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Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

| Flow Node Location<br>(1993 RVA Report<br>Table 3.11):   |                                                |                                              | Flow Node Location<br>(1993 RVA Report<br>Table 3.11):    |                                                |                                              | Flow Node Location<br>(1993 RVA Report<br>Table 3.11): |                                                |                                              | Flow Node Location<br>(1993 RVA Report<br>Table 3.11):    |                                                |                                              |
|----------------------------------------------------------|------------------------------------------------|----------------------------------------------|-----------------------------------------------------------|------------------------------------------------|----------------------------------------------|--------------------------------------------------------|------------------------------------------------|----------------------------------------------|-----------------------------------------------------------|------------------------------------------------|----------------------------------------------|
| Lower Morrison Creek,<br>Morrison Road                   |                                                |                                              | East Branch, Linbrook<br>Road                             |                                                |                                              | East Branch, QEW                                       |                                                |                                              | West Branch, Chartwell<br>Drive                           |                                                |                                              |
| HEC-2 XS: 355-2,17                                       |                                                |                                              | HEC-2 XS: 355-2,73                                        |                                                |                                              | HEC-2 XS: N/A                                          |                                                |                                              | HEC-2 XS: 355-2,53                                        |                                                |                                              |
| Peak Flow (1993<br>RVA Report): 34.5                     |                                                |                                              | Peak Flow (1993<br>RVA Report): 16.8                      |                                                |                                              | Peak Flow (1993<br>RVA Report): 13.3                   |                                                |                                              | Peak Flow (1993<br>RVA Report): 25.6                      |                                                |                                              |
| Re-built VO Node:<br>Event: Through M1<br>100 yr, Future |                                                |                                              | Re-built VO Node:<br>Event: AddHyd - 20<br>100 yr, Future |                                                |                                              | Re-built VO Node:<br>Event: M4<br>Regional, Future     |                                                |                                              | Re-built VO Node:<br>Event: AddHyd - 19<br>100 yr, Future |                                                |                                              |
| Re-built VO Peak flow<br>(unadjusted) (CMS): 34.0        |                                                |                                              | Re-built VO Peak flow<br>(unadjusted) (CMS): 18.0         |                                                |                                              | Re-built VO Peak flow<br>(unadjusted) (CMS): 12.7      |                                                |                                              | Re-built VO Peak flow<br>(unadjusted) (CMS): 25.7         |                                                |                                              |
| Adjusted Peak flow<br>(CMS): 34.5                        |                                                |                                              | Adjusted Peak flow<br>(CMS): 16.8                         |                                                |                                              | Adjusted Peak flow<br>(CMS): 13.3                      |                                                |                                              | Adjusted Peak flow<br>(CMS): 25.6                         |                                                |                                              |
| Adjust Factor: 1.01351                                   |                                                |                                              | Adjust Factor: 0.93235                                    |                                                |                                              | Adjust Factor: 1.04790                                 |                                                |                                              | Adjust Factor: 0.99623                                    |                                                |                                              |
|                                                          |                                                |                                              |                                                           |                                                |                                              |                                                        |                                                |                                              |                                                           |                                                |                                              |
| Time<br>(hr)                                             | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) | Time<br>(hr)                                              | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) | Time<br>(hr)                                           | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) | Time<br>(hr)                                              | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
| 26                                                       | 0.111                                          | 0.113                                        | 26                                                        | 0.01                                           | 0.009                                        | 26                                                     | 0.022                                          | 0.022                                        | 26                                                        | 0.017                                          | 0.018                                        |
| 26,083                                                   | 0.104                                          | 0.105                                        | 26,083                                                    | 0.009                                          | 0.008                                        | 26,083                                                 | 0.021                                          | 0.021                                        | 26,083                                                    | 0.017                                          | 0.018                                        |
| 26,167                                                   | 0.097                                          | 0.098                                        | 26,167                                                    | 0.008                                          | 0.007                                        | 26,167                                                 | 0.02                                           | 0.020                                        | 26,167                                                    | 0.016                                          | 0.017                                        |
| 26,25                                                    | 0.091                                          | 0.092                                        | 26,25                                                     | 0.008                                          | 0.007                                        | 26,25                                                  | 0.019                                          | 0.019                                        | 26,25                                                     | 0.015                                          | 0.016                                        |
| 26,333                                                   | 0.085                                          | 0.086                                        | 26,333                                                    | 0.007                                          | 0.007                                        | 26,333                                                 | 0.018                                          | 0.018                                        | 26,333                                                    | 0.015                                          | 0.016                                        |
| 26,417                                                   | 0.08                                           | 0.081                                        | 26,417                                                    | 0.006                                          | 0.006                                        | 26,417                                                 | 0.017                                          | 0.017                                        | 26,417                                                    | 0.014                                          | 0.015                                        |
| 26,5                                                     | 0.075                                          | 0.076                                        | 26,5                                                      | 0.006                                          | 0.006                                        | 26,5                                                   | 0.016                                          | 0.016                                        | 26,5                                                      | 0.013                                          | 0.013                                        |
| 26,583                                                   | 0.07                                           | 0.071                                        | 26,583                                                    | 0.006                                          | 0.006                                        | 26,583                                                 | 0.016                                          | 0.016                                        | 26,583                                                    | 0.013                                          | 0.013                                        |
| 26,667                                                   | 0.066                                          | 0.067                                        | 26,667                                                    | 0.005                                          | 0.005                                        | 26,667                                                 | 0.015                                          | 0.015                                        | 26,667                                                    | 0.012                                          | 0.012                                        |
| 26,75                                                    | 0.062                                          | 0.063                                        | 26,75                                                     | 0.005                                          | 0.005                                        | 26,75                                                  | 0.014                                          | 0.014                                        | 26,75                                                     | 0.012                                          | 0.012                                        |
| 26,833                                                   | 0.058                                          | 0.059                                        | 26,833                                                    | 0.004                                          | 0.004                                        | 26,833                                                 | 0.014                                          | 0.014                                        | 26,833                                                    | 0.011                                          | 0.011                                        |
| 26,917                                                   | 0.055                                          | 0.056                                        | 26,917                                                    | 0.004                                          | 0.004                                        | 26,917                                                 | 0.013                                          | 0.013                                        | 26,917                                                    | 0.011                                          | 0.011                                        |
| 27                                                       | 0.051                                          | 0.052                                        | 27                                                        | 0.004                                          | 0.004                                        | 27                                                     | 0.012                                          | 0.012                                        | 27                                                        | 0.01                                           | 0.010                                        |
| 27,083                                                   | 0.048                                          | 0.049                                        | 27,083                                                    | 0.003                                          | 0.003                                        | 27,083                                                 | 0.012                                          | 0.012                                        | 27,083                                                    | 0.01                                           | 0.010                                        |
| 27,167                                                   | 0.046                                          | 0.047                                        | 27,167                                                    | 0.003                                          | 0.003                                        | 27,167                                                 | 0.011                                          | 0.011                                        | 27,167                                                    | 0.009                                          | 0.009                                        |
| 27,25                                                    | 0.043                                          | 0.044                                        | 27,25                                                     | 0.003                                          | 0.003                                        | 27,25                                                  | 0.011                                          | 0.011                                        | 27,25                                                     | 0.009                                          | 0.009                                        |
| 27,333                                                   | 0.04                                           | 0.041                                        | 27,333                                                    | 0.003                                          | 0.003                                        | 27,333                                                 | 0.01                                           | 0.010                                        | 27,333                                                    | 0.009                                          | 0.009                                        |
| 27,417                                                   | 0.038                                          | 0.039                                        | 27,417                                                    | 0.002                                          | 0.002                                        | 27,417                                                 | 0.01                                           | 0.010                                        | 27,417                                                    | 0.008                                          | 0.008                                        |
| 27,5                                                     | 0.036                                          | 0.036                                        | 27,5                                                      | 0.002                                          | 0.002                                        | 27,5                                                   | 0.009                                          | 0.009                                        | 27,5                                                      | 0.008                                          | 0.008                                        |
| 27,583                                                   | 0.034                                          | 0.034                                        | 27,583                                                    | 0.001                                          | 0.001                                        | 27,583                                                 | 0.009                                          | 0.009                                        | 27,583                                                    | 0.008                                          | 0.008                                        |
| 27,667                                                   | 0.032                                          | 0.032                                        | 27,667                                                    | 0.001                                          | 0.001                                        | 27,667                                                 | 0.009                                          | 0.009                                        | 27,667                                                    | 0.007                                          | 0.007                                        |
| 27,75                                                    | 0.03                                           | 0.030                                        | 27,75                                                     | 0.001                                          | 0.001                                        | 27,75                                                  | 0.008                                          | 0.008                                        | 27,75                                                     | 0.007                                          | 0.007                                        |
| 27,833                                                   | 0.028                                          | 0.028                                        | 27,833                                                    | 0.001                                          | 0.001                                        | 27,833                                                 | 0.008                                          | 0.008                                        | 27,833                                                    | 0.007                                          | 0.007                                        |
| 27,917                                                   | 0.027                                          | 0.027                                        | 27,917                                                    | 0.001                                          | 0.001                                        | 27,917                                                 | 0.008                                          | 0.008                                        | 27,917                                                    | 0.006                                          | 0.006                                        |
| 28                                                       | 0.025                                          | 0.025                                        | 28                                                        | 0.001                                          | 0.001                                        | 28                                                     | 0.007                                          | 0.007                                        | 28                                                        | 0.006                                          | 0.006                                        |
| 28,083                                                   | 0.024                                          | 0.024                                        | 28,083                                                    | 0.001                                          | 0.001                                        | 28,083                                                 | 0.007                                          | 0.007                                        | 28,083                                                    | 0.006                                          | 0.006                                        |
| 28,167                                                   | 0.022                                          | 0.022                                        | 28,167                                                    | 0.001                                          | 0.001                                        | 28,167                                                 | 0.007                                          | 0.007                                        | 28,167                                                    | 0.006                                          | 0.006                                        |
| 28,25                                                    | 0.021                                          | 0.021                                        | 28,25                                                     | 0.001                                          | 0.001                                        | 28,25                                                  | 0.006                                          | 0.006                                        | 28,25                                                     | 0.005                                          | 0.005                                        |
| 28,333                                                   | 0.02                                           | 0.020                                        | 28,333                                                    | 0.001                                          | 0.001                                        | 28,333                                                 | 0.006                                          | 0.006                                        | 28,333                                                    | 0.005                                          | 0.005                                        |
| 28,417                                                   | 0.019                                          | 0.019                                        | 28,417                                                    | 0.001                                          | 0.001                                        | 28,417                                                 | 0.006                                          | 0.006                                        | 28,417                                                    | 0.005                                          | 0.005                                        |
| 28,5                                                     | 0.018                                          | 0.018                                        | 28,5                                                      | 0                                              | 0.000                                        | 28,5                                                   | 0.006                                          | 0.006                                        | 28,5                                                      | 0.005                                          | 0.005                                        |
| 28,583                                                   | 0.017                                          | 0.017                                        | 28,583                                                    | 0                                              | 0.000                                        | 28,583                                                 | 0.005                                          | 0.005                                        | 28,583                                                    | 0.005                                          | 0.005                                        |
| 28,667                                                   | 0.016                                          | 0.016                                        | 28,667                                                    | 0                                              | 0.000                                        | 28,667                                                 | 0.005                                          | 0.005                                        | 28,667                                                    | 0.004                                          | 0.004                                        |
| 28,75                                                    | 0.015                                          | 0.015                                        | 28,75                                                     | 0                                              | 0.000                                        | 28,75                                                  | 0.005                                          | 0.005                                        | 28,75                                                     | 0.004                                          | 0.004                                        |
| 28,833                                                   | 0.014                                          | 0.014                                        | 28,833                                                    | 0                                              | 0.000                                        | 28,833                                                 | 0.005                                          | 0.005                                        | 28,833                                                    | 0.004                                          | 0.004                                        |
| 28,917                                                   | 0.013                                          | 0.013                                        | 28,917                                                    | 0                                              | 0.000                                        | 28,917                                                 | 0.004                                          | 0.004                                        | 28,917                                                    | 0.004                                          | 0.004                                        |
| 29                                                       | 0.013                                          | 0.013                                        | 29                                                        | 0                                              | 0.000                                        | 29                                                     | 0.004                                          | 0.004                                        | 29                                                        | 0.004                                          | 0.004                                        |
| 29,083                                                   | 0.012                                          | 0.012                                        | 29,083                                                    | 0                                              | 0.000                                        | 29,083                                                 | 0.004                                          | 0.004                                        | 29,083                                                    | 0.004                                          | 0.004                                        |
| 29,167                                                   | 0.011                                          | 0.011                                        | 29,167                                                    | 0                                              | 0.000                                        | 29,167                                                 | 0.004                                          | 0.004                                        | 29,167                                                    | 0.004                                          | 0.004                                        |

LM\_100yr\_future (VO)

**Lower Morrison Creek, Future 100 Year Storm Event - 10 of 10**  
Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

|                                                        |       |       |                                                        |   |       |                                                        |       |       |                                                        |       |       |
|--------------------------------------------------------|-------|-------|--------------------------------------------------------|---|-------|--------------------------------------------------------|-------|-------|--------------------------------------------------------|-------|-------|
| Flow Node Location<br>(1993 RVA Report<br>Table 3.11): |       |       | Flow Node Location<br>(1993 RVA Report<br>Table 3.11): |   |       | Flow Node Location<br>(1993 RVA Report<br>Table 3.11): |       |       | Flow Node Location<br>(1993 RVA Report<br>Table 3.11): |       |       |
| Lower Morrison Creek,<br>Morrison Road                 |       |       | East Branch, Linbrook<br>Road                          |   |       | East Branch, QEW                                       |       |       | West Branch, Chartwell<br>Drive                        |       |       |
| HEC-2 XS:                                              |       |       | HEC-2 XS:                                              |   |       | HEC-2 XS:                                              |       |       | HEC-2 XS:                                              |       |       |
| 355-2.17                                               |       |       | 355-2.73                                               |   |       | N/A                                                    |       |       | 355-2.53                                               |       |       |
| Peak Flow (1993<br>RVA Report):                        |       |       | Peak Flow (1993<br>RVA Report):                        |   |       | Peak Flow (1993<br>RVA Report):                        |       |       | Peak Flow (1993<br>RVA Report):                        |       |       |
| 34.5                                                   |       |       | 16.8                                                   |   |       | 13.3                                                   |       |       | 25.6                                                   |       |       |
| Re-built VO Node:<br>Event:                            |       |       | Re-built VO Node:<br>Event:                            |   |       | Re-built VO Node:<br>Event:                            |       |       | Re-built VO Node:<br>Event:                            |       |       |
| Through M1<br>100 yr, Future                           |       |       | AddHyd - 20<br>100 yr, Future                          |   |       | M4<br>Regional, Future                                 |       |       | AddHyd - 19<br>100 yr, Future                          |       |       |
| Re-built VO Peak flow<br>(unadjusted) (CMS):           |       |       | Re-built VO Peak flow<br>(unadjusted) (CMS):           |   |       | Re-built VO Peak flow<br>(unadjusted) (CMS):           |       |       | Re-built VO Peak flow<br>(unadjusted) (CMS):           |       |       |
| 34.0                                                   |       |       | 18.0                                                   |   |       | 12.7                                                   |       |       | 25.7                                                   |       |       |
| Adjusted Peak flow<br>(CMS):                           |       |       | Adjusted Peak flow<br>(CMS):                           |   |       | Adjusted Peak flow<br>(CMS):                           |       |       | Adjusted Peak flow<br>(CMS):                           |       |       |
| 34.5                                                   |       |       | 16.8                                                   |   |       | 13.3                                                   |       |       | 25.6                                                   |       |       |
| Adjust Factor:                                         |       |       | Adjust Factor:                                         |   |       | Adjust Factor:                                         |       |       | Adjust Factor:                                         |       |       |
| 1.01351                                                |       |       | 0.93235                                                |   |       | 1.04790                                                |       |       | 0.99623                                                |       |       |
|                                                        |       |       |                                                        |   |       |                                                        |       |       |                                                        |       |       |
| Time                                                   |       |       | Time                                                   |   |       | Time                                                   |       |       | Time                                                   |       |       |
| (hr)                                                   |       |       | (hr)                                                   |   |       | (hr)                                                   |       |       | (hr)                                                   |       |       |
| Re-built<br>(Unadjusted)                               |       |       | Re-built<br>(Unadjusted)                               |   |       | Re-built<br>(Unadjusted)                               |       |       | Re-built<br>(Unadjusted)                               |       |       |
| Flow Rate                                              |       |       | Flow Rate                                              |   |       | Flow Rate                                              |       |       | Flow Rate                                              |       |       |
| (CMS)                                                  |       |       | (CMS)                                                  |   |       | (CMS)                                                  |       |       | (CMS)                                                  |       |       |
| Re-built<br>(Adjusted)                                 |       |       | Re-built<br>(Adjusted)                                 |   |       | Re-built<br>(Adjusted)                                 |       |       | Re-built<br>(Adjusted)                                 |       |       |
| Flow Rate                                              |       |       | Flow Rate                                              |   |       | Flow Rate                                              |       |       | Flow Rate                                              |       |       |
| (CMS)                                                  |       |       | (CMS)                                                  |   |       | (CMS)                                                  |       |       | (CMS)                                                  |       |       |
| 29.25                                                  | 0.011 | 0.011 | 29.25                                                  | 0 | 0.000 | 29.25                                                  | 0.004 | 0.004 | 29.25                                                  | 0.003 | 0.003 |
| 29.333                                                 | 0.01  | 0.010 | 29.333                                                 | 0 | 0.000 | 29.333                                                 | 0.004 | 0.004 | 29.333                                                 | 0.003 | 0.003 |
| 29.417                                                 | 0.01  | 0.010 | 29.417                                                 | 0 | 0.000 | 29.417                                                 | 0.003 | 0.003 | 29.417                                                 | 0.003 | 0.003 |
| 29.5                                                   | 0.009 | 0.009 | 29.5                                                   | 0 | 0.000 | 29.5                                                   | 0.003 | 0.003 | 29.5                                                   | 0.003 | 0.003 |
| 29.583                                                 | 0.009 | 0.009 | 29.583                                                 | 0 | 0.000 | 29.583                                                 | 0.003 | 0.003 | 29.583                                                 | 0.003 | 0.003 |
| 29.667                                                 | 0.008 | 0.008 | 29.667                                                 | 0 | 0.000 | 29.667                                                 | 0.003 | 0.003 | 29.667                                                 | 0.003 | 0.003 |
| 29.75                                                  | 0.008 | 0.008 | 29.75                                                  | 0 | 0.000 | 29.75                                                  | 0.003 | 0.003 | 29.75                                                  | 0.003 | 0.003 |
| 29.833                                                 | 0.007 | 0.007 | 29.833                                                 | 0 | 0.000 | 29.833                                                 | 0.003 | 0.003 | 29.833                                                 | 0.002 | 0.002 |
| 29.917                                                 | 0.007 | 0.007 | 29.917                                                 | 0 | 0.000 | 29.917                                                 | 0.003 | 0.003 | 29.917                                                 | 0.002 | 0.002 |
| 30                                                     | 0.007 | 0.007 | 30                                                     | 0 | 0.000 | 30                                                     | 0.002 | 0.002 | 30                                                     | 0.002 | 0.002 |

## Lower Wedgewood Creek, Future Regional Storm Event - 1 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 0            | 0                        | 0.000                  |
| 0.083        | 0                        | 0.000                  |
| 0.167        | 0                        | 0.000                  |
| 0.25         | 0                        | 0.000                  |
| 0.333        | 0                        | 0.000                  |
| 0.417        | 0                        | 0.000                  |
| 0.5          | 0                        | 0.000                  |
| 0.583        | 0                        | 0.000                  |
| 0.667        | 0                        | 0.000                  |
| 0.75         | 0                        | 0.000                  |
| 0.833        | 0.092                    | 0.107                  |
| 0.917        | 0.204                    | 0.237                  |
| 1            | 0.335                    | 0.390                  |
| 1.083        | 0.409                    | 0.476                  |
| 1.167        | 0.478                    | 0.556                  |
| 1.25         | 0.544                    | 0.633                  |
| 1.333        | 0.554                    | 0.645                  |
| 1.417        | 0.542                    | 0.631                  |
| 1.5          | 0.516                    | 0.600                  |
| 1.583        | 0.508                    | 0.591                  |
| 1.667        | 0.504                    | 0.586                  |
| 1.75         | 0.5                      | 0.582                  |
| 1.833        | 0.501                    | 0.583                  |
| 1.917        | 0.503                    | 0.585                  |
| 2            | 0.506                    | 0.589                  |
| 2.083        | 0.511                    | 0.595                  |
| 2.167        | 0.516                    | 0.600                  |
| 2.25         | 0.521                    | 0.606                  |
| 2.333        | 0.563                    | 0.655                  |
| 2.417        | 0.619                    | 0.720                  |
| 2.5          | 0.683                    | 0.795                  |
| 2.583        | 0.722                    | 0.840                  |
| 2.667        | 0.75                     | 0.873                  |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 0            | 0                        | 0.000                  |
| 0.25         | 0                        | 0.000                  |
| 0.5          | 0                        | 0.000                  |
| 0.75         | 0                        | 0.000                  |
| 1            | 0.247                    | 0.287                  |
| 1.25         | 0.305                    | 0.355                  |
| 1.5          | 0.24                     | 0.279                  |
| 1.75         | 0.23                     | 0.268                  |
| 2            | 0.234                    | 0.272                  |
| 2.25         | 0.242                    | 0.282                  |
| 2.5          | 0.334                    | 0.389                  |
| 2.75         | 0.364                    | 0.424                  |
| 3            | 0.382                    | 0.445                  |
| 3.25         | 0.399                    | 0.464                  |
| 3.5          | 0.712                    | 0.829                  |
| 3.75         | 0.811                    | 0.944                  |
| 4            | 0.869                    | 1.011                  |
| 4.25         | 0.926                    | 1.078                  |
| 4.5          | 1.162                    | 1.352                  |
| 4.75         | 1.272                    | 1.480                  |
| 5            | 1.355                    | 1.577                  |
| 5.25         | 1.435                    | 1.670                  |
| 5.5          | 1.345                    | 1.565                  |
| 5.75         | 1.365                    | 1.588                  |
| 6            | 1.398                    | 1.627                  |
| 6.25         | 1.422                    | 1.655                  |
| 6.5          | 1.862                    | 2.167                  |
| 6.75         | 2.005                    | 2.333                  |
| 7            | 2.097                    | 2.440                  |
| 7.25         | 2.193                    | 2.552                  |
| 7.5          | 1.876                    | 2.183                  |
| 7.75         | 1.836                    | 2.136                  |
| 8            | 1.831                    | 2.131                  |

## Lower Wedgewood Creek, Future Regional Storm Event - 2 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 2.75         | 0.773                    | 0.899                  |
| 2.833        | 0.788                    | 0.917                  |
| 2.917        | 0.802                    | 0.933                  |
| 3            | 0.816                    | 0.950                  |
| 3.083        | 0.829                    | 0.965                  |
| 3.167        | 0.842                    | 0.980                  |
| 3.25         | 0.855                    | 0.995                  |
| 3.333        | 0.993                    | 1.155                  |
| 3.417        | 1.177                    | 1.370                  |
| 3.5          | 1.387                    | 1.614                  |
| 3.583        | 1.52                     | 1.769                  |
| 3.667        | 1.62                     | 1.885                  |
| 3.75         | 1.701                    | 1.979                  |
| 3.833        | 1.76                     | 2.048                  |
| 3.917        | 1.811                    | 2.107                  |
| 4            | 1.859                    | 2.163                  |
| 4.083        | 1.905                    | 2.217                  |
| 4.167        | 1.95                     | 2.269                  |
| 4.25         | 1.994                    | 2.320                  |
| 4.333        | 2.118                    | 2.465                  |
| 4.417        | 2.269                    | 2.640                  |
| 4.5          | 2.43                     | 2.828                  |
| 4.583        | 2.538                    | 2.953                  |
| 4.667        | 2.624                    | 3.053                  |
| 4.75         | 2.704                    | 3.146                  |
| 4.833        | 2.769                    | 3.222                  |
| 4.917        | 2.83                     | 3.293                  |
| 5            | 2.889                    | 3.362                  |
| 5.083        | 2.945                    | 3.427                  |
| 5.167        | 3                        | 3.491                  |
| 5.25         | 3.055                    | 3.555                  |
| 5.333        | 3.03                     | 3.526                  |
| 5.417        | 2.975                    | 3.462                  |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 8.25         | 1.808                    | 2.104                  |
| 8.5          | 1.756                    | 2.043                  |
| 8.75         | 1.717                    | 1.998                  |
| 9            | 1.688                    | 1.964                  |
| 9.25         | 1.666                    | 1.939                  |
| 9.5          | 3.375                    | 3.927                  |
| 9.75         | 3.905                    | 4.544                  |
| 10           | 4.24                     | 4.934                  |
| 10.25        | 4.6                      | 5.353                  |
| 10.5         | 4.389                    | 5.107                  |
| 10.75        | 4.531                    | 5.272                  |
| 11           | 4.677                    | 5.442                  |
| 11.25        | 4.758                    | 5.537                  |
| 11.5         | 3.686                    | 4.289                  |
| 11.75        | 3.351                    | 3.899                  |
| 12           | 3.14                     | 3.654                  |
| 12.25        | 2.913                    | 3.390                  |
| 12.5         | 2.076                    | 2.416                  |
| 12.75        | 1.684                    | 1.960                  |
| 13           | 1.402                    | 1.631                  |
| 13.25        | 1.149                    | 1.337                  |
| 13.5         | 0.9                      | 1.047                  |
| 13.75        | 0.705                    | 0.820                  |
| 14           | 0.552                    | 0.642                  |
| 14.25        | 0.433                    | 0.504                  |
| 14.5         | 0.339                    | 0.394                  |
| 14.75        | 0.266                    | 0.310                  |
| 15           | 0.209                    | 0.243                  |
| 15.25        | 0.164                    | 0.191                  |
| 15.5         | 0.128                    | 0.149                  |
| 15.75        | 0.1                      | 0.116                  |
| 16           | 0.079                    | 0.092                  |
| 16.25        | 0.062                    | 0.072                  |

## Lower Wedgewood Creek, Future Regional Storm Event - 3 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 5.5          | 2.908                    | 3.384                  |
| 5.583        | 2.885                    | 3.357                  |
| 5.667        | 2.881                    | 3.352                  |
| 5.75         | 2.883                    | 3.355                  |
| 5.833        | 2.892                    | 3.365                  |
| 5.917        | 2.904                    | 3.379                  |
| 6            | 2.918                    | 3.395                  |
| 6.083        | 2.928                    | 3.407                  |
| 6.167        | 2.936                    | 3.416                  |
| 6.25         | 2.944                    | 3.426                  |
| 6.333        | 3.143                    | 3.657                  |
| 6.417        | 3.416                    | 3.975                  |
| 6.5          | 3.721                    | 4.330                  |
| 6.583        | 3.901                    | 4.539                  |
| 6.667        | 4.03                     | 4.689                  |
| 6.75         | 4.141                    | 4.819                  |
| 6.833        | 4.222                    | 4.913                  |
| 6.917        | 4.295                    | 4.998                  |
| 7            | 4.363                    | 5.077                  |
| 7.083        | 4.432                    | 5.157                  |
| 7.167        | 4.503                    | 5.240                  |
| 7.25         | 4.575                    | 5.324                  |
| 7.333        | 4.45                     | 5.178                  |
| 7.417        | 4.245                    | 4.940                  |
| 7.5          | 4.012                    | 4.668                  |
| 7.583        | 3.9                      | 4.538                  |
| 7.667        | 3.833                    | 4.460                  |
| 7.75         | 3.783                    | 4.402                  |
| 7.833        | 3.755                    | 4.369                  |
| 7.917        | 3.733                    | 4.344                  |
| 8            | 3.715                    | 4.323                  |
| 8.083        | 3.688                    | 4.291                  |
| 8.167        | 3.657                    | 4.255                  |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 16.5         | 0.048                    | 0.056                  |
| 16.75        | 0.038                    | 0.044                  |
| 17           | 0.03                     | 0.035                  |
| 17.25        | 0.023                    | 0.027                  |
| 17.5         | 0.018                    | 0.021                  |
| 17.75        | 0.014                    | 0.016                  |
| 18           | 0.011                    | 0.013                  |
| 18.25        | 0.009                    | 0.010                  |
| 18.5         | 0.007                    | 0.008                  |
| 18.75        | 0.005                    | 0.006                  |
| 19           | 0.004                    | 0.005                  |
| 19.25        | 0.003                    | 0.003                  |
| 19.5         | 0.003                    | 0.003                  |
| 19.75        | 0.002                    | 0.002                  |
| 20           | 0.002                    | 0.002                  |
| 20.25        | 0.001                    | 0.001                  |
| 20.5         | 0.001                    | 0.001                  |
| 20.75        | 0.001                    | 0.001                  |
| 21           | 0.001                    | 0.001                  |
| 21.25        | 0                        | 0.000                  |
| 21.5         | 0                        | 0.000                  |
| 21.75        | 0                        | 0.000                  |
| 22           | 0                        | 0.000                  |
| 22.25        | 0                        | 0.000                  |
| 22.5         | 0                        | 0.000                  |
| 22.75        | 0                        | 0.000                  |

## Lower Wedgewood Creek, Future Regional Storm Event - 4 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 8.25         | 3.625                    | 4.218                  |
| 8.333        | 3.586                    | 4.173                  |
| 8.417        | 3.55                     | 4.131                  |
| 8.5          | 3.515                    | 4.090                  |
| 8.583        | 3.487                    | 4.058                  |
| 8.667        | 3.46                     | 4.026                  |
| 8.75         | 3.434                    | 3.996                  |
| 8.833        | 3.412                    | 3.970                  |
| 8.917        | 3.392                    | 3.947                  |
| 9            | 3.373                    | 3.925                  |
| 9.083        | 3.357                    | 3.906                  |
| 9.167        | 3.344                    | 3.891                  |
| 9.25         | 3.329                    | 3.874                  |
| 9.333        | 4.099                    | 4.770                  |
| 9.417        | 5.182                    | 6.030                  |
| 9.5          | 6.41                     | 7.459                  |
| 9.583        | 7.148                    | 8.318                  |
| 9.667        | 7.657                    | 8.910                  |
| 9.75         | 8.076                    | 9.397                  |
| 9.833        | 8.377                    | 9.748                  |
| 9.917        | 8.641                    | 10.055                 |
| 10           | 8.89                     | 10.345                 |
| 10.083       | 9.155                    | 10.653                 |
| 10.167       | 9.431                    | 10.974                 |
| 10.25        | 9.711                    | 11.300                 |
| 10.333       | 9.693                    | 11.279                 |
| 10.417       | 9.532                    | 11.092                 |
| 10.5         | 9.327                    | 10.853                 |
| 10.583       | 9.285                    | 10.804                 |
| 10.667       | 9.316                    | 10.840                 |
| 10.75        | 9.369                    | 10.902                 |
| 10.833       | 9.43                     | 10.973                 |
| 10.917       | 9.493                    | 11.046                 |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |

## Lower Wedgewood Creek, Future Regional Storm Event - 5 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 11           | 9.556                    | 11.120                 |
| 11.083       | 9.59                     | 11.159                 |
| 11.167       | 9.614                    | 11.187                 |
| 11.25        | 9.633                    | 11.209                 |
| 11.333       | 9.115                    | 10.606                 |
| 11.417       | 8.396                    | 9.770                  |
| 11.5         | 7.612                    | 8.858                  |
| 11.583       | 7.169                    | 8.342                  |
| 11.667       | 6.863                    | 7.986                  |
| 11.75        | 6.6                      | 7.680                  |
| 11.833       | 6.406                    | 7.454                  |
| 11.917       | 6.235                    | 7.255                  |
| 12           | 6.073                    | 7.067                  |
| 12.083       | 5.904                    | 6.870                  |
| 12.167       | 5.73                     | 6.668                  |
| 12.25        | 5.553                    | 6.462                  |
| 12.333       | 5.103                    | 5.938                  |
| 12.417       | 4.569                    | 5.317                  |
| 12.5         | 4.006                    | 4.661                  |
| 12.583       | 3.64                     | 4.236                  |
| 12.667       | 3.349                    | 3.897                  |
| 12.75        | 3.083                    | 3.587                  |
| 12.833       | 2.872                    | 3.342                  |
| 12.917       | 2.677                    | 3.115                  |
| 13           | 2.49                     | 2.897                  |
| 13.083       | 2.32                     | 2.700                  |
| 13.167       | 2.155                    | 2.508                  |
| 13.25        | 1.988                    | 2.313                  |
| 13.333       | 1.826                    | 2.125                  |
| 13.417       | 1.673                    | 1.947                  |
| 13.5         | 1.525                    | 1.775                  |
| 13.583       | 1.404                    | 1.634                  |
| 13.667       | 1.292                    | 1.503                  |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |

## Lower Wedgewood Creek, Future Regional Storm Event - 6 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 13.75        | 1.182                    | 1.375                  |
| 13.833       | 1.086                    | 1.264                  |
| 13.917       | 0.994                    | 1.157                  |
| 14           | 0.903                    | 1.051                  |
| 14.083       | 0.827                    | 0.962                  |
| 14.167       | 0.76                     | 0.884                  |
| 14.25        | 0.696                    | 0.810                  |
| 14.333       | 0.644                    | 0.749                  |
| 14.417       | 0.594                    | 0.691                  |
| 14.5         | 0.546                    | 0.635                  |
| 14.583       | 0.505                    | 0.588                  |
| 14.667       | 0.467                    | 0.543                  |
| 14.75        | 0.429                    | 0.499                  |
| 14.833       | 0.398                    | 0.463                  |
| 14.917       | 0.368                    | 0.428                  |
| 15           | 0.338                    | 0.393                  |
| 15.083       | 0.313                    | 0.364                  |
| 15.167       | 0.289                    | 0.336                  |
| 15.25        | 0.266                    | 0.310                  |
| 15.333       | 0.246                    | 0.286                  |
| 15.417       | 0.227                    | 0.264                  |
| 15.5         | 0.208                    | 0.242                  |
| 15.583       | 0.192                    | 0.223                  |
| 15.667       | 0.176                    | 0.205                  |
| 15.75        | 0.161                    | 0.187                  |
| 15.833       | 0.149                    | 0.173                  |
| 15.917       | 0.137                    | 0.159                  |
| 16           | 0.125                    | 0.145                  |
| 16.083       | 0.115                    | 0.134                  |
| 16.167       | 0.106                    | 0.123                  |
| 16.25        | 0.096                    | 0.112                  |
| 16.333       | 0.089                    | 0.104                  |
| 16.417       | 0.081                    | 0.094                  |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |

## Lower Wedgewood Creek, Future Regional Storm Event - 7 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 16.5         | 0.074                    | 0.086                  |
| 16.583       | 0.068                    | 0.079                  |
| 16.667       | 0.063                    | 0.073                  |
| 16.75        | 0.057                    | 0.066                  |
| 16.833       | 0.053                    | 0.062                  |
| 16.917       | 0.048                    | 0.056                  |
| 17           | 0.044                    | 0.051                  |
| 17.083       | 0.041                    | 0.048                  |
| 17.167       | 0.037                    | 0.043                  |
| 17.25        | 0.034                    | 0.040                  |
| 17.333       | 0.031                    | 0.036                  |
| 17.417       | 0.029                    | 0.034                  |
| 17.5         | 0.026                    | 0.030                  |
| 17.583       | 0.024                    | 0.028                  |
| 17.667       | 0.022                    | 0.026                  |
| 17.75        | 0.02                     | 0.023                  |
| 17.833       | 0.019                    | 0.022                  |
| 17.917       | 0.017                    | 0.020                  |
| 18           | 0.016                    | 0.019                  |
| 18.083       | 0.014                    | 0.016                  |
| 18.167       | 0.013                    | 0.015                  |
| 18.25        | 0.012                    | 0.014                  |
| 18.333       | 0.011                    | 0.013                  |
| 18.417       | 0.01                     | 0.012                  |
| 18.5         | 0.009                    | 0.010                  |
| 18.583       | 0.009                    | 0.010                  |
| 18.667       | 0.008                    | 0.009                  |
| 18.75        | 0.007                    | 0.008                  |
| 18.833       | 0.007                    | 0.008                  |
| 18.917       | 0.006                    | 0.007                  |
| 19           | 0.006                    | 0.007                  |
| 19.083       | 0.005                    | 0.006                  |
| 19.167       | 0.005                    | 0.006                  |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |

## Lower Wedgewood Creek, Future Regional Storm Event - 8 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 19.25        | 0.004                    | 0.005                  |
| 19.333       | 0.003                    | 0.003                  |
| 19.417       | 0.003                    | 0.003                  |
| 19.5         | 0.003                    | 0.003                  |
| 19.583       | 0.002                    | 0.002                  |
| 19.667       | 0.002                    | 0.002                  |
| 19.75        | 0.002                    | 0.002                  |
| 19.833       | 0.002                    | 0.002                  |
| 19.917       | 0.002                    | 0.002                  |
| 20           | 0.002                    | 0.002                  |
| 20.083       | 0.001                    | 0.001                  |
| 20.167       | 0.001                    | 0.001                  |
| 20.25        | 0.001                    | 0.001                  |
| 20.333       | 0.001                    | 0.001                  |
| 20.417       | 0.001                    | 0.001                  |
| 20.5         | 0.001                    | 0.001                  |
| 20.583       | 0.001                    | 0.001                  |
| 20.667       | 0.001                    | 0.001                  |
| 20.75        | 0.001                    | 0.001                  |
| 20.833       | 0.001                    | 0.001                  |
| 20.917       | 0.001                    | 0.001                  |
| 21           | 0.001                    | 0.001                  |
| 21.083       | 0.001                    | 0.001                  |
| 21.167       | 0.001                    | 0.001                  |
| 21.25        | 0                        | 0.000                  |
| 21.333       | 0                        | 0.000                  |
| 21.417       | 0                        | 0.000                  |
| 21.5         | 0                        | 0.000                  |
| 21.583       | 0                        | 0.000                  |
| 21.667       | 0                        | 0.000                  |
| 21.75        | 0                        | 0.000                  |
| 21.833       | 0                        | 0.000                  |
| 21.917       | 0                        | 0.000                  |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |

## Lower Wedgewood Creek, Future Regional Storm Event - 9 of 9

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 11.3

Re-built VO Node: AddHyd - 16

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 9.7

Adjusted Peak flow (CMS): 11.3

Adjust Factor: 1.16363

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: Regional, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 4.8

Adjusted Peak flow (CMS): 5.5

Adjust Factor: 1.16363

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |
| 22           | 0                        | 0.000                  |
| 22.083       | 0                        | 0.000                  |
| 22.167       | 0                        | 0.000                  |
| 22.25        | 0                        | 0.000                  |
| 22.333       | 0                        | 0.000                  |
| 22.417       | 0                        | 0.000                  |
| 22.5         | 0                        | 0.000                  |
| 22.583       | 0                        | 0.000                  |
| 22.667       | 0                        | 0.000                  |
| 22.75        | 0                        | 0.000                  |

|              | Re-built<br>(Unadjusted) | Re-built<br>(Adjusted) |
|--------------|--------------------------|------------------------|
| Time<br>(hr) | Flow Rate<br>(CMS)       | Flow Rate<br>(CMS)     |

## Lower Wedgewood Creek, Future 100-year Storm Event - 1 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 0.083        | 0                                              | 0.000                                        |
| 0.167        | 0                                              | 0.000                                        |
| 0.25         | 0                                              | 0.000                                        |
| 0.333        | 0                                              | 0.000                                        |
| 0.417        | 0                                              | 0.000                                        |
| 0.5          | 0                                              | 0.000                                        |
| 0.583        | 0                                              | 0.000                                        |
| 0.667        | 0                                              | 0.000                                        |
| 0.75         | 0                                              | 0.000                                        |
| 0.833        | 0                                              | 0.000                                        |
| 0.917        | 0                                              | 0.000                                        |
| 1            | 0                                              | 0.000                                        |
| 1.083        | 0                                              | 0.000                                        |
| 1.167        | 0                                              | 0.000                                        |
| 1.25         | 0                                              | 0.000                                        |
| 1.333        | 0                                              | 0.000                                        |
| 1.417        | 0                                              | 0.000                                        |
| 1.5          | 0                                              | 0.000                                        |
| 1.583        | 0                                              | 0.000                                        |
| 1.667        | 0                                              | 0.000                                        |
| 1.75         | 0                                              | 0.000                                        |
| 1.833        | 0                                              | 0.000                                        |
| 1.917        | 0                                              | 0.000                                        |
| 2            | 0                                              | 0.000                                        |
| 2.083        | 0                                              | 0.000                                        |
| 2.167        | 0                                              | 0.000                                        |
| 2.25         | 0                                              | 0.000                                        |
| 2.333        | 0                                              | 0.000                                        |
| 2.417        | 0                                              | 0.000                                        |
| 2.5          | 0                                              | 0.000                                        |
| 2.583        | 0                                              | 0.000                                        |
| 2.667        | 0                                              | 0.000                                        |
| 2.75         | 0                                              | 0.000                                        |
| 2.833        | 0                                              | 0.000                                        |
| 2.917        | 0                                              | 0.000                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 0.25         | 0                                              | 0.000                                        |
| 0.5          | 0                                              | 0.000                                        |
| 0.75         | 0                                              | 0.000                                        |
| 1            | 0                                              | 0.000                                        |
| 1.25         | 0                                              | 0.000                                        |
| 1.5          | 0                                              | 0.000                                        |
| 1.75         | 0                                              | 0.000                                        |
| 2            | 0                                              | 0.000                                        |
| 2.25         | 0                                              | 0.000                                        |
| 2.5          | 0                                              | 0.000                                        |
| 2.75         | 0                                              | 0.000                                        |
| 3            | 0                                              | 0.000                                        |
| 3.25         | 0                                              | 0.000                                        |
| 3.5          | 0                                              | 0.000                                        |
| 3.75         | 0                                              | 0.000                                        |
| 4            | 0                                              | 0.000                                        |
| 4.25         | 0.005                                          | 0.005                                        |
| 4.5          | 0.048                                          | 0.044                                        |
| 4.75         | 0.057                                          | 0.053                                        |
| 5            | 0.059                                          | 0.054                                        |
| 5.25         | 0.064                                          | 0.059                                        |
| 5.5          | 0.069                                          | 0.064                                        |
| 5.75         | 0.075                                          | 0.069                                        |
| 6            | 0.08                                           | 0.074                                        |
| 6.25         | 0.086                                          | 0.079                                        |
| 6.5          | 0.092                                          | 0.085                                        |
| 6.75         | 0.103                                          | 0.095                                        |
| 7            | 0.114                                          | 0.105                                        |
| 7.25         | 0.126                                          | 0.116                                        |
| 7.5          | 0.143                                          | 0.132                                        |
| 7.75         | 0.17                                           | 0.157                                        |
| 8            | 0.203                                          | 0.187                                        |
| 8.25         | 0.252                                          | 0.233                                        |
| 8.5          | 0.342                                          | 0.316                                        |
| 8.75         | 0.54                                           | 0.498                                        |

## Lower Wedgewood Creek, Future 100-year Storm Event - 2 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 3            | 0                                              | 0.000                                        |
| 3.083        | 0                                              | 0.000                                        |
| 3.167        | 0                                              | 0.000                                        |
| 3.25         | 0                                              | 0.000                                        |
| 3.333        | 0                                              | 0.000                                        |
| 3.417        | 0                                              | 0.000                                        |
| 3.5          | 0                                              | 0.000                                        |
| 3.583        | 0                                              | 0.000                                        |
| 3.667        | 0                                              | 0.000                                        |
| 3.75         | 0                                              | 0.000                                        |
| 3.833        | 0                                              | 0.000                                        |
| 3.917        | 0                                              | 0.000                                        |
| 4            | 0                                              | 0.000                                        |
| 4.083        | 0.002                                          | 0.002                                        |
| 4.167        | 0.004                                          | 0.004                                        |
| 4.25         | 0.006                                          | 0.006                                        |
| 4.333        | 0.023                                          | 0.021                                        |
| 4.417        | 0.043                                          | 0.040                                        |
| 4.5          | 0.065                                          | 0.060                                        |
| 4.583        | 0.076                                          | 0.070                                        |
| 4.667        | 0.087                                          | 0.080                                        |
| 4.75         | 0.096                                          | 0.089                                        |
| 4.833        | 0.102                                          | 0.094                                        |
| 4.917        | 0.107                                          | 0.099                                        |
| 5            | 0.111                                          | 0.102                                        |
| 5.083        | 0.115                                          | 0.106                                        |
| 5.167        | 0.12                                           | 0.111                                        |
| 5.25         | 0.125                                          | 0.115                                        |
| 5.333        | 0.129                                          | 0.119                                        |
| 5.417        | 0.134                                          | 0.124                                        |
| 5.5          | 0.138                                          | 0.127                                        |
| 5.583        | 0.142                                          | 0.131                                        |
| 5.667        | 0.146                                          | 0.135                                        |
| 5.75         | 0.151                                          | 0.139                                        |
| 5.833        | 0.155                                          | 0.143                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 9            | 1.381                                          | 1.274                                        |
| 9.25         | 7.895                                          | 7.285                                        |
| 9.5          | 2.812                                          | 2.595                                        |
| 9.75         | 1.643                                          | 1.516                                        |
| 10           | 1.481                                          | 1.367                                        |
| 10.25        | 1.54                                           | 1.421                                        |
| 10.5         | 1.386                                          | 1.279                                        |
| 10.75        | 1.221                                          | 1.127                                        |
| 11           | 1.067                                          | 0.985                                        |
| 11.25        | 0.933                                          | 0.861                                        |
| 11.5         | 0.816                                          | 0.753                                        |
| 11.75        | 0.718                                          | 0.663                                        |
| 12           | 0.631                                          | 0.582                                        |
| 12.25        | 0.559                                          | 0.516                                        |
| 12.5         | 0.496                                          | 0.458                                        |
| 12.75        | 0.445                                          | 0.411                                        |
| 13           | 0.397                                          | 0.366                                        |
| 13.25        | 0.359                                          | 0.331                                        |
| 13.5         | 0.326                                          | 0.301                                        |
| 13.75        | 0.297                                          | 0.274                                        |
| 14           | 0.271                                          | 0.250                                        |
| 14.25        | 0.248                                          | 0.229                                        |
| 14.5         | 0.232                                          | 0.214                                        |
| 14.75        | 0.215                                          | 0.198                                        |
| 15           | 0.203                                          | 0.187                                        |
| 15.25        | 0.188                                          | 0.173                                        |
| 15.5         | 0.18                                           | 0.166                                        |
| 15.75        | 0.168                                          | 0.155                                        |
| 16           | 0.161                                          | 0.149                                        |
| 16.25        | 0.15                                           | 0.138                                        |
| 16.5         | 0.145                                          | 0.134                                        |
| 16.75        | 0.14                                           | 0.129                                        |
| 17           | 0.131                                          | 0.121                                        |
| 17.25        | 0.127                                          | 0.117                                        |
| 17.5         | 0.124                                          | 0.114                                        |

## Lower Wedgewood Creek, Future 100-year Storm Event - 3 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 5.917        | 0.159                                          | 0.147                                        |
| 6            | 0.163                                          | 0.150                                        |
| 6.083        | 0.168                                          | 0.155                                        |
| 6.167        | 0.172                                          | 0.159                                        |
| 6.25         | 0.176                                          | 0.162                                        |
| 6.333        | 0.18                                           | 0.166                                        |
| 6.417        | 0.184                                          | 0.170                                        |
| 6.5          | 0.189                                          | 0.174                                        |
| 6.583        | 0.195                                          | 0.180                                        |
| 6.667        | 0.201                                          | 0.185                                        |
| 6.75         | 0.208                                          | 0.192                                        |
| 6.833        | 0.215                                          | 0.198                                        |
| 6.917        | 0.223                                          | 0.206                                        |
| 7            | 0.23                                           | 0.212                                        |
| 7.083        | 0.238                                          | 0.220                                        |
| 7.167        | 0.247                                          | 0.228                                        |
| 7.25         | 0.255                                          | 0.235                                        |
| 7.333        | 0.266                                          | 0.245                                        |
| 7.417        | 0.277                                          | 0.256                                        |
| 7.5          | 0.288                                          | 0.266                                        |
| 7.583        | 0.304                                          | 0.281                                        |
| 7.667        | 0.321                                          | 0.296                                        |
| 7.75         | 0.339                                          | 0.313                                        |
| 7.833        | 0.36                                           | 0.332                                        |
| 7.917        | 0.382                                          | 0.353                                        |
| 8            | 0.405                                          | 0.374                                        |
| 8.083        | 0.435                                          | 0.401                                        |
| 8.167        | 0.468                                          | 0.432                                        |
| 8.25         | 0.503                                          | 0.464                                        |
| 8.333        | 0.557                                          | 0.514                                        |
| 8.417        | 0.619                                          | 0.571                                        |
| 8.5          | 0.686                                          | 0.633                                        |
| 8.583        | 0.798                                          | 0.736                                        |
| 8.667        | 0.92                                           | 0.849                                        |
| 8.75         | 1.049                                          | 0.968                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 17.75        | 0.121                                          | 0.112                                        |
| 18           | 0.114                                          | 0.105                                        |
| 18.25        | 0.111                                          | 0.102                                        |
| 18.5         | 0.109                                          | 0.101                                        |
| 18.75        | 0.107                                          | 0.099                                        |
| 19           | 0.1                                            | 0.092                                        |
| 19.25        | 0.098                                          | 0.090                                        |
| 19.5         | 0.096                                          | 0.089                                        |
| 19.75        | 0.095                                          | 0.088                                        |
| 20           | 0.093                                          | 0.086                                        |
| 20.25        | 0.092                                          | 0.085                                        |
| 20.5         | 0.086                                          | 0.079                                        |
| 20.75        | 0.084                                          | 0.078                                        |
| 21           | 0.083                                          | 0.077                                        |
| 21.25        | 0.082                                          | 0.076                                        |
| 21.5         | 0.081                                          | 0.075                                        |
| 21.75        | 0.08                                           | 0.074                                        |
| 22           | 0.079                                          | 0.073                                        |
| 22.25        | 0.079                                          | 0.073                                        |
| 22.5         | 0.073                                          | 0.067                                        |
| 22.75        | 0.072                                          | 0.066                                        |
| 23           | 0.071                                          | 0.066                                        |
| 23.25        | 0.07                                           | 0.065                                        |
| 23.5         | 0.069                                          | 0.064                                        |
| 23.75        | 0.069                                          | 0.064                                        |
| 24           | 0.068                                          | 0.063                                        |
| 24.25        | 0.038                                          | 0.035                                        |
| 24.5         | 0.033                                          | 0.030                                        |
| 24.75        | 0.029                                          | 0.027                                        |
| 25           | 0.025                                          | 0.023                                        |
| 25.25        | 0.021                                          | 0.019                                        |
| 25.5         | 0.017                                          | 0.016                                        |
| 25.75        | 0.014                                          | 0.013                                        |
| 26           | 0.011                                          | 0.010                                        |
| 26.25        | 0.009                                          | 0.008                                        |

## Lower Wedgewood Creek, Future 100-year Storm Event - 4 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 8.833        | 1.459                                          | 1.346                                        |
| 8.917        | 1.981                                          | 1.828                                        |
| 9            | 2.567                                          | 2.369                                        |
| 9.083        | 5.661                                          | 5.224                                        |
| 9.167        | 9.823                                          | 9.065                                        |
| 9.25         | 14.196                                         | 13.100                                       |
| 9.333        | 13.503                                         | 12.461                                       |
| 9.417        | 11.455                                         | 10.571                                       |
| 9.5          | 8.466                                          | 7.812                                        |
| 9.583        | 6.602                                          | 6.092                                        |
| 9.667        | 5.337                                          | 4.925                                        |
| 9.75         | 4.335                                          | 4.000                                        |
| 9.833        | 3.916                                          | 3.614                                        |
| 9.917        | 3.691                                          | 3.406                                        |
| 10           | 3.542                                          | 3.269                                        |
| 10.083       | 3.483                                          | 3.214                                        |
| 10.167       | 3.411                                          | 3.148                                        |
| 10.25        | 3.335                                          | 3.078                                        |
| 10.333       | 3.189                                          | 2.943                                        |
| 10.417       | 3.048                                          | 2.813                                        |
| 10.5         | 2.91                                           | 2.685                                        |
| 10.583       | 2.774                                          | 2.560                                        |
| 10.667       | 2.643                                          | 2.439                                        |
| 10.75        | 2.512                                          | 2.318                                        |
| 10.833       | 2.388                                          | 2.204                                        |
| 10.917       | 2.268                                          | 2.093                                        |
| 11           | 2.153                                          | 1.987                                        |
| 11.083       | 2.051                                          | 1.893                                        |
| 11.167       | 1.955                                          | 1.804                                        |
| 11.25        | 1.861                                          | 1.717                                        |
| 11.333       | 1.776                                          | 1.639                                        |
| 11.417       | 1.694                                          | 1.563                                        |
| 11.5         | 1.612                                          | 1.488                                        |
| 11.583       | 1.536                                          | 1.417                                        |
| 11.667       | 1.465                                          | 1.352                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 26.5         | 0.007                                          | 0.006                                        |
| 26.75        | 0.006                                          | 0.006                                        |
| 27           | 0.005                                          | 0.005                                        |
| 27.25        | 0.004                                          | 0.004                                        |
| 27.5         | 0.003                                          | 0.003                                        |
| 27.75        | 0.003                                          | 0.003                                        |
| 28           | 0.002                                          | 0.002                                        |
| 28.25        | 0.002                                          | 0.002                                        |
| 28.5         | 0.001                                          | 0.001                                        |
| 28.75        | 0.001                                          | 0.001                                        |
| 29           | 0.001                                          | 0.001                                        |
| 29.25        | 0.001                                          | 0.001                                        |
| 29.5         | 0.001                                          | 0.001                                        |
| 29.75        | 0                                              | 0.000                                        |
| 30           | 0                                              | 0.000                                        |
| 30.25        | 0                                              | 0.000                                        |
| 30.5         | 0                                              | 0.000                                        |
| 30.75        | 0                                              | 0.000                                        |
| 31           | 0                                              | 0.000                                        |
| 31.25        | 0                                              | 0.000                                        |
| 31.5         | 0                                              | 0.000                                        |

## Lower Wedgewood Creek, Future 100-year Storm Event - 5 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 11.75        | 1.395                                          | 1.287                                        |
| 11.833       | 1.334                                          | 1.231                                        |
| 11.917       | 1.276                                          | 1.177                                        |
| 12           | 1.219                                          | 1.125                                        |
| 12.083       | 1.17                                           | 1.080                                        |
| 12.167       | 1.123                                          | 1.036                                        |
| 12.25        | 1.077                                          | 0.994                                        |
| 12.333       | 1.035                                          | 0.955                                        |
| 12.417       | 0.995                                          | 0.918                                        |
| 12.5         | 0.955                                          | 0.881                                        |
| 12.583       | 0.921                                          | 0.850                                        |
| 12.667       | 0.887                                          | 0.819                                        |
| 12.75        | 0.853                                          | 0.787                                        |
| 12.833       | 0.82                                           | 0.757                                        |
| 12.917       | 0.787                                          | 0.726                                        |
| 13           | 0.753                                          | 0.695                                        |
| 13.083       | 0.725                                          | 0.669                                        |
| 13.167       | 0.701                                          | 0.647                                        |
| 13.25        | 0.677                                          | 0.625                                        |
| 13.333       | 0.657                                          | 0.606                                        |
| 13.417       | 0.637                                          | 0.588                                        |
| 13.5         | 0.617                                          | 0.569                                        |
| 13.583       | 0.6                                            | 0.554                                        |
| 13.667       | 0.583                                          | 0.538                                        |
| 13.75        | 0.566                                          | 0.522                                        |
| 13.833       | 0.55                                           | 0.508                                        |
| 13.917       | 0.535                                          | 0.494                                        |
| 14           | 0.52                                           | 0.480                                        |
| 14.083       | 0.506                                          | 0.467                                        |
| 14.167       | 0.492                                          | 0.454                                        |
| 14.25        | 0.479                                          | 0.442                                        |
| 14.333       | 0.468                                          | 0.432                                        |
| 14.417       | 0.458                                          | 0.423                                        |
| 14.5         | 0.449                                          | 0.414                                        |
| 14.583       | 0.439                                          | 0.405                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
|--------------|------------------------------------------------|----------------------------------------------|

## Lower Wedgewood Creek, Future 100-year Storm Event - 6 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 14.667       | 0.429                                          | 0.396                                        |
| 14.75        | 0.418                                          | 0.386                                        |
| 14.833       | 0.41                                           | 0.378                                        |
| 14.917       | 0.403                                          | 0.372                                        |
| 15           | 0.396                                          | 0.365                                        |
| 15.083       | 0.388                                          | 0.358                                        |
| 15.167       | 0.379                                          | 0.350                                        |
| 15.25        | 0.371                                          | 0.342                                        |
| 15.333       | 0.365                                          | 0.337                                        |
| 15.417       | 0.359                                          | 0.331                                        |
| 15.5         | 0.354                                          | 0.327                                        |
| 15.583       | 0.347                                          | 0.320                                        |
| 15.667       | 0.34                                           | 0.314                                        |
| 15.75        | 0.333                                          | 0.307                                        |
| 15.833       | 0.328                                          | 0.303                                        |
| 15.917       | 0.323                                          | 0.298                                        |
| 16           | 0.319                                          | 0.294                                        |
| 16.083       | 0.313                                          | 0.289                                        |
| 16.167       | 0.307                                          | 0.283                                        |
| 16.25        | 0.301                                          | 0.278                                        |
| 16.333       | 0.297                                          | 0.274                                        |
| 16.417       | 0.293                                          | 0.270                                        |
| 16.5         | 0.289                                          | 0.267                                        |
| 16.583       | 0.286                                          | 0.264                                        |
| 16.667       | 0.283                                          | 0.261                                        |
| 16.75        | 0.28                                           | 0.258                                        |
| 16.833       | 0.276                                          | 0.255                                        |
| 16.917       | 0.271                                          | 0.250                                        |
| 17           | 0.266                                          | 0.245                                        |
| 17.083       | 0.262                                          | 0.242                                        |
| 17.167       | 0.259                                          | 0.239                                        |
| 17.25        | 0.256                                          | 0.236                                        |
| 17.333       | 0.254                                          | 0.234                                        |
| 17.417       | 0.252                                          | 0.233                                        |
| 17.5         | 0.25                                           | 0.231                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
|--------------|------------------------------------------------|----------------------------------------------|

## Lower Wedgewood Creek, Future 100-year Storm Event - 7 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 17.583       | 0.248                                          | 0.229                                        |
| 17.667       | 0.246                                          | 0.227                                        |
| 17.75        | 0.244                                          | 0.225                                        |
| 17.833       | 0.24                                           | 0.221                                        |
| 17.917       | 0.237                                          | 0.219                                        |
| 18           | 0.233                                          | 0.215                                        |
| 18.083       | 0.23                                           | 0.212                                        |
| 18.167       | 0.228                                          | 0.210                                        |
| 18.25        | 0.226                                          | 0.209                                        |
| 18.333       | 0.224                                          | 0.207                                        |
| 18.417       | 0.222                                          | 0.205                                        |
| 18.5         | 0.221                                          | 0.204                                        |
| 18.583       | 0.219                                          | 0.202                                        |
| 18.667       | 0.218                                          | 0.201                                        |
| 18.75        | 0.217                                          | 0.200                                        |
| 18.833       | 0.213                                          | 0.197                                        |
| 18.917       | 0.21                                           | 0.194                                        |
| 19           | 0.206                                          | 0.190                                        |
| 19.083       | 0.204                                          | 0.188                                        |
| 19.167       | 0.202                                          | 0.186                                        |
| 19.25        | 0.2                                            | 0.185                                        |
| 19.333       | 0.199                                          | 0.184                                        |
| 19.417       | 0.197                                          | 0.182                                        |
| 19.5         | 0.196                                          | 0.181                                        |
| 19.583       | 0.195                                          | 0.180                                        |
| 19.667       | 0.194                                          | 0.179                                        |
| 19.75        | 0.192                                          | 0.177                                        |
| 19.833       | 0.191                                          | 0.176                                        |
| 19.917       | 0.19                                           | 0.175                                        |
| 20           | 0.189                                          | 0.174                                        |
| 20.083       | 0.188                                          | 0.173                                        |
| 20.167       | 0.187                                          | 0.173                                        |
| 20.25        | 0.187                                          | 0.173                                        |
| 20.333       | 0.184                                          | 0.170                                        |
| 20.417       | 0.181                                          | 0.167                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
|--------------|------------------------------------------------|----------------------------------------------|

## Lower Wedgewood Creek, Future 100-year Storm Event - 8 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 20.5         | 0.178                                          | 0.164                                        |
| 20.583       | 0.176                                          | 0.162                                        |
| 20.667       | 0.175                                          | 0.161                                        |
| 20.75        | 0.173                                          | 0.160                                        |
| 20.833       | 0.172                                          | 0.159                                        |
| 20.917       | 0.171                                          | 0.158                                        |
| 21           | 0.17                                           | 0.157                                        |
| 21.083       | 0.169                                          | 0.156                                        |
| 21.167       | 0.168                                          | 0.155                                        |
| 21.25        | 0.167                                          | 0.154                                        |
| 21.333       | 0.166                                          | 0.153                                        |
| 21.417       | 0.166                                          | 0.153                                        |
| 21.5         | 0.165                                          | 0.152                                        |
| 21.583       | 0.164                                          | 0.151                                        |
| 21.667       | 0.163                                          | 0.150                                        |
| 21.75        | 0.163                                          | 0.150                                        |
| 21.833       | 0.162                                          | 0.149                                        |
| 21.917       | 0.162                                          | 0.149                                        |
| 22           | 0.161                                          | 0.149                                        |
| 22.083       | 0.161                                          | 0.149                                        |
| 22.167       | 0.16                                           | 0.148                                        |
| 22.25        | 0.16                                           | 0.148                                        |
| 22.333       | 0.158                                          | 0.146                                        |
| 22.417       | 0.155                                          | 0.143                                        |
| 22.5         | 0.152                                          | 0.140                                        |
| 22.583       | 0.151                                          | 0.139                                        |
| 22.667       | 0.15                                           | 0.138                                        |
| 22.75        | 0.149                                          | 0.137                                        |
| 22.833       | 0.148                                          | 0.137                                        |
| 22.917       | 0.147                                          | 0.136                                        |
| 23           | 0.146                                          | 0.135                                        |
| 23.083       | 0.145                                          | 0.134                                        |
| 23.167       | 0.144                                          | 0.133                                        |
| 23.25        | 0.144                                          | 0.133                                        |
| 23.333       | 0.143                                          | 0.132                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
|--------------|------------------------------------------------|----------------------------------------------|

## Lower Wedgewood Creek, Future 100-year Storm Event - 9 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 23.417       | 0.142                                          | 0.131                                        |
| 23.5         | 0.141                                          | 0.130                                        |
| 23.583       | 0.141                                          | 0.130                                        |
| 23.667       | 0.14                                           | 0.129                                        |
| 23.75        | 0.14                                           | 0.129                                        |
| 23.833       | 0.139                                          | 0.128                                        |
| 23.917       | 0.139                                          | 0.128                                        |
| 24           | 0.138                                          | 0.127                                        |
| 24.083       | 0.127                                          | 0.117                                        |
| 24.167       | 0.114                                          | 0.105                                        |
| 24.25        | 0.098                                          | 0.090                                        |
| 24.333       | 0.091                                          | 0.084                                        |
| 24.417       | 0.085                                          | 0.078                                        |
| 24.5         | 0.079                                          | 0.073                                        |
| 24.583       | 0.074                                          | 0.068                                        |
| 24.667       | 0.07                                           | 0.065                                        |
| 24.75        | 0.066                                          | 0.061                                        |
| 24.833       | 0.062                                          | 0.057                                        |
| 24.917       | 0.058                                          | 0.054                                        |
| 25           | 0.055                                          | 0.051                                        |
| 25.083       | 0.051                                          | 0.047                                        |
| 25.167       | 0.047                                          | 0.043                                        |
| 25.25        | 0.044                                          | 0.041                                        |
| 25.333       | 0.04                                           | 0.037                                        |
| 25.417       | 0.037                                          | 0.034                                        |
| 25.5         | 0.035                                          | 0.032                                        |
| 25.583       | 0.032                                          | 0.030                                        |
| 25.667       | 0.03                                           | 0.028                                        |
| 25.75        | 0.027                                          | 0.025                                        |
| 25.833       | 0.025                                          | 0.023                                        |
| 25.917       | 0.023                                          | 0.021                                        |
| 26           | 0.022                                          | 0.020                                        |
| 26.083       | 0.02                                           | 0.018                                        |
| 26.167       | 0.019                                          | 0.018                                        |
| 26.25        | 0.017                                          | 0.016                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
|--------------|------------------------------------------------|----------------------------------------------|

## Lower Wedgewood Creek, Future 100-year Storm Event - 10 of 11

Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 26.333       | 0.016                                          | 0.015                                        |
| 26.417       | 0.015                                          | 0.014                                        |
| 26.5         | 0.014                                          | 0.013                                        |
| 26.583       | 0.013                                          | 0.012                                        |
| 26.667       | 0.012                                          | 0.011                                        |
| 26.75        | 0.011                                          | 0.010                                        |
| 26.833       | 0.01                                           | 0.009                                        |
| 26.917       | 0.009                                          | 0.008                                        |
| 27           | 0.008                                          | 0.007                                        |
| 27.083       | 0.008                                          | 0.007                                        |
| 27.167       | 0.007                                          | 0.006                                        |
| 27.25        | 0.007                                          | 0.006                                        |
| 27.333       | 0.006                                          | 0.006                                        |
| 27.417       | 0.006                                          | 0.006                                        |
| 27.5         | 0.005                                          | 0.005                                        |
| 27.583       | 0.005                                          | 0.005                                        |
| 27.667       | 0.005                                          | 0.005                                        |
| 27.75        | 0.004                                          | 0.004                                        |
| 27.833       | 0.004                                          | 0.004                                        |
| 27.917       | 0.004                                          | 0.004                                        |
| 28           | 0.003                                          | 0.003                                        |
| 28.083       | 0.003                                          | 0.003                                        |
| 28.167       | 0.003                                          | 0.003                                        |
| 28.25        | 0.003                                          | 0.003                                        |
| 28.333       | 0.002                                          | 0.002                                        |
| 28.417       | 0.001                                          | 0.001                                        |
| 28.5         | 0.001                                          | 0.001                                        |
| 28.583       | 0.001                                          | 0.001                                        |
| 28.667       | 0.001                                          | 0.001                                        |
| 28.75        | 0.001                                          | 0.001                                        |
| 28.833       | 0.001                                          | 0.001                                        |
| 28.917       | 0.001                                          | 0.001                                        |
| 29           | 0.001                                          | 0.001                                        |
| 29.083       | 0.001                                          | 0.001                                        |
| 29.167       | 0.001                                          | 0.001                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
|--------------|------------------------------------------------|----------------------------------------------|

**Lower Wedgewood Creek, Future 100-year Storm Event - 11 of 11**  
Refer to Memo Report Figure 3 for the HEC-2 XS and VO Flow Node Locations

Flow Node Location (1993  
RVA Report Table 3.11): West Branch, Drummond  
Road

HEC-2 XS: 493-2.53

Peak Flow (1993 RVA  
Report): 13.1

Re-built VO Node: AddHyd - 16

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 14.2

Adjusted Peak flow (CMS): 13.1

Adjust Factor: 0.92280

Flow Node Location (1993  
RVA Report Table 3.11): N/A

HEC-2 XS: N/A

Peak Flow (1993 RVA  
Report): N/A

Re-built VO Node: W9

Event: 100 yr, Future

Re-built VO Peak flow  
(unadjusted) (CMS): 7.9

Adjusted Peak flow (CMS): 7.3

Adjust Factor: 0.92280

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
| 29.25        | 0.001                                          | 0.001                                        |
| 29.333       | 0.001                                          | 0.001                                        |
| 29.417       | 0.001                                          | 0.001                                        |
| 29.5         | 0.001                                          | 0.001                                        |
| 29.583       | 0.001                                          | 0.001                                        |
| 29.667       | 0.001                                          | 0.001                                        |
| 29.75        | 0                                              | 0.000                                        |
| 29.833       | 0                                              | 0.000                                        |
| 29.917       | 0                                              | 0.000                                        |
| 30           | 0                                              | 0.000                                        |

| Time<br>(hr) | Re-built<br>(Unadjusted)<br>Flow Rate<br>(CMS) | Re-built<br>(Adjusted)<br>Flow Rate<br>(CMS) |
|--------------|------------------------------------------------|----------------------------------------------|
|--------------|------------------------------------------------|----------------------------------------------|