21830700.	7.6063521	0.0036415	-0.012636	4.4947573	60.000000	CYT
0.0004888	10460.	21401846.	7.5904915	0.0037099	-0.012908	4.4985690	60.000000	CYT
0.0004988	10469.	20989853.	7.5756570	0.0037784	-0.013179	4.4999907	60.000000	CYT
0.0005088	10477.	20593269.	7.5622053	0.0038473	-0.013450	4.4886173	60.000000	CYT

Axial Thrust Force = 140.000 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
0.00000125	396.2591266	317007301.	42.7930518	0.00005349	0.00001099	0.2364804	1.4464856	
0.00000250	792.4394772	316975791.	29.9277550	0.00007482	-0.00001018	0.3284368	1.9602372	
0.00000375	1187.	316640336.	25.6482264	0.00009618	-0.00003132	0.4195338	2.4749571	
0.00000500	1580.	316017008.	23.5109773	0.0001176	-0.00005245	0.5096783	2.9900417	
0.00000625	1970.	315240800.	22.2295830	0.0001389	-0.00007357	0.5988410	3.5052994	
0.00000750	2358.	314379905.	21.3758064	0.0001603	-0.00009468	0.6870113	4.0206629	
0.00000875	2358.	269468490.	17.7693003	0.0001555	-0.000142	0.6660727	3.7756223	C
0.00001000	2358.	235784929.	16.9363555	0.0001694	-0.000171	0.7226218	-4.110357	C
0.00001125	2358.	209586604.	16.2581300	0.0001829	-0.000200	0.7773525	-4.845423	C
0.00001250	2358.	188627943.	15.6928764	0.0001962	-0.000229	0.8305327	-5.588707	C
0.00001375	2358.	171479948.	15.2136575	0.0002092	-0.000258	0.8824021	-6.338667	C
0.00001500	2358.	157189953.	14.8020598	0.0002220	-0.000288	0.9331664	-7.093954	C
0.00001625	2358.	145098418.	14.4434670	0.0002347	-0.000318	0.9829053	-7.854104	C
0.00001750	2358.	134734245.	14.1282135	0.0002472	-0.000348	1.0317497	-8.618257	C
0.00001875	2389.	127397559.	13.8484337	0.0002597	-0.000378	1.0797703	-9.385977	C
0.00002000	2479.	123946026.	13.5989302	0.0002720	-0.000408	1.1270903	-10.156420	C
0.00002125	2569.	120871527.	13.3757355	0.0002842	-0.000438	1.1738305	-10.928740	C
0.00002250	2657.	118105634.	13.1733717	0.0002964	-0.000469	1.2199017	-11.703650	C
0.00002375	2746.	115609450.	12.9897966	0.0003085	-0.000499	1.2654239	-12.480290	C
0.00002500	2834.	113345655.	12.8227186	0.0003206	-0.000529	1.3104519	-13.258279	C
0.00002625	2921.	111280996.	12.6695092	0.0003326	-0.000560	1.3549625	-14.037824	C
0.00002750	3008.	109389792.	12.5285393	0.0003445	-0.000590	1.3989871	-14.818715	C
0.00002875	3095.	107658102.	12.3998778	0.0003565	-0.000621	1.4427066	-15.599565	C
0.00003000	3182.	106051571.	12.2787855	0.0003684	-0.000652	1.4857676	-16.383157	C
0.00003125	3268.	104570436.	12.1677156	0.0003802	-0.000682	1.5285614	-17.166445	C
0.00003250	3354.	103199631.	12.0653637	0.0003921	-0.000713	1.5710698	-17.949570	C
0.00003375	3440.	101915636.	11.9678987	0.0004039	-0.000744	1.6129443	-18.735332	C
0.00003500	3525.	100720631.	11.8776953	0.0004157	-0.000774	1.6545548	-19.520789	C
0.00003625	3611.	99605398.	11.7940033	0.0004275	-0.000805	1.6959007	-20.305941	C
0.00003750	3696.	98560348.	11.7156974	0.0004393	-0.000836	1.7369184	-21.091304	C
0.00003875	3781.	97573348.	11.6406625	0.0004511	-0.000866	1.7773924	-21.878668	C
0.00004000	3866.	96645691.	11.5705827	0.0004628	-0.000897	1.8176047	-22.665724	C
0.00004125	3951.	95771973.	11.5050085	0.0004746	-0.000928	1.8575545	-23.452471	C
0.00004250	4035.	94947425.	11.4435435	0.0004864	-0.000959	1.8972413	-24.238907	C
0.00004375	4120.	94167408.	11.3856883	0.0004981	-0.000989	1.9366422	-25.025220	C
0.00004500	4204.	93423608.	11.3294917	0.0005098	-0.001020	1.9755067	-25.813563	C
0.00004625	4288.	92718005.	11.2765675	0.0005215	-0.001051	2.0141107	-26.601591	C
0.00004750	4372.	92047576.	11.2266585	0.0005333	-0.001082	2.0524535	-27.389303	C
0.00004875	4456.	91409607.	11.1795337	0.0005450	-0.001112	2.0905343	-28.176697	C

0.00005125	4624.	90221516.	11.0928255	0.0005685	-0.001174	2.1659073	-29.750525	C
0.00005375	4791.	89134018.	11.0137123	0.0005920	-0.001236	2.2400019	-31.325088	C
0.00005625	4958.	88133335.	10.9409946	0.0006154	-0.001297	2.3127891	-32.900690	C
0.00005875	5124.	87211422.	10.8752427	0.0006389	-0.001359	2.3845257	-34.474968	C
0.00006125	5289.	86358577.	10.8156108	0.0006625	-0.001420	2.4552060	-36.047909	C
0.00006375	5455.	85566624.	10.7613859	0.0006860	-0.001481	2.5248240	-37.619500	C
0.00006625	5620.	84828617.	10.7119629	0.0007097	-0.001543	2.5933740	-39.189729	C
0.00006875	5784.	84136067.	10.6652137	0.0007332	-0.001604	2.6605313	-40.761792	C
0.00007125	5948.	83486608.	10.6223614	0.0007568	-0.001666	2.7266085	-42.332583	C
0.00007375	6112.	82875917.	10.5830823	0.0007805	-0.001727	2.7916137	-43.901945	C
0.00007625	6275.	82300131.	10.5470316	0.0008042	-0.001788	2.8555404	-45.469864	C
0.00007875	6438.	81755881.	10.5139088	0.0008280	-0.001850	2.9183824	-47.036323	C
0.00008125	6601.	81240208.	10.4834501	0.0008518	-0.001911	2.9801331	-48.601308	C
0.00008375	6763.	80750507.	10.4554238	0.0008756	-0.001972	3.0407859	-50.164802	C
0.00008625	6925.	80284475.	10.4296248	0.0008996	-0.002033	3.1003341	-51.726788	C
0.00008875	7086.	79840067.	10.4058714	0.0009235	-0.002094	3.1587709	-53.287251	C
0.00009125	7247.	79415461.	10.3840019	0.0009475	-0.002155	3.2160893	-54.846172	C
0.00009375	7407.	79008821.	10.3636356	0.0009716	-0.002216	3.2722303	-56.404178	C
0.00009625	7567.	78618502.	10.3443973	0.0009956	-0.002277	3.3271318	-57.961988	C
0.00009875	7727.	78243668.	10.3267054	0.0010198	-0.002338	3.3809042	-59.518160	C
0.0001013	7885.	77873759.	10.3100653	0.0010439	-0.002399	3.4334545	-60.000000	CY
0.0001038	8028.	77381458.	10.2890639	0.0010675	-0.002460	3.4835961	-60.000000	CY
0.0001063	8158.	76777842.	10.2639331	0.0010905	-0.002522	3.5313961	-60.000000	CY
0.0001088	8284.	76171174.	10.2392197	0.0011135	-0.002584	3.5778814	-60.000000	CY
0.0001113	8402.	75524920.	10.2131366	0.0011362	-0.002646	3.6226756	-60.000000	CY
0.0001138	8497.	74695370.	10.1788414	0.0011578	-0.002710	3.6642921	-60.000000	CY
0.0001163	8567.	73696612.	10.1366846	0.0011784	-0.002774	3.7028438	-60.000000	CY
0.0001188	8634.	72711023.	10.0952899	0.0011988	-0.002839	3.7402629	-60.000000	CY
0.0001213	8701.	71764410.	10.0559078	0.0012193	-0.002903	3.7768493	-60.000000	CY
0.0001238	8768.	70853416.	10.0178925	0.0012397	-0.002968	3.8124840	-60.000000	CY
0.0001263	8834.	69974818.	9.9805549	0.0012600	-0.003032	3.8470394	-60.000000	CY
0.0001288	8900.	69128796.	9.9449628	0.0012804	-0.003097	3.8807673	-60.000000	CY
0.0001313	8966.	68313475.	9.9110187	0.0013008	-0.003162	3.9136631	-60.000000	CY
0.0001338	9032.	67527122.	9.8786330	0.0013213	-0.003226	3.9457223	-60.000000	CY
0.0001363	9097.	66768127.	9.8477222	0.0013418	-0.003291	3.9769401	-60.000000	CY
0.0001388	9162.	66035001.	9.8182093	0.0013623	-0.003355	4.0073117	-60.000000	CY
0.0001413	9227.	65326356.	9.7900225	0.0013828	-0.003420	4.0368324	-60.000000	CY
0.0001438	9291.	64630357.	9.7624074	0.0014033	-0.003484	4.0653590	-60.000000	CY
0.0001463	9348.	63920867.	9.7336221	0.0014235	-0.003549	4.0925605	-60.000000	CY
0.0001488	9397.	63171529.	9.7018651	0.0014432	-0.003614	4.1181156	-60.000000	CY
0.0001588	9513.	59923325.	9.5474133	0.0015157	-0.003882	4.2052598	-60.000000	CY
0.0001688	9617.	56990168.	9.4093270	0.0015878	-0.004150	4.2808087	-60.000000	CY
0.0001788	9718.	54368666.	9.2858604	0.0016598	-0.004418	4.3450672	-60.000000	CY
0.0001888	9817.	52009974.	9.1750291	0.0017318	-0.004686	4.3981491	-60.000000	CY
0.0001988	9914.	49879321.	9.0779807	0.0018042	-0.004953	4.4404091	-60.000000	CY
0.0002088	10008.	47942211.	8.9916968	0.0018770	-0.005220	4.4715202	-60.000000	CY
0.0002188	10099.	46168476.	8.9118985	0.0019495	-0.005488	4.4912143	-60.000000	CY
0.0002288	10189.	44541385.	8.8416055	0.0020225	-0.005755	4.4996727	-60.000000	CY
0.0002388	10275.	43036018.	8.7790948	0.0020960	-0.006021	4.4992137	-60.000000	CY
0.0002488	10344.	41585921.	8.7157498	0.0021680	-0.006289	4.4978149	-60.000000	CY
0.0002588	10388.	40146872.	8.6432358	0.0022364	-0.006561	4.4941449	-60.000000	CY
0.0002688	10413.	38747805.	8.5646357	0.0023017	-0.006836	4.4996044	-60.000000	CY
0.0002788	10435.	37434024.	8.4914145	0.0023670	-0.007111	4.4959260	-60.000000	CY
0.0002888	10455.	36208353.	8.4247256	0.0024326	-0.007385	4.4998911	-60.000000	CY
0.0002988	10475.	35061333.	8.3641533	0.0024988	-0.007659	4.4958763	-60.000000	CY
0.0003088	10493.	33984719.	8.3067489	0.0025647	-0.007933	4.4997998	-60.000000	CY
0.0003188	10509.	32970491.	8.2514875	0.0026302	-0.008207	4.4936816	-60.000000	CY
0.0003288	10525.	32016270.	8.2006490	0.0026960	-0.008482	4.4989010	-60.000000	CY
0.0003388	10541.	31116741.	8.1538596	0.0027621	-0.008755	4.4952019	-60.000000	CY
0.0003488	10556.	30266867.	8.1109332	0.0028287	-0.009029	4.4957732	-60.000000	CY
0.0003588	10570.	29463367.	8.0711365	0.0028955	-0.009302	4.4995510	-60.000000	CY
0.0003688	10584.	28701915.	8.0345029	0.0029627	-0.009575	4.4918526	-60.000000	CY
0.0003788	10597.	27979379.	8.0006831	0.0030303	-0.009847	4.4952471	-60.000000	CYT
0.0003888	10610.	27292036.	7.9669675	0.0030972	-0.010120	4.4991792	-60.000000	CYT
0.0003988	10622.	26637648.	7.9346088	0.0031639	-0.010394	4.4959315	-60.000000	CYT
0.0004088	10633.	26014143.	7.9047296	0.0032311	-0.010666	4.4909147	-60.000000	CYT
0.0004188	10645.	25419819.	7.8768184	0.0032984	-0.010939	4.4966193	-60.000000	CYT
0.0004288	10656.	24852626.	7.8507498	0.0033660	-0.011211	4.4995705	-60.000000	CYT
0.0004388	10666.	24310493.	7.8265589	0.0034339	-0.011484	4.4939797	-60.000000	CYT

0.0004488	10677.	23791768.	7.8041087	0.0035021	-0.011755	4.4886143	60.0000000	CYT
0.0004588	10686.	23293933.	7.7839965	0.0035709	-0.012027	4.4948745	60.0000000	CYT
0.0004688	10695.	22815842.	7.7659437	0.0036403	-0.012297	4.4987123	60.0000000	CYT
0.0004788	10704.	22357335.	7.7490572	0.0037099	-0.012568	4.4999883	60.0000000	CYT
0.0004888	10712.	21916652.	7.7337046	0.0037798	-0.012838	4.4871257	60.0000000	CYT
0.0004988	10720.	21493322.	7.7193238	0.0038500	-0.013107	4.4885790	60.0000000	CYT

Axial Thrust Force = 290.000 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
0.00000125	389.8988290	311919063.	70.8436603	0.00008855	0.00004605	0.3886280	2.4633202	
0.00000250	779.7723193	311908928.	43.9538937	0.0001099	0.00002488	0.4789286	2.9771323	
0.00000375	1170.	311890043.	35.0048875	0.0001313	0.00000377	0.5684511	3.4924940	
0.00000500	1559.	311839377.	30.5407161	0.0001527	-0.00001730	0.6571806	4.0093539	
0.00000625	1948.	311625593.	27.8681039	0.0001742	-0.00003832	0.7450487	4.5272813	
0.00000750	2334.	311225477.	26.0893217	0.0001957	-0.00005933	0.8319907	5.0458525	
0.00000875	2718.	310679633.	24.8204007	0.0002172	-0.00008032	0.9179719	5.5648392	
0.00001000	3100.	310026946.	23.8697148	0.0002387	-0.000101	1.0029732	6.0841173	
0.00001125	3100.	275579507.	21.5062235	0.0002419	-0.000141	1.0149998	6.0735429	C
0.00001250	3100.	248021556.	20.6294197	0.0002579	-0.000167	1.0769151	6.4305397	C
0.00001375	3100.	225474142.	19.8818663	0.0002734	-0.000194	1.1366624	6.7755067	C
0.00001500	3100.	206684630.	19.2346910	0.0002885	-0.000221	1.1944835	7.1099406	C
0.00001625	3115.	191707463.	18.6677457	0.0003034	-0.000249	1.2506023	7.4352627	C
0.00001750	3230.	184570551.	18.1678019	0.0003179	-0.000277	1.3053128	7.7534845	C
0.00001875	3340.	178145943.	17.7209331	0.0003323	-0.000305	1.3586014	8.0643194	C
0.00002000	3447.	172363122.	17.3203569	0.0003464	-0.000334	1.4107289	8.3696070	C
0.00002125	3552.	167132547.	16.9589346	0.0003604	-0.000362	1.4617941	-8.720594	C
0.00002250	3654.	162381096.	16.6310207	0.0003742	-0.000391	1.5118852	-9.447534	C
0.00002375	3754.	158046383.	16.3319437	0.0003879	-0.000420	1.5610695	-10.178387	C
0.00002500	3852.	154077769.	16.0580446	0.0004015	-0.000449	1.6094195	-10.912668	C
0.00002625	3949.	150434402.	15.8065329	0.0004149	-0.000478	1.6570212	-11.649764	C
0.00002750	4044.	147056558.	15.5725564	0.0004282	-0.000507	1.7037081	-12.391111	C
0.00002875	4138.	143939085.	15.3564623	0.0004415	-0.000536	1.7497594	-13.134512	C
0.00003000	4232.	141052637.	15.1563279	0.0004547	-0.000565	1.7952141	-13.879695	C
0.00003125	4324.	138354348.	14.9683282	0.0004678	-0.000595	1.8398710	-14.628390	C
0.00003250	4415.	135853446.	14.7945332	0.0004808	-0.000624	1.8841277	-15.377327	C
0.00003375	4506.	133497845.	14.6296130	0.0004937	-0.000654	1.9275540	-16.130179	C
0.00003500	4596.	131305676.	14.4767248	0.0005067	-0.000683	1.9706467	-16.882774	C
0.00003625	4685.	129236007.	14.3314033	0.0005195	-0.000713	2.0130144	-17.638500	C
0.00003750	4774.	127295419.	14.1953886	0.0005323	-0.000743	2.0549768	-18.394640	C
0.00003875	4862.	125468203.	14.0672428	0.0005451	-0.000772	2.0964668	-19.151798	C
0.00004000	4949.	123735739.	13.9450424	0.0005578	-0.000802	2.1373327	-19.911351	C
0.00004125	5037.	122105175.	13.8305520	0.0005705	-0.000832	2.1778887	-20.670540	C
0.00004250	5124.	120558639.	13.7216542	0.0005832	-0.000862	2.2179381	-21.431136	C
0.00004375	5210.	119086836.	13.6175155	0.0005958	-0.000892	2.2574357	-22.193590	C
0.00004500	5296.	117694025.	13.5194379	0.0006084	-0.000922	2.2966276	-22.955684	C
0.00004625	5382.	116373262.	13.4268341	0.0006210	-0.000952	2.3354989	-23.717546	C
0.00004750	5467.	115104639.	13.3366917	0.0006335	-0.000982	2.3736700	-24.482732	C
0.00004875	5553.	113898574.	13.2514249	0.0006460	-0.001011	2.4115392	-25.247561	C
0.00005125	5722.	111655765.	13.0940942	0.0006711	-0.001071	2.4863685	-26.776141	C
0.00005375	5890.	109590540.	12.9478120	0.0006959	-0.001132	2.5592635	-28.310311	C
0.00005625	6058.	107699749.	12.8152921	0.0007209	-0.001192	2.6309382	-29.843243	C
0.00005875	6225.	105953733.	12.6930343	0.0007457	-0.001252	2.7010947	-31.377905	C
0.00006125	6390.	104333897.	12.5795496	0.0007705	-0.001312	2.7697030	-32.914712	C
0.00006375	6556.	102833639.	12.4757558	0.0007953	-0.001372	2.8371150	-34.450060	C
0.00006625	6720.	101435629.	12.3795268	0.0008201	-0.001432	2.9031401	-35.985921	C
0.00006875	6884.	100124690.	12.2889040	0.0008449	-0.001493	2.9675763	-37.524560	C
0.00007125	7047.	98899110.	12.2053639	0.0008696	-0.001553	3.0308181	-39.061704	C
0.00007375	7209.	97750146.	12.1281930	0.0008945	-0.001613	3.0928580	-40.597340	C
0.00007625	7371.	96668760.	12.0562857	0.0009193	-0.001673	3.1535978	-42.132528	C
0.00007875	7532.	95644081.	11.9876281	0.0009440	-0.001733	3.2127485	-43.670717	C
0.00008125	7692.	94676594.	11.9238564	0.0009688	-0.001794	3.2706966	-45.207351	C
0.00008375	7852.	93761130.	11.8645397	0.0009937	-0.001854	3.3274348	-46.742412	C
0.00008625	8012.	92893108.	11.8092970	0.0010186	-0.001914	3.3829552	-48.275883	C
0.00008875	8171.	92068464.	11.7577908	0.0010435	-0.001974	3.4372503	-49.807749	C

0.00009125	8329.	91281798.	11.7089359	0.0010684	-0.002034	3.4901596	-51.340066	C
0.00009375	8487.	90529551.	11.6622837	0.0010933	-0.002094	3.5416395	-52.873479	C
0.00009625	8644.	89811276.	11.6186555	0.0011183	-0.002154	3.5918896	-54.405215	C
0.00009875	8801.	89124343.	11.5778285	0.0011433	-0.002214	3.6409014	-55.935256	C
0.0001013	8957.	88466376.	11.5396019	0.0011684	-0.002274	3.6886667	-57.463581	C
0.0001038	9113.	87835230.	11.5037943	0.0011935	-0.002334	3.7351769	-58.990171	C
0.0001063	9268.	87226853.	11.4701614	0.0012187	-0.002394	3.7804079	-60.000000	CY
0.0001088	9416.	86582692.	11.4363457	0.0012437	-0.002454	3.8239324	-60.000000	CY
0.0001113	9548.	85820538.	11.3989387	0.0012681	-0.002514	3.8651391	-60.000000	CY
0.0001138	9671.	85016026.	11.3596281	0.0012922	-0.002575	3.9043898	-60.000000	CY
0.0001163	9793.	84239757.	11.3220418	0.0013162	-0.002636	3.9423943	-60.000000	CY
0.0001188	9903.	83394543.	11.2821110	0.0013398	-0.002698	3.9784321	-60.000000	CY
0.0001213	9988.	82376492.	11.2348872	0.0013622	-0.002760	4.0116611	-60.000000	CY
0.0001238	10057.	81268434.	11.1839315	0.0013840	-0.002823	4.0427963	-60.000000	CY
0.0001263	10123.	80181401.	11.1343552	0.0014057	-0.002887	4.0727942	-60.000000	CY
0.0001288	10189.	79134545.	11.0870477	0.0014275	-0.002950	4.1018336	-60.000000	CY
0.0001313	10254.	78124583.	11.0414967	0.0014492	-0.003013	4.1298431	-60.000000	CY
0.0001338	10318.	77146223.	10.9962972	0.0014708	-0.003077	4.1566068	-60.000000	CY
0.0001363	10383.	76201880.	10.9530867	0.0014924	-0.003140	4.1824199	-60.000000	CY
0.0001388	10446.	75289699.	10.9117607	0.0015140	-0.003203	4.2072768	-60.000000	CY
0.0001413	10510.	74407955.	10.8722221	0.0015357	-0.003267	4.2311712	-60.000000	CY
0.0001438	10574.	73555042.	10.8343808	0.0015574	-0.003330	4.2540971	-60.000000	CY
0.0001463	10637.	72729462.	10.7981527	0.0015792	-0.003393	4.2760483	-60.000000	CY
0.0001488	10700.	71929821.	10.7634595	0.0016011	-0.003456	4.2970184	-60.000000	CY
0.0001588	10926.	68823969.	10.6258127	0.0016868	-0.003711	4.3694031	-60.000000	CY
0.0001688	11044.	65443500.	10.4626028	0.0017656	-0.003972	4.4217556	-60.000000	CY
0.0001788	11145.	62347109.	10.3129089	0.0018434	-0.004234	4.4604144	-60.000000	CY
0.0001888	11241.	59555728.	10.1780214	0.0019211	-0.004496	4.4859787	-60.000000	CY
0.0001988	11335.	57032216.	10.0599922	0.0019994	-0.004758	4.4986184	-60.000000	CY
0.0002088	11425.	54729523.	9.9522881	0.0020775	-0.005020	4.4990140	-60.000000	CY
0.0002188	11511.	52621143.	9.8562885	0.0021561	-0.005281	4.4989496	-60.000000	CY
0.0002288	11594.	50684285.	9.7720199	0.0022353	-0.005542	4.4984144	-60.000000	CY
0.0002388	11674.	48898007.	9.6979461	0.0023154	-0.005802	4.4971221	-60.000000	CY
0.0002488	11751.	47240476.	9.6287157	0.0023951	-0.006062	4.4947993	-60.000000	CY
0.0002588	11825.	45701549.	9.5670849	0.0024755	-0.006322	4.4999075	-60.000000	CY
0.0002688	11891.	44245515.	9.5088633	0.0025555	-0.006582	4.4982793	-60.000000	CY
0.0002788	11938.	42826936.	9.4463701	0.0026332	-0.006844	4.4938305	-60.000000	CY
0.0002888	11966.	41441153.	9.3791237	0.0027082	-0.007109	4.4990686	-60.000000	CY
0.0002988	11985.	40115903.	9.3097617	0.0027813	-0.007376	4.4929524	-60.000000	CY
0.0003088	12000.	38867404.	9.2431276	0.0028538	-0.007644	4.4982756	-60.000000	CY
0.0003188	12015.	37695628.	9.1817214	0.0029267	-0.007911	4.4982017	-60.000000	CY
0.0003288	12030.	36592623.	9.1254887	0.0030000	-0.008177	4.4956014	-60.000000	CYT
0.0003388	12044.	35553428.	9.0734717	0.0030736	-0.008444	4.4994939	60.000000	CYT
0.0003488	12057.	34572011.	9.0255723	0.0031477	-0.008710	4.4923045	60.000000	CYT
0.0003588	12069.	33641558.	8.9783752	0.0032210	-0.008977	4.4958935	60.000000	CYT
0.0003688	12079.	32756373.	8.9346870	0.0032947	-0.009243	4.4994327	60.000000	CYT
0.0003788	12088.	31916116.	8.8945547	0.0033688	-0.009509	4.4940042	60.000000	CYT
0.0003888	12097.	31117907.	8.8573886	0.0034433	-0.009774	4.4932659	60.000000	CYT
0.0003988	12105.	30356333.	8.8243181	0.0035187	-0.010039	4.4981002	60.000000	CYT
0.0004088	12111.	29629919.	8.7943243	0.0035947	-0.010303	4.4999799	60.000000	CYT
0.0004188	12117.	28936835.	8.7668206	0.0036711	-0.010566	4.4875822	60.000000	CYT
0.0004288	12123.	28275319.	8.7412611	0.0037478	-0.010830	4.4936654	60.000000	CYT
0.0004388	12127.	27640847.	8.7190791	0.0038255	-0.011092	4.4982117	60.000000	CYT

Axial Thrust Force = 395.000 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
0.00000125	385.3828660	308306293.	90.7602448	0.0001135	0.00007095	0.4949781	3.1852964	
0.00000250	770.7414346	308296574.	53.9125695	0.0001348	0.00004978	0.5841006	3.6991363	
0.00000375	1156.	308277643.	41.6444310	0.0001562	0.00002867	0.6724447	4.2145444	
0.00000500	1541.	308250524.	35.5211787	0.0001776	0.00000761	0.7600026	4.7315209	
0.00000625	1926.	308209645.	31.8557975	0.0001991	-0.00001340	0.8467645	5.2500508	
0.00000750	2311.	308080675.	29.4181322	0.0002206	0.00003436	0.9326862	5.7698688	
0.00000875	2693.	307809660.	27.6804466	0.0002422	-0.00005530	1.0177066	6.2905758	
0.00001000	3074.	307405423.	26.3793532	0.0002638	-0.00007621	1.1017866	6.8119124	

0.00001125	3453.	306890737.	25.3688175	0.0002854	-0.00009710	1.1849009	7.3337143
0.00001250	3453.	276201663.	23.4744954	0.0002934	-0.000132	1.2150236	7.4618796 C
0.00001375	3453.	251092421.	22.5796504	0.0003105	-0.000157	1.2793772	7.8512479 C
0.00001500	3461.	230737959.	21.8045622	0.0003271	-0.000183	1.3414333	8.2278345 C
0.00001625	3607.	221994994.	21.1260593	0.0003433	-0.000209	1.4015114	8.5937428 C
0.00001750	3746.	214030730.	20.5261341	0.0003592	-0.000236	1.4598254	8.9503381 C
0.00001875	3876.	206746215.	19.9901405	0.0003748	-0.000263	1.5164826	9.2982014 C
0.00002000	4002.	200096576.	19.5089277	0.0003902	-0.000290	1.5717203	9.6389781 C
0.00002125	4122.	193985973.	19.0727734	0.0004053	-0.000317	1.6255590	9.9726342 C
0.00002250	4238.	188377607.	18.6763468	0.0004202	-0.000345	1.6781983	10.3005913 C
0.00002375	4351.	183210898.	18.3139262	0.0004350	-0.000373	1.7297037	10.6232292 C
0.00002500	4461.	178436703.	17.9809964	0.0004495	-0.000400	1.7801445	10.9409725 C
0.00002625	4568.	174014528.	17.6739658	0.0004639	-0.000429	1.8295935	11.2542934 C
0.00002750	4673.	169911503.	17.3900315	0.0004782	-0.000457	1.8781343	11.5637751 C
0.00002875	4775.	166099970.	17.1269734	0.0004924	-0.000485	1.9258567	11.8700767 C
0.00003000	4876.	162541764.	16.8818172	0.0005065	-0.000514	1.9727343	-12.378519 C
0.00003125	4975.	159214319.	16.6527648	0.0005204	-0.000542	2.0188149	-13.101869 C
0.00003250	5074.	156110490.	16.4394879	0.0005343	-0.000571	2.0642732	-13.826958 C
0.00003375	5170.	153189714.	16.2387397	0.0005481	-0.000599	2.1089494	-14.555246 C
0.00003500	5266.	150446221.	16.0502338	0.0005618	-0.000628	2.1529737	-15.285663 C
0.00003625	5360.	147864882.	15.8729916	0.0005754	-0.000657	2.1963862	-16.017905 C
0.00003750	5453.	145424689.	15.7052298	0.0005889	-0.000686	2.2391142	-16.752688 C
0.00003875	5546.	143122475.	15.5470935	0.0006024	-0.000715	2.2812957	-17.488816 C
0.00004000	5638.	140942622.	15.3972570	0.0006159	-0.000744	2.3228817	-18.226782 C
0.00004125	5729.	138873186.	15.2548578	0.0006293	-0.000773	2.3638641	-18.966714 C
0.00004250	5819.	136919754.	15.1209246	0.0006426	-0.000802	2.4044689	-19.706535 C
0.00004375	5908.	135046860.	14.9916379	0.0006559	-0.000832	2.4442840	-20.450172 C
0.00004500	5997.	133274662.	14.8698484	0.0006691	-0.000861	2.4837599	-21.193398 C
0.00004625	6086.	131587224.	14.7539251	0.0006824	-0.000890	2.5227542	-21.937585 C
0.00004750	6174.	129968763.	14.6421911	0.0006955	-0.000919	2.5610996	-22.684407 C
0.00004875	6261.	128430277.	14.5364734	0.0007087	-0.000949	2.5991103	-23.430823 C
0.00005125	6434.	125547264.	14.3380491	0.0007348	-0.001008	2.6736417	-24.927312 C
0.00005375	6606.	122905455.	14.1567538	0.0007609	-0.001067	2.7464819	-26.425872 C
0.00005625	6776.	120465531.	13.9888990	0.0007869	-0.001126	2.8174261	-27.928796 C
0.00005875	6945.	118215396.	13.8349374	0.0008128	-0.001185	2.8868433	-29.432388 C
0.00006125	7113.	116126220.	13.6920132	0.0008386	-0.001244	2.9545510	-30.938699 C
0.00006375	7279.	114181541.	13.5592410	0.0008644	-0.001303	3.0206332	-32.446966 C
0.00006625	7445.	112375198.	13.4373255	0.0008902	-0.001362	3.0854114	-33.953626 C
0.00006875	7609.	110675057.	13.3215772	0.0009159	-0.001422	3.1482818	-35.465668 C
0.00007125	7772.	109085409.	13.2145060	0.0009415	-0.001481	3.2098183	-36.976565 C
0.00007375	7935.	107596020.	13.1154557	0.0009673	-0.001540	3.2700535	-38.485831 C
0.00007625	8097.	106187325.	13.0213363	0.0009929	-0.001600	3.3285750	-39.998557 C
0.00007875	8258.	104857667.	12.9330891	0.0010185	-0.001659	3.3856519	-41.511520 C
0.00008125	8418.	103603048.	12.8509784	0.0010441	-0.001718	3.4414283	-43.022821 C
0.00008375	8577.	102416691.	12.7744615	0.0010699	-0.001778	3.4958961	-44.532439 C
0.00008625	8736.	101286626.	12.7013536	0.0010955	-0.001837	3.5487420	-46.044627 C
0.00008875	8894.	100211091.	12.6321950	0.0011211	-0.001896	3.6001293	-47.557250 C
0.00009125	9051.	99188407.	12.5674794	0.0011468	-0.001956	3.6502062	-49.068146 C
0.00009375	9208.	98214282.	12.5068582	0.0011725	-0.002015	3.6989640	-50.577293 C
0.00009625	9364.	97284880.	12.4500192	0.0011983	-0.002074	3.7463938	-52.084671 C
0.00009875	9519.	96395306.	12.3961738	0.0012241	-0.002133	3.7923965	-53.591720 C
0.0001013	9673.	95540012.	12.3441617	0.0012498	-0.002193	3.8368061	-55.101192 C
0.0001038	9827.	94720470.	12.2952671	0.0012756	-0.002252	3.8798825	-56.608827 C
0.0001063	9980.	93934093.	12.2492768	0.0013015	-0.002311	3.9216160	-58.114603 C
0.0001088	10133.	93178536.	12.2059977	0.0013274	-0.002370	3.9619967	-59.618498 C
0.0001113	10285.	92446027.	12.1650418	0.0013534	-0.002429	4.0009793	-60.000000 CY
0.0001138	10424.	91635168.	12.1224106	0.0013789	-0.002489	4.0379264	-60.000000 CY
0.0001163	10549.	90747815.	12.0779588	0.0014041	-0.002548	4.0728641	-60.000000 CY
0.0001188	10670.	89851592.	12.0328796	0.0014289	-0.002609	4.1060336	-60.000000 CY
0.0001213	10789.	88982552.	11.9896312	0.0014537	-0.002669	4.1378582	-60.000000 CY
0.0001238	10894.	88028750.	11.9434802	0.0014780	-0.002729	4.1676396	-60.000000 CY
0.0001263	10976.	86939376.	11.8919045	0.0015014	-0.002791	4.1950721	-60.000000 CY
0.0001288	11044.	85778949.	11.8376289	0.0015241	-0.002853	4.2206450	-60.000000 CY
0.0001313	11109.	84641469.	11.7849173	0.0015468	-0.002916	4.2450274	-60.000000 CY
0.0001338	11174.	83544131.	11.7345530	0.0015695	-0.002978	4.2683479	-60.000000 CY
0.0001363	11238.	82478810.	11.6843742	0.0015920	-0.003041	4.2903303	-60.000000 CY
0.0001388	11301.	81449069.	11.6361651	0.0016145	-0.003103	4.3112377	-60.000000 CY
0.0001413	11364.	80453580.	11.5900251	0.0016371	-0.003165	4.3310919	-60.000000 CY
0.0001438	11427.	79490531.	11.5458497	0.0016597	-0.003228	4.3498856	-60.000000 CY

0.0001463	11489.	78558241.	11.5035416	0.0016824	-0.003290	4.3676116	-60.000000 CY
0.0001488	11551.	77655132.	11.4630101	0.0017051	-0.003352	4.3842622	-60.000000 CY
0.0001588	11795.	74298178.	11.3133729	0.0017960	-0.003602	4.4396557	-60.000000 CY
0.0001688	11985.	71023071.	11.1641047	0.0018839	-0.003854	4.4762205	-60.000000 CY
0.0001788	12091.	67640470.	11.0014343	0.0019665	-0.004111	4.4953123	-60.000000 CY
0.0001888	12186.	64561398.	10.8524502	0.0020484	-0.004369	4.4973496	-60.000000 CY
0.0001988	12278.	61773709.	10.7226267	0.0021311	-0.004626	4.4983329	-60.000000 CY
0.0002088	12363.	59223690.	10.6032297	0.0022134	-0.004884	4.4985687	-60.000000 CY
0.0002188	12445.	56890193.	10.4978681	0.0022964	-0.005141	4.4982926	-60.000000 CY
0.0002288	12523.	54747080.	10.4052330	0.0023802	-0.005397	4.4973819	-60.000000 CY
0.0002388	12598.	52767368.	10.3205825	0.0024640	-0.005653	4.4953532	-60.000000 CY
0.0002488	12670.	50934034.	10.2436163	0.0025481	-0.005909	4.4999939	-60.000000 CY
0.0002588	12739.	49232825.	10.1755036	0.0026329	-0.006165	4.4991440	-60.000000 CY
0.0002688	12806.	47650706.	10.1149005	0.0027184	-0.006419	4.4960865	-60.000000 CY
0.0002788	12871.	46173752.	10.0604648	0.0028044	-0.006673	4.4999958	-60.000000 CY
0.0002888	12927.	44770016.	10.0069933	0.0028895	-0.006928	4.4978397	-60.000000 CY
0.0002988	12966.	43400308.	9.9461742	0.0029714	-0.007186	4.4978374	60.000000 CY
0.0003088	12989.	42070683.	9.8819063	0.0030510	-0.007446	4.4969728	60.000000 CYT
0.0003188	13005.	40799182.	9.8200323	0.0031301	-0.007707	4.4999189	60.000000 CYT
0.0003288	13017.	39594541.	9.7627732	0.0032095	-0.007968	4.4934047	60.000000 CYT
0.0003388	13028.	38458035.	9.7105525	0.0032894	-0.008228	4.4985627	60.000000 CYT
0.0003488	13036.	37378582.	9.6616987	0.0033695	-0.008488	4.4980445	60.000000 CYT
0.0003588	13043.	36355757.	9.6149212	0.0034494	-0.008748	4.4935019	60.000000 CYT
0.0003688	13049.	35385821.	9.5723622	0.0035298	-0.009008	4.4983705	60.000000 CYT
0.0003788	13053.	34464142.	9.5339423	0.0036110	-0.009267	4.4997746	60.000000 CYT
0.0003888	13057.	33588021.	9.4988280	0.0036927	-0.009525	4.4904046	60.000000 CYT
0.0003988	13061.	32755155.	9.4660997	0.0037746	-0.009783	4.4964305	60.000000 CYT
0.0004088	13061.	31953806.	9.4705817	0.0038711	-0.010026	4.4999628	60.000000 CYT

Summary of Results for Nominal Moment Capacity for Section 2

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	Max. Tens. Strain
1	105.000	10243.833	0.00300000	-0.01014385
2	115.000	10343.336	0.00300000	-0.01002445
3	140.000	10591.205	0.00300000	-0.00972517
4	290.000	12029.824	0.00300000	-0.00817748
5	395.000	12974.271	0.00300000	-0.00727955

Note that the values of moment capacity in the table above are not factored by a strength reduction factor (ϕ -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 (0.75).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, 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	Nominal Ax. Thrust kips	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	105.000000	10244.	68.250000	6658.	77262848.
2	0.65	115.000000	10343.	74.750000	6723.	78157463.
3	0.65	140.000000	10591.	91.000000	6884.	80400501.
4	0.65	290.000000	12030.	188.500000	7819.	93950544.
5	0.65	395.000000	12974.	256.750000	8433.	103487656.

1	0.75	105.000000	10244.	78.750000	7683.	75037141.
2	0.75	115.000000	10343.	86.250000	7758.	75797714.
3	0.75	140.000000	10591.	105.000000	7943.	77672580.
4	0.75	290.000000	12030.	217.500000	9022.	88202268.
5	0.75	395.000000	12974.	296.250000	9731.	95234849.
1	0.90	105.000000	10244.	94.500000	9219.	56353373.
2	0.90	115.000000	10343.	103.500000	9309.	57229262.
3	0.90	140.000000	10591.	126.000000	9532.	59381598.
4	0.90	290.000000	12030.	261.000000	10827.	70182528.
5	0.90	395.000000	12974.	355.500000	11677.	75923943.

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	0.00	0.00	N.A.	No	0.00	18140.
2	4.9000	4.9000	No	Yes	N.A.	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.

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

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = -10000.0 lbs
Applied moment at pile head = 264000.0 in-lbs
Axial thrust load on pile head = 395000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	-0.00384	264000.	-10000.	4.68E-05	0.00	3.86E+11	0.00	0.00	0.00
0.1350	-0.00376	247770.	-10000.	4.79E-05	0.00	3.86E+11	0.3655	157.4640	0.00
0.2700	-0.00368	231540.	-9999.	4.89E-05	0.00	3.86E+11	0.7158	314.9280	0.00
0.4050	-0.00360	215311.	-9997.	4.98E-05	0.00	3.86E+11	1.0504	472.3920	0.00
0.5400	-0.00352	199084.	-9995.	5.07E-05	0.00	3.86E+11	1.3689	629.8560	0.00
0.6750	-0.00344	182861.	-9993.	5.15E-05	0.00	3.86E+11	1.6709	787.3200	0.00
0.8100	-0.00335	166641.	-9990.	5.22E-05	0.00	3.86E+11	1.9560	944.7840	0.00
0.9450	-0.00327	150426.	-9987.	5.29E-05	0.00	3.86E+11	2.2240	1102.	0.00
1.0800	-0.00318	134217.	-9983.	5.35E-05	0.00	3.86E+11	2.4747	1260.	0.00
1.2150	-0.00310	118013.	-9979.	5.40E-05	0.00	3.86E+11	2.7078	1417.	0.00
1.3500	-0.00301	101817.	-9974.	5.45E-05	0.00	3.86E+11	2.9232	1575.	0.00
1.4850	-0.00292	85628.	-9969.	5.49E-05	0.00	3.86E+11	3.1208	1732.	0.00
1.6200	-0.00283	69446.	-9964.	5.52E-05	0.00	3.86E+11	3.3005	1890.	0.00
1.7550	-0.00274	53274.	-9959.	5.55E-05	0.00	3.86E+11	3.4622	2047.	0.00
1.8900	-0.00265	37110.	-9953.	5.57E-05	0.00	3.86E+11	3.6060	2204.	0.00
2.0250	-0.00256	20955.	-9947.	5.58E-05	0.00	3.86E+11	3.7319	2362.	0.00
2.1600	-0.00247	4811.	-9941.	5.58E-05	0.00	3.86E+11	3.8401	2519.	0.00

~ POF = 8.4'
= EI. 2394.6'

2.2950	-0.00238	-11324.	-9934.	5.58E-05	0.00	3.86E+11	3.9306	2677.	0.00
2.4300	-0.00229	-27448.	-9928.	5.57E-05	0.00	3.86E+11	4.0036	2834.	0.00
2.5650	-0.00220	-43562.	-9921.	5.56E-05	0.00	3.86E+11	4.0595	2992.	0.00
2.7000	-0.00211	-59665.	-9915.	5.54E-05	0.00	3.86E+11	4.0984	3149.	0.00
2.8350	-0.00202	-75757.	-9908.	5.51E-05	0.00	3.86E+11	4.1206	3307.	0.00
2.9700	-0.00193	-91838.	-9902.	5.47E-05	0.00	3.86E+11	4.1265	3464.	0.00
3.1050	-0.00184	-107908.	-9895.	5.43E-05	0.00	3.86E+11	4.1166	3622.	0.00
3.2400	-0.00175	-123967.	-9888.	5.38E-05	0.00	3.86E+11	4.0911	3779.	0.00
3.3750	-0.00167	-140015.	-9882.	5.33E-05	0.00	3.86E+11	4.0507	3937.	0.00
3.5100	-0.00158	-156051.	-9875.	5.27E-05	0.00	3.86E+11	3.9958	4094.	0.00
3.6450	-0.00150	-172077.	-9869.	5.20E-05	0.00	3.86E+11	3.9270	4252.	0.00
3.7800	-0.00141	-188092.	-9862.	5.12E-05	0.00	3.86E+11	3.8449	4409.	0.00
3.9150	-0.00133	-204097.	-9856.	5.04E-05	0.00	3.86E+11	3.7501	4566.	0.00
4.0500	-0.00125	-220091.	-9850.	4.95E-05	0.00	3.86E+11	3.6434	4724.	0.00
4.1850	-0.00117	-236075.	-9844.	4.85E-05	0.00	3.86E+11	3.5254	4881.	0.00
4.3200	-0.00109	-252049.	-9839.	4.75E-05	0.00	3.86E+11	3.3970	5039.	0.00
4.4550	-0.00102	-268014.	-9833.	4.64E-05	0.00	3.86E+11	3.2589	5196.	0.00
4.5900	-9.42E-04	-283969.	-9828.	4.53E-05	0.00	3.86E+11	3.1121	5354.	0.00
4.7250	-8.69E-04	-299915.	-9823.	4.41E-05	0.00	3.86E+11	2.9574	5511.	0.00
4.8600	-7.99E-04	-315853.	-9819.	4.28E-05	0.00	3.86E+11	2.7957	5669.	0.00
4.9950	-7.31E-04	-331782.	-8633.	4.12E-05	0.00	3.08E+11	1461.	3240000.	0.00
5.1300	-6.65E-04	-343875.	-6371.	3.95E-05	0.00	3.08E+11	1331.	3240000.	0.00
5.2650	-6.03E-04	-352475.	-4316.	3.76E-05	0.00	3.08E+11	1206.	3240000.	0.00
5.4000	-5.43E-04	-357908.	-2459.	3.58E-05	0.00	3.08E+11	1087.	3240000.	0.00
5.5350	-4.87E-04	-360488.	-789.888	3.39E-05	0.00	3.08E+11	974.0723	3240000.	0.00
5.6700	-4.34E-04	-360511.	701.6969	3.20E-05	0.00	3.08E+11	867.3906	3240000.	0.00
5.8050	-3.83E-04	-358256.	2025.	3.01E-05	0.00	3.08E+11	766.8465	3240000.	0.00
5.9400	-3.36E-04	-353987.	3191.	2.82E-05	0.00	3.08E+11	672.4016	3240000.	0.00
6.0750	-2.92E-04	-347952.	4209.	2.64E-05	0.00	3.08E+11	583.9831	3240000.	0.00
6.2100	-2.51E-04	-340384.	5088.	2.46E-05	0.00	3.08E+11	501.4884	3240000.	0.00
6.3450	-2.12E-04	-331498.	5838.	2.28E-05	0.00	3.08E+11	424.7887	3240000.	0.00
6.4800	-1.77E-04	-321497.	6469.	2.11E-05	0.00	3.08E+11	353.7325	3240000.	0.00
6.6150	-1.44E-04	-310566.	6989.	1.94E-05	0.00	3.08E+11	288.1497	3240000.	0.00
6.7500	-1.14E-04	-298877.	7407.	1.78E-05	0.00	3.08E+11	227.8542	3240000.	0.00
6.8850	-8.63E-05	-286590.	7731.	1.63E-05	0.00	3.08E+11	172.6470	3240000.	0.00
7.0200	-6.12E-05	-273849.	7970.	1.48E-05	0.00	3.08E+11	122.3188	3240000.	0.00
7.1550	-3.83E-05	-260786.	8131.	1.34E-05	0.00	3.08E+11	76.6529	3240000.	0.00
7.2900	-1.77E-05	-247520.	8222.	1.21E-05	0.00	3.08E+11	35.4267	3240000.	0.00
7.4250	7.93E-07	-234161.	8250.	1.08E-05	0.00	3.08E+11	-1.586	3240000.	0.00
7.5600	1.73E-05	-220805.	8220.	9.61E-06	0.00	3.08E+11	-34.611	3240000.	0.00
7.6950	3.19E-05	-207540.	8140.	8.49E-06	0.00	3.08E+11	-63.878	3240000.	0.00
7.8300	4.48E-05	-194441.	8016.	7.43E-06	0.00	3.08E+11	-89.611	3240000.	0.00
7.9650	5.60E-05	-181577.	7853.	6.44E-06	0.00	3.08E+11	-112.034	3240000.	0.00
8.1000	6.57E-05	-169006.	7656.	5.52E-06	0.00	3.08E+11	-131.366	3240000.	0.00
8.2350	7.39E-05	-156780.	7430.	4.67E-06	0.00	3.08E+11	-147.821	3240000.	0.00
8.3700	8.08E-05	-144940.	7179.	3.87E-06	0.00	3.08E+11	-161.606	3240000.	0.00
8.5050	8.65E-05	-133525.	6908.	3.14E-06	0.00	3.08E+11	-172.924	3240000.	0.00
8.6400	9.10E-05	-122563.	6620.	2.47E-06	0.00	3.08E+11	-181.968	3240000.	0.00
8.7750	9.45E-05	-112078.	6320.	1.85E-06	0.00	3.08E+11	-188.926	3240000.	0.00
8.9100	9.70E-05	-102088.	6010.	1.29E-06	0.00	3.08E+11	-193.976	3240000.	0.00
9.0450	9.86E-05	-92607.	5693.	7.79E-07	0.00	3.08E+11	-197.288	3240000.	0.00
9.1800	9.95E-05	-83644.	5372.	3.16E-07	0.00	3.08E+11	-199.024	3240000.	0.00
9.3150	9.97E-05	-75203.	5049.	-1.01E-07	0.00	3.08E+11	-199.335	3240000.	0.00
9.4500	9.92E-05	-67284.	4727.	-4.76E-07	0.00	3.08E+11	-198.366	3240000.	0.00
9.5850	9.81E-05	-59886.	4408.	-8.10E-07	0.00	3.08E+11	-196.251	3240000.	0.00
9.7200	9.66E-05	-53003.	4092.	-1.11E-06	0.00	3.08E+11	-193.117	3240000.	0.00
9.8550	9.45E-05	-46626.	3783.	-1.37E-06	0.00	3.08E+11	-189.081	3240000.	0.00
9.9900	9.21E-05	-40746.	3480.	-1.60E-06	0.00	3.08E+11	-184.251	3240000.	0.00
10.1250	8.94E-05	-35348.	3186.	-1.80E-06	0.00	3.08E+11	-178.727	3240000.	0.00
10.2600	8.63E-05	-30420.	2902.	-1.97E-06	0.00	3.08E+11	-172.602	3240000.	0.00
10.3950	8.30E-05	-25945.	2627.	-2.12E-06	0.00	3.08E+11	-165.958	3240000.	0.00
10.5300	7.94E-05	-21905.	2364.	-2.24E-06	0.00	3.08E+11	-158.873	3240000.	0.00
10.6650	7.57E-05	-18282.	2113.	-2.35E-06	0.00	3.08E+11	-151.415	3240000.	0.00
10.8000	7.18E-05	-15056.	1874.	-2.44E-06	0.00	3.08E+11	-143.645	3240000.	0.00
10.9350	6.78E-05	-12208.	1648.	-2.51E-06	0.00	3.08E+11	-135.620	3240000.	0.00
11.0700	6.37E-05	-9715.	1435.	-2.57E-06	0.00	3.08E+11	-127.386	3240000.	0.00
11.2050	5.95E-05	-7556.	1235.	-2.61E-06	0.00	3.08E+11	-118.987	3240000.	0.00
11.3400	5.52E-05	-5710.	1049.	-2.65E-06	0.00	3.08E+11	-110.460	3240000.	0.00
11.4750	5.09E-05	-4153.	877.2640	-2.67E-06	0.00	3.08E+11	-101.835	3240000.	0.00

11.6100	4.66E-05	-2864.	719.3350	-2.69E-06	0.00	3.08E+11	-93.139	3240000.	0.00
11.7450	4.22E-05	-1819.	575.5322	-2.70E-06	0.00	3.08E+11	-84.395	3240000.	0.00
11.8800	3.78E-05	-995.687	445.9202	-2.71E-06	0.00	3.08E+11	-75.620	3240000.	0.00
12.0150	3.34E-05	-370.788	330.5377	-2.71E-06	0.00	3.08E+11	-66.828	3240000.	0.00
12.1500	2.90E-05	78.7294	229.4036	-2.72E-06	0.00	3.08E+11	-58.029	3240000.	0.00
12.2850	2.46E-05	375.9546	142.5219	-2.71E-06	0.00	3.08E+11	-49.232	3240000.	0.00
12.4200	2.02E-05	543.9738	69.8864	-2.71E-06	0.00	3.08E+11	-40.441	3240000.	0.00
12.5550	1.58E-05	605.8569	11.4843	-2.71E-06	0.00	3.08E+11	-31.660	3240000.	0.00
12.6900	1.14E-05	584.6496	-32.700	-2.71E-06	0.00	3.08E+11	-22.889	3240000.	0.00
12.8250	7.06E-06	503.3711	-62.683	-2.70E-06	0.00	3.08E+11	-14.128	3240000.	0.00
12.9600	2.69E-06	385.0145	-78.480	-2.70E-06	0.00	3.08E+11	-5.375	3240000.	0.00
13.0950	-1.69E-06	252.5505	-80.104	-2.70E-06	0.00	3.08E+11	3.3711	3240000.	0.00
13.2300	-6.06E-06	128.9329	-67.561	-2.70E-06	0.00	3.08E+11	12.1129	3240000.	0.00
13.3650	-1.04E-05	37.1039	-40.860	-2.70E-06	0.00	3.08E+11	20.8525	3240000.	0.00
13.5000	-1.48E-05	0.00	0.00	-2.70E-06	0.00	3.08E+11	29.5914	1620000.	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	=	-0.0038375 inches
Computed slope at pile head	=	0.00004683 radians
Maximum bending moment	=	-360511. inch-lbs
Maximum shear force	=	-10000. lbs
Depth of maximum bending moment	=	5.67000000 feet below pile head
Depth of maximum shear force	=	0.000000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2

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

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head	=	93000.0 lbs
Applied moment at pile head	=	756000.0 in-lbs
Axial thrust load on pile head	=	140000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.1855	756000.	93000.	-0.00329	0.00	3.96E+11	0.00	0.00	0.00
0.1350	0.1801	907406.	92994.	-0.00329	0.00	3.96E+11	-7.849	70.5929	0.00
0.2700	0.1748	1058791.	92974.	-0.00328	0.00	3.96E+11	-15.793	146.3575	0.00
0.4050	0.1695	1210133.	92942.	-0.00328	0.00	3.96E+11	-23.797	227.4461	0.00
0.5400	0.1642	1361411.	92897.	-0.00327	0.00	3.96E+11	-31.827	314.0261	0.00
0.6750	0.1589	1512605.	92839.	-0.00327	0.00	3.95E+11	-39.848	406.2824	0.00
0.8100	0.1536	1663693.	92768.	-0.00326	0.00	3.95E+11	-47.827	504.4192	0.00
0.9450	0.1483	1814654.	92684.	-0.00325	0.00	3.95E+11	-55.728	608.6638	0.00
1.0800	0.1431	1965466.	92588.	-0.00325	0.00	3.95E+11	-63.517	719.2692	0.00
1.2150	0.1378	2116111.	92479.	-0.00324	0.00	3.94E+11	-71.159	836.5190	0.00
1.3500	0.1326	2266566.	92357.	-0.00323	0.00	3.94E+11	-78.618	960.7316	0.00
1.4850	0.1273	2416813.	92224.	-0.00322	0.00	3.94E+11	-85.860	1092.	0.00
1.6200	0.1221	2566833.	92079.	-0.00321	0.00	3.93E+11	-93.179	1236.	0.00
1.7550	0.1169	2716605.	91922.	-0.00320	0.00	3.55E+11	-100.330	1390.	0.00
1.8900	0.1118	2866112.	91754.	-0.00317	0.00	1.40E+11	-107.246	1554.	0.00
2.0250	0.1067	3015329.	91575.	-0.00314	0.00	1.35E+11	-113.906	1730.	0.00
2.1600	0.1016	3164240.	91385.	-0.00310	0.00	1.31E+11	-120.283	1918.	0.00

~ POF = 7.3'
= El. 2395.4'

2.2950	0.09661	3312825.	91186.	-0.00306	0.00	1.27E+11	-126.349	2119.	0.00
2.4300	0.09168	3461070.	90976.	-0.00302	0.00	1.24E+11	-132.079	2334.	0.00
2.5650	0.08683	3608958.	90758.	-0.00297	0.00	1.21E+11	-137.446	2564.	0.00
2.7000	0.08206	3756474.	90531.	-0.00292	0.00	1.19E+11	-142.425	2812.	0.00
2.8350	0.07737	3903605.	90297.	-0.00287	0.00	1.17E+11	-146.990	3078.	0.00
2.9700	0.07276	4050337.	90055.	-0.00281	0.00	1.15E+11	-151.117	3365.	0.00
3.1050	0.06825	4196660.	89809.	-0.00275	0.00	1.13E+11	-152.580	3622.	0.00
3.2400	0.06384	4342570.	89565.	-0.00269	0.00	1.12E+11	-148.916	3779.	0.00
3.3750	0.05952	4488074.	89327.	-0.00263	0.00	1.10E+11	-144.643	3937.	0.00
3.5100	0.05532	4633183.	89097.	-0.00256	0.00	1.09E+11	-139.803	4094.	0.00
3.6450	0.05123	4777910.	88875.	-0.00249	0.00	1.07E+11	-134.438	4252.	0.00
3.7800	0.04725	4922267.	88662.	-0.00242	0.00	1.06E+11	-128.595	4409.	0.00
3.9150	0.04340	5066271.	88459.	-0.00234	0.00	1.05E+11	-122.322	4566.	0.00
4.0500	0.03967	5209935.	88266.	-0.00226	0.00	1.04E+11	-115.669	4724.	0.00
4.1850	0.03607	5353278.	88084.	-0.00218	0.00	1.03E+11	-108.685	4881.	0.00
4.3200	0.03261	5496316.	87914.	-0.00209	0.00	1.02E+11	-101.426	5039.	0.00
4.4550	0.02929	5639068.	87756.	-0.00200	0.00	1.02E+11	-93.946	5196.	0.00
4.5900	0.02611	5781554.	87610.	-0.00191	0.00	1.01E+11	-86.302	5354.	0.00
4.7250	0.02309	5923791.	87476.	-0.00182	0.00	1.00E+11	-78.552	5511.	0.00
4.8600	0.02022	6065801.	87355.	-0.00172	0.00	9.94E+10	-70.759	5669.	0.00
4.9950	0.01751	6207603.	64949.	-0.00161	0.00	8.25E+10	-27591.	2552254.	0.00
5.1300	0.01500	6276967.	20454.	-0.00149	0.00	8.23E+10	-27340.	2952324.	0.00
5.2650	0.01269	6274550.	-22251.	-0.00136	0.00	8.23E+10	-25383.	3240000.	0.00
5.4000	0.01058	6205492.	-59952.	-0.00124	0.00	8.25E+10	-21161.	3240000.	0.00
5.5350	0.00867	6080870.	-91133.	-0.00112	0.00	8.30E+10	-17334.	3240000.	0.00
5.6700	0.00695	5910730.	-116426.	-0.00101	0.00	8.36E+10	-13892.	3240000.	0.00
5.8050	0.00541	5704105.	-136443.	-8.93E-04	0.00	8.45E+10	-10821.	3240000.	0.00
5.9400	0.00405	5469058.	-151772.	-7.87E-04	0.00	8.55E+10	-8104.	3240000.	0.00
6.0750	0.00286	5212720.	-162972.	-6.86E-04	0.00	8.67E+10	-5723.	3240000.	0.00
6.2100	0.00183	4941342.	-170569.	-5.92E-04	0.00	8.82E+10	-3657.	3240000.	0.00
6.3450	9.43E-04	4660345.	-175058.	-5.05E-04	0.00	9.00E+10	-1885.	3240000.	0.00
6.4800	1.93E-04	4374382.	-176897.	-4.24E-04	0.00	9.20E+10	-385.311	3240000.	0.00
6.6150	-4.33E-04	4087390.	-176509.	-3.51E-04	0.00	9.45E+10	865.0852	3240000.	0.00
6.7500	-9.44E-04	3802653.	-174278.	-2.84E-04	0.00	9.73E+10	1888.	3240000.	0.00
6.8850	-0.00135	3522857.	-170557.	-2.24E-04	0.00	1.01E+11	2707.	3240000.	0.00
7.0200	-0.00167	3250151.	-165658.	-1.71E-04	0.00	1.05E+11	3341.	3240000.	0.00
7.1550	-0.00191	2986203.	-159863.	-1.24E-04	0.00	1.10E+11	3813.	3240000.	0.00
7.2900	-0.00207	2732252.	-153418.	-8.26E-05	0.00	1.16E+11	4143.	3240000.	0.00
7.4250	-0.00217	2489165.	-146541.	-4.72E-05	0.00	1.24E+11	4348.	3240000.	0.00
7.5600	-0.00222	2257481.	-139416.	-2.50E-05	0.00	3.15E+11	4448.	3240000.	0.00
7.6950	-0.00226	2037469.	-132159.	-1.40E-05	0.00	3.15E+11	4510.	3240000.	0.00
7.8300	-0.00227	1829292.	-124829.	-4.05E-06	0.00	3.15E+11	4539.	3240000.	0.00
7.9650	-0.00227	1633024.	-117478.	4.84E-06	0.00	3.16E+11	4537.	3240000.	0.00
8.1000	-0.00225	1448660.	-110153.	1.27E-05	0.00	3.16E+11	4507.	3240000.	0.00
8.2350	-0.00223	1276123.	-102894.	1.97E-05	0.00	3.16E+11	4454.	3240000.	0.00
8.3700	-0.00219	1115275.	-95738.	2.58E-05	0.00	3.17E+11	4380.	3240000.	0.00
8.5050	-0.00214	965919.	-88719.	3.12E-05	0.00	3.17E+11	4287.	3240000.	0.00
8.6400	-0.00209	827812.	-81862.	3.57E-05	0.00	3.17E+11	4178.	3240000.	0.00
8.7750	-0.00203	700669.	-75194.	3.96E-05	0.00	3.17E+11	4055.	3240000.	0.00
8.9100	-0.00196	584166.	-68733.	4.29E-05	0.00	3.17E+11	3921.	3240000.	0.00
9.0450	-0.00189	477954.	-62498.	4.56E-05	0.00	3.17E+11	3777.	3240000.	0.00
9.1800	-0.00181	381652.	-56502.	4.78E-05	0.00	3.17E+11	3625.	3240000.	0.00
9.3150	-0.00173	294864.	-50758.	4.96E-05	0.00	3.17E+11	3467.	3240000.	0.00
9.4500	-0.00165	217174.	-45273.	5.09E-05	0.00	3.17E+11	3304.	3240000.	0.00
9.5850	-0.00157	148155.	-40056.	5.18E-05	0.00	3.17E+11	3137.	3240000.	0.00
9.7200	-0.00148	87369.	-35111.	5.24E-05	0.00	3.17E+11	2968.	3240000.	0.00
9.8550	-0.00140	34372.	-30441.	5.27E-05	0.00	3.17E+11	2798.	3240000.	0.00
9.9900	-0.00131	-11282.	-26047.	5.28E-05	0.00	3.17E+11	2626.	3240000.	0.00
10.1250	-0.00123	-50044.	-21931.	5.26E-05	0.00	3.17E+11	2456.	3240000.	0.00
10.2600	-0.00114	-82361.	-18090.	5.23E-05	0.00	3.17E+11	2285.	3240000.	0.00
10.3950	-0.00106	-108680.	-14525.	5.18E-05	0.00	3.17E+11	2117.	3240000.	0.00
10.5300	-9.75E-04	-129444.	-11231.	5.12E-05	0.00	3.17E+11	1950.	3240000.	0.00
10.6650	-8.93E-04	-145091.	-8205.	5.05E-05	0.00	3.17E+11	1785.	3240000.	0.00
10.8000	-8.11E-04	-156053.	-5445.	4.97E-05	0.00	3.17E+11	1623.	3240000.	0.00
10.9350	-7.31E-04	-162756.	-2946.	4.89E-05	0.00	3.17E+11	1463.	3240000.	0.00
11.0700	-6.53E-04	-165620.	-703.434	4.81E-05	0.00	3.17E+11	1306.	3240000.	0.00
11.2050	-5.76E-04	-165057.	1287.	4.72E-05	0.00	3.17E+11	1151.	3240000.	0.00
11.3400	-5.00E-04	-161472.	3029.	4.64E-05	0.00	3.17E+11	999.7293	3240000.	0.00
11.4750	-4.25E-04	-155263.	4528.	4.56E-05	0.00	3.17E+11	850.7704	3240000.	0.00

11.6100	-3.52E-04	-146822.	5788.	4.48E-05	0.00	3.17E+11	704.3824	3240000.	0.00
11.7450	-2.80E-04	-136531.	6812.	4.41E-05	0.00	3.17E+11	560.4253	3240000.	0.00
11.8800	-2.09E-04	-124770.	7605.	4.34E-05	0.00	3.17E+11	418.7287	3240000.	0.00
12.0150	-1.40E-04	-111910.	8171.	4.28E-05	0.00	3.17E+11	279.0981	3240000.	0.00
12.1500	-7.07E-05	-98317.	8511.	4.23E-05	0.00	3.17E+11	141.3204	3240000.	0.00
12.2850	-2.59E-06	-84353.	8630.	4.18E-05	0.00	3.17E+11	5.1705	3240000.	0.00
12.4200	6.48E-05	-70375.	8529.	4.14E-05	0.00	3.17E+11	-129.583	3240000.	0.00
12.5550	1.32E-04	-56737.	8211.	4.11E-05	0.00	3.17E+11	-263.171	3240000.	0.00
12.6900	1.98E-04	-43790.	7677.	4.08E-05	0.00	3.17E+11	-395.819	3240000.	0.00
12.8250	2.64E-04	-31882.	6929.	4.06E-05	0.00	3.17E+11	-527.743	3240000.	0.00
12.9600	3.30E-04	-21358.	5968.	4.05E-05	0.00	3.17E+11	-659.138	3240000.	0.00
13.0950	3.95E-04	-12565.	4794.	4.04E-05	0.00	3.17E+11	-790.180	3240000.	0.00
13.2300	4.61E-04	-5845.	3408.	4.04E-05	0.00	3.17E+11	-921.014	3240000.	0.00
13.3650	5.26E-04	-1542.	1810.	4.03E-05	0.00	3.17E+11	-1052.	3240000.	0.00
13.5000	5.91E-04	0.00	0.00	4.03E-05	0.00	3.17E+11	-1182.	1620000.	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	=	0.18546200 inches
Computed slope at pile head	=	-0.0032908 radians
Maximum bending moment	=	6276967. inch-lbs
Maximum shear force	=	-176897. lbs
Depth of maximum bending moment	=	5.13000000 feet below pile head
Depth of maximum shear force	=	6.48000000 feet below pile head
Number of iterations	=	20
Number of zero deflection points	=	2

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

Pile-head conditions are Shear and Pile-head Rotation (Loading Type 2)

Shear force at pile head	=	109000.0 lbs
Rotation of pile head	=	0.000E+00 radians
Axial load at pile head	=	105000.0 lbs

(Zero slope for this load indicates fixed-head conditions)

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.03865	-4408665.	109000.	0.00	0.00	1.01E+11	0.00	0.00	0.00
0.1350	0.03859	-4232079.	108997.	-6.91E-05	0.00	1.01E+11	-3.751	157.4640	0.00
0.2700	0.03843	-4055492.	108988.	-1.35E-04	0.00	1.04E+11	-7.470	314.9280	0.00
0.4050	0.03816	-3878913.	108973.	-1.96E-04	0.00	1.05E+11	-11.127	472.3920	0.00
0.5400	0.03779	-3702353.	108952.	-2.54E-04	0.00	1.07E+11	-14.694	629.8560	0.00
0.6750	0.03734	-3525822.	108925.	-3.08E-04	0.00	1.09E+11	-18.145	787.3200	0.00
0.8100	0.03679	-3349330.	108893.	-3.59E-04	0.00	1.11E+11	-21.458	944.7840	0.00
0.9450	0.03617	-3172886.	108856.	-4.06E-04	0.00	1.14E+11	-24.612	1102.	0.00
1.0800	0.03548	-2996499.	108814.	-4.49E-04	0.00	1.16E+11	-27.589	1260.	0.00
1.2150	0.03472	-2820177.	108767.	-4.89E-04	0.00	1.20E+11	-30.371	1417.	0.00
1.3500	0.03389	-2643929.	108715.	-5.26E-04	0.00	1.24E+11	-32.945	1575.	0.00
1.4850	0.03301	-2467761.	108660.	-5.48E-04	0.00	3.64E+11	-35.299	1732.	0.00
1.6200	0.03212	-2291684.	108601.	-5.59E-04	0.00	3.94E+11	-37.462	1890.	0.00
1.7550	0.03120	-2115703.	108539.	-5.68E-04	0.00	3.95E+11	-39.431	2047.	0.00
1.8900	0.03028	-1939824.	108474.	-5.76E-04	0.00	3.95E+11	-41.203	2204.	0.00

2.0250	0.02934	-1764053.	108406.	-5.84E-04	0.00	3.96E+11	-42.776	2362.	0.00
2.1600	0.02839	-1588392.	108335.	-5.90E-04	0.00	3.96E+11	-44.149	2519.	0.00
2.2950	0.02743	-1412846.	108263.	-5.97E-04	0.00	3.96E+11	-45.319	2677.	0.00
2.4300	0.02646	-1237418.	108188.	-6.02E-04	0.00	3.97E+11	-46.286	2834.	0.00
2.5650	0.02548	-1062111.	108113.	-6.07E-04	0.00	3.97E+11	-47.049	2992.	0.00
2.7000	0.02449	-886926.	108036.	-6.11E-04	0.00	3.97E+11	-47.608	3149.	0.00
2.8350	0.02350	-711866.	107959.	-6.14E-04	0.00	3.98E+11	-47.963	3307.	0.00
2.9700	0.02250	-536931.	107881.	-6.16E-04	0.00	3.98E+11	-48.116	3464.	0.00
3.1050	0.02150	-362122.	107803.	-6.18E-04	0.00	3.98E+11	-48.066	3622.	0.00
3.2400	0.02050	-187438.	107725.	-6.19E-04	0.00	3.98E+11	-47.817	3779.	0.00
3.3750	0.01949	-12881.	107648.	-6.20E-04	0.00	3.98E+11	-47.370	3937.	0.00
3.5100	0.01849	161553.	107572.	-6.19E-04	0.00	3.98E+11	-46.727	4094.	0.00
3.6450	0.01749	335864.	107497.	-6.18E-04	0.00	3.98E+11	-45.892	4252.	0.00
3.7800	0.01649	510054.	107424.	-6.17E-04	0.00	3.98E+11	-44.868	4409.	0.00
3.9150	0.01549	684126.	107352.	-6.14E-04	0.00	3.98E+11	-43.659	4566.	0.00
4.0500	0.01450	858083.	107282.	-6.11E-04	0.00	3.97E+11	-42.270	4724.	0.00
4.1850	0.01351	1031928.	107215.	-6.07E-04	0.00	3.97E+11	-40.704	4881.	0.00
4.3200	0.01253	1205666.	107150.	-6.03E-04	0.00	3.97E+11	-38.968	5039.	0.00
4.4550	0.01156	1379301.	107089.	-5.97E-04	0.00	3.97E+11	-37.066	5196.	0.00
4.5900	0.01059	1552837.	107031.	-5.91E-04	0.00	3.96E+11	-35.006	5354.	0.00
4.7250	0.00964	1726281.	106976.	-5.85E-04	0.00	3.96E+11	-32.794	5511.	0.00
4.8600	0.00870	1899637.	106924.	-5.77E-04	0.00	3.95E+11	-30.436	5669.	0.00
4.9950	0.00777	2072912.	94314.	-5.59E-04	0.00	1.16E+11	-15538.	3240000.	0.00
5.1300	0.00689	2205404.	70572.	-5.29E-04	0.00	1.12E+11	-13774.	3240000.	0.00
5.2650	0.00606	2301744.	49604.	-4.95E-04	0.00	1.09E+11	-12113.	3240000.	0.00
5.4000	0.00528	2366288.	31236.	-4.60E-04	0.00	1.07E+11	-10563.	3240000.	0.00
5.5350	0.00456	2403105.	15285.	-4.24E-04	0.00	1.06E+11	-9129.	3240000.	0.00
5.6700	0.00391	2415957.	1562.	-3.88E-04	0.00	1.06E+11	-7814.	3240000.	0.00
5.8050	0.00331	2408297.	-10128.	-3.51E-04	0.00	1.06E+11	-6618.	3240000.	0.00
5.9400	0.00277	2383263.	-19976.	-3.14E-04	0.00	1.07E+11	-5541.	3240000.	0.00
6.0750	0.00229	2343680.	-28175.	-2.79E-04	0.00	1.08E+11	-4581.	3240000.	0.00
6.2100	0.00187	2292069.	-34912.	-2.44E-04	0.00	1.09E+11	-3735.	3240000.	0.00
6.3450	0.00150	2230650.	-40367.	-2.11E-04	0.00	1.11E+11	-3000.	3240000.	0.00
6.4800	0.00118	2161352.	-44716.	-1.79E-04	0.00	1.13E+11	-2370.	3240000.	0.00
6.6150	9.20E-04	2085830.	-48127.	-1.49E-04	0.00	1.15E+11	-1840.	3240000.	0.00
6.7500	7.03E-04	2005472.	-50756.	-1.23E-04	0.00	1.40E+11	-1406.	3240000.	0.00
6.8850	5.23E-04	1921422.	-52742.	-1.06E-04	0.00	2.95E+11	-1046.	3240000.	0.00
7.0200	3.61E-04	1834623.	-54174.	-9.57E-05	0.00	3.16E+11	-721.202	3240000.	0.00
7.1550	2.13E-04	1745930.	-55104.	-8.65E-05	0.00	3.16E+11	-426.453	3240000.	0.00
7.2900	8.03E-05	1656116.	-55579.	-7.78E-05	0.00	3.16E+11	-160.683	3240000.	0.00
7.4250	-3.88E-05	1565879.	-55647.	-6.95E-05	0.00	3.17E+11	77.6185	3240000.	0.00
7.5600	-1.45E-04	1475844.	-55349.	-6.18E-05	0.00	3.17E+11	289.9659	3240000.	0.00
7.6950	-2.39E-04	1386569.	-54727.	-5.44E-05	0.00	3.17E+11	477.8634	3240000.	0.00
7.8300	-3.21E-04	1298547.	-53819.	-4.76E-05	0.00	3.17E+11	642.8018	3240000.	0.00
7.9650	-3.93E-04	1212211.	-52662.	-4.12E-05	0.00	3.17E+11	786.2512	3240000.	0.00
8.1000	-4.55E-04	1127937.	-51288.	-3.52E-05	0.00	3.18E+11	909.6535	3240000.	0.00
8.2350	-5.07E-04	1046050.	-49730.	-2.97E-05	0.00	3.18E+11	1014.	3240000.	0.00
8.3700	-5.51E-04	966824.	-48015.	-2.45E-05	0.00	3.18E+11	1102.	3240000.	0.00
8.5050	-5.87E-04	890488.	-46172.	-1.98E-05	0.00	3.18E+11	1173.	3240000.	0.00
8.6400	-6.15E-04	817232.	-44226.	-1.54E-05	0.00	3.18E+11	1230.	3240000.	0.00
8.7750	-6.37E-04	747203.	-42198.	-1.15E-05	0.00	3.18E+11	1273.	3240000.	0.00
8.9100	-6.52E-04	680516.	-40109.	-7.83E-06	0.00	3.18E+11	1304.	3240000.	0.00
9.0450	-6.62E-04	617251.	-37980.	-4.52E-06	0.00	3.18E+11	1324.	3240000.	0.00
9.1800	-6.67E-04	557461.	-35827.	-1.53E-06	0.00	3.18E+11	1334.	3240000.	0.00
9.3150	-6.67E-04	501171.	-33666.	1.17E-06	0.00	3.18E+11	1334.	3240000.	0.00
9.4500	-6.63E-04	448381.	-31512.	3.58E-06	0.00	3.18E+11	1326.	3240000.	0.00
9.5850	-6.55E-04	399071.	-29376.	5.74E-06	0.00	3.18E+11	1311.	3240000.	0.00
9.7200	-6.44E-04	353202.	-27270.	7.66E-06	0.00	3.18E+11	1289.	3240000.	0.00
9.8550	-6.31E-04	310715.	-25204.	9.35E-06	0.00	3.18E+11	1261.	3240000.	0.00
9.9900	-6.14E-04	271537.	-23188.	1.08E-05	0.00	3.18E+11	1228.	3240000.	0.00
10.1250	-5.96E-04	235583.	-21228.	1.21E-05	0.00	3.18E+11	1191.	3240000.	0.00
10.2600	-5.75E-04	202755.	-19332.	1.32E-05	0.00	3.18E+11	1150.	3240000.	0.00
10.3950	-5.53E-04	172944.	-17505.	1.42E-05	0.00	3.18E+11	1105.	3240000.	0.00
10.5300	-5.29E-04	146034.	-15753.	1.50E-05	0.00	3.18E+11	1058.	3240000.	0.00
10.6650	-5.04E-04	121900.	-14079.	1.57E-05	0.00	3.18E+11	1008.	3240000.	0.00
10.8000	-4.78E-04	100411.	-12488.	1.63E-05	0.00	3.18E+11	956.2327	3240000.	0.00
10.9350	-4.51E-04	81432.	-10983.	1.67E-05	0.00	3.18E+11	902.7458	3240000.	0.00
11.0700	-4.24E-04	64822.	-9565.	1.71E-05	0.00	3.18E+11	847.9156	3240000.	0.00
11.2050	-3.96E-04	50437.	-8236.	1.74E-05	0.00	3.18E+11	792.0161	3240000.	0.00

~ POF = 8.4'
= EI. 2394.6'

Min Tip =
El. 2389.5'

11.3400	-3.68E-04	38131.	-6999.	1.76E-05	0.00	3.18E+11	735.2846	3240000.	0.00
11.4750	-3.39E-04	27754.	-5854.	1.78E-05	0.00	3.18E+11	677.9241	3240000.	0.00
11.6100	-3.10E-04	19156.	-4803.	1.79E-05	0.00	3.18E+11	620.1057	3240000.	0.00
11.7450	-2.81E-04	12186.	-3845.	1.80E-05	0.00	3.18E+11	561.9713	3240000.	0.00
11.8800	-2.52E-04	6691.	-2982.	1.80E-05	0.00	3.18E+11	503.6359	3240000.	0.00
12.0150	-2.23E-04	2517.	-2214.	1.80E-05	0.00	3.18E+11	445.1902	3240000.	0.00
12.1500	-1.93E-04	-488.006	-1540.	1.81E-05	0.00	3.18E+11	386.7029	3240000.	0.00
12.2850	-1.64E-04	-2478.	-960.881	1.80E-05	0.00	3.18E+11	328.2236	3240000.	0.00
12.4200	-1.35E-04	-3607.	-476.494	1.80E-05	0.00	3.18E+11	269.7853	3240000.	0.00
12.5550	-1.06E-04	-4028.	-86.729	1.80E-05	0.00	3.18E+11	211.4064	3240000.	0.00
12.6900	-7.65E-05	-3895.	208.5165	1.80E-05	0.00	3.18E+11	153.0940	3240000.	0.00
12.8250	-4.74E-05	-3359.	409.3478	1.80E-05	0.00	3.18E+11	94.8459	3240000.	0.00
12.9600	-1.83E-05	-2574.	515.8619	1.80E-05	0.00	3.18E+11	36.6531	3240000.	0.00
13.0950	1.07E-05	-1694.	528.1382	1.79E-05	0.00	3.18E+11	-21.497	3240000.	0.00
13.2300	3.98E-05	-869.291	446.2337	1.79E-05	0.00	3.18E+11	-79.620	3240000.	0.00
13.3650	6.89E-05	-253.919	270.1827	1.79E-05	0.00	3.18E+11	-137.728	3240000.	0.00
13.5000	9.79E-05	0.00	0.00	1.79E-05	0.00	3.18E+11	-195.831	1620000.	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. 3:

Pile-head deflection	=	0.03865200 inches
Computed slope at pile head	=	0.000000 radians
Maximum bending moment	=	-4408665. inch-lbs
Maximum shear force	=	109000. lbs
Depth of maximum bending moment	=	0.000000 feet below pile head
Depth of maximum shear force	=	0.000000 feet below pile head
Number of iterations	=	20
Number of zero deflection points	=	2

Computed Values of Pile Loading and Deflection
for Lateral Loading for Load Case Number 4

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head	=	8000.0 lbs
Applied moment at pile head	=	204000.0 in-lbs
Axial thrust load on pile head	=	290000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.00761	204000.	8000.	-1.37E-04	0.00	3.91E+11	0.00	0.00	0.00
0.1350	0.00738	217024.	7999.	-1.36E-04	0.00	3.91E+11	-0.718	157.4640	0.00
0.2700	0.00717	230046.	7998.	-1.35E-04	0.00	3.91E+11	-1.393	314.9280	0.00
0.4050	0.00695	243064.	7995.	-1.34E-04	0.00	3.91E+11	-2.026	472.3920	0.00
0.5400	0.00673	256076.	7991.	-1.33E-04	0.00	3.91E+11	-2.617	629.8560	0.00
0.6750	0.00652	269080.	7986.	-1.32E-04	0.00	3.91E+11	-3.167	787.3200	0.00
0.8100	0.00630	282076.	7981.	-1.31E-04	0.00	3.91E+11	-3.676	944.7840	0.00
0.9450	0.00609	295061.	7975.	-1.30E-04	0.00	3.91E+11	-4.145	1102.	0.00
1.0800	0.00588	308036.	7968.	-1.28E-04	0.00	3.91E+11	-4.574	1260.	0.00
1.2150	0.00568	320997.	7960.	-1.27E-04	0.00	3.91E+11	-4.965	1417.	0.00
1.3500	0.00547	333945.	7952.	-1.26E-04	0.00	3.91E+11	-5.317	1575.	0.00
1.4850	0.00527	346878.	7943.	-1.24E-04	0.00	3.91E+11	-5.632	1732.	0.00
1.6200	0.00507	359796.	7933.	-1.23E-04	0.00	3.91E+11	-5.911	1890.	0.00
1.7550	0.00487	372697.	7924.	-1.21E-04	0.00	3.91E+11	-6.153	2047.	0.00
1.8900	0.00467	385582.	7913.	-1.20E-04	0.00	3.91E+11	-6.361	2204.	0.00

2.0250	0.00448	398449.	7903.	-1.18E-04	0.00	3.91E+11	-6.534	2362.	0.00
2.1600	0.00429	411299.	7892.	-1.17E-04	0.00	3.91E+11	-6.674	2519.	0.00
2.2950	0.00410	424130.	7881.	-1.15E-04	0.00	3.91E+11	-6.782	2677.	0.00
2.4300	0.00392	436942.	7870.	-1.13E-04	0.00	3.91E+11	-6.858	2834.	0.00
2.5650	0.00374	449735.	7859.	-1.11E-04	0.00	3.91E+11	-6.903	2992.	0.00
2.7000	0.00356	462510.	7848.	-1.09E-04	0.00	3.91E+11	-6.919	3149.	0.00
2.8350	0.00338	475265.	7837.	-1.07E-04	0.00	3.91E+11	-6.907	3307.	0.00
2.9700	0.00321	488002.	7826.	-1.05E-04	0.00	3.91E+11	-6.868	3464.	0.00
3.1050	0.00304	500719.	7815.	-1.03E-04	0.00	3.91E+11	-6.802	3622.	0.00
3.2400	0.00288	513418.	7804.	-1.01E-04	0.00	3.91E+11	-6.712	3779.	0.00
3.3750	0.00271	526098.	7793.	-9.90E-05	0.00	3.91E+11	-6.597	3937.	0.00
3.5100	0.00256	538760.	7782.	-9.68E-05	0.00	3.91E+11	-6.460	4094.	0.00
3.6450	0.00240	551403.	7772.	-9.45E-05	0.00	3.91E+11	-6.302	4252.	0.00
3.7800	0.00225	564029.	7762.	-9.22E-05	0.00	3.91E+11	-6.124	4409.	0.00
3.9150	0.00210	576638.	7752.	-8.99E-05	0.00	3.91E+11	-5.927	4566.	0.00
4.0500	0.00196	589230.	7743.	-8.74E-05	0.00	3.91E+11	-5.712	4724.	0.00
4.1850	0.00182	601806.	7734.	-8.50E-05	0.00	3.91E+11	-5.482	4881.	0.00
4.3200	0.00168	614367.	7725.	-8.24E-05	0.00	3.91E+11	-5.237	5039.	0.00
4.4550	0.00155	626912.	7717.	-7.99E-05	0.00	3.91E+11	-4.979	5196.	0.00
4.5900	0.00142	639444.	7709.	-7.72E-05	0.00	3.91E+11	-4.709	5354.	0.00
4.7250	0.00130	651961.	7701.	-7.46E-05	0.00	3.91E+11	-4.429	5511.	0.00
4.8600	0.00118	664466.	7694.	-7.18E-05	0.00	3.91E+11	-4.141	5669.	0.00
4.9950	0.00107	676959.	5959.	-6.87E-05	0.00	3.12E+11	-2138.	3240000.	0.00
5.1300	9.61E-04	683838.	2671.	-6.52E-05	0.00	3.12E+11	-1921.	3240000.	0.00
5.2650	8.58E-04	685673.	-275.634	-6.16E-05	0.00	3.12E+11	-1716.	3240000.	0.00
5.4000	7.61E-04	683003.	-2899.	-5.81E-05	0.00	3.12E+11	-1522.	3240000.	0.00
5.5350	6.70E-04	676336.	-5217.	-5.45E-05	0.00	3.12E+11	-1340.	3240000.	0.00
5.6700	5.84E-04	666151.	-7249.	-5.10E-05	0.00	3.12E+11	-1169.	3240000.	0.00
5.8050	5.05E-04	652898.	-9013.	-4.76E-05	0.00	3.12E+11	-1009.	3240000.	0.00
5.9400	4.30E-04	636994.	-10527.	-4.43E-05	0.00	3.12E+11	-860.320	3240000.	0.00
6.0750	3.61E-04	618831.	-11809.	-4.10E-05	0.00	3.12E+11	-722.266	3240000.	0.00
6.2100	2.97E-04	598771.	-12876.	-3.78E-05	0.00	3.12E+11	-594.626	3240000.	0.00
6.3450	2.39E-04	577149.	-13744.	-3.48E-05	0.00	3.12E+11	-477.061	3240000.	0.00
6.4800	1.85E-04	554274.	-14429.	-3.18E-05	0.00	3.12E+11	-369.209	3240000.	0.00
6.6150	1.35E-04	530428.	-14948.	-2.90E-05	0.00	3.12E+11	-270.684	3240000.	0.00
6.7500	9.05E-05	505871.	-15314.	-2.63E-05	0.00	3.12E+11	-181.085	3240000.	0.00
6.8850	5.00E-05	480837.	-15541.	-2.38E-05	0.00	3.12E+11	-99.999	3240000.	0.00
7.0200	1.35E-05	455540.	-15644.	-2.13E-05	0.00	3.12E+11	-27.004	3240000.	0.00
7.1550	-1.92E-05	430170.	-15635.	-1.90E-05	0.00	3.12E+11	38.3253	3240000.	0.00
7.2900	-4.82E-05	404901.	-15526.	-1.69E-05	0.00	3.12E+11	96.4159	3240000.	0.00
7.4250	-7.38E-05	379883.	-15328.	-1.48E-05	0.00	3.12E+11	147.6931	3240000.	0.00
7.5600	-9.63E-05	355252.	-15052.	-1.29E-05	0.00	3.12E+11	192.5778	3240000.	0.00
7.6950	-1.16E-04	331125.	-14709.	-1.11E-05	0.00	3.12E+11	231.4845	3240000.	0.00
7.8300	-1.32E-04	307605.	-14307.	-9.49E-06	0.00	3.12E+11	264.8193	3240000.	0.00
7.9650	-1.46E-04	284779.	-13855.	-7.95E-06	0.00	3.12E+11	292.9778	3240000.	0.00
8.1000	-1.58E-04	262722.	-13362.	-6.53E-06	0.00	3.12E+11	316.3442	3240000.	0.00
8.2350	-1.68E-04	241494.	-12834.	-5.22E-06	0.00	3.12E+11	335.2897	3240000.	0.00
8.3700	-1.75E-04	221146.	-12279.	-4.02E-06	0.00	3.12E+11	350.1715	3240000.	0.00
8.5050	-1.81E-04	201715.	-11702.	-2.92E-06	0.00	3.12E+11	361.3319	3240000.	0.00
8.6400	-1.85E-04	183233.	-11111.	-1.92E-06	0.00	3.12E+11	369.0980	3240000.	0.00
8.7750	-1.87E-04	165719.	-10509.	-1.01E-06	0.00	3.12E+11	373.7807	3240000.	0.00
8.9100	-1.88E-04	149186.	-9902.	-1.97E-07	0.00	3.12E+11	375.6749	3240000.	0.00
9.0450	-1.88E-04	133638.	-9294.	5.37E-07	0.00	3.12E+11	375.0586	3240000.	0.00
9.1800	-1.86E-04	119073.	-8688.	1.19E-06	0.00	3.12E+11	372.1935	3240000.	0.00
9.3150	-1.84E-04	105486.	-8089.	1.78E-06	0.00	3.12E+11	367.3247	3240000.	0.00
9.4500	-1.80E-04	92862.	-7500.	2.29E-06	0.00	3.12E+11	360.6809	3240000.	0.00
9.5850	-1.76E-04	81185.	-6922.	2.74E-06	0.00	3.12E+11	352.4744	3240000.	0.00
9.7200	-1.71E-04	70432.	-6359.	3.14E-06	0.00	3.12E+11	342.9018	3240000.	0.00
9.8550	-1.66E-04	60579.	-5812.	3.48E-06	0.00	3.12E+11	332.1440	3240000.	0.00
9.9900	-1.60E-04	51598.	-5283.	3.77E-06	0.00	3.12E+11	320.3668	3240000.	0.00
10.1250	-1.54E-04	43457.	-4775.	4.02E-06	0.00	3.12E+11	307.7214	3240000.	0.00
10.2600	-1.47E-04	36124.	-4287.	4.22E-06	0.00	3.12E+11	294.3447	3240000.	0.00
10.3950	-1.40E-04	29563.	-3822.	4.39E-06	0.00	3.12E+11	280.3601	3240000.	0.00
10.5300	-1.33E-04	23738.	-3379.	4.53E-06	0.00	3.12E+11	265.8780	3240000.	0.00
10.6650	-1.25E-04	18611.	-2960.	4.64E-06	0.00	3.12E+11	250.9965	3240000.	0.00
10.8000	-1.18E-04	14142.	-2566.	4.73E-06	0.00	3.12E+11	235.8018	3240000.	0.00
10.9350	-1.10E-04	10292.	-2197.	4.79E-06	0.00	3.12E+11	220.3691	3240000.	0.00
11.0700	-1.02E-04	7021.	-1852.	4.83E-06	0.00	3.12E+11	204.7632	3240000.	0.00
11.2050	-9.45E-05	4286.	-1533.	4.86E-06	0.00	3.12E+11	189.0392	3240000.	0.00

11.3400	-8.66E-05	2048.	-1240.	4.88E-06	0.00	3.12E+11	173.2431	3240000.	0.00
11.4750	-7.87E-05	264.6671	-971.997	4.89E-06	0.00	3.12E+11	157.4125	3240000.	0.00
11.6100	-7.08E-05	-1106.	-729.815	4.88E-06	0.00	3.12E+11	141.5774	3240000.	0.00
11.7450	-6.29E-05	-2105.	-513.271	4.88E-06	0.00	3.12E+11	125.7610	3240000.	0.00
11.8800	-5.50E-05	-2773.	-322.321	4.86E-06	0.00	3.12E+11	109.9800	3240000.	0.00
12.0150	-4.71E-05	-3153.	-156.898	4.85E-06	0.00	3.12E+11	94.2456	3240000.	0.00
12.1500	-3.93E-05	-3286.	-16.922	4.83E-06	0.00	3.12E+11	78.5643	3240000.	0.00
12.2850	-3.15E-05	-3213.	97.6947	4.81E-06	0.00	3.12E+11	62.9383	3240000.	0.00
12.4200	-2.37E-05	-2974.	187.0414	4.80E-06	0.00	3.12E+11	47.3664	3240000.	0.00
12.5550	-1.59E-05	-2611.	251.2022	4.78E-06	0.00	3.12E+11	31.8445	3240000.	0.00
12.6900	-8.18E-06	-2165.	290.2531	4.77E-06	0.00	3.12E+11	16.3665	3240000.	0.00
12.8250	-4.62E-07	-1675.	304.2592	4.76E-06	0.00	3.12E+11	0.9250	3240000.	0.00
12.9600	7.24E-06	-1183.	293.2729	4.75E-06	0.00	3.12E+11	-14.488	3240000.	0.00
13.0950	1.49E-05	-729.603	257.3331	4.75E-06	0.00	3.12E+11	-29.882	3240000.	0.00
13.2300	2.26E-05	-354.165	196.4660	4.75E-06	0.00	3.12E+11	-45.263	3240000.	0.00
13.3650	3.03E-05	-97.513	110.6862	4.75E-06	0.00	3.12E+11	-60.638	3240000.	0.00
13.5000	3.80E-05	0.00	0.00	4.74E-06	0.00	3.12E+11	-76.012	1620000.	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. 4:

Pile-head deflection	=	0.00760598 inches
Computed slope at pile head	=	-0.0001369 radians
Maximum bending moment	=	685673. inch-lbs
Maximum shear force	=	-15644. lbs
Depth of maximum bending moment	=	5.26500000 feet below pile head
Depth of maximum shear force	=	7.02000000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2

Computed Values of Pile Loading and Deflection
for Lateral Loading for Load Case Number 5

Pile-head conditions are Shear and Pile-head Rotation (Loading Type 2)

Shear force at pile head	=	6000.0 lbs
Rotation of pile head	=	0.000E+00 radians
Axial load at pile head	=	115000.0 lbs

(Zero slope for this load indicates fixed-head conditions)

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	9.98E-04	-274430.	6000.	0.00	0.00	3.97E+11	0.00	0.00	0.00
0.1350	9.97E-04	-264710.	6000.	-1.10E-06	0.00	3.97E+11	-0.09693	157.4640	0.00
0.2700	9.95E-04	-254990.	6000.	-2.16E-06	0.00	3.97E+11	-0.193	314.9280	0.00
0.4050	9.90E-04	-245270.	5999.	-3.18E-06	0.00	3.97E+11	-0.289	472.3920	0.00
0.5400	9.84E-04	-235551.	5999.	-4.16E-06	0.00	3.97E+11	-0.383	629.8560	0.00
0.6750	9.77E-04	-225832.	5998.	-5.10E-06	0.00	3.97E+11	-0.475	787.3200	0.00
0.8100	9.68E-04	-216115.	5997.	-6.00E-06	0.00	3.97E+11	-0.564	944.7840	0.00
0.9450	9.57E-04	-206399.	5996.	-6.86E-06	0.00	3.97E+11	-0.651	1102.	0.00
1.0800	9.46E-04	-196685.	5995.	-7.68E-06	0.00	3.97E+11	-0.735	1260.	0.00
1.2150	9.32E-04	-186972.	5994.	-8.47E-06	0.00	3.97E+11	-0.816	1417.	0.00
1.3500	9.18E-04	-177262.	5992.	-9.21E-06	0.00	3.97E+11	-0.892	1575.	0.00
1.4850	9.03E-04	-167553.	5991.	-9.91E-06	0.00	3.97E+11	-0.965	1732.	0.00
1.6200	8.86E-04	-157847.	5989.	-1.06E-05	0.00	3.97E+11	-1.033	1890.	0.00

1.7550	8.68E-04	-148144.	5988.	-1.12E-05	0.00	3.97E+11	-1.097	2047.	0.00
1.8900	8.50E-04	-138443.	5986.	-1.18E-05	0.00	3.97E+11	-1.156	2204.	0.00
2.0250	8.30E-04	-128745.	5984.	-1.23E-05	0.00	3.97E+11	-1.210	2362.	0.00
2.1600	8.10E-04	-119051.	5982.	-1.28E-05	0.00	3.97E+11	-1.259	2519.	0.00
2.2950	7.89E-04	-109359.	5980.	-1.33E-05	0.00	3.97E+11	-1.303	2677.	0.00
2.4300	7.67E-04	-99671.	5978.	-1.37E-05	0.00	3.97E+11	-1.341	2834.	0.00
2.5650	7.44E-04	-89987.	5975.	-1.41E-05	0.00	3.97E+11	-1.374	2992.	0.00
2.7000	7.21E-04	-80305.	5973.	-1.45E-05	0.00	3.97E+11	-1.402	3149.	0.00
2.8350	6.97E-04	-70628.	5971.	-1.48E-05	0.00	3.97E+11	-1.423	3307.	0.00
2.9700	6.73E-04	-60954.	5969.	-1.50E-05	0.00	3.97E+11	-1.439	3464.	0.00
3.1050	6.49E-04	-51284.	5966.	-1.53E-05	0.00	3.97E+11	-1.450	3622.	0.00
3.2400	6.24E-04	-41618.	5964.	-1.55E-05	0.00	3.97E+11	-1.455	3779.	0.00
3.3750	5.98E-04	-31955.	5962.	-1.56E-05	0.00	3.97E+11	-1.454	3937.	0.00
3.5100	5.73E-04	-22297.	5959.	-1.57E-05	0.00	3.97E+11	-1.448	4094.	0.00
3.6450	5.48E-04	-12642.	5957.	-1.58E-05	0.00	3.97E+11	-1.437	4252.	0.00
3.7800	5.22E-04	-2990.	5955.	-1.58E-05	0.00	3.97E+11	-1.420	4409.	0.00
3.9150	4.96E-04	6657.	5952.	-1.58E-05	0.00	3.97E+11	-1.399	4566.	0.00
4.0500	4.71E-04	16301.	5950.	-1.58E-05	0.00	3.97E+11	-1.373	4724.	0.00
4.1850	4.45E-04	25941.	5948.	-1.57E-05	0.00	3.97E+11	-1.342	4881.	0.00
4.3200	4.20E-04	35578.	5946.	-1.56E-05	0.00	3.97E+11	-1.306	5039.	0.00
4.4550	3.95E-04	45211.	5944.	-1.54E-05	0.00	3.97E+11	-1.266	5196.	0.00
4.5900	3.70E-04	54841.	5942.	-1.52E-05	0.00	3.97E+11	-1.223	5354.	0.00
4.7250	3.46E-04	64467.	5940.	-1.49E-05	0.00	3.97E+11	-1.176	5511.	0.00
4.8600	3.22E-04	74091.	5938.	-1.47E-05	0.00	3.97E+11	-1.125	5669.	0.00
4.9950	2.98E-04	83711.	5454.	-1.43E-05	0.00	3.18E+11	-596.281	3240000.	0.00
5.1300	2.75E-04	91766.	4525.	-1.38E-05	0.00	3.18E+11	-550.661	3240000.	0.00
5.2650	2.53E-04	98377.	3669.	-1.34E-05	0.00	3.18E+11	-506.557	3240000.	0.00
5.4000	2.32E-04	103657.	2882.	-1.28E-05	0.00	3.18E+11	-464.077	3240000.	0.00
5.5350	2.12E-04	107720.	2164.	-1.23E-05	0.00	3.18E+11	-423.308	3240000.	0.00
5.6700	1.92E-04	110672.	1509.	-1.18E-05	0.00	3.18E+11	-384.319	3240000.	0.00
5.8050	1.74E-04	112615.	916.8356	-1.12E-05	0.00	3.18E+11	-347.157	3240000.	0.00
5.9400	1.56E-04	113646.	383.0361	-1.06E-05	0.00	3.18E+11	-311.855	3240000.	0.00
6.0750	1.39E-04	113860.	-95.094	-1.00E-05	0.00	3.18E+11	-278.429	3240000.	0.00
6.2100	1.23E-04	113342.	-520.598	-9.45E-06	0.00	3.18E+11	-246.884	3240000.	0.00
6.3450	1.09E-04	112176.	-896.514	-8.87E-06	0.00	3.18E+11	-217.210	3240000.	0.00
6.4800	9.47E-05	110441.	-1226.	-8.31E-06	0.00	3.18E+11	-189.389	3240000.	0.00
6.6150	8.17E-05	108208.	-1512.	-7.75E-06	0.00	3.18E+11	-163.392	3240000.	0.00
6.7500	6.96E-05	105546.	-1757.	-7.20E-06	0.00	3.18E+11	-139.181	3240000.	0.00
6.8850	5.84E-05	102519.	-1964.	-6.67E-06	0.00	3.18E+11	-116.714	3240000.	0.00
7.0200	4.80E-05	99185.	-2136.	-6.16E-06	0.00	3.18E+11	-95.939	3240000.	0.00
7.1550	3.84E-05	95600.	-2276.	-5.66E-06	0.00	3.18E+11	-76.803	3240000.	0.00
7.2900	2.96E-05	91813.	-2386.	-5.19E-06	0.00	3.18E+11	-59.245	3240000.	0.00
7.4250	2.16E-05	87870.	-2469.	-4.73E-06	0.00	3.18E+11	-43.203	3240000.	0.00
7.5600	1.43E-05	83814.	-2527.	-4.29E-06	0.00	3.18E+11	-28.612	3240000.	0.00
7.6950	7.70E-06	79682.	-2563.	-3.87E-06	0.00	3.18E+11	-15.405	3240000.	0.00
7.8300	1.76E-06	75511.	-2578.	-3.48E-06	0.00	3.18E+11	-3.515	3240000.	0.00
7.9650	-3.56E-06	71329.	-2576.	-3.10E-06	0.00	3.18E+11	7.1293	3240000.	0.00
8.1000	-8.30E-06	67167.	-2556.	-2.75E-06	0.00	3.18E+11	16.5953	3240000.	0.00
8.2350	-1.25E-05	63048.	-2523.	-2.42E-06	0.00	3.18E+11	24.9521	3240000.	0.00
8.3700	-1.61E-05	58994.	-2476.	-2.11E-06	0.00	3.18E+11	32.2678	3240000.	0.00
8.5050	-1.93E-05	55025.	-2419.	-1.82E-06	0.00	3.18E+11	38.6093	3240000.	0.00
8.6400	-2.20E-05	51158.	-2352.	-1.55E-06	0.00	3.18E+11	44.0421	3240000.	0.00
8.7750	-2.43E-05	47406.	-2277.	-1.30E-06	0.00	3.18E+11	48.6301	3240000.	0.00
8.9100	-2.62E-05	43781.	-2195.	-1.06E-06	0.00	3.18E+11	52.4353	3240000.	0.00
9.0450	-2.78E-05	40294.	-2108.	-8.49E-07	0.00	3.18E+11	55.5174	3240000.	0.00
9.1800	-2.90E-05	36953.	-2016.	-6.52E-07	0.00	3.18E+11	57.9342	3240000.	0.00
9.3150	-2.99E-05	33764.	-1920.	-4.72E-07	0.00	3.18E+11	59.7408	3240000.	0.00
9.4500	-3.05E-05	30731.	-1823.	-3.07E-07	0.00	3.18E+11	60.9898	3240000.	0.00
9.5850	-3.09E-05	27858.	-1723.	-1.58E-07	0.00	3.18E+11	61.7313	3240000.	0.00
9.7200	-3.10E-05	25148.	-1623.	-2.28E-08	0.00	3.18E+11	62.0128	3240000.	0.00
9.8550	-3.09E-05	22600.	-1523.	9.89E-08	0.00	3.18E+11	61.8789	3240000.	0.00
9.9900	-3.07E-05	20215.	-1423.	2.08E-07	0.00	3.18E+11	61.3719	3240000.	0.00
10.1250	-3.03E-05	17990.	-1324.	3.05E-07	0.00	3.18E+11	60.5311	3240000.	0.00
10.2600	-2.97E-05	15925.	-1227.	3.92E-07	0.00	3.18E+11	59.3932	3240000.	0.00
10.3950	-2.90E-05	14015.	-1132.	4.68E-07	0.00	3.18E+11	57.9923	3240000.	0.00
10.5300	-2.82E-05	12257.	-1039.	5.35E-07	0.00	3.18E+11	56.3600	3240000.	0.00
10.6650	-2.73E-05	10648.	-949.368	5.93E-07	0.00	3.18E+11	54.5253	3240000.	0.00
10.8000	-2.63E-05	9181.	-862.666	6.44E-07	0.00	3.18E+11	52.5147	3240000.	0.00
10.9350	-2.52E-05	7852.	-779.343	6.87E-07	0.00	3.18E+11	50.3525	3240000.	0.00

11.0700	-2.40E-05	6656.	-699.628	7.24E-07	0.00	3.18E+11	48.0607	3240000.	0.00
11.2050	-2.28E-05	5585.	-623.716	7.56E-07	0.00	3.18E+11	45.6589	3240000.	0.00
11.3400	-2.16E-05	4635.	-551.768	7.82E-07	0.00	3.18E+11	43.1649	3240000.	0.00
11.4750	-2.03E-05	3797.	-483.923	8.03E-07	0.00	3.18E+11	40.5943	3240000.	0.00
11.6100	-1.90E-05	3067.	-420.294	8.21E-07	0.00	3.18E+11	37.9611	3240000.	0.00
11.7450	-1.76E-05	2435.	-360.970	8.35E-07	0.00	3.18E+11	35.2772	3240000.	0.00
11.8800	-1.63E-05	1897.	-306.028	8.46E-07	0.00	3.18E+11	32.5531	3240000.	0.00
12.0150	-1.49E-05	1443.	-255.524	8.54E-07	0.00	3.18E+11	29.7977	3240000.	0.00
12.1500	-1.35E-05	1068.	-209.503	8.61E-07	0.00	3.18E+11	27.0184	3240000.	0.00
12.2850	-1.21E-05	764.3736	-167.998	8.65E-07	0.00	3.18E+11	24.2215	3240000.	0.00
12.4200	-1.07E-05	523.8382	-131.035	8.68E-07	0.00	3.18E+11	21.4120	3240000.	0.00
12.5550	-9.30E-06	339.4961	-98.630	8.71E-07	0.00	3.18E+11	18.5938	3240000.	0.00
12.6900	-7.89E-06	203.9512	-70.796	8.72E-07	0.00	3.18E+11	15.7700	3240000.	0.00
12.8250	-6.47E-06	109.7930	-47.538	8.73E-07	0.00	3.18E+11	12.9429	3240000.	0.00
12.9600	-5.06E-06	49.6020	-28.862	8.73E-07	0.00	3.18E+11	10.1139	3240000.	0.00
13.0950	-3.64E-06	15.9540	-14.770	8.73E-07	0.00	3.18E+11	7.2841	3240000.	0.00
13.2300	-2.23E-06	1.4224	-5.262	8.73E-07	0.00	3.18E+11	4.4541	3240000.	0.00
13.3650	-8.12E-07	-1.420	-0.339	8.73E-07	0.00	3.18E+11	1.6240	3240000.	0.00
13.5000	6.03E-07	0.00	0.00	8.73E-07	0.00	3.18E+11	-1.206	1620000.	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. 5:

Pile-head deflection	=	0.00099817 inches
Computed slope at pile head	=	0.000000 radians
Maximum bending moment	=	-274430. inch-lbs
Maximum shear force	=	6000. lbs
Depth of maximum bending moment	=	0.000000 feet below pile head
Depth of maximum shear force	=	0.000000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2

Summary of Pile-head Responses for Conventional Analyses

Definitions of Pile-head Loading Conditions:

Load Type 1: Load 1 = Shear, V, lbs, and Load 2 = Moment, M, in-lbs
Load Type 2: Load 1 = Shear, V, lbs, and Load 2 = Slope, S, radians
Load Type 3: Load 1 = Shear, V, lbs, and Load 2 = Rot. Stiffness, R, in-lbs/rad.
Load Type 4: Load 1 = Top Deflection, y, inches, and Load 2 = Moment, M, in-lbs
Load Type 5: Load 1 = Top Deflection, y, inches, and Load 2 = Slope, S, radians

Load Case No.	Load Type	Pile-head Load 1	Load Type 2	Pile-head Load 2	Axial Loading lbs	Pile-head Deflection inches	Pile-head Rotation radians	Max Shear in Pile lbs	Max Moment in Pile in-lbs
1	V, lb	-10000.	M, in-lb	264000.	395000.	-0.00384	4.68E-05	-10000.	-360511.
2	V, lb	93000.	M, in-lb	756000.	140000.	0.1855	-0.00329	-176897.	6276967.
3	V, lb	109000.	S, rad	0.00	105000.	0.03865	0.00	109000.	-4408665.
4	V, lb	8000.	M, in-lb	204000.	290000.	0.00761	-1.37E-04	-15644.	685673.
5	V, lb	6000.	S, rad	0.00	115000.	9.98E-04	0.00	6000.	-274430.

Deflection

Maximum pile-head deflection = 0.1854619988 inches
Maximum pile-head rotation = -0.0032908135 radians = -0.188550 deg.

The analysis ended normally.

SUPPORTING CALCULATIONS

BENT 1

For Bent 1

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 00217A			TIP 100-01-00217a			COUNTY YANCEY			GEOLOGIST WATKINS, A.						
SITE DESCRIPTION Site 100-01-00217A									GROUND WTR (ft)						
BORING NO. B-1			STATION N/A			OFFSET N/A			ALIGNMENT N/A						
COLLAR ELEV. 2,404.2 ft			TOTAL DEPTH 16.1 ft			NORTHING 817,508			EASTING 998,700						
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024						DRILL METHOD SPT Core Boring			HAMMER TYPE Automatic						
DRILLER DAVIS, S.			START DATE 09/02/25			COMP. DATE 09/02/25			SURFACE WATER DEPTH 5.0ft						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
Top of Pier ~ 2406															
2405	2,404.2	0.0				Scour elevation is not available. Conservatively assumed to top of rock.								2,404.2	GROUND SURFACE 0.0
			2	7	3										
2400	2,400.6	3.6										M		2,401.2	Brown, loose to medium dense, silty SAND (A-2-4), trace mica, trace gravel 3.0
			2	2	12										
	2,398.1	6.1										M		2,398.1	Brown, stiff, grey, sandy SILT (A-4), highly micaceous 6.1
2395														CRYSTALLINE ROCK	
														Light grey, white, black, migmatic biotite-hornblend GNEISS	
2390														2,388.1	Black and brown 16.1
														Boring Terminated at Elevation 2,388.1 ft In Crystalline Rock	
Tip Elevation from spreadsheet = 2398 ft Tip elevation from L-pile = 2389.9 ft Say Tip elevation no higher than El 2389.5ft															
Strength Freehead Max axial loading condition point of fixity = El 2395.1 ft Strength Freehead loading condition point of fixity = El 2395.1 ft Strength Fixedhead loading condition point of fixity = El 2394.5 ft															
Say Point of fixity = El 2395 ft															

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 00217A				TIP 100-01-00217a				COUNTY YANCEY				GEOLOGIST WATKINS, A.					
SITE DESCRIPTION Site 100-01-00217A												GROUND WTR (ft)					
BORING NO. B-1				STATION N/A				OFFSET N/A				ALIGNMENT N/A				0 HR. 5.5	
COLLAR ELEV. 2,404.2 ft				TOTAL DEPTH 16.1 ft				NORTHING 817,508				EASTING 998,700				24 HR. 3.9	
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024								DRILL METHOD SPT Core Boring				HAMMER TYPE Automatic					
DRILLER DAVIS, S.				START DATE 09/02/25				COMP. DATE 09/02/25				SURFACE WATER DEPTH 5.0ft					
CORE SIZE N				TOTAL RUN 10.0 ft													
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %		RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %		RQD (ft) %	L O G	DESCRIPTION AND REMARKS			DEPTH (ft)	
2398.1													Begin Coring @ 6.1 ft				
	2,398.1	6.1	4.0	3:21/1.0 4:56/1.0 7:22/1.0	(3.9) 98%	(3.9) 98%							2,398.1	CRYSTALLINE ROCK			6.1
2395	2,394.1	10.1		10:20/1.0										Light grey, white, black, slight to fresh weathering, moderately hard to hard, close to wide fracture spacing, migmatic biotite-hornblend GNEISS.			
			5.0	3:10/1.0 3:48/1.0 4:00/1.0	(5.0) 100%	(5.0) 100%								GSI=75-85			
2390	2,389.1	15.1		4:17/1.0 4:43/1.0													
2389.5	2,388.1	16.1	1.0	1:56/1.0	(0.5) 50%	(0.0) 0%							2,388.1	Black and brown, very severe to moderately severe weathering			16.1
														GSI=15-25			
														Boring Terminated at Elevation 2,388.1 ft In Crystalline Rock			

No lab testing available for rock cores. Compressive strength are assumed conservatively based on quality of rock and previous experience

Y = 140pcf
UCS = 2000 psi

~ Min Tip
= El. 2389.5'


Elevations

Bottom of Cap (BOC) Elevation =	2,406.00	ft
Top of Pier/Bottom of Column Elevation =	2,406.00	ft
Natural Ground / Finished Grade Elevation =	2,403.00	ft
Groundwater Table (GWT) Elevation =	2,405.00	ft
Design Scour (DSE) Elevation =	2,398.10	ft
Amount of Contraction Scour (from BSR) =	0.00	ft
Is Permanent Casing Required? ☒ Yes / Maybe ☐ No		
Bottom of Permanent Casing Elevation =	2,398.10	ft
Drilled Pier Tip Elevation =	2,398.00	ft

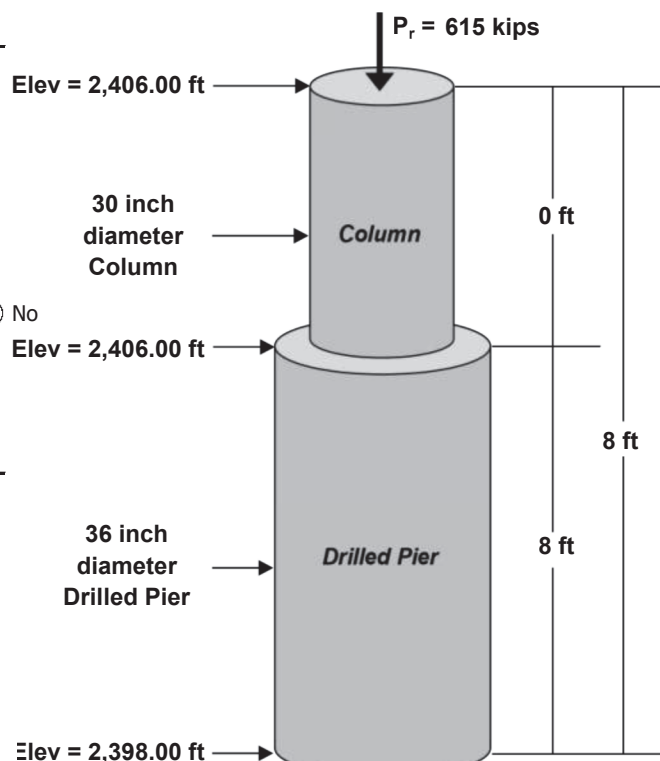
Drilled Pier Information

Maximum Factored Axial Load (P_r) =	615.0	kips
Number of Drilled Piers per Bent =	2	
Diameter of Column (d_{Column}) =	30	in
Diameter of Drilled Pier (d_{DP}) =	36	in
Unit Weight of Concrete (γ_c) =	0.150	kcf
Compressive Strength of Concrete (f'_c) =	4.500	ksi

Subsurface Information and Soil/Rock Layer Properties

internally calculate N_{160} values at midpoint of each layer ☒

Subsurface Boring Name / ID No. =	B-1	
SPT Hammer Energy Efficiency Rating (ER) =	87	%
Top of Boring (Collar) Elevation =	2404.20	ft
Depth to Groundwater Table (for actual boring) =	2400.30	ft


Figure shows typical drilled pier

Calculate GSI using RQD values : ☐
(Use if GSI is not shown on boring)

Layer No.	Material Description	Layer Elevations		Total γ (kcf)	N (bpf)	N_{60} (bpf)	N_{160} (bpf)	RQD (%)	⁽²⁾ GSI	q_u (ksf)	E_i (ksi)	ν
		Top ⁽¹⁾ (ft)	Bottom (ft)									
1	Hard Rock	2,398.10	2,398.00	0.140			N/A	98	75	400	X	
2												
3												
4												
5												
6												
7												
8												
TIP ⁽³⁾	Hard Rock	2,398.00	2,392.00	0.140			N/A	98	75	400	4,000	0.220

Notes

- Resistance from subsurface layers above the Bottom of Column Elevation, Drilled Pier Design Scour Elevation, and Permanent Casing Elevation will be ignored.
- Hard rock layers with poor or very poor quality rock mass ($GSI < 30$) will be modeled as weathered rock.
- Input the subsurface information for the soil / rock at the base of the drilled pier to a distance of 2 pier diameters below the base of the drilled pier.

DISCLAIMER: The application of this spreadsheet is the responsibility of the user. It is imperative that the user understands the potential accuracy limitations and examines the reasonableness of the results with engineering knowledge and experience. There are no expressed or implied warranties.



Correcting SPT Values for Hammer Efficiency and Overburden Pressure

SPT-N Value Corrected for Hammer Efficiency, (N_{60})

$$N_{60} = (ER/60\%)(N)$$

AASHTO Eqn. 10.4.6.2.4-2

 N_{60} = SPT blow count corrected for hammer efficiency (blows/ft)

ER = hammer efficiency expressed as percent of theoretical free fall energy delivered by the hammer system actually used. If ER is not known, use 80% for automatic hammers and 60% for drop hammers.

N = uncorrected SPT blow count (blows/ft)

SPT-N Value Corrected for Overburden Pressure, (N_1)

$$N_1 = (C_N)(N)$$

AASHTO Eqn. 10.4.6.2.4-1

 N_1 = SPT blow count corrected for overburden pressure (blows/ft)

 C_N = correction factor = $[0.77 \log_{10}(40/\sigma'_v)] < 2.0$
 $\sigma'_v = \sigma_v - \mu$ = effective vertical stress at the depth of the SPT-N value (ksf)

 σ_v = total vertical stress at the depth of the SPT-N value (ksf)

 μ = total pore water pressure at the depth of the SPT-N value (ksf)

N = uncorrected SPT blow count (blows/ft)

SPT-N Value Corrected for both Overburden Pressure and Hammer Efficiency, (N_{160})

$$N_{160} = (C_N)(N)$$

AASHTO Eqn. 10.4.6.2.4-3

Summary of Corrected N Values for Boring

Top of Boring (Collar) Elevation = 2,404.2 ft

Depth to Groundwater Table = 2,400.3 ft

Hammer Efficiency (ER) = 87 %

Unit Weight of Water = 0.0624 kcf

Layer No.	Layer Elevations		σ_v at top (ksf)	Δz (ft)	Total γ (kcf)	σ_v at bottom (ksf)	σ_v at midpoint (ksf)	z_{water} (ft)	μ at midpoint (ksf)	σ'_{vo} at midpoint (ksf)	N (bpf)	N_{60} (bpf)	C_N	N_{160} (bpf)
	Top (ft)	Bottom (ft)												
1	2398.10	2398.00	0.732	0.10	0.140	0.746	0.739	0.00	0.000	0.739	N/A			N/A
2														
3														
4														
5														
6														
7														
8														
TIP	2398.00	2392.00	0.746	6.00	0.140	1.586	1.166	0.00	0.000	1.166	N/A			N/A



Selecting Design Properties for Hard Rock

- q_u values for rock should be based on AASHTO Table 10.4.6.4-1 (which uses Point Load Index Testing) or actual values from Uniaxial Compressive Strength Testing. If neither of these options is available, the NCDOT Rock Core Database may be used to estimate compressive strength.
- E_i and ν values for rock should be based on AASHTO Tables C10.4.6.5-1, and 2 if lab test data is not available

Unconfined Compressive Strength from Point Load Strength Index for Hard Rock AASHTO Table C10.4.6.4-1

Parameter			Ranges of Values					
1	Strength of intact rock material	Point load strength index	>175 ksf	85–175 ksf	45–85 ksf	20–45 ksf	For this low range, uniaxial compressive test is preferred	
		Uniaxial compressive strength	>4320 ksf	2160–4320 ksf	1080–2160 ksf	520–1080 ksf	215–520 ksf	70–215 ksf
	Relative Rating		15	12	7	4	2	1

Summary of Elastic Moduli for Intact Rock, E_i (modified by Kulhawy, 1978)

AASHTO Table C10.4.6.5-1

Rock Type	No. of Values	No. of Rock Types	Elastic Modulus, E_i (ksi $\times 10^3$)			Standard Deviation (ksi $\times 10^3$)
			Maximum	Minimum	Mean	
Granite	26	26	14.5	0.93	7.64	3.55
Diorite	3	3	16.2	2.48	7.45	6.19
Gabbro	3	3	12.2	9.8	11.0	0.97
Diabase	7	7	15.1	10.0	12.8	1.78
Basalt	12	12	12.2	4.20	8.14	2.60
Quartzite	7	7	12.8	5.29	9.59	2.32
Marble	14	13	10.7	0.58	6.18	2.49
Gneiss	13	13	11.9	4.13	8.86	2.31
Slate	11	2	3.79	0.35	1.39	0.96
Schist	13	12	10.0	0.86	4.97	3.18
Phyllite	3	3	2.51	1.25	1.71	0.57
Sandstone	27	19	5.68	0.09	2.13	1.19
Siltstone	5	5	4.76	0.38	2.39	1.65
Shale	30	14	5.60	0.001	1.42	1.45
Limestone	30	30	13.0	0.65	5.7	3.73
Dolostone	17	16	11.4	0.83	4.22	3.44

Summary of Poisson's Ratio for Intact Rock, ν (modified by Kulhawy, 1978)

AASHTO Table C10.4.6.5-2

Rock Type	No. of Values	No. of Rock Types	Poisson's Ratio, ν			Standard Deviation
			Maximum	Minimum	Mean	
Granite	22	22	0.39	0.09	0.20	0.08
Gabbro	3	3	0.20	0.16	0.18	0.02
Diabase	6	6	0.38	0.20	0.29	0.06
Basalt	11	11	0.32	0.16	0.23	0.05
Quartzite	6	6	0.22	0.08	0.14	0.05
Marble	5	5	0.40	0.17	0.28	0.08
Gneiss	11	11	0.40	0.09	0.22	0.09
Schist	12	11	0.31	0.02	0.12	0.08
Sandstone	12	9	0.46	0.08	0.20	0.11
Siltstone	3	3	0.23	0.09	0.18	0.06
Shale	3	3	0.18	0.03	0.09	0.06
Limestone	19	19	0.33	0.12	0.23	0.06
Dolostone	5	5	0.35	0.14	0.29	0.08



Side Resistance in Weathered and Hard Rock

$$R_s = (A_s)(q_s)$$

AASHTO Eqn. 10.8.3.5-3

 q_s = unit side resistance for weathered or hard rock layer (ksf)

For weathered rock layers or hard rock layers with a GSI < 30

= 8 ksf

NCDOT Policy

For drilled piers socketed into hard rock

$$= \left(C \sqrt{\frac{q_u}{p_a}} \right) p_a$$

AASHTO Eqn. 10.8.3.5.4b-1

 C = regression coefficient taken as 1.0 for normal rock sockets (see AASHTO C10.8.3.5.4b-1 for details)

For fractured rock that caves and cannot be drilled without artificial support

$$= \left(0.65 \alpha_E \sqrt{\frac{q_u}{p_a}} \right) p_a$$

AASHTO Eqn. 10.8.3.5.4b-2

 α_E = reduction factor to account for jointing in rock (from AASHTO Table 10.8.3.5.4b-1)

RQD (%)	Joint Modification Factor, α_E	
	Closed Joints	Open or Gouge-Filled Joints
100	1.00	0.85
70	0.85	0.55
50	0.60	0.55
30	0.50	0.50
20	0.45	0.45

 q_u = Uniaxial Compressive Strength of Intact Rock (ksf) $\leq f'_c$
 f'_c = 28 day Compressive Strength of Concrete (4.5 ksi = 648 ksf)

 p_a = atmospheric pressure (2.12 ksf)

 A_s = area of drilled pier side resistance (ft²)

$$= (\pi)(B)(\Delta z)$$

 B = diameter of drilled pier (subtract 2 inches to account for possible reduction of drilled pier in rock)

= (36 inches - 2 inches) / 12 inches per ft = 2.83 ft

 Δz = effective thickness of the soil layer (ft)

Layer No.	Rock Type	Layer Elevations		AASHTO Equation and Rock Joint Condition to use	RQD (%)	α_E	q_u (ksf)	q_s (ksf)	Δz (ft)	A_s (ft ²)	R_s (kips)
		Top (ft)	Bottom (ft)								
1	Hard Rock	2,398.10	2,398.00	10.8.3.5.4b-2 (open joints)	98	0.82	400	15.521	0.10	0.89	14

Total Side Resistance in Weathered and Hard Rock = 14



Tip Resistance in Hard Rock

$$R_p = (q_p)(A_p)$$

AASHTO Eqn. 10.8.3.5-2

$$q_p = \text{unit tip resistance (ksf)}$$

If rock to a depth of 2B below drilled pier tip is intact or tightly jointed and the depth of socket > 1.5 D

$$= 2.5q_u$$

AASHTO Eqn. 10.8.3.5.4c-1

If the rock to a depth of 2D below the drilled pier tip is jointed with random orientation

$$= A + q_u \left[m_b \left(\frac{A}{q_u} \right) + s \right]^a$$

AASHTO Eqn. 10.8.3.5.4c-2

 q_u = Uniaxial Compressive Strength of Intact Rock (ksf)

 σ'_{vb} = vertical effective stress at the socket bearing elevation

$$A = \sigma'_{vb} + q_u \left[m_b \left(\frac{\sigma'_{vb}}{q_u} \right) + s \right]^a$$

AASHTO Eqn. 10.8.3.5.4c-3

$$s = \exp \left(\frac{GSI - 100}{9} \right)$$

AASHTO Eqn. 10.4.6.4-2

$$a = \frac{1}{2} + \frac{1}{6} \left(e^{\frac{-GSI}{15}} - e^{\frac{-20}{3}} \right)$$

AASHTO Eqn. 10.4.6.4-3

$$m_b = \exp \left(\frac{GSI - 100}{28} \right) m_i$$

AASHTO Eqn. 10.4.6.4-4

 m_i = constant for intact rock

AASHTO Table 10.4.6.4-1

GSI = Global Strength Index

***Hard Rock Layers with an GSI less than 30 will be modeled as weathered rock.**

 A_p = area of drilled pier tip resistance (ft²)

$$= (\pi)(B^2)/4$$

B = diameter of drilled pier - 2 inches to account for possible reduction for drilled pier in rock (B = 2.83 ft)

Tip Elevation (ft)	AASHTO Equation used to calculate q_u	q_u (ksf)	GSI	m	m_b	s	a	A	q_p (ksf)	A_p (ft ²)	R_p (kips)
2398.00	10.8.3.5.4c-2	400	75	25	10.237	0.06218	0.50091	99.7381	747	6.31	4,714



Tip Resistance in Hard Rock (continued)

Table 10.4.6.4-1—Values of the Constant m_i by Rock Group

Rock type	Class	Group	Texture			
			Coarse	Medium	Fine	Very fine
SEDIMENTARY	Clastic		Conglomerate (21 ± 3)	Sandstone 17 ± 4	Siltstone 7 ± 2	Claystone 4 ± 2
			Breccia (19 ± 5)		Greywacke (18 ± 3)	Shale (6 ± 2)
						Marl (7 ± 2)
						Dolomite (9 ± 3)
	Non-Clastic	Carbonates	Crystalline Limestone (12 ± 3)	Sparitic Limestone (10 ± 5)	Micritic Limestone (8 ± 3)	
		Evaporites		Gypsum 10 ± 2	Anhydrite 12 ± 2	
		Organic				Chalk 7 ± 2
METAMORPHIC	Non Foliated		Marble 9 ± 3	Hornfels (19 ± 4)	Quartzite 20 ± 3	
				Metasandstone (19 ± 3)		
	Slightly foliated		Migmatite (29 ± 3)	Amphibolite 26 ± 6	Gneiss 28 ± 5	
	Foliated*			Schist (10 ± 3)	Phyllite (7 ± 3)	Slate 7 ± 4
IGNEOUS	Plutonic	Light	Granite 32 ± 3	Diorite 25 ± 5		
			Granodiorite (29 ± 3)			
		Dark	Gabbro 27 ± 3	Dolerite (16 ± 5)		
			Norite 20 ± 5			
	Hypabyssal		Porphyries (20 ± 5)		Diabase (15 ± 5)	Peridotite (25 ± 5)
	Volcanic	Lava		Rhyolite (25 ± 5)	Dacite (25 ± 3)	
				Andesite 25 ± 5	Basalt (25 ± 5)	
		Pyroclastic	Agglomerate (19 ± 3)	Volcanic breccia (19 ± 5)	Tuff (13 ± 5)	

Summary of Nominal and Factored Side Resistance

	Nominal Side Resistance (kips)	Resistance Factor from AASHTO Table 10.5.5.2.4-1	Factored Side Resistance (kips)	Percentage of Side Resistance produced by Material Type
Cohesionless IGM				
Cohesive Soil	0	0.45	0	0.0%
Cohesionless Soil	0	0.55	0	0.0%
Cohesive IGM	0	0.60	0	0.0%
Weathered Rock	0	0.60	0	0.0%
Hard Rock	14	0.55	8	100.0%
Total	14		8	100%

Note: When drilled piers are socketed in hard rock, the side resistance above the hard rock will be ignored. For the purpose of this spreadsheet, a drilled pier will be considered socketed in hard rock if either of these conditions are met;

1. The pier is embedded the greater of 3 feet or 1 pier diameter into hard rock.
2. At least 50% of the total nominal side resistance is produced by the hard rock layer(s).





Summary of Nominal and Factored Side Resistance (continued)

Total Nominal Side Resistance = 14 kips
 Side Resistance Factor = 0.55
 Total Factored Side Resistance = 8 kips

for Hard Rock, see AASHTO Table 10.5.5.2.4-1.

Summary of Total Nominal and Factored Tip Resistance

Total Nominal Tip Resistance = 4,714 kips
 Tip Resistance Factor = 0.50
 Total Factored Tip Resistance = 2,357 kips

the drilled pier is bearing on Hard Rock
 for Hard Rock, see AASHTO Table 10.5.5.2.4-1.

Required Factored Resistance

$$R_{\text{req}} = P_r + \gamma_{\text{DC}}(W_{\text{Column}} + W_{\text{Pier}}) - \gamma_{\text{WA}}W_{\text{Water}} - \gamma_{\text{DC}}W_{\text{Soil/Rock}} \geq P_r$$

Required Factored Resistance

$$P_r = 615 \text{ kips}$$

Maximum Factored Axial Load Reported by Structure Design

$$\gamma_{\text{DC}} = 1.25$$

Factor for Permanent Dead Loads, from AASHTO Table 3.4.1-2

$$\gamma_{\text{WA}} = 1.00$$

Factor for Water Loads, from AASHTO Table 3.4.1-1

$$W_{\text{Column}} = (A_{\text{Column}})(L_{\text{Column}})(\gamma_c)$$

Unfactored Weight of Column

$$A_{\text{Column}} = 4.91 \text{ ft}^2$$

Area of Column

$$L_{\text{Column}} = 0 \text{ ft}$$

Length of Column

$$\gamma_c = 0.150 \text{ kcf}$$

Unit Weight of Concrete

$$= 0 \text{ kips}$$

$$W_{\text{Pier}} = (A_{\text{Pier}})(L_{\text{Pier}})(\gamma_c)$$

Unfactored Weight of Drilled Pier

$$A_{\text{Pier}} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$L_{\text{Pier}} = 8 \text{ ft}$$

Length of Drilled Pier

$$\gamma_c = 0.150 \text{ kcf}$$

Unit Weight of Concrete

$$= 8 \text{ kips}$$

$$W_{\text{Water}} = (A_{\text{Pier}})(Z_w)(\gamma_w)$$

Unfactored Weight of Water Displaced by Drilled Pier

$$A_{\text{Pier}} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$Z_w = 7 \text{ ft}$$

Depth from water surface to the drilled pier tip

$$\gamma_w = 0.0624 \text{ kcf}$$

Unit Weight of Water

$$= 3 \text{ kips}$$

$$W_{\text{Soil/Rock}} = (A_{\text{Pier}})(\sigma'_{\text{vo}})$$

Unfactored Effective Weight of Soil / Rock that will be displaced

$$A_{\text{Pier}} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$\sigma'_{\text{vo}} = 0.012 \text{ ksf}$$

effective vertical stress at drilled pier tip as defined in FHWA GEC 010 pages 13-46

$$W_{\text{Soil/Rock}} = 0 \text{ kips}$$

$$R_{\text{req}} = 615 \text{ kips} + 1.25(0 \text{ kips} + 8 \text{ kips}) - 1.00(3 \text{ kips}) - 1.25(0 \text{ kips}) = 622 \text{ kips}$$



Load Transfer of Side and Tip Resistance for Drilled Piers Socketed in Hard Rock

Per AASHTO Section 10.8.3.5.4a, The Factored Geotechnical Resistance for Drilled Piers socketed in hard rock will be based on side resistance, tip resistance, or a combination of both. Using a combination of both side and tip resistance requires a displacement based analysis and falls outside the limitations of this spreadsheet. For details on displacement based analysis, see *FHWA GEC 010 Appendix D.3.1* .

Developed Factored Resistance, (R_{rd})

Select which value to use for the Factored Developed Resistance

- ☐ Use the Factored Side Resistance of the rock socket.
- ☒ Use the Factored Tip Resistance of the rock socket.

2,357 kips ≥ 622 kips

The axial resistance requirement is satisfied.

Required Tip Resistance

q_{req} = required tip resistance (rounded up to the nearest 10 ksf or 5 tsf)

$$= \frac{R_{req} - \phi_{qs}R_{sd}}{\phi_{qp}} \leq q_p$$

NCDOT policy

- R_r = required factored geotechnical resistance (kips)
- ϕ_{qs}R_{sd} = factored developed side resistance (kips)
- A_T = area of drilled pier tip (ft²)
- ϕ_{qp} = tip resistance factor
- q_p = unit tip resistance (ksf)

R _{req} (kips)	ϕ _{qs} R _{sd} (kips)	A _{Tip} (ft ²)	ϕ _{qp}	q _p (ksf)	q _{req} (ksf)
622	0	6.31	0.50	747	200

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LPILE for Windows, Version 2022-12.009

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:
\Users\avarri\Desktop\NC Grow\Site 205\Lpile\

Name of input data file:
NC GROW_SITE 205_Bent1.lp12d

Name of output report file:
NC GROW_SITE 205_Bent1.lp12o

Name of plot output file:
NC GROW_SITE 205_Bent1.lp12p

Name of runtime message file:
NC GROW_SITE 205_Bent1.lp12r

Date and Time of Analysis

Date: December 19, 2025 Time: 9:41:04

Problem Title

Project Name: NC GROW DRIVEWAY OVER CANE RIVER

Job Number: 10434317

Client:

Engineer:AV

Description: SITE 100-01-00205 -B1

Program Options and Settings

Computational Options:

- Conventional Analysis

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
- Use of p-y modification factors for p-y curves not selected
- 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 = 2
Total length of pile = 16.100 ft
Depth of ground surface below top of pile = 7.9000 ft

Pile diameters used for p-y curve computations are defined using 4 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	36.0000
2	7.900	36.0000
3	7.900	34.0000
4	16.100	34.0000

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 = 7.900000 ft
Shaft Diameter = 36.000000 in

Pile Section No. 2:

Section 2 is a round drilled shaft, bored pile, or CIDH pile
Length of section = 8.200000 ft
Shaft Diameter = 34.000000 in

Soil and Rock Layering Information

The soil profile is modelled using 1 layers

Layer 1 is strong rock (vuggy limestone)

Distance from top of pile to top of layer = 7.900000 ft
Distance from top of pile to bottom of layer = 20.000000 ft
Effective unit weight at top of layer = 77.600000 pcf
Effective unit weight at bottom of layer = 77.600000 pcf
Uniaxial compressive strength at top of layer = 2000. psi
Uniaxial compressive strength at bottom of layer = 2000. psi

(Depth of the lowest soil layer extends 3.900 ft below the pile tip)

Summary of Input Soil Properties

Layer Num.	Soil Type Name (p-y Curve Type)	Layer Depth ft	Effective Unit Wt. pcf	Uniaxial qu psi
1	Strong Rock (Vuggy Limestone)	7.9000 20.0000	77.6000 77.6000	2000. 2000.

Static Loading Type

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

Pile-head Loading and Pile-head Fixity Conditions

Number of loads specified = 5

Load No.	Load Type	Condition 1	Condition 2	Axial Thrust Force, lbs	Compute Top y vs. Pile Length	Run Analysis
1	1	V = 2000. lbs	M = 252000. in-lbs	615000.	No	Yes

2	1	V =	6000. lbs	M =	660000. in-lbs	330000.	No	Yes
3	2	V =	23000. lbs	S =	0.0000 in/in	115000.	No	Yes
4	1	V =	5000. lbs	M =	360000. in-lbs	240000.	No	Yes
5	2	V =	21000. lbs	S =	0.0000 in/in	400000.	No	Yes

V = shear force applied normal to pile axis

M = bending moment applied to pile head

y = lateral deflection normal to pile axis

S = pile slope relative to original pile batter angle

R = rotational stiffness applied to pile head

Values of top y vs. pile lengths can be computed only for load types with specified shear loading (Load Types 1, 2, and 3).

Thrust force is assumed to be acting axially for all pile batter angles.

 Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 2

Pile Section No. 1:

 Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	7.900000 ft
Shaft Diameter	=	36.000000 in
Concrete Cover Thickness (to edge of long. rebar)	=	3.000000 in
Number of Reinforcing Bars	=	12 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	1018. sq. in.
Total Area of Reinforcing Steel	=	12.000000 sq. in.
Area Ratio of Steel Reinforcement	=	1.18 percent
Edge-to-Edge Bar Spacing	=	6.344623 in
Maximum Concrete Aggregate Size	=	0.750000 in
Ratio of Bar Spacing to Aggregate Size	=	8.46
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$	=	4567.476 kips
Tensile Load for Cracking of Concrete	=	-482.982 kips
Nominal Axial Tensile Capacity	=	-720.000 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	14.436000	0.000000
2	1.128000	1.000000	12.501943	7.218000
3	1.128000	1.000000	7.218000	12.501943
4	1.128000	1.000000	0.000000	14.436000
5	1.128000	1.000000	-7.218000	12.501943
6	1.128000	1.000000	-12.501943	7.218000
7	1.128000	1.000000	-14.436000	0.000000
8	1.128000	1.000000	-12.501943	-7.218000
9	1.128000	1.000000	-7.218000	-12.501943
10	1.128000	1.000000	0.000000	-14.436000
11	1.128000	1.000000	7.218000	-12.501943
12	1.128000	1.000000	12.501943	-7.218000

NOTE: The positions of the above rebars were computed by LPile

Minimum spacing between any two bars not equal to zero = 6.345 inches
between bars 7 and 8.

Ratio of bar spacing to maximum aggregate size = 8.46

Concrete Properties:

Compressive Strength of Concrete	=	4500. psi
Modulus of Elasticity of Concrete	=	3823676. psi
Modulus of Rupture of Concrete	=	-503.11529 psi
Compression Strain at Peak Stress	=	0.002001
Tensile Strain at Fracture of Concrete	=	-0.0001152
Maximum Coarse Aggregate Size	=	0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 5

Number	Axial Thrust Force kips
-----	-----
1	115.000
2	240.000
3	330.000
4	400.000
5	615.000

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 318-14, Section 21.2.3.
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 = 115.000 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
-----	-----	-----	-----	-----	-----	-----	-----	-----
6.25000E-07	248.2855203	397256833.	55.9809958	0.00003499	0.00001249	0.1555186	0.9591931	
0.00000125	496.5673203	397253856.	37.0082638	0.00004626	0.00000126	0.2047048	1.2306245	
0.00000188	744.7606438	397205677.	30.6913778	0.00005755	-0.00000995	0.2536712	1.5024562	
0.00000250	992.4448734	396977949.	27.5360946	0.00006884	-0.00002116	0.3023913	1.7745169	
0.00000313	1239.	396601955.	25.6441196	0.00008014	-0.00003236	0.3508464	2.0466858	
0.00000375	1485.	396132319.	24.3833501	0.00009144	-0.00004356	0.3990290	2.3189143	
0.00000438	1731.	395603251.	23.4830999	0.0001027	-0.00005476	0.4469358	2.5911808	
0.00000500	1975.	395034750.	22.8080961	0.0001140	-0.00006596	0.4945651	2.8634739	
0.00000563	2219.	394438967.	22.2832170	0.0001253	-0.00007716	0.5419157	3.1357873	
0.00000625	2461.	393823613.	21.8634041	0.0001366	-0.00008835	0.5889872	3.4081170	
0.00000688	2461.	358021467.	17.9189077	0.0001232	-0.000124	0.5318870	-2.994830 C	
0.00000750	2461.	328186345.	17.3713673	0.0001303	-0.000140	0.5613184	-3.386178 C	
0.00000813	2461.	302941241.	16.8926089	0.0001373	-0.000155	0.5901139	-3.781167 C	

0.00000875	2461.	281302581.	16.4703890	0.0001441	-0.000171	0.6183703	-4.179164 C
0.00000938	2461.	262549076.	16.0943833	0.0001509	-0.000187	0.6461307	-4.579902 C
0.00001000	2461.	246139758.	15.7569504	0.0001576	-0.000202	0.6734419	-4.983084 C
0.00001063	2461.	231660949.	15.4523525	0.0001642	-0.000218	0.7003546	-5.388381 C
0.00001125	2461.	218790896.	15.1762363	0.0001707	-0.000234	0.7269238	-5.795428 C
0.00001188	2461.	207275586.	14.9252801	0.0001772	-0.000250	0.7532095	-6.203819 C
0.00001250	2461.	196911807.	14.6936453	0.0001837	-0.000266	0.7791080	-6.614304 C
0.00001313	2461.	187535054.	14.4815197	0.0001901	-0.000282	0.8047803	-7.025759 C
0.00001375	2461.	179010733.	14.2858919	0.0001964	-0.000299	0.8302080	-7.438326 C
0.00001438	2461.	171227658.	14.1041213	0.0002027	-0.000315	0.8553644	-7.852207 C
0.00001500	2461.	164093172.	13.9358888	0.0002090	-0.000331	0.8803368	-8.266788 C
0.00001563	2461.	157529445.	13.7788866	0.0002153	-0.000347	0.9050835	-8.682380 C
0.00001625	2461.	151470621.	13.6319893	0.0002215	-0.000363	0.9296168	-9.098900 C
0.00001688	2461.	145860598.	13.4960189	0.0002277	-0.000380	0.9540692	-9.515398 C
0.00001750	2461.	140651291.	13.3660630	0.0002339	-0.000396	0.9781801	-9.933773 C
0.00001813	2462.	135822534.	13.2452221	0.0002401	-0.000412	1.0022197	-10.352068 C
0.00001875	2513.	134045658.	13.1323448	0.0002462	-0.000429	1.0261701	-10.770412 C
0.00001938	2565.	132363289.	13.0237059	0.0002523	-0.000445	1.0498060	-11.190468 C
0.00002000	2616.	130784659.	12.9219930	0.0002584	-0.000462	1.0733718	-11.610444 C
0.00002063	2667.	129300334.	12.8265767	0.0002645	-0.000478	1.0968675	-12.030341 C
0.00002125	2718.	127894533.	12.7354646	0.0002706	-0.000494	1.1201740	-12.451045 C
0.00002188	2769.	126560211.	12.6482191	0.0002767	-0.000511	1.1432866	-12.872598 C
0.00002250	2819.	125298802.	12.5659405	0.0002827	-0.000527	1.1663303	-13.294074 C
0.00002313	2870.	124104392.	12.4882261	0.0002888	-0.000544	1.1893050	-13.715471 C
0.00002375	2921.	122970864.	12.4145343	0.0002948	-0.000560	1.2121942	-14.136914 C
0.00002438	2971.	121884262.	12.3425113	0.0003008	-0.000577	1.2348068	-14.559850 C
0.00002500	3072.	119866959.	12.2093194	0.0003129	-0.000610	1.2798286	-15.405487 C
0.00002688	3172.	118033340.	12.0889183	0.0003249	-0.000643	1.3245786	-16.250812 C
0.00002813	3272.	116347775.	11.9767514	0.0003368	-0.000676	1.3687549	-17.098150 C
0.00002938	3372.	114798457.	11.8735609	0.0003488	-0.000709	1.4125595	-17.945973 C
0.00003063	3472.	113372207.	11.7791477	0.0003607	-0.000742	1.4560956	-18.793482 C
0.00003188	3572.	112053629.	11.6922050	0.0003727	-0.000775	1.4993302	-19.640930 C
0.00003313	3671.	110822655.	11.6094784	0.0003846	-0.000808	1.5419721	-20.490632 C
0.00003438	3770.	109678235.	11.5330868	0.0003964	-0.000841	1.5843486	-21.340016 C
0.00003563	3869.	108611244.	11.4623648	0.0004083	-0.000874	1.6264589	-22.189082 C
0.00003688	3968.	107613798.	11.3967371	0.0004203	-0.000907	1.6683023	-23.037827 C
0.00003813	4067.	106678617.	11.3355437	0.0004322	-0.000940	1.7098565	-23.886427 C
0.00003938	4166.	105794949.	11.2765437	0.0004440	-0.000973	1.7508692	-24.736959 C
0.00004063	4264.	104963168.	11.2214516	0.0004559	-0.001007	1.7916177	-25.587165 C
0.00004188	4362.	104178614.	11.1699187	0.0004677	-0.001040	1.8321010	-26.437042 C
0.00004313	4461.	103437172.	11.1216366	0.0004796	-0.001073	1.8723186	-27.286591 C
0.00004438	4559.	102735188.	11.0763319	0.0004915	-0.001106	1.9122696	-28.135808 C
0.00004563	4657.	102069409.	11.0337609	0.0005034	-0.001139	1.9519534	-28.984692 C
0.00004688	4755.	101436929.	10.9937063	0.0005153	-0.001172	1.9913693	-29.833243 C
0.00004813	4853.	100833345.	10.9550827	0.0005272	-0.001205	2.0303738	-30.682700 C
0.00004938	4950.	100257276.	10.9181722	0.0005391	-0.001238	2.0690330	-31.532505 C
0.00005063	5048.	99707633.	10.8833184	0.0005510	-0.001272	2.1074262	-32.381965 C
0.00005188	5145.	99182494.	10.8503737	0.0005629	-0.001305	2.1455524	-33.231081 C
0.00005313	5242.	98680121.	10.8192044	0.0005748	-0.001338	2.1834110	-34.079851 C
0.00005438	5340.	98198937.	10.7896892	0.0005867	-0.001371	2.2210013	-34.928271 C
0.00005563	5437.	97737505.	10.7617177	0.0005986	-0.001404	2.2583224	-35.776341 C
0.00005688	5534.	97294513.	10.7351892	0.0006106	-0.001437	2.2953737	-36.624060 C
0.00005813	5630.	96868763.	10.7100116	0.0006225	-0.001470	2.3321543	-37.471424 C
0.00005938	5727.	96459159.	10.6861007	0.0006345	-0.001503	2.3686634	-38.318433 C
0.00006063	5824.	96064694.	10.6633792	0.0006465	-0.001536	2.4049004	-39.165084 C
0.00006188	5920.	95684443.	10.6417761	0.0006585	-0.001569	2.4408643	-40.011375 C
0.00006313	6017.	95317552.	10.6212258	0.0006705	-0.001602	2.4765545	-40.857306 C
0.00006438	6113.	94962288.	10.6009552	0.0006824	-0.001635	2.5118329	-41.704204 C
0.00006563	6209.	94618877.	10.5816072	0.0006944	-0.001668	2.5468303	-42.550816 C
0.00006688	6305.	94286705.	10.5631760	0.0007064	-0.001701	2.5815550	-43.397053 C
0.00006813	6401.	93965149.	10.5456121	0.0007184	-0.001734	2.6160060	-44.242912 C
0.00006938	6497.	93653626.	10.5288697	0.0007304	-0.001767	2.6501827	-45.088393 C
0.00007063	6593.	93351595.	10.5129063	0.0007425	-0.001800	2.6840841	-45.933491 C
0.00007188	6689.	93058555.	10.4976821	0.0007545	-0.001833	2.7177094	-46.778206 C
0.00007313	6784.	92774036.	10.4831604	0.0007666	-0.001866	2.7510578	-47.622535 C
0.00007438	6880.	92497602.	10.4693067	0.0007787	-0.001899	2.7841284	-48.466476 C
0.00007563	7260.	91464939.	10.4199600	0.0008271	-0.002030	2.9136157	-51.838317 C
0.00008438	7639.	90533282.	10.3790727	0.0008757	-0.002162	3.0385885	-55.203769 C
0.00008938	8016.	89685264.	10.3452834	0.0009246	-0.002293	3.1589885	-58.562681 C

0.00009438	8375.	88745878.	10.3117561	0.0009732	-0.002424	3.2734780	-60.000000	CY
0.00009938	8675.	87295828.	10.2623884	0.0010198	-0.002558	3.3785760	-60.000000	CY
0.0001044	8908.	85349717.	10.1921680	0.0010638	-0.002694	3.4732376	-60.000000	CY
0.0001094	9066.	82889576.	10.1009142	0.0011048	-0.002833	3.5575545	-60.000000	CY
0.0001144	9223.	80637081.	10.0189448	0.0011459	-0.002972	3.6385535	-60.000000	CY
0.0001194	9379.	78566023.	9.9451143	0.0011872	-0.003110	3.7161987	-60.000000	CY
0.0001244	9534.	76652513.	9.8773306	0.0012285	-0.003249	3.7902022	-60.000000	CY
0.0001294	9687.	74876567.	9.8138423	0.0012697	-0.003388	3.8603296	-60.000000	CY
0.0001344	9816.	73052417.	9.7460034	0.0013096	-0.003528	3.9248507	-60.000000	CY
0.0001394	9893.	70983754.	9.6616157	0.0013466	-0.003671	3.9813943	-60.000000	CY
0.0001444	9956.	68962143.	9.5781709	0.0013828	-0.003815	4.0339889	-60.000000	CY
0.0001494	10018.	67067867.	9.4987858	0.0014189	-0.003959	4.0834600	-60.000000	CY
0.0001544	10079.	65288936.	9.4231890	0.0014547	-0.004103	4.1298862	-60.000000	CY
0.0001594	10139.	63618732.	9.3530938	0.0014906	-0.004247	4.1737165	-60.000000	CY
0.0001644	10199.	62047285.	9.2880081	0.0015267	-0.004391	4.2149241	-60.000000	CY
0.0001694	10258.	60565805.	9.2274985	0.0015629	-0.004535	4.2534819	-60.000000	CY
0.0001744	10317.	59165597.	9.1706128	0.0015991	-0.004678	4.2892653	-60.000000	CY
0.0001794	10374.	57836224.	9.1147341	0.0016350	-0.004823	4.3218969	-60.000000	CY
0.0001844	10431.	56576422.	9.0625836	0.0016709	-0.004967	4.3518902	-60.000000	CY
0.0001894	10488.	55380636.	9.0138767	0.0017070	-0.005110	4.3792162	-60.000000	CY
0.0001944	10544.	54243886.	8.9683589	0.0017432	-0.005254	4.4038453	-60.000000	CY
0.0001994	10599.	53161684.	8.9258011	0.0017796	-0.005398	4.4257472	-60.000000	CY
0.0002044	10654.	52129994.	8.8859973	0.0018161	-0.005541	4.4448908	-60.000000	CY
0.0002094	10709.	51145155.	8.8487615	0.0018527	-0.005685	4.4612441	-60.000000	CY
0.0002144	10761.	50197215.	8.8127182	0.0018892	-0.005828	4.4746870	-60.000000	CY
0.0002194	10809.	49273186.	8.7751425	0.0019250	-0.005972	4.4850977	-60.000000	CY
0.0002244	10845.	48333996.	8.7326995	0.0019594	-0.006118	4.4924995	-60.000000	CY
0.0002294	10873.	47401113.	8.6881680	0.0019928	-0.006265	4.4972863	-60.000000	CY
0.0002344	10893.	46475056.	8.6416975	0.0020254	-0.006412	4.4996564	-60.000000	CY
0.0002394	10908.	45568933.	8.5952283	0.0020575	-0.006560	4.4948594	-60.000000	CY
0.0002444	10923.	44697842.	8.5510850	0.0020897	-0.006708	4.4979229	-60.000000	CY
0.0002494	10938.	43860644.	8.5091567	0.0021220	-0.006856	4.4997986	-60.000000	CY
0.0002544	10952.	43054892.	8.4694343	0.0021544	-0.007003	4.4938636	-60.000000	CY
0.0002594	10965.	42275987.	8.4292807	0.0021863	-0.007151	4.4974329	-60.000000	CY
0.0002644	10978.	41524794.	8.3902478	0.0022182	-0.007299	4.4995295	-60.000000	CY
0.0002694	10991.	40800479.	8.3531191	0.0022501	-0.007447	4.4973771	-60.000000	CY
0.0002744	11003.	40101238.	8.3179001	0.0022822	-0.007595	4.4953691	-60.000000	CY
0.0003044	11071.	36372965.	8.1383471	0.0024771	-0.008480	4.4996876	-60.000000	CY
0.0003344	11129.	33283305.	7.9925216	0.0026725	-0.009365	4.4963444	-60.000000	CY
0.0003644	11181.	30684342.	7.8769692	0.0028702	-0.010247	4.4936823	-60.000000	CY
0.0003944	11228.	28469377.	7.7866024	0.0030708	-0.011127	4.4979981	-60.000000	CYT
0.0004244	11270.	26557137.	7.7125884	0.0032730	-0.012004	4.4992253	-60.000000	CYT
0.0004544	11309.	24888357.	7.6495332	0.0034758	-0.012882	4.4930018	60.000000	CYT
0.0004844	11343.	23418263.	7.6011779	0.0036818	-0.013756	4.4907843	60.000000	CYT
0.0005144	11343.	22052435.	7.6044247	0.0039115	-0.014606	4.4987380	60.000000	CYT

Axial Thrust Force = 240.000 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
6.25000E-07	245.3058186	392489310.	97.7374735	0.00006109	0.00003859	0.2701059	1.7160292	
0.00000125	490.6093413	392487473.	57.8867229	0.00007236	0.00002736	0.3186384	1.9874687	
0.00000188	735.9026013	392481387.	44.6111308	0.00008365	0.00001615	0.3669555	2.2593427	
0.00000250	981.1804684	392472187.	37.9793287	0.00009495	0.00000495	0.4150561	2.5316513	
0.00000313	1226.	392457621.	34.0050127	0.0001063	-0.00000623	0.4629385	2.8043918	
0.00000375	1471.	392392233.	31.3588343	0.0001176	-0.00001740	0.5105921	3.0774982	
0.00000438	1716.	392234412.	29.4706951	0.0001289	-0.00002857	0.5579995	3.3508570	
0.00000500	1960.	391986689.	28.0557977	0.0001403	-0.00003972	0.6051487	3.6243906	
0.00000563	2203.	391663248.	26.9560917	0.0001516	-0.00005087	0.6520323	3.8980499	
0.00000625	2445.	391278793.	26.0768451	0.0001630	-0.00006202	0.6986453	4.1718031	
0.00000688	2687.	390845672.	25.3578279	0.0001743	-0.00007316	0.7449847	4.4456295	
0.00000750	2928.	390373688.	24.7589192	0.0001857	-0.00008431	0.7910482	4.7195149	
0.00000813	3168.	389870455.	24.2523618	0.0001971	-0.00009545	0.8368344	4.9934503	
0.00000875	3168.	362022566.	21.7605342	0.0001904	-0.000125	0.8093535	4.7452606	C
0.00000938	3168.	337887728.	21.1766934	0.0001985	-0.000139	0.8419306	4.9254760	C
0.00001000	3168.	316769745.	20.6520357	0.0002065	-0.000153	0.8738062	5.1016904	C

0.00001063	3168.	298136230.	20.1759243	0.0002144	-0.000168	0.9049793	5.2738442 C
0.00001125	3168.	281573107.	19.7426771	0.0002221	-0.000183	0.9355658	5.4427234 C
0.00001188	3168.	266753469.	19.3460720	0.0002297	-0.000198	0.9655974	5.6085161 C
0.00001250	3168.	253415796.	18.9811891	0.0002373	-0.000213	0.9951079	5.7714311 C
0.00001313	3168.	241348377.	18.6441049	0.0002447	-0.000228	1.0241340	5.9316998 C
0.00001375	3168.	230377996.	18.3317618	0.0002521	-0.000243	1.0527198	6.0896150 C
0.00001438	3168.	220361562.	18.0417614	0.0002594	-0.000258	1.0809161	6.2455218 C
0.00001500	3168.	211179830.	17.7720841	0.0002666	-0.000273	1.1087715	-6.598043 C
0.00001563	3168.	202732637.	17.5196417	0.0002737	-0.000289	1.1362492	-6.987350 C
0.00001625	3226.	198542144.	17.2826965	0.0002808	-0.000304	1.1633682	-7.378505 C
0.00001688	3286.	194739155.	17.0612582	0.0002879	-0.000320	1.1902445	-7.770659 C
0.00001750	3345.	191146832.	16.8515911	0.0002949	-0.000335	1.2167400	-8.164867 C
0.00001813	3403.	187772214.	16.6544436	0.0003019	-0.000351	1.2429945	-8.560096 C
0.00001875	3461.	184585828.	16.4679525	0.0003088	-0.000366	1.2689658	-8.956676 C
0.00001938	3518.	181575448.	16.2914002	0.0003156	-0.000382	1.2946792	-9.354432 C
0.00002000	3575.	178725013.	16.1238823	0.0003225	-0.000398	1.3201387	-9.753348 C
0.00002063	3631.	176029178.	15.9652449	0.0003293	-0.000413	1.3453977	-10.153025 C
0.00002125	3686.	173460443.	15.8134509	0.0003360	-0.000429	1.3703578	-10.554236 C
0.00002188	3741.	171036644.	15.6704926	0.0003428	-0.000445	1.3952319	-10.955344 C
0.00002250	3796.	168709893.	15.5321611	0.0003495	-0.000461	1.4197291	-11.358615 C
0.00002313	3850.	166504368.	15.4011787	0.0003562	-0.000476	1.4441183	-11.761972 C
0.00002375	3905.	164407055.	15.2765828	0.0003628	-0.000492	1.4683661	-12.165679 C
0.00002438	3958.	162389520.	15.1557665	0.0003694	-0.000508	1.4922833	-12.571230 C
0.00002563	4065.	158643263.	14.9319768	0.0003826	-0.000540	1.5398489	-13.382212 C
0.00002688	4171.	155189530.	14.7237425	0.0003957	-0.000572	1.5865234	-14.197296 C
0.00002813	4276.	152026553.	14.5331043	0.0004087	-0.000604	1.6327348	-15.013124 C
0.00002938	4380.	149096029.	14.3551514	0.0004217	-0.000636	1.6782064	-15.831968 C
0.00003063	4483.	146393773.	14.1912752	0.0004346	-0.000668	1.7232657	-16.651212 C
0.00003188	4586.	143870925.	14.0367724	0.0004474	-0.000700	1.7675738	-17.473671 C
0.00003313	4688.	141534306.	13.8943100	0.0004602	-0.000732	1.8115692	-18.295766 C
0.00003438	4790.	139343146.	13.7594432	0.0004730	-0.000765	1.8548798	-19.120617 C
0.00003563	4891.	137295284.	13.6333653	0.0004857	-0.000797	1.8977562	-19.946167 C
0.00003688	4992.	135382618.	13.5161724	0.0004984	-0.000829	1.9403245	-20.771356 C
0.00003813	5093.	133573886.	13.4039062	0.0005110	-0.000861	1.9821881	-21.599594 C
0.00003938	5193.	131873752.	13.2985793	0.0005236	-0.000894	2.0236816	-22.428047 C
0.00004063	5292.	130275019.	13.2000381	0.0005363	-0.000926	2.0648712	-23.256143 C
0.00004188	5392.	128762908.	13.1065694	0.0005488	-0.000959	2.1056039	-24.085223 C
0.00004313	5491.	127325564.	13.0168722	0.0005614	-0.000991	2.1457622	-24.916362 C
0.00004438	5590.	125966315.	12.9325060	0.0005739	-0.001024	2.1856205	-25.747144 C
0.00004563	5688.	124678739.	12.8530337	0.0005864	-0.001056	2.2251781	-26.577567 C
0.00004688	5787.	123456785.	12.7779964	0.0005990	-0.001089	2.2644239	-27.407723 C
0.00004813	5885.	122284763.	12.7046677	0.0006114	-0.001121	2.3029970	-28.240936 C
0.00004938	5983.	121169553.	12.6353030	0.0006239	-0.001154	2.3412731	-29.073788 C
0.00005063	6080.	120106936.	12.5696100	0.0006363	-0.001186	2.3792513	-29.906279 C
0.00005188	6178.	119093098.	12.5073240	0.0006488	-0.001219	2.4169308	-30.738407 C
0.00005313	6275.	118124586.	12.4482059	0.0006613	-0.001251	2.4543107	-31.570170 C
0.00005438	6372.	117194387.	12.3910087	0.0006738	-0.001284	2.4912218	-32.403190 C
0.00005563	6469.	116300032.	12.3356202	0.0006862	-0.001316	2.5276707	-33.237440 C
0.00005688	6566.	115442811.	12.2828894	0.0006986	-0.001349	2.5638234	-34.071322 C
0.00005813	6662.	114620316.	12.2326461	0.0007110	-0.001381	2.5996789	-34.904833 C
0.00005938	6759.	113830346.	12.1847340	0.0007235	-0.001414	2.6352364	-35.737973 C
0.00006063	6855.	113070878.	12.1390100	0.0007359	-0.001447	2.6704950	-36.570740 C
0.00006188	6951.	112340055.	12.0953424	0.0007484	-0.001479	2.7054538	-37.403132 C
0.00006313	7047.	111635410.	12.0533651	0.0007609	-0.001512	2.7400684	-38.235596 C
0.00006438	7143.	110952183.	12.0119214	0.0007733	-0.001544	2.7741493	-39.070107 C
0.00006563	7238.	110293095.	11.9722571	0.0007857	-0.001577	2.8079333	-39.904236 C
0.00006688	7333.	109656784.	11.9342733	0.0007981	-0.001609	2.8414195	-40.737981 C
0.00006813	7428.	109041986.	11.8978786	0.0008105	-0.001642	2.8746069	-41.571341 C
0.00006938	7524.	108447530.	11.8629880	0.0008230	-0.001675	2.9074947	-42.404313 C
0.00007063	7618.	107872327.	11.8295227	0.0008355	-0.001707	2.9400819	-43.236896 C
0.00007188	7713.	107315364.	11.7974092	0.0008479	-0.001740	2.9723677	-44.069087 C
0.00007313	7808.	106775697.	11.7665793	0.0008604	-0.001772	3.0043510	-44.900885 C
0.00007438	7903.	106252446.	11.7369690	0.0008729	-0.001805	3.0360310	-45.732287 C
0.00007938	8279.	104301332.	11.6267352	0.0009229	-0.001935	3.1591417	-49.060471 C
0.00008438	8653.	102554102.	11.5309448	0.0009729	-0.002065	3.2771190	-52.385282 C
0.00008938	9025.	100979015.	11.4484678	0.0010232	-0.002194	3.3901827	-55.703365 C
0.00009438	9395.	99548242.	11.3772454	0.0010737	-0.002324	3.4982669	-59.014564 C
0.00009938	9741.	98018567.	11.3068447	0.0011236	-0.002454	3.5995466	-60.000000 CY
0.0001044	10033.	96125726.	11.2264197	0.0011718	-0.002586	3.6920972	-60.000000 CY

0.0001094	10263.	93836942.	11.1336234	0.0012177	-0.002720	3.7757420	-60.000000	CY
0.0001144	10420.	91102612.	11.0251170	0.0012610	-0.002857	3.8501675	-60.000000	CY
0.0001194	10574.	88581987.	10.9246801	0.0013041	-0.002993	3.9203623	-60.000000	CY
0.0001244	10727.	86250613.	10.8317978	0.0013472	-0.003130	3.9864477	-60.000000	CY
0.0001294	10879.	84091244.	10.7474515	0.0013905	-0.003267	4.0487845	-60.000000	CY
0.0001344	11030.	82084528.	10.6707123	0.0014339	-0.003404	4.1073269	-60.000000	CY
0.0001394	11174.	80170819.	10.5974576	0.0014770	-0.003540	4.1614557	-60.000000	CY
0.0001444	11271.	78070538.	10.5099122	0.0015174	-0.003680	4.2083792	-60.000000	CY
0.0001494	11337.	75895946.	10.4164382	0.0015560	-0.003822	4.2499399	-60.000000	CY
0.0001544	11399.	73840288.	10.3288401	0.0015945	-0.003963	4.2882801	-60.000000	CY
0.0001594	11460.	71907978.	10.2469373	0.0016331	-0.004104	4.3234598	-60.000000	CY
0.0001644	11520.	70080729.	10.1671687	0.0016712	-0.004246	4.3550676	-60.000000	CY
0.0001694	11578.	68357785.	10.0929773	0.0017095	-0.004388	4.3836664	-60.000000	CY
0.0001744	11636.	66730106.	10.0238962	0.0017479	-0.004530	4.4092207	-60.000000	CY
0.0001794	11693.	65189661.	9.9595109	0.0017865	-0.004671	4.4316939	-60.000000	CY
0.0001844	11750.	63729221.	9.8994175	0.0018252	-0.004812	4.4510456	-60.000000	CY
0.0001894	11805.	62335932.	9.8397190	0.0018634	-0.004954	4.4669791	-60.000000	CY
0.0001944	11859.	61011148.	9.7839014	0.0019017	-0.005096	4.4798333	-60.000000	CY
0.0001994	11913.	59749640.	9.7316869	0.0019403	-0.005237	4.4895689	-60.000000	CY
0.0002044	11965.	58546708.	9.6828254	0.0019789	-0.005379	4.4961457	-60.000000	CY
0.0002094	12018.	57398092.	9.6370914	0.0020178	-0.005520	4.4995223	-60.000000	CY
0.0002144	12069.	56299547.	9.5943449	0.0020568	-0.005661	4.4959976	-60.000000	CY
0.0002194	12120.	55247665.	9.5543858	0.0020960	-0.005802	4.4993969	-60.000000	CY
0.0002244	12169.	54237160.	9.5154005	0.0021350	-0.005942	4.4950619	-60.000000	CY
0.0002294	12217.	53262815.	9.4775905	0.0021739	-0.006084	4.4987603	-60.000000	CY
0.0002344	12261.	52313075.	9.4401849	0.0022125	-0.006225	4.4996573	-60.000000	CY
0.0002394	12296.	51368581.	9.4010204	0.0022504	-0.006367	4.4969676	-60.000000	CY
0.0002444	12327.	50441355.	9.3612956	0.0022877	-0.006510	4.4995071	-60.000000	CY
0.0002494	12345.	49502823.	9.3170321	0.0023234	-0.006654	4.4968000	-60.000000	CY
0.0002544	12361.	48593698.	9.2743613	0.0023592	-0.006798	4.4967684	-60.000000	CY
0.0002594	12374.	47707701.	9.2320980	0.0023946	-0.006943	4.4992221	-60.000000	CY
0.0002644	12387.	46854240.	9.1918686	0.0024301	-0.007087	4.4995797	-60.000000	CY
0.0002694	12399.	46027593.	9.1515096	0.0024652	-0.007232	4.4946682	-60.000000	CY
0.0002744	12410.	45229113.	9.1119628	0.0025001	-0.007377	4.4978373	-60.000000	CY
0.0003044	12471.	40973216.	8.9098428	0.0027119	-0.008246	4.4999989	-60.000000	CY
0.0003344	12523.	37452523.	8.7491228	0.0029255	-0.009112	4.4917532	-60.000000	CY
0.0003644	12568.	34490682.	8.6163487	0.0031396	-0.009978	4.4910332	-60.000000	CYT
0.0003944	12606.	31965186.	8.5129977	0.0033573	-0.010840	4.4970519	60.000000	CYT
0.0004244	12637.	29778623.	8.4319481	0.0035783	-0.011699	4.4992092	60.000000	CYT
0.0004544	12661.	27864598.	8.3664945	0.0038015	-0.012556	4.4927547	60.000000	CYT

Axial Thrust Force = 330.000 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
6.25000E-07	243.1373463	389019754.	128.1256408	0.00008008	0.00005758	0.3525337	2.2668147	
0.00000125	486.2734346	389018748.	73.0809703	0.00009135	0.00004635	0.4005905	2.5382602	
0.00000188	729.3991667	389012889.	54.7408111	0.0001026	0.00003514	0.4484319	2.8101441	
0.00000250	972.5093659	389003746.	45.5767800	0.0001139	0.00002394	0.4960566	3.0824666	
0.00000313	1216.	388991633.	40.0832005	0.0001253	0.00001276	0.5434635	3.3552276	
0.00000375	1459.	388976655.	36.4248472	0.0001366	0.00000159	0.5906515	3.6284271	
0.00000438	1702.	388954123.	33.8151364	0.0001479	-0.00000956	0.6376184	3.9020579	
0.00000500	1944.	388890385.	31.8603643	0.0001593	-0.00002070	0.6843535	4.1760528	
0.00000563	2187.	388761117.	30.3416807	0.0001707	-0.00003183	0.7308434	4.4503242	
0.00000625	2429.	388563526.	29.1279013	0.0001820	-0.00004295	0.7770781	4.7248071	
0.00000688	2670.	388303266.	28.1356385	0.0001934	-0.00005407	0.8230507	4.9994554	
0.00000750	2910.	387988137.	27.3093581	0.0002048	-0.00006518	0.8687561	5.2742354	
0.00000813	3149.	387626045.	26.6106537	0.0002162	-0.00007629	0.9141904	5.5491228	
0.00000875	3388.	387224061.	26.0121176	0.0002276	-0.00008739	0.9593511	5.8240999	
0.00000938	3626.	386788217.	25.4936668	0.0002390	-0.00009850	1.0042360	6.0991532	
0.00001000	3626.	362613953.	23.5340200	0.0002353	-0.000125	0.9892510	5.9374656	C
0.00001063	3626.	341283721.	22.9629674	0.0002440	-0.000139	1.0230572	6.1326017	C
0.00001125	3626.	322323514.	22.4429893	0.0002525	-0.000153	1.0561519	6.3237003	C
0.00001188	3626.	305359119.	21.9660527	0.0002608	-0.000167	1.0885445	6.5107719	C
0.00001250	3626.	290091163.	21.5276181	0.0002691	-0.000181	1.1203362	6.6945116	C
0.00001313	3626.	276277298.	21.1225903	0.0002772	-0.000195	1.1515539	6.8750735	C

0.00001375	3626.	263719239.	20.7468457	0.0002853	-0.000210	1.1822263	7.0526298 C
0.00001438	3626.	252253185.	20.3970239	0.0002932	-0.000224	1.2123846	7.2273719 C
0.00001500	3644.	242931774.	20.0703723	0.0003011	-0.000239	1.2420617	7.3995120 C
0.00001563	3715.	237784584.	19.7646277	0.0003088	-0.000254	1.2712932	7.5692845 C
0.00001625	3785.	232933268.	19.4779261	0.0003165	-0.000268	1.3001171	7.7369477 C
0.00001688	3854.	228359507.	19.2087327	0.0003241	-0.000283	1.3285741	7.9027861 C
0.00001750	3920.	224024806.	18.9545434	0.0003317	-0.000298	1.3566261	8.0664808 C
0.00001813	3986.	219912246.	18.7139988	0.0003392	-0.000313	1.3842898	8.2281327 C
0.00001875	4051.	216030530.	18.4874005	0.0003466	-0.000328	1.4116853	8.3886490 C
0.00001938	4114.	212333812.	18.2719284	0.0003540	-0.000343	1.4387087	8.5472023 C
0.00002000	4177.	208826218.	18.0676738	0.0003614	-0.000359	1.4654472	8.7044509 C
0.00002063	4238.	205497839.	17.8740674	0.0003687	-0.000374	1.4919370	-9.011311 C
0.00002125	4299.	202318712.	17.6891031	0.0003759	-0.000389	1.5180970	-9.398365 C
0.00002188	4360.	199301381.	17.5137282	0.0003831	-0.000404	1.5440646	-9.786041 C
0.00002250	4419.	196410812.	17.3455329	0.0003903	-0.000420	1.5697093	-10.175390 C
0.00002313	4478.	193656828.	17.1853575	0.0003974	-0.000435	1.5951527	-10.565457 C
0.00002375	4537.	191023288.	17.0320809	0.0004045	-0.000450	1.6203543	-10.956579 C
0.00002438	4595.	188495423.	16.8847456	0.0004116	-0.000466	1.6452784	-11.349058 C
0.00002500	4709.	183762532.	16.6087230	0.0004256	-0.000497	1.6945366	-12.136180 C
0.00002563	4822.	179412819.	16.3548275	0.0004395	-0.000528	1.7430302	-12.926069 C
0.00002625	4933.	175378671.	16.1183976	0.0004533	-0.000559	1.7906001	-13.720119 C
0.00002688	5042.	171647045.	15.8993295	0.0004670	-0.000590	1.8374755	-14.516521 C
0.00002750	5151.	168187662.	15.6961106	0.0004807	-0.000622	1.8837283	-15.314729 C
0.00002813	5258.	164951819.	15.5049677	0.0004942	-0.000653	1.9291571	-16.116508 C
0.00002875	5364.	161945773.	15.3277299	0.0005077	-0.000685	1.9741299	-16.918787 C
0.00002938	5470.	159117265.	15.1597799	0.0005211	-0.000716	2.0182923	-17.724657 C
0.00003000	5574.	156475858.	15.0032521	0.0005345	-0.000748	2.0620222	-18.530903 C
0.00003063	5678.	153988532.	14.8552196	0.0005478	-0.000780	2.1051073	-19.339412 C
0.00003125	5781.	151645392.	14.7154652	0.0005610	-0.000811	2.1476311	-20.149502 C
0.00003188	5884.	149447033.	14.5849365	0.0005743	-0.000843	2.1898187	-20.959188 C
0.00003250	5986.	147352627.	14.4591085	0.0005874	-0.000875	2.2311922	-21.772800 C
0.00003313	6088.	145378528.	14.3409731	0.0006005	-0.000907	2.2722158	-22.586194 C
0.00003375	6189.	143515312.	14.2300037	0.0006137	-0.000939	2.3129080	-23.399190 C
0.00003438	6289.	141733086.	14.1225426	0.0006267	-0.000971	2.3528471	-24.215715 C
0.00003500	6389.	140043188.	14.0209606	0.0006397	-0.001003	2.3924167	-25.032254 C
0.00003563	6489.	138440231.	13.9250854	0.0006527	-0.001035	2.4316596	-25.848400 C
0.00003625	6589.	136912323.	13.8336217	0.0006657	-0.001067	2.4704511	-26.665339 C
0.00003688	6688.	135446428.	13.7450038	0.0006787	-0.001099	2.5086115	-27.484835 C
0.00003750	6786.	134050048.	13.6610281	0.0006916	-0.001131	2.5464497	-28.303941 C
0.00003813	6885.	132718145.	13.5813602	0.0007045	-0.001163	2.5839646	-29.122654 C
0.00003875	6983.	131446152.	13.5056970	0.0007175	-0.001195	2.6211552	-29.940974 C
0.00003938	7081.	130217871.	13.4314711	0.0007303	-0.001227	2.6576621	-30.762511 C
0.00004000	7178.	129041226.	13.3606362	0.0007432	-0.001259	2.6938194	-31.583961 C
0.00004063	7275.	127913782.	13.2931533	0.0007560	-0.001291	2.7296566	-32.405018 C
0.00004125	7372.	126832353.	13.2288073	0.0007689	-0.001324	2.7651727	-33.225680 C
0.00004188	7469.	125794020.	13.1674011	0.0007818	-0.001356	2.8003668	-34.045945 C
0.00004250	7565.	124791009.	13.1076322	0.0007947	-0.001388	2.8350519	-34.867781 C
0.00004313	7661.	123821931.	13.0495578	0.0008074	-0.001420	2.8692587	-35.690912 C
0.00004375	7757.	122888994.	12.9940011	0.0008202	-0.001452	2.9031472	-36.513644 C
0.00004438	7853.	121990084.	12.9408164	0.0008331	-0.001484	2.9367165	-37.335976 C
0.00004500	7949.	121123241.	12.8898692	0.0008459	-0.001517	2.9699656	-38.157905 C
0.00004563	8044.	120286660.	12.8410350	0.0008587	-0.001549	3.0028934	-38.979431 C
0.00004625	8139.	119478663.	12.7941985	0.0008716	-0.001581	3.0354990	-39.800550 C
0.00004688	8234.	118693299.	12.7481020	0.0008844	-0.001613	3.0675788	-40.623575 C
0.00004750	8329.	117931771.	12.7033255	0.0008972	-0.001645	3.0992481	-41.447239 C
0.00004813	8423.	117194769.	12.6603035	0.0009100	-0.001678	3.1305985	-42.270492 C
0.00004875	8518.	116481026.	12.6189471	0.0009228	-0.001710	3.1616290	-43.093333 C
0.00004938	8612.	115789358.	12.5791732	0.0009356	-0.001742	3.1923386	-43.915758 C
0.00005000	8987.	113222397.	12.4344269	0.0009870	-0.001871	3.3119470	-47.201267 C
0.00005063	9359.	110918768.	12.3052578	0.0010383	-0.001999	3.4255273	-50.490634 C
0.00005125	9728.	108845476.	12.1927386	0.0010897	-0.002128	3.5338116	-53.774308 C
0.00005188	10095.	106966862.	12.0947563	0.0011414	-0.002256	3.6368320	-57.050827 C
0.00005250	10458.	105236644.	12.0066611	0.0011932	-0.002384	3.7340513	-60.000000 CY
0.00005313	10773.	103217246.	11.9134034	0.0012435	-0.002514	3.8229887	-60.000000 CY
0.00005375	11056.	101083411.	11.8209492	0.0012929	-0.002645	3.9050584	-60.000000 CY
0.00005438	11250.	98358111.	11.7093692	0.0013393	-0.002778	3.9770657	-60.000000 CY
0.00005500	11404.	95528689.	11.5918824	0.0013838	-0.002914	4.0418200	-60.000000 CY
0.00005563	11556.	92915670.	11.4849502	0.0014284	-0.003049	4.1024800	-60.000000 CY
0.00005625	11708.	90495051.	11.3877684	0.0014733	-0.003184	4.1590725	-60.000000 CY

0.0001344	11857.	88239902.	11.2972461	0.0015181	-0.003319	4.2112338	-60.000000	CY
0.0001394	12005.	86131971.	11.2124524	0.0015627	-0.003455	4.2589556	-60.000000	CY
0.0001444	12145.	84123925.	11.1328113	0.0016073	-0.003590	4.3022722	-60.000000	CY
0.0001494	12246.	81982164.	11.0446937	0.0016498	-0.003728	4.3395547	-60.000000	CY
0.0001544	12313.	79757493.	10.9492438	0.0016903	-0.003867	4.3714197	-60.000000	CY
0.0001594	12373.	77635517.	10.8561029	0.0017302	-0.004007	4.3993667	-60.000000	CY
0.0001644	12433.	75638160.	10.7696352	0.0017703	-0.004147	4.4239903	-60.000000	CY
0.0001694	12492.	73754303.	10.6892651	0.0018105	-0.004287	4.4452480	-60.000000	CY
0.0001744	12550.	71973351.	10.6141665	0.0018508	-0.004427	4.4630738	-60.000000	CY
0.0001794	12606.	70278873.	10.5404854	0.0018907	-0.004567	4.4772416	-60.000000	CY
0.0001844	12661.	68672273.	10.4717406	0.0019307	-0.004707	4.4880377	-60.000000	CY
0.0001894	12716.	67146506.	10.4075575	0.0019709	-0.004847	4.4954169	-60.000000	CY
0.0001944	12770.	65695252.	10.3476007	0.0020113	-0.004986	4.4993326	-60.000000	CY
0.0001994	12822.	64312443.	10.2916251	0.0020519	-0.005126	4.4964160	-60.000000	CY
0.0002044	12874.	62990551.	10.2380119	0.0020924	-0.005265	4.4996085	-60.000000	CY
0.0002094	12923.	61724081.	10.1860007	0.0021327	-0.005405	4.4964193	-60.000000	CY
0.0002144	12972.	60512770.	10.1373648	0.0021732	-0.005544	4.4995307	-60.000000	CY
0.0002194	13021.	59352801.	10.0918896	0.0022139	-0.005684	4.4955101	-60.000000	CY
0.0002244	13068.	58240719.	10.0493735	0.0022548	-0.005823	4.4990819	-60.000000	CY
0.0002294	13114.	57174052.	10.0095147	0.0022959	-0.005962	4.4976638	-60.000000	CY
0.0002344	13160.	56148873.	9.9723402	0.0023373	-0.006100	4.4979104	-60.000000	CY
0.0002394	13205.	55164143.	9.9373898	0.0023788	-0.006239	4.4998938	-60.000000	CY
0.0002444	13246.	54203671.	9.9031317	0.0024201	-0.006377	4.4953263	-60.000000	CY
0.0002494	13284.	53270325.	9.8677755	0.0024608	-0.006517	4.4987249	-60.000000	CY
0.0002544	13312.	52330697.	9.8280305	0.0025000	-0.006657	4.4999787	-60.000000	CY
0.0002594	13335.	51412928.	9.7887947	0.0025390	-0.006799	4.4947000	-60.000000	CY
0.0002644	13350.	50498201.	9.7467407	0.0025768	-0.006941	4.4979660	-60.000000	CY
0.0002694	13364.	49611382.	9.7057967	0.0026145	-0.007083	4.4996928	-60.000000	CY
0.0002744	13375.	48747949.	9.6655935	0.0026520	-0.007226	4.4965234	-60.000000	CY
0.0003044	13434.	44136135.	9.4530048	0.0028773	-0.008080	4.4966213	-60.000000	CY
0.0003344	13482.	40319923.	9.2804645	0.0031032	-0.008934	4.4981010	60.000000	CYT
0.0003644	13520.	37105520.	9.1459943	0.0033326	-0.009785	4.4976769	60.000000	CYT
0.0003944	13546.	34349147.	9.0375851	0.0035642	-0.010633	4.4946154	60.000000	CYT
0.0004244	13564.	31962126.	8.9582607	0.0038017	-0.011476	4.4867122	60.000000	CYT

Axial Thrust Force = 400.000 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
6.25000E-07	241.4370060	386299210.	151.9535602	0.00009497	0.00007247	0.4165995	2.6986958	
0.00000125	482.8735686	386298855.	84.9950606	0.0001062	0.00006124	0.4642834	2.9701459	
0.00000188	724.2997007	386293174.	62.6836830	0.0001175	0.00005003	0.5117517	3.2420378	
0.00000250	965.7101880	386284075.	51.5340862	0.0001288	0.00003884	0.5590033	3.5143713	
0.00000313	1207.	386271941.	44.8492021	0.0001402	0.00002765	0.6060370	3.7871464	
0.00000375	1448.	386256898.	40.3966748	0.0001515	0.00001649	0.6528518	4.0603634	
0.00000438	1690.	386239001.	37.2197803	0.0001628	0.00000534	0.6994464	4.3340221	
0.00000500	1931.	386217663.	34.8401493	0.0001742	-0.00000580	0.7458196	4.6081217	
0.00000563	2172.	386176591.	32.9918169	0.0001856	-0.00001692	0.7919653	4.8826276	
0.00000625	2413.	386090209.	31.5149735	0.0001970	-0.00002803	0.8378719	5.1574640	
0.00000688	2653.	385948183.	30.3079685	0.0002084	-0.00003913	0.8835292	5.4325636	
0.00000750	2893.	385750193.	29.3031099	0.0002198	-0.00005023	0.9289296	5.7078764	
0.00000813	3132.	385500085.	28.4535863	0.0002312	-0.00006131	0.9740671	5.9833638	
0.00000875	3371.	385203025.	27.7259950	0.0002426	-0.00007240	1.0189374	6.2589963	
0.00000938	3608.	384864457.	27.0958670	0.0002540	-0.00008348	1.0635370	6.5347514	
0.00001000	3845.	384489495.	26.5448678	0.0002654	-0.00009455	1.1078631	6.8106117	
0.00001063	4081.	384082765.	26.0589906	0.0002769	-0.000106	1.1519139	7.0865640	
0.00001125	4081.	362744834.	24.3364190	0.0002738	-0.000131	1.1394680	6.9414317	C
0.00001188	4081.	343653000.	23.8039214	0.0002827	-0.000145	1.1734909	7.1436880	C
0.00001250	4081.	326470350.	23.3144059	0.0002914	-0.000159	1.2068468	7.3422220	C
0.00001313	4081.	310924143.	22.8625235	0.0003001	-0.000172	1.2395830	7.5373355	C
0.00001375	4081.	296791227.	22.4424248	0.0003086	-0.000186	1.2716687	7.7287419	C
0.00001438	4081.	283887261.	22.0516381	0.0003170	-0.000201	1.3032022	7.9171391	C
0.00001500	4081.	272058625.	21.6869370	0.0003253	-0.000215	1.3342143	8.1027176	C
0.00001563	4084.	261404934.	21.3456158	0.0003335	-0.000229	1.3647352	8.2856697	C
0.00001625	4163.	256191955.	21.0254289	0.0003417	-0.000243	1.3947973	8.4662084	C
0.00001688	4240.	251236897.	20.7240159	0.0003497	-0.000258	1.4244043	8.6443278	C

0.00001750	4314.	246514546.	20.4392166	0.0003577	-0.000272	1.4535511	8.8199525 C
0.00001813	4387.	242029516.	20.1704184	0.0003656	-0.000287	1.4823160	8.9936637 C
0.00001875	4458.	237771421.	19.9165495	0.0003734	-0.000302	1.5107390	9.1657488 C
0.00001938	4528.	233706991.	19.6755022	0.0003812	-0.000316	1.5387759	9.3358354 C
0.00002000	4596.	229821047.	19.4460268	0.0003889	-0.000331	1.5664270	9.5038956 C
0.00002063	4664.	226132909.	19.2288696	0.0003966	-0.000346	1.5938299	9.6710052 C
0.00002125	4730.	222586550.	19.0207673	0.0004042	-0.000361	1.6208198	9.8358229 C
0.00002188	4795.	219209956.	18.8230396	0.0004118	-0.000376	1.6475650	9.9996783 C
0.00002250	4859.	215972626.	18.6338700	0.0004193	-0.000391	1.6739907	10.1619498 C
0.00002313	4923.	212875465.	18.4531554	0.0004267	-0.000406	1.7001482	10.3230348 C
0.00002375	4985.	209905065.	18.2800783	0.0004342	-0.000421	1.7260269	10.4828290 C
0.00002438	5047.	207062105.	18.1146028	0.0004415	-0.000436	1.7516762	10.6417224 C
0.00002563	5169.	201714917.	17.8037794	0.0004562	-0.000466	1.8022527	-11.248104 C
0.00002688	5288.	196766287.	17.5162696	0.0004707	-0.000497	1.8518400	-12.020870 C
0.00002813	5405.	192180047.	17.2497903	0.0004852	-0.000527	1.9005322	-12.797327 C
0.00002938	5520.	187927934.	17.0027937	0.0004995	-0.000558	1.9484546	-13.576508 C
0.00003063	5634.	183970488.	16.7728981	0.0005137	-0.000589	1.9956164	-14.358407 C
0.00003188	5746.	180260095.	16.5567353	0.0005277	-0.000620	2.0418828	-15.144280 C
0.00003313	5857.	176807034.	16.3559049	0.0005418	-0.000651	2.0876107	-15.931096 C
0.00003438	5966.	173549585.	16.1656089	0.0005557	-0.000682	2.1324526	-16.721971 C
0.00003563	6074.	170506514.	15.9882283	0.0005696	-0.000713	2.1768233	-17.513299 C
0.00003688	6181.	167625367.	15.8194315	0.0005833	-0.000744	2.2203680	-18.308308 C
0.00003813	6288.	164928404.	15.6621063	0.0005971	-0.000775	2.2635494	-19.102871 C
0.00003938	6393.	162358172.	15.5109052	0.0006107	-0.000807	2.3058399	-19.901848 C
0.00004063	6498.	159941250.	15.3693208	0.0006244	-0.000838	2.3477662	-20.700456 C
0.00004188	6602.	157647920.	15.2346312	0.0006380	-0.000870	2.3890870	-21.500957 C
0.00004313	6704.	155466602.	15.1061223	0.0006515	-0.000901	2.4297932	-22.303494 C
0.00004438	6807.	153404330.	14.9851866	0.0006650	-0.000933	2.4701478	-23.105600 C
0.00004563	6909.	151434523.	14.8690572	0.0006784	-0.000964	2.5098567	-23.910116 C
0.00004688	7010.	149555799.	14.7581009	0.0006918	-0.000996	2.5490317	-24.716019 C
0.00004813	7111.	147771215.	14.6532119	0.0007052	-0.001027	2.5878601	-25.521499 C
0.00004938	7212.	146067674.	14.5530915	0.0007186	-0.001059	2.6262205	-26.327755 C
0.00005063	7312.	144429238.	14.4559658	0.0007318	-0.001091	2.6639086	-27.136873 C
0.00005188	7411.	142866632.	14.3637993	0.0007451	-0.001122	2.7012549	-27.945572 C
0.00005313	7511.	141374487.	14.2762432	0.0007584	-0.001154	2.7382582	-28.753852 C
0.00005438	7609.	139942279.	14.1920809	0.0007717	-0.001186	2.7747816	-29.563125 C
0.00005563	7707.	138560297.	14.1101757	0.0007849	-0.001218	2.8106883	-30.374860 C
0.00005688	7805.	137236265.	14.0321242	0.0007981	-0.001249	2.8462567	-31.186178 C
0.00005813	7903.	135966430.	13.9576788	0.0008113	-0.001281	2.8814857	-31.997076 C
0.00005938	8001.	134747367.	13.8866128	0.0008245	-0.001313	2.9163744	-32.807551 C
0.00006063	8098.	133567998.	13.8172926	0.0008377	-0.001345	2.9506933	-33.620110 C
0.00006188	8194.	132428860.	13.7501271	0.0008508	-0.001377	2.9845318	-34.433828 C
0.00006313	8290.	131332354.	13.6858516	0.0008639	-0.001409	3.0180342	-35.247125 C
0.00006438	8387.	130275984.	13.6242988	0.0008771	-0.001440	3.0511993	-36.060000 C
0.00006563	8483.	129257443.	13.5653141	0.0008902	-0.001472	3.0840261	-36.872450 C
0.00006688	8578.	128274612.	13.5087545	0.0009034	-0.001504	3.1165136	-37.684472 C
0.00006813	8674.	127317653.	13.4528526	0.0009165	-0.001536	3.1483858	-38.499295 C
0.00006938	8768.	126391494.	13.3988748	0.0009295	-0.001568	3.1798713	-39.314301 C
0.00007063	8863.	125495920.	13.3470170	0.0009426	-0.001600	3.2110213	-40.128878 C
0.00007188	8958.	124629322.	13.2971695	0.0009557	-0.001632	3.2418347	-40.943025 C
0.00007313	9052.	123790204.	13.2492304	0.0009688	-0.001664	3.2723104	-41.756739 C
0.00007438	9146.	122977169.	13.2031044	0.0009820	-0.001696	3.3024473	-42.570018 C
0.00007938	9521.	119945211.	13.0310824	0.0010343	-0.001823	3.4188921	-45.827839 C
0.00008438	9892.	117234484.	12.8802805	0.0010868	-0.001951	3.5295288	-49.083627 C
0.00008938	10260.	114794535.	12.7479382	0.0011393	-0.002078	3.6344748	-52.335300 C
0.00009438	10624.	112574659.	12.6288431	0.0011918	-0.002206	3.7332811	-55.589097 C
0.00009938	10986.	110552234.	12.5243786	0.0012446	-0.002333	3.8265585	-58.835269 C
0.0001044	11330.	108547917.	12.4275840	0.0012971	-0.002460	3.9133917	-60.000000 CY
0.0001094	11618.	106220920.	12.3222562	0.0013477	-0.002590	3.9913625	-60.000000 CY
0.0001144	11867.	103754177.	12.2158390	0.0013972	-0.002720	4.0621242	-60.000000 CY
0.0001194	12030.	100772286.	12.0929069	0.0014436	-0.002854	4.1236495	-60.000000 CY
0.0001244	12182.	97947127.	11.9753350	0.0014894	-0.002988	4.1798445	-60.000000 CY
0.0001294	12333.	95324874.	11.8670011	0.0015353	-0.003122	4.2315195	-60.000000 CY
0.0001344	12482.	92887403.	11.7682897	0.0015814	-0.003256	4.2788584	-60.000000 CY
0.0001394	12629.	90611569.	11.6770863	0.0016275	-0.003390	4.3216627	-60.000000 CY
0.0001444	12774.	88474882.	11.5905024	0.0016734	-0.003524	4.3596728	-60.000000 CY
0.0001494	12908.	86413322.	11.5078431	0.0017190	-0.003659	4.3929388	-60.000000 CY
0.0001544	12998.	84197810.	11.4154753	0.0017623	-0.003795	4.4203254	-60.000000 CY
0.0001594	13063.	81962592.	11.3199842	0.0018041	-0.003933	4.4429560	-60.000000 CY

0.0001644	13122.	79831201.	11.2264423	0.0018453	-0.004072	4.4615512	-60.000000	CY
0.0001694	13181.	77820625.	11.1395133	0.0018868	-0.004211	4.4765504	-60.000000	CY
0.0001744	13239.	75920361.	11.0586462	0.0019284	-0.004349	4.4879038	-60.000000	CY
0.0001794	13295.	74121073.	10.9833520	0.0019701	-0.004487	4.4955604	-60.000000	CY
0.0001844	13350.	72405276.	10.9092807	0.0020114	-0.004626	4.4994318	-60.000000	CY
0.0001894	13403.	70774606.	10.8400325	0.0020528	-0.004765	4.4971755	-60.000000	CY
0.0001944	13455.	69222889.	10.7754246	0.0020945	-0.004903	4.4998594	-60.000000	CY
0.0001994	13506.	67743531.	10.7152153	0.0021363	-0.005041	4.4978448	-60.000000	CY
0.0002044	13557.	66332158.	10.6589457	0.0021784	-0.005179	4.4999567	-60.000000	CY
0.0002094	13605.	64981229.	10.6056648	0.0022206	-0.005317	4.4978291	-60.000000	CY
0.0002144	13653.	63685540.	10.5534155	0.0022624	-0.005455	4.4999204	-60.000000	CY
0.0002194	13699.	62444274.	10.5046425	0.0023045	-0.005593	4.4970039	-60.000000	CY
0.0002244	13744.	61255065.	10.4588862	0.0023467	-0.005731	4.4996570	-60.000000	CY
0.0002294	13789.	60113964.	10.4160630	0.0023892	-0.005868	4.4951517	-60.000000	CY
0.0002344	13832.	59018092.	10.3759517	0.0024319	-0.006006	4.4987838	-60.000000	CY
0.0002394	13876.	57965624.	10.3381932	0.0024747	-0.006143	4.4999812	-60.000000	CY
0.0002444	13918.	56952056.	10.3030199	0.0025178	-0.006280	4.4966326	-60.000000	CY
0.0002494	13959.	55977124.	10.2698595	0.0025610	-0.006416	4.4993958	-60.000000	CY
0.0002544	13997.	55023999.	10.2352854	0.0026036	-0.006554	4.4971223	-60.000000	CY
0.0002594	14033.	54101768.	10.2018588	0.0026461	-0.006691	4.4966119	-60.000000	CY
0.0002644	14058.	53173536.	10.1640306	0.0026871	-0.006830	4.4991566	-60.000000	CY
0.0002694	14082.	52276172.	10.1276623	0.0027281	-0.006969	4.4999497	-60.000000	CY
0.0002744	14096.	51373922.	10.0876121	0.0027678	-0.007110	4.4940922	-60.000000	CY
0.0003044	14157.	46510777.	9.8706453	0.0030044	-0.007953	4.4984378	60.000000	CYT
0.0003344	14198.	42460572.	9.6929433	0.0032411	-0.008796	4.4993764	60.000000	CYT
0.0003644	14226.	39042247.	9.5627396	0.0034844	-0.009633	4.4993096	60.000000	CYT
0.0003944	14243.	36114219.	9.4571694	0.0037297	-0.010468	4.4976512	60.000000	CYT
0.0004244	14243.	33561225.	9.4117121	0.0039941	-0.011283	4.4946383	60.000000	CYT

Axial Thrust Force = 615.000 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
6.25000E-07	236.1363287	377818126.	226.2351259	0.0001414	0.0001189	0.6131191	4.0450492	
0.00000125	472.2747573	377819806.	122.1362627	0.0001527	0.0001077	0.6596401	4.3165145	
0.00000188	708.4025161	377814675.	87.4449502	0.0001640	0.00009646	0.7059454	4.5884317	
0.00000250	944.5142714	377805709.	70.1055256	0.0001753	0.00008526	0.7520339	4.8608006	
0.00000313	1181.	377793500.	59.7068567	0.0001866	0.00007408	0.7979042	5.1336214	
0.00000375	1417.	377778249.	52.7785661	0.0001979	0.00006292	0.8435553	5.4068941	
0.00000438	1653.	377760038.	47.8333492	0.0002093	0.00005177	0.8889860	5.6806187	
0.00000500	1889.	377738911.	44.1275538	0.0002206	0.00004064	0.9341951	5.9547953	
0.00000563	2125.	377714890.	41.2480399	0.0002320	0.00002952	0.9791814	6.2294240	
0.00000625	2361.	377687990.	38.9469236	0.0002434	0.00001842	1.0239438	6.5045049	
0.00000688	2596.	377658217.	37.0664605	0.0002548	0.00000733	1.0684811	6.7800381	
0.00000750	2832.	377625527.	35.5014873	0.0002663	-0.00000374	1.1127921	7.0560235	
0.00000813	3068.	377585422.	34.1791412	0.0002777	-0.00001479	1.1568738	7.3324477	
0.00000875	3303.	377525428.	33.0472511	0.0002892	-0.00002584	1.2007190	7.6092650	
0.00000938	3538.	377435884.	32.0675378	0.0003006	-0.00003687	1.2443199	7.8864244	
0.00001000	3773.	377311930.	31.2113146	0.0003121	-0.00004789	1.2876698	8.1638813	
0.00001063	4007.	377151805.	30.4566653	0.0003236	-0.00005890	1.3307629	8.4415975	
0.00001125	4241.	376955899.	29.7865667	0.0003351	-0.00006990	1.3735946	8.7195424	
0.00001188	4474.	376725713.	29.1875949	0.0003466	-0.00008090	1.4161609	8.9976903	
0.00001250	4706.	376463110.	28.6490197	0.0003581	-0.00009189	1.4584587	9.2760195	
0.00001313	4937.	376170292.	28.1621651	0.0003696	-0.000103	1.5004849	9.5545116	
0.00001375	5168.	375849478.	27.7199392	0.0003811	-0.000114	1.5422373	9.8331507	
0.00001438	5168.	359508197.	26.5193709	0.0003812	-0.000136	1.5420705	9.7796251	C
0.00001500	5168.	344528689.	26.0507563	0.0003908	-0.000149	1.5763734	10.0009790	C
0.00001563	5168.	330747541.	25.6118761	0.0004002	-0.000162	1.6100394	10.2188189	C
0.00001625	5168.	318026482.	25.2005041	0.0004095	-0.000175	1.6431462	10.4337126	C
0.00001688	5168.	306247723.	24.8139786	0.0004187	-0.000189	1.6757241	10.6458533	C
0.00001750	5250.	299978279.	24.4497344	0.0004279	-0.000202	1.7077848	10.8552903	C
0.00001813	5350.	295167741.	24.1055740	0.0004369	-0.000216	1.7393408	11.0620799	C
0.00001875	5447.	290513262.	23.7797504	0.0004459	-0.000229	1.7704149	11.2663643	C
0.00001938	5542.	286015299.	23.4708129	0.0004547	-0.000243	1.8010340	11.4683254	C
0.00002000	5633.	281673962.	23.1775262	0.0004636	-0.000256	1.8312270	11.6681652	C
0.00002063	5723.	277469607.	22.8981360	0.0004723	-0.000270	1.8609745	11.8656851	C

0.00002125	5810.	273394208.	22.6313790	0.0004809	-0.000284	1.8902787	12.0608623 C
0.00002188	5895.	269469253.	22.3772480	0.0004895	-0.000298	1.9192241	12.2543789 C
0.00002250	5978.	265694282.	22.1351057	0.0004980	-0.000312	1.9478459	12.4465065 C
0.00002313	6059.	262009849.	21.9020002	0.0005065	-0.000326	1.9759923	12.6359164 C
0.00002375	6139.	258468525.	21.6794869	0.0005149	-0.000340	2.0038493	12.8241717 C
0.00002438	6217.	255049930.	21.4663547	0.0005232	-0.000354	2.0313869	13.0109919 C
0.00002563	6369.	248540002.	21.0649373	0.0005398	-0.000383	2.0854682	13.3799191 C
0.00002688	6515.	242436238.	20.6932861	0.0005561	-0.000411	2.1382872	13.7429424 C
0.00002813	6658.	236713250.	20.3483245	0.0005723	-0.000440	2.1899468	14.1007898 C
0.00002938	6795.	231333142.	20.0267833	0.0005883	-0.000469	2.2404792	14.4535786 C
0.00003063	6930.	226273859.	19.7264790	0.0006041	-0.000498	2.2899690	14.8019168 C
0.00003188	7061.	221513609.	19.4455128	0.0006198	-0.000528	2.3384919	15.1463585 C
0.00003313	7189.	217033145.	19.1823359	0.0006354	-0.000557	2.3861273	15.4875190 C
0.00003438	7315.	212801718.	18.9348423	0.0006509	-0.000587	2.4328697	15.8252336 C
0.00003563	7438.	208784039.	18.7005565	0.0006662	-0.000616	2.4786427	16.1586501 C
0.00003688	7559.	204997643.	18.4804969	0.0006815	-0.000646	2.5237211	16.4902937 C
0.00003813	7678.	201397642.	18.2717188	0.0006966	-0.000676	2.5679373	16.8184567 C
0.00003938	7796.	197984570.	18.0742053	0.0007117	-0.000706	2.6114248	17.1443458 C
0.00004063	7912.	194746131.	17.8872500	0.0007267	-0.000736	2.6542304	-17.734021 C
0.00004188	8026.	191659758.	17.7092363	0.0007416	-0.000766	2.6962806	-18.495859 C
0.00004313	8139.	188725984.	17.5404153	0.0007564	-0.000796	2.7377094	-19.259106 C
0.00004438	8250.	185926405.	17.3794480	0.0007712	-0.000826	2.7784523	-20.024486 C
0.00004563	8361.	183250278.	17.2256920	0.0007859	-0.000857	2.8185169	-20.791994 C
0.00004688	8471.	180705622.	17.0799944	0.0008006	-0.000887	2.8580917	-21.559695 C
0.00004813	8578.	178250487.	16.9389255	0.0008152	-0.000917	2.8968154	-22.331500 C
0.00004938	8686.	175915001.	16.8053727	0.0008298	-0.000948	2.9351259	-23.102769 C
0.00005063	8792.	173671739.	16.6770149	0.0008443	-0.000978	2.9727873	-23.876095 C
0.00005188	8897.	171513427.	16.5534016	0.0008587	-0.001009	3.0097964	-24.651589 C
0.00005313	9002.	169452449.	16.4359467	0.0008732	-0.001039	3.0463979	-25.426557 C
0.00005438	9106.	167466056.	16.3225668	0.0008875	-0.001070	3.0823624	-26.203615 C
0.00005563	9209.	165549663.	16.2130168	0.0009018	-0.001101	3.1177008	-26.982715 C
0.00005688	9311.	163713649.	16.1085964	0.0009162	-0.001131	3.1526373	-27.761296 C
0.00005813	9413.	161949813.	16.0086372	0.0009305	-0.001162	3.1871223	-28.539928 C
0.00005938	9514.	160233628.	15.9105834	0.0009447	-0.001193	3.2208322	-29.322527 C
0.00006063	9614.	158584683.	15.8168643	0.0009589	-0.001224	3.2541456	-30.104613 C
0.00006188	9714.	156998880.	15.7272183	0.0009731	-0.001254	3.2870608	-30.886185 C
0.00006313	9814.	155467719.	15.6408134	0.0009873	-0.001285	3.3194903	-31.668323 C
0.00006438	9912.	153976330.	15.5559871	0.0010014	-0.001316	3.3512205	-32.453779 C
0.00006563	10010.	152538558.	15.4746601	0.0010155	-0.001347	3.3825579	-33.238725 C
0.00006688	10108.	151151372.	15.3966371	0.0010297	-0.001378	3.4135008	-34.023159 C
0.00006813	10206.	149811969.	15.3217374	0.0010438	-0.001409	3.4440479	-34.807080 C
0.00006938	10303.	148505886.	15.2481359	0.0010578	-0.001440	3.4739507	-35.593819 C
0.00007063	10399.	147238151.	15.1766980	0.0010719	-0.001471	3.5033579	-36.381463 C
0.00007188	10495.	146011632.	15.1079900	0.0010859	-0.001502	3.5323744	-37.168596 C
0.00007313	10590.	144824188.	15.0418732	0.0010999	-0.001533	3.5609986	-37.955215 C
0.00007438	10686.	143673835.	14.9782181	0.0011140	-0.001563	3.5892290	-38.741318 C
0.00007563	10782.	142523682.	14.9152731	0.0011281	-0.001594	3.6174794	-39.527457 C
0.00007688	10878.	141373529.	14.8523280	0.0011422	-0.001625	3.6457398	-40.313606 C
0.00007813	10974.	140223376.	14.7893829	0.0011563	-0.001656	3.6739999	-41.100000 C
0.00007938	11070.	139073223.	14.7264378	0.0011704	-0.001687	3.7022600	-41.886655 C
0.00008063	11166.	137923070.	14.6634927	0.0011845	-0.001718	3.7305201	-42.673310 C
0.00008188	11262.	136772917.	14.6005476	0.0011986	-0.001749	3.7587802	-43.460000 C
0.00008313	11358.	135622764.	14.5376025	0.0012127	-0.001780	3.7870403	-44.246655 C
0.00008438	11454.	134472611.	14.4746574	0.0012268	-0.001811	3.8153004	-45.033310 C
0.00008563	11550.	133322458.	14.4117123	0.0012409	-0.001842	3.8435605	-45.820000 C
0.00008688	11646.	132172305.	14.3487672	0.0012550	-0.001873	3.8718206	-46.606655 C
0.00008813	11742.	131022152.	14.2858221	0.0012691	-0.001904	3.9000807	-47.393310 C
0.00008938	11838.	129872000.	14.2228770	0.0012832	-0.001935	3.9283408	-48.180000 C
0.00009063	11934.	128721847.	14.1600000	0.0012973	-0.001966	3.9566009	-48.966655 C
0.00009188	12030.	127571694.	14.0970549	0.0013114	-0.001997	3.9848610	-49.753310 C
0.00009313	12126.	126421541.	14.0341098	0.0013255	-0.002028	4.0131211	-50.540000 C
0.00009438	12222.	125271388.	13.9711647	0.0013396	-0.002059	4.0413812	-51.326655 C
0.00009563	12318.	124121235.	13.9082196	0.0013537	-0.002090	4.0696413	-52.113310 C
0.00009688	12414.	122971082.	13.8452745	0.0013678	-0.002121	4.0979014	-52.900000 C
0.00009813	12510.	121820929.	13.7823294	0.0013819	-0.002152	4.1261615	-53.686655 C
0.00009938	12606.	120670776.	13.7193843	0.0013960	-0.002183	4.1544216	-54.473310 C
0.00010063	12702.	119520623.	13.6564392	0.0014101	-0.002214	4.1826817	-55.260000 C
0.00010188	12798.	118370470.	13.5934941	0.0014242	-0.002245	4.2109418	-56.046655 C
0.00010313	12894.	117220317.	13.5305490	0.0014383	-0.002276	4.2392019	-56.833310 C
0.00010438	12990.	116070164.	13.4676039	0.0014524	-0.002307	4.2674620	-57.620000 C
0.00010563	13086.	114919911.	13.4046588	0.0014665	-0.002338	4.2957221	-58.406655 C
0.00010688	13182.	113769758.	13.3417137	0.0014806	-0.002369	4.3239822	-59.193310 C
0.00010813	13278.	112619605.	13.2787686	0.0014947	-0.002400	4.3522423	-60.000000 C
0.00010938	13374.	111469452.	13.2158235	0.0015088	-0.002431	4.3805024	-60.000000 C
0.00011063	13470.	110319300.	13.1528784	0.0015229	-0.002462	4.4087625	-60.000000 C
0.00011188	13566.	109169147.	13.0899333	0.0015370	-0.002493	4.4370226	-60.000000 C
0.00011313	13662.	108018994.	13.0269882	0.0015511	-0.002524	4.4652827	-60.000000 C
0.00011438	13758.	106868841.	12.9640431	0.0015652	-0.002555	4.4935428	-60.000000 C
0.00011563	13854.	105718688.	12.9010980	0.0015793	-0.002586	4.5218029	-60.000000 C
0.00011688	13950.	104568535.	12.8381529	0.0015934	-0.002617	4.5500630	-60.000000 C
0.00011813	14046.	103418382.	12.7752078	0.0016075	-0.002648	4.5783231	-60.000000 C
0.00011938	14142.	102268229.	12.7122627	0.0016216	-0.002679	4.6065832	-60.000000 C
0.00012063	14238.	101118076.	12.6493176	0.0016357	-0.002710	4.6348433	-60.000000 C
0.00012188	14334.	100000000.	12.5863725	0.0016498	-0.002741	4.6631034	-60.000000 C
0.00012313	14430.	98880000.	12.5234274	0.0016639	-0.002772	4.6913635	-60.000000 C
0.00012438	14526.	97760000.	12.4604823	0.0016780	-0.002803	4.7196236	-60.000000 C
0.00012563	14622.	96640000.	12.3975372	0.0016921	-0.002834	4.7478837	-60.000000 C
0.00012688	14718.	95520000.	12.3345921	0.0017062	-0.002865	4.7761438	-60.000000 C
0.00012813	14814.	94400000.	12.2716470	0.0017203	-0.002896	4.8044039	-60.000000 C
0.00012938	14910.	93280000.	12.2087019	0.0017344	-0.002927	4.8326640	-60.000000 C
0.00013063	15006.	92160000.	12.1457568	0.0017485	-0.002958	4.8609241	-60.000000 C
0.00013188	15102.	91040000.	12.0828117	0.0017626	-0.002989	4.8891842	-60.000000 C
0.00013313	15198.	89920000.	12.0198666	0.0017767	-0.003020	4.9174443	-60.000000 C
0.00013438	15294.	88800000.	11.9569215	0.0017908	-0.003051	4.9457044	-60.000000 C
0.00013563	15390.	87680000.	11.8939764	0.0018049	-0.003082	4.9739645	-60.000000 C
0.00013688	15486.	86560000.	11.8310313	0.0018190	-0.003113	4.9999999	-60.000000 C
0.00013813	15582.	85440000.	11.7680862	0.0018331	-0.003144	5.0260353	-60.000000 C
0.00013938	15678.	84320000.	11.7051411	0.0018472	-0.003175	5.0520707	-60.000000 C
0.00014063	15774.	83200000.	11.6421960	0.0018613	-0.003206	5.0781061	-60.000000 C
0.00014188	15870.	82080000.	11.5792509	0.0018754	-0.003237	5.1041415	-60.000000 C
0.00014313	15966.	80960000.	11.5163058	0.0018895	-0.003268	5.1301769	-60.000000 C
0.00014438	16062.	79840000.	11.4533607	0.0019036	-0.003299	5.1562123	-60.000000 C
0.00014563	16158.	78720000.	11.3904156	0.0019177	-0.003330	5.1822477	-60.000000 C
0.00014688	16254.	77600000.	11.3274705	0.0019318	-0.003361	5.2082831	-60.000000 C
0.00014813	16350.	76480000.	11.2645254	0.0019459	-0.003392	5.2343185	-60.000000 C
0.00014938	16446.	75360000.	11.2015803	0.0019600	-0.003423	5.2603539	-60.000000 C
0.00015063	16542.	74240000.	11.1386352	0.0019741	-0.003454	5.2863893	-60.000000 C
0.00015188	16638.	73120000.	11.0756901	0.0019882	-0.003485	5.3124247	-60.000000 C
0.00015313	16						

0.0001944	15433.	79397530.	12.0584767	0.0023439	-0.004654	4.4980462	-60.000000 CY
0.0001994	15479.	77638810.	11.9873935	0.0023900	-0.004788	4.4999664	-60.000000 CY
0.0002044	15524.	75959807.	11.9211417	0.0024364	-0.004921	4.4979649	-60.000000 CY
0.0002094	15569.	74357039.	11.8590177	0.0024830	-0.005055	4.4999342	-60.000000 CY
0.0002144	15612.	72823520.	11.8010216	0.0025298	-0.005188	4.4972274	-60.000000 CY
0.0002194	15654.	71356305.	11.7465681	0.0025769	-0.005321	4.4997085	-60.000000 CY
0.0002244	15695.	69949622.	11.6952508	0.0026241	-0.005453	4.4955156	-60.000000 CY
0.0002294	15734.	68594891.	11.6439409	0.0026708	-0.005587	4.4988666	-60.000000 CY
0.0002344	15772.	67295670.	11.5955094	0.0027177	-0.005720	4.5000000	-60.000000 CY
0.0002394	15810.	66046410.	11.5502142	0.0027648	-0.005853	4.4966580	-60.000000 CY
0.0002444	15847.	64846354.	11.5073805	0.0028121	-0.005985	4.4993340	-60.000000 CY
0.0002494	15882.	63688890.	11.4676393	0.0028597	-0.006118	4.4976787	60.000000 CY
0.0002544	15917.	62573075.	11.4304951	0.0029076	-0.006250	4.4966488	60.000000 CY
0.0002594	15951.	61498656.	11.3953252	0.0029557	-0.006382	4.4992708	60.000000 CY
0.0002644	15983.	60454773.	11.3639361	0.0030043	-0.006513	4.4983829	60.000000 CYT
0.0002694	16013.	59445909.	11.3342041	0.0030532	-0.006644	4.4955728	60.000000 CYT
0.0002744	16043.	58470420.	11.3041669	0.0031016	-0.006776	4.4986209	60.000000 CYT
0.0003044	16174.	53139227.	11.1522460	0.0033945	-0.007563	4.4917836	60.000000 CYT
0.0003344	16209.	48476075.	10.9925806	0.0036756	-0.008362	4.4944146	60.000000 CYT
0.0003644	16209.	44484905.	10.8881937	0.0039674	-0.009150	4.4950255	60.000000 CYT

Summary of Results for Nominal 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	Max. Tens. Strain
1	115.000	11211.017	0.00300000	-0.01081624
2	240.000	12538.624	0.00300000	-0.00941338
3	330.000	13460.038	0.00300000	-0.00854432
4	400.000	14155.589	0.00300000	-0.00793752
5	615.000	15979.920	0.00300000	-0.00650145

Note that the values of moment capacity in the table above are not factored by a strength reduction factor (ϕ -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 (0.75).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, 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	Nominal Ax. Thrust kips	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	115.000000	11211.	74.750000	7287.	91398194.
2	0.65	240.000000	12539.	156.000000	8150.	104969060.
3	0.65	330.000000	13460.	214.500000	8749.	114850741.
4	0.65	400.000000	14156.	260.000000	9201.	122533942.
5	0.65	615.000000	15980.	399.750000	10387.	147393109.
1	0.75	115.000000	11211.	86.250000	8408.	88586802.
2	0.75	240.000000	12539.	180.000000	9404.	99507966.
3	0.75	330.000000	13460.	247.500000	10095.	106966715.
4	0.75	400.000000	14156.	300.000000	10617.	112620592.
5	0.75	615.000000	15980.	461.250000	11985.	130407079.
1	0.90	115.000000	11211.	103.500000	10090.	64985807.

2	0.90	240.000000	12539.	216.000000	11285.	77628205.
3	0.90	330.000000	13460.	297.000000	12114.	84571306.
4	0.90	400.000000	14156.	360.000000	12740.	88970443.
5	0.90	615.000000	15980.	553.500000	14382.	104639473.

Pile Section No. 2:

Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	8.200000 ft
Shaft Diameter	=	34.000000 in
Concrete Cover Thickness (to edge of long. rebar)	=	3.000000 in
Number of Reinforcing Bars	=	12 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	907.920277 sq. in.
Total Area of Reinforcing Steel	=	12.000000 sq. in.
Area Ratio of Steel Reinforcement	=	1.32 percent
Edge-to-Edge Bar Spacing	=	5.826985 in
Maximum Concrete Aggregate Size	=	0.750000 in
Ratio of Bar Spacing to Aggregate Size	=	7.77
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$	=	4146.895 kips
Tensile Load for Cracking of Concrete	=	-434.566 kips
Nominal Axial Tensile Capacity	=	-720.000 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	13.436000	0.000000
2	1.128000	1.000000	11.635917	6.718000
3	1.128000	1.000000	6.718000	11.635917
4	1.128000	1.000000	0.000000	13.436000
5	1.128000	1.000000	-6.718000	11.635917
6	1.128000	1.000000	-11.63592	6.718000
7	1.128000	1.000000	-13.43600	0.000000
8	1.128000	1.000000	-11.63592	-6.718000
9	1.128000	1.000000	-6.718000	-11.63592
10	1.128000	1.000000	0.000000	-13.436000
11	1.128000	1.000000	6.718000	-11.63592
12	1.128000	1.000000	11.635917	-6.718000

NOTE: The positions of the above rebars were computed by LPILE

Minimum spacing between any two bars not equal to zero = 5.827 inches between bars 7 and 8.

Ratio of bar spacing to maximum aggregate size = 7.77

Concrete Properties:

Compressive Strength of Concrete	=	4500. psi
Modulus of Elasticity of Concrete	=	3823676. psi
Modulus of Rupture of Concrete	=	-503.11529 psi
Compression Strain at Peak Stress	=	0.002001
Tensile Strain at Fracture of Concrete	=	-0.0001152

Maximum Coarse Aggregate Size = 0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 5

Number	Axial Thrust Force kips
-----	-----
1	115.000
2	240.000
3	330.000
4	400.000
5	615.000

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 318-14, Section 21.2.3.
- 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 = 115.000 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
0.00000125	397.3090771	317847262.	38.1624877	0.00004770	0.00000520	0.2110983	1.2786277	
0.00000250	794.3567474	317742699.	27.6112359	0.00006903	-0.00001597	0.3033160	1.7922896	
0.00000375	1190.	317233358.	24.1001887	0.00009038	-0.00003712	0.3946289	2.3066080	
0.00000500	1582.	316487238.	22.3461609	0.0001117	-0.00005827	0.4849691	2.8211433	
0.00000625	1973.	315628526.	21.2943334	0.0001331	-0.00007941	0.5743198	3.3357854	
0.00000750	1973.	263023771.	17.4691353	0.0001310	-0.000124	0.5647193	3.1709619	C
0.00000875	1973.	225448947.	16.5383799	0.0001447	-0.000153	0.6212208	-3.697549	C
0.00001000	1973.	197267829.	15.8028831	0.0001580	-0.000182	0.6757618	-4.439064	C
0.00001125	1973.	175349181.	15.2030365	0.0001710	-0.000211	0.7286290	-5.189647	C
0.00001250	1973.	157814263.	14.7044921	0.0001838	-0.000241	0.7801739	-5.946997	C
0.00001375	1973.	143467512.	14.2824474	0.0001964	-0.000271	0.8305742	-6.709987	C
0.00001500	1973.	131511886.	13.9205845	0.0002088	-0.000301	0.8800158	-7.477396	C
0.00001625	2029.	124843625.	13.6064462	0.0002211	-0.000331	0.9286047	-8.248550	C
0.00001750	2119.	121071106.	13.3312896	0.0002333	-0.000362	0.9764546	-9.022695	C
0.00001875	2208.	117766748.	13.0888632	0.0002454	-0.000392	1.0236885	-9.798993	C
0.00002000	2297.	114833048.	12.8709008	0.0002574	-0.000423	1.0701449	-10.578678	C
0.00002125	2385.	112228189.	12.6768696	0.0002694	-0.000453	1.1161469	-11.359417	C
0.00002250	2473.	109890911.	12.5015246	0.0002813	-0.000484	1.1615881	-12.142030	C
0.00002375	2560.	107785867.	12.3429974	0.0002931	-0.000514	1.2065721	-12.925773	C
0.00002500	2647.	105875281.	12.1981056	0.0003050	-0.000545	1.2510392	-13.711123	C
0.00002625	2734.	104142673.	12.0673165	0.0003168	-0.000576	1.2952342	-14.496243	C
0.00002750	2820.	102548546.	11.9449695	0.0003285	-0.000607	1.3387691	-15.284112	C
0.00002875	2906.	101089816.	11.8336150	0.0003402	-0.000637	1.3820443	-16.071686	C
0.00003000	2992.	99749546.	11.7318802	0.0003520	-0.000668	1.4250593	-16.858964	C
0.00003125	3078.	98502637.	11.6355121	0.0003636	-0.000699	1.4674556	-17.648755	C
0.00003250	3164.	97348647.	11.5468128	0.0003753	-0.000730	1.5095880	-18.438304	C
0.00003375	3249.	96277439.	11.4649880	0.0003869	-0.000761	1.5514631	-19.227555	C
0.00003500	3335.	95280063.	11.3892779	0.0003986	-0.000791	1.5930772	-20.016533	C
0.00003625	3420.	94341756.	11.3166380	0.0004102	-0.000822	1.6341155	-20.807772	C
0.00003750	3505.	93463622.	11.2491177	0.0004218	-0.000853	1.6748991	-21.598709	C
0.00003875	3590.	92639826.	11.1862227	0.0004335	-0.000884	1.7154274	-22.389345	C

0.00004000	3675.	91865266.	11.1275207	0.0004451	-0.000915	1.7556996	-23.179676	C
0.00004125	3759.	91135457.	11.0726313	0.0004567	-0.000946	1.7957152	-23.969702	C
0.00004250	3844.	90443940.	11.0201752	0.0004684	-0.000977	1.8353199	-24.760709	C
0.00004375	3928.	89788049.	10.9701881	0.0004799	-0.001008	1.8745530	-25.552386	C
0.00004500	4012.	89166619.	10.9232163	0.0004915	-0.001038	1.9135316	-26.343753	C
0.00004625	4097.	88576846.	10.8790165	0.0005032	-0.001069	1.9522553	-27.134806	C
0.00004750	4181.	88016225.	10.8373708	0.0005148	-0.001100	1.9907232	-27.925547	C
0.00004875	4265.	87482504.	10.7980838	0.0005264	-0.001131	2.0289347	-28.715971	C
0.00005125	4433.	86487861.	10.7258994	0.0005497	-0.001193	2.1045859	-30.295869	C
0.00005375	4600.	85575751.	10.6594820	0.0005729	-0.001255	2.1788964	-31.877245	C
0.00005625	4766.	84737356.	10.5992468	0.0005962	-0.001316	2.2520859	-33.458166	C
0.00005875	4933.	83964133.	10.5449129	0.0006195	-0.001378	2.3242452	-35.037767	C
0.00006125	5099.	83248049.	10.4957652	0.0006429	-0.001440	2.3953689	-36.616034	C
0.00006375	5265.	82582330.	10.4512007	0.0006663	-0.001501	2.4654512	-38.192955	C
0.00006625	5430.	81961226.	10.4107074	0.0006897	-0.001563	2.5344863	-39.768516	C
0.00006875	5595.	81379820.	10.3738482	0.0007132	-0.001624	2.6024682	-41.342702	C
0.00007125	5759.	80832588.	10.3391470	0.0007367	-0.001686	2.6691660	-42.917775	C
0.00007375	5923.	80317186.	10.3073361	0.0007602	-0.001747	2.7347823	-44.491697	C
0.00007625	6087.	79830590.	10.2782663	0.0007837	-0.001809	2.7993394	-46.064171	C
0.00007875	6250.	79370011.	10.2516834	0.0008073	-0.001870	2.8628308	-47.635180	C
0.00008125	6413.	78933001.	10.2273646	0.0008310	-0.001932	2.9252503	-49.204709	C
0.00008375	6576.	78517406.	10.2051140	0.0008547	-0.001993	2.9865913	-50.772742	C
0.00008625	6738.	78121319.	10.1847585	0.0008784	-0.002054	3.0468472	-52.339260	C
0.00008875	6900.	77743046.	10.1661447	0.0009022	-0.002115	3.1060113	-53.904247	C
0.00009125	7061.	77381081.	10.1491359	0.0009261	-0.002176	3.1640766	-55.467686	C
0.00009375	7222.	77034076.	10.1336105	0.0009500	-0.002237	3.2210363	-57.029559	C
0.00009625	7382.	76700821.	10.1194593	0.0009740	-0.002299	3.2768833	-58.589847	C
0.00009875	7542.	76379562.	10.1065576	0.0009980	-0.002359	3.3316042	-60.000000	CY
0.0001013	7697.	76019588.	10.0927756	0.0010219	-0.002421	3.3847289	-60.000000	CY
0.0001038	7835.	75514825.	10.0735709	0.0010451	-0.002482	3.4352361	-60.000000	CY
0.0001063	7962.	74933712.	10.0516200	0.0010680	-0.002545	3.4837442	-60.000000	CY
0.0001088	8088.	74370519.	10.0308733	0.0010909	-0.002607	3.5311656	-60.000000	CY
0.0001113	8195.	73665096.	10.0029387	0.0011128	-0.002670	3.5756131	-60.000000	CY
0.0001138	8277.	72760779.	9.9655449	0.0011336	-0.002734	3.6165957	-60.000000	CY
0.0001163	8345.	71784567.	9.9247047	0.0011537	-0.002799	3.6555043	-60.000000	CY
0.0001188	8412.	70838887.	9.8854383	0.0011739	-0.002864	3.6935937	-60.000000	CY
0.0001213	8479.	69930630.	9.8480898	0.0011941	-0.002928	3.7306958	-60.000000	CY
0.0001238	8546.	69057516.	9.8125455	0.0012143	-0.002993	3.7670762	-60.000000	CY
0.0001263	8612.	68217444.	9.7787005	0.0012346	-0.003058	3.8026407	-60.000000	CY
0.0001288	8679.	67408477.	9.7464583	0.0012549	-0.003123	3.8373848	-60.000000	CY
0.0001313	8745.	66628825.	9.7157297	0.0012752	-0.003187	3.8713041	-60.000000	CY
0.0001338	8811.	65876565.	9.6862552	0.0012955	-0.003252	3.9043553	-60.000000	CY
0.0001363	8877.	65148632.	9.6569188	0.0013158	-0.003317	3.9363095	-60.000000	CY
0.0001388	8942.	64445529.	9.6289193	0.0013360	-0.003381	3.9674429	-60.000000	CY
0.0001413	9006.	63761769.	9.6019101	0.0013563	-0.003446	3.9976917	-60.000000	CY
0.0001438	9068.	63084453.	9.5750403	0.0013764	-0.003511	4.0268885	-60.000000	CY
0.0001463	9118.	62343977.	9.5435019	0.0013957	-0.003577	4.0540546	-60.000000	CY
0.0001488	9156.	61554230.	9.5081019	0.0014143	-0.003643	4.0794115	-60.000000	CY
0.0001588	9267.	58376846.	9.3609298	0.0014860	-0.003911	4.1701922	-60.000000	CY
0.0001688	9371.	55530143.	9.2254718	0.0015568	-0.004181	4.2489239	-60.000000	CY
0.0001788	9472.	52991410.	9.1072874	0.0016279	-0.004450	4.3172782	-60.000000	CY
0.0001888	9572.	50711893.	9.0038742	0.0016995	-0.004718	4.3751125	-60.000000	CY
0.0001988	9668.	48645277.	8.9080297	0.0017705	-0.004987	4.4216409	-60.000000	CY
0.0002088	9763.	46768258.	8.8238583	0.0018420	-0.005256	4.4576018	-60.000000	CY
0.0002188	9856.	45054556.	8.7498395	0.0019140	-0.005523	4.4827551	-60.000000	CY
0.0002288	9947.	43482470.	8.6847243	0.0019866	-0.005791	4.4968481	-60.000000	CY
0.0002388	10030.	42012230.	8.6217650	0.0020584	-0.006059	4.4953940	-60.000000	CY
0.0002488	10092.	40572066.	8.5529996	0.0021276	-0.006330	4.4999986	-60.000000	CY
0.0002588	10127.	39137669.	8.4756900	0.0021931	-0.006604	4.4991470	-60.000000	CY
0.0002688	10150.	37768807.	8.3996329	0.0022574	-0.006880	4.4955233	-60.000000	CY
0.0002788	10173.	36494654.	8.3306583	0.0023222	-0.007155	4.4998823	-60.000000	CY
0.0002888	10193.	35299568.	8.2628128	0.0023859	-0.007432	4.4963994	-60.000000	CY
0.0002988	10212.	34182163.	8.2007238	0.0024500	-0.007708	4.4999314	-60.000000	CY
0.0003088	10230.	33134124.	8.1442233	0.0025145	-0.007983	4.4954632	-60.000000	CY
0.0003188	10248.	32150033.	8.0923480	0.0025794	-0.008258	4.4996628	-60.000000	CY
0.0003288	10265.	31223469.	8.0449365	0.0026448	-0.008533	4.4923562	-60.000000	CY
0.0003388	10281.	30349862.	8.0013739	0.0027105	-0.008807	4.4983019	-60.000000	CY
0.0003488	10296.	29523067.	7.9583278	0.0027755	-0.009082	4.4984856	-60.000000	CY
0.0003588	10310.	28739691.	7.9178802	0.0028405	-0.009357	4.4936821	-60.000000	CY

0.0003688	10324.	27997949.	7.8803031	0.0029059	-0.009632	4.4986115	-60.000000	CY
0.0003788	10338.	27294409.	7.8454530	0.0029715	-0.009906	4.4981391	-60.000000	CY
0.0003888	10351.	26625507.	7.8134748	0.0030375	-0.010180	4.4915510	-60.000000	CYT
0.0003988	10363.	25989517.	7.7836506	0.0031037	-0.010454	4.4972621	-60.000000	CYT
0.0004088	10376.	25384009.	7.7558345	0.0031702	-0.010727	4.4998439	-60.000000	CYT
0.0004188	10388.	24806260.	7.7302273	0.0032370	-0.011000	4.4901889	-60.000000	CYT
0.0004288	10399.	24254735.	7.7064186	0.0033041	-0.011273	4.4925458	-60.000000	CYT
0.0004388	10411.	23727707.	7.6842480	0.0033715	-0.011546	4.4975805	60.000000	CYT
0.0004488	10422.	23223681.	7.6635187	0.0034390	-0.011818	4.4998602	60.000000	CYT
0.0004588	10432.	22740504.	7.6437544	0.0035066	-0.012091	4.4909525	60.000000	CYT
0.0004688	10442.	22276893.	7.6237918	0.0035737	-0.012364	4.4886501	60.000000	CYT
0.0004788	10451.	21830700.	7.6063521	0.0036415	-0.012636	4.4947573	60.000000	CYT
0.0004888	10460.	21401846.	7.5904915	0.0037099	-0.012908	4.4985690	60.000000	CYT
0.0004988	10469.	20989853.	7.5756570	0.0037784	-0.013179	4.4999907	60.000000	CYT
0.0005088	10477.	20593269.	7.5622053	0.0038473	-0.013450	4.4886173	60.000000	CYT

Axial Thrust Force = 240.000 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
0.00000125	392.0306290	313624503.	61.4418569	0.00007680	0.00003430	0.3379402	2.1225048	
0.00000250	784.0354260	313614170.	39.2528141	0.00009813	0.00001313	0.4287969	2.6363040	
0.00000375	1176.	313591904.	31.8705874	0.0001195	-0.00000799	0.5188750	3.1516389	
0.00000500	1567.	313432287.	28.1880383	0.0001409	-0.00002906	0.6081246	3.6682156	
0.00000625	1957.	313044548.	25.9823172	0.0001624	-0.00005011	0.6964607	4.1854824	
0.00000750	2344.	312482280.	24.5136661	0.0001839	-0.00007115	0.7838390	4.7031474	
0.00000875	2728.	311800145.	23.4656446	0.0002053	-0.00009218	0.8702377	5.2210699	
0.00001000	2728.	272825127.	20.8519602	0.0002085	-0.000131	0.8822783	5.2089685	C
0.00001125	2728.	242511224.	19.9146542	0.0002240	-0.000158	0.9437575	5.5542935	C
0.00001250	2728.	218260102.	19.1288403	0.0002391	-0.000186	1.0029270	5.8865796	C
0.00001375	2728.	198418274.	18.4594551	0.0002538	-0.000214	1.0601702	6.2083203	C
0.00001500	2731.	182048861.	17.8811415	0.0002682	-0.000242	1.1157419	6.5211466	C
0.00001625	2840.	174743632.	17.3746854	0.0002823	-0.000270	1.1697849	6.8259080	C
0.00001750	2945.	168291232.	16.9286898	0.0002963	-0.000299	1.2225942	-7.197015	C
0.00001875	3048.	162554486.	16.5326227	0.0003100	-0.000328	1.2743003	-7.926449	C
0.00002000	3148.	157414768.	16.1776260	0.0003236	-0.000356	1.3249577	-8.660777	C
0.00002125	3247.	152781091.	15.8570368	0.0003370	-0.000386	1.3746281	-9.399638	C
0.00002250	3343.	148584437.	15.5659836	0.0003502	-0.000415	1.4233977	-10.142471	C
0.00002375	3438.	144769530.	15.3007329	0.0003634	-0.000444	1.4713600	-10.888633	C
0.00002500	3532.	141291102.	15.0583952	0.0003765	-0.000474	1.5186149	-11.637413	C
0.00002625	3625.	138100834.	14.8354777	0.0003894	-0.000503	1.5651493	-12.388980	C
0.00002750	3717.	135159152.	14.6289577	0.0004023	-0.000533	1.6109343	-13.143631	C
0.00002875	3808.	132456783.	14.4393938	0.0004151	-0.000562	1.6562563	-13.899118	C
0.00003000	3898.	129939227.	14.2613914	0.0004278	-0.000592	1.7007692	-14.658290	C
0.00003125	3988.	127616562.	14.0976732	0.0004406	-0.000622	1.7449358	-15.417421	C
0.00003250	4077.	125439824.	13.9428520	0.0004531	-0.000652	1.7883317	-16.18037	C
0.00003375	4165.	123420700.	13.7998563	0.0004657	-0.000682	1.8314249	-16.942303	C
0.00003500	4253.	121522445.	13.6643372	0.0004783	-0.000712	1.8738436	-17.707348	C
0.00003625	4341.	119746439.	13.5376581	0.0004907	-0.000742	1.9158600	-18.472925	C
0.00003750	4428.	118083803.	13.4194247	0.0005032	-0.000772	1.9575375	-19.238501	C
0.00003875	4515.	116507357.	13.3060165	0.0005156	-0.000802	1.9985121	-20.007226	C
0.00004000	4601.	115026528.	13.1999901	0.0005280	-0.000832	2.0391928	-20.775612	C
0.00004125	4687.	113632620.	13.1006754	0.0005404	-0.000862	2.0795789	-21.543655	C
0.00004250	4773.	112304362.	13.0084875	0.0005527	-0.000892	2.1193035	-22.314600	C
0.00004375	4858.	111047746.	12.9144420	0.0005650	-0.000922	2.1586917	-23.085614	C
0.00004500	4944.	109858414.	12.8293196	0.0005773	-0.000953	2.1977891	-23.856288	C
0.00004625	5029.	108730764.	12.7490218	0.0005896	-0.000983	2.2365903	-24.626662	C
0.00004750	5113.	107648829.	12.6707296	0.0006019	-0.001013	2.2747280	-25.400095	C
0.00004875	5198.	106620100.	12.5966927	0.0006141	-0.001043	2.3125784	-26.173188	C
0.00005125	5366.	104706642.	12.4601431	0.0006386	-0.001104	2.3874141	-27.718350	C
0.00005375	5534.	102953056.	12.3346923	0.0006630	-0.001165	2.4606865	-29.266011	C
0.00005625	5700.	101341392.	12.2196840	0.0006874	-0.001225	2.5325470	-30.814828	C
0.00005875	5867.	99859356.	12.1152786	0.0007118	-0.001286	2.6032583	-32.362257	C
0.00006125	6032.	98485175.	12.0184194	0.0007361	-0.001346	2.6725043	-33.911420	C
0.00006375	6197.	97207007.	11.9284479	0.0007604	-0.001407	2.7403354	-35.461894	C
0.00006625	6361.	96018667.	11.8460074	0.0007848	-0.001468	2.8070191	-37.010946	C

0.00006875	6525.	94910296.	11.7702830	0.0008092	-0.001528	2.8725488	-38.558561	C
0.00007125	6688.	93870489.	11.6994871	0.0008336	-0.001589	2.9367121	-40.106974	C
0.00007375	6851.	92891483.	11.6327972	0.0008579	-0.001650	2.9994525	-41.656867	C
0.00007625	7013.	91970861.	11.5711521	0.0008823	-0.001710	3.0610380	-43.205277	C
0.00007875	7174.	91103017.	11.5140780	0.0009067	-0.001771	3.1214620	-44.752187	C
0.00008125	7335.	90283025.	11.4611595	0.0009312	-0.001831	3.1807173	-46.297580	C
0.00008375	7496.	89506548.	11.4120309	0.0009558	-0.001892	3.2387967	-47.841442	C
0.00008625	7656.	88767886.	11.3654497	0.0009803	-0.001952	3.2955083	-49.386057	C
0.00008875	7816.	88064090.	11.3213033	0.0010048	-0.002013	3.3508773	-50.931158	C
0.00009125	7975.	87393845.	11.2801811	0.0010293	-0.002073	3.4050660	-52.474658	C
0.00009375	8133.	86754421.	11.2418478	0.0010539	-0.002134	3.4580669	-54.016538	C
0.00009625	8291.	86143366.	11.2060929	0.0010786	-0.002194	3.5098723	-55.556780	C
0.00009875	8449.	85558477.	11.1727270	0.0011033	-0.002254	3.5604741	-57.095365	C
0.0001013	8606.	84997768.	11.1415797	0.0011281	-0.002314	3.6098645	-58.632274	C
0.0001038	8763.	84458736.	11.1124701	0.0011529	-0.002375	3.6580296	-60.000000	CY
0.0001063	8914.	83896530.	11.0835644	0.0011776	-0.002435	3.7046209	-60.000000	CY
0.0001088	9051.	83224785.	11.0513015	0.0012018	-0.002496	3.7489497	-60.000000	CY
0.0001113	9175.	82471150.	11.0152512	0.0012254	-0.002557	3.7909679	-60.000000	CY
0.0001138	9298.	81744428.	10.9810884	0.0012491	-0.002618	3.8318361	-60.000000	CY
0.0001163	9412.	80966295.	10.9452758	0.0012724	-0.002680	3.8708816	-60.000000	CY
0.0001188	9500.	79999694.	10.9013274	0.0012945	-0.002743	3.9068829	-60.000000	CY
0.0001213	9569.	78922629.	10.8525830	0.0013159	-0.002807	3.9405533	-60.000000	CY
0.0001238	9636.	77864022.	10.8050346	0.0013371	-0.002870	3.9730925	-60.000000	CY
0.0001263	9702.	76845442.	10.7596988	0.0013584	-0.002934	4.0047190	-60.000000	CY
0.0001288	9768.	75864538.	10.7164492	0.0013797	-0.002998	4.0354273	-60.000000	CY
0.0001313	9833.	74915503.	10.6735646	0.0014009	-0.003062	4.0649175	-60.000000	CY
0.0001338	9897.	73999532.	10.6323157	0.0014221	-0.003125	4.0934465	-60.000000	CY
0.0001363	9962.	73115445.	10.5928947	0.0014433	-0.003189	4.1210643	-60.000000	CY
0.0001388	10026.	72261485.	10.5552056	0.0014645	-0.003253	4.1477650	-60.000000	CY
0.0001413	10090.	71436044.	10.5191594	0.0014858	-0.003317	4.1735432	-60.000000	CY
0.0001438	10154.	70637617.	10.4846731	0.0015072	-0.003380	4.1983932	-60.000000	CY
0.0001463	10218.	69864802.	10.4516697	0.0015286	-0.003444	4.2223092	-60.000000	CY
0.0001488	10281.	69116293.	10.4200771	0.0015500	-0.003508	4.2452854	-60.000000	CY
0.0001588	10473.	65968898.	10.2776931	0.0016316	-0.003766	4.3236185	-60.000000	CY
0.0001688	10578.	62682225.	10.1184720	0.0017075	-0.004030	4.3835175	-60.000000	CY
0.0001788	10679.	59741230.	9.9773013	0.0017834	-0.004294	4.4310580	-60.000000	CY
0.0001888	10776.	57091139.	9.8499254	0.0018592	-0.004558	4.4661169	-60.000000	CY
0.0001988	10871.	54696064.	9.7384135	0.0019355	-0.004822	4.4889881	-60.000000	CY
0.0002088	10962.	52514144.	9.6374767	0.0020118	-0.005086	4.4993331	-60.000000	CY
0.0002188	11050.	50515808.	9.5461523	0.0020882	-0.005349	4.4993506	-60.000000	CY
0.0002288	11136.	48680308.	9.4659816	0.0021653	-0.005612	4.4990025	-60.000000	CY
0.0002388	11218.	46987333.	9.3955870	0.0022432	-0.005874	4.4980537	-60.000000	CY
0.0002488	11298.	45419094.	9.3325604	0.0023215	-0.006136	4.4959790	-60.000000	CY
0.0002588	11370.	43941207.	9.2710271	0.0023989	-0.006399	4.4991378	-60.000000	CY
0.0002688	11423.	42503066.	9.2062181	0.0024742	-0.006663	4.4990491	-60.000000	CY
0.0002788	11454.	41092094.	9.1354881	0.0025465	-0.006931	4.4944578	-60.000000	CY
0.0002888	11475.	39741559.	9.0651414	0.0026176	-0.007200	4.4994914	-60.000000	CY
0.0002988	11494.	38472531.	8.9992743	0.0026885	-0.007469	4.4938485	-60.000000	CY
0.0003088	11510.	37278579.	8.9344240	0.0027585	-0.007739	4.4990216	-60.000000	CY
0.0003188	11525.	36157542.	8.8748531	0.0028289	-0.008009	4.4942398	-60.000000	CY
0.0003288	11540.	35102528.	8.8201868	0.0028996	-0.008278	4.4970594	-60.000000	CY
0.0003388	11554.	34108628.	8.7695804	0.0029707	-0.008547	4.4999093	-60.000000	CY
0.0003488	11568.	33169659.	8.7231276	0.0030422	-0.008815	4.4918844	-60.000000	CYT
0.0003588	11581.	32281830.	8.6801004	0.0031140	-0.009084	4.4976758	60.000000	CYT
0.0003688	11593.	31438859.	8.6371011	0.0031849	-0.009353	4.4999477	60.000000	CYT
0.0003788	11604.	30638209.	8.5964677	0.0032559	-0.009622	4.4894401	60.000000	CYT
0.0003888	11615.	29877790.	8.5586870	0.0033272	-0.009890	4.4957700	60.000000	CYT
0.0003988	11624.	29151774.	8.5252256	0.0033994	-0.010158	4.4993088	60.000000	CYT
0.0004088	11633.	28460391.	8.4941396	0.0034720	-0.010426	4.4954796	60.000000	CYT
0.0004188	11642.	27800980.	8.4653805	0.0035449	-0.010693	4.4902501	60.000000	CYT
0.0004288	11649.	27170063.	8.4396055	0.0036185	-0.010959	4.4961363	60.000000	CYT
0.0004388	11656.	26565568.	8.4167015	0.0036928	-0.011225	4.4993856	60.000000	CYT
0.0004488	11662.	25987247.	8.3955004	0.0037675	-0.011490	4.4954323	60.000000	CYT
0.0004588	11668.	25433245.	8.3759975	0.0038425	-0.011755	4.4869135	60.000000	CYT

Axial Thrust Force = 330.000 kips

Bending	Bending	Bending	Depth to	Max Comp	Max Tens	Max Conc	Max Steel	Run
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Curvature rad/in.	Moment in-kip	Stiffness kip-in2	N Axis in	Strain in/in	Strain in/in	Stress ksi	Stress ksi	Msg
0.00000125	388.1847853	310547828.	78.4030454	0.00009800	0.00005550	0.4291575	2.7373479	
0.00000250	776.3446278	310537851.	47.7337308	0.0001193	0.00003433	0.5190109	3.2511705	
0.00000375	1164.	310518950.	37.5249395	0.0001407	0.00001322	0.6080862	3.7665497	
0.00000500	1552.	310490395.	32.4312581	0.0001622	-0.00000784	0.6963752	4.2834824	
0.00000625	1940.	310378415.	29.3824577	0.0001836	-0.00002886	0.7838405	4.8017580	
0.00000750	2326.	310097791.	27.3539609	0.0002052	-0.00004985	0.8704107	5.3209115	
0.00000875	2710.	309661944.	25.9073058	0.0002267	-0.00007081	0.9560400	5.8406414	
0.00001000	3091.	309103997.	24.8237003	0.0002482	-0.00009176	1.0407018	6.3607731	
0.00001125	3091.	274759108.	22.7006745	0.0002554	-0.000127	1.0679927	6.4632326	C
0.00001250	3091.	247283197.	21.7552990	0.0002719	-0.000153	1.1319086	6.8386708	C
0.00001375	3091.	224802907.	20.9494289	0.0002881	-0.000179	1.1935072	7.2011973	C
0.00001500	3187.	212486035.	20.2518203	0.0003038	-0.000206	1.2530443	7.5523919	C
0.00001625	3316.	204079126.	19.6403852	0.0003192	-0.000233	1.3107390	7.8936191	C
0.00001750	3439.	196522416.	19.0999422	0.0003342	-0.000261	1.3668422	8.2265457	C
0.00001875	3557.	189702027.	18.6180968	0.0003491	-0.000288	1.4215086	8.5521527	C
0.00002000	3671.	183529865.	18.1857894	0.0003637	-0.000316	1.4749051	8.8715579	C
0.00002125	3780.	177898262.	17.7938653	0.0003781	-0.000344	1.5270205	9.1845071	C
0.00002250	3887.	172762270.	17.4378888	0.0003924	-0.000373	1.5780634	9.4924975	C
0.00002375	3991.	168063040.	17.1130899	0.0004064	-0.000401	1.6281271	9.7961532	C
0.00002500	4094.	163752374.	16.8157256	0.0004204	-0.000430	1.6773089	-10.363349	C
0.00002625	4194.	159773726.	16.5414403	0.0004342	-0.000458	1.7255799	-11.090316	C
0.00002750	4293.	156095141.	16.2878416	0.0004479	-0.000487	1.7730255	-11.820671	C
0.00002875	4390.	152691465.	16.0532599	0.0004615	-0.000516	1.8197590	-12.553557	C
0.00003000	4486.	149531215.	15.8354856	0.0004751	-0.000545	1.8658056	-13.288827	C
0.00003125	4580.	146572590.	15.6310122	0.0004885	-0.000574	1.9110138	-14.027833	C
0.00003250	4674.	143823601.	15.4413346	0.0005018	-0.000603	1.9557281	-14.767717	C
0.00003375	4767.	141236225.	15.2621062	0.0005151	-0.000632	1.9996454	-15.511126	C
0.00003500	4859.	138821310.	15.0951360	0.0005283	-0.000662	2.0431172	-16.255087	C
0.00003625	4950.	136539495.	14.9366533	0.0005415	-0.000691	2.0858460	-17.002231	C
0.00003750	5040.	134405770.	14.7890725	0.0005546	-0.000720	2.1282413	-17.749009	C
0.00003875	5130.	132374995.	14.6474560	0.0005676	-0.000750	2.1698148	-18.499784	C
0.00004000	5219.	130467661.	14.5150231	0.0005806	-0.000779	2.2110635	-19.250173	C
0.00004125	5307.	128659939.	14.3892062	0.0005936	-0.000809	2.2517588	-20.002249	C
0.00004250	5395.	126942308.	14.2693054	0.0006064	-0.000839	2.2918902	-20.756156	C
0.00004375	5483.	125319724.	14.1565559	0.0006193	-0.000868	2.3317012	-21.509682	C
0.00004500	5570.	123772361.	14.0485583	0.0006322	-0.000898	2.3709395	-22.265181	C
0.00004625	5656.	122296995.	13.9453486	0.0006450	-0.000928	2.4096706	-23.022089	C
0.00004750	5743.	120896491.	13.8478438	0.0006578	-0.000957	2.4480856	-23.778620	C
0.00004875	5829.	119562406.	13.7551574	0.0006706	-0.000987	2.4861177	-24.535409	C
0.00005125	5999.	117055166.	13.5796107	0.0006960	-0.001047	2.5605488	-26.054541	C
0.00005375	6169.	114770010.	13.4210759	0.0007214	-0.001106	2.6336846	-27.572610	C
0.00005625	6337.	112655697.	13.2731732	0.0007466	-0.001166	2.7048620	-29.096324	C
0.00005875	6504.	110712633.	13.1387367	0.0007719	-0.001226	2.7747992	-30.618541	C
0.00006125	6671.	108908393.	13.0136536	0.0007971	-0.001285	2.8430761	-32.143635	C
0.00006375	6836.	107230834.	12.8976997	0.0008222	-0.001345	2.9098583	-33.669990	C
0.00006625	7001.	105672242.	12.7912869	0.0008474	-0.001405	2.9754037	-35.194829	C
0.00006875	7165.	104211788.	12.6914148	0.0008725	-0.001465	3.0393588	-36.722054	C
0.00007125	7327.	102841512.	12.5979670	0.0008976	-0.001525	3.1018390	-38.250488	C
0.00007375	7490.	101557323.	12.5115788	0.0009227	-0.001585	3.1630844	-39.777374	C
0.00007625	7652.	100350687.	12.4315625	0.0009479	-0.001645	3.2230874	-41.302697	C
0.00007875	7813.	99207858.	12.3554082	0.0009730	-0.001705	3.2814884	-42.830799	C
0.00008125	7973.	98126751.	12.2838864	0.0009981	-0.001764	3.3385123	-44.359030	C
0.00008375	8132.	97104155.	12.2172969	0.0010232	-0.001824	3.3942934	-45.885653	C
0.00008625	8292.	96134922.	12.1552176	0.0010484	-0.001884	3.4488238	-47.410650	C
0.00008875	8450.	95214483.	12.0972739	0.0010736	-0.001944	3.5020952	-48.934005	C
0.00009125	8608.	94336091.	12.0421106	0.0010988	-0.002004	3.5539074	-50.458402	C
0.00009375	8765.	93496484.	11.9895331	0.0011240	-0.002063	3.6042713	-51.983769	C
0.00009625	8922.	92695135.	11.9402987	0.0011493	-0.002123	3.6533726	-53.507429	C
0.00009875	9078.	91929084.	11.8941600	0.0011745	-0.002183	3.7012028	-55.029362	C
0.0001013	9234.	91195659.	11.8508946	0.0011999	-0.002243	3.7477531	-56.549548	C
0.0001038	9389.	90492447.	11.8103015	0.0012253	-0.002302	3.7930146	-58.067969	C
0.0001063	9543.	89817260.	11.7721989	0.0012508	-0.002362	3.8369783	-59.584602	C
0.0001088	9696.	89162192.	11.7361978	0.0012763	-0.002421	3.8795945	-60.000000	CY
0.0001113	9836.	88416441.	11.6967366	0.0013013	-0.002481	3.9198831	-60.000000	CY
0.0001138	9963.	87585467.	11.6546730	0.0013257	-0.002542	3.9580493	-60.000000	CY
0.0001163	10085.	86750088.	11.6134117	0.0013501	-0.002602	3.9947406	-60.000000	CY

0.0001188	10204.	85927806.	11.5735695	0.0013744	-0.002663	4.0300910	-60.000000	CY
0.0001213	10306.	85000614.	11.5298285	0.0013980	-0.002725	4.0632182	-60.000000	CY
0.0001238	10386.	83928899.	11.4801547	0.0014207	-0.002787	4.0938480	-60.000000	CY
0.0001263	10454.	82802759.	11.4284671	0.0014428	-0.002850	4.1227099	-60.000000	CY
0.0001288	10519.	81704314.	11.3780366	0.0014649	-0.002913	4.1503873	-60.000000	CY
0.0001313	10584.	80640816.	11.3281674	0.0014868	-0.002976	4.1767952	-60.000000	CY
0.0001338	10649.	79615025.	11.2805107	0.0015088	-0.003039	4.2022201	-60.000000	CY
0.0001363	10713.	78624844.	11.2349477	0.0015308	-0.003102	4.2266557	-60.000000	CY
0.0001388	10776.	77668328.	11.1913683	0.0015528	-0.003165	4.2500956	-60.000000	CY
0.0001413	10840.	76743671.	11.1496704	0.0015749	-0.003228	4.2725334	-60.000000	CY
0.0001438	10903.	75849188.	11.1097591	0.0015970	-0.003290	4.2939624	-60.000000	CY
0.0001463	10966.	74983315.	11.0715457	0.0016192	-0.003353	4.3143761	-60.000000	CY
0.0001488	11029.	74142933.	11.0342009	0.0016413	-0.003416	4.336716	-60.000000	CY
0.0001588	11268.	70981482.	10.8932598	0.0017293	-0.003668	4.3999133	-60.000000	CY
0.0001688	11410.	67613700.	10.7348657	0.0018115	-0.003926	4.4466356	-60.000000	CY
0.0001788	11510.	64390865.	10.5768273	0.0018906	-0.004187	4.4778164	-60.000000	CY
0.0001888	11607.	61491988.	10.4378986	0.0019702	-0.004447	4.4955907	-60.000000	CY
0.0001988	11699.	58864211.	10.3134492	0.0020498	-0.004708	4.4969300	-60.000000	CY
0.0002088	11787.	56466332.	10.2011673	0.0021295	-0.004968	4.4973407	-60.000000	CY
0.0002188	11872.	54273098.	10.1027695	0.0022100	-0.005228	4.4970731	-60.000000	CY
0.0002288	11954.	52257056.	10.0155264	0.0022911	-0.005486	4.4960028	-60.000000	CY
0.0002388	12031.	50392643.	9.9346225	0.0023719	-0.005746	4.4977824	-60.000000	CY
0.0002488	12106.	48667693.	9.8632471	0.0024535	-0.006004	4.4998279	-60.000000	CY
0.0002588	12179.	47066843.	9.8001750	0.0025358	-0.006262	4.4984829	-60.000000	CY
0.0002688	12248.	45572283.	9.7434127	0.0026185	-0.006519	4.4948834	-60.000000	CY
0.0002788	12306.	44146809.	9.6875503	0.0027004	-0.006777	4.4998615	-60.000000	CY
0.0002888	12345.	42753644.	9.6232540	0.0027787	-0.007039	4.4964156	-60.000000	CY
0.0002988	12368.	41399996.	9.5547027	0.0028545	-0.007303	4.4998961	-60.000000	CY
0.0003088	12384.	40110425.	9.4879893	0.0029294	-0.007568	4.4947190	-60.000000	CY
0.0003188	12399.	38899939.	9.4265870	0.0030047	-0.007833	4.4992672	60.000000	CYT
0.0003288	12414.	37760912.	9.3701945	0.0030805	-0.008097	4.4932862	60.000000	CYT
0.0003388	12427.	36684439.	9.3151661	0.0031555	-0.008362	4.4966587	60.000000	CYT
0.0003488	12438.	35663396.	9.2640307	0.0032308	-0.008627	4.4997504	60.000000	CYT
0.0003588	12447.	34696853.	9.2172659	0.0033067	-0.008891	4.4905223	60.000000	CYT
0.0003688	12457.	33781578.	9.1739017	0.0033829	-0.009155	4.4960028	60.000000	CYT
0.0003788	12464.	32909277.	9.1359726	0.0034602	-0.009417	4.4994873	60.000000	CYT
0.0003888	12471.	32080301.	9.1010972	0.0035381	-0.009679	4.4934925	60.000000	CYT
0.0003988	12478.	31291709.	9.0688739	0.0036162	-0.009941	4.4929541	60.000000	CYT
0.0004088	12483.	30538825.	9.0401309	0.0036952	-0.010202	4.4979477	60.000000	CYT
0.0004188	12487.	29820277.	9.0139210	0.0037746	-0.010463	4.4999622	60.000000	CYT
0.0004288	12491.	29132818.	8.9874558	0.0038534	-0.010724	4.4885613	60.000000	CYT

Axial Thrust Force = 400.000 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
0.00000125	385.1664719	308133178.	91.7145995	0.0001146	0.00007214	0.5000392	3.2198917	
0.00000250	770.3086961	308123478.	54.3897655	0.0001360	0.00005097	0.5891052	3.7337330	
0.00000375	1155.	308104545.	41.9625823	0.0001574	0.00002986	0.6773928	4.2491433	
0.00000500	1540.	308077415.	35.7598139	0.0001788	0.00000880	0.7648942	4.7661230	
0.00000625	1925.	308038105.	32.0467518	0.0002003	-0.00001221	0.8516002	5.2846613	
0.00000750	2309.	307917818.	29.5774285	0.0002218	-0.00003317	0.9374697	5.8045157	
0.00000875	2692.	307658243.	27.8172342	0.0002434	-0.00005410	1.0224414	6.3252856	
0.00001000	3073.	307265444.	26.4993272	0.0002650	-0.00007501	1.1064749	6.8467049	
0.00001125	3451.	306761265.	25.4757593	0.0002866	-0.00009590	1.1895445	7.3686040	
0.00001250	3451.	276085138.	23.6023966	0.0002950	-0.000130	1.2211655	7.5082438	C
0.00001375	3451.	250986489.	22.7001099	0.0003121	-0.000155	1.2856774	7.8992814	C
0.00001500	3481.	232035449.	21.9202433	0.0003288	-0.000181	1.3479696	8.2781559	C
0.00001625	3628.	223278898.	21.2367531	0.0003451	-0.000207	1.4082222	8.6459074	C
0.00001750	3767.	215277994.	20.6317004	0.0003611	-0.000234	1.4660523	9.0039130	C
0.00001875	3899.	207968942.	20.0917584	0.0003767	-0.000261	1.5234575	9.3534562	C
0.00002000	4026.	201291234.	19.6069714	0.0003921	-0.000288	1.5788315	9.6958435	C
0.00002125	4147.	195161752.	19.1681559	0.0004073	-0.000315	1.6328416	10.0314137	C
0.00002250	4264.	189517257.	18.7684204	0.0004223	-0.000343	1.6855731	10.3606694	C
0.00002375	4378.	184318138.	18.4031297	0.0004371	-0.000370	1.7371763	10.6846682	C
0.00002500	4488.	179514656.	18.0677082	0.0004517	-0.000398	1.7877206	11.0038386	C

0.00002625	4595.	175065842.	17.7585160	0.0004662	-0.000426	1.8372792	11.3186579 C
0.00002750	4701.	170937742.	17.4726631	0.0004805	-0.000455	1.8859311	11.6296737 C
0.00002875	4804.	167091436.	17.2070309	0.0004947	-0.000483	1.9336817	11.9368246 C
0.00003000	4905.	163500008.	16.9594098	0.0005088	-0.000511	1.9805756	-12.311013 C
0.00003125	5005.	160152907.	16.7290511	0.0005228	-0.000540	2.0267717	-13.032735 C
0.00003250	5103.	157024718.	16.5141274	0.0005367	-0.000568	2.0722949	-13.756610 C
0.00003375	5200.	154074695.	16.3112582	0.0005505	-0.000597	2.1169682	-14.484268 C
0.00003500	5296.	151316915.	16.1220551	0.0005643	-0.000626	2.1611331	-15.212764 C
0.00003625	5391.	148703886.	15.9424035	0.0005779	-0.000655	2.2044776	-15.944936 C
0.00003750	5484.	146251601.	15.7741958	0.0005915	-0.000683	2.2473531	-16.677687 C
0.00003875	5577.	143921190.	15.6139027	0.0006050	-0.000712	2.2894655	-17.413739 C
0.00004000	5669.	141730941.	15.4638318	0.0006186	-0.000741	2.3312061	-18.149555 C
0.00004125	5760.	139636217.	15.3194840	0.0006319	-0.000771	2.3721185	-18.889405 C
0.00004250	5851.	137661051.	15.1839677	0.0006453	-0.000800	2.4126857	-19.628835 C
0.00004375	5940.	135777971.	15.0544372	0.0006586	-0.000829	2.4526291	-20.370495 C
0.00004500	6029.	133984203.	14.9309719	0.0006719	-0.000858	2.4920337	-21.113632 C
0.00004625	6118.	132284108.	14.8144882	0.0006852	-0.000887	2.5310977	-21.856355 C
0.00004750	6206.	130651399.	14.7019279	0.0006983	-0.000917	2.5694691	-22.602119 C
0.00004875	6293.	129094262.	14.5947475	0.0007115	-0.000946	2.6074071	-23.348438 C
0.00005125	6467.	126188182.	14.3952899	0.0007378	-0.001005	2.6820391	-24.842238 C
0.00005375	6639.	123514499.	14.2114693	0.0007639	-0.001064	2.7547307	-26.340585 C
0.00005625	6809.	121055630.	14.0429494	0.0007899	-0.001123	2.8257788	-27.840626 C
0.00005875	6978.	118778499.	13.8868258	0.0008159	-0.001182	2.8950433	-29.343984 C
0.00006125	7146.	116673397.	13.7435259	0.0008418	-0.001241	2.9628575	-30.847200 C
0.00006375	7312.	114705530.	13.6088735	0.0008676	-0.001300	3.0287829	-32.355208 C
0.00006625	7478.	112877720.	13.4852218	0.0008934	-0.001359	3.0934031	-33.861607 C
0.00006875	7643.	111165176.	13.3694136	0.0009191	-0.001418	3.1563780	-35.370294 C
0.00007125	7806.	109556761.	13.2608041	0.0009448	-0.001478	3.2177518	-36.880901 C
0.00007375	7969.	108049851.	13.1603218	0.0009706	-0.001537	3.2778229	-38.389876 C
0.00007625	8131.	106631103.	13.0663796	0.0009963	-0.001596	3.3364446	-39.898956 C
0.00007875	8291.	105285907.	12.9768446	0.0010219	-0.001656	3.3933520	-41.411594 C
0.00008125	8451.	104016691.	12.8935275	0.0010476	-0.001715	3.4489577	-42.922564 C
0.00008375	8611.	102816584.	12.8158783	0.0010733	-0.001774	3.5032530	-44.431850 C
0.00008625	8770.	101678689.	12.7431713	0.0010991	-0.001833	3.5561872	-45.940030 C
0.00008875	8927.	100590771.	12.6729788	0.0011247	-0.001893	3.6073957	-47.452283 C
0.00009125	9085.	99556370.	12.6072880	0.0011504	-0.001952	3.6572925	-48.962801 C
0.00009375	9241.	98571139.	12.5457459	0.0011762	-0.002011	3.7058685	-50.471566 C
0.00009625	9397.	97631183.	12.4880360	0.0012020	-0.002071	3.7531146	-51.978559 C
0.00009875	9552.	96733014.	12.4338740	0.0012278	-0.002130	3.7990219	-53.483755 C
0.0001013	9707.	95870614.	12.3819676	0.0012537	-0.002189	3.8434001	-54.990185 C
0.0001038	9861.	95041874.	12.3323078	0.0012795	-0.002248	3.8862834	-56.497381 C
0.0001063	10014.	94246720.	12.2855907	0.0013053	-0.002307	3.9278218	-58.002711 C
0.0001088	10166.	93482774.	12.2416205	0.0013313	-0.002366	3.9680055	-59.506152 C
0.0001113	10318.	92743994.	12.2000733	0.0013573	-0.002425	4.0068004	-60.000000 CY
0.0001138	10458.	91937906.	12.1572904	0.0013829	-0.002485	4.0436280	-60.000000 CY
0.0001163	10584.	91048763.	12.1124479	0.0014081	-0.002544	4.0784027	-60.000000 CY
0.0001188	10705.	90149076.	12.0681955	0.0014331	-0.002604	4.1115958	-60.000000 CY
0.0001213	10825.	89276842.	12.0245293	0.0014580	-0.002665	4.1432379	-60.000000 CY
0.0001238	10931.	88334775.	11.9786361	0.0014824	-0.002725	4.1729370	-60.000000 CY
0.0001263	11016.	87251512.	11.9270771	0.0015058	-0.002787	4.2002498	-60.000000 CY
0.0001288	11084.	86087190.	11.8723604	0.0015286	-0.002849	4.2256345	-60.000000 CY
0.0001313	11149.	84943063.	11.8190883	0.0015513	-0.002911	4.2498071	-60.000000 CY
0.0001338	11214.	83839335.	11.7681860	0.0015740	-0.002974	4.2729165	-60.000000 CY
0.0001363	11278.	82772330.	11.7190365	0.0015967	-0.003036	4.2948911	-60.000000 CY
0.0001388	11341.	81736563.	11.6703119	0.0016193	-0.003098	4.3155776	-60.000000 CY
0.0001413	11404.	80735256.	11.6236762	0.0016418	-0.003161	4.3352091	-60.000000 CY
0.0001438	11466.	79766586.	11.5790240	0.0016645	-0.003223	4.3537782	-60.000000 CY
0.0001463	11529.	78828855.	11.5362571	0.0016872	-0.003285	4.3712775	-60.000000 CY
0.0001488	11591.	77920483.	11.4952840	0.0017099	-0.003348	4.3876997	-60.000000 CY
0.0001588	11834.	74547576.	11.3455736	0.0018011	-0.003596	4.4422892	-60.000000 CY
0.0001688	12028.	71276544.	11.1963146	0.0018894	-0.003848	4.4779647	-60.000000 CY
0.0001788	12135.	67887905.	11.0344025	0.0019724	-0.004105	4.4961289	-60.000000 CY
0.0001888	12230.	64793587.	10.8840662	0.0020544	-0.004363	4.4979610	-60.000000 CY
0.0001988	12321.	61992104.	10.7530551	0.0021372	-0.004620	4.4988154	-60.000000 CY
0.0002088	12407.	59433009.	10.6343640	0.0022199	-0.004878	4.4990427	-60.000000 CY
0.0002188	12488.	57088063.	10.5280136	0.0023030	-0.005134	4.4988215	-60.000000 CY
0.0002288	12566.	54934537.	10.4344864	0.0023869	-0.005391	4.4980576	-60.000000 CY
0.0002388	12641.	52947861.	10.3508564	0.0024713	-0.005646	4.4963393	-60.000000 CY
0.0002488	12713.	51105828.	10.2731029	0.0025554	-0.005902	4.4981226	-60.000000 CY

0.0002588	12781.	49396814.	10.2042244	0.0026403	-0.006157	4.4995430	-60.000000	CY
0.0002688	12848.	47807244.	10.1429811	0.0027259	-0.006412	4.4970236	-60.000000	CY
0.0002788	12913.	46325452.	10.0882811	0.0028121	-0.006665	4.4978135	-60.000000	CY
0.0002888	12970.	44917125.	10.0357717	0.0028978	-0.006920	4.4985811	-60.000000	CY
0.0002988	13010.	43547058.	9.9758884	0.0029803	-0.007177	4.4945072	60.000000	CY
0.0003088	13035.	42217508.	9.9119965	0.0030603	-0.007437	4.4979597	60.000000	CYT
0.0003188	13050.	40941739.	9.8503686	0.0031398	-0.007698	4.4995592	60.000000	CYT
0.0003288	13062.	39732045.	9.7925140	0.0032193	-0.007958	4.4949811	60.000000	CYT
0.0003388	13072.	38589622.	9.7402645	0.0032995	-0.008218	4.4992580	60.000000	CYT
0.0003488	13081.	37507685.	9.6936094	0.0033806	-0.008477	4.4938696	60.000000	CYT
0.0003588	13088.	36481184.	9.6465469	0.0034607	-0.008737	4.4952966	60.000000	CYT
0.0003688	13093.	35506394.	9.6039900	0.0035415	-0.008996	4.4992160	60.000000	CYT
0.0003788	13097.	34580820.	9.5652114	0.0036228	-0.009255	4.4953317	60.000000	CYT
0.0003888	13101.	33701393.	9.5295299	0.0037046	-0.009513	4.4927237	60.000000	CYT
0.0003988	13105.	32865328.	9.4963035	0.0037867	-0.009771	4.4977933	60.000000	CYT
0.0004088	13105.	32061283.	9.5006852	0.0038834	-0.010014	4.4975427	60.000000	CYT

Axial Thrust Force = 615.000 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
0.00000125	375.7411250	300592900.	133.2828118	0.0001666	0.0001241	0.7173753	4.7267394	
0.00000250	751.4601578	300584063.	75.1747035	0.0001879	0.0001029	0.8039825	5.2406410	
0.00000375	1127.	300565015.	55.8201319	0.0002093	0.00008183	0.8898104	5.7561519	
0.00000500	1503.	300537374.	46.1539469	0.0002308	0.00006077	0.9748509	6.2732723	
0.00000625	1878.	300501464.	40.3631189	0.0002523	0.00003977	1.0590963	6.7920028	
0.00000750	2253.	300457387.	36.5099723	0.0002738	0.00001882	1.1425386	7.3123440	
0.00000875	2629.	300405186.	33.7640750	0.0002954	-0.00000206	1.2251700	7.8342965	
0.00001000	3003.	300333415.	31.7100347	0.0003171	-0.00002290	1.3069758	8.3578101	
0.00001125	3377.	300198427.	30.1164584	0.0003388	-0.00004369	1.3879156	8.8826321	
0.00001250	3750.	299975735.	28.8444591	0.0003606	-0.00006444	1.4679485	9.4084915	
0.00001375	4120.	299662622.	27.8058236	0.0003823	-0.00008517	1.5470436	9.9351847	
0.00001500	4489.	299265782.	26.9418751	0.0004041	-0.000106	1.6251786	10.4625655	
0.00001625	4489.	276245337.	25.5618958	0.0004154	-0.000137	1.6647367	10.6841309	C
0.00001750	4498.	257052115.	24.7814978	0.0004337	-0.000161	1.7289376	11.1099352	C
0.00001875	4684.	249805892.	24.0855193	0.0004516	-0.000186	1.7911186	11.5250636	C
0.00002000	4858.	242909387.	23.4605185	0.0004692	-0.000211	1.8514885	11.9309008	C
0.00002125	5023.	236397413.	22.8960965	0.0004865	-0.000236	1.9102388	12.3287565	C
0.00002250	5180.	230223688.	22.3818522	0.0005036	-0.000261	1.9673786	12.7184333	C
0.00002375	5330.	224411944.	21.9129317	0.0005204	-0.000287	2.0231115	13.1014244	C
0.00002500	5473.	218904035.	21.4791426	0.0005370	-0.000313	2.0773951	13.4771281	C
0.00002625	5610.	213717484.	21.0799318	0.0005533	-0.000339	2.1304305	13.8470856	C
0.00002750	5743.	208826205.	20.7101776	0.0005695	-0.000365	2.1822720	14.2115917	C
0.00002875	5871.	204208260.	20.3664382	0.0005855	-0.000392	2.2329768	14.5709804	C
0.00003000	5995.	199844925.	20.0458920	0.0006014	-0.000419	2.2826044	14.9256261	C
0.00003125	6116.	195720002.	19.7462172	0.0006171	-0.000445	2.3312170	15.2759469	C
0.00003250	6234.	191819282.	19.4654991	0.0006326	-0.000472	2.3788798	15.6224080	C
0.00003375	6349.	188130138.	19.2021585	0.0006481	-0.000499	2.4256609	15.9655252	C
0.00003500	6461.	184612101.	18.9530238	0.0006634	-0.000527	2.4714337	16.3039692	C
0.00003625	6571.	181278044.	18.7182954	0.0006785	-0.000554	2.5163953	16.6394957	C
0.00003750	6680.	178121964.	18.4972717	0.0006936	-0.000581	2.5606378	16.9729080	C
0.00003875	6785.	175103722.	18.2869486	0.0007086	-0.000609	2.6039787	17.3023211	C
0.00004000	6889.	172235553.	18.0878918	0.0007235	-0.000636	2.6466128	17.6295547	C
0.00004125	6992.	169505824.	17.8992045	0.0007383	-0.000664	2.6885626	17.9547610	C
0.00004250	7093.	166890712.	17.7189391	0.0007531	-0.000692	2.7297111	18.2766676	C
0.00004375	7193.	164405295.	17.5482733	0.0007677	-0.000720	2.7703013	18.5976837	C
0.00004500	7291.	162016496.	17.3845021	0.0007823	-0.000748	2.8101000	18.9153252	C
0.00004625	7388.	159741401.	17.2290961	0.0007968	-0.000776	2.8493740	19.2323128	C
0.00004750	7484.	157557346.	17.0801334	0.0008113	-0.000804	2.8879642	19.5469088	C
0.00004875	7579.	155465566.	16.9378259	0.0008257	-0.000832	2.9259704	-20.035911	C
0.00005125	7766.	151535005.	16.6712362	0.0008544	-0.000888	3.0002500	-21.459613	C
0.00005375	7950.	147912906.	16.4267007	0.0008829	-0.000945	3.0723604	-22.887594	C
0.00005625	8131.	144555322.	16.2007661	0.0009113	-0.001001	3.1422586	-24.320688	C
0.00005875	8309.	141430310.	15.9908861	0.0009395	-0.001058	3.2095533	-25.759190	C
0.00006125	8485.	138532801.	15.7976074	0.0009676	-0.001115	3.2758406	-27.198637	C
0.00006375	8658.	135810186.	15.6157396	0.0009955	-0.001172	3.3394551	-28.645014	C

0.00006625	8830.	133276576.	15.4479900	0.0010234	-0.001229	3.4014302	-30.090637 C
0.00006875	8998.	130885483.	15.2893874	0.0010511	-0.001286	3.4612511	-31.542346 C
0.00007125	9166.	128651580.	15.1428712	0.0010789	-0.001344	3.5195405	-32.992080 C
0.00007375	9332.	126532676.	15.0033860	0.0011065	-0.001401	3.5757105	-34.448020 C
0.00007625	9496.	124540415.	14.8735660	0.0011341	-0.001458	3.6303020	-35.902814 C
0.00007875	9659.	122657772.	14.7516605	0.0011617	-0.001516	3.6831823	-37.358358 C
0.00008125	9820.	120866453.	14.6355766	0.0011891	-0.001573	3.7341509	-38.817860 C
0.00008375	9981.	119173259.	14.5272449	0.0012167	-0.001631	3.7836011	-40.275366 C
0.00008625	10140.	117565211.	14.4251926	0.0012442	-0.001688	3.8314011	-41.732874 C
0.00008875	10297.	116026311.	14.3272344	0.0012715	-0.001746	3.8773050	-43.194643 C
0.00009125	10454.	114563682.	14.2354116	0.0012990	-0.001804	3.9216896	-44.654379 C
0.00009375	10610.	113171117.	14.1492413	0.0013265	-0.001861	3.9645432	-46.112062 C
0.00009625	10764.	111836281.	14.0668230	0.0013539	-0.001919	4.0056435	-47.571767 C
0.00009875	10917.	110555501.	13.9880012	0.0013813	-0.001976	4.0450212	-49.033125 C
0.0001013	11070.	109330645.	13.9137888	0.0014088	-0.002034	4.0828644	-50.492375 C
0.0001038	11221.	108157573.	13.8438609	0.0014363	-0.002091	4.1191608	-51.949496 C
0.0001063	11372.	107032542.	13.7779231	0.0014639	-0.002149	4.1538981	-53.404462 C
0.0001088	11521.	105944425.	13.7136945	0.0014914	-0.002206	4.1868039	-54.863598 C
0.0001113	11670.	104897367.	13.6527565	0.0015189	-0.002264	4.2181169	-56.321433 C
0.0001138	11817.	103889646.	13.5951733	0.0015465	-0.002321	4.2478630	-57.777034 C
0.0001163	11964.	102918633.	13.5407371	0.0015741	-0.002378	4.2760291	-59.230377 C
0.0001188	12110.	101979552.	13.4891700	0.0016018	-0.002436	4.3025920	-60.000000 CY
0.0001213	12249.	101024756.	13.4385803	0.0016294	-0.002493	4.3273560	-60.000000 CY
0.0001238	12376.	100004563.	13.3854229	0.0016564	-0.002551	4.3499926	-60.000000 CY
0.0001263	12492.	98942930.	13.3315894	0.0016831	-0.002609	4.3707715	-60.000000 CY
0.0001288	12606.	97912370.	13.2802259	0.0017098	-0.002668	4.3900364	-60.000000 CY
0.0001313	12718.	96898774.	13.2306489	0.0017365	-0.002726	4.4077328	-60.000000 CY
0.0001338	12817.	95824481.	13.1793577	0.0017627	-0.002785	4.4235983	-60.000000 CY
0.0001363	12897.	94655527.	13.1246331	0.0017882	-0.002844	4.4375849	-60.000000 CY
0.0001388	12963.	93426164.	13.0670100	0.0018130	-0.002904	4.4498383	-60.000000 CY
0.0001413	13025.	92210999.	13.0093976	0.0018376	-0.002965	4.4606335	-60.000000 CY
0.0001438	13086.	91034966.	12.9542477	0.0018622	-0.003025	4.4701464	-60.000000 CY
0.0001463	13147.	89896024.	12.9014389	0.0018868	-0.003086	4.4783665	-60.000000 CY
0.0001488	13208.	88792256.	12.8508581	0.0019116	-0.003146	4.4852831	-60.000000 CY
0.0001588	13443.	84683163.	12.6648710	0.0020105	-0.003387	4.4996700	-60.000000 CY
0.0001688	13669.	81000163.	12.5037708	0.0021100	-0.003627	4.4986913	-60.000000 CY
0.0001788	13879.	77644687.	12.3632893	0.0022099	-0.003868	4.4999865	-60.000000 CY
0.0001888	14008.	74214407.	12.2108305	0.0023048	-0.004113	4.4973161	-60.000000 CY
0.0001988	14094.	70913137.	12.0634297	0.0023976	-0.004360	4.4979862	-60.000000 CY
0.0002088	14172.	67890467.	11.9270717	0.0024898	-0.004608	4.4978991	-60.000000 CY
0.0002188	14247.	65127875.	11.8072269	0.0025828	-0.004855	4.4971839	-60.000000 CY
0.0002288	14317.	62589397.	11.6995677	0.0026763	-0.005101	4.4954984	-60.000000 CY
0.0002388	14383.	60243573.	11.5995030	0.0027694	-0.005348	4.4999931	60.000000 CY
0.0002488	14446.	58075154.	11.5107588	0.0028633	-0.005594	4.4992731	60.000000 CY
0.0002588	14504.	56055030.	11.4340092	0.0029585	-0.005839	4.4967394	60.000000 CY
0.0002688	14558.	54167682.	11.3655655	0.0030545	-0.006083	4.4988780	60.000000 CYT
0.0002788	14605.	52396245.	11.3037535	0.0031509	-0.006327	4.4986651	60.000000 CYT
0.0002888	14649.	50733410.	11.2507865	0.0032487	-0.006569	4.4932667	60.000000 CYT
0.0002988	14691.	49174648.	11.2040257	0.0033472	-0.006810	4.4993112	60.000000 CYT
0.0003088	14731.	47711259.	11.1625200	0.0034464	-0.007051	4.4934377	60.000000 CYT
0.0003188	14769.	46335249.	11.1254900	0.0035462	-0.007291	4.4992470	60.000000 CYT
0.0003288	14804.	45031089.	11.0907028	0.0036461	-0.007531	4.4914641	60.000000 CYT
0.0003388	14835.	43792328.	11.0584513	0.0037461	-0.007771	4.4982143	60.000000 CYT
0.0003488	14851.	42582270.	11.0214439	0.0038437	-0.008014	4.4980780	60.000000 CYT

Summary of Results for Nominal Moment Capacity for Section 2

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	Max. Tens. Strain
1	115.000	10343.336	0.00300000	-0.01002445
2	240.000	11559.881	0.00300000	-0.00865686
3	330.000	12398.398	0.00300000	-0.00781617

4	400.000	13015.832	0.00300000	-0.00724121
5	615.000	14527.277	0.00300000	-0.00594439

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 (0.75).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, 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	Nominal Ax. Thrust kips	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	115.000000	10343.	74.750000	6723.	78157463.
2	0.65	240.000000	11560.	156.000000	7514.	89424636.
3	0.65	330.000000	12398.	214.500000	8059.	97574959.
4	0.65	400.000000	13016.	260.000000	8460.	103949482.
5	0.65	615.000000	14527.	399.750000	9443.	125188383.
1	0.75	115.000000	10343.	86.250000	7758.	75797714.
2	0.75	240.000000	11560.	180.000000	8670.	84777823.
3	0.75	330.000000	12398.	247.500000	9299.	90899742.
4	0.75	400.000000	13016.	300.000000	9762.	95574188.
5	0.75	615.000000	14527.	461.250000	10895.	110738679.
1	0.90	115.000000	10343.	103.500000	9309.	57229262.
2	0.90	240.000000	11560.	216.000000	10404.	67097439.
3	0.90	330.000000	12398.	297.000000	11159.	72429936.
4	0.90	400.000000	13016.	360.000000	11714.	76210525.
5	0.90	615.000000	14527.	553.500000	13075.	91259323.

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

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head	=	2000.0 lbs
Applied moment at pile head	=	252000.0 in-lbs
Axial thrust load on pile head	=	615000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.00954	252000.	2000.	-1.33E-04	0.00	3.78E+11	0.00	0.00	0.00
0.1610	0.00928	256021.	2000.	-1.32E-04	0.00	3.78E+11	0.00	0.00	0.00
0.3220	0.00903	260041.	2000.	-1.31E-04	0.00	3.78E+11	0.00	0.00	0.00
0.4830	0.00878	264060.	2000.	-1.29E-04	0.00	3.78E+11	0.00	0.00	0.00
0.6440	0.00853	268076.	2000.	-1.28E-04	0.00	3.78E+11	0.00	0.00	0.00
0.8050	0.00829	272092.	2000.	-1.26E-04	0.00	3.78E+11	0.00	0.00	0.00
0.9660	0.00804	276105.	2000.	-1.25E-04	0.00	3.78E+11	0.00	0.00	0.00
1.1270	0.00780	280117.	2000.	-1.24E-04	0.00	3.78E+11	0.00	0.00	0.00
1.2880	0.00756	284127.	2000.	-1.22E-04	0.00	3.78E+11	0.00	0.00	0.00
1.4490	0.00733	288135.	2000.	-1.21E-04	0.00	3.78E+11	0.00	0.00	0.00
1.6100	0.00710	292142.	2000.	-1.19E-04	0.00	3.78E+11	0.00	0.00	0.00
1.7710	0.00687	296147.	2000.	-1.18E-04	0.00	3.78E+11	0.00	0.00	0.00

1.9320	0.00664	300150.	2000.	-1.16E-04	0.00	3.78E+11	0.00	0.00	0.00
2.0930	0.00642	304151.	2000.	-1.15E-04	0.00	3.78E+11	0.00	0.00	0.00
2.2540	0.00620	308150.	2000.	-1.13E-04	0.00	3.78E+11	0.00	0.00	0.00
2.4150	0.00598	312148.	2000.	-1.12E-04	0.00	3.78E+11	0.00	0.00	0.00
2.5760	0.00577	316143.	2000.	-1.10E-04	0.00	3.78E+11	0.00	0.00	0.00
2.7370	0.00556	320137.	2000.	-1.08E-04	0.00	3.78E+11	0.00	0.00	0.00
2.8980	0.00535	324128.	2000.	-1.07E-04	0.00	3.78E+11	0.00	0.00	0.00
3.0590	0.00515	328118.	2000.	-1.05E-04	0.00	3.78E+11	0.00	0.00	0.00
3.2200	0.00494	332106.	2000.	-1.03E-04	0.00	3.78E+11	0.00	0.00	0.00
3.3810	0.00475	336092.	2000.	-1.02E-04	0.00	3.78E+11	0.00	0.00	0.00
3.5420	0.00455	340075.	2000.	-9.99E-05	0.00	3.78E+11	0.00	0.00	0.00
3.7030	0.00436	344057.	2000.	-9.81E-05	0.00	3.78E+11	0.00	0.00	0.00
3.8640	0.00417	348036.	2000.	-9.63E-05	0.00	3.78E+11	0.00	0.00	0.00
4.0250	0.00399	352014.	2000.	-9.45E-05	0.00	3.78E+11	0.00	0.00	0.00
4.1860	0.00381	355989.	2000.	-9.27E-05	0.00	3.78E+11	0.00	0.00	0.00
4.3470	0.00363	359962.	2000.	-9.09E-05	0.00	3.78E+11	0.00	0.00	0.00
4.5080	0.00346	363933.	2000.	-8.91E-05	0.00	3.78E+11	0.00	0.00	0.00
4.6690	0.00329	367902.	2000.	-8.72E-05	0.00	3.78E+11	0.00	0.00	0.00
4.8300	0.00312	371868.	2000.	-8.53E-05	0.00	3.78E+11	0.00	0.00	0.00
4.9910	0.00296	375833.	2000.	-8.34E-05	0.00	3.78E+11	0.00	0.00	0.00
5.1520	0.00280	379795.	2000.	-8.15E-05	0.00	3.78E+11	0.00	0.00	0.00
5.3130	0.00264	383754.	2000.	-7.95E-05	0.00	3.78E+11	0.00	0.00	0.00
5.4740	0.00249	387711.	2000.	-7.75E-05	0.00	3.78E+11	0.00	0.00	0.00
5.6350	0.00234	391666.	2000.	-7.55E-05	0.00	3.78E+11	0.00	0.00	0.00
5.7960	0.00220	395619.	2000.	-7.35E-05	0.00	3.78E+11	0.00	0.00	0.00
5.9570	0.00206	399569.	2000.	-7.15E-05	0.00	3.78E+11	0.00	0.00	0.00
6.1180	0.00192	403517.	2000.	-6.94E-05	0.00	3.78E+11	0.00	0.00	0.00
6.2790	0.00179	407462.	2000.	-6.74E-05	0.00	3.78E+11	0.00	0.00	0.00
6.4400	0.00166	411405.	2000.	-6.53E-05	0.00	3.78E+11	0.00	0.00	0.00
6.6010	0.00154	415345.	2000.	-6.32E-05	0.00	3.78E+11	0.00	0.00	0.00
6.7620	0.00142	419283.	2000.	-6.10E-05	0.00	3.78E+11	0.00	0.00	0.00
6.9230	0.00130	423218.	2000.	-5.89E-05	0.00	3.78E+11	0.00	0.00	0.00
7.0840	0.00119	427151.	2000.	-5.67E-05	0.00	3.78E+11	0.00	0.00	0.00
7.2450	0.00108	431081.	2000.	-5.45E-05	0.00	3.78E+11	0.00	0.00	0.00
7.4060	9.80E-04	435008.	2000.	-5.23E-05	0.00	3.78E+11	0.00	0.00	0.00
7.5670	8.81E-04	438933.	2000.	-5.00E-05	0.00	3.78E+11	0.00	0.00	0.00
7.7280	7.86E-04	442855.	2000.	-4.78E-05	0.00	3.78E+11	0.00	0.00	0.00
7.8890	6.96E-04	446775.	2000.	-4.55E-05	0.00	3.78E+11	0.00	0.00	0.00
8.0500	6.10E-04	450692.	820.9182	-4.29E-05	0.00	3.01E+11	-1221.	3864000.	0.00
8.2110	5.30E-04	450049.	-1382.	-4.00E-05	0.00	3.01E+11	-1060.	3864000.	0.00
8.3720	4.56E-04	445445.	-3287.	-3.72E-05	0.00	3.01E+11	-911.196	3864000.	0.00
8.5330	3.87E-04	437437.	-4914.	-3.43E-05	0.00	3.01E+11	-773.154	3864000.	0.00
8.6940	3.23E-04	426539.	-6285.	-3.15E-05	0.00	3.01E+11	-645.976	3864000.	0.00
8.8550	2.65E-04	413227.	-7420.	-2.88E-05	0.00	3.01E+11	-529.391	3864000.	0.00
9.0160	2.12E-04	397936.	-8340.	-2.62E-05	0.00	3.01E+11	-423.069	3864000.	0.00
9.1770	1.63E-04	381062.	-9065.	-2.37E-05	0.00	3.01E+11	-326.630	3864000.	0.00
9.3380	1.20E-04	362967.	-9612.	-2.13E-05	0.00	3.01E+11	-239.654	3864000.	0.00
9.4990	8.08E-05	343974.	-9999.	-1.91E-05	0.00	3.01E+11	-161.693	3864000.	0.00
9.6600	4.61E-05	324375.	-10245.	-1.69E-05	0.00	3.01E+11	-92.274	3864000.	0.00
9.8210	1.55E-05	304429.	-10364.	-1.49E-05	0.00	3.01E+11	-30.912	3864000.	0.00
9.9820	-1.14E-05	284365.	-10371.	-1.30E-05	0.00	3.01E+11	22.8907	3864000.	0.00
10.1430	-3.48E-05	264385.	-10282.	-1.12E-05	0.00	3.01E+11	69.6307	3864000.	0.00
10.3040	-5.49E-05	244663.	-10109.	-9.61E-06	0.00	3.01E+11	109.8047	3864000.	0.00
10.4650	-7.20E-05	225348.	-9864.	-8.10E-06	0.00	3.01E+11	143.9025	3864000.	0.00
10.6260	-8.62E-05	206569.	-9558.	-6.71E-06	0.00	3.01E+11	172.4037	3864000.	0.00
10.7870	-9.79E-05	188432.	-9202.	-5.44E-06	0.00	3.01E+11	195.7748	3864000.	0.00
10.9480	-1.07E-04	171024.	-8806.	-4.29E-06	0.00	3.01E+11	214.4661	3864000.	0.00
11.1090	-1.14E-04	154416.	-8378.	-3.24E-06	0.00	3.01E+11	228.9100	3864000.	0.00
11.2700	-1.20E-04	138660.	-7925.	-2.30E-06	0.00	3.01E+11	239.5191	3864000.	0.00
11.4310	-1.23E-04	123798.	-7456.	-1.46E-06	0.00	3.01E+11	246.6844	3864000.	0.00
11.5920	-1.25E-04	109856.	-6975.	-7.06E-07	0.00	3.01E+11	250.7753	3864000.	0.00
11.7530	-1.26E-04	96848.	-6489.	-4.14E-08	0.00	3.01E+11	252.1378	3864000.	0.00
11.9140	-1.26E-04	84781.	-6003.	5.42E-07	0.00	3.01E+11	251.0952	3864000.	0.00
12.0750	-1.24E-04	73651.	-5521.	1.05E-06	0.00	3.01E+11	247.9470	3864000.	0.00
12.2360	-1.21E-04	63446.	-5047.	1.49E-06	0.00	3.01E+11	242.9696	3864000.	0.00
12.3970	-1.18E-04	54147.	-4584.	1.87E-06	0.00	3.01E+11	236.4166	3864000.	0.00
12.5580	-1.14E-04	45730.	-4135.	2.19E-06	0.00	3.01E+11	228.5188	3864000.	0.00
12.7190	-1.10E-04	38166.	-3702.	2.46E-06	0.00	3.01E+11	219.4854	3864000.	0.00
12.8800	-1.05E-04	31420.	-3287.	2.68E-06	0.00	3.01E+11	209.5040	3864000.	0.00

~ POF = 10.95
= El. 2395.1

13.0410	-9.94E-05	25457.	-2893.	2.87E-06	0.00	3.01E+11	198.7424	3864000.	0.00
13.2020	-9.37E-05	20235.	-2520.	3.01E-06	0.00	3.01E+11	187.3486	3864000.	0.00
13.3630	-8.77E-05	15712.	-2170.	3.13E-06	0.00	3.01E+11	175.4522	3864000.	0.00
13.5240	-8.16E-05	11844.	-1842.	3.22E-06	0.00	3.01E+11	163.1656	3864000.	0.00
13.6850	-7.53E-05	8585.	-1539.	3.28E-06	0.00	3.01E+11	150.5848	3864000.	0.00
13.8460	-6.89E-05	5888.	-1261.	3.33E-06	0.00	3.01E+11	137.7909	3864000.	0.00
14.0070	-6.24E-05	3705.	-1007.	3.36E-06	0.00	3.01E+11	124.8507	3864000.	0.00
14.1680	-5.59E-05	1988.	-778.505	3.38E-06	0.00	3.01E+11	111.8185	3864000.	0.00
14.3290	-4.94E-05	688.9890	-575.108	3.39E-06	0.00	3.01E+11	98.7369	3864000.	0.00
14.4900	-4.28E-05	-241.874	-397.002	3.39E-06	0.00	3.01E+11	85.6383	3864000.	0.00
14.6510	-3.63E-05	-853.080	-244.196	3.39E-06	0.00	3.01E+11	72.5456	3864000.	0.00
14.8120	-2.97E-05	-1193.	-116.665	3.38E-06	0.00	3.01E+11	59.4741	3864000.	0.00
14.9730	-2.32E-05	-1312.	-14.360	3.37E-06	0.00	3.01E+11	46.4322	3864000.	0.00
15.1340	-1.67E-05	-1257.	62.7803	3.36E-06	0.00	3.01E+11	33.4230	3864000.	0.00
15.2950	-1.02E-05	-1077.	114.8167	3.36E-06	0.00	3.01E+11	20.4449	3864000.	0.00
15.4560	-3.75E-06	-821.312	141.8053	3.35E-06	0.00	3.01E+11	7.4936	3864000.	0.00
15.6170	2.72E-06	-537.335	143.7917	3.34E-06	0.00	3.01E+11	-5.437	3864000.	0.00
15.7780	9.18E-06	-273.650	120.8085	3.34E-06	0.00	3.01E+11	-18.355	3864000.	0.00
15.9390	1.56E-05	-78.474	72.8751	3.34E-06	0.00	3.01E+11	-31.266	3864000.	0.00
16.1000	2.21E-05	0.00	0.00	3.34E-06	0.00	3.01E+11	-44.174	1932000.	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	=	0.00953957 inches
Computed slope at pile head	=	-0.0001332 radians
Maximum bending moment	=	450692. inch-lbs
Maximum shear force	=	-10371. lbs
Depth of maximum bending moment	=	8.05000000 feet below pile head
Depth of maximum shear force	=	9.98200000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2
Pile deflection at ground	=	0.00069017 inches

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

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head	=	6000.0 lbs
Applied moment at pile head	=	660000.0 in-lbs
Axial thrust load on pile head	=	330000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.02564	660000.	6000.	-3.54E-04	0.00	3.89E+11	0.00	0.00	0.00
0.1610	0.02496	671817.	6000.	-3.51E-04	0.00	3.89E+11	0.00	0.00	0.00
0.3220	0.02428	683632.	6000.	-3.48E-04	0.00	3.89E+11	0.00	0.00	0.00
0.4830	0.02361	695444.	6000.	-3.44E-04	0.00	3.89E+11	0.00	0.00	0.00
0.6440	0.02295	707255.	6000.	-3.41E-04	0.00	3.89E+11	0.00	0.00	0.00
0.8050	0.02230	719063.	6000.	-3.37E-04	0.00	3.89E+11	0.00	0.00	0.00
0.9660	0.02165	730869.	6000.	-3.34E-04	0.00	3.89E+11	0.00	0.00	0.00
1.1270	0.02101	742672.	6000.	-3.30E-04	0.00	3.89E+11	0.00	0.00	0.00
1.2880	0.02037	754473.	6000.	-3.26E-04	0.00	3.89E+11	0.00	0.00	0.00
1.4490	0.01975	766272.	6000.	-3.22E-04	0.00	3.89E+11	0.00	0.00	0.00
1.6100	0.01913	778069.	6000.	-3.19E-04	0.00	3.89E+11	0.00	0.00	0.00

1.7710	0.01852	789863.	6000.	-3.15E-04	0.00	3.89E+11	0.00	0.00	0.00
1.9320	0.01791	801654.	6000.	-3.11E-04	0.00	3.89E+11	0.00	0.00	0.00
2.0930	0.01732	813443.	6000.	-3.07E-04	0.00	3.89E+11	0.00	0.00	0.00
2.2540	0.01673	825229.	6000.	-3.03E-04	0.00	3.89E+11	0.00	0.00	0.00
2.4150	0.01615	837013.	6000.	-2.99E-04	0.00	3.89E+11	0.00	0.00	0.00
2.5760	0.01557	848794.	6000.	-2.94E-04	0.00	3.89E+11	0.00	0.00	0.00
2.7370	0.01501	860572.	6000.	-2.90E-04	0.00	3.89E+11	0.00	0.00	0.00
2.8980	0.01445	872348.	6000.	-2.86E-04	0.00	3.89E+11	0.00	0.00	0.00
3.0590	0.01390	884121.	6000.	-2.81E-04	0.00	3.89E+11	0.00	0.00	0.00
3.2200	0.01336	895891.	6000.	-2.77E-04	0.00	3.89E+11	0.00	0.00	0.00
3.3810	0.01283	907658.	6000.	-2.73E-04	0.00	3.89E+11	0.00	0.00	0.00
3.5420	0.01231	919422.	6000.	-2.68E-04	0.00	3.89E+11	0.00	0.00	0.00
3.7030	0.01180	931184.	6000.	-2.63E-04	0.00	3.89E+11	0.00	0.00	0.00
3.8640	0.01129	942942.	6000.	-2.59E-04	0.00	3.89E+11	0.00	0.00	0.00
4.0250	0.01080	954698.	6000.	-2.54E-04	0.00	3.89E+11	0.00	0.00	0.00
4.1860	0.01031	966450.	6000.	-2.49E-04	0.00	3.89E+11	0.00	0.00	0.00
4.3470	0.00983	978200.	6000.	-2.44E-04	0.00	3.89E+11	0.00	0.00	0.00
4.5080	0.00937	989946.	6000.	-2.40E-04	0.00	3.89E+11	0.00	0.00	0.00
4.6690	0.00891	1001689.	6000.	-2.35E-04	0.00	3.89E+11	0.00	0.00	0.00
4.8300	0.00846	1013429.	6000.	-2.30E-04	0.00	3.89E+11	0.00	0.00	0.00
4.9910	0.00802	1025166.	6000.	-2.25E-04	0.00	3.89E+11	0.00	0.00	0.00
5.1520	0.00759	1036900.	6000.	-2.19E-04	0.00	3.89E+11	0.00	0.00	0.00
5.3130	0.00717	1048630.	6000.	-2.14E-04	0.00	3.89E+11	0.00	0.00	0.00
5.4740	0.00676	1060357.	6000.	-2.09E-04	0.00	3.89E+11	0.00	0.00	0.00
5.6350	0.00636	1072081.	6000.	-2.04E-04	0.00	3.89E+11	0.00	0.00	0.00
5.7960	0.00598	1083801.	6000.	-1.98E-04	0.00	3.89E+11	0.00	0.00	0.00
5.9570	0.00560	1095518.	6000.	-1.93E-04	0.00	3.89E+11	0.00	0.00	0.00
6.1180	0.00523	1107231.	6000.	-1.88E-04	0.00	3.89E+11	0.00	0.00	0.00
6.2790	0.00487	1118941.	6000.	-1.82E-04	0.00	3.89E+11	0.00	0.00	0.00
6.4400	0.00453	1130647.	6000.	-1.76E-04	0.00	3.89E+11	0.00	0.00	0.00
6.6010	0.00419	1142350.	6000.	-1.71E-04	0.00	3.89E+11	0.00	0.00	0.00
6.7620	0.00387	1154049.	6000.	-1.65E-04	0.00	3.89E+11	0.00	0.00	0.00
6.9230	0.00355	1165744.	6000.	-1.59E-04	0.00	3.89E+11	0.00	0.00	0.00
7.0840	0.00325	1177436.	6000.	-1.53E-04	0.00	3.89E+11	0.00	0.00	0.00
7.2450	0.00296	1189124.	6000.	-1.48E-04	0.00	3.89E+11	0.00	0.00	0.00
7.4060	0.00268	1200808.	6000.	-1.42E-04	0.00	3.89E+11	0.00	0.00	0.00
7.5670	0.00241	1212489.	6000.	-1.36E-04	0.00	3.89E+11	0.00	0.00	0.00
7.7280	0.00216	1224165.	6000.	-1.30E-04	0.00	3.89E+11	0.00	0.00	0.00
7.8890	0.00191	1235838.	6000.	-1.24E-04	0.00	3.89E+11	0.00	0.00	0.00
8.0500	0.00168	1247507.	2756.	-1.17E-04	0.00	3.11E+11	-3358.	3864000.	0.00
8.2110	0.00146	1246635.	-3312.	-1.09E-04	0.00	3.11E+11	-2923.	3864000.	0.00
8.3720	0.00126	1234847.	-8568.	-1.01E-04	0.00	3.11E+11	-2518.	3864000.	0.00
8.5330	0.00107	1213658.	-13068.	-9.35E-05	0.00	3.11E+11	-2142.	3864000.	0.00
8.6940	8.98E-04	1184470.	-16871.	-8.60E-05	0.00	3.11E+11	-1795.	3864000.	0.00
8.8550	7.38E-04	1148577.	-20032.	-7.88E-05	0.00	3.11E+11	-1477.	3864000.	0.00
9.0160	5.93E-04	1107166.	-22605.	-7.17E-05	0.00	3.11E+11	-1186.	3864000.	0.00
9.1770	4.61E-04	1061322.	-24642.	-6.50E-05	0.00	3.11E+11	-922.553	3864000.	0.00
9.3380	3.42E-04	1012030.	-26195.	-5.85E-05	0.00	3.11E+11	-684.164	3864000.	0.00
9.4990	2.35E-04	960181.	-27310.	-5.24E-05	0.00	3.11E+11	-470.105	3864000.	0.00
9.6600	1.40E-04	906573.	-28033.	-4.66E-05	0.00	3.11E+11	-279.129	3864000.	0.00
9.8210	5.50E-05	851919.	-28409.	-4.11E-05	0.00	3.11E+11	-109.948	3864000.	0.00
9.9820	-1.94E-05	796852.	-28478.	-3.60E-05	0.00	3.11E+11	38.7535	3864000.	0.00
10.1430	-8.41E-05	741926.	-28278.	-3.12E-05	0.00	3.11E+11	168.2984	3864000.	0.00
10.3040	-1.40E-04	687626.	-27845.	-2.68E-05	0.00	3.11E+11	280.0076	3864000.	0.00
10.4650	-1.88E-04	634368.	-27212.	-2.27E-05	0.00	3.11E+11	375.1865	3864000.	0.00
10.6260	-2.28E-04	582508.	-26410.	-1.89E-05	0.00	3.11E+11	455.1155	3864000.	0.00
10.7870	-2.61E-04	532344.	-25467.	-1.54E-05	0.00	3.11E+11	521.0413	3864000.	0.00
10.9480	-2.87E-04	484123.	-24409.	-1.22E-05	0.00	3.11E+11	574.1699	3864000.	0.00
11.1090	-3.08E-04	438044.	-23260.	-9.38E-06	0.00	3.11E+11	615.6605	3864000.	0.00
11.2700	-3.23E-04	394260.	-22040.	-6.79E-06	0.00	3.11E+11	646.6209	3864000.	0.00
11.4310	-3.34E-04	352889.	-20770.	-4.46E-06	0.00	3.11E+11	668.1037	3864000.	0.00
11.5920	-3.41E-04	314010.	-19467.	-2.39E-06	0.00	3.11E+11	681.1035	3864000.	0.00
11.7530	-3.43E-04	277672.	-18146.	-5.47E-07	0.00	3.11E+11	686.5547	3864000.	0.00
11.9140	-3.43E-04	243896.	-16820.	1.08E-06	0.00	3.11E+11	685.3310	3864000.	0.00
12.0750	-3.39E-04	212676.	-15503.	2.50E-06	0.00	3.11E+11	678.2443	3864000.	0.00
12.2360	-3.33E-04	183988.	-14205.	3.73E-06	0.00	3.11E+11	666.0451	3864000.	0.00
12.3970	-3.25E-04	157785.	-12934.	4.79E-06	0.00	3.11E+11	649.4230	3864000.	0.00
12.5580	-3.15E-04	134005.	-11699.	5.70E-06	0.00	3.11E+11	629.0079	3864000.	0.00
12.7190	-3.03E-04	112573.	-10507.	6.47E-06	0.00	3.11E+11	605.3715	3864000.	0.00

~ POF = 10.95'
= EI. 2395.1'

12.8800	-2.90E-04	93400.	-9362.	7.11E-06	0.00	3.11E+11	579.0289	3864000.	0.00
13.0410	-2.75E-04	76387.	-8271.	7.64E-06	0.00	3.11E+11	550.4412	3864000.	0.00
13.2020	-2.60E-04	61429.	-7237.	8.06E-06	0.00	3.11E+11	520.0171	3864000.	0.00
13.3630	-2.44E-04	48412.	-6263.	8.41E-06	0.00	3.11E+11	488.1163	3864000.	0.00
13.5240	-2.28E-04	37217.	-5352.	8.67E-06	0.00	3.11E+11	455.0518	3864000.	0.00
13.6850	-2.11E-04	27720.	-4506.	8.87E-06	0.00	3.11E+11	421.0926	3864000.	0.00
13.8460	-1.93E-04	19795.	-3726.	9.02E-06	0.00	3.11E+11	386.4670	3864000.	0.00
14.0070	-1.76E-04	13312.	-3013.	9.13E-06	0.00	3.11E+11	351.3656	3864000.	0.00
14.1680	-1.58E-04	8140.	-2368.	9.19E-06	0.00	3.11E+11	315.9442	3864000.	0.00
14.3290	-1.40E-04	4148.	-1792.	9.23E-06	0.00	3.11E+11	280.3271	3864000.	0.00
14.4900	-1.22E-04	1202.	-1285.	9.25E-06	0.00	3.11E+11	244.6103	3864000.	0.00
14.6510	-1.04E-04	-830.517	-847.350	9.25E-06	0.00	3.11E+11	208.8646	3864000.	0.00
14.8120	-8.66E-05	-2084.	-478.335	9.24E-06	0.00	3.11E+11	173.1388	3864000.	0.00
14.9730	-6.87E-05	-2691.	-178.293	9.22E-06	0.00	3.11E+11	137.4632	3864000.	0.00
15.1340	-5.09E-05	-2784.	52.8855	9.21E-06	0.00	3.11E+11	101.8522	3864000.	0.00
15.2950	-3.32E-05	-2498.	215.3285	9.19E-06	0.00	3.11E+11	66.3082	3864000.	0.00
15.4560	-1.54E-05	-1964.	309.1584	9.18E-06	0.00	3.11E+11	30.8242	3864000.	0.00
15.6170	2.31E-06	-1315.	334.4788	9.17E-06	0.00	3.11E+11	-4.613	3864000.	0.00
15.7780	2.00E-05	-683.325	291.3659	9.16E-06	0.00	3.11E+11	-40.018	3864000.	0.00
15.9390	3.77E-05	-200.931	179.8662	9.16E-06	0.00	3.11E+11	-75.406	3864000.	0.00
16.1000	5.54E-05	0.00	0.00	9.16E-06	0.00	3.11E+11	-110.790	1932000.	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	=	0.02563872 inches
Computed slope at pile head	=	-0.0003544 radians
Maximum bending moment	=	1247507. inch-lbs
Maximum shear force	=	-28478. lbs
Depth of maximum bending moment	=	8.05000000 feet below pile head
Depth of maximum shear force	=	9.98200000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2
Pile deflection at ground	=	0.00189604 inches

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

Pile-head conditions are Shear and Pile-head Rotation (Loading Type 2)

Shear force at pile head	=	23000.0 lbs
Rotation of pile head	=	0.000E+00 radians
Axial load at pile head	=	115000.0 lbs

(Zero slope for this load indicates fixed-head conditions)

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.01038	-1485121.	23000.	0.00	0.00	3.96E+11	0.00	0.00	0.00
0.1610	0.01038	-1440684.	23000.	-7.13E-06	0.00	3.96E+11	0.00	0.00	0.00
0.3220	0.01036	-1396246.	23000.	-1.41E-05	0.00	3.96E+11	0.00	0.00	0.00
0.4830	0.01032	-1351806.	23000.	-2.07E-05	0.00	3.96E+11	0.00	0.00	0.00
0.6440	0.01028	-1307365.	23000.	-2.72E-05	0.00	3.96E+11	0.00	0.00	0.00
0.8050	0.01022	-1262922.	23000.	-3.35E-05	0.00	3.97E+11	0.00	0.00	0.00
0.9660	0.01015	-1218478.	23000.	-3.95E-05	0.00	3.97E+11	0.00	0.00	0.00
1.1270	0.01006	-1174033.	23000.	-4.54E-05	0.00	3.97E+11	0.00	0.00	0.00

1.2880	0.00997	-1129586.	23000.	-5.10E-05	0.00	3.97E+11	0.00	0.00	0.00
1.4490	0.00987	-1085138.	23000.	-5.64E-05	0.00	3.97E+11	0.00	0.00	0.00
1.6100	0.00975	-1040689.	23000.	-6.15E-05	0.00	3.97E+11	0.00	0.00	0.00
1.7710	0.00963	-996239.	23000.	-6.65E-05	0.00	3.97E+11	0.00	0.00	0.00
1.9320	0.00950	-951787.	23000.	-7.12E-05	0.00	3.97E+11	0.00	0.00	0.00
2.0930	0.00935	-907335.	23000.	-7.58E-05	0.00	3.97E+11	0.00	0.00	0.00
2.2540	0.00920	-862882.	23000.	-8.01E-05	0.00	3.97E+11	0.00	0.00	0.00
2.4150	0.00905	-818427.	23000.	-8.42E-05	0.00	3.97E+11	0.00	0.00	0.00
2.5760	0.00888	-773972.	23000.	-8.80E-05	0.00	3.97E+11	0.00	0.00	0.00
2.7370	0.00871	-729516.	23000.	-9.17E-05	0.00	3.97E+11	0.00	0.00	0.00
2.8980	0.00852	-685059.	23000.	-9.51E-05	0.00	3.97E+11	0.00	0.00	0.00
3.0590	0.00834	-640602.	23000.	-9.83E-05	0.00	3.97E+11	0.00	0.00	0.00
3.2200	0.00814	-596144.	23000.	-1.01E-04	0.00	3.97E+11	0.00	0.00	0.00
3.3810	0.00795	-551685.	23000.	-1.04E-04	0.00	3.97E+11	0.00	0.00	0.00
3.5420	0.00774	-507225.	23000.	-1.07E-04	0.00	3.97E+11	0.00	0.00	0.00
3.7030	0.00753	-462765.	23000.	-1.09E-04	0.00	3.97E+11	0.00	0.00	0.00
3.8640	0.00732	-418305.	23000.	-1.11E-04	0.00	3.97E+11	0.00	0.00	0.00
4.0250	0.00710	-373844.	23000.	-1.13E-04	0.00	3.97E+11	0.00	0.00	0.00
4.1860	0.00688	-329383.	23000.	-1.15E-04	0.00	3.97E+11	0.00	0.00	0.00
4.3470	0.00666	-284921.	23000.	-1.16E-04	0.00	3.97E+11	0.00	0.00	0.00
4.5080	0.00643	-240459.	23000.	-1.18E-04	0.00	3.97E+11	0.00	0.00	0.00
4.6690	0.00621	-195997.	23000.	-1.19E-04	0.00	3.97E+11	0.00	0.00	0.00
4.8300	0.00598	-151534.	23000.	-1.20E-04	0.00	3.97E+11	0.00	0.00	0.00
4.9910	0.00574	-107072.	23000.	-1.20E-04	0.00	3.97E+11	0.00	0.00	0.00
5.1520	0.00551	-62609.	23000.	-1.21E-04	0.00	3.97E+11	0.00	0.00	0.00
5.3130	0.00528	-18146.	23000.	-1.21E-04	0.00	3.97E+11	0.00	0.00	0.00
5.4740	0.00504	26317.	23000.	-1.21E-04	0.00	3.97E+11	0.00	0.00	0.00
5.6350	0.00481	70780.	23000.	-1.21E-04	0.00	3.97E+11	0.00	0.00	0.00
5.7960	0.00458	115242.	23000.	-1.20E-04	0.00	3.97E+11	0.00	0.00	0.00
5.9570	0.00435	159705.	23000.	-1.19E-04	0.00	3.97E+11	0.00	0.00	0.00
6.1180	0.00412	204167.	23000.	-1.19E-04	0.00	3.97E+11	0.00	0.00	0.00
6.2790	0.00389	248630.	23000.	-1.17E-04	0.00	3.97E+11	0.00	0.00	0.00
6.4400	0.00366	293092.	23000.	-1.16E-04	0.00	3.97E+11	0.00	0.00	0.00
6.6010	0.00344	337553.	23000.	-1.15E-04	0.00	3.97E+11	0.00	0.00	0.00
6.7620	0.00322	382015.	23000.	-1.13E-04	0.00	3.97E+11	0.00	0.00	0.00
6.9230	0.00300	426475.	23000.	-1.11E-04	0.00	3.97E+11	0.00	0.00	0.00
7.0840	0.00279	470936.	23000.	-1.09E-04	0.00	3.97E+11	0.00	0.00	0.00
7.2450	0.00258	515396.	23000.	-1.06E-04	0.00	3.97E+11	0.00	0.00	0.00
7.4060	0.00238	559855.	23000.	-1.04E-04	0.00	3.97E+11	0.00	0.00	0.00
7.5670	0.00218	604314.	23000.	-1.01E-04	0.00	3.97E+11	0.00	0.00	0.00
7.7280	0.00199	648772.	23000.	-9.78E-05	0.00	3.97E+11	0.00	0.00	0.00
7.8890	0.00181	693229.	23000.	-9.45E-05	0.00	3.97E+11	0.00	0.00	0.00
8.0500	0.00163	737686.	19856.	-9.06E-05	0.00	3.18E+11	-3255.	3864000.	0.00
8.2110	0.00146	769993.	13898.	-8.60E-05	0.00	3.18E+11	-2913.	3864000.	0.00
8.3720	0.00130	791425.	8582.	-8.13E-05	0.00	3.18E+11	-2590.	3864000.	0.00
8.5330	0.00114	803188.	3872.	-7.64E-05	0.00	3.18E+11	-2285.	3864000.	0.00
8.6940	1.00E-03	806420.	-267.419	-7.15E-05	0.00	3.18E+11	-2000.	3864000.	0.00
8.8550	8.66E-04	802187.	-3873.	-6.66E-05	0.00	3.18E+11	-1733.	3864000.	0.00
9.0160	7.42E-04	791485.	-6981.	-6.18E-05	0.00	3.18E+11	-1485.	3864000.	0.00
9.1770	6.28E-04	775239.	-9628.	-5.70E-05	0.00	3.18E+11	-1255.	3864000.	0.00
9.3380	5.22E-04	754307.	-11849.	-5.24E-05	0.00	3.18E+11	-1044.	3864000.	0.00
9.4990	4.25E-04	729476.	-13680.	-4.78E-05	0.00	3.18E+11	-850.751	3864000.	0.00
9.6600	3.37E-04	701469.	-15153.	-4.35E-05	0.00	3.18E+11	-674.431	3864000.	0.00
9.8210	2.57E-04	670943.	-16302.	-3.93E-05	0.00	3.18E+11	-514.592	3864000.	0.00
9.9820	1.85E-04	638496.	-17157.	-3.53E-05	0.00	3.18E+11	-370.516	3864000.	0.00
10.1430	1.21E-04	604665.	-17748.	-3.16E-05	0.00	3.18E+11	-241.439	3864000.	0.00
10.3040	6.33E-05	569931.	-18104.	-2.80E-05	0.00	3.18E+11	-126.567	3864000.	0.00
10.4650	1.25E-05	534725.	-18250.	-2.46E-05	0.00	3.18E+11	-25.084	3864000.	0.00
<u>10.6260</u>	<u>-3.19E-05</u>	499424.	-18213.	-2.15E-05	0.00	3.18E+11	63.8376	3864000.	0.00
10.7870	-7.05E-05	464361.	-18015.	-1.86E-05	0.00	3.18E+11	141.0280	3864000.	0.00
10.9480	-1.04E-04	429823.	-17678.	-1.58E-05	0.00	3.18E+11	207.3110	3864000.	0.00
11.1090	-1.32E-04	396059.	-17223.	-1.33E-05	0.00	3.18E+11	263.4982	3864000.	0.00
11.2700	-1.55E-04	363278.	-16669.	-1.10E-05	0.00	3.18E+11	310.3832	3864000.	0.00
11.4310	-1.74E-04	331655.	-16032.	-8.92E-06	0.00	3.18E+11	348.7359	3864000.	0.00
11.5920	-1.90E-04	301333.	-15329.	-6.99E-06	0.00	3.18E+11	379.2991	3864000.	0.00
11.7530	-2.01E-04	272427.	-14574.	-5.25E-06	0.00	3.18E+11	402.7849	3864000.	0.00
11.9140	-2.10E-04	245023.	-13779.	-3.68E-06	0.00	3.18E+11	419.8723	3864000.	0.00
12.0750	-2.16E-04	219187.	-12957.	-2.27E-06	0.00	3.18E+11	431.2048	3864000.	0.00
12.2360	-2.19E-04	194959.	-12118.	-1.01E-06	0.00	3.18E+11	437.3893	3864000.	0.00

~ POF = 11.5'
= EI. 2394.5'

12.3970	-2.19E-04	172364.	-11271.	1.08E-07	0.00	3.18E+11	438.9948	3864000.	0.00
12.5580	-2.18E-04	151408.	-10425.	1.09E-06	0.00	3.18E+11	436.5521	3864000.	0.00
12.7190	-2.15E-04	132080.	-9588.	1.95E-06	0.00	3.18E+11	430.5532	3864000.	0.00
12.8800	-2.11E-04	114360.	-8765.	2.70E-06	0.00	3.18E+11	421.4521	3864000.	0.00
13.0410	-2.05E-04	98212.	-7962.	3.35E-06	0.00	3.18E+11	409.6651	3864000.	0.00
13.2020	-1.98E-04	83594.	-7184.	3.90E-06	0.00	3.18E+11	395.5714	3864000.	0.00
13.3630	-1.90E-04	70452.	-6435.	4.37E-06	0.00	3.18E+11	379.5144	3864000.	0.00
13.5240	-1.81E-04	58726.	-5719.	4.76E-06	0.00	3.18E+11	361.8026	3864000.	0.00
13.6850	-1.71E-04	48351.	-5039.	5.09E-06	0.00	3.18E+11	342.7115	3864000.	0.00
13.8460	-1.61E-04	39255.	-4396.	5.35E-06	0.00	3.18E+11	322.4848	3864000.	0.00
14.0070	-1.51E-04	31363.	-3793.	5.57E-06	0.00	3.18E+11	301.3362	3864000.	0.00
14.1680	-1.40E-04	24595.	-3232.	5.74E-06	0.00	3.18E+11	279.4509	3864000.	0.00
14.3290	-1.28E-04	18871.	-2714.	5.87E-06	0.00	3.18E+11	256.9879	3864000.	0.00
14.4900	-1.17E-04	14105.	-2240.	5.97E-06	0.00	3.18E+11	234.0817	3864000.	0.00
14.6510	-1.05E-04	10214.	-1810.	6.04E-06	0.00	3.18E+11	210.8443	3864000.	0.00
14.8120	-9.37E-05	7109.	-1425.	6.10E-06	0.00	3.18E+11	187.3669	3864000.	0.00
14.9730	-8.19E-05	4704.	-1086.	6.13E-06	0.00	3.18E+11	163.7226	3864000.	0.00
15.1340	-7.00E-05	2910.	-792.745	6.16E-06	0.00	3.18E+11	139.9678	3864000.	0.00
15.2950	-5.81E-05	1638.	-545.340	6.17E-06	0.00	3.18E+11	116.1446	3864000.	0.00
15.4560	-4.61E-05	799.7351	-343.999	6.18E-06	0.00	3.18E+11	92.2830	3864000.	0.00
15.6170	-3.42E-05	305.9848	-188.777	6.18E-06	0.00	3.18E+11	68.4026	3864000.	0.00
15.7780	-2.23E-05	67.5553	-79.698	6.18E-06	0.00	3.18E+11	44.5150	3864000.	0.00
15.9390	-1.03E-05	-4.717	-16.772	6.18E-06	0.00	3.18E+11	20.6258	3864000.	0.00
16.1000	1.63E-06	0.00	0.00	6.18E-06	0.00	3.18E+11	-3.263	1932000.	0.00

Min Tip =
El. 2389.9'

* 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. 3:

Pile-head deflection	=	0.01038418 inches
Computed slope at pile head	=	0.000000 radians
Maximum bending moment	=	-1485121. inch-lbs
Maximum shear force	=	23000. lbs
Depth of maximum bending moment	=	0.000000 feet below pile head
Depth of maximum shear force	=	2.73700000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2
Pile deflection at ground	=	0.00179440 inches

Computed Values of Pile Loading and Deflection
for Lateral Loading for Load Case Number 4

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head	=	5000.0 lbs
Applied moment at pile head	=	360000.0 in-lbs
Axial thrust load on pile head	=	240000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.01705	360000.	5000.	-2.29E-04	0.00	3.92E+11	0.00	0.00	0.00
0.1610	0.01661	369766.	5000.	-2.27E-04	0.00	3.92E+11	0.00	0.00	0.00
0.3220	0.01618	379530.	5000.	-2.25E-04	0.00	3.92E+11	0.00	0.00	0.00
0.4830	0.01574	389294.	5000.	-2.23E-04	0.00	3.92E+11	0.00	0.00	0.00
0.6440	0.01531	399057.	5000.	-2.21E-04	0.00	3.92E+11	0.00	0.00	0.00
0.8050	0.01489	408820.	5000.	-2.19E-04	0.00	3.92E+11	0.00	0.00	0.00
0.9660	0.01447	418581.	5000.	-2.17E-04	0.00	3.92E+11	0.00	0.00	0.00

1.1270	0.01405	428341.	5000.	-2.15E-04	0.00	3.92E+11	0.00	0.00	0.00
1.2880	0.01363	438100.	5000.	-2.13E-04	0.00	3.92E+11	0.00	0.00	0.00
1.4490	0.01322	447859.	5000.	-2.11E-04	0.00	3.92E+11	0.00	0.00	0.00
1.6100	0.01282	457616.	5000.	-2.09E-04	0.00	3.92E+11	0.00	0.00	0.00
1.7710	0.01242	467372.	5000.	-2.06E-04	0.00	3.92E+11	0.00	0.00	0.00
1.9320	0.01202	477127.	5000.	-2.04E-04	0.00	3.92E+11	0.00	0.00	0.00
2.0930	0.01163	486881.	5000.	-2.02E-04	0.00	3.92E+11	0.00	0.00	0.00
2.2540	0.01124	496634.	5000.	-1.99E-04	0.00	3.92E+11	0.00	0.00	0.00
2.4150	0.01086	506386.	5000.	-1.97E-04	0.00	3.92E+11	0.00	0.00	0.00
2.5760	0.01048	516137.	5000.	-1.94E-04	0.00	3.92E+11	0.00	0.00	0.00
2.7370	0.01011	525886.	5000.	-1.92E-04	0.00	3.92E+11	0.00	0.00	0.00
2.8980	0.00974	535635.	5000.	-1.89E-04	0.00	3.92E+11	0.00	0.00	0.00
3.0590	0.00938	545382.	5000.	-1.86E-04	0.00	3.92E+11	0.00	0.00	0.00
3.2200	0.00902	555127.	5000.	-1.84E-04	0.00	3.92E+11	0.00	0.00	0.00
3.3810	0.00867	564872.	5000.	-1.81E-04	0.00	3.92E+11	0.00	0.00	0.00
3.5420	0.00832	574615.	5000.	-1.78E-04	0.00	3.92E+11	0.00	0.00	0.00
3.7030	0.00798	584357.	5000.	-1.75E-04	0.00	3.92E+11	0.00	0.00	0.00
3.8640	0.00764	594098.	5000.	-1.72E-04	0.00	3.92E+11	0.00	0.00	0.00
4.0250	0.00731	603837.	5000.	-1.69E-04	0.00	3.92E+11	0.00	0.00	0.00
4.1860	0.00699	613575.	5000.	-1.66E-04	0.00	3.92E+11	0.00	0.00	0.00
4.3470	0.00667	623311.	5000.	-1.63E-04	0.00	3.92E+11	0.00	0.00	0.00
4.5080	0.00636	633047.	5000.	-1.60E-04	0.00	3.92E+11	0.00	0.00	0.00
4.6690	0.00605	642780.	5000.	-1.57E-04	0.00	3.92E+11	0.00	0.00	0.00
4.8300	0.00575	652512.	5000.	-1.54E-04	0.00	3.92E+11	0.00	0.00	0.00
4.9910	0.00546	662243.	5000.	-1.51E-04	0.00	3.92E+11	0.00	0.00	0.00
5.1520	0.00517	671972.	5000.	-1.47E-04	0.00	3.92E+11	0.00	0.00	0.00
5.3130	0.00489	681700.	5000.	-1.44E-04	0.00	3.92E+11	0.00	0.00	0.00
5.4740	0.00461	691426.	5000.	-1.41E-04	0.00	3.92E+11	0.00	0.00	0.00
5.6350	0.00434	701150.	5000.	-1.37E-04	0.00	3.92E+11	0.00	0.00	0.00
5.7960	0.00408	710873.	5000.	-1.34E-04	0.00	3.92E+11	0.00	0.00	0.00
5.9570	0.00383	720594.	5000.	-1.30E-04	0.00	3.92E+11	0.00	0.00	0.00
6.1180	0.00358	730314.	5000.	-1.27E-04	0.00	3.92E+11	0.00	0.00	0.00
6.2790	0.00334	740032.	5000.	-1.23E-04	0.00	3.92E+11	0.00	0.00	0.00
6.4400	0.00310	749748.	5000.	-1.19E-04	0.00	3.92E+11	0.00	0.00	0.00
6.6010	0.00287	759463.	5000.	-1.16E-04	0.00	3.92E+11	0.00	0.00	0.00
6.7620	0.00265	769176.	5000.	-1.12E-04	0.00	3.92E+11	0.00	0.00	0.00
6.9230	0.00244	778887.	5000.	-1.08E-04	0.00	3.92E+11	0.00	0.00	0.00
7.0840	0.00224	788596.	5000.	-1.04E-04	0.00	3.92E+11	0.00	0.00	0.00
7.2450	0.00204	798303.	5000.	-1.00E-04	0.00	3.92E+11	0.00	0.00	0.00
7.4060	0.00185	808009.	5000.	-9.65E-05	0.00	3.92E+11	0.00	0.00	0.00
7.5670	0.00167	817713.	5000.	-9.25E-05	0.00	3.92E+11	0.00	0.00	0.00
7.7280	0.00149	827415.	5000.	-8.84E-05	0.00	3.92E+11	0.00	0.00	0.00
7.8890	0.00132	837115.	5000.	-8.43E-05	0.00	3.92E+11	0.00	0.00	0.00
8.0500	0.00117	846813.	2748.	-7.97E-05	0.00	3.14E+11	-2331.	3864000.	0.00
8.2110	0.00102	847808.	-1467.	-7.44E-05	0.00	3.14E+11	-2033.	3864000.	0.00
8.3720	8.78E-04	841212.	-5127.	-6.92E-05	0.00	3.14E+11	-1756.	3864000.	0.00
8.5330	7.49E-04	828060.	-8271.	-6.41E-05	0.00	3.14E+11	-1498.	3864000.	0.00
8.6940	6.30E-04	809313.	-10936.	-5.90E-05	0.00	3.14E+11	-1260.	3864000.	0.00
8.8550	5.21E-04	785859.	-13160.	-5.41E-05	0.00	3.14E+11	-1042.	3864000.	0.00
9.0160	4.21E-04	758514.	-14980.	-4.94E-05	0.00	3.14E+11	-842.096	3864000.	0.00
9.1770	3.30E-04	728024.	-16431.	-4.48E-05	0.00	3.14E+11	-660.342	3864000.	0.00
9.3380	2.48E-04	695067.	-17548.	-4.04E-05	0.00	3.14E+11	-495.917	3864000.	0.00
9.4990	1.74E-04	660256.	-18363.	-3.62E-05	0.00	3.14E+11	-348.038	3864000.	0.00
9.6600	1.08E-04	624145.	-18908.	-3.23E-05	0.00	3.14E+11	-215.875	3864000.	0.00
9.8210	4.93E-05	587226.	-19212.	-2.85E-05	0.00	3.14E+11	-98.569	3864000.	0.00
9.9820	-2.38E-06	549938.	-19302.	-2.50E-05	0.00	3.14E+11	4.7584	3864000.	0.00
10.1430	-4.75E-05	512665.	-19206.	-2.18E-05	0.00	3.14E+11	94.9956	3864000.	0.00
10.3040	-8.65E-05	475746.	-18947.	-1.87E-05	0.00	3.14E+11	173.0296	3864000.	0.00
10.4650	-1.20E-04	439471.	-18548.	-1.59E-05	0.00	3.14E+11	239.7392	3864000.	0.00
10.6260	-1.48E-04	404090.	-18031.	-1.33E-05	0.00	3.14E+11	295.9880	3864000.	0.00
10.7870	-1.71E-04	369813.	-17414.	-1.09E-05	0.00	3.14E+11	342.6181	3864000.	0.00
10.9480	-1.90E-04	336813.	-16715.	-8.75E-06	0.00	3.14E+11	380.4454	3864000.	0.00
11.1090	-2.05E-04	305233.	-15952.	-6.77E-06	0.00	3.14E+11	410.2556	3864000.	0.00
11.2700	-2.16E-04	275183.	-15137.	-4.99E-06	0.00	3.14E+11	432.8003	3864000.	0.00
11.4310	-2.24E-04	246747.	-14286.	-3.38E-06	0.00	3.14E+11	448.7947	3864000.	0.00
11.5920	-2.29E-04	219987.	-13409.	-1.94E-06	0.00	3.14E+11	458.9158	3864000.	0.00
11.7530	-2.32E-04	194938.	-12517.	-6.64E-07	0.00	3.14E+11	463.8005	3864000.	0.00
11.9140	-2.32E-04	171620.	-11621.	4.65E-07	0.00	3.14E+11	464.0451	3864000.	0.00
12.0750	-2.30E-04	150034.	-10728.	1.46E-06	0.00	3.14E+11	460.2046	3864000.	0.00

12.2360	-2.26E-04	130165.	-9846.	2.32E-06	0.00	3.14E+11	452.7928	3864000.	0.00
12.3970	-2.21E-04	111986.	-8982.	3.06E-06	0.00	3.14E+11	442.2827	3864000.	0.00
12.5580	-2.15E-04	95457.	-8140.	3.70E-06	0.00	3.14E+11	429.1070	3864000.	0.00
12.7190	-2.07E-04	80530.	-7326.	4.25E-06	0.00	3.14E+11	413.6591	3864000.	0.00
12.8800	-1.98E-04	67146.	-6543.	4.70E-06	0.00	3.14E+11	396.2943	3864000.	0.00
13.0410	-1.89E-04	55242.	-5796.	5.08E-06	0.00	3.14E+11	377.3312	3864000.	0.00
13.2020	-1.79E-04	44746.	-5087.	5.39E-06	0.00	3.14E+11	357.0532	3864000.	0.00
13.3630	-1.68E-04	35582.	-4417.	5.63E-06	0.00	3.14E+11	335.7102	3864000.	0.00
13.5240	-1.57E-04	27672.	-3790.	5.83E-06	0.00	3.14E+11	313.5201	3864000.	0.00
13.6850	-1.45E-04	20931.	-3207.	5.98E-06	0.00	3.14E+11	290.6714	3864000.	0.00
13.8460	-1.34E-04	15276.	-2668.	6.09E-06	0.00	3.14E+11	267.3245	3864000.	0.00
14.0070	-1.22E-04	10618.	-2174.	6.17E-06	0.00	3.14E+11	243.6139	3864000.	0.00
14.1680	-1.10E-04	6870.	-1726.	6.22E-06	0.00	3.14E+11	219.6506	3864000.	0.00
14.3290	-9.78E-05	3941.	-1325.	6.26E-06	0.00	3.14E+11	195.5238	3864000.	0.00
14.4900	-8.57E-05	1742.	-971.080	6.27E-06	0.00	3.14E+11	171.3032	3864000.	0.00
14.6510	-7.35E-05	183.0683	-663.559	6.28E-06	0.00	3.14E+11	147.0411	3864000.	0.00
14.8120	-6.14E-05	-827.415	-402.917	6.28E-06	0.00	3.14E+11	122.7747	3864000.	0.00
14.9730	-4.93E-05	-1380.	-189.139	6.27E-06	0.00	3.14E+11	98.5279	3864000.	0.00
15.1340	-3.72E-05	-1564.	-22.174	6.26E-06	0.00	3.14E+11	74.3140	3864000.	0.00
15.2950	-2.51E-05	-1471.	98.0463	6.25E-06	0.00	3.14E+11	50.1373	3864000.	0.00
15.4560	-1.30E-05	-1191.	171.5907	6.24E-06	0.00	3.14E+11	25.9956	3864000.	0.00
15.6170	-9.41E-07	-813.875	198.5207	6.24E-06	0.00	3.14E+11	1.8823	3864000.	0.00
15.7780	1.11E-05	-429.711	178.8825	6.23E-06	0.00	3.14E+11	-22.212	3864000.	0.00
15.9390	2.31E-05	-128.454	112.7046	6.23E-06	0.00	3.14E+11	-46.295	3864000.	0.00
16.1000	3.52E-05	0.00	0.00	6.23E-06	0.00	3.14E+11	-70.376	1932000.	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. 4:

Pile-head deflection	=	0.01705257 inches
Computed slope at pile head	=	-0.0002288 radians
Maximum bending moment	=	847808. inch-lbs
Maximum shear force	=	-19302. lbs
Depth of maximum bending moment	=	8.21100000 feet below pile head
Depth of maximum shear force	=	9.98200000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2
Pile deflection at ground	=	0.00131353 inches

Computed Values of Pile Loading and Deflection
for Lateral Loading for Load Case Number 5

Pile-head conditions are Shear and Pile-head Rotation (Loading Type 2)

Shear force at pile head	=	21000.0 lbs
Rotation of pile head	=	0.000E+00 radians
Axial load at pile head	=	400000.0 lbs

(Zero slope for this load indicates fixed-head conditions)

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.00971	-1355894.	21000.	0.00	0.00	3.86E+11	0.00	0.00	0.00
0.1610	0.00970	-1315320.	21000.	-6.68E-06	0.00	3.86E+11	0.00	0.00	0.00
0.3220	0.00968	-1274740.	21000.	-1.32E-05	0.00	3.86E+11	0.00	0.00	0.00
0.4830	0.00965	-1234155.	21000.	-1.94E-05	0.00	3.86E+11	0.00	0.00	0.00

0.6440	0.00961	-1193566.	21000.	-2.55E-05	0.00	3.86E+11	0.00	0.00	0.00
0.8050	0.00955	-1152972.	21000.	-3.14E-05	0.00	3.86E+11	0.00	0.00	0.00
0.9660	0.00949	-1112373.	21000.	-3.70E-05	0.00	3.86E+11	0.00	0.00	0.00
1.1270	0.00941	-1071771.	21000.	-4.25E-05	0.00	3.86E+11	0.00	0.00	0.00
1.2880	0.00932	-1031164.	21000.	-4.78E-05	0.00	3.86E+11	0.00	0.00	0.00
1.4490	0.00923	-990553.	21000.	-5.28E-05	0.00	3.86E+11	0.00	0.00	0.00
1.6100	0.00912	-949938.	21000.	-5.77E-05	0.00	3.86E+11	0.00	0.00	0.00
1.7710	0.00900	-909320.	21000.	-6.23E-05	0.00	3.86E+11	0.00	0.00	0.00
1.9320	0.00888	-868698.	21000.	-6.68E-05	0.00	3.86E+11	0.00	0.00	0.00
2.0930	0.00875	-828072.	21000.	-7.10E-05	0.00	3.86E+11	0.00	0.00	0.00
2.2540	0.00860	-787444.	21000.	-7.50E-05	0.00	3.86E+11	0.00	0.00	0.00
2.4150	0.00846	-746812.	21000.	-7.89E-05	0.00	3.86E+11	0.00	0.00	0.00
2.5760	0.00830	-706178.	21000.	-8.25E-05	0.00	3.86E+11	0.00	0.00	0.00
2.7370	0.00814	-665541.	21000.	-8.59E-05	0.00	3.86E+11	0.00	0.00	0.00
2.8980	0.00797	-624901.	21000.	-8.92E-05	0.00	3.86E+11	0.00	0.00	0.00
3.0590	0.00779	-584259.	21000.	-9.22E-05	0.00	3.86E+11	0.00	0.00	0.00
3.2200	0.00761	-543615.	21000.	-9.50E-05	0.00	3.86E+11	0.00	0.00	0.00
3.3810	0.00743	-502968.	21000.	-9.76E-05	0.00	3.86E+11	0.00	0.00	0.00
3.5420	0.00723	-462320.	21000.	-1.00E-04	0.00	3.86E+11	0.00	0.00	0.00
3.7030	0.00704	-421670.	21000.	-1.02E-04	0.00	3.86E+11	0.00	0.00	0.00
3.8640	0.00684	-381018.	21000.	-1.04E-04	0.00	3.86E+11	0.00	0.00	0.00
4.0250	0.00664	-340364.	21000.	-1.06E-04	0.00	3.86E+11	0.00	0.00	0.00
4.1860	0.00643	-299710.	21000.	-1.08E-04	0.00	3.86E+11	0.00	0.00	0.00
4.3470	0.00622	-259054.	21000.	-1.09E-04	0.00	3.86E+11	0.00	0.00	0.00
4.5080	0.00601	-218397.	21000.	-1.10E-04	0.00	3.86E+11	0.00	0.00	0.00
4.6690	0.00579	-177740.	21000.	-1.11E-04	0.00	3.86E+11	0.00	0.00	0.00
4.8300	0.00558	-137081.	21000.	-1.12E-04	0.00	3.86E+11	0.00	0.00	0.00
4.9910	0.00536	-96422.	21000.	-1.13E-04	0.00	3.86E+11	0.00	0.00	0.00
5.1520	0.00514	-55763.	21000.	-1.13E-04	0.00	3.86E+11	0.00	0.00	0.00
5.3130	0.00492	-15104.	21000.	-1.13E-04	0.00	3.86E+11	0.00	0.00	0.00
5.4740	0.00471	25556.	21000.	-1.13E-04	0.00	3.86E+11	0.00	0.00	0.00
5.6350	0.00449	66215.	21000.	-1.13E-04	0.00	3.86E+11	0.00	0.00	0.00
5.7960	0.00427	106874.	21000.	-1.12E-04	0.00	3.86E+11	0.00	0.00	0.00
5.9570	0.00405	147533.	21000.	-1.12E-04	0.00	3.86E+11	0.00	0.00	0.00
6.1180	0.00384	188191.	21000.	-1.11E-04	0.00	3.86E+11	0.00	0.00	0.00
6.2790	0.00362	228849.	21000.	-1.10E-04	0.00	3.86E+11	0.00	0.00	0.00
6.4400	0.00341	269505.	21000.	-1.09E-04	0.00	3.86E+11	0.00	0.00	0.00
6.6010	0.00320	310161.	21000.	-1.07E-04	0.00	3.86E+11	0.00	0.00	0.00
6.7620	0.00300	350815.	21000.	-1.06E-04	0.00	3.86E+11	0.00	0.00	0.00
6.9230	0.00279	391468.	21000.	-1.04E-04	0.00	3.86E+11	0.00	0.00	0.00
7.0840	0.00260	432119.	21000.	-1.02E-04	0.00	3.86E+11	0.00	0.00	0.00
7.2450	0.00240	472769.	21000.	-9.94E-05	0.00	3.86E+11	0.00	0.00	0.00
7.4060	0.00221	513417.	21000.	-9.70E-05	0.00	3.86E+11	0.00	0.00	0.00
7.5670	0.00203	554063.	21000.	-9.43E-05	0.00	3.86E+11	0.00	0.00	0.00
7.7280	0.00185	594707.	21000.	-9.14E-05	0.00	3.86E+11	0.00	0.00	0.00
7.8890	0.00167	635348.	21000.	-8.84E-05	0.00	3.86E+11	0.00	0.00	0.00
8.0500	0.00151	675987.	18090.	-8.47E-05	0.00	3.08E+11	-3012.	3864000.	0.00
8.2110	0.00135	705380.	12579.	-8.03E-05	0.00	3.08E+11	-2693.	3864000.	0.00
8.3720	0.00120	724716.	7667.	-7.58E-05	0.00	3.08E+11	-2391.	3864000.	0.00
8.5330	0.00105	735123.	3322.	-7.13E-05	0.00	3.08E+11	-2107.	3864000.	0.00
8.6940	9.20E-04	737661.	-491.894	-6.66E-05	0.00	3.08E+11	-1841.	3864000.	0.00
8.8550	7.96E-04	733326.	-3808.	-6.20E-05	0.00	3.08E+11	-1592.	3864000.	0.00
9.0160	6.81E-04	723044.	-6661.	-5.75E-05	0.00	3.08E+11	-1361.	3864000.	0.00
9.1770	5.74E-04	707677.	-9085.	-5.30E-05	0.00	3.08E+11	-1148.	3864000.	0.00
9.3380	4.76E-04	688022.	-11113.	-4.86E-05	0.00	3.08E+11	-951.795	3864000.	0.00
9.4990	3.86E-04	664811.	-12779.	-4.44E-05	0.00	3.08E+11	-772.309	3864000.	0.00
9.6600	3.04E-04	638714.	-14113.	-4.03E-05	0.00	3.08E+11	-608.930	3864000.	0.00
9.8210	2.31E-04	610342.	-15146.	-3.64E-05	0.00	3.08E+11	-461.026	3864000.	0.00
9.9820	1.64E-04	580245.	-15909.	-3.26E-05	0.00	3.08E+11	-327.909	3864000.	0.00
10.1430	1.04E-04	548922.	-16427.	-2.91E-05	0.00	3.08E+11	-208.850	3864000.	0.00
10.3040	5.15E-05	516816.	-16728.	-2.58E-05	0.00	3.08E+11	-103.090	3864000.	0.00
10.4650	4.93E-06	484323.	-16837.	-2.26E-05	0.00	3.08E+11	-9.851	3864000.	0.00
10.6260	-3.58E-05	451791.	-16778.	-1.97E-05	0.00	3.08E+11	71.6532	3864000.	0.00
10.7870	-7.11E-05	419524.	-16571.	-1.69E-05	0.00	3.08E+11	142.2119	3864000.	0.00
10.9480	-1.01E-04	387786.	-16238.	-1.44E-05	0.00	3.08E+11	202.6066	3864000.	0.00
11.1090	-1.27E-04	356803.	-15797.	-1.21E-05	0.00	3.08E+11	253.6062	3864000.	0.00
11.2700	-1.48E-04	326764.	-15266.	-9.94E-06	0.00	3.08E+11	295.9615	3864000.	0.00
11.4310	-1.65E-04	297828.	-14661.	-7.98E-06	0.00	3.08E+11	330.4002	3864000.	0.00
11.5920	-1.79E-04	270124.	-13997.	-6.20E-06	0.00	3.08E+11	357.6233	3864000.	0.00

11.7530	-1.89E-04	243754.	-13286.	-4.59E-06	0.00	3.08E+11	378.3020	3864000.	0.00
11.9140	-1.97E-04	218795.	-12541.	-3.14E-06	0.00	3.08E+11	393.0752	3864000.	0.00
12.0750	-2.01E-04	195302.	-11772.	-1.84E-06	0.00	3.08E+11	402.5475	3864000.	0.00
12.2360	-2.04E-04	173310.	-10990.	-6.84E-07	0.00	3.08E+11	407.2883	3864000.	0.00
12.3970	-2.04E-04	152838.	-10202.	3.39E-07	0.00	3.08E+11	407.8301	3864000.	0.00
12.5580	-2.02E-04	133887.	-9418.	1.24E-06	0.00	3.08E+11	404.6692	3864000.	0.00
12.7190	-1.99E-04	116446.	-8642.	2.02E-06	0.00	3.08E+11	398.2644	3864000.	0.00
12.8800	-1.95E-04	100492.	-7881.	2.70E-06	0.00	3.08E+11	389.0385	3864000.	0.00
13.0410	-1.89E-04	85988.	-7141.	3.29E-06	0.00	3.08E+11	377.3780	3864000.	0.00
13.2020	-1.82E-04	72894.	-6425.	3.79E-06	0.00	3.08E+11	363.6342	3864000.	0.00
13.3630	-1.74E-04	61156.	-5738.	4.21E-06	0.00	3.08E+11	348.1244	3864000.	0.00
13.5240	-1.66E-04	50717.	-5082.	4.56E-06	0.00	3.08E+11	331.1329	3864000.	0.00
13.6850	-1.56E-04	41514.	-4459.	4.85E-06	0.00	3.08E+11	312.9127	3864000.	0.00
13.8460	-1.47E-04	33478.	-3873.	5.08E-06	0.00	3.08E+11	293.6867	3864000.	0.00
14.0070	-1.37E-04	26539.	-3325.	5.27E-06	0.00	3.08E+11	273.6497	3864000.	0.00
14.1680	-1.26E-04	20621.	-2817.	5.42E-06	0.00	3.08E+11	252.9697	3864000.	0.00
14.3290	-1.16E-04	15647.	-2348.	5.53E-06	0.00	3.08E+11	231.7901	3864000.	0.00
14.4900	-1.05E-04	11538.	-1921.	5.62E-06	0.00	3.08E+11	210.2314	3864000.	0.00
14.6510	-9.42E-05	8214.	-1536.	5.68E-06	0.00	3.08E+11	188.3931	3864000.	0.00
14.8120	-8.32E-05	5593.	-1194.	5.72E-06	0.00	3.08E+11	166.3559	3864000.	0.00
14.9730	-7.21E-05	3593.	-893.620	5.75E-06	0.00	3.08E+11	144.1832	3864000.	0.00
15.1340	-6.10E-05	2131.	-636.561	5.77E-06	0.00	3.08E+11	121.9234	3864000.	0.00
15.2950	-4.98E-05	1125.	-422.558	5.78E-06	0.00	3.08E+11	99.6119	3864000.	0.00
15.4560	-3.86E-05	489.7806	-251.687	5.78E-06	0.00	3.08E+11	77.2732	3864000.	0.00
15.6170	-2.75E-05	143.2668	-123.986	5.78E-06	0.00	3.08E+11	54.9226	3864000.	0.00
15.7780	-1.63E-05	1.7579	-39.469	5.79E-06	0.00	3.08E+11	32.5686	3864000.	0.00
15.9390	-5.11E-06	-18.185	1.8591	5.79E-06	0.00	3.08E+11	10.2145	3864000.	0.00
16.1000	6.07E-06	0.00	0.00	5.79E-06	0.00	3.08E+11	-12.139	1932000.	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. 5:

Pile-head deflection	=	0.00970995 inches
Computed slope at pile head	=	0.000000 radians
Maximum bending moment	=	-1355894. inch-lbs
Maximum shear force	=	21000. lbs
Depth of maximum bending moment	=	0.000000 feet below pile head
Depth of maximum shear force	=	0.48300000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2
Pile deflection at ground	=	0.00166226 inches

Summary of Pile-head Responses for Conventional Analyses

Definitions of Pile-head Loading Conditions:

Load Type 1: Load 1 = Shear, V, lbs, and Load 2 = Moment, M, in-lbs
Load Type 2: Load 1 = Shear, V, lbs, and Load 2 = Slope, S, radians
Load Type 3: Load 1 = Shear, V, lbs, and Load 2 = Rot. Stiffness, R, in-lbs/rad.
Load Type 4: Load 1 = Top Deflection, y, inches, and Load 2 = Moment, M, in-lbs
Load Type 5: Load 1 = Top Deflection, y, inches, and Load 2 = Slope, S, radians

Load Case No.	Load Type 1	Pile-head Load 1	Load Type 2	Pile-head Load 2	Axial Loading lbs	Pile-head Deflection inches	Pile-head Rotation radians	Max Shear in Pile lbs	Max Moment in Pile in-lbs
1	V, lb	2000.	M, in-lb	252000.	615000.	0.00954	-1.33E-04	-10371.	450692.
2	V, lb	6000.	M, in-lb	660000.	330000.	0.02564	-3.54E-04	-28478.	1247507.

3	V, lb	23000.	S, rad	0.00	115000.	0.01038	0.00	23000.	-1485121.
4	V, lb	5000.	M, in-lb	360000.	240000.	0.01705	-2.29E-04	-19302.	847808.
5	V, lb	21000.	S, rad	0.00	400000.	0.00971	0.00	21000.	-1355894.

Deflection

Maximum pile-head deflection = 0.0256387213 inches
Maximum pile-head rotation = -0.0003543574 radians = -0.020303 deg.

The analysis ended normally.

SUPPORTING CALCULATIONS

END BENT 2

NCDOT BORE SINGLE SITE-0217A.GPJ NC DOT.GDT 9/25/25

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 00217A				TIP 100-01-00217a				COUNTY YANCEY				GEOLOGIST WATKINS, A.							
SITE DESCRIPTION Site 100-01-00217A												GROUND WTR (ft)							
BORING NO. B-1				STATION N/A				OFFSET N/A				ALIGNMENT N/A				0 HR. 5.5			
COLLAR ELEV. 2,404.2 ft				TOTAL DEPTH 16.1 ft				NORTHING 817,508				EASTING 998,700				24 HR. 3.9			
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024								DRILL METHOD SPT Core Boring				HAMMER TYPE Automatic							
DRILLER DAVIS, S.				START DATE 09/02/25				COMP. DATE 09/02/25				SURFACE WATER DEPTH 5.0ft							
CORE SIZE N				TOTAL RUN 10.0 ft															
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS								
					REC. (ft) %	RQD (ft) %		REC. (ft) %	RQD (ft) %										
2398.1											ELEV. (ft) DEPTH (ft)								
	2,398.1	6.1	4.0	3:21/1.0 4:56/1.0 7:22/1.0	(3.9) 98%	(3.9) 98%					2,398.1	Begin Coring @ 6.1 ft							
2395	2,394.1	10.1		10:20/1.0								CRYSTALLINE ROCK							
			5.0	3:10/1.0 3:48/1.0 4:00/1.0	(5.0) 100%	(5.0) 100%						Light grey, white, black, slight to fresh weathering, moderately hard to hard, close to wide fracture spacing, migmatic biotite-hornblend GNEISS.							
				4:17/1.0 4:43/1.0								GSI=75-85							
2390	2,389.1	15.1		4:43/1.0															
9.5'	2,388.1	16.1	1.0	1:56/1.0	(0.5) 50%	(0.0) 0%					2,388.1	Black and brown, very severe to moderately severe weathering							
												GSI=15-25							
												Boring Terminated at Elevation 2,388.1 ft In Crystalline Rock							

~ Min Tip
= El. 2389.5'

No lab testing available for rock cores. Compressive strength are assumed conservatively based on quality of rock and previous experience

Y = 140pcf
UCS = 2000 psi



Elevations

Bottom of Cap (BOC) Elevation =	2,403.00	ft
Top of Pier/Bottom of Column Elevation =	2,403.00	ft
Natural Ground / Finished Grade Elevation =	2,408.00	ft
Groundwater Table (GWT) Elevation =	2,405.00	ft
Design Scour (DSE) Elevation =	2,403.00	ft
Amount of Contraction Scour (from BSR) =	0.00	ft
Is Permanent Casing Required? ☐ Yes / Maybe ☒ No		
Bottom of Permanent Casing Elevation =	N/A	ft
Drilled Pier Tip Elevation =	2,397.00	ft

Drilled Pier Information

Maximum Factored Axial Load (P_r) =	400.0	kips
Number of Drilled Piers per Bent =	4	
Diameter of Column (d_{Column}) =	36	in
Diameter of Drilled Pier (d_{DP}) =	36	in
Unit Weight of Concrete (γ_c) =	0.150	kcf
Compressive Strength of Concrete (f'_c) =	4.500	ksi

Subsurface Information and Soil/Rock Layer Properties

internally calculate N_{160} values at midpoint of each layer ☒

Subsurface Boring Name / ID No. =	B-1	
SPT Hammer Energy Efficiency Rating (ER) =	87	%
Top of Boring (Collar) Elevation =	2404.20	ft
Depth to Groundwater Table (for actual boring) =	2400.30	ft

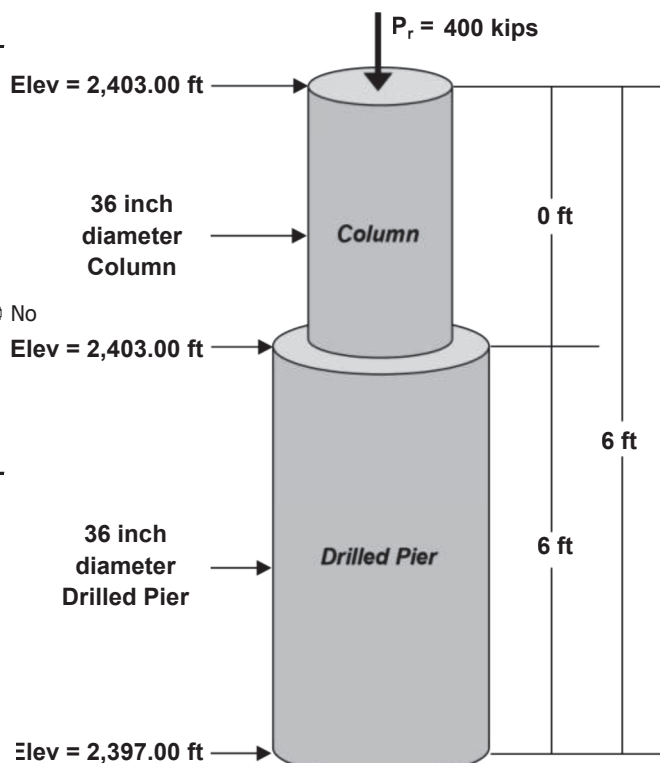


Figure shows typical drilled pier

Calculate GSI using RQD values : ☐
(Use if GSI is not shown on boring)

Layer No.	Material Description	Layer Elevations		Total γ (kcf)	N (bpf)	N_{60} (bpf)	N_{160} (bpf)	RQD (%)	⁽²⁾ GSI	q_u (ksf)	E_i (ksi)	ν
		Top ⁽¹⁾ (ft)	Bottom (ft)									
1	Cohesionless Soil (Sand)	2,403.00	2,398.10	0.120	12	17	26				X	
2	Hard Rock	2,398.10	2,397.00	0.140			N/A	98	75	400		
3												
4												
5												
6												
7												
8												
TIP ⁽³⁾	Hard Rock	2,397.00	2,391.00	0.140			N/A	98	75	400	4,000	0.220

Notes

- Resistance from subsurface layers above the Bottom of Column Elevation, Drilled Pier Design Scour Elevation, and Permanent Casing Elevation will be ignored.
- Hard rock layers with poor or very poor quality rock mass ($GSI < 30$) will be modeled as weathered rock.
- Input the subsurface information for the soil / rock at the base of the drilled pier to a distance of 2 pier diameters below the base of the drilled pier.

DISCLAIMER: The application of this spreadsheet is the responsibility of the user. It is imperative that the user understands the potential accuracy limitations and examines the reasonableness of the results with engineering knowledge and experience. There are no expressed or implied warranties.



Correcting SPT Values for Hammer Efficiency and Overburden Pressure

SPT-N Value Corrected for Hammer Efficiency, (N_{60})

$$N_{60} = (ER/60\%)(N)$$

AASHTO Eqn. 10.4.6.2.4-2

 N_{60} = SPT blow count corrected for hammer efficiency (blows/ft)

ER = hammer efficiency expressed as percent of theoretical free fall energy delivered by the hammer system actually used. If ER is not known, use 80% for automatic hammers and 60% for drop hammers.

N = uncorrected SPT blow count (blows/ft)

SPT-N Value Corrected for Overburden Pressure, (N_1)

$$N_1 = (C_N)(N)$$

AASHTO Eqn. 10.4.6.2.4-1

 N_1 = SPT blow count corrected for overburden pressure (blows/ft)

 C_N = correction factor = $[0.77 \log_{10}(40/\sigma'_v)] < 2.0$
 $\sigma'_v = \sigma_v - \mu$ = effective vertical stress at the depth of the SPT-N value (ksf)

 σ_v = total vertical stress at the depth of the SPT-N value (ksf)

 μ = total pore water pressure at the depth of the SPT-N value (ksf)

N = uncorrected SPT blow count (blows/ft)

SPT-N Value Corrected for both Overburden Pressure and Hammer Efficiency, (N_{160})

$$N_{160} = (C_N)(N)$$

AASHTO Eqn. 10.4.6.2.4-3

Summary of Corrected N Values for Boring

Top of Boring (Collar) Elevation = 2,404.2 ft

Depth to Groundwater Table = 2,400.3 ft

Hammer Efficiency (ER) = 87 %

Unit Weight of Water = 0.0624 kcf

Layer No.	Layer Elevations		σ_v at top (ksf)	Δz (ft)	Total γ (kcf)	σ_v at bottom (ksf)	σ_v at midpoint (ksf)	z_{water} (ft)	μ at midpoint (ksf)	σ'_{vo} at midpoint (ksf)	N (bpf)	N_{60} (bpf)	C_N	N_{160} (bpf)
	Top (ft)	Bottom (ft)												
1	2403.00	2398.10	0.144	4.90	0.120	0.732	0.438	0.00	0.000	0.438	12	17	1.51	26
2	2398.10	2397.00	0.732	1.10	0.140	0.886	0.809	0.00	0.000	0.809	N/A			N/A
3														
4														
5														
6														
7														
8														
TIP	2397.00	2391.00	0.886	6.00	0.140	1.726	1.306	0.00	0.000	1.306	N/A			N/A



Selecting Design Properties for Hard Rock

- q_u values for rock should be based on AASHTO Table 10.4.6.4-1 (which uses Point Load Index Testing) or actual values from Uniaxial Compressive Strength Testing. If neither of these options is available, the NCDOT Rock Core Database may be used to estimate compressive strength.
- E_i and ν values for rock should be based on AASHTO Tables C10.4.6.5-1, and 2 if lab test data is not available

Unconfined Compressive Strength from Point Load Strength Index for Hard Rock AASHTO Table C10.4.6.4-1

Parameter			Ranges of Values					
1	Strength of intact rock material	Point load strength index	>175 ksf	85–175 ksf	45–85 ksf	20–45 ksf	For this low range, uniaxial compressive test is preferred	
		Uniaxial compressive strength	>4320 ksf	2160–4320 ksf	1080–2160 ksf	520–1080 ksf	215–520 ksf	70–215 ksf
	Relative Rating		15	12	7	4	2	1

Summary of Elastic Moduli for Intact Rock, E_i (modified by Kulhawy, 1978)

AASHTO Table C10.4.6.5-1

Rock Type	No. of Values	No. of Rock Types	Elastic Modulus, E_i (ksi $\times 10^3$)			Standard Deviation (ksi $\times 10^3$)
			Maximum	Minimum	Mean	
Granite	26	26	14.5	0.93	7.64	3.55
Diorite	3	3	16.2	2.48	7.45	6.19
Gabbro	3	3	12.2	9.8	11.0	0.97
Diabase	7	7	15.1	10.0	12.8	1.78
Basalt	12	12	12.2	4.20	8.14	2.60
Quartzite	7	7	12.8	5.29	9.59	2.32
Marble	14	13	10.7	0.58	6.18	2.49
Gneiss	13	13	11.9	4.13	8.86	2.31
Slate	11	2	3.79	0.35	1.39	0.96
Schist	13	12	10.0	0.86	4.97	3.18
Phyllite	3	3	2.51	1.25	1.71	0.57
Sandstone	27	19	5.68	0.09	2.13	1.19
Siltstone	5	5	4.76	0.38	2.39	1.65
Shale	30	14	5.60	0.001	1.42	1.45
Limestone	30	30	13.0	0.65	5.7	3.73
Dolostone	17	16	11.4	0.83	4.22	3.44

Summary of Poisson's Ratio for Intact Rock, ν (modified by Kulhawy, 1978)

AASHTO Table C10.4.6.5-2

Rock Type	No. of Values	No. of Rock Types	Poisson's Ratio, ν			Standard Deviation
			Maximum	Minimum	Mean	
Granite	22	22	0.39	0.09	0.20	0.08
Gabbro	3	3	0.20	0.16	0.18	0.02
Diabase	6	6	0.38	0.20	0.29	0.06
Basalt	11	11	0.32	0.16	0.23	0.05
Quartzite	6	6	0.22	0.08	0.14	0.05
Marble	5	5	0.40	0.17	0.28	0.08
Gneiss	11	11	0.40	0.09	0.22	0.09
Schist	12	11	0.31	0.02	0.12	0.08
Sandstone	12	9	0.46	0.08	0.20	0.11
Siltstone	3	3	0.23	0.09	0.18	0.06
Shale	3	3	0.18	0.03	0.09	0.06
Limestone	19	19	0.33	0.12	0.23	0.06
Dolostone	5	5	0.35	0.14	0.29	0.08



OF TRANSPORTATION

DESCRIPTION:

Site 205 Over Cane River

GEOTECHNICAL ENGINEERING UNIT DESIGNED BY:

AKV

DATE: 12/15/25

STATION:

EB2 (B1 217A)

Drilled Pier Axial Resistance Worksheet CHECKED BY:

DATE:

STR. NO.:

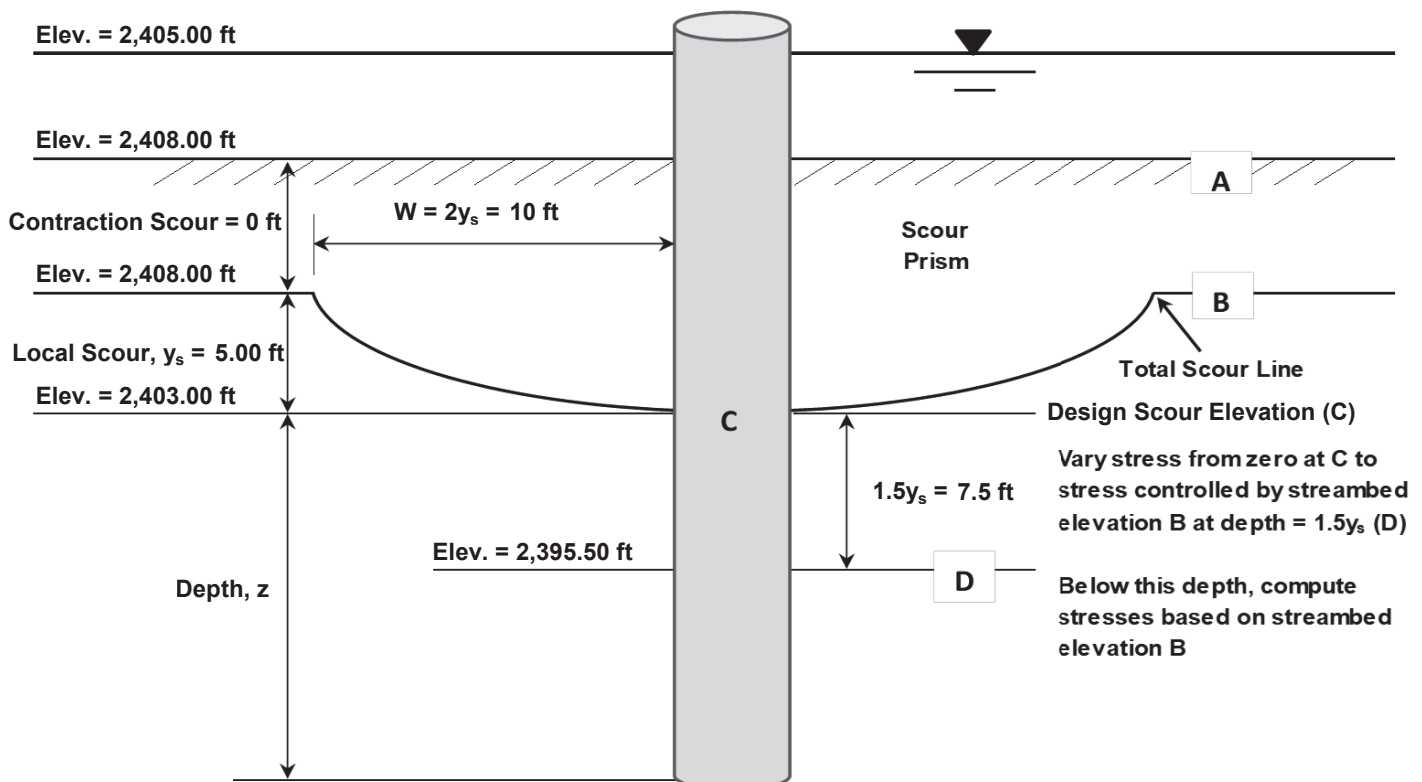
PAGE: 1C OF 7

Calculating Design Stresses for Drilled Piers based on Scour Prism used in FHWA GEC 010

For analysis purposes, lower ground line to the contraction scour elevation (CSE) to account for contraction scour reported in the bridge survey report.

- If the CSE is lower than or equal to the design scour elevation (DSE), consider all scour as contraction scour and lower the ground line to the design scour elevation (DSE).
- If the CSE is higher than the DSE, consider the difference between the CSE and the DSE as local scour.

Groundwater Elevation =	2405.00	ft	
Original Pre-Scour Streambed Elevation (Point A) =	2408.00	ft	= Natural Ground / Finished Grade Elevation
Amount of Contraction Scour =	0.00	ft	
Streambed Elevation after General Scour (Point B) =	2408.00	ft	= Point A - Contraction Scour ≥ Design Scour Elevation
Amount of Local Scour (y_s) =	5.00	ft	
Depth of the embedded length of the drilled pier (Point C) =	2403.00	ft	= Design Scour Elevation
$1.5(y_s)$ =	7.50	ft	
Elevation corresponding to a depth of $1.5(y_s)$, (Point D) =	2395.50	ft	= Point C - $1.5y_s$



Adapted from FHWA GEC 010 Figure 13.18: Illustration of Scour Prism and Effects on Drilled Pier

Per FHWA GEC 010 page 13-46, vertical stress along any depth of the drilled pier can be estimated as follows;

- 1) At the top of the embedded drilled pier (Point C) the vertical stress is equal to zero.
- 2) At a depth of $1.5y_s$ (Point D) or greater, assume the vertical stress is controlled by the streambed elevation (Point B).
- 3) Assume a linear variation in vertical stress from 0 at Point C to the vertical stress value controlled by the streambed at Point B.



Soil Layer Profile and Effective Vertical Stress controlled by the streambed elevation (Point B)

- Assume the streambed elevation is equal to the contraction scour elevation (Elevation 2,408.00 ft).

Layer No.	Top (ft)	Midpoint (ft)	Bottom (ft)	σ_{v_top} (ksf)	μ_{top} (ksf)	σ'_{v_top} (ksf)	Δz (ft)	γ (kcf)	σ_{v_bottom} (ksf)	μ_{bottom} (ksf)	σ'_{v_bottom} (ksf)
0	2408.00	2405.50	2403.00	0.000	0.000	0.000	5.00	0.120	0.600	0.125	0.475
1	2403.00	2400.55	2398.10	0.600	0.125	0.475	4.90	0.120	1.188	0.431	0.757
2	2398.10	2397.55	2397.00	1.188	0.431	0.757	1.10	0.140	1.342	0.499	0.843
3											
4											
5											
6											
7											
8											

Variation in Vertical Stress from Point C to Point D

- Assume the top of the embedded drilled pier is equal to the design scour elevation.
- Vertical stress at elevation 2403 ft (Point C) = 0 ksf
- Assume a linear variation in vertical stress from 0 ksf at elevation 2,403.00 ft (Point C) to a stress value controlled by the elevation 2,408.00 ft (Point B) at the depth Point D, elevation 2,395.50 ft.
- Point D lies below the tip of the drilled pier,

Point D Elevation (ft)	Tip Elev. (ft)	σ_v at 2,397.00 ft	Depth Below Tip (ft)	γ for Pier Tip	μ at Point D (ksf)	σ'_v at Point D (ksf)
2395.50	2397.00	1.342	1.50	0.140	0.593	0.959

Point	Elevation (ft)	z (ft)	σ'_v (ksf)	Equation for linear variation over a depth of $1.5y_s$
C	2,403.00	0.00	0.000	σ'_v (for $z = 0$ to 7.5 ft) = $(0.1279)z$
D	2,395.50	7.50	0.959	

- All stress calculations below elevation 2,395.50 ft (Point D) will be based on elevation 2,408.00 ft (Point B).

Summary of Design Stress at the Midpoint of each Soil Layer and at Tip of Drilled Pier

Layer	Top (ft)	Bottom (ft)	Midpoint (ft)	z (ft)	Is $z < 1.5y_s$?	$\sigma_{v_midpoint}$ (ksf)	μ (ksf)	$\sigma'_{v_midpoint}$ (ksf)
1	2403.00	2398.10	2400.55	2.45	yes	----	----	0.313
2	2398.10	2397.00	2397.55	5.45	yes	----	----	0.697

Tip Elev. (ft)	z (ft)	σ_{v_bottom} (ksf)	μ (ksf)	σ'_{v_bottom} (ksf)
2397.00	6.00	----	----	0.767

$$R_s = (q_s)(A_s)$$

AASHTO Eqn. 10.8.3.5-3

$$q_s = \text{unit side resistance for soil layer (ksf)} \leq 2 \text{ ksf}$$

2 ksf limit based on NAVFAC DM 7.2 p. 201

$$= (\beta)(\sigma'_v)$$

AASHTO Eqn. 10.8.3.5.2b-1

β = load transfer coefficient

$$= (1 - \sin \phi'_f) \left(\frac{\sigma'_p}{\sigma'_n} \right)^{\sin \phi'_f} \tan \phi'_f$$

AASHTO Eqn. 10.8.3.5.2b-2

 ϕ'_f = effective friction angle

$$= 27.5 + 9.2 \log(N1_{60}), \quad N1_{60} \leq 100$$

AASHTO Eqn. 10.8.3.5.2b-3

$$N1_{60} = \text{SPT - N value corrected for hammer efficiency and overburden (limited to 100 bpf)}$$
 σ'_p = effective vertical preconsolidation stress

For Sands: $\frac{\sigma'_p}{\rho_a} \approx 0.47(N_{60})^m$

AASHTO Eqn. 10.8.3.5.2b-4

For Gravels: $\frac{\sigma'_p}{\rho_a} = 0.15(N_{60})$

AASHTO Eqn. 10.8.3.5.2b-5

$m = 0.6$ for clean sands; 0.8 for silty sands and sandy silts

$$N_{60} = \text{SPT - N value corrected for hammer efficiency (limited to 100 bpf)}$$

p_a = atmospheric pressure (2.12 ksf)

σ'_v = effective vertical stress at soil layer mid-depth as defined in FHWA GEC 010 pages 13-46

A_s = area of drilled pier side resistance (ft²)

$$= (\pi)(B)(\Delta z)$$

B = diameter of drilled pier (3 ft)

 Δz = effective thickness of the soil layer (ft)[illegible]



Tip Resistance in Hard Rock

$$R_p = (q_p)(A_p)$$

AASHTO Eqn. 10.8.3.5-2

 q_p = unit tip resistance (ksf)

If rock to a depth of 2B below drilled pier tip is intact or tightly jointed and the depth of socket > 1.5 D

$$= 2.5q_u$$

AASHTO Eqn. 10.8.3.5.4c-1

If the rock to a depth of 2D below the drilled pier tip is jointed with random orientation

$$= A + q_u \left[m_b \left(\frac{A}{q_u} \right) + s \right]^a$$

AASHTO Eqn. 10.8.3.5.4c-2

 q_u = Uniaxial Compressive Strength of Intact Rock (ksf)

 σ'_{vb} = vertical effective stress at the socket bearing elevation

$$A = \sigma'_{vb} + q_u \left[m_b \left(\frac{\sigma'_{vb}}{q_u} \right) + s \right]^a$$

AASHTO Eqn. 10.8.3.5.4c-3

$$s = \exp \left(\frac{GSI - 100}{9} \right)$$

AASHTO Eqn. 10.4.6.4-2

$$a = \frac{1}{2} + \frac{1}{6} \left(e^{\frac{-GSI}{15}} - e^{\frac{-20}{3}} \right)$$

AASHTO Eqn. 10.4.6.4-3

$$m_b = \exp \left(\frac{GSI - 100}{28} \right) m_i$$

AASHTO Eqn. 10.4.6.4-4

 m_i = constant for intact rock

AASHTO Table 10.4.6.4-1

GSI = Global Strength Index

***Hard Rock Layers with an GSI less than 30 will be modeled as weathered rock.**
 A_p = area of drilled pier tip resistance (ft²)

$$= (\pi)(B^2)/4$$

B = diameter of drilled pier - 2 inches to account for possible reduction for drilled pier in rock (B = 2.83 ft)

Tip Elevation (ft)	AASHTO Equation used to calculate q_u	q_u (ksf)	GSI	m	m_b	s	a	A	q_p (ksf)	A_p (ft ²)	R_p (kips)
2397.00	10.8.3.5.4c-2	400	75	25	10.237	0.06218	0.50091	114.92	809	6.31	5,105



Tip Resistance in Hard Rock (continued)

Table 10.4.6.4-1—Values of the Constant m_i by Rock Group

Rock type	Class	Group	Texture			
			Coarse	Medium	Fine	Very fine
SEDIMENTARY	Clastic		Conglomerate (21 ± 3)	Sandstone 17 ± 4	Siltstone 7 ± 2	Claystone 4 ± 2
			Breccia (19 ± 5)		Greywacke (18 ± 3)	Shale (6 ± 2)
						Marl (7 ± 2)
	Non-Clastic	Carbonates	Crystalline Limestone (12 ± 3)	Sparitic Limestone (10 ± 5)	Micritic Limestone (8 ± 3)	Dolomite (9 ± 3)
		Evaporites		Gypsum 10 ± 2	Anhydrite 12 ± 2	
		Organic				Chalk 7 ± 2
METAMORPHIC	Non Foliated		Marble 9 ± 3	Hornfels (19 ± 4)) Metasandstone (19 ± 3)	Quartzite 20 ± 3	
	Slightly foliated		Migmatite (29 ± 3)	Amphibolite 26 ± 6	Gneiss 28 ± 5	
	Foliated*			Schist (10 ± 3)	Phyllite (7 ± 3)	Slate 7 ± 4
IGNEOUS	Plutonic	Light	Granite 32 ± 3	Diorite 25 ± 5		
			Granodiorite (29 ± 3)			
		Dark	Gabbro 27 ± 3	Dolerite (16 ± 5)		
			Norite 20 ± 5			
	Hypabyssal		Porphyries (20 ± 5)		Diabase (15 ± 5)	Peridotite (25 ± 5)
	Volcanic	Lava		Rhyolite (25 ± 5)	Dacite (25 ± 3))	
			Andesite 25 ± 5	Basalt (25 ± 5)		
	Pyroclastic	Agglomerate (19 ± 3)	Volcanic breccia (19 ± 5)	Tuff (13 ± 5)		

Summary of Nominal and Factored Side Resistance

	Nominal Side Resistance (kips)	Resistance Factor from AASHTO Table 10.5.5.2.4-1	Factored Side Resistance (kips)	Percentage of Side Resistance produced by Material Type
Cohesionless IGM				
Cohesive Soil	0	0.45	0	0.0%
Cohesionless Soil	28	0.55	15	15.6%
Cohesive IGM	0	0.60	0	0.0%
Weathered Rock	0	0.60	0	0.0%
Hard Rock	152	0.55	84	84.4%
Total	180		99	100%

Note: When drilled piers are socketed in hard rock, the side resistance above the hard rock will be ignored. For the purpose of this spreadsheet, a drilled pier will be considered socketed in hard rock if either of these conditions are met;

1. The pier is embedded the greater of 3 feet or 1 pier diameter into hard rock.
2. At least 50% of the total nominal side resistance is produced by the hard rock layer(s).





Summary of Nominal and Factored Side Resistance (continued)

Total Nominal Side Resistance = 152 kips

Side Resistance Factor = 0.55

for Hard Rock, see AASHTO Table 10.5.5.2.4-1.

Total Factored Side Resistance = 84 kips

Summary of Total Nominal and Factored Tip Resistance

Total Nominal Tip Resistance = 5,105 kips

Tip Resistance Factor = 0.50

the drilled pier is bearing on Hard Rock

for Hard Rock, see AASHTO Table 10.5.5.2.4-1.

Total Factored Tip Resistance = 2,553 kips

Required Factored Resistance

$$R_{req} = P_r + \gamma_{DC}(W_{Column} + W_{Pier}) - \gamma_{WA}W_{Water} - \gamma_{DC}W_{Soil/Rock} \geq P_r$$

Required Factored Resistance

$$P_r = 400 \text{ kips}$$

Maximum Factored Axial Load Reported by Structure Design

$$\gamma_{DC} = 1.25$$

Factor for Permanent Dead Loads, from AASHTO Table 3.4.1-2

$$\gamma_{WA} = 1.00$$

Factor for Water Loads, from AASHTO Table 3.4.1-1

$$W_{Column} = (A_{Column})(L_{Column})(\gamma_c)$$

Unfactored Weight of Column

$$A_{Column} = 7.07 \text{ ft}^2$$

Area of Column

$$L_{Column} = 0 \text{ ft}$$

Length of Column

$$\gamma_c = 0.150 \text{ kcf}$$

Unit Weight of Concrete

$$= 0 \text{ kips}$$

$$W_{Pier} = (A_{Pier})(L_{Pier})(\gamma_c)$$

Unfactored Weight of Drilled Pier

$$A_{Pier} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$L_{Pier} = 6 \text{ ft}$$

Length of Drilled Pier

$$\gamma_c = 0.150 \text{ kcf}$$

Unit Weight of Concrete

$$= 6 \text{ kips}$$

$$W_{Water} = (A_{Pier})(z_w)(\gamma_w)$$

Unfactored Weight of Water Displaced by Drilled Pier

$$A_{Pier} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$z_w = 8 \text{ ft}$$

Depth from water surface to the drilled pier tip

$$\gamma_w = 0.0624 \text{ kcf}$$

Unit Weight of Water

$$= 4 \text{ kips}$$

$$W_{Soil/Rock} = (A_{Pier})(\sigma'_{vo})$$

Unfactored Effective Weight of Soil / Rock that will be displaced

$$A_{Pier} = 7.07 \text{ ft}^2$$

Area of Drilled Pier

$$\sigma'_{vo} = 0.767 \text{ ksf}$$

effective vertical stress at drilled pier tip as defined in FHWA GEC 010 pages 13-46

$$W_{Soil/Rock} = 5 \text{ kips}$$

$$R_{req} = 400 \text{ kips} + 1.25(0 \text{ kips} + 6 \text{ kips}) - 1.00(4 \text{ kips}) - 1.25(5 \text{ kips}) = 397 \text{ kips (Use 400 kips)}$$



Load Transfer of Side and Tip Resistance for Drilled Piers Socketed in Hard Rock

Per AASHTO Section 10.8.3.5.4a, The Factored Geotechnical Resistance for Drilled Piers socketed in hard rock will be based on side resistance, tip resistance, or a combination of both. Using a combination of both side and tip resistance requires a displacement based analysis and falls outside the limitations of this spreadsheet. For details on displacement based analysis, see *FHWA GEC 010 Appendix D.3.1* .

Developed Factored Resistance, (R_{rd})

Select which value to use for the Factored Developed Resistance

- ☐ Use the Factored Side Resistance of the rock socket.
- ☒ Use the Factored Tip Resistance of the rock socket.

2,553 kips ≥ 400 kips

The axial resistance requirement is satisfied.

Required Tip Resistance

q_{req} = required tip resistance (rounded up to the nearest 10 ksf or 5 tsf)

$$= \frac{\frac{R_{req} - \phi_{qs}R_{sd}}{A_T}}{\phi_{qp}} \leq q_p$$

NCDOT policy

- R_r = required factored geotechnical resistance (kips)
- ϕ_{qs}R_{sd} = factored developed side resistance (kips)
- A_T = area of drilled pier tip (ft²)
- ϕ_{qp} = tip resistance factor
- q_p = unit tip resistance (ksf)

R _{req} (kips)	ϕ _{qs} R _{sd} (kips)	A _{Tip} (ft ²)	ϕ _{qp}	q _p (ksf)	q _{req} (ksf)
400	0	6.31	0.50	809	130

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LPILE for Windows, Version 2022-12.009

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:
\\Users\\avarri\\Desktop\\NC Grow\\Site 205\\Lpile\\

Name of input data file:
NC GROW_SITE 205_EB2.lp12d

Name of output report file:
NC GROW_SITE 205_EB2.lp12o

Name of plot output file:
NC GROW_SITE 205_EB2.lp12p

Name of runtime message file:
NC GROW_SITE 205_EB2.lp12r

Date and Time of Analysis

Date: December 17, 2025 Time: 15:15:56

Problem Title

Project Name: NC GROW DRIVEWAY OVER CANE RIVER

Job Number: 10434317

Client:

Engineer:AV

Description: SITE 100-01-00205 - EB2

Program Options and Settings

Computational Options:

- Conventional Analysis

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
- Use of p-y modification factors for p-y curves not selected
- 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 = 2
Total length of pile = 13.400 ft
Depth of ground surface below top of pile = 0.0000 ft

Pile diameters used for p-y curve computations are defined using 4 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	36.0000
2	4.900	36.0000
3	4.900	34.0000
4	13.400	34.0000

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 = 4.900000 ft
Shaft Diameter = 36.000000 in

Pile Section No. 2:

Section 2 is a round drilled shaft, bored pile, or CIDH pile
Length of section = 8.500000 ft
Shaft Diameter = 34.000000 in

Soil and Rock Layering Information

The soil profile is modelled using 2 layers

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

Distance from top of pile to top of layer = 0.0000 ft
Distance from top of pile to bottom of layer = 4.900000 ft
Effective unit weight at top of layer = 57.600000 pcf
Effective unit weight at bottom of layer = 57.600000 pcf
Friction angle at top of layer = 29.000000 deg.
Friction angle at bottom of layer = 29.000000 deg.
Subgrade k at top of layer = 60.000000 pci
Subgrade k at bottom of layer = 60.000000 pci

Layer 2 is strong rock (vuggy limestone)

Distance from top of pile to top of layer = 4.900000 ft
Distance from top of pile to bottom of layer = 15.000000 ft
Effective unit weight at top of layer = 77.600000 pcf
Effective unit weight at bottom of layer = 77.600000 pcf
Uniaxial compressive strength at top of layer = 2000. psi
Uniaxial compressive strength at bottom of layer = 2000. psi

(Depth of the lowest soil layer extends 1.600 ft below the pile tip)

Summary of Input Soil Properties

Layer Num.	Soil Type Name (p-y Curve Type)	Layer Depth ft	Effective Unit Wt. pcf	Angle of Friction deg.	Uniaxial qu psi	kpy pci
1	Sand	0.00	57.6000	29.0000	--	60.0000
	(Reese, et al.)	4.9000	57.6000	29.0000	--	60.0000
2	Strong Rock	4.9000	77.6000	--	2000.	--
	(Vuggy Limestone)	15.0000	77.6000	--	2000.	--

Static Loading Type

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

Pile-head Loading and Pile-head Fixity Conditions

Number of loads specified = 5

Load No.	Load Type	Condition 1	Condition 2	Axial Thrust Force, lbs	Compute Top y vs. Pile Length	Run Analysis
1	1	V = 12000. lbs	M = 3420000. in-lbs	400000.	No	Yes
2	1	V = 69000. lbs	M = 6732000. in-lbs	155000.	No	Yes
3	2	V = 12000. lbs	S = 0.0000 in/in	225000.	No	Yes
4	1	V = 13000. lbs	M = 3372000. in-lbs	220000.	No	Yes
5	2	V = 9000. lbs	S = 0.0000 in/in	245000.	No	Yes

V = shear force applied normal to pile axis
M = bending moment applied to pile head
y = lateral deflection normal to pile axis
S = pile slope relative to original pile batter angle
R = rotational stiffness applied to pile head
Values of top y vs. pile lengths can be computed only for load types with specified shear loading (Load Types 1, 2, and 3).
Thrust force is assumed to be acting axially for all pile batter angles.

Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 2

Pile Section No. 1:

Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	4.900000 ft
Shaft Diameter	=	36.000000 in
Concrete Cover Thickness (to edge of long. rebar)	=	3.000000 in
Number of Reinforcing Bars	=	12 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	1018. sq. in.
Total Area of Reinforcing Steel	=	12.000000 sq. in.
Area Ratio of Steel Reinforcement	=	1.18 percent
Edge-to-Edge Bar Spacing	=	6.344623 in
Maximum Concrete Aggregate Size	=	0.750000 in
Ratio of Bar Spacing to Aggregate Size	=	8.46
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$	=	4567.476 kips
Tensile Load for Cracking of Concrete	=	-482.982 kips
Nominal Axial Tensile Capacity	=	-720.000 kips

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar	Bar Diam.	Bar Area	X	Y
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Number	inches	sq. in.	inches	inches
1	1.128000	1.000000	14.436000	0.000000
2	1.128000	1.000000	12.501943	7.218000
3	1.128000	1.000000	7.218000	12.501943
4	1.128000	1.000000	0.000000	14.436000
5	1.128000	1.000000	-7.218000	12.501943
6	1.128000	1.000000	-12.50194	7.218000
7	1.128000	1.000000	-14.43600	0.000000
8	1.128000	1.000000	-12.50194	-7.218000
9	1.128000	1.000000	-7.218000	-12.50194
10	1.128000	1.000000	0.000000	-14.436000
11	1.128000	1.000000	7.218000	-12.50194
12	1.128000	1.000000	12.501943	-7.218000

NOTE: The positions of the above rebars were computed by LPile

Minimum spacing between any two bars not equal to zero = 6.345 inches
between bars 7 and 8.

Ratio of bar spacing to maximum aggregate size = 8.46

Concrete Properties:

Compressive Strength of Concrete	=	4500. psi
Modulus of Elasticity of Concrete	=	3823676. psi
Modulus of Rupture of Concrete	=	-503.11529 psi
Compression Strain at Peak Stress	=	0.002001
Tensile Strain at Fracture of Concrete	=	-0.0001152
Maximum Coarse Aggregate Size	=	0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 5

Number	Axial Thrust Force kips
1	155.000
2	220.000
3	225.000
4	245.000
5	400.000

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 318-14, Section 21.2.3.
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 = 155.000 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
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6.25000E-07	247.3360024	395737604.	69.2872074	0.00004330	0.00002080	0.1921995	1.2003681
0.00000125	494.6687379	395734990.	43.6614392	0.00005458	0.00000958	0.2411774	1.4718022
0.00000188	741.9911332	395728604.	35.1274399	0.00006586	-0.00000164	0.2899399	1.7436671
0.00000250	989.1742577	395669703.	30.8657468	0.00007716	-0.00001284	0.3384790	2.0159166
0.00000313	1236.	395470201.	28.3112944	0.00008847	-0.00002403	0.3867712	2.2883985
0.00000375	1482.	395147154.	26.6095434	0.00009979	-0.00003521	0.4348010	2.5610128
0.00000438	1727.	394734947.	25.3946541	0.0001111	-0.00004640	0.4825608	2.8337092
0.00000500	1971.	394259899.	24.4838725	0.0001224	-0.00005758	0.5300466	3.1064615
0.00000563	2215.	393739917.	23.7757397	0.0001337	-0.00006876	0.5772559	3.3792550
0.00000625	2457.	393186961.	23.2094100	0.0001451	-0.00007994	0.6241876	3.6520806
0.00000688	2699.	392609228.	22.7461801	0.0001564	-0.00009112	0.6708405	3.9249322
0.00000750	2699.	359891792.	19.4188639	0.0001456	-0.0001124	0.6256806	3.5580529 C
0.00000813	2699.	332207808.	18.8459694	0.0001531	-0.000139	0.6563800	3.7195689 C
0.00000875	2699.	308478679.	18.3382924	0.0001605	-0.000155	0.6863550	3.8768667 C
0.00000938	2699.	287913434.	17.8866786	0.0001677	-0.000170	0.7157629	-4.092622 C
0.0001000	2699.	269918844.	17.4815805	0.0001748	-0.000185	0.7446487	-4.482942 C
0.0001063	2699.	254041265.	17.1152442	0.0001818	-0.000201	0.7730369	-4.876003 C
0.0001125	2699.	239927862.	16.7818315	0.0001888	-0.000216	0.8009603	-5.271602 C
0.0001188	2699.	227300079.	16.4770019	0.0001957	-0.000232	0.8284646	-5.669445 C
0.0001250	2699.	215935075.	16.1973781	0.0002025	-0.000248	0.8555991	-6.069200 C
0.0001313	2699.	205652453.	15.9403174	0.0002092	-0.000263	0.8824177	-6.470504 C
0.0001375	2699.	196304614.	15.7025938	0.0002159	-0.000279	0.9089144	-6.873416 C
0.0001438	2699.	187769631.	15.4810290	0.0002225	-0.000295	0.9350540	-7.278209 C
0.0001500	2699.	179945896.	15.2764444	0.0002291	-0.000311	0.9610094	-7.683647 C
0.0001563	2699.	172748060.	15.0837833	0.0002357	-0.000327	0.9865940	-8.091098 C
0.0001625	2699.	166103904.	14.9051682	0.0002422	-0.000343	1.0120359	-8.498914 C
0.0001688	2699.	159951908.	14.7361548	0.0002487	-0.000359	1.0371438	-8.908507 C
0.0001750	2727.	155837095.	14.5793737	0.0002551	-0.000375	1.0621719	-9.318018 C
0.0001813	2780.	153387438.	14.4292977	0.0002615	-0.000391	1.0868176	-9.729688 C
0.0001875	2833.	151099315.	14.2893883	0.0002679	-0.000407	1.1113865	-10.141270 C
0.0001938	2886.	148942754.	14.1568063	0.0002743	-0.000423	1.1357386	-10.553807 C
0.0002000	2938.	146904149.	14.0306927	0.0002806	-0.000439	1.1598619	-10.967398 C
0.0002063	2990.	144987534.	13.9123659	0.0002869	-0.000456	1.1839099	-11.380904 C
0.0002125	3042.	143169301.	13.7993085	0.0002932	-0.000472	1.2077327	-11.795452 C
0.0002188	3094.	141442789.	13.6913103	0.0002995	-0.000488	1.2313522	-12.210888 C
0.0002250	3146.	139810799.	13.5894409	0.0003058	-0.000504	1.2548977	-12.626240 C
0.0002313	3197.	138264308.	13.4929863	0.0003120	-0.000520	1.2783500	-13.041653 C
0.0002375	3249.	136780807.	13.3990220	0.0003182	-0.000537	1.3014844	-13.458849 C
0.0002438	3300.	135372148.	13.3099934	0.0003244	-0.000553	1.3245461	-13.875961 C
0.0002563	3402.	132757434.	13.1452994	0.0003368	-0.000586	1.3704514	-14.709937 C
0.0002688	3503.	130354830.	12.9916135	0.0003491	-0.000618	1.4155909	-15.547274 C
0.0002813	3605.	128160728.	12.8518314	0.0003615	-0.000651	1.4604277	-16.384412 C
0.0002938	3705.	126139962.	12.7224408	0.0003737	-0.000684	1.5047740	-17.222834 C
0.0003063	3806.	124269330.	12.6017431	0.0003859	-0.000717	1.5485859	-18.062914 C
0.0003188	3906.	122541823.	12.4908652	0.0003981	-0.000749	1.5921157	-18.902669 C
0.0003313	4006.	120936505.	12.3875994	0.0004103	-0.000782	1.6352322	-19.743150 C
0.0003438	4106.	119434761.	12.2898721	0.0004225	-0.000815	1.6777853	-20.585596 C
0.0003563	4205.	118035276.	12.1993197	0.0004346	-0.000848	1.7200598	-21.427715 C
0.0003688	4304.	116727637.	12.1152137	0.0004467	-0.000881	1.7620550	-22.269506 C
0.0003813	4403.	115499732.	12.0360842	0.0004589	-0.000914	1.8036591	-23.111892 C
0.0003938	4502.	114340135.	11.9603967	0.0004709	-0.000947	1.8447295	-23.956084 C
0.0004063	4601.	113249203.	11.8896482	0.0004830	-0.000979	1.8855238	-24.799946 C
0.0004188	4699.	112220776.	11.8233974	0.0004951	-0.001012	1.9260414	-25.643474 C
0.0004313	4798.	111249408.	11.7612546	0.0005072	-0.001045	1.9662815	-26.486668 C
0.0004438	4896.	110330267.	11.7028736	0.0005193	-0.001078	2.0062433	-27.329527 C
0.0004563	4994.	109453152.	11.6459848	0.0005313	-0.001111	2.0456287	-28.174644 C
0.0004688	5092.	108620198.	11.5922775	0.0005434	-0.001144	2.0847234	-29.019560 C
0.0004813	5189.	107828253.	11.5416046	0.0005554	-0.001177	2.1235427	-29.864135 C
0.0004938	5287.	107074193.	11.4937367	0.0005675	-0.001210	2.1620859	-30.708368 C
0.0005063	5384.	106355203.	11.4484672	0.0005796	-0.001243	2.2003521	-31.552256 C
0.0005188	5482.	105668738.	11.4056093	0.0005917	-0.001276	2.2383405	-32.395799 C
0.0005313	5579.	105012492.	11.3649937	0.0006038	-0.001309	2.2760505	-33.238994 C
0.0005438	5676.	104383142.	11.3259458	0.0006158	-0.001342	2.3133923	-34.082662 C
0.0005563	5773.	103777941.	11.2879549	0.0006279	-0.001375	2.3502973	-34.927455 C
0.0005688	5869.	103197423.	11.2518498	0.0006399	-0.001408	2.3869260	-35.771893 C
0.0005813	5966.	102639987.	11.2175099	0.0006520	-0.001440	2.4232777	-36.615972 C
0.0005938	6062.	102104165.	11.1848248	0.0006641	-0.001473	2.4593516	-37.459692 C
0.0006063	6159.	101588614.	11.1536932	0.0006762	-0.001506	2.4951468	-38.303051 C

0.00006188	6255.	101092096.	11.1240218	0.0006883	-0.001539	2.5306626	-39.146046	C
0.00006313	6351.	100613471.	11.0957251	0.0007004	-0.001572	2.5658981	-39.988676	C
0.00006438	6447.	100151691.	11.0687239	0.0007125	-0.001605	2.6008525	-40.830938	C
0.00006563	6543.	99705783.	11.0429452	0.0007247	-0.001638	2.6355251	-41.672832	C
0.00006688	6639.	99274851.	11.0183214	0.0007369	-0.001671	2.6699149	-42.514355	C
0.00006813	6735.	98858062.	10.9947900	0.0007490	-0.001703	2.7040211	-43.355505	C
0.00006938	6830.	98454148.	10.9719949	0.0007612	-0.001736	2.7377847	-44.196880	C
0.00007063	6926.	98062015.	10.9496440	0.0007733	-0.001769	2.7711565	-45.038998	C
0.00007188	7021.	97681947.	10.9282556	0.0007855	-0.001802	2.8042460	-45.880730	C
0.00007313	7116.	97313321.	10.9077813	0.0007976	-0.001835	2.8370524	-46.722074	C
0.00007438	7211.	96955549.	10.8881761	0.0008098	-0.001868	2.8695747	-47.563027	C
0.00007938	7590.	95622617.	10.8176440	0.0008587	-0.001999	2.9968061	-50.922898	C
0.00008438	7967.	94425461.	10.7589952	0.0009077	-0.002130	3.1194212	-54.276348	C
0.00008938	8342.	93340862.	10.7077445	0.0009570	-0.002260	3.2373604	-57.623227	C
0.00009438	8712.	92313774.	10.6639137	0.0010064	-0.002391	3.3502889	-60.000000	CY
0.00009938	9021.	90776994.	10.6051033	0.0010539	-0.002524	3.4537526	-60.000000	CY
0.0001044	9289.	88994083.	10.5374379	0.0010998	-0.002658	3.5492142	-60.000000	CY
0.0001094	9455.	86443401.	10.4398034	0.0011419	-0.002796	3.6323162	-60.000000	CY
0.0001144	9611.	84033467.	10.3489501	0.0011837	-0.002934	3.7112405	-60.000000	CY
0.0001194	9767.	81817630.	10.2670248	0.0012256	-0.003072	3.7866838	-60.000000	CY
0.0001244	9921.	79765756.	10.1896003	0.0012673	-0.003210	3.8578947	-60.000000	CY
0.0001294	10074.	77864731.	10.1190974	0.0013092	-0.003348	3.9255565	-60.000000	CY
0.0001344	10220.	76057550.	10.0527558	0.0013508	-0.003487	3.9892313	-60.000000	CY
0.0001394	10319.	74039592.	9.9727291	0.0013899	-0.003628	4.0454989	-60.000000	CY
0.0001444	10385.	71931473.	9.8849138	0.0014271	-0.003770	4.0958933	-60.000000	CY
0.0001494	10447.	69935976.	9.7988584	0.0014637	-0.003914	4.1425476	-60.000000	CY
0.0001544	10508.	68066491.	9.7191977	0.0015004	-0.004057	4.1864916	-60.000000	CY
0.0001594	10568.	66311104.	9.6453405	0.0015372	-0.004200	4.2276964	-60.000000	CY
0.0001644	10628.	64659346.	9.5767680	0.0015742	-0.004343	4.2661327	-60.000000	CY
0.0001694	10687.	63098880.	9.5113296	0.0016110	-0.004487	4.3014999	-60.000000	CY
0.0001744	10745.	61620988.	9.4482411	0.0016475	-0.004630	4.3337577	-60.000000	CY
0.0001794	10802.	60222669.	9.3894156	0.0016842	-0.004773	4.3632621	-60.000000	CY
0.0001844	10859.	58897378.	9.3345176	0.0017211	-0.004916	4.3899820	-60.000000	CY
0.0001894	10915.	57639293.	9.2832475	0.0017580	-0.005059	4.4138860	-60.000000	CY
0.0001944	10971.	56443176.	9.2353370	0.0017951	-0.005202	4.4349416	-60.000000	CY
0.0001994	11026.	55304320.	9.1905451	0.0018324	-0.005345	4.4531157	-60.000000	CY
0.0002044	11080.	54215597.	9.1464970	0.0018693	-0.005488	4.4682078	-60.000000	CY
0.0002094	11134.	53175406.	9.1045738	0.0019063	-0.005631	4.4803790	-60.000000	CY
0.0002144	11186.	52181223.	9.0653091	0.0019434	-0.005774	4.4896598	-60.000000	CY
0.0002194	11237.	51223426.	9.0277340	0.0019805	-0.005917	4.4959904	-60.000000	CY
0.0002244	11284.	50292453.	8.9908364	0.0020173	-0.006060	4.4993653	-60.000000	CY
0.0002294	11320.	49350090.	8.9497898	0.0020529	-0.006205	4.4959192	-60.000000	CY
0.0002344	11348.	48418447.	8.9074933	0.0020877	-0.006350	4.4982405	-60.000000	CY
0.0002394	11368.	47489602.	8.8627649	0.0021215	-0.006496	4.4999201	-60.000000	CY
0.0002444	11384.	46583313.	8.8185079	0.0021550	-0.006642	4.4951610	-60.000000	CY
0.0002494	11397.	45703945.	8.7725869	0.0021877	-0.006790	4.4984219	-60.000000	CY
0.0002544	11411.	44858213.	8.7289043	0.0022204	-0.006937	4.4999045	-60.000000	CY
0.0002594	11424.	44043539.	8.6875153	0.0022533	-0.007084	4.4938137	-60.000000	CY
0.0002644	11436.	43258576.	8.6481679	0.0022864	-0.007231	4.4974693	-60.000000	CY
0.0002694	11449.	42501968.	8.6106630	0.0023195	-0.007378	4.4995226	-60.000000	CY
0.0002744	11461.	41771925.	8.5749747	0.0023528	-0.007525	4.4976164	-60.000000	CY
0.0003044	11527.	37870641.	8.3875483	0.0025530	-0.008405	4.4971449	-60.000000	CY
0.0003344	11583.	34639709.	8.2363236	0.0027540	-0.009283	4.4990474	-60.000000	CY
0.0003644	11633.	31925082.	8.1193209	0.0029585	-0.010159	4.4992384	-60.000000	CY
0.0003944	11676.	29607011.	8.0194186	0.0031627	-0.011035	4.4977415	-60.000000	CYT
0.0004244	11716.	27607565.	7.9381103	0.0033687	-0.011909	4.4921955	60.000000	CYT
0.0004544	11751.	25861685.	7.8755221	0.0035784	-0.012779	4.4910770	60.000000	CYT
0.0004844	11781.	24321049.	7.8295099	0.0037924	-0.013645	4.4982715	60.000000	CYT
0.0005144	11781.	22902568.	7.8320956	0.0040286	-0.014489	4.4884018	60.000000	CYT

Axial Thrust Force = 220.000 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
6.25000E-07	245.7850491	393256078.	91.0217124	0.00005689	0.00003439	0.2517799	1.5943060	
0.00000125	491.5675729	393254058.	54.5288065	0.00006816	0.00002316	0.3004176	1.8657442	

0.00000188	737.3398545	393247922.	42.3724802	0.00007945	0.00001195	0.3488399	2.1376161
0.00000250	983.0967739	393238710.	36.3002990	0.00009075	7.50747E-07	0.3970456	2.4099217
0.00000313	1229.	393212153.	32.6615953	0.0001021	-0.00001043	0.4450312	2.6826446
0.00000375	1474.	393102373.	30.2386470	0.0001134	-0.00002161	0.4927800	2.9556778
0.00000438	1719.	392890321.	28.5095831	0.0001247	-0.00003277	0.5402758	3.2289158
0.00000500	1963.	392589593.	27.2137500	0.0001361	-0.00004393	0.5875087	3.5022937
0.00000563	2206.	392218052.	26.2064927	0.0001474	-0.00005509	0.6344725	3.7757716
0.00000625	2449.	391791126.	25.4011005	0.0001588	-0.00006624	0.6811635	4.0493245
0.00000688	2690.	391320891.	24.7424390	0.0001701	-0.00007740	0.7275792	4.3229363
0.00000750	2931.	390816529.	24.1937772	0.0001815	-0.00008855	0.7737179	4.5965966
0.00000813	3171.	390284891.	23.7296978	0.0001928	-0.00009970	0.8195784	4.8702976
0.00000875	3171.	362407399.	21.0078602	0.0001838	-0.000131	0.7824746	4.5542695 C
0.00000938	3171.	338246905.	20.4526180	0.0001917	-0.000146	0.8143469	4.7286180 C
0.00001000	3171.	317106474.	19.9537574	0.0001995	-0.000160	0.8455539	4.8991897 C
0.00001063	3171.	298453152.	19.5008610	0.0002072	-0.000175	0.8760825	5.0658403 C
0.00001125	3171.	281872421.	19.0887607	0.0002147	-0.000190	0.9060522	5.2293832 C
0.00001188	3171.	267037031.	18.7116333	0.0002222	-0.000205	0.9354979	5.3900311 C
0.00001250	3171.	253685179.	18.3649602	0.0002296	-0.000220	0.9644606	5.5480481 C
0.00001313	3171.	241604932.	18.0452631	0.0002368	-0.000236	0.9929904	5.7037658 C
0.00001375	3171.	230622890.	17.7496972	0.0002441	-0.000251	1.0211364	-6.057133 C
0.00001438	3171.	220595808.	17.4754976	0.0002512	-0.000266	1.0489235	-6.446764 C
0.00001500	3171.	211404316.	17.2187641	0.0002583	-0.000282	1.0762822	-6.838738 C
0.00001563	3171.	202948143.	16.9795352	0.0002653	-0.000297	1.1033469	-7.232086 C
0.00001625	3171.	195142445.	16.7561999	0.0002723	-0.000313	1.1301455	-7.626616 C
0.00001688	3171.	187914947.	16.5447402	0.0002792	-0.000328	1.1565325	-8.023430 C
0.00001750	3206.	183228262.	16.3473740	0.0002861	-0.000344	1.1827475	-8.420758 C
0.00001813	3263.	180039233.	16.1597822	0.0002929	-0.000360	1.2085917	-8.820102 C
0.00001875	3320.	177049938.	15.9839402	0.0002997	-0.000375	1.2342805	-9.219857 C
0.00001938	3375.	174211710.	15.8160934	0.0003064	-0.000391	1.2596210	-9.621495 C
0.00002000	3431.	171548561.	15.6588822	0.0003132	-0.000407	1.2848738	-10.023048 C
0.00002063	3486.	169002505.	15.5073022	0.0003198	-0.000423	1.3097234	-10.426932 C
0.00002125	3540.	166604406.	15.3647987	0.0003265	-0.000438	1.3344894	-10.830718 C
0.00002188	3595.	164322516.	15.2286167	0.0003331	-0.000454	1.3590092	-11.235659 C
0.00002250	3648.	162148933.	15.0984058	0.0003397	-0.000470	1.3832993	-11.641640 C
0.00002313	3702.	160091231.	14.9753765	0.0003463	-0.000486	1.4075075	-12.047526 C
0.00002375	3755.	158119224.	14.8565898	0.0003528	-0.000502	1.4314244	-12.459494 C
0.00002438	3808.	156238154.	14.7430456	0.0003594	-0.000518	1.4551718	-12.862972 C
0.00002563	3914.	152735585.	14.5315364	0.0003724	-0.000550	1.5022923	-13.679789 C
0.00002688	4018.	149517512.	14.3357334	0.0003853	-0.000582	1.5486568	-14.499700 C
0.00002813	4122.	146566315.	14.1558586	0.0003981	-0.000614	1.5945098	-15.320815 C
0.00002938	4225.	143837479.	13.9884433	0.0004109	-0.000647	1.6397037	-16.144357 C
0.00003063	4328.	141321685.	13.8343063	0.0004237	-0.000679	1.6845010	-16.968245 C
0.00003188	4430.	138973968.	13.6888781	0.0004363	-0.000711	1.7285644	-17.795256 C
0.00003313	4531.	136799453.	13.5547943	0.0004490	-0.000743	1.7723230	-18.621913 C
0.00003438	4633.	134765731.	13.4285447	0.0004616	-0.000776	1.8155045	-19.450482 C
0.00003563	4733.	132861168.	13.3098227	0.0004742	-0.000808	1.8581778	-20.280427 C
0.00003688	4834.	131082249.	13.1994780	0.0004867	-0.000841	1.9005506	-21.110021 C
0.00003813	4934.	129408892.	13.0952190	0.0004993	-0.000873	1.9424323	-21.940886 C
0.00003938	5033.	127828667.	12.9959999	0.0005117	-0.000906	1.9837645	-22.773555 C
0.00004063	5133.	126342613.	12.9031836	0.0005242	-0.000938	2.0248003	-23.605874 C
0.00004188	5232.	124942284.	12.8161978	0.0005367	-0.000971	2.0655387	-24.437842 C
0.00004313	5331.	123612905.	12.7329417	0.0005491	-0.001003	2.1057533	-25.271453 C
0.00004438	5429.	122350208.	12.6534527	0.0005615	-0.001036	2.1454998	-26.106250 C
0.00004563	5528.	121154004.	12.5785851	0.0005739	-0.001069	2.1849527	-26.940697 C
0.00004688	5626.	120018975.	12.5079703	0.0005863	-0.001101	2.2241111	-27.774790 C
0.00004813	5724.	118940342.	12.4412780	0.0005987	-0.001134	2.2629744	-28.608529 C
0.00004938	5822.	117907890.	12.3766912	0.0006111	-0.001166	2.3013056	-29.444088 C
0.00005063	5919.	116921175.	12.3148022	0.0006234	-0.001199	2.3392280	-30.280368 C
0.00005188	6016.	115979684.	12.2561335	0.0006358	-0.001232	2.3768586	-31.116292 C
0.00005313	6114.	115080215.	12.2004588	0.0006481	-0.001264	2.4141966	-31.951856 C
0.00005438	6211.	114219860.	12.1475725	0.0006605	-0.001297	2.4512411	-32.787959 C
0.00005563	6308.	113395971.	12.0972879	0.0006729	-0.001330	2.4879912	-33.621900 C
0.00005688	6404.	112604845.	12.0490348	0.0006853	-0.001362	2.5243785	-34.457036 C
0.00005813	6501.	111841322.	12.0017282	0.0006976	-0.001395	2.5602399	-35.294074 C
0.00005938	6597.	111107925.	11.9566271	0.0007099	-0.001428	2.5958100	-36.130745 C
0.00006063	6693.	110402782.	11.9135961	0.0007223	-0.001460	2.6310878	-36.967046 C
0.00006188	6789.	109724171.	11.8725108	0.0007346	-0.001493	2.6660727	-37.802976 C
0.00006313	6885.	109070507.	11.8332566	0.0007470	-0.001526	2.7007635	-38.638532 C
0.00006438	6981.	108440327.	11.7957277	0.0007593	-0.001558	2.7351596	-39.473713 C

0.00006563	7076.	107832282.	11.7598267	0.0007717	-0.001591	2.7692600	-40.308517	C
0.00006688	7172.	107245120.	11.7254632	0.0007841	-0.001623	2.8030639	-41.142942	C
0.00006813	7267.	106676938.	11.6922586	0.0007965	-0.001656	2.8365153	-41.977569	C
0.00006938	7362.	106125017.	11.6594732	0.0008089	-0.001689	2.8694877	-42.813760	C
0.00007063	7457.	105590911.	11.6280379	0.0008212	-0.001721	2.9021659	-43.649562	C
0.00007188	7552.	105073682.	11.5978831	0.0008336	-0.001754	2.9345490	-44.484975	C
0.00007313	7647.	104572457.	11.5689443	0.0008460	-0.001787	2.9666362	-45.319995	C
0.00007438	7741.	104086420.	11.5411612	0.0008584	-0.001819	2.9984264	-46.154620	C
0.00007938	8118.	102279650.	11.4405113	0.0009081	-0.001949	3.1225994	-49.489135	C
0.00008438	8493.	100663019.	11.3544408	0.0009580	-0.002079	3.2419463	-52.817165	C
0.00008938	8866.	99199921.	11.2780940	0.0010080	-0.002210	3.3559046	-56.144952	C
0.00009438	9236.	97869066.	11.2118334	0.0010581	-0.002339	3.4648603	-59.467276	C
0.00009938	9573.	96335120.	11.1436028	0.0011074	-0.002470	3.5666073	-60.000000	CY
0.0001044	9865.	94512602.	11.0691393	0.0011553	-0.002602	3.6605041	-60.000000	CY
0.0001094	10076.	92122141.	10.9751589	0.0012004	-0.002737	3.7441253	-60.000000	CY
0.0001144	10232.	89456033.	10.8680637	0.0012430	-0.002874	3.8190979	-60.000000	CY
0.0001194	10386.	87004800.	10.7713358	0.0012858	-0.003012	3.8904316	-60.000000	CY
0.0001244	10540.	84742377.	10.6837482	0.0013288	-0.003149	3.9580839	-60.000000	CY
0.0001294	10692.	82645104.	10.6035076	0.0013718	-0.003286	4.0218674	-60.000000	CY
0.0001344	10843.	80690149.	10.5277333	0.0014147	-0.003423	4.0813813	-60.000000	CY
0.0001394	10979.	78776443.	10.4534105	0.0014569	-0.003561	4.1362310	-60.000000	CY
0.0001444	11067.	76653435.	10.3656260	0.0014965	-0.003701	4.1840362	-60.000000	CY
0.0001494	11131.	74515265.	10.2754464	0.0015349	-0.003843	4.2271081	-60.000000	CY
0.0001544	11192.	72498567.	10.1879006	0.0015728	-0.003985	4.2665181	-60.000000	CY
0.0001594	11252.	70602767.	10.1059032	0.0016106	-0.004127	4.3028645	-60.000000	CY
0.0001644	11312.	68818731.	10.0297574	0.0016486	-0.004269	4.3362594	-60.000000	CY
0.0001694	11371.	67136498.	9.9589571	0.0016868	-0.004411	4.3666688	-60.000000	CY
0.0001744	11430.	65546401.	9.8926191	0.0017250	-0.004552	4.3940057	-60.000000	CY
0.0001794	11486.	64034812.	9.8273308	0.0017628	-0.004695	4.4179212	-60.000000	CY
0.0001844	11542.	62602042.	9.7663881	0.0018007	-0.004837	4.4388612	-60.000000	CY
0.0001894	11598.	61241772.	9.7094601	0.0018387	-0.004979	4.4567895	-60.000000	CY
0.0001944	11652.	59948354.	9.6562499	0.0018769	-0.005121	4.4716692	-60.000000	CY
0.0001994	11707.	58716699.	9.6064914	0.0019153	-0.005262	4.4834625	-60.000000	CY
0.0002044	11760.	57542217.	9.5599447	0.0019538	-0.005404	4.4921304	-60.000000	CY
0.0002094	11813.	56418428.	9.5147635	0.0019922	-0.005545	4.4975977	-60.000000	CY
0.0002144	11864.	55342294.	9.4711582	0.0020304	-0.005687	4.4999109	-60.000000	CY
0.0002194	11915.	54311781.	9.4304123	0.0020688	-0.005829	4.4971490	-60.000000	CY
0.0002244	11965.	53324325.	9.3922524	0.0021074	-0.005970	4.4997647	-60.000000	CY
0.0002294	12011.	52363782.	9.3550016	0.0021458	-0.006112	4.4957719	-60.000000	CY
0.0002344	12053.	51428172.	9.3183648	0.0021840	-0.006254	4.4991412	-60.000000	CY
0.0002394	12085.	50485400.	9.2780238	0.0022209	-0.006397	4.4982004	-60.000000	CY
0.0002444	12109.	49551854.	9.2363862	0.0022571	-0.006540	4.4970226	-60.000000	CY
0.0002494	12128.	48631727.	9.1937028	0.0022927	-0.006685	4.4994447	-60.000000	CY
0.0002544	12141.	47730003.	9.1488821	0.0023272	-0.006830	4.4977334	-60.000000	CY
0.0002594	12154.	46857563.	9.1049908	0.0023616	-0.006976	4.4960503	-60.000000	CY
0.0002644	12166.	46017318.	9.0631530	0.0023961	-0.007121	4.4987825	-60.000000	CY
0.0002694	12178.	45207462.	9.0232594	0.0024306	-0.007267	4.4999534	-60.000000	CY
0.0002744	12189.	44425583.	8.9854472	0.0024654	-0.007412	4.4930594	-60.000000	CY
0.0003044	12253.	40254772.	8.7894206	0.0026754	-0.008282	4.4984167	-60.000000	CY
0.0003344	12304.	36798500.	8.6279584	0.0028850	-0.009153	4.4996139	-60.000000	CY
0.0003644	12351.	33896196.	8.5019503	0.0030979	-0.010020	4.4996445	-60.000000	CYT
0.0003944	12391.	31418579.	8.3968580	0.0033115	-0.010886	4.4983814	60.000000	CYT
0.0004244	12424.	29276683.	8.3113485	0.0035271	-0.011750	4.4932125	60.000000	CYT
0.0004544	12450.	27401172.	8.2491449	0.0037482	-0.012609	4.4887549	60.000000	CYT
0.0004844	12450.	25704067.	8.2412038	0.0039918	-0.013446	4.4997742	60.000000	CYT

Axial Thrust Force = 225.000 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
6.25000E-07	245.6653309	393064529.	92.6993989	0.00005794	0.00003544	0.2563617	1.6247141	
0.00000125	491.3281939	393062555.	55.3676588	0.00006921	0.00002421	0.3049731	1.8961526	
0.00000188	736.9808095	393056432.	42.9317249	0.00008050	0.00001300	0.3533691	2.1680250	
0.00000250	982.6180553	393047222.	36.7197429	0.00009180	0.00000180	0.4015485	2.4403314	
0.00000313	1228.	393025059.	32.9972169	0.0001031	-0.00000938	0.4495086	2.7130603	
0.00000375	1473.	392927641.	30.5185224	0.0001144	-0.00002056	0.4972340	2.9861143	

0.00000438	1718.	392729695.	28.7497307	0.0001258	-0.00003172	0.5447080	3.2593845
0.00000500	1962.	392442416.	27.4241600	0.0001371	-0.00004288	0.5919203	3.5328032
0.00000563	2205.	392082904.	26.3938106	0.0001485	-0.00005403	0.6388643	3.8063278
0.00000625	2448.	391666505.	25.5699694	0.0001598	-0.00006519	0.6855360	4.0799319
0.00000688	2690.	391205415.	24.8962297	0.0001712	-0.00007634	0.7319327	4.3535983
0.00000750	2930.	390708998.	24.3350144	0.0001825	-0.00008749	0.7780528	4.6273156
0.00000813	3170.	390184326.	23.8603224	0.0001939	-0.00009863	0.8238949	4.9010760
0.00000875	3170.	362314017.	21.1981732	0.0001855	-0.000130	0.7892801	4.6025615 C
0.00000938	3170.	338159749.	20.6363677	0.0001935	-0.000144	0.8213566	4.7785750 C
0.00001000	3170.	317024764.	20.1301036	0.0002013	-0.000159	0.8526992	4.9503301 C
0.00001063	3170.	298376249.	19.6723020	0.0002090	-0.000173	0.8834322	5.1186656 C
0.00001125	3170.	281799791.	19.2553292	0.0002166	-0.000188	0.9135816	5.2837262 C
0.00001188	3170.	266968223.	18.8730051	0.0002241	-0.000203	0.9431659	5.4456037 C
0.00001250	3170.	253619812.	18.5217476	0.0002315	-0.000218	0.9722709	5.6048835 C
0.00001313	3170.	241542678.	18.1975339	0.0002388	-0.000234	1.0009226	5.7617239 C
0.00001375	3170.	230563465.	17.8970117	0.0002461	-0.000249	1.0291435	-5.998392 C
0.00001438	3170.	220538967.	17.6181157	0.0002533	-0.000264	1.0569951	-6.387310 C
0.00001500	3170.	211349843.	17.3587716	0.0002604	-0.000280	1.0845177	-6.777834 C
0.00001563	3170.	202895849.	17.1169394	0.0002675	-0.000295	1.1117325	-7.169824 C
0.00001625	3170.	195092163.	16.8887793	0.0002744	-0.000311	1.1385270	-7.564138 C
0.00001688	3184.	188661003.	16.6757432	0.0002814	-0.000326	1.1650989	-7.959321 C
0.00001750	3241.	185225329.	16.4745871	0.0002883	-0.000342	1.1913402	-8.356197 C
0.00001813	3299.	181994855.	16.2850689	0.0002952	-0.000357	1.2173222	-8.754248 C
0.00001875	3355.	178949495.	16.1060510	0.0003020	-0.000373	1.2430487	-9.153460 C
0.00001938	3411.	176073821.	15.9365704	0.0003088	-0.000389	1.2685253	-9.553802 C
0.00002000	3467.	173351392.	15.7756761	0.0003155	-0.000404	1.2937495	-9.955308 C
0.00002063	3522.	170781815.	15.6237228	0.0003222	-0.000420	1.3188117	-10.357298 C
0.00002125	3577.	168330100.	15.4778477	0.0003289	-0.000436	1.3435466	-10.761051 C
0.00002188	3632.	166016713.	15.3404642	0.0003356	-0.000452	1.3681977	-11.164705 C
0.00002250	3686.	163805683.	15.2083211	0.0003422	-0.000468	1.3925510	-11.569920 C
0.00002313	3739.	161702052.	15.0823732	0.0003488	-0.000484	1.4167277	-11.975771 C
0.00002375	3793.	159707566.	14.9631939	0.0003554	-0.000500	1.4408223	-12.381525 C
0.00002438	3846.	157790569.	14.8476315	0.0003619	-0.000516	1.4645976	-12.789043 C
0.00002563	3952.	154221727.	14.6325377	0.0003750	-0.000548	1.5117873	-13.604733 C
0.00002688	4057.	150944873.	14.4336492	0.0003879	-0.000580	1.5582357	-14.423387 C
0.00002813	4161.	147942629.	14.2514493	0.0004008	-0.000612	1.6042196	-15.242849 C
0.00002938	4264.	145160412.	14.0810029	0.0004136	-0.000644	1.6494467	-16.065508 C
0.00003063	4367.	142594283.	13.9239818	0.0004264	-0.000676	1.6942645	-16.888601 C
0.00003188	4469.	140208150.	13.7771006	0.0004391	-0.000708	1.7384830	-17.713705 C
0.00003313	4571.	137985585.	13.6397887	0.0004518	-0.000741	1.7821746	-18.540266 C
0.00003438	4672.	135920809.	13.5128203	0.0004645	-0.000773	1.8255604	-19.366470 C
0.00003563	4773.	133976780.	13.3916503	0.0004771	-0.000805	1.8682159	-20.195889 C
0.00003688	4873.	132158731.	13.2786313	0.0004896	-0.000838	1.9105204	-21.025376 C
0.00003813	4974.	130456512.	13.1733428	0.0005022	-0.000870	1.9525232	-21.854511 C
0.00003938	5073.	128847557.	13.0728407	0.0005147	-0.000903	1.9939318	-22.685812 C
0.00004063	5173.	127328961.	12.9777591	0.0005272	-0.000935	2.0348976	-23.518015 C
0.00004188	5272.	125898028.	12.8886439	0.0005397	-0.000968	2.0755659	-24.349865 C
0.00004313	5371.	124547121.	12.8049773	0.0005522	-0.001000	2.1159359	-25.181363 C
0.00004438	5470.	123260889.	12.7244109	0.0005646	-0.001033	2.1557345	-26.014936 C
0.00004563	5568.	122038669.	12.6476968	0.0005771	-0.001065	2.1951154	-26.849254 C
0.00004688	5666.	120879006.	12.5753345	0.0005895	-0.001098	2.2342018	-27.683217 C
0.00004813	5764.	119777014.	12.5069862	0.0006019	-0.001131	2.2729927	-28.516825 C
0.00004938	5862.	118728303.	12.4423479	0.0006143	-0.001163	2.3114873	-29.350075 C
0.00005063	5960.	117723438.	12.3797285	0.0006267	-0.001196	2.3494617	-30.185048 C
0.00005188	6057.	116761661.	12.3195910	0.0006391	-0.001228	2.3870180	-31.020828 C
0.00005313	6154.	115842857.	12.2625172	0.0006514	-0.001261	2.4242814	-31.856247 C
0.00005438	6251.	114964051.	12.2082968	0.0006638	-0.001294	2.4612510	-32.691304 C
0.00005563	6348.	114122537.	12.1567386	0.0006762	-0.001326	2.4979261	-33.525998 C
0.00005688	6445.	113315845.	12.1076681	0.0006886	-0.001359	2.5343057	-34.360327 C
0.00005813	6541.	112541720.	12.0609256	0.0007010	-0.001391	2.5703890	-35.194290 C
0.00005938	6638.	111792830.	12.0147067	0.0007134	-0.001424	2.6058877	-36.030739 C
0.00006063	6734.	111072721.	11.9705709	0.0007257	-0.001457	2.6410879	-36.866877 C
0.00006188	6830.	110379744.	11.9284261	0.0007381	-0.001489	2.6759948	-37.702643 C
0.00006313	6926.	109712279.	11.8881549	0.0007504	-0.001522	2.7106074	-38.538034 C
0.00006438	7021.	109068831.	11.8496493	0.0007628	-0.001555	2.7449249	-39.373048 C
0.00006563	7117.	108448018.	11.8128092	0.0007752	-0.001587	2.7789465	-40.207685 C
0.00006688	7212.	107848562.	11.7755423	0.0007876	-0.001620	2.8126711	-41.041941 C
0.00006813	7308.	107269280.	11.7437630	0.0008000	-0.001652	2.8460980	-41.875816 C
0.00006938	7403.	106709071.	11.7113918	0.0008125	-0.001685	2.8792262	-42.709306 C

0.00007063	7498.	106164976.	11.6795730	0.0008249	-0.001718	2.9119073	-43.544012	C
0.00007188	7593.	105637011.	11.6486121	0.0008372	-0.001750	2.9442082	-44.379236	C
0.00007313	7687.	105125413.	11.6188954	0.0008496	-0.001783	2.9762127	-45.214067	C
0.00007438	7782.	104629348.	11.5903611	0.0008620	-0.001815	3.0079200	-46.048502	C
0.00007938	8159.	102785586.	11.4869492	0.0009118	-0.001946	3.1317578	-49.382241	C
0.00008438	8533.	101136290.	11.3984532	0.0009617	-0.002076	3.2507635	-52.709472	C
0.00008938	8906.	99647109.	11.3216973	0.0010119	-0.002206	3.3647270	-56.031938	C
0.00009438	9276.	98289999.	11.2534626	0.0010620	-0.002335	3.4733193	-59.353342	C
0.00009938	9615.	96756437.	11.1842940	0.0011114	-0.002466	3.5748734	-60.000000	CY
0.0001044	9907.	94916319.	11.1083417	0.0011594	-0.002598	3.6684355	-60.000000	CY
0.0001094	10123.	92551590.	11.0148009	0.0012047	-0.002733	3.7520980	-60.000000	CY
0.0001144	10279.	89869388.	10.9077053	0.0012476	-0.002870	3.8270086	-60.000000	CY
0.0001194	10433.	87399431.	10.8095353	0.0012904	-0.003007	3.8979581	-60.000000	CY
0.0001244	10587.	85119766.	10.7206271	0.0013334	-0.003144	3.9652206	-60.000000	CY
0.0001294	10739.	83008182.	10.6399304	0.0013765	-0.003281	4.0287521	-60.000000	CY
0.0001344	10890.	81040363.	10.5639553	0.0014195	-0.003418	4.0880328	-60.000000	CY
0.0001394	11029.	79131248.	10.4896199	0.0014620	-0.003556	4.1426570	-60.000000	CY
0.0001444	11118.	77007959.	10.4015385	0.0015017	-0.003696	4.1901863	-60.000000	CY
0.0001494	11182.	74860667.	10.3105355	0.0015401	-0.003837	4.2328835	-60.000000	CY
0.0001544	11244.	72836615.	10.2239528	0.0015783	-0.003979	4.2721861	-60.000000	CY
0.0001594	11304.	70929318.	10.1409894	0.0016162	-0.004121	4.3080942	-60.000000	CY
0.0001644	11364.	69134486.	10.0639406	0.0016543	-0.004263	4.3410455	-60.000000	CY
0.0001694	11423.	67442076.	9.9922951	0.0016924	-0.004405	4.3710053	-60.000000	CY
0.0001744	11481.	65843220.	9.9256002	0.0017308	-0.004547	4.3979390	-60.000000	CY
0.0001794	11538.	64325591.	9.8611388	0.0017688	-0.004689	4.4215642	-60.000000	CY
0.0001844	11594.	62884118.	9.7994617	0.0018068	-0.004831	4.4420168	-60.000000	CY
0.0001894	11650.	61515594.	9.7418427	0.0018449	-0.004973	4.4594505	-60.000000	CY
0.0001944	11704.	60214334.	9.6879823	0.0018831	-0.005114	4.4738280	-60.000000	CY
0.0001994	11758.	58975217.	9.6376111	0.0019215	-0.005256	4.4851112	-60.000000	CY
0.0002044	11812.	57793623.	9.5904869	0.0019601	-0.005397	4.4932609	-60.000000	CY
0.0002094	11864.	56665370.	9.5463910	0.0019988	-0.005539	4.4982367	-60.000000	CY
0.0002144	11916.	55583310.	9.5026897	0.0020371	-0.005680	4.4999948	-60.000000	CY
0.0002194	11966.	54546403.	9.4614586	0.0020756	-0.005822	4.4978681	-60.000000	CY
0.0002244	12016.	53552974.	9.4228140	0.0021142	-0.005963	4.4999349	-60.000000	CY
0.0002294	12063.	52588839.	9.3854429	0.0021528	-0.006105	4.4966799	-60.000000	CY
0.0002344	12107.	51654842.	9.3492988	0.0021912	-0.006246	4.4995327	-60.000000	CY
0.0002394	12138.	50706450.	9.3085511	0.0022282	-0.006389	4.4954590	-60.000000	CY
0.0002444	12164.	49774894.	9.2674345	0.0022647	-0.006533	4.4978358	-60.000000	CY
0.0002494	12182.	48849807.	9.2242699	0.0023003	-0.006677	4.4997603	-60.000000	CY
0.0002544	12197.	47948653.	9.1818468	0.0023356	-0.006822	4.4945877	-60.000000	CY
0.0002594	12209.	47071803.	9.1376138	0.0023701	-0.006967	4.4970975	-60.000000	CY
0.0002644	12221.	46227114.	9.0952981	0.0024046	-0.007113	4.4993301	-60.000000	CY
0.0002694	12233.	45412887.	9.0549747	0.0024392	-0.007258	4.4992107	-60.000000	CY
0.0002744	12244.	44626663.	9.0167934	0.0024740	-0.007404	4.4944957	-60.000000	CY
0.0003044	12308.	40436531.	8.8215644	0.0026851	-0.008272	4.4991270	-60.000000	CY
0.0003344	12359.	36962367.	8.6578520	0.0028950	-0.009143	4.4999181	-60.000000	CY
0.0003644	12405.	34045157.	8.5301623	0.0031082	-0.010009	4.4999367	-60.000000	CYT
0.0003944	12445.	31556313.	8.4270754	0.0033234	-0.010874	4.4992384	60.000000	CYT
0.0004244	12478.	29402366.	8.3410977	0.0035398	-0.011738	4.4952390	60.000000	CYT
0.0004544	12503.	27517529.	8.2778587	0.0037613	-0.012596	4.4838605	60.000000	CYT
0.0004844	12503.	25813217.	8.2699833	0.0040058	-0.013432	4.4999999	60.000000	CYT

Axial Thrust Force = 245.000 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
6.25000E-07	245.1858616	392297379.	99.4185074	0.00006214	0.00003964	0.2746868	1.7464979	
0.00000125	490.3694846	392295588.	58.7272489	0.00007341	0.00002841	0.3231931	2.0179378	
0.00000188	735.5428398	392289515.	45.1714915	0.00008470	0.00001720	0.3714839	2.2898124	
0.00000250	980.7007946	392280318.	38.3996097	0.00009600	0.00000600	0.4195581	2.5621217	
0.00000313	1226.	392266916.	34.3412626	0.0001073	-0.00000518	0.4674144	2.8348644	
0.00000375	1471.	392210390.	31.6391734	0.0001186	-0.00001635	0.5150436	3.1079851	
0.00000438	1715.	392065121.	29.7111962	0.0001300	-0.00002751	0.5624283	3.3813705	
0.00000500	1959.	391830249.	28.2664844	0.0001413	-0.00003867	0.6095561	3.6549401	
0.00000563	2202.	391518778.	27.1436320	0.0001527	-0.00004982	0.6564192	3.9286424	
0.00000625	2445.	391145042.	26.2458966	0.0001640	-0.00006096	0.7030125	4.2024437	

0.00000688	2686.	390721397.	25.5117720	0.0001754	-0.00007211	0.7493325	4.4763221
0.00000750	2927.	390257742.	24.9002876	0.0001868	-0.00008325	0.7953770	4.7502626
0.00000813	3167.	389761822.	24.3830989	0.0001981	-0.00009439	0.8411445	5.0242552
0.00000875	3167.	361921692.	21.9438453	0.0001920	-0.000123	0.8158850	4.7917758 C
0.00000938	3167.	337793579.	21.3539760	0.0002002	-0.000137	0.8486684	4.9736747 C
0.00001000	3167.	316681480.	20.8224521	0.0002082	-0.000152	0.8806846	5.1511112 C
0.00001063	3167.	298053158.	20.3419347	0.0002161	-0.000166	0.9120679	5.3249962 C
0.00001125	3167.	281494649.	19.9028197	0.0002239	-0.000181	0.9427751	5.4949700 C
0.00001188	3167.	266679141.	19.5010728	0.0002316	-0.000196	0.9729316	5.6618945 C
0.00001250	3167.	253345184.	19.1317068	0.0002391	-0.000211	1.0025734	5.8259938 C
0.00001313	3167.	241281128.	18.7907125	0.0002466	-0.000226	1.0317373	5.9875022 C
0.00001375	3167.	230313804.	18.4749003	0.0002540	-0.000241	1.0604646	6.1466915 C
0.00001438	3167.	220300160.	18.1817110	0.0002614	-0.000256	1.0888000	6.3038633 C
0.00001500	3167.	211120987.	17.9073442	0.0002686	-0.000271	1.1166899	-6.539205 C
0.00001563	3198.	204702684.	17.6514347	0.0002758	-0.000287	1.1442534	-6.927631 C
0.00001625	3260.	200595386.	17.4125244	0.0002830	-0.000302	1.1715353	-7.317323 C
0.00001688	3320.	196727452.	17.1872768	0.0002900	-0.000317	1.1984436	-7.708989 C
0.00001750	3379.	193091298.	16.9752784	0.0002971	-0.000333	1.2250519	-8.102096 C
0.00001813	3438.	189675489.	16.7760676	0.0003041	-0.000348	1.2514255	-8.496167 C
0.00001875	3496.	186435574.	16.5864723	0.0003110	-0.000364	1.2774309	-8.892231 C
0.00001938	3553.	183391304.	16.4084314	0.0003179	-0.000380	1.3032821	-9.288675 C
0.00002000	3610.	180491379.	16.2380356	0.0003248	-0.000395	1.3287661	-9.687139 C
0.00002063	3666.	177756726.	16.0774359	0.0003316	-0.000411	1.3541070	-10.085921 C
0.00002125	3722.	175152695.	15.9239080	0.0003384	-0.000427	1.3791571	-10.486167 C
0.00002188	3777.	172679251.	15.7778424	0.0003451	-0.000442	1.4040001	-10.887244 C
0.00002250	3833.	170335677.	15.6394917	0.0003519	-0.000458	1.4287104	-11.288582 C
0.00002313	3887.	168085019.	15.5056579	0.0003586	-0.000474	1.4530682	-11.691906 C
0.00002375	3941.	165951169.	15.3790131	0.0003653	-0.000490	1.4773417	-12.095130 C
0.00002438	3995.	163913950.	15.2578277	0.0003719	-0.000506	1.5014255	-12.499085 C
0.00002563	4102.	160093247.	15.0293854	0.0003851	-0.000537	1.5489488	-13.309825 C
0.00002688	4208.	156592093.	14.8192301	0.0003983	-0.000569	1.5958047	-14.122875 C
0.00002813	4314.	153375947.	14.6258222	0.0004114	-0.000601	1.6420908	-14.937501 C
0.00002938	4418.	150396884.	14.4453519	0.0004243	-0.000633	1.6876370	-15.755128 C
0.00003063	4522.	147646170.	14.2787575	0.0004373	-0.000665	1.7327249	-16.573516 C
0.00003188	4625.	145085398.	14.1226833	0.0004502	-0.000697	1.7771645	-17.394257 C
0.00003313	4727.	142701429.	13.9770746	0.0004630	-0.000730	1.8210933	-18.216260 C
0.00003438	4829.	140483115.	13.8418581	0.0004758	-0.000762	1.8646414	-19.038461 C
0.00003563	4930.	138393872.	13.7129852	0.0004885	-0.000794	1.9074502	-19.863910 C
0.00003688	5031.	136442615.	13.5931873	0.0005012	-0.000826	1.9499506	-20.688998 C
0.00003813	5132.	134612210.	13.4809616	0.0005140	-0.000859	1.9920633	-21.514400 C
0.00003938	5232.	132877871.	13.3732844	0.0005266	-0.000891	2.0334877	-22.342743 C
0.00004063	5332.	131247026.	13.2725381	0.0005392	-0.000923	2.0746079	-23.170729 C
0.00004188	5432.	129710402.	13.1781033	0.0005518	-0.000956	2.1154231	-23.998354 C
0.00004313	5531.	128250944.	13.0876960	0.0005644	-0.000988	2.1556895	-24.827788 C
0.00004438	5630.	126864513.	13.0014288	0.0005769	-0.001021	2.1954768	-25.658449 C
0.00004563	5728.	125551242.	12.9201603	0.0005895	-0.001053	2.2349631	-26.488750 C
0.00004688	5827.	124305263.	12.8434917	0.0006020	-0.001085	2.2741475	-27.318691 C
0.00004813	5925.	123119910.	12.7707484	0.0006146	-0.001118	2.3129813	-28.148713 C
0.00004938	6023.	121982556.	12.6998044	0.0006271	-0.001150	2.3511844	-28.981430 C
0.00005063	6121.	120898877.	12.6326105	0.0006395	-0.001183	2.3890893	-29.813786 C
0.00005188	6218.	119864988.	12.5688967	0.0006520	-0.001215	2.4266952	-30.645778 C
0.00005313	6315.	118877364.	12.5084185	0.0006645	-0.001248	2.4640012	-31.477405 C
0.00005438	6413.	117932802.	12.4509536	0.0006770	-0.001280	2.5010065	-32.308665 C
0.00005563	6510.	117025124.	12.3954251	0.0006895	-0.001313	2.5375655	-33.140967 C
0.00005688	6606.	116151070.	12.3414712	0.0007019	-0.001346	2.5736422	-33.974698 C
0.00005813	6703.	115312464.	12.2900579	0.0007144	-0.001378	2.6094215	-34.808058 C
0.00005938	6799.	114507056.	12.2410258	0.0007268	-0.001411	2.6449025	-35.641046 C
0.00006063	6895.	113732783.	12.1942285	0.0007393	-0.001443	2.6800843	-36.473659 C
0.00006188	6991.	112987748.	12.1495316	0.0007518	-0.001476	2.7149661	-37.305897 C
0.00006313	7087.	112270206.	12.1068114	0.0007642	-0.001508	2.7495469	-38.137756 C
0.00006438	7183.	111578544.	12.0659535	0.0007767	-0.001541	2.7838258	-38.969235 C
0.00006563	7278.	110907405.	12.0255744	0.0007892	-0.001573	2.8175712	-39.802766 C
0.00006688	7374.	110258816.	11.9866828	0.0008016	-0.001606	2.8509776	-40.636339 C
0.00006813	7469.	109632188.	11.9494141	0.0008141	-0.001638	2.8840848	-41.469526 C
0.00006938	7564.	109026324.	11.9136816	0.0008265	-0.001671	2.9168922	-42.302324 C
0.00007063	7659.	108440113.	11.8794048	0.0008390	-0.001704	2.9493986	-43.134731 C
0.00007188	7753.	107872522.	11.8465086	0.0008515	-0.001736	2.9816032	-43.967746 C
0.00007313	7848.	107322585.	11.8149233	0.0008640	-0.001769	3.0135051	-44.798366 C
0.00007438	7942.	106789406.	11.7845837	0.0008765	-0.001801	3.0451033	-45.629588 C

0.00007938	8319.	104805887.	11.6734893	0.0009266	-0.001931	3.1682390	-48.952849	C
0.00008438	8693.	103026035.	11.5752615	0.0009767	-0.002061	3.2858719	-52.276844	C
0.00008938	9065.	101421915.	11.4906290	0.0010270	-0.002191	3.3985847	-55.594088	C
0.00009438	9434.	99965128.	11.4174890	0.0010775	-0.002320	3.5063116	-58.904422	C
0.00009938	9782.	98437990.	11.3475289	0.0011277	-0.002450	3.6076638	-60.000000	CY
0.0001044	10075.	96528274.	11.2659375	0.0011759	-0.002582	3.6999399	-60.000000	CY
0.0001094	10309.	94257118.	11.1730891	0.0012221	-0.002715	3.7835111	-60.000000	CY
0.0001144	10467.	91510439.	11.0633715	0.0012654	-0.002852	3.8576254	-60.000000	CY
0.0001194	10621.	88975720.	10.9632460	0.0013087	-0.002989	3.9277712	-60.000000	CY
0.0001244	10774.	86627117.	10.8690347	0.0013518	-0.003126	3.9934617	-60.000000	CY
0.0001294	10926.	84451825.	10.7834681	0.0013951	-0.003262	4.0553976	-60.000000	CY
0.0001344	11077.	82430346.	10.7056054	0.0014386	-0.003399	4.1135328	-60.000000	CY
0.0001394	11221.	80509869.	10.6326342	0.0014819	-0.003536	4.1674779	-60.000000	CY
0.0001444	11323.	78424396.	10.5462520	0.0015226	-0.003675	4.2143564	-60.000000	CY
0.0001494	11388.	76240725.	10.4519541	0.0015613	-0.003816	4.2555340	-60.000000	CY
0.0001544	11450.	74172957.	10.3633615	0.0015998	-0.003958	4.2934482	-60.000000	CY
0.0001594	11512.	72230967.	10.2812488	0.0016386	-0.004099	4.3282985	-60.000000	CY
0.0001644	11571.	70395801.	10.2018080	0.0016769	-0.004241	4.3596278	-60.000000	CY
0.0001694	11630.	68662679.	10.1267646	0.0017152	-0.004382	4.3877688	-60.000000	CY
0.0001744	11688.	67025394.	10.0568849	0.0017537	-0.004524	4.4128588	-60.000000	CY
0.0001794	11745.	65475864.	9.9917503	0.0017923	-0.004665	4.4348613	-60.000000	CY
0.0001844	11801.	64006883.	9.9309881	0.0018310	-0.004806	4.4537386	-60.000000	CY
0.0001894	11857.	62609002.	9.8725917	0.0018696	-0.004948	4.4693345	-60.000000	CY
0.0001944	11911.	61276370.	9.8161197	0.0019080	-0.005089	4.4816751	-60.000000	CY
0.0001994	11964.	60007397.	9.7632890	0.0019466	-0.005231	4.4908889	-60.000000	CY
0.0002044	12017.	58797351.	9.7138469	0.0019853	-0.005372	4.4969352	-60.000000	CY
0.0002094	12069.	57641945.	9.6675655	0.0020241	-0.005513	4.4997722	-60.000000	CY
0.0002144	12120.	56536782.	9.6243250	0.0020632	-0.005654	4.4968134	-60.000000	CY
0.0002194	12171.	55478726.	9.5838736	0.0021025	-0.005795	4.4996867	-60.000000	CY
0.0002244	12220.	54464157.	9.5461136	0.0021419	-0.005936	4.4958550	-60.000000	CY
0.0002294	12269.	53487066.	9.5085871	0.0021810	-0.006076	4.4992343	-60.000000	CY
0.0002344	12312.	52531540.	9.4707907	0.0022197	-0.006218	4.4969663	-60.000000	CY
0.0002394	12349.	51588949.	9.4321466	0.0022578	-0.006360	4.4977753	-60.000000	CY
0.0002444	12379.	50656649.	9.3919601	0.0022952	-0.006502	4.4997968	-60.000000	CY
0.0002494	12399.	49720006.	9.3483347	0.0023312	-0.006646	4.4939368	-60.000000	CY
0.0002544	12416.	48808455.	9.3053344	0.0023671	-0.006790	4.4976537	-60.000000	CY
0.0002594	12429.	47917890.	9.2628006	0.0024025	-0.006935	4.4996218	-60.000000	CY
0.0002644	12441.	47059702.	9.2222170	0.0024381	-0.007079	4.4965698	-60.000000	CY
0.0002694	12454.	46231810.	9.1837438	0.0024739	-0.007224	4.4959280	-60.000000	CY
0.0002744	12465.	45429666.	9.1440742	0.0025089	-0.007369	4.4986189	-60.000000	CY
0.0003044	12526.	41151565.	8.9397511	0.0027210	-0.008236	4.4969588	-60.000000	CY
0.0003344	12578.	37615582.	8.7800160	0.0029358	-0.009102	4.4912818	-60.000000	CY
0.0003644	12622.	34638912.	8.6455200	0.0031502	-0.009967	4.4894998	-60.000000	CYT
0.0003944	12660.	32100411.	8.5410011	0.0033684	-0.010829	4.4929089	60.000000	CYT
0.0004244	12690.	29904364.	8.4624694	0.0035913	-0.011686	4.4997930	60.000000	CYT
0.0004544	12713.	27979266.	8.3971593	0.0038155	-0.012542	4.4950515	60.000000	CYT

Axial Thrust Force = 400.000 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
6.25000E-07	241.4370060	386299210.	151.9535602	0.00009497	0.00007247	0.4165995	2.6986958	
0.00000125	482.8735686	386298855.	84.9950606	0.0001062	0.00006124	0.4642834	2.9701459	
0.00000188	724.2997007	386293174.	62.6836830	0.0001175	0.00005003	0.5117517	3.2420378	
0.00000250	965.7101880	386284075.	51.5340862	0.0001288	0.00003884	0.5590033	3.5143713	
0.00000313	1207.	386271941.	44.8492021	0.0001402	0.00002765	0.6060370	3.7871464	
0.00000375	1448.	386256898.	40.3966748	0.0001515	0.00001649	0.6528518	4.0603634	
0.00000438	1690.	386239001.	37.2197803	0.0001628	0.00000534	0.6994464	4.3340221	
0.00000500	1931.	386217663.	34.8401493	0.0001742	-0.00000580	0.7458196	4.6081217	
0.00000563	2172.	386176591.	32.9918169	0.0001856	-0.00001692	0.7919653	4.8826276	
0.00000625	2413.	386090209.	31.5149735	0.0001970	-0.00002803	0.8378719	5.1574640	
0.00000688	2653.	385948183.	30.3079685	0.0002084	-0.00003913	0.8835292	5.4325636	
0.00000750	2893.	385750193.	29.3031099	0.0002198	-0.00005023	0.9289296	5.7078764	
0.00000813	3132.	385500085.	28.4535863	0.0002312	-0.00006131	0.9740671	5.9833638	
0.00000875	3371.	385203025.	27.7259950	0.0002426	-0.00007240	1.0189374	6.2589963	
0.00000938	3608.	384864457.	27.0958670	0.0002540	-0.00008348	1.0635370	6.5347514	

0.00001000	3845.	384489495.	26.5448678	0.0002654	-0.00009455	1.1078631	6.8106117
0.00001063	4081.	384082765.	26.0589906	0.0002769	-0.000106	1.1519139	7.0865640
0.00001125	4081.	362744834.	24.3364190	0.0002738	-0.000131	1.1394680	6.9414317 C
0.00001188	4081.	343653000.	23.8039214	0.0002827	-0.000145	1.1734909	7.1436880 C
0.00001250	4081.	326470350.	23.3144059	0.0002914	-0.000159	1.2068468	7.3422220 C
0.00001313	4081.	310924143.	22.8625235	0.0003001	-0.000172	1.2395830	7.5373355 C
0.00001375	4081.	296791227.	22.4424248	0.0003086	-0.000186	1.2716687	7.7287419 C
0.00001438	4081.	283887261.	22.0516381	0.0003170	-0.000201	1.3032022	7.9171391 C
0.00001500	4081.	272058625.	21.6869370	0.0003253	-0.000215	1.3342143	8.1027176 C
0.00001563	4084.	261404934.	21.3456158	0.0003335	-0.000229	1.3647352	8.2856697 C
0.00001625	4163.	256191955.	21.0254289	0.0003417	-0.000243	1.3947973	8.4662084 C
0.00001688	4240.	251236897.	20.7240159	0.0003497	-0.000258	1.4244043	8.6443278 C
0.00001750	4314.	246514546.	20.4392166	0.0003577	-0.000272	1.4535511	8.8199525 C
0.00001813	4387.	242029516.	20.1704184	0.0003656	-0.000287	1.4823160	8.9936637 C
0.00001875	4458.	237771421.	19.9165495	0.0003734	-0.000302	1.5107390	9.1657488 C
0.00001938	4528.	233706991.	19.6755022	0.0003812	-0.000316	1.5387759	9.3358354 C
0.00002000	4596.	229821047.	19.4460268	0.0003889	-0.000331	1.5664270	9.5038956 C
0.00002063	4664.	226132909.	19.2288696	0.0003966	-0.000346	1.5938299	9.6710052 C
0.00002125	4730.	222586550.	19.0207673	0.0004042	-0.000361	1.6208198	9.8358229 C
0.00002188	4795.	219209956.	18.8230396	0.0004118	-0.000376	1.6475650	9.9996783 C
0.00002250	4859.	215972626.	18.6338700	0.0004193	-0.000391	1.6739907	10.1619498 C
0.00002313	4923.	212875465.	18.4531554	0.0004267	-0.000406	1.7001482	10.3230348 C
0.00002375	4985.	209905065.	18.2800783	0.0004342	-0.000421	1.7260269	10.4828290 C
0.00002438	5047.	207062105.	18.1146028	0.0004415	-0.000436	1.7516762	10.6417224 C
0.00002563	5169.	201714917.	17.8037794	0.0004562	-0.000466	1.8022527	-11.248104 C
0.00002688	5288.	196766287.	17.5162696	0.0004707	-0.000497	1.8518400	-12.020870 C
0.00002813	5405.	192180047.	17.2497903	0.0004852	-0.000527	1.9005322	-12.797327 C
0.00002938	5520.	187927934.	17.0027937	0.0004995	-0.000558	1.9484546	-13.576508 C
0.00003063	5634.	183970488.	16.7728981	0.0005137	-0.000589	1.9956164	-14.358407 C
0.00003188	5746.	180260095.	16.5567353	0.0005277	-0.000620	2.0418828	-15.144280 C
0.00003313	5857.	176807034.	16.3559049	0.0005418	-0.000651	2.0876107	-15.931096 C
0.00003438	5966.	173549585.	16.1656089	0.0005557	-0.000682	2.1324526	-16.721971 C
0.00003563	6074.	170506514.	15.9882283	0.0005696	-0.000713	2.1768233	-17.513299 C
0.00003688	6181.	167625367.	15.8194315	0.0005833	-0.000744	2.2203680	-18.308308 C
0.00003813	6288.	164928404.	15.6621063	0.0005971	-0.000775	2.2635494	-19.102871 C
0.00003938	6393.	162358172.	15.5109052	0.0006107	-0.000807	2.3058399	-19.901848 C
0.00004063	6498.	159941250.	15.3693208	0.0006244	-0.000838	2.3477662	-20.700456 C
0.00004188	6602.	157647920.	15.2346312	0.0006380	-0.000870	2.3890870	-21.500957 C
0.00004313	6704.	155466602.	15.1061223	0.0006515	-0.000901	2.4297932	-22.303494 C
0.00004438	6807.	153404330.	14.9851866	0.0006650	-0.000933	2.4701478	-23.105600 C
0.00004563	6909.	151434523.	14.8690572	0.0006784	-0.000964	2.5098567	-23.910116 C
0.00004688	7010.	149555799.	14.7581009	0.0006918	-0.000996	2.5490317	-24.716019 C
0.00004813	7111.	147771215.	14.6532119	0.0007052	-0.001027	2.5878601	-25.521499 C
0.00004938	7212.	146067674.	14.5530915	0.0007186	-0.001059	2.6262205	-26.327755 C
0.00005063	7312.	144429238.	14.4559658	0.0007318	-0.001091	2.6639086	-27.136873 C
0.00005188	7411.	142866632.	14.3637993	0.0007451	-0.001122	2.7012549	-27.945572 C
0.00005313	7511.	141374487.	14.2762432	0.0007584	-0.001154	2.7382582	-28.753852 C
0.00005438	7609.	139942279.	14.1920809	0.0007717	-0.001186	2.7747816	-29.563125 C
0.00005563	7707.	138560297.	14.1101757	0.0007849	-0.001218	2.8106883	-30.374860 C
0.00005688	7805.	137236265.	14.0321242	0.0007981	-0.001249	2.8462567	-31.186178 C
0.00005813	7903.	135966430.	13.9576788	0.0008113	-0.001281	2.8814857	-31.997076 C
0.00005938	8001.	134747367.	13.8866128	0.0008245	-0.001313	2.9163744	-32.807551 C
0.00006063	8098.	133567998.	13.8172926	0.0008377	-0.001345	2.9506933	-33.620110 C
0.00006188	8194.	132428860.	13.7501271	0.0008508	-0.001377	2.9845318	-34.433828 C
0.00006313	8290.	131332354.	13.6858516	0.0008639	-0.001409	3.0180342	-35.247125 C
0.00006438	8387.	130275984.	13.6242988	0.0008771	-0.001440	3.0511993	-36.060000 C
0.00006563	8483.	129257443.	13.5653141	0.0008902	-0.001472	3.0840261	-36.872450 C
0.00006688	8578.	128274612.	13.5087545	0.0009034	-0.001504	3.1165136	-37.684472 C
0.00006813	8674.	127317653.	13.4528526	0.0009165	-0.001536	3.1483858	-38.499295 C
0.00006938	8768.	126391494.	13.3988748	0.0009295	-0.001568	3.1798713	-39.314301 C
0.00007063	8863.	125495920.	13.3470170	0.0009426	-0.001600	3.2110213	-40.128878 C
0.00007188	8958.	124629322.	13.2971695	0.0009557	-0.001632	3.2418347	-40.943025 C
0.00007313	9052.	123790204.	13.2492304	0.0009688	-0.001664	3.2723104	-41.756739 C
0.00007438	9146.	122977169.	13.2031044	0.0009820	-0.001696	3.3024473	-42.570018 C
0.00007563	9241.	122164032.	13.1571284	0.0009951	-0.001728	3.3321902	-43.383301 C
0.00007688	9335.	121350895.	13.1111524	0.0010082	-0.001760	3.3616331	-44.196584 C
0.00007813	9429.	120537758.	13.0651764	0.0010213	-0.001792	3.3907760	-45.009867 C
0.00007938	9521.	119724621.	13.0192004	0.0010344	-0.001823	3.4196189	-45.823150 C
0.00008063	9615.	118911484.	12.9732244	0.0010475	-0.001855	3.4481618	-46.636433 C
0.00008188	9709.	118098347.	12.9272484	0.0010606	-0.001887	3.4764047	-47.449716 C
0.00008313	9803.	117285210.	12.8812724	0.0010737	-0.001919	3.5043476	-48.262999 C
0.00008438	9897.	116472073.	12.8352964	0.0010868	-0.001951	3.5320905	-49.076282 C
0.00008563	9991.	115658936.	12.7893204	0.0010999	-0.001983	3.5595334	-50.000000 C
0.00008688	10085.	114845799.	12.7433444	0.0011130	-0.002015	3.5866763	-50.813283 C
0.00008813	10179.	114032662.	12.6973684	0.0011261	-0.002047	3.6135192	-51.626566 C
0.00008938	10273.	113219525.	12.6513924	0.0011392	-0.002079	3.6401621	-52.439849 C
0.00009063	10367.	112406388.	12.6054164	0.0011523	-0.002111	3.6666050	-53.253132 C
0.00009188	10461.	111593251.	12.5594404	0.0011654	-0.002143	3.6928479	-54.066415 C
0.00009313	10555.	110780114.	12.5134644	0.0011785	-0.002175	3.7188908	-54.879698 C
0.00009438	10649.	110000000.	12.4674884	0.0011916	-0.002207	3.7447337	-55.692981 C
0.00009563	10743.	109219886.	12.4215124	0.0012047	-0.002239	3.7703766	-56.506264 C
0.00009688	10837.	108439772.	12.3755364	0.0012178	-0.002271	3.7958195	-57.319547 C
0.00009813	10931.	107659658.	12.3295604	0.0012309	-0.002303	3.8210624	-58.132830 C
0.00009938	11025.	106879544.	12.2835844	0.0012440	-0.002335	3.8462053	-58.946113 C

0.0001044	11330.	108547917.	12.4275840	0.0012971	-0.002460	3.9133917	-60.000000	CY
0.0001094	11618.	106220920.	12.3222562	0.0013477	-0.002590	3.9913625	-60.000000	CY
0.0001144	11867.	103754177.	12.2158390	0.0013972	-0.002720	4.0621242	-60.000000	CY
0.0001194	12030.	100772286.	12.0929069	0.0014436	-0.002854	4.1236495	-60.000000	CY
0.0001244	12182.	97947127.	11.9753350	0.0014894	-0.002988	4.1798445	-60.000000	CY
0.0001294	12333.	95324874.	11.8670011	0.0015353	-0.003122	4.2315195	-60.000000	CY
0.0001344	12482.	92887403.	11.7682897	0.0015814	-0.003256	4.2788584	-60.000000	CY
0.0001394	12629.	90611569.	11.6770863	0.0016275	-0.003390	4.3216627	-60.000000	CY
0.0001444	12774.	88474882.	11.5905024	0.0016734	-0.003524	4.3596728	-60.000000	CY
0.0001494	12908.	86413322.	11.5078431	0.0017190	-0.003659	4.3929388	-60.000000	CY
0.0001544	12998.	84197810.	11.4154753	0.0017623	-0.003795	4.4203254	-60.000000	CY
0.0001594	13063.	81962592.	11.3199842	0.0018041	-0.003933	4.4429560	-60.000000	CY
0.0001644	13122.	79831201.	11.2264423	0.0018453	-0.004072	4.4615512	-60.000000	CY
0.0001694	13181.	77820625.	11.1395133	0.0018868	-0.004211	4.4765504	-60.000000	CY
0.0001744	13239.	75920361.	11.0586462	0.0019284	-0.004349	4.4879038	-60.000000	CY
0.0001794	13295.	74121073.	10.9833520	0.0019701	-0.004487	4.4955604	-60.000000	CY
0.0001844	13350.	72405276.	10.9092807	0.0020114	-0.004626	4.4994318	-60.000000	CY
0.0001894	13403.	70774606.	10.8400325	0.0020528	-0.004765	4.4971755	-60.000000	CY
0.0001944	13455.	69222889.	10.7754246	0.0020945	-0.004903	4.4998594	-60.000000	CY
0.0001994	13506.	67743531.	10.7152153	0.0021363	-0.005041	4.4978448	-60.000000	CY
0.0002044	13557.	66332158.	10.6589457	0.0021784	-0.005179	4.4999567	-60.000000	CY
0.0002094	13605.	64981229.	10.6056648	0.0022206	-0.005317	4.4978291	-60.000000	CY
0.0002144	13653.	63685540.	10.5534155	0.0022624	-0.005455	4.4999204	-60.000000	CY
0.0002194	13699.	62444274.	10.5046425	0.0023045	-0.005593	4.4970039	-60.000000	CY
0.0002244	13744.	61255065.	10.4588862	0.0023467	-0.005731	4.4996570	-60.000000	CY
0.0002294	13789.	60113964.	10.4160630	0.0023892	-0.005868	4.4951517	-60.000000	CY
0.0002344	13832.	59018092.	10.3759517	0.0024319	-0.006006	4.4987838	-60.000000	CY
0.0002394	13876.	57965624.	10.3381932	0.0024747	-0.006143	4.4999812	-60.000000	CY
0.0002444	13918.	56952056.	10.3030199	0.0025178	-0.006280	4.4966326	-60.000000	CY
0.0002494	13959.	55977124.	10.2698595	0.0025610	-0.006416	4.4993958	-60.000000	CY
0.0002544	13997.	55023999.	10.2352854	0.0026036	-0.006554	4.4971223	-60.000000	CY
0.0002594	14033.	54101768.	10.2018588	0.0026461	-0.006691	4.4966119	-60.000000	CY
0.0002644	14058.	53173536.	10.1640306	0.0026871	-0.006830	4.4991566	-60.000000	CY
0.0002694	14082.	52276172.	10.1276623	0.0027281	-0.006969	4.4999497	-60.000000	CY
0.0002744	14096.	51373922.	10.0876121	0.0027678	-0.007110	4.4940922	-60.000000	CY
0.0003044	14157.	46510777.	9.8706453	0.0030044	-0.007953	4.4984378	60.000000	CYT
0.0003344	14198.	42460572.	9.6929433	0.0032411	-0.008796	4.4993764	60.000000	CYT
0.0003644	14226.	39042247.	9.5627396	0.0034844	-0.009633	4.4993096	60.000000	CYT
0.0003944	14243.	36114219.	9.4571694	0.0037297	-0.010468	4.4976512	60.000000	CYT
0.0004244	14243.	33561225.	9.4117121	0.0039941	-0.011283	4.4946383	60.000000	CYT

Summary of Results for Nominal 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	Max. Tens. Strain
1	155.000	11641.561	0.00300000	-0.01033713
2	220.000	12329.580	0.00300000	-0.00962094
3	225.000	12381.909	0.00300000	-0.00956953
4	245.000	12590.835	0.00300000	-0.00936082
5	400.000	14155.589	0.00300000	-0.00793752

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 (0.75).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, 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	Nominal Ax. Thrust kips	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	155.000000	11642.	100.750000	7567.	95703621.
2	0.65	220.000000	12330.	143.000000	8014.	102779099.
3	0.65	225.000000	12382.	146.250000	8048.	103325628.
4	0.65	245.000000	12591.	159.250000	8184.	105516700.
5	0.65	400.000000	14156.	260.000000	9201.	122533942.
1	0.75	155.000000	11642.	116.250000	8731.	92218945.
2	0.75	220.000000	12330.	165.000000	9247.	97819930.
3	0.75	225.000000	12382.	168.750000	9286.	98243352.
4	0.75	245.000000	12591.	183.750000	9443.	99926002.
5	0.75	400.000000	14156.	300.000000	10617.	112620592.
1	0.90	155.000000	11642.	139.500000	10477.	68995746.
2	0.90	220.000000	12330.	198.000000	11097.	75656545.
3	0.90	225.000000	12382.	202.500000	11144.	76149748.
4	0.90	245.000000	12591.	220.500000	11332.	78118728.
5	0.90	400.000000	14156.	360.000000	12740.	88970443.

Pile Section No. 2:

Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	8.500000 ft
Shaft Diameter	=	34.000000 in
Concrete Cover Thickness (to edge of long. rebar)	=	3.000000 in
Number of Reinforcing Bars	=	12 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	907.920277 sq. in.
Total Area of Reinforcing Steel	=	12.000000 sq. in.
Area Ratio of Steel Reinforcement	=	1.32 percent
Edge-to-Edge Bar Spacing	=	5.826985 in
Maximum Concrete Aggregate Size	=	0.750000 in
Ratio of Bar Spacing to Aggregate Size	=	7.77
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = 0.85 Fc Ac + Fy As	=	4146.895 kips
Tensile Load for Cracking of Concrete	=	-434.566 kips
Nominal Axial Tensile Capacity	=	-720.000 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	13.436000	0.000000
2	1.128000	1.000000	11.635917	6.718000
3	1.128000	1.000000	6.718000	11.635917
4	1.128000	1.000000	0.000000	13.436000
5	1.128000	1.000000	-6.718000	11.635917
6	1.128000	1.000000	-11.63592	6.718000
7	1.128000	1.000000	-13.43600	0.000000
8	1.128000	1.000000	-11.63592	-6.718000
9	1.128000	1.000000	-6.71800	-11.63592
10	1.128000	1.000000	0.00000	-13.43600

11	1.128000	1.000000	6.718000	-11.63592
12	1.128000	1.000000	11.635917	-6.71800

NOTE: The positions of the above rebars were computed by LPILE

Minimum spacing between any two bars not equal to zero = 5.827 inches
between bars 7 and 8.

Ratio of bar spacing to maximum aggregate size = 7.77

Concrete Properties:

Compressive Strength of Concrete	=	4500. psi
Modulus of Elasticity of Concrete	=	3823676. psi
Modulus of Rupture of Concrete	=	-503.11529 psi
Compression Strain at Peak Stress	=	0.002001
Tensile Strain at Fracture of Concrete	=	-0.0001152
Maximum Coarse Aggregate Size	=	0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 5

Number	Axial Thrust Force kips
-----	-----
1	155.000
2	220.000
3	225.000
4	245.000
5	400.000

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 318-14, Section 21.2.3.
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 = 155.000 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
-----	-----	-----	-----	-----	-----	-----	-----	-----
0.00000125	395.6277917	316502233.	45.5774085	0.00005697	0.00001447	0.2517065	1.5474186	
0.00000250	791.2164179	316486567.	31.3202216	0.00007830	-0.00000670	0.3435007	2.0611910	
0.00000375	1186.	316243193.	26.5782745	0.00009967	-0.00002783	0.4344600	2.5760998	
0.00000500	1578.	315696977.	24.2105825	0.0001211	-0.00004895	0.5244823	3.0914845	
0.00000625	1969.	314974995.	22.7912020	0.0001424	-0.00007005	0.6135290	3.6070929	
0.00000750	2356.	314152999.	21.8455660	0.0001638	-0.00009116	0.7015863	4.1228356	
0.00000875	2356.	269273999.	18.4674620	0.0001616	-0.000136	0.6913962	3.9527810	C
0.00001000	2356.	235614749.	17.5815995	0.0001758	-0.000164	0.7491685	4.2605638	C
0.00001125	2356.	209435333.	16.8586136	0.0001897	-0.000193	0.8049411	-4.649515	C
0.00001250	2356.	188491799.	16.2556124	0.0002032	-0.000222	0.8590511	-5.384716	C
0.00001375	2356.	171356181.	15.7445150	0.0002165	-0.000251	0.9117828	-6.126987	C

0.00001500	2356.	157076499.	15.3038696	0.0002296	-0.000280	0.9632486	-6.875667 C
0.00001625	2356.	144993692.	14.9205003	0.0002425	-0.000310	1.0136660	-7.629302 C
0.00001750	2402.	137231163.	14.5832768	0.0002552	-0.000340	1.0631285	-8.387312 C
0.00001875	2494.	133014703.	14.2841605	0.0002678	-0.000370	1.1117358	-9.149050 C
0.00002000	2585.	129273712.	14.0172493	0.0002803	-0.000400	1.1595950	-9.913795 C
0.00002125	2676.	125934616.	13.7779322	0.0002928	-0.000430	1.2068025	-10.680887 C
0.00002250	2766.	122920514.	13.5597652	0.0003051	-0.000460	1.2532063	-11.451528 C
0.00002375	2855.	120205411.	13.3628794	0.0003174	-0.000490	1.2991292	-12.223329 C
0.00002500	2943.	117735660.	13.1826386	0.0003296	-0.000520	1.3444383	-12.997337 C
0.00002625	3031.	115484888.	13.0178306	0.0003417	-0.000551	1.3892543	-13.772665 C
0.00002750	3119.	113420354.	12.8658159	0.0003538	-0.000581	1.4335263	-14.549737 C
0.00002875	3206.	111528096.	12.7266816	0.0003659	-0.000612	1.4774450	-15.327092 C
0.00003000	3293.	109773240.	12.5961518	0.0003779	-0.000642	1.5207188	-16.107048 C
0.00003125	3380.	108155511.	12.4764062	0.0003899	-0.000673	1.5637192	-16.886695 C
0.00003250	3466.	106652749.	12.3647764	0.0004019	-0.000703	1.6062787	-17.667374 C
0.00003375	3552.	105249484.	12.2597334	0.0004138	-0.000734	1.6483243	-18.449698 C
0.00003500	3638.	103943608.	12.1624982	0.0004257	-0.000764	1.6901000	-19.231714 C
0.00003625	3724.	102725043.	12.0722641	0.0004376	-0.000795	1.7316052	-20.013420 C
0.00003750	3809.	101574488.	11.9855866	0.0004495	-0.000826	1.7724787	-20.797799 C
0.00003875	3894.	100495383.	11.9047063	0.0004613	-0.000856	1.8130758	-21.581949 C
0.00004000	3979.	99481285.	11.8291494	0.0004732	-0.000887	1.8534056	-22.365787 C
0.00004125	4064.	98526275.	11.7584331	0.0004850	-0.000917	1.8934673	-23.149312 C
0.00004250	4149.	97620824.	11.6908162	0.0004969	-0.000948	1.9330703	-23.934144 C
0.00004375	4233.	96761873.	11.6263817	0.0005087	-0.000979	1.9722697	-24.719841 C
0.00004500	4318.	95948511.	11.5657689	0.0005205	-0.001010	2.0112039	-25.505221 C
0.00004625	4402.	95177031.	11.5086687	0.0005323	-0.001040	2.0498722	-26.290285 C
0.00004750	4486.	94444119.	11.4548049	0.0005441	-0.001071	2.0882739	-27.075031 C
0.00004875	4570.	93746800.	11.4039294	0.0005559	-0.001102	2.1264083	-27.859457 C
0.00005125	4738.	92440789.	11.3073939	0.0005795	-0.001163	2.2013980	-29.431623 C
0.00005375	4905.	91247933.	11.2202182	0.0006031	-0.001224	2.2752486	-31.003197 C
0.00005625	5071.	90154260.	11.1415956	0.0006267	-0.001286	2.3480340	-32.573460 C
0.00005875	5237.	89147053.	11.0704414	0.0006504	-0.001347	2.4197486	-34.142398 C
0.00006125	5403.	88212200.	11.0041868	0.0006740	-0.001408	2.4900806	-35.712951 C
0.00006375	5568.	87343132.	10.9431602	0.0006976	-0.001470	2.5592090	-37.283445 C
0.00006625	5733.	86533788.	10.8874561	0.0007213	-0.001531	2.6272656	-38.852562 C
0.00006875	5897.	85777601.	10.8365008	0.0007450	-0.001592	2.6942441	-40.420289 C
0.00007125	6061.	85068926.	10.7898011	0.0007688	-0.001654	2.7601385	-41.986611 C
0.00007375	6225.	84402881.	10.7469310	0.0007926	-0.001715	2.8249425	-43.551514 C
0.00007625	6388.	83775088.	10.7074265	0.0008164	-0.001776	2.8886304	-45.115190 C
0.00007875	6550.	83180137.	10.6697720	0.0008402	-0.001837	2.9509471	-46.680371 C
0.00008125	6713.	82616843.	10.6350678	0.0008641	-0.001898	3.0121681	-48.244059 C
0.00008375	6874.	82082324.	10.6030567	0.0008880	-0.001959	3.0722866	-49.806238 C
0.00008625	7036.	81574031.	10.5735110	0.0009120	-0.002021	3.1312958	-51.366893 C
0.00008875	7197.	81089703.	10.5462292	0.0009360	-0.002082	3.1891887	-52.926005 C
0.00009125	7357.	80627325.	10.5210317	0.0009600	-0.002142	3.2459585	-54.483557 C
0.00009375	7517.	80185095.	10.4977584	0.0009842	-0.002203	3.3015979	-56.039531 C
0.00009625	7677.	79761400.	10.4762660	0.0010083	-0.002264	3.3560996	-57.593910 C
0.00009875	7836.	79354787.	10.4564257	0.0010326	-0.002325	3.4094563	-59.146673 C
0.0001013	7995.	78960898.	10.4380005	0.0010568	-0.002386	3.4616340	-60.000000 CY
0.0001038	8143.	78487559.	10.4171842	0.0010808	-0.002447	3.5118156	-60.000000 CY
0.0001063	8275.	77878468.	10.3914674	0.0011041	-0.002508	3.5594700	-60.000000 CY
0.0001088	8400.	77245777.	10.3651827	0.0011272	-0.002570	3.6055651	-60.000000 CY
0.0001113	8522.	76603373.	10.3381342	0.0011501	-0.002632	3.6500791	-60.000000 CY
0.0001138	8623.	75809636.	10.3044144	0.0011721	-0.002695	3.6917533	-60.000000 CY
0.0001163	8700.	74834972.	10.2623192	0.0011930	-0.002760	3.7302562	-60.000000 CY
0.0001188	8767.	73824403.	10.2186544	0.0012135	-0.002824	3.7670993	-60.000000 CY
0.0001213	8833.	72852980.	10.1770583	0.0012340	-0.002889	3.8030964	-60.000000 CY
0.0001238	8900.	71919144.	10.1374488	0.0012545	-0.002953	3.8382524	-60.000000 CY
0.0001263	8966.	71020648.	10.0997102	0.0012751	-0.003017	3.8725627	-60.000000 CY
0.0001288	9033.	70155419.	10.0637363	0.0012957	-0.003082	3.9060226	-60.000000 CY
0.0001313	9098.	69321495.	10.0294021	0.0013164	-0.003146	3.9386219	-60.000000 CY
0.0001338	9164.	68514543.	9.9951513	0.0013369	-0.003211	3.9700534	-60.000000 CY
0.0001363	9229.	67735691.	9.9624482	0.0013574	-0.003275	4.0006388	-60.000000 CY
0.0001388	9294.	66983407.	9.9312119	0.0013780	-0.003340	4.0303733	-60.000000 CY
0.0001413	9359.	66256267.	9.9013671	0.0013986	-0.003404	4.0592521	-60.000000 CY
0.0001438	9423.	65549914.	9.8726442	0.0014192	-0.003468	4.0872309	-60.000000 CY
0.0001463	9484.	64850518.	9.8441430	0.0014397	-0.003533	4.1141458	-60.000000 CY
0.0001488	9534.	64097027.	9.8117059	0.0014595	-0.003598	4.1392268	-60.000000 CY
0.0001588	9660.	60849263.	9.6607769	0.0015336	-0.003864	4.2256144	-60.000000 CY

0.0001688	9763.	57856811.	9.5169323	0.0016060	-0.004132	4.2984659	-60.000000	CY
0.0001788	9865.	55188679.	9.3920277	0.0016788	-0.004399	4.3605026	-60.000000	CY
0.0001888	9963.	52786403.	9.2790295	0.0017514	-0.004666	4.4110008	-60.000000	CY
0.0001988	10059.	50612638.	9.1778018	0.0018241	-0.004933	4.4502367	-60.000000	CY
0.0002088	10153.	48637834.	9.0889091	0.0018973	-0.005200	4.4783195	-60.000000	CY
0.0002188	10245.	46834383.	9.0107454	0.0019711	-0.005466	4.4949866	-60.000000	CY
0.0002288	10334.	45174237.	8.9374009	0.0020444	-0.005733	4.4981804	-60.000000	CY
0.0002388	10420.	43643703.	8.8729137	0.0021184	-0.005999	4.4999816	-60.000000	CY
0.0002488	10494.	42186836.	8.8103585	0.0021916	-0.006266	4.4995251	-60.000000	CY
0.0002588	10542.	40742644.	8.7404207	0.0022616	-0.006536	4.4975144	-60.000000	CY
0.0002688	10571.	39333246.	8.6661394	0.0023290	-0.006808	4.4968037	-60.000000	CY
0.0002788	10591.	37995896.	8.5902748	0.0023945	-0.007083	4.4988022	-60.000000	CY
0.0002888	10611.	36748283.	8.5211630	0.0024605	-0.007357	4.4932452	-60.000000	CY
0.0002988	10630.	35581193.	8.4582056	0.0025269	-0.007631	4.4988150	-60.000000	CY
0.0003088	10648.	34487342.	8.4006246	0.0025937	-0.007904	4.4941335	-60.000000	CY
0.0003188	10665.	33459545.	8.3480305	0.0026609	-0.008177	4.4978042	-60.000000	CY
0.0003288	10681.	32490424.	8.2966844	0.0027275	-0.008450	4.4998855	-60.000000	CY
0.0003388	10696.	31574795.	8.2482043	0.0027941	-0.008723	4.4944241	-60.000000	CY
0.0003488	10710.	30710641.	8.2032715	0.0028609	-0.008997	4.4990471	-60.000000	CY
0.0003588	10724.	29893314.	8.1617748	0.0029280	-0.009269	4.4952988	-60.000000	CY
0.0003688	10738.	29118718.	8.1235861	0.0029956	-0.009542	4.4943635	-60.000000	CY
0.0003788	10751.	28384247.	8.0880400	0.0030633	-0.009814	4.4988535	-60.000000	CYT
0.0003888	10763.	27686611.	8.0550445	0.0031314	-0.010086	4.4972920	-60.000000	CYT
0.0003988	10775.	27022562.	8.0246844	0.0031998	-0.010358	4.4911326	-60.000000	CYT
0.0004088	10787.	26390325.	7.9963739	0.0032685	-0.010629	4.4969088	60.000000	CYT
0.0004188	10798.	25786512.	7.9671761	0.0033365	-0.010901	4.4996837	60.000000	CYT
0.0004288	10809.	25209671.	7.9404711	0.0034045	-0.011173	4.4929015	60.000000	CYT
0.0004388	10819.	24658407.	7.9151162	0.0034728	-0.011445	4.4900087	60.000000	CYT
0.0004488	10828.	24129722.	7.8924677	0.0035417	-0.011716	4.4958188	60.000000	CYT
0.0004588	10837.	23622753.	7.8719112	0.0036112	-0.011986	4.4991688	60.000000	CYT
0.0004688	10845.	23136888.	7.8527633	0.0036810	-0.012257	4.4974292	60.000000	CYT
0.0004788	10854.	22670499.	7.8351818	0.0037511	-0.012526	4.4845203	60.000000	CYT
0.0004888	10861.	22222297.	7.8191527	0.0038216	-0.012796	4.4908748	60.000000	CYT

Axial Thrust Force = 220.000 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
0.00000125	392.8800439	314304035.	57.6957111	0.00007212	0.00002962	0.3176572	1.9867070	
0.00000250	785.7340589	314293624.	37.3796708	0.00009345	0.00000845	0.4087355	2.5005011	
0.00000375	1178.	314258267.	30.6215515	0.0001148	-0.00001267	0.4990321	3.0158062	
0.00000500	1570.	314024554.	27.2498924	0.0001362	-0.00003375	0.5884763	3.5321843	
0.00000625	1960.	313558598.	25.2299626	0.0001577	-0.00005481	0.6769889	4.0491182	
0.00000750	2347.	312931245.	23.8848038	0.0001791	-0.00007586	0.7645334	4.5663698	
0.00000875	2732.	312197264.	22.9247983	0.0002006	-0.00009691	0.8510931	5.0838301	
0.00001000	2732.	273172606.	20.1314470	0.0002013	-0.000139	0.8531586	5.0000197	C
0.00001125	2732.	242820094.	19.2406254	0.0002165	-0.000166	0.9133691	5.3343916	C
0.00001250	2732.	218538085.	18.4942665	0.0002312	-0.000194	0.9714005	5.6565466	C
0.00001375	2732.	198670986.	17.8587387	0.0002456	-0.000222	1.0276074	5.9687846	C
0.00001500	2732.	182115071.	17.3088057	0.0002596	-0.000250	1.0821679	6.2721805	C
0.00001625	2732.	168106219.	16.8305630	0.0002735	-0.000279	1.1354800	-6.729185	C
0.00001750	2824.	161380139.	16.4078997	0.0002871	-0.000308	1.1875126	-7.461316	C
0.00001875	2924.	155951641.	16.0325423	0.0003006	-0.000337	1.2384899	-8.198368	C
0.00002000	3022.	151100353.	15.6963914	0.0003139	-0.000366	1.2884857	-8.939893	C
0.00002125	3118.	146740459.	15.3934920	0.0003271	-0.000395	1.3375909	-9.685298	C
0.00002250	3213.	142804100.	15.1193144	0.0003402	-0.000425	1.3859024	-10.433922	C
0.00002375	3306.	139218196.	14.8682431	0.0003531	-0.000454	1.4333344	-11.186510	C
0.00002500	3399.	135951042.	14.6387426	0.0003660	-0.000484	1.4800767	-11.941662	C
0.00002625	3490.	132969029.	14.4290568	0.0003788	-0.000514	1.5262640	-12.698368	C
0.00002750	3581.	130215496.	14.2340489	0.0003914	-0.000544	1.5716578	-13.458571	C
0.00002875	3671.	127685901.	14.0548680	0.0004041	-0.000573	1.6165855	-14.219716	C
0.00003000	3760.	125339340.	13.8877277	0.0004166	-0.000603	1.6608559	-14.983377	C
0.00003125	3849.	123169686.	13.7332773	0.0004292	-0.000633	1.7047084	-15.747655	C
0.00003250	3937.	121142095.	13.5878374	0.0004416	-0.000663	1.7478914	-16.514638	C
0.00003375	4025.	119261222.	13.4535172	0.0004541	-0.000693	1.7907790	-17.281283	C
0.00003500	4112.	117493066.	13.3260310	0.0004664	-0.000724	1.8329954	-18.050728	C

0.00003625	4199.	115839733.	13.2069846	0.0004788	-0.000754	1.8748363	-18.820545 C
0.00003750	4286.	114293573.	13.0961832	0.0004911	-0.000784	1.9163858	-19.590026 C
0.00003875	4372.	112828000.	12.9897569	0.0005034	-0.000814	1.9572406	-20.362623 C
0.00004000	4458.	111450273.	12.8900857	0.0005156	-0.000844	1.9977835	-21.135101 C
0.00004125	4544.	110153340.	12.7967337	0.0005279	-0.000875	2.0380389	-21.907245 C
0.00004250	4629.	108923851.	12.7078128	0.0005401	-0.000905	2.0778192	-22.680696 C
0.00004375	4714.	107755416.	12.6228012	0.0005522	-0.000935	2.1171076	-23.455633 C
0.00004500	4799.	106649473.	12.5427673	0.0005644	-0.000966	2.1561120	-24.230239 C
0.00004625	4884.	105600945.	12.4673085	0.0005766	-0.000996	2.1948316	-25.004510 C
0.00004750	4969.	104603382.	12.3955952	0.0005888	-0.001026	2.2331944	-25.779093 C
0.00004875	5053.	103647340.	12.3259689	0.0006009	-0.001057	2.2709900	-26.555924 C
0.00005125	5221.	101868885.	12.1975822	0.0006251	-0.001117	2.3457356	-28.108581 C
0.00005375	5388.	100247837.	12.0820048	0.0006494	-0.001178	2.4193489	-29.659888 C
0.00005625	5555.	98752045.	11.9742978	0.0006736	-0.001239	2.4912764	-31.215114 C
0.00005875	5721.	97374998.	11.8761778	0.0006977	-0.001300	2.5620115	-32.769624 C
0.00006125	5886.	96103370.	11.7868450	0.0007219	-0.001361	2.6316169	-34.322754 C
0.00006375	6051.	94922141.	11.7043738	0.0007462	-0.001421	2.6999228	-35.876152 C
0.00006625	6215.	93818225.	11.6269589	0.0007703	-0.001482	2.7667410	-37.431793 C
0.00006875	6379.	92788385.	11.5558881	0.0007945	-0.001543	2.8324299	-38.986010 C
0.00007125	6543.	91824771.	11.4905004	0.0008187	-0.001604	2.8969829	-40.538791 C
0.00007375	6705.	90920596.	11.4302244	0.0008430	-0.001665	2.9603933	-42.090120 C
0.00007625	6868.	90068663.	11.3739760	0.0008673	-0.001725	3.0225389	-43.641283 C
0.00007875	7029.	89262152.	11.3205260	0.0008915	-0.001786	3.0832507	-45.194211 C
0.00008125	7191.	88499920.	11.2710067	0.0009158	-0.001847	3.1428175	-46.745628 C
0.00008375	7351.	87777951.	11.2250726	0.0009401	-0.001907	3.2012323	-48.295517 C
0.00008625	7512.	87092694.	11.1824186	0.0009645	-0.001968	3.2584880	-49.843863 C
0.00008875	7672.	86440997.	11.1427740	0.0009889	-0.002029	3.3145773	-51.390648 C
0.00009125	7831.	85820053.	11.1058979	0.0010134	-0.002089	3.3694928	-52.935855 C
0.00009375	7990.	85227353.	11.0715754	0.0010380	-0.002150	3.4232270	-54.479467 C
0.00009625	8149.	84660017.	11.0391935	0.0010625	-0.002210	3.4756855	-56.022638 C
0.00009875	8306.	84115517.	11.0082073	0.0010871	-0.002270	3.5267835	-57.566510 C
0.0001013	8464.	83593360.	10.9793250	0.0011117	-0.002331	3.5766928	-59.108694 C
0.0001038	8620.	83089123.	10.9522923	0.0011363	-0.002391	3.6253825	-60.000000 CY
0.0001063	8768.	82525783.	10.9239181	0.0011607	-0.002452	3.6722177	-60.000000 CY
0.0001088	8899.	81831494.	10.8910661	0.0011844	-0.002513	3.7165843	-60.000000 CY
0.0001113	9024.	81111515.	10.8579244	0.0012079	-0.002575	3.7593705	-60.000000 CY
0.0001138	9146.	80405019.	10.8260466	0.0012315	-0.002636	3.8009163	-60.000000 CY
0.0001163	9251.	79575001.	10.7892046	0.0012542	-0.002698	3.8399948	-60.000000 CY
0.0001188	9331.	78575809.	10.7450491	0.0012760	-0.002762	3.8761876	-60.000000 CY
0.0001213	9399.	77516088.	10.6979418	0.0012971	-0.002825	3.9104179	-60.000000 CY
0.0001238	9465.	76483695.	10.6510619	0.0013181	-0.002889	3.9433544	-60.000000 CY
0.0001263	9531.	75490400.	10.6063601	0.0013391	-0.002953	3.9754065	-60.000000 CY
0.0001288	9596.	74533911.	10.5637122	0.0013601	-0.003017	4.0065693	-60.000000 CY
0.0001313	9662.	73612107.	10.5230035	0.0013811	-0.003081	4.0368375	-60.000000 CY
0.0001338	9727.	72723029.	10.4841280	0.0014023	-0.003145	4.0662059	-60.000000 CY
0.0001363	9792.	71864860.	10.4469874	0.0014234	-0.003209	4.0946691	-60.000000 CY
0.0001388	9856.	71035912.	10.4114909	0.0014446	-0.003273	4.1222219	-60.000000 CY
0.0001413	9921.	70234620.	10.3775536	0.0014658	-0.003337	4.1488587	-60.000000 CY
0.0001438	9984.	69457374.	10.3439381	0.0014869	-0.003401	4.1743724	-60.000000 CY
0.0001463	10048.	68704476.	10.3114324	0.0015080	-0.003464	4.1989173	-60.000000 CY
0.0001488	10110.	67967158.	10.2797753	0.0015291	-0.003528	4.2224599	-60.000000 CY
0.0001588	10284.	64782121.	10.1344387	0.0016088	-0.003789	4.3027834	-60.000000 CY
0.0001688	10389.	61563152.	9.9796190	0.0016841	-0.004053	4.3659418	-60.000000 CY
0.0001788	10489.	58681746.	9.8403445	0.0017590	-0.004319	4.4167532	-60.000000 CY
0.0001888	10588.	56094023.	9.7188634	0.0018344	-0.004583	4.4557725	-60.000000 CY
0.0001988	10682.	53747394.	9.6078421	0.0019096	-0.004848	4.4824562	-60.000000 CY
0.0002088	10774.	51612317.	9.5087822	0.0019850	-0.005113	4.4970504	-60.000000 CY
0.0002188	10863.	49661545.	9.4217177	0.0020610	-0.005376	4.4970467	-60.000000 CY
0.0002288	10950.	47869396.	9.3449996	0.0021377	-0.005640	4.4962881	-60.000000 CY
0.0002388	11033.	46211362.	9.2733396	0.0022140	-0.005903	4.4961060	-60.000000 CY
0.0002488	11113.	44676845.	9.2103238	0.0022911	-0.006166	4.4999643	-60.000000 CY
0.0002588	11183.	43217926.	9.1496632	0.0023675	-0.006430	4.4990477	-60.000000 CY
0.0002688	11229.	41782840.	9.0829676	0.0024410	-0.006696	4.4956495	-60.000000 CY
0.0002788	11257.	40382760.	9.0119665	0.0025121	-0.006965	4.4998905	-60.000000 CY
0.0002888	11275.	39048157.	8.9382098	0.0025809	-0.007237	4.4962283	-60.000000 CY
0.0002988	11293.	37800491.	8.8705039	0.0026501	-0.007507	4.4998672	-60.000000 CY
0.0003088	11310.	36630680.	8.8087492	0.0027197	-0.007778	4.4947551	-60.000000 CY
0.0003188	11326.	35532427.	8.7519748	0.0027897	-0.008048	4.4993625	-60.000000 CY
0.0003288	11342.	34498887.	8.6998754	0.0028601	-0.008317	4.4920923	-60.000000 CY

0.0003388	11356.	33523036.	8.6502199	0.0029303	-0.008587	4.4972545	-60.000000	CY
0.0003488	11369.	32599912.	8.6014496	0.0029998	-0.008858	4.4999125	-60.000000	CY
0.0003588	11382.	31726455.	8.5565862	0.0030697	-0.009128	4.4909384	-60.000000	CYT
0.0003688	11394.	30899350.	8.5149256	0.0031399	-0.009398	4.4969745	60.000000	CYT
0.0003788	11406.	30114949.	8.4762102	0.0032104	-0.009667	4.4997893	60.000000	CYT
0.0003888	11417.	29369600.	8.4404283	0.0032812	-0.009936	4.4906733	60.000000	CYT
0.0003988	11428.	28660753.	8.4071380	0.0033523	-0.010205	4.4941909	60.000000	CYT
0.0004088	11438.	27983142.	8.3776724	0.0034244	-0.010473	4.4985787	60.000000	CYT
0.0004188	11447.	27336892.	8.3503821	0.0034967	-0.010741	4.4995902	60.000000	CYT
0.0004288	11456.	26719259.	8.3247821	0.0035693	-0.011008	4.4869224	60.000000	CYT
0.0004388	11464.	26127838.	8.2988599	0.0036411	-0.011276	4.4936627	60.000000	CYT
0.0004488	11470.	25559598.	8.2766046	0.0037141	-0.011543	4.4980937	60.000000	CYT
0.0004588	11476.	25015692.	8.2557945	0.0037873	-0.011810	4.4999440	60.000000	CYT
0.0004688	11482.	24494059.	8.2367565	0.0038610	-0.012077	4.4896930	60.000000	CYT

Axial Thrust Force = 225.000 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
0.00000125	392.6678660	314134293.	58.6314723	0.00007329	0.00003079	0.3227284	2.0206284	
0.00000250	785.3097522	314123901.	37.8475690	0.00009462	0.00000962	0.4137513	2.5344238	
0.00000375	1178.	314093185.	30.9335730	0.0001160	-0.00001150	0.5039937	3.0497386	
0.00000500	1569.	313879390.	27.4842838	0.0001374	-0.00003258	0.5933900	3.5661710	
0.00000625	1959.	313433248.	25.4179548	0.0001589	-0.00005364	0.6818590	4.0831918	
0.00000750	2346.	312822059.	24.0419506	0.0001803	-0.00007469	0.7693624	4.6005493	
0.00000875	2731.	312100829.	23.0599579	0.0002018	-0.00009573	0.8558821	5.1181268	
0.00001000	2731.	273088225.	20.3140132	0.0002031	-0.000137	0.8605481	5.0529638	C
0.00001125	2731.	242745089.	19.4108297	0.0002184	-0.000164	0.9210549	5.3899207	C
0.00001250	2731.	218470580.	18.6545841	0.0002332	-0.000192	0.9793787	5.7146618	C
0.00001375	2731.	198609618.	18.0101624	0.0002476	-0.000220	1.0358300	6.0291648	C
0.00001500	2731.	182058817.	17.4539049	0.0002618	-0.000248	1.0906953	6.3352987	C
0.00001625	2752.	169325868.	16.9675016	0.0002757	-0.000277	1.1441300	-6.664652	C
0.00001750	2855.	163132883.	16.5398686	0.0002894	-0.000306	1.1964200	-7.394342	C
0.00001875	2956.	157630360.	16.1597541	0.0003030	-0.000335	1.2476182	-8.129196	C
0.00002000	3054.	152704066.	15.8187946	0.0003164	-0.000364	1.2977822	-8.868899	C
0.00002125	3151.	148268907.	15.5109476	0.0003296	-0.000393	1.3469962	-9.612916	C
0.00002250	3246.	144257913.	15.2316304	0.0003427	-0.000422	1.3953520	-10.360636	C
0.00002375	3340.	140617142.	14.9773237	0.0003557	-0.000452	1.4429475	-11.111381	C
0.00002500	3433.	137302353.	14.7453150	0.0003686	-0.000481	1.4898871	-11.864397	C
0.00002625	3524.	134258617.	14.5312261	0.0003814	-0.000511	1.5360634	-12.620592	C
0.00002750	3615.	131461891.	14.3338608	0.0003942	-0.000541	1.5816099	-13.378971	C
0.00002875	3706.	128887593.	14.1519892	0.0004069	-0.000571	1.6266312	-14.138741	C
0.00003000	3795.	126497766.	13.9820681	0.0004195	-0.000601	1.6709597	-14.901301	C
0.00003125	3884.	124287209.	13.8250024	0.0004320	-0.000630	1.7148619	-15.664529	C
0.00003250	3972.	122225510.	13.6777102	0.0004445	-0.000660	1.7581573	-16.429933	C
0.00003375	4060.	120303123.	13.5401581	0.0004570	-0.000691	1.8009759	-17.196483	C
0.00003500	4148.	118511561.	13.4122378	0.0004694	-0.000721	1.8434341	-17.963229	C
0.00003625	4235.	116821842.	13.2903164	0.0004818	-0.000751	1.8852050	-18.732942	C
0.00003750	4322.	115241709.	13.1768322	0.0004941	-0.000781	1.9266841	-19.502320	C
0.00003875	4408.	113757380.	13.0703677	0.0005065	-0.000811	1.9677921	-20.272038	C
0.00004000	4494.	112349472.	12.9682739	0.0005187	-0.000841	2.0082636	-21.044402	C
0.00004125	4580.	111024175.	12.8726469	0.0005310	-0.000872	2.0484472	-21.816434	C
0.00004250	4665.	109774195.	12.7829170	0.0005433	-0.000902	2.0883422	-22.588132	C
0.00004375	4751.	108585280.	12.6968991	0.0005555	-0.000932	2.1277077	-23.361622	C
0.00004500	4835.	107455265.	12.6149014	0.0005677	-0.000962	2.1666387	-24.136103	C
0.00004625	4920.	106383961.	12.5375856	0.0005799	-0.000993	2.2052846	-24.910251	C
0.00004750	5005.	105366726.	12.4645829	0.0005921	-0.001023	2.2436447	-25.684062	C
0.00004875	5089.	104397419.	12.3950751	0.0006043	-0.001053	2.2816431	-26.458226	C
0.00005125	5257.	102580571.	12.2635009	0.0006285	-0.001114	2.3562377	-28.010609	C
0.00005375	5425.	100924683.	12.1450348	0.0006528	-0.001175	2.4296989	-29.561639	C
0.00005625	5591.	99404382.	12.0368125	0.0006771	-0.001235	2.5018310	-31.113138	C
0.00005875	5757.	97997969.	11.9362114	0.0007013	-0.001296	2.5724095	-32.667342	C
0.00006125	5923.	96699350.	11.8446023	0.0007255	-0.001357	2.6418570	-34.220163	C
0.00006375	6088.	95495791.	11.7609342	0.0007498	-0.001418	2.7101671	-35.771585	C
0.00006625	6252.	94371798.	11.6826456	0.0007740	-0.001479	2.7770253	-37.324806	C
0.00006875	6416.	93320399.	11.6097236	0.0007982	-0.001539	2.8425498	-38.878676	C

0.00007125	6579.	92336719.	11.5426168	0.0008224	-0.001600	2.9069371	-40.431105	C
0.00007375	6742.	91413823.	11.4807404	0.0008467	-0.001661	2.9701805	-41.982079	C
0.00007625	6904.	90545680.	11.4235866	0.0008710	-0.001721	3.0322733	-43.531581	C
0.00007875	7066.	89725427.	11.3699738	0.0008954	-0.001782	3.0930624	-45.081285	C
0.00008125	7227.	88947648.	11.3191029	0.0009197	-0.001843	3.1524543	-46.632301	C
0.00008375	7388.	88211048.	11.2719002	0.0009440	-0.001903	3.2106928	-48.181785	C
0.00008625	7548.	87511993.	11.2280534	0.0009684	-0.001964	3.2677707	-49.729719	C
0.00008875	7708.	86847263.	11.1872855	0.0009929	-0.002025	3.3236805	-51.276086	C
0.00009125	7867.	86213987.	11.1493499	0.0010174	-0.002085	3.3784151	-52.820870	C
0.00009375	8026.	85609600.	11.1140265	0.0010419	-0.002146	3.4319667	-54.364053	C
0.00009625	8184.	85031802.	11.0811183	0.0010666	-0.002206	3.4843277	-55.905616	C
0.00009875	8342.	84478526.	11.0504482	0.0010912	-0.002266	3.5354904	-57.445541	C
0.0001013	8500.	83946267.	11.0207062	0.0011158	-0.002327	3.5852104	-58.987190	C
0.0001038	8656.	83432905.	10.9928607	0.0011405	-0.002387	3.6337098	-60.000000	CY
0.0001063	8805.	82875166.	10.9642926	0.0011650	-0.002448	3.6804736	-60.000000	CY
0.0001088	8937.	82180286.	10.9310131	0.0011887	-0.002509	3.7247170	-60.000000	CY
0.0001113	9062.	81451860.	10.8971317	0.0012123	-0.002570	3.7673893	-60.000000	CY
0.0001138	9185.	80746404.	10.8649554	0.0012359	-0.002632	3.8087416	-60.000000	CY
0.0001163	9291.	79924567.	10.8281523	0.0012588	-0.002694	3.8477720	-60.000000	CY
0.0001188	9373.	78932107.	10.7839797	0.0012806	-0.002757	3.8839065	-60.000000	CY
0.0001213	9442.	77868976.	10.7368530	0.0013018	-0.002821	3.9180751	-60.000000	CY
0.0001238	9508.	76831644.	10.6904853	0.0013229	-0.002885	3.9510463	-60.000000	CY
0.0001263	9574.	75830808.	10.6451138	0.0013439	-0.002949	3.9828942	-60.000000	CY
0.0001288	9639.	74867073.	10.6018235	0.0013650	-0.003013	4.0138514	-60.000000	CY
0.0001313	9704.	73938290.	10.5604984	0.0013861	-0.003076	4.0439125	-60.000000	CY
0.0001338	9769.	73042488.	10.5210310	0.0014072	-0.003140	4.0730722	-60.000000	CY
0.0001363	9834.	72177836.	10.4833217	0.0014284	-0.003204	4.1013252	-60.000000	CY
0.0001388	9899.	71342634.	10.4472783	0.0014496	-0.003268	4.1286662	-60.000000	CY
0.0001413	9963.	70535303.	10.4128150	0.0014708	-0.003332	4.1550895	-60.000000	CY
0.0001438	10027.	69754373.	10.3798523	0.0014921	-0.003395	4.1805897	-60.000000	CY
0.0001463	10091.	68996627.	10.3473005	0.0015133	-0.003459	4.2049902	-60.000000	CY
0.0001488	10153.	68256192.	10.3153141	0.0015344	-0.003523	4.2283343	-60.000000	CY
0.0001588	10331.	65080083.	10.1701508	0.0016145	-0.003783	4.3080862	-60.000000	CY
0.0001688	10436.	61845672.	10.0153357	0.0016901	-0.004047	4.3705807	-60.000000	CY
0.0001788	10537.	58946873.	9.8743981	0.0017650	-0.004312	4.4204358	-60.000000	CY
0.0001888	10635.	56343564.	9.7514475	0.0018406	-0.004577	4.4584728	-60.000000	CY
0.0001988	10730.	53986055.	9.6410301	0.0019162	-0.004841	4.4842600	-60.000000	CY
0.0002088	10821.	51838068.	9.5407559	0.0019916	-0.005106	4.4977690	-60.000000	CY
0.0002188	10910.	49875401.	9.4526294	0.0020678	-0.005370	4.4977745	-60.000000	CY
0.0002288	10997.	48072690.	9.3752898	0.0021446	-0.005633	4.4971293	-60.000000	CY
0.0002388	11080.	46406524.	9.3044786	0.0022214	-0.005896	4.4954867	-60.000000	CY
0.0002488	11160.	44862880.	9.2406248	0.0022986	-0.006159	4.4992870	-60.000000	CY
0.0002588	11230.	43402661.	9.1803602	0.0023754	-0.006422	4.4994966	-60.000000	CY
0.0002688	11279.	41966869.	9.1141767	0.0024494	-0.006688	4.4967436	-60.000000	CY
0.0002788	11307.	40561801.	9.0427414	0.0025207	-0.006957	4.4999981	-60.000000	CY
0.0002888	11326.	39223011.	8.9708329	0.0025903	-0.007227	4.4973553	-60.000000	CY
0.0002988	11343.	37968915.	8.9022872	0.0026596	-0.007498	4.4999979	-60.000000	CY
0.0003088	11360.	36792831.	8.8398576	0.0027293	-0.007768	4.4961264	-60.000000	CY
0.0003188	11376.	35689002.	8.7823348	0.0027994	-0.008038	4.4997754	-60.000000	CY
0.0003288	11391.	34649954.	8.7296566	0.0028699	-0.008308	4.4926412	-60.000000	CY
0.0003388	11406.	33670656.	8.6810895	0.0029407	-0.008577	4.4982935	-60.000000	CY
0.0003488	11419.	32743694.	8.6327638	0.0030107	-0.008847	4.4992135	-60.000000	CYT
0.0003588	11432.	31865662.	8.5873679	0.0030807	-0.009117	4.4930304	-60.000000	CYT
0.0003688	11444.	31034395.	8.5451218	0.0031510	-0.009386	4.4981340	60.000000	CYT
0.0003788	11456.	30246109.	8.5058219	0.0032216	-0.009656	4.4999931	60.000000	CYT
0.0003888	11467.	29496848.	8.4696275	0.0032926	-0.009925	4.4896473	60.000000	CYT
0.0003988	11478.	28783966.	8.4361364	0.0033639	-0.010194	4.4959095	60.000000	CYT
0.0004088	11487.	28102685.	8.4063955	0.0034361	-0.010461	4.4993624	60.000000	CYT
0.0004188	11496.	27453059.	8.3787947	0.0035086	-0.010729	4.4951267	60.000000	CYT
0.0004288	11505.	26832738.	8.3532728	0.0035815	-0.010996	4.4897169	60.000000	CYT
0.0004388	11512.	26238408.	8.3305414	0.0036550	-0.011262	4.4957921	60.000000	CYT
0.0004488	11518.	25667486.	8.3079134	0.0037282	-0.011529	4.4991726	60.000000	CYT
0.0004588	11524.	25120846.	8.2868073	0.0038016	-0.011796	4.4973110	60.000000	CYT

Axial Thrust Force = 245.000 kips

Bending Curvature	Bending Moment	Bending Stiffness	Depth to N Axis	Max Comp Strain	Max Tens Strain	Max Conc Stress	Max Steel Stress	Run Msg
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rad/in.	in-kip	kip-in2	in	in/in	in/in	ksi	ksi
0.00000125	391.8179817	313454385.	62.3796882	0.00007797	0.00003547	0.3430103	2.1565012
0.00000250	783.6101806	313444072.	39.7217474	0.00009930	0.00001430	0.4338115	2.6703017
0.00000375	1175.	313423234.	32.1832501	0.0001207	-0.00000681	0.5238344	3.1856410
0.00000500	1566.	313279640.	28.4228228	0.0001421	-0.00002789	0.6130341	3.7022593
0.00000625	1956.	312910904.	26.1705708	0.0001636	-0.00004893	0.7013252	4.2196033
0.00000750	2343.	312365025.	24.6709992	0.0001850	-0.00006997	0.7886612	4.7373673
0.00000875	2727.	311696176.	23.6009452	0.0002065	-0.00009099	0.8750192	5.2554024
0.00001000	2727.	272734154.	21.0278994	0.0002103	-0.000130	0.8893712	5.2599909 C
0.00001125	2727.	242430359.	20.0789722	0.0002259	-0.000157	0.9511461	5.6079022 C
0.00001250	2727.	218187324.	19.2842506	0.0002411	-0.000184	1.0106265	5.9429159 C
0.00001375	2727.	198352112.	18.6066023	0.0002558	-0.000212	1.0681231	6.2669952 C
0.00001500	2758.	183894592.	18.0205589	0.0002703	-0.000240	1.1238952	6.5817932 C
0.00001625	2869.	176529123.	17.5092421	0.0002845	-0.000268	1.1782411	6.8893179 C
0.00001750	2975.	169982771.	17.0564490	0.0002985	-0.000297	1.2311718	7.1894729 C
0.00001875	3078.	164164207.	16.6546138	0.0003123	-0.000325	1.2830060	-7.860116 C
0.00002000	3179.	158953753.	16.2948000	0.0003259	-0.000354	1.3338065	-8.592816 C
0.00002125	3278.	154258037.	15.9701619	0.0003394	-0.000383	1.3836337	-9.329925 C
0.00002250	3375.	150005787.	15.6756500	0.0003527	-0.000412	1.4325688	-10.070913 C
0.00002375	3471.	146140657.	15.4074470	0.0003659	-0.000442	1.4807061	-10.815133 C
0.00002500	3565.	142608710.	15.1617421	0.0003790	-0.000471	1.5280677	-11.562487 C
0.00002625	3658.	139361166.	14.9348108	0.0003920	-0.000500	1.5746143	-12.313363 C
0.00002750	3751.	136382471.	14.7264907	0.0004050	-0.000530	1.6205938	-13.065849 C
0.00002875	3842.	133627438.	14.5330709	0.0004178	-0.000560	1.6658792	-13.821015 C
0.00003000	3932.	131076998.	14.3535202	0.0004306	-0.000589	1.7105666	-14.578137 C
0.00003125	4022.	128709724.	14.1865578	0.0004433	-0.000619	1.7547040	-15.336869 C
0.00003250	4111.	126504691.	14.0305609	0.0004560	-0.000649	1.7982767	-16.097371 C
0.00003375	4200.	124444690.	13.8844086	0.0004686	-0.000679	1.8413011	-16.859548 C
0.00003500	4288.	122524270.	13.7484118	0.0004812	-0.000709	1.8839462	-17.622012 C
0.00003625	4376.	120712407.	13.6189262	0.0004937	-0.000739	1.9258927	-18.387491 C
0.00003750	4463.	119018142.	13.4983910	0.0005062	-0.000769	1.9675405	-19.152625 C
0.00003875	4550.	117422205.	13.3845758	0.0005187	-0.000799	2.0087117	-19.918945 C
0.00004000	4636.	115911611.	13.2761861	0.0005310	-0.000829	2.0493212	-20.687224 C
0.00004125	4723.	114489736.	13.1746520	0.0005435	-0.000859	2.0896359	-21.455160 C
0.00004250	4809.	113146991.	13.0790299	0.0005559	-0.000889	2.1296079	-22.223171 C
0.00004375	4894.	111865239.	12.9865965	0.0005682	-0.000919	2.1689235	-22.994068 C
0.00004500	4979.	110652154.	12.8995595	0.0005805	-0.000950	2.2079479	-23.764625 C
0.00004625	5064.	109502166.	12.8174823	0.0005928	-0.000980	2.2466805	-24.534840 C
0.00004750	5149.	108408782.	12.7396436	0.0006051	-0.001010	2.2850708	-25.305167 C
0.00004875	5234.	107359612.	12.6639302	0.0006174	-0.001040	2.3228467	-26.078131 C
0.00005125	5402.	105408236.	12.5242747	0.0006419	-0.001101	2.3975325	-27.623034 C
0.00005375	5570.	103628449.	12.3981022	0.0006664	-0.001161	2.4709946	-29.167172 C
0.00005625	5737.	101985078.	12.2804504	0.0006908	-0.001222	2.5427009	-30.715703 C
0.00005875	5903.	100474016.	12.1736287	0.0007152	-0.001282	2.6132569	-32.262843 C
0.00006125	6069.	99078996.	12.0763178	0.0007397	-0.001343	2.6826562	-33.808579 C
0.00006375	6233.	97776721.	11.9844635	0.0007640	-0.001403	2.7503663	-35.358335 C
0.00006625	6397.	96565392.	11.9000775	0.0007884	-0.001464	2.8168885	-36.907063 C
0.00006875	6561.	95435690.	11.8229513	0.0008128	-0.001525	2.8822555	-38.454351 C
0.00007125	6725.	94378963.	11.7511695	0.0008373	-0.001585	2.9464604	-40.000184 C
0.00007375	6887.	93383356.	11.6836537	0.0008617	-0.001646	3.0091796	-41.548098 C
0.00007625	7049.	92445255.	11.6205076	0.0008861	-0.001706	3.0705953	-43.096140 C
0.00007875	7210.	91561028.	11.5620300	0.0009105	-0.001767	3.1308480	-44.642676 C
0.00008125	7371.	90725648.	11.5077966	0.0009350	-0.001827	3.1899307	-46.187692 C
0.00008375	7532.	89934688.	11.4574338	0.0009596	-0.001888	3.2478360	-47.731170 C
0.00008625	7692.	89184235.	11.4106114	0.0009842	-0.001948	3.3045567	-49.273095 C
0.00008875	7852.	88469031.	11.3661385	0.0010087	-0.002009	3.3599048	-50.815765 C
0.00009125	8011.	87786477.	11.3239514	0.0010333	-0.002069	3.4139107	-52.358831 C
0.00009375	8169.	87135381.	11.2846124	0.0010579	-0.002130	3.4667271	-53.900272 C
0.00009625	8327.	86513249.	11.2479062	0.0010826	-0.002190	3.5183462	-55.440069 C
0.00009875	8484.	85917830.	11.2136395	0.0011073	-0.002250	3.5687601	-56.978202 C
0.0001013	8641.	85347097.	11.1816382	0.0011321	-0.002310	3.6179607	-58.514652 C
0.0001038	8798.	84799009.	11.1517372	0.0011570	-0.002371	3.6659382	-60.000000 CY
0.0001063	8950.	84234640.	11.1223311	0.0011817	-0.002431	3.7123917	-60.000000 CY
0.0001088	9088.	83565100.	11.0897619	0.0012060	-0.002491	3.7566167	-60.000000 CY
0.0001113	9213.	82809961.	11.0545949	0.0012298	-0.002553	3.7987618	-60.000000 CY
0.0001138	9336.	82075190.	11.0190061	0.0012535	-0.002614	3.8394679	-60.000000 CY
0.0001163	9451.	81298375.	10.9838192	0.0012769	-0.002676	3.8783955	-60.000000 CY
0.0001188	9542.	80355117.	10.9406307	0.0012992	-0.002738	3.9144807	-60.000000 CY

0.0001213	9612.	79273422.	10.8913471	0.0013206	-0.002802	3.9479834	-60.000000	CY
0.0001238	9678.	78207058.	10.8431211	0.0013418	-0.002866	3.9803226	-60.000000	CY
0.0001263	9744.	77181022.	10.7971357	0.0013631	-0.002929	4.0117475	-60.000000	CY
0.0001288	9810.	76192947.	10.7532633	0.0013845	-0.002993	4.0422529	-60.000000	CY
0.0001313	9875.	75240647.	10.7113858	0.0014059	-0.003057	4.0718333	-60.000000	CY
0.0001338	9940.	74318105.	10.6696050	0.0014271	-0.003120	4.1001623	-60.000000	CY
0.0001363	10005.	73427529.	10.6296116	0.0014483	-0.003184	4.1275665	-60.000000	CY
0.0001388	10069.	72567325.	10.5913722	0.0014696	-0.003248	4.1540523	-60.000000	CY
0.0001413	10133.	71735849.	10.5547967	0.0014909	-0.003312	4.1796138	-60.000000	CY
0.0001438	10196.	70931591.	10.5198011	0.0015122	-0.003375	4.2042453	-60.000000	CY
0.0001463	10260.	70153139.	10.4863072	0.0015336	-0.003439	4.2279412	-60.000000	CY
0.0001488	10323.	69399176.	10.4542422	0.0015551	-0.003502	4.2506955	-60.000000	CY
0.0001588	10519.	66259084.	10.3133568	0.0016372	-0.003760	4.3286247	-60.000000	CY
0.0001688	10625.	62960223.	10.1528331	0.0017133	-0.004024	4.3876763	-60.000000	CY
0.0001788	10726.	60005657.	10.0118545	0.0017896	-0.004288	4.4344541	-60.000000	CY
0.0001888	10823.	57339975.	9.8829977	0.0018654	-0.004552	4.4685097	-60.000000	CY
0.0001988	10918.	54930829.	9.7701730	0.0019418	-0.004816	4.4903480	-60.000000	CY
0.0002088	11009.	52739103.	9.6699892	0.0020186	-0.005079	4.4996530	-60.000000	CY
0.0002188	11097.	50728883.	9.5775949	0.0020951	-0.005342	4.4996691	-60.000000	CY
0.0002288	11182.	48882464.	9.4964760	0.0021723	-0.005605	4.4994150	-60.000000	CY
0.0002388	11264.	47179469.	9.4252310	0.0022503	-0.005867	4.4986595	-60.000000	CY
0.0002488	11344.	45603195.	9.3625995	0.0023289	-0.006129	4.4969210	-60.000000	CY
0.0002588	11416.	44120037.	9.3016322	0.0024068	-0.006391	4.4961670	-60.000000	CY
0.0002688	11470.	42680339.	9.2370346	0.0024825	-0.006655	4.4995135	-60.000000	CY
0.0002788	11503.	41267953.	9.1666507	0.0025552	-0.006922	4.4957443	-60.000000	CY
0.0002888	11525.	39913007.	9.0959013	0.0026264	-0.007191	4.4998275	-60.000000	CY
0.0002988	11543.	38638273.	9.0302216	0.0026978	-0.007460	4.4952901	-60.000000	CY
0.0003088	11560.	37440250.	8.9663740	0.0027684	-0.007729	4.4995665	-60.000000	CY
0.0003188	11575.	36313349.	8.9061742	0.0028388	-0.007999	4.4922484	-60.000000	CY
0.0003288	11589.	35253169.	8.8507726	0.0029097	-0.008268	4.4981020	-60.000000	CY
0.0003388	11604.	34254365.	8.7994996	0.0029808	-0.008537	4.4995684	-60.000000	CY
0.0003488	11617.	33310596.	8.7525097	0.0030524	-0.008805	4.4937239	-60.000000	CYT
0.0003588	11630.	32418419.	8.7088924	0.0031243	-0.009073	4.4986118	60.000000	CYT
0.0003688	11643.	31573333.	8.6683128	0.0031964	-0.009341	4.4982423	60.000000	CYT
0.0003788	11654.	30768690.	8.6271582	0.0032675	-0.009610	4.4918213	60.000000	CYT
0.0003888	11664.	30003611.	8.5894126	0.0033391	-0.009878	4.4972570	60.000000	CYT
0.0003988	11673.	29274150.	8.5554096	0.0034115	-0.010146	4.4998169	60.000000	CYT
0.0004088	11682.	28579237.	8.5239813	0.0034842	-0.010413	4.4909037	60.000000	CYT
0.0004188	11690.	27916756.	8.4947099	0.0035572	-0.010680	4.4926522	60.000000	CYT
0.0004288	11697.	27281682.	8.4692706	0.0036312	-0.010946	4.4976310	60.000000	CYT
0.0004388	11703.	26674386.	8.4459282	0.0037057	-0.011212	4.4998748	60.000000	CYT
0.0004488	11709.	26093138.	8.4244961	0.0037805	-0.011477	4.4905510	60.000000	CYT
0.0004588	11715.	25536625.	8.4045695	0.0038556	-0.011742	4.4899001	60.000000	CYT

Axial Thrust Force = 400.000 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
0.00000125	385.1664719	308133178.	91.7145995	0.0001146	0.00007214	0.5000392	3.2198917	
0.00000250	770.3086961	308123478.	54.3897655	0.0001360	0.00005097	0.5891052	3.7337330	
0.00000375	1155.	308104545.	41.9625823	0.0001574	0.00002986	0.6773928	4.2491433	
0.00000500	1540.	308077415.	35.7598139	0.0001788	0.00000880	0.7648942	4.7661230	
0.00000625	1925.	308038105.	32.0467518	0.0002003	-0.00001221	0.8516002	5.2846613	
0.00000750	2309.	307917818.	29.5774285	0.0002218	-0.00003317	0.9374697	5.8045157	
0.00000875	2692.	307658243.	27.8172342	0.0002434	-0.00005410	1.0224414	6.3252856	
0.00001000	3073.	307265444.	26.4993272	0.0002650	-0.00007501	1.1064749	6.8467049	
0.00001125	3451.	306761265.	25.4757593	0.0002866	-0.00009590	1.1895445	7.3686040	
0.00001250	3451.	276085138.	23.6023966	0.0002950	-0.000130	1.2211655	7.5082438	C
0.00001375	3451.	250986489.	22.7001099	0.0003121	-0.000155	1.2856774	7.8992814	C
0.00001500	3481.	232035449.	21.9202433	0.0003288	-0.000181	1.3479696	8.2781559	C
0.00001625	3628.	223278898.	21.2367531	0.0003451	-0.000207	1.4082222	8.6459074	C
0.00001750	3767.	215277994.	20.6317004	0.0003611	-0.000234	1.4666523	9.0039130	C
0.00001875	3899.	207968942.	20.0917584	0.0003767	-0.000261	1.5234575	9.3534562	C
0.00002000	4026.	201291234.	19.6069714	0.0003921	-0.000288	1.5788315	9.6958435	C
0.00002125	4147.	195161752.	19.1681559	0.0004073	-0.000315	1.6328416	10.0314137	C
0.00002250	4264.	189517257.	18.7684204	0.0004223	-0.000343	1.6855731	10.3606694	C

0.00002375	4378.	184318138.	18.4031297	0.0004371	-0.000370	1.7371763	10.6846682	C
0.00002500	4488.	179514656.	18.0677082	0.0004517	-0.000398	1.7877206	11.0038386	C
0.00002625	4595.	175065842.	17.7585160	0.0004662	-0.000426	1.8372792	11.3186579	C
0.00002750	4701.	170937742.	17.4726631	0.0004805	-0.000455	1.8859311	11.6296737	C
0.00002875	4804.	167091436.	17.2070309	0.0004947	-0.000483	1.9336817	11.9368246	C
0.00003000	4905.	163500008.	16.9594098	0.0005088	-0.000511	1.9805756	-12.311013	C
0.00003125	5005.	160152907.	16.7290511	0.0005228	-0.000540	2.0267717	-13.032735	C
0.00003250	5103.	157024718.	16.5141274	0.0005367	-0.000568	2.0722949	-13.756610	C
0.00003375	5200.	154074695.	16.3112582	0.0005505	-0.000597	2.1169682	-14.484268	C
0.00003500	5296.	151316915.	16.1220551	0.0005643	-0.000626	2.1611331	-15.212764	C
0.00003625	5391.	148703886.	15.9424035	0.0005779	-0.000655	2.2044776	-15.944936	C
0.00003750	5484.	146251601.	15.7741958	0.0005915	-0.000683	2.2473531	-16.677687	C
0.00003875	5577.	143921190.	15.6139027	0.0006050	-0.000712	2.2894655	-17.413739	C
0.00004000	5669.	141730941.	15.4638318	0.0006186	-0.000741	2.3312061	-18.149555	C
0.00004125	5760.	139636217.	15.3194840	0.0006319	-0.000771	2.3721185	-18.889405	C
0.00004250	5851.	137661051.	15.1839677	0.0006453	-0.000800	2.4126857	-19.628835	C
0.00004375	5940.	135777971.	15.0544372	0.0006586	-0.000829	2.4526291	-20.370495	C
0.00004500	6029.	133984203.	14.9309719	0.0006719	-0.000858	2.4920337	-21.113632	C
0.00004625	6118.	132284108.	14.8144882	0.0006852	-0.000887	2.5310977	-21.856355	C
0.00004750	6206.	130651399.	14.7019279	0.0006983	-0.000917	2.5694691	-22.602119	C
0.00004875	6293.	129094262.	14.5947475	0.0007115	-0.000946	2.6074071	-23.348438	C
0.00005125	6467.	126188182.	14.3952899	0.0007378	-0.001005	2.6820391	-24.842238	C
0.00005375	6639.	123514499.	14.2114693	0.0007639	-0.001064	2.7547307	-26.340585	C
0.00005625	6809.	121055630.	14.0429494	0.0007899	-0.001123	2.8257788	-27.840626	C
0.00005875	6978.	118778499.	13.8868258	0.0008159	-0.001182	2.8950433	-29.343984	C
0.00006125	7146.	116673397.	13.7435259	0.0008418	-0.001241	2.9628575	-30.847200	C
0.00006375	7312.	114705530.	13.6088735	0.0008676	-0.001300	3.0287829	-32.355208	C
0.00006625	7478.	112877720.	13.4852218	0.0008934	-0.001359	3.0934031	-33.861607	C
0.00006875	7643.	111165176.	13.3694136	0.0009191	-0.001418	3.1563780	-35.370294	C
0.00007125	7806.	109556761.	13.2608041	0.0009448	-0.001478	3.2177518	-36.880901	C
0.00007375	7969.	108049851.	13.1603218	0.0009706	-0.001537	3.2778229	-38.389876	C
0.00007625	8131.	106631103.	13.0663796	0.0009963	-0.001596	3.3364446	-39.898956	C
0.00007875	8291.	105285907.	12.9768446	0.0010219	-0.001656	3.3933520	-41.411594	C
0.00008125	8451.	104016691.	12.8935275	0.0010476	-0.001715	3.4489577	-42.922564	C
0.00008375	8611.	102816584.	12.8158783	0.0010733	-0.001774	3.5032530	-44.431850	C
0.00008625	8770.	101678689.	12.7431713	0.0010991	-0.001833	3.5561872	-45.940030	C
0.00008875	8927.	100590771.	12.6729788	0.0011247	-0.001893	3.6073957	-47.452283	C
0.00009125	9085.	99556370.	12.6072880	0.0011504	-0.001952	3.6572925	-48.962801	C
0.00009375	9241.	98571139.	12.5457459	0.0011762	-0.002011	3.7058685	-50.471566	C
0.00009625	9397.	97631183.	12.4880360	0.0012020	-0.002071	3.7531146	-51.978559	C
0.00009875	9552.	96733014.	12.4338740	0.0012278	-0.002130	3.7990219	-53.483755	C
0.0001013	9707.	95870614.	12.3819676	0.0012537	-0.002189	3.8434001	-54.990185	C
0.0001038	9861.	95041874.	12.3323078	0.0012795	-0.002248	3.8862834	-56.497381	C
0.0001063	10014.	94246720.	12.2855907	0.0013053	-0.002307	3.9278218	-58.002711	C
0.0001088	10166.	93482774.	12.2416205	0.0013313	-0.002366	3.9680055	-59.506152	C
0.0001113	10318.	92743994.	12.2000733	0.0013573	-0.002425	4.0068004	-60.000000	CY
0.0001138	10458.	91937906.	12.1572904	0.0013829	-0.002485	4.0436280	-60.000000	CY
0.0001163	10584.	91048763.	12.1124479	0.0014081	-0.002544	4.0784027	-60.000000	CY
0.0001188	10705.	90149076.	12.0681955	0.0014331	-0.002604	4.1151958	-60.000000	CY
0.0001213	10825.	89276842.	12.0245293	0.0014580	-0.002665	4.1432379	-60.000000	CY
0.0001238	10931.	88334775.	11.9786361	0.0014824	-0.002725	4.1729370	-60.000000	CY
0.0001263	11016.	87251512.	11.9270771	0.0015058	-0.002787	4.2002498	-60.000000	CY
0.0001288	11084.	86087190.	11.8723604	0.0015286	-0.002849	4.2256345	-60.000000	CY
0.0001313	11149.	84943063.	11.8190883	0.0015513	-0.002911	4.2498071	-60.000000	CY
0.0001338	11214.	83839335.	11.7681860	0.0015740	-0.002974	4.2729165	-60.000000	CY
0.0001363	11278.	82772330.	11.7190365	0.0015967	-0.003036	4.2948911	-60.000000	CY
0.0001388	11341.	81736563.	11.6703119	0.0016193	-0.003098	4.3155776	-60.000000	CY
0.0001413	11404.	80735256.	11.6236762	0.0016418	-0.003161	4.3352091	-60.000000	CY
0.0001438	11466.	79766586.	11.5790240	0.0016645	-0.003223	4.3537782	-60.000000	CY
0.0001463	11529.	78828855.	11.5362571	0.0016872	-0.003285	4.3712775	-60.000000	CY
0.0001488	11591.	77920483.	11.4952840	0.0017099	-0.003348	4.3876997	-60.000000	CY
0.0001588	11834.	74547576.	11.3455736	0.0018011	-0.003596	4.4422892	-60.000000	CY
0.0001688	12028.	71276544.	11.1963146	0.0018894	-0.003848	4.4779647	-60.000000	CY
0.0001788	12135.	67887905.	11.0344025	0.0019724	-0.004105	4.4961289	-60.000000	CY
0.0001888	12230.	64793587.	10.8840662	0.0020544	-0.004363	4.4979610	-60.000000	CY
0.0001988	12321.	61992104.	10.7530551	0.0021372	-0.004620	4.4988154	-60.000000	CY
0.0002088	12407.	59433009.	10.6343640	0.0022199	-0.004878	4.4990427	-60.000000	CY
0.0002188	12488.	57088063.	10.5280136	0.0023030	-0.005134	4.4988215	-60.000000	CY
0.0002288	12566.	54934537.	10.4344864	0.0023869	-0.005391	4.4980576	-60.000000	CY

0.0002388	12641.	52947861.	10.3508564	0.0024713	-0.005646	4.4963393	-60.000000 CY
0.0002488	12713.	51105828.	10.2731029	0.0025554	-0.005902	4.4981226	-60.000000 CY
0.0002588	12781.	49396814.	10.2042244	0.0026403	-0.006157	4.4995430	-60.000000 CY
0.0002688	12848.	47807244.	10.1429811	0.0027259	-0.006412	4.4970236	-60.000000 CY
0.0002788	12913.	46325452.	10.0882811	0.0028121	-0.006665	4.4978135	-60.000000 CY
0.0002888	12970.	44917125.	10.0357717	0.0028978	-0.006920	4.4985811	-60.000000 CY
0.0002988	13010.	43547058.	9.9758884	0.0029803	-0.007177	4.4945072	60.000000 CY
0.0003088	13035.	42217508.	9.9119965	0.0030603	-0.007437	4.4979597	60.000000 CYT
0.0003188	13050.	40941739.	9.8503686	0.0031398	-0.007698	4.4995592	60.000000 CYT
0.0003288	13062.	39732045.	9.7925140	0.0032193	-0.007958	4.4949811	60.000000 CYT
0.0003388	13072.	38589622.	9.7402645	0.0032995	-0.008218	4.4992580	60.000000 CYT
0.0003488	13081.	37507685.	9.6936094	0.0033806	-0.008477	4.4938696	60.000000 CYT
0.0003588	13088.	36481184.	9.6465469	0.0034607	-0.008737	4.4952966	60.000000 CYT
0.0003688	13093.	35506394.	9.6039900	0.0035415	-0.008996	4.4992160	60.000000 CYT
0.0003788	13097.	34580820.	9.5652114	0.0036228	-0.009255	4.4953317	60.000000 CYT
0.0003888	13101.	33701393.	9.5295299	0.0037046	-0.009513	4.4927237	60.000000 CYT
0.0003988	13105.	32865328.	9.4963035	0.0037867	-0.009771	4.4977933	60.000000 CYT
0.0004088	13105.	32061283.	9.5006852	0.0038834	-0.010014	4.4975427	60.000000 CYT

Summary of Results for Nominal Moment Capacity for Section 2

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	Max. Tens. Strain
1	155.000	10738.377	0.00300000	-0.00955971
2	220.000	11369.263	0.00300000	-0.00885869
3	225.000	11417.314	0.00300000	-0.00880561
4	245.000	11607.254	0.00300000	-0.00860852
5	400.000	13015.832	0.00300000	-0.00724121

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 (0.75).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, 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	Nominal Ax. Thrust kips	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	155.000000	10738.	100.750000	6980.	81749845.
2	0.65	220.000000	11369.	143.000000	7390.	87612909.
3	0.65	225.000000	11417.	146.250000	7421.	88064553.
4	0.65	245.000000	11607.	159.250000	7545.	89875231.
5	0.65	400.000000	13016.	260.000000	8460.	103949482.
1	0.75	155.000000	10738.	116.250000	8054.	78772601.
2	0.75	220.000000	11369.	165.000000	8527.	83390209.
3	0.75	225.000000	11417.	168.750000	8563.	83738352.
4	0.75	245.000000	11607.	183.750000	8705.	85122798.
5	0.75	400.000000	13016.	300.000000	9762.	95574188.
1	0.90	155.000000	10738.	139.500000	9665.	60712847.
2	0.90	220.000000	11369.	198.000000	10232.	65730505.
3	0.90	225.000000	11417.	202.500000	10276.	66075198.

4	0.90	245.000000	11607.	220.500000	10447.	67417140.
5	0.90	400.000000	13016.	360.000000	11714.	76210525.

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	0.00	0.00	N.A.	No	0.00	18140.
2	4.9000	4.9000	No	Yes	N.A.	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.

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

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 12000.0 lbs
Applied moment at pile head = 3420000.0 in-lbs
Axial thrust load on pile head = 400000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.05055	3420000.	12000.	-0.00104	0.00	3.85E+11	0.00	0.00	0.00
0.1340	0.04889	3439960.	11996.	-0.00102	0.00	3.85E+11	-4.717	155.1398	0.00
0.2680	0.04726	3459898.	11985.	-0.00101	0.00	3.85E+11	-9.119	310.2797	0.00
0.4020	0.04564	3479803.	11967.	-9.96E-04	0.00	3.85E+11	-13.211	465.4195	0.00
0.5360	0.04406	3499665.	11943.	-9.81E-04	0.00	3.85E+11	-17.002	620.5594	0.00
0.6700	0.04249	3519473.	11913.	-9.66E-04	0.00	3.85E+11	-20.497	775.6992	0.00
0.8040	0.04095	3539219.	11877.	-9.52E-04	0.00	3.85E+11	-23.704	930.8390	0.00
0.9380	0.03943	3558894.	11837.	-9.37E-04	0.00	3.85E+11	-26.629	1086.	0.00
1.0720	0.03794	3578491.	11792.	-9.22E-04	0.00	3.85E+11	-29.280	1241.	0.00
1.2060	0.03646	3598002.	11743.	-9.07E-04	0.00	3.85E+11	-31.663	1396.	0.00
1.3400	0.03502	3617422.	11690.	-8.92E-04	0.00	3.85E+11	-33.786	1551.	0.00
1.4740	0.03360	3636745.	11634.	-8.77E-04	0.00	3.85E+11	-35.656	1707.	0.00
1.6080	0.03220	3655966.	11576.	-8.61E-04	0.00	3.85E+11	-37.279	1862.	0.00
1.7420	0.03083	3675080.	11515.	-8.46E-04	0.00	3.85E+11	-38.664	2017.	0.00
1.8760	0.02948	3694085.	11451.	-8.31E-04	0.00	3.85E+11	-39.817	2172.	0.00
2.0100	0.02816	3712977.	11387.	-8.15E-04	0.00	3.85E+11	-40.746	2327.	0.00
2.1440	0.02686	3731753.	11321.	-8.00E-04	0.00	3.85E+11	-41.458	2482.	0.00
2.2780	0.02558	3750412.	11254.	-7.84E-04	0.00	3.85E+11	-41.961	2637.	0.00
2.4120	0.02434	3768953.	11186.	-7.68E-04	0.00	3.85E+11	-42.262	2793.	0.00
2.5460	0.02311	3787374.	11118.	-7.52E-04	0.00	3.85E+11	-42.368	2948.	0.00
2.6800	0.02192	3805676.	11050.	-7.37E-04	0.00	3.85E+11	-42.288	3103.	0.00
2.8140	0.02074	3823858.	10982.	-7.21E-04	0.00	3.85E+11	-42.029	3258.	0.00
2.9480	0.01960	3841921.	10915.	-7.05E-04	0.00	3.84E+11	-41.598	3413.	0.00
3.0820	0.01848	3859866.	10848.	-6.89E-04	0.00	3.84E+11	-41.003	3568.	0.00
3.2160	0.01738	3877695.	10783.	-6.72E-04	0.00	3.84E+11	-40.252	3723.	0.00
3.3500	0.01632	3895409.	10719.	-6.56E-04	0.00	3.84E+11	-39.353	3878.	0.00
3.4840	0.01527	3913011.	10657.	-6.40E-04	0.00	3.84E+11	-38.313	4034.	0.00

~ POF = 7.8'
= EI. 2395.2'

3.6180	0.01426	3930503.	10596.	-6.23E-04	0.00	3.84E+11	-37.142	4189.	0.00
3.7520	0.01327	3947889.	10537.	-6.07E-04	0.00	3.84E+11	-35.845	4344.	0.00
3.8860	0.01231	3965171.	10481.	-5.90E-04	0.00	3.84E+11	-34.432	4499.	0.00
4.0200	0.01137	3982354.	10427.	-5.74E-04	0.00	3.84E+11	-32.911	4654.	0.00
4.1540	0.01046	3999441.	10375.	-5.57E-04	0.00	3.84E+11	-31.289	4809.	0.00
4.2880	0.00958	4016436.	10326.	-5.40E-04	0.00	3.84E+11	-29.575	4964.	0.00
4.4220	0.00872	4033344.	10280.	-5.23E-04	0.00	3.84E+11	-27.776	5120.	0.00
4.5560	0.00790	4050170.	10237.	-5.06E-04	0.00	3.84E+11	-25.902	5275.	0.00
4.6900	0.00710	4066917.	10197.	-4.89E-04	0.00	3.84E+11	-23.960	5430.	0.00
4.8240	0.00632	4083592.	10160.	-4.72E-04	0.00	3.81E+11	-21.959	5585.	0.00
4.9580	0.00558	4100198.	1175.	-4.47E-04	0.00	1.98E+11	-11153.	3216000.	0.00
5.0920	0.00488	4087945.	-15646.	-4.14E-04	0.00	1.98E+11	-9769.	3216000.	0.00
5.2260	0.00425	4050411.	-30328.	-3.81E-04	0.00	2.00E+11	-8492.	3216000.	0.00
5.3600	0.00366	3990899.	-43041.	-3.49E-04	0.00	2.03E+11	-7320.	3216000.	0.00
5.4940	0.00312	3912441.	-53950.	-3.18E-04	0.00	2.07E+11	-6249.	3216000.	0.00
5.6280	0.00264	3817806.	-63215.	-2.88E-04	0.00	2.12E+11	-5275.	3216000.	0.00
5.7620	0.00220	3709512.	-70990.	-2.60E-04	0.00	2.19E+11	-4395.	3216000.	0.00
5.8960	0.00180	3589837.	-77420.	-2.34E-04	0.00	2.26E+11	-3603.	3216000.	0.00
6.0300	0.00145	3460830.	-82642.	-2.11E-04	0.00	2.92E+11	-2892.	3216000.	0.00
6.1640	0.00112	3324332.	-86771.	-1.93E-04	0.00	3.07E+11	-2243.	3216000.	0.00
6.2980	8.25E-04	3182024.	-89901.	-1.76E-04	0.00	3.07E+11	-1650.	3216000.	0.00
6.4320	5.55E-04	3035437.	-92121.	-1.60E-04	0.00	3.07E+11	-1111.	3216000.	0.00
6.5660	3.11E-04	2885969.	-93514.	-1.44E-04	0.00	3.07E+11	-622.378	3216000.	0.00
6.7000	9.13E-05	2734881.	-94161.	-1.30E-04	0.00	3.08E+11	-182.566	3216000.	0.00
6.8340	-1.06E-04	2583313.	-94138.	-1.16E-04	0.00	3.08E+11	211.2681	3216000.	0.00
6.9680	-2.81E-04	2432282.	-93517.	-1.03E-04	0.00	3.08E+11	561.6897	3216000.	0.00
7.1020	-4.36E-04	2282695.	-92365.	-9.03E-05	0.00	3.08E+11	871.2500	3216000.	0.00
7.2360	-5.71E-04	2135353.	-90746.	-7.88E-05	0.00	3.08E+11	1142.	3216000.	0.00
7.3700	-6.89E-04	1990958.	-88719.	-6.80E-05	0.00	3.08E+11	1378.	3216000.	0.00
7.5040	-7.90E-04	1850119.	-86341.	-5.80E-05	0.00	3.08E+11	1580.	3216000.	0.00
7.6380	-8.75E-04	1713359.	-83664.	-4.87E-05	0.00	3.08E+11	1751.	3216000.	0.00
7.7720	-9.46E-04	1581119.	-80734.	-4.01E-05	0.00	3.08E+11	1893.	3216000.	0.00
7.9060	-0.00100	1453769.	-77598.	-3.21E-05	0.00	3.08E+11	2008.	3216000.	0.00
8.0400	-0.00105	1331606.	-74295.	-2.49E-05	0.00	3.08E+11	2100.	3216000.	0.00
8.1740	-0.00108	1214868.	-70864.	-1.82E-05	0.00	3.08E+11	2168.	3216000.	0.00
8.3080	-0.00111	1103732.	-67338.	-1.22E-05	0.00	3.08E+11	2217.	3216000.	0.00
8.4420	-0.00112	998324.	-63749.	-6.70E-06	0.00	3.08E+11	2247.	3216000.	0.00
8.5760	-0.00113	898723.	-60126.	-1.74E-06	0.00	3.08E+11	2260.	3216000.	0.00
8.7100	-0.00113	804961.	-56494.	-2.70E-06	0.00	3.08E+11	2258.	3216000.	0.00
8.8440	-0.00112	717035.	-52875.	6.67E-06	0.00	3.08E+11	2242.	3216000.	0.00
8.9780	-0.00111	634905.	-49292.	1.02E-05	0.00	3.08E+11	2215.	3216000.	0.00
9.1120	-0.00109	558500.	-45760.	1.33E-05	0.00	3.08E+11	2177.	3216000.	0.00
9.2460	-0.00106	487723.	-42298.	1.60E-05	0.00	3.08E+11	2129.	3216000.	0.00
9.3800	-0.00104	422449.	-38919.	1.84E-05	0.00	3.08E+11	2074.	3216000.	0.00
9.5140	-0.00101	362536.	-35635.	2.05E-05	0.00	3.08E+11	2011.	3216000.	0.00
9.6480	-9.71E-04	307821.	-32457.	2.22E-05	0.00	3.08E+11	1942.	3216000.	0.00
9.7820	-9.34E-04	258126.	-29393.	2.37E-05	0.00	3.08E+11	1868.	3216000.	0.00
9.9160	-8.95E-04	213261.	-26453.	2.49E-05	0.00	3.08E+11	1790.	3216000.	0.00
10.0500	-8.54E-04	173023.	-23641.	2.59E-05	0.00	3.08E+11	1708.	3216000.	0.00
10.1840	-8.11E-04	137199.	-20963.	2.67E-05	0.00	3.08E+11	1623.	3216000.	0.00
10.3180	-7.68E-04	105572.	-18423.	2.74E-05	0.00	3.08E+11	1536.	3216000.	0.00
10.4520	-7.23E-04	77915.	-16025.	2.79E-05	0.00	3.08E+11	1447.	3216000.	0.00
10.5860	-6.78E-04	53998.	-13771.	2.82E-05	0.00	3.08E+11	1357.	3216000.	0.00
10.7200	-6.33E-04	33589.	-11663.	2.84E-05	0.00	3.08E+11	1265.	3216000.	0.00
10.8540	-5.87E-04	16453.	-9702.	2.86E-05	0.00	3.08E+11	1174.	3216000.	0.00
10.9880	-5.41E-04	2351.	-7889.	2.86E-05	0.00	3.08E+11	1082.	3216000.	0.00
11.1220	-4.95E-04	-8954.	-6223.	2.86E-05	0.00	3.08E+11	989.7775	3216000.	0.00
11.2560	-4.49E-04	-17700.	-4705.	2.85E-05	0.00	3.08E+11	897.9160	3216000.	0.00
11.3900	-4.03E-04	-24124.	-3335.	2.84E-05	0.00	3.08E+11	806.3516	3216000.	0.00
11.5240	-3.58E-04	-28463.	-2112.	2.83E-05	0.00	3.08E+11	715.1920	3216000.	0.00
11.6580	-3.12E-04	-30952.	-1035.	2.81E-05	0.00	3.08E+11	624.5100	3216000.	0.00
11.7920	-2.67E-04	-31827.	-103.074	2.80E-05	0.00	3.08E+11	534.3476	3216000.	0.00
11.9260	-2.22E-04	-31320.	684.0962	2.78E-05	0.00	3.08E+11	444.7193	3216000.	0.00
12.0600	-1.78E-04	-29662.	1328.	2.76E-05	0.00	3.08E+11	355.6166	3216000.	0.00
12.1940	-1.34E-04	-27086.	1828.	2.75E-05	0.00	3.08E+11	267.0117	3216000.	0.00
12.3280	-8.94E-05	-23818.	2187.	2.73E-05	0.00	3.08E+11	178.8614	3216000.	0.00
12.4620	-4.56E-05	-20089.	2404.	2.72E-05	0.00	3.08E+11	91.1109	3216000.	0.00
12.5960	-1.85E-06	-16123.	2480.	2.71E-05	0.00	3.08E+11	3.6975	3216000.	0.00
12.7300	4.17E-05	-12148.	2416.	2.71E-05	0.00	3.08E+11	-83.445	3216000.	0.00

12.8640	8.52E-05	-8389.	2212.	2.70E-05	0.00	3.08E+11	-170.384	3216000.	0.00
12.9980	1.29E-04	-5070.	1868.	2.70E-05	0.00	3.08E+11	-257.182	3216000.	0.00
13.1320	1.72E-04	-2416.	1385.	2.70E-05	0.00	3.08E+11	-343.896	3216000.	0.00
13.2660	2.15E-04	-651.359	762.0294	2.69E-05	0.00	3.08E+11	-430.568	3216000.	0.00
13.4000	2.59E-04	0.00	0.00	2.69E-05	0.00	3.08E+11	-517.230	1608000.	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 = 0.05055173 inches
Computed slope at pile head = -0.0010388 radians
Maximum bending moment = 4100198. inch-lbs
Maximum shear force = -94161. lbs
Depth of maximum bending moment = 4.95800000 feet below pile head
Depth of maximum shear force = 6.70000000 feet below pile head
Number of iterations = 12
Number of zero deflection points = 2

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

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 69000.0 lbs
Applied moment at pile head = 6732000.0 in-lbs
Axial thrust load on pile head = 155000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.5212	6732000.	69000.	-0.01071	0.00	9.89E+10	0.00	0.00	0.00
0.1340	0.5041	6845607.	68992.	-0.01060	0.00	9.89E+10	-10.180	32.4738	0.00
0.2680	0.4871	6959161.	68967.	-0.01049	0.00	9.79E+10	-20.501	67.6755	0.00
0.4020	0.4703	7072633.	68926.	-0.01037	0.00	9.75E+10	-30.922	105.7165	0.00
0.5360	0.4538	7185996.	68868.	-0.01025	0.00	9.70E+10	-41.402	146.7164	0.00
0.6700	0.4374	7299222.	68793.	-0.01013	0.00	9.66E+10	-51.898	190.8036	0.00
0.8040	0.4212	7412283.	68701.	-0.01001	0.00	9.62E+10	-62.369	238.1162	0.00
0.9380	0.4052	7525153.	68592.	-0.00988	0.00	9.58E+10	-72.772	288.8032	0.00
1.0720	0.3894	7637803.	68467.	-0.00976	0.00	9.55E+10	-83.066	343.0255	0.00
1.2060	0.3738	7750206.	68325.	-0.00963	0.00	9.51E+10	-93.209	400.9573	0.00
1.3400	0.3584	7862335.	68167.	-0.00949	0.00	9.47E+10	-103.157	462.7881	0.00
1.4740	0.3433	7974164.	67994.	-0.00936	0.00	9.44E+10	-112.870	528.7237	0.00
1.6080	0.3283	8085668.	67804.	-0.00922	0.00	9.41E+10	-122.512	600.0093	0.00
1.7420	0.3136	8196821.	67600.	-0.00908	0.00	9.37E+10	-131.948	676.5515	0.00
1.8760	0.2991	8307597.	67380.	-0.00894	0.00	9.34E+10	-141.098	758.5214	0.00
2.0100	0.2849	8417973.	67146.	-0.00880	0.00	9.31E+10	-149.926	846.3426	0.00
2.1440	0.2708	8527924.	66898.	-0.00865	0.00	9.28E+10	-158.399	940.4946	0.00
2.2780	0.2570	8637430.	66637.	-0.00850	0.00	9.25E+10	-166.481	1042.	0.00
2.4120	0.2435	8746467.	66363.	-0.00835	0.00	9.21E+10	-174.137	1150.	0.00
2.5460	0.2302	8855017.	66077.	-0.00820	0.00	9.16E+10	-181.331	1267.	0.00
2.6800	0.2171	8963058.	65780.	-0.00804	0.00	9.11E+10	-188.030	1393.	0.00
2.8140	0.2043	9070575.	65473.	-0.00788	0.00	9.04E+10	-194.197	1528.	0.00
2.9480	0.1918	9177548.	65156.	-0.00772	0.00	8.97E+10	-199.796	1675.	0.00
3.0820	0.1795	9283964.	64831.	-0.00755	0.00	8.90E+10	-204.993	1836.	0.00
3.2160	0.1675	9389809.	64498.	-0.00738	0.00	8.74E+10	-209.705	2013.	0.00
3.3500	0.1558	9495068.	64157.	-0.00721	0.00	8.58E+10	-213.779	2207.	0.00
3.4840	0.1443	9599730.	63811.	-0.00702	0.00	8.42E+10	-217.177	2420.	0.00

3.6180	0.1332	9703784.	63459.	-0.00684	0.00	8.27E+10	-219.860	2655.	0.00
3.7520	0.1223	9807223.	63104.	-0.00665	0.00	8.13E+10	-221.790	2916.	0.00
3.8860	0.1118	9910041.	62747.	-0.00645	0.00	7.99E+10	-222.924	3207.	0.00
4.0200	0.1016	1.00E+07	62388.	-0.00625	0.00	7.86E+10	-223.218	3534.	0.00
4.1540	0.09169	1.01E+07	62029.	-0.00604	0.00	7.74E+10	-222.621	3904.	0.00
4.2880	0.08215	1.02E+07	61673.	-0.00583	0.00	7.61E+10	-221.079	4328.	0.00
4.4220	0.07295	1.03E+07	61319.	-0.00561	0.00	7.41E+10	-218.529	4817.	0.00
4.5560	0.06411	1.04E+07	60974.	-0.00538	0.00	7.10E+10	-210.305	5275.	0.00
4.6900	0.05565	1.05E+07	60654.	-0.00514	0.00	6.79E+10	-187.926	5430.	0.00
4.8240	0.04759	1.06E+07	60370.	-0.00488	0.00	6.51E+10	-165.306	5585.	0.00
4.9580	0.03996	1.07E+07	36249.	-0.00447	0.00	3.08E+10	-29836.	1200698.	0.00
5.0920	0.03322	1.07E+07	-11185.	-0.00390	0.00	2.96E+10	-29162.	1411583.	0.00
5.2260	0.02742	1.07E+07	-57611.	-0.00334	0.00	3.28E+10	-28582.	1676056.	0.00
5.3600	0.02246	1.05E+07	-103173.	-0.00287	0.00	4.05E+10	-28086.	2010421.	0.00
5.4940	0.01818	1.03E+07	-147991.	-0.00248	0.00	4.49E+10	-27658.	2446168.	0.00
5.6280	0.01449	1.01E+07	-192169.	-0.00213	0.00	5.03E+10	-27289.	3027727.	0.00
5.7620	0.01132	9729046.	-232317.	-0.00184	0.00	5.88E+10	-22645.	3216000.	0.00
5.8960	0.00858	9326629.	-264320.	-0.00159	0.00	6.66E+10	-17160.	3216000.	0.00
6.0300	0.00620	8879786.	-288085.	-0.00138	0.00	7.22E+10	-12399.	3216000.	0.00
6.1640	0.00414	8400835.	-304706.	-0.00120	0.00	7.72E+10	-8274.	3216000.	0.00
6.2980	0.00236	7900448.	-315145.	-0.00103	0.00	7.92E+10	-4711.	3216000.	0.00
6.4320	8.32E-04	7387840.	-320270.	-8.74E-04	0.00	8.05E+10	-1664.	3216000.	0.00
6.5660	-4.54E-04	6870894.	-320877.	-7.33E-04	0.00	8.21E+10	908.8062	3216000.	0.00
6.7000	-0.00152	6356264.	-317696.	-6.04E-04	0.00	8.39E+10	3049.	3216000.	0.00
6.8340	-0.00240	5849486.	-311388.	-4.89E-04	0.00	8.60E+10	4797.	3216000.	0.00
6.9680	-0.00310	5355083.	-302553.	-3.85E-04	0.00	8.85E+10	6193.	3216000.	0.00
7.1020	-0.00364	4876668.	-291724.	-2.94E-04	0.00	9.14E+10	7276.	3216000.	0.00
7.2360	-0.00404	4417044.	-279376.	-2.14E-04	0.00	9.50E+10	8083.	3216000.	0.00
7.3700	-0.00433	3978303.	-265922.	-1.44E-04	0.00	9.95E+10	8650.	3216000.	0.00
7.5040	-0.00451	3561911.	-251723.	-8.48E-05	0.00	1.05E+11	9010.	3216000.	0.00
7.6380	-0.00460	3168805.	-237085.	-3.48E-05	0.00	1.12E+11	9195.	3216000.	0.00
7.7720	-0.00462	2799463.	-222267.	6.31E-06	0.00	1.22E+11	9235.	3216000.	0.00
7.9060	-0.00458	2453990.	-207482.	3.94E-05	0.00	1.35E+11	9155.	3216000.	0.00
8.0400	-0.00449	2132181.	-192901.	5.95E-05	0.00	3.15E+11	8981.	3216000.	0.00
8.1740	-0.00439	1833591.	-178627.	6.96E-05	0.00	3.15E+11	8772.	3216000.	0.00
8.3080	-0.00427	1557681.	-164714.	7.83E-05	0.00	3.16E+11	8533.	3216000.	0.00
8.4420	-0.00413	1303832.	-151206.	8.56E-05	0.00	3.16E+11	8269.	3216000.	0.00
8.5760	-0.00399	1071361.	-138139.	9.16E-05	0.00	3.16E+11	7983.	3216000.	0.00
8.7100	-0.00384	859530.	-125547.	9.65E-05	0.00	3.16E+11	7679.	3216000.	0.00
8.8440	-0.00368	667553.	-113454.	1.00E-04	0.00	3.16E+11	7362.	3216000.	0.00
8.9780	-0.00352	494612.	-101880.	1.03E-04	0.00	3.16E+11	7034.	3216000.	0.00
9.1120	-0.00335	339856.	-90840.	1.05E-04	0.00	3.17E+11	6697.	3216000.	0.00
9.2460	-0.00318	202416.	-80346.	1.07E-04	0.00	3.17E+11	6355.	3216000.	0.00
9.3800	-0.00300	81409.	-70405.	1.08E-04	0.00	3.17E+11	6010.	3216000.	0.00
9.5140	-0.00283	-24059.	-61019.	1.08E-04	0.00	3.17E+11	5663.	3216000.	0.00
9.6480	-0.00266	-114883.	-52191.	1.07E-04	0.00	3.17E+11	5317.	3216000.	0.00
9.7820	-0.00249	-191958.	-43918.	1.07E-04	0.00	3.17E+11	4973.	3216000.	0.00
9.9160	-0.00232	-256176.	-36196.	1.05E-04	0.00	3.17E+11	4632.	3216000.	0.00
10.0500	-0.00215	-308416.	-29019.	1.04E-04	0.00	3.17E+11	4295.	3216000.	0.00
10.1840	-0.00198	-349552.	-22380.	1.02E-04	0.00	3.17E+11	3963.	3216000.	0.00
10.3180	-0.00182	-380442.	-16270.	1.00E-04	0.00	3.17E+11	3636.	3216000.	0.00
10.4520	-0.00166	-401928.	-10680.	9.85E-05	0.00	3.17E+11	3316.	3216000.	0.00
10.5860	-0.00150	-414838.	-5599.	9.64E-05	0.00	3.17E+11	3003.	3216000.	0.00
10.7200	-0.00135	-419984.	-1017.	9.43E-05	0.00	3.17E+11	2696.	3216000.	0.00
10.8540	-0.00120	-418157.	3077.	9.22E-05	0.00	3.17E+11	2396.	3216000.	0.00
10.9880	-0.00105	-410133.	6695.	9.01E-05	0.00	3.17E+11	2103.	3216000.	0.00
11.1220	-9.09E-04	-396671.	9847.	8.80E-05	0.00	3.17E+11	1817.	3216000.	0.00
11.2560	-7.69E-04	-378509.	12544.	8.60E-05	0.00	3.17E+11	1537.	3216000.	0.00
11.3900	-6.32E-04	-356371.	14796.	8.42E-05	0.00	3.17E+11	1264.	3216000.	0.00
11.5240	-4.98E-04	-330966.	16613.	8.24E-05	0.00	3.17E+11	995.8784	3216000.	0.00
11.6580	-3.67E-04	-302985.	18003.	8.08E-05	0.00	3.17E+11	733.4791	3216000.	0.00
11.7920	-2.38E-04	-273108.	18976.	7.94E-05	0.00	3.17E+11	476.0303	3216000.	0.00
11.9260	-1.12E-04	-241999.	19538.	7.81E-05	0.00	3.17E+11	223.0438	3216000.	0.00
12.0600	1.30E-05	-210313.	19696.	7.69E-05	0.00	3.17E+11	-25.989	3216000.	0.00
12.1940	1.36E-04	-178694.	19457.	7.59E-05	0.00	3.17E+11	-271.585	3216000.	0.00
12.3280	2.57E-04	-147778.	18825.	7.51E-05	0.00	3.17E+11	-514.261	3216000.	0.00
12.4620	3.77E-04	-118190.	17805.	7.44E-05	0.00	3.17E+11	-754.523	3216000.	0.00
12.5960	4.96E-04	-90554.	16400.	7.39E-05	0.00	3.17E+11	-992.854	3216000.	0.00
12.7300	6.15E-04	-65484.	14613.	7.35E-05	0.00	3.17E+11	-1230.	3216000.	0.00

~ POF = 7.2'
= El. 2395.8'

12.8640	7.33E-04	-43594.	12446.	7.32E-05	0.00	3.17E+11	-1465.	3216000.	0.00
12.9980	8.50E-04	-25494.	9901.	7.30E-05	0.00	3.17E+11	-1701.	3216000.	0.00
13.1320	9.68E-04	-11790.	6978.	7.29E-05	0.00	3.17E+11	-1935.	3216000.	0.00
13.2660	0.00108	-3090.	3677.	7.29E-05	0.00	3.17E+11	-2170.	3216000.	0.00
13.4000	0.00120	0.00	0.00	7.29E-05	0.00	3.17E+11	-2404.	1608000.	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 = 0.52119810 inches
 Computed slope at pile head = -0.0107089 radians
 Maximum bending moment = 10731158. inch-lbs
 Maximum shear force = -320877. lbs
 Depth of maximum bending moment = 5.09200000 feet below pile head
 Depth of maximum shear force = 6.56600000 feet below pile head
 Number of iterations = 118
 Number of zero deflection points = 2

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

Pile-head conditions are Shear and Pile-head Rotation (Loading Type 2)

Shear force at pile head = 12000.0 lbs
 Rotation of pile head = 0.000E+00 radians
 Axial load at pile head = 225000.0 lbs

(Zero slope for this load indicates fixed-head conditions)

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.00198	-545910.	12000.	0.00	0.00	3.93E+11	0.00	0.00	0.00
0.1340	0.00198	-526613.	12000.	-2.19E-06	0.00	3.93E+11	-0.191	155.1398	0.00
0.2680	0.00198	-507317.	11999.	-4.31E-06	0.00	3.93E+11	-0.382	310.2797	0.00
0.4020	0.00197	-488020.	11999.	-6.34E-06	0.00	3.93E+11	-0.570	465.4195	0.00
0.5360	0.00196	-468725.	11998.	-8.30E-06	0.00	3.93E+11	-0.755	620.5594	0.00
0.6700	0.00194	-449430.	11996.	-1.02E-05	0.00	3.93E+11	-0.937	775.6992	0.00
0.8040	0.00192	-430137.	11995.	-1.20E-05	0.00	3.93E+11	-1.114	930.8390	0.00
0.9380	0.00190	-410847.	11993.	-1.37E-05	0.00	3.93E+11	-1.286	1086.	0.00
1.0720	0.00188	-391559.	11990.	-1.53E-05	0.00	3.93E+11	-1.452	1241.	0.00
1.2060	0.00185	-372275.	11988.	-1.69E-05	0.00	3.93E+11	-1.611	1396.	0.00
1.3400	0.00183	-352994.	11985.	-1.84E-05	0.00	3.93E+11	-1.762	1551.	0.00
1.4740	0.00180	-333717.	11982.	-1.98E-05	0.00	3.93E+11	-1.906	1707.	0.00
1.6080	0.00176	-314444.	11979.	-2.11E-05	0.00	3.93E+11	-2.041	1862.	0.00
1.7420	0.00173	-295177.	11976.	-2.24E-05	0.00	3.93E+11	-2.167	2017.	0.00
1.8760	0.00169	-275914.	11972.	-2.35E-05	0.00	3.93E+11	-2.284	2172.	0.00
2.0100	0.00165	-256657.	11968.	-2.46E-05	0.00	3.93E+11	-2.391	2327.	0.00
2.1440	0.00161	-237406.	11964.	-2.56E-05	0.00	3.93E+11	-2.488	2482.	0.00
2.2780	0.00157	-218161.	11960.	-2.66E-05	0.00	3.93E+11	-2.574	2637.	0.00
2.4120	0.00153	-198922.	11956.	-2.74E-05	0.00	3.93E+11	-2.650	2793.	0.00
2.5460	0.00148	-179690.	11952.	-2.82E-05	0.00	3.93E+11	-2.716	2948.	0.00
2.6800	0.00144	-160465.	11947.	-2.89E-05	0.00	3.93E+11	-2.770	3103.	0.00
2.8140	0.00139	-141246.	11943.	-2.95E-05	0.00	3.93E+11	-2.813	3258.	0.00
2.9480	0.00134	-122035.	11938.	-3.00E-05	0.00	3.93E+11	-2.846	3413.	0.00
3.0820	0.00129	-102830.	11934.	-3.05E-05	0.00	3.93E+11	-2.867	3568.	0.00
3.2160	0.00124	-83633.	11929.	-3.09E-05	0.00	3.93E+11	-2.877	3723.	0.00

3.3500	0.00119	-64444.	11925.	-3.12E-05	0.00	3.93E+11	-2.877	3878.	0.00
3.4840	0.00114	-45261.	11920.	-3.14E-05	0.00	3.93E+11	-2.865	4034.	0.00
3.6180	0.00109	-26086.	11915.	-3.16E-05	0.00	3.93E+11	-2.844	4189.	0.00
3.7520	0.00104	-6918.	11911.	-3.16E-05	0.00	3.93E+11	-2.812	4344.	0.00
3.8860	9.90E-04	12242.	11906.	-3.16E-05	0.00	3.93E+11	-2.770	4499.	0.00
4.0200	9.39E-04	31395.	11902.	-3.15E-05	0.00	3.93E+11	-2.718	4654.	0.00
4.1540	8.89E-04	50542.	11898.	-3.14E-05	0.00	3.93E+11	-2.657	4809.	0.00
4.2880	8.38E-04	69681.	11893.	-3.11E-05	0.00	3.93E+11	-2.588	4964.	0.00
4.4220	7.88E-04	88813.	11889.	-3.08E-05	0.00	3.93E+11	-2.510	5120.	0.00
4.5560	7.39E-04	107939.	11885.	-3.04E-05	0.00	3.93E+11	-2.425	5275.	0.00
4.6900	6.91E-04	127059.	11882.	-2.99E-05	0.00	3.93E+11	-2.332	5430.	0.00
4.8240	6.43E-04	146172.	11878.	-2.93E-05	0.00	3.93E+11	-2.234	5585.	0.00
4.9580	5.96E-04	165279.	10917.	-2.86E-05	0.00	3.14E+11	-1193.	3216000.	0.00
5.0920	5.51E-04	181302.	9072.	-2.77E-05	0.00	3.14E+11	-1102.	3216000.	0.00
5.2260	5.07E-04	194475.	7371.	-2.68E-05	0.00	3.14E+11	-1014.	3216000.	0.00
5.3600	4.65E-04	205025.	5807.	-2.58E-05	0.00	3.14E+11	-929.818	3216000.	0.00
5.4940	4.24E-04	213171.	4378.	-2.47E-05	0.00	3.14E+11	-848.689	3216000.	0.00
5.6280	3.86E-04	219121.	3075.	-2.36E-05	0.00	3.14E+11	-771.069	3216000.	0.00
5.7620	3.49E-04	223078.	1895.	-2.24E-05	0.00	3.14E+11	-697.056	3216000.	0.00
5.8960	3.13E-04	225231.	830.6032	-2.13E-05	0.00	3.14E+11	-626.715	3216000.	0.00
6.0300	2.80E-04	225764.	-123.582	-2.01E-05	0.00	3.14E+11	-560.082	3216000.	0.00
6.1640	2.49E-04	224849.	-973.610	-1.90E-05	0.00	3.14E+11	-497.166	3216000.	0.00
6.2980	2.19E-04	222647.	-1725.	-1.78E-05	0.00	3.14E+11	-437.951	3216000.	0.00
6.4320	1.91E-04	219312.	-2385.	-1.67E-05	0.00	3.14E+11	-382.402	3216000.	0.00
6.5660	1.65E-04	214989.	-2958.	-1.56E-05	0.00	3.14E+11	-330.462	3216000.	0.00
6.7000	1.41E-04	209810.	-3451.	-1.45E-05	0.00	3.14E+11	-282.062	3216000.	0.00
6.8340	1.19E-04	203902.	-3868.	-1.35E-05	0.00	3.14E+11	-237.116	3216000.	0.00
6.9680	9.78E-05	197380.	-4216.	-1.24E-05	0.00	3.14E+11	-195.527	3216000.	0.00
7.1020	7.86E-05	190353.	-4499.	-1.14E-05	0.00	3.14E+11	-157.187	3216000.	0.00
7.2360	6.10E-05	182918.	-4724.	-1.05E-05	0.00	3.14E+11	-121.980	3216000.	0.00
7.3700	4.49E-05	175168.	-4894.	-9.56E-06	0.00	3.14E+11	-89.785	3216000.	0.00
7.5040	3.02E-05	167186.	-5015.	-8.69E-06	0.00	3.14E+11	-60.474	3216000.	0.00
7.6380	1.70E-05	159046.	-5091.	-7.85E-06	0.00	3.14E+11	-33.914	3216000.	0.00
7.7720	4.99E-06	150819.	-5126.	-7.06E-06	0.00	3.14E+11	-9.973	3216000.	0.00
<u>7.9060</u>	<u>-5.74E-06</u>	142566.	-5125.	-6.31E-06	0.00	3.14E+11	11.4853	3216000.	0.00
8.0400	-1.53E-05	134342.	-5091.	-5.60E-06	0.00	3.14E+11	30.5967	3216000.	0.00
8.1740	-2.37E-05	126197.	-5028.	-4.93E-06	0.00	3.14E+11	47.4965	3216000.	0.00
8.3080	-3.12E-05	118174.	-4940.	-4.31E-06	0.00	3.14E+11	62.3188	3216000.	0.00
8.4420	-3.76E-05	110313.	-4829.	-3.72E-06	0.00	3.14E+11	75.1957	3216000.	0.00
8.5760	-4.31E-05	102646.	-4700.	-3.18E-06	0.00	3.14E+11	86.2567	3216000.	0.00
8.7100	-4.78E-05	95201.	-4553.	-2.67E-06	0.00	3.14E+11	95.6279	3216000.	0.00
8.8440	-5.17E-05	88004.	-4393.	-2.20E-06	0.00	3.14E+11	103.4318	3216000.	0.00
8.9780	-5.49E-05	81073.	-4222.	-1.77E-06	0.00	3.14E+11	109.7871	3216000.	0.00
9.1120	-5.74E-05	74427.	-4041.	-1.37E-06	0.00	3.14E+11	114.8077	3216000.	0.00
9.2460	-5.93E-05	68077.	-3854.	-1.01E-06	0.00	3.14E+11	118.6030	3216000.	0.00
9.3800	-6.06E-05	62034.	-3661.	-6.73E-07	0.00	3.14E+11	121.2777	3216000.	0.00
9.5140	-6.15E-05	56305.	-3465.	-3.70E-07	0.00	3.14E+11	122.9312	3216000.	0.00
9.6480	-6.18E-05	50893.	-3266.	-9.57E-08	0.00	3.14E+11	123.6577	3216000.	0.00
<u>9.7820</u>	<u>-6.18E-05</u>	45800.	-3067.	1.52E-07	0.00	3.14E+11	123.5465	3216000.	0.00
9.9160	-6.13E-05	41027.	-2870.	3.74E-07	0.00	3.14E+11	122.6812	3216000.	0.00
10.0500	-6.06E-05	36572.	-2673.	5.73E-07	0.00	3.14E+11	121.1406	3216000.	0.00
10.1840	-5.95E-05	32429.	-2480.	7.49E-07	0.00	3.14E+11	118.9979	3216000.	0.00
10.3180	-5.82E-05	28594.	-2291.	9.05E-07	0.00	3.14E+11	116.3214	3216000.	0.00
10.4520	-5.66E-05	25060.	-2107.	1.04E-06	0.00	3.14E+11	113.1741	3216000.	0.00
10.5860	-5.48E-05	21818.	-1928.	1.16E-06	0.00	3.14E+11	109.6143	3216000.	0.00
10.7200	-5.28E-05	18860.	-1754.	1.27E-06	0.00	3.14E+11	105.6954	3216000.	0.00
10.8540	-5.07E-05	16175.	-1588.	1.36E-06	0.00	3.14E+11	101.4659	3216000.	0.00
10.9880	-4.85E-05	13752.	-1428.	1.43E-06	0.00	3.14E+11	96.9702	3216000.	0.00
11.1220	-4.61E-05	11580.	-1276.	1.50E-06	0.00	3.14E+11	92.2481	3216000.	0.00
11.2560	-4.37E-05	9647.	-1132.	1.55E-06	0.00	3.14E+11	87.3354	3216000.	0.00
11.3900	-4.11E-05	7939.	-995.511	1.60E-06	0.00	3.14E+11	82.2639	3216000.	0.00
11.5240	-3.85E-05	6444.	-867.413	1.63E-06	0.00	3.14E+11	77.0616	3216000.	0.00
11.6580	-3.59E-05	5148.	-747.766	1.66E-06	0.00	3.14E+11	71.7533	3216000.	0.00
11.7920	-3.32E-05	4038.	-636.723	1.69E-06	0.00	3.14E+11	66.3603	3216000.	0.00
11.9260	-3.05E-05	3099.	-534.405	1.71E-06	0.00	3.14E+11	60.9007	3216000.	0.00
12.0600	-2.77E-05	2318.	-440.907	1.72E-06	0.00	3.14E+11	55.3902	3216000.	0.00
12.1940	-2.49E-05	1680.	-356.301	1.73E-06	0.00	3.14E+11	49.8415	3216000.	0.00
12.3280	-2.21E-05	1171.	-280.639	1.74E-06	0.00	3.14E+11	44.2651	3216000.	0.00
12.4620	-1.93E-05	776.1901	-213.960	1.74E-06	0.00	3.14E+11	38.6695	3216000.	0.00

~ POF = 8.8'
= El. 2394.2'

	12.5960	-1.65E-05	481.5053	-156.288	1.75E-06	0.00	3.14E+11	33.0611	3216000.	0.00
	12.7300	-1.37E-05	272.3044	-107.642	1.75E-06	0.00	3.14E+11	27.4447	3216000.	0.00
	12.8640	-1.09E-05	134.0657	-68.030	1.75E-06	0.00	3.14E+11	21.8239	3216000.	0.00
	12.9980	-8.10E-06	52.2561	-37.458	1.75E-06	0.00	3.14E+11	16.2009	3216000.	0.00
	13.1320	-5.29E-06	12.3363	-15.928	1.75E-06	0.00	3.14E+11	10.5770	3216000.	0.00
	13.2660	-2.48E-06	-0.235	-3.442	1.75E-06	0.00	3.14E+11	4.9529	3216000.	0.00
Min Tip = El. 2389.6'	13.4000	3.36E-07	0.00	0.00	1.75E-06	0.00	3.14E+11	-0.671	1608000.	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. 3:

Pile-head deflection	=	0.00198498 inches
Computed slope at pile head	=	0.000000 radians
Maximum bending moment	=	-545910. inch-lbs
Maximum shear force	=	12000. lbs
Depth of maximum bending moment	=	0.000000 feet below pile head
Depth of maximum shear force	=	0.000000 feet below pile head
Number of iterations	=	6
Number of zero deflection points	=	2

Computed Values of Pile Loading and Deflection
for Lateral Loading for Load Case Number 4

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head	=	13000.0 lbs
Applied moment at pile head	=	3372000.0 in-lbs
Axial thrust load on pile head	=	220000.0 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.08964	3372000.	13000.	-0.00205	0.00	1.78E+11	0.00	0.00	0.00
0.1340	0.08636	3393625.	12995.	-0.00202	0.00	1.78E+11	-6.435	119.8237	0.00
0.2680	0.08313	3415223.	12979.	-0.00199	0.00	1.73E+11	-12.899	249.5136	0.00
0.4020	0.07995	3436777.	12953.	-0.00196	0.00	1.72E+11	-19.362	389.4268	0.00
0.5360	0.07682	3458268.	12917.	-0.00193	0.00	1.71E+11	-25.796	539.9405	0.00
0.6700	0.07375	3479682.	12870.	-0.00190	0.00	1.70E+11	-32.171	701.4538	0.00
0.8040	0.07073	3501001.	12814.	-0.00186	0.00	1.68E+11	-38.460	874.3894	0.00
0.9380	0.06776	3522208.	12747.	-0.00183	0.00	1.68E+11	-44.633	1059.	0.00
1.0720	0.06485	3543289.	12671.	-0.00179	0.00	1.67E+11	-50.051	1241.	0.00
1.2060	0.06199	3564227.	12587.	-0.00176	0.00	1.66E+11	-53.825	1396.	0.00
1.3400	0.05919	3585014.	12498.	-0.00173	0.00	1.65E+11	-57.102	1551.	0.00
1.4740	0.05644	3605642.	12404.	-0.00169	0.00	1.64E+11	-59.897	1707.	0.00
1.6080	0.05375	3626101.	12306.	-0.00165	0.00	1.63E+11	-62.228	1862.	0.00
1.7420	0.05112	3646388.	12204.	-0.00162	0.00	1.62E+11	-64.113	2017.	0.00
1.8760	0.04854	3666495.	12100.	-0.00158	0.00	1.61E+11	-65.568	2172.	0.00
2.0100	0.04603	3686421.	11994.	-0.00155	0.00	1.61E+11	-66.611	2327.	0.00
2.1440	0.04357	3706161.	11886.	-0.00151	0.00	1.60E+11	-67.261	2482.	0.00
2.2780	0.04118	3725713.	11778.	-0.00147	0.00	1.59E+11	-67.535	2637.	0.00
2.4120	0.03884	3745078.	11669.	-0.00143	0.00	1.59E+11	-67.451	2793.	0.00
2.5460	0.03657	3764256.	11561.	-0.00140	0.00	1.58E+11	-67.029	2948.	0.00
2.6800	0.03435	3783246.	11454.	-0.00136	0.00	1.57E+11	-66.287	3103.	0.00
2.8140	0.03220	3802051.	11348.	-0.00132	0.00	1.56E+11	-65.244	3258.	0.00
2.9480	0.03011	3820673.	11244.	-0.00128	0.00	1.56E+11	-63.920	3413.	0.00
3.0820	0.02809	3839117.	11143.	-0.00124	0.00	1.55E+11	-62.333	3568.	0.00
3.2160	0.02613	3857385.	11044.	-0.00120	0.00	1.55E+11	-60.504	3723.	0.00

3.3500	0.02423	3875482.	10948.	-0.00116	0.00	1.54E+11	-58.453	3878.	0.00
3.4840	0.02240	3893414.	10856.	-0.00112	0.00	1.53E+11	-56.198	4034.	0.00
3.6180	0.02064	3911187.	10768.	-0.00108	0.00	1.53E+11	-53.762	4189.	0.00
3.7520	0.01894	3928805.	10683.	-0.00104	0.00	1.52E+11	-51.163	4344.	0.00
3.8860	0.01731	3946277.	10603.	-9.94E-04	0.00	1.52E+11	-48.424	4499.	0.00
4.0200	0.01574	3963609.	10528.	-9.52E-04	0.00	1.51E+11	-45.564	4654.	0.00
4.1540	0.01424	3980808.	10457.	-9.10E-04	0.00	1.51E+11	-42.605	4809.	0.00
4.2880	0.01282	3997882.	10391.	-8.67E-04	0.00	1.50E+11	-39.568	4964.	0.00
4.4220	0.01146	4014838.	10330.	-8.24E-04	0.00	1.50E+11	-36.474	5120.	0.00
4.5560	0.01017	4031685.	10273.	-7.81E-04	0.00	1.49E+11	-33.346	5275.	0.00
4.6900	0.00894	4048430.	10222.	-7.37E-04	0.00	1.49E+11	-30.205	5430.	0.00
4.8240	0.00779	4065082.	10176.	-6.93E-04	0.00	1.48E+11	-27.073	5585.	0.00
4.9580	0.00672	4081648.	-643.478	-6.43E-04	0.00	1.18E+11	-13430.	3216000.	0.00
5.0920	0.00573	4063468.	-20648.	-5.88E-04	0.00	1.18E+11	-11450.	3216000.	0.00
5.2260	0.00482	4015661.	-37611.	-5.33E-04	0.00	1.19E+11	-9648.	3216000.	0.00
5.3600	0.00401	3942889.	-51815.	-4.80E-04	0.00	1.21E+11	-8019.	3216000.	0.00
5.4940	0.00328	3849363.	-63536.	-4.29E-04	0.00	1.23E+11	-6559.	3216000.	0.00
5.6280	0.00263	3738861.	-73039.	-3.80E-04	0.00	1.26E+11	-5260.	3216000.	0.00
5.7620	0.00206	3614740.	-80577.	-3.34E-04	0.00	1.29E+11	-4115.	3216000.	0.00
5.8960	0.00156	3479962.	-86390.	-2.90E-04	0.00	1.33E+11	-3115.	3216000.	0.00
6.0300	0.00112	3337115.	-90703.	-2.50E-04	0.00	1.38E+11	-2250.	3216000.	0.00
6.1640	7.55E-04	3188437.	-93725.	-2.12E-04	0.00	1.44E+11	-1509.	3216000.	0.00
6.2980	4.42E-04	3035844.	-95649.	-1.78E-04	0.00	1.50E+11	-883.538	3216000.	0.00
6.4320	1.81E-04	2880956.	-96651.	-1.47E-04	0.00	1.58E+11	-362.174	3216000.	0.00
6.5660	-3.26E-05	2725120.	-96889.	-1.24E-04	0.00	2.61E+11	65.1040	3216000.	0.00
6.7000	-2.19E-04	2569447.	-96485.	-1.09E-04	0.00	3.12E+11	438.3464	3216000.	0.00
6.8340	-3.85E-04	2414903.	-95514.	-9.66E-05	0.00	3.13E+11	769.0662	3216000.	0.00
6.9680	-5.30E-04	2262343.	-94044.	-8.46E-05	0.00	3.13E+11	1060.	3216000.	0.00
7.1020	-6.57E-04	2112519.	-92136.	-7.34E-05	0.00	3.13E+11	1313.	3216000.	0.00
7.2360	-7.66E-04	1966087.	-89848.	-6.29E-05	0.00	3.14E+11	1532.	3216000.	0.00
7.3700	-8.59E-04	1823612.	-87235.	-5.32E-05	0.00	3.14E+11	1718.	3216000.	0.00
7.5040	-9.37E-04	1685576.	-84347.	-4.42E-05	0.00	3.14E+11	1874.	3216000.	0.00
7.6380	-0.00100	1552382.	-81231.	-3.59E-05	0.00	3.14E+11	2002.	3216000.	0.00
7.7720	-0.00105	1424363.	-77928.	-2.83E-05	0.00	3.14E+11	2105.	3216000.	0.00
7.9060	-0.00109	1301785.	-74480.	-2.13E-05	0.00	3.14E+11	2184.	3216000.	0.00
8.0400	-0.00112	1184852.	-70921.	-1.50E-05	0.00	3.14E+11	2242.	3216000.	0.00
8.1740	-0.00114	1073714.	-67285.	-9.18E-06	0.00	3.14E+11	2281.	3216000.	0.00
8.3080	-0.00115	968471.	-63601.	-3.95E-06	0.00	3.14E+11	2301.	3216000.	0.00
8.4420	-0.00115	869176.	-59897.	7.48E-07	0.00	3.14E+11	2306.	3216000.	0.00
8.5760	-0.00115	775842.	-56197.	4.96E-06	0.00	3.14E+11	2296.	3216000.	0.00
8.7100	-0.00114	688444.	-52522.	8.70E-06	0.00	3.14E+11	2274.	3216000.	0.00
8.8440	-0.00112	606925.	-48892.	1.20E-05	0.00	3.14E+11	2240.	3216000.	0.00
8.9780	-0.00110	531198.	-45325.	1.49E-05	0.00	3.14E+11	2197.	3216000.	0.00
9.1120	-0.00107	461149.	-41835.	1.75E-05	0.00	3.14E+11	2144.	3216000.	0.00
9.2460	-0.00104	396645.	-38435.	1.97E-05	0.00	3.14E+11	2084.	3216000.	0.00
9.3800	-0.00101	337530.	-35136.	2.15E-05	0.00	3.14E+11	2018.	3216000.	0.00
9.5140	-9.73E-04	283631.	-31949.	2.31E-05	0.00	3.14E+11	1946.	3216000.	0.00
9.6480	-9.35E-04	234764.	-28882.	2.45E-05	0.00	3.14E+11	1869.	3216000.	0.00
9.7820	-8.94E-04	190729.	-25941.	2.55E-05	0.00	3.14E+11	1789.	3216000.	0.00
9.9160	-8.52E-04	151319.	-23132.	2.64E-05	0.00	3.14E+11	1705.	3216000.	0.00
10.0500	-8.09E-04	116316.	-20460.	2.71E-05	0.00	3.14E+11	1619.	3216000.	0.00
10.1840	-7.65E-04	85499.	-17928.	2.76E-05	0.00	3.14E+11	1531.	3216000.	0.00
10.3180	-7.21E-04	58639.	-15539.	2.80E-05	0.00	3.14E+11	1441.	3216000.	0.00
10.4520	-6.75E-04	35505.	-13295.	2.82E-05	0.00	3.14E+11	1351.	3216000.	0.00
10.5860	-6.30E-04	15864.	-11196.	2.84E-05	0.00	3.14E+11	1260.	3216000.	0.00
10.7200	-5.84E-04	-521.377	-9244.	2.84E-05	0.00	3.14E+11	1168.	3216000.	0.00
10.8540	-5.38E-04	-13886.	-7439.	2.84E-05	0.00	3.14E+11	1077.	3216000.	0.00
10.9880	-4.93E-04	-24466.	-5781.	2.83E-05	0.00	3.14E+11	985.7590	3216000.	0.00
11.1220	-4.48E-04	-32497.	-4269.	2.81E-05	0.00	3.14E+11	895.0677	3216000.	0.00
11.2560	-4.02E-04	-38214.	-2902.	2.79E-05	0.00	3.14E+11	804.9111	3216000.	0.00
11.3900	-3.58E-04	-41850.	-1680.	2.77E-05	0.00	3.14E+11	715.3833	3216000.	0.00
11.5240	-3.13E-04	-43636.	-600.732	2.75E-05	0.00	3.14E+11	626.5440	3216000.	0.00
11.6580	-2.69E-04	-43801.	335.9017	2.73E-05	0.00	3.14E+11	538.4227	3216000.	0.00
11.7920	-2.26E-04	-42575.	1131.	2.71E-05	0.00	3.14E+11	451.0220	3216000.	0.00
11.9260	-1.82E-04	-40182.	1787.	2.69E-05	0.00	3.14E+11	364.3219	3216000.	0.00
12.0600	-1.39E-04	-36847.	2304.	2.67E-05	0.00	3.14E+11	278.2828	3216000.	0.00
12.1940	-9.64E-05	-32792.	2682.	2.65E-05	0.00	3.14E+11	192.8500	3216000.	0.00
12.3280	-5.40E-05	-28239.	2924.	2.63E-05	0.00	3.14E+11	107.9568	3216000.	0.00
12.4620	-1.18E-05	-23407.	3030.	2.62E-05	0.00	3.14E+11	23.5281	3216000.	0.00

12.5960	3.03E-05	-18513.	3000.	2.61E-05	0.00	3.14E+11	-60.515	3216000.	0.00
12.7300	7.21E-05	-13776.	2836.	2.60E-05	0.00	3.14E+11	-144.254	3216000.	0.00
12.8640	1.14E-04	-9412.	2536.	2.59E-05	0.00	3.14E+11	-227.767	3216000.	0.00
12.9980	1.56E-04	-5637.	2103.	2.59E-05	0.00	3.14E+11	-311.124	3216000.	0.00
13.1320	1.97E-04	-2667.	1536.	2.59E-05	0.00	3.14E+11	-394.389	3216000.	0.00
13.2660	2.39E-04	-715.891	834.8957	2.59E-05	0.00	3.14E+11	-477.609	3216000.	0.00
13.4000	2.80E-04	0.00	0.00	2.59E-05	0.00	3.14E+11	-560.818	1608000.	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. 4:

Pile-head deflection = 0.08963761 inches
 Computed slope at pile head = -0.0020545 radians
 Maximum bending moment = 4081648. inch-lbs
 Maximum shear force = -96889. lbs
 Depth of maximum bending moment = 4.95800000 feet below pile head
 Depth of maximum shear force = 6.56600000 feet below pile head
 Number of iterations = 15
 Number of zero deflection points = 2

Computed Values of Pile Loading and Deflection for Lateral Loading for Load Case Number 5

Pile-head conditions are Shear and Pile-head Rotation (Loading Type 2)

Shear force at pile head = 9000.0 lbs
 Rotation of pile head = 0.000E+00 radians
 Axial load at pile head = 245000.0 lbs

(Zero slope for this load indicates fixed-head conditions)

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/inch	Soil Spr. Es*H lb/inch	Distrib. Lat. Load lb/inch
0.00	0.00149	-409390.	9000.	0.00	0.00	3.92E+11	0.00	0.00	0.00
0.1340	0.00149	-394918.	9000.	-1.65E-06	0.00	3.92E+11	-0.144	155.1398	0.00
0.2680	0.00149	-380445.	9000.	-3.24E-06	0.00	3.92E+11	-0.287	310.2797	0.00
0.4020	0.00148	-365973.	8999.	-4.77E-06	0.00	3.92E+11	-0.428	465.4195	0.00
0.5360	0.00147	-351501.	8998.	-6.24E-06	0.00	3.92E+11	-0.567	620.5594	0.00
0.6700	0.00146	-337030.	8997.	-7.65E-06	0.00	3.92E+11	-0.704	775.6992	0.00
0.8040	0.00145	-322560.	8996.	-9.00E-06	0.00	3.92E+11	-0.837	930.8390	0.00
0.9380	0.00143	-308092.	8994.	-1.03E-05	0.00	3.92E+11	-0.966	1086.	0.00
1.0720	0.00141	-293626.	8993.	-1.15E-05	0.00	3.92E+11	-1.090	1241.	0.00
1.2060	0.00139	-279162.	8991.	-1.27E-05	0.00	3.92E+11	-1.210	1396.	0.00
1.3400	0.00137	-264701.	8989.	-1.38E-05	0.00	3.92E+11	-1.323	1551.	0.00
1.4740	0.00135	-250243.	8987.	-1.49E-05	0.00	3.92E+11	-1.431	1707.	0.00
1.6080	0.00132	-235788.	8984.	-1.59E-05	0.00	3.92E+11	-1.533	1862.	0.00
1.7420	0.00130	-221337.	8982.	-1.68E-05	0.00	3.92E+11	-1.628	2017.	0.00
1.8760	0.00127	-206889.	8979.	-1.77E-05	0.00	3.92E+11	-1.715	2172.	0.00
2.0100	0.00124	-192446.	8976.	-1.85E-05	0.00	3.92E+11	-1.796	2327.	0.00
2.1440	0.00121	-178007.	8973.	-1.93E-05	0.00	3.92E+11	-1.868	2482.	0.00
2.2780	0.00118	-163573.	8970.	-2.00E-05	0.00	3.92E+11	-1.934	2637.	0.00
2.4120	0.00115	-149143.	8967.	-2.06E-05	0.00	3.92E+11	-1.991	2793.	0.00
2.5460	0.00111	-134718.	8964.	-2.12E-05	0.00	3.92E+11	-2.040	2948.	0.00
2.6800	0.00108	-120298.	8961.	-2.17E-05	0.00	3.92E+11	-2.080	3103.	0.00
2.8140	0.00104	-105884.	8957.	-2.22E-05	0.00	3.92E+11	-2.113	3258.	0.00
2.9480	0.00101	-91475.	8954.	-2.26E-05	0.00	3.92E+11	-2.137	3413.	0.00

3.0820	9.70E-04	-77071.	8950.	-2.29E-05	0.00	3.92E+11	-2.153	3568.	0.00
3.2160	9.33E-04	-62672.	8947.	-2.32E-05	0.00	3.92E+11	-2.161	3723.	0.00
3.3500	8.96E-04	-48279.	8943.	-2.34E-05	0.00	3.92E+11	-2.160	3878.	0.00
3.4840	8.58E-04	-33892.	8940.	-2.36E-05	0.00	3.92E+11	-2.152	4034.	0.00
3.6180	8.20E-04	-19510.	8936.	-2.37E-05	0.00	3.92E+11	-2.135	4189.	0.00
3.7520	7.82E-04	-5134.	8933.	-2.38E-05	0.00	3.92E+11	-2.111	4344.	0.00
3.8860	7.43E-04	9237.	8930.	-2.38E-05	0.00	3.92E+11	-2.080	4499.	0.00
4.0200	7.05E-04	23603.	8926.	-2.37E-05	0.00	3.92E+11	-2.041	4654.	0.00
4.1540	6.67E-04	37963.	8923.	-2.36E-05	0.00	3.92E+11	-1.995	4809.	0.00
4.2880	6.29E-04	52318.	8920.	-2.34E-05	0.00	3.92E+11	-1.943	4964.	0.00
4.4220	5.92E-04	66668.	8917.	-2.31E-05	0.00	3.92E+11	-1.885	5120.	0.00
4.5560	5.55E-04	81013.	8914.	-2.28E-05	0.00	3.92E+11	-1.821	5275.	0.00
4.6900	5.19E-04	95353.	8911.	-2.25E-05	0.00	3.92E+11	-1.751	5430.	0.00
4.8240	4.83E-04	109689.	8908.	-2.20E-05	0.00	3.92E+11	-1.677	5585.	0.00
4.9580	4.48E-04	124020.	8187.	-2.15E-05	0.00	3.13E+11	-895.312	3216000.	0.00
5.0920	4.14E-04	136035.	6802.	-2.08E-05	0.00	3.13E+11	-827.187	3216000.	0.00
5.2260	3.81E-04	145912.	5525.	-2.01E-05	0.00	3.13E+11	-761.306	3216000.	0.00
5.3600	3.49E-04	153820.	4352.	-1.93E-05	0.00	3.13E+11	-697.832	3216000.	0.00
5.4940	3.18E-04	159923.	3279.	-1.85E-05	0.00	3.13E+11	-636.895	3216000.	0.00
5.6280	2.89E-04	164379.	2302.	-1.77E-05	0.00	3.13E+11	-578.597	3216000.	0.00
5.7620	2.62E-04	167339.	1416.	-1.69E-05	0.00	3.13E+11	-523.011	3216000.	0.00
5.8960	2.35E-04	168946.	617.3065	-1.60E-05	0.00	3.13E+11	-470.186	3216000.	0.00
6.0300	2.10E-04	169336.	-98.522	-1.51E-05	0.00	3.13E+11	-420.148	3216000.	0.00
6.1640	1.86E-04	168641.	-736.136	-1.43E-05	0.00	3.13E+11	-372.904	3216000.	0.00
6.2980	1.64E-04	166980.	-1300.	-1.34E-05	0.00	3.13E+11	-328.442	3216000.	0.00
6.4320	1.43E-04	164470.	-1795.	-1.25E-05	0.00	3.13E+11	-286.734	3216000.	0.00
6.5660	1.24E-04	161219.	-2224.	-1.17E-05	0.00	3.13E+11	-247.740	3216000.	0.00
6.7000	1.06E-04	157326.	-2593.	-1.09E-05	0.00	3.13E+11	-211.406	3216000.	0.00
6.8340	8.88E-05	152887.	-2906.	-1.01E-05	0.00	3.13E+11	-177.668	3216000.	0.00
6.9680	7.32E-05	147987.	-3167.	-9.33E-06	0.00	3.13E+11	-146.451	3216000.	0.00
7.1020	5.88E-05	142709.	-3379.	-8.58E-06	0.00	3.13E+11	-117.676	3216000.	0.00
7.2360	4.56E-05	137126.	-3547.	-7.86E-06	0.00	3.13E+11	-91.256	3216000.	0.00
7.3700	3.35E-05	131307.	-3675.	-7.18E-06	0.00	3.13E+11	-67.098	3216000.	0.00
7.5040	2.26E-05	125315.	-3765.	-6.52E-06	0.00	3.13E+11	-45.106	3216000.	0.00
7.6380	1.26E-05	119205.	-3821.	-5.89E-06	0.00	3.13E+11	-25.182	3216000.	0.00
7.7720	3.61E-06	113030.	-3847.	-5.29E-06	0.00	3.13E+11	-7.224	3216000.	0.00
7.9060	-4.43E-06	106836.	-3846.	-4.73E-06	0.00	3.13E+11	8.8692	3216000.	0.00
8.0400	-1.16E-05	100665.	-3820.	-4.20E-06	0.00	3.13E+11	23.1997	3216000.	0.00
8.1740	-1.79E-05	94554.	-3773.	-3.70E-06	0.00	3.13E+11	35.8694	3216000.	0.00
8.3080	-2.35E-05	88535.	-3706.	-3.23E-06	0.00	3.13E+11	46.9791	3216000.	0.00
8.4420	-2.83E-05	82637.	-3623.	-2.79E-06	0.00	3.13E+11	56.6283	3216000.	0.00
8.5760	-3.25E-05	76886.	-3525.	-2.38E-06	0.00	3.13E+11	64.9141	3216000.	0.00
8.7100	-3.60E-05	71303.	-3415.	-2.00E-06	0.00	3.13E+11	71.9314	3216000.	0.00
8.8440	-3.89E-05	65905.	-3295.	-1.65E-06	0.00	3.13E+11	77.7724	3216000.	0.00
8.9780	-4.13E-05	60708.	-3166.	-1.32E-06	0.00	3.13E+11	82.5261	3216000.	0.00
9.1120	-4.31E-05	55725.	-3030.	-1.02E-06	0.00	3.13E+11	86.2782	3216000.	0.00
9.2460	-4.46E-05	50964.	-2889.	-7.50E-07	0.00	3.13E+11	89.1111	3216000.	0.00
9.3800	-4.56E-05	46434.	-2744.	-5.00E-07	0.00	3.13E+11	91.1031	3216000.	0.00
9.5140	-4.62E-05	42139.	-2597.	-2.73E-07	0.00	3.13E+11	92.3290	3216000.	0.00
9.6480	-4.64E-05	38083.	-2448.	-6.74E-08	0.00	3.13E+11	92.8598	3216000.	0.00
9.7820	-4.64E-05	34267.	-2299.	1.18E-07	0.00	3.13E+11	92.7623	3216000.	0.00
9.9160	-4.60E-05	30690.	-2150.	2.85E-07	0.00	3.13E+11	92.0994	3216000.	0.00
10.0500	-4.55E-05	27352.	-2003.	4.34E-07	0.00	3.13E+11	90.9302	3216000.	0.00
10.1840	-4.47E-05	24249.	-1858.	5.66E-07	0.00	3.13E+11	89.3098	3216000.	0.00
10.3180	-4.36E-05	21377.	-1716.	6.83E-07	0.00	3.13E+11	87.2893	3216000.	0.00
10.4520	-4.25E-05	18730.	-1577.	7.86E-07	0.00	3.13E+11	84.9161	3216000.	0.00
10.5860	-4.11E-05	16303.	-1443.	8.76E-07	0.00	3.13E+11	82.2340	3216000.	0.00
10.7200	-3.96E-05	14089.	-1313.	9.54E-07	0.00	3.13E+11	79.2828	3216000.	0.00
10.8540	-3.80E-05	12079.	-1188.	1.02E-06	0.00	3.13E+11	76.0993	3216000.	0.00
10.9880	-3.64E-05	10266.	-1069.	1.08E-06	0.00	3.13E+11	72.7164	3216000.	0.00
11.1220	-3.46E-05	8641.	-954.569	1.13E-06	0.00	3.13E+11	69.1642	3216000.	0.00
11.2560	-3.27E-05	7195.	-846.324	1.17E-06	0.00	3.13E+11	65.4694	3216000.	0.00
11.3900	-3.08E-05	5919.	-744.115	1.20E-06	0.00	3.13E+11	61.6560	3216000.	0.00
11.5240	-2.89E-05	4801.	-648.117	1.23E-06	0.00	3.13E+11	57.7448	3216000.	0.00
11.6580	-2.69E-05	3833.	-558.471	1.25E-06	0.00	3.13E+11	53.7545	3216000.	0.00
11.7920	-2.49E-05	3004.	-475.293	1.27E-06	0.00	3.13E+11	49.7009	3216000.	0.00
11.9260	-2.28E-05	2304.	-398.673	1.28E-06	0.00	3.13E+11	45.5977	3216000.	0.00
12.0600	-2.07E-05	1721.	-328.681	1.29E-06	0.00	3.13E+11	41.4566	3216000.	0.00
12.1940	-1.86E-05	1246.	-265.372	1.30E-06	0.00	3.13E+11	37.2870	3216000.	0.00

12.3280	-1.65E-05	866.7368	-208.783	1.31E-06	0.00	3.13E+11	33.0969	3216000.	0.00
12.4620	-1.44E-05	573.2875	-158.943	1.31E-06	0.00	3.13E+11	28.8925	3216000.	0.00
12.5960	-1.23E-05	354.5434	-115.872	1.31E-06	0.00	3.13E+11	24.6786	3216000.	0.00
12.7300	-1.02E-05	199.6093	-79.582	1.31E-06	0.00	3.13E+11	20.4589	3216000.	0.00
12.8640	-8.12E-06	97.5746	-50.079	1.31E-06	0.00	3.13E+11	16.2359	3216000.	0.00
12.9980	-6.01E-06	37.5204	-27.368	1.31E-06	0.00	3.13E+11	12.0113	3216000.	0.00
13.1320	-3.89E-06	8.5233	-11.451	1.31E-06	0.00	3.13E+11	7.7861	3216000.	0.00
13.2660	-1.78E-06	-0.342	-2.328	1.31E-06	0.00	3.13E+11	3.5607	3216000.	0.00
13.4000	3.32E-07	0.00	0.00	1.31E-06	0.00	3.13E+11	-0.665	1608000.	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. 5:

Pile-head deflection = 0.00149095 inches
 Computed slope at pile head = 0.000000 radians
 Maximum bending moment = -409390. inch-lbs
 Maximum shear force = 9000. lbs
 Depth of maximum bending moment = 0.000000 feet below pile head
 Depth of maximum shear force = 0.000000 feet below pile head
 Number of iterations = 6
 Number of zero deflection points = 2

Summary of Pile-head Responses for Conventional Analyses

Definitions of Pile-head Loading Conditions:

Load Type 1: Load 1 = Shear, V, lbs, and Load 2 = Moment, M, in-lbs
 Load Type 2: Load 1 = Shear, V, lbs, and Load 2 = Slope, S, radians
 Load Type 3: Load 1 = Shear, V, lbs, and Load 2 = Rot. Stiffness, R, in-lbs/rad.
 Load Type 4: Load 1 = Top Deflection, y, inches, and Load 2 = Moment, M, in-lbs
 Load Type 5: Load 1 = Top Deflection, y, inches, and Load 2 = Slope, S, radians

Load Case No.	Load Type 1	Pile-head Load 1	Load Type 2	Pile-head Load 2	Axial Loading lbs	Pile-head Deflection inches	Pile-head Rotation radians	Max Shear in Pile lbs	Max Moment in Pile in-lbs
1	V, lb	12000.	M, in-lb	3420000.	400000.	0.05055	-0.00104	-94161.	4100198.
2	V, lb	69000.	M, in-lb	6732000.	155000.	0.5212	-0.01071	-320877.	1.07E+07
3	V, lb	12000.	S, rad	0.00	225000.	0.00198	0.00	12000.	-545910.
4	V, lb	13000.	M, in-lb	3372000.	220000.	0.08964	-0.00205	-96889.	4081648.
5	V, lb	9000.	S, rad	0.00	245000.	0.00149	0.00	9000.	-409390.

Deflection

Maximum pile-head deflection = 0.5211981020 inches
 Maximum pile-head rotation = -0.0107088583 radians = -0.613572 deg.

The analysis ended normally.