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Trunk4.out

```

*****
*   U.S. Environmental Protection Agency   *
*   Storm Water Management Model (SWMM)   *
*   Version 4.4H                         *
*   *                                     *
*   CDM/OSU Ongoing Version 4.4h         *
*   Release Date - July 30, 2004         *
*   Camp Dresser & McKee and Oregon St. Univ. *
*   Chuck Moore, Bob Dickinson, and Wayne Huber *
*   Compiled using Compaq Visual Fortran v.6.6 *
*****

```

Developed by

```

*****
*   Metcalf & Eddy, Inc.                 *
*   University of Florida                 *
*   Water Resources Engineers, Inc.       *
*   (Now Camp Dresser & McKee, Inc.)     *
*   September 1970                       *
*****

```

Version 4.3 (outdated) is
Distributed and Maintained by

```

*****
*   U.S. Environmental Protection Agency *
*   Center for Exposure Assessment Modeling (CEAM)*
*   Athens Environmental Research Laboratory *
*   960 College Station Road             *
*   Athens, GA 30605-2720                *
*****

```

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*****
*   This is an updated release of SWMM4.4h. *
*   no longer formally supported by the EPA. *
*   If problems occur executing this model *
*   contact Wayne Huber at Oregon State. U., *
*   wayne.huber@orst.edu,                 *
*   or Robert Dickinson at Camp Dresser & *
*   McKee, DickinsonRE@CDM.COM.           *
*   The EPA-supported version is SWMM5 at: *
*   http://www.epa.gov/edhnmrl/swmm/index.htm *
*****

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*****
*   This is an implementation of EPA SWMM 4.4H *
*   "Nature is full of infinite causes which *
*   have never occurred in experience" da Vinci *
*****

```

```

#####
#   File names by SWMM Block               #
#   JIN -> Input to a Block                #
#   JOUT -> Output from a Block            #
#####

```

```

JIN for Block # 1 File # 9 C:\GIGHAR-1\Trunk4.int
JOUT for Block # 1 File # 10 Textint.int

```

```

#####
#   Scratch file names for this simulation. #
#####

```

```

NSCRAT # 1 File # 1 SCRT1.UF
NSCRAT # 2 File # 2 SCRT2.UF

```

```

*****
*   Parameter values on the Tapes Common Block *
*****

```

```

Number of Subcatchments in the Runoff block (NW)..... 2000
Number of Channel/Pipes in the Runoff block (NG)..... 2000
Number of Connections to Runoff Channels/Inlets (NCP).. 6
Number of Water Quality Constituents (MQUAL)..... 20
Number of Runoff Land Uses per Subcatchment (NLU)..... 20
Number of Groundwater Plot/prints in Runoff (NGW)..... 400
Number of Interface Locations for all Blocks (NIE)..... 2000
Number of Elements in the Transport block (NET)..... 1000
Number of Storage Junctions in Transport (NTSE)..... 100
Number of Transport interface input locations (NTHI)... 500
Number of Transport interface output locations (NTHO).. 500
Number of Transport input locations on R lines (NTHR).. 80
Number of Transport printed output locations (NTOA)... 80
Number of Tabular Flow Splitters in Transport (NTSP)... 50
Number of Elements in the Extran block (NEE)..... 4000
Number of Pumps in Extran (NEP)..... 1000
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG).... 1000
Number of Extran weirs (NEW)..... 400
Number of Extran Printout Locations (NPO)..... 150
Number of Tide Elements in Extran (NTE)..... 50
Number of Natural Channels (NNC)..... 1200
Number of Storage Junctions in Extran (NVSE)..... 2000
Number of Time History Data Points in Extran (NTVAL).. 500
Number of Data Points for Variable Storage Elements
in the Extran block (NVST)..... 200
Number of Input Hydrographs in Extran (NEH)..... 500
Number of Allowable Channel Connections to
Junctions in the Extran block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50

```

Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
 Number of Storm Events for Rain Analysis (LSTORM).....20000
 Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
 Number Conduits for Extran Results to ASCII
 File (MXFLOW)..... 400

```
#####
# Entry made to the Transport Block, last updated #
# by Oregon State University, April 2002.         #
#####
# "The sewer is the conscience of the city."      #
# Victor Hugo (1862)#
#####
```

Gig Harbor 2008 Storm System Transport Analysis
 Trunkline 4 Improved System

```
*****
* OPTIONAL INPUT PARAMETERS FROM DATA LINE B0 *
* -----
* The default values are used if line B0         *
* is not part of the TRANSPORT input data.      *
* Defaults: ISLOPE=0 ITRAP=0 IFLIP=0           *
* IDETAIL=0                                     *
*****
```

```
Use ft/100 ft or m/100 m for conduit slope...(ISLOPE=0).. 0
Use ft/ft or m/m for input of conduit slope...(ISLOPE=1)..
Vertical/horizontal trapezoid side slope....(ITRAP=0).... 0
Horizontal/vertical trapezoid side slope....(ITRAP=1)....
Default input of flow/pollutants on line R1...(IFLIP=0).... 0
Input flow/pollutants on one R1 line.....(IFLIP=1)....
Include only hydrograph input(s) on printout.(INFLEW=0).... 0
Include all input(s) on input printout.....(INFLEW=1)....
Normal division of irregular section data...(IDETAIL=0).... 0
Subdivide lowermost equal area segment.....(IDETAIL=1)....
Print intermediate headers in tables.....(NOHEAD=0).... 0
Do not print intermediate headers in table...(NOHEAD=1)....
```

```
NUMBER OF TIME STEPS (NDT)..... 8760
NO. OF ELEMENTS FOR CARD HYDROGRAPH INPUT (NINPUT) 0
NO. OF ELEMENTS FOR INPUT HYDROGRAPH PRINT (NNYN) 0
NO. OF ELEMENTS FOR OUTPUT HYDROGRAPH PRINT (NNPE) 4
NO. TIME STEPS BETWEEN I/O PRINTS (INTPRT)..... 1
NO. OF ELEMENTS FOR INTERFACE TRANSFER (NOUTS).... 0
NO. OF POLLUTANTS SIMULATED (NPOLL)..... 0
NO. OF ITERATIONS FOR FLOW ROUTING (NITER)..... 4
```

NO SIMULATION OF LINKED DO (NWQ = 0).

==> WARNING !! FROM SUB TRANS. NOUTS= 0 AND JOUT = 10. BOTH MUST BE GT 0 TO GENERATE INTERFACE FILE.
 SIMULATION WILL CONTINUE, BUT NO NEW INTERFACE FILE WILL BE GENERATED.

```
FOR THE FOLLOWING PARAMETERS, 1=YES, 0=NO:
PRINT INTERNAL ERROR MESSAGES (NPRINT)..... 0
HYDROGRAPH INPUT FROM CARDS ONLY (NCNTRL)..... 0
CALL INFILTRATION ROUTINE (NINFIL)..... 0
CALL DRY-WEATHER FLOW ROUTINE (NFILTH)..... 0
USE HYDRAULIC DESIGN ROUTINE (NDESN)..... 0
```

USE U.S. CUSTOMARY UNITS FOR INPUT/OUTPUT(METRIC=0).

```
SIZE OF TIME STEP (DT, SECONDS)..... 3600.0
ALLOWABLE ROUTING CONVERGENCE ERROR (EPSIL).....0.000100
NO. DRY DAYS PRIOR TO SIMULATION (DWDAYS)..... 0.00
STARTING TIME OF DAY IN HOURS..... 0.00
KINEMATIC VISCOSITY (GNU, SQ FT/SEC).....1.00E-05
TOTAL CATCHMENT AREA (TRIBA, ACRES)..... 100.00
```

```
#####
# Header information from interface file: #
#####
```

Title from first computational block:

Title from immediately preceding computational block:

```
Name of preceding block:.....Runoff Block
Initial Julian date (IDATEZ)..... 1963001
Initial time of day in seconds (TZERO)..... 0.0
No. transferred input locations..... 4
No. transferred pollutants..... 0
Size of total catchment area (acres)..... 1100.00
ID numbers (JCE=0) or alphanumeric (JCE=1)..... 0
```

```
#####
# Element numbers of interface inlet locations: #
#####
8671 8651 8635 1779
```

Conversion factor to cfs for flow units
 on interface file. Multiply by: 1.00000

STARTING DATE OF SIMULATION (YR/MO/DAY) = 1963/ 1/ 1

STARTING TIME OF DAY HR:MN:SEC = 0/ 0/ 0 Trunk4.out

1THERE WERE 37 ELEMENTS (NE) INPUT INTO TRANSPORT BLOCK FROM DATA GROUP E1.

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* ELEMENT LINKAGES AND COMPUTATION SEQUENCE *

* NOTE: ELEMENT # 0 IS GIVEN AN INTERNAL # OF 38 *

EXTERNAL ELEMENT NUMBER	INTERNAL ELEMENT NUMBER	TYPE	DISCRIPTION	UPSTREAM ELEMENTS (EXTERNAL NOS.)			ORDER OF COMPUTATION SEQUENCE	EXTERNALS AT EACH TIME STEP (PROCEEDING DOWNSTREAM)		INTERNAL NUMBER	INTERNAL UPSTREAM ELEMENT NUMBERS	
				1	2	3		NUMBER	NUMBER		NUMBER	NUMBER
1370	1	19	MANHOLE	63	0	0	1	1779	5	38	38	38
1374	2	19	MANHOLE	78	0	0	2	8635	7	38	38	38
1376	3	19	MANHOLE	77	0	0	3	64	22	5	38	38
1773	4	19	MANHOLE	64	0	0	4	1773	4	22	38	38
1779	5	19	MANHOLE	0	0	0	5	72	30	7	38	38
7189	6	19	MANHOLE	75	0	0	6	8639	8	30	38	38
8635	7	19	MANHOLE	0	0	0	7	71	29	8	38	38
8639	8	19	MANHOLE	72	0	0	8	8643	9	29	38	38
8643	9	19	MANHOLE	71	0	0	9	70	28	9	38	38
8647	10	19	MANHOLE	70	0	0	10	8647	10	28	38	38
8649	11	19	MANHOLE	69	76	0	11	69	27	10	38	38
8651	12	19	MANHOLE	68	0	0	12	76	34	4	38	38
8655	13	19	MANHOLE	67	0	0	13	8649	11	27	34	38
8659	14	19	MANHOLE	66	0	0	14	68	26	11	38	38
8663	15	19	MANHOLE	74	0	0	15	8651	12	26	38	38
8665	16	19	MANHOLE	73	0	0	16	67	25	12	38	38
8671	17	19	MANHOLE	79	0	0	17	8655	13	25	38	38
8677	18	19	MANHOLE	65	0	0	18	66	24	13	38	38
9999	19	19	MANHOLE	62	0	0	19	8659	14	24	38	38
62	20	1	CIRCULAR	1370	0	0	20	74	32	14	38	38
63	21	1	CIRCULAR	1374	0	0	21	8663	15	32	38	38
64	22	1	CIRCULAR	1779	0	0	22	73	31	15	38	38
65	23	1	CIRCULAR	8671	0	0	23	8665	16	31	38	38
66	24	1	CIRCULAR	8655	0	0	24	79	37	16	38	38
67	25	1	CIRCULAR	8651	0	0	25	8671	17	37	38	38
68	26	1	CIRCULAR	8649	0	0	26	65	23	17	38	38
69	27	1	CIRCULAR	8647	0	0	27	8677	18	23	38	38
70	28	1	CIRCULAR	8643	0	0	28	75	33	18	38	38
71	29	1	CIRCULAR	8639	0	0	29	7189	6	33	38	38
72	30	1	CIRCULAR	8635	0	0	30	77	35	6	38	38
73	31	1	CIRCULAR	8663	0	0	31	1376	3	35	38	38
74	32	1	CIRCULAR	8659	0	0	32	78	36	3	38	38
75	33	1	CIRCULAR	8677	0	0	33	1374	2	36	38	38
76	34	1	CIRCULAR	1773	0	0	34	63	21	2	38	38
77	35	1	CIRCULAR	7189	0	0	35	1370	1	21	38	38
78	36	1	CIRCULAR	1376	0	0	36	62	20	1	38	38
79	37	1	CIRCULAR	8665	0	0	37	9999	19	20	38	38

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* DOWNSTREAM ELEMENTS (MODEL OUTLETS) *
* (internal number - external number) *

19 9999

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* TRANSPORT ELEMENT PARAMETERS *

* CAUTION: COLUMN HEADINGS ARE FOR CONDUITS. REFER *
* TO USERS MANUAL FOR MEANING FOR NON-CONDUITS. *

EXT. ELE. NUM.	TY PE	TYPE NAME	SLOPE (FT/FT)	DISTANCE (FT)	MANNING ROUGHNESS	GEOM1 (FT)	GEOM2 (FT)	GEOM3 (FT)	NUMBER OF BARRELS	AFULL (SQ. FT)	QFULL (CFS)	QMAX (CFS)	SUPER-CRITICAL FLOW WHEN LESS THAN 95% FULL?
1370	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1374	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1376	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1773	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1779	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
7189	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8635	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8639	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8643	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8647	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8649	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8651	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8655	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8659	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8663	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8665	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8671	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
8677	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
9999	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
62	1	CIRCULAR	0.2	125.30	0.0140	1.50	0.00	0.00	1.0	1.77	40.	43.	YES
63	1	CIRCULAR	7.7E-02	188.81	0.0140	1.50	0.00	0.00	1.0	1.77	27.	29.	YES
64	1	CIRCULAR	8.9E-02	298.23	0.0140	1.50	0.00	0.00	1.0	0.79	9.9	11.	YES
65	1	CIRCULAR	8.3E-02	252.63	0.0140	1.50	0.00	0.00	1.0	1.77	28.	30.	YES
66	1	CIRCULAR	8.8E-02	286.90	0.0120	1.50	0.00	0.00	1.0	1.77	30.	32.	YES
67	1	CIRCULAR	5.6E-02	298.90	0.0120	1.50	0.00	0.00	1.0	1.77	27.	29.	YES
68	1	CIRCULAR	5.0E-02	278.16	0.0120	1.50	0.00	0.00	1.0	1.77	26.	28.	YES
69	1	CIRCULAR	5.0E-03	37.43	0.0120	1.50	0.00	0.00	1.0	1.77	8.0	8.7	NO
70	1	CIRCULAR	2.9E-02	145.76	0.0120	1.50	0.00	0.00	1.0	1.77	21.	21.	YES
71	1	CIRCULAR	3.7E-02	147.92	0.0120	1.50	0.00	0.00	1.0	1.77	22.	24.	YES
72	1	CIRCULAR	4.0E-02	151.82	0.0120	1.50	0.00	0.00	1.0	1.77	23.	24.	YES
73	1	CIRCULAR	8.4E-02	109.24	0.0120	1.50	0.00	0.00	1.0	1.77	33.	36.	YES
74	1	CIRCULAR	5.8E-02	97.47	0.0120	1.50	0.00	0.00	1.0	1.77	27.	30.	YES
75	1	CIRCULAR	8.5E-02	128.76	0.0120	1.50	0.00	0.00	1.0	1.77	33.	36.	YES
76	1	CIRCULAR	0.2	37.28	0.0120	1.50	0.00	0.00	1.0	1.77	48.	52.	YES

77	1	CIRCULAR	0.3	58.55	0.0140	1.50	0.00	0.00	1.0	1.77	57.	61.	YES
78	1	CIRCULAR	0.2	7.07	0.0120	1.50	0.00	0.00	1.0	1.77	49.	53.	YES
79	1	CIRCULAR	8.6E-02	136.52	0.0120	1.50	0.00	0.00	1.0	1.77	33.	36.	YES

Transport Block Flow Continuity #
#####

Sum of WET WEATHER Inflow.....	4.544E+06	cubic feet	1.1380	inches
Sum of DRY WEATHER Inflow.....	0.000E+00	cubic feet	0.0000	inches
Sum of INFILTRATION Inflow.....	0.000E+00	cubic feet	0.0000	inches
Sum of MANHOLE CONSTANT Inflow...	0.000E+00	cubic feet	0.0000	inches
INITIAL VOLUME IN CONDUITS.....	0.000E+00	cubic feet	0.0000	inches
REMAINING VOLUME IN CONDUITS.....	1.625E-02	cubic feet	0.0000	inches
Sum of FINAL SURCHARGE STORAGE...	0.000E+00	cubic feet	0.0000	inches
Sum of FINAL WET WELL VOLUME.....	0.000E+00	cubic feet	0.0000	inches
Sum of TRANSPORT Outflows.....	4.553E+06	cubic feet	1.1404	inches
A.Sum of INITIAL VOLUME + Inflows	4.544E+06	cubic feet	1.1380	inches
B.Sum REMAINING VOLUME + Outflows	4.553E+06	cubic feet	1.1404	inches
Percent flow continuity error....	0.207	= (B-A)/A * 100		

* Surcharge did not occur in this Transport simulation. *

* TOTAL ITERATIONS AND MAXIMUM # OF ITERATIONS *

ELEMENT NUMBER	TOTAL NUMBER OF ITERATIONS	MAXIMUM NUMBER OF ITERATIONS	MAXIMUM ERROR	MAXIMUM FLOW(CFS)	CONDUIT SLOPE	MAXIMUM SLOPE	MINIMUM SLOPE	MEAN SLOPE	TOTAL FLOW-CF
64	8760	1	0.0000	9.491	8.87E-02	8.87E-02	8.87E-02	8.87E-02	1.74E+06
72	8760	1	0.0000	2.798	3.97E-02	3.97E-02	3.97E-02	3.97E-02	4.96E+05
71	8760	1	0.0000	2.776	3.68E-02	3.68E-02	3.68E-02	3.68E-02	4.96E+05
70	8760	1	0.0000	2.752	2.92E-02	2.92E-02	2.92E-02	2.92E-02	4.97E+05
69	10792	4	0.0017	2.740	5.00E-03	5.13E-03	5.00E-03	5.00E-03	4.97E+05
76	8760	1	0.0000	9.483	1.80E-01	1.80E-01	1.80E-01	1.80E-01	1.74E+06
68	8760	1	0.0000	12.114	5.05E-02	5.05E-02	5.05E-02	5.05E-02	2.23E+06
67	8760	1	0.0000	17.125	5.62E-02	5.62E-02	5.62E-02	5.62E-02	3.13E+06
66	8760	1	0.0000	16.998	6.80E-02	6.80E-02	6.80E-02	6.80E-02	3.13E+06
74	8760	1	0.0000	16.953	5.80E-02	5.80E-02	5.80E-02	5.80E-02	3.13E+06
73	8760	1	0.0000	16.908	8.40E-02	8.40E-02	8.40E-02	8.40E-02	3.13E+06
79	8760	1	0.0000	16.854	8.55E-02	8.55E-02	8.55E-02	8.55E-02	3.13E+06
65	8760	1	0.0000	24.474	8.28E-02	8.28E-02	8.28E-02	8.28E-02	4.55E+06
75	8760	1	0.0000	24.401	8.48E-02	8.48E-02	8.48E-02	8.48E-02	4.55E+06
77	8760	1	0.0000	24.386	3.36E-01	3.36E-01	3.36E-01	3.36E-01	4.55E+06
78	8760	1	0.0000	24.383	1.84E-01	1.84E-01	1.84E-01	1.84E-01	4.55E+06
63	8760	1	0.0000	24.261	7.69E-02	7.69E-02	7.69E-02	7.69E-02	4.55E+06
62	8760	1	0.0000	24.203	1.66E-01	1.66E-01	1.66E-01	1.66E-01	4.55E+06

* Total flow and mass (kg) out of all elements *

ELEMENT NUMBER	TOTAL FLOW-CF
1779	1.74E+06
8635	4.96E+05
64	1.74E+06
1773	1.74E+06
72	4.96E+05
8639	4.96E+05
71	4.96E+05
8643	4.96E+05
70	4.97E+05
8647	4.97E+05
69	4.97E+05
76	1.74E+06
8649	2.23E+06
68	2.23E+06
8651	3.13E+06
67	3.13E+06
8655	3.13E+06
66	3.13E+06
8659	3.13E+06
74	3.13E+06
8663	3.13E+06
73	3.13E+06
8665	3.13E+06
79	3.13E+06
8671	4.55E+06
65	4.55E+06
8677	4.55E+06
75	4.55E+06
7189	4.55E+06
77	4.55E+06
1376	4.55E+06
78	4.55E+06
1374	4.55E+06
63	4.55E+06
1370	4.55E+06
62	4.55E+06
9999	4.55E+06

The Total Simulation Time = 31536000.0 seconds.
525600.00 minutes.

The Time Step(DT) = 8760.000 hours.
3600.0 seconds.

Trunk4.out

The ending date (YEAR/MO/DAY)..1964/ 1/ 1
The ending time of day..... 0.000 seconds.

AVERAGE FLOW.....	0.055	0.016	0.099	0.144
STANDARD DEVIATION OF FLOW.....	0.002	0.001	0.004	0.006
MAXIMUM FLOW.....	9.583	2.819	17.270	24.634
MINIMUM FLOW.....	0.000	0.000	0.000	0.000
FLOW VOLUME (CUBIC FEET).....	1.74E+06	4.96E+05	3.13E+06	4.55E+06

Transport simulation ended normally.

====> SWMM 4.4H simulation ended normally.
Always check output file for possible warning messages.

====> Your input file was named : C:\GIGHAR~1\Trunk41.DAT
====> Your output file was named: C:\GIGHAR~1\Trunk4.out

```
*****
*          SWMM 4.4H Simulation Date and Time Summary          *
*****
* Starting Date... February 17, 2009                             *
* Time... 15:32:10.531                                           *
* Ending Date... February 17, 2009                               *
* Time... 15:32:13.187                                           *
* Elapsed Time... 0.044 minutes.                                  *
* Elapsed Time... 2.656 seconds.                                  *
*****
```



```

1 *****
* U.S. Environmental Protection Agency *
* Storm Water Management Model (SWMM) *
* Version 4.4H *
*
* CDM/OSU Ongoing Version 4.4h *
* Release Date - July 30, 2004 *
* Camp Dresser & McKee and Oregon St. Univ. *
* Chuck Moore, Bob Dickinson, and Wayne Huber *
* Compiled using Compaq Visual Fortran v.6.6 *
*****

Developed by

*****
* Metcalf & Eddy, Inc. *
* University of Florida *
* Water Resources Engineers, Inc. *
* (Now Camp Dresser & McKee, Inc.) *
* September 1970 *
*****

Version 4.3 (outdated) is
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*****
* U.S. Environmental Protection Agency *
* Center for Exposure Assessment Modeling (CEAM)*
* Athens Environmental Research Laboratory *
* 960 College Station Road *
* Athens, GA 30605-2720 *
*****

*****
* This is an updated release of SWMM4.4h, *
* no longer formally supported by the EPA. *
* If problems occur executing this model *
* contact Wayne Huber at Oregon State. U., *
* wayne.huber@orst.edu, *
* or Robert Dickinson at Camp Dresser & *
* McKee, DickinsonRE@CDM.COM. *
* The EPA-supported version is SWMM5 at: *
* http://www.epa.gov/ednrmrl/swmm/index.htm *
*****

*****
* This is an implementation of EPA SWMM 4.4H *
* "Nature is full of infinite causes which *
* have never occurred in experience" da Vinci *
*****

#####
# File names by SWMM Block #
# JIN -> Input to a Block #
# JOUT -> Output from a Block #
#####

JIN for Block # 1 File # 9 C:\GIGHAR~1\EX67EF~1.INT
JOUT for Block # 1 File # 10 Textint.int

#####
# Scratch file names for this simulation. #
#####

NSCRAT # 1 File # 1 SCRT1.UF
NSCRAT # 2 File # 2 SCRT2.UF

*****
* Parameter Values on the Tapes Common Block *
*****

Number of Subcatchments in the Runoff block (NW)..... 2000
Number of Channel/Pipes in the Runoff Block (NG)..... 2000
Number of Connections to Runoff Channels/Inlets (NCP)... 6
Number of Water Quality Constituents (MQUAL)..... 20
Number of Runoff Land Uses per Subcatchment (NLU)..... 20
Number of Groundwater Plot/prints in Runoff (NGW)..... 400
Number of Interface Locations for all Blocks (NIE).... 2000
Number of Elements in the Transport Block (NET)..... 1000
Number of Storage Junctions in Transport (NTSE)..... 100
Number of Transport interface input locations (NTHI).. 500
Number of Transport interface output locations (NTHO).. 500
Number of Transport input locations on R lines (NTHR).. 80
Number of Transport printed output locations (NTOA)... 80
Number of Tabular Flow Splitters in Transport (NTSP).. 50
Number of Elements in the Extran Block (NEE)..... 4000
Number of Pumps in Extran (NEP)..... 1000
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG).... 1000
Number of Extran Weirs (NEW)..... 400
Number of Extran Printout Locations (NPO)..... 150
Number of Tide Elements in Extran (NTE)..... 50
Number of Natural Channels (NNC)..... 1200
Number of Storage Junctions in Extran (NVSE)..... 2000
Number of Time History Data Points in Extran (NTVAL).. 500
Number of Data Points for Variable Storage Elements
in the Extran Block (NVST)..... 200
Number of Input Hydrographs in Extran (NEH)..... 500
Number of Allowable Channel Connections to
Junctions in the Extran Block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50

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Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
Number of Storm Events for Rain Analysis (LSTORM).....20000
Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
Number Conduits for Extran Results to ASCII
File (MXFLOW)..... 400

```

```

#####
# Entry made to the Transport Block, last updated #
# by Oregon State University, April 2002. #
#####
# "The sewer is the conscience of the city." #
# Victor Hugo (1862) #
#####

```

2008 Gig Harbor Stormwater Plan
Trunkline 5 Existing System

```

*****
* OPTIONAL INPUT PARAMETERS FROM DATA LINE B0 *
* ----- *
* The default values are used if line B0 *
* is not part of the TRANSPORT input data. *
* Defaults: ISLOPE=0 ITRAP=0 IFLIP=0 *
* IDETA=0 *
*****

```

```

Use ft/100 ft or m/100 m for conduit slope...(ISLOPE=0).. 0
Use ft/ft or m/m for input of conduit slope...(ISLOPE=1)..
Vertical/horizontal trapezoid side slope....(ITRAP=0)... 0
Horizontal/vertical trapezoid side slope....(ITRAP=1)...
Default input of flow/pollutants on line R1...(IFLIP=0)... 0
Input flow/pollutants on one R1 line....(IFLIP=1)...
Include only hydrograph input(s) on printout...(INFLEW=0).. 0
Include all input(s) on input printout....(INFLEW=1)..
Normal division of irregular section data...(IDETA=0)... 0
Subdivide lowermost equal area segment....(IDETA=1)..
Print intermediate headers in tables....(NOHEAD=0)... 0
Do not print intermediate headers in table...(NOHEAD=1)..

```

```

NUMBER OF TIME STEPS (NDT)..... 420768
NO. OF ELEMENTS FOR CARD HYDROGRAPH INPUT (NINPUT) 0
NO. OF ELEMENTS FOR INPUT HYDROGRAPH PRINT (NNYN) 0
NO. OF ELEMENTS FOR OUTPUT HYDROGRAPH PRINT (NNPE) 0
NO. TIME STEPS BETWEEN I/O PRINTS (INTPR)..... 1
NO. OF ELEMENTS FOR INTERFACE TRANSFER (NOUTS).... 0
NO. OF POLLUTANTS SIMULATED (NPOLL)..... 0
NO. OF ITERATIONS FOR FLOW ROUTING (NITER)..... 4

```

NO SIMULATION OF LINKED DO (NWQ = 0).

====> WARNING !! FROM SUB TRANS. NOUTS= 0 AND JOUT = 10. BOTH MUST BE GT 0 TO GENERATE INTERFACE FILE.
SIMULATION WILL CONTINUE, BUT NO NEW INTERFACE FILE WILL BE GENERATED.

```

FOR THE FOLLOWING PARAMETERS, 1=YES, 0=NO:
PRINT INTERNAL ERROR MESSAGES (NPRINT)..... 0
HYDROGRAPH INPUT FROM CARDS ONLY (NCNTRL)..... 0
CALL INFILTRATION ROUTINE (NINFIL)..... 0
CALL DRY-WEATHER FLOW ROUTINE (NFILTH)..... 0
USE HYDRAULIC DESIGN ROUTINE (NDESN)..... 0

```

USE U.S. CUSTOMARY UNITS FOR INPUT/OUTPUT(METRIC=0).

```

SIZE OF TIME STEP (DT, SECONDS)..... 3600.0
ALLOWABLE ROUTING CONVERGENCE ERROR (EPSIL).....0.000100
NO. DRY DAYS PRIOR TO SIMULATION (DWDAYS)..... 0.00
STARTING TIME OF DAY IN HOURS..... 0.00
KINEMATIC VISCOSITY (GNU, SQ FT/SEC).....1.00E-05
TOTAL CATCHMENT AREA (TRIBA, ACRES)..... 100.00

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```

#####
# Header information from interface file: #
#####

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Title from first computational block:

Title from immediately preceding computational block:

```

Name of preceding block:.....Runoff block
Initial Julian date (IDATEZ)..... 1948275
Initial time of day in seconds (TZERO)..... 0.0
No. transferred input locations..... 7
No. transferred pollutants..... 0
Size of total catchment area (acres)..... 1100.00
ID numbers (JCE=0) or alphanumeric (JCE=1)..... 0

```

```

#####
# Element numbers of interface inlet locations: #
#####
5022 5015 5011 5011 5011 5011 5011

```

Conversion factor to cfs for flow units
on interface file. Multiply by: 1.00000

STARTING DATE OF SIMULATION (YR/MO/DAY) = 1948/10/ 1

STARTING TIME OF DAY HR:MN:SEC

= 0/ 0/ 0

ExTrunk 5.out

1THERE WERE 34 ELEMENTS (NE) INPUT INTO TRANSPORT BLOCK FROM DATA GROUP E1.

1

 * ELEMENT LINKAGES AND COMPUTATION SEQUENCE *

 * NOTE: ELEMENT # 0 IS GIVEN AN INTERNAL # OF 35 *

EXTERNAL ELEMENT NUMBER	INTERNAL ELEMENT NUMBER	TYPE	DISCRIPTION	UPSTREAM ELEMENTS (EXTERNAL NOS.)			ORDER OF COMPUTATIONS SEQUENCE	ORDER OF COMPUTATIONS AT EACH TIME STEP (PROCEEDING DOWNSTREAM)				
				1	2	3		EXTERNAL NUMBER	INTERNAL NUMBER	INTERNAL ELEMENT	UPSTREAM NUMBERS	
5011	1	19	MANHOLE	0	0	0	1	5011	1	35	35	35
5012	2	19	MANHOLE	9006	0	0	2	5021	11	35	35	35
5013	3	19	MANHOLE	134	0	0	3	138	27	11	35	35
5014	4	19	MANHOLE	9004	0	0	4	9967	16	27	35	35
5015	5	19	MANHOLE	132	0	0	5	131	20	16	35	35
5016	6	19	MANHOLE	9005	0	0	6	5024	14	20	35	35
5017	7	19	MANHOLE	133	0	0	7	9006	34	1	35	35
5018	8	19	MANHOLE	9002	0	0	8	5012	2	34	35	35
5019	9	19	MANHOLE	136	0	0	9	134	23	2	35	35
5020	10	19	MANHOLE	9001	0	0	10	5013	3	23	35	35
5021	11	19	MANHOLE	0	0	0	11	9004	32	3	35	35
5022	12	19	MANHOLE	9003	0	0	12	5014	4	32	35	35
5023	13	19	MANHOLE	130	0	0	13	132	21	4	35	35
5024	14	19	MANHOLE	131	0	0	14	5015	5	21	35	35
5025	15	19	MANHOLE	139	0	0	15	9005	33	5	35	35
9967	16	19	MANHOLE	138	0	0	16	5016	6	33	35	35
9990	17	19	MANHOLE	135	0	0	17	133	22	6	35	35
9992	18	19	MANHOLE	137	0	0	18	5017	7	22	35	35
130	19	1	CIRCULAR	5025	0	0	19	9002	30	7	35	35
131	20	1	CIRCULAR	9967	0	0	20	5018	8	30	35	35
132	21	1	CIRCULAR	5014	0	0	21	135	24	8	35	35
133	22	1	CIRCULAR	5016	0	0	22	9990	17	24	35	35
134	23	1	CIRCULAR	5012	0	0	23	137	26	17	35	35
135	24	1	CIRCULAR	5018	0	0	24	9992	18	26	35	35
136	25	1	CIRCULAR	9992	0	0	25	136	25	18	35	35
137	26	1	CIRCULAR	9990	0	0	26	5019	9	25	35	35
138	27	1	CIRCULAR	5021	0	0	27	9001	29	9	35	35
139	28	1	CIRCULAR	5022	0	0	28	5020	10	29	35	35
9001	29	13	TRAPEZOID	5019	0	0	29	9003	31	10	35	35
9002	30	13	TRAPEZOID	5017	0	0	30	5022	12	31	35	35
9003	31	13	TRAPEZOID	5020	0	0	31	139	28	12	35	35
9004	32	13	TRAPEZOID	5013	0	0	32	5025	15	28	35	35
9005	33	13	TRAPEZOID	5015	0	0	33	130	19	15	35	35
9006	34	13	TRAPEZOID	5011	0	0	34	5023	13	19	35	35

1

 * DOWNSTREAM ELEMENTS (MODEL OUTLETS) *
 * (internal number - external number) *

14 5024
 13 5023

1

 * TRANSPORT ELEMENT PARAMETERS *
 *
 * CAUTION: COLUMN HEADINGS ARE FOR CONDUITS. REFER *
 * TO USERS MANUAL FOR MEANING FOR NON-CONDUITS. *

EXT. ELE. TY NUM. PE	TYPE NAME	SLOPE (FT/FT)	DISTANCE (FT)	MANNING ROUGHNESS	GEOM1 (FT)	GEOM2 (FT)	GEOM3 (FT)	NUMBER OF BARRELS	AFULL (SQ. FT)	QFULL (CFS)	QMAX (CFS)	SUPER-CRITICAL FLOW WHEN LESS THAN 95% FULL?
5011	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5012	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5013	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5014	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5015	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5016	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5017	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5018	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5019	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5020	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5021	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5022	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5023	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5024	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5025	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
9967	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
9990	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
9992	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
130	1 CIRCULAR	5.0E-03	61.67	0.0140	1.50	0.00	0.00	1.0	1.77	6.9	7.4	NO
131	1 CIRCULAR	6.8E-03	59.91	0.0140	1.50	0.00	0.00	1.0	1.77	8.1	8.7	NO
132	1 CIRCULAR	6.3E-02	194.13	0.0140	1.50	0.00	0.00	1.0	1.77	25.	27.	YES
133	1 CIRCULAR	4.5E-02	154.05	0.0140	2.00	0.00	0.00	1.0	3.14	45.	48.	YES
134	1 CIRCULAR	4.2E-02	68.28	0.0140	1.50	0.00	0.00	1.0	1.77	20.	22.	YES
135	1 CIRCULAR	8.0E-02	34.26	0.0140	2.00	0.00	0.00	1.0	3.14	60.	64.	YES
136	1 CIRCULAR	4.9E-02	371.81	0.0140	2.00	0.00	0.00	1.0	3.14	47.	50.	YES
137	1 CIRCULAR	3.9E-02	81.79	0.0140	2.00	0.00	0.00	1.0	3.14	42.	45.	YES
138	1 CIRCULAR	5.0E-03	17.08	0.0120	1.50	0.00	0.00	1.0	1.77	8.0	8.7	NO
139	1 CIRCULAR	5.0E-03	14.29	0.0120	1.00	0.00	0.00	1.0	0.79	2.7	2.9	NO
9001	13 TRAPEZOID	1.0E-03	35.90	0.0300	3.00	11.00	1.00	1.0	42.00	1.10E+02	1.10E+02	NO
9002	13 TRAPEZOID	5.9E-02	636.67	0.0300	5.00	3.00	1.00	1.0	40.00	8.43E+02	8.43E+02	NO
9003	13 TRAPEZOID	4.2E-02	70.87	0.0300	3.00	5.00	1.00	1.0	24.00	3.56E+02	3.56E+02	NO
9004	13 TRAPEZOID	5.1E-02	543.83	0.0300	2.25	0.00	1.00	1.0	5.06	49.	49.	NO
9005	13 TRAPEZOID	6.0E-02	302.45	0.0300	5.75	0.00	1.00	1.0	33.06	6.45E+02	6.45E+02	NO
9006	13 TRAPEZOID	1.8E-02	895.63	0.0450	9.00	0.60	1.00	1.0	86.40	8.62E+02	8.62E+02	NO

1

* ELEMENT FLOWS, AREAS, AND CONCENTRATIONS ARE INITIALIZED *
 * TO DRY WEATHER FLOW AND INFILTRATION VALUES. *

ELEMENT NUMBER	TYPE	FLOW (CFS)	AREA (SQ FT)	VELOCITY (FT/SEC)	DEPTH (FT)
5011	19	0.000	0.000	0.000	0.000
5021	19	0.000	0.000	0.000	0.000
138	1	0.000	0.000	0.000	0.000
9967	19	0.000	0.000	0.000	0.000
131	1	0.000	0.000	0.000	0.000
5024	19	0.000	0.000	0.000	0.000
9006	13	0.000	0.000	0.000	0.000
5012	19	0.000	0.000	0.000	0.000
134	1	0.000	0.000	0.000	0.000
5013	19	0.000	0.000	0.000	0.000
9004	13	0.000	0.000	0.000	0.000
5014	19	0.000	0.000	0.000	0.000
132	1	0.000	0.000	0.000	0.000
5015	19	0.000	0.000	0.000	0.000
9005	13	0.000	0.000	0.000	0.000
5016	19	0.000	0.000	0.000	0.000
133	1	0.000	0.000	0.000	0.000
5017	19	0.000	0.000	0.000	0.000
9002	13	0.000	0.000	0.000	0.000
5018	19	0.000	0.000	0.000	0.000
135	1	0.000	0.000	0.000	0.000
9990	19	0.000	0.000	0.000	0.000
137	1	0.000	0.000	0.000	0.000
9992	19	0.000	0.000	0.000	0.000
136	1	0.000	0.000	0.000	0.000
5019	19	0.000	0.000	0.000	0.000
9001	13	0.000	0.000	0.000	0.000
5020	19	0.000	0.000	0.000	0.000
9003	13	0.000	0.000	0.000	0.000
5022	19	0.000	0.000	0.000	0.000
139	1	0.000	0.000	0.000	0.000
5025	19	0.000	0.000	0.000	0.000
130	1	0.000	0.000	0.000	0.000
5023	19	0.000	0.000	0.000	0.000

 # Transport Block Flow Continuity #
 #####

Sum of WET WEATHER Inflow.....	1.270E+09	cubic feet	318.0802	inches
Sum of DRY WEATHER Inflow.....	0.000E+00	cubic feet	0.0000	inches
Sum of INFILTRATION Inflow.....	0.000E+00	cubic feet	0.0000	inches
Sum of MANHOLE CONSTANT Inflow...	0.000E+00	cubic feet	0.0000	inches
INITIAL VOLUME IN CONDUITS.....	0.000E+00	cubic feet	0.0000	inches
REMAINING VOLUME IN CONDUITS.....	2.491E+01	cubic feet	0.0000	inches
Sum of FINAL SURCHARGE STORAGE...	0.000E+00	cubic feet	0.0000	inches
Sum of FINAL WET WELL VOLUME.....	0.000E+00	cubic feet	0.0000	inches
Sum of TRANSPORT Outflows.....	8.330E+08	cubic feet	208.6235	inches
A. Sum of INITIAL VOLUME + Inflows	1.270E+09	cubic feet	318.0802	inches
B. Sum REMAINING VOLUME + Outflows	8.330E+08	cubic feet	208.6235	inches
Percent flow continuity error....	-52.466	= (B-A)/B * 100		

1

 * CONDUIT SURCHARGE SUMMARY *

ELEMENT NUMBER	STARTING JULIAN DATE	STARTING TIME OF DAY(SEC)	ENDING JULIAN DATE	ENDING TIME OF DAY(SEC)	SURCHARGE LENGTH MINUTES	FULL FLOW (CFS)	PEAK FLW RATIO Qp/QFULL	SURCHARGE PEAK VOL. (CF)
134	1949047	75600	1996149	64800	8880.00	19.92	6.54	3.97E+05
139	1948277	79200	1996260	72004136100.00		2.73	303.38	2.97E+06

 * TOTAL ITERATIONS AND MAXIMUM # OF ITERATIONS *

ELEMENT NUMBER	TOTAL NUMBER OF ITERATIONS	MAXIMUM NUMBER OF ITERATIONS	MAXIMUM ERROR	MAXIMUM FLOW(CFS)	CONDUIT SLOPE	MAXIMUM SLOPE	MINIMUM SLOPE	MEAN SLOPE	TOTAL FLOW-CF
138	420768	1	0.0000	0.000	5.00E-03	5.00E-03	5.00E-03	5.00E-03	0.00E+00
131	420768	1	0.0000	0.000	6.82E-03	6.82E-03	6.82E-03	6.83E-03	0.00E+00
9006	497918	4	0.0019	82.217	1.85E-02	1.91E-02	1.85E-02	1.85E-02	5.65E+08
134	420768	1	0.0000	21.474	4.17E-02	4.17E-02	4.17E-02	4.18E-02	5.65E+08
9004	430318	4	0.0002	21.765	5.11E-02	5.11E-02	5.11E-02	5.09E-02	5.65E+08
132	420768	1	0.0000	21.826	6.33E-02	6.33E-02	6.33E-02	6.31E-02	5.65E+08
9005	427035	4	0.0001	31.587	6.03E-02	6.04E-02	6.03E-02	6.04E-02	6.47E+08
133	420768	1	0.0000	31.648	4.51E-02	4.51E-02	4.51E-02	4.50E-02	6.47E+08
9002	423865	3	0.0001	32.039	5.85E-02	5.86E-02	5.85E-02	5.86E-02	6.48E+08
135	420768	1	0.0000	32.053	8.04E-02	8.04E-02	8.04E-02	8.02E-02	6.48E+08
137	420768	1	0.0000	32.076	3.94E-02	3.94E-02	3.94E-02	3.93E-02	6.48E+08
136	420768	1	0.0000	32.189	4.93E-02	4.93E-02	4.93E-02	4.90E-02	6.48E+08
9001	688661	4	0.0105	32.269	1.00E-03	1.19E-03	1.00E-03	1.01E-03	6.48E+08
9003	426692	4	0.0001	32.298	4.15E-02	4.16E-02	4.15E-02	4.17E-02	6.49E+08
139	500266	4	0.0395	3.057	5.00E-03	6.20E-03	5.00E-03	5.00E-03	8.33E+08
130	493166	4	0.0024	3.052	5.00E-03	5.20E-03	5.00E-03	5.00E-03	8.33E+08

 * Total flow and mass (kg) out of all elements *

ELEMENT	TOTAL
---------	-------

NUMBER	FLOW-CF
5011	5.61E+08
5021	0.00E+00
138	0.00E+00
9967	0.00E+00
131	0.00E+00
5024	0.00E+00
9006	5.65E+08
5012	5.72E+08
134	5.65E+08
5013	5.65E+08
9004	5.65E+08
5014	5.65E+08
132	5.65E+08
5015	6.44E+08
9005	6.47E+08
5016	6.47E+08
133	6.47E+08
5017	6.47E+08
9002	6.48E+08
5018	6.48E+08
135	6.48E+08
9990	6.48E+08
137	6.48E+08
9992	6.48E+08
136	6.48E+08
5019	6.48E+08
9001	6.48E+08
5020	6.48E+08
9003	6.49E+08
5022	1.99E+10
139	8.33E+08
5025	8.33E+08
130	8.33E+08
5023	8.33E+08

The Total Simulation Time =1514764800.0 seconds.
 25246080.00 minutes.
 420768.000 hours.
 The Time Step(DT) = 3600.0 seconds.

The ending date (YEAR/MO/DAY)..1996/10/ 1
 The ending time of day..... 0.000 seconds.

Transport simulation ended normally.

====> Correct Block Name not found.
 ====> was found instead. Program stops.
 ====> Check your data input for the following problems:
 1. Using the wrong executable file.
 2. Too many hydrograph input data lines.
 3. SWMM Block is commented out of MAIN.FOR
 4. wrong input sequence of data (likely!).

====> Your input file was named : C:\GIGHAR~1\EX63EE~1.DAT
 ====> Your output file was named: C:\GIGHAR~1\EXA718~1.OUT

```
*****
*      SWMM 4.4H   Simulation Date and Time Summary  *
*****
* Starting Date... February 17, 2009                *
* Time...          18:47:35.296                      *
* Ending Date...   February 17, 2009                *
* Time...          18:48:44.62                       *
* Elapsed Time...  1.146 minutes.                    *
* Elapsed Time...  68.767 seconds.                   *
*****
```



```

1 *****
*   U.S. Environmental Protection Agency   *
*   Storm Water Management Model (SWMM)   *
*   Version 4.4H                           *
*                                           *
*   CDM/OSU Ongoing Version 4.4h           *
*   Release Date - July 30, 2004          *
*   Camp Dresser & McKee and Oregon St. Univ. *
*   Chuck Moore, Bob Dickinson, and Wayne Huber *
*   Compiled using Compaq Visual Fortran v.6.6 *
*****

Developed by

*****
*   Metcalf & Eddy, Inc.                   *
*   University of Florida                   *
*   Water Resources Engineers, Inc.         *
*   (Now Camp Dresser & McKee, Inc.)        *
*   September 1970                         *
*****

Version 4.3 (outdated) is
Distributed and Maintained by

*****
*   U.S. Environmental Protection Agency   *
*   Center for Exposure Assessment Modeling (CEAM)*
*   Athens Environmental Research Laboratory *
*   960 College Station Road              *
*   Athens, GA 30605-2720                 *
*****

*****
*   This is an updated release of SWMM4.4h, *
*   no longer formally supported by the EPA. *
*   If problems occur executing this model  *
*   contact Wayne Huber at Oregon State. U., *
*   wayne.huber@orst.edu,                   *
*   or Robert Dickinson at Camp Dresser &   *
*   McKee, DickinsonRE@CDM.COM.            *
*   The EPA-supported version is SWMM5 at:  *
*   http://www.epa.gov/ednrmr1/swmm/index.htm *
*****

*****
*   This is an implementation of EPA SWMM 4.4H *
*   "Nature is full of infinite causes which *
*   have never occurred in experience" da Vinci *
*****

#####
#   File names by SWMM Block               #
#   JIN  -> Input to a Block               #
#   JOUT -> Output from a Block            #
#####

JIN for Block #    1 File #    9 C:\GIGHAR~1\EXTR5.int
JOUT for Block #    1 File #   10 Textint.int

#####
# Scratch file names for this simulation. #
#####

NSCRAT #    1 File #    1 SCRT1.UF
NSCRAT #    2 File #    2 SCRT2.UF

*****
*   Parameter Values on the Tapes Common Block *
*****

Number of Subcatchments in the Runoff Block (NW)..... 2000
Number of Channel/Pipes in the Runoff Block (NG)..... 2000
Number of Connections to Runoff Channels/Inlets (NCP)... 6
Number of Water Quality Constituents (MQUAL)..... 20
Number of Runoff Land Uses per Subcatchment (NLU)..... 20
Number of Groundwater Plot/prints in Runoff (NGW).... 400
Number of Interface Locations for all Blocks (NIE).... 2000
Number of Elements in the Transport Block (NET)..... 1000
Number of Storage Junctions in Transport (NTSE)..... 100
Number of Transport interface input locations (NTHI)... 500
Number of Transport interface output locations (NTHO)... 500
Number of Transport input locations on R lines (NTHR)... 80
Number of Transport printed output locations (NTOA)... 80
Number of Tabular Flow Splitters in Transport (NTSP)... 50
Number of Elements in the Extran Block (NEE)..... 4000
Number of Pumps in Extran (NEP)..... 1000
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG).... 1000
Number of Extran Weirs (NEW)..... 400
Number of Extran Printout Locations (NPO)..... 150
Number of Tide Elements in Extran (NTE)..... 50
Number of Natural Channels (NNC)..... 1200
Number of Storage Junctions in Extran (NVSE)..... 2000
Number of Time History Data Points in Extran (NTVAL)... 500
Number of Data Points for Variable Storage Elements
in the Extran Block (NVST)..... 200
Number of Input Hydrographs in Extran (NEH)..... 500
Number of Allowable Channel Connections to
Junctions in the Extran Block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50

```

Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
 Number of Storm Events for Rain Analysis (LSTORM).....20000
 Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
 Number Conduits for Extran Results to ASCII
 File (MXFLOW)..... 400

 * Entry made to the EXTENDED TRANSPORT MODEL (EXTRAN) *
 * developed 1973 by Camp, Dresser and McKee (CDM) with *
 * modifications 1977-1991 by the University of Florida. *
 * *
 * Most recent update: July 2004 by CDM and Oregon *
 * State University *
 * *
 * "Smooth runs the water where the brook is deep." *
 * Shakespeare, Henry VI, II, III, 1 *

1-----
 ENVIRONMENTAL PROTECTION AGENCY ***** EXTENDED TRANSPORT PROGRAM *****
 WASHINGTON, D.C. *****
 ***** ANALYSIS MODULE *****
 WATER RESOURCES DIVISION
 CAMP DRESSER & MCKEE INC.
 ANNANDALE, VIRGINIA

2008 Gig Harbor Stormwater
 Trunkline 5 Existing System

Control information for simulation

Integration cycles..... 69120
 Length of integration step is..... 5.00 seconds
 Simulation length..... 96.00 hours
 Do not create equiv. pipes(NEQUAL). 0
 Use U.S. customary units for I/O... 0
 Printing starts in cycle..... 1
 Intermediate printout intervals of 999999999 cycles
 Intermediate printout intervals of.***** minutes
 Summary printout intervals of..... 720 cycles
 Summary printout time interval of.. 60.00 minutes
 Hot start file parameter (JREDO)... 0
 Initial time (TZERO)..... 0.00 hours
 This is time displacement from JIN interface file starting date/time when
 interface file is used.
 This also describes starting hour in K3 line hydrograph input when K3
 lines are used.
 Initial date (IDATZ)..... 19630424 (yr/mo/day)
 NOTE: Initial date from JIN interface file will be used, if accessed,
 unless IDATZ is negative.
 Iteration variables: ITMAX..... 30
 SURTOL..... 0.0500
 Default surface area of junctions.... 12.57 square feet.
 EXTRAN VERSION 3.3 SOLUTION. (ISOL = 0).
 Sum of junction flow is zero during surcharge.
 NORMAL FLOW OPTION WHEN THE WATER
 SURFACE SLOPE IS LESS THAN THE
 GROUND SURFACE SLOPE (KSUPER=0)....
 NJSW INPUT HYDROGRAPH JUNCTIONS.... 0

INTERMEDIATE HEADER LINES ARE PRINTED AS IN ORIGINAL PROGRAM

IDS ARE WRITTEN AS IN ORIGINAL PROGRAM

CONDUIT LENGTHS ON C1 LINE MUST EQUAL IRREGULAR SECTION LENGTH ENTERED ON THE C3 OR X1 LINES (IWLEN = 0)

JELEV = 0 (DEFAULT). STANDARD INPUTS ARE DEPTHS NOT ELEVATIONS

JDOWN = 0 - Minimum of normal or critical depth will be used at free outfalls (I1).

Characteristic depth for M2 and S2 water surface profiles will be computed as in previous versions of EXTRAN (IM2 = 0).

SEDIMENT DEPTHS WILL NOT BE READ FROM C1 LINES

Intermediate continuity output will not be created

\$\$\$ FOR NATURAL CHANNELS WITH MULTIPLE DEPRESSIONS OR VARIABLE MANNINGS N,
 FLOW IS SUM OF FLOWS IN DEPRESSIONS AND/OR VARIABLE-N SEGMENTS.
 THIS IS EQUIVALENT TO SUMMING CONVEYANCES ACROSS THE CHANNEL. \$\$\$

NATURAL CROSS-SECTION INFORMATION FOR CHANNEL 9002
 =====

CROSS-SECTION ID (FROM X1 CARD) :		107.00 CHANNEL SEQUENCE NUMBER :		1
LENGTH :	636.67 FT	MAXIMUM ELEVATION :	163.13	FT.
SLOPE :	1.0000 FT/FT	MAXIMUM DEPTH :	2.46	FT.
MANNING N :	0.040 TO STATION 100.0	MAXIMUM SECTION AREA :	24.	SQ. FT.
" :	0.040 IN MAIN CHANNEL	MAXIMUM HYDRAULIC RADIUS :	1.50	FT.

" " : 0.040 BEYOND STATION 114.6 EXTR5.out
 MAX TOPWIDTH : 14.60 FT.
 MAXIMUM UNIFORM FLOW : 1.15E+03 CFS.

CROSS-SECTION POINTS

THE FOLLOWING 5 STATIONS WERE READ AND ADJUSTED 0.000 FT VERTICALLY AND HORIZONTALLY BY A RATIO OF 1.000

ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT
163.00	100.00	161.80	102.50	161.01	107.00	160.67	111.50	163.13	114.60

CROSS-SECTION DIMENSIONLESS CURVES NORMALIZED BY DEPTH

POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH
1	0.0000	0.0000	0.0977	10	0.3347	0.1925	0.5975	19	0.7098	0.6021	0.8608
2	0.0320	0.0030	0.0977	11	0.3705	0.2301	0.6444	20	0.7505	0.6550	0.8833
3	0.0639	0.0118	0.1954	12	0.4056	0.2706	0.6913	21	0.7906	0.7092	0.9059
4	0.0959	0.0266	0.2931	13	0.4469	0.3137	0.7256	22	0.8300	0.7648	0.9284
5	0.1359	0.0469	0.3631	14	0.4934	0.3583	0.7481	23	0.8688	0.8217	0.9509
6	0.1799	0.0703	0.4100	15	0.5387	0.4044	0.7707	24	0.9070	0.8800	0.9735
7	0.2210	0.0966	0.4569	16	0.5828	0.4517	0.7932	25	0.9492	0.9397	0.9915
8	0.2602	0.1257	0.5038	17	0.6260	0.5005	0.8157	26	1.0000	1.0000	1.0000
9	0.2980	0.1577	0.5506	18	0.6683	0.5506	0.8383				

NATURAL CROSS-SECTION INFORMATION FOR CHANNEL 9004

CROSS-SECTION ID (FROM X1 CARD) : 102.00 CHANNEL SEQUENCE NUMBER : 2

LENGTH : 543.83 FT
 SLOPE : 1.0000 FT/FT
 MANNING N : 0.040 TO STATION 100.0
 " : 0.040 IN MAIN CHANNEL
 " : 0.040 BEYOND STATION 112.0
 MAXIMUM ELEVATION : 241.78 FT.
 MAXIMUM DEPTH : 4.37 FT.
 MAXIMUM SECTION AREA : 35. SQ. FT.
 MAXIMUM HYDRAULIC RADIUS : 2.22 FT.
 MAX TOPWIDTH : 12.00 FT.
 MAXIMUM UNIFORM FLOW : 2.23E+03 CFS.

CROSS-SECTION POINTS

THE FOLLOWING 5 STATIONS WERE READ AND ADJUSTED 0.000 FT VERTICALLY AND HORIZONTALLY BY A RATIO OF 1.000

ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT
241.58	100.00	237.45	102.00	237.41	105.00	238.58	108.00	241.78	112.00

CROSS-SECTION DIMENSIONLESS CURVES NORMALIZED BY DEPTH

POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH
1	0.0000	0.0000	0.2928	10	0.4364	0.2348	0.6039	19	0.7672	0.6181	0.8312
2	0.0631	0.0144	0.2928	11	0.4780	0.2714	0.6291	20	0.7999	0.6682	0.8565
3	0.1224	0.0331	0.3372	12	0.5180	0.3094	0.6544	21	0.8320	0.7198	0.8818
4	0.1740	0.0544	0.3816	13	0.5566	0.3490	0.6797	22	0.8636	0.7729	0.9070
5	0.2207	0.0784	0.4260	14	0.5939	0.3901	0.7049	23	0.8949	0.8275	0.9323
6	0.2641	0.1050	0.4704	15	0.6302	0.4327	0.7302	24	0.9258	0.8836	0.9575
7	0.3052	0.1342	0.5148	16	0.6656	0.4768	0.7554	25	0.9580	0.9412	0.9818
8	0.3471	0.1661	0.5533	17	0.7002	0.5224	0.7807	26	1.0000	1.0000	1.0000
9	0.3929	0.1997	0.5786	18	0.7340	0.5695	0.8060				

NATURAL CROSS-SECTION INFORMATION FOR CHANNEL 9005

CROSS-SECTION ID (FROM X1 CARD) : 104.00 CHANNEL SEQUENCE NUMBER : 3

LENGTH : 302.45 FT
 SLOPE : 1.0000 FT/FT
 MANNING N : 0.040 TO STATION 100.0
 " : 0.040 IN MAIN CHANNEL
 " : 0.040 BEYOND STATION 110.6
 MAXIMUM ELEVATION : 198.28 FT.
 MAXIMUM DEPTH : 2.49 FT.
 MAXIMUM SECTION AREA : 20. SQ. FT.
 MAXIMUM HYDRAULIC RADIUS : 1.69 FT.
 MAX TOPWIDTH : 10.60 FT.
 MAXIMUM UNIFORM FLOW : 1.06E+03 CFS.

CROSS-SECTION POINTS

THE FOLLOWING 5 STATIONS WERE READ AND ADJUSTED 0.000 FT VERTICALLY AND HORIZONTALLY BY A RATIO OF 1.000

ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT
198.28	100.00	195.93	103.00	195.79	106.00	195.81	108.00	197.43	110.60

CROSS-SECTION DIMENSIONLESS CURVES NORMALIZED BY DEPTH

POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH
1	0.0000	0.0000	0.4021	10	0.3929	0.2609	0.6955	19	0.7151	0.6471	0.9160
2	0.0401	0.0145	0.4021	11	0.4300	0.2982	0.7226	20	0.7574	0.6956	0.9280
3	0.0864	0.0396	0.5060	12	0.4661	0.3369	0.7496	21	0.7991	0.7448	0.9400
4	0.1373	0.0669	0.5330	13	0.5012	0.3771	0.7767	22	0.8402	0.7945	0.9520
5	0.1852	0.0957	0.5601	14	0.5355	0.4187	0.8038	23	0.8809	0.8450	0.9640
6	0.2304	0.1259	0.5872	15	0.5691	0.4617	0.8309	24	0.9211	0.8960	0.9760
7	0.2736	0.1575	0.6143	16	0.6020	0.5061	0.8579	25	0.9608	0.9477	0.9880

8 0.3149 0.1905 0.6413 17 0.6343 EXTR5.out 0.8850 26 1.0000 1.0000 1.0000
 9 0.3545 0.2250 0.6684 18 0.6723 0.5520 0.5992 0.9040

NATURAL CROSS-SECTION INFORMATION FOR CHANNEL 9006

CROSS-SECTION ID (FROM X1 CARD) : 101.00 CHANNEL SEQUENCE NUMBER : 4

LENGTH : 895.60 FT
 SLOPE : 1.0000 FT/FT
 MANNING N : 0.040 TO STATION 50.0
 " : 0.040 IN MAIN CHANNEL
 " : 0.040 BEYOND STATION 112.0
 MAXIMUM ELEVATION : 245.21 FT
 MAXIMUM DEPTH : 1.39 FT
 MAXIMUM SECTION AREA : 36.00 SQ. FT.
 MAXIMUM HYDRAULIC RADIUS : 0.57 FT.
 MAX TOPWIDTH : 62.00 FT.
 MAXIMUM UNIFORM FLOW : 9.19E+02 CFS.

CROSS-SECTION POINTS

THE FOLLOWING 6 STATIONS WERE READ AND ADJUSTED 0.000 FT VERTICALLY AND HORIZONTALLY BY A RATIO OF 1.000

ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT
245.00	50.00	244.45	100.00	243.98	103.50	243.82	106.00	244.32	109.00
245.21	112.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CROSS-SECTION DIMENSIONLESS CURVES NORMALIZED BY DEPTH

POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH
1	0.0000	0.0000	0.0194	10	0.4794	0.0625	0.1296	19	0.5212	0.3732	0.7161
2	0.0481	0.0009	0.0194	11	0.5381	0.0754	0.1393	20	0.5575	0.4463	0.8006
3	0.0962	0.0037	0.0388	12	0.5954	0.0893	0.1490	21	0.5962	0.5276	0.8852
4	0.1465	0.0084	0.0573	13	0.5042	0.1058	0.2088	22	0.6365	0.6170	0.9697
5	0.2086	0.0145	0.0693	14	0.4418	0.1300	0.2934	23	0.7189	0.7121	0.9909
6	0.2665	0.0218	0.0814	15	0.4288	0.1623	0.3779	24	0.8129	0.8078	0.9940
7	0.3218	0.0302	0.0935	16	0.4381	0.2028	0.4625	25	0.9066	0.9038	0.9970
8	0.3754	0.0398	0.1055	17	0.4594	0.2515	0.5470	26	1.0000	1.0000	1.0000
9	0.4278	0.0505	0.1176	18	0.4880	0.3083	0.6315				

1- ENVIRONMENTAL PROTECTION AGENCY *** EXTENDED TRANSPORT PROGRAM *** WATER RESOURCES DIVISION
 WASHINGTON, D.C. *** ANALYSIS MODULE *** CAMP DRESSER & MCKEE INC.
 ANNANDALE, VIRGINIA

2008 Gig Harbor Stormwater
 Trunkline 5 Existing System

1- *****
 * Conduit Data *

INP NUM	CONDUIT NUMBER	LENGTH (FT)	CONDUIT CLASS	AREA (SQ FT)	MANNING COEF.	MAX WIDTH (FT)	DEPTH (FT)	JUNCTIONS AT THE ENDS	INVERT HEIGHT ABOVE JUNCTIONS	TRAPEZOID SIDE SLOPES
1	1000	1000.	CIRCULAR	19.63	0.00900	5.00	5.00	5023 800		
2	1001	1000.	CIRCULAR	12.57	0.00900	4.00	4.00	5024 800		
3	1002	1000.	CIRCULAR	28.27	0.00900	6.00	6.00	800 700		
4	1003	200.	CIRCULAR	7.07	0.01200	3.00	3.00	900 5011		
5	1004	200.	CIRCULAR	7.07	0.01200	3.00	3.00	950 5011		
6	1005	200.	CIRCULAR	7.07	0.01200	3.00	3.00	960 5011		
7	130	62.	CIRCULAR	1.77	0.01400	1.50	1.50	5025 5023		
8	132	194.	CIRCULAR	3.14	0.01400	2.00	2.00	5014 5015		
9	133	154.	CIRCULAR	3.14	0.01400	2.00	2.00	5016 5017		
10	134	68.	CIRCULAR	1.77	0.01400	1.50	1.50	5012 5013		
11	135	34.	CIRCULAR	3.14	0.01400	2.00	2.00	5018 9990		
12	136	372.	CIRCULAR	3.14	0.01400	2.00	2.00	9992 5019		
13	137	82.	CIRCULAR	3.14	0.01400	2.00	2.00	9990 9992		
14	138	77.	CIRCULAR	1.77	0.01200	1.50	1.50	5022 5024	2.07	0.00
15	139	20.	CIRCULAR	0.79	0.01200	1.00	1.00	5022 5025		
16	9001	36.	TRAPEZOID	54.00	0.03000	15.00	3.00	5019 5020		1.00 1.00
17	9002	637.	NATURAL	23.71	0.04000	14.60	2.46	5017 5018		
18	9003	71.	TRAPEZOID	54.00	0.03000	15.00	3.00	5020 5022		1.00 1.00
19	9004	544.	NATURAL	35.33	0.04000	12.00	4.37	5013 5014		
20	9005	302.	NATURAL	20.06	0.04000	10.60	2.49	5015 5016		
21	9006	896.	NATURAL	35.76	0.04000	62.00	1.39	5011 5012		

====> WARNING !!! (C*DELTA/LEN) IN CONDUIT 135 IS 1.2 AT FULL DEPTH,
 ====> WARNING !!! (C*DELTA/LEN) IN CONDUIT 139 IS 1.4 AT FULL DEPTH,
 ====> WARNING !!! (C*DELTA/LEN) IN CONDUIT 9001 IS 1.3 AT FULL DEPTH,

 * Conduit Volume *

Input full depth volume..... 1.4590E+05 cubic feet

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2008 Gig Harbor Stormwater
 Trunkline 5 Existing System

1- *****
 * Junction Data *

INP NUM	JUNCTION NUMBER	GROUND ELEV.	CROWN ELEV.	INVERT ELEV.	QINST CFS	INITIAL DEPTH(FT)	CONNECTING CONDUITS			
1	5011	264.02	263.36	260.36	0.00	0.00	1003	1004	1005	9006
2	5012	251.52	245.24	243.74	0.00	0.00	134	9006		
3	5013	251.52	241.64	237.27	0.00	0.00	134	9004		
4	5014	231.07	212.96	208.59	0.00	0.00	132	9004		
5	5015	231.07	198.79	196.30	0.00	0.00	132	9005		
6	5016	195.80	178.73	176.24	0.00	0.00	133	9005		
7	5017	195.80	171.75	169.29	0.00	0.00	133	9002		
8	5018	126.00	125.00	122.54	0.00	0.00	135	9002		
9	5019	101.55	101.15	98.15	0.00	0.00	136	9001		
10	5020	101.55	98.00	95.00	0.00	0.00	9001	9003		
11	5022	101.55	97.08	93.51	0.00	0.00	138		9003	
12	5023	101.55	98.13	93.13	0.00	0.00	1000	130		
13	5024	101.55	99.20	95.20	0.00	0.00	1001	138		
14	5025	101.55	94.94	93.44	0.00	0.00	130	139		
15	800	110.00	98.00	92.00	0.00	0.00	1000	1001	1002	
16	900	273.64	272.64	269.64	0.00	0.00	1003			
17	950	273.64	272.64	269.64	0.00	0.00	1004			
18	960	273.64	272.64	269.64	0.00	0.00	1005			
19	9990	122.96	119.79	117.79	0.00	0.00	135	137		
20	9992	117.98	116.57	114.57	0.00	0.00	136	137		
21	700	110.00	97.00	91.00	0.00	0.00	1002			

1

* Additional Junction Data *

INP NUM	JUNCTION NUMBER	XLOC	YLOC	SURCHARGE ELEVATION (FT)
1	5011	1122904.62	726147.94	0.00
2	5012	1122637.38	725533.69	0.00
3	5013	1122635.75	725465.38	0.00
4	5014	1122616.88	724959.25	0.00
5	5015	1122595.12	724766.38	0.00
6	5016	1122481.25	724492.75	0.00
7	5017	1122428.12	724348.19	0.00
8	5018	1121931.88	724037.06	0.00
9	5019	1121919.00	723549.44	0.00
10	5020	1121937.00	723518.38	0.00
11	5022	1121921.75	723475.00	0.00
12	5023	1121850.88	723496.56	0.00
13	5024	1121851.62	723489.62	0.00
14	5025	1121911.38	723484.75	0.00
15	800	1121839.50	723495.50	0.00
16	900	1123087.88	726205.75	0.00
17	950	1122782.88	726270.88	0.00
18	960	1122969.88	726315.19	0.00
19	9990	1121928.88	724002.94	0.00
20	9992	1121928.00	723921.12	0.00
21	700	1121827.62	723498.94	0.00

* FREE OUTFALL DATA (DATA GROUP 11) *
* BOUNDARY CONDITION ON DATA GROUP 11 *

OUTFALL AT JUNCTION... 700 HAS BOUNDARY CONDITION NUMBER... 1

1-----
ENVIRONMENTAL PROTECTION AGENCY ***** EXTENDED TRANSPORT PROGRAM *****
WASHINGTON, D.C. *****
***** ANALYSIS MODULE *****
WATER RESOURCES DIVISION
CAMP DRESSER & MCKEE INC.
ANNANDALE, VIRGINIA

2008 Gig Harbor Stormwater
Trunkline 5 Existing System

* INTERNAL CONNECTIVITY INFORMATION *

CONDUIT	JUNCTION	JUNCTION
90022	700	0

1

* BOUNDARY CONDITON INFORMATION *
* DATA GROUPS 11-14 *

BC NUMBER.. 1 CONTROL WATER SURFACE ELEVATION IS.. 91.00 FEET.

Header information from interface file: #
#####

Title from first computational block:

Title from immediately preceding computational block:

Name of preceding block:.....Runoff block

Initial Julian date (IDATEZ)..... 1963114
Initial time of day in seconds (TZERO)..... 0.0
No. transferred input locations..... 7
No. transferred pollutants..... 0
Size of total catchment area (acres)..... 1100.00
ID numbers (JCE=0) or alphanumeric (JCE=1)..... 0

EXTR5.out

Element numbers of interface inlet locations: #
#####

960 5022 5015 950 900 5011 960

Conversion factor to cfs for flow units
on interface file. Multiply by: 1.00000

>>> STARTING DATE AND TIME OF EXTRAN RUN ARE:
JULIAN DATE: 1963114
YR/MO/DA: 1963/ 4/24
TIME OF DAY: 0.000 HRS
THIS IS 0.000 HOURS BEYOND INTERFACE FILE STARTING TIME
AS PROVIDED BY TZERO ON LINE 81.
TZERO = 1963114 0.0000000E+00

* INITIAL MODEL CONDITION *
* INITIAL TIME = 0.00 HOURS *

JUNCTION / DEPTH / ELEVATION ==> "*" JUNCTION IS SURCHARGED.
5011/ 0.00 / 260.36 5012/ 0.00 / 243.74 5013/ 0.00 / 237.27
5014/ 0.00 / 208.59 5015/ 0.00 / 196.30 5016/ 0.00 / 176.24
5017/ 0.00 / 169.29 5018/ 0.00 / 122.54 5019/ 0.00 / 98.15
5020/ 0.00 / 95.00 5022/ 0.00 / 93.51 5023/ 0.00 / 93.13
5024/ 0.00 / 95.20 5025/ 0.00 / 93.44 800/ 0.00 / 92.00
900/ 0.00 / 269.64 950/ 0.00 / 269.64 960/ 0.00 / 269.64
9990/ 0.00 / 117.79 9992/ 0.00 / 114.57 700/ 0.00 / 91.00

CONDUIT/ FLOW ==> "*" CONDUIT USES THE NORMAL FLOW OPTION.
1000/ 0.00 1001/ 0.00 1002/ 0.00 1003/ 0.00
1004/ 0.00 1005/ 0.00 130/ 0.00 132/ 0.00
133/ 0.00 134/ 0.00 135/ 0.00 136/ 0.00
137/ 0.00 138/ 0.00 139/ 0.00 9001/ 0.00
9002/ 0.00 9003/ 0.00 9004/ 0.00 9005/ 0.00
9006/ 0.00 90022/ 0.00

CONDUIT/ VELOCITY
1000/ 0.00 1001/ 0.00 1002/ 0.00 1003/ 0.00
1004/ 0.00 1005/ 0.00 130/ 0.00 132/ 0.00
133/ 0.00 134/ 0.00 135/ 0.00 136/ 0.00
137/ 0.00 138/ 0.00 139/ 0.00 9001/ 0.00
9002/ 0.00 9003/ 0.00 9004/ 0.00 9005/ 0.00
9006/ 0.00

CONDUIT/ CROSS SECTIONAL AREA
1000/ 0.00 1001/ 0.00 1002/ 0.00 1003/ 0.00
1004/ 0.00 1005/ 0.00 130/ 0.00 132/ 0.00
133/ 0.00 134/ 0.00 135/ 0.00 136/ 0.00
137/ 0.00 138/ 0.00 139/ 0.00 9001/ 0.00
9002/ 0.00 9003/ 0.00 9004/ 0.00 9005/ 0.00
9006/ 0.00

CONDUIT/ HYDRAULIC RADIUS
1000/ 0.00 1001/ 0.00 1002/ 0.00 1003/ 0.00
1004/ 0.00 1005/ 0.00 130/ 0.00 132/ 0.00
133/ 0.00 134/ 0.00 135/ 0.00 136/ 0.00
137/ 0.00 138/ 0.00 139/ 0.00 9001/ 0.00
9002/ 0.00 9003/ 0.00 9004/ 0.00 9005/ 0.00
9006/ 0.00

CONDUIT/ UPSTREAM/ DOWNSTREAM ELEVATION
1000/ 93.13/ 92.00 1001/ 95.20/ 92.00 1002/ 92.00/ 91.00
1003/ 269.64/ 260.36 1004/ 269.64/ 260.36 1005/ 269.64/ 260.36
130/ 93.44/ 93.13 132/ 208.59/ 196.30 133/ 176.24/ 169.29
134/ 243.74/ 237.27 135/ 122.54/ 117.79 136/ 114.57/ 98.15
137/ 117.79/ 114.57 138/ 95.58/ 95.20 139/ 93.51/ 93.44
9001/ 98.15/ 95.00 9002/ 169.29/ 122.54 9003/ 95.00/ 93.51
9004/ 237.27/ 208.59 9005/ 196.30/ 176.24 9006/ 260.36/ 243.74

====> warning !! End of input file reached at time = 71.0 hours.
Simulation continues with zero inflow.

* FINAL MODEL CONDITION *
* FINAL TIME = 96.00 HOURS *

>>> ENDING DATE AND TIME OF EXTRAN RUN ARE:
JULIAN DATE: 1963118
YR/MO/DA: 1963/ 4/28
TIME OF DAY: 0.000 HRS

JUNCTION / DEPTH / ELEVATION ==> "*" JUNCTION IS SURCHARGED.
5011/ 0.00 / 260.36 5012/ 0.00 / 243.74 5013/ 0.00 / 237.27
5014/ 0.00 / 208.59 5015/ 0.00 / 196.30 5016/ 0.00 / 176.24
5017/ 0.00 / 169.30 5018/ 0.00 / 122.54 5019/ 0.00 / 98.15
5020/ 0.00 / 95.00 5022/ 0.00 / 93.51 5023/ 0.00 / 93.13
5024/ 0.00 / 95.20 5025/ 0.00 / 93.44 800/ 0.00 / 92.00
900/ 0.00 / 269.64 950/ 0.00 / 269.64 960/ 0.00 / 269.64
9990/ 0.00 / 117.79 9992/ 0.00 / 114.57 700/ 0.00 / 91.00

CONDUIT/ FLOW ==> "*" CONDUIT USES THE NORMAL FLOW OPTION.
1000/ 0.00* 1001/ 0.00* 1002/ 0.00 1003/ 0.00*
1004/ 0.00* 1005/ 0.00* 130/ 0.00 132/ 0.00*
133/ 0.00* 134/ 0.00* 135/ 0.00* 136/ 0.00
137/ 0.00* 138/ 0.00* 139/ 0.00* 9001/ 0.00*

CONDUIT #	VELOCITY	CONDUIT #	VELOCITY	CONDUIT #	VELOCITY	CONDUIT #	VELOCITY
9002/	0.00	9003/	0.00*	9004/	0.00	9005/	0.00
9006/	0.00	90022/	0.00				
1000/	0.17	1001/	0.00	1002/	0.32	1003/	0.00
1004/	0.00	1005/	0.00	130/	0.22	132/	0.28
133/	0.10	134/	0.31	135/	0.81	136/	0.66
137/	0.52	138/	0.00	139/	0.19	9001/	0.04
9002/	0.09	9003/	0.01	9004/	0.05	9005/	0.05
9006/	0.05						

CONDUIT #	CROSS SECTIONAL AREA	CONDUIT #	CROSS SECTIONAL AREA	CONDUIT #	CROSS SECTIONAL AREA	CONDUIT #	CROSS SECTIONAL AREA
1000/	0.00	1001/	0.00	1002/	0.00	1003/	0.00
1004/	0.00	1005/	0.00	130/	0.00	132/	0.00
133/	0.00	134/	0.00	135/	0.00	136/	0.00
137/	0.00	138/	0.00	139/	0.00	9001/	0.00
9002/	0.00	9003/	0.03	9004/	0.00	9005/	0.00
9006/	0.00						

CONDUIT #	FINAL VOLUME	CONDUIT #	FINAL VOLUME	CONDUIT #	FINAL VOLUME	CONDUIT #	FINAL VOLUME
1000/	1.08	1001/	0.11	1002/	1.01	1003/	0.04
1004/	0.32	1005/	0.04	130/	0.05	132/	0.06
133/	0.15	134/	0.02	135/	0.01	136/	0.07
137/	0.02	138/	0.00	139/	0.02	9001/	0.13
9002/	0.83	9003/	1.85	9004/	0.88	9005/	0.53
9006/	1.14						

CONDUIT #	HYDRAULIC RADIUS	CONDUIT #	HYDRAULIC RADIUS	CONDUIT #	HYDRAULIC RADIUS	CONDUIT #	HYDRAULIC RADIUS
1000/	0.01	1001/	0.01	1002/	0.02	1003/	0.01
1004/	0.01	1005/	0.01	130/	0.00	132/	0.01
133/	0.01	134/	0.00	135/	0.01	136/	0.01
137/	0.01	138/	0.00	139/	0.00	9001/	0.00
9002/	0.00	9003/	0.00	9004/	0.00	9005/	0.00
9006/	0.00						

CONDUIT #	UPSTREAM ELEVATION	CONDUIT #	UPSTREAM ELEVATION	CONDUIT #	UPSTREAM ELEVATION	CONDUIT #	UPSTREAM ELEVATION
1000/	93.13/	1001/	92.00	1002/	92.00	1003/	91.00
1004/	269.64/	1005/	269.64/	130/	269.64/	132/	269.64/
133/	93.44/	134/	93.13	135/	208.59/	136/	176.24/
137/	243.74/	138/	237.27	139/	122.54/	9001/	114.57/
9002/	117.79/	9003/	114.57	9004/	95.58/	9005/	93.51/
9006/	98.15/		95.00		169.30/		93.51
					176.24		243.74

Surcharge Iteration Summary #

Maximum number of iterations in a time step.... 31
Total number of iterations in the simulation.... 140927
Average number of iterations per time step.... 2.04
Surcharge iterations during the simulation..... 2687
Maximum surcharge flow error during simulation.. 5.14E+00 cfs
Total number of time steps during simulation.. 69120

1 *****
* CONDUIT COURANT CONDITION SUMMARY *
* TIME IN MINUTES DELT > COURANT TIME STEP *

* SEE BELOW FOR EXPLANATION OF COURANT TIME STEP. *

CONDUIT #	TIME(MN)	CONDUIT #	TIME(MN)	CONDUIT #	TIME(MN)	CONDUIT #	TIME(MN)
1000	0.00	1001	0.00	1002	0.00	1003	0.00
1004	0.00	1005	0.00	130	205.83	132	0.00
133	79.17	134	272.50	135	1924.92	136	0.00
137	141.08	138	145.25	139	2170.50	9001	152.25
9002	0.00	9003	0.00	9004	0.00	9005	0.00
9006	0.00						

1 *****
* CONDUIT COURANT CONDITION SUMMARY *

* COURANT = CONDUIT LENGTH *
* TIME STEP = VELOCITY + SQRT(GRVT*AREA/WIDTH) *

* AVERAGE COURANT CONDITION TIME STEP(SECONDS) *

CONDUIT #	TIME(SEC)	CONDUIT #	TIME(SEC)	CONDUIT #	TIME(SEC)	CONDUIT #	TIME(SEC)
1000	720.92	1001	18.90	1002	626.24	1003	67.63
1004	58.81	1005	71.40	130	30.61	132	103.54
133	91.46	134	33.14	135	13.79	136	154.89
137	43.47	138	5.01	139	10.15	9001	74.59
9002	443.40	9003	76.12	9004	720.36	9005	354.05
9006	601.72						

1 *****
* EXTRAN CONTINUITY BALANCE AT THE LAST TIME STEP *

* JUNCTION INFLOW, OUTFLOW OR STREET FLOODING *

JUNCTION INFLOW, FT3

5011 3.3761E+05
 5015 5.1776E+04
 5022 1.2526E+05
 900 7.0774E+04
 950 1.7678E+05
 960 1.6709E+04

JUNCTION OUTFLOW, FT3

 5012 1.6259E+05
 5019 4.8600E+04
 5020 5.8845E+01
 5022 1.5116E+01
 9992 9.6339E+03
 700 5.6017E+05

 * INITIAL SYSTEM VOLUME = 7.1483E-02 CU FT *
 * TOTAL SYSTEM INFLOW VOLUME = 7.7892E+05 CU FT *
 * INFLOW + INITIAL VOLUME = 7.7892E+05 CU FT *

 * TOTAL SYSTEM OUTFLOW = 7.8106E+05 CU FT *
 * VOLUME LEFT IN SYSTEM = 9.4279E+00 CU FT *
 * OUTFLOW + FINAL VOLUME = 7.8107E+05 CU FT *

 * ERROR IN CONTINUITY, PERCENT = -0.28 *

TEST WRITE OF ALTERNATIVE CONTINUITY ERROR CALCULATION
 VOLUME LEFT IN SYSTEM = 2.2191E+05 CU. FT.
 ERROR IN CONTINUITY PERCENT = -287.66

----- SUMMARY OF FULL FLOW CHANNEL WARNINGS -----

OPEN CHANNEL NUMBER	TIME STEP OF FIRST OCCURRENCE	TIME OF FIRST OCCURRENCE (HOURS)	TIME STEP OF LAST OCCURRENCE	TIME OF LAST OCCURRENCE (HOURS)
9001	28415	39.47	29998	41.66
9003	28336	39.36	30563	42.45
9005	28476	39.55	29617	41.13
9006	28411	39.46	29989	41.65

THE PROGRAM USES FULL DEPTH CHANNEL CHARACTERISTICS TO COMPUTE FLOW THROUGH THE TRAPEZOIDAL, IRREGULAR, OR PARABOLIC/POWER FUNCTION CONDUIT WHEN THE COMPUTED DEPTHS EXCEED MAXIMUM DEPTH. THIS WILL AFFECT THE MAXIMUM COMPUTED HEAD AND FLOWS IN THE MODEL. IT IS HIGHLY RECOMMENDED THAT THE MODELED CROSS SECTIONS BE EXTENDED TO ELIMINATE THESE FULL FLOW CHANNEL WARNINGS

1

 * JUNCTION SUMMARY STATISTICS *

2008 Gig Harbor Stormwater
 Trunkline 5 Existing System

JUNCTION NUMBER	GROUND ELEVATION (FT)	UPPERMOST PIPE CROWN ELEVATION (FT)	MEAN JUNCTION ELEVATION (FT)	JUNCTION AVERAGE % CHANGE	MAXIMUM JUNCTION ELEV. (FT)	TIME OF OCCURRENCE HR. MIN.	FEET OF SURCHARGE AT MAX ELEVATION	FEET MAX. DEPTH IS BELOW GROUND ELEVATION	LENGTH OF SURCHARGE (MIN)	LENGTH OF FLOODING (MIN)	MAXIMUM JUNCTION AREA (SQ. FT)
5011	264.02	263.36	260.52	0.0016	261.75	40 3	0.00	2.27	0.0	0.0	7.881E+05
5012	251.52	245.24	243.97	0.0158	251.52	39 28	6.28	0.00	121.2	86.8	4.264E+05
5013	251.52	241.64	237.35	0.0009	238.47	39 38	0.00	13.05	0.0	0.0	3.129E+03
5014	231.07	212.96	208.72	0.0020	211.22	40 56	0.00	19.85	0.0	0.0	2.397E+03
5015	231.07	198.79	196.38	0.0013	197.33	40 0	0.00	33.74	0.0	0.0	4.030E+04
5016	195.80	178.73	176.46	0.0121	185.54	40 0	6.81	10.26	95.1	0.0	2.458E+04
5017	195.80	171.75	169.45	0.0017	170.40	39 34	0.00	25.40	0.0	0.0	7.552E+03
5018	126.00	125.00	122.62	0.0015	123.69	40 1	0.00	2.31	0.0	0.0	4.136E+03
5019	101.55	101.15	98.23	0.0066	101.55	39 35	0.40	0.00	90.1	78.4	1.903E+04
5020	101.55	98.00	95.18	0.0085	101.55	39 35	3.55	0.00	128.7	0.6	3.477E+04
5022	101.55	97.08	93.92	0.0087	101.55	39 35	4.47	0.00*	164.2	0.2	2.384E+04
5023	101.55	98.13	93.29	0.0010	94.44	40 0	0.00	7.11	0.0	0.0	3.276E+03
5024	101.55	99.20	95.24	0.0010	96.57	40 0	0.00	4.98	0.0	0.0	3.351E+03
5025	101.55	94.94	93.73	0.0109	96.84	39 35	1.90	4.71	202.3	0.0	5.045E+02
800	110.00	98.00	92.21	0.0014	94.17	40 9	0.00	15.83	0.0	0.0	7.284E+03
900	273.64	272.64	269.66	0.0006	270.21	40 0	0.00	3.43	0.0	0.0	2.703E+02
950	273.64	272.64	269.69	0.0009	270.53	40 0	0.00	3.11	0.0	0.0	2.949E+02
960	273.64	272.64	269.65	0.0002	269.86	41 0	0.00	3.78	0.0	0.0	2.477E+02
9990	122.96	119.79	117.94	0.0111	122.48	40 1	2.69	0.48	95.8	0.0	2.354E+03
9992	117.98	116.57	114.78	0.0103	117.98	39 45	1.42	0.00	88.1	63.0	1.123E+04
700	110.00	97.00	91.14	0.0183	92.85	40 12	0.00	17.15	0.0	0.0	5.609E+03

WARNING. INFLOW TO EXTRAN OCCURED AT JUNCTION THAT EXPERIENCED SURFACE FLOODING.
 IF THIS INFLOW OCCURED SIMULTANEOUSLY WITH FLOODING, WATER WILL NOT ENTER EXTRAN
 AND IS LOST FROM SIMULATION EXCEPT FOR CONTINUITY CHECK.
 USER MAY WISH TO CONSIDER EFFECTS ON UPSTREAM CHANNELS/PIPES NOT MODELED IN EXTRAN.

ASTERISK (*) => INFLOW AT JUNCTION WITH INFLOW FROM SWMM INTERFACE FILE.
 POUND (#) => INFLOW AT JUNCTION WITH INFLOW FROM K3 GROUP.
 DOLLAR (\$) => INFLOW AT JUNCTION WITH INFLOWS FROM BOTH SOURCES.

NOTE THAT CONSTANT JUNCTION INFLOWS CAN ENHANCE FLOODING.

1

 * CONDUIT SUMMARY STATISTICS *

2008 Gig Harbor Stormwater
 Trunkline 5 Existing System

EXTR5.out

CONDUIT NUMBER	DESIGN FLOW (CFS)	DESIGN VELOCITY (FPS)	CONDUIT VERTICAL DEPTH (IN)	MAXIMUM COMPUTED FLOW (CFS)	TIME OF OCCURRENCE HR. MIN.	MAXIMUM COMPUTED VELOCITY (FPS)	TIME OF OCCURRENCE HR. MIN.	RATIO OF MAX. TO DESIGN FLOW	MAXIMUM INV. AT UPSTREAM (FT)	DEPTH ABOVE CONDUIT ENDS DOWNSTREAM (FT)	LENGTH OF CONDUIT FLOW (MIN)	CONDUIT SLOPE (FT/FT)
1000	1.26E+02	6.44	60.000	1.89E+01	40 0	4.34	39 26	0.15	1.31	2.17	5317.5	0.00113
1001	1.17E+02	9.34	48.000	2.98E+01	39 59	6.09	39 37	0.25	1.37	2.17	3401.3	0.00320
1002	1.93E+02	6.84	72.000	4.87E+01	40 12	5.87	40 5	0.25	1.37	1.85	0.0	0.00100
1003	1.56E+02	22.02	36.000	1.22E+01	40 0	16.61	0 0	0.08	0.57	1.39	5759.7	0.04640
1004	1.56E+02	22.02	36.000	3.00E+01	40 0	12.26	40 0	0.19	0.89	1.39	5752.2	0.04640
1005	1.56E+02	22.02	36.000	1.74E+00	41 0	1.63	41 1	0.01	0.22	1.39	5759.4	0.04640
130	6.92E+00	3.91	18.000	1.89E+01	40 0	11.10	39 35	2.73	3.43	1.31	0.0	0.00503
132	5.29E+01	16.82	24.000	4.08E+01	40 0	15.99	39 59	0.77	2.63	1.03	1293.5	0.06331
133	4.46E+01	14.20	24.000	4.93E+01	40 0	18.84	40 0	1.11	9.30	1.11	5486.7	0.04510
134	3.00E+01	16.99	18.000	4.03E+01	39 37	24.08	39 38	1.34	7.78	1.20	1173.3	0.09479
135	7.82E+01	24.90	24.000	4.93E+01	40 1	18.69	40 57	0.63	1.15	4.69	5732.2	0.13868
136	4.41E+01	14.05	24.000	4.58E+01	39 43	15.13	39 31	1.04	3.42	3.40	33.1	0.04416
137	4.17E+01	13.27	24.000	4.93E+01	40 1	15.68	40 1	1.18	4.69	3.42	5529.2	0.03939
138	7.99E+00	4.52	18.000	2.98E+01	40 0	17.12	40 0	3.73	5.97	1.37	3195.1	0.00494
139	2.28E+00	2.91	12.000	1.90E+01	41 1	24.15	41 1	8.31	8.04	3.43	3746.2	0.00350
9001	1.38E+03	25.56	36.000	8.70E+01	40 58	2.78	39 17	0.06	3.40	6.55	5514.5	0.08773
9002	3.13E+02	13.19	29.520	4.93E+01	40 0	10.86	0 16	0.16	1.11	1.15	90.6	0.07343
9003	6.76E+02	12.51	36.000	6.52E+01	41 5	1.21	41 5	0.10	6.55	8.04	5504.4	0.02102
9004	5.13E+02	14.51	52.440	4.03E+01	39 37	5.68	39 29	0.08	1.20	2.63	4516.2	0.05274
9005	2.72E+02	13.57	29.880	4.93E+01	40 0	4.19	39 30	0.18	1.03	9.30	4680.8	0.06632
9006	1.25E+02	3.50	16.680	9.81E+01	40 3	2.74	40 3	0.78	1.39	7.78	159.9	0.01856
90022	UNDEF	UNDEF	UNDEF	4.87E+01	40 12							

1

 * SUBCRITICAL AND CRITICAL FLOW ASSUMPTIONS FROM *
 * SUBROUTINE HEAD, SEE FIGURE 5-4 IN THE EXTRAN *
 * MANUAL FOR FURTHER INFORMATION. *

CONDUIT NUMBER	LENGTH OF DRY FLOW(MIN)	LENGTH OF SUBCRITICAL FLOW(MIN)	LENGTH OF UPSTR. CRITICAL FLOW(MIN)	LENGTH OF DOWNSTR. CRITICAL FLOW(MIN)	MEAN FLOW (CFS)	AVERAGE % CHANGE	TOTAL FLOW CUBIC FT	MAXIMUM HYDRAULIC RADIUS(FT)	MAXIMUM CROSS SECT AREA(FT ²)
1000	4.67	5754.58	0.00	0.75	0.94	0.0005	3.2595E+05	0.9610	6.0659
1001	5280.58	479.42	0.00	0.00	0.68	0.0008	2.3444E+05	0.9214	5.3674
1002	6.17	5690.33	0.00	63.50	1.62	0.0029	5.6020E+05	1.1196	8.3018
1003	1483.25	4276.75	0.00	0.00	0.20	0.0002	7.0775E+04	0.5471	1.9940
1004	1482.00	4278.00	0.00	0.00	0.51	0.0006	1.7679E+05	0.6162	2.4534
1005	1487.58	4272.42	0.00	0.00	0.05	0.0000	1.6705E+04	0.4581	1.4812
130	0.75	5755.42	0.00	3.83	0.94	0.0105	3.2576E+05	0.4564	1.7174
132	33.58	5726.42	0.00	0.00	1.27	0.0023	4.3950E+05	0.6046	2.5542
133	0.08	5747.83	0.00	12.08	1.42	0.0032	4.9134E+05	0.6065	2.6198
134	1.08	5758.92	0.00	0.00	1.27	0.0041	4.3952E+05	0.4564	1.6724
135	27.75	5732.17	0.00	0.08	1.42	0.0019	4.9132E+05	0.6074	2.6540
136	12.33	5698.17	0.00	49.50	1.39	0.0040	4.8169E+05	0.6084	3.1416
137	13.83	5743.67	0.00	2.50	1.42	0.0062	4.9116E+05	0.6085	3.1416
138	5545.92	214.00	0.00	0.08	0.68	0.0159	2.3437E+05	0.4564	1.7415
139	0.00	5759.33	0.00	0.67	0.94	0.0494	3.2575E+05	0.3042	0.7854
9001	69.83	5690.17	0.00	0.00	1.25	0.0056	4.3190E+05	2.2993	54.0000
9002	12.50	5731.00	0.00	16.50	1.42	0.0005	4.9140E+05	0.6383	6.9126
9003	25.08	5734.92	0.00	0.00	1.26	0.0062	4.3477E+05	2.2993	54.0000
9004	0.17	5726.42	0.00	33.42	1.27	0.0002	4.3957E+05	1.1419	10.8279
9005	0.08	5759.92	0.00	0.00	1.42	0.0005	4.9130E+05	1.1846	12.6715
9006	0.00	5759.00	0.00	1.00	1.75	0.0024	6.0543E+05	0.5747	35.7518
90022	UNDEFINED	UNDEFINED	UNDEFINED	UNDEFINED	1.62		5.6020E+05		

 * AVERAGE % CHANGE IN JUNCTION OR CONDUIT IS DEFINED AS: *
 * CONDUIT % CHANGE ==> 100.0 (Q(n+1) - Q(n)) / Qfull *
 * JUNCTION % CHANGE ==> 100.0 (Y(n+1) - Y(n)) / Yfull *

The Conduit with the largest average change... 139 had 0.049 percent
 The junction with the largest average change... 700 had 0.018 percent

====> Extended Transport model simulation ended normally.

====> SWMM 4.4H simulation ended normally.
 Always check output file for possible warning messages.

====> Your input file was named : C:\GIGHAR~1\EXTR51.DAT
 ====> Your output file was named: C:\GIGHAR~1\EXTR5.out

 * SWMM 4.4H Simulation Date and Time Summary *

 * Starting Date... March 6, 2009 *
 * Time... 16:51:50.954 *
 * Ending Date... March 6, 2009 *
 * Time... 16:52:4.783 *
 * Elapsed Time... 0.230 minutes. *
 * Elapsed Time... 13.829 seconds. *

```

1 *****
*   U.S. Environmental Protection Agency   *
*   Storm water Management Model (SWMM)   *
*   Version 4.4H                         *
*   *                                     *
*   CDM/OSU Ongoing Version 4.4h         *
*   Release Date - July 30, 2004         *
*   Camp Dresser & McKee and Oregon St. Univ. *
*   Chuck Moore, Bob Dickinson, and Wayne Huber *
*   Compiled using Compaq Visual Fortran v.6.6 *
*****

Developed by

*****
*   Metcalf & Eddy, Inc.                 *
*   University of Florida                 *
*   Water Resources Engineers, Inc.       *
*   (Now Camp Dresser & McKee, Inc.)      *
*   September 1970                       *
*****

Version 4.3 (outdated) is
distributed and Maintained by

*****
*   U.S. Environmental Protection Agency   *
*   Center for Exposure Assessment Modeling (CEAM)*
*   Athens Environmental Research Laboratory *
*   960 College Station Road             *
*   Athens, GA 30605-2720                *
*****

*****
*   This is an updated release of SWMM4.4h. *
*   no longer formally supported by the EPA. *
*   If problems occur executing this model *
*   contact Wayne Huber at Oregon State. U., *
*   wayne.huber@orst.edu,                 *
*   or Robert Dickinson at Camp Dresser & *
*   McKee, DickinsonRE@CDM.COM.           *
*   The EPA-supported version is SWMM5 at: *
*   http://www.epa.gov/ednrmr1/swmm/index.htm *
*****

*****
*   This is an implementation of EPA SWMM 4.4H *
*   "Nature is full of infinite causes which *
*   have never occurred in experience" da Vinci *
*****

#####
#   File names by SWMM Block   #
#   JIN -> Input to a Block    #
#   JOUT -> Output from a Block #
#####

JIN for Block # 1 File # 9 C:\GIGHAR-1\EXTR5_~1.INT
JOUT for Block # 1 File # 10 Textint.int

#####
# Scratch File names for this simulation. #
#####

NSCRAT # 1 File # 1 SCRT1.UF
NSCRAT # 2 File # 2 SCRT2.UF

*****
* Parameter Values on the Tapes Common Block *
*****

Number of Subcatchments in the Runoff Block (NW)..... 2000
Number of Channel/Pipes in the Runoff Block (NG)..... 2000
Number of Connections to Runoff Channels/Inlets (NCP), 6
Number of Water Quality Constituents (MQUAL)..... 20
Number of Runoff Land Uses per Subcatchment (NLU)..... 20
Number of Groundwater Plot/prints in Runoff (NGW)..... 400
Number of Interface Locations for all Blocks (NIE)..... 2000
Number of Elements in the Transport Block (NET)..... 1000
Number of Storage Junctions in Transport (NTSE)..... 100
Number of transport interface input locations (NTHI)..... 500
Number of transport interface output locations (NTHO)..... 500
Number of transport input locations on R lines (NTHR)..... 80
Number of transport printed output locations (NTOA)..... 80
Number of Tabular Flow Splitters in Transport (NTSP)..... 50
Number of Elements in the Extran Block (NEE)..... 4000
Number of Pumps in Extran (NEP)..... 1000
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG)..... 1000
Number of Extran Weirs (NEW)..... 400
Number of Extran Printout Locations (NPO)..... 150
Number of Tide Elements in Extran (NTE)..... 50
Number of Natural Channels (NNC)..... 1200
Number of Storage Junctions in Extran (NVSE)..... 2000
Number of Time History Data Points in Extran (NTVAL)..... 500
Number of Data Points for Variable Storage Elements
in the Extran Block (NVST)..... 200
Number of Input Hydrographs in Extran (NEH)..... 500
Number of Allowable Channel Connections to
Junctions in the Extran Block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50

```

Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
 Number of Storm Events for Rain Analysis (LSTORM).....20000
 Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
 Number Conduits for Extran Results to ASCII
 File (MXFLOW)..... 400

 * Entry made to the EXTENDED TRANSPORT MODEL (EXTRAN) *
 * developed 1973 by Camp, Dresser and McKee (CDM) with *
 * modifications 1977-1991 by the University of Florida. *
 *
 * Most recent update: July 2004 by CDM and Oregon *
 * State University *
 *
 * "Smooth runs the water where the brook is deep." *
 * Shakespeare, Henry VI, II, III, 1 *

1-----
 ENVIRONMENTAL PROTECTION AGENCY ***** EXTENDED TRANSPORT PROGRAM *****
 WASHINGTON, D.C. ***** ANALYSIS MODULE *****

WATER RESOURCES DIVISION
 CAMP DRESSER & MCKEE INC.
 ANNANDALE, VIRGINIA

2008 Gig Harbor Stormwater
 Trunkline 5 Improved System

Control information for simulation

Integration cycles..... 69120
 Length of integration step is..... 5.00 seconds
 Simulation length..... 96.00 hours
 Do not create equiv. pipes(NEQUAL). 0
 Use U.S. customary units for I/O... 0
 Printing starts in cycle..... 1
 Intermediate printout intervals of 999999999 cycles
 Intermediate printout intervals of ***** minutes
 Summary printout intervals of..... 720 cycles
 Summary printout time interval of.. 60.00 minutes
 Hot start file parameter (JREDO)... 0
 Initial time (TZERO)..... 0.00 hours
 This is time displacement from JIN interface file starting date/time when
 interface file is used.
 This also describes starting hour in K3 line hydrograph input when K3
 lines are used.
 Initial date (IDATZ)..... 19630424 (yr/mo/day)
 NOTE: Initial date from JIN interface file will be used, if accessed,
 unless IDATZ is negative.
 Iteration variables: ITMAX..... 30
 SURTOL..... 0.0500
 Default surface area of junctions.... 12.57 square feet.
 EXTRAN VERSION 3.3 SOLUTION. (ISOL = 0).
 Sum of junction flow is zero during surcharge.
 NORMAL FLOW OPTION WHEN THE WATER
 SURFACE SLOPE IS LESS THAN THE
 GROUND SURFACE SLOPE (KSUPER=0)....
 NJSW INPUT HYDROGRAPH JUNCTIONS.... 0

INTERMEDIATE HEADER LINES ARE PRINTED AS IN ORIGINAL PROGRAM

IDS ARE WRITTEN AS IN ORIGINAL PROGRAM

CONDUIT LENGTHS ON C1 LINE MUST EQUAL IRREGULAR SECTION LENGTH ENTERED ON THE C3 OR X1 LINES (IWLEN = 0)

JELEV = 0 (DEFAULT). STANDARD INPUTS ARE DEPTHS NOT ELEVATIONS

JDOWN = 0 - Minimum of normal or critical depth will be used at free outfalls (I1).

Characteristic depth for M2 and S2 water surface profiles will be computed as in previous versions of EXTRAN (IM2 = 0).

SEDIMENT DEPTHS WILL NOT BE READ FROM C1 LINES

Intermediate continuity output will not be created

\$\$\$ FOR NATURAL CHANNELS WITH MULTIPLE DEPRESSIONS OR VARIABLE MANNINGS N,
 FLOW IS SUM OF FLOWS IN DEPRESSIONS AND/OR VARIABLE-N SEGMENTS.
 THIS IS EQUIVALENT TO SUMMING CONVEYANCES ACROSS THE CHANNEL. \$\$\$

NATURAL CROSS-SECTION INFORMATION FOR CHANNEL 9002

=====

CROSS-SECTION ID (FROM X1 CARD) :		107.00 CHANNEL SEQUENCE NUMBER :		1
LENGTH :	636.67 FT	MAXIMUM ELEVATION :	163.13	FT.
SLOPE :	1.0000 FT/FT	MAXIMUM DEPTH :	2.46	FT.
MANNING N :	0.040 TO STATION 100.0	MAXIMUM SECTION AREA :	24.	SQ. FT.
" " :	0.040 IN MAIN CHANNEL	MAXIMUM HYDRAULIC RADIUS :	1.50	FT.

Page 2

EXTR5_CIP.out
 " " : 0.040 BEYOND STATION 114.6 MAX TOPWIDTH : 14.60 FT.
 MAXIMUM UNIFORM FLOW : 1.15E+03 CFS.

CROSS-SECTION POINTS

THE FOLLOWING 5 STATIONS WERE READ AND ADJUSTED 0.000 FT VERTICALLY AND HORIZONTALLY BY A RATIO OF 1.000

ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT
163.00	100.00	161.80	102.50	161.01	107.00	160.67	111.50	163.13	114.60

CROSS-SECTION DIMENSIONLESS CURVES NORMALIZED BY DEPTH

POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH
1	0.0000	0.0000	0.0977	10	0.3347	0.1925	0.5975	19	0.7098	0.6021	0.8608
2	0.0320	0.0030	0.0977	11	0.3705	0.2301	0.6444	20	0.7505	0.6550	0.8833
3	0.0639	0.0118	0.1954	12	0.4056	0.2706	0.6913	21	0.7906	0.7092	0.9059
4	0.0959	0.0266	0.2931	13	0.4469	0.3137	0.7256	22	0.8300	0.7648	0.9284
5	0.1359	0.0469	0.3631	14	0.4934	0.3583	0.7481	23	0.8688	0.8217	0.9509
6	0.1799	0.0703	0.4100	15	0.5387	0.4044	0.7707	24	0.9070	0.8800	0.9735
7	0.2210	0.0966	0.4569	16	0.5828	0.4517	0.7932	25	0.9492	0.9397	0.9915
8	0.2602	0.1257	0.5038	17	0.6260	0.5005	0.8157	26	1.0000	1.0000	1.0000
9	0.2980	0.1577	0.5506	18	0.6683	0.5506	0.8383				

NATURAL CROSS-SECTION INFORMATION FOR CHANNEL 9004

CROSS-SECTION ID (FROM X1 CARD) : 102.00 CHANNEL SEQUENCE NUMBER : 2

LENGTH : 543.83 FT
 SLOPE : 1.0000 FT/FT
 MANNING N : 0.040 TO STATION 100.0
 " " : 0.040 IN MAIN CHANNEL
 " " : 0.040 BEYOND STATION 112.0
 MAXIMUM ELEVATION : 241.78 FT.
 MAXIMUM DEPTH : 4.37 FT.
 MAXIMUM SECTION AREA : 35. SQ. FT.
 MAXIMUM HYDRAULIC RADIUS : 2.22 FT.
 MAX TOPWIDTH : 12.00 FT.
 MAXIMUM UNIFORM FLOW : 2.23E+03 CFS.

CROSS-SECTION POINTS

THE FOLLOWING 5 STATIONS WERE READ AND ADJUSTED 0.000 FT VERTICALLY AND HORIZONTALLY BY A RATIO OF 1.000

ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT
241.58	100.00	237.45	102.00	237.41	105.00	238.58	108.00	241.78	112.00

CROSS-SECTION DIMENSIONLESS CURVES NORMALIZED BY DEPTH

POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH
1	0.0000	0.0000	0.2928	10	0.4364	0.2348	0.6039	19	0.7672	0.6181	0.8312
2	0.0631	0.0144	0.2928	11	0.4780	0.2714	0.6291	20	0.7999	0.6682	0.8565
3	0.1224	0.0331	0.3372	12	0.5180	0.3094	0.6544	21	0.8320	0.7198	0.8818
4	0.1740	0.0544	0.3816	13	0.5566	0.3490	0.6797	22	0.8636	0.7729	0.9070
5	0.2207	0.0784	0.4260	14	0.5939	0.3901	0.7049	23	0.8949	0.8275	0.9323
6	0.2641	0.1050	0.4704	15	0.6302	0.4327	0.7302	24	0.9258	0.8836	0.9575
7	0.3052	0.1342	0.5148	16	0.6656	0.4768	0.7554	25	0.9580	0.9412	0.9818
8	0.3471	0.1661	0.5533	17	0.7002	0.5224	0.7807	26	1.0000	1.0000	1.0000
9	0.3929	0.1997	0.5786	18	0.7340	0.5695	0.8060				

NATURAL CROSS-SECTION INFORMATION FOR CHANNEL 9005

CROSS-SECTION ID (FROM X1 CARD) : 104.00 CHANNEL SEQUENCE NUMBER : 3

LENGTH : 302.45 FT
 SLOPE : 1.0000 FT/FT
 MANNING N : 0.040 TO STATION 100.0
 " " : 0.040 IN MAIN CHANNEL
 " " : 0.040 BEYOND STATION 110.6
 MAXIMUM ELEVATION : 198.28 FT.
 MAXIMUM DEPTH : 2.49 FT.
 MAXIMUM SECTION AREA : 20. SQ. FT.
 MAXIMUM HYDRAULIC RADIUS : 1.69 FT.
 MAX TOPWIDTH : 10.60 FT.
 MAXIMUM UNIFORM FLOW : 1.06E+03 CFS.

CROSS-SECTION POINTS

THE FOLLOWING 5 STATIONS WERE READ AND ADJUSTED 0.000 FT VERTICALLY AND HORIZONTALLY BY A RATIO OF 1.000

ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT
198.28	100.00	195.93	103.00	195.79	106.00	195.81	108.00	197.43	110.60

CROSS-SECTION DIMENSIONLESS CURVES NORMALIZED BY DEPTH

POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH
1	0.0000	0.0000	0.4021	10	0.3929	0.2609	0.6955	19	0.7151	0.6471	0.9160
2	0.0401	0.0145	0.4021	11	0.4300	0.2982	0.7226	20	0.7574	0.6956	0.9280
3	0.0864	0.0396	0.5060	12	0.4661	0.3369	0.7496	21	0.7991	0.7448	0.9400
4	0.1373	0.0669	0.5330	13	0.5012	0.3771	0.7767	22	0.8402	0.7945	0.9520
5	0.1852	0.0957	0.5601	14	0.5355	0.4187	0.8038	23	0.8809	0.8450	0.9640
6	0.2304	0.1259	0.5872	15	0.5691	0.4617	0.8309	24	0.9211	0.8960	0.9760
7	0.2736	0.1575	0.6143	16	0.6020	0.5061	0.8579	25	0.9608	0.9477	0.9880

8 0.3149 0.1905 0.6413 17 0.6343 EXTR5_CIP.out 0.8850 26 1.0000 1.0000 1.0000
 9 0.3545 0.2250 0.6684 18 0.6723 0.5520 0.5992 0.9040

NATURAL CROSS-SECTION INFORMATION FOR CHANNEL 9006

CROSS-SECTION ID (FROM X1 CARD) : 101.00 CHANNEL SEQUENCE NUMBER : 4

LENGTH : 895.60 FT MAXIMUM ELEVATION : 246.00 FT.
 SLOPE : 1.0000 FT/FT MAXIMUM DEPTH : 2.18 FT.
 MANNING N : 0.040 TO STATION 0.0 MAXIMUM SECTION AREA : 1.45E+02 SQ. FT.
 " " : 0.040 IN MAIN CHANNEL MAXIMUM HYDRAULIC RADIUS : 0.72 FT.
 " " : 0.040 BEYOND STATION 112.0 MAX TOPWIDTH : 200.00 FT.
 MAXIMUM UNIFORM FLOW : 4.32E+03 CFS.

CROSS-SECTION POINTS

THE FOLLOWING 8 STATIONS WERE READ AND ADJUSTED 0.000 FT VERTICALLY AND HORIZONTALLY BY A RATIO OF 1.000

ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT	ELEVATION FT	STATION FT
246.00	0.00	245.00	50.00	244.45	100.00	243.98	103.50	243.82	106.00
244.32	109.00	245.21	112.00	246.00	200.00	0.00	0.00	0.00	0.00

CROSS-SECTION DIMENSIONLESS CURVES NORMALIZED BY DEPTH

POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH	POINT NO.	HYDRAULIC RADIUS	AREA	TOPWIDTH
1	0.0000	0.0000	0.0094	10	0.3417	0.0412	0.1202	19	0.7151	0.3632	0.5074
2	0.0601	0.0006	0.0094	11	0.3598	0.0582	0.1613	20	0.7414	0.4287	0.5778
3	0.1237	0.0023	0.0183	12	0.3951	0.0802	0.2024	21	0.7752	0.5027	0.6482
4	0.1989	0.0048	0.0241	13	0.4387	0.1071	0.2435	22	0.8141	0.5852	0.7185
5	0.2681	0.0081	0.0300	14	0.4872	0.1389	0.2846	23	0.8568	0.6761	0.7889
6	0.3342	0.0121	0.0359	15	0.5521	0.1755	0.3173	24	0.9025	0.7756	0.8593
7	0.4012	0.0167	0.0414	16	0.6307	0.2152	0.3406	25	0.9504	0.8836	0.9296
8	0.4733	0.0220	0.0461	17	0.7016	0.2577	0.3667	26	1.0000	1.0000	1.0000
9	0.3673	0.0292	0.0791	18	0.6998	0.3062	0.4371				

1-----
 ENVIRONMENTAL PROTECTION AGENCY ***** EXTENDED TRANSPORT PROGRAM *****
 WASHINGTON, D.C. *****
 ***** ANALYSIS MODULE *****
 WATER RESOURCES DIVISION
 CAMP DRESSER & MCKEE INC.
 ANNANDALE, VIRGINIA

2008 Gig Harbor Stormwater
 Trunkline 5 Improved System

1

 * Conduit Data *

INP NUM	CONDUIT NUMBER	LENGTH (FT)	CONDUIT CLASS	AREA (SQ FT)	MANNING COEF.	MAX WIDTH (FT)	DEPTH (FT)	JUNCTIONS AT THE ENDS	INVERT HEIGHT ABOVE JUNCTIONS	TRAPEZOID SIDE SLOPES
1	1000	1000.	CIRCULAR	19.63	0.00900	5.00	5.00	5023 800		
2	1001	1000.	CIRCULAR	12.57	0.00900	4.00	4.00	5024 800		
3	1002	1000.	CIRCULAR	28.27	0.00900	6.00	6.00	800 700		
4	1003	200.	CIRCULAR	7.07	0.01200	3.00	3.00	900 5011		
5	1004	200.	CIRCULAR	7.07	0.01200	3.00	3.00	950 5011		
6	1005	200.	CIRCULAR	7.07	0.01200	3.00	3.00	960 5011		
7	130	62.	CIRCULAR	19.63	0.01200	5.00	5.00	5025 5023		
8	132	194.	CIRCULAR	7.07	0.01200	3.00	3.00	5014 5015		
9	133	154.	CIRCULAR	7.07	0.01200	3.00	3.00	5016 5017		
10	134	68.	CIRCULAR	4.91	0.01200	2.50	2.50	5012 5013		
11	135	34.	CIRCULAR	7.07	0.01200	3.00	3.00	5018 9990		
12	136	372.	RECTANGLE	12.00	0.01200	4.00	3.00	9992 5019		
13	137	82.	CIRCULAR	7.07	0.01200	3.00	3.00	9990 9992		
14	138	77.	CIRCULAR	3.14	0.01200	2.00	2.00	5022 5024	2.07	0.00
15	139	20.	CIRCULAR	19.63	0.01200	5.00	5.00	5022 5025		
16	9001	36.	TRAPEZOID	54.00	0.03000	15.00	3.00	5019 5020		1.00 1.00
17	9002	637.	NATURAL	23.71	0.04000	14.60	2.46	5017 5018		
18	9003	71.	TRAPEZOID	54.00	0.03000	15.00	3.00	5020 5022		1.00 1.00
19	9004	544.	NATURAL	35.33	0.04000	12.00	4.37	5013 5014		
20	9005	302.	NATURAL	20.06	0.04000	10.60	2.49	5015 5016		
21	9006	896.	NATURAL	144.50	0.04000	200.00	2.18	5012 5011		

====> WARNING !!! (C*DELT/LEN) IN CONDUIT 130 IS 1.0 AT FULL DEPTH.
 ====> WARNING !!! (C*DELT/LEN) IN CONDUIT 135 IS 1.4 AT FULL DEPTH.
 ====> WARNING !!! (C*DELT/LEN) IN CONDUIT 139 IS 3.2 AT FULL DEPTH.
 ====> WARNING !!! (C*DELT/LEN) IN CONDUIT 9001 IS 1.3 AT FULL DEPTH.

 * Conduit Volume *

Input full depth volume..... 2.5020E+05 cubic feet

====> warning !! The upstream and downstream junctions for the following conduits
 have been reversed to correspond to the positive flow and decreasing
 slope EXTRAN convention. A negative flow in the output thus means
 the flow was from your original upstream junction to your original
 downstream junction. Any initial flow has been multiplied by -1.

1. Conduit #... 9006 has been changed.

1-----
 ENVIRONMENTAL PROTECTION AGENCY ***** EXTENDED TRANSPORT PROGRAM *****
 WASHINGTON, D.C. *****
 ***** ANALYSIS MODULE *****
 Page 4
 WATER RESOURCES DIVISION
 CAMP DRESSER & MCKEE INC.
 ANNANDALE, VIRGINIA

2008 Gig Harbor Stormwater
Trunkline 5 Improved System

1

* Junction Data *

INP NUM	JUNCTION NUMBER	GROUND ELEV.	CROWN ELEV.	INVERT ELEV.	QINST CFS	INITIAL DEPTH(FT)	CONNECTING CONDUITS			
1	5011	264.02	263.36	260.36	0.00	0.00	1003	1004	1005	9006
2	5012	251.52	246.24	243.74	0.00	0.00	134	9006		
3	5013	251.52	241.64	237.27	0.00	0.00	134	9004		
4	5014	231.07	212.96	208.59	0.00	0.00	132	9004		
5	5015	231.07	199.30	196.30	0.00	0.00	132	9005		
6	5016	195.80	179.24	176.24	0.00	0.00	133	9005		
7	5017	195.80	172.29	169.29	0.00	0.00	133	9002		
8	5018	126.00	125.54	122.54	0.00	0.00	135	9002		
9	5019	101.55	101.15	98.15	0.00	0.00	136	9001		
10	5020	101.55	98.00	95.00	0.00	0.00	9001	9003		
11	5022	101.55	98.51	93.51	0.00	0.00	138	139	9003	
12	5023	101.55	98.13	93.13	0.00	0.00	1000	130		
13	5024	101.55	99.20	95.20	0.00	0.00	1001	138		
14	5025	101.55	98.44	93.44	0.00	0.00	130	139		
15	800	110.00	98.00	92.00	0.00	0.00	1000	1001	1002	
16	900	273.64	272.64	269.64	0.00	0.00	1003			
17	950	273.64	272.64	269.64	0.00	0.00	1004			
18	960	273.64	272.64	269.64	0.00	0.00	1005			
19	9990	122.96	120.79	117.79	0.00	0.00	135	137		
20	9992	117.98	117.57	114.57	0.00	0.00	136	137		
21	700	110.00	97.00	91.00	0.00	0.00	1002			

1

* Additional Junction Data *

INP NUM	JUNCTION NUMBER	XLLOC	YLLOC	SURCHARGE ELEVATION (FT)
1	5011	1122933.50	726069.44	0.00
2	5012	1122637.38	725533.69	0.00
3	5013	1122635.75	725465.38	0.00
4	5014	1122616.88	724959.25	0.00
5	5015	1122595.12	724766.38	0.00
6	5016	1122481.25	724492.75	0.00
7	5017	1122428.12	724348.19	0.00
8	5018	1121931.88	724037.06	0.00
9	5019	1121919.00	723549.44	0.00
10	5020	1121937.00	723518.38	0.00
11	5022	1121921.75	723475.00	0.00
12	5023	1121850.88	723496.56	0.00
13	5024	1121851.62	723489.62	0.00
14	5025	1121911.38	723484.75	0.00
15	800	1121839.50	723495.50	0.00
16	900	1123088.62	726116.56	0.00
17	950	1122823.12	726164.94	0.00
18	960	1122964.50	726203.38	0.00
19	9990	1121928.88	724002.94	0.00
20	9992	1121928.00	723921.12	0.00
21	700	1121827.62	723498.94	0.00

* FREE OUTFALL DATA (DATA GROUP I1) *
* BOUNDARY CONDITION ON DATA GROUP J1 *

OUTFALL AT JUNCTION... 700 HAS BOUNDARY CONDITION NUMBER... 1

1

ENVIRONMENTAL PROTECTION AGENCY	****	EXTENDED TRANSPORT PROGRAM	****	WATER RESOURCES DIVISION
WASHINGTON, D.C.	****		****	CAMP DRESSER & MCKEE INC.
	****	ANALYSIS MODULE	****	ANNANDALE, VIRGINIA

2008 Gig Harbor Stormwater
Trunkline 5 Improved System

* INTERNAL CONNECTIVITY INFORMATION *

CONDUIT	JUNCTION	JUNCTION
90022	700	0

1

* BOUNDARY CONDITON INFORMATION *
* DATA GROUPS J1-J4 *

BC NUMBER.. 1 CONTROL WATER SURFACE ELEVATION IS.. 91.00 FEET.

Header information from interface file: #
#####

Title from first computational block:

Title from immediately preceding computational block:

Name of preceding block:.....Runoff block
 Initial Julian date (IDATEZ)..... 1963114
 Initial time of day in seconds (TZERO)..... 0.0
 No. transferred input locations..... 7
 No. transferred pollutants..... 0
 Size of total catchment area (acres)..... 1100.00
 ID numbers (JCE=0) or alphanumeric (JCE=1)..... 0

 # Element numbers of interface inlet locations: #
 #####
 5022 5015 950 900 5011 960 960

Conversion factor to cfs for flow units
 on interface file. Multiply by: 1.00000

>>> STARTING DATE AND TIME OF EXTRAN RUN ARE:
 JULIAN DATE: 1963114
 YR/MO/DA: 1963/ 4/24
 TIME OF DAY: 0.000 HRS
 THIS IS 0.000 HOURS BEYOND INTERFACE FILE STARTING TIME
 AS PROVIDED BY TZERO ON LINE B1.
 TZERO = 1963114 0.000000E+00

 * INITIAL MODEL CONDITION *
 * INITIAL TIME = 0.00 HOURS *

JUNCTION /	DEPTH /	ELEVATION	====>	"A" JUNCTION IS SURCHARGED.
5011/	0.00 /	260.36	5012/	0.00 / 243.74
5014/	0.00 /	208.59	5015/	0.00 / 196.30
5017/	0.00 /	169.29	5018/	0.00 / 122.54
5020/	0.00 /	95.00	5022/	0.00 / 93.51
5024/	0.00 /	95.20	5025/	0.00 / 93.44
900/	0.00 /	269.64	950/	0.00 / 269.64
9990/	0.00 /	117.79	9992/	0.00 / 114.57

CONDUIT/	FLOW	====>	"A" CONDUIT USES THE NORMAL FLOW OPTION.
1000/	0.00	1001/	0.00
1004/	0.00	1005/	0.00
133/	0.00	134/	0.00
137/	0.00	138/	0.00
9002/	0.00	9003/	0.00
9006/	0.00	90022/	0.00

CONDUIT/	VELOCITY	1001/	1002/	1003/
1000/	0.00	0.00	0.00	0.00
1004/	0.00	0.00	0.00	0.00
133/	0.00	0.00	0.00	0.00
137/	0.00	0.00	0.00	0.00
9002/	0.00	0.00	0.00	0.00
9006/	0.00	0.00	0.00	0.00

CONDUIT/	CROSS SECTIONAL AREA	1001/	1002/	1003/
1000/	0.00	0.00	0.00	0.00
1004/	0.00	0.00	0.00	0.00
133/	0.00	0.00	0.00	0.00
137/	0.00	0.00	0.00	0.00
9002/	0.00	0.00	0.00	0.00
9006/	0.00	0.00	0.00	0.00

CONDUIT/	HYDRAULIC RADIUS	1001/	1002/	1003/
1000/	0.00	0.00	0.00	0.00
1004/	0.00	0.00	0.00	0.00
133/	0.00	0.00	0.00	0.00
137/	0.00	0.00	0.00	0.00
9002/	0.00	0.00	0.00	0.00
9006/	0.00	0.00	0.00	0.00

CONDUIT/	UPSTREAM/	DOWNSTREAM	ELEVATION	1001/	1002/	1003/
1000/	93.13/	92.00	1001/	95.20/	92.00	92.00/
1003/	269.64/	260.36	1004/	269.64/	260.36	1005/
130/	93.44/	93.13	132/	208.59/	196.30	133/
134/	243.74/	237.27	135/	122.54/	117.79	136/
137/	117.79/	114.57	138/	95.58/	95.20	139/
9001/	98.15/	95.00	9002/	169.29/	122.54	9003/
9004/	237.27/	208.59	9005/	196.30/	176.24	9006/

====> Warning !! End of input file reached at time = 71.0 hours.
 Simulation continues with zero inflow.

 * FINAL MODEL CONDITION *
 * FINAL TIME = 96.00 HOURS *

>>> ENDING DATE AND TIME OF EXTRAN RUN ARE:
 JULIAN DATE: 1963118
 YR/MO/DA: 1963/ 4/28
 TIME OF DAY: 0.000 HRS

JUNCTION /	DEPTH /	ELEVATION	====>	"A" JUNCTION IS SURCHARGED.
5011/	0.00 /	260.36	5012/	0.00 / 243.74
5014/	0.00 /	208.59	5015/	0.00 / 196.30
5017/	0.00 /	169.30	5018/	0.00 / 122.54
5020/	0.00 /	95.00	5022/	0.00 / 93.51

CONDUIT/	FLOW	CONDUIT	USES	THE	NORMAL	FLOW	OPTION.
1000/	0.00*	1001/	0.00*	1002/	0.00	1003/	0.00*
1004/	0.00*	1005/	0.00*	130/	0.00*	132/	0.00*
133/	0.00*	134/	0.00*	135/	0.00*	136/	0.00
137/	0.00*	138/	0.00*	139/	0.00	9001/	0.00*
9002/	0.00	9003/	0.00*	9004/	0.00	9005/	0.00
9006/	0.00	90022/	0.00				

CONDUIT/	VELOCITY	CONDUIT	USES	THE	NORMAL	FLOW	OPTION.
1000/	0.16	1001/	0.00	1002/	0.32	1003/	0.00
1004/	0.00	1005/	0.00	130/	0.35	132/	0.20
133/	0.07	134/	0.19	135/	1.24	136/	0.12
137/	0.60	138/	0.00	139/	0.39	9001/	0.04
9002/	0.10	9003/	0.03	9004/	0.05	9005/	0.06
9006/	0.05						

CONDUIT/	CROSS	SECTIONAL	AREA	CONDUIT	USES	THE	NORMAL	FLOW	OPTION.
1000/	0.00	1001/	0.00	1002/	0.00	1003/	0.00	0.00	
1004/	0.00	1005/	0.00	130/	0.00	132/	0.00	0.00	
133/	0.00	134/	0.00	135/	0.00	136/	0.00	0.00	
137/	0.00	138/	0.00	139/	0.00	9001/	0.00	0.00	
9002/	0.00	9003/	0.01	9004/	0.00	9005/	0.00	0.00	
9006/	0.00								

CONDUIT/	FINAL	VOLUME	CONDUIT	USES	THE	NORMAL	FLOW	OPTION.
1000/	1.12	1001/	0.12	1002/	1.05	1003/	0.03	
1004/	0.28	1005/	0.03	130/	0.03	132/	0.10	
133/	0.25	134/	0.03	135/	0.00	136/	0.48	
137/	0.02	138/	0.00	139/	0.01	9001/	0.14	
9002/	0.94	9003/	0.37	9004/	0.99	9005/	0.59	
9006/	1.52							

CONDUIT/	HYDRAULIC	RADIUS	CONDUIT	USES	THE	NORMAL	FLOW	OPTION.
1000/	0.01	1001/	0.01	1002/	0.02	1003/	0.01	
1004/	0.01	1005/	0.01	130/	0.01	132/	0.01	
133/	0.01	134/	0.01	135/	0.01	136/	0.00	
137/	0.01	138/	0.00	139/	0.01	9001/	0.00	
9002/	0.00	9003/	0.00	9004/	0.00	9005/	0.00	
9006/	0.00							

CONDUIT/	UPSTREAM/	DOWNSTREAM	ELEVATION	CONDUIT	USES	THE	NORMAL	FLOW	OPTION.
1000/	93.13/	92.00	1001/	95.20/	92.00	1002/	92.00/	91.00	
1003/	269.64/	260.36	1004/	269.64/	260.36	1005/	269.64/	260.36	
130/	93.44/	93.13	132/	208.59/	196.30	133/	176.24/	169.30	
134/	243.74/	237.27	135/	122.54/	117.79	136/	114.57/	98.15	
137/	117.79/	114.57	138/	95.58/	95.20	139/	93.51/	93.44	
9001/	98.15/	95.00	9002/	169.30/	122.54	9003/	95.00/	93.51	
9004/	237.27/	208.59	9005/	196.30/	176.24	9006/	260.36/	243.74	

```

#####
#      Surchage Iteration Summary      #
#####
Maximum number of iterations in a time step.... 1
Total number of iterations in the simulation... 138240
Average number of iterations per time step..... 2.00
Surchage iterations during the simulation..... 0
Maximum surcharge flow error during simulation.. 2.77E-01 cfs
Total number of time steps during simulation.. 69120

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1
*****
*      CONDUIT COURANT CONDITION SUMMARY      *
*      TIME IN MINUTES DELT > COURANT TIME STEP      *
*****
*      SEE BELOW FOR EXPLANATION OF COURANT TIME STEP.      *
*****

CONDUIT #   TIME(MN)   CONDUIT #   TIME(MN)   CONDUIT #   TIME(MN)   CONDUIT #   TIME(MN)
-----
1000         0.00      1001         0.00      1002         0.00      1003         0.00
1004         0.00      1005         0.00      130        141.58      132         0.00
133          0.00      134        271.67      135        964.00      136         0.00
137        138.75      138          0.00      139       1940.50      9001       145.33
9002          0.00      9003          0.00      9004          0.00      9005          0.00
9006          0.00

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1
*****
*      CONDUIT COURANT CONDITION SUMMARY      *
*      COURANT = COURANT LENGTH      *
*      TIME STEP = VELOCITY + SQRT(GRVT*AREA/WIDTH)      *
*****
*      AVERAGE COURANT CONDITION TIME STEP(SECONDS)      *
*****

CONDUIT #   TIME(SEC)   CONDUIT #   TIME(SEC)   CONDUIT #   TIME(SEC)   CONDUIT #   TIME(SEC)
-----
1000        700.86      1001        16.40      1002        610.55      1003         67.57
1004         59.54      1005         70.07      130         41.69      132        116.00
133         92.94      134         38.64      135         12.95      136        480.78
137         35.89      138          5.09      139         13.31      9001         79.37
9002        419.02      9003       114.78      9004        639.34      9005       322.97
9006        617.53

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* EXTRAN CONTINUITY BALANCE AT THE LAST TIME STEP *

 * JUNCTION INFLOW, OUTFLOW OR STREET FLOODING *

JUNCTION	INFLOW, FT3
5011	3.3761E+05
5015	5.1776E+04
5022	1.2526E+05
900	7.0774E+04
950	1.7678E+05
960	2.8023E+04

JUNCTION	OUTFLOW, FT3
700	7.8792E+05

 * INITIAL SYSTEM VOLUME = 7.1483E-02 CU FT *
 * TOTAL SYSTEM INFLOW VOLUME = 7.9023E+05 CU FT *
 * INFLOW + INITIAL VOLUME = 7.9023E+05 CU FT *

 * TOTAL SYSTEM OUTFLOW = 7.8792E+05 CU FT *
 * VOLUME LEFT IN SYSTEM = 9.1447E+00 CU FT *
 * OUTFLOW + FINAL VOLUME = 7.8793E+05 CU FT *

 * ERROR IN CONTINUITY, PERCENT = 0.29 *

TEST WRITE OF ALTERNATIVE CONTINUITY ERROR CALCULATION
 VOLUME LEFT IN SYSTEM = 2.2340E+03 CU. FT.
 ERROR IN CONTINUITY PERCENT = 0.09

----- SUMMARY OF FULL FLOW CHANNEL WARNINGS -----

OPEN CHANNEL NUMBER	TIME STEP OF FIRST OCCURRENCE	TIME OF FIRST OCCURRENCE (HOURS)	TIME STEP OF LAST OCCURRENCE	TIME OF LAST OCCURRENCE (HOURS)
9003	28657	39.80	29212	40.57
9005	28815	40.02	29093	40.41

THE PROGRAM USES FULL DEPTH CHANNEL CHARACTERISTICS TO COMPUTE FLOW THROUGH THE TRAPEZOIDAL, IRREGULAR, OR PARABOLIC/POWER FUNCTION CONDUIT WHEN THE COMPUTED DEPTHS EXCEED MAXIMUM DEPTH. THIS WILL AFFECT THE MAXIMUM COMPUTED HEAD AND FLOWS IN THE MODEL. IT IS HIGHLY RECOMMENDED THAT THE MODELED CROSS SECTIONS BE EXTENDED TO ELIMINATE THESE FULL FLOW CHANNEL WARNINGS

1

 * JUNCTION SUMMARY STATISTICS *

2008 Gig Harbor Stormwater
 Trunkline 5 Improved System

JUNCTION NUMBER	GROUND ELEVATION (FT)	UPPERMOST PIPE CROWN ELEVATION (FT)	MEAN JUNCTION ELEVATION (FT)	JUNCTION AVERAGE % CHANGE	MAXIMUM JUNCTION ELEV. (FT)	TIME OF OCCURRENCE HR., MIN.	FEET OF SURCHARGE AT MAX ELEVATION	FEET MAX. DEPTH IS BELOW GROUND ELEVATION	LENGTH OF SURCHARGE (MIN)	LENGTH OF FLOODING (MIN)	MAXIMUM JUNCTION AREA (SQ. FT)
5011	264.02	263.36	260.55	0.0017	261.71	39 26	0.00	2.31	0.0	0.0	3.412E+04
5012	251.52	246.24	243.82	0.0019	245.29	40 7	0.00	6.23	0.0	0.0	3.958E+04
5013	251.52	241.64	237.37	0.0016	239.43	40 2	0.00	12.09	0.0	0.0	2.253E+03
5014	231.07	212.96	208.68	0.0015	210.60	40 10	0.00	20.47	0.0	0.0	2.450E+03
5015	231.07	199.30	196.38	0.0016	197.83	40 6	0.00	33.24	0.0	0.0	1.753E+03
5016	195.80	179.24	176.34	0.0030	179.13	40 9	0.00	16.67	0.0	0.0	1.760E+03
5017	195.80	172.29	169.47	0.0020	171.03	40 7	0.00	24.77	0.0	0.0	4.067E+03
5018	126.00	125.54	122.61	0.0014	123.83	40 8	0.00	2.17	0.0	0.0	3.669E+03
5019	101.55	101.15	98.18	0.0007	98.79	40 8	0.00	2.76	0.0	0.0	1.295E+03
5020	101.55	98.00	95.05	0.0111	96.84	40 5	0.00	4.71	0.0	0.0	1.076E+03
5022	101.55	98.51	93.70	0.0144	96.86	40 5	0.00	4.69	0.0	0.0	1.096E+03
5023	101.55	98.13	93.33	0.0044	96.87	40 10	0.00	4.68	0.0	0.0	2.665E+03
5024	101.55	99.20	95.21	0.0007	95.90	40 5	0.00	5.65	0.0	0.0	1.843E+03
5025	101.55	98.44	93.60	0.0345	96.92	40 32	0.00	4.63	0.0	0.0	2.166E+02
800	110.00	98.00	92.22	0.0021	95.56	40 13	0.00	14.44	0.0	0.0	9.008E+03
900	273.64	272.64	269.66	0.0006	270.21	40 0	0.00	3.43	0.0	0.0	2.694E+02
950	273.64	272.64	269.69	0.0009	270.53	40 0	0.00	3.11	0.0	0.0	2.943E+02
960	273.64	272.64	269.65	0.0003	269.92	41 0	0.00	3.72	0.0	0.0	2.477E+02
9990	122.96	120.79	117.94	0.0035	119.78	39 33	0.00	3.17	0.0	0.0	1.862E+02
9992	117.98	117.57	114.64	0.0026	117.02	40 8	0.00	0.96	0.0	0.0	1.596E+03
700	110.00	97.00	91.15	0.0190	93.97	40 13	0.00	16.03	0.0	0.0	6.006E+03

1

 * CONDUIT SUMMARY STATISTICS *

2008 Gig Harbor Stormwater
 Trunkline 5 Improved System

CONDUIT NUMBER	DESIGN FLOW (CFS)	DESIGN VELOCITY (FPS)	CONDUIT VERTICAL DEPTH (IN)	MAXIMUM COMPUTED FLOW (CFS)	TIME OF OCCURRENCE HR., MIN.	MAXIMUM COMPUTED VELOCITY (FPS)	TIME OF OCCURRENCE HR., MIN.	RATIO OF MAX. TO DESIGN FLOW	MAXIMUM INV. AT UPSTREAM (FT)	DEPTH ABOVE CONDUIT ENDS DOWNSTREAM (FT)	LENGTH OF NORM FLOW (MIN)	CONDUIT SLOPE (FT/FT)
1000	1.26E+02	6.44	60.000	1.17E+02	40 7	7.69	40 7	0.92	3.74	3.56	5241.7	0.00113
1001	1.17E+02	9.34	48.000	7.75E+00	40 5	1.18	40 5	0.07	0.70	3.56	3389.6	0.00320
1002	1.93E+02	6.84	72.000	1.21E+02	40 13	7.71	40 7	0.63	3.56	2.97	0.0	0.00100


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1003 1.56E+02    22.02    36.000    1.22E+01    40    0    EXTR5_CIP.out    20.76    0    0    0.08    0.57    1.35    5758.3    0.04640
1004 1.56E+02    22.02    36.000    3.00E+01    40    0    12.59    40    0    0.19    0.89    1.35    5749.1    0.04640
1005 1.56E+02    22.02    36.000    2.89E+00    41    0    2.25    41    0    0.02    0.28    1.35    5759.6    0.04640
130 2.00E+02    10.19    60.000    1.22E+02    40    6    8.68    40    4    0.61    3.48    3.74    5643.4    0.00503
132 1.82E+02    25.72    36.000    9.55E+01    40    9    25.71    40    1    0.53    2.01    1.53    3941.6    0.06331
133 1.53E+02    21.71    36.000    1.03E+02    40    7    22.62    39    57    0.67    2.89    1.74    5666.6    0.04510
134 1.37E+02    27.87    30.000    9.59E+01    40    7    26.95    40    7    0.70    1.54    2.16    4529.9    0.09479
135 2.69E+02    38.07    36.000    1.03E+02    40    8    27.18    40    8    0.38    1.29    1.99    5721.0    0.13868
136 2.82E+02    23.48    36.000    1.03E+02    40    8    16.67    40    8    0.37    2.46    0.64    0.0    0.04416
137 1.43E+02    20.29    36.000    1.03E+02    40    8    19.12    39    37    0.72    1.99    2.46    1037.8    0.03939
138 1.72E+01    5.48    24.000    8.01E+00    40    5    5.18    40    5    0.47    1.28    0.70    3303.8    0.00494
139 1.67E+02    8.50    60.000    1.24E+02    40    32    9.91    40    44    0.75    3.35    3.48    40.8    0.00350
9001 1.38E+03    25.56    36.000    1.03E+02    40    8    6.55    40    48    0.07    0.64    1.84    5621.2    0.08773
9002 3.13E+02    13.19    29.520    1.03E+02    40    7    10.86    0    11    0.33    1.74    1.29    0.1    0.07343
9003 6.76E+02    12.51    36.000    1.07E+02    40    6    3.27    40    40    0.16    1.84    3.35    5562.7    0.02102
9004 5.13E+02    14.51    52.440    1.01E+02    40    5    9.33    40    5    0.20    2.16    2.01    2083.0    0.05274
9005 2.72E+02    13.57    29.880    1.03E+02    40    6    8.57    39    57    0.38    1.53    2.89    2807.8    0.06632
9006 5.88E+02    4.07    26.160    1.01E+02    40    1    2.81    39    43    0.17    1.35    1.54    61.4    0.01856
90022 UNDEF UNDEF UNDEF 1.21E+02 40 13

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*****
* SUBCRITICAL AND CRITICAL FLOW ASSUMPTIONS FROM *
* SUBROUTINE HEAD. SEE FIGURE 5-4 IN THE EXTRAN *
* MANUAL FOR FURTHER INFORMATION. *
*****

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CONDUIT NUMBER	LENGTH OF DRY FLOW(MIN)	LENGTH OF SUBCRITICAL FLOW(MIN)	LENGTH OF UPSTR. CRITICAL FLOW(MIN)	LENGTH OF DOWNSTR. CRITICAL FLOW(MIN)	MEAN FLOW (CFS)	AVERAGE % CHANGE	TOTAL FLOW CUBIC FT	MAXIMUM HYDRAULIC RADIUS(FT)	MAXIMUM CROSS SECT AREA(FT2)
1000	0.58	5758.83	0.00	0.58	2.23	0.0055	7.7037E+05	1.4969	15.3287
1001	5370.17	389.83	0.00	0.00	0.06	0.0003	2.0099E+04	1.0309	6.6993
1002	1.33	5721.17	0.00	37.50	2.28	0.0040	7.8788E+05	1.5779	15.7300
1003	1483.25	4276.75	0.00	0.00	0.20	0.0002	7.0777E+04	0.5355	1.9222
1004	1481.92	4278.08	0.00	0.00	0.51	0.0006	1.7679E+05	0.6064	2.3836
1005	1486.42	4273.58	0.00	0.00	0.08	0.0001	2.8021E+04	0.4609	1.4960
130	0.08	5759.42	0.00	0.50	2.23	0.0337	7.7008E+05	1.4814	14.7262
132	28.33	5731.67	0.00	0.00	1.77	0.0015	6.1320E+05	0.8249	4.3381
133	0.08	5750.83	0.00	9.08	1.92	0.0021	6.6496E+05	0.9089	5.8413
134	1.42	5758.58	0.00	0.00	1.77	0.0020	6.1321E+05	0.7500	3.8653
135	33.75	5726.08	0.00	0.17	1.92	0.0012	6.6495E+05	0.7757	3.7947
136	11.75	5706.50	0.00	41.75	1.92	0.0011	6.6495E+05	0.8719	6.1838
137	23.33	5736.08	0.00	0.58	1.92	0.0024	6.6495E+05	0.8965	5.4738
138	5668.00	91.92	0.00	0.08	0.06	0.0213	2.0102E+04	0.4955	1.5459
139	0.00	5760.00	0.00	0.00	2.23	0.0425	7.7007E+05	1.4470	13.6988
9001	54.33	5652.83	0.00	52.83	1.92	0.0002	6.6495E+05	1.0805	19.9682
9002	9.17	5728.25	0.00	22.58	1.92	0.0010	6.6501E+05	0.8969	11.1209
9003	107.17	5652.83	0.00	0.00	1.92	0.0088	6.6496E+05	1.9283	42.1121
9004	0.17	5731.67	0.00	28.17	1.77	0.0006	6.1327E+05	1.1533	11.0062
9005	0.08	5759.92	0.00	0.00	1.92	0.0011	6.6497E+05	1.3631	15.1342
9006	0.00	5758.67	0.00	1.33	1.78	0.0005	6.1483E+05	0.5064	40.2130
90022	UNDEFINED	UNDEFINED	UNDEFINED	UNDEFINED	2.28		7.8788E+05		

```

*****
* AVERAGE % CHANGE IN JUNCTION OR CONDUIT IS DEFINED AS: *
* CONDUIT % CHANGE ==> 100.0 ( Q(n+1) - Q(n) ) / Qfull *
* JUNCTION % CHANGE ==> 100.0 ( Y(n+1) - Y(n) ) / Yfull *
*****

```

```

The Conduit with the largest average change... 139 had 0.042 percent
The junction with the largest average change... 5025 had 0.034 percent

```

====> Extended Transport model simulation ended normally.

====> SWMM 4.4H simulation ended normally.
Always check output file for possible warning messages.

```

====> Your input file was named : C:\GIGHAR~1\EXTR5_~2.DAT
====> Your output file was named: C:\GIGHAR~1\EXTR5_~1.OUT

```

```

*****
* SWMM 4.4H Simulation Date and Time Summary *
*****
* Starting Date... March 6, 2009 *
* Time... 17: 1: 2.346 *
* Ending Date... March 6, 2009 *
* Time... 17: 1:15.781 *
* Elapsed Time... 0.224 minutes. *
* Elapsed Time... 13.434 seconds. *
*****

```



```

1 *****
*   U.S. Environmental Protection Agency   *
*   Storm Water Management Model (SWMM)   *
*   Version 4.4H                           *
*                                           *
*   CDM/OSU Ongoing Version 4.4h           *
*   Release Date - July 30, 2004          *
*   Camp Dresser & McKee and Oregon St. Univ. *
*   Chuck Moore, Bob Dickinson, and Wayne Huber *
*   Compiled using Compaq Visual Fortran v.6.6 *
*****

Developed by

*****
*   Metcalf & Eddy, Inc.                   *
*   University of Florida                   *
*   Water Resources Engineers, Inc.         *
*   (Now Camp Dresser & McKee, Inc.)        *
*   September 1970                         *
*****

Version 4.3 (outdated) is
distributed and Maintained by

*****
*   U.S. Environmental Protection Agency   *
*   Center for Exposure Assessment Modeling (CEAM)*
*   Athens Environmental Research Laboratory *
*   960 College Station Road               *
*   Athens, GA 30605-2720                 *
*****

*****
*   This is an updated release of SWMM4.4h. *
*   no longer formally supported by the EPA. *
*   If problems occur executing this model  *
*   contact Wayne Huber at Oregon State. U., *
*   wayne.huber@orst.edu,                   *
*   or Robert Dickinson at Camp Dresser &   *
*   McKee, DickinsonRE@CDM.COM.            *
*   The EPA-supported version is SWMM5 at:  *
*   http://www.epa.gov/ednrmrl/swmm/index.htm *
*****

*****
*   This is an implementation of EPA SWMM 4.4H *
*   "Nature is full of infinite causes which *
*   have never occurred in experience" da Vinci *
*****

#####
#   File names by SWMM Block               #
#   JIN  -> Input to a Block                #
#   JOUT -> Output from a Block             #
#####

JIN for Block # 1 File # 9 C:\GIGHAR~1\ExTrunk6.int
JOUT for Block # 1 File # 10 Textint.int

#####
# Scratch file names for this simulation. #
#####

NSCRAT # 1 File # 1 SCRT1.UF
NSCRAT # 2 File # 2 SCRT2.UF

*****
*   Parameter Values on the Tapes Common Block *
*****

Number of Subcatchments in the Runoff Block (NW)..... 2000
Number of Channel/Pipes in the Runoff Block (NG)..... 2000
Number of Connections to Runoff Channels/Inlets (NCP)... 6
Number of Water Quality Constituents (MQUAL)..... 20
Number of Runoff Land Uses per Subcatchment (NLU)..... 20
Number of Groundwater Plot/prints in Runoff (NGW)..... 400
Number of Interface Locations for all Blocks (NIE)..... 2000
Number of Elements in the Transport Block (NET)..... 1000
Number of Storage Junctions in Transport (NTSE)..... 100
Number of Transport interface input locations (NTHI)... 500
Number of Transport interface output locations (NTHO)... 500
Number of Transport input locations on R lines (NTHR)... 80
Number of Transport printed output locations (NTOA)... 80
Number of Tabular Flow Splitters in Transport (NTSP)... 50
Number of Elements in the Extran Block (NEE)..... 4000
Number of Pumps in Extran (NEP)..... 1000
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG)... 1000
Number of Extran Weirs (NEW)..... 400
Number of Extran Printout Locations (NPO)..... 150
Number of Tide Elements in Extran (NTE)..... 50
Number of Natural Channels (NNC)..... 1200
Number of Storage Junctions in Extran (NVSE)..... 2000
Number of Time History Data Points in Extran (NTVAL)... 500
Number of Data Points for Variable Storage Elements
in the Extran Block (NVST)..... 200
Number of Input Hydrographs in Extran (NEH)..... 500
Number of Allowable Channel Connections to
Junctions in the Extran Block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50

```

Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
 Number of Storm Events for Rain Analysis (LSTORM).....20000
 Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
 Number Conduits for Extran Results to ASCII
 File (MXFLOW)..... 400

```
#####
# Entry made to the Transport Block, last updated #
# by Oregon State University, April 2002. #
#####
# "The sewer is the conscience of the city." #
# Victor Hugo (1862) #
#####
```

Gig Harbor 2008 Storm System Transport Analysis
 Trunkline 6 Existing System

```
*****
* OPTIONAL INPUT PARAMETERS FROM DATA LINE 80 *
*-----*
* The default values are used if line 80 *
* is not part of the TRANSPORT input data. *
* Defaults: ISLOPE=0 ITRAP=0 IFLIP=0 *
* IDETAIL=0 *
*****
```

```
use ft/100 ft or m/100 m for conduit slope...(ISLOPE=0).. 0
Use ft/ft or m/m for input of conduit slope...(ISLOPE=1)..
Vertical/horizontal trapezoid side slope....(ITRAP=0)... 0
Horizontal/vertical trapezoid side slope....(ITRAP=1)...
Default input of flow/pollutants on line R1...(IFLIP=0)... 0
Input flow/pollutants on one R1 line.....(IFLIP=1)...
Include only hydrograph input(s) on printout...(INFLEW=0).. 0
Include all input(s) on input printout.....(INFLEW=1)..
Normal division of irregular section data...(IDETAIL=0).. 0
Subdivide lowermost equal area segment.....(IDETAIL=1)..
Print intermediate headers in tables.....(NOHEAD=0).. 0
Do not print intermediate headers in table...(NOHEAD=1)..
```

```
NUMBER OF TIME STEPS (NDT)..... 420768
NO. OF ELEMENTS FOR CARD HYDROGRAPH INPUT (NINPUT) 0
NO. OF ELEMENTS FOR INPUT HYDROGRAPH PRINT (NNYN) 0
NO. OF ELEMENTS FOR OUTPUT HYDROGRAPH PRINT (NNPE) 4
NO. TIME STEPS BETWEEN I/O PRINTS (INTPR)..... 1
NO. OF ELEMENTS FOR INTERFACE TRANSFER (NOUTS).... 0
NO. OF POLLUTANTS SIMULATED (NPOLL)..... 0
NO. OF ITERATIONS FOR FLOW ROUTING (NITER)..... 4
```

NO SIMULATION OF LINKED DO (NWQ = 0).

====> WARNING !! FROM SUB TRANS. NOUTS= 0 AND JOUT = 10. BOTH MUST BE GT 0 TO GENERATE INTERFACE FILE.
 SIMULATION WILL CONTINUE, BUT NO NEW INTERFACE FILE WILL BE GENERATED.

```
FOR THE FOLLOWING PARAMETERS, 1=YES, 0=NO:
PRINT INTERNAL ERROR MESSAGES (NPRINT)..... 0
HYDROGRAPH INPUT FROM CARDS ONLY (NCNTRL)..... 0
CALL INFILTRATION ROUTINE (NINFIL)..... 0
CALL DRY-WEATHER FLOW ROUTINE (NFILTH)..... 0
USE HYDRAULIC DESIGN ROUTINE (NDESN)..... 0
```

USE U.S. CUSTOMARY UNITS FOR INPUT/OUTPUT(METRIC=0).

```
SIZE OF TIME STEP (DT, SECONDS)..... 3600.0
ALLOWABLE ROUTING CONVERGENCE ERROR (EPSIL).....0.000100
NO. DRY DAYS PRIOR TO SIMULATION (DWDAYS)..... 0.00
STARTING TIME OF DAY IN HOURS..... 0.00
KINEMATIC VISCOSITY (GNU, SQ FT/SEC).....1.00E-05
TOTAL CATCHMENT AREA (TRIBA, ACRES)..... 100.00
```

```
#####
# Header information from interface file: #
#####
```

Title from first computational block:

Title from immediately preceding computational block:

```
Name of preceding block:.....Runoff Block
Initial Julian date (IDATEZ)..... 1948275
Initial time of day in seconds (TZERO)..... 0.0
No. transferred input locations..... 4
No. transferred pollutants..... 0
Size of total catchment area (acres)..... 1100.00
ID numbers (JCE=0) or alphanumeric (JCE=1)..... 0
```

```
#####
# Element numbers of interface inlet locations: #
#####
9009 3431 2090 2070
```

Conversion factor to cfs for flow units
 on interface file. Multiply by: 1.00000

STARTING DATE OF SIMULATION (YR/MO/DAY) = 1948/10/ 1

STARTING TIME OF DAY HR:MN:SEC

= 0/ 0/ 0

Extrunk6.out

1THERE WERE 47 ELEMENTS (NE) INPUT INTO TRANSPORT BLOCK FROM DATA GROUP E1.

1

 * ELEMENT LINKAGES AND COMPUTATION SEQUENCE *

 * NOTE: ELEMENT # 0 IS GIVEN AN INTERNAL # OF 48 *

EXTERNAL ELEMENT NUMBER	INTERNAL ELEMENT NUMBER	TYPE	DISCRIPTION	UPSTREAM ELEMENTS (EXTERNAL NOS.)			ORDER OF COMPUTATION SEQUENCE	EXTERNALS AT EACH TIME		STEP (PROCEEDING DOWNSTREAM)	
				1	2	3		NUMBER	NUMBER	INTERNAL ELEMENT	UPSTREAM NUMBERS
2070	1	19	MANHOLE	0	0	0	1	2070	1	48	48 48
2072	2	19	MANHOLE	96	0	0	2	96	44	1	48 48
2074	3	19	MANHOLE	97	0	0	3	2072	2	44	48 48
2080	4	19	MANHOLE	101	0	0	4	97	45	2	48 48
2082	5	19	MANHOLE	95	0	0	5	2074	3	45	48 48
2084	6	19	MANHOLE	94	0	0	6	101	26	3	48 48
2086	7	19	MANHOLE	98	0	0	7	2080	4	26	48 48
2090	8	19	MANHOLE	99	0	0	8	95	43	4	48 48
2092	9	19	MANHOLE	100	0	0	9	2082	5	43	48 48
2094	10	19	MANHOLE	89	0	0	10	94	42	5	48 48
2096	11	19	MANHOLE	93	0	0	11	2084	6	42	48 48
2098	12	19	MANHOLE	92	0	0	12	98	46	6	48 48
2100	13	19	MANHOLE	91	0	0	13	2086	7	46	48 48
2102	14	19	MANHOLE	90	0	0	14	99	47	7	48 48
3196	15	19	MANHOLE	84	0	0	15	2090	8	47	48 48
3417	16	19	MANHOLE	82	0	0	16	100	25	8	48 48
3419	17	19	MANHOLE	81	0	0	17	2092	9	25	48 48
3423	18	19	MANHOLE	80	0	0	18	89	37	9	48 48
3425	19	19	MANHOLE	85	0	0	19	2094	10	37	48 48
3431	20	19	MANHOLE	87	0	0	20	93	41	10	48 48
3433	21	19	MANHOLE	86	0	0	21	2096	11	41	48 48
5824	22	19	MANHOLE	83	0	0	22	92	40	11	48 48
999	23	19	MANHOLE	102	0	0	23	2098	12	40	48 48
9009	24	19	MANHOLE	88	0	0	24	91	39	12	48 48
100	25	1	CIRCULAR	2090	0	0	25	2100	13	39	48 48
101	26	1	CIRCULAR	2074	0	0	26	90	38	13	48 48
102	27	1	CIRCULAR	5824	0	0	27	2102	14	38	48 48
80	28	1	CIRCULAR	3425	0	0	28	84	32	14	48 48
81	29	1	CIRCULAR	3423	0	0	29	3196	15	32	48 48
82	30	1	CIRCULAR	3419	0	0	30	86	34	15	48 48
83	31	1	CIRCULAR	3417	0	0	31	3433	21	34	48 48
84	32	1	CIRCULAR	2102	0	0	32	87	35	21	48 48
85	33	1	CIRCULAR	9009	0	0	33	3431	20	35	48 48
86	34	1	CIRCULAR	3196	0	0	34	88	36	20	48 48
87	35	1	CIRCULAR	3433	0	0	35	9009	24	36	48 48
88	36	1	CIRCULAR	3431	0	0	36	85	33	24	48 48
89	37	1	CIRCULAR	2092	0	0	37	3425	19	33	48 48
90	38	1	CIRCULAR	2100	0	0	38	80	28	19	48 48
91	39	1	CIRCULAR	2098	0	0	39	3423	18	28	48 48
92	40	1	CIRCULAR	2096	0	0	40	81	29	18	48 48
93	41	1	CIRCULAR	2094	0	0	41	3419	17	29	48 48
94	42	1	CIRCULAR	2082	0	0	42	82	30	17	48 48
95	43	1	CIRCULAR	2080	0	0	43	3417	16	30	48 48
96	44	1	CIRCULAR	2070	0	0	44	83	31	16	48 48
97	45	1	CIRCULAR	2072	0	0	45	5824	22	31	48 48
98	46	1	CIRCULAR	2084	0	0	46	102	27	22	48 48
99	47	1	CIRCULAR	2086	0	0	47	999	23	27	48 48

1

 * DOWNSTREAM ELEMENTS (MODEL OUTLETS) *
 * (internal number - external number) *

23 999

1

 * TRANSPORT ELEMENT PARAMETERS *
 *
 * CAUTION: COLUMN HEADINGS ARE FOR CONDUITS. REFER *
 * TO USERS MANUAL FOR MEANING FOR NON-CONDUITS. *

EXT. ELE. TY NUM. PE	TYPE NAME	SLOPE (FT/FT)	DISTANCE (FT)	MANNING ROUGHNESS	GEOM1 (FT)	GEOM2 (FT)	GEOM3 (FT)	NUMBER OF BARRELS	AFULL (SQ.FT)	QFULL (CFS)	QMAX (CFS)	SUPER-CRITICAL FLOW WHEN LESS THAN 95% FULL?
2070	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2072	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2074	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2080	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2082	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2084	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2086	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2090	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2092	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2094	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2096	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2098	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2100	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2102	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3196	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3417	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3419	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3423	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3425	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3431	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3433	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5824	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
999	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
9009	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				

ExTrunk6.out													
100	1	CIRCULAR	7.5E-02	242.50	0.0120	1.50	0.00	0.00	1.0	1.77	31.	34.	YES
101	1	CIRCULAR	0.2	66.60	0.0140	1.00	0.00	0.00	1.0	0.79	14.	16.	YES
102	1	CIRCULAR	0.4	64.24	0.0120	3.00	0.00	0.00	1.0	7.07	4.29E+02	4.64E+02	YES
80	1	CIRCULAR	5.0E-03	17.98	0.0120	2.00	0.00	0.00	1.0	3.14	17.	19.	NO
81	1	CIRCULAR	5.4E-02	210.76	0.0120	2.00	0.00	0.00	1.0	3.14	57.	61.	YES
82	1	CIRCULAR	0.2	38.25	0.0120	2.00	0.00	0.00	1.0	3.14	98.	1.06E+02	YES
83	1	CIRCULAR	2.9E-02	505.32	0.0120	2.00	0.00	0.00	1.0	3.14	41.	45.	YES
84	1	CIRCULAR	5.3E-02	267.91	0.0120	1.50	0.00	0.00	1.0	1.77	26.	28.	YES
85	1	CIRCULAR	6.9E-02	243.75	0.0120	2.00	0.00	0.00	1.0	3.14	64.	70.	YES
86	1	CIRCULAR	0.1	42.79	0.0120	1.00	0.00	0.00	1.0	0.79	12.	13.	YES
87	1	CIRCULAR	0.1	47.10	0.0120	1.50	0.00	0.00	1.0	1.77	37.	40.	YES
88	1	CIRCULAR	6.3E-02	349.69	0.0120	2.00	0.00	0.00	1.0	3.14	61.	66.	YES
89	1	CIRCULAR	9.4E-02	63.60	0.0120	1.50	0.00	0.00	1.0	1.77	35.	38.	YES
90	1	CIRCULAR	5.6E-02	195.50	0.0120	1.50	0.00	0.00	1.0	1.77	27.	29.	YES
91	1	CIRCULAR	5.3E-02	138.46	0.0240	1.50	0.00	0.00	1.0	1.77	13.	14.	NO
92	1	CIRCULAR	3.9E-02	50.16	0.0120	1.50	0.00	0.00	1.0	1.77	22.	24.	YES
93	1	CIRCULAR	5.1E-02	140.69	0.0120	1.50	0.00	0.00	1.0	1.77	26.	28.	YES
94	1	CIRCULAR	0.1	153.85	0.0240	1.00	0.00	0.00	1.0	0.79	6.7	7.2	YES
95	1	CIRCULAR	0.2	107.00	0.0240	1.00	0.00	0.00	1.0	0.79	8.5	9.1	YES
96	1	CIRCULAR	0.1	151.90	0.0140	1.00	0.00	0.00	1.0	0.79	11.	12.	YES
97	1	CIRCULAR	0.1	204.90	0.0140	1.00	0.00	0.00	1.0	0.79	11.	12.	YES
98	1	CIRCULAR	5.9E-02	159.09	0.0240	1.00	0.00	0.00	1.0	0.79	4.7	5.1	NO
99	1	CIRCULAR	4.4E-02	40.84	0.0120	1.00	0.00	0.00	1.0	0.79	8.1	8.7	YES

Transport Block Flow Continuity #
#####

Sum of WET WEATHER Inflow..... 4.005E+08 cubic feet 100.3109 inches
Sum of DRY WEATHER Inflow..... 0.000E+00 cubic feet 0.0000 inches
Sum of INFILTRATION Inflow..... 0.000E+00 cubic feet 0.0000 inches
Sum of MANHOLE CONSTANT Inflow... 0.000E+00 cubic feet 0.0000 inches
INITIAL VOLUME IN CONDUITS..... 0.000E+00 cubic feet 0.0000 inches
REMAINING VOLUME IN CONDUITS..... 2.796E-03 cubic feet 0.0000 inches
Sum of FINAL SURCHARGE STORAGE... 0.000E+00 cubic feet 0.0000 inches
Sum of FINAL WET WELL VOLUME..... 0.000E+00 cubic feet 0.0000 inches
Sum of TRANSPORT Outflows..... 4.013E+08 cubic feet 100.4905 inches
A.Sum of INITIAL VOLUME + Inflows 4.005E+08 cubic feet 100.3109 inches
B.Sum REMAINING VOLUME + Outflows 4.013E+08 cubic feet 100.4905 inches
Percent flow continuity error.... 0.179 = (B-A)/B * 100

1

* CONDUIT SURCHARGE SUMMARY *

ELEMENT NUMBER	STARTING JULIAN DATE	STARTING TIME OF DAY(SEC)	ENDING JULIAN DATE	ENDING TIME OF DAY(SEC)	SURCHARGE LENGTH MINUTES	FULL FLOW (CFS)	PEAK FLW RATIO Qp/QFULL	SURCHARGE PEAK VOL. (CF)
96	1957260	72000	1980311	82800	660.00	11.33	2.58	6.43E+04
95	1950357	28800	1995189	79200	1920.00	8.47	2.62	4.95E+04
94	1949331	0	1995332	75600	4620.00	6.65	2.68	4.02E+04
98	1948278	14400	1996149	64800	18360.00	4.70	4.52	5.94E+04
91	1960239	64800	1960239	64800	0.00	13.05	1.30	1.41E+04
86	1957260	72000	1963115	57600	300.00	11.93	1.24	1.04E+04
80	1950357	28800	1986299	7200	1320.00	17.33	2.70	1.06E+05

* TOTAL ITERATIONS AND MAXIMUM # OF ITERATIONS *

ELEMENT NUMBER	TOTAL NUMBER OF ITERATIONS	MAXIMUM NUMBER OF ITERATIONS	MAXIMUM ERROR	MAXIMUM FLOW(CFS)	CONDUIT SLOPE	MAXIMUM SLOPE	MINIMUM SLOPE	MEAN SLOPE	TOTAL FLOW-CF
96	420768	1	0.0000	11.804	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.59E+08
97	420768	1	0.0000	11.739	1.18E-01	1.18E-01	1.18E-01	1.17E-01	1.59E+08
101	420768	1	0.0000	11.722	1.90E-01	1.90E-01	1.90E-01	1.90E-01	1.59E+08
95	420768	1	0.0000	9.129	1.93E-01	1.93E-01	1.93E-01	1.93E-01	1.59E+08
94	420768	1	0.0000	7.185	1.19E-01	1.19E-01	1.19E-01	1.18E-01	1.59E+08
98	420702	4	0.0002	5.061	5.92E-02	5.94E-02	5.92E-02	5.91E-02	1.59E+08
99	420768	1	0.0000	5.061	4.40E-02	4.40E-02	4.40E-02	4.41E-02	1.59E+08
100	420768	1	0.0000	16.908	7.50E-02	7.50E-02	7.50E-02	7.47E-02	2.45E+08
89	420768	1	0.0000	16.917	9.42E-02	9.42E-02	9.42E-02	9.38E-02	2.45E+08
93	420768	1	0.0000	16.946	5.10E-02	5.10E-02	5.10E-02	5.09E-02	2.45E+08
92	420768	1	0.0000	16.957	3.87E-02	3.87E-02	3.87E-02	3.88E-02	2.45E+08
91	429164	4	0.0001	13.976	5.26E-02	5.27E-02	5.26E-02	5.27E-02	2.45E+08
90	420768	1	0.0000	13.895	5.62E-02	5.62E-02	5.62E-02	5.65E-02	2.45E+08
84	420768	1	0.0000	13.781	5.29E-02	5.29E-02	5.29E-02	5.28E-02	2.45E+08
86	420768	1	0.0000	11.944	9.56E-02	9.56E-02	9.56E-02	9.53E-02	2.45E+08
87	420768	1	0.0000	11.953	1.04E-01	1.04E-01	1.04E-01	1.04E-01	2.45E+08
88	420768	1	0.0000	27.225	6.26E-02	6.26E-02	6.26E-02	6.25E-02	3.49E+08
85	420768	1	0.0000	34.802	6.91E-02	6.91E-02	6.91E-02	6.89E-02	4.01E+08
80	579248	4	0.0511	18.462	5.00E-03	5.19E-03	5.00E-03	5.01E-03	4.01E+08
81	420768	1	0.0000	18.359	5.38E-02	5.38E-02	5.38E-02	5.40E-02	4.01E+08
82	420768	1	0.0000	18.346	1.60E-01	1.60E-01	1.60E-01	1.60E-01	4.01E+08
83	420768	1	0.0000	18.331	2.85E-02	2.85E-02	2.85E-02	2.84E-02	4.01E+08
102	420768	1	0.0000	18.333	3.53E-01	3.53E-01	3.53E-01	3.53E-01	4.01E+08

* Total flow and mass (kg) out of all elements *

ELEMENT NUMBER	TOTAL FLOW-CF
2070	1.59E+08
96	1.59E+08
2072	1.59E+08
97	1.59E+08
2074	1.59E+08
101	1.59E+08


```

2080 1.59E+08
95 1.59E+08
2082 1.59E+08
94 1.59E+08
2084 1.62E+08
98 1.59E+08
2086 1.59E+08
99 1.59E+08
2090 2.45E+08
100 2.45E+08
2092 2.45E+08
89 2.45E+08
2094 2.45E+08
93 2.45E+08
2096 2.45E+08
92 2.45E+08
2098 2.45E+08
91 2.45E+08
2100 2.45E+08
90 2.45E+08
2102 2.45E+08
84 2.45E+08
3196 2.45E+08
86 2.45E+08
3433 2.45E+08
87 2.45E+08
3431 3.49E+08
88 3.49E+08
9009 4.01E+08
85 4.01E+08
3425 4.02E+08
80 4.01E+08
3423 4.01E+08
81 4.01E+08
3419 4.01E+08
82 4.01E+08
3417 4.01E+08
83 4.01E+08
5824 4.01E+08
102 4.01E+08
999 4.01E+08

```

The Total Simulation Time =1514764800.0 seconds.
 25246080.00 minutes.
 420768.000 hours.
 The Time Step(DT) = 3600.0 seconds.

The ending date (YEAR/MO/DAY)..1996/10/ 1
 The ending time of day..... 0.000 seconds.

```

AVERAGE FLOW..... 0.105 0.162 0.230 0.265
STANDARD DEVIATION OF FLOW..... 0.001 0.001 0.001 0.001
MAXIMUM FLOW..... 11.804 16.866 27.128 34.723
MINIMUM FLOW..... 0.000 0.000 0.000 0.000
FLOW VOLUME (CUBIC FEET)..... 1.59E+08 2.45E+08 3.49E+08 4.01E+08

```

Transport simulation ended normally.

====> SWMM 4.4H simulation ended normally.
 Always check output file for possible warning messages.

====> Your input file was named : C:\GIGHAR~1\EX3EA8~1.DAT
 =====> Your output file was named: C:\GIGHAR~1\ExTrunk6.out

```

*****
* SWMM 4.4H Simulation Date and Time Summary *
*****
* Starting Date... February 17, 2009 *
* Time... 16:28:50.640 *
* Ending Date... February 17, 2009 *
* Time... 16:30:58.468 *
* Elapsed Time... 2.130 minutes. *
* Elapsed Time... 127.829 seconds. *
*****

```


1

Trunk6.out

```

*****
*   U.S. Environmental Protection Agency   *
*   Storm Water Management Model (SWMM)   *
*   Version 4.4H                           *
*                                           *
*   CDM/OSU Ongoing Version 4.4h           *
*   Release Date - July 30, 2004          *
*   Camp Dresser & McKee and Oregon St. Univ. *
*   Chuck Moore, Bob Dickinson, and Wayne Huber *
*   Compiled using Compaq Visual Fortran v.6.6 *
*****

```

Developed by

```

*****
*   Metcalf & Eddy, Inc.                   *
*   University of Florida                   *
*   Water Resources Engineers, Inc.         *
*   (Now Camp Dresser & McKee, Inc.)       *
*   September 1970                         *
*****

```

Version 4.3 (outdated) is
distributed and Maintained by

```

*****
*   U.S. Environmental Protection Agency   *
*   Center for Exposure Assessment Modeling (CEAM)*
*   Athens Environmental Research Laboratory *
*   960 College Station Road              *
*   Athens, GA 30605-2720                 *
*****

```

```

*****
*   This is an updated release of SWMM4.4h *
*   no longer formally supported by the EPA. *
*   If problems occur executing this model *
*   contact Wayne Huber at Oregon State. U., *
*   wayne.huber@orst.edu,                   *
*   or Robert Dickinson at Camp Dresser & *
*   McKee, DickinsonRE@CDM.COM.            *
*   The EPA-supported version is SWMM5 at:  *
*   http://www.epa.gov/ednrmr1/swmm/index.htm *
*****

```

```

*****
*   This is an implementation of EPA SWMM 4.4H *
*   "Nature is full of infinite causes which *
*   have never occurred in experience" da vinci *
*****

```

```

#####
#   File names by SWMM Block               #
#   JIN  -> Input to a Block                #
#   JOUT -> Output from a Block             #
#####

```

```

JIN for Block #    1 File #    9 C:\GIGHAR~1\Trunk6.int
JOUT for Block #    1 File #   10 Textint.int

```

```

#####
# Scratch file names for this simulation. #
#####

```

```

NSCRAT #    1 File #    1 SCRT1.UF
NSCRAT #    2 File #    2 SCRT2.UF

```

```

*****
*   Parameter Values on the Tapes Common Block *
*****

```

```

Number of Subcatchments in the Runoff Block (NW)..... 2000
Number of Channel/Pipes in the Runoff Block (NG)..... 2000
Number of Connections to Runoff Channels/Inlets (NCP)... 6
Number of Water Quality Constituents (MQUAL)..... 20
Number of Runoff Land Uses per Subcatchment (NLU)..... 20
Number of Groundwater Plot/prints in Runoff (NGW).... 400
Number of Interface Locations for all Blocks (NIE).... 2000
Number of Elements in the Transport Block (NET)..... 1000
Number of Storage Junctions in Transport (NTSE)..... 100
Number of Transport interface input locations (NTHI)... 500
Number of Transport interface output locations (NTHO)... 500
Number of Transport input locations on R lines (NTHR)... 80
Number of Transport printed output locations (NTOA)... 80
Number of Tabular Flow Splitters in Transport (NTSP)... 50
Number of Elements in the Extran Block (NEE)..... 4000
Number of Pumps in Extran (NEP)..... 1000
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG).... 1000
Number of Extran Weirs (NEW)..... 400
Number of Extran Printout Locations (NPO)..... 150
Number of Tide Elements in Extran (NTE)..... 50
Number of Natural Channels (NNC)..... 1200
Number of Storage Junctions in Extran (NVSE)..... 2000
Number of Time History Data Points in Extran (NTVAL)... 500
Number of Data Points for Variable Storage Elements
in the Extran Block (NVST)..... 200
Number of Input Hydrographs in Extran (NEH)..... 500
Number of Allowable Channel Connections to
Junctions in the Extran Block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50

```

Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
 Number of Storm Events for Rain Analysis (LSTORM).....20000
 Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
 Number Conduits for Extran Results to ASCII
 File (MXFLOW)..... 400

```
#####
# Entry made to the Transport Block, last updated #
# by Oregon State University, April 2002.         #
#####
# "The sewer is the conscience of the city."       #
# Victor Hugo (1862)#
#####
```

Gig Harbor 2008 Storm System Transport Analysis
 Trunkline 6 Improved System

```
*****
* OPTIONAL INPUT PARAMETERS FROM DATA LINE B0 *
*****
* The default values are used if line B0         *
* is not part of the TRANSPORT input data.      *
* Defaults: ISLOPE=0 ITRAP=0 IFLIP=0           *
* IDETAIL=0                                     *
*****
```

```
Use ft/100 ft or m/100 m for conduit slope...(ISLOPE=0).. 0
Use ft/ft or m/m for input of conduit slope...(ISLOPE=1)..
vertical/horizontal trapezoid side slope....(ITRAP=0).... 0
Horizontal/vertical trapezoid side slope....(ITRAP=1)....
Default input of flow/pollutants on line RL...(IFLIP=0).... 0
Input flow/pollutants on one RL line.....(IFLIP=1)....
Include only hydrograph input(s) on printout.(INFLEW=0).. 0
Include all input(s) on input printout.....(INFLEW=1)..
Normal division of irregular section data ...(IDETAIL=0).. 0
Subdivide lowermost equal area segment.....(IDETAIL=1)..
Print intermediate headers in tables.....(NOHEAD=0).... 0
Do not print intermediate headers in table...(NOHEAD=1)...
```

```
NUMBER OF TIME STEPS (NDT)..... 8760
NO. OF ELEMENTS FOR CARD HYDROGRAPH INPUT (NINPOT)..... 0
NO. OF ELEMENTS FOR INPUT HYDROGRAPH PRINT (NNYN)..... 0
NO. OF ELEMENTS FOR OUTPUT HYDROGRAPH PRINT (NNPE)..... 4
NO. TIME STEPS BETWEEN I/O PRINTS (INTPR)..... 1
NO. OF ELEMENTS FOR INTERFACE TRANSFER (NOUTS)..... 0
NO. OF POLLUTANTS SIMULATED (NPOLL)..... 0
NO. OF ITERATIONS FOR FLOW ROUTING (NITER)..... 4
```

NO SIMULATION OF LINKED DO (NWQ = 0).

====> WARNING !! FROM SUB TRANS. NOUTS= 0 AND JOUT = 10. BOTH MUST BE GT 0 TO GENERATE INTERFACE FILE.
 SIMULATION WILL CONTINUE, BUT NO NEW INTERFACE FILE WILL BE GENERATED.

```
FOR THE FOLLOWING PARAMETERS, 1=YES, 0=NO:
PRINT INTERNAL ERROR MESSAGES (NPRINT)..... 0
HYDROGRAPH INPUT FROM CARDS ONLY (NCNTRL)..... 0
CALL INFILTRATION ROUTINE (NINFIL)..... 0
CALL DRY-WEATHER FLOW ROUTINE (NFILTH)..... 0
USE HYDRAULIC DESIGN ROUTINE (NDESN)..... 0
```

USE U.S. CUSTOMARY UNITS FOR INPUT/OUTPUT(METRIC=0).

```
SIZE OF TIME STEP (DT, SECONDS)..... 3600.0
ALLOWABLE ROUTING CONVERGENCE ERROR (EPSIL).....0.000100
NO. DRY DAYS PRIOR TO SIMULATION (DWDAYS)..... 0.00
STARTING TIME OF DAY IN HOURS..... 0.00
KINEMATIC VISCOSITY (GNU, SQ FT/SEC).....1.00E-05
TOTAL CATCHMENT AREA (TRIBA, ACRES)..... 100.00
```

```
#####
# Header information from interface file: #
#####
```

Title from first computational block:

Title from immediately preceding computational block:

```
Name of preceding block:.....Runoff block
Initial Julian date (IDATEZ)..... 1963001
Initial time of day in seconds (TZERO)..... 0.0
No. transferred input locations..... 7
No. transferred pollutants..... 0
Size of total catchment area (acres)..... 1100.00
ID numbers (JCE=0) or alphanumeric (JCE=1)..... 0
```

```
#####
# Element numbers of interface inlet locations: #
#####
```

```
3417 3431 2090 2070 2074 2086 5824
```

Conversion factor to cfs for flow units
 on interface file. Multiply by: 1.00000

STARTING DATE OF SIMULATION (YR/MO/DAY) = 1963/ 1/ 1

STARTING TIME OF DAY HR:MN:SEC

= 0/ 0/ 0

Trunk6.out

1THERE WERE 47 ELEMENTS (NE) INPUT INTO TRANSPORT BLOCK FROM DATA GROUP E1.

1

 * ELEMENT LINKAGES AND COMPUTATION SEQUENCE *

 * NOTE: ELEMENT # 0 IS GIVEN AN INTERNAL # OF 48 *

EXTERNAL ELEMENT NUMBER	INTERNAL ELEMENT NUMBER	TYPE	DISCRIPTION	UPSTREAM ELEMENTS (EXTERNAL NOS.)			ORDER OF COMPUTATION SEQUENCE	EXTERNALS AT EACH TIME STEP (PROCEEDING DOWNSTREAM)		INTERNAL UPSTREAM	
				1	2	3		NUMBER	NUMBER	ELEMENT	NUMBERS
2070	1	19	MANHOLE	0	0	0	1	2070	1	48	48
2072	2	19	MANHOLE	96	0	0	2	96	44	1	48
2074	3	19	MANHOLE	97	0	0	3	2072	2	44	48
2080	4	19	MANHOLE	101	0	0	4	97	45	2	48
2082	5	19	MANHOLE	95	0	0	5	2074	3	45	48
2084	6	19	MANHOLE	94	0	0	6	101	26	3	48
2086	7	19	MANHOLE	98	0	0	7	2080	4	26	48
2090	8	19	MANHOLE	99	0	0	8	95	43	4	48
2092	9	19	MANHOLE	100	0	0	9	2082	5	43	48
2094	10	19	MANHOLE	89	0	0	10	94	42	5	48
2096	11	19	MANHOLE	93	0	0	11	2084	6	42	48
2098	12	19	MANHOLE	92	0	0	12	98	46	6	48
2100	13	19	MANHOLE	91	0	0	13	2086	7	46	48
2102	14	19	MANHOLE	90	0	0	14	99	47	7	48
3196	15	19	MANHOLE	84	0	0	15	2090	8	47	48
3417	16	19	MANHOLE	82	0	0	16	100	25	8	48
3419	17	19	MANHOLE	81	0	0	17	2092	9	25	48
3423	18	19	MANHOLE	80	0	0	18	89	37	9	48
3425	19	19	MANHOLE	85	0	0	19	2094	10	37	48
3431	20	19	MANHOLE	87	0	0	20	93	41	10	48
3433	21	19	MANHOLE	86	0	0	21	2096	11	41	48
5824	22	19	MANHOLE	83	0	0	22	92	40	11	48
999	23	19	MANHOLE	102	0	0	23	2098	12	40	48
9999	24	19	MANHOLE	88	0	0	24	91	39	12	48
100	25	1	CIRCULAR	2090	0	0	25	2100	13	39	48
101	26	1	CIRCULAR	2074	0	0	26	90	38	13	48
102	27	1	CIRCULAR	5824	0	0	27	2102	14	38	48
80	28	1	CIRCULAR	3425	0	0	28	84	32	14	48
81	29	1	CIRCULAR	3423	0	0	29	3196	15	32	48
82	30	1	CIRCULAR	3419	0	0	30	86	34	15	48
83	31	1	CIRCULAR	3417	0	0	31	3433	21	34	48
84	32	1	CIRCULAR	2102	0	0	32	87	35	21	48
85	33	1	CIRCULAR	9999	0	0	33	3431	20	35	48
86	34	1	CIRCULAR	3196	0	0	34	88	36	20	48
87	35	1	CIRCULAR	3433	0	0	35	9999	24	36	48
88	36	1	CIRCULAR	3431	0	0	36	85	33	24	48
89	37	1	CIRCULAR	2092	0	0	37	3425	19	33	48
90	38	1	CIRCULAR	2100	0	0	38	80	28	19	48
91	39	1	CIRCULAR	2098	0	0	39	3423	18	28	48
92	40	1	CIRCULAR	2096	0	0	40	81	29	18	48
93	41	1	CIRCULAR	2094	0	0	41	3419	17	29	48
94	42	1	CIRCULAR	2082	0	0	42	82	30	17	48
95	43	1	CIRCULAR	2080	0	0	43	3417	16	30	48
96	44	1	CIRCULAR	2070	0	0	44	83	31	16	48
97	45	1	CIRCULAR	2072	0	0	45	5824	22	31	48
98	46	1	CIRCULAR	2084	0	0	46	102	27	22	48
99	47	1	CIRCULAR	2086	0	0	47	999	23	27	48

1

 * DOWNSTREAM ELEMENTS (MODEL OUTLETS)
 * (internal number - external number)

23 999

1

 * TRANSPORT ELEMENT PARAMETERS *
 *
 * CAUTION: COLUMN HEADINGS ARE FOR CONDUITS. REFER *
 * TO USERS MANUAL FOR MEANING FOR NON-CONDUITS. *

EXT. ELE. TY NUM. PE	TYPE NAME	SLOPE (FT/FT)	DISTANCE (FT)	MANNING ROUGHNESS	GEOM1 (FT)	GEOM2 (FT)	GEOM3 (FT)	NUMBER OF BARRELS	AFULL (SQ. FT)	QFULL (CFS)	QMAX (CFS)	SUPER-CRITICAL FLOW WHEN LESS THAN 95% FULL?
2070	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2072	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2074	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2080	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2082	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2084	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2086	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2090	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2092	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2094	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2096	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2098	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2100	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
2102	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3196	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3417	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3419	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3423	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3425	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3431	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
3433	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5824	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
999	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
9999	19 MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				

Trunk6.out													
100	1	CIRCULAR	7.5E-02	242.50	0.0120	1.50	0.00	0.00	1.0	1.77	31.	34.	YES
101	1	CIRCULAR	0.2	66.60	0.0140	1.00	0.00	0.00	1.0	0.79	14.	16.	YES
102	1	CIRCULAR	0.4	64.24	0.0120	3.00	0.00	0.00	1.0	7.07	4.29E+02	4.64E+02	YES
80	1	CIRCULAR	5.0E-03	17.98	0.0120	3.00	0.00	0.00	1.0	7.07	51.	55.	NO
81	1	CIRCULAR	5.4E-02	210.76	0.0120	2.00	0.00	0.00	1.0	3.14	57.	61.	YES
82	1	CIRCULAR	0.2	38.25	0.0120	2.00	0.00	0.00	1.0	3.14	98.	1.06E+02	YES
83	1	CIRCULAR	2.9E-02	505.32	0.0120	2.00	0.00	0.00	1.0	3.14	41.	45.	YES
84	1	CIRCULAR	5.3E-02	267.91	0.0120	1.50	0.00	0.00	1.0	1.77	26.	28.	YES
85	1	CIRCULAR	6.9E-02	243.75	0.0120	2.00	0.00	0.00	1.0	3.14	64.	70.	YES
86	1	CIRCULAR	0.1	42.79	0.0120	1.50	0.00	0.00	1.0	1.77	35.	38.	YES
87	1	CIRCULAR	0.1	47.10	0.0120	1.50	0.00	0.00	1.0	1.77	37.	40.	YES
88	1	CIRCULAR	6.3E-02	349.69	0.0120	2.00	0.00	0.00	1.0	3.14	61.	66.	YES
89	1	CIRCULAR	9.4E-02	63.60	0.0120	1.50	0.00	0.00	1.0	1.77	35.	38.	YES
90	1	CIRCULAR	5.6E-02	195.50	0.0120	1.50	0.00	0.00	1.0	1.77	27.	29.	YES
91	1	CIRCULAR	5.3E-02	138.46	0.0120	2.00	0.00	0.00	1.0	3.14	56.	61.	YES
92	1	CIRCULAR	3.9E-02	50.16	0.0120	2.00	0.00	0.00	1.0	3.14	48.	52.	YES
93	1	CIRCULAR	5.1E-02	140.69	0.0120	1.50	0.00	0.00	1.0	1.77	26.	28.	YES
94	1	CIRCULAR	0.1	153.85	0.0120	1.50	0.00	0.00	1.0	1.77	39.	42.	YES
95	1	CIRCULAR	0.2	107.00	0.0120	1.50	0.00	0.00	1.0	1.77	50.	54.	YES
96	1	CIRCULAR	0.1	151.90	0.0140	1.00	0.00	0.00	1.0	0.79	11.	12.	YES
97	1	CIRCULAR	0.1	204.90	0.0140	1.00	0.00	0.00	1.0	0.79	11.	12.	YES
98	1	CIRCULAR	5.9E-02	159.09	0.0120	1.50	0.00	0.00	1.0	1.77	28.	30.	YES
99	1	CIRCULAR	4.4E-02	40.84	0.0120	1.50	0.00	0.00	1.0	1.77	24.	26.	YES

Transport Block Flow Continuity #
#####

Sum of WET WEATHER Inflow..... 7.667E+06 cubic feet 1.9202 inches
Sum of DRY WEATHER Inflow..... 0.000E+00 cubic feet 0.0000 inches
Sum of INFILTRATION Inflow..... 0.000E+00 cubic feet 0.0000 inches
Sum of MANHOLE CONSTANT Inflow... 0.000E+00 cubic feet 0.0000 inches
INITIAL VOLUME IN CONDUITS..... 0.000E+00 cubic feet 0.0000 inches
REMAINING VOLUME IN CONDUITS.... 3.801E-02 cubic feet 0.0000 inches
Sum of FINAL SURCHARGE STORAGE... 0.000E+00 cubic feet 0.0000 inches
Sum of FINAL WET WELL VOLUME.... 0.000E+00 cubic feet 0.0000 inches
Sum of TRANSPORT Outflows..... 7.685E+06 cubic feet 1.9245 inches
A.Sum of INITIAL VOLUME + Inflows 7.667E+06 cubic feet 1.9202 inches
B.Sum REMAINING VOLUME + outflows 7.685E+06 cubic feet 1.9245 inches
Percent flow continuity error.... 0.225 = (B-A)/B * 100

* Surcharge did not occur in this Transport simulation. *

* TOTAL ITERATIONS AND MAXIMUM # OF ITERATIONS *

ELEMENT NUMBER	TOTAL NUMBER OF ITERATIONS	MAXIMUM NUMBER OF ITERATIONS	MAXIMUM ERROR	MAXIMUM FLOW(CFS)	CONDUIT SLOPE	MAXIMUM SLOPE	MINIMUM SLOPE	MEAN SLOPE	TOTAL FLOW-CF
96	8760	1	0.0000	5.170	1.17E-01	1.17E-01	1.17E-01	1.17E-01	9.15E+05
97	8760	1	0.0000	5.136	1.18E-01	1.18E-01	1.18E-01	1.18E-01	9.15E+05
101	8760	1	0.0000	10.315	1.90E-01	1.90E-01	1.90E-01	1.90E-01	1.83E+06
95	8760	1	0.0000	10.295	1.93E-01	1.93E-01	1.93E-01	1.93E-01	1.83E+06
94	8760	1	0.0000	10.256	1.19E-01	1.19E-01	1.19E-01	1.19E-01	1.83E+06
98	8760	1	0.0000	10.204	5.92E-02	5.92E-02	5.92E-02	5.92E-02	1.83E+06
99	8760	1	0.0000	17.109	4.40E-02	4.40E-02	4.40E-02	4.40E-02	3.05E+06
100	8760	1	0.0000	26.408	7.50E-02	7.50E-02	7.50E-02	7.50E-02	4.70E+06
89	8760	1	0.0000	26.375	9.42E-02	9.42E-02	9.42E-02	9.42E-02	4.70E+06
93	8760	1	0.0000	26.272	5.10E-02	5.10E-02	5.10E-02	5.10E-02	4.70E+06
92	8760	1	0.0000	26.233	3.87E-02	3.87E-02	3.87E-02	3.87E-02	4.70E+06
91	8760	1	0.0000	26.138	5.26E-02	5.26E-02	5.26E-02	5.26E-02	4.70E+06
90	8760	1	0.0000	26.002	5.62E-02	5.62E-02	5.62E-02	5.62E-02	4.70E+06
84	8760	1	0.0000	25.812	5.29E-02	5.29E-02	5.29E-02	5.29E-02	4.70E+06
86	8760	1	0.0000	25.787	9.56E-02	9.56E-02	9.56E-02	9.56E-02	4.71E+06
87	8760	1	0.0000	25.764	1.04E-01	1.04E-01	1.04E-01	1.04E-01	4.71E+06
88	8760	1	0.0000	36.504	6.26E-02	6.26E-02	6.26E-02	6.26E-02	6.68E+06
85	8760	1	0.0000	36.314	6.91E-02	6.91E-02	6.91E-02	6.91E-02	6.68E+06
80	13365	4	0.0043	36.279	5.00E-03	5.37E-03	5.00E-03	5.01E-03	6.68E+06
81	8760	1	0.0000	36.100	5.38E-02	5.38E-02	5.38E-02	5.38E-02	6.68E+06
82	8760	1	0.0000	36.078	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.69E+06
83	8760	1	0.0000	38.930	2.85E-02	2.85E-02	2.85E-02	2.85E-02	7.28E+06
102	8760	1	0.0000	41.207	3.53E-01	3.53E-01	3.53E-01	3.53E-01	7.68E+06

* Total flow and mass (kg) out of all elements *

ELEMENT NUMBER	TOTAL FLOW-CF
2070	9.15E+05
96	9.15E+05
2072	9.15E+05
97	9.15E+05
2074	1.83E+06
101	1.83E+06
2080	1.83E+06
95	1.83E+06
2082	1.83E+06
94	1.83E+06
2084	1.83E+06
98	1.83E+06
2086	3.05E+06
99	3.05E+06
2090	4.70E+06
100	4.70E+06
2092	4.70E+06

```

89      4.70E+06
2094    4.70E+06
93      4.70E+06
2096    4.70E+06
92      4.70E+06
2098    4.70E+06
91      4.70E+06
2100    4.70E+06
90      4.70E+06
2102    4.70E+06
84      4.70E+06
3196    4.70E+06
86      4.71E+06
3433    4.71E+06
87      4.71E+06
3431    6.68E+06
88      6.68E+06
9999    6.68E+06
85      6.68E+06
3425    6.68E+06
80      6.68E+06
3423    6.68E+06
81      6.68E+06
3419    6.68E+06
82      6.69E+06
3417    7.28E+06
83      7.28E+06
5824    7.68E+06
102     7.68E+06
999     7.68E+06

```

```

The Total simulation Time = 31536000.0 seconds.
                          525600.00 minutes.
                          8760.000 hours.
The Time Step(DT) =      3600.0 seconds.

```

```

The ending date (YEAR/MO/DAY)..1964/ 1/ 1
The ending time of day..... 0.000 seconds.

```

```

AVERAGE FLOW..... 0.029      0.149      0.212      0.212
STANDARD DEVIATION OF FLOW..... 0.001      0.006      0.008      0.008
MAXIMUM FLOW..... 5.170      26.558      36.794      36.504
MINIMUM FLOW..... 0.000      0.000      0.000      0.000
FLOW VOLUME (CUBIC FEET)..... 9.15E+05  4.70E+06  6.68E+06  6.68E+06

```

Transport simulation ended normally.

```

====> SWMM 4.4H simulation ended normally.
Always check output file for possible warning messages.

```

```

====> Your input file was named : C:\GIGHAR-1\Trunk61.DAT
====> Your output file was named: C:\GIGHAR-1\Trunk6.out

```

```

*****
*      SWMM 4.4H Simulation Date and Time Summary      *
*****
* Starting Date... February 17, 2009                    *
* Time... 16:26:39.31                                   *
* Ending Date... February 17, 2009                     *
* Time... 16:26:41.921                                  *
* Elapsed Time... 0.048 minutes.                        *
* Elapsed Time... 2.889 seconds.                        *
*****

```



```

1 *****
*   U.S. Environmental Protection Agency   *
*   Storm Water Management Model (SWMM)  *
*   Version 4.4H                         *
*   *                                     *
*   CDM/OSU Ongoing Version 4.4h         *
*   Release Date - July 30, 2004         *
*   Camp Dresser & McKee and Oregon St. Univ. *
*   Chuck Moore, Bob Dickinson, and Wayne Huber *
*   Compiled using Compaq Visual Fortran v.6.6 *
*****

Developed by

*****
*   Metcalf & Eddy, Inc.                 *
*   University of Florida                 *
*   Water Resources Engineers, Inc.      *
*   (Now Camp Dresser & McKee, Inc.)    *
*   September 1970                      *
*****

Version 4.3 (outdated) is
Distributed and Maintained by

*****
*   U.S. Environmental Protection Agency *
*   Center for Exposure Assessment Modeling (CEAM)*
*   Athens Environmental Research Laboratory *
*   960 College Station Road            *
*   Athens, GA 30605-2720               *
*****

*****
*   This is an updated release of SWMM4.4h, *
*   no longer formally supported by the EPA. *
*   If problems occur executing this model *
*   contact Wayne Huber at Oregon State. U., *
*   wayne.huber@orst.edu,                 *
*   or Robert Dickinson at Camp Dresser & *
*   McKee, DickinsonRE@CDM.COM.           *
*   The EPA-supported version is SWMM5 at: *
*   http://www.epa.gov/ednrmrl/swmm/index.htm *
*****

*****
*   This is an implementation of EPA SWMM 4.4H *
*   "Nature is full of infinite causes which *
*   have never occurred in experience" da vinci *
*****

#####
#   File names by SWMM Block   #
#   JIN -> Input to a Block   #
#   JOUT -> Output from a Block #
#####

JIN for Block # 1 File # 9 C:\GIGHAR~1\EXTRUN-4.INT
JOUT for Block # 1 File # 10 Textint.int

#####
# Scratch file names for this simulation. #
#####

NSCRAT # 1 File # 1 SCRT1.UF
NSCRAT # 2 File # 2 SCRT2.UF

*****
*   Parameter Values on the Tapes Common Block *
*****

Number of Subcatchments in the Runoff Block (NW)..... 2000
Number of Channel/Pipes in the Runoff Block (NG)..... 2000
Number of Connections to Runoff Channels/Inlets (NCP).. 6
Number of Water Quality Constituents (MQUAL)..... 20
Number of Runoff Land Uses per Subcatchment (NLU).... 20
Number of Groundwater Plot/prints in Runoff (NGW).... 400
Number of Interface Locations for all Blocks (NIE).... 2000
Number of Elements in the Transport Block (NET)..... 1000
Number of Storage Junctions in Transport (NTSE)..... 100
Number of Transport interface input locations (NTHI).. 500
Number of Transport interface output locations (NTHO).. 500
Number of Transport input locations on R lines (NTHR).. 80
Number of Transport printed output locations (NTOA)... 80
Number of Tabular Flow Splitters in Transport (NTSP).. 50
Number of Elements in the Extran Block (NEE)..... 4000
Number of Pumps in Extran (NEP)..... 1000
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG)... 1000
Number of Extran Weirs (NEW)..... 400
Number of Extran Printout Locations (NPO)..... 150
Number of Tide Elements in Extran (NTE)..... 50
Number of Natural Channels (NNC)..... 1200
Number of Storage Junctions in Extran (NVSE)..... 2000
Number of Time History Data Points in Extran (NTVAL).. 500
Number of Data Points for Variable Storage Elements
in the Extran Block (NVST)..... 200
Number of Input Hydrographs in Extran (NEH)..... 500
Number of Allowable Channel Connections to
Junctions in the Extran Block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50

```

ExTrunk 7.out
Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
Number of Storm Events for Rain Analysis (LSTORM).....20000
Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
Number Conduits for Extran Results to ASCII
File (MXFLOW)..... 400

Entry made to the Transport Block, last updated #
by Oregon State University, April 2002. #

"The sewer is the conscience of the city." #
Victor Hugo (1862) #
#####

Gig Harbor 2008 Storm System Transport Analysis
Trunkline 7.1 Existing System

* OPTIONAL INPUT PARAMETERS FROM DATA LINE B0 *
* ----- *
* The default values are used if line B0 *
* is not part of the TRANSPORT input data. *
* Defaults: ISLOPE=0 ITRAP=0 IFLIP=0 *
* IDetail=0 *

Use ft/100 ft or m/100 m for conduit slope..(ISLOPE=0).. 0
Use ft/ft or m/m for input of conduit slope..(ISLOPE=1)..
Vertical/horizontal trapezoid side slope.....(ITRAP=0)... 0
Horizontal/vertical trapezoid side slope.....(ITRAP=1)...
Default input of flow/pollutants on line R1..(IFLIP=0)... 0
Input flow/pollutants on one R1 line.....(IFLIP=1)...
Include only hydrograph input(s) on printout.(INFLEW=0).. 0
Include all input(s) on input printout.....(INFLEW=1)..
Normal division of irregular section data ..(IDetail=0).. 0
Subdivide lowermost equal area segment.....(IDetail=1)..
Print intermediate headers in tables.....(NOHEAD=0).. 0
Do not print intermediate headers in table...(NOHEAD=1)..

NUMBER OF TIME STEPS (NDT)..... 420768
NO. OF ELEMENTS FOR CARD HYDROGRAPH INPUT (NINPUT) 0
NO. OF ELEMENTS FOR INPUT HYDROGRAPH PRINT (NNYN) 0
NO. OF ELEMENTS FOR OUTPUT HYDROGRAPH PRINT (NNPE) 1
NO. TIME STEPS BETWEEN I/O PRINTS (INTPR)..... 1
NO. OF ELEMENTS FOR INTERFACE TRANSFER (NOUTS).... 0
NO. OF POLLUTANTS SIMULATED (NPOLL)..... 0
NO. OF ITERATIONS FOR FLOW ROUTING (NITER)..... 4

NO SIMULATION OF LINKED DO (NWQ = 0).

====> WARNING !! FROM SUB TRANS. NOUTS= 0 AND JOUT = 10. BOTH MUST BE GT 0 TO GENERATE INTERFACE FILE.
SIMULATION WILL CONTINUE, BUT NO NEW INTERFACE FILE WILL BE GENERATED.

FOR THE FOLLOWING PARAMETERS, 1=YES, 0=NO:
PRINT INTERNAL ERROR MESSAGES (NPRINT)..... 0
HYDROGRAPH INPUT FROM CARDS ONLY (NCNTRL)..... 0
CALL INFILTRATION ROUTINE (NINFIL)..... 0
CALL DRY-WEATHER FLOW ROUTINE (NFILTH)..... 0
USE HYDRAULIC DESIGN ROUTINE (NDESN)..... 0

USE U.S. CUSTOMARY UNITS FOR INPUT/OUTPUT(METRIC=0).

SIZE OF TIME STEP (DT, SECONDS)..... 3600.0
ALLOWABLE ROUTING CONVERGENCE ERROR (EPSIL).....0.000100
NO. DRY DAYS PRIOR TO SIMULATION (DWDAYS)..... 0.00
STARTING TIME OF DAY IN HOURS..... 0.00
KINEMATIC VISCOSITY (GNU, SQ FT/SEC).....1.00E-05
TOTAL CATCHMENT AREA (TRIBA, ACRES)..... 100.00

Header information from interface file: #
#####

Title from first computational block:

Title from immediately preceding computational block:

Name of preceding block:.....Runoff Block
Initial Julian date (IDATEZ)..... 1948275
Initial time of day in seconds (TZERO)..... 0.0
No. transfered input locations..... 4
No. transfered pollutants..... 0
Size of total catchment area (acres)..... 1100.00
ID numbers (JCE=0) or alphanumeric (JCE=1)..... 0

Element numbers of interface inlet locations: #

583 1273 311 588

Conversion factor to cfs for flow units
on interface file. Multiply by: 1.00000

STARTING DATE OF SIMULATION (YR/MO/DAY) = 1948/10/ 1

STARTING TIME OF DAY HR:MN:SEC

= 0/ 0/ 0

EXTRUNK 7.out

1 THERE WERE 39 ELEMENTS (NE) INPUT INTO TRANSPORT BLOCK FROM DATA GROUP E1.

1

 * ELEMENT LINKAGES AND COMPUTATION SEQUENCE *

 * NOTE: ELEMENT # 0 IS GIVEN AN INTERNAL # OF 40 *

EXTERNAL ELEMENT NUMBER	INTERNAL ELEMENT NUMBER	TYPE	DISCRIPTION	UPSTREAM ELEMENTS (EXTERNAL NOS.)			ORDER OF COMPUTATION SEQUENCE	AT EACH TIME		STEP (PROCEEDING		DOWNSTREAM)		
				1	2	3		EXTERNAL NUMBER	INTERNAL NUMBER	INTERNAL ELEMENT	UPSTREAM ELEMENTS	INTERNAL ELEMENT	UPSTREAM ELEMENTS	INTERNAL ELEMENT
1199	1	19	MANHOLE	171	0	0	1	311	9	40	40	40		
1236	2	19	MANHOLE	169	0	0	2	177	37	9	40	40		
1238	3	19	MANHOLE	170	0	0	3	307	8	37	40	40		
1246	4	19	MANHOLE	165	0	0	4	178	38	8	40	40		
1273	5	19	MANHOLE	172	0	0	5	306	7	38	40	40		
1275	6	19	MANHOLE	164	0	0	6	179	39	7	40	40		
306	7	19	MANHOLE	178	0	0	7	588	20	39	40	40		
307	8	19	MANHOLE	177	0	0	8	146	23	20	40	40		
311	9	19	MANHOLE	0	0	0	9	583	19	23	40	40		
5034	10	19	MANHOLE	173	0	0	10	148	25	19	40	40		
5035	11	19	MANHOLE	175	0	0	11	554	17	25	40	40		
5036	12	19	MANHOLE	150	0	0	12	145	22	17	40	40		
5040	13	19	MANHOLE	166	0	0	13	548	16	22	40	40		
542	14	19	MANHOLE	147	0	0	14	151	27	16	40	40		
546	15	19	MANHOLE	151	0	0	15	546	15	27	40	40		
548	16	19	MANHOLE	145	0	0	16	147	24	15	40	40		
554	17	19	MANHOLE	148	0	0	17	542	14	24	40	40		
559	18	19	MANHOLE	144	0	0	18	144	21	14	40	40		
583	19	19	MANHOLE	146	0	0	19	559	18	21	40	40		
588	20	19	MANHOLE	179	0	0	20	150	26	18	40	40		
144	21	1	CIRCULAR	542	0	0	21	5036	12	26	40	40		
145	22	1	CIRCULAR	554	0	0	22	175	36	12	40	40		
146	23	1	CIRCULAR	588	0	0	23	5035	11	36	40	40		
147	24	1	CIRCULAR	546	0	0	24	173	35	11	40	40		
148	25	1	CIRCULAR	583	0	0	25	5034	10	35	40	40		
150	26	1	CIRCULAR	559	0	0	26	172	34	10	40	40		
151	27	1	CIRCULAR	548	0	0	27	1273	5	34	40	40		
164	28	1	CIRCULAR	1273	0	0	28	164	28	5	40	40		
165	29	1	CIRCULAR	1275	0	0	29	1275	6	28	40	40		
166	30	1	CIRCULAR	1199	0	0	30	165	29	6	40	40		
169	31	1	CIRCULAR	1238	0	0	31	1246	4	29	40	40		
170	32	1	CIRCULAR	1246	0	0	32	170	32	4	40	40		
171	33	1	CIRCULAR	1236	0	0	33	1238	3	32	40	40		
172	34	1	CIRCULAR	5034	0	0	34	169	31	3	40	40		
173	35	1	CIRCULAR	5035	0	0	35	1236	2	31	40	40		
175	36	1	CIRCULAR	5036	0	0	36	171	33	2	40	40		
177	37	1	CIRCULAR	311	0	0	37	1199	1	33	40	40		
178	38	1	CIRCULAR	307	0	0	38	166	30	1	40	40		
179	39	1	CIRCULAR	306	0	0	39	5040	13	30	40	40		

1

 * DOWNSTREAM ELEMENTS (MODEL OUTLETS) *
 * (internal number - external number) *

13 5040

1

 * TRANSPORT ELEMENT PARAMETERS *
 *
 * CAUTION: COLUMN HEADINGS ARE FOR CONDUITS, REFER
 * TO USERS MANUAL FOR MEANING FOR NON-CONDUITS. *

EXT. ELE. NUM.	TY PE	NAME	SLOPE (FT/FT)	DISTANCE (FT)	MANNING ROUGHNESS	GEOM1 (FT)	GEOM2 (FT)	GEOM3 (FT)	NUMBER OF BARRELS	AFULL (SQ. FT)	QFULL (CFS)	QMAX (CFS)	SUPER-CRITICAL FLOW WHEN LESS THAN 95% FULL?
1199	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1236	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1238	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1246	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1273	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1275	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
306	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
307	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
311	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5034	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5035	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5036	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5040	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
542	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
546	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
548	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
554	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
559	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
583	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
588	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
144	1	CIRCULAR	4.0E-02	113.88	0.0120	1.50	0.00	0.00	1.0	1.77	23.	25.	YES
145	1	CIRCULAR	5.4E-02	119.21	0.0120	1.50	0.00	0.00	1.0	1.77	26.	29.	YES
146	1	CIRCULAR	4.5E-02	54.25	0.0140	1.00	0.00	0.00	1.0	0.79	7.0	7.6	YES
147	1	CIRCULAR	3.7E-02	95.51	0.0120	1.00	0.00	0.00	1.0	0.79	7.4	8.0	YES
148	1	CIRCULAR	4.3E-02	107.06	0.0120	1.50	0.00	0.00	1.0	1.77	24.	25.	YES
150	1	CIRCULAR	5.6E-02	102.13	0.0120	1.50	0.00	0.00	1.0	1.77	27.	29.	YES
151	1	CIRCULAR	3.7E-02	194.75	0.0120	1.00	0.00	0.00	1.0	0.79	7.4	8.0	YES
164	1	CIRCULAR	4.7E-02	111.49	0.0120	2.00	0.00	0.00	1.0	3.14	53.	57.	YES
165	1	CIRCULAR	2.7E-02	137.34	0.0120	2.00	0.00	0.00	1.0	3.14	40.	43.	YES
166	1	CIRCULAR	3.2E-02	205.16	0.0120	2.00	0.00	0.00	1.0	3.14	44.	47.	YES
169	1	CIRCULAR	3.2E-02	71.25	0.0120	2.00	0.00	0.00	1.0	3.14	44.	47.	YES
170	1	CIRCULAR	2.0E-02	123.48	0.0120	2.00	0.00	0.00	1.0	3.14	35.	37.	YES

					ExTrunk 7.out										
171	1	CIRCULAR	3.2E-02	74.33	0.0120	2.00	0.00	0.00	1.0	3.14	44.	47.	YES		
172	1	CIRCULAR	3.2E-02	186.92	0.0120	2.00	0.00	0.00	1.0	3.14	44.	47.	YES		
173	1	CIRCULAR	5.5E-02	61.20	0.0120	1.50	0.00	0.00	1.0	1.77	27.	29.	YES		
175	1	CIRCULAR	6.4E-02	52.63	0.0120	1.50	0.00	0.00	1.0	1.77	29.	31.	YES		
177	1	CIRCULAR	7.9E-03	195.76	0.0240	2.00	0.00	0.00	1.0	3.14	11.	12.	NO		
178	1	CIRCULAR	7.9E-03	100.15	0.0240	2.00	0.00	0.00	1.0	3.14	11.	12.	NO		
179	1	CIRCULAR	7.9E-03	74.10	0.0240	2.00	0.00	0.00	1.0	3.14	11.	12.	NO		

Transport Block Flow Continuity #
#####

SUM of WET WEATHER Inflow.....	5.092E+08	cubic feet	127.5311	inches
SUM of DRY WEATHER Inflow.....	0.000E+00	cubic feet	0.0000	inches
SUM of INFILTRATION Inflow.....	0.000E+00	cubic feet	0.0000	inches
SUM of MANHOLE CONSTANT Inflow...	0.000E+00	cubic feet	0.0000	inches
INITIAL VOLUME IN CONDUITS.....	0.000E+00	cubic feet	0.0000	inches
REMAINING VOLUME IN CONDUITS.....	6.166E-05	cubic feet	0.0000	inches
SUM of FINAL SURCHARGE STORAGE...	0.000E+00	cubic feet	0.0000	inches
SUM of FINAL WET WELL VOLUME.....	0.000E+00	cubic feet	0.0000	inches
SUM of TRANSPORT Outflows.....	5.099E+08	cubic feet	127.7023	inches
A.SUM of INITIAL VOLUME + Inflows	5.092E+08	cubic feet	127.5311	inches
B.SUM REMAINING VOLUME + Outflows	5.099E+08	cubic feet	127.7023	inches
Percent flow continuity error....	0.134	= (B-A)/A * 100		

1.

* CONDUIT SURCHARGE SUMMARY *

ELEMENT NUMBER	STARTING JULIAN DATE	STARTING TIME OF DAY(SEC)	ENDING JULIAN DATE	ENDING TIME OF DAY(SEC)	SURCHARGE LENGTH MINUTES	FULL FLOW (CFS)	PEAK FLW RATIO Qp/QFULL	SURCHARGE PEAK VOL. (CF)
177	1960239	64800	1986328	32400	1020.00	10.89	3.81	1.10E+05
146	1949047	82800	1995333	10800	21060.00	7.03	7.62	1.68E+05
151	1949041	14400	1996149	68400	54180.00	7.42	5.12	1.10E+05

* TOTAL ITERATIONS AND MAXIMUM # OF ITERATIONS *

ELEMENT NUMBER	TOTAL NUMBER OF ITERATIONS	MAXIMUM NUMBER OF ITERATIONS	MAXIMUM ERROR	MAXIMUM FLOW(CFS)	CONDUIT SLOPE	MAXIMUM SLOPE	MINIMUM SLOPE	MEAN SLOPE	TOTAL FLOW-CF
177	467379	4	0.0058	10.944	7.90E-03	7.96E-03	7.90E-03	7.87E-03	3.18E+08
178	470188	4	0.0004	10.964	7.90E-03	7.96E-03	7.90E-03	7.87E-03	3.18E+08
179	473197	4	0.0004	10.979	7.90E-03	7.96E-03	7.90E-03	7.88E-03	3.18E+08
146	420768	1	0.0000	7.583	4.51E-02	4.51E-02	4.51E-02	4.50E-02	3.43E+08
148	420768	1	0.0000	17.895	4.30E-02	4.30E-02	4.30E-02	4.30E-02	4.18E+08
145	420768	1	0.0000	17.910	5.40E-02	5.40E-02	5.40E-02	5.41E-02	4.18E+08
151	420768	1	0.0000	8.017	3.70E-02	3.70E-02	3.70E-02	3.71E-02	4.18E+08
147	420768	1	0.0000	8.024	3.70E-02	3.70E-02	3.70E-02	3.71E-02	4.18E+08
144	420768	1	0.0000	8.031	4.00E-02	4.00E-02	4.00E-02	4.00E-02	4.18E+08
150	420768	1	0.0000	8.038	5.60E-02	5.60E-02	5.60E-02	5.61E-02	4.18E+08
175	420768	1	0.0000	8.041	6.40E-02	6.40E-02	6.40E-02	6.43E-02	4.18E+08
173	420768	1	0.0000	8.044	5.50E-02	5.50E-02	5.50E-02	5.48E-02	4.18E+08
172	420768	1	0.0000	8.058	3.20E-02	3.20E-02	3.20E-02	3.22E-02	4.19E+08
164	420768	1	0.0000	20.752	4.70E-02	4.70E-02	4.70E-02	4.69E-02	5.10E+08
165	420768	1	0.0000	20.785	2.70E-02	2.70E-02	2.70E-02	2.71E-02	5.10E+08
170	420768	1	0.0000	20.819	2.00E-02	2.00E-02	2.00E-02	2.00E-02	5.10E+08
169	420768	1	0.0000	20.836	3.20E-02	3.20E-02	3.20E-02	3.22E-02	5.10E+08
171	420768	1	0.0000	20.853	3.20E-02	3.20E-02	3.20E-02	3.22E-02	5.10E+08
166	420768	1	0.0000	20.899	3.20E-02	3.20E-02	3.20E-02	3.22E-02	5.10E+08

* Total flow and mass (kg) out of all elements *

ELEMENT NUMBER	TOTAL FLOW-CF
311	3.19E+08
177	3.18E+08
307	3.18E+08
178	3.18E+08
306	3.18E+08
179	3.18E+08
588	3.53E+08
146	3.43E+08
583	4.18E+08
148	4.18E+08
554	4.18E+08
145	4.18E+08
548	4.41E+08
151	4.18E+08
546	4.18E+08
147	4.18E+08
542	4.18E+08
144	4.18E+08
559	4.18E+08
150	4.18E+08
5036	4.18E+08
175	4.18E+08
5035	4.18E+08
173	4.18E+08
5034	4.18E+08
172	4.19E+08
1273	5.09E+08
164	5.10E+08
1275	5.10E+08

```

165      5.10E+08
1246     5.10E+08
170      5.10E+08
1238     5.10E+08
169      5.10E+08
1236     5.10E+08
171      5.10E+08
1199     5.10E+08
166      5.10E+08
5040     5.10E+08

```

```

The Total Simulation Time =1514764800.0 seconds.
                          25246080.00 minutes.
                          420768.000    hours.
The Time Step(DT) =      3600.0 seconds.

```

```

The ending date (YEAR/MO/DAY)..1996/10/ 1
The ending time of day..... 0.000 seconds.

```

```

AVERAGE FLOW..... 0.337
STANDARD DEVIATION OF FLOW..... 0.002
MAXIMUM FLOW..... 20.899
MINIMUM FLOW..... 0.000
FLOW VOLUME (CUBIC FEET)..... 5.10E+08

```

Transport simulation ended normally.

```

====> SWMM 4.4H simulation ended normally.
Always check output file for possible warning messages.

```

```

====> Your input file was named : C:\GIGHAR~1\EX6BEE~1.DAT
====> Your output file was named: C:\GIGHAR~1\EXTRUN~4.OUT

```

```

*****
*      SWMM 4.4H Simulation Date and Time Summary      *
*****
* Starting Date... February 17, 2009                    *
* Time... 17:44:38.500                                  *
* Ending Date... February 17, 2009                      *
* Time... 17:46:10.578                                  *
* Elapsed Time... 1.535 minutes.                         *
* Elapsed Time... 92.076 seconds.                       *
*****

```



```

*****
*   U.S. Environmental Protection Agency   *
*   Storm Water Management Model (SWMM)   *
*   Version 4.4H                         *
*   *                                     *
*   CDM/OSU Ongoing Version 4.4h         *
*   Release Date - July 30, 2004         *
*   Camp Dresser & McKee and Oregon St. Univ. *
*   Chuck Moore, Bob Dickinson, and Wayne Huber *
*   Compiled using Compaq Visual Fortran v.6.6 *
*****

```

Developed by

```

*****
*   Metcalf & Eddy, Inc.                 *
*   University of Florida                 *
*   Water Resources Engineers, Inc.       *
*   (Now Camp Dresser & McKee, Inc.)     *
*   September 1970                       *
*****

```

Version 4.3 (outdated) is
Distributed and Maintained by

```

*****
*   U.S. Environmental Protection Agency   *
*   Center for Exposure Assessment Modeling (CEAM) *
*   Athens Environmental Research Laboratory *
*   960 College Station Road             *
*   Athens, GA 30605-2720                *
*****

```

```

*****
*   This is an updated release of SWMM4.4h, *
*   no longer formally supported by the EPA. *
*   If problems occur executing this model *
*   contact Wayne Huber at Oregon State. U., *
*   wayne.huber@orst.edu,                  *
*   or Robert Dickinson at Camp Dresser & *
*   McKee, DickinsonRE@CDM.COM.           *
*   The EPA-supported version is SWMM5 at: *
*   http://www.epa.gov/ednnrmrl/swmm/index.htm *
*****

```

```

*****
*   This is an implementation of EPA SWMM 4.4H *
*   "Nature is full of infinite causes which *
*   have never occurred in experience" da vinci *
*****

```

```

#####
#   File names by SWMM Block               #
#   JIN -> Input to a Block                #
#   JOUT -> Output from a Block            #
#####

```

```

JIN for Block #    1 File #    9 C:\GIGHAR~1\TRUNK7-1.INT
JOUT for Block #   1 File #   10 Textint.int

```

```

#####
# Scratch file names for this simulation. #
#####

```

```

NSCRAT #    1 File #    1 SCRT1.UF
NSCRAT #    2 File #    2 SCRT2.UF

```

```

*****
*   Parameter values on the Tapes Common Block *
*****

```

```

Number of Subcatchments in the Runoff Block (NW)..... 2000
Number of Channel/Pipes in the Runoff Block (NG)..... 2000
Number of Connections to Runoff Channels/Inlets (NCP)... 6
Number of Water Quality Constituents (MQUAL)..... 20
Number of Runoff Land Uses per Subcatchment (NLU)..... 20
Number of Groundwater Plot/prints in Runoff (NGW)..... 400
Number of Interface Locations for all Blocks (NIE).... 2000
Number of Elements in the Transport Block (NET)..... 1000
Number of Storage Junctions in Transport (NTSE)..... 100
Number of Transport interface input locations (NTHI)... 500
Number of Transport interface output locations (NTHO)... 500
Number of Transport input locations on R lines (NTHR)... 80
Number of Transport printed output locations (NTOA)... 80
Number of Tabular Flow Splitters in Transport (NTSP)... 50
Number of Elements in the Extran Block (NEE)..... 4000
Number of Pumps in Extran (NEP)..... 1000
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG).... 1000
Number of Extran Weirs (NEW)..... 400
Number of Extran Printout Locations (NPO)..... 150
Number of Tide Elements in Extran (NTE)..... 50
Number of Natural Channels (NNC)..... 1200
Number of Storage Junctions in Extran (NVSE)..... 2000
Number of Time History Data Points in Extran (NTVAL).. 500
Number of Data Points for Variable Storage Elements
in the Extran Block (NVST)..... 200
Number of Input Hydrographs in Extran (NEH)..... 500
Number of Allowable Channel Connections to
Junctions in the Extran Block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50

```


Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
 Number of Storm Events for Rain Analysis (LSTORM).....20000
 Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
 Number Conduits for Extran Results to ASCII
 File (MXFLOW)..... 400

Trunk 7.out

```

#####
# Entry made to the Transport Block, last updated #
# by Oregon State University, April 2002. #
#####
# "The sewer is the conscience of the city." #
# Victor Hugo (1862) #
#####
  
```

Gig Harbor 2008 Storm System Transport Analysis Trunkline 7 Improved System

```

*****
* OPTIONAL INPUT PARAMETERS FROM DATA LINE B0 *
* ----- *
* The default values are used if line B0 *
* is not part of the TRANSPORT input data. *
* Defaults: ISLOPE=0 ITRAP=0 IFLIP=0 *
* IDetail=0 *
*****
  
```

```

Use ft/100 ft or m/100 m for conduit slope...(ISLOPE=0).. 0
Use ft/ft or m/m for input of conduit slope...(ISLOPE=1)..
Vertical/horizontal trapezoid side slope...(ITRAP=0).... 0
Horizontal/vertical trapezoid side slope...(ITRAP=1)....
Default input of flow/pollutants on line R1...(IFLIP=0).... 0
Input flow/pollutants on one R1 line...(IFLIP=1)....
Include only hydrograph input(s) on printout.(INFLEW=0).. 0
Include all input(s) on input printout...(INFLEW=1)..
Normal division of irregular section data...(IDetail=0).. 0
Subdivide lowermost equal area segment...(IDetail=1)..
Print intermediate headers in tables...(NOHEAD=0).. 0
Do not print intermediate headers in table...(NOHEAD=1)..
  
```

```

NUMBER OF TIME STEPS (NDT)..... 8760
NO. OF ELEMENTS FOR CARD HYDROGRAPH INPUT (NINPUT) 0
NO. OF ELEMENTS FOR INPUT HYDROGRAPH PRINT (NNYN) 0
NO. OF ELEMENTS FOR OUTPUT HYDROGRAPH PRINT (NNPE) 1
NO. TIME STEPS BETWEEN I/O PRINTS (INTPR)..... 1
NO. OF ELEMENTS FOR INTERFACE TRANSFER (NOUTS).... 0
NO. OF POLLUTANTS SIMULATED (NPOLL)..... 0
NO. OF ITERATIONS FOR FLOW ROUTING (NITER)..... 4
  
```

NO SIMULATION OF LINKED DO (NWQ = 0).

====> WARNING !! FROM SUB TRANS, NOUTS= 0 AND JOUT = 10. BOTH MUST BE GT 0 TO GENERATE INTERFACE FILE.
SIMULATION WILL CONTINUE, BUT NO NEW INTERFACE FILE WILL BE GENERATED.

```

FOR THE FOLLOWING PARAMETERS, 1=YES, 0=NO:
PRINT INTERNAL ERROR MESSAGES (NPRINT)..... 0
HYDROGRAPH INPUT FROM CARDS ONLY (NCNTRL)..... 0
CALL INFILTRATION ROUTINE (NINFIL)..... 0
CALL DRY-WEATHER FLOW ROUTINE (NFILTH)..... 0
USE HYDRAULIC DESIGN ROUTINE (NDESN)..... 0
  
```

USE U.S. CUSTOMARY UNITS FOR INPUT/OUTPUT(METRIC=0).

```

SIZE OF TIME STEP (DT, SECONDS)..... 3600.0
ALLOWABLE ROUTING CONVERGENCE ERROR (EPSIL).....0.000100
NO. DRY DAYS PRIOR TO SIMULATION (DWDAYS)..... 0.00
STARTING TIME OF DAY IN HOURS..... 0.00
KINEMATIC VISCOSITY (GNU, SQ FT/SEC).....1.00E-05
TOTAL CATCHMENT AREA (TRIBA, ACRES)..... 100.00
  
```

```

#####
# Header information from interface file: #
#####
  
```

Title from first computational block:

Title from immediately preceding computational block:

```

Name of preceding block:.....Runoff Block
Initial Julian date (IDATEZ)..... 1963001
Initial time of day in seconds (TZERO)..... 0.0
No. transfered input locations..... 4
No. transfered pollutants..... 0
Size of total catchment area (acres)..... 1100.00
ID numbers (JCE=0) or alphanumeric (JCE=1)..... 0
  
```

```

#####
# Element numbers of interface inlet locations: #
#####
583 1273 311 588
  
```

Conversion factor to cfs for flow units
on interface file. Multiply by: 1.00000

STARTING DATE OF SIMULATION (YR/MO/DAY) = 1963/ 1/ 1

STARTING TIME OF DAY HR:MN:SEC

= 0/ 0/ 0

Trunk 7.out

1 THERE WERE 39 ELEMENTS (NE) INPUT INTO TRANSPORT BLOCK FROM DATA GROUP E1.

1

 * ELEMENT LINKAGES AND COMPUTATION SEQUENCE *

 * NOTE: ELEMENT # 0 IS GIVEN AN INTERNAL # OF 40 *

EXTERNAL ELEMENT NUMBER	INTERNAL ELEMENT NUMBER	TYPE	DISCRIPTION	UPSTREAM ELEMENTS (EXTERNAL NOS.)			ORDER OF COMPUTATION SEQUENCE	AT EACH TIME STEP (PROCEEDING DOWNSTREAM)		INTERNAL ELEMENT NUMBER	INTERNAL UPSTREAM ELEMENT NUMBER
				1	2	3		EXTERNAL NUMBER	INTERNAL NUMBER		
1199	1	19	MANHOLE	171	0	0	1	311	9	40	40
1236	2	19	MANHOLE	169	0	0	2	177	37	9	40
1238	3	19	MANHOLE	170	0	0	3	307	8	37	40
1246	4	19	MANHOLE	165	0	0	4	178	38	8	40
1273	5	19	MANHOLE	172	0	0	5	306	7	38	40
1275	6	19	MANHOLE	164	0	0	6	179	39	7	40
306	7	19	MANHOLE	178	0	0	7	588	20	39	40
307	8	19	MANHOLE	177	0	0	8	146	23	20	40
311	9	19	MANHOLE	0	0	0	9	583	19	23	40
5034	10	19	MANHOLE	173	0	0	10	148	25	19	40
5035	11	19	MANHOLE	175	0	0	11	554	17	25	40
5036	12	19	MANHOLE	150	0	0	12	145	22	17	40
5040	13	19	MANHOLE	166	0	0	13	548	16	22	40
542	14	19	MANHOLE	147	0	0	14	151	27	16	40
546	15	19	MANHOLE	151	0	0	15	546	15	27	40
548	16	19	MANHOLE	145	0	0	16	147	24	15	40
554	17	19	MANHOLE	148	0	0	17	542	14	24	40
559	18	19	MANHOLE	144	0	0	18	144	21	14	40
583	19	19	MANHOLE	146	0	0	19	559	18	21	40
588	20	19	MANHOLE	179	0	0	20	150	26	18	40
144	21	1	CIRCULAR	542	0	0	21	5036	12	26	40
145	22	1	CIRCULAR	554	0	0	22	175	36	12	40
146	23	1	CIRCULAR	588	0	0	23	5035	11	36	40
147	24	1	CIRCULAR	546	0	0	24	173	35	11	40
148	25	1	CIRCULAR	583	0	0	25	5034	10	35	40
150	26	1	CIRCULAR	559	0	0	26	172	34	10	40
151	27	1	CIRCULAR	548	0	0	27	1273	5	34	40
164	28	1	CIRCULAR	1273	0	0	28	164	28	5	40
165	29	1	CIRCULAR	1275	0	0	29	1275	6	28	40
166	30	1	CIRCULAR	1199	0	0	30	165	29	6	40
169	31	1	CIRCULAR	1238	0	0	31	1246	4	29	40
170	32	1	CIRCULAR	1246	0	0	32	170	32	4	40
171	33	1	CIRCULAR	1236	0	0	33	1238	3	32	40
172	34	1	CIRCULAR	5034	0	0	34	169	31	3	40
173	35	1	CIRCULAR	5035	0	0	35	1236	2	31	40
175	36	1	CIRCULAR	5036	0	0	36	171	33	2	40
177	37	1	CIRCULAR	311	0	0	37	1199	1	33	40
178	38	1	CIRCULAR	307	0	0	38	166	30	1	40
179	39	1	CIRCULAR	306	0	0	39	5040	13	30	40

1

 * DOWNSTREAM ELEMENTS (MODEL OUTLETS) *
 * (internal number - external number) *

13 5040

1

 * TRANSPORT ELEMENT PARAMETERS *
 *
 * CAUTION: COLUMN HEADINGS ARE FOR CONDUITS. REFER *
 * TO USERS MANUAL FOR MEANING FOR NON-CONDUITS. *

EXT. NUM.	TY PE	NAME	SLOPE (FT/FT)	DISTANCE (FT)	MANNING ROUGHNESS	GEOM1 (FT)	GEOM2 (FT)	GEOM3 (FT)	NUMBER OF BARRELS	AFULL (SQ.FT)	QFULL (CFS)	QMAX (CFS)	SUPER-CRITICAL FLOW WHEN LESS THAN 95% FULL?
1199	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1236	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1238	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1246	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1273	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
1275	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
306	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
307	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
311	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5034	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5035	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5036	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
5040	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
542	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
546	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
548	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
554	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
559	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
583	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
588	19	MANHOLE	0.	0.00	0.0000	0.00	0.00	0.00	1.0				
144	1	CIRCULAR	4.0E-02	113.88	0.0120	1.50	0.00	0.00	1.0	1.77	23.	25.	YES
145	1	CIRCULAR	5.4E-02	119.21	0.0120	1.50	0.00	0.00	1.0	1.77	26.	29.	YES
146	1	CIRCULAR	4.5E-02	54.25	0.0140	2.00	0.00	0.00	1.0	3.14	45.	48.	YES
147	1	CIRCULAR	3.7E-02	95.51	0.0120	1.50	0.00	0.00	1.0	1.77	22.	24.	YES
148	1	CIRCULAR	4.3E-02	107.06	0.0120	1.50	0.00	0.00	1.0	1.77	24.	25.	YES
150	1	CIRCULAR	5.6E-02	102.13	0.0120	1.50	0.00	0.00	1.0	1.77	27.	29.	YES
151	1	CIRCULAR	3.7E-02	194.75	0.0120	1.50	0.00	0.00	1.0	1.77	22.	24.	YES
164	1	CIRCULAR	4.7E-02	111.49	0.0120	2.00	0.00	0.00	1.0	3.14	53.	57.	YES
165	1	CIRCULAR	2.7E-02	137.34	0.0120	2.00	0.00	0.00	1.0	3.14	40.	43.	YES
166	1	CIRCULAR	3.2E-02	205.16	0.0120	2.00	0.00	0.00	1.0	3.14	44.	47.	YES
169	1	CIRCULAR	3.2E-02	71.25	0.0120	2.00	0.00	0.00	1.0	3.14	44.	47.	YES
170	1	CIRCULAR	2.0E-02	123.48	0.0120	2.00	0.00	0.00	1.0	3.14	35.	37.	YES

						Trunk 7.out										
171	1	CIRCULAR	3.2E-02	74.33	0.0120	2.00	0.00	0.00	1.0	3.14	44.	47.	YES			
172	1	CIRCULAR	3.2E-02	186.92	0.0120	2.00	0.00	0.00	1.0	3.14	44.	47.	YES			
173	1	CIRCULAR	5.5E-02	61.20	0.0120	1.50	0.00	0.00	1.0	1.77	27.	29.	YES			
175	1	CIRCULAR	6.4E-02	52.63	0.0120	1.50	0.00	0.00	1.0	1.77	29.	31.	YES			
177	1	CIRCULAR	7.9E-03	195.76	0.0120	2.00	0.00	0.00	1.0	3.14	22.	24.	NO			
178	1	CIRCULAR	7.9E-03	100.15	0.0120	2.00	0.00	0.00	1.0	3.14	22.	24.	NO			
179	1	CIRCULAR	7.9E-03	74.10	0.0120	2.00	0.00	0.00	1.0	3.14	22.	24.	NO			

Transport Block Flow Continuity #
#####

Sum of WET WEATHER Inflow.....	9.792E+06	cubic feet	2.4523	inches
Sum of DRY WEATHER Inflow.....	0.000E+00	cubic feet	0.0000	inches
Sum of INFILTRATION Inflow.....	0.000E+00	cubic feet	0.0000	inches
Sum of MANHOLE CONSTANT Inflow...	0.000E+00	cubic feet	0.0000	inches
INITIAL VOLUME IN CONDUITS.....	0.000E+00	cubic feet	0.0000	inches
REMAINING VOLUME IN CONDUITS.....	4.492E-03	cubic feet	0.0000	inches
Sum of FINAL SURCHARGE STORAGE...	0.000E+00	cubic feet	0.0000	inches
Sum of FINAL WET WELL VOLUME.....	0.000E+00	cubic feet	0.0000	inches
Sum of TRANSPORT Outflows.....	9.809E+06	cubic feet	2.4566	inches
A.SUM of INITIAL VOLUME + Inflows	9.792E+06	cubic feet	2.4523	inches
B.SUM REMAINING VOLUME + Outflows	9.809E+06	cubic feet	2.4566	inches
Percent flow continuity error....	0.176 = (B-A)/B * 100			

* Surcharge did not occur in this Transport simulation. *

* TOTAL ITERATIONS AND MAXIMUM # OF ITERATIONS *

ELEMENT NUMBER	TOTAL NUMBER OF ITERATIONS	MAXIMUM NUMBER OF ITERATIONS	MAXIMUM ERROR	MAXIMUM FLOW(CFS)	CONDUIT SLOPE	MAXIMUM SLOPE	MINIMUM SLOPE	MEAN SLOPE	TOTAL FLOW-CF
177	9680	4	0.0002	8.417	7.90E-03	7.93E-03	7.90E-03	7.90E-03	6.13E+06
178	9921	4	0.0003	8.416	7.90E-03	7.94E-03	7.90E-03	7.90E-03	6.13E+06
179	10085	4	0.0004	8.414	7.90E-03	7.95E-03	7.90E-03	7.90E-03	6.13E+06
146	8760	1	0.0000	9.112	4.51E-02	4.51E-02	4.51E-02	4.51E-02	6.60E+06
148	8760	1	0.0000	12.274	4.30E-02	4.30E-02	4.30E-02	4.30E-02	8.06E+06
145	8760	1	0.0000	12.228	5.40E-02	5.40E-02	5.40E-02	5.40E-02	8.06E+06
151	8760	1	0.0000	12.142	3.70E-02	3.70E-02	3.70E-02	3.70E-02	8.06E+06
147	8760	1	0.0000	12.100	3.70E-02	3.70E-02	3.70E-02	3.70E-02	8.06E+06
144	8760	1	0.0000	12.052	4.00E-02	4.00E-02	4.00E-02	4.00E-02	8.06E+06
150	8760	1	0.0000	12.013	5.60E-02	5.60E-02	5.60E-02	5.60E-02	8.06E+06
175	8760	1	0.0000	11.995	6.40E-02	6.40E-02	6.40E-02	6.40E-02	8.06E+06
173	8760	1	0.0000	11.972	5.50E-02	5.50E-02	5.50E-02	5.50E-02	8.06E+06
172	8760	1	0.0000	11.885	3.20E-02	3.20E-02	3.20E-02	3.20E-02	8.06E+06
164	8760	1	0.0000	21.591	4.70E-02	4.70E-02	4.70E-02	4.70E-02	9.80E+06
165	8760	1	0.0000	21.488	2.70E-02	2.70E-02	2.70E-02	2.70E-02	9.80E+06
170	8760	1	0.0000	21.385	2.00E-02	2.00E-02	2.00E-02	2.00E-02	9.81E+06
169	8760	1	0.0000	21.334	3.20E-02	3.20E-02	3.20E-02	3.20E-02	9.81E+06
171	8760	1	0.0000	21.281	3.20E-02	3.20E-02	3.20E-02	3.20E-02	9.81E+06
166	8760	1	0.0000	21.140	3.20E-02	3.20E-02	3.20E-02	3.20E-02	9.81E+06

* Total flow and mass (kg) out of all elements *

ELEMENT NUMBER	TOTAL FLOW-CF
311	6.13E+06
177	6.13E+06
307	6.13E+06
178	6.13E+06
306	6.13E+06
179	6.13E+06
588	6.60E+06
146	6.60E+06
583	8.06E+06
148	8.06E+06
554	8.06E+06
145	8.06E+06
548	8.06E+06
151	8.06E+06
546	8.06E+06
147	8.06E+06
542	8.06E+06
144	8.06E+06
559	8.06E+06
150	8.06E+06
5036	8.06E+06
175	8.06E+06
5035	8.06E+06
173	8.06E+06
5034	8.06E+06
172	8.06E+06
1273	9.80E+06
164	9.80E+06
1275	9.80E+06
165	9.80E+06
1246	9.80E+06
170	9.80E+06
1238	9.80E+06
169	9.81E+06
1236	9.81E+06
171	9.81E+06
1199	9.81E+06

166 9.81E+06
5040 9.81E+06

Trunk 7.out

The Total Simulation Time = 31536000.0 seconds.
525600.00 minutes.
8760.000 hours.
The Time Step(DT) = 3600.0 seconds.

The ending date (YEAR/MO/DAY)..1964/ 1/ 1
The ending time of day..... 0.000 seconds.

AVERAGE FLOW..... 0.311
STANDARD DEVIATION OF FLOW..... 0.010
MAXIMUM FLOW..... 21.140
MINIMUM FLOW..... 0.000
FLOW VOLUME (CUBIC FEET)..... 9.81E+06

Transport simulation ended normally.

==> SWMM 4.4H simulation ended normally.
Always check output file for possible warning messages.

==> Your input file was named : C:\GIGHAR~1\TRUNK7~2.DAT
==> Your output file was named: C:\GIGHAR~1\TRUNK7~1.OUT

* SWMM 4.4H Simulation Date and Time Summary *

* Starting Date... February 17, 2009 *
* Time... 17:42:20.484 *
* Ending Date... February 17, 2009 *
* Time... 17:42:22.718 *
* Elapsed Time... 0.037 minutes. *
* Elapsed Time... 2.236 seconds. *
