
 HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
 ERROR CORR - 01
 MODIFICATION - 50,51,52

C
 T1 ROWAN CO. BASIN E STREAN 9A WOODLEAF BRANCH
 T2 FLOODPLAIN STUDY AT ROWAN & DAVIDSON COUNTIES M-G JOB NO. 6918
 T3 10 YEAR FLOOD WATER SURFACE PROFILE

| J1 | ICHECK | ING | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|----|-------------------------------------|------------|----------|----------|----------|----------|---------|----------|---------|----------|
| | -1. | 2. | 0. | 0. | 0.005000 | 0.0 | 0.0 | 0. | 658,200 | 0.0 |
| J2 | NPROF | IPLT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 0.0 | 0.0 | -1.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| J3 | VARIABLE CODES FOR SUMMARY PRINTOUT | | | | | | | | | |
| | 38.000 | 39.000 | 40.000 | 41.000 | 43.000 | 42.000 | 1.000 | 2.000 | 26.000 | 53.000 |
| | 54.000 | 25.000 | 50.000 | 0.0 | 201.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| NC | 0.055 | 0.055 | 0.035 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| QT | 5.000 | 664.000 | 1108.000 | 1329.000 | 1849.000 | 1329.000 | 0.0 | 0.0 | 0.0 | 0.0 |
| ET | 5.000 | 0.0 | 0.0 | 0.0 | 0.0 | -10.400 | 0.0 | 0.0 | 0.0 | 0.0 |
| X1 | 750.000 | 16.000 | 1456.000 | 1481.000 | 750.000 | 750.000 | 750.000 | 750.000 | 0.0 | -1.100 |
| GR | 658.700 | 1000.000 | 659.600 | 1100.000 | 667.400 | 1200.000 | 660.100 | 1300.000 | 661.000 | 1400.000 |
| GR | 660.900 | 1456.000 | 654.900 | 1460.000 | 654.300 | 1465.000 | 654.600 | 1471.000 | 663.400 | 1481.000 |
| GR | 663.500 | 1500.000 | 665.100 | 1600.000 | 667.900 | 1700.000 | 672.700 | 1772.000 | 674.100 | 1800.000 |
| GR | 675.900 | 1863.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| X1 | 800.000 | 0.0 | 0.0 | 0.0 | 50.000 | 50.000 | 50.000 | 50.000 | 0.0 | 1.100 |
| NC | 0.025 | 0.025 | 0.025 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| X1 | 850.000 | 28.000 | 1843.300 | 1556.800 | 50.000 | 50.000 | 50.000 | 50.000 | 0.0 | 0.0 |
| GR | 667.000 | 1000.000 | 667.000 | 1100.000 | 666.800 | 1300.000 | 666.900 | 1312.000 | 661.600 | 1385.000 |
| GR | 662.500 | 1465.000 | 662.400 | 1541.000 | 657.900 | 1543.300 | 656.400 | 1545.000 | 656.000 | 1547.000 |
| GR | 655.900 | 1549.000 | 655.800 | 1550.000 | 655.900 | 1551.000 | 656.000 | 1553.000 | 656.400 | 1555.000 |
| GR | 657.900 | 1556.800 | 664.900 | 1566.000 | 665.000 | 1585.000 | 666.600 | 1685.000 | 669.400 | 1785.000 |
| GR | 672.200 | 1828.000 | 673.100 | 1900.000 | 674.300 | 2000.000 | 675.600 | 2100.000 | 676.900 | 2200.000 |
| GR | 677.700 | 2300.000 | 678.900 | 2400.000 | 680.000 | 2500.000 | 0.0 | 0.0 | 0.0 | 0.0 |
| SB | 0.900 | 1.500 | 2.500 | 0.0 | 8.500 | 0.010 | 89.000 | 0.0 | 0.0 | 0.0 |
| | RDNO | 601 BYPASS | MXLCEL | 664.3 | RDELV | 660.4 | | | | |
| X1 | 918.000 | 0.0 | 0.0 | 0.0 | 68.000 | 68.000 | 68.000 | 68.000 | 0.0 | 0.0 |
| X2 | 0.0 | 0.0 | 1.000 | 664.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| BT | 25.000 | 1000.000 | 667.000 | 0.0 | 1100.000 | 667.000 | 0.0 | 1200.000 | 666.800 | 0.0 |

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| BT | 1300.000 | 666.800 | 0.0 | 1400.000 | 667.300 | 0.0 | 1500.000 | 667.900 | 0.0 | 1543.300 |
| BT | 668.400 | 657.900 | 1545.000 | 668.400 | 662.100 | 1547.000 | 668.400 | 663.600 | 1549.000 | 668.400 |
| BT | 664.200 | 1550.000 | 668.400 | 664.300 | 1551.000 | 668.400 | 664.200 | 1553.000 | 668.400 | 663.600 |
| BT | 1555.000 | 668.400 | 662.100 | 1556.800 | 668.400 | 657.900 | 1600.000 | 669.100 | 0.0 | 1700.000 |
| BT | 670.500 | 0.0 | 1800.000 | 671.900 | 0.0 | 1900.000 | 673.100 | 0.0 | 2000.000 | 674.300 |
| BT | 0.0 | 2100.000 | 675.600 | 0.0 | 2200.000 | 676.900 | 0.0 | 2300.000 | 677.700 | 0.0 |
| BT | 2400.000 | 678.900 | 0.0 | 2500.000 | 680.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| NC | 0.055 | 0.055 | 0.035 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|---------|----------|----------|----------|---------|----------|---------|----------|---------|----------|
| X1 | 968.000 | 16.000 | 1456.000 | 1481.000 | 50.000 | 50.000 | 50.000 | 0.0 | 2.600 | 0.0 |
| GR | 658.700 | 1000.000 | 659.600 | 1100.000 | 667.400 | 1200.000 | 660.100 | 1300.000 | 661.000 | 1400.000 |
| GR | 660.900 | 1456.000 | 654.900 | 1460.000 | 654.300 | 1465.000 | 654.600 | 1471.000 | 663.400 | 1481.000 |
| GR | 663.500 | 1500.000 | 665.100 | 1600.000 | 667.900 | 1700.000 | 672.700 | 1772.000 | 674.100 | 1800.000 |
| GR | 675.900 | 1863.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|----------|-----|-----|-----|--------|--------|--------|-----|-------|-----|
| X1 | 1018.000 | 0.0 | 0.0 | 0.0 | 50.000 | 50.000 | 50.000 | 0.0 | 1.100 | 0.0 |
|----|----------|-----|-----|-----|--------|--------|--------|-----|-------|-----|

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|
| X1 | 2800.000 | 11.000 | 1174.000 | 1200.000 | 1782.000 | 1782.000 | 1782.000 | 0.0 | 0.0 | 0.0 |
| GR | 687.500 | 1000.000 | 672.000 | 1080.000 | 671.400 | 1100.000 | 671.600 | 1174.000 | 665.300 | 1178.000 |
| GR | 664.900 | 1184.000 | 665.000 | 1190.000 | 671.600 | 1200.000 | 672.600 | 1300.000 | 681.200 | 1400.000 |
| GR | 687.500 | 1470.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| QT | 5.000 | 453.000 | 779.000 | 956.000 | 1357.000 | 956.000 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|
| X1 | 4180.000 | 15.000 | 1200.000 | 1217.000 | 1380.000 | 1380.000 | 1380.000 | 0.0 | -0.600 | 0.0 |
| GR | 692.800 | 1000.000 | 683.200 | 1069.000 | 682.900 | 1100.000 | 678.000 | 1200.000 | 673.000 | 1205.000 |
| GR | 672.800 | 1209.000 | 672.800 | 1212.000 | 678.000 | 1217.000 | 679.600 | 1300.000 | 681.900 | 1400.000 |
| GR | 685.300 | 1500.000 | 684.100 | 1600.000 | 687.800 | 1700.000 | 690.700 | 1800.000 | 692.800 | 1858.000 |

| | | | | | | | | | | |
|----|----------|-------|-------|-------|--------|--------|--------|-----|-------|-----|
| X1 | 4230.000 | 0.0 | 0.0 | 0.0 | 50.000 | 50.000 | 50.000 | 0.0 | 0.100 | 0.0 |
| NC | 0.025 | 0.025 | 0.025 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|----------|----------|----------|----------|---------|----------|---------|----------|---------|----------|
| X1 | 4280.000 | 22.000 | 1420.300 | 1427.800 | 50.000 | 50.000 | 50.000 | 0.0 | 0.0 | 0.0 |
| GR | 696.000 | 1000.000 | 690.800 | 1100.000 | 686.500 | 1200.000 | 684.400 | 1270.000 | 682.800 | 1281.000 |
| GR | 682.500 | 1312.000 | 677.600 | 1412.000 | 675.000 | 1420.300 | 672.400 | 1420.300 | 672.400 | 1427.800 |
| GR | 675.000 | 1427.800 | 677.600 | 1429.000 | 679.200 | 1512.000 | 681.500 | 1612.000 | 682.600 | 1650.000 |
| GR | 683.000 | 1700.000 | 684.500 | 1800.000 | 686.400 | 1900.000 | 688.300 | 2000.000 | 690.600 | 2100.000 |
| GR | 693.400 | 2200.000 | 696.000 | 2280.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| SB | 0.900 | 1.500 | 2.500 | 0.0 | 7.500 | 0.010 | 45.000 | 0.0 | 0.0 | 0.0 |

RDNO NCSR 1700 MXLCEL 678.4 RDELV 681.4

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| X1 | 4318.000 | 0.0 | 0.0 | 0.0 | 38.000 | 38.000 | 38.000 | 0.0 | 0.0 | 0.0 |
| X2 | 0.0 | 0.0 | 1.000 | 678.400 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| BT | 17.000 | 1000.000 | 696.000 | 0.0 | 1100.000 | 690.800 | 0.0 | 1200.000 | 686.500 | 0.0 |
| BT | 1300.000 | 683.500 | 0.0 | 1400.000 | 682.100 | 0.0 | 1420.300 | 681.400 | 678.400 | 1427.800 |
| BT | 691.400 | 678.400 | 1427.900 | 681.400 | 0.0 | 1500.000 | 681.500 | 0.0 | 1600.000 | 682.100 |
| BT | 0.0 | 1700.000 | 683.000 | 0.0 | 1800.000 | 684.500 | 0.0 | 1900.000 | 686.400 | 0.0 |
| BT | 2000.000 | 688.300 | 0.0 | 2100.000 | 690.600 | 0.0 | 2200.000 | 693.400 | 0.0 | 2280.000 |
| BT | 696.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| NC | 0.055 | 0.055 | 0.035 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|----------|----------|----------|----------|---------|----------|---------|----------|---------|----------|
| X1 | 4368.000 | 15.000 | 1200.000 | 1217.000 | 50.000 | 50.000 | 50.000 | 0.0 | -0.300 | 0.0 |
| GR | 692.800 | 1000.000 | 683.200 | 1069.000 | 682.900 | 1100.000 | 678.000 | 1200.000 | 673.000 | 1205.000 |
| GR | 672.800 | 1209.000 | 672.800 | 1212.000 | 678.000 | 1217.000 | 679.600 | 1300.000 | 681.900 | 1400.000 |
| GR | 685.300 | 1500.000 | 684.100 | 1600.000 | 687.800 | 1700.000 | 690.700 | 1800.000 | 692.800 | 1858.000 |

| | | | | | | | | | | |
|----|----------|-----|-----|-----|--------|--------|--------|-----|-------|-----|
| X1 | 4418.000 | 0.0 | 0.0 | 0.0 | 50.000 | 50.000 | 50.000 | 0.0 | 0.100 | 0.0 |
|----|----------|-----|-----|-----|--------|--------|--------|-----|-------|-----|

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 750.000

3265 DIVIDED FLOW

3280 CROSS SECTION 750.00 EXTENDED 1.18 FEET

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | QLOSS | BANK ELEV |
|----------|-------|--------|-------|--------|--------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XLN | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 750.00 | 5.58 | 658.78 | 0.0 | 658.20 | 659.36 | 0.57 | 0.0 | 0.0 | 659.80 |
| 664. | 112. | 552. | 0. | 74. | 83. | 0. | 0. | 0. | 662.30 |
| 0.0 | 1.52 | 6.64 | 0.0 | 0.055 | 0.035 | 0.055 | 0.0 | 653.20 | 1000.00 |
| 0.004933 | 750. | 750. | 750. | 0 | 0 | 5 | 0.0 | 123.94 | 1477.00 |

*SECNO 800.000

3265 DIVIDED FLOW

3280 CROSS SECTION 800.00 EXTENDED 1.10 FEET

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | QLOSS | BANK ELEV |
|-------|-------|-------|-------|--------|------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XLN | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

3685 20 TRIALS ATTEMPTED WSEL, CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|----------|------|--------|--------|-------|--------|-------|-------|--------|---------|
| 800.00 | 5.50 | 659.80 | 659.80 | 0.0 | 660.45 | 0.64 | 0.26 | 0.02 | 660.90 |
| 664. | 98. | 566. | 0. | 65. | 82. | 0. | 0. | 0. | 663.40 |
| 0.00 | 1.49 | 6.95 | 0.0 | 0.055 | 0.035 | 0.055 | 0.034 | 654.30 | 1000.00 |
| 0.005486 | 50. | 50. | 50. | 20 | 6 | 0 | 0.0 | 122.77 | 1476.91 |

CCHV= 0.100 CEHV= 0.300
*SECNO 850.000

3301 HV CHANGED MORE THAN HVINS

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | QLOSS | BANK ELEV |
|-------|-------|-------|-------|--------|------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XLN | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

3685 20 TRIALS ATTEMPTED WSEL, CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|--------|------|--------|--------|-----|--------|------|------|------|--------|
| 850.00 | 4.77 | 660.57 | 660.57 | 0.0 | 662.41 | 1.85 | 0.28 | 0.36 | 657.90 |
| 664. | 6. | 636. | 22. | 2. | 57. | 5. | 0. | 0. | 657.00 |

 HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
 ERROR CORR - 01
 MODIFICATION - 50,51,52

T1 ROWAN CO. BASIN E. STREAM 9A WOODLEAF BRANCH
 T2 FLOODPLAIN STUDY AT ROWAN & DAVIDSON COUNTIES M-G JOB NO. 6918
 T3 50 YEAR FLOOD WATER SURFACE PROFILE

| | | | | | | | | | | |
|----|--------|-------|--------|-------|----------|--------|-------|-----|---------|--------|
| J1 | ICHECK | INO | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | -10. | 3. | 0. | 0. | 0.005000 | 0.0 | 0.0 | 0. | 659.200 | 0.0 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 2.000 | 0.0 | -1.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

*PROF 2

CCHV= 0.100 CEHV= 0.300
 *SECNO 750.000

3265 DIVIDED FLOW

3280 CROSS SECTION 750.00 EXTENDED 1.96 FEET

| SECNO | DEPTH | CWSEL | CRWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|----------|-------|--------|-------|--------|--------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 750.00 | 6.36 | 659.56 | 0.0 | 659.20 | 660.09 | 0.53 | 0.0 | 0.0 | 659.80 |
| 1108. | 399. | 709. | 0. | 178. | 100. | 0. | 0. | 0. | 662.30 |
| 0.0 | 2.24 | 7.12 | 0.0 | 0.055 | 0.035 | 0.055 | 0.0 | 653.20 | 1000.00 |
| 0.004974 | 750. | 750. | 750. | 0 | 0 | 5 | 0.0 | 205.30 | 1477.89 |

*SECNO 800.000

3265 DIVIDED FLOW

3280 CROSS SECTION 800.00 EXTENDED 1.82 FEET

| SECNO | DEPTH | CWSEL | CRWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|-------|-------|-------|-------|--------|------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|--------|------|--------|--------|-----|--------|------|------|------|--------|
| 800.00 | 6.22 | 660.52 | 660.52 | 0.0 | 661.17 | 0.65 | 0.27 | 0.03 | 660.90 |
|--------|------|--------|--------|-----|--------|------|------|------|--------|

 HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
 ERROR CORR - 01
 MODIFICATION - 50,51,52

T1 ROWAN CO. BASIN E. STREAM 9A WOODLEAF BRANCH
 T2 FLOODPLAIN STUDY AT ROWAN & DAVIDSON COUNTIES M-G JOB NO. 6918
 T3 100 YEAR FLOOD WATER SURFACE PROFILE

| | | | | | | | | | | |
|----|--------|-------|--------|-------|----------|--------|-------|-----|---------|--------|
| J1 | ICHECK | ING | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FO |
| | -10. | 4. | 0. | 0. | 0.005000 | 0.0 | 0.0 | 0. | 661.200 | 0.0 |
| J2 | NPROF | IPL0T | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 3.000 | 0.0 | -1.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

*PROF 3

CCHV= 0.100 CEHV= 0.300
 *SECNO 750.000

3265 DIVIDED FLOW

3280 CROSS SECTION 750.00 EXTENDED 2.23 FEET

| SECNO | DEPTH | CWSEL | CRWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|----------|-------|--------|-------|--------|--------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 750.00 | 6.63 | 659.83 | 0.0 | 661.20 | 660.35 | 0.52 | 0.0 | 0.0 | 659.80 |
| 1329. | 557. | 772. | 0. | 233. | 105. | 0. | 0. | 0. | 662.30 |
| 0.0 | 2.39 | 7.33 | 0.0 | 0.055 | 0.035 | 0.055 | 0.0 | 653.20 | 1000.00 |
| 0.005044 | 750. | 750. | 750. | 0 | 0 | 5 | 0.0 | 259.49 | 1478.19 |

*SECNO 800.000

3265 DIVIDED FLOW

3280 CROSS SECTION 800.00 EXTENDED 2.01 FEET

| SECNO | DEPTH | CWSEL | CRWS | WSELK | EG | HV | HL | OLOSS | BANK ELEV |
|-------|-------|-------|-------|--------|------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

800.00 6.41 660.71 660.71 0.0 661.42 0.71 0.29 0.06 660.90

 HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
 ERROR CORR - 01
 MODIFICATION - 50,51,52

T1 ROWAN CO. BASIN E STREAM 9A WOODLEAF BRANCH
 T2 FLOODPLAIN STUDY AT ROWAN & DAVIDSON COUNTIES M-G JOB NO. 6918
 T3 500 YEAR FLOOD WATER SURFACE PROFILE

| | | | | | | | | | | |
|----|--------|-------|--------|-------|----------|--------|-------|-----|---------|--------|
| J1 | ICHECK | INO | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FO |
| | -10. | 5. | 0. | 0. | 0.005000 | 0.0 | 0.0 | 0. | 662.200 | 0.0 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITHACE |
| | 15.000 | 0.0 | -1.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

*PROF 4

CCHV= 0.100 CEHV= 0.300
 *SECNO 750.000

3265 DIVIDED FLOW

3280 CROSS SECTION 750.00 EXTENDED 2.71 FEET

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | QLOSS | BANK ELEV |
|----------|-------|--------|-------|--------|--------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 750.00 | 7.11 | 660.31 | 0.0 | 662.20 | 660.80 | 0.49 | 0.0 | 0.0 | 659.80 |
| 1849. | 961. | 888. | 0. | 370. | 116. | 0. | 0. | 0. | 662.30 |
| 0.0 | 2.60 | 7.65 | 0.0 | 0.055 | 0.035 | 0.055 | 0.0 | 653.20 | 1000.00 |
| 0.004993 | 750. | 750. | 750. | 0 | 0 | 4 | 0.0 | 319.86 | 1479.74 |

*SECNO 800.000

3265 DIVIDED FLOW

3280 CROSS SECTION 800.00 EXTENDED 2.56 FEET

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | QLOSS | BANK ELEV |
|-------|-------|-------|-------|--------|------|-------|-------|--------|------------|
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | LEFT/RIGHT |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|--------|------|--------|--------|-----|--------|------|------|------|--------|
| 800.00 | 6.96 | 661.26 | 661.26 | 0.0 | 661.97 | 0.62 | 0.28 | 0.04 | 660.90 |
|--------|------|--------|--------|-----|--------|------|------|------|--------|

 HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
 ERROR CORR - 01
 MODIFICATION - 50,51,52

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

10 YEAR FLOOD WATER SURF

SUMMARY PRINTOUT

| SECNO | XLCH | ELTRD | ELLC | Q | ELMIN | CWSEL | CRWS | VCH | SSTA | ENDST | AREA | DIFWSP |
|------------|---------|--------|--------|---------|--------|--------|--------|-------|---------|---------|---------|--------|
| 750.000 | 750.00 | 0.0 | 0.0 | 664.00 | 653.20 | 658.78 | 0.0 | 6.64 | 1000.00 | 1477.00 | 156.82 | 0.0 |
| 750.000 | 750.00 | 0.0 | 0.0 | 1108.00 | 653.20 | 659.56 | 0.0 | 7.12 | 1000.00 | 1477.89 | 277.54 | 0.78 |
| 750.000 | 750.00 | 0.0 | 0.0 | 1329.00 | 653.20 | 659.83 | 0.0 | 7.33 | 1000.00 | 1478.19 | 337.97 | 0.27 |
| 750.000 | 750.00 | 0.0 | 0.0 | 1849.00 | 653.20 | 660.31 | 0.0 | 7.65 | 1000.00 | 1478.74 | 486.33 | 0.48 |
| * 800.000 | 50.00 | 0.0 | 0.0 | 664.00 | 654.30 | 659.80 | 659.80 | 6.95 | 1000.00 | 1476.91 | 146.98 | 0.0 |
| * 800.000 | 50.00 | 0.0 | 0.0 | 1108.00 | 654.30 | 660.52 | 660.52 | 7.71 | 1000.00 | 1477.73 | 250.37 | 0.72 |
| * 800.000 | 50.00 | 0.0 | 0.0 | 1329.00 | 654.30 | 660.71 | 660.71 | 8.29 | 1000.00 | 1477.95 | 288.37 | 0.19 |
| * 800.000 | 50.00 | 0.0 | 0.0 | 1849.00 | 654.30 | 661.26 | 661.26 | 8.38 | 1000.00 | 1478.56 | 437.74 | 0.54 |
| * 850.000 | 50.00 | 0.0 | 0.0 | 664.00 | 655.80 | 660.57 | 660.57 | 11.10 | 1541.94 | 1560.30 | 63.79 | 0.0 |
| * 850.000 | 50.00 | 0.0 | 0.0 | 1108.00 | 655.80 | 663.07 | 663.07 | 7.70 | 1364.72 | 1563.60 | 267.40 | 2.51 |
| * 850.000 | 50.00 | 0.0 | 0.0 | 1329.00 | 655.80 | 663.25 | 663.25 | 8.25 | 1362.22 | 1563.84 | 303.77 | 0.18 |
| * 850.000 | 50.00 | 0.0 | 0.0 | 1849.00 | 655.80 | 663.65 | 663.65 | 9.09 | 1356.77 | 1564.36 | 384.79 | 0.40 |
| 918.000 | 68.00 | 666.80 | 666.30 | 664.00 | 655.80 | 660.58 | 0.0 | 11.06 | 1541.93 | 1560.32 | 64.09 | 0.0 |
| 918.000 | 68.00 | 666.80 | 664.30 | 1108.00 | 655.80 | 663.07 | 0.0 | 7.70 | 1364.70 | 1563.60 | 267.69 | 2.49 |
| 918.000 | 68.00 | 666.80 | 664.30 | 1329.00 | 655.80 | 663.25 | 0.0 | 8.24 | 1362.20 | 1563.84 | 304.07 | 0.18 |
| 918.000 | 68.00 | 666.80 | 664.30 | 1849.00 | 655.80 | 667.67 | 0.0 | 1.86 | 1000.00 | 1723.35 | 1824.88 | 4.42 |
| * 968.000 | 50.00 | 0.0 | 0.0 | 664.00 | 656.90 | 662.32 | 662.32 | 7.28 | 1000.00 | 1476.82 | 137.17 | 0.0 |
| 968.000 | 50.00 | 0.0 | 0.0 | 1108.00 | 656.90 | 663.36 | 0.0 | 6.72 | 1000.00 | 1478.00 | 299.14 | 1.04 |
| 968.000 | 50.00 | 0.0 | 0.0 | 1329.00 | 656.90 | 663.55 | 0.0 | 7.25 | 1000.00 | 1478.21 | 342.68 | 0.19 |
| 968.000 | 50.00 | 0.0 | 0.0 | 1849.00 | 656.90 | 667.68 | 0.0 | 1.80 | 1000.00 | 1598.69 | 1953.73 | 4.12 |
| * 1018.000 | 50.00 | 0.0 | 0.0 | 664.00 | 658.00 | 663.43 | 663.43 | 7.25 | 1000.00 | 1476.83 | 138.06 | 0.0 |
| * 1018.000 | 50.00 | 0.0 | 0.0 | 1108.00 | 658.00 | 664.20 | 664.20 | 7.82 | 1000.00 | 1477.70 | 245.42 | 0.77 |
| * 1018.000 | 50.00 | 0.0 | 0.0 | 1329.00 | 658.00 | 664.42 | 664.42 | 8.27 | 1000.00 | 1477.95 | 289.21 | 0.22 |
| 1018.000 | 50.00 | 0.0 | 0.0 | 1849.00 | 658.00 | 667.68 | 0.0 | 2.46 | 1000.00 | 1530.20 | 1418.74 | 3.26 |
| 2800.000 | 1782.00 | 0.0 | 0.0 | 664.00 | 664.90 | 671.22 | 0.0 | 5.79 | 1174.24 | 1199.42 | 114.68 | 0.0 |
| 2800.000 | 1782.00 | 0.0 | 0.0 | 1108.00 | 664.90 | 672.32 | 670.45 | 6.89 | 1078.35 | 1272.06 | 242.60 | 1.09 |
| 2800.000 | 1782.00 | 0.0 | 0.0 | 1329.00 | 664.90 | 672.69 | 0.0 | 7.06 | 1076.46 | 1301.01 | 320.22 | 0.37 |
| * 2800.000 | 1782.00 | 0.0 | 0.0 | 1849.00 | 664.90 | 673.02 | 673.02 | 8.44 | 1074.74 | 1304.89 | 396.04 | 0.33 |
| 4180.000 | 1380.00 | 0.0 | 0.0 | 453.00 | 672.20 | 677.14 | 0.0 | 7.54 | 1200.26 | 1216.75 | 57.08 | 0.0 |
| * 4180.000 | 1380.00 | 0.0 | 0.0 | 779.00 | 672.20 | 678.56 | 678.56 | 8.65 | 1176.32 | 1277.21 | 129.91 | 1.42 |
| * 4180.000 | 1380.00 | 0.0 | 0.0 | 956.00 | 672.20 | 679.08 | 679.08 | 8.49 | 1165.73 | 1303.46 | 191.95 | 0.52 |
| * 4180.000 | 1380.00 | 0.0 | 0.0 | 1357.00 | 672.20 | 679.75 | 679.75 | 8.72 | 1152.07 | 1332.55 | 298.43 | 0.67 |

653.2 652.2

STA 881 601 BY PASS

| SECNO | XLCH | ELTRD | ELLC | Q | ELMIN | CWSEL | CRWS | VCH | SSTA | ENOST | AREA | DIFWSP |
|------------|-------|--------|--------|---------|--------|--------|--------|------|---------|---------|---------|--------|
| 4230.000 | 50.00 | 0.0 | 0.0 | 453.00 | 672.30 | 677.78 | 0.0 | 6.80 | 1194.15 | 1231.87 | 69.34 | 0.0 |
| 4230.000 | 50.00 | 0.0 | 0.0 | 779.00 | 672.30 | 679.45 | 0.0 | 6.07 | 1160.24 | 1315.16 | 231.32 | 1.67 |
| 4230.000 | 50.00 | 0.0 | 0.0 | 956.00 | 672.30 | 679.81 | 0.0 | 6.28 | 1152.99 | 1330.59 | 290.34 | 0.35 |
| 4230.000 | 50.00 | 0.0 | 0.0 | 1357.00 | 672.30 | 680.31 | 0.0 | 7.08 | 1142.84 | 1352.22 | 386.60 | 0.50 |
| * 4280.000 | 50.00 | 0.0 | 0.0 | 453.00 | 672.40 | 677.98 | 677.98 | 8.73 | 1404.34 | 1448.48 | 62.83 | 0.0 |
| 4280.000 | 50.00 | 0.0 | 0.0 | 779.00 | 672.40 | 679.78 | 0.0 | 5.00 | 1367.40 | 1537.46 | 259.71 | 1.81 |
| 4280.000 | 50.00 | 0.0 | 0.0 | 956.00 | 672.40 | 680.14 | 0.0 | 4.86 | 1360.01 | 1553.19 | 325.45 | 0.36 |
| 4280.000 | 50.00 | 0.0 | 0.0 | 1357.00 | 672.40 | 680.71 | 0.0 | 4.94 | 1348.50 | 1577.72 | 444.60 | 0.56 |
| 4318.000 | 38.00 | 681.40 | 678.40 | 453.00 | 672.40 | 680.30 | 0.0 | 2.09 | 1356.84 | 1559.94 | 356.20 | 0.0 |
| 4318.000 | 38.00 | 681.40 | 678.40 | 779.00 | 672.40 | 682.34 | 0.0 | 1.29 | 1315.06 | 1641.38 | 902.80 | 2.04 |
| * 4318.000 | 38.00 | 681.40 | 678.40 | 956.00 | 672.40 | 682.59 | 0.0 | 1.42 | 1301.62 | 1650.09 | 986.56 | 0.25 |
| 4318.000 | 38.00 | 681.40 | 678.40 | 1357.00 | 672.40 | 682.99 | 0.0 | 1.72 | 1279.71 | 1698.35 | 1136.60 | 0.39 |
| 4368.000 | 50.00 | 0.0 | 0.0 | 453.00 | 672.50 | 680.29 | 0.0 | 2.60 | 1147.12 | 1343.09 | 344.06 | 0.0 |
| 4368.000 | 50.00 | 0.0 | 0.0 | 779.00 | 672.50 | 682.34 | 0.0 | 1.93 | 1105.32 | 1421.74 | 875.58 | 2.05 |
| 4368.000 | 50.00 | 0.0 | 0.0 | 956.00 | 672.50 | 682.59 | 0.0 | 2.17 | 1100.27 | 1429.02 | 955.44 | 0.25 |
| 4368.000 | 50.00 | 0.0 | 0.0 | 1357.00 | 672.50 | 682.98 | 0.0 | 2.67 | 1068.43 | 1440.56 | 1093.82 | 0.39 |
| 4418.000 | 50.00 | 0.0 | 0.0 | 453.00 | 672.60 | 680.31 | 0.0 | 2.70 | 1148.86 | 1339.40 | 327.64 | 0.0 |
| 4418.000 | 50.00 | 0.0 | 0.0 | 779.00 | 672.60 | 682.35 | 0.0 | 1.99 | 1107.25 | 1418.96 | 845.83 | 2.04 |
| 4418.000 | 50.00 | 0.0 | 0.0 | 956.00 | 672.60 | 682.60 | 0.0 | 2.24 | 1102.18 | 1426.27 | 924.92 | 0.25 |
| 4418.000 | 50.00 | 0.0 | 0.0 | 1357.00 | 672.60 | 682.99 | 0.0 | 2.76 | 1070.24 | 1437.89 | 1060.18 | 0.40 |

STA 43+00 E. NCSE 1700 - UMM OF STUDY

SUMMARY OF ERRORS

CAUTION SECNO= 800.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 800.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 800.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 800.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 800.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 800.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 800.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 800.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 800.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 800.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 800.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 800.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 850.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 850.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 850.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 850.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 850.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 850.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 850.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 850.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 850.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 850.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 850.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 850.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 968.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 968.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 968.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 1018.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1018.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1018.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 1018.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1018.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1018.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 1018.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1018.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1018.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 2800.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2800.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2800.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 4180.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4180.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 4180.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4180.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 4180.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4180.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 4280.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4280.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 4318.000 PROFILE= 3 HYDRAULIC JUMP D.S.

FLOOD INSURANCE ZONE DATA FOR 10 YEAR FLOOD WATER SURF

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

| SECTION NUMBER | CUMULATIVE DISTANCE | ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND | | |
|------------------------|---------------------|---|------|------|
| | | 100 | 20 | 0.20 |
| 750.000 | 0. | -1.0 | -0.3 | 0.5 |
| 800.000 | 50. | -0.9 | -0.2 | 0.5 |
| 850.000 | 100. | -2.7 | -0.2 | 0.4 |
| 918.000 | 168. | -2.7 | -0.2 | 4.4 |
| 966.000 | 218. | -1.2 | -0.2 | 4.1 |
| 1018.000 | 268. | -1.0 | -0.2 | 3.3 |
| 2800.000 | 2050. | -1.5 | -0.4 | 0.3 |
| 4180.000 | 3430. | -1.9 | -0.5 | 0.7 |
| 4230.000 | 3480. | -2.0 | -0.4 | 0.5 |
| 4280.000 | 3530. | -2.2 | -0.4 | 0.6 |
| 4318.000 | 3568. | -2.3 | -0.2 | 0.4 |
| 4368.000 | 3618. | -2.3 | -0.2 | 0.4 |
| 4418.000 | 3668. | -2.3 | -0.2 | 0.4 |
| ----- | | | | |
| WEIGHTED AVG FOR REACH | | -1.5 | -0.3 | 1.3 |

FHF FOR THE REACH = 015 WITH 91.7% OF THE REACH WITHIN 0.5 FEET
 ZONE FOR THE REACH = A 3

HEC2 RELEASE DATED NOV 76 UPDATED FEB 1977
ERROR CORR - 01
MODIFICATION - 50,51,52

EJ

ERROR CORR - 01
 MODIFICATION - 50,51,52

C
 T1 ROWAN CO. BASIN E STREAM 9A WOODLEAF BRANCH
 T2 FLOODPLAIN STUDY AT ROWAN & DAVIDSON COUNTIES M-G JOB NO. 6918
 T3 10 YEAR FLOOD WATER SURFACE PROFILE

| J1 | ICHECK | ING | NINV | IDIR | STRT | METRIC | HVINS | 0 | WSEL | FG |
|----|-------------------------------------|----------|----------|----------|----------|----------|---------|----------|---------|----------|
| | -1. | 2. | 0. | 0. | 0.005000 | 0.0 | 0.0 | 0. | 658.200 | 0.0 |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | 0.0 | 0.0 | -1.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| J3 | VARIABLE CODES FOR SUMMARY PRINTOUT | | | | | | | | | |
| | 38.000 | 39.000 | 40.000 | 41.000 | 43.000 | 42.000 | 1.000 | 2.000 | 26.000 | 53.000 |
| | 54.000 | 25.000 | 50.000 | 0.0 | 201.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| NC | 0.055 | 0.055 | 0.035 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| QT | 5.000 | 664.000 | 1108.000 | 1329.000 | 1849.000 | 1329.000 | 0.0 | 0.0 | 0.0 | 0.0 |
| ET | 5.000 | 0.0 | 0.0 | 0.0 | 0.0 | -10.400 | 0.0 | 0.0 | 0.0 | 0.0 |
| X1 | 750.000 | 16.000 | 1456.000 | 1481.000 | 750.000 | 750.000 | 750.000 | 0.0 | -1.100 | 0.0 |
| GR | 658.700 | 1000.000 | 659.600 | 1100.000 | 667.400 | 1200.000 | 660.100 | 1300.000 | 661.000 | 1400.000 |
| GR | 660.900 | 1456.000 | 654.900 | 1460.000 | 654.300 | 1465.000 | 654.600 | 1471.000 | 663.400 | 1481.000 |
| GR | 663.500 | 1500.000 | 665.100 | 1600.000 | 667.900 | 1700.000 | 672.700 | 1772.000 | 674.100 | 1800.000 |
| GR | 675.900 | 1863.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| X1 | 800.000 | 0.0 | 0.0 | 0.0 | 50.000 | 50.000 | 50.000 | 0.0 | 1.100 | 0.0 |
| NC | 0.025 | 0.025 | 0.025 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| X1 | 850.000 | 28.000 | 1543.300 | 1556.800 | 50.000 | 50.000 | 50.000 | 0.0 | 0.0 | 0.0 |
| GR | 667.000 | 1000.000 | 667.000 | 1100.000 | 666.800 | 1300.000 | 666.900 | 1312.000 | 661.600 | 1385.000 |
| GR | 662.500 | 1485.000 | 662.400 | 1541.000 | 657.900 | 1543.300 | 656.400 | 1545.000 | 656.000 | 1547.000 |
| GR | 655.700 | 1549.000 | 655.800 | 1550.000 | 655.900 | 1551.000 | 656.000 | 1553.000 | 656.400 | 1555.000 |
| GR | 657.900 | 1556.800 | 664.900 | 1566.000 | 665.000 | 1585.000 | 666.600 | 1685.000 | 669.400 | 1785.000 |
| GR | 672.200 | 1828.000 | 673.100 | 1900.000 | 674.300 | 2000.000 | 675.600 | 2100.000 | 676.900 | 2200.000 |
| GR | 677.700 | 2300.000 | 678.900 | 2400.000 | 680.000 | 2500.000 | 0.0 | 0.0 | 0.0 | 0.0 |
| SB | 0.900 | 1.500 | 2.500 | 0.0 | 8.500 | 0.010 | 89.000 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|-----|---------|----------|----------|----------|---------|----------|---------|----------|---------|----------|
| X1- | 850.000 | 28.000 | 1543.300 | 1556.800 | 50.000 | 50.000 | 50.000 | 0.0 | 0.0 | 0.0 |
| GR | 667.000 | 1000.000 | 667.000 | 1100.000 | 666.800 | 1300.000 | 666.900 | 1312.000 | 661.600 | 1385.000 |
| GR | 662.500 | 1485.000 | 662.400 | 1541.000 | 657.900 | 1543.300 | 656.400 | 1545.000 | 656.000 | 1547.000 |
| GR | 655.900 | 1549.000 | 655.800 | 1550.000 | 655.900 | 1551.000 | 656.000 | 1553.000 | 656.400 | 1555.000 |
| GR | 657.900 | 1556.800 | 664.900 | 1566.000 | 665.000 | 1585.000 | 666.600 | 1685.000 | 669.400 | 1785.000 |
| GR | 672.200 | 1828.000 | 673.100 | 1900.000 | 674.300 | 2000.000 | 675.600 | 2100.000 | 676.900 | 2200.000 |
| GR | 677.700 | 2300.000 | 678.900 | 2400.000 | 680.000 | 2500.000 | 0.0 | 0.0 | 0.0 | 0.0 |
| SB | 0.900 | 1.500 | 2.500 | 0.0 | 8.500 | 0.010 | 89.000 | 0.0 | 0.0 | 0.0 |

RDN0 601 BYPASS MXLCEL 664.3 RDELV 668.4

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| X1 | 918.000 | 0.0 | 0.0 | 0.0 | 68.000 | 68.000 | 68.000 | 0.0 | 0.0 | 0.0 |
| X2 | 0.0 | 0.0 | 1.000 | 664.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| BT | 25.000 | 1000.000 | 667.000 | 0.0 | 1100.000 | 667.000 | 0.0 | 1200.000 | 666.800 | 0.0 |
| BT | 1300.000 | 666.800 | 0.0 | 1400.000 | 667.300 | 0.0 | 1500.000 | 667.900 | 0.0 | 1543.300 |
| BT | 668.400 | 657.900 | 1545.000 | 668.400 | 662.100 | 1547.000 | 668.400 | 663.600 | 1549.000 | 668.400 |
| BT | 664.200 | 1550.000 | 668.400 | 664.300 | 1551.000 | 668.400 | 664.200 | 1553.000 | 668.400 | 663.600 |
| BT | 1555.000 | 668.400 | 662.100 | 1556.800 | 668.400 | 657.900 | 1600.000 | 669.100 | 0.0 | 1700.000 |
| BT | 670.500 | 0.0 | 1800.000 | 671.900 | 0.0 | 1900.000 | 673.100 | 0.0 | 0.0 | 674.300 |
| BT | 0.0 | 2100.000 | 675.600 | 0.0 | 2200.000 | 676.900 | 0.0 | 2300.000 | 677.700 | 0.0 |
| BT | 2400.000 | 678.900 | 0.0 | 2500.000 | 680.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| NC | 0.055 | 0.055 | 0.035 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|---------|----------|----------|----------|---------|----------|---------|----------|---------|----------|
| X1 | 968.000 | 16.000 | 1456.000 | 1481.000 | 50.000 | 50.000 | 50.000 | 0.0 | 2.600 | 0.0 |
| GR | 658.700 | 1000.000 | 659.600 | 1100.000 | 667.400 | 1200.000 | 660.100 | 1300.000 | 661.000 | 1400.000 |
| GR | 660.900 | 1456.000 | 654.900 | 1460.000 | 654.300 | 1465.000 | 654.600 | 1471.000 | 663.400 | 1481.000 |
| GR | 663.500 | 1500.000 | 665.100 | 1600.000 | 667.900 | 1700.000 | 672.700 | 1772.000 | 674.100 | 1800.000 |
| GR | 675.900 | 1863.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|----------|-----|-----|-----|--------|--------|--------|-----|-------|-----|
| X1 | 1018.000 | 0.0 | 0.0 | 0.0 | 50.000 | 50.000 | 50.000 | 0.0 | 1.100 | 0.0 |
|----|----------|-----|-----|-----|--------|--------|--------|-----|-------|-----|

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|
| X1 | 2800.000 | 11.000 | 1174.000 | 1200.000 | 1782.000 | 1782.000 | 1782.000 | 0.0 | 0.0 | 0.0 |
| GR | 687.500 | 1000.000 | 672.000 | 1080.000 | 671.400 | 1100.000 | 671.600 | 1174.000 | 665.300 | 1178.000 |
| GR | 664.900 | 1184.000 | 665.000 | 1190.000 | 671.600 | 1200.000 | 672.600 | 1300.000 | 691.200 | 1400.000 |
| GR | 687.500 | 1470.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| QT | 5.000 | 453.000 | 779.000 | 956.000 | 1357.000 | 956.000 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|
| X1 | 4180.000 | 15.000 | 1200.000 | 1217.000 | 1380.000 | 1380.000 | 1380.000 | 0.0 | -0.600 | 0.0 |
| GR | 692.800 | 1000.000 | 683.200 | 1069.000 | 682.900 | 1100.000 | 678.000 | 1200.000 | 673.000 | 1205.000 |
| GR | 672.800 | 1209.000 | 672.800 | 1212.000 | 678.000 | 1217.000 | 679.600 | 1300.000 | 681.900 | 1400.000 |
| GR | 685.300 | 1500.000 | 684.100 | 1600.000 | 687.800 | 1700.000 | 690.700 | 1800.000 | 692.800 | 1858.000 |

X1 4230.000 0.0 0.0 0.0 50.000 50.000 50.000 0.0 0.100 0.0

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|
| X1 | 4180.000 | 15.000 | 1200.000 | 1217.000 | 1380.000 | 1380.000 | 1380.000 | 0.0 | -0.600 | 0.0 |
| GR | 692.800 | 1000.000 | 683.200 | 1069.000 | 682.900 | 1100.000 | 678.000 | 1200.000 | 673.000 | 1205.000 |
| GR | 672.800 | 1209.000 | 672.800 | 1212.000 | 678.000 | 1217.000 | 679.600 | 1300.000 | 681.900 | 1400.000 |
| GR | 685.300 | 1500.000 | 684.100 | 1600.000 | 687.800 | 1700.000 | 690.700 | 1800.000 | 692.800 | 1858.000 |

| | | | | | | | | | | |
|----|----------|-------|-------|-------|--------|--------|--------|-----|-------|-----|
| X1 | 4230.000 | 0.0 | 0.0 | 0.0 | 50.000 | 50.000 | 50.000 | 0.0 | 0.100 | 0.0 |
| NC | 0.025 | 0.025 | 0.025 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|----------|----------|----------|----------|---------|----------|---------|----------|---------|----------|
| X1 | 4280.000 | 22.000 | 1420.300 | 1427.800 | 50.000 | 50.000 | 50.000 | 0.0 | 0.0 | 0.0 |
| GR | 696.000 | 1000.000 | 690.800 | 1100.000 | 686.500 | 1200.000 | 684.400 | 1270.000 | 682.800 | 1281.000 |
| GR | 682.500 | 1312.000 | 677.600 | 1412.000 | 675.000 | 1420.300 | 672.400 | 1420.300 | 672.400 | 1427.800 |
| GR | 675.000 | 1427.800 | 677.600 | 1429.000 | 679.200 | 1512.000 | 681.500 | 1612.000 | 682.600 | 1650.000 |
| GR | 683.000 | 1700.000 | 684.500 | 1800.000 | 686.400 | 1900.000 | 688.300 | 2000.000 | 690.600 | 2100.000 |
| GR | 693.400 | 2200.000 | 696.000 | 2280.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| SB | 0.900 | 1.500 | 2.500 | 0.0 | 7.500 | 0.010 | 45.000 | 0.0 | 0.0 | 0.0 |

RDNO NCSR 1700 MXLCEL 678.4 RDELV 681.4

| | | | | | | | | | | |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| X1 | 4318.000 | 0.0 | 0.0 | 0.0 | 38.000 | 38.000 | 38.000 | 0.0 | 0.0 | 0.0 |
| X2 | 0.0 | 0.0 | 1.000 | 678.400 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| BT | 17.000 | 1000.000 | 696.000 | 0.0 | 1100.000 | 690.800 | 0.0 | 1200.000 | 686.500 | 0.0 |
| BT | 1300.000 | 683.500 | 0.0 | 1400.000 | 682.100 | 0.0 | 1420.300 | 681.400 | 678.400 | 1427.800 |
| BT | 681.400 | 678.400 | 1427.900 | 681.400 | 0.0 | 1500.000 | 681.500 | 0.0 | 1600.000 | 682.100 |
| BT | 0.0 | 1700.000 | 683.000 | 0.0 | 1800.000 | 684.500 | 0.0 | 1900.000 | 686.400 | 0.0 |
| BT | 2000.000 | 688.300 | 0.0 | 2100.000 | 690.600 | 0.0 | 2200.000 | 693.400 | 0.0 | 2280.000 |
| BT | 696.000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| NC | 0.055 | 0.055 | 0.035 | 0.100 | 0.300 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | | | | |
|----|----------|----------|----------|----------|---------|----------|---------|----------|---------|----------|
| X1 | 4368.000 | 15.000 | 1200.000 | 1217.000 | 50.000 | 50.000 | 50.000 | 0.0 | -0.300 | 0.0 |
| GR | 692.800 | 1000.000 | 683.200 | 1069.000 | 682.900 | 1100.000 | 678.000 | 1200.000 | 673.000 | 1205.000 |
| GR | 672.800 | 1209.000 | 672.800 | 1212.000 | 678.000 | 1217.000 | 679.600 | 1300.000 | 681.900 | 1400.000 |
| GR | 685.300 | 1500.000 | 684.100 | 1600.000 | 687.800 | 1700.000 | 690.700 | 1800.000 | 692.800 | 1858.000 |

| | | | | | | | | | | |
|----|----------|-----|-----|-----|--------|--------|--------|-----|-------|-----|
| X1 | 4418.000 | 0.0 | 0.0 | 0.0 | 50.000 | 50.000 | 50.000 | 0.0 | 0.100 | 0.0 |
| EJ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

*PROF 1

CCHV= 0.100 CFHV= 0.300

NOTE: ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

10 YEAR FLOOD WATER SURF

SUMMARY PRINTOUT

| SECNO | XLCH | ELTRD | ELLC | Q | ELMIN | CWSEL | CRISW | VCH | SSTA | ENDST | AREA | DIFWSP |
|------------|---------|--------|--------|---------|--------|--------|--------|-------|---------|---------|---------|--------|
| 750.000 | 750.00 | 0.0 | 0.0 | 664.00 | 653.20 | 658.78 | 0.0 | 6.64 | 1000.00 | 1477.00 | 156.82 | 0.0 |
| 750.000 | 750.00 | 0.0 | 0.0 | 1108.00 | 653.20 | 659.56 | 0.0 | 7.12 | 1000.00 | 1477.89 | 277.54 | 0.78 |
| 750.000 | 750.00 | 0.0 | 0.0 | 1329.00 | 653.20 | 659.83 | 0.0 | 7.33 | 1000.00 | 1478.19 | 337.97 | 0.27 |
| 750.000 | 750.00 | 0.0 | 0.0 | 1849.00 | 653.20 | 660.31 | 0.0 | 7.65 | 1000.00 | 1478.74 | 486.33 | 0.48 |
| * 800.000 | 50.00 | 0.0 | 0.0 | 664.00 | 654.30 | 659.80 | 659.80 | 6.95 | 1000.00 | 1476.91 | 146.98 | 0.0 |
| * 800.000 | 50.00 | 0.0 | 0.0 | 1108.00 | 654.30 | 660.52 | 660.52 | 7.71 | 1000.00 | 1477.73 | 250.37 | 0.73 |
| * 800.000 | 50.00 | 0.0 | 0.0 | 1329.00 | 654.30 | 660.71 | 660.71 | 8.29 | 1000.00 | 1477.95 | 288.37 | 0.19 |
| * 800.000 | 50.00 | 0.0 | 0.0 | 1849.00 | 654.30 | 661.26 | 661.26 | 8.38 | 1000.00 | 1478.56 | 437.74 | 0.56 |
| * 850.000 | 50.00 | 0.0 | 0.0 | 664.00 | 655.80 | 660.57 | 660.57 | 11.10 | 1541.94 | 1560.30 | 63.79 | 0.0 |
| * 850.000 | 50.00 | 0.0 | 0.0 | 1108.00 | 655.80 | 663.07 | 663.07 | 7.70 | 1364.72 | 1563.60 | 257.40 | 2.5 |
| * 850.000 | 50.00 | 0.0 | 0.0 | 1329.00 | 655.80 | 663.25 | 663.25 | 8.25 | 1362.22 | 1563.84 | 303.77 | 0.1 |
| * 850.000 | 50.00 | 0.0 | 0.0 | 1849.00 | 655.80 | 663.65 | 663.65 | 9.09 | 1356.77 | 1564.36 | 384.79 | 0.4 |
| 918.000 | 68.00 | 666.80 | 664.30 | 664.00 | 655.80 | 660.58 | 0.0 | 11.06 | 1541.93 | 1560.32 | 64.09 | 0.0 |
| 918.000 | 68.00 | 666.80 | 664.30 | 1108.00 | 655.80 | 663.07 | 0.0 | 7.70 | 1364.70 | 1563.60 | 267.69 | 2.4 |
| 918.000 | 68.00 | 666.80 | 664.30 | 1329.00 | 655.80 | 663.25 | 0.0 | 8.24 | 1362.20 | 1563.84 | 304.07 | 0.1 |
| 918.000 | 68.00 | 666.80 | 664.30 | 1849.00 | 655.80 | 667.67 | 0.0 | 1.86 | 1000.00 | 1723.35 | 1824.88 | 4.4 |
| * 968.000 | 50.00 | 0.0 | 0.0 | 664.00 | 656.90 | 662.32 | 662.32 | 7.28 | 1000.00 | 1476.82 | 137.17 | 0.0 |
| 968.000 | 50.00 | 0.0 | 0.0 | 1108.00 | 656.90 | 663.36 | 0.0 | 6.72 | 1000.00 | 1478.00 | 299.14 | 1.0 |
| 968.000 | 50.00 | 0.0 | 0.0 | 1329.00 | 656.90 | 663.55 | 0.0 | 7.25 | 1000.00 | 1478.21 | 342.68 | 0.1 |
| 968.000 | 50.00 | 0.0 | 0.0 | 1849.00 | 656.90 | 667.68 | 0.0 | 1.80 | 1000.00 | 1598.69 | 1953.73 | 4.1 |
| * 1018.000 | 50.00 | 0.0 | 0.0 | 664.00 | 658.00 | 663.43 | 663.43 | 7.25 | 1000.00 | 1476.83 | 138.06 | 0.0 |
| * 1018.000 | 50.00 | 0.0 | 0.0 | 1108.00 | 658.00 | 664.20 | 664.20 | 7.82 | 1000.00 | 1477.70 | 245.42 | 0.7 |
| * 1018.000 | 50.00 | 0.0 | 0.0 | 1329.00 | 658.00 | 664.42 | 664.42 | 8.27 | 1000.00 | 1477.95 | 289.21 | 0.2 |
| 1018.000 | 50.00 | 0.0 | 0.0 | 1849.00 | 658.00 | 667.68 | 0.0 | 2.46 | 1000.00 | 1530.20 | 1418.74 | 3.2 |
| 2800.000 | 1782.00 | 0.0 | 0.0 | 664.00 | 664.90 | 671.22 | 0.0 | 5.79 | 1174.24 | 1199.42 | 114.68 | 0.0 |
| 2800.000 | 1782.00 | 0.0 | 0.0 | 1108.00 | 664.90 | 672.32 | 670.45 | 6.89 | 1078.35 | 1272.06 | 242.60 | 1.0 |
| 2800.000 | 1782.00 | 0.0 | 0.0 | 1329.00 | 664.90 | 672.69 | 0.0 | 7.06 | 1076.46 | 1301.01 | 320.22 | 0.3 |
| * 2800.000 | 1782.00 | 0.0 | 0.0 | 1849.00 | 664.90 | 673.02 | 673.02 | 8.44 | 1074.74 | 1304.89 | 396.04 | 0.33 |
| 4180.000 | 1380.00 | 0.0 | 0.0 | 453.00 | 672.20 | 677.14 | 0.0 | 7.94 | 1200.26 | 1216.75 | 57.08 | 0.0 |
| * 4180.000 | 1380.00 | 0.0 | 0.0 | 779.00 | 672.20 | 678.56 | 678.56 | 8.65 | 1176.32 | 1277.21 | 129.91 | 1.42 |
| 4180.000 | 1380.00 | 0.0 | 0.0 | 956.00 | 672.20 | 679.08 | 679.08 | 8.49 | 1165.73 | 1303.06 | 191.05 | 0.56 |

653.2 653.2

STA 834 601 BY PASS

| | | | | | | | | | | | | |
|------------|---------|-----|-----|---------|--------|--------|--------|------|---------|---------|--------|------|
| 2800.000 | 1782.00 | 0.0 | 0.0 | 664.00 | 664.90 | 671.22 | 0.0 | 5.79 | 1174.24 | 1199.42 | 114.68 | 0.0 |
| 2800.000 | 1792.00 | 0.0 | 0.0 | 1108.00 | 664.90 | 672.32 | 670.45 | 6.89 | 1078.35 | 1272.06 | 242.60 | 1.09 |
| 2800.000 | 1782.00 | 0.0 | 0.0 | 1329.00 | 664.90 | 672.69 | 0.0 | 7.06 | 1076.46 | 1301.01 | 320.22 | 0.37 |
| * 2800.000 | 1782.00 | 0.0 | 0.0 | 1849.00 | 664.90 | 673.02 | 673.02 | 8.44 | 1074.74 | 1304.89 | 396.04 | 0.33 |
| 4180.000 | 1380.00 | 0.0 | 0.0 | 453.00 | 672.20 | 677.14 | 0.0 | 7.94 | 1200.26 | 1216.75 | 57.08 | 0.0 |
| * 4180.000 | 1380.00 | 0.0 | 0.0 | 779.00 | 672.20 | 678.56 | 678.56 | 8.65 | 1176.32 | 1277.21 | 129.91 | 1.42 |
| * 4180.000 | 1380.00 | 0.0 | 0.0 | 956.00 | 672.20 | 679.08 | 679.08 | 8.49 | 1165.73 | 1303.46 | 191.95 | 0.52 |
| * 4180.000 | 1380.00 | 0.0 | 0.0 | 1357.00 | 672.20 | 679.75 | 679.75 | 8.72 | 1152.07 | 1332.55 | 298.43 | 0.67 |

| SECNO | XLCH | ELTRD | ELLC | Q | ELMIN | CWSEL | CRIWS | VCH | SSTA | ENDST | AREA | DIFWSP |
|------------|-------|--------|--------|---------|--------|--------|--------|------|---------|---------|---------|--------|
| 4230.000 | 50.00 | 0.0 | 0.0 | 453.00 | 672.30 | 677.78 | 0.0 | 6.80 | 1194.15 | 1231.87 | 69.34 | 0.0 |
| 4230.000 | 50.00 | 0.0 | 0.0 | 779.00 | 672.30 | 679.45 | 0.0 | 6.07 | 1160.24 | 1315.16 | 231.32 | 1.67 |
| 4230.000 | 50.00 | 0.0 | 0.0 | 956.00 | 672.30 | 679.81 | 0.0 | 6.28 | 1152.99 | 1330.59 | 290.34 | 0.35 |
| 4230.000 | 50.00 | 0.0 | 0.0 | 1357.00 | 672.30 | 680.31 | 0.0 | 7.08 | 1142.84 | 1352.22 | 386.60 | 0.50 |
| * 4280.000 | 50.00 | 0.0 | 0.0 | 453.00 | 672.40 | 677.98 | 677.98 | 8.73 | 1404.34 | 1448.48 | 62.83 | 0.0 |
| 4280.000 | 50.00 | 0.0 | 0.0 | 779.00 | 672.40 | 679.78 | 0.0 | 5.00 | 1367.40 | 1537.46 | 259.71 | 1.81 |
| 4280.000 | 50.00 | 0.0 | 0.0 | 956.00 | 672.40 | 680.14 | 0.0 | 4.86 | 1360.01 | 1553.19 | 325.45 | 0.36 |
| 4280.000 | 50.00 | 0.0 | 0.0 | 1357.00 | 672.40 | 680.71 | 0.0 | 4.94 | 1348.50 | 1577.72 | 444.60 | 0.56 |
| 4318.000 | 38.00 | 681.40 | 678.40 | 453.00 | 672.40 | 680.30 | 0.0 | 2.09 | 1356.84 | 1559.94 | 356.20 | 0.0 |
| 4318.000 | 38.00 | 681.40 | 678.40 | 779.00 | 672.40 | 682.34 | 0.0 | 1.29 | 1315.06 | 1641.38 | 902.80 | 2.04 |
| * 4318.000 | 38.00 | 681.40 | 678.40 | 956.00 | 672.40 | 682.59 | 0.0 | 1.42 | 1301.62 | 1650.09 | 986.56 | 0.25 |
| 4318.000 | 38.00 | 681.40 | 678.40 | 1357.00 | 672.40 | 682.99 | 0.0 | 1.72 | 1279.71 | 1698.35 | 1136.60 | 0.39 |
| 4368.000 | 50.00 | 0.0 | 0.0 | 453.00 | 672.50 | 680.29 | 0.0 | 2.60 | 1147.12 | 1343.09 | 344.06 | 0.0 |
| 4368.000 | 50.00 | 0.0 | 0.0 | 779.00 | 672.50 | 682.34 | 0.0 | 1.93 | 1105.32 | 1421.74 | 875.58 | 2.05 |
| 4368.000 | 50.00 | 0.0 | 0.0 | 956.00 | 672.50 | 682.59 | 0.0 | 2.17 | 1100.27 | 1429.02 | 955.44 | 0.25 |
| 4368.000 | 50.00 | 0.0 | 0.0 | 1357.00 | 672.50 | 682.98 | 0.0 | 2.67 | 1068.43 | 1440.56 | 1093.82 | 0.39 |
| 4418.000 | 50.00 | 0.0 | 0.0 | 453.00 | 672.60 | 680.31 | 0.0 | 2.70 | 1148.86 | 1339.40 | 327.64 | 0.0 |
| 4418.000 | 50.00 | 0.0 | 0.0 | 779.00 | 672.60 | 682.35 | 0.0 | 1.99 | 1107.25 | 1418.96 | 845.83 | 2.04 |
| 4418.000 | 50.00 | 0.0 | 0.0 | 956.00 | 672.60 | 682.60 | 0.0 | 2.24 | 1102.18 | 1426.27 | 924.92 | 0.25 |
| 4418.000 | 50.00 | 0.0 | 0.0 | 1357.00 | 672.60 | 682.99 | 0.0 | 2.76 | 1070.24 | 1437.89 | 1060.18 | 0.40 |

STA 43700; E NCS 1700 - UNL OF STUDY

SUMMARY OF ERRORS

```
// JOB.M KEZIAH,P=1
// LIST JOB DBL
// NOP
//RMAKLE JOB RTI.A25.P03078,KEZIAH,M=1,T=(,15),PRTY=2,D=RTIMG
//OUTPUT DD DSN=RTI.A25.P03078.MAK.CRANE,DISP=OLD
//INPUT DD DATA
```

THIS IS THE PROFILE FOR THE REACH OF CRANE CREEK FROM GLOVER RD. TO LOS

```
//*PROCLIB=RTI.MG.PROCLIB
```

```
//SYSIN DD *
```

C

C 2

C 90206 RDNO NCSR 1002 MXLCEL 757.2 RDELV 759.2

C 98073 RDNO NCSR 1505 MXLCEL 814.8 RDELV 821.6

T1 ROWAN COUNTY BASIN G STREAM 1 CRANE CREEK

T2 FLOODPLAIN STUDY AT ROWAN & DAVIDSON COUNTIES M-G JOB NO. 6918

T3 10 YEAR FLOOD WATER SURFACE PROFILE

J1 -1 2 735.1

J2 0 -1

J3 38 39 40 41 43 42 1 2 26 53

J3 54 25 50 0 201

VC .085 .085 .050 .1 .3

DT 5 2100 3500 4300 6800 4300

X1 81920 19 960 992 81920 81920 81920

GR 752.6 0 749.1 25 737.3 160 737.0 210 736.0 380

GR 735.8 595 735.9 630 734.7 750 734.1 835 734.1 960

GR 727.3 963 727.5 970 727.9 988 734.0 992 732.9 1105

GR 735.9 1235 740.7 1260 747.0 1275 752.0 1310

NC .6 .8

| | | | | | | | | | | |
|----------|-------|-------|------|-------|-------|-------|-------|-------|-------|--|
| X1 82000 | 0 | 0 | 0 | 80 | 80 | 80 | | | -0.2 | |
| X3 10 | | | | | | | 738.7 | 738.7 | | |
| SB 0 | 1.5 | 2.5 | 0 | 20 | 0 | 330 | .76 | 727.7 | 728.3 | |
| X1 82040 | 23 | 785 | 815 | 40 | 40 | 40 | | | -0.2 | |
| X2 | | | | 737.9 | 738.7 | | | | | |
| X3 10 | | | | | | | 738.7 | 738.7 | | |
| BT 6 | 145 | 741.0 | | 660 | 738.7 | | 785 | 740.0 | 737.9 | |
| BT 815 | 739.8 | 737.9 | 970 | 740.2 | | 1215 | 750.5 | | | |
| GR 749.4 | 0 | 749.1 | 10 | 740.4 | 40 | 740.1 | 65 | 741.0 | 145 | |
| GR 738.8 | 265 | 738.9 | 285 | 735.8 | 410 | 737.5 | 455 | 734.9 | 665 | |
| GR 733.1 | 785 | 730.5 | 795 | 728.0 | 798 | 727.5 | 808 | 730.2 | 809 | |
| GR 733.6 | 815 | 734.3 | 925 | 734.2 | 970 | 734.0 | 1060 | 736.7 | 1065 | |
| GR 738.0 | 1085 | 740.6 | 1150 | 747.0 | 1215 | | | | | |
| NC .08 | .08 | .065 | .1 | .3 | | | | | | |
| X1 82120 | 22 | 785 | 815 | 80 | 80 | 80 | | | | |
| GR 749.4 | 0 | 749.1 | 10 | 740.4 | 40 | 740.1 | 65 | 741.0 | 145 | |
| GR 738.8 | 265 | 738.9 | 285 | 735.8 | 410 | 737.5 | 455 | 734.9 | 665 | |
| GR 733.1 | 785 | 730.5 | 795 | 728.0 | 798 | 727.5 | 808 | 730.2 | 809 | |
| GR 733.6 | 815 | 734.3 | 925 | 734.0 | 1060 | 736.7 | 1065 | 738.0 | 1085 | |
| GR 740.6 | 1150 | 747.0 | 1215 | | | | | | | |
| NC | | | .1 | .3 | | | | | | |
| BT 5 | 1700 | 2800 | 3500 | 5200 | 3500 | 3500 | | | | |
| X1 84350 | 14 | 722 | 740 | 2250 | 2230 | 2230 | | | | |
| GR 750.0 | 0 | 748.1 | 52 | 744.3 | 295 | 745.0 | 299 | 743.0 | 335 | |
| GR 739.5 | 525 | 740.0 | 710 | 739.8 | 722 | 735.5 | 725 | 734.6 | 730 | |
| GR 735.4 | 735 | 740.0 | 740 | 740.0 | 948 | 752.2 | 983 | | | |
| NC .09 | .09 | .06 | .1 | .3 | | | | | | |
| X1 84988 | 0 | 0 | 0 | 638 | 638 | 638 | | | 1.8 | |
| X1 85624 | 0 | 0 | 0 | 636 | 636 | 636 | | | 1.8 | |

727.3

822080

+1

727.5

729.7
732.3

72200 740
83605 745
+2.4
+2.4

734.6

Admission

Admission

| | | | | | | | | | |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| X1 86260 | 15 | 339 | 358 | 636 | 636 | 636 | | | |
| GR 755.7 | 0 | 755.7 | 100 | 750.3 | 200 | 744.2 | 320 | 743.0 | 339 |
| GR 740.5 | 340 | 740.0 | 348 | 740.3 | 353 | 743.5 | 358 | 743.5 | 550 |
| GR 743.9 | 570 | 745.0 | 640 | 747.4 | 665 | 752.8 | 710 | 755.7 | 730 |
| NC .08 | .08 | .065 | .1 | .3 | | | | | |
| X1 87470 | 17 | 582 | 623 | 1210 | 1210 | 1210 | | | |
| GR 759.5 | 0 | 754.0 | 150 | 749.3 | 270 | 748.0 | 368 | 745.0 | 520 |
| GR 746.2 | 545 | 746.2 | 582 | 744.5 | 592 | 740.6 | 597 | 740.3 | 605 |
| GR 741.0 | 612 | 744.9 | 620 | 746.2 | 623 | 747.7 | 740 | 748.9 | 823 |
| GR 757.6 | 953 | 762.0 | 1010 | | | | | | |
| NC | | | .6 | .8 | | | | | |
| X1 87550 | 0 | 0 | 0 | 80 | 80 | 80 | | -0.7 | |
| X3 10 | | | | | | | 751.0 | 751.0 | |
| SB 0 | 1.5 | 2.5 | 0 | 30 | 0 | 410 | 1.00 | 741.0 | 741.0 |
| X1 87590 | 19 | 582 | 623 | 40 | 40 | 40 | | -0.7 | |
| X2 | | 1 | 749.0 | 751.0 | | | | | |
| X3 10 | | | | | | | 751.0 | 751.0 | |
| BT 6 | 0 | 755.7 | | 15 | 755.2 | | 582 | 750.9 | 749.0 |
| BT 623 | 750.9 | 749.0 | 795 | 751.9 | | 1010 | 761.3 | | |
| GR 759.5 | 0 | 759.0 | 15 | 754.0 | 150 | 749.3 | 270 | 758.0 | 368 |
| GR 745.0 | 520 | 746.2 | 545 | 746.2 | 582 | 744.3 | 592 | 740.6 | 597 |
| GR 740.3 | 605 | 740. | 612 | 744.9 | 620 | 746.2 | 623 | 747.7 | 740 |
| GR 748.5 | 795 | 748.9 | 823 | 757.6 | 953 | 762.0 | 1010 | | |
| NC .08 | .08 | .065 | .1 | .3 | | | | | |
| QT 5 | 1420 | 2400 | 2950 | 4200 | 2950 | | | | |
| X1 87670 | 14 | 425 | 445 | 80 | 80 | 80 | | | |
| GR 760.9 | 0 | 754.7 | 100 | 750.0 | 180 | 746.7 | 295 | 747.2 | 425 |
| GR 740.8 | 430 | 740.3 | 435 | 740.6 | 442 | 745.5 | 445 | 746.2 | 532 |
| GR 747.0 | 560 | 747.2 | 598 | 751.5 | 765 | 756.8 | 825 | 760.9 | 905 |

739.3

776.30 (15)

740.3

| | | | | | | | | | | |
|----------|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| NC | .085 | .085 | .065 | .1 | .3 | | | | | |
| QT | 5 | 1250 | 2100 | 2600 | 3500 | 2600 | | | | |
| X1 88800 | 17 | 270 | 298 | 1130 | 1130 | 1130 | | | | |
| GR 760.3 | 0 | 756.1 | 40 | 748.6 | 155 | 748.4 | 220 | 747.5 | 270 | |
| GR 742.2 | 275 | 741.8 | 280 | 741.8 | 285 | 746.8 | 290 | 748.5 | 298 | |
| GR 748.1 | 330 | 748.3 | 555 | 750.2 | 665 | 750.0 | 735 | 758.5 | 815 | |
| GR 761.1 | 885 | 763.0 | 890 | | | | | | | |
| QT | 5 | 660 | 1010 | 1250 | 1800 | 1250 | | | | |
| X1 90105 | 15 | 1442 | 1470 | 1305 | 1305 | 1305 | | -2.6 | | |
| GR 768.3 | 1000 | 763.7 | 1100 | 758.8 | 1200 | 757.8 | 1300 | 755.0 | 1400 | |
| GR 755.4 | 1442 | 751.3 | 1451 | 750.5 | 1456 | 750.1 | 1461 | 755.8 | 1470 | |
| GR 756.0 | 1500 | 756.4 | 1600 | 758.1 | 1700 | 762.6 | 1800 | 764.7 | 1830 | |
| X1 90155 | 19 | 1400.3 | 1413.8 | 50 | 50 | 50 | | | | |
| GR 767.2 | 1000 | 762.4 | 1051 | 757.5 | 1151 | 756.5 | 1251 | 753.7 | 1351 | |
| GR 754.1 | 1393 | 751.4 | 1400.3 | 750.0 | 1401 | 749.4 | 1404 | 749.2 | 1407 | |
| GR 749.4 | 1410 | 750.0 | 1413 | 751.4 | 1413.8 | 754.5 | 1421 | 754.7 | 1451 | |
| GR 755.1 | 1551 | 756.8 | 1651 | 761.3 | 1751 | 763.7 | 1800 | | | |
| SB | 0.9 | 1.5 | 2.5 | 0 | 13.5 | 0.01 | 88 | | | |
| X1 90207 | 0 | 0 | 0 | 52 | 52 | 52 | | | | |
| X2 | | 1 | 757.2 | | | | | | | |
| BT | 15 | 1000 | 767.2 | 0 | 1100 | 762.5 | 0 | 1200 | 759.6 | 0 |
| BT | 1300 | 758.6 | 0 | 1400.3 | 759.2 | 751.4 | 1401 | 759.2 | 753.5 | 1404 |
| BT | 759.2 | 756.4 | 1407 | 759.2 | 757.2 | 1410 | 759.2 | 756.4 | 1413 | 759.2 |
| BT | 753.5 | 1413.8 | 759.2 | 751.4 | 1500 | 758.5 | 0 | 1600 | 759.0 | 0 |
| BT | 1700 | 760.6 | 0 | 1800 | 763.7 | 0 | | | | |
| X1 90257 | 15 | 1442 | 1470 | 50 | 50 | 50 | | | | |
| GR 768.3 | 1000 | 763.7 | 1100 | 758.8 | 1200 | 757.8 | 1300 | 755.0 | 1400 | |
| GR 755.4 | 1442 | 751.3 | 1451 | 750.5 | 1456 | 750.1 | 1461 | 755.8 | 1470 | |
| GR 756.0 | 1500 | 756.4 | 1600 | 758.1 | 1700 | 762.6 | 1800 | 764.7 | 1830 | |

| | | | | | | | | | | |
|----------|-------|--------|--------|-------|--------|-------|-------|--------|-------|--|
| QT | 5 | 350 | 530 | 655 | 920 | 655 | | | | |
| X1 93500 | 12 | 1400 | 1413 | 3243 | 3243 | 3243 | | | | |
| GR 778.9 | 1000 | 774.3 | 1100 | 772.8 | 1200 | 771.4 | 1300 | 772.2 | 1400 | |
| GR 767.8 | 1403 | 767.7 | 1408 | 767.3 | 1412 | 770.6 | 1413 | 774.3 | 1469 | |
| GR 781.1 | 1500 | 787.3 | 1530 | | | | | | | |
| QT | 5 | 300 | 430 | 530 | 760 | 530 | | | | |
| X1 96000 | 11 | 1189 | 1200 | 2500 | 2500 | 2500 | | | | |
| GR 807.3 | 1000 | 793.7 | 1100 | 790.1 | 1138 | 789.4 | 1189 | 785.6 | 1190 | |
| GR 785.3 | 1194 | 785.7 | 1198 | 790.1 | 1200 | 793.1 | 1300 | 803.4 | 1400 | |
| GR 805.0 | 1406 | | | | | | | | | |
| QT | 5 | 90 | 150 | 180 | 245 | 180 | | | | |
| X1 97975 | 13 | 1170 | 1174 | 1975 | 1975 | 1975 | | | | |
| GR 830.6 | 1000 | 819.3 | 1100 | 814.2 | 1160 | 811.7 | 1165 | 810.9 | 1170 | |
| GR 808.9 | 1171 | 808.9 | 1172 | 808.9 | 1173 | 811.2 | 1174 | 816.0 | 1200 | |
| GR 823.1 | 1300 | 823.1 | 1400 | 824.0 | 1500 | | | | | |
| X1 98025 | 18 | 1243.2 | 1246.8 | 50 | 50 | 50 | | | | |
| GR 833.1 | 1000 | 826.4 | 1100 | 824.4 | 1150 | 821.6 | 1173 | 816.5 | 1233 | |
| GR 814.0 | 1238 | 813.0 | 1243.2 | 812.2 | 1243.4 | 811.5 | 1244 | 811.2 | 1245 | |
| GR 811.5 | 1246 | 812.2 | 1246.6 | 813.0 | 1246.8 | 818.3 | 1273 | 823.0 | 1340 | |
| GR 823.9 | 1400 | 824.7 | 1500 | 824.2 | 1600 | | | | | |
| SB 0.9 | 1.5 | 2.5 | 0 | 3.6 | 0.01 | 10 | | | | |
| X1 98071 | 0 | 0 | 0 | 46 | 46 | 46 | | | | |
| X2 | | 1 | 814.8 | | | | | | | |
| BT 14 | 1000 | 833.1 | 0 | 1100 | 826.4 | 0 | 1200 | 822.2 | 0 | |
| BT1243.2 | 821.6 | 813.0 | 1243.4 | 821.6 | 813.8 | 1244 | 821.6 | 814.5 | 1245 | |
| BT 821.6 | 814.8 | 1246 | 821.6 | 814.5 | 1246.6 | 821.6 | 813.8 | 1246.8 | 821.6 | |
| BT 813.0 | 1300 | 822.3 | 0 | 1400 | 823.9 | 0 | 1500 | 824.7 | 0 | |
| BT 1600 | 824.2 | 0 | | | | | | | | |
| X1 98121 | 13 | 1170 | 1174 | 50 | 50 | 50 | | 4.1 | | |