Displacements
Node 1
DX= -0.001375 millimeters DY= -3.843850 millimeters Dt= 0.126301 milliradians (X,Y)=(0.000,0.000)
Node 2
DX= -0.043440 millimeters DY= -3.801795 millimeters Dt= 0.113260 milliradians (X,Y)=(0.350,0.350)
Node 3
DX= -0.126680 millimeters DY= -3.807362 millimeters Dt= 0.077836 milliradians (X,Y)=(0.350,1.220)
Node 4
DX= -0.178011 millimeters DY= -3.812866 millimeters Dt= 0.041286 milliradians (X,Y)=(0.350,2.080)
Node 5
DX= -0.197284 millimeters DY= -3.818433 millimeters Dt= 0.002758 milliradians (X,Y)=(0.350,2.950)
Node 6
DX= -0.182358 millimeters DY= -3.824001 millimeters Dt= -0.037330 milliradians (X,Y)=(0.350,3.820)
Node 7
DX= -0.132664 millimeters DY= -3.829504 millimeters Dt= -0.078492 milliradians (X,Y)=(0.350,4.680)
Node 8
DX= -0.045700 millimeters DY= -3.835072 millimeters Dt= -0.121684 milliradians (X,Y)=(0.350,5.550)
Node 9
DX= 0.000000 millimeters DY= -3.788517 millimeters Dt= -0.139384 milliradians (X,Y)=(0.000,5.900)
Node 10
DX= 0.000000 millimeters DY= -3.837312 millimeters Dt= -0.139501 milliradians (X,Y)=(0.350,5.900)
Node 11
DX= -0.000137 millimeters DY= -3.960339 millimeters Dt= -0.161794 milliradians (X,Y)=(1.150,5.900)
Node 12
DX= -0.000275 millimeters DY= -4.087259 millimeters Dt= -0.150625 milliradians (X,Y)=(1.950,5.900)
Node 13
DX= -0.000412 millimeters DY= -4.194647 millimeters Dt= -0.114359 milliradians (X,Y)=(2.750,5.900)
Node 14
DX= -0.000550 millimeters DY= -4.265772 millimeters Dt= -0.061362 milliradians (X,Y)=(3.550,5.900)
Node 15
DX= -0.000687 millimeters DY= -4.290596 millimeters Dt= -0.000000 milliradians (X,Y)=(4.350,5.900)
Node 16
DX= -0.000825 millimeters DY= -4.265772 millimeters Dt= 0.061362 milliradians (X,Y)=(5.150,5.900)
Node 17
DX= -0.000962 millimeters DY= -4.194647 millimeters Dt= 0.114359 milliradians (X,Y)=(5.950,5.900)
Node 18
DX= -0.001100 millimeters DY= -4.087259 millimeters Dt= 0.150625 milliradians (X,Y)=(6.750,5.900)
Node 19
DX= -0.001237 millimeters DY= -3.960339 millimeters Dt= 0.161794 milliradians (X,Y)=(7.550,5.900)
Node 20
DX= -0.001375 millimeters DY= -3.837312 millimeters Dt= 0.139501 milliradians (X,Y)=(8.350,5.900)
Node 21
DX= -0.001375 millimeters DY= -3.788517 millimeters Dt= 0.139384 milliradians (X,Y)=(8.700,5.900)
Node 22
DX= 0.044325 millimeters DY= -3.835072 millimeters Dt= 0.121684 milliradians (X,Y)=(8.350,5.550)
Node 23
DX= 0.131289 millimeters DY= -3.829504 millimeters Dt= 0.078492 milliradians (X,Y)=(8.350,4.680)
Node 24
DX= 0.180983 millimeters DY= -3.824001 millimeters Dt= 0.037330 milliradians (X,Y)=(8.350,3.820)
Node 25
DX= 0.195909 millimeters DY= -3.818433 millimeters Dt= -0.002758 milliradians (X,Y)=(8.350,2.950)
Node 26
DX= 0.176637 millimeters DY= -3.812866 millimeters Dt= -0.041286 milliradians (X,Y)=(8.350,2.080)
Node 27
DX= 0.125305 millimeters DY= -3.807362 millimeters Dt= -0.077836 milliradians (X,Y)=(8.350,1.220)
Node 28
DX= 0.042065 millimeters DY= -3.801795 millimeters Dt= -0.113260 milliradians (X,Y)=(8.350,0.350)
Node 29
DX= 0.000000 millimeters DY= -3.843850 millimeters Dt= -0.126301 milliradians (X,Y)=(8.700,0.000)
Node 30
DX= -0.001375 millimeters DY= -3.799555 millimeters Dt= 0.127070 milliradians (X,Y)=(0.350,0.000)
Node 31
DX= -0.001237 millimeters DY= -3.688402 millimeters Dt= 0.145284 milliradians (X,Y)=(1.150,0.000)
Node 32
DX= -0.001100 millimeters DY= -3.574915 millimeters Dt= 0.134193 milliradians (X,Y)=(1.950,0.000)
Node 33
DX= -0.000962 millimeters DY= -3.479483 millimeters Dt= 0.101392 milliradians (X,Y)=(2.750,0.000)
Node 34
DX= -0.000825 millimeters DY= -3.416510 millimeters Dt= 0.054257 milliradians (X,Y)=(3.550,0.000)
Node 35
DX= -0.000687 millimeters DY= -3.394571 millimeters Dt= -0.000000 milliradians (X,Y)=(4.350,0.000)
Node 36
DX= -0.000550 millimeters DY= -3.416510 millimeters Dt= -0.054257 milliradians (X,Y)=(5.150,0.000)
Node 37
DX= -0.000412 millimeters DY= -3.479483 millimeters Dt= -0.101392 milliradians (X,Y)=(5.950,0.000)
Node 38
DX= -0.000275 millimeters DY= -3.574915 millimeters Dt= -0.134193 milliradians (X,Y)=(6.750,0.000)
Node 39
DX= -0.000137 millimeters DY= -3.688402 millimeters Dt= -0.145284 milliradians (X,Y)=(7.550,0.000)

Node 40
DX= -0.000000 millimeters DY= -3.799555 millimeters Dt= -0.127070 milliradians (X,Y)=(8.350,0.000)
Node 1SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 30SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 31SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 32SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 33SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 34SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 35SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 36SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 37SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 38SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 39SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 40SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Node 29SPRING
DX= 0.000000 millimeters DY= 0.000000 millimeters Dt= 0.000000 milliradians
Forces
Counterclockwise notation
Free body notation
Beam :1 connects nodes 1 and 30
Beam forces
N1= 0.00 kN Q1= 23.06 kN M1= 0.00 kNm
N30= 0.00 kN Q30= 23.06 kN M30= 8.07 kNm
Beam :2 connects nodes 30 and 2
Beam forces
N30= -141.00 kN Q30= -3.79 kN M30= -71.79 kNm
N2= -141.00 kN Q2= -3.79 kN M2= -73.11 kNm
Beam :3 connects nodes 2 and 3
Beam forces
N2= -141.00 kN Q2= -3.79 kN M2= -73.11 kNm
N3= -141.00 kN Q3= -3.79 kN M3= -76.41 kNm
Beam :4 connects nodes 3 and 4
Beam forces
N3= -141.00 kN Q3= -3.79 kN M3= -76.41 kNm
N4= -141.00 kN Q4= -3.79 kN M4= -79.66 kNm
Beam :5 connects nodes 4 and 5
Beam forces
N4= -141.00 kN Q4= -3.79 kN M4= -79.66 kNm
N5= -141.00 kN Q5= -3.79 kN M5= -82.96 kNm
Beam :6 connects nodes 5 and 6
Beam forces
N5= -141.00 kN Q5= -3.79 kN M5= -82.96 kNm
N6= -141.00 kN Q6= -3.79 kN M6= -86.25 kNm
Beam :7 connects nodes 6 and 7
Beam forces
N6= -141.00 kN Q6= -3.79 kN M6= -86.25 kNm
N7= -141.00 kN Q7= -3.79 kN M7= -89.51 kNm
Beam :8 connects nodes 7 and 8
Beam forces
N7= -141.00 kN Q7= -3.79 kN M7= -89.51 kNm
N8= -141.00 kN Q8= -3.79 kN M8= -92.80 kNm
Beam :9 connects nodes 8 and 10
Beam forces
N8= -141.00 kN Q8= -3.79 kN M8= -92.80 kNm
N10= -141.00 kN Q10= -3.79 kN M10= -94.13 kNm
Beam :10 connects nodes 9 and 10
Beam forces
N9= -0.00 kN Q9= 0.00 kN M9= 0.00 kNm
N10= -0.00 kN Q10= -10.50 kN M10= -1.84 kNm
Beam :11 connects nodes 10 and 11
Beam forces
N10= -3.79 kN Q10= 120.00 kN M10= -95.97 kNm
N11= -3.79 kN Q11= 96.00 kN M11= -9.57 kNm
Beam :12 connects nodes 11 and 12
Beam forces
N11= -3.79 kN Q11= 96.00 kN M11= -9.57 kNm
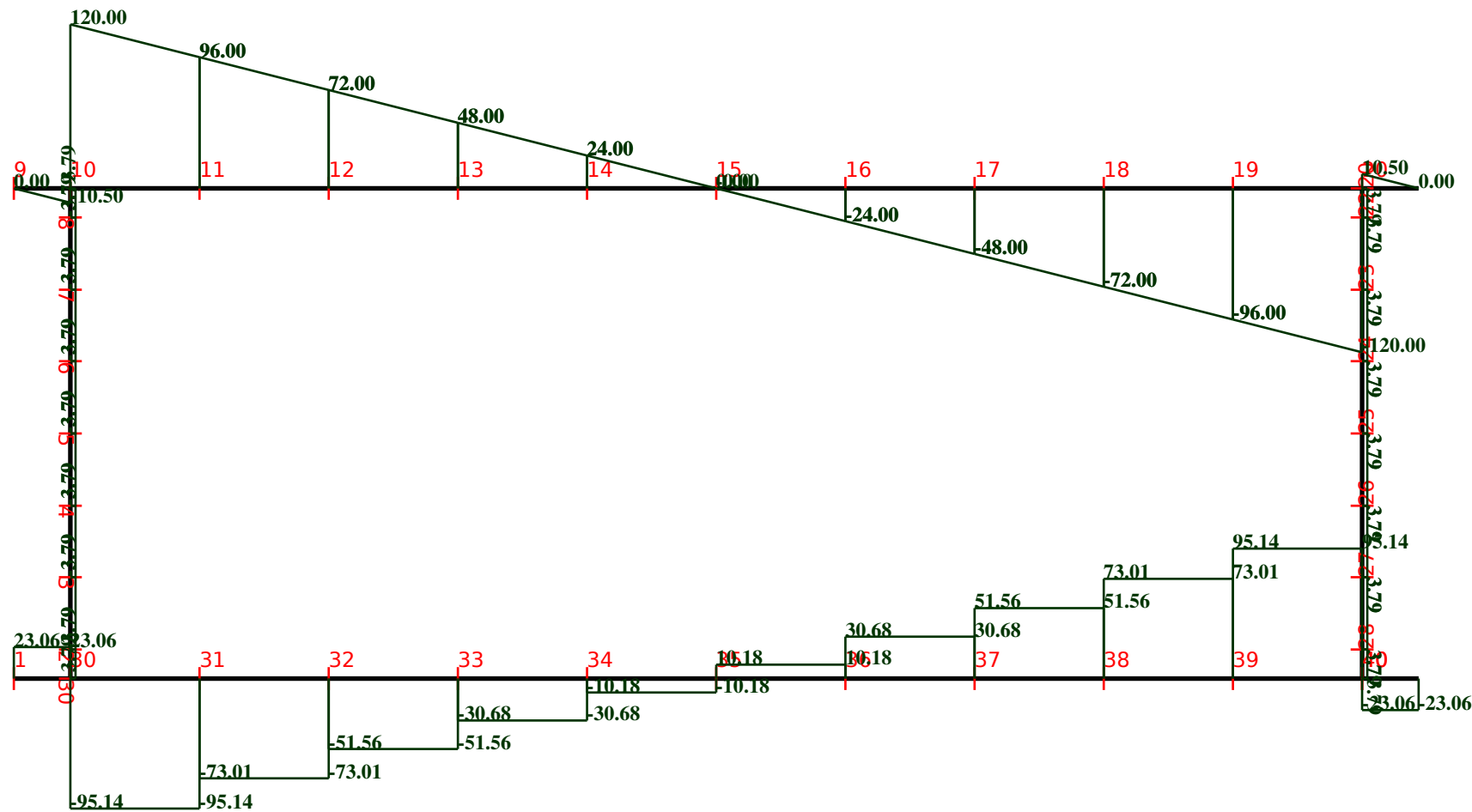N12= -3.79 kN Q12= 72.00 kN M12= 57.63 kNm

Beam :13 connects nodes 12 and 13
Beam forces
N12= -3.79 kN Q12= 72.00 kN M12= 57.63 kNm
N13= -3.79 kN Q13= 48.00 kN M13= 105.63 kNm
Beam :14 connects nodes 13 and 14
Beam forces
N13= -3.79 kN Q13= 48.00 kN M13= 105.63 kNm
N14= -3.79 kN Q14= 24.00 kN M14= 134.43 kNm
Beam :15 connects nodes 14 and 15
Beam forces
N14= -3.79 kN Q14= 24.00 kN M14= 134.43 kNm
N15= -3.79 kN Q15= -0.00 kN M15= 144.03 kNm
Beam :16 connects nodes 15 and 16
Beam forces
N15= -3.79 kN Q15= 0.00 kN M15= 144.03 kNm
N16= -3.79 kN Q16= -24.00 kN M16= 134.43 kNm
Beam :17 connects nodes 16 and 17
Beam forces
N16= -3.79 kN Q16= -24.00 kN M16= 134.43 kNm
N17= -3.79 kN Q17= -48.00 kN M17= 105.63 kNm
Beam :18 connects nodes 17 and 18
Beam forces
N17= -3.79 kN Q17= -48.00 kN M17= 105.63 kNm
N18= -3.79 kN Q18= -72.00 kN M18= 57.63 kNm
Beam :19 connects nodes 18 and 19
Beam forces
N18= -3.79 kN Q18= -72.00 kN M18= 57.63 kNm
N19= -3.79 kN Q19= -96.00 kN M19= -9.57 kNm
Beam :20 connects nodes 19 and 20
Beam forces
N19= -3.79 kN Q19= -96.00 kN M19= -9.57 kNm
N20= -3.79 kN Q20= -120.00 kN M20= -95.97 kNm
Beam :21 connects nodes 20 and 21
Beam forces
N20= -0.00 kN Q20= 10.50 kN M20= -1.84 kNm
N21= 0.00 kN Q21= 0.00 kN M21= 0.00 kNm
Beam :22 connects nodes 20 and 22
Beam forces
N20= -141.00 kN Q20= 3.79 kN M20= -94.13 kNm
N22= -141.00 kN Q22= 3.79 kN M22= -92.80 kNm
Beam :23 connects nodes 22 and 23
Beam forces
N22= -141.00 kN Q22= 3.79 kN M22= -92.80 kNm
N23= -141.00 kN Q23= 3.79 kN M23= -89.51 kNm
Beam :24 connects nodes 23 and 24
Beam forces
N23= -141.00 kN Q23= 3.79 kN M23= -89.51 kNm
N24= -141.00 kN Q24= 3.79 kN M24= -86.25 kNm
Beam :25 connects nodes 24 and 25
Beam forces
N24= -141.00 kN Q24= 3.79 kN M24= -86.25 kNm
N25= -141.00 kN Q25= 3.79 kN M25= -82.96 kNm
Beam :26 connects nodes 25 and 26
Beam forces
N25= -141.00 kN Q25= 3.79 kN M25= -82.96 kNm
N26= -141.00 kN Q26= 3.79 kN M26= -79.66 kNm
Beam :27 connects nodes 26 and 27
Beam forces
N26= -141.00 kN Q26= 3.79 kN M26= -79.66 kNm
N27= -141.00 kN Q27= 3.79 kN M27= -76.41 kNm
Beam :28 connects nodes 27 and 28
Beam forces
N27= -141.00 kN Q27= 3.79 kN M27= -76.41 kNm
N28= -141.00 kN Q28= 3.79 kN M28= -73.11 kNm
Beam :30 connects nodes 28 and 40
Beam forces
N28= -141.00 kN Q28= 3.79 kN M28= -73.11 kNm
N40= -141.00 kN Q40= 3.79 kN M40= -71.79 kNm
Beam :31 connects nodes 40 and 29
Beam forces
N40= 0.00 kN Q40= -23.06 kN M40= 8.07 kNm
N29= 0.00 kN Q29= -23.06 kN M29= 0.00 kNm
Beam :32 connects nodes 30 and 31
Beam forces
N30= 3.79 kN Q30= -95.14 kN M30= 79.86 kNm
N31= 3.79 kN Q31= -95.14 kN M31= 3.75 kNm
Beam :33 connects nodes 31 and 32
Beam forces
N31= 3.79 kN Q31= -73.01 kN M31= 3.75 kNm

N32= 3.79 kN Q32= -73.01 kN M32= -54.66 kNm
Beam :34 connects nodes 32 and 33
Beam forces
N32= 3.79 kN Q32= -51.56 kN M32= -54.66 kNm
N33= 3.79 kN Q33= -51.56 kN M33= -95.91 kNm
Beam :35 connects nodes 33 and 34
Beam forces
N33= 3.79 kN Q33= -30.68 kN M33= -95.91 kNm
N34= 3.79 kN Q34= -30.68 kN M34= -120.45 kNm
Beam :36 connects nodes 34 and 35
Beam forces
N34= 3.79 kN Q34= -10.18 kN M34= -120.45 kNm
N35= 3.79 kN Q35= -10.18 kN M35= -128.60 kNm
Beam :37 connects nodes 35 and 36
Beam forces
N35= 3.79 kN Q35= 10.18 kN M35= -128.60 kNm
N36= 3.79 kN Q36= 10.18 kN M36= -120.45 kNm
Beam :38 connects nodes 36 and 37
Beam forces
N36= 3.79 kN Q36= 30.68 kN M36= -120.45 kNm
N37= 3.79 kN Q37= 30.68 kN M37= -95.91 kNm
Beam :39 connects nodes 37 and 38
Beam forces
N37= 3.79 kN Q37= 51.56 kN M37= -95.91 kNm
N38= 3.79 kN Q38= 51.56 kN M38= -54.66 kNm
Beam :40 connects nodes 38 and 39
Beam forces
N38= 3.79 kN Q38= 73.01 kN M38= -54.66 kNm
N39= 3.79 kN Q39= 73.01 kN M39= 3.75 kNm
Beam :41 connects nodes 39 and 40
Beam forces
N39= 3.79 kN Q39= 95.14 kN M39= 3.75 kNm
N40= 3.79 kN Q40= 95.14 kN M40= 79.86 kNm
Beam :42 connects nodes 1SPRING and 1
Beam forces
N1SPRING= -23.06 kN
N1= -23.06 kN
Beam :43 connects nodes 30SPRING and 30
Beam forces
N30SPRING= -22.80 kN
N30= -22.80 kN
Beam :44 connects nodes 31SPRING and 31
Beam forces
N31SPRING= -22.13 kN
N31= -22.13 kN
Beam :45 connects nodes 32SPRING and 32
Beam forces
N32SPRING= -21.45 kN
N32= -21.45 kN
Beam :46 connects nodes 33SPRING and 33
Beam forces
N33SPRING= -20.88 kN
N33= -20.88 kN
Beam :47 connects nodes 34SPRING and 34
Beam forces
N34SPRING= -20.50 kN
N34= -20.50 kN
Beam :48 connects nodes 35SPRING and 35
Beam forces
N35SPRING= -20.37 kN
N35= -20.37 kN
Beam :49 connects nodes 36SPRING and 36
Beam forces
N36SPRING= -20.50 kN
N36= -20.50 kN
Beam :50 connects nodes 37SPRING and 37
Beam forces
N37SPRING= -20.88 kN
N37= -20.88 kN
Beam :51 connects nodes 38SPRING and 38
Beam forces
N38SPRING= -21.45 kN
N38= -21.45 kN
Beam :52 connects nodes 39SPRING and 39
Beam forces
N39SPRING= -22.13 kN
N39= -22.13 kN
Beam :53 connects nodes 40SPRING and 40
Beam forces

Beam Moments in Kilonewton meters
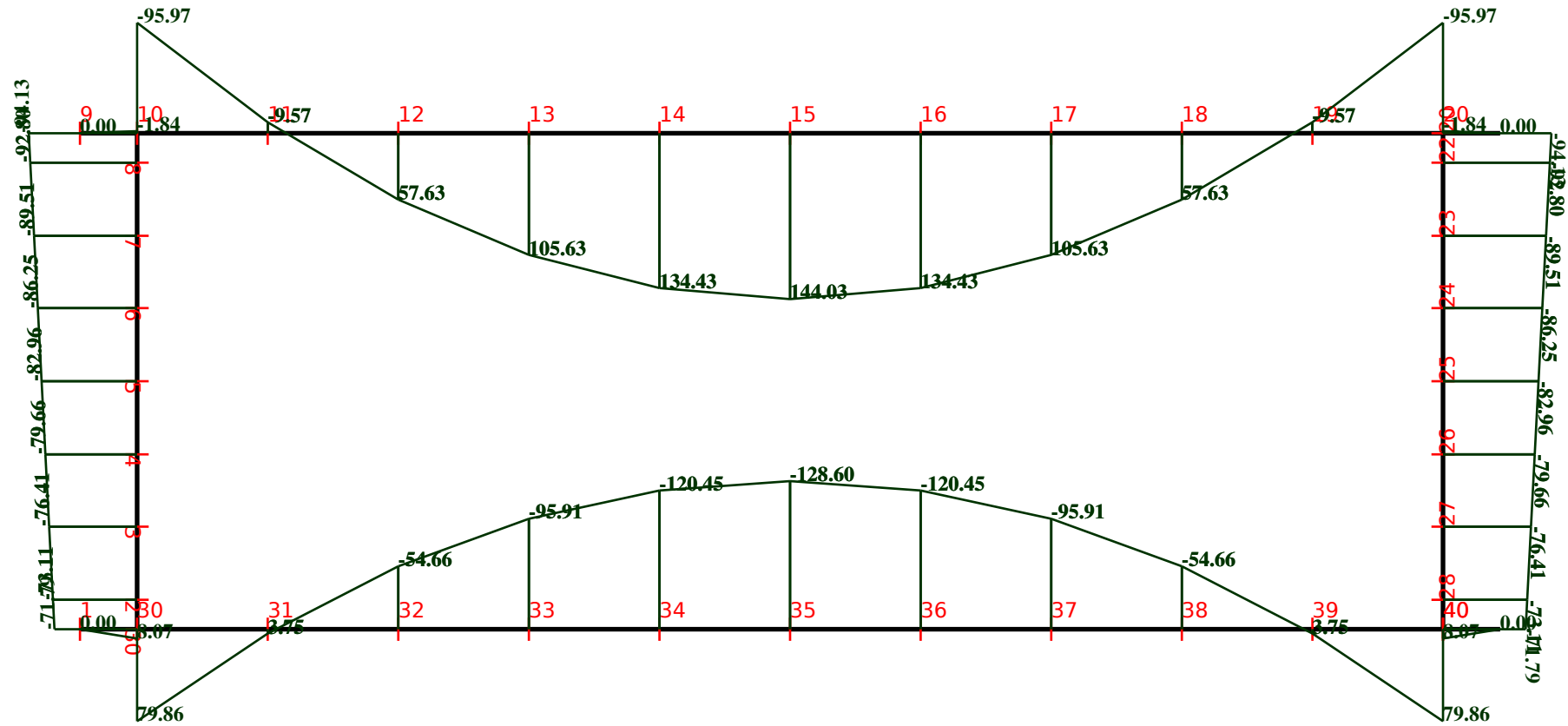
Shear Forces in Kilonewtons

Axial Forces in Kilonewtons