Vertical Curve-1 (3 Labels)

XEQ V (Vertical Curve Using BVC & EVC)

XEQ V to start the program.
At the prompts, enter a value for the following and press **R/S**

I? Grade in (%)
O? Grade out (%)
C? PVC STA (without + sign)
E? PVC Elevation
T? PVT STA (without + sign)

After you have entered the **T** value and pressed **R/S**, the **PVT elevation** will be displayed.
Press **R/S** and the **Low or High Pt. Station** will be displayed.
Press **R/S** and the **Low or High Pt. Elevation** will be displayed.
Press **R/S** and you will be prompted for a station along the curve **S?**.
Enter the **station** (without + sign) and press **R/S**.
The **station elevation** will be displayed.
Press **R/S** to enter another **station** (without the + sign).

V01. LBL V
V02. CLVARS
V03. FIX 4
V04. SF 10
V05. "VERT CURVE 1"
V06. PSE
V07. "ENTR GRADE IN"
V08. PSE
V09. INPUT I
V10. 100
V11. ÷
V12. STO I
V13. "ENTR GRADE OUT"
V14. PSE
V15. INPUT O
V16. 100
V17. ÷
V18. STO O
V19. "ENTR BVC STA"
V20. PSE
V21. INPUT B
V22. 0
V23. STO E
V24. STO F
V25. "ENTR BVC ELEV"
V26. PSE
V27. INPUT E
V28. STO A
V29. "ENTR EVC STA"
V30. PSE
V31. INPUT T
V32. "EVC ELEV="
V33. PSE

W01. LBL W
W02. CF 10
W03. T-B
W04. STO L
W05. (O-I) ÷(2xL)
W06. STO R
W07. A+(IxL)+(RxL^2)
W08. STO E
W09. RCL F
W10. X=0?
W11. VIEW E
W12. IxO
W13. X>0?
W14. GTO X
W15. (IxL) ÷(I-O)
W16. STO X
W17. B+X
W18. STO S
W19. STO L
W20. STO H
W21. A+(IxX)+RxX^2)
W22. STO E
W23. RCL A
W24. SF10
W25. "HI-LOW STA="
W26. PSE
W27. X>Y?
W28. VIEW L
W29. X<Y?
W30. VIEW H
W31. "HI-LOW ELEV="
W32. PSE
W33. VIEW E
W34. CF 10

X01. LBL X
X02. 0
X03. SF 10
X04. STO S
X05. "ENTR NEW STA"
X06. PSE
X07. INPUT S
X08. CF 10
X09. S-B
X10. STO X
X11. A+(IxX)+(RxX^2)
X12. STO E
X13. SF 10
X14. "NEW ELEV="
X15. PSE
X16. VIEW E
X17. CF 10
X18. GTO X

CHECK

1a.
I = GRADE IN = -3.5
O = GRADE OUT = 2.75
B = BVC STATION = 1350
E = BVC ELEVATION = 495.875
T = EVC STATION = 1650

E = EVC ELEVATION = 494.75
L = HI-LOW STATION = 1518
E = HI-LOW ELEVATION = 492.935

S = NEW STATION = 1570

E = NEW ELEVATION = 493.2167

2a.
I = GRADE IN = 3.5
O = GRADE OUT = -2.75
B = BVC STATION = 1350
E = BVC ELEVATION = 494.75
T = EVC STATION = 1650

E = EVC ELEVATION = 495.875
L = HI-LOW STATION = 1518
E = HI-LOW ELEVATION = 497.69

S = NEW STATION = 1570

E = NEW ELEVATION = 497.4083

1b.
I = GRADE IN = -3.5
O = GRADE OUT = -2.75
B = BVC STATION = 1350
E = BVC ELEVATION = 495.875
T = EVC STATION = 1650

E = EVC ELEVATION = 486.5

L = HI-LOW STATION = 1570
E = HI-LOW ELEVATION = 488.78

2b.
I = GRADE IN = 3.5
O = GRADE OUT = 2.75
B = BVC STATION = 1350
E = BVC ELEVATION = 494.75
T = EVC STATION = 1650

E = EVC ELEVATION = 504.125

L = HI-LOW STATION = 1570
E = HI-LOW ELEVATION = 501.845

Vertical Curve-2 (1 Label)
(MUST BE USED IN CONJUNCTION WITH VERT 1!!!)

XEQ Y (Vertical Curve Elevations)

XEQ Y to start the program.
At the prompts, enter a value for the following and press **R/S**

R? PI STA (without + sign)
S? PI Elevation
P? Grade-in (%)
Q? Grade-out (%)
L? Curve length

After you have entered the **L** value and pressed **R/S**, the **High-Low Station** will be displayed.
Press **R/S** and the **High-Low Elevation** will be displayed.
Press **R/S** and the **PVC Station** will be displayed.
Press **R/S** and the **PVC Elevation** will be displayed.
Press **R/S** and the **PVT Station** will be displayed.
Press **R/S** and the **PVT Elevation** will be displayed
Press **R/S** and you will be prompted to run additional computations.

Y01. LBL Y
Y02. FIX 4
Y03. CLVARS
Y04. SF 10
Y05. "VERT CURVE 2"
Y06. PSE
Y07. "ENTR GRADE IN"
Y08. PSE
Y09. INPUT I
Y10. 100
Y11. ÷
Y12. STO I
Y13. "ENTR GRADE OUT"
Y14. PSE
Y15. INPUT O
Y16. 100
Y17. ÷
Y18. STO O
Y19. "ENTR PVI STA"
Y20. PSE
Y21. INPUT P
Y22. 0
Y23. STO E
Y24. "ENTR PVI ELEV"
Y25. PSE
Y26. INPUT E
Y27. STO Z
Y28. 0
Y29. STO L
Y30. "ENTR CURVE LEN"
Y31. PSE
Y32. INPUT L
Y33. CF 10
Y34. P-(L ÷ 2)
Y35. STO B
Y36. SF 10
Y37. "BVC STA="
Y38. PSE
Y39. VIEW B
Y40. CF 10
Y41. E-(Ix(L ÷ 2))
Y42. STO E
Y43. STO A
Y44. SF 10
Y45. "BVC ELEV="
Y46. PSE
Y47. VIEW E
Y48. CF 10
Y49. P+(L ÷ 2)
Y50. STO T
Y51. SF 10
Y52. "EVC STA="
Y53. PSE
Y54. VIEW T
Y55. CF 10
Y56. Z+(Ox(L ÷ 2))
Y57. STO E
Y58. STO F
Y59. SF 10
Y60. "EVC ELEV="
Y61. PSE
Y62. VIEW E
Y63. CF 10
Y64. GTO W

CHECK 1
I = GRADE IN = -3.5
O = GRADE OUT = 2.75
P = PVI STATION = 1500
E = PVI ELEVATION = 490.625
L = CURVE LENGTH = 300

B = BVC STATION = 1350
E = BVC ELEVATION = 495.875
T = EVC STATION = 1650
E = EVC ELEVATION = 494.75

L = HI-LOW STATION = 1518
E = HI-LOW ELEVATION = 492.935

S = NEW STATION = 1570

E = NEW ELEVATION = 493.2167

CHECK 2
I = GRADE IN = 3.5
O = GRADE OUT = -2.75
P = PVI STATION = 1500
E = PVI ELEVATION = 500.000
L = CURVE LENGTH = 300

B = BVC STATION = 1350
E = BVC ELEVATION = 494.75
T = EVC STATION = 1650
E = EVC ELEVATION = 495.875

L = HI-LOW STATION = 1518
E = HI-LOW ELEVATION = 497.69

S = NEW STATION = 1570

E = NEW ELEVATION = 497.4083