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HYDRAULIC INVESTIGATION
FOR WITTMANN WASH
WITTMANN, ARIZONA

APPENDIX A THRU APPENDIX E

Prepared for:

Flood Control District of Maricopa County
3335 West Durango Street
Phoenix, Arizona 85009

Prepared by:

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CERTIFICATE NO. 24767
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Date Signed 2-6-91
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FEBRUARY, 1991

Registered Professional Engineer (Civil)
CERTIFICATE NO. 21560
DENNIS L. RICHARDS
Date Signed 2-6-91
ARIZONA, U.S.A.

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APPENDIX D. WLBFWY1.DAT HEC-2 Input/Output Listing

APPENDIX E. Alternative C Normal Flow Hydraulics

APPENDIX A. WITTMANN WASH FLOODPLAIN CROSS-SECTIONS

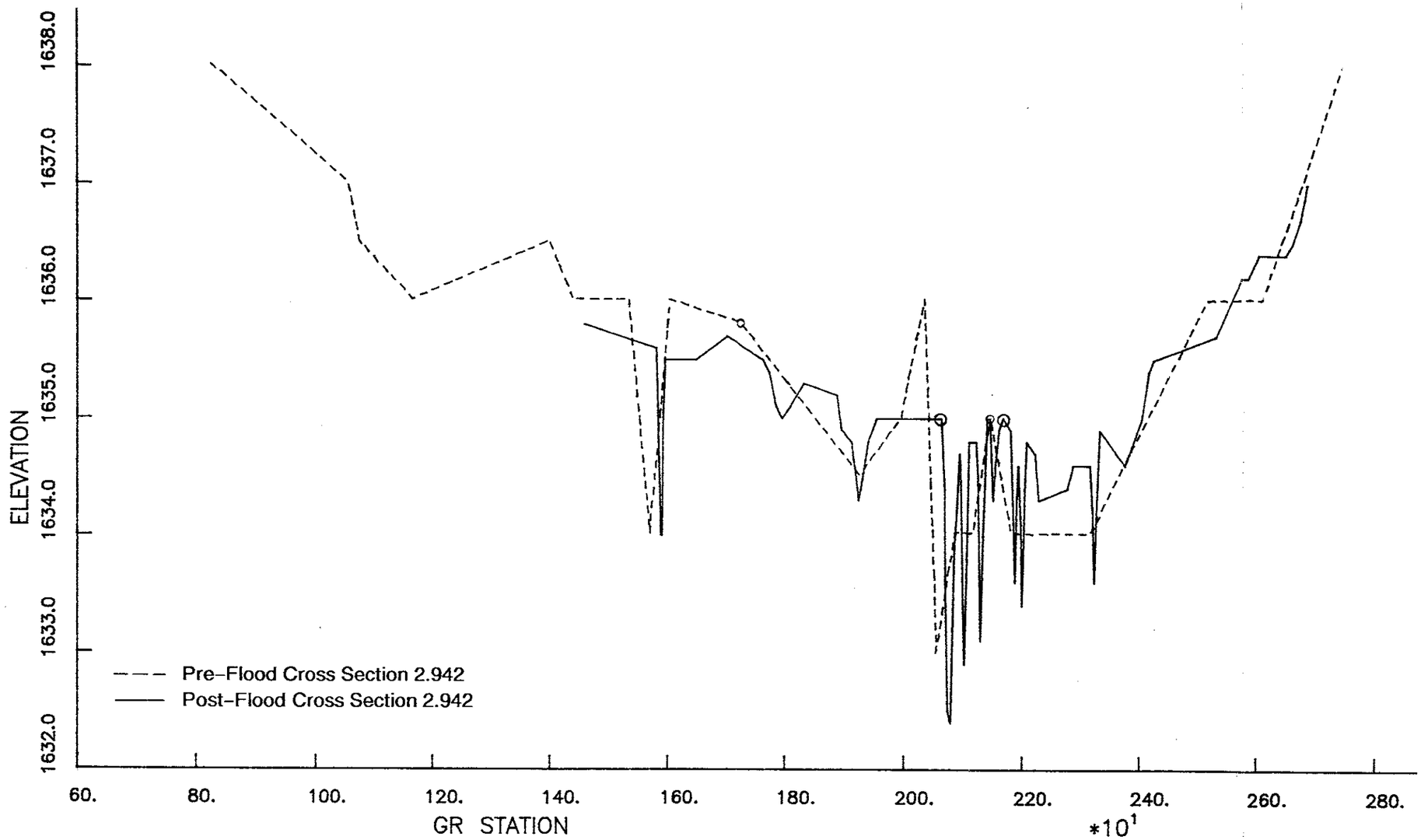

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Figure A-1. Cross Section 2.942

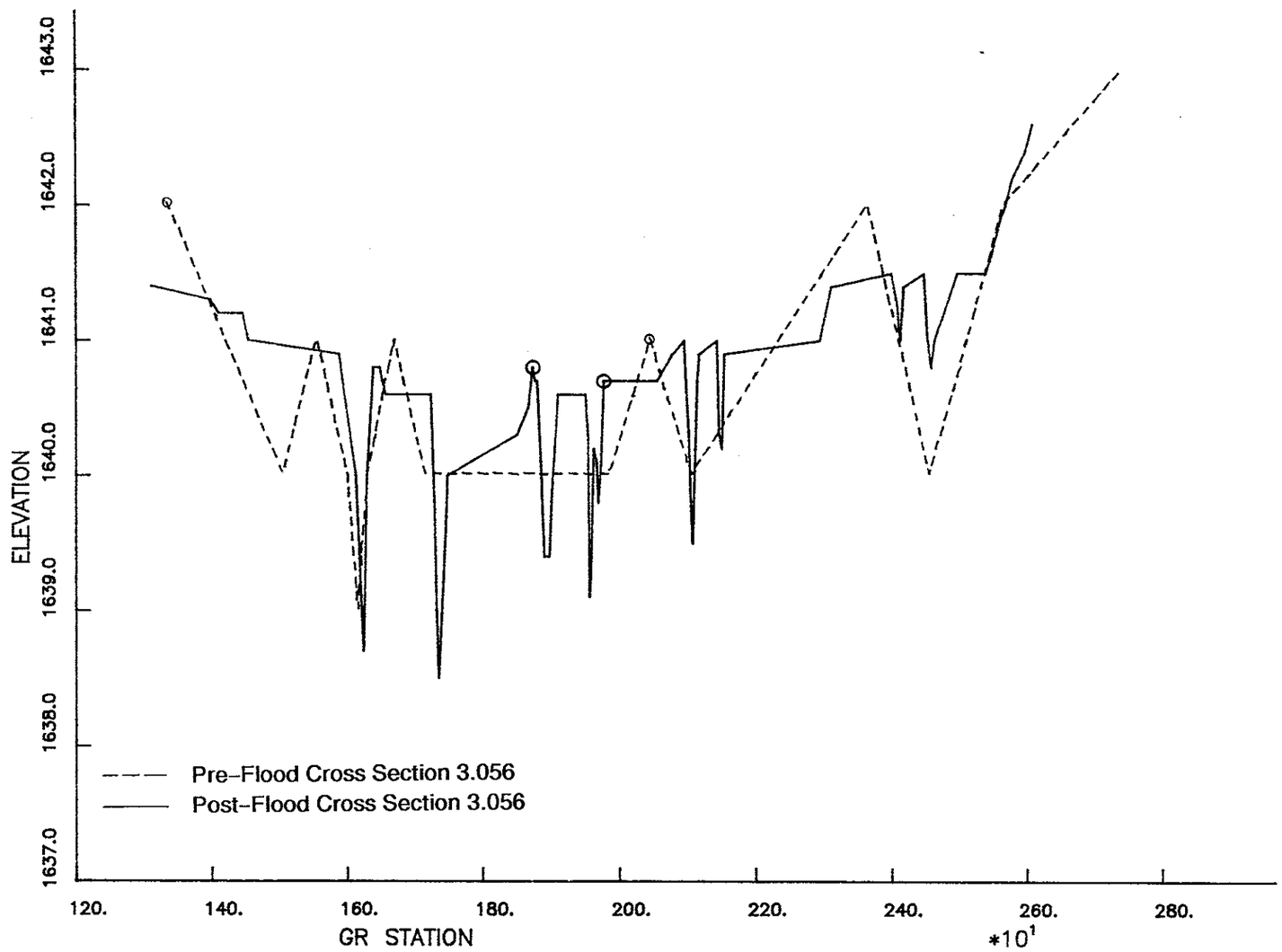

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Figure A-2. Cross Section 3.056

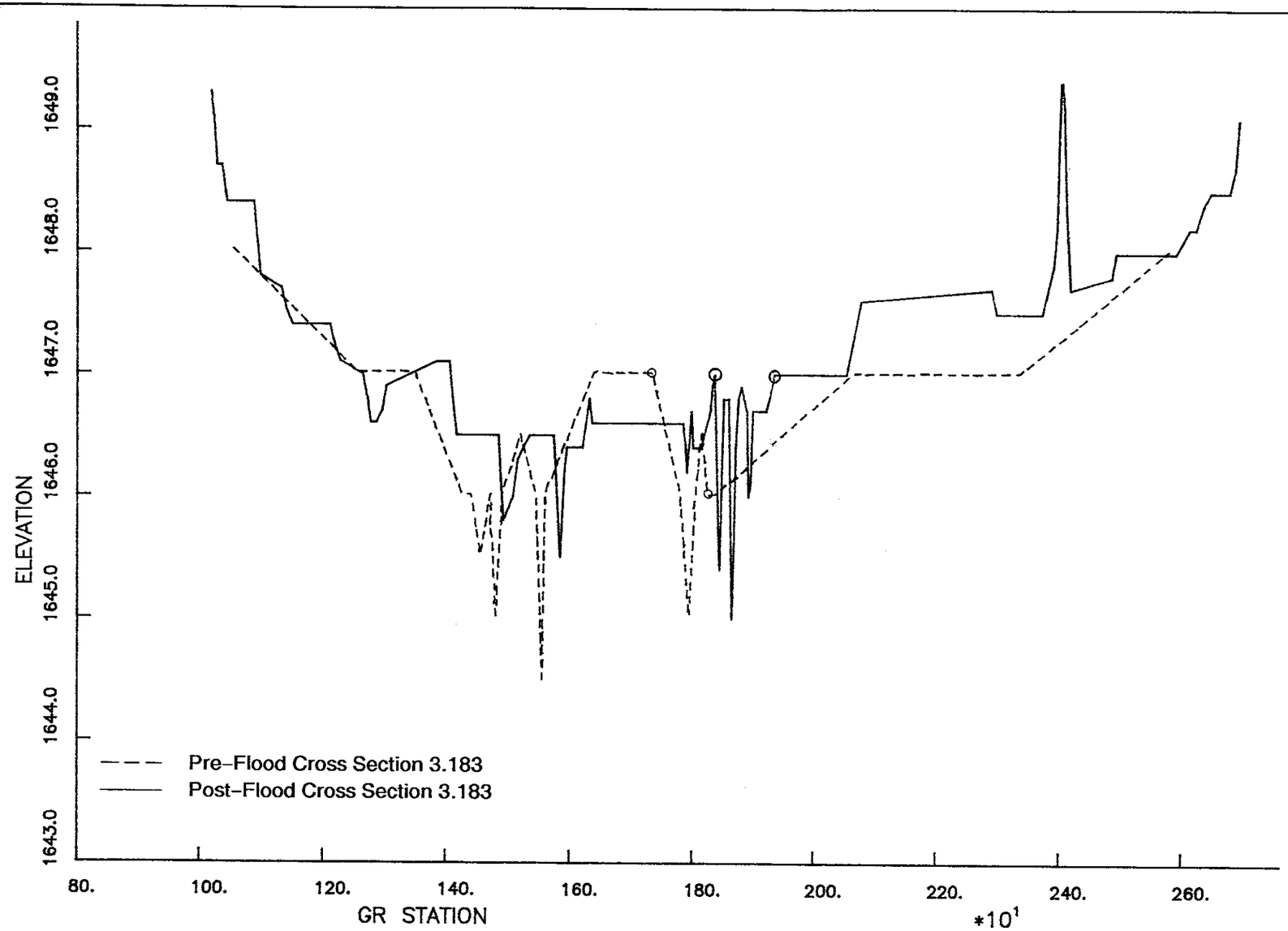

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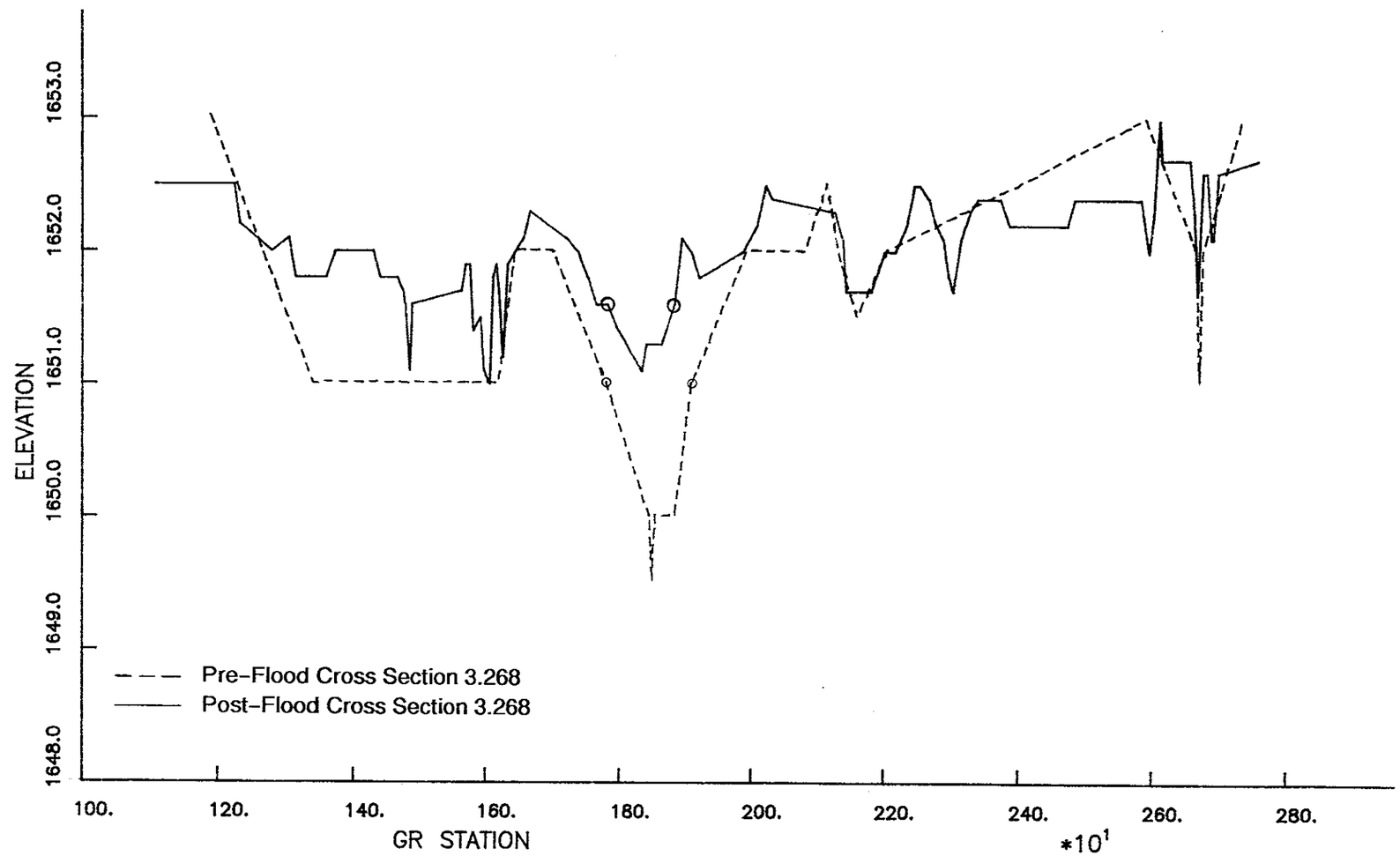
Figure A-3. Cross Section 3.183



sla Simons, Li & Associates, Inc.

Figure A-4. Cross Section 3.268

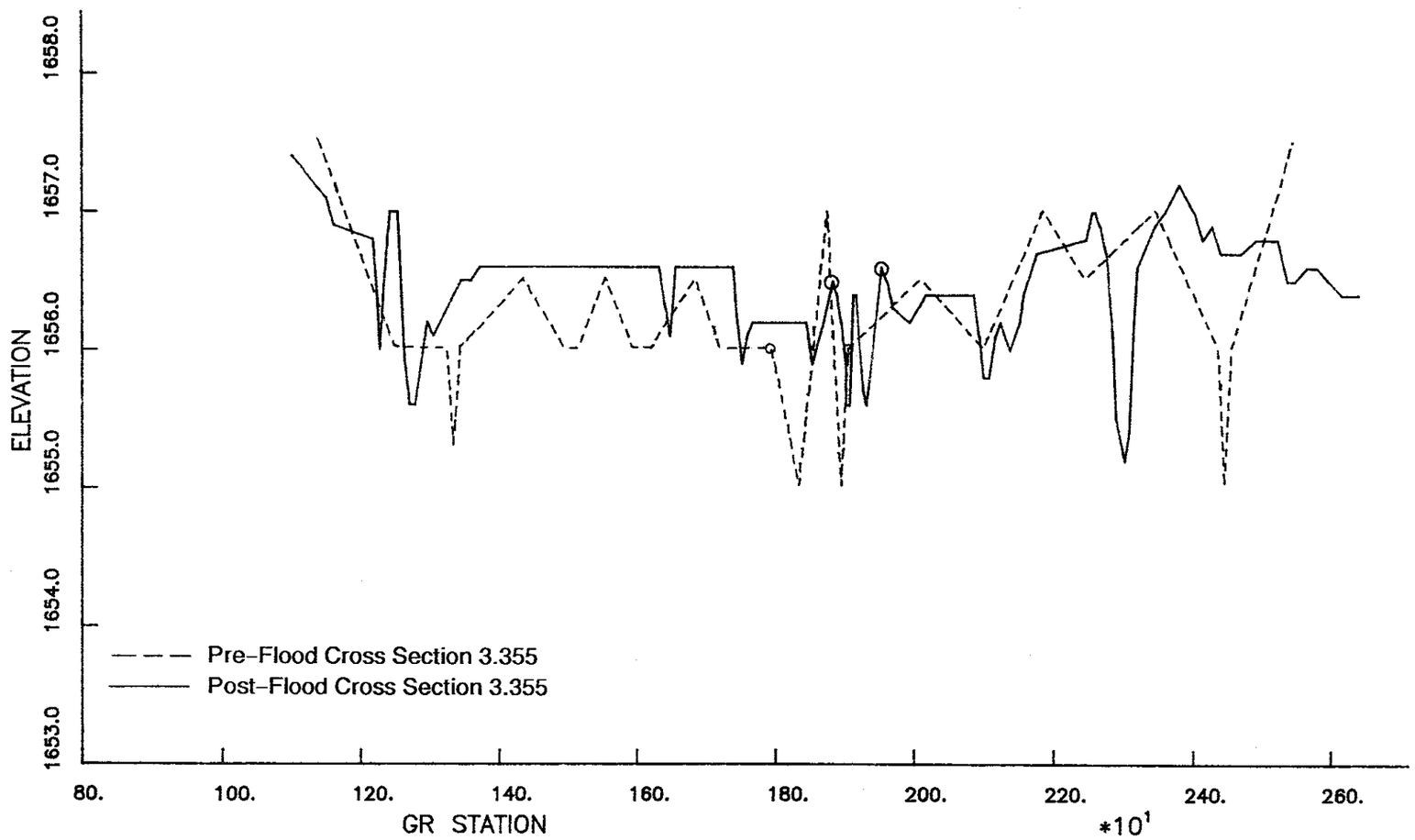


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Figure A-5. Cross Section 3.355

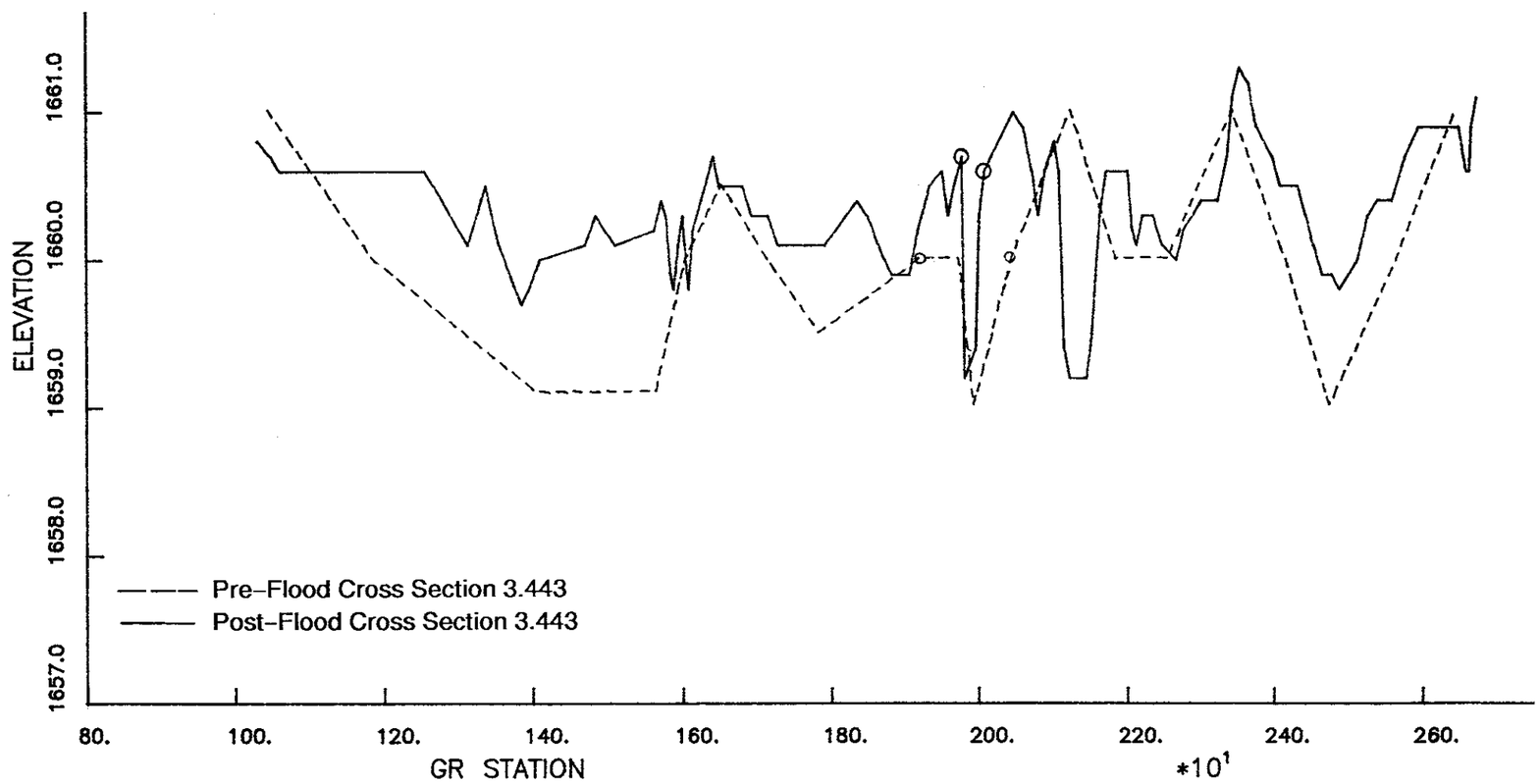

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Figure A-6. Cross Section 3.443

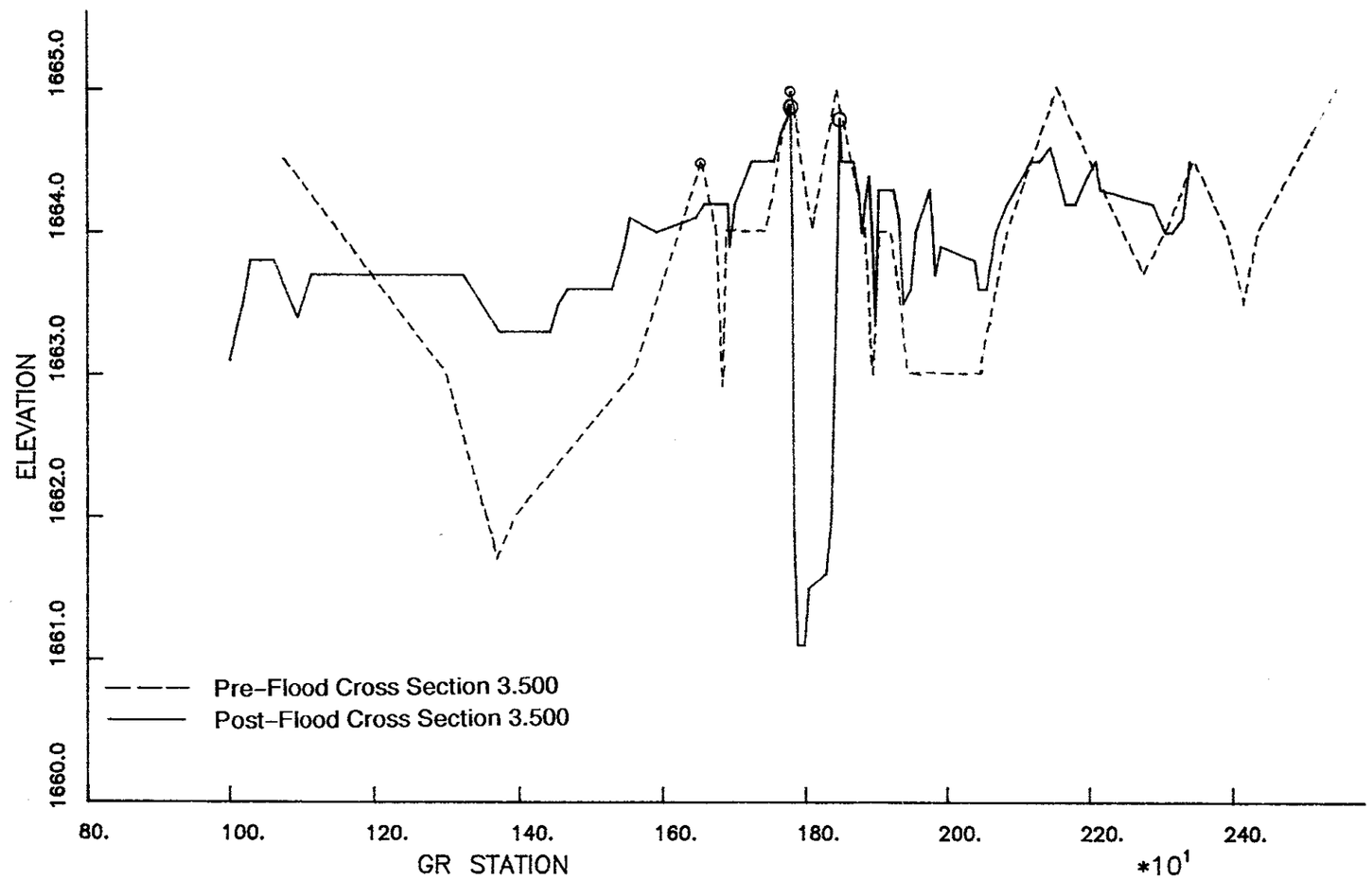

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Figure A-7. Cross Section 3.500

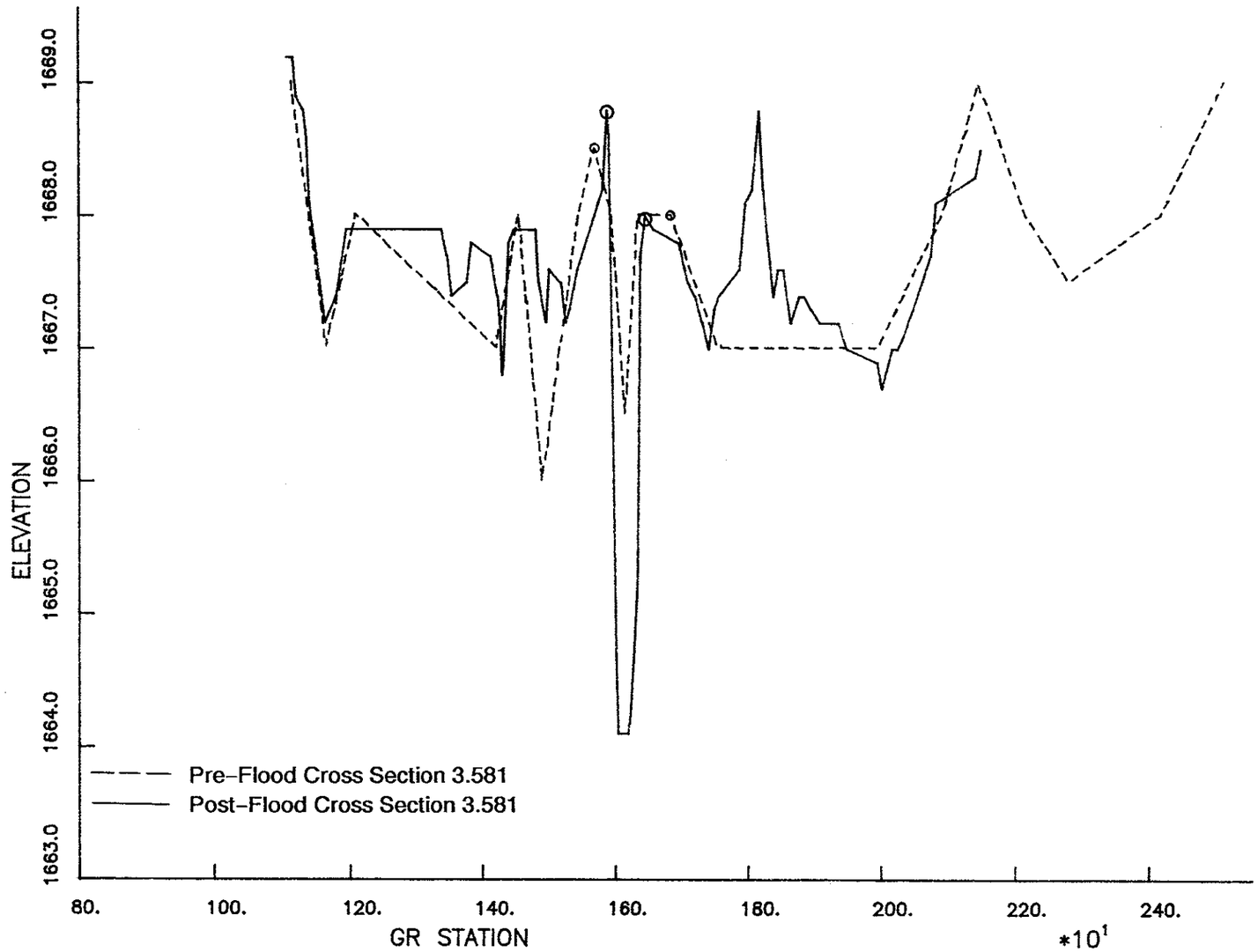

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Figure A-8. Cross Section 3.581

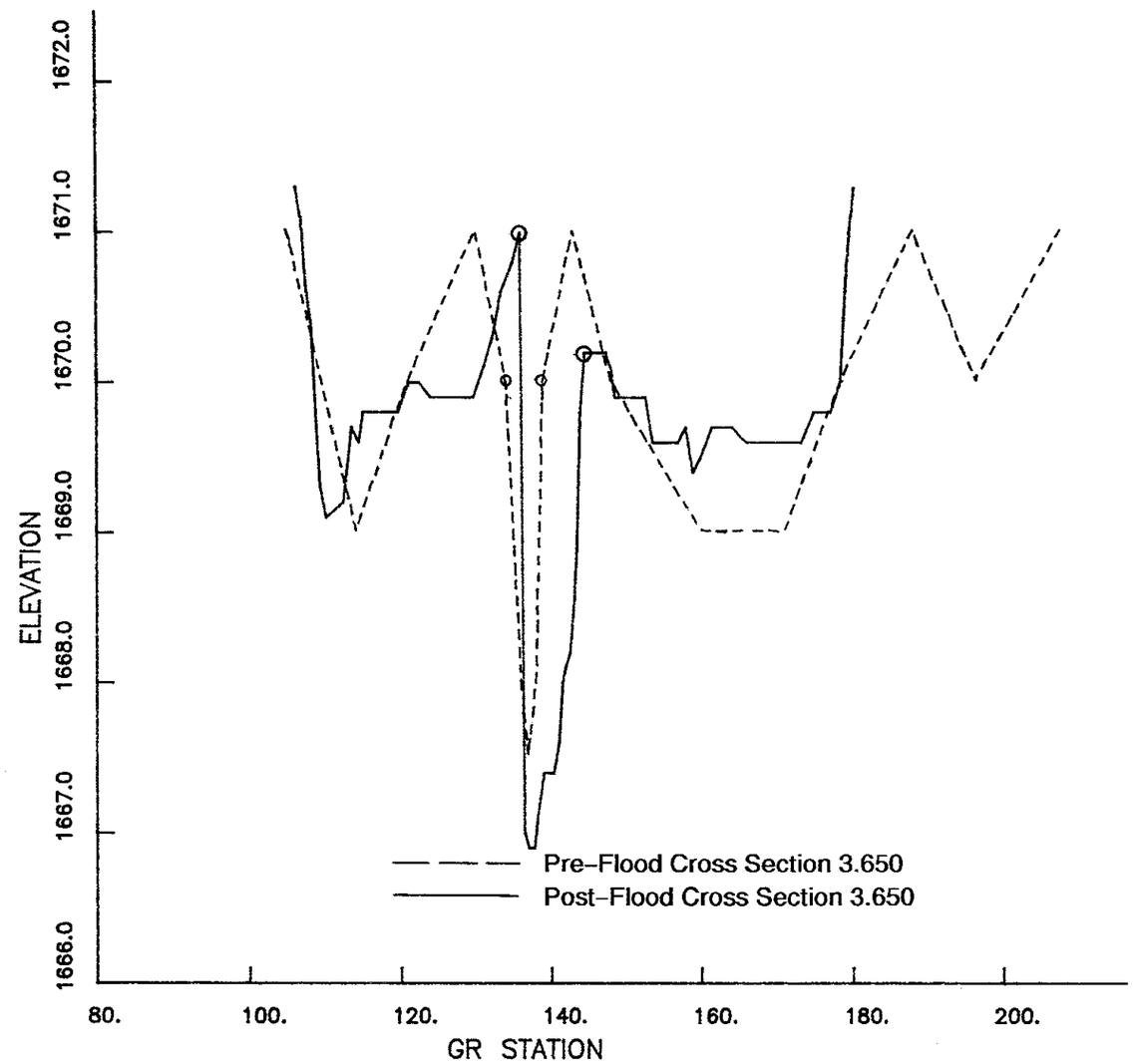

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Figure A-9. Cross Section 3.650

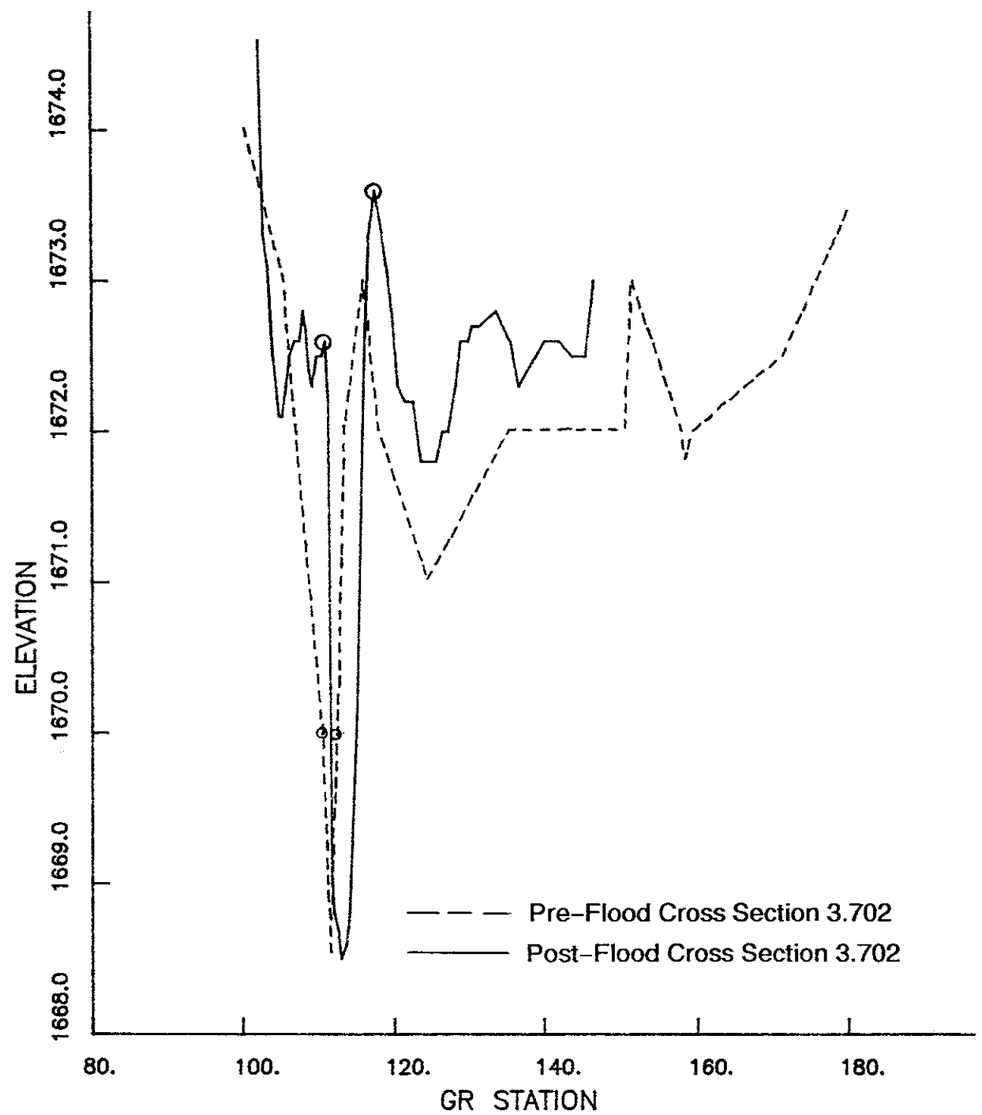

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Figure A-10. Cross Section 3.702

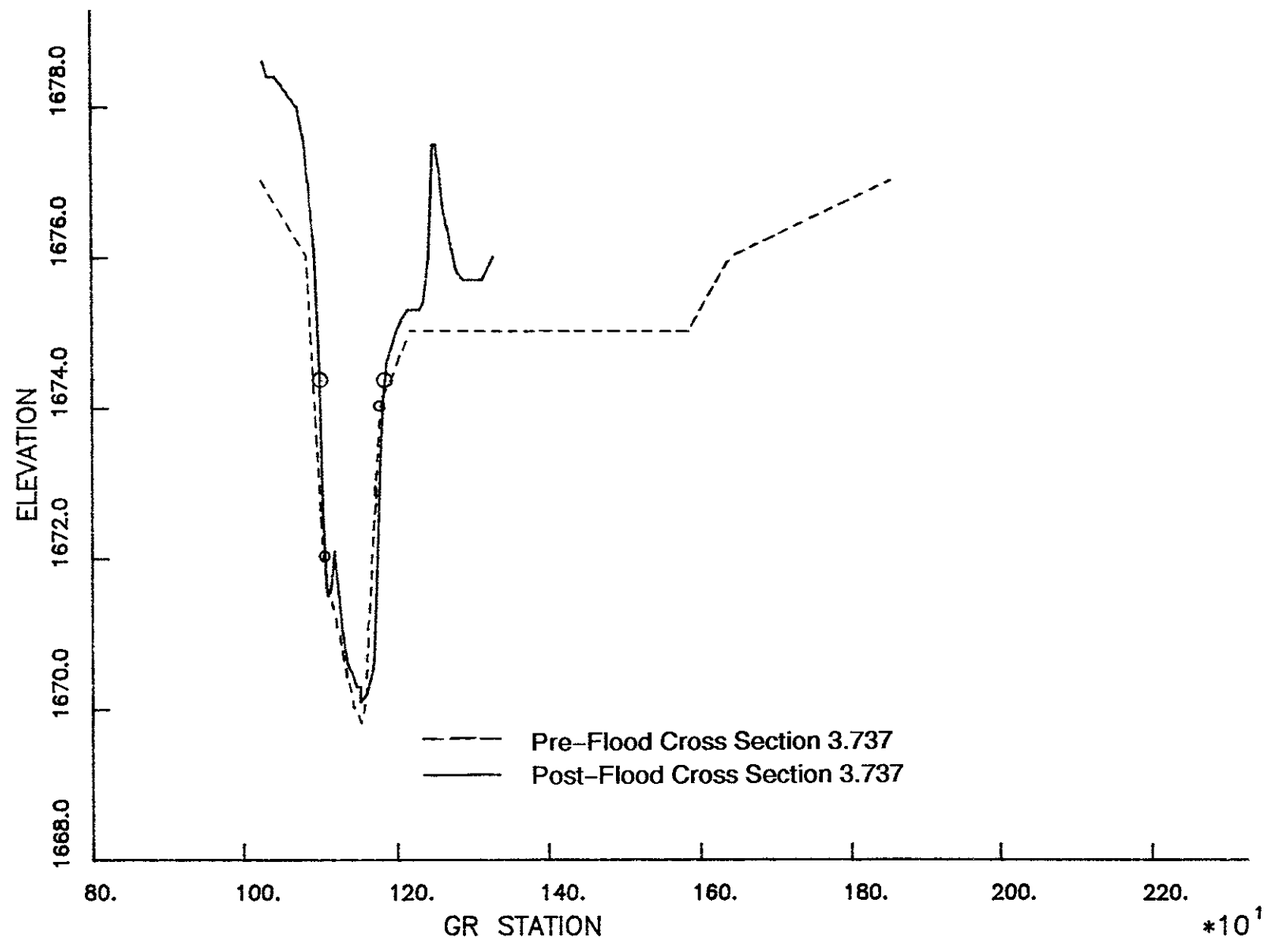

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Figure A-11. Cross Section 3.737

APPENDIX B. SLAFWY1.DAT HEC-2 INPUT/OUTPUT LISTING

Simons, Li & Associates, Inc.

THIS RUN EXECUTED 1/16/91 12:56:18

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*****************************************
 HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989


 ERROR CORR -  01,02,03
 MODIFICATION -
*****************************************


T1      SIMONS, LI & ASSOCIATES, INC.
T2      WITWASH FLOODWAY ANALYSIS FOR FCDMC (PAZ-MC13)
T3      SLAFWY1.DAT

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        2        0        0        0        0        0        0   1635.50       0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1        0        0        0       -1        0        0        0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    110      200       38        1        8       42       55       26       56       11
     12        5       33       53       54

J6  IHLEQ     ICOPY    SUBDIV   STRTDS   RMILE

      1


NC    0.050    0.050    0.050      0.1      0.3
QT        2     2275     2275
ET                       9.1                                                   1730.0   2260.0
X1    2.942       77     2064     2167        0        0        0        0        0        0
GR   1635.8   1461.0   1635.5   1582.0   1634.0   1589.0   1634.0   1591.0   1635.0   1593.0
GR   1635.5   1597.0   1635.5   1649.0   1635.7   1702.0   1635.5   1764.0   1635.4   1774.0
GR   1635.1   1786.0   1635.0   1796.0   1635.1   1809.0   1635.3   1832.0   1635.2   1888.0
GR   1634.9   1896.0   1634.8   1912.0   1634.6   1917.0   1634.3   1924.0   1634.5   1931.0
GR   1634.8   1940.0   1635.0   1955.0   1635.0   2064.0   1634.4   2069.0   1633.6   2070.0
GR   1632.5   2074.0   1632.4   2079.0   1633.2   2082.0   1633.9   2085.0   1634.2   2089.0
GR   1634.7   2094.0   1634.6   2096.0   1633.3   2100.0   1632.9   2102.0   1633.8   2106.0
GR   1634.8   2110.0   1634.8   2122.0   1634.5   2125.0   1633.1   2129.0   1634.0   2133.0
GR   1635.0   2140.0   1635.0   2145.0   1634.3   2150.0   1634.6   2154.0   1634.9   2160.0
GR   1635.0   2167.0   1634.9   2180.0   1634.0   2185.0   1633.6   2187.0   1634.3   2190.0
GR   1634.6   2193.0   1634.1   2197.0   1633.4   2199.0   1634.4   2204.0   1634.8   2207.0
GR   1634.7   2221.0   1634.3   2228.0   1634.4   2277.0   1634.6   2287.0   1634.6   2316.0
GR   1634.2   2320.0   1633.6   2323.0   1634.2   2327.0   1634.9   2333.0   1634.6   2376.0
GR   1635.0   2404.0   1635.4   2416.0   1635.5   2424.0   1635.7   2528.0   1635.7   2529.0
GR   1636.2   2574.0   1636.2   2586.0   1636.4   2605.0   1636.4   2649.0   1636.5   2660.0
GR   1636.7   2674.0   1637.0   2685.0
```

NC	0.060	0.060	0.060	0.1	0.3					
QT	2	2202	2202							
ET			9.1						1600.0	2000.0
X1	3.056	69	1873	1977	510	650	600	0	0	0
GR	1641.4	1312.0	1641.3	1398.0	1641.2	1411.0	1641.2	1446.0	1641.0	1455.0
GR	1640.9	1588.0	1640.0	1613.0	1638.7	1624.0	1640.0	1629.0	1640.8	1639.0
GR	1640.8	1648.0	1640.6	1657.0	1640.6	1724.0	1639.8	1729.0	1639.0	1732.0
GR	1638.5	1735.0	1639.7	1746.0	1640.0	1748.0	1640.3	1850.0	1640.5	1867.0
GR	1640.8	1873.0	1640.7	1877.0	1640.7	1880.0	1640.1	1885.0	1639.4	1890.0
GR	1639.4	1897.0	1639.9	1901.0	1640.6	1910.0	1640.6	1950.0	1640.3	1954.0
GR	1639.1	1956.0	1639.3	1958.0	1640.2	1962.0	1640.1	1967.0	1639.8	1969.0
GR	1640.1	1973.0	1640.7	1977.0	1640.7	2055.0	1640.9	2078.0	1641.0	2095.0
GR	1640.3	2102.0	1639.9	2104.0	1639.5	2107.0	1640.2	2111.0	1640.7	2114.0
GR	1640.9	2117.0	1641.0	2143.0	1640.3	2146.0	1640.2	2150.0	1640.9	2154.0
GR	1641.0	2294.0	1641.4	2311.0	1641.5	2399.0	1641.3	2407.0	1641.0	2412.0
GR	1641.4	2417.0	1641.5	2447.0	1641.0	2452.0	1640.8	2457.0	1641.0	2462.0
GR	1641.5	2496.0	1641.5	2509.0	1641.5	2538.0	1641.6	2545.0	1641.9	2560.0
GR	1642.0	2568.0	1642.2	2578.0	1642.4	2597.0	1642.6	2608.0		

NC			0.050							
ET			9.1						1690.0	1955.0
X1	3.183	91	1836	1934	640	640	640	0	0	0
GR	1649.3	1019.0	1649.1	1023.0	1648.7	1029.0	1648.7	1036.0	1648.4	1045.0
GR	1648.4	1088.0	1647.8	1099.0	1647.7	1132.0	1647.5	1142.0	1647.4	1151.0
GR	1647.4	1211.0	1647.2	1221.0	1647.1	1229.0	1647.0	1265.0	1646.8	1273.0
GR	1646.6	1279.0	1646.6	1288.0	1646.7	1297.0	1646.9	1304.0	1647.1	1385.0
GR	1647.1	1405.0	1646.7	1412.0	1646.5	1417.0	1646.5	1428.0	1646.5	1435.0
GR	1646.5	1484.0	1646.2	1487.0	1645.8	1492.0	1646.0	1507.0	1646.3	1515.0
GR	1646.4	1524.0	1646.5	1535.0	1646.5	1574.0	1645.5	1584.0	1646.2	1591.0
GR	1646.4	1595.0	1646.4	1621.0	1646.8	1632.0	1646.6	1637.0	1646.6	1784.0
GR	1646.4	1789.0	1646.2	1791.0	1646.7	1798.0	1646.4	1801.0	1646.4	1814.0
GR	1646.7	1829.0	1646.9	1832.0	1647.0	1836.0	1645.7	1842.0	1645.4	1844.0
GR	1646.3	1848.0	1646.8	1851.0	1646.8	1859.0	1645.7	1862.0	1645.0	1864.0
GR	1645.8	1868.0	1646.4	1870.0	1646.8	1875.0	1646.9	1880.0	1646.7	1889.0
GR	1646.0	1891.0	1646.1	1894.0	1646.7	1898.0	1646.7	1920.0	1647.0	1934.0
GR	1647.0	2052.0	1647.2	2060.0	1647.6	2076.0	1647.7	2290.0	1647.5	2299.0
GR	1647.5	2372.0	1647.9	2390.0	1648.2	2395.0	1649.0	2399.0	1649.4	2402.0
GR	1649.4	2404.0	1649.2	2407.0	1648.9	2408.0	1648.3	2411.0	1647.7	2417.0
GR	1647.8	2484.0	1648.0	2491.0	1648.0	2589.0	1648.1	2600.0	1648.2	2611.0
GR	1648.2	2621.0	1648.4	2634.0	1648.5	2645.0	1648.5	2675.0	1648.7	2684.0
GR	1649.1	2691.0								

NH	5	0.060	1782	0.040	1884	0.060	2387	0.040	2614	0.060
NH	2758									
ET			9.1						1730.0	1990.0
X1	3.268	83	1782	1884	480	410	450	0	0	0
GR	1652.5	1108.0	1652.5	1224.0	1652.2	1233.0	1652.0	1280.0	1652.1	1305.0
GR	1651.8	1315.0	1651.8	1359.0	1652.0	1373.0	1652.0	1429.0	1651.8	1440.0
GR	1651.8	1465.0	1651.7	1474.0	1651.6	1477.0	1651.1	1484.0	1651.6	1488.0
GR	1651.7	1563.0	1651.9	1569.0	1651.9	1576.0	1651.4	1581.0	1651.5	1592.0
GR	1651.1	1597.0	1651.0	1606.0	1651.8	1611.0	1651.9	1616.0	1651.7	1620.0
GR	1651.2	1626.0	1651.9	1633.0	1652.1	1657.0	1652.3	1667.0	1652.1	1721.0
GR	1652.0	1738.0	1651.8	1753.0	1651.6	1766.0	1651.6	1782.0	1651.4	1799.0

GR	1651.1	1834.0	1651.3	1841.0	1651.3	1864.0	1651.6	1884.0	1652.1	1895.0
GR	1652.0	1909.0	1651.8	1922.0	1652.0	1988.0	1652.2	2009.0	1652.5	2022.0
GR	1652.4	2032.0	1652.3	2125.0	1652.1	2138.0	1651.7	2144.0	1651.7	2181.0
GR	1652.0	2201.0	1652.0	2217.0	1652.2	2234.0	1652.5	2246.0	1652.5	2254.0
GR	1652.4	2267.0	1652.2	2278.0	1652.1	2288.0	1651.8	2297.0	1651.7	2303.0
GR	1652.1	2315.0	1652.3	2328.0	1652.4	2340.0	1652.4	2373.0	1652.2	2387.0
GR	1652.2	2473.0	1652.4	2484.0	1652.4	2583.0	1652.0	2595.0	1652.3	2602.0
GR	1652.8	2608.0	1653.0	2611.0	1652.7	2614.0	1652.7	2655.0	1652.3	2662.0
GR	1651.7	2667.0	1652.2	2671.0	1652.6	2675.0	1652.6	2681.0	1652.1	2688.0
GR	1652.1	2690.0	1652.6	2698.0	1652.7	2758.0				
NH	4	0.060	1882	0.035	1953	0.060	2123	0.040	2640	
ET			9.1						1740.0	2050.0
X1	3.355	85	1882	1953	480	410	430	0	0	0
GR	1657.4	1101.0	1657.1	1150.0	1656.9	1162.0	1656.8	1218.0	1656.4	1224.0
GR	1656.0	1228.0	1656.4	1233.0	1656.8	1239.0	1657.0	1243.0	1657.0	1254.0
GR	1656.3	1260.0	1655.9	1264.0	1655.6	1271.0	1655.6	1279.0	1656.2	1296.0
GR	1656.1	1305.0	1656.5	1345.0	1656.5	1359.0	1656.6	1372.0	1656.5	1632.0
GR	1656.3	1642.0	1656.1	1648.0	1656.6	1656.0	1656.6	1739.0	1656.2	1745.0
GR	1655.9	1752.0	1656.1	1759.0	1656.2	1767.0	1656.2	1844.0	1655.9	1853.0
GR	1656.0	1858.0	1656.2	1869.0	1656.5	1882.0	1656.4	1888.0	1656.2	1894.0
GR	1655.9	1901.0	1655.6	1901.0	1655.6	1906.0	1656.4	1911.0	1656.4	1915.0
GR	1655.7	1926.0	1655.6	1930.0	1656.6	1953.0	1656.5	1961.0	1656.3	1970.0
GR	1656.2	1994.0	1656.4	2017.0	1656.4	2085.0	1656.1	2093.0	1655.8	2099.0
GR	1655.8	2107.0	1656.1	2116.0	1656.2	2123.0	1656.0	2137.0	1656.2	2151.0
GR	1656.4	2156.0	1656.7	2176.0	1656.8	2246.0	1657.0	2255.0	1657.0	2259.0
GR	1656.9	2266.0	1656.7	2275.0	1656.1	2284.0	1655.5	2289.0	1655.2	2301.0
GR	1655.4	2307.0	1656.2	2314.0	1656.6	2319.0	1656.9	2344.0	1657.0	2358.0
GR	1657.2	2379.0	1657.0	2401.0	1656.8	2413.0	1656.9	2426.0	1656.7	2439.0
GR	1656.7	2468.0	1656.8	2490.0	1656.8	2521.0	1656.5	2536.0	1656.5	2547.0
GR	1656.6	2565.0	1656.6	2579.0	1656.5	2597.0	1656.4	2615.0	1656.4	2640.0
NH	5	0.060	1979	0.035	2009	0.060	2103	0.040	2277	0.060
NH	2673									
ET			9.1						1720.0	2080.0
X1	3.443	95	1979	2009	360	440	460	0	0	0
GR	1660.8	1031.0	1660.7	1048.0	1660.6	1061.0	1660.6	1255.0	1660.5	1268.0
GR	1660.1	1314.0	1660.5	1338.0	1660.1	1356.0	1659.7	1386.0	1659.8	1396.0
GR	1660.0	1411.0	1660.1	1471.0	1660.3	1485.0	1660.1	1511.0	1660.2	1563.0
GR	1660.4	1573.0	1660.3	1579.0	1659.9	1585.0	1659.8	1589.0	1660.1	1595.0
GR	1660.3	1601.0	1660.1	1604.0	1659.8	1609.0	1660.2	1615.0	1660.7	1643.0
GR	1660.5	1651.0	1660.5	1682.0	1660.3	1695.0	1660.3	1716.0	1660.1	1730.0
GR	1660.1	1793.0	1660.4	1836.0	1660.3	1850.0	1660.0	1873.0	1659.9	1883.0
GR	1659.9	1906.0	1660.2	1918.0	1660.5	1933.0	1660.6	1952.0	1660.3	1960.0
GR	1660.5	1968.0	1660.7	1979.0	1659.2	1982.0	1659.4	1997.0	1660.3	2002.0
GR	1660.6	2009.0	1661.0	2048.0	1660.9	2061.0	1660.6	2073.0	1660.3	2081.0
GR	1660.6	2090.0	1660.8	2103.0	1660.6	2109.0	1659.4	2115.0	1659.2	2123.0
GR	1659.2	2145.0	1659.5	2152.0	1659.9	2157.0	1660.3	2163.0	1660.6	2172.0
GR	1660.6	2201.0	1660.2	2207.0	1660.1	2213.0	1660.3	2221.0	1660.3	2235.0
GR	1660.1	2248.0	1660.0	2267.0	1660.2	2277.0	1660.4	2302.0	1660.4	2324.0
GR	1660.7	2337.0	1661.1	2344.0	1661.3	2354.0	1661.2	2366.0	1660.9	2377.0
GR	1660.7	2398.0	1660.5	2409.0	1660.5	2432.0	1660.3	2443.0	1660.1	2453.0
GR	1659.9	2465.0	1659.9	2477.0	1659.8	2488.0	1659.9	2500.0	1660.0	2512.0
GR	1660.3	2526.0	1660.4	2539.0	1660.4	2558.0	1660.7	2577.0	1660.9	2595.0

GR	1660.9	2648.0	1660.6	2658.0	1660.6	2662.0	1660.9	2665.0	1661.1	2673.0
NC	0.060	0.060	0.035							
ET			9.1						1585.0	1885.0
X1	3.500	73	1780	1849	340	320	290	0	0	0
GR	1663.1	1000.0	1663.3	1008.0	1663.5	1018.0	1663.8	1028.0	1663.8	1060.0
GR	1663.4	1093.0	1663.7	1113.0	1663.7	1323.0	1663.3	1373.0	1663.3	1443.0
GR	1663.5	1455.0	1663.6	1468.0	1663.6	1530.0	1663.9	1547.0	1664.1	1555.0
GR	1664.0	1592.0	1664.1	1646.0	1664.2	1659.0	1664.2	1692.0	1663.9	1694.0
GR	1664.2	1701.0	1664.5	1725.0	1664.5	1756.0	1664.7	1766.0	1664.8	1775.0
GR	1664.9	1780.0	1663.9	1782.0	1661.9	1784.0	1661.1	1789.0	1661.1	1798.0
GR	1661.5	1804.0	1661.6	1829.0	1662.0	1836.0	1662.8	1840.0	1663.9	1845.0
GR	1664.8	1849.0	1664.5	1852.0	1664.5	1868.0	1664.3	1875.0	1664.0	1880.0
GR	1664.2	1884.0	1664.4	1890.0	1664.0	1894.0	1663.4	1898.0	1664.3	1903.0
GR	1664.3	1924.0	1664.1	1931.0	1663.5	1937.0	1663.6	1949.0	1664.0	1956.0
GR	1664.3	1975.0	1664.1	1979.0	1663.7	1983.0	1663.9	1991.0	1663.8	2038.0
GR	1663.6	2044.0	1663.6	2055.0	1664.0	2068.0	1664.2	2084.0	1664.5	2118.0
GR	1664.5	2130.0	1664.6	2145.0	1664.2	2167.0	1664.2	2180.0	1664.4	2197.0
GR	1664.5	2208.0	1664.3	2215.0	1664.2	2287.0	1664.0	2305.0	1664.0	2314.0
GR	1664.1	2329.0	1664.3	2334.0	1664.5	2339.0				
ET			9.1						1490.0	1758.0
X1	3.581	75	1588	1645	410	380	400	0	0	0
GR	1669.2	1109.0	1669.2	1117.0	1668.9	1122.0	1668.8	1132.0	1668.6	1137.0
GR	1668.1	1141.0	1667.2	1163.0	1667.4	1180.0	1667.9	1195.0	1667.9	1338.0
GR	1667.7	1347.0	1667.4	1354.0	1667.5	1376.0	1667.8	1383.0	1667.7	1412.0
GR	1667.4	1422.0	1667.2	1426.0	1666.8	1429.0	1666.9	1431.0	1667.4	1435.0
GR	1667.8	1439.0	1667.9	1447.0	1667.9	1480.0	1667.5	1484.0	1667.2	1495.0
GR	1667.6	1500.0	1667.5	1518.0	1667.2	1525.0	1667.3	1531.0	1667.6	1543.0
GR	1668.2	1581.0	1668.8	1588.0	1668.6	1591.0	1664.7	1601.0	1664.1	1604.0
GR	1664.1	1619.0	1664.3	1623.0	1664.7	1628.0	1665.2	1633.0	1665.5	1634.0
GR	1667.7	1638.0	1668.0	1645.0	1667.9	1659.0	1667.8	1696.0	1667.5	1710.0
GR	1667.4	1720.0	1667.2	1731.0	1667.0	1741.0	1667.3	1749.0	1667.4	1756.0
GR	1667.6	1787.0	1668.1	1796.0	1668.2	1806.0	1668.8	1817.0	1668.2	1823.0
GR	1667.8	1830.0	1667.4	1838.0	1667.6	1845.0	1667.6	1853.0	1667.2	1864.0
GR	1667.4	1877.0	1667.4	1884.0	1667.3	1895.0	1667.2	1908.0	1667.2	1935.0
GR	1667.0	1950.0	1666.9	1994.0	1666.7	2001.0	1667.0	2016.0	1667.0	2024.0
GR	1667.1	2033.0	1667.7	2073.0	1668.1	2081.0	1668.3	2140.0	1668.5	2148.0
ET			9.1						1330.0	1475.0
X1	3.650	54	1359	1445	280	360	380	0	0	0
GR	1671.3	1061.0	1671.1	1068.0	1670.6	1075.0	1670.4	1081.0	1669.8	1087.0
GR	1669.3	1093.0	1669.1	1101.0	1669.2	1123.0	1669.7	1134.0	1669.6	1144.0
GR	1669.8	1150.0	1669.8	1196.0	1670.0	1211.0	1670.0	1224.0	1669.9	1240.0
GR	1669.9	1296.0	1670.1	1310.0	1670.3	1322.0	1670.6	1333.0	1670.8	1349.0
GR	1671.0	1359.0	1667.0	1364.0	1666.9	1370.0	1666.9	1377.0	1667.1	1381.0
GR	1667.4	1390.0	1667.4	1403.0	1667.6	1410.0	1668.0	1415.0	1668.1	1419.0
GR	1668.2	1425.0	1668.6	1431.0	1668.9	1434.0	1669.8	1439.0	1670.2	1445.0
GR	1670.2	1473.0	1670.1	1480.0	1669.9	1486.0	1669.9	1526.0	1669.6	1536.0
GR	1669.6	1569.0	1669.7	1579.0	1669.4	1589.0	1669.5	1599.0	1669.7	1614.0
GR	1669.7	1641.0	1669.6	1660.0	1669.6	1732.0	1669.8	1749.0	1669.8	1771.0
GR	1670.0	1784.0	1670.7	1792.0	1671.0	1796.0	1671.3	1803.0		

ET			9.1						1085.0	1200.0
X1	3.702	59	1109	1175	330	220	270	0	0	0
GR	1676.6	1000.0	1676.6	1009.0	1676.4	1011.0	1675.4	1017.0	1674.6	1022.0
GR	1673.3	1028.0	1673.1	1034.0	1672.5	1040.0	1672.1	1048.0	1672.1	1052.0
GR	1672.3	1057.0	1672.5	1062.0	1672.6	1069.0	1672.6	1075.0	1672.8	1080.0
GR	1672.7	1083.0	1672.4	1088.0	1672.3	1092.0	1672.5	1098.0	1672.5	1104.0
GR	1672.6	1109.0	1672.2	1113.0	1669.0	1117.0	1668.8	1120.0	1668.7	1125.0
GR	1668.5	1129.0	1668.6	1136.0	1668.8	1140.0	1670.1	1150.0	1671.0	1154.0
GR	1672.0	1158.0	1672.6	1161.0	1673.3	1167.0	1673.6	1175.0	1673.4	1182.0
GR	1673.1	1190.0	1672.8	1197.0	1672.3	1205.0	1672.2	1215.0	1672.2	1225.0
GR	1671.8	1236.0	1671.8	1256.0	1672.0	1264.0	1672.0	1272.0	1672.3	1282.0
GR	1672.6	1289.0	1672.6	1299.0	1672.7	1305.0	1672.7	1314.0	1672.8	1337.0
GR	1672.6	1356.0	1672.3	1367.0	1672.4	1378.0	1672.5	1390.0	1672.6	1401.0
GR	1672.6	1420.0	1672.5	1437.0	1672.5	1454.0	1673.0	1465.0		
NC	0.060	0.060	0.030	.3	.5					
ET			9.1						1075.0	1175.0
X1	3.737	48	1101	1188	200	280	250	0.84	0	0
GR	1678.6	1028.0	1678.4	1035.0	1678.4	1044.0	1678.3	1052.0	1678.2	1059.0
GR	1678.1	1066.0	1678.0	1073.0	1677.6	1081.0	1677.0	1087.0	1676.1	1095.0
GR	1674.5	1101.0	1672.6	1105.0	1671.6	1109.0	1671.5	1111.0	1671.6	1115.0
GR	1672.1	1119.0	1671.5	1125.0	1671.0	1130.0	1670.6	1136.0	1670.5	1141.0
GR	1670.3	1148.0	1670.3	1153.0	1670.1	1153.0	1670.2	1161.0	1670.4	1166.0
GR	1670.6	1170.0	1671.9	1175.0	1673.2	1179.0	1674.1	1183.0	1674.6	1188.0
GR	1674.8	1194.0	1675.0	1200.0	1675.2	1209.0	1675.3	1216.0	1675.3	1231.0
GR	1675.4	1236.0	1676.0	1243.0	1677.0	1247.0	1677.5	1249.0	1677.5	1253.0
GR	1677.2	1257.0	1676.7	1262.0	1676.4	1268.0	1676.1	1274.0	1675.8	1281.0
GR	1675.7	1289.0	1675.7	1314.0	1676.0	1329.0				
ET			9.1						1025.0	1120.0
X1	3.759	37	1028	1143	20	80	50	0.86	0	0
GR	1677.9	1000.0	1677.8	1011.0	1677.8	1023.0	1677.0	1028.0	1674.5	1033.0
GR	1672.8	1035.0	1673.1	1038.0	1673.3	1040.0	1673.6	1045.0	1673.6	1050.0
GR	1673.3	1056.0	1672.4	1061.0	1671.3	1068.0	1671.1	1072.0	1671.3	1079.0
GR	1671.3	1090.0	1671.2	1098.0	1670.8	1098.0	1670.9	1104.0	1670.9	1114.0
GR	1670.7	1120.0	1670.7	1126.0	1670.8	1131.0	1672.1	1135.0	1673.4	1138.0
GR	1675.1	1140.0	1676.9	1141.0	1677.4	1143.0	1677.8	1147.0	1678.1	1154.0
GR	1678.1	1166.0	1678.2	1179.0	1678.1	1190.0	1678.0	1201.0	1678.1	1236.0
GR	1678.0	1248.0	1677.9	1262.0						

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 2.942

3265 DIVIDED FLOW

2.942	3.10	1635.50	1635.46	1635.50	1635.84	.34	.00	.00	1635.00
2275.	480.	731.	1064.	150.	133.	229.	0.	0.	1635.00
.00	3.20	5.48	4.63	.050	.050	.050	.000	1632.40	1582.00
.024541	0.	0.	0.	0	4	0	.00	675.00	2424.00

CCHV= .100 CEHV= .300
*SECNO 3.056
3280 CROSS SECTION 3.06 EXTENDED .27 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.90

3.056	3.17	1641.67	1641.16	.00	1641.74	.07	5.88	.03	1640.80
2202.	1272.	362.	568.	557.	147.	344.	10.	13.	1640.70
.08	2.29	2.47	1.65	.060	.060	.060	.000	1638.50	1312.00
.006350	510.	600.	650.	10	12	0	.00	1236.52	2548.52

*SECNO 3.183

3265 DIVIDED FLOW

3.183	2.59	1647.59	1647.24	.00	1647.72	.12	5.96	.02	1647.00
2202.	1687.	365.	149.	610.	106.	84.	24.	29.	1647.00
.14	2.77	3.45	1.77	.060	.050	.060	.000	1645.00	1137.34
.012270	640.	640.	640.	7	13	0	.00	1019.77	2376.19

Simons, Li & Associates, Inc.

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

1490 NH CARD USED
*SECNO 3.268

3265 DIVIDED FLOW

3280 CROSS SECTION 3.27 EXTENDED .15 FEET

3.268	1.64	1652.64	1652.50	.00	1652.77	.13	5.05	.00	1651.60
2202.	978.	591.	633.	454.	134.	353.	33.	43.	1651.60
.19	2.16	4.42	1.79	.060	.040	.055	.000	1651.00	1108.00
.009900	480.	450.	410.	5	14	0	.00	1569.06	2726.79

1490 NH CARD USED
*SECNO 3.355

3265 DIVIDED FLOW

3280 CROSS SECTION 3.36 EXTENDED .68 FEET

3.355	1.88	1657.08	1656.87	.00	1657.19	.11	4.42	.00	1656.50
2202.	908.	301.	993.	456.	71.	375.	43.	58.	1656.60
.23	1.99	4.25	2.65	.060	.035	.046	.000	1655.20	1151.19
.010012	480.	430.	410.	5	8	0	.00	1463.06	2640.00

1490 NH CARD USED
*SECNO 3.443

3265 DIVIDED FLOW

3280 CROSS SECTION 3.44 EXTENDED .14 FEET

3.443	1.74	1660.94	1660.74	.00	1661.04	.10	3.85	.00	1660.70
2202.	1133.	166.	903.	602.	36.	342.	51.	72.	1660.60
.28	1.88	4.55	2.64	.060	.035	.047	.000	1659.20	1031.00
.009031	360.	460.	440.	4	14	0	.00	1587.60	2666.60

*SECNO 3.500

3265 DIVIDED FLOW

Simons, Li & Associates, Inc.

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

3280 CROSS SECTION 3.50 EXTENDED 1.38 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.500	3.38	1664.48	1664.48	.00	1664.79	.30	1.90	.46	1664.90
2202.	936.	1071.	196.	551.	175.	163.	58.	83.	1664.80
.30	1.70	6.13	1.20	.060	.035	.060	.000	1661.10	1000.00
.005926	340.	290.	320.	0	12	0	.00	1221.89	2338.54

*SECNO 3.581

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.581	4.22	1668.32	1668.32	.00	1668.67	.35	2.39	.00	1668.80
2202.	393.	1045.	763.	267.	157.	395.	66.	93.	1668.00
.33	1.48	6.65	1.93	.060	.035	.060	.000	1664.10	1139.27
.005991	410.	400.	380.	0	8	0	.00	978.35	2140.67

*SECNO 3.650

3265 DIVIDED FLOW

3.650	3.60	1670.50	1670.47	.00	1670.94	.44	2.25	.03	1671.00
2202.	308.	1442.	452.	177.	223.	261.	72.	99.	1670.20
.35	1.74	6.45	1.73	.060	.035	.060	.000	1666.90	1077.73
.006538	280.	380.	360.	1	9	0	.00	682.14	1789.82

*SECNO 3.702

3265 DIVIDED FLOW

3280 CROSS SECTION 3.70 EXTENDED .48 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.702	4.98	1673.48	1673.48	.00	1674.04	.56	1.80	-.00	1672.60
2202.	157.	1414.	631.	77.	193.	289.	75.	102.	1673.60
.37	2.05	7.31	2.19	.060	.035	.060	.000	1668.50	1027.18
.006834	330.	270.	220.	0	12	0	.00	430.32	1465.00

Simons, Li & Associates, Inc.

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

CCHV= .300 CEHV= .500
*SECNO 3.737

3301 HV CHANGED MORE THAN HVINS

3.737	4.73	1674.83	1674.46	.00	1676.06	1.23	1.69	.34	1674.50
2202.	0.	2202.	0.	0.	247.	1.	78.	104.	1674.60
.37	.58	8.90	.50	.060	.030	.060	.000	1670.10	1088.28
.006535	200.	250.	280.	2	15	0	.00	79.90	1168.18

*SECNO 3.759

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.70

3.759	5.22	1675.92	1674.38	.00	1676.44	.52	.17	.21	1677.00
2202.	0.	2202.	0.	0.	380.	0.	78.	104.	1677.40
.38	.00	5.79	.00	.000	.030	.000	.000	1670.70	1025.95
.002248	20.	50.	80.	3	15	0	.00	94.84	1120.79

Simons, Li & Associates, Inc.

T1 SIMONS, LI & ASSOCIATES, INC.
T2 WITWASH FLOODWAY ANALYSIS FOR FCDMC (PAZ-MC13)
T3 SLAFWY1.DAT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	-10	3	0	0	0	0	0	0	1635.93	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	-1	0	0	0

Simons, Li & Associates, Inc.

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

*PROF 2

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 2.942

3470 ENCROACHMENT STATIONS= 1730.0 2260.0 TYPE= 1 TARGET= 530.000

2.942	3.53	1635.93	1635.63	1635.50	1636.18	.25	.00	.00	1635.00
2275.	860.	828.	587.	281.	178.	137.	0.	0.	1635.00
.00	3.06	4.66	4.27	.050	.050	.050	.000	1632.40	1730.00
.012125	0.	0.	0.	0	8	0	.00	530.00	2260.00

CCHV= .100 CEHV= .300
*SECNO 3.056

3470 ENCROACHMENT STATIONS= 1600.0 2000.0 TYPE= 1 TARGET= 400.000

3.056	3.38	1641.88	1641.27	1641.67	1642.06	.18	5.88	.01	1640.80
2202.	1573.	558.	71.	455.	169.	27.	8.	6.	1640.70
.05	3.46	3.29	2.59	.060	.060	.060	.000	1638.50	1600.00
.009302	510.	600.	650.	5	14	0	.00	400.00	2000.00

*SECNO 3.183

3470 ENCROACHMENT STATIONS= 1690.0 1955.0 TYPE= 1 TARGET= 265.000

3.183	3.48	1648.48	1647.93	1647.59	1648.79	.31	6.68	.04	1647.00
2202.	1134.	965.	103.	277.	192.	31.	16.	11.	1647.00
.09	4.09	5.01	3.32	.060	.050	.060	.000	1645.00	1690.00
.011728	640.	640.	640.	5	10	0	.00	265.00	1955.00

1490 NH CARD USED
*SECNO 3.268
3280 CROSS SECTION 3.27 EXTENDED .74 FEET

Simons, Li & Associates, Inc.

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


3470 ENCROACHMENT STATIONS=     1730.0    1990.0  TYPE=      1  TARGET=      260.000
   3.268     2.44  1653.44  1653.10  1652.64  1653.89      .45     5.06      .04  1651.60
   2202.     309.    1349.     545.     87.     215.     162.      21.      13.   1651.60
     .11     3.56     6.29     3.37    .060     .040     .060     .000  1651.00  1730.00
 .010621     480.     450.     410.       4       14        0      .00   260.00  1990.00


1490 NH CARD USED
*SECNO 3.355
3280 CROSS SECTION      3.36 EXTENDED      1.54 FEET


3470 ENCROACHMENT STATIONS=     1740.0    2050.0  TYPE=      1  TARGET=      310.000
   3.355     2.74  1657.94  1657.48  1657.08  1658.28      .34     4.38      .01  1656.50
   2202.     880.     820.     501.     251.     132.     154.      26.      16.   1656.60
     .14     3.51     6.22     3.25    .060     .035     .060     .000  1655.20  1740.00
 .009425     480.     430.     410.       4       11        0      .00   310.00  2050.00


1490 NH CARD USED
*SECNO 3.443
3280 CROSS SECTION      3.44 EXTENDED      .79 FEET


3470 ENCROACHMENT STATIONS=     1720.0    2080.0  TYPE=      1  TARGET=      360.000
   3.443     2.69  1661.89  1661.50  1660.94  1662.20      .31     3.91      .00  1660.70
   2202.    1537.     459.     206.     436.      65.      78.      32.      19.   1660.60
     .16     3.53     7.06     2.62    .060     .035     .060     .000  1659.20  1720.00
 .010064     360.     460.     440.       4       15        0      .00   360.00  2080.00


*SECNO 3.500
3280 CROSS SECTION      3.50 EXTENDED      .72 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1585.0    1885.0  TYPE=      1  TARGET=      300.000
   3.500     4.12  1665.22  1665.22  1664.48  1665.99      .77     2.25      .52  1664.90
   2202.     387.    1760.      56.     185.     225.      30.      35.      22.   1664.80
     .18     2.09     7.81     1.87    .060     .035     .060     .000  1661.10  1585.00
 .007178     340.     290.     320.       0       11        0      .00   300.00  1885.00
```

Simons, Li & Associates, Inc.

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

*SECNO 3.581
3280 CROSS SECTION 3.58 EXTENDED .36 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1490.0 1758.0 TYPE= 1 TARGET= 268.000

3.581	4.76	1668.86	1668.86	1668.32	1669.62	.76	3.16	-.15	1668.80
2202.	291.	1533.	378.	115.	187.	143.	39.	24.	1668.00
.19	2.53	8.20	2.64	.060	.035	.060	.000	1664.10	1490.00
.007902	410.	400.	380.	0	8	0	.00	268.00	1758.00

*SECNO 3.650
3280 CROSS SECTION 3.65 EXTENDED .02 FEET

3470 ENCROACHMENT STATIONS= 1330.0 1475.0 TYPE= 1 TARGET= 145.000

3.650	4.42	1671.32	1670.72	1670.50	1672.10	.78	2.47	.01	1671.00
2202.	21.	2114.	67.	16.	293.	34.	43.	26.	1670.20
.21	1.28	7.21	1.99	.060	.035	.060	.000	1666.90	1330.00
.005768	280.	380.	360.	2	15	0	.00	145.00	1475.00

*SECNO 3.702
3280 CROSS SECTION 3.70 EXTENDED .87 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1085.0 1200.0 TYPE= 1 TARGET= 115.000

3.702	5.37	1673.87	1673.87	1673.48	1675.17	1.30	2.77	-.54	1672.60
2202.	104.	2062.	35.	34.	219.	17.	45.	27.	1673.60
.22	3.08	9.42	2.02	.060	.035	.060	.000	1668.50	1085.00
.010251	330.	270.	220.	0	8	0	.00	115.00	1200.00

CCHV= .300 CEHV= .500
*SECNO 3.737

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

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.86

3470 ENCROACHMENT STATIONS= 1075.0 1175.0 TYPE= 1 TARGET= 100.000

3.737	5.62	1675.72	1674.46	1674.83	1676.47	.76	1.14	.16	1674.50
2202.	2.	2186.	13.	2.	312.	11.	46.	27.	1674.60
.23	.94	7.00	1.22	.060	.030	.060	.000	1670.10	1085.48
.002960	200.	250.	280.	3	15	0	.00	89.52	1175.00

*SECNO 3.759

3470 ENCROACHMENT STATIONS= 1025.0 1120.0 TYPE= 1 TARGET= 95.000

3.759	5.53	1676.23	1674.38	1675.92	1676.68	.45	.11	.09	100000.00
2202.	0.	2202.	0.	0.	410.	0.	47.	28.	100000.00
.23	.00	5.37	.00	.000	.030	.000	.000	1670.70	1025.40
.001771	20.	50.	80.	2	14	0	.00	94.60	1120.00

THIS RUN EXECUTED 1/16/91 12:57:59

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

SLAFWY1.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	DEPTH	ELMIN	VLOB	VCH	VROB	HL	OLOSS	10*KS	K*CHSL	SSTA	ENDST
	2.942	1635.50	3.10	1632.40	3.20	5.48	4.63	.00	.00	245.41	.00	1582.00	2424.00
	2.942	1635.93	3.53	1632.40	3.06	4.66	4.27	.00	.00	121.25	.00	1730.00	2260.00
*	3.056	1641.67	3.17	1638.50	2.29	2.47	1.65	5.88	.03	63.50	10.17	1312.00	2548.52
	3.056	1641.88	3.38	1638.50	3.46	3.29	2.59	5.88	.01	93.02	10.17	1600.00	2000.00
	3.183	1647.59	2.59	1645.00	2.77	3.45	1.77	5.96	.02	122.70	10.16	1137.34	2376.19
	3.183	1648.48	3.48	1645.00	4.09	5.01	3.32	6.68	.04	117.28	10.16	1690.00	1955.00
	3.268	1652.64	1.64	1651.00	2.16	4.42	1.79	5.05	.00	99.00	13.33	1108.00	2726.79
	3.268	1653.44	2.44	1651.00	3.56	6.29	3.37	5.06	.04	106.21	13.33	1730.00	1990.00
	3.355	1657.08	1.88	1655.20	1.99	4.25	2.65	4.42	.00	100.12	9.77	1151.19	2640.00
	3.355	1657.94	2.74	1655.20	3.51	6.22	3.25	4.38	.01	94.25	9.77	1740.00	2050.00
	3.443	1660.94	1.74	1659.20	1.88	4.55	2.64	3.85	.00	90.31	8.70	1031.00	2666.60
	3.443	1661.89	2.69	1659.20	3.53	7.06	2.62	3.91	.00	100.64	8.70	1720.00	2080.00
*	3.500	1664.48	3.38	1661.10	1.70	6.13	1.20	1.90	.46	59.26	6.55	1000.00	2338.54
*	3.500	1665.22	4.12	1661.10	2.09	7.81	1.87	2.25	.52	71.78	6.55	1585.00	1885.00
*	3.581	1668.32	4.22	1664.10	1.48	6.65	1.93	2.39	.00	59.91	7.50	1139.27	2140.67
*	3.581	1668.86	4.76	1664.10	2.53	8.20	2.64	3.16	-.15	79.02	7.50	1490.00	1758.00
	3.650	1670.50	3.60	1666.90	1.74	6.45	1.73	2.25	.03	65.38	7.37	1077.73	1789.82
	3.650	1671.32	4.42	1666.90	1.28	7.21	1.99	2.47	.01	57.68	7.37	1330.00	1475.00
*	3.702	1673.48	4.98	1668.50	2.05	7.31	2.19	1.80	-.00	68.34	5.93	1027.18	1465.00
*	3.702	1673.87	5.37	1668.50	3.08	9.42	2.02	2.77	-.54	102.51	5.93	1085.00	1200.00
	3.737	1674.83	4.73	1670.10	.58	8.90	.50	1.69	.34	65.35	6.40	1088.28	1168.18
*	3.737	1675.72	5.62	1670.10	.94	7.00	1.22	1.14	.16	29.60	6.40	1085.48	1175.00

Simons, Li & Associates, Inc.

	SECNO	CWSEL	DEPTH	ELMIN	VLOB	VCH	VROB	HL	OLOSS	10*KS	K*CHSL	SSTA	ENDST
*	3.759	1675.92	5.22	1670.70	.00	5.79	.00	.17	.21	22.48	12.00	1025.95	1120.79
	3.759	1676.23	5.53	1670.70	.00	5.37	.00	.11	.09	17.71	12.00	1025.40	1120.00

SLAPWY1.DAT

Simons, Li & Associates, Inc.

SUMMARY PRINTOUT TABLE 110

	SECNO	CHSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	2.942	1635.50	.00	1635.84	675.00	480.39	731.08	1063.53	.00	.00	2064.00	2167.00	.00
	2.942	1635.93	.43	1636.18	530.00	860.02	828.44	586.55	530.00	1730.00	2064.00	2167.00	2260.00
*	3.056	1641.67	.00	1641.74	1236.52	1272.31	362.01	567.69	.00	.00	1873.00	1977.00	.00
	3.056	1641.88	.21	1642.06	400.00	1572.77	558.18	71.05	400.00	1600.00	1873.00	1977.00	2000.00
	3.183	1647.59	.00	1647.72	1019.77	1687.41	365.45	149.14	.00	.00	1836.00	1934.00	.00
	3.183	1648.48	.88	1648.79	265.00	1133.80	965.28	102.92	265.00	1690.00	1836.00	1934.00	1955.00
	3.268	1652.64	.00	1652.77	1569.06	978.42	590.72	632.85	.00	.00	1782.00	1884.00	.00
	3.268	1653.44	.80	1653.89	260.00	308.51	1348.81	544.68	260.00	1730.00	1782.00	1884.00	1990.00
	3.355	1657.08	.00	1657.19	1463.06	908.16	300.72	993.11	.00	.00	1882.00	1953.00	.00
	3.355	1657.94	.86	1658.28	310.00	880.43	820.36	501.21	310.00	1740.00	1882.00	1953.00	2050.00
	3.443	1660.94	.00	1661.04	1587.60	1133.21	165.82	902.97	.00	.00	1979.00	2009.00	.00
	3.443	1661.89	.95	1662.20	360.00	1537.13	459.01	205.86	360.00	1720.00	1979.00	2009.00	2080.00
*	3.500	1664.48	.00	1664.79	1221.89	935.54	1070.69	195.77	.00	.00	1780.00	1849.00	.00
*	3.500	1665.22	.74	1665.99	300.00	386.79	1759.52	55.69	300.00	1585.00	1780.00	1849.00	1885.00
*	3.581	1668.32	.00	1668.67	978.35	393.46	1045.22	763.31	.00	.00	1588.00	1645.00	.00
*	3.581	1668.86	.54	1669.62	268.00	291.02	1533.04	377.94	268.00	1490.00	1588.00	1645.00	1758.00
	3.650	1670.50	.00	1670.94	682.14	308.29	1441.55	452.16	.00	.00	1359.00	1445.00	.00
	3.650	1671.32	.82	1672.10	145.00	21.01	2114.00	66.98	145.00	1330.00	1359.00	1445.00	1475.00
*	3.702	1673.48	.00	1674.04	430.32	157.12	1413.61	631.27	.00	.00	1109.00	1175.00	.00
*	3.702	1673.87	.39	1675.17	115.00	104.24	2062.42	35.34	115.00	1085.00	1109.00	1175.00	1200.00
	3.737	1674.83	.00	1676.06	79.90	.10	2201.56	.33	.00	.00	1089.32	1162.40	.00
*	3.737	1675.72	.89	1676.47	89.52	2.20	2186.37	13.43	100.00	1075.00	1089.32	1162.40	1175.00
*	3.759	1675.92	.00	1676.44	94.84	.00	2202.00	.00	.00	.00	1024.08	1122.98	.00
	3.759	1676.23	.31	1676.68	94.60	.00	2202.00	.00	95.00	1025.00	1024.08	1122.98	1120.00

Simons, Li & Associates, Inc.

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO=	3.056	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	3.500	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	3.500	PROFILE=	1	MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	3.500	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	3.500	PROFILE=	2	MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	3.581	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	3.581	PROFILE=	1	MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	3.581	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	3.581	PROFILE=	2	MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	3.702	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	3.702	PROFILE=	1	MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	3.702	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	3.702	PROFILE=	2	MINIMUM SPECIFIC ENERGY
WARNING SECNO=	3.737	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	3.759	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

FLOODWAY DATA, SLAFWY1.DAT
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
2.942	530.	596.	3.8	1635.9	1635.5	.4
3.056	400.	651.	3.4	1641.9	1641.7	.2
3.183	265.	501.	4.4	1648.5	1647.6	.9
3.268	260.	463.	4.8	1653.4	1652.6	.8
3.355	310.	537.	4.1	1657.9	1657.1	.8
3.443	360.	579.	3.8	1661.9	1660.9	1.0
3.500	300.	441.	5.0	1665.2	1664.5	.7
3.581	268.	445.	4.9	1668.9	1668.3	.6
3.650	145.	343.	6.4	1671.3	1670.5	.8
3.702	115.	270.	8.1	1673.9	1673.5	.4
3.737	90.	326.	6.8	1675.7	1674.8	.9
3.759	95.	410.	5.4	1676.2	1675.9	.3

APPENDIX C. W-WASH2A.DAT HEC-2 INPUT/OUTPUT LISTING

Simons, Li & Associates, Inc.

THIS RUN EXECUTED 1/16/91 9:22: 2

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

T1 WITTMANN AREA DRAINAGE MASTER STUDY
T2 100-YEAR STORM EVENT
T3 W-WASH2A.DAT WLB'S 100-YR FLOODPLAIN RUN

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	-10	2	0	0	0	0	.5	0	1629.89	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1	0	-1	0	0	0	-1	0	0	0

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	1	55	26	56	13	14	15	8	4
53	54	0	38	1	2	3	11	12	42
5	33	39	67	68	200				

J5 LPRNT NUMSEC ********REQUESTED SECTION NUMBERS********

-10 -10

Simons, Li & Associates, Inc.

T1 WITTMANN AOMS
T2 100-YEAR STORM EVENT
T3 W-WASH2A.DAT WLB'S 100-YR FLOODWAY RUN

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	-10	3	0	0	0	0	.5	0	1630.29	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	-1	0	0	0

Simons, Li & Associates, Inc.

THIS RUN EXECUTED 1/16/91 9:22:41

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

W-WASH2A.DAT

SUMMARY PRINTOUT

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
	2.830	1629.89	2.69	2.26	.00	1326.38	948.62	.00	1.89	1010.33	4254.85	5294.60
	2.830	1630.29	2.92	3.44	.00	527.99	1747.01	.00	2.29	560.00	4600.00	5160.00
	2.942	1635.51	2.71	2.90	3.69	108.87	856.13	1310.00	2.51	727.76	4488.50	5411.42
	2.942	1635.93	.00	3.12	4.27	.00	1439.39	835.61	2.93	527.03	4670.00	5200.00
	3.056	1641.30	.00	2.57	1.95	.00	1726.81	475.18	2.30	1010.40	4779.26	5911.66
	3.056	1641.49	.00	3.30	.00	.00	2202.00	.00	2.49	500.00	4890.00	5390.00
	3.183	1647.36	2.52	3.90	2.15	1049.07	475.11	677.82	2.86	1241.46	4386.61	5628.07
	3.183	1647.96	2.42	4.86	3.73	356.40	881.02	964.58	3.46	400.00	4800.00	5200.00
	3.268	1652.22	2.00	4.20	1.44	970.80	1033.89	197.31	2.72	1053.21	4398.58	5838.13
	3.268	1652.69	2.13	5.14	2.48	276.65	1579.93	345.42	3.19	400.00	4800.00	5200.00
	3.355	1656.97	2.15	3.88	2.10	1039.25	508.29	654.46	1.97	1314.22	4284.35	5617.80
	3.355	1657.49	2.87	4.66	3.14	487.76	876.10	838.14	2.49	450.00	4775.00	5225.00
	3.443	1660.65	1.87	2.34	1.54	1476.99	270.06	454.95	1.65	1415.41	4099.70	5621.60
	3.443	1661.48	2.52	3.73	1.84	1104.65	818.99	278.36	2.48	550.00	4650.00	5200.00
*	3.500	1664.01	3.41	.99	2.29	1810.60	9.09	382.31	2.31	860.94	4463.02	5751.45
*	3.500	1664.85	3.94	3.14	3.18	1263.58	289.81	648.61	3.15	513.81	4775.00	5310.00
*	3.581	1668.39	2.13	2.31	2.39	878.50	160.25	1163.25	2.39	970.97	4515.14	5496.69
*	3.581	1669.10	3.19	3.78	3.15	884.08	568.40	749.51	3.10	400.00	4800.00	5200.00
	3.650	1670.78	1.95	5.25	2.55	392.24	598.80	1210.96	3.28	677.55	4689.76	5415.00
	3.650	1671.72	2.66	7.79	3.06	378.08	1255.80	568.12	4.22	300.00	4850.00	5150.00
*	3.702	1672.94	4.12	9.49	3.34	307.11	700.35	1194.54	4.44	366.49	4940.88	5310.00
*	3.702	1673.68	3.59	7.76	3.32	410.31	687.08	1104.61	5.18	240.00	4935.00	5175.00

	SECNO	CWSEL	VLOB	VCH	VROB	QLOB	QCH	QROB	DEPTH	TOPWID	SSTA	ENDST
	3.737	1674.30	3.07	8.85	.80	40.62	2159.92	1.45	4.50	98.55	4938.50	5037.04
	3.737	1674.45	3.22	8.43	.97	46.60	2151.51	3.89	4.65	102.94	4940.00	5042.94
*	3.759	1674.94	.00	7.95	.00	.00	2202.00	.00	4.44	96.49	4945.58	5042.07
*	3.759	1674.89	.00	8.10	.00	.00	2202.00	.00	4.39	95.56	4946.11	5041.67

W-WASH2A.DAT

Simons, Li & Associates, Inc.

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	HL	OLOSS	ELMIN	10*KS	K*CHSL	XLCH	SHEAR	FRCH
	2.830	1629.89	1629.42	1629.99	.00	.00	1628.00	73.97	.00	.00	.37	.44
	2.830	1630.29	1629.83	1630.46	.00	.00	1628.00	93.23	.00	.00	.77	.53
	2.942	1635.51	1635.19	1635.69	5.68	.02	1633.00	121.08	8.47	590.00	.53	.61
	2.942	1635.93	1635.46	1636.13	5.66	.01	1633.00	96.77	8.47	590.00	.66	.53
	3.056	1641.30	1640.88	1641.40	5.70	.01	1639.00	72.11	10.00	600.00	.46	.45
	3.056	1641.49	1641.02	1641.66	5.52	.00	1639.00	84.92	10.00	600.00	.71	.50
	3.183	1647.36	1647.13	1647.48	6.08	.01	1644.50	133.03	8.21	670.00	1.01	.62
	3.183	1647.96	1647.52	1648.22	6.53	.03	1644.50	121.15	8.21	670.00	1.37	.64
	3.268	1652.22	1651.89	1652.38	4.89	.01	1649.50	85.56	11.11	450.00	1.01	.54
	3.268	1652.69	1652.34	1653.01	4.77	.02	1649.50	95.25	11.11	450.00	1.40	.59
	3.355	1656.97	1656.72	1657.08	4.69	.01	1655.00	133.60	11.96	460.00	.99	.63
	3.355	1657.49	1657.11	1657.71	4.69	.01	1655.00	120.89	11.96	460.00	1.29	.63
	3.443	1660.65	1660.12	1660.71	3.62	.01	1659.00	68.55	8.60	465.00	.40	.43
	3.443	1661.48	1660.85	1661.61	3.90	.01	1659.00	74.27	8.60	465.00	.81	.50
*	3.500	1664.01	1663.63	1664.18	3.44	.03	1661.70	170.46	8.85	305.00	.08	.64
*	3.500	1664.85	1664.43	1665.05	3.42	.02	1661.70	158.61	8.85	305.00	.73	.64
*	3.581	1668.39	1667.86	1668.47	4.29	.01	1666.00	71.35	10.24	420.00	.27	.52
*	3.581	1669.10	1668.41	1669.27	4.22	.00	1666.00	72.41	10.24	420.00	.59	.58
	3.650	1670.78	1670.34	1670.97	2.46	.03	1667.50	66.87	4.11	365.00	.95	.61
	3.650	1671.72	1671.63	1672.32	2.92	.13	1667.50	93.21	4.11	365.00	1.87	.76
*	3.702	1672.94	1672.94	1673.52	2.09	.12	1668.50	88.79	3.64	275.00	2.05	.87
*	3.702	1673.68	1673.18	1674.09	1.76	.02	1668.50	46.68	3.64	275.00	1.29	.65
	3.737	1674.30	1674.02	1675.50	1.67	.31	1669.80	90.80	7.03	185.00	1.84	.86
	3.737	1674.45	1674.04	1675.53	1.10	.33	1669.80	77.72	7.03	185.00	1.65	.81
*	3.759	1674.94	1674.50	1675.92	.36	.06	1670.50	15.96	6.09	115.00	.29	.83
*	3.759	1674.89	1674.51	1675.91	.36	.02	1670.50	16.77	6.09	115.00	.30	.85

SUMMARY OF ERRORS AND SPECIAL NOTES

```
WARNING SECNO=     3.500  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     3.500  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     3.581  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     3.581  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     3.702  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.702  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=     3.702  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     3.759  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     3.759  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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Simons, Li & Associates, Inc.

FLOODWAY DATA, W-WASH2A.DAT
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
2.830	560.	689.	3.3	1630.3	1629.9	.4
2.942	530.	656.	3.5	1635.9	1635.5	.4
3.056	500.	666.	3.3	1641.5	1641.3	.2
3.183	400.	587.	3.8	1648.0	1647.4	.6
3.268	400.	576.	3.8	1652.7	1652.2	.5
3.355	450.	625.	3.5	1657.5	1657.0	.5
3.443	550.	809.	2.7	1661.5	1660.7	.8
3.500	535.	617.	3.6	1664.8	1664.0	.8
3.581	400.	666.	3.3	1669.1	1668.4	.7
3.650	300.	489.	4.5	1671.7	1670.8	.9
3.702	240.	535.	4.1	1673.7	1672.9	.8
3.737	103.	274.	8.0	1674.4	1674.3	.1
3.759	96.	272.	8.1	1674.9	1674.9	.0

APPENDIX D. WLBFWY1.DAT HEC-2 INPUT/OUTPUT LISTING

Simons, Li & Associates, Inc.

THIS RUN EXECUTED 1/16/91 13: 7:58

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*****************************************
 HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

 ERROR CORR - 01,02,03
 MODIFICATION -
*****************************************

T1      SIMONS, LI & ASSOCIATES, INC.
T2      WITWASH FLOODWAY ANALYSIS FOR FCDMC (PAZ-MC13)
T3      ADMS FLOODWAY COMPARISON

J1  ICHECK    INQ     NINV    IDIR    STRT    METRIC  HVINS   Q       WSEL    FQ

      0       2       0       0       0       0       0       0    1635.50    0

J2  NPROF     IPLOT   PRFVS   XSECV   XSECH   FN      ALLDC   IBW     CHNIM   ITRACE

      1       0      -1       0       0       0      -1       0       0       0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    110     200      38       1       8      42      55      26      56      11
     12       5      33      53      54

J6  IHLEQ     ICOPY   SUBDIV  STRTDS  RMILE

      1


NC    0.050   0.050   0.050   0.1     0.3
QT        2    2275    2275
ET                     9.1                                                     1730.0  2260.0
X1    2.942      77    2064    2167       0       0       0       0       0       0
GR   1635.8  1461.0  1635.5  1582.0  1634.0  1589.0  1634.0  1591.0  1635.0  1593.0
GR   1635.5  1597.0  1635.5  1649.0  1635.7  1702.0  1635.5  1764.0  1635.4  1774.0
GR   1635.1  1786.0  1635.0  1796.0  1635.1  1809.0  1635.3  1832.0  1635.2  1888.0
GR   1634.9  1896.0  1634.8  1912.0  1634.6  1917.0  1634.3  1924.0  1634.5  1931.0
GR   1634.8  1940.0  1635.0  1955.0  1635.0  2064.0  1634.4  2069.0  1633.6  2070.0
GR   1632.5  2074.0  1632.4  2079.0  1633.2  2082.0  1633.9  2085.0  1634.2  2089.0
GR   1634.7  2094.0  1634.6  2096.0  1633.3  2100.0  1632.9  2102.0  1633.8  2106.0
GR   1634.8  2110.0  1634.8  2122.0  1634.5  2125.0  1633.1  2129.0  1634.0  2133.0
GR   1635.0  2140.0  1635.0  2145.0  1634.3  2150.0  1634.6  2154.0  1634.9  2160.0
GR   1635.0  2167.0  1634.9  2180.0  1634.0  2185.0  1633.6  2187.0  1634.3  2190.0
GR   1634.6  2193.0  1634.1  2197.0  1633.4  2199.0  1634.4  2204.0  1634.8  2207.0
GR   1634.7  2221.0  1634.3  2228.0  1634.4  2277.0  1634.6  2287.0  1634.6  2316.0
GR   1634.2  2320.0  1633.6  2323.0  1634.2  2327.0  1634.9  2333.0  1634.6  2376.0
GR   1635.0  2404.0  1635.4  2416.0  1635.5  2424.0  1635.7  2528.0  1635.7  2529.0
GR   1636.2  2574.0  1636.2  2586.0  1636.4  2605.0  1636.4  2649.0  1636.5  2660.0
GR   1636.7  2674.0  1637.0  2685.0
```

NC	0.060	0.060	0.060	0.1	0.3					
QT	2	2202	2202							
ET			9.1						1510.0	2010.0
X1	3.056	69	1873	1977	510	650	600	0	0	0
GR	1641.4	1312.0	1641.3	1398.0	1641.2	1411.0	1641.2	1446.0	1641.0	1455.0
GR	1640.9	1588.0	1640.0	1613.0	1638.7	1624.0	1640.0	1629.0	1640.8	1639.0
GR	1640.8	1648.0	1640.6	1657.0	1640.6	1724.0	1639.8	1729.0	1639.0	1732.0
GR	1638.5	1735.0	1639.7	1746.0	1640.0	1748.0	1640.3	1850.0	1640.5	1867.0
GR	1640.8	1873.0	1640.7	1877.0	1640.7	1880.0	1640.1	1885.0	1639.4	1890.0
GR	1639.4	1897.0	1639.9	1901.0	1640.6	1910.0	1640.6	1950.0	1640.3	1954.0
GR	1639.1	1956.0	1639.3	1958.0	1640.2	1962.0	1640.1	1967.0	1639.8	1969.0
GR	1640.1	1973.0	1640.7	1977.0	1640.7	2055.0	1640.9	2078.0	1641.0	2095.0
GR	1640.3	2102.0	1639.9	2104.0	1639.5	2107.0	1640.2	2111.0	1640.7	2114.0
GR	1640.9	2117.0	1641.0	2143.0	1640.3	2146.0	1640.2	2150.0	1640.9	2154.0
GR	1641.0	2294.0	1641.4	2311.0	1641.5	2399.0	1641.3	2407.0	1641.0	2412.0
GR	1641.4	2417.0	1641.5	2447.0	1641.0	2452.0	1640.8	2457.0	1641.0	2462.0
GR	1641.5	2496.0	1641.5	2509.0	1641.5	2538.0	1641.6	2545.0	1641.9	2560.0
GR	1642.0	2568.0	1642.2	2578.0	1642.4	2597.0	1642.6	2608.0		

NC			0.050							
ET			9.1						1600.0	2000.0
X1	3.183	91	1836	1934	640	640	640	0	0	0
GR	1649.3	1019.0	1649.1	1023.0	1648.7	1029.0	1648.7	1036.0	1648.4	1045.0
GR	1648.4	1088.0	1647.8	1099.0	1647.7	1132.0	1647.5	1142.0	1647.4	1151.0
GR	1647.4	1241.0	1647.2	1221.0	1647.1	1229.0	1647.0	1265.0	1646.8	1273.0
GR	1646.6	1279.0	1646.6	1288.0	1646.7	1297.0	1646.9	1304.0	1647.1	1385.0
GR	1647.1	1405.0	1646.7	1412.0	1646.5	1417.0	1646.5	1428.0	1646.5	1435.0
GR	1646.5	1484.0	1646.2	1487.0	1645.8	1492.0	1646.0	1507.0	1646.3	1515.0
GR	1646.4	1524.0	1646.5	1535.0	1646.5	1574.0	1645.5	1584.0	1646.2	1591.0
GR	1646.4	1595.0	1646.4	1621.0	1646.8	1632.0	1646.6	1637.0	1646.6	1784.0
GR	1646.4	1789.0	1646.2	1791.0	1646.7	1798.0	1646.4	1801.0	1646.4	1814.0
GR	1646.7	1829.0	1646.9	1832.0	1647.0	1836.0	1645.7	1842.0	1645.4	1844.0
GR	1646.3	1848.0	1646.8	1851.0	1646.8	1859.0	1645.7	1862.0	1645.0	1864.0
GR	1645.8	1868.0	1646.4	1870.0	1646.8	1875.0	1646.9	1880.0	1646.7	1889.0
GR	1646.0	1891.0	1646.1	1894.0	1646.7	1898.0	1646.7	1920.0	1647.0	1934.0
GR	1647.0	2052.0	1647.2	2060.0	1647.6	2076.0	1647.7	2290.0	1647.5	2299.0
GR	1647.5	2372.0	1647.9	2390.0	1648.2	2395.0	1649.0	2399.0	1649.4	2402.0
GR	1649.4	2404.0	1649.2	2407.0	1648.9	2408.0	1648.3	2411.0	1647.7	2417.0
GR	1647.8	2484.0	1648.0	2491.0	1648.0	2589.0	1648.1	2600.0	1648.2	2611.0
GR	1648.2	2621.0	1648.4	2634.0	1648.5	2645.0	1648.5	2675.0	1648.7	2684.0
GR	1649.1	2691.0								

NH	5	0.060	1782	0.040	1884	0.060	2387	0.040	2614	0.060
NH	2758									
ET			9.1						1655.0	2055.0
X1	3.268	83	1782	1884	480	410	450	0	0	0
GR	1652.5	1108.0	1652.5	1224.0	1652.2	1233.0	1652.0	1280.0	1652.1	1305.0
GR	1651.8	1315.0	1651.8	1359.0	1652.0	1373.0	1652.0	1429.0	1651.8	1440.0
GR	1651.8	1465.0	1651.7	1474.0	1651.6	1477.0	1651.1	1484.0	1651.6	1488.0
GR	1651.7	1563.0	1651.9	1569.0	1651.9	1576.0	1651.4	1581.0	1651.5	1592.0
GR	1651.1	1597.0	1651.0	1606.0	1651.8	1611.0	1651.9	1616.0	1651.7	1620.0
GR	1651.2	1626.0	1651.9	1633.0	1652.1	1657.0	1652.3	1667.0	1652.1	1721.0
GR	1652.0	1738.0	1651.8	1753.0	1651.6	1766.0	1651.6	1782.0	1651.4	1799.0

GR	1651.1	1834.0	1651.3	1841.0	1651.3	1864.0	1651.6	1884.0	1652.1	1895.0
GR	1652.0	1909.0	1651.8	1922.0	1652.0	1988.0	1652.2	2009.0	1652.5	2022.0
GR	1652.4	2032.0	1652.3	2125.0	1652.1	2138.0	1651.7	2144.0	1651.7	2181.0
GR	1652.0	2201.0	1652.0	2217.0	1652.2	2234.0	1652.5	2246.0	1652.5	2254.0
GR	1652.4	2267.0	1652.2	2278.0	1652.1	2288.0	1651.8	2297.0	1651.7	2303.0
GR	1652.1	2315.0	1652.3	2328.0	1652.4	2340.0	1652.4	2373.0	1652.2	2387.0
GR	1652.2	2473.0	1652.4	2484.0	1652.4	2583.0	1652.0	2595.0	1652.3	2602.0
GR	1652.8	2608.0	1653.0	2611.0	1652.7	2614.0	1652.7	2655.0	1652.3	2662.0
GR	1651.7	2667.0	1652.2	2671.0	1652.6	2675.0	1652.6	2681.0	1652.1	2688.0
GR	1652.1	2690.0	1652.6	2698.0	1652.7	2758.0				
NH	4	0.060	1882	0.035	1953	0.060	2123	0.040	2640	
ET			9.1						1675.0	2125.0
X1	3.355	85	1882	1953	480	410	430	0	0	0
GR	1657.4	1101.0	1657.1	1150.0	1656.9	1162.0	1656.8	1218.0	1656.4	1224.0
GR	1656.0	1228.0	1656.4	1233.0	1656.8	1239.0	1657.0	1243.0	1657.0	1254.0
GR	1656.3	1260.0	1655.9	1264.0	1655.6	1271.0	1655.6	1279.0	1656.2	1296.0
GR	1656.1	1305.0	1656.5	1345.0	1656.5	1359.0	1656.6	1372.0	1656.5	1632.0
GR	1656.3	1642.0	1656.1	1648.0	1656.6	1656.0	1656.6	1739.0	1656.2	1745.0
GR	1655.9	1752.0	1656.1	1759.0	1656.2	1767.0	1656.2	1844.0	1655.9	1853.0
GR	1656.0	1858.0	1656.2	1869.0	1656.5	1882.0	1656.4	1888.0	1656.2	1894.0
GR	1655.9	1901.0	1655.6	1901.0	1655.6	1906.0	1656.4	1911.0	1656.4	1915.0
GR	1655.7	1926.0	1655.6	1930.0	1656.6	1953.0	1656.5	1961.0	1656.3	1970.0
GR	1656.2	1994.0	1656.4	2017.0	1656.4	2085.0	1656.1	2093.0	1655.8	2099.0
GR	1655.8	2107.0	1656.1	2116.0	1656.2	2123.0	1656.0	2137.0	1656.2	2151.0
GR	1656.4	2156.0	1656.7	2176.0	1656.8	2246.0	1657.0	2255.0	1657.0	2259.0
GR	1656.9	2266.0	1656.7	2275.0	1656.1	2284.0	1655.5	2289.0	1655.2	2301.0
GR	1655.4	2307.0	1656.2	2314.0	1656.6	2319.0	1656.9	2344.0	1657.0	2358.0
GR	1657.2	2379.0	1657.0	2401.0	1656.8	2413.0	1656.9	2426.0	1656.7	2439.0
GR	1656.7	2468.0	1656.8	2490.0	1656.8	2521.0	1656.5	2536.0	1656.5	2547.0
GR	1656.6	2565.0	1656.6	2579.0	1656.5	2597.0	1656.4	2615.0	1656.4	2640.0
NH	5	0.060	1979	0.035	2009	0.060	2103	0.040	2277	0.060
NH	2673									
ET			9.1						1650.0	2200.0
X1	3.443	95	1979	2009	360	440	460	0	0	0
GR	1660.8	1031.0	1660.7	1048.0	1660.6	1061.0	1660.6	1255.0	1660.5	1268.0
GR	1660.1	1314.0	1660.5	1338.0	1660.1	1356.0	1659.7	1386.0	1659.8	1396.0
GR	1660.0	1411.0	1660.1	1471.0	1660.3	1485.0	1660.1	1511.0	1660.2	1563.0
GR	1660.4	1573.0	1660.3	1579.0	1659.9	1585.0	1659.8	1589.0	1660.1	1595.0
GR	1660.3	1601.0	1660.1	1604.0	1659.8	1609.0	1660.2	1615.0	1660.7	1643.0
GR	1660.5	1651.0	1660.5	1682.0	1660.3	1695.0	1660.3	1716.0	1660.1	1730.0
GR	1660.1	1793.0	1660.4	1836.0	1660.3	1850.0	1660.0	1873.0	1659.9	1883.0
GR	1659.9	1906.0	1660.2	1918.0	1660.5	1933.0	1660.6	1952.0	1660.3	1960.0
GR	1660.5	1968.0	1660.7	1979.0	1659.2	1982.0	1659.4	1997.0	1660.3	2002.0
GR	1660.6	2009.0	1661.0	2048.0	1660.9	2061.0	1660.6	2073.0	1660.3	2081.0
GR	1660.6	2090.0	1660.8	2103.0	1660.6	2109.0	1659.4	2115.0	1659.2	2123.0
GR	1659.2	2145.0	1659.5	2152.0	1659.9	2157.0	1660.3	2163.0	1660.6	2172.0
GR	1660.6	2201.0	1660.2	2207.0	1660.1	2213.0	1660.3	2221.0	1660.3	2235.0
GR	1660.1	2248.0	1660.0	2267.0	1660.2	2277.0	1660.4	2302.0	1660.4	2324.0
GR	1660.7	2337.0	1661.1	2344.0	1661.3	2354.0	1661.2	2366.0	1660.9	2377.0
GR	1660.7	2398.0	1660.5	2409.0	1660.5	2432.0	1660.3	2443.0	1660.1	2453.0
GR	1659.9	2465.0	1659.9	2477.0	1659.8	2488.0	1659.9	2500.0	1660.0	2512.0
GR	1660.3	2526.0	1660.4	2539.0	1660.4	2558.0	1660.7	2577.0	1660.9	2595.0

GR	1660.9	2648.0	1660.6	2658.0	1660.6	2662.0	1660.9	2665.0	1661.1	2673.0
NC	0.060	0.060	0.035							
ET			9.1						1465.0	2000.0
X1	3.500	73	1780	1849	340	320	290	0	0	0
GR	1663.1	1000.0	1663.3	1008.0	1663.5	1018.0	1663.8	1028.0	1663.8	1060.0
GR	1663.4	1093.0	1663.7	1113.0	1663.7	1323.0	1663.3	1373.0	1663.3	1443.0
GR	1663.5	1455.0	1663.6	1468.0	1663.6	1530.0	1663.9	1547.0	1664.1	1555.0
GR	1664.0	1592.0	1664.1	1646.0	1664.2	1659.0	1664.2	1692.0	1663.9	1694.0
GR	1664.2	1701.0	1664.5	1725.0	1664.5	1756.0	1664.7	1766.0	1664.8	1775.0
GR	1664.9	1780.0	1663.9	1782.0	1661.9	1784.0	1661.1	1789.0	1661.1	1798.0
GR	1661.5	1804.0	1661.6	1829.0	1662.0	1836.0	1662.8	1840.0	1663.9	1845.0
GR	1664.8	1849.0	1664.5	1852.0	1664.5	1868.0	1664.3	1875.0	1664.0	1880.0
GR	1664.2	1884.0	1664.4	1890.0	1664.0	1894.0	1663.4	1898.0	1664.3	1903.0
GR	1664.3	1924.0	1664.1	1931.0	1663.5	1937.0	1663.6	1949.0	1664.0	1956.0
GR	1664.3	1975.0	1664.1	1979.0	1663.7	1983.0	1663.9	1991.0	1663.8	2038.0
GR	1663.6	2044.0	1663.6	2055.0	1664.0	2068.0	1664.2	2084.0	1664.5	2118.0
GR	1664.5	2130.0	1664.6	2145.0	1664.2	2167.0	1664.2	2180.0	1664.4	2197.0
GR	1664.5	2208.0	1664.3	2215.0	1664.2	2287.0	1664.0	2305.0	1664.0	2314.0
GR	1664.1	2329.0	1664.3	2334.0	1664.5	2339.0				
ET			9.1						1420.0	1820.0
X1	3.581	75	1588	1645	410	380	400	0	0	0
GR	1669.2	1109.0	1669.2	1117.0	1668.9	1122.0	1668.8	1132.0	1668.6	1137.0
GR	1668.1	1141.0	1667.2	1163.0	1667.4	1180.0	1667.9	1195.0	1667.9	1338.0
GR	1667.7	1347.0	1667.4	1354.0	1667.5	1376.0	1667.8	1383.0	1667.7	1412.0
GR	1667.4	1422.0	1667.2	1426.0	1666.8	1429.0	1666.9	1431.0	1667.4	1435.0
GR	1667.8	1439.0	1667.9	1447.0	1667.9	1480.0	1667.5	1484.0	1667.2	1495.0
GR	1667.6	1500.0	1667.5	1518.0	1667.2	1525.0	1667.3	1531.0	1667.6	1543.0
GR	1668.2	1581.0	1668.8	1588.0	1668.6	1591.0	1664.7	1601.0	1664.1	1604.0
GR	1664.1	1619.0	1664.3	1623.0	1664.7	1628.0	1665.2	1633.0	1665.5	1634.0
GR	1667.7	1638.0	1668.0	1645.0	1667.9	1659.0	1667.8	1696.0	1667.5	1710.0
GR	1667.4	1720.0	1667.2	1731.0	1667.0	1741.0	1667.3	1749.0	1667.4	1756.0
GR	1667.6	1787.0	1668.1	1796.0	1668.2	1806.0	1668.8	1817.0	1668.2	1823.0
GR	1667.8	1830.0	1667.4	1838.0	1667.6	1845.0	1667.6	1853.0	1667.2	1864.0
GR	1667.4	1877.0	1667.4	1884.0	1667.3	1895.0	1667.2	1908.0	1667.2	1935.0
GR	1667.0	1950.0	1666.9	1994.0	1666.7	2001.0	1667.0	2016.0	1667.0	2024.0
GR	1667.1	2033.0	1667.7	2073.0	1668.1	2081.0	1668.3	2140.0	1668.5	2148.0
ET			9.1						1225.0	1525.0
X1	3.650	54	1359	1445	280	360	380	0	0	0
GR	1671.3	1061.0	1671.1	1068.0	1670.6	1075.0	1670.4	1081.0	1669.8	1087.0
GR	1669.3	1093.0	1669.1	1101.0	1669.2	1123.0	1669.7	1134.0	1669.6	1144.0
GR	1669.8	1150.0	1669.8	1196.0	1670.0	1211.0	1670.0	1224.0	1669.9	1240.0
GR	1669.9	1296.0	1670.1	1310.0	1670.3	1322.0	1670.6	1333.0	1670.8	1349.0
GR	1671.0	1359.0	1667.0	1364.0	1666.9	1370.0	1666.9	1377.0	1667.1	1381.0
GR	1667.4	1390.0	1667.4	1403.0	1667.6	1410.0	1668.0	1415.0	1668.1	1419.0
GR	1668.2	1425.0	1668.6	1431.0	1668.9	1434.0	1669.8	1439.0	1670.2	1445.0
GR	1670.2	1473.0	1670.1	1480.0	1669.9	1486.0	1669.9	1526.0	1669.6	1536.0
GR	1669.6	1569.0	1669.7	1579.0	1669.4	1589.0	1669.5	1599.0	1669.7	1614.0
GR	1669.7	1641.0	1669.6	1660.0	1669.6	1732.0	1669.8	1749.0	1669.8	1771.0
GR	1670.0	1784.0	1670.7	1792.0	1671.0	1796.0	1671.3	1803.0		

ET			9.1						1055.0	1295.0
X1	3.702	59	1109	1175	330	220	270	0	0	0
GR	1676.6	1000.0	1676.6	1009.0	1676.4	1011.0	1675.4	1017.0	1674.6	1022.0
GR	1673.3	1028.0	1673.1	1034.0	1672.5	1040.0	1672.1	1048.0	1672.1	1052.0
GR	1672.3	1057.0	1672.5	1062.0	1672.6	1069.0	1672.6	1075.0	1672.8	1080.0
GR	1672.7	1083.0	1672.4	1088.0	1672.3	1092.0	1672.5	1098.0	1672.5	1104.0
GR	1672.6	1109.0	1672.2	1113.0	1669.0	1117.0	1668.8	1120.0	1668.7	1125.0
GR	1668.5	1129.0	1668.6	1136.0	1668.8	1140.0	1670.1	1150.0	1671.0	1154.0
GR	1672.0	1158.0	1672.6	1161.0	1673.3	1167.0	1673.6	1175.0	1673.4	1182.0
GR	1673.1	1190.0	1672.8	1197.0	1672.3	1205.0	1672.2	1215.0	1672.2	1225.0
GR	1671.8	1236.0	1671.8	1256.0	1672.0	1264.0	1672.0	1272.0	1672.3	1282.0
GR	1672.6	1289.0	1672.6	1299.0	1672.7	1305.0	1672.7	1314.0	1672.8	1337.0
GR	1672.6	1356.0	1672.3	1367.0	1672.4	1378.0	1672.5	1390.0	1672.6	1401.0
GR	1672.6	1420.0	1672.5	1437.0	1672.5	1454.0	1673.0	1465.0		
NC	0.060	0.060	0.030	.3	.5					
ET			9.1						1100.0	1220.0
X1	3.737	48	1101	1188	200	280	250	0.84	0	0
GR	1678.6	1028.0	1678.4	1035.0	1678.4	1044.0	1678.3	1052.0	1678.2	1059.0
GR	1678.1	1066.0	1678.0	1073.0	1677.6	1081.0	1677.0	1087.0	1676.1	1095.0
GR	1674.5	1101.0	1672.6	1105.0	1671.6	1109.0	1671.5	1111.0	1671.6	1115.0
GR	1672.1	1119.0	1671.5	1125.0	1671.0	1130.0	1670.6	1136.0	1670.5	1141.0
GR	1670.3	1148.0	1670.3	1153.0	1670.1	1153.0	1670.2	1161.0	1670.4	1166.0
GR	1670.6	1170.0	1671.9	1175.0	1673.2	1179.0	1674.1	1183.0	1674.6	1188.0
GR	1674.8	1194.0	1675.0	1200.0	1675.2	1209.0	1675.3	1216.0	1675.3	1231.0
GR	1675.4	1236.0	1676.0	1243.0	1677.0	1247.0	1677.5	1249.0	1677.5	1253.0
GR	1677.2	1257.0	1676.7	1262.0	1676.4	1268.0	1676.1	1274.0	1675.8	1281.0
GR	1675.7	1289.0	1675.7	1314.0	1676.0	1329.0				
X1	3.759	37	1028	1143	20	80	50	0.86	0	0
GR	1677.9	1000.0	1677.8	1011.0	1677.8	1023.0	1677.0	1028.0	1674.5	1033.0
GR	1672.8	1035.0	1673.1	1038.0	1673.3	1040.0	1673.6	1045.0	1673.6	1050.0
GR	1673.3	1056.0	1672.4	1061.0	1671.3	1068.0	1671.1	1072.0	1671.3	1079.0
GR	1671.3	1090.0	1671.2	1098.0	1670.8	1098.0	1670.9	1104.0	1670.9	1114.0
GR	1670.7	1120.0	1670.7	1126.0	1670.8	1131.0	1672.1	1135.0	1673.4	1138.0
GR	1675.1	1140.0	1676.9	1141.0	1677.4	1143.0	1677.8	1147.0	1678.1	1154.0
GR	1678.1	1166.0	1678.2	1179.0	1678.1	1190.0	1678.0	1201.0	1678.1	1236.0
GR	1678.0	1248.0	1677.9	1262.0						

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 2.942

3265 DIVIDED FLOW

2.942	3.10	1635.50	1635.46	1635.50	1635.84	.34	.00	.00	1635.00
2275.	480.	731.	1064.	150.	133.	229.	0.	0.	1635.00
.00	3.20	5.48	4.63	.050	.050	.050	.000	1632.40	1582.00
.024541	0.	0.	0.	0	4	0	.00	675.00	2424.00

CCHV= .100 CEHV= .300
*SECNO 3.056
3280 CROSS SECTION 3.06 EXTENDED .27 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.90

3.056	3.17	1641.67	1641.16	.00	1641.74	.07	5.88	.03	1640.80
2202.	1272.	362.	568.	557.	147.	344.	10.	13.	1640.70
.08	2.29	2.47	1.65	.060	.060	.060	.000	1638.50	1312.00
.006350	510.	600.	650.	10	12	0	.00	1236.52	2548.52

*SECNO 3.183

3265 DIVIDED FLOW

3.183	2.59	1647.59	1647.24	.00	1647.72	.12	5.96	.02	1647.00
2202.	1687.	365.	149.	610.	106.	84.	24.	29.	1647.00
.14	2.77	3.45	1.77	.060	.050	.060	.000	1645.00	1137.34
.012270	640.	640.	640.	7	13	0	.00	1019.77	2376.19

Simons, Li & Associates, Inc.

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

1490 NH CARD USED
*SECNO 3.268

3265 DIVIDED FLOW

3280 CROSS SECTION 3.27 EXTENDED .15 FEET

3.268	1.64	1652.64	1652.50	.00	1652.77	.13	5.05	.00	1651.60
2202.	978.	591.	633.	454.	134.	353.	33.	43.	1651.60
.19	2.16	4.42	1.79	.060	.040	.055	.000	1651.00	1108.00
.009900	480.	450.	410.	5	14	0	.00	1569.06	2726.79

1490 NH CARD USED
*SECNO 3.355

3265 DIVIDED FLOW

3280 CROSS SECTION 3.36 EXTENDED .68 FEET

3.355	1.88	1657.08	1656.87	.00	1657.19	.11	4.42	.00	1656.50
2202.	908.	301.	993.	456.	71.	375.	43.	58.	1656.60
.23	1.99	4.25	2.65	.060	.035	.046	.000	1655.20	1151.19
.010012	480.	430.	410.	5	8	0	.00	1463.06	2640.00

1490 NH CARD USED
*SECNO 3.443

3265 DIVIDED FLOW

3280 CROSS SECTION 3.44 EXTENDED .14 FEET

3.443	1.74	1660.94	1660.74	.00	1661.04	.10	3.85	.00	1660.70
2202.	1133.	166.	903.	602.	36.	342.	51.	72.	1660.60
.28	1.88	4.55	2.64	.060	.035	.047	.000	1659.20	1031.00
.009031	360.	460.	440.	4	14	0	.00	1587.60	2666.60

*SECNO 3.500

3265 DIVIDED FLOW

Simons, Li & Associates, Inc.

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

3280 CROSS SECTION 3.50 EXTENDED 1.38 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.500	3.38	1664.48	1664.48	.00	1664.79	.30	1.90	.46	1664.90
2202.	936.	1071.	196.	551.	175.	163.	58.	83.	1664.80
.30	1.70	6.13	1.20	.060	.035	.060	.000	1661.10	1000.00
.005926	340.	290.	320.	0	12	0	.00	1221.89	2338.54

*SECNO 3.581

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.581	4.22	1668.32	1668.32	.00	1668.67	.35	2.39	.00	1668.80
2202.	393.	1045.	763.	267.	157.	395.	66.	93.	1668.00
.33	1.48	6.65	1.93	.060	.035	.060	.000	1664.10	1139.27
.005991	410.	400.	380.	0	8	0	.00	978.35	2140.67

*SECNO 3.650

3265 DIVIDED FLOW

3.650	3.60	1670.50	1670.47	.00	1670.94	.44	2.25	.03	1671.00
2202.	308.	1442.	452.	177.	223.	261.	72.	99.	1670.20
.35	1.74	6.45	1.73	.060	.035	.060	.000	1666.90	1077.73
.006538	280.	380.	360.	1	9	0	.00	682.14	1789.82

*SECNO 3.702

3265 DIVIDED FLOW

3280 CROSS SECTION 3.70 EXTENDED .48 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.702	4.98	1673.48	1673.48	.00	1674.04	.56	1.80	-.00	1672.60
2202.	157.	1414.	631.	77.	193.	289.	75.	102.	1673.60
.37	2.05	7.31	2.19	.060	.035	.060	.000	1668.50	1027.18
.006834	330.	270.	220.	0	12	0	.00	430.32	1465.00

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

CCHV= .300 CEHV= .500

*SECNO 3.737

3301 HV CHANGED MORE THAN HVINS

3.737	4.73	1674.83	1674.46	.00	1676.06	1.23	1.69	.34	1674.50
2202.	0.	2202.	0.	0.	247.	1.	78.	104.	1674.60
.37	.58	8.90	.50	.060	.030	.060	.000	1670.10	1088.28
.006535	200.	250.	280.	2	15	0	.00	79.90	1168.18

*SECNO 3.759

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.70

3.759	5.22	1675.92	1674.38	.00	1676.44	.52	.17	.21	1677.00
2202.	0.	2202.	0.	0.	380.	0.	78.	104.	1677.40
.38	.00	5.79	.00	.000	.030	.000	.000	1670.70	1025.95
.002248	20.	50.	80.	3	15	0	.00	94.84	1120.79

Simons, Li & Associates, Inc.

T1 SIMONS, LI & ASSOCIATES, INC.
T2 WITWASH FLOODWAY ANALYSIS FOR FCDMC (PAZ-MC13)
T3 ADMS FLOODWAY COMPARISON

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	3	0	0	0	0	0	0	1635.93	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	-1	0	0	0

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

*PROF 2

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .100 CEHV= .300
*SECNO 2.942

3470 ENCROACHMENT STATIONS= 1730.0 2260.0 TYPE= 1 TARGET= 530.000

2.942	3.53	1635.93	1635.63	1635.50	1636.18	.25	.00	.00	1635.00
2275.	860.	828.	587.	281.	178.	137.	0.	0.	1635.00
.00	3.06	4.66	4.27	.050	.050	.050	.000	1632.40	1730.00
.012125	0.	0.	0.	0	8	0	.00	530.00	2260.00

CCHV= .100 CEHV= .300
*SECNO 3.056

3470 ENCROACHMENT STATIONS= 1510.0 2010.0 TYPE= 1 TARGET= 500.000

3.056	3.31	1641.81	1641.24	1641.67	1641.96	.15	5.77	.01	1640.80
2202.	1609.	503.	90.	514.	161.	37.	8.	6.	1640.70
.05	3.13	3.13	2.46	.060	.060	.060	.000	1638.50	1510.00
.009013	510.	600.	650.	6	14	0	.00	500.00	2010.00

*SECNO 3.183

3470 ENCROACHMENT STATIONS= 1600.0 2000.0 TYPE= 1 TARGET= 400.000

3.183	3.14	1648.14	1647.65	1647.59	1648.36	.21	6.38	.02	1647.00
2202.	1303.	687.	212.	372.	160.	76.	18.	13.	1647.00
.10	3.50	4.29	2.80	.060	.050	.060	.000	1645.00	1600.00
.010929	640.	640.	640.	5	14	0	.00	400.00	2000.00

1490 NH CARD USED
*SECNO 3.268
3280 CROSS SECTION 3.27 EXTENDED .50 FEET

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


3470 ENCROACHMENT STATIONS=     1655.0    2055.0  TYPE=      1  TARGET=      400.000
   3.268     2.20  1653.20  1653.00  1652.64  1653.57      .37     5.17      .05  1651.60
   2202.     461.    1161.     579.     151.     190.     194.      24.      17.   1651.60
     .13     3.06     6.11     2.98     .060     .040     .060     .000  1651.00  1655.00
 .011789     480.     450.     410.        4       14        0      .00   400.00  2055.00


1490 NH CARD USED
*SECNO 3.355
3280 CROSS SECTION      3.36 EXTENDED       1.31 FEET


3470 ENCROACHMENT STATIONS=     1675.0    2125.0  TYPE=      1  TARGET=      450.000
   3.355     2.52  1657.72  1657.27  1657.08  1657.95      .23     4.36      .01  1656.50
   2202.     849.     631.     722.     291.     116.     246.      30.      22.   1656.60
     .16     2.91     5.45     2.94     .060     .035     .060     .000  1655.20  1675.00
 .008595     480.     430.     410.        4       12        0      .00   450.00  2125.00


1490 NH CARD USED
*SECNO 3.443
3280 CROSS SECTION      3.44 EXTENDED        .33 FEET


3470 ENCROACHMENT STATIONS=     1650.0    2200.0  TYPE=      1  TARGET=      550.000
   3.443     2.23  1661.43  1661.18  1660.94  1661.66      .23     3.71      .00  1660.70
   2202.    1054.     298.     850.     386.      51.     206.      36.      26.   1660.60
     .19     2.73     5.85     4.12     .060     .035     .043     .000  1659.20  1650.00
 .009531     360.     460.     440.        4       14        0      .00   550.00  2200.00


*SECNO 3.500
3280 CROSS SECTION      3.50 EXTENDED        .44 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1465.0    2000.0  TYPE=      1  TARGET=      535.000
   3.500     3.84  1664.94  1664.94  1664.48  1665.45      .51     2.03      .48  1664.90
   2202.     529.    1434.     238.     272.     206.     127.      41.      30.   1664.80
     .21     1.94     6.96     1.87     .060     .035     .060     .000  1661.10  1465.00
 .006428     340.     290.     320.        0       16        0      .00   535.00  2000.00
```

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

*SECNO 3.581

3265 DIVIDED FLOW

3280 CROSS SECTION 3.58 EXTENDED .23 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1420.0 1820.0 TYPE= 1 TARGET= 400.000

3.581	4.63	1668.73	1668.73	1668.32	1669.34	.61	2.86	-.12	1668.80
2202.	403.	1382.	417.	177.	180.	181.	46.	34.	1668.00
.23	2.27	7.69	2.30	.060	.035	.060	.000	1664.10	1420.00
.007162	410.	400.	380.	0	12	0	.00	396.31	1820.00

*SECNO 3.650

3470 ENCROACHMENT STATIONS= 1225.0 1525.0 TYPE= 1 TARGET= 300.000

3.650	4.14	1671.04	1670.82	1670.50	1671.65	.60	2.31	.00	1671.00
2202.	222.	1828.	152.	119.	269.	81.	50.	37.	1670.20
.24	1.87	6.79	1.88	.060	.035	.060	.000	1666.90	1225.00
.005707	280.	380.	360.	2	12	0	.00	300.00	1525.00

*SECNO 3.702

3265 DIVIDED FLOW

3280 CROSS SECTION 3.70 EXTENDED .56 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1055.0 1295.0 TYPE= 1 TARGET= 240.000

3.702	5.06	1673.56	1673.56	1673.48	1674.38	.82	2.36	-.39	1672.60
2202.	133.	1639.	430.	56.	198.	148.	52.	39.	1673.60
.25	2.36	8.26	2.92	.060	.035	.060	.000	1668.50	1055.00
.008795	330.	270.	220.	0	12	0	.00	237.43	1295.00

CCHV= .300 CEHV= .500

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

*SECNO 3.737

3470 ENCROACHMENT STATIONS= 1100.0 1220.0 TYPE= 1 TARGET= 120.000

3.737	5.05	1675.15	1674.65	1674.83	1676.44	1.30	1.83	.24	100000.00
2202.	0.	2198.	4.	0.	240.	4.	54.	40.	1674.60
.26	.00	9.15	.93	.000	.030	.060	.000	1670.10	1100.00
.006195	200.	250.	280.	2	15	0	.00	77.85	1177.85

*SECNO 3.759

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.01

3.759	5.72	1676.42	1674.38	1675.92	1676.83	.41	.12	.27	1677.00
2202.	0.	2202.	0.	0.	429.	0.	55.	40.	1677.40
.26	.00	5.13	.00	.000	.030	.000	.000	1670.70	1025.07
.001539	20.	50.	80.	3	19	0	.00	95.96	1121.03

THIS RUN EXECUTED 1/16/91 13: 9:48

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

ADMS FLOODWAY COMPARISON

SUMMARY PRINTOUT

	SECNO	CWSEL	DEPTH	ELMIN	VLOB	VCH	VROB	HL	OLOSS	10*KS	K*CHSL	SSTA	ENDST
	2.942	1635.50	3.10	1632.40	3.20	5.48	4.63	.00	.00	245.41	.00	1582.00	2424.00
	2.942	1635.93	3.53	1632.40	3.06	4.66	4.27	.00	.00	121.25	.00	1730.00	2260.00
*	3.056	1641.67	3.17	1638.50	2.29	2.47	1.65	5.88	.03	63.50	10.17	1312.00	2548.52
	3.056	1641.81	3.31	1638.50	3.13	3.13	2.46	5.77	.01	90.13	10.17	1510.00	2010.00
	3.183	1647.59	2.59	1645.00	2.77	3.45	1.77	5.96	.02	122.70	10.16	1137.34	2376.19
	3.183	1648.14	3.14	1645.00	3.50	4.29	2.80	6.38	.02	109.29	10.16	1600.00	2000.00
	3.268	1652.64	1.64	1651.00	2.16	4.42	1.79	5.05	.00	99.00	13.33	1108.00	2726.79
	3.268	1653.20	2.20	1651.00	3.06	6.11	2.98	5.17	.05	117.89	13.33	1655.00	2055.00
	3.355	1657.08	1.88	1655.20	1.99	4.25	2.65	4.42	.00	100.12	9.77	1151.19	2640.00
	3.355	1657.72	2.52	1655.20	2.91	5.45	2.94	4.36	.01	85.95	9.77	1675.00	2125.00
	3.443	1660.94	1.74	1659.20	1.88	4.55	2.64	3.85	.00	90.31	8.70	1031.00	2666.60
	3.443	1661.43	2.23	1659.20	2.73	5.85	4.12	3.71	.00	95.31	8.70	1650.00	2200.00
*	3.500	1664.48	3.38	1661.10	1.70	6.13	1.20	1.90	.46	59.26	6.55	1000.00	2338.54
*	3.500	1664.94	3.84	1661.10	1.94	6.96	1.87	2.03	.48	64.28	6.55	1465.00	2000.00
*	3.581	1668.32	4.22	1664.10	1.48	6.65	1.93	2.39	.00	59.91	7.50	1139.27	2140.67
*	3.581	1668.73	4.63	1664.10	2.27	7.69	2.30	2.86	-.12	71.62	7.50	1420.00	1820.00
	3.650	1670.50	3.60	1666.90	1.74	6.45	1.73	2.25	.03	65.38	7.37	1077.73	1789.82
	3.650	1671.04	4.14	1666.90	1.87	6.79	1.88	2.31	.00	57.07	7.37	1225.00	1525.00
*	3.702	1673.48	4.98	1668.50	2.05	7.31	2.19	1.80	-.00	68.34	5.93	1027.18	1465.00
*	3.702	1673.56	5.06	1668.50	2.36	8.26	2.92	2.36	-.39	87.95	5.93	1055.00	1295.00
	3.737	1674.83	4.73	1670.10	.58	8.90	.50	1.69	.34	65.35	6.40	1088.28	1168.18
	3.737	1675.15	5.05	1670.10	.00	9.15	.93	1.83	.24	61.95	6.40	1100.00	1177.85

Simons, Li & Associates, Inc.

	SECNO	CWSEL	DEPTH	ELMIN	VLOB	VCH	VROB	HL	OLOSS	10*KS	K*CHSL	SSTA	ENDST
*	3.759	1675.92	5.22	1670.70	.00	5.79	.00	.17	.21	22.48	12.00	1025.95	1120.79
*	3.759	1676.42	5.72	1670.70	.00	5.13	.00	.12	.27	15.39	12.00	1025.07	1121.03

Simons, Li & Associates, Inc.

ADMS FLOODWAY COMPARISON

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	2.942	1635.50	.00	1635.84	675.00	480.39	731.08	1063.53	.00	.00	2064.00	2167.00	.00
	2.942	1635.93	.43	1636.18	530.00	860.02	828.44	586.55	530.00	1730.00	2064.00	2167.00	2260.00
*	3.056	1641.67	.00	1641.74	1236.52	1272.31	362.01	567.69	.00	.00	1873.00	1977.00	.00
	3.056	1641.81	.14	1641.96	500.00	1609.06	503.07	89.87	500.00	1510.00	1873.00	1977.00	2010.00
	3.183	1647.59	.00	1647.72	1019.77	1687.41	365.45	149.14	.00	.00	1836.00	1934.00	.00
	3.183	1648.14	.55	1648.36	400.00	1302.63	687.02	212.35	400.00	1600.00	1836.00	1934.00	2000.00
	3.268	1652.64	.00	1652.77	1569.06	978.42	590.72	632.85	.00	.00	1782.00	1884.00	.00
	3.268	1653.20	.56	1653.57	400.00	461.40	1161.17	579.42	400.00	1655.00	1782.00	1884.00	2055.00
	3.355	1657.08	.00	1657.19	1463.06	908.16	300.72	993.11	.00	.00	1882.00	1953.00	.00
	3.355	1657.72	.64	1657.95	450.00	849.06	630.89	722.05	450.00	1675.00	1882.00	1953.00	2125.00
	3.443	1660.94	.00	1661.04	1587.60	1133.21	165.82	902.97	.00	.00	1979.00	2009.00	.00
	3.443	1661.43	.49	1661.66	550.00	1053.90	298.21	849.89	550.00	1650.00	1979.00	2009.00	2200.00
*	3.500	1664.48	.00	1664.79	1221.89	935.54	1070.69	195.77	.00	.00	1780.00	1849.00	.00
*	3.500	1664.94	.46	1665.45	535.00	529.43	1434.49	238.08	535.00	1465.00	1780.00	1849.00	2000.00
*	3.581	1668.32	.00	1668.67	978.35	393.46	1045.22	763.31	.00	.00	1588.00	1645.00	.00
*	3.581	1668.73	.42	1669.34	396.31	403.36	1381.81	416.83	400.00	1420.00	1588.00	1645.00	1820.00
	3.650	1670.50	.00	1670.94	682.14	308.29	1441.55	452.16	.00	.00	1359.00	1445.00	.00
	3.650	1671.04	.54	1671.65	300.00	222.11	1827.77	152.11	300.00	1225.00	1359.00	1445.00	1525.00
*	3.702	1673.48	.00	1674.04	430.32	157.12	1413.61	631.27	.00	.00	1109.00	1175.00	.00
*	3.702	1673.56	.08	1674.38	237.43	132.66	1638.87	430.47	240.00	1055.00	1109.00	1175.00	1295.00
	3.737	1674.83	.00	1676.06	79.90	.10	2201.56	.33	.00	.00	1089.32	1162.40	.00
	3.737	1675.15	.32	1676.44	77.85	.00	2198.43	3.57	120.00	1100.00	1089.32	1162.40	1220.00
*	3.759	1675.92	.00	1676.44	94.84	.00	2202.00	.00	.00	.00	1024.08	1122.98	.00
*	3.759	1676.42	.51	1676.83	95.96	.00	2202.00	.00	.00	.00	1024.08	1122.98	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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WARNING SECNO=     3.056  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     3.500  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.500  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     3.500  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.500  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=     3.581  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.581  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     3.581  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.581  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=     3.702  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.702  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     3.702  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.702  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     3.759  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     3.759  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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Simons, Li & Associates, Inc.

FLOODWAY DATA, ADMS FLOODWAY COMPARISON
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
2.942	530.	596.	3.8	1635.9	1635.5	.4
3.056	500.	711.	3.1	1641.8	1641.7	.1
3.183	400.	608.	3.6	1648.1	1647.6	.5
3.268	400.	535.	4.1	1653.2	1652.6	.6
3.355	450.	653.	3.4	1657.7	1657.1	.6
3.443	550.	644.	3.4	1661.4	1660.9	.5
3.500	535.	606.	3.6	1664.9	1664.5	.4
3.581	400.	538.	4.1	1668.7	1668.3	.4
3.650	300.	469.	4.7	1671.0	1670.5	.5
3.702	240.	402.	5.5	1673.6	1673.5	.1
3.737	78.	244.	9.0	1675.1	1674.8	.3
3.759	96.	429.	5.1	1676.4	1675.9	.5

APPENDIX E. ALTERNATIVE C
NORMAL FLOW HYDRAULICS

TABLE E-1. ALTERNATIVE C NORMAL FLOW HYDRAULICS

DESIGN PARAMETERS		
Discharge	=	2200 cfs
n-value	=	0.03
Bottom width	=	100 ft
Slope	=	0.0086 ft/ft
Side Slope	=	3:1
NORMAL FLOW RESULTS		
Depth	=	2.52 ft
Velocity	=	8.1 fps
Froude no.	=	0.93
Critical depth	=	2.41 ft
Hydraulic depth	=	2.36 ft
Top width	=	115.2 ft
Flow area	=	271.6 sq ft
Wetted perimeter	=	116 ft
Hydraulic radius	=	2.34 ft

TABLE E-2. ALTERNATIVE C NORMAL FLOW HYDRAULICS

DESIGN PARAMETERS		
Discharge	=	2200 cfs
n-value	=	0.03
Bottom width	=	226 ft
Slope	=	0.0086 ft/ft
Side Slope	=	3:1

NORMAL FLOW RESULTS		
Depth	=	1.56 ft
Velocity	=	6.1 fps
Froude no.	=	0.87
Critical depth	=	1.42 ft
Hydraulic depth	=	1.53 ft
Top width	=	235.4 ft
Flow area	=	360.8 sq ft
Wetted perimeter	=	235.9 ft
Hydraulic radius	=	1.53 ft

TABLE E-3. ALTERNATIVE C NORMAL FLOW HYDRAULICS

DESIGN PARAMETERS		
Discharge	=	2200 cfs
n-value	=	0.03
Bottom width	=	100 ft
Slope	=	0.0015 ft/ft
Side Slope	=	3:1
NORMAL FLOW RESULTS		
Depth	=	4.22 ft
Velocity	=	4.63 fps
Froude no.	=	0.42
Critical depth	=	2.41 ft
Hydraulic depth	=	3.79 ft
Top width	=	125.3 ft
Flow area	=	475 sq ft
Wetted perimeter	=	126.7 ft
Hydraulic radius	=	3.75 ft

TABLE E-4. ALTERNATIVE C NORMAL FLOW HYDRAULICS

DESIGN PARAMETERS		
Discharge	=	2200 cfs
n-value	=	0.03
Bottom width	=	226 ft
Slope	=	0.0015 ft/ft
Side Slope	=	3:1

NORMAL FLOW RESULTS		
Depth	=	2.63 ft
Velocity	=	3.57 fps
Froude no.	=	0.39
Critical depth	=	1.42 ft
Hydraulic depth	=	2.55 ft
Top width	=	241.8 ft
Flow area	=	616.1 sq ft
Wetted perimeter	=	242.7 ft
Hydraulic radius	=	2.54 ft