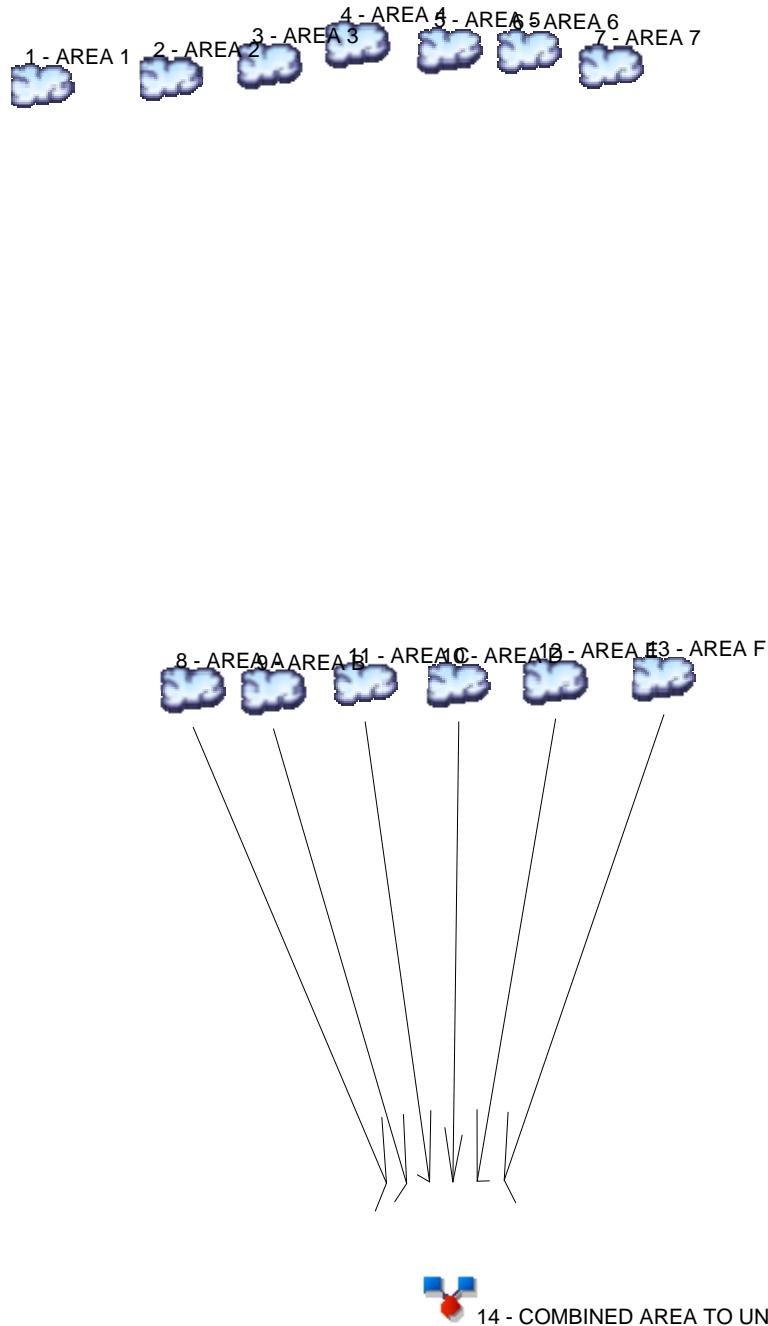


# Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9



## Legend

Hyd. Origin	Description
1	SCS Runoff AREA 1
2	SCS Runoff AREA 2
3	SCS Runoff AREA 3
4	SCS Runoff AREA 4
5	SCS Runoff AREA 5
6	SCS Runoff AREA 6
7	SCS Runoff AREA 7
8	SCS Runoff AREA A
9	SCS Runoff AREA B
10	SCS Runoff AREA D
11	SCS Runoff AREA C
12	SCS Runoff AREA E
13	SCS Runoff AREA F
14	Combine COMBINED AREA TO UNDERGROUND DETENTION

# Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	-----	4.602	6.973	-----	10.59	13.23	16.69	19.79	23.31	AREA 1
2	SCS Runoff	-----	0.417	0.630	-----	0.958	1.195	1.506	1.784	2.099	AREA 2
3	SCS Runoff	-----	0.349	0.528	-----	0.800	0.997	1.254	1.485	1.746	AREA 3
4	SCS Runoff	-----	1.958	2.461	-----	3.176	3.676	4.318	4.888	5.529	AREA 4
5	SCS Runoff	-----	1.617	2.342	-----	3.436	4.217	5.229	6.130	7.143	AREA 5
6	SCS Runoff	-----	0.809	1.171	-----	1.718	2.109	2.614	3.065	3.572	AREA 6
7	SCS Runoff	-----	0.507	0.768	-----	1.167	1.459	1.840	2.182	2.570	AREA 7
8	SCS Runoff	-----	0.000	0.000	-----	0.015	0.044	0.184	0.479	1.043	AREA A
9	SCS Runoff	-----	0.188	0.237	-----	0.305	0.353	0.415	0.470	0.532	AREA B
10	SCS Runoff	-----	1.280	1.609	-----	2.077	2.404	2.823	3.196	3.615	AREA D
11	SCS Runoff	-----	1.280	1.609	-----	2.077	2.404	2.823	3.196	3.615	AREA C
12	SCS Runoff	-----	1.770	2.224	-----	2.871	3.323	3.903	4.418	4.998	AREA E
13	SCS Runoff	-----	1.205	1.514	-----	1.955	2.262	2.657	3.008	3.403	AREA F
14	Combine	8, 9, 10, 11, 12, 13	5.724	7.193	-----	9.285	10.75	12.62	14.30	16.23	COMBINED AREA TO UNDERGRO

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

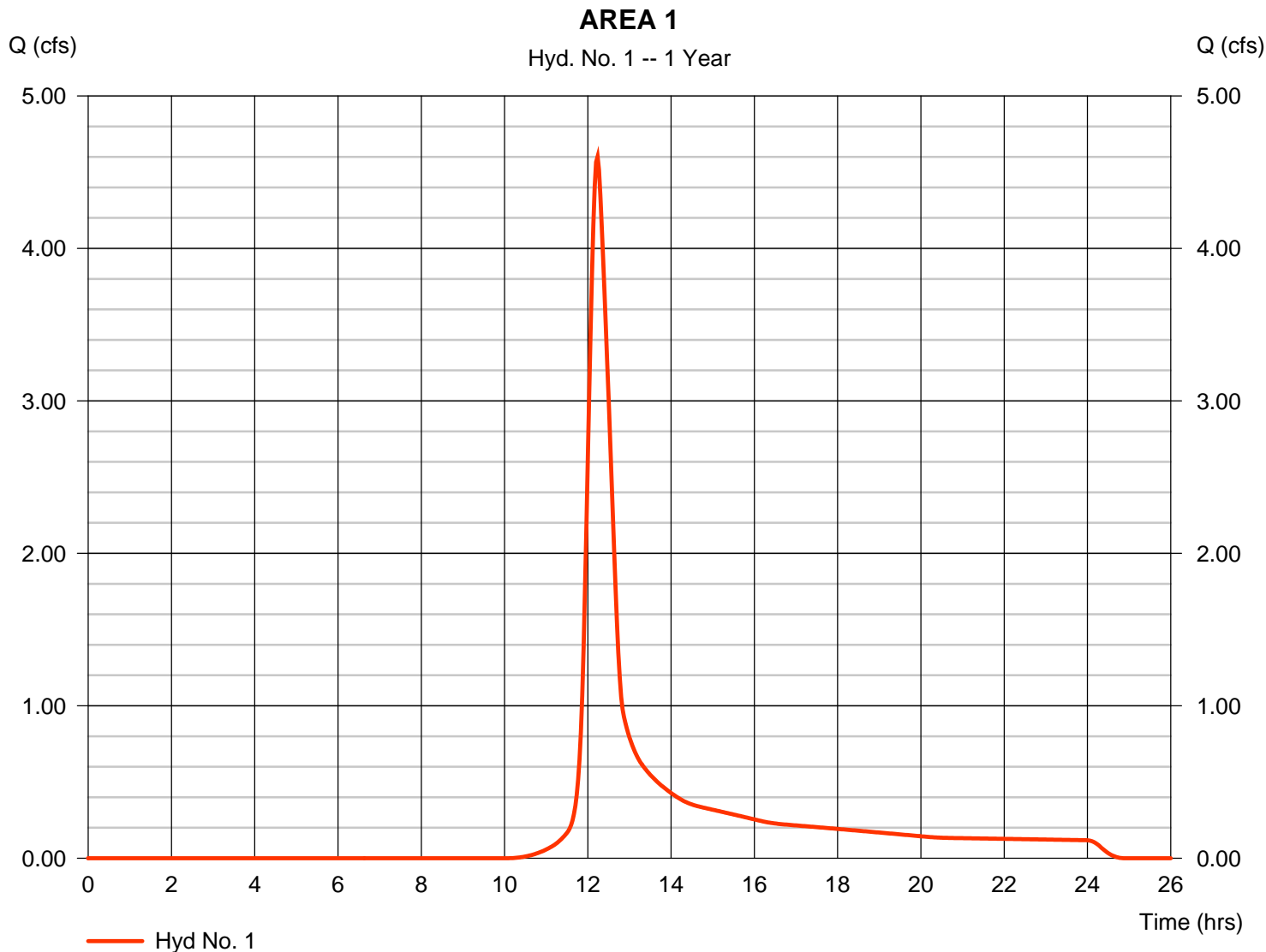
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	4.602	2	734	0.471	-----	-----	-----	AREA 1
2	SCS Runoff	0.417	2	730	0.036	-----	-----	-----	AREA 2
3	SCS Runoff	0.349	2	726	0.026	-----	-----	-----	AREA 3
4	SCS Runoff	1.958	2	716	0.104	-----	-----	-----	AREA 4
5	SCS Runoff	1.617	2	718	0.075	-----	-----	-----	AREA 5
6	SCS Runoff	0.809	2	718	0.037	-----	-----	-----	AREA 6
7	SCS Runoff	0.507	2	736	0.054	-----	-----	-----	AREA 7
8	SCS Runoff	0.000	2	n/a	0.000	-----	-----	-----	AREA A
9	SCS Runoff	0.188	2	716	0.010	-----	-----	-----	AREA B
10	SCS Runoff	1.280	2	716	0.068	-----	-----	-----	AREA D
11	SCS Runoff	1.280	2	716	0.068	-----	-----	-----	AREA C
12	SCS Runoff	1.770	2	716	0.094	-----	-----	-----	AREA E
13	SCS Runoff	1.205	2	716	0.064	-----	-----	-----	AREA F
14	Combine	5.724	2	716	0.305	8, 9, 10, 11, 12, 13	-----	-----	COMBINED AREA TO UNDERGRO
Wichita Existing Conditions 3.16.12.gpw					Return Period: 1 Year			Sunday, 00 18, 2012	

# Hydrograph Report

## Hyd. No. 1

### AREA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 4.602 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 0.471 acft
Drainage area	= 5.070 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 32.10 min
Total precip.	= 2.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

## Hyd. No. 1

AREA 1

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
<b>Sheet Flow</b>				
Manning's n-value	= 0.350	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.50	0.00	0.00	
Land slope (%)	= 1.00	0.00	0.00	
<b>Travel Time (min)</b>	<b>= 24.35</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 24.35</b>
<b>Shallow Concentrated Flow</b>				
Flow length (ft)	= 580.00	0.00	0.00	
Watercourse slope (%)	= 0.60	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	=1.25	0.00	0.00	
<b>Travel Time (min)</b>	<b>= 7.73</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 7.73</b>
<b>Channel Flow</b>				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	{{0}}0.0	0.0	0.0	
<b>Travel Time (min)</b>	<b>= 0.00</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 0.00</b>
<b>Total Travel Time, Tc .....</b>				<b>32.10 min</b>

# Hydrograph Report

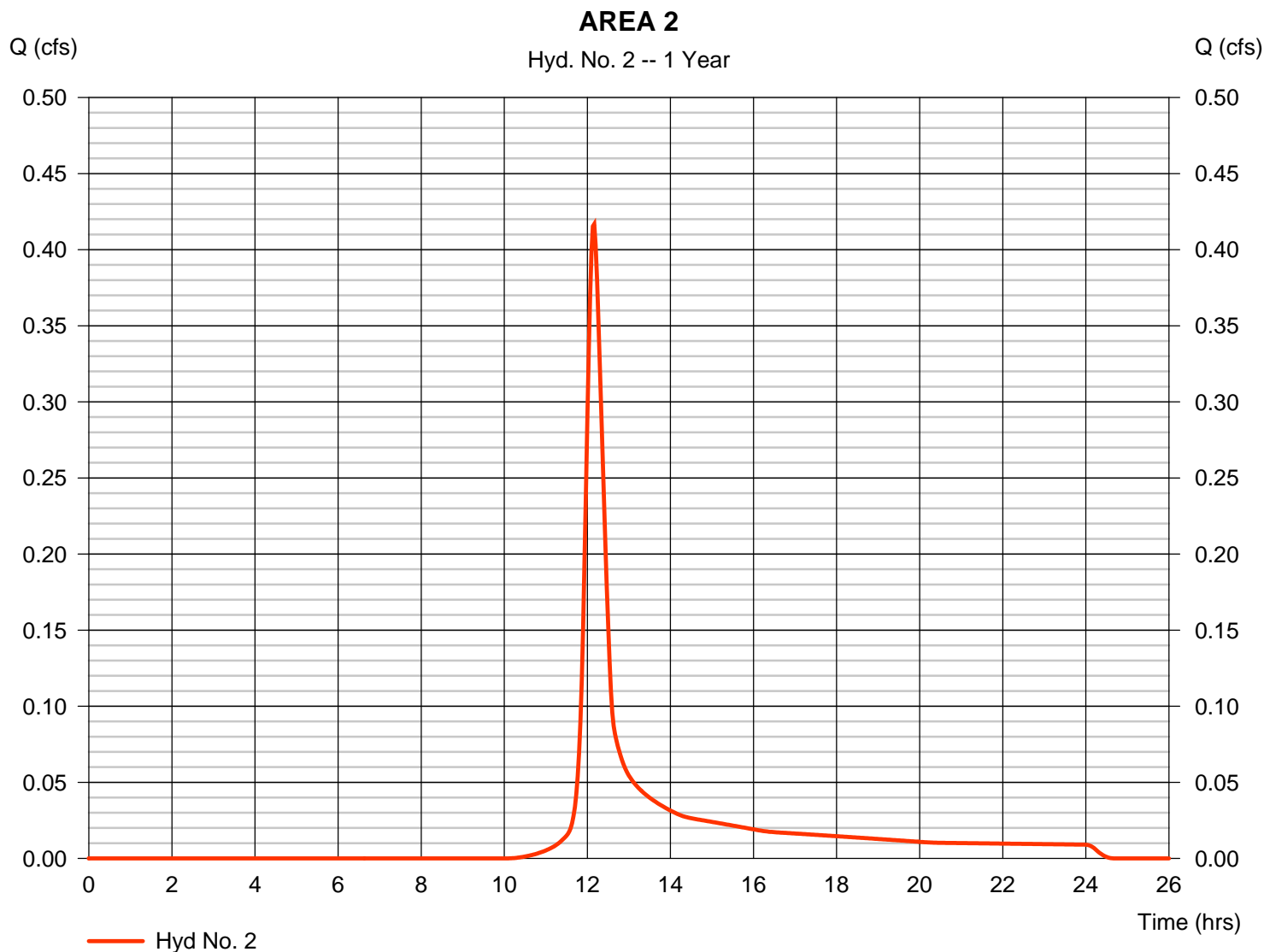
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 2

### AREA 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.417 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 0.036 acft
Drainage area	= 0.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.30 min
Total precip.	= 2.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

## Hyd. No. 2

AREA 2

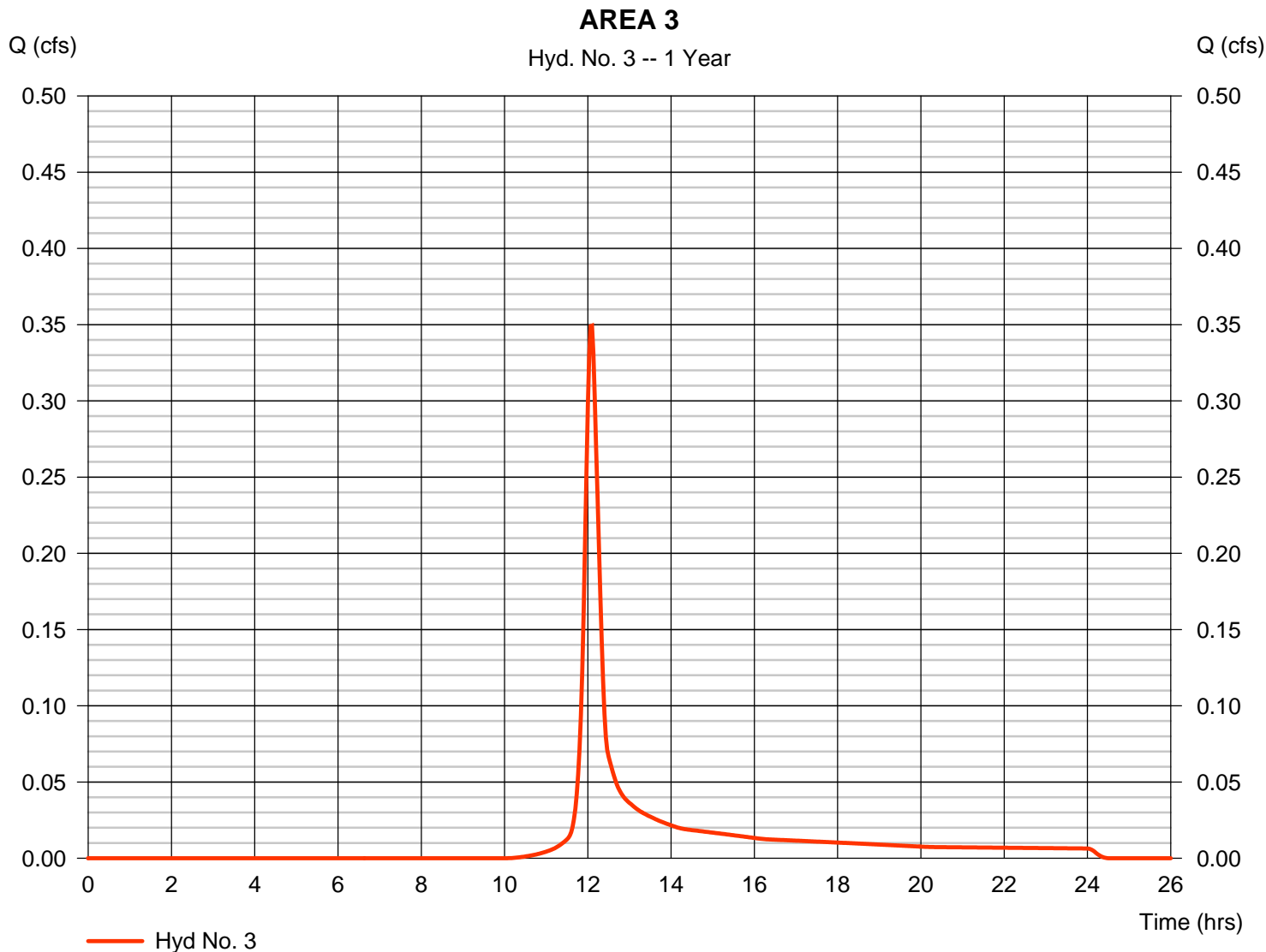
<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
<b>Sheet Flow</b>				
Manning's n-value	= 0.350	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.50	0.00	0.00	
Land slope (%)	= 1.00	0.00	0.00	
<b>Travel Time (min)</b>	<b>= 24.35</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 24.35</b>
<b>Shallow Concentrated Flow</b>				
Flow length (ft)	= 96.00	0.00	0.00	
Watercourse slope (%)	= 1.00	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	=1.61	0.00	0.00	
<b>Travel Time (min)</b>	<b>= 0.99</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 0.99</b>
<b>Channel Flow</b>				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	{{0}}0.0	0.0	0.0	
<b>Travel Time (min)</b>	<b>= 0.00</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 0.00</b>
<b>Total Travel Time, Tc .....</b>				<b>25.30 min</b>

# Hydrograph Report

## Hyd. No. 3

### AREA 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.349 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 0.026 acft
Drainage area	= 0.280 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.40 min
Total precip.	= 2.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

## Hyd. No. 3

AREA 3

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
<b>Sheet Flow</b>				
Manning's n-value	= 0.350	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.50	0.00	0.00	
Land slope (%)	= 2.10	0.00	0.00	
<b>Travel Time (min)</b>	<b>= 18.10</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 18.10</b>
<b>Shallow Concentrated Flow</b>				
Flow length (ft)	= 40.00	0.00	0.00	
Watercourse slope (%)	= 2.10	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	=2.34	0.00	0.00	
<b>Travel Time (min)</b>	<b>= 0.29</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 0.29</b>
<b>Channel Flow</b>				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	{{0}}0.0	0.0	0.0	
<b>Travel Time (min)</b>	<b>= 0.00</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 0.00</b>
<b>Total Travel Time, Tc .....</b>				<b>18.40 min</b>

# Hydrograph Report

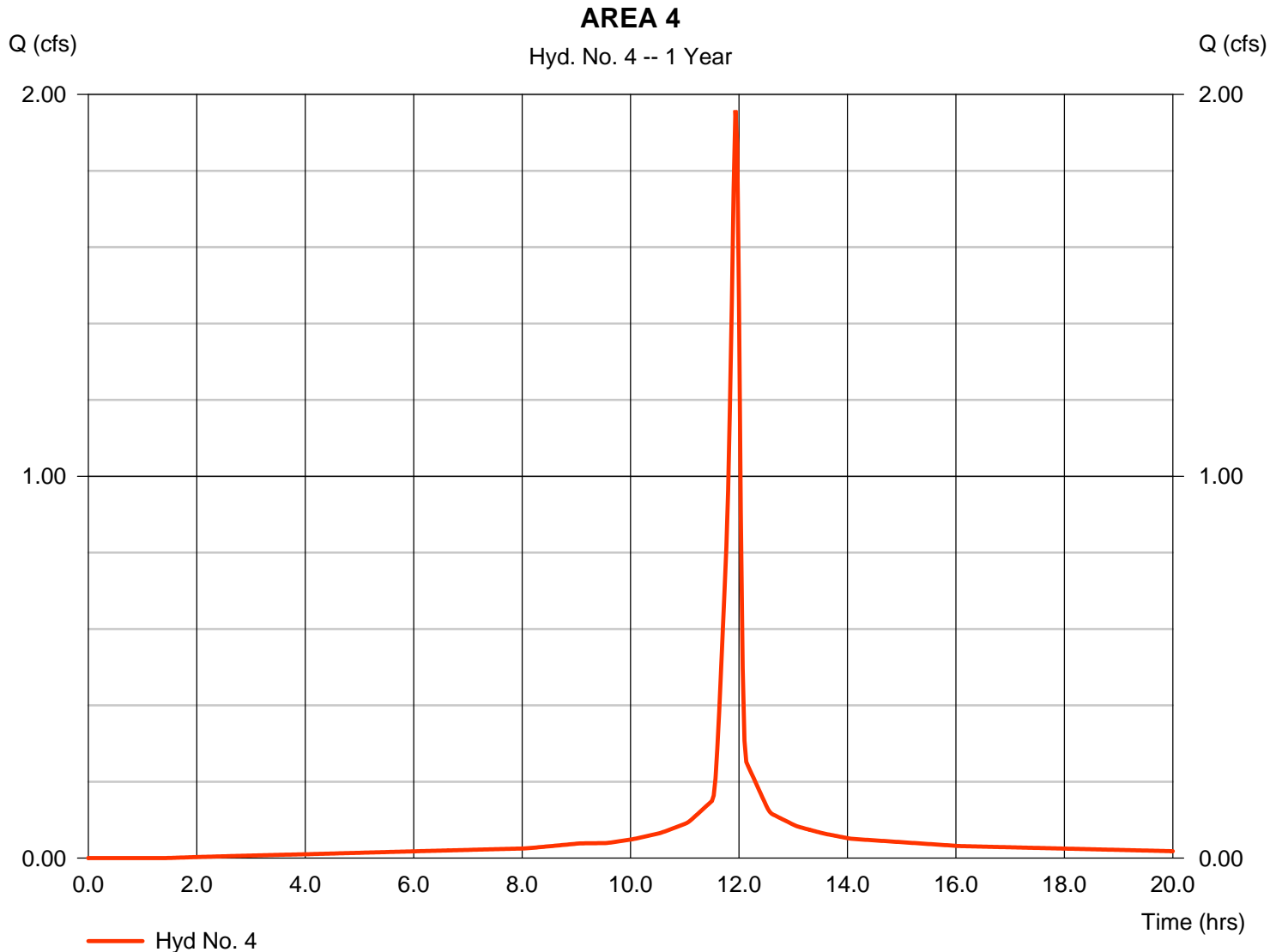
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 4

### AREA 4

Hydrograph type	= SCS Runoff	Peak discharge	= 1.958 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.104 acft
Drainage area	= 0.520 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

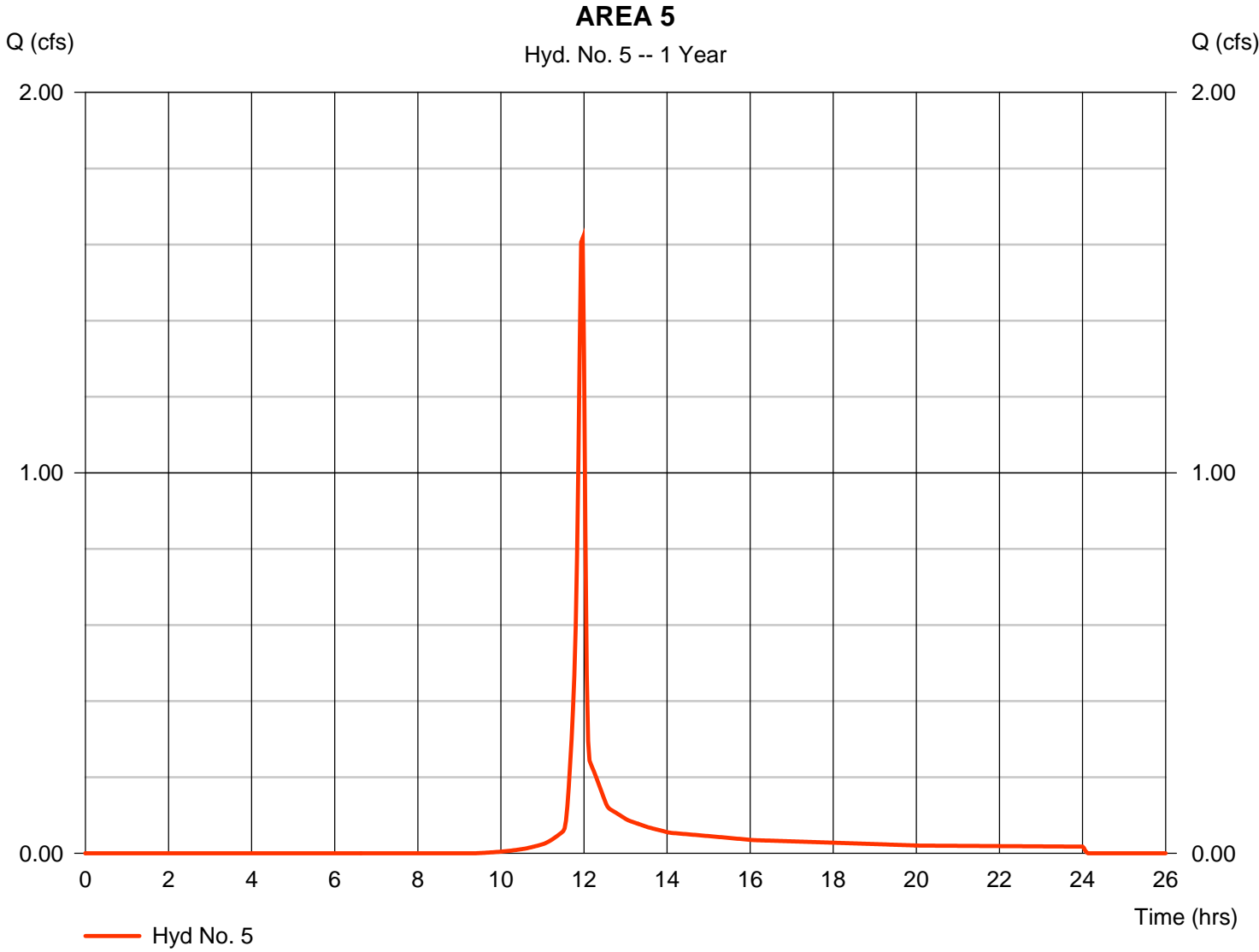


# Hydrograph Report

## Hyd. No. 5

### AREA 5

Hydrograph type	= SCS Runoff	Peak discharge	= 1.617 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 0.075 acft
Drainage area	= 0.780 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 3.90 min
Total precip.	= 2.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

## Hyd. No. 5

AREA 5

<u>Description</u>	<u>A</u>		<u>B</u>		<u>C</u>		<u>Totals</u>
<b>Sheet Flow</b>							
Manning's n-value	= 0.011		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.50		0.00		0.00		
Land slope (%)	= 0.80		0.00		0.00		
<b>Travel Time (min)</b>	<b>= 1.67</b>	<b>+</b>	<b>0.00</b>	<b>+</b>	<b>0.00</b>	<b>=</b>	<b>1.67</b>
<b>Shallow Concentrated Flow</b>							
Flow length (ft)	= 245.00		0.00		0.00		
Watercourse slope (%)	= 0.80		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=1.82		0.00		0.00		
<b>Travel Time (min)</b>	<b>= 2.25</b>	<b>+</b>	<b>0.00</b>	<b>+</b>	<b>0.00</b>	<b>=</b>	<b>2.25</b>
<b>Channel Flow</b>							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00		0.00		0.00		
Flow length (ft)	{{0}}0.0		0.0		0.0		
<b>Travel Time (min)</b>	<b>= 0.00</b>	<b>+</b>	<b>0.00</b>	<b>+</b>	<b>0.00</b>	<b>=</b>	<b>0.00</b>
<b>Total Travel Time, Tc .....</b>							<b>3.90 min</b>

# Hydrograph Report

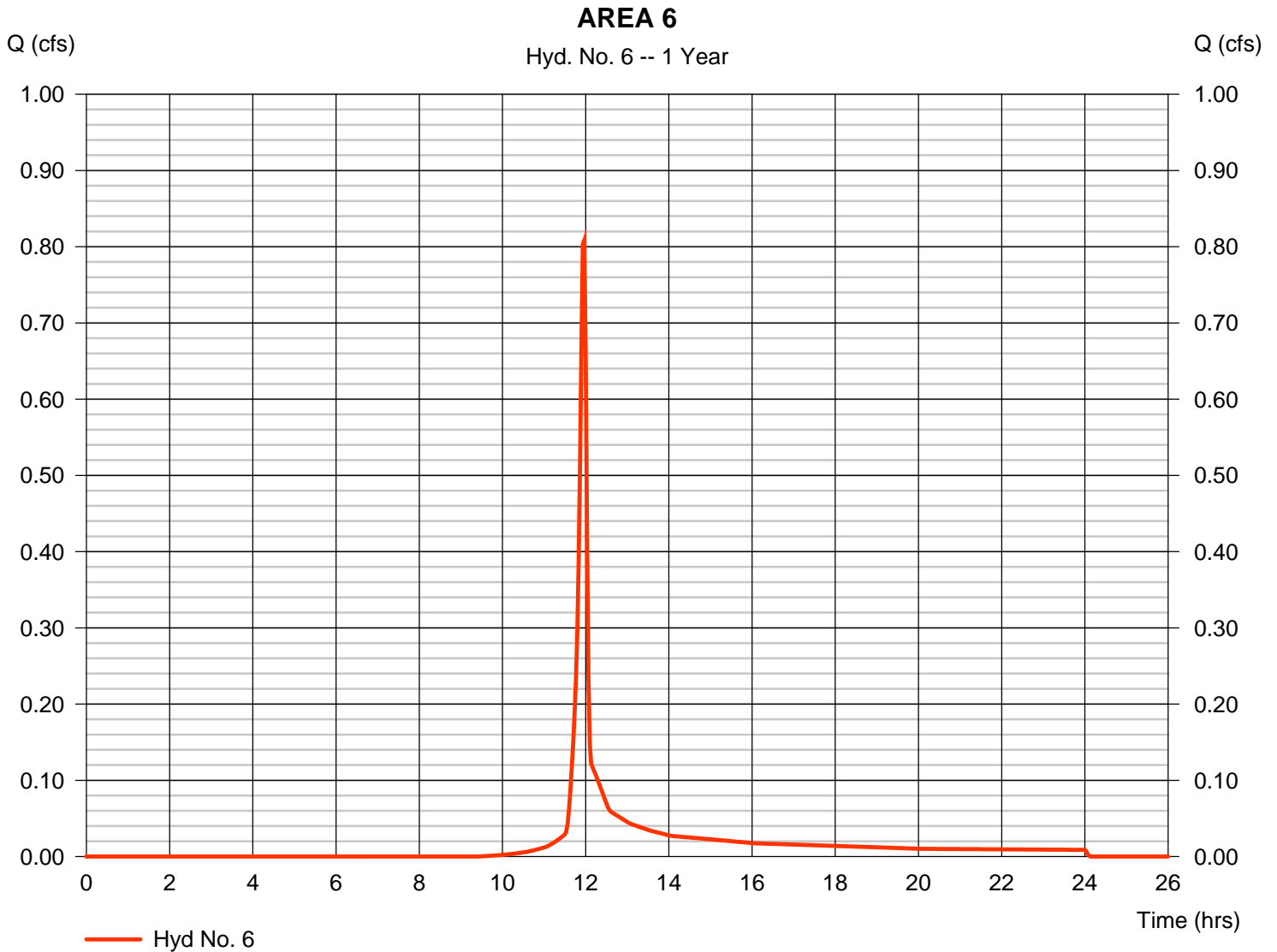
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 6

### AREA 6

Hydrograph type	= SCS Runoff	Peak discharge	= 0.809 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 0.037 acft
Drainage area	= 0.390 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 4.00 min
Total precip.	= 2.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

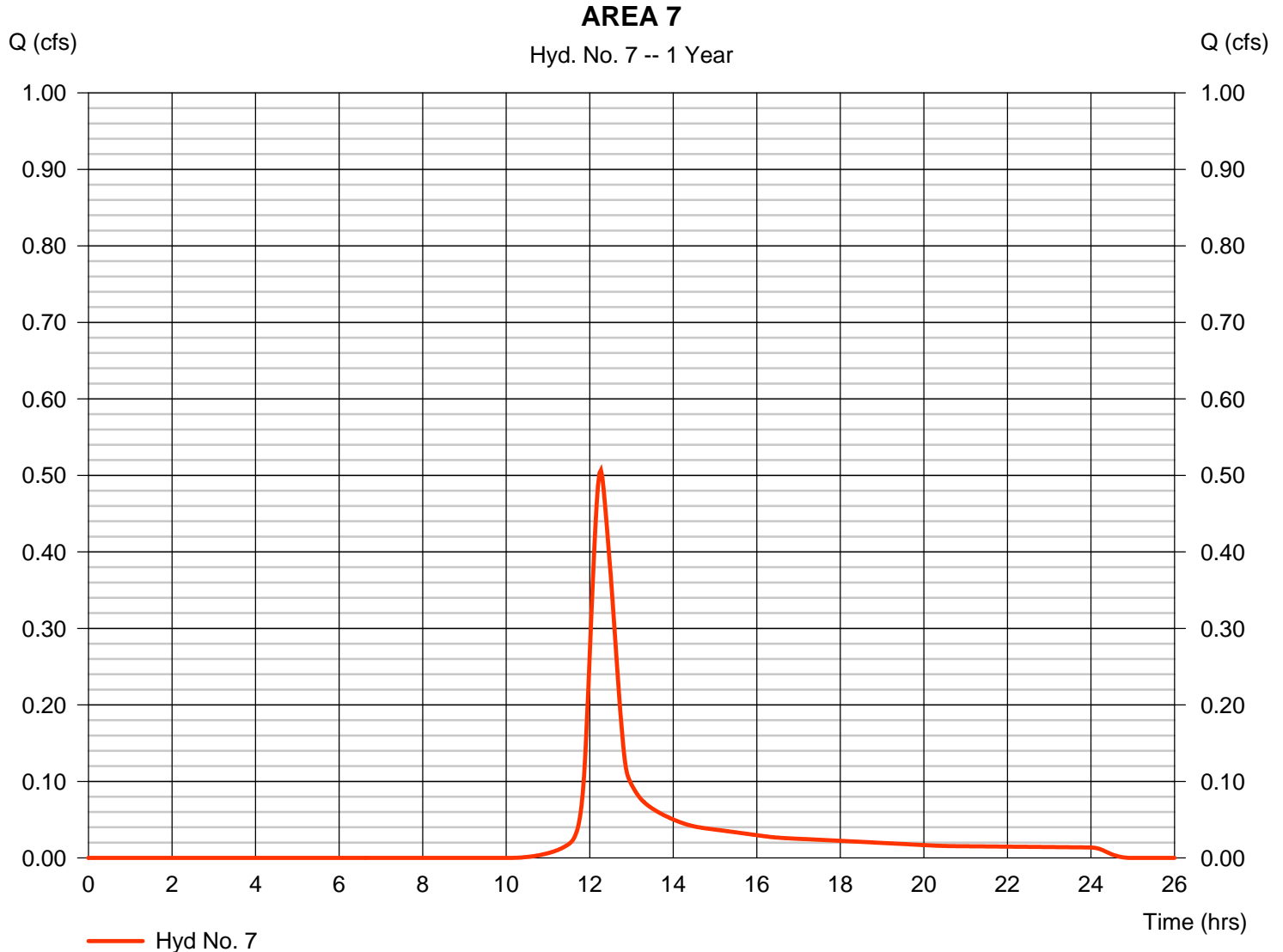
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 7

### AREA 7

Hydrograph type	= SCS Runoff	Peak discharge	= 0.507 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.27 hrs
Time interval	= 2 min	Hyd. volume	= 0.054 acft
Drainage area	= 0.600 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.70 min
Total precip.	= 2.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

## Hyd. No. 7

AREA 7

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
<b>Sheet Flow</b>				
Manning's n-value	= 0.370	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.50	0.00	0.00	
Land slope (%)	= 0.50	0.00	0.00	
<b>Travel Time (min)</b>	<b>= 33.59</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 33.59</b>
<b>Shallow Concentrated Flow</b>				
Flow length (ft)	= 145.00	0.00	0.00	
Watercourse slope (%)	= 0.50	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	=1.14	0.00	0.00	
<b>Travel Time (min)</b>	<b>= 2.12</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 2.12</b>
<b>Channel Flow</b>				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	{{0}}0.0	0.0	0.0	
<b>Travel Time (min)</b>	<b>= 0.00</b>	<b>+ 0.00</b>	<b>+ 0.00</b>	<b>= 0.00</b>
<b>Total Travel Time, Tc .....</b>				<b>35.70 min</b>

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

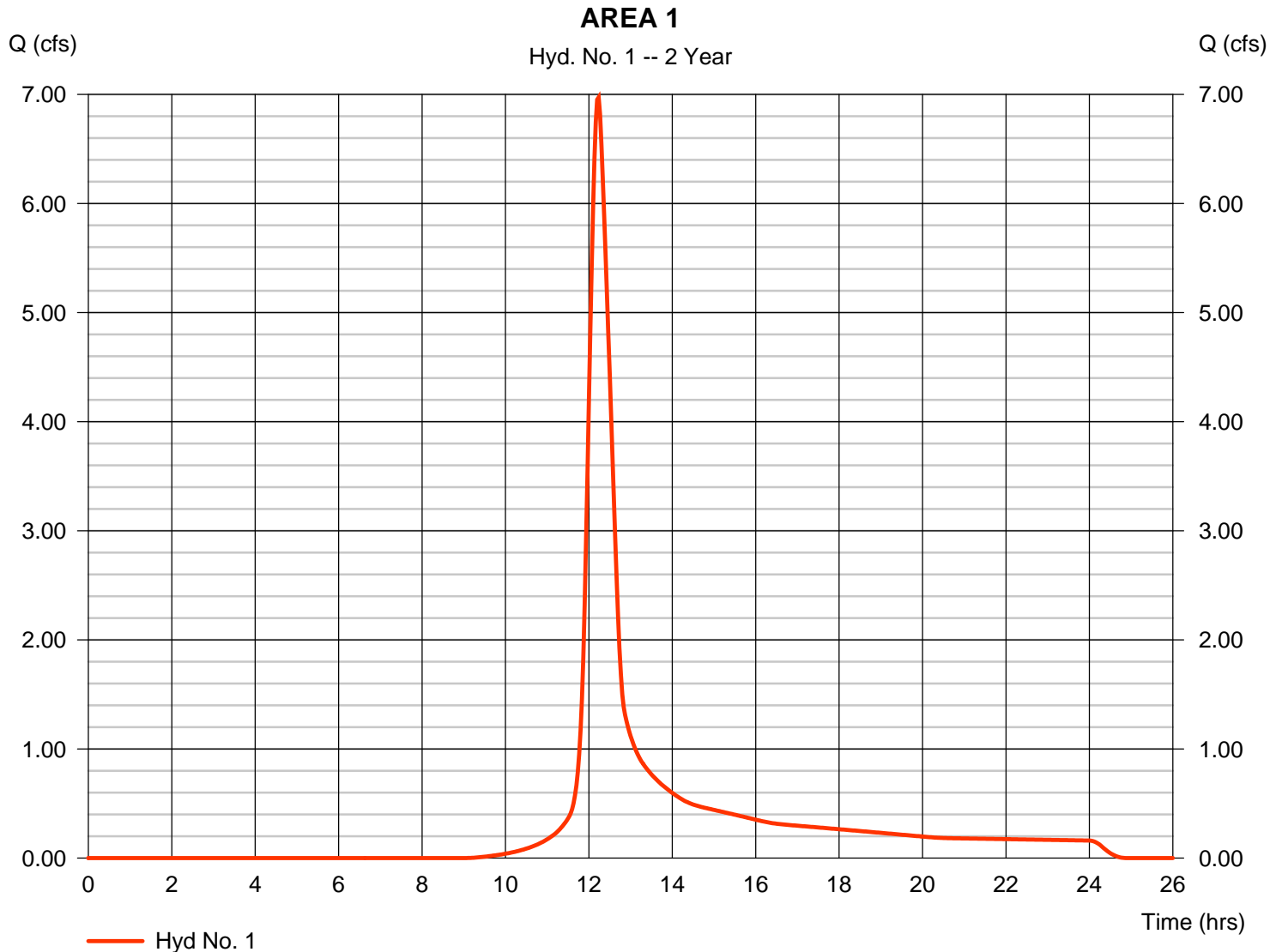
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description	
1	SCS Runoff	6.973	2	734	0.700	-----	-----	-----	AREA 1	
2	SCS Runoff	0.630	2	728	0.054	-----	-----	-----	AREA 2	
3	SCS Runoff	0.528	2	724	0.038	-----	-----	-----	AREA 3	
4	SCS Runoff	2.461	2	716	0.133	-----	-----	-----	AREA 4	
5	SCS Runoff	2.342	2	716	0.109	-----	-----	-----	AREA 5	
6	SCS Runoff	1.171	2	716	0.054	-----	-----	-----	AREA 6	
7	SCS Runoff	0.768	2	736	0.081	-----	-----	-----	AREA 7	
8	SCS Runoff	0.000	2	n/a	0.000	-----	-----	-----	AREA A	
9	SCS Runoff	0.237	2	716	0.013	-----	-----	-----	AREA B	
10	SCS Runoff	1.609	2	716	0.087	-----	-----	-----	AREA D	
11	SCS Runoff	1.609	2	716	0.087	-----	-----	-----	AREA C	
12	SCS Runoff	2.224	2	716	0.120	-----	-----	-----	AREA E	
13	SCS Runoff	1.514	2	716	0.082	-----	-----	-----	AREA F	
14	Combine	7.193	2	716	0.388	8, 9, 10, 11, 12, 13	-----	-----	COMBINED AREA TO UNDERGRO	
Wichita Existing Conditions 3.16.12.gpw					Return Period: 2 Year			Sunday, 00 18, 2012		

# Hydrograph Report

## Hyd. No. 1

### AREA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 6.973 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 0.700 acft
Drainage area	= 5.070 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 32.10 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

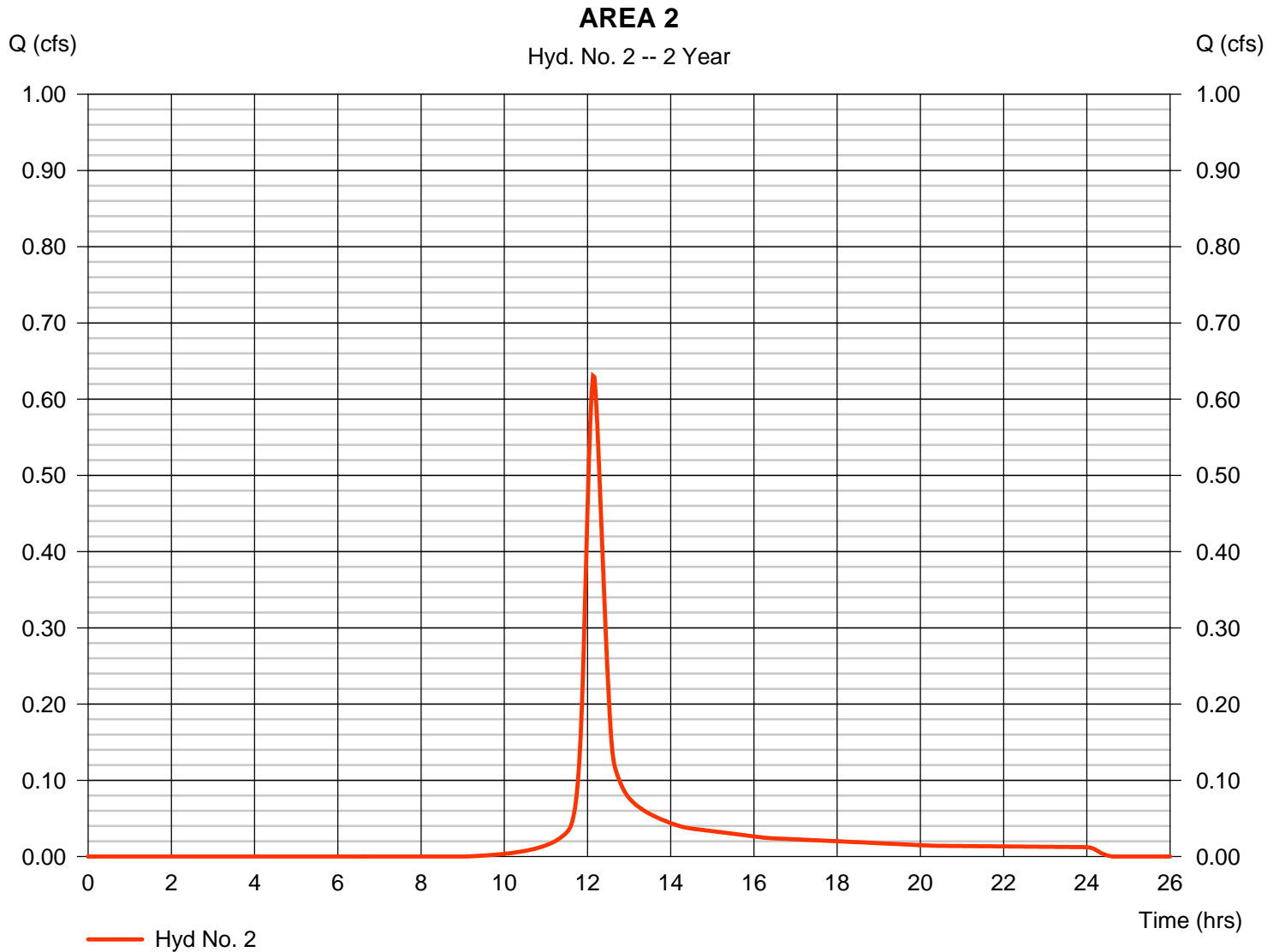
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 2

### AREA 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.630 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 0.054 acft
Drainage area	= 0.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.30 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

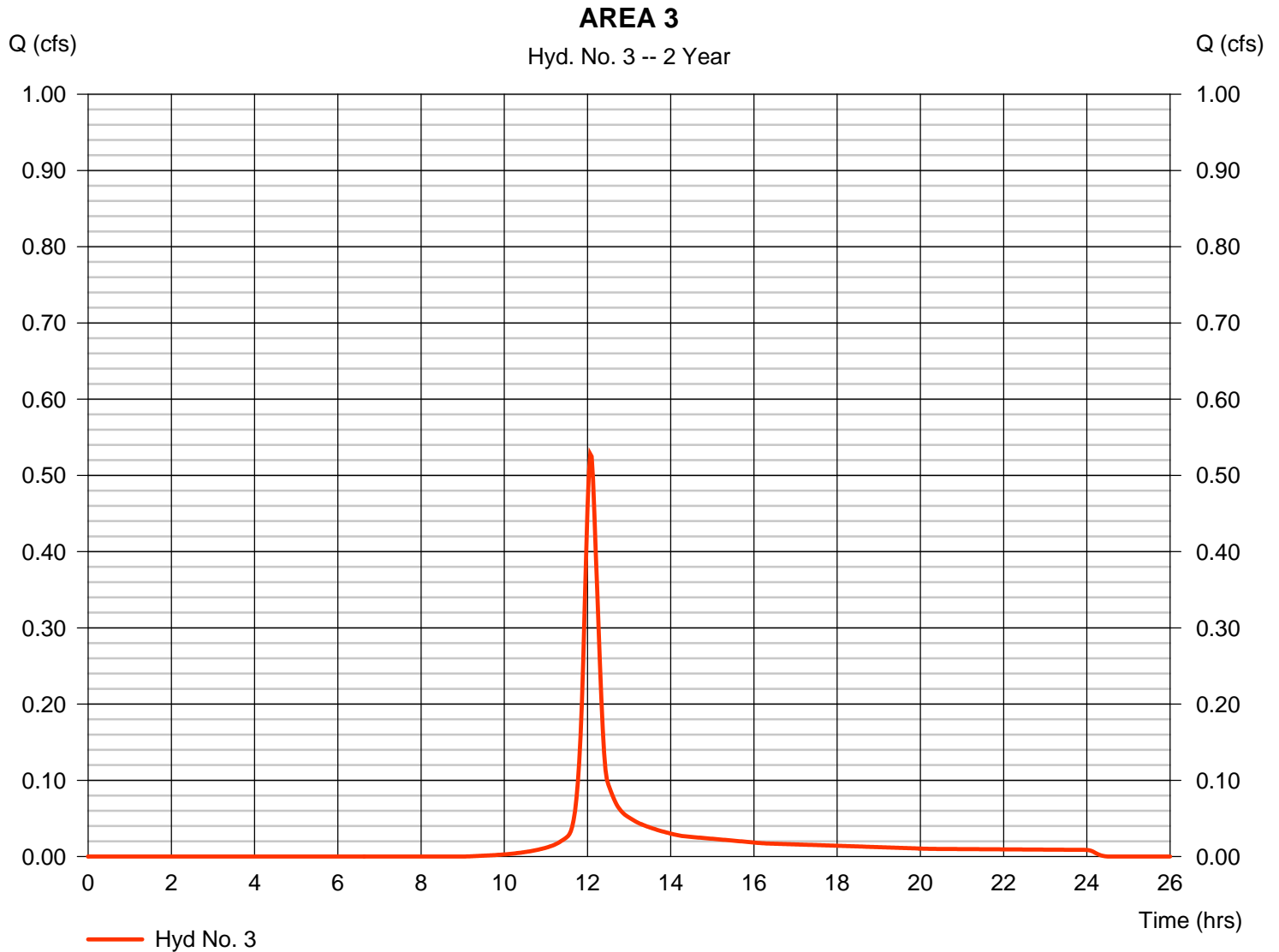
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 3

### AREA 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.528 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 0.038 acft
Drainage area	= 0.280 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.40 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

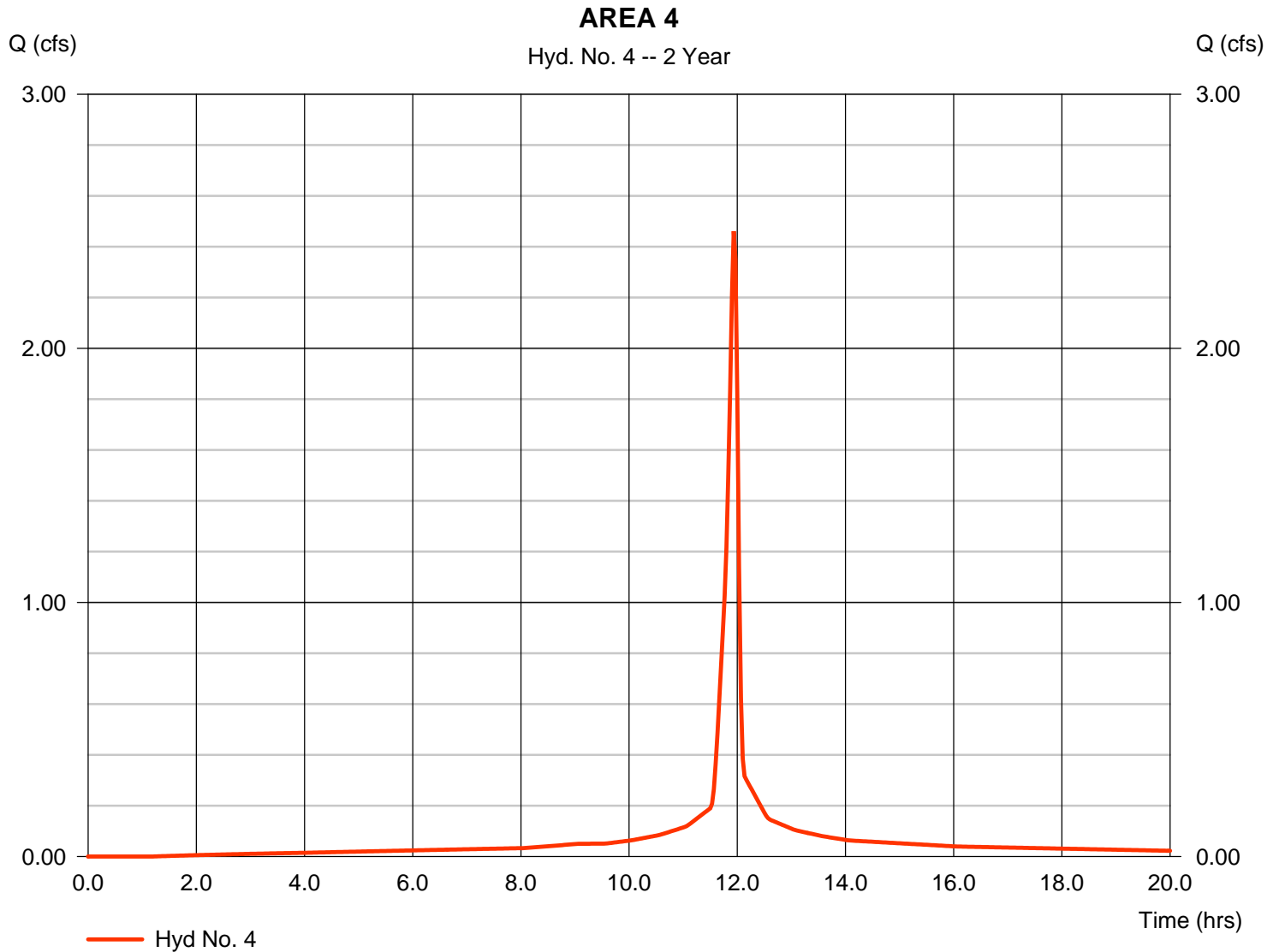
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 4

### AREA 4

Hydrograph type	= SCS Runoff	Peak discharge	= 2.461 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.133 acft
Drainage area	= 0.520 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

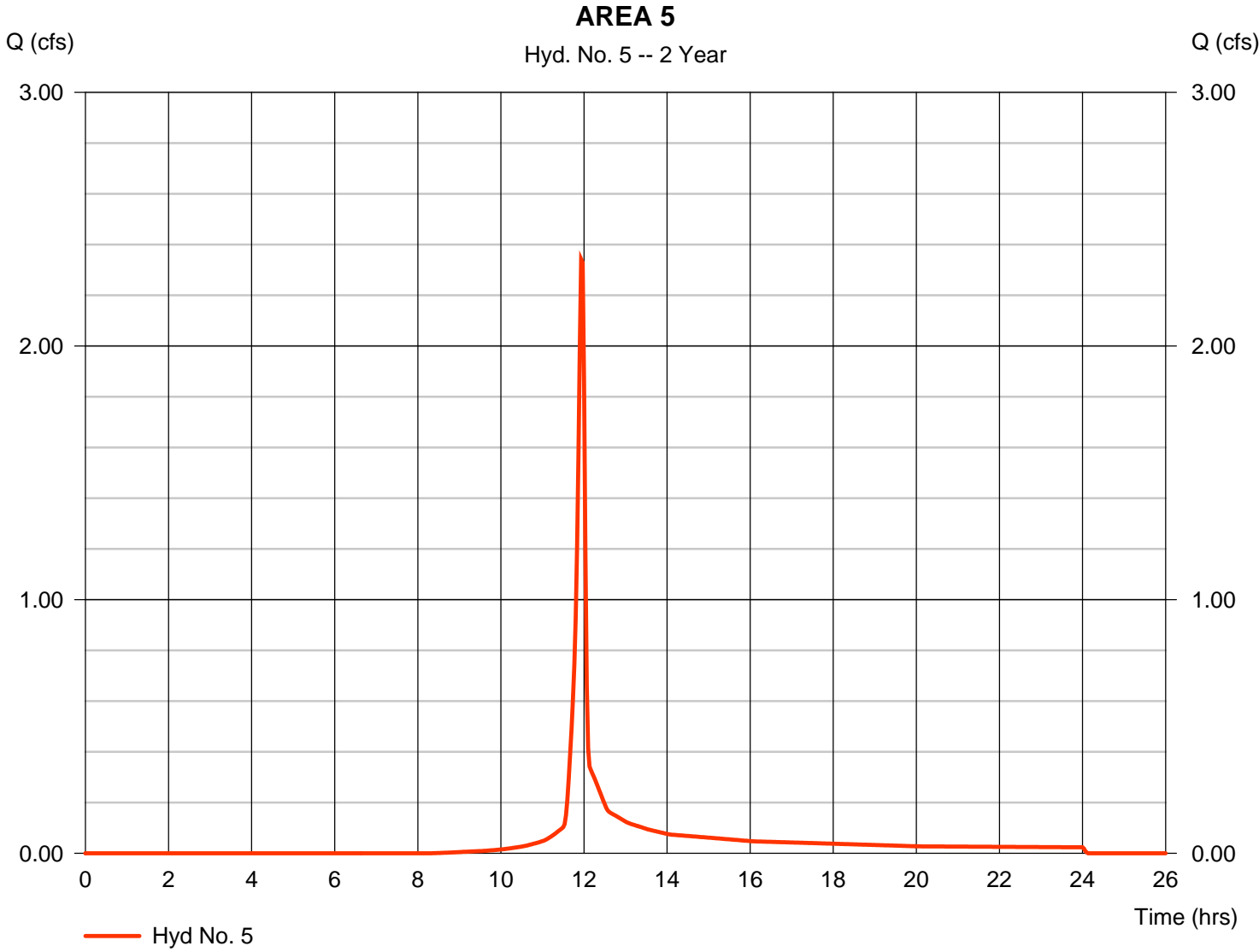


# Hydrograph Report

## Hyd. No. 5

### AREA 5

Hydrograph type	= SCS Runoff	Peak discharge	= 2.342 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.109 acft
Drainage area	= 0.780 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 3.90 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

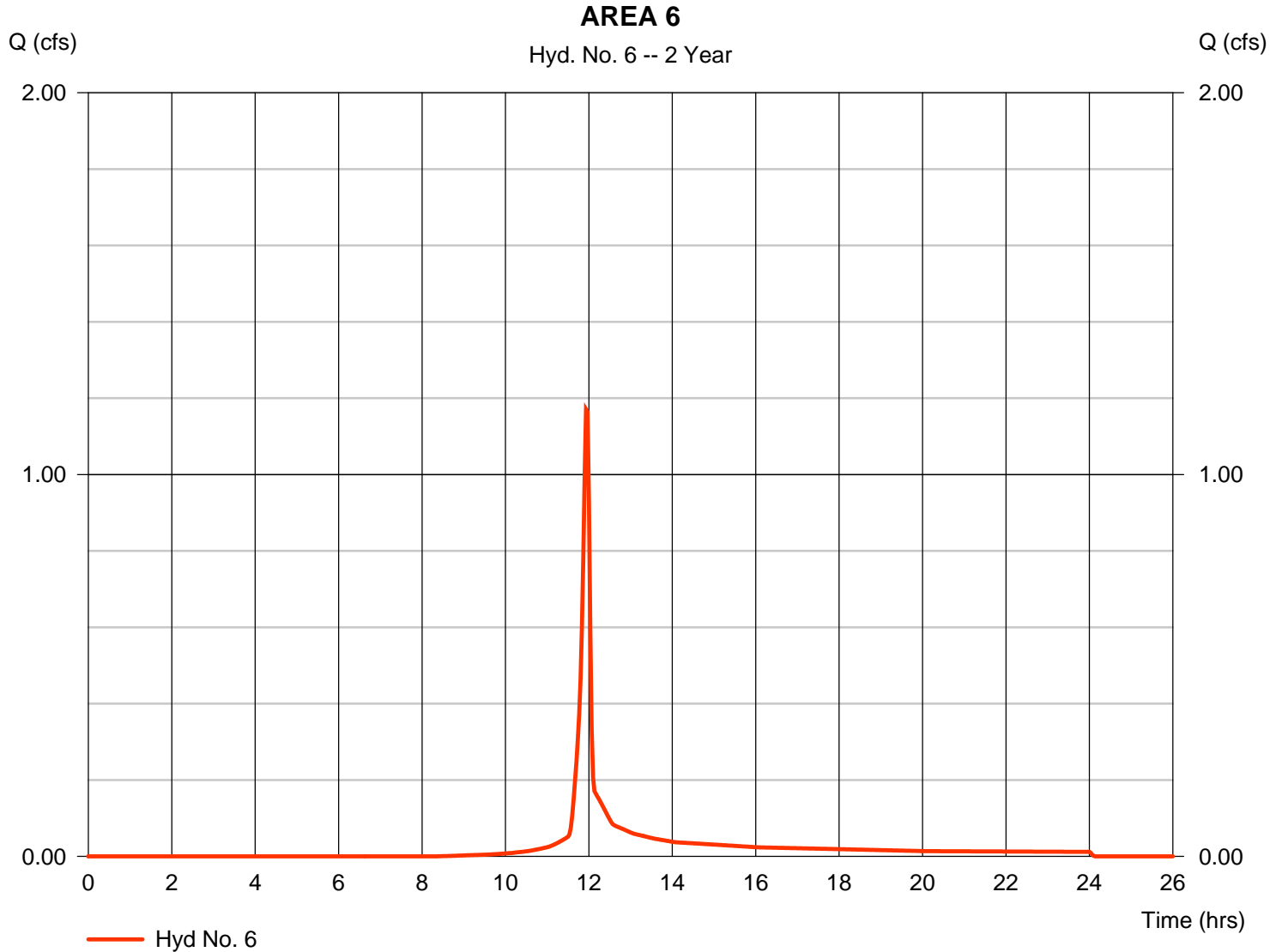
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 6

### AREA 6

Hydrograph type	= SCS Runoff	Peak discharge	= 1.171 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.054 acft
Drainage area	= 0.390 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 4.00 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

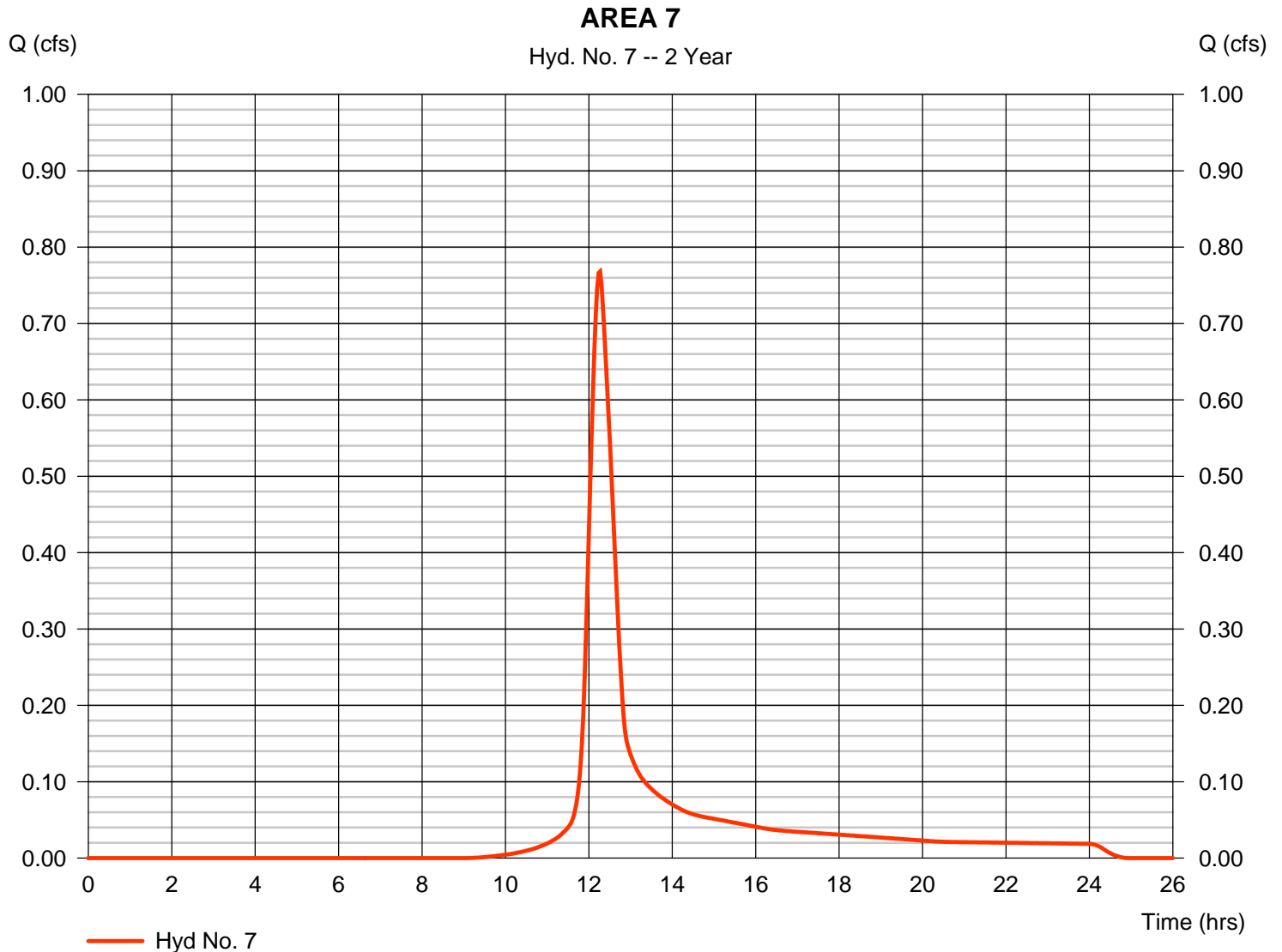
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 7

### AREA 7

Hydrograph type	= SCS Runoff	Peak discharge	= 0.768 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.27 hrs
Time interval	= 2 min	Hyd. volume	= 0.081 acft
Drainage area	= 0.600 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.70 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	10.59	2	732	1.053	-----	-----	-----	AREA 1
2	SCS Runoff	0.958	2	728	0.081	-----	-----	-----	AREA 2
3	SCS Runoff	0.800	2	724	0.057	-----	-----	-----	AREA 3
4	SCS Runoff	3.176	2	716	0.173	-----	-----	-----	AREA 4
5	SCS Runoff	3.436	2	716	0.161	-----	-----	-----	AREA 5
6	SCS Runoff	1.718	2	716	0.080	-----	-----	-----	AREA 6
7	SCS Runoff	1.167	2	734	0.122	-----	-----	-----	AREA 7
8	SCS Runoff	0.015	2	1440	0.010	-----	-----	-----	AREA A
9	SCS Runoff	0.305	2	716	0.017	-----	-----	-----	AREA B
10	SCS Runoff	2.077	2	716	0.113	-----	-----	-----	AREA D
11	SCS Runoff	2.077	2	716	0.113	-----	-----	-----	AREA C
12	SCS Runoff	2.871	2	716	0.157	-----	-----	-----	AREA E
13	SCS Runoff	1.955	2	716	0.107	-----	-----	-----	AREA F
14	Combine	9.285	2	716	0.516	8, 9, 10, 11, 12, 13	-----	-----	COMBINED AREA TO UNDERGRO
Wichita Existing Conditions 3.16.12.gpw					Return Period: 5 Year			Sunday, 00 18, 2012	

# Hydrograph Report

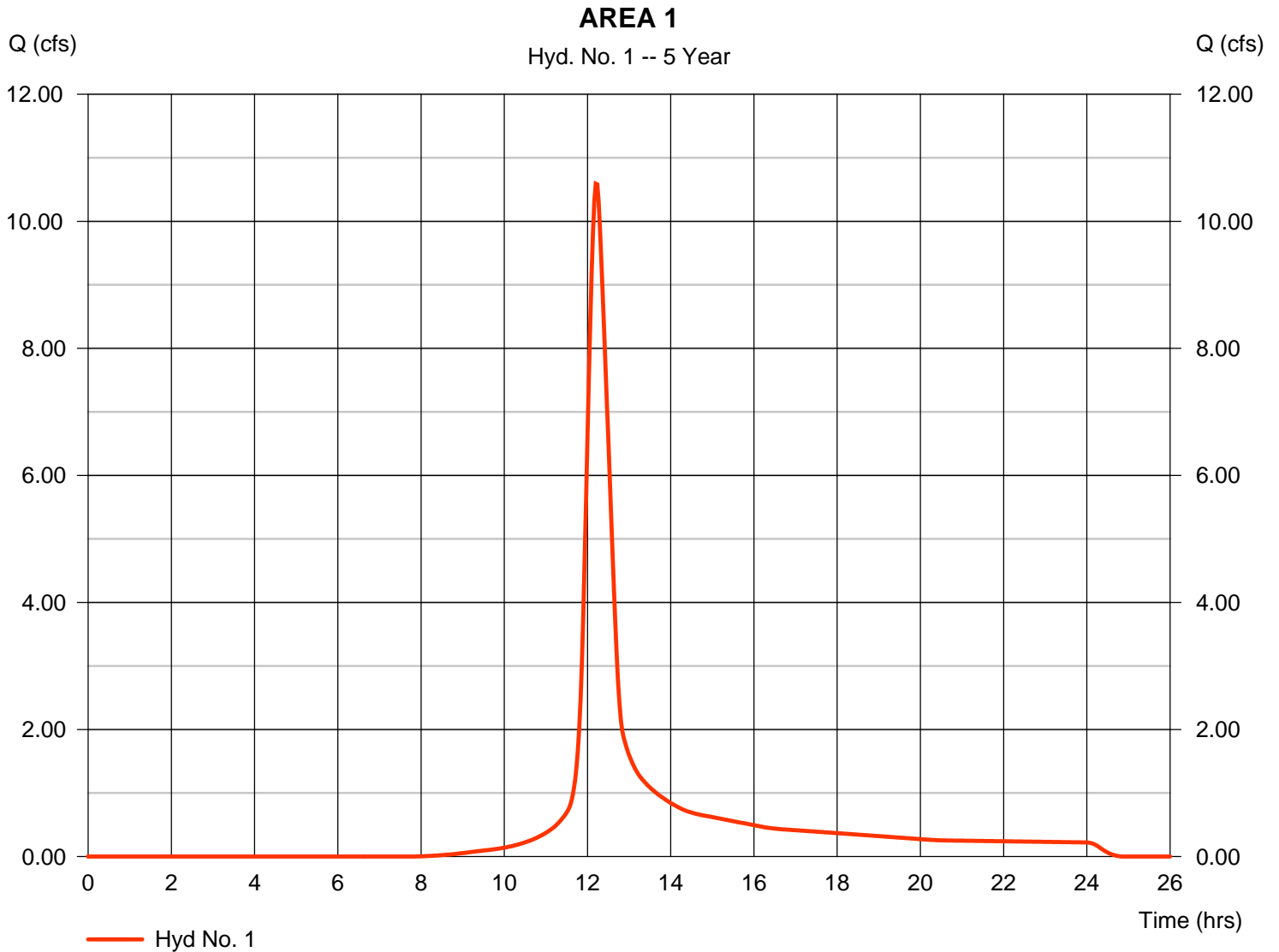
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 1

### AREA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 10.59 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 1.053 acft
Drainage area	= 5.070 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 32.10 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

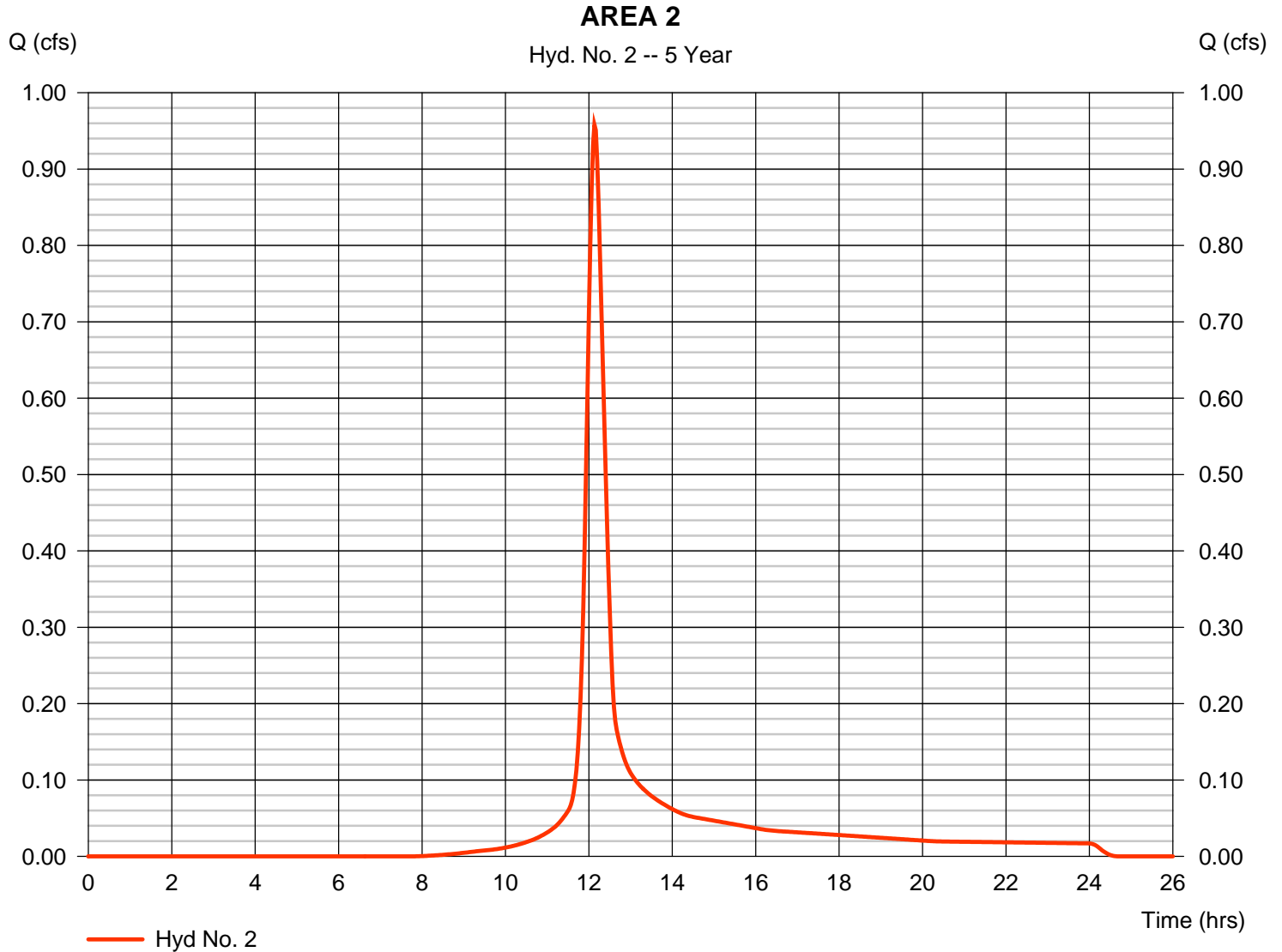
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 2

### AREA 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.958 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 0.081 acft
Drainage area	= 0.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.30 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

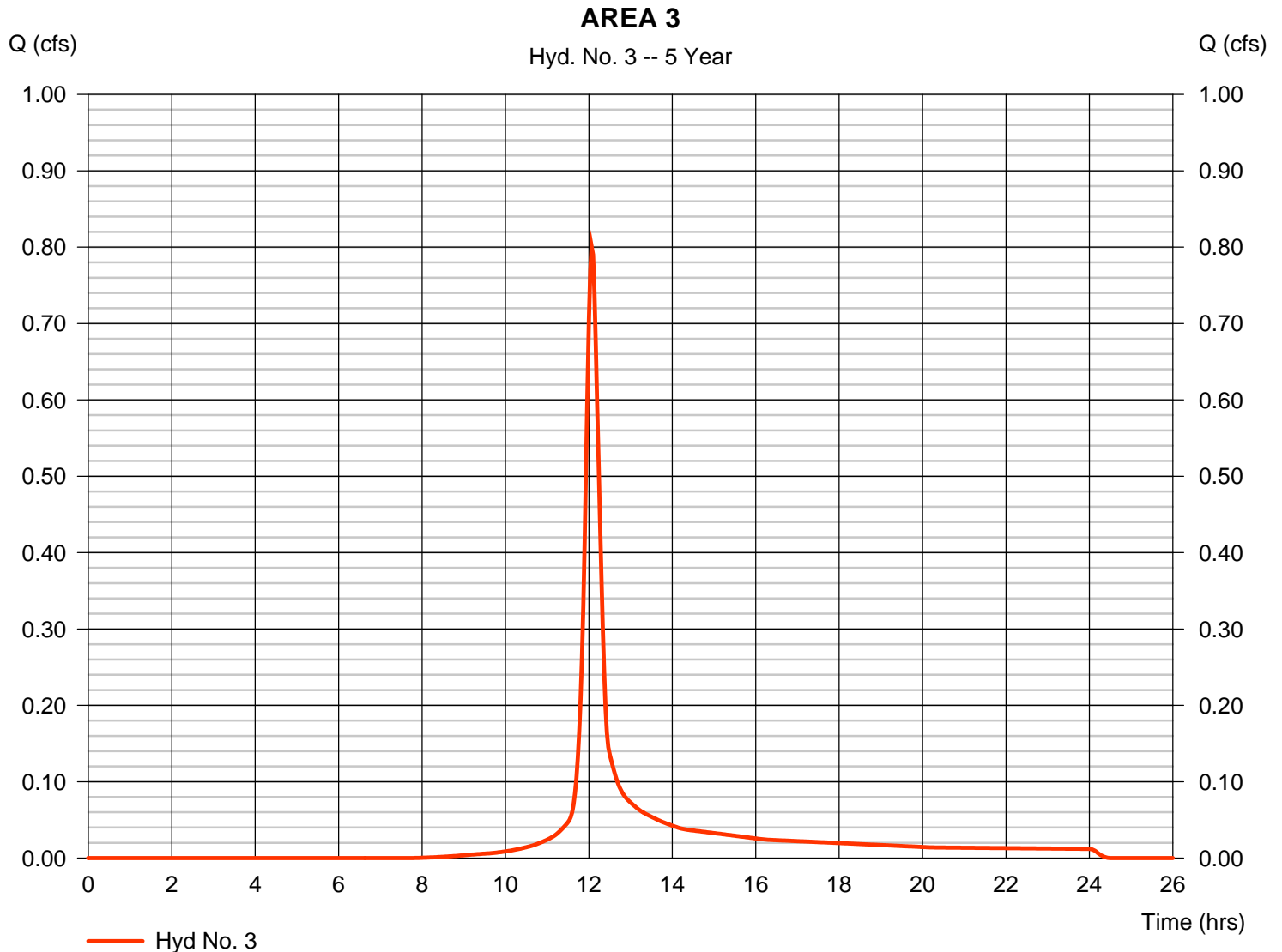
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 3

### AREA 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.800 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 0.057 acft
Drainage area	= 0.280 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.40 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

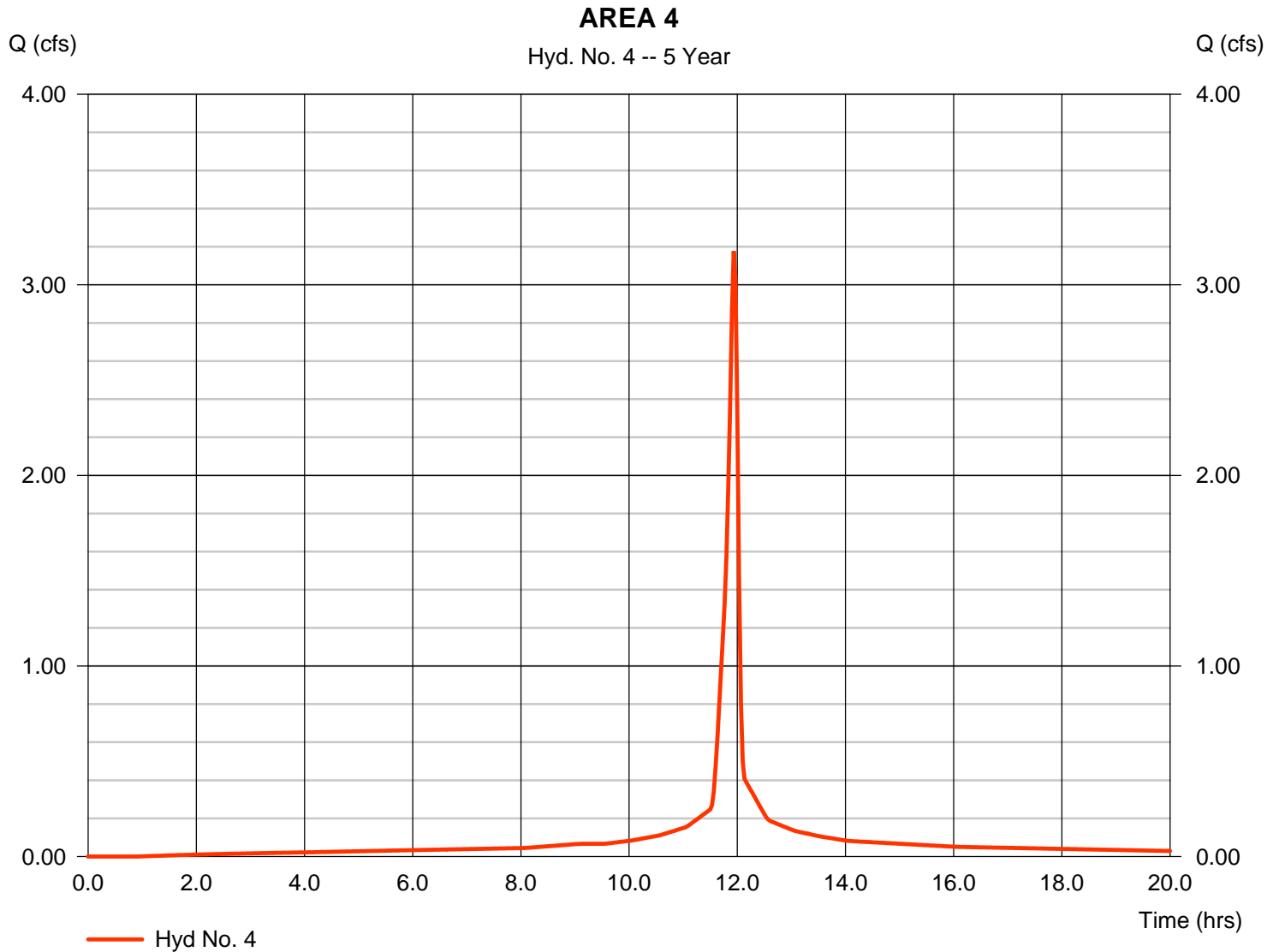
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 4

### AREA 4

Hydrograph type	= SCS Runoff	Peak discharge	= 3.176 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.173 acft
Drainage area	= 0.520 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

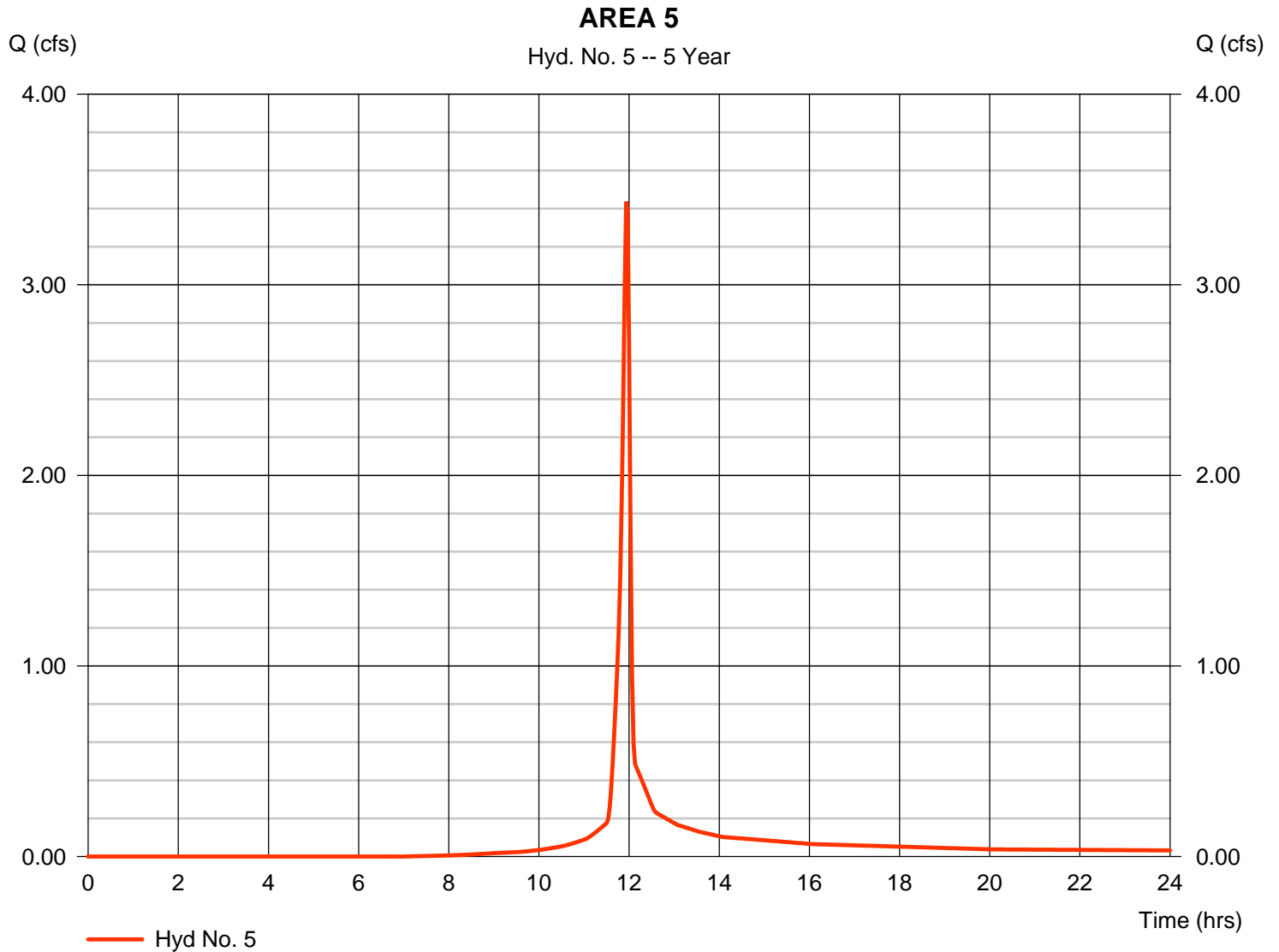
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 5

### AREA 5

Hydrograph type	= SCS Runoff	Peak discharge	= 3.436 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.161 acft
Drainage area	= 0.780 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 3.90 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

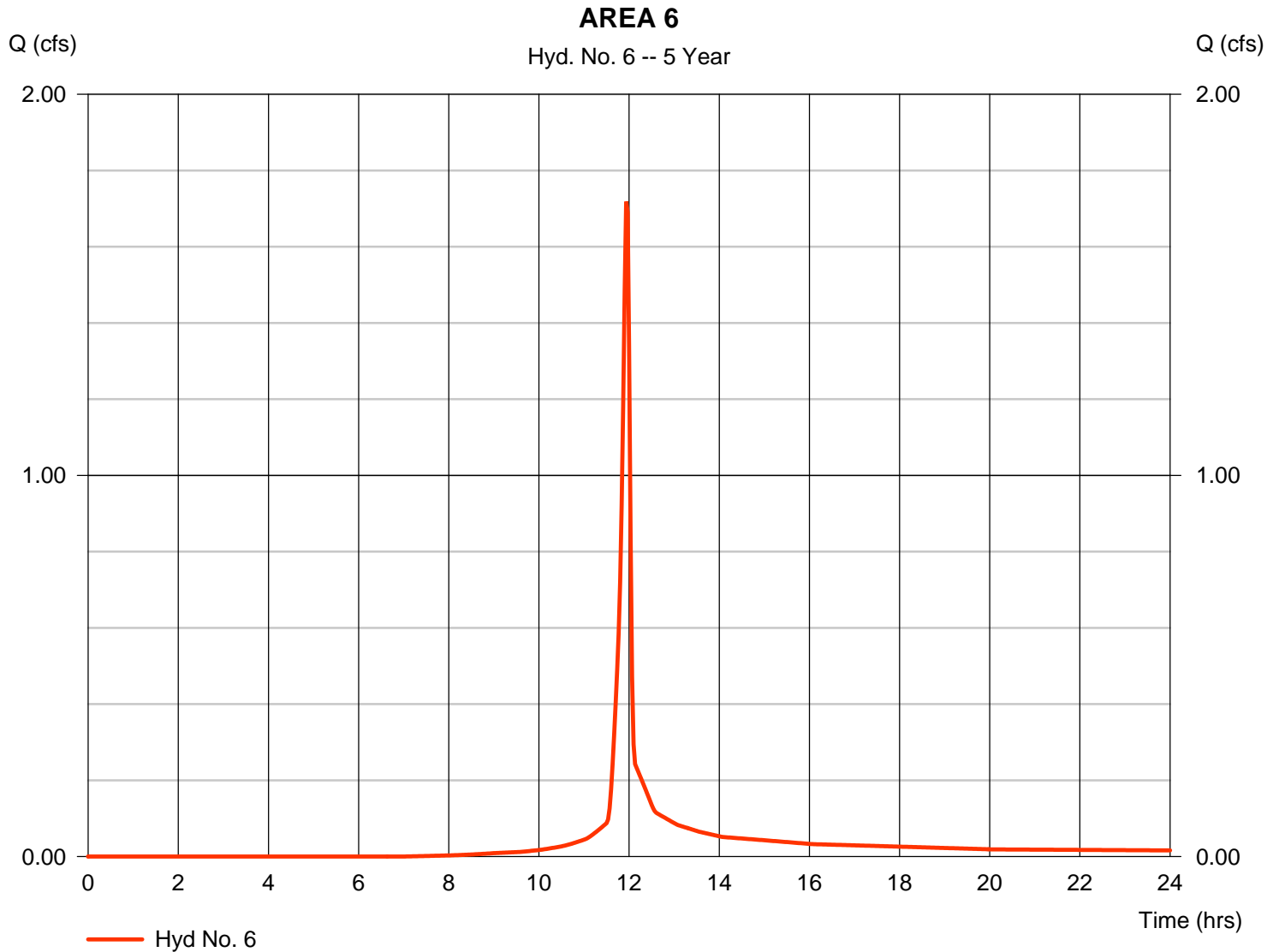
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 6

### AREA 6

Hydrograph type	= SCS Runoff	Peak discharge	= 1.718 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.080 acft
Drainage area	= 0.390 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 4.00 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

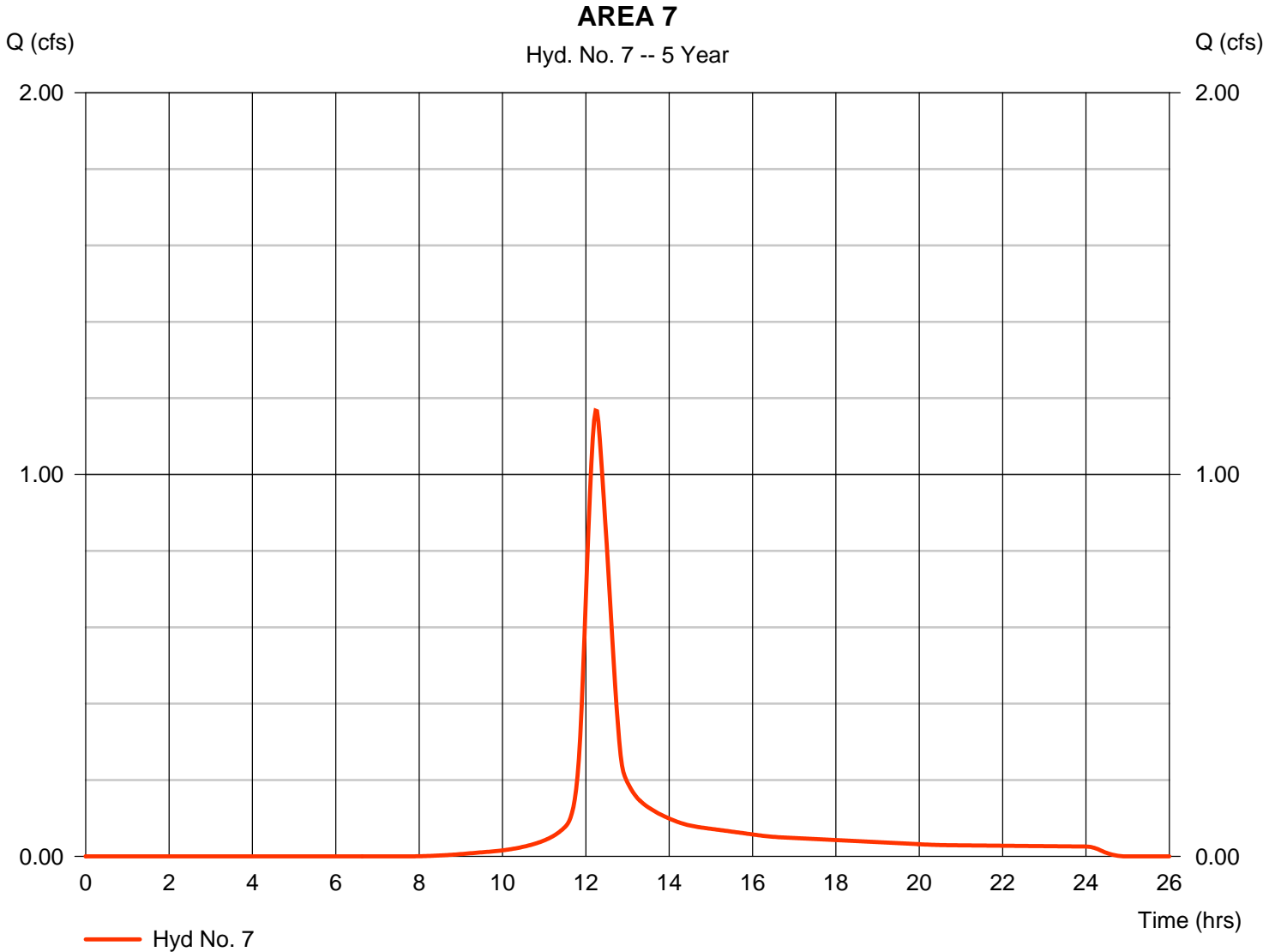


# Hydrograph Report

## Hyd. No. 7

### AREA 7

Hydrograph type	= SCS Runoff	Peak discharge	= 1.167 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 0.122 acft
Drainage area	= 0.600 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.70 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description	
1	SCS Runoff	13.23	2	732	1.312	-----	-----	-----	AREA 1	
2	SCS Runoff	1.195	2	728	0.101	-----	-----	-----	AREA 2	
3	SCS Runoff	0.997	2	724	0.072	-----	-----	-----	AREA 3	
4	SCS Runoff	3.676	2	716	0.202	-----	-----	-----	AREA 4	
5	SCS Runoff	4.217	2	716	0.199	-----	-----	-----	AREA 5	
6	SCS Runoff	2.109	2	716	0.099	-----	-----	-----	AREA 6	
7	SCS Runoff	1.459	2	734	0.152	-----	-----	-----	AREA 7	
8	SCS Runoff	0.044	2	914	0.035	-----	-----	-----	AREA A	
9	SCS Runoff	0.353	2	716	0.019	-----	-----	-----	AREA B	
10	SCS Runoff	2.404	2	716	0.132	-----	-----	-----	AREA D	
11	SCS Runoff	2.404	2	716	0.132	-----	-----	-----	AREA C	
12	SCS Runoff	3.323	2	716	0.182	-----	-----	-----	AREA E	
13	SCS Runoff	2.262	2	716	0.124	-----	-----	-----	AREA F	
14	Combine	10.75	2	716	0.624	8, 9, 10, 11, 12, 13	-----	-----	COMBINED AREA TO UNDERGRO	
Wichita Existing Conditions 3.16.12.gpw					Return Period: 10 Year			Sunday, 00 18, 2012		

# Hydrograph Report

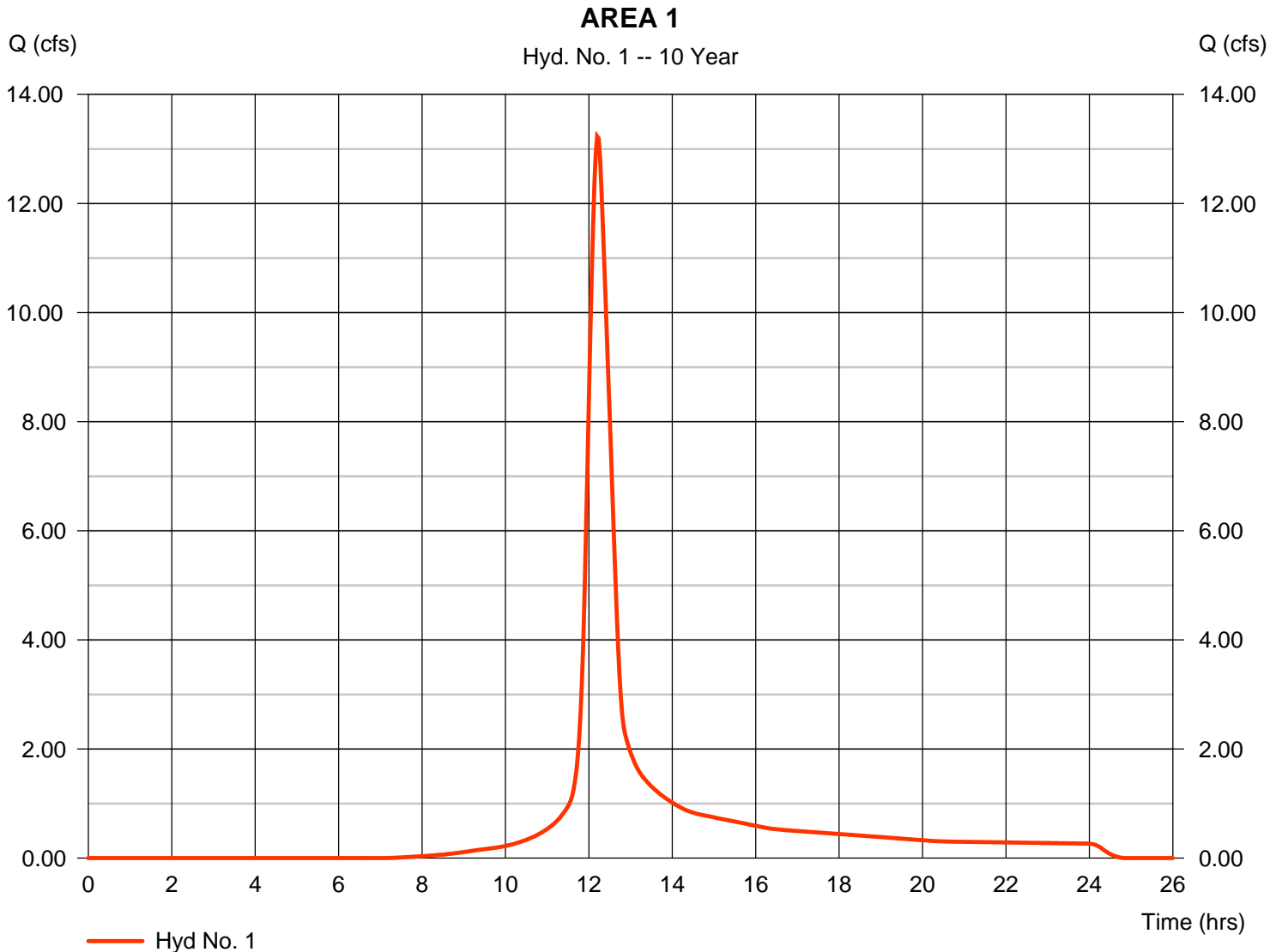
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 1

### AREA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 13.23 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 1.312 acft
Drainage area	= 5.070 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 32.10 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

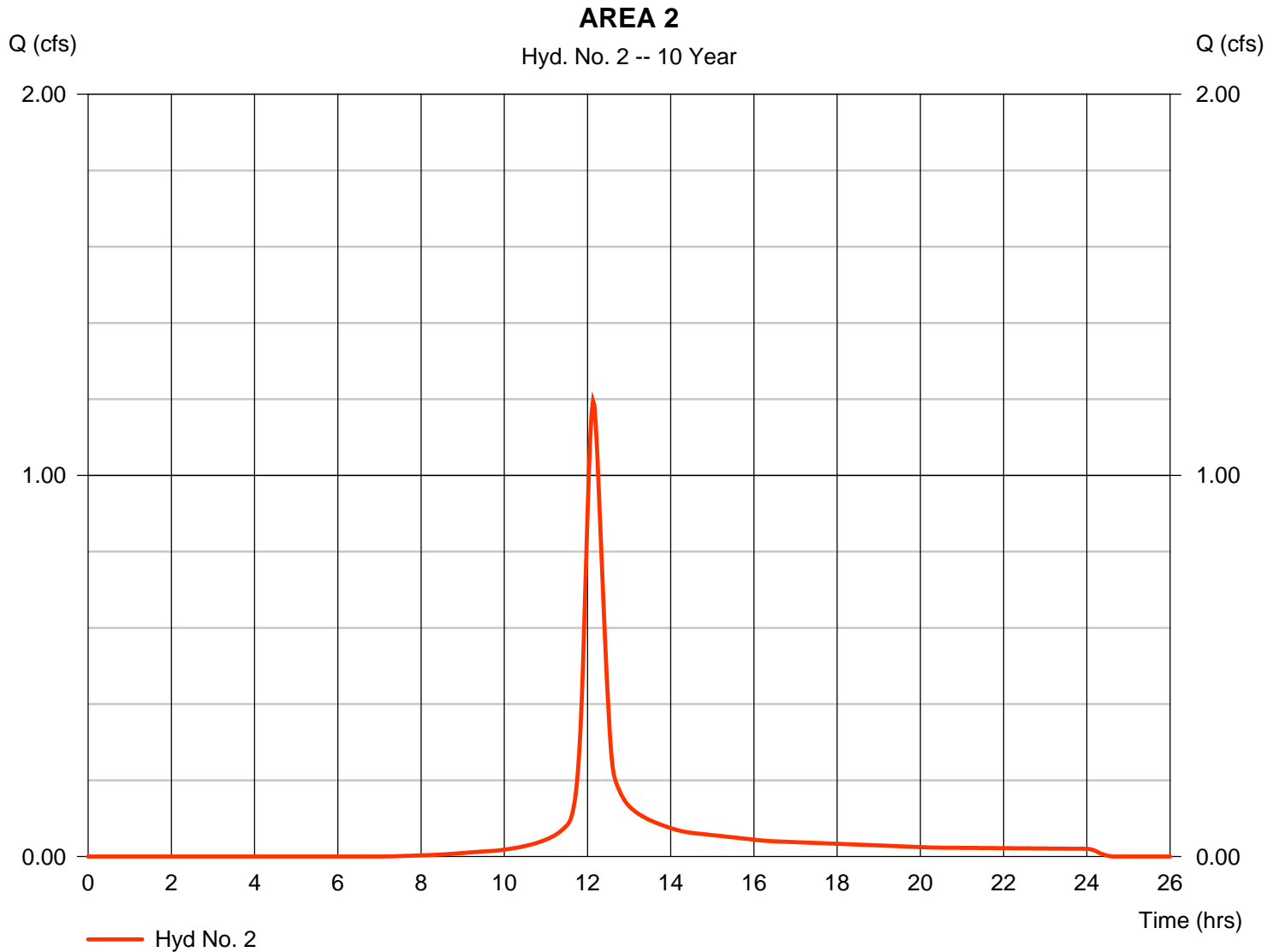
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 2

### AREA 2

Hydrograph type	= SCS Runoff	Peak discharge	= 1.195 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 0.101 acft
Drainage area	= 0.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.30 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

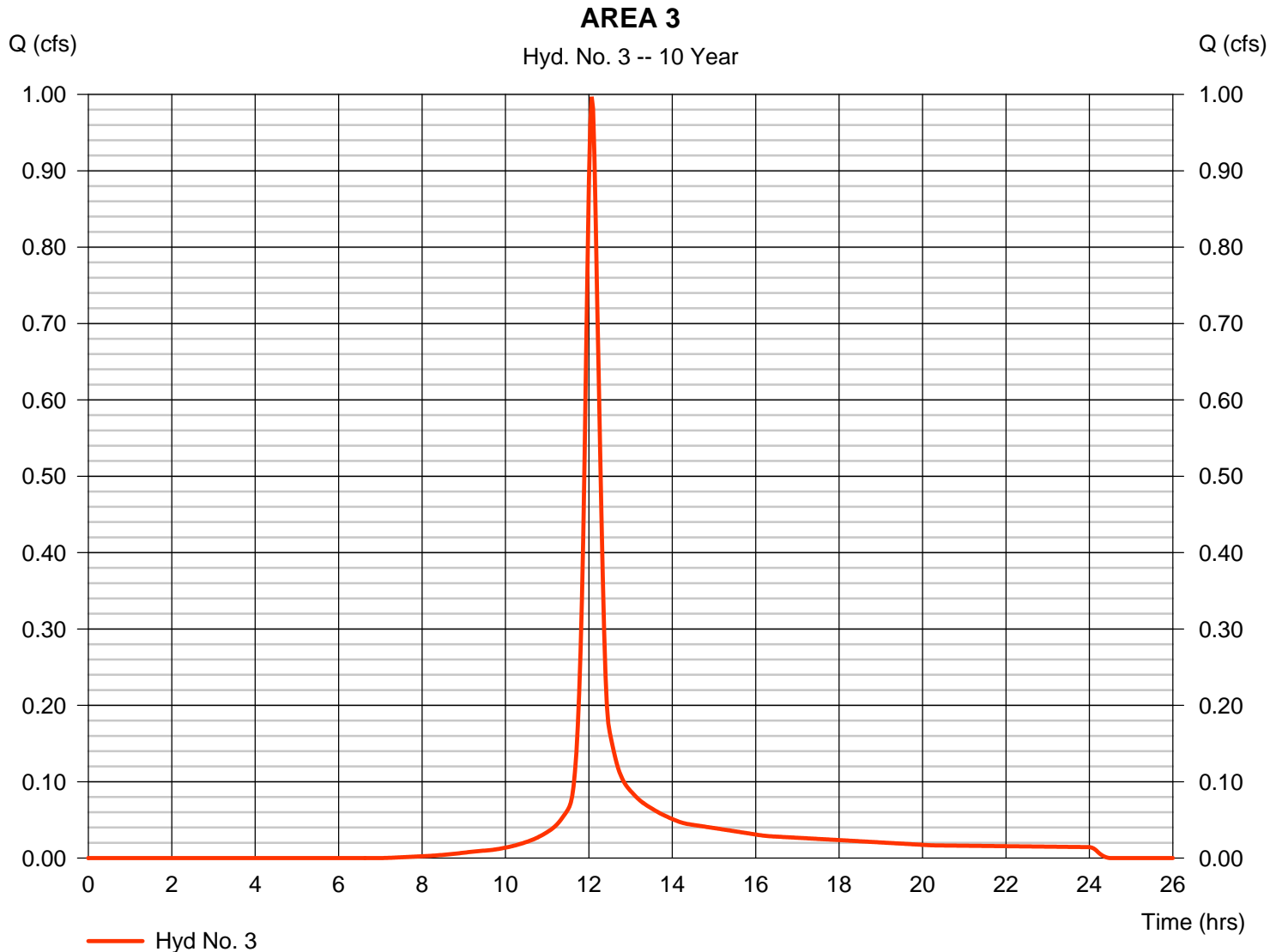
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 3

### AREA 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.997 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 0.072 acft
Drainage area	= 0.280 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.40 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

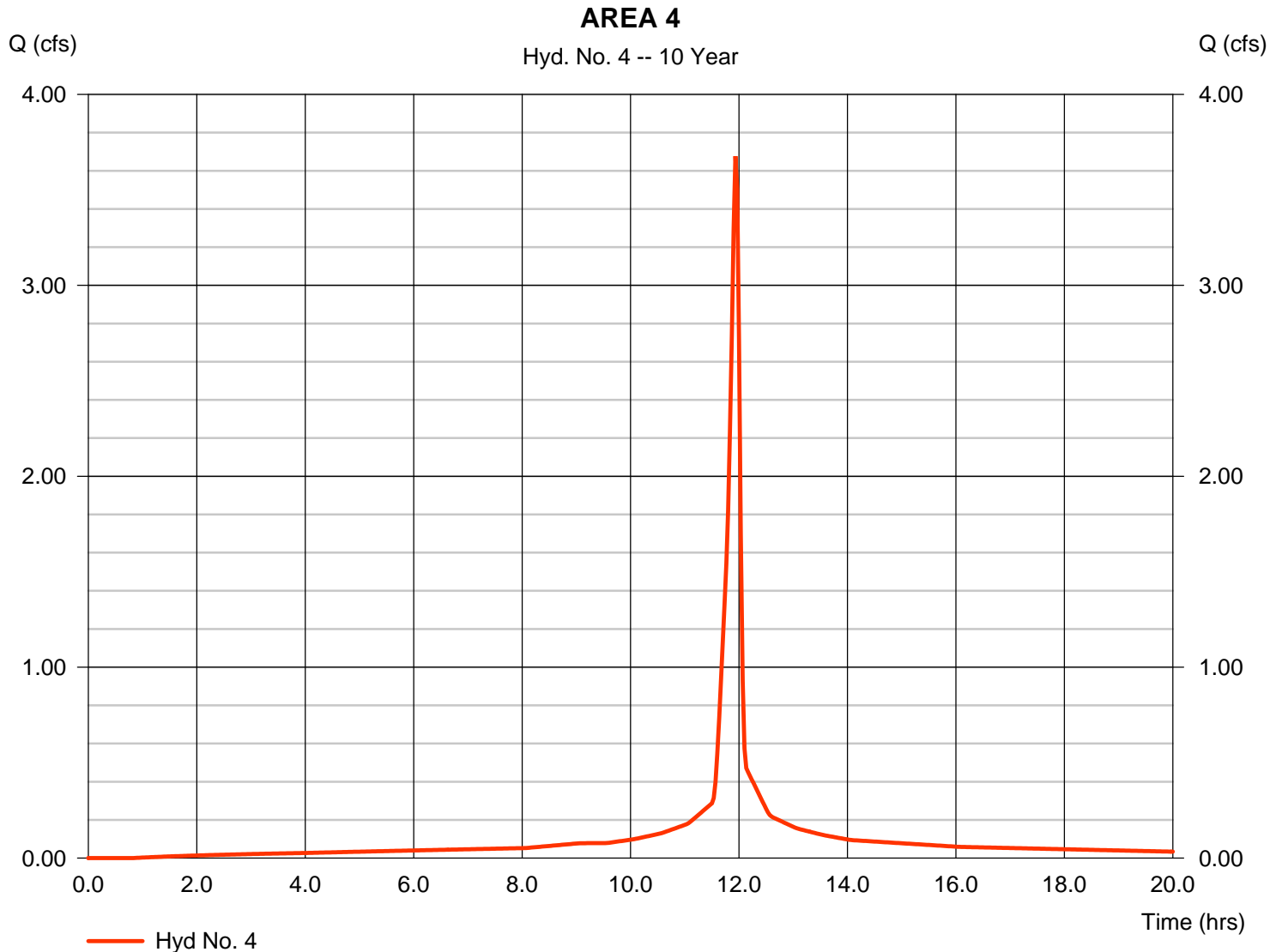
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 4

### AREA 4

Hydrograph type	= SCS Runoff	Peak discharge	= 3.676 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.202 acft
Drainage area	= 0.520 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

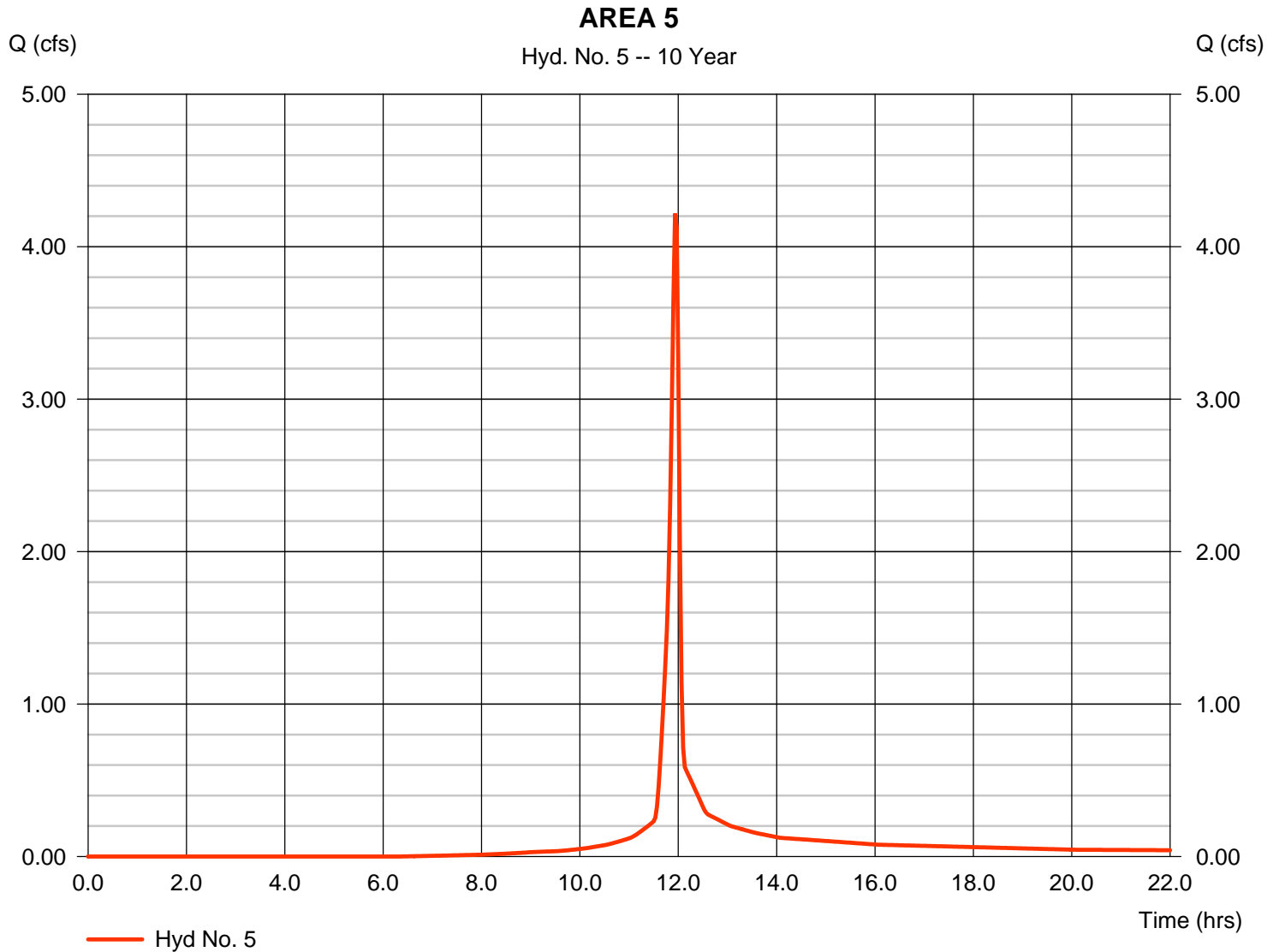
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 5

### AREA 5

Hydrograph type	= SCS Runoff	Peak discharge	= 4.217 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.199 acft
Drainage area	= 0.780 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 3.90 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

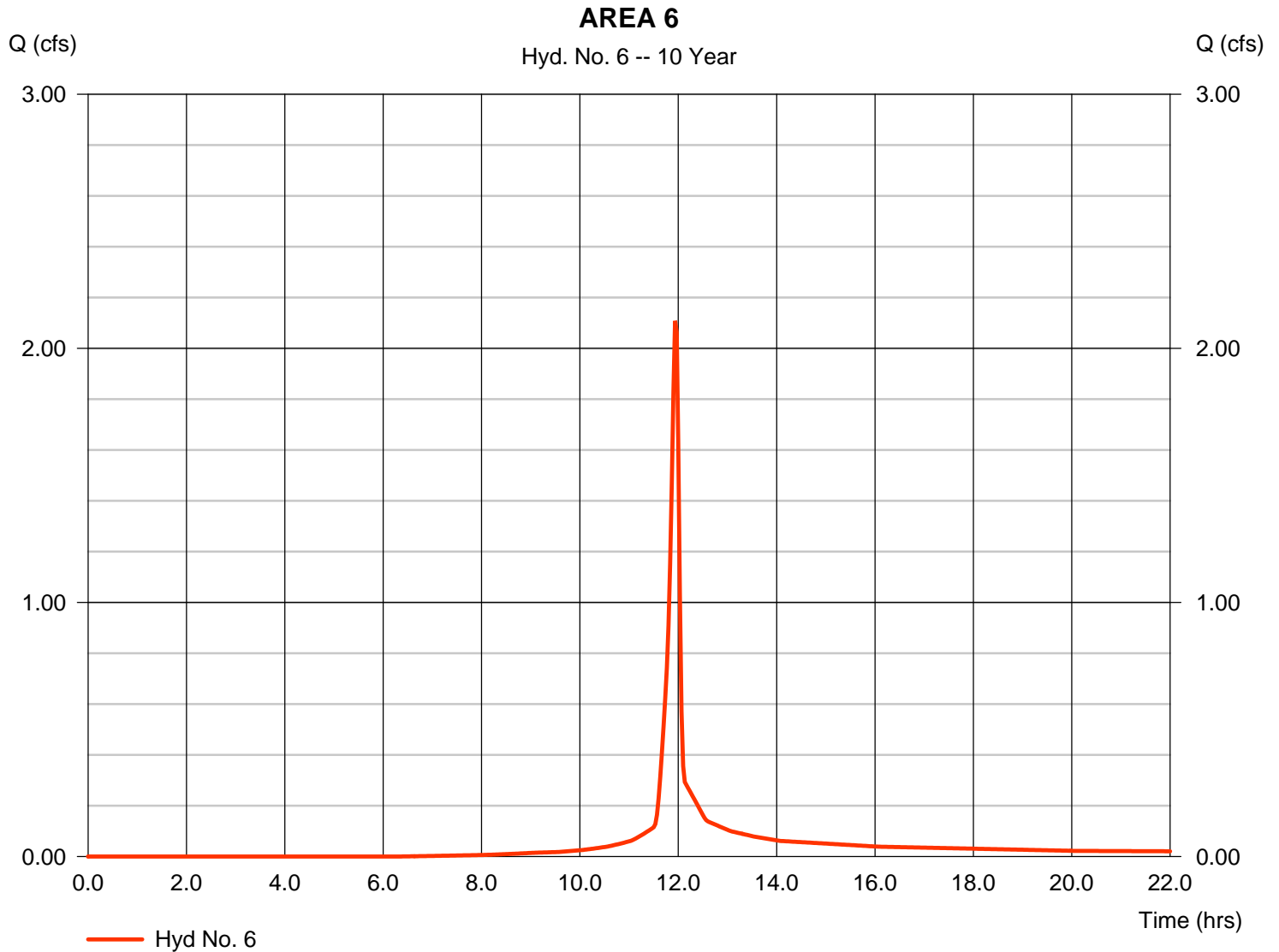
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 6

### AREA 6

Hydrograph type	= SCS Runoff	Peak discharge	= 2.109 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.099 acft
Drainage area	= 0.390 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 4.00 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

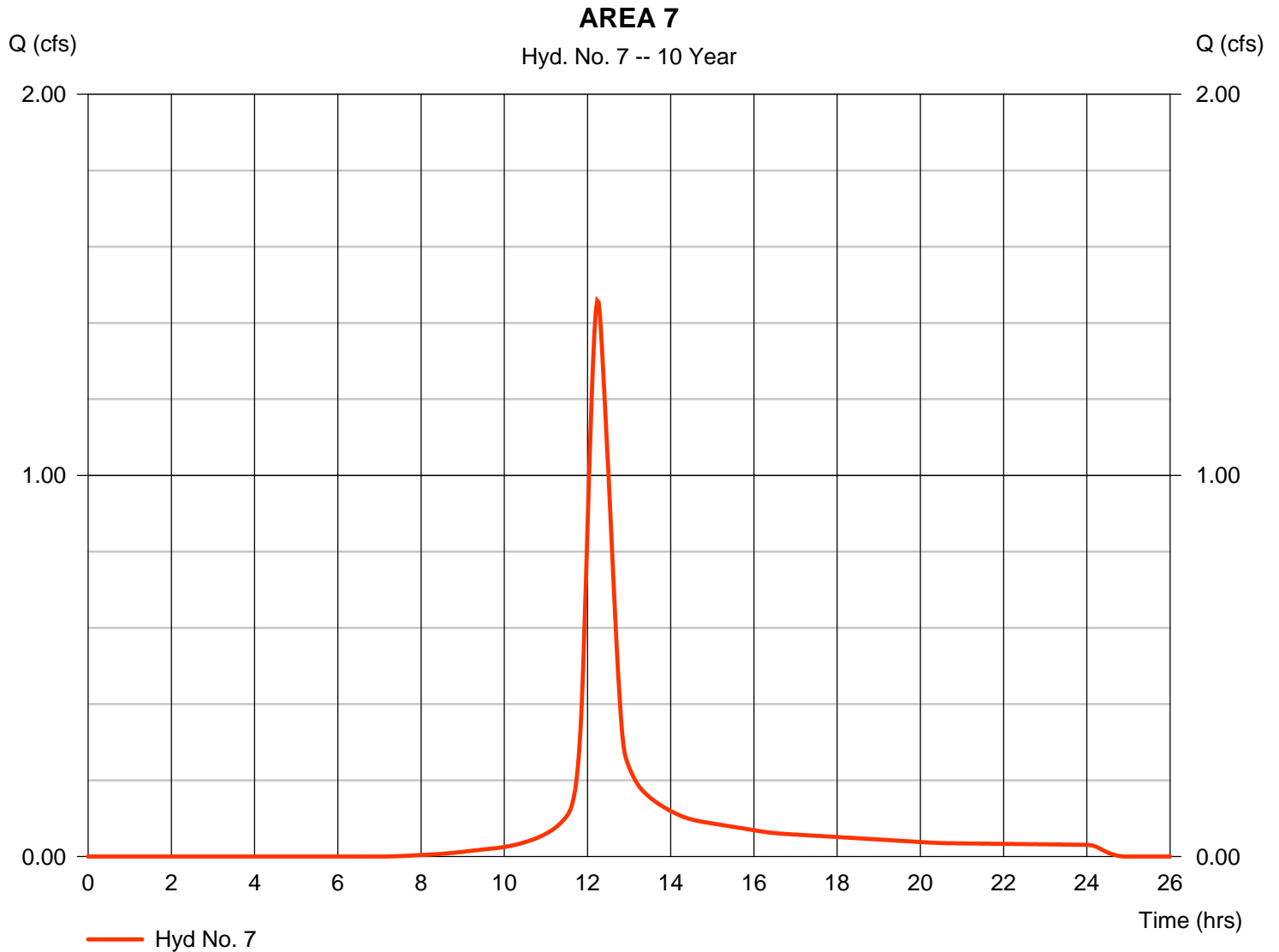
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 7

### AREA 7

Hydrograph type	= SCS Runoff	Peak discharge	= 1.459 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 0.152 acft
Drainage area	= 0.600 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.70 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

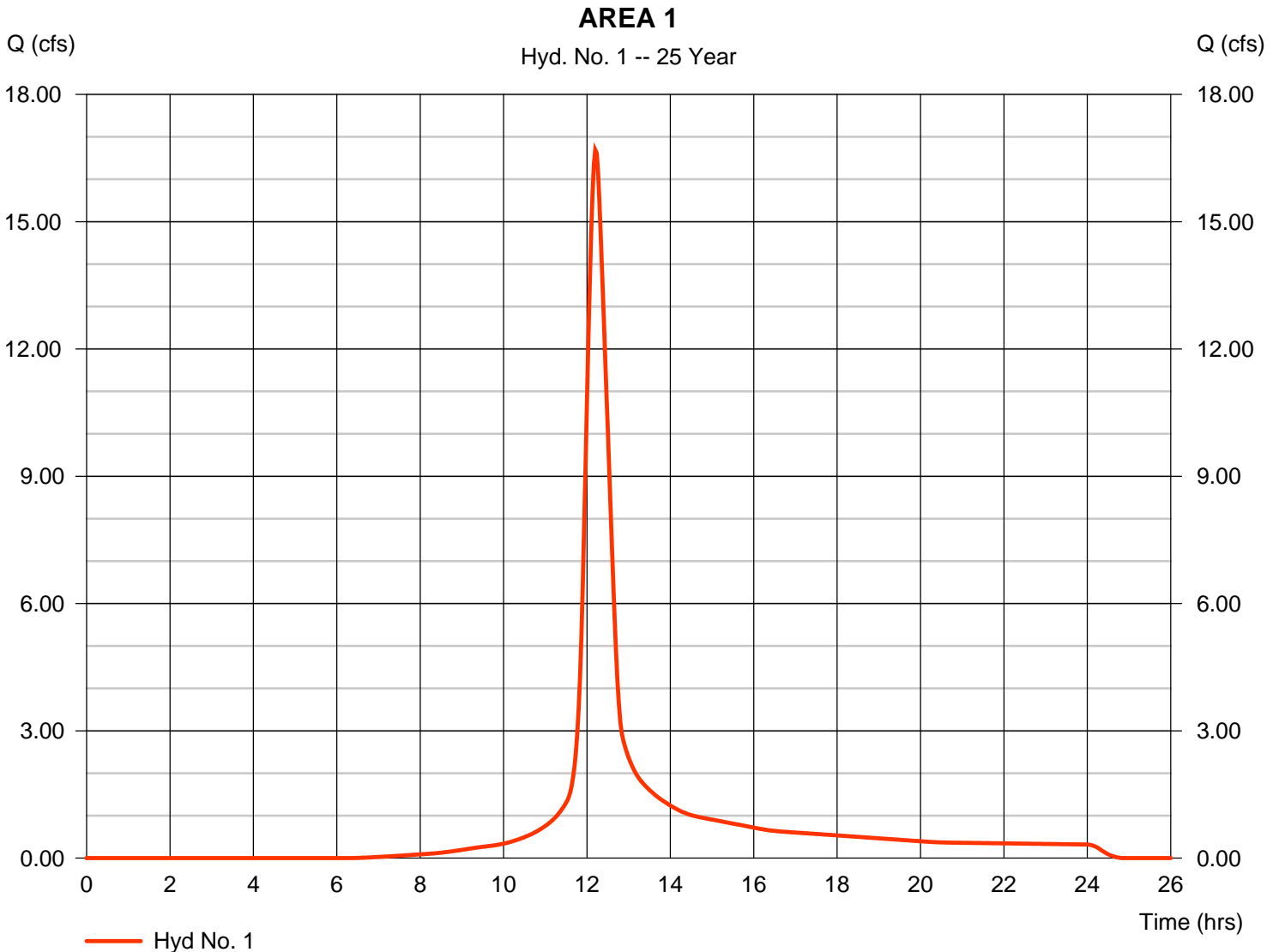
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description	
1	SCS Runoff	16.69	2	732	1.656	-----	-----	-----	AREA 1	
2	SCS Runoff	1.506	2	728	0.127	-----	-----	-----	AREA 2	
3	SCS Runoff	1.254	2	724	0.090	-----	-----	-----	AREA 3	
4	SCS Runoff	4.318	2	716	0.238	-----	-----	-----	AREA 4	
5	SCS Runoff	5.229	2	716	0.249	-----	-----	-----	AREA 5	
6	SCS Runoff	2.614	2	716	0.124	-----	-----	-----	AREA 6	
7	SCS Runoff	1.840	2	734	0.191	-----	-----	-----	AREA 7	
8	SCS Runoff	0.184	2	764	0.086	-----	-----	-----	AREA A	
9	SCS Runoff	0.415	2	716	0.023	-----	-----	-----	AREA B	
10	SCS Runoff	2.823	2	716	0.156	-----	-----	-----	AREA D	
11	SCS Runoff	2.823	2	716	0.156	-----	-----	-----	AREA C	
12	SCS Runoff	3.903	2	716	0.215	-----	-----	-----	AREA E	
13	SCS Runoff	2.657	2	716	0.147	-----	-----	-----	AREA F	
14	Combine	12.62	2	716	0.782	8, 9, 10, 11, 12, 13	-----	-----	COMBINED AREA TO UNDERGRO	
Wichita Existing Conditions 3.16.12.gpw					Return Period: 25 Year			Sunday, 00 18, 2012		

# Hydrograph Report

## Hyd. No. 1

### AREA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 16.69 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 1.656 acft
Drainage area	= 5.070 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 32.10 min
Total precip.	= 6.10 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

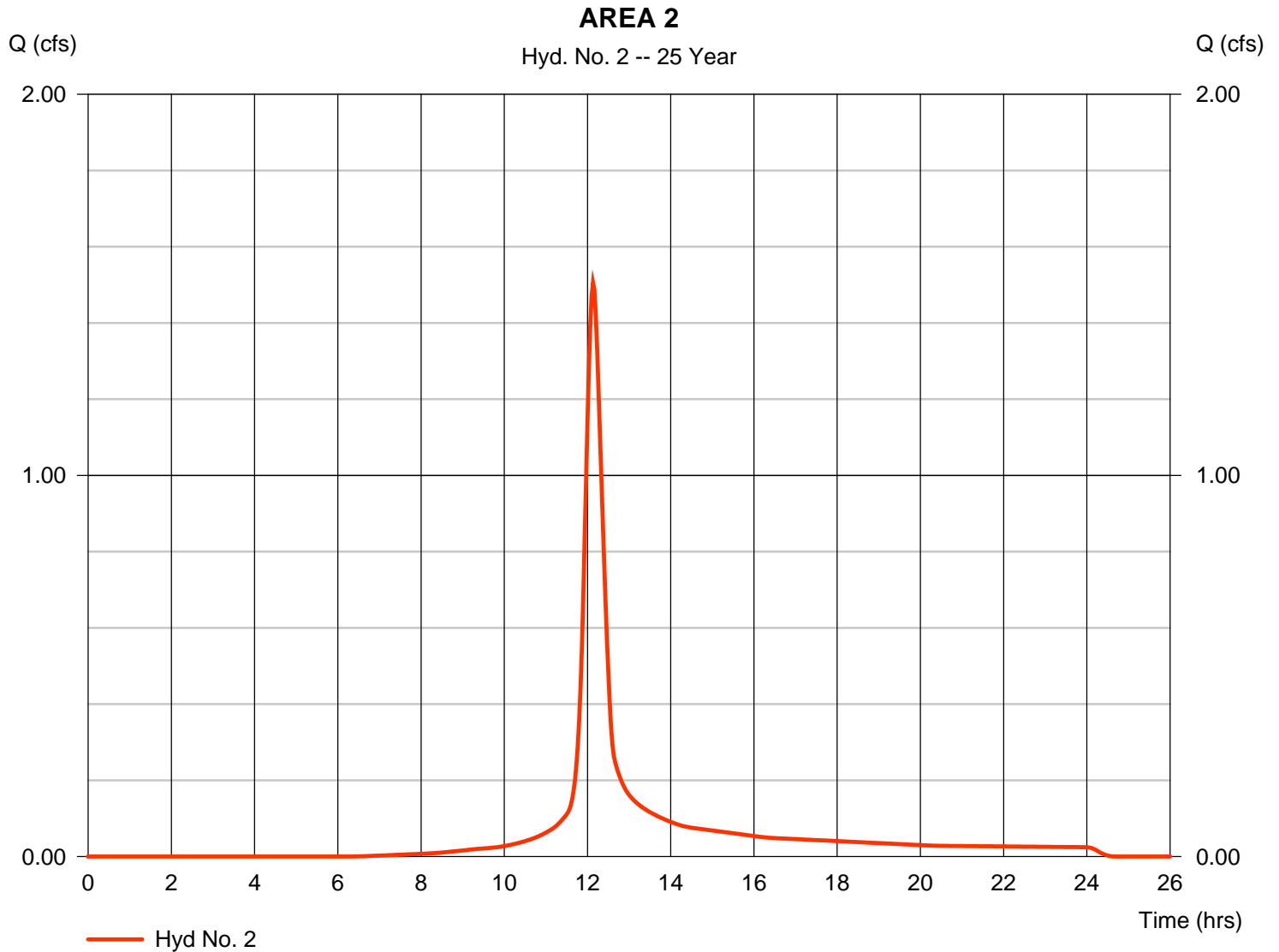
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 2

### AREA 2

Hydrograph type	= SCS Runoff	Peak discharge	= 1.506 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 0.127 acft
Drainage area	= 0.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.30 min
Total precip.	= 6.10 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

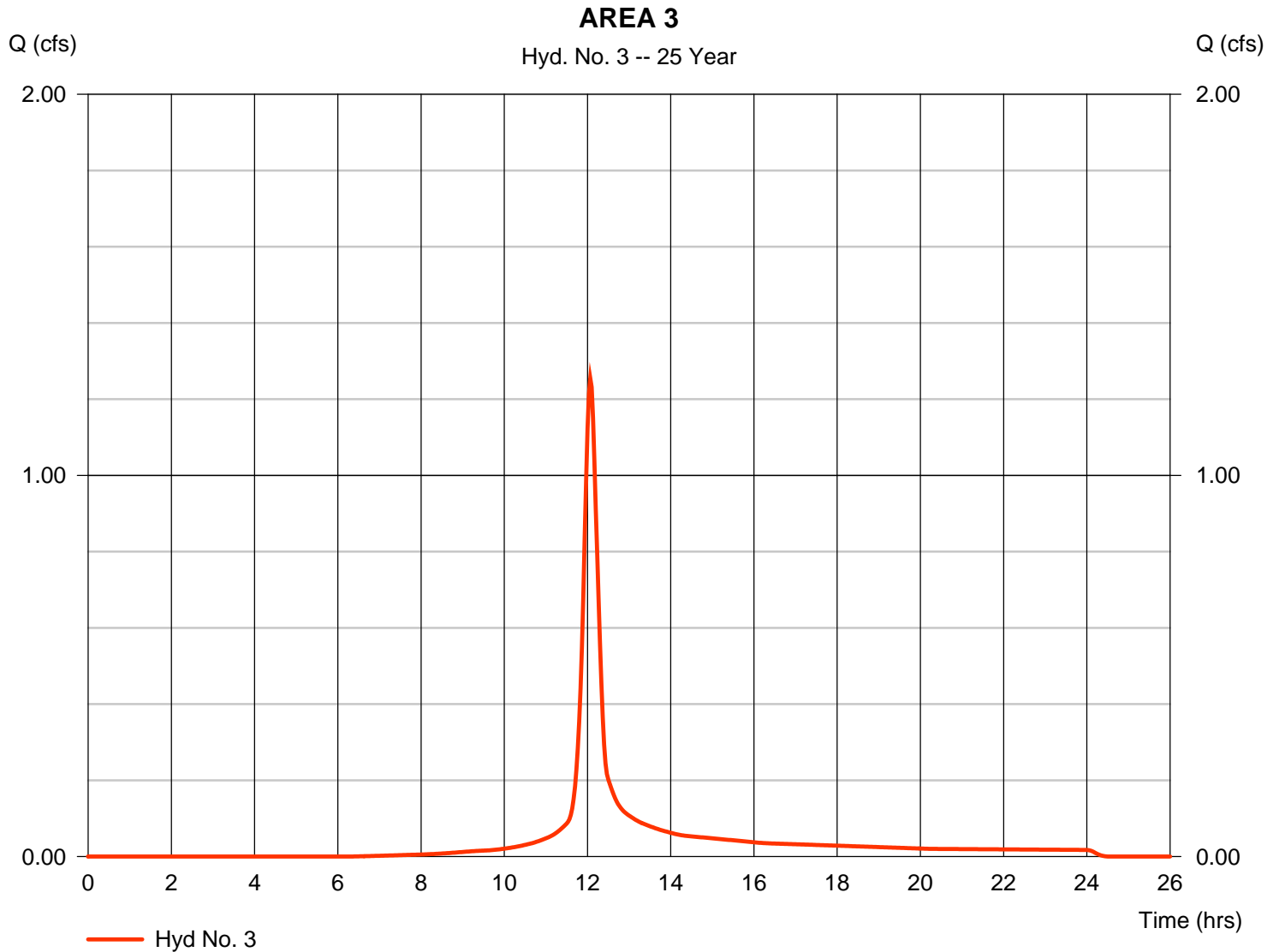
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 3

### AREA 3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.254 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 0.090 acft
Drainage area	= 0.280 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.40 min
Total precip.	= 6.10 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

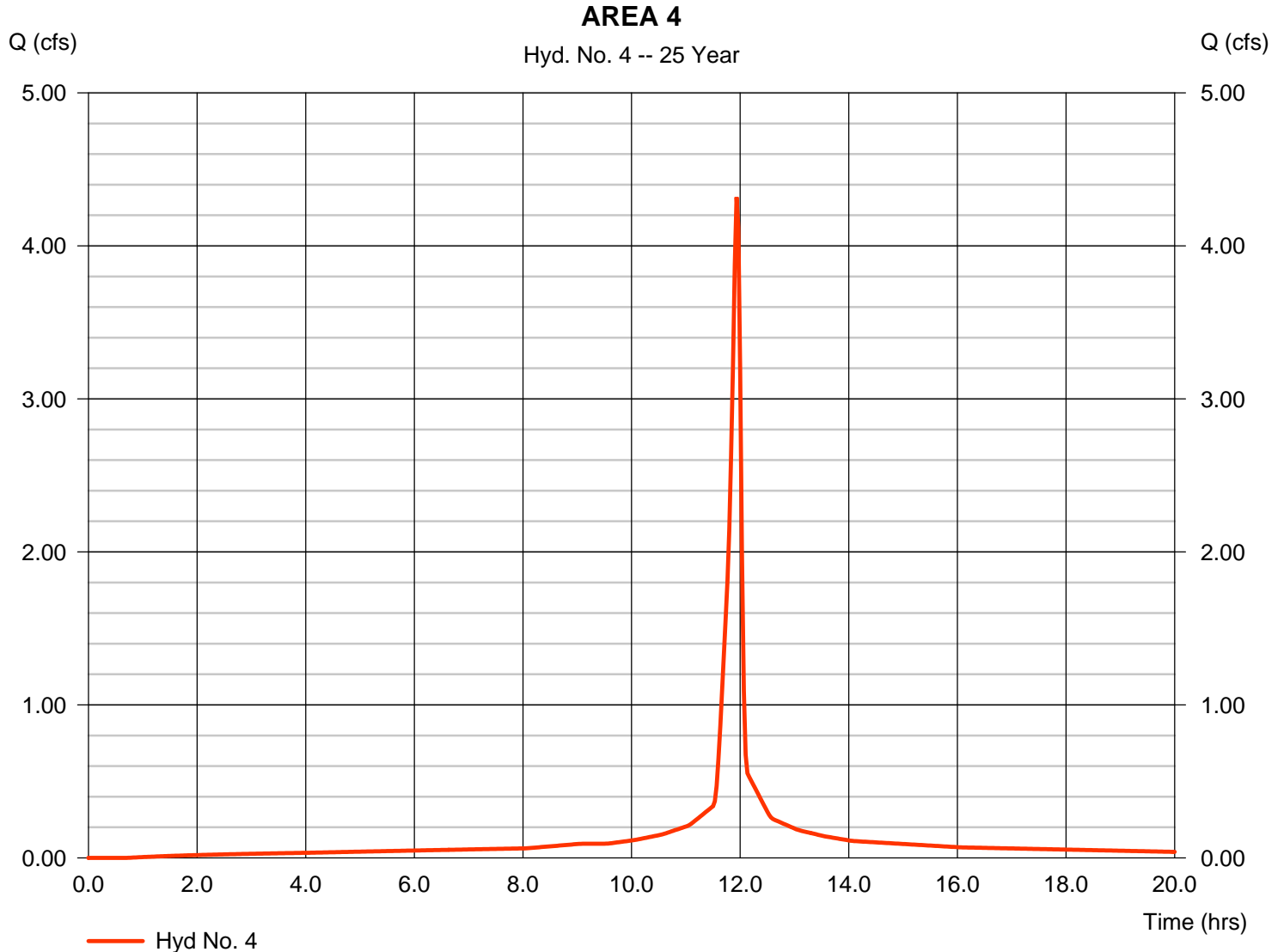
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 4

### AREA 4

Hydrograph type	= SCS Runoff	Peak discharge	= 4.318 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.238 acft
Drainage area	= 0.520 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.10 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

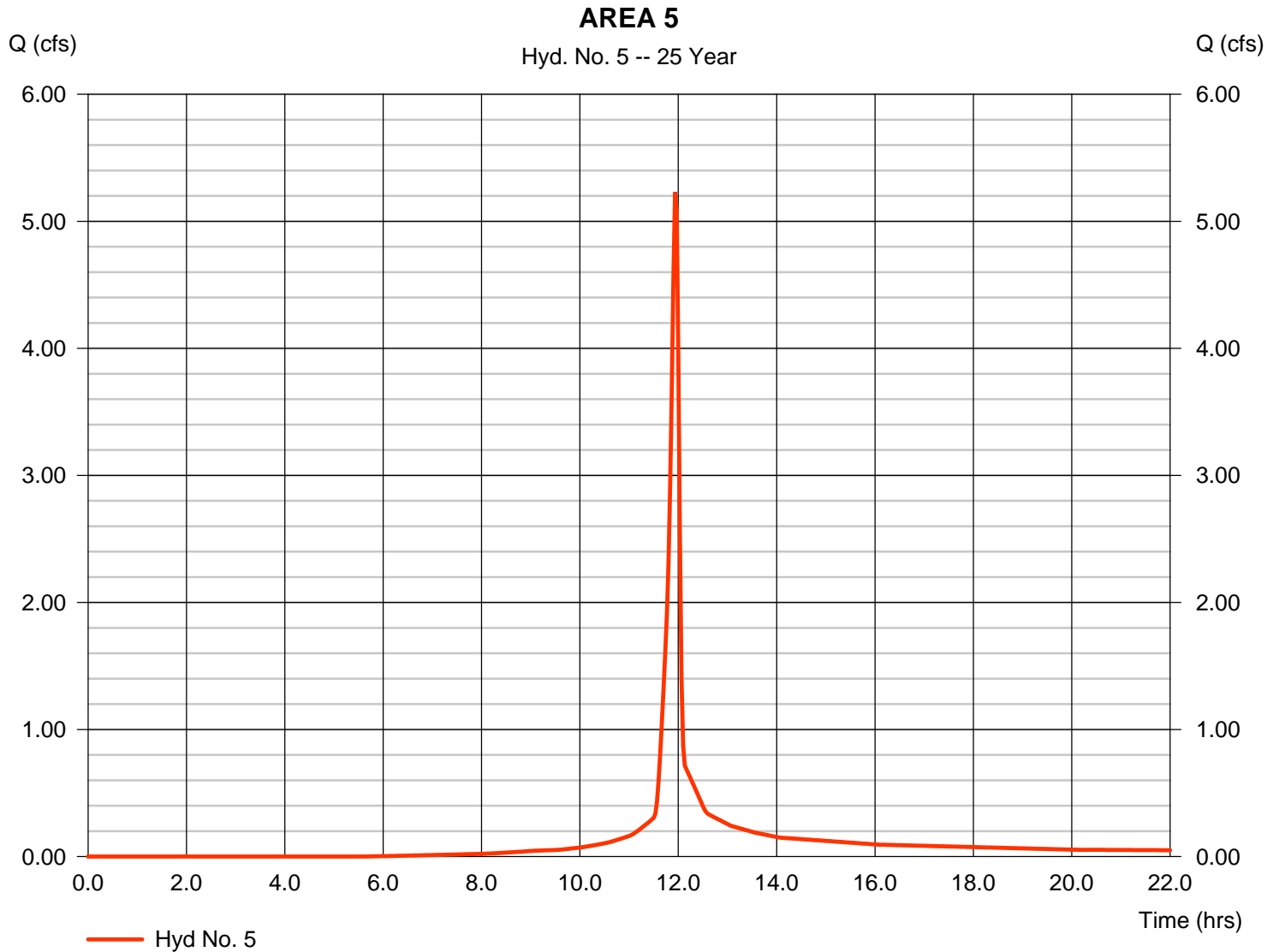
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 5

### AREA 5

Hydrograph type	= SCS Runoff	Peak discharge	= 5.229 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.249 acft
Drainage area	= 0.780 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 3.90 min
Total precip.	= 6.10 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

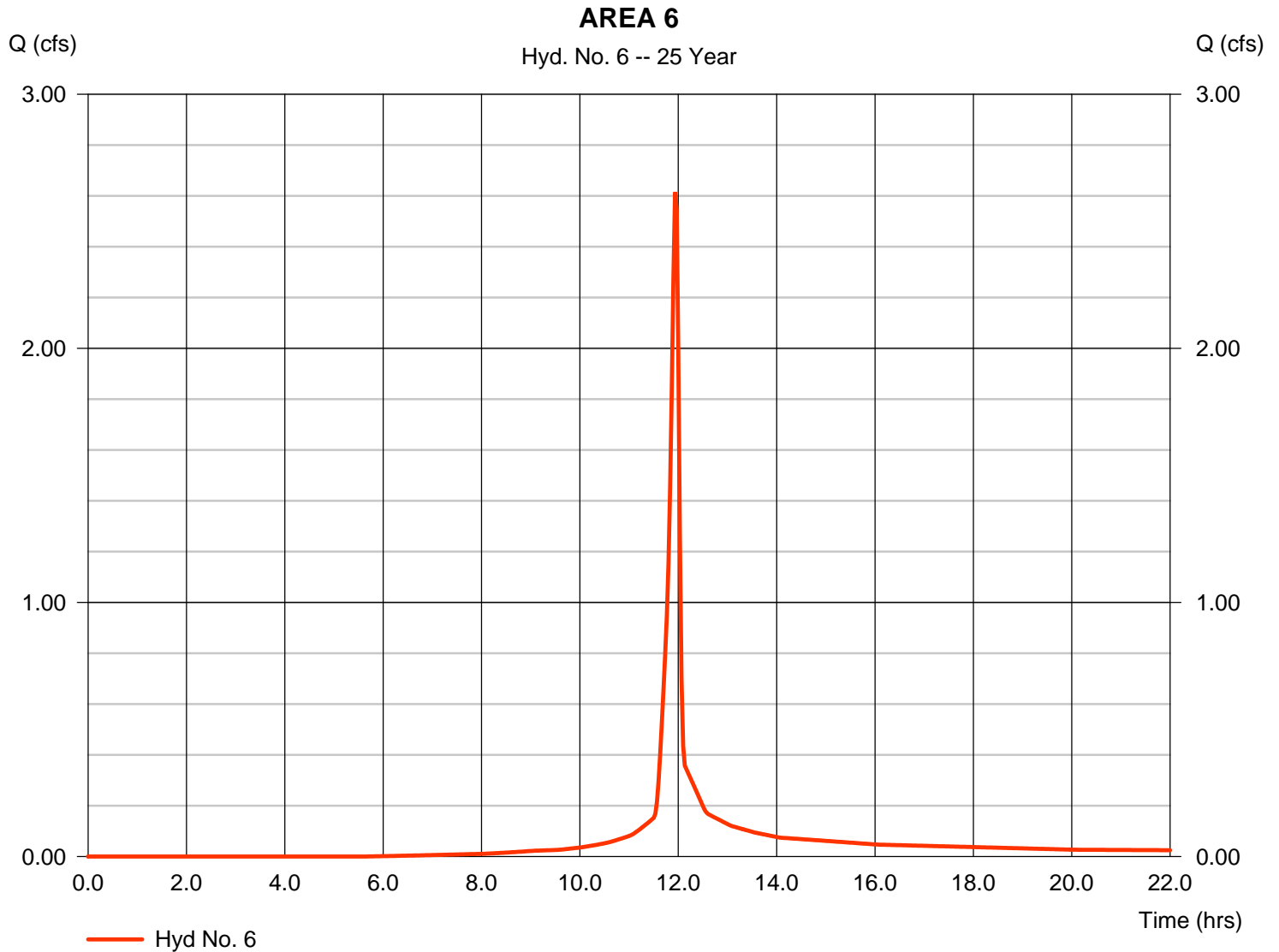
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 6

### AREA 6

Hydrograph type	= SCS Runoff	Peak discharge	= 2.614 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.124 acft
Drainage area	= 0.390 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 4.00 min
Total precip.	= 6.10 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

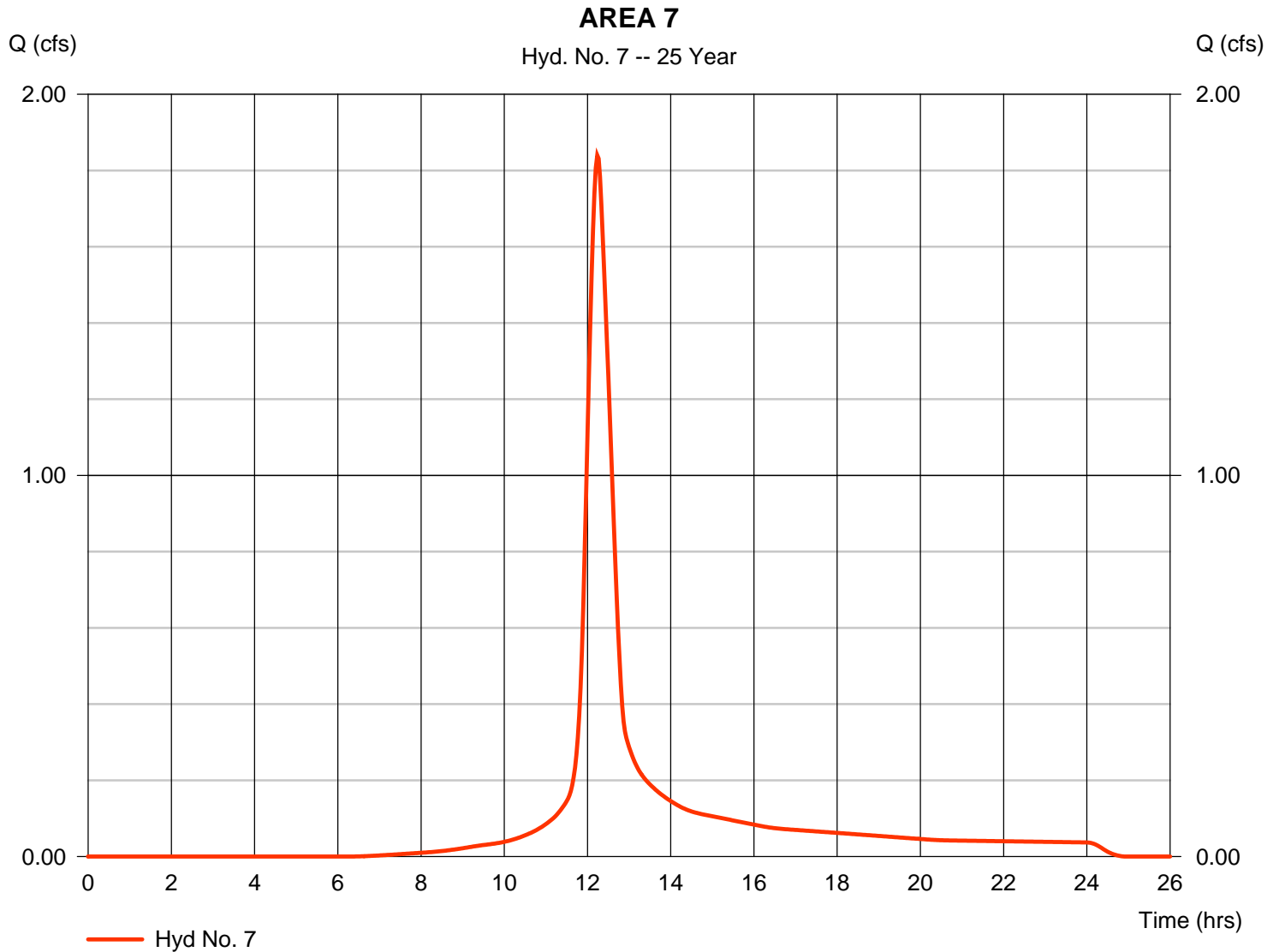
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Sunday, 00 18, 2012

## Hyd. No. 7

### AREA 7

Hydrograph type	= SCS Runoff	Peak discharge	= 1.840 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 0.191 acft
Drainage area	= 0.600 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.70 min
Total precip.	= 6.10 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	19.79	2	732	1.969	-----	-----	-----	AREA 1
2	SCS Runoff	1.784	2	728	0.151	-----	-----	-----	AREA 2
3	SCS Runoff	1.485	2	724	0.107	-----	-----	-----	AREA 3
4	SCS Runoff	4.888	2	716	0.271	-----	-----	-----	AREA 4
5	SCS Runoff	6.130	2	716	0.294	-----	-----	-----	AREA 5
6	SCS Runoff	3.065	2	716	0.147	-----	-----	-----	AREA 6
7	SCS Runoff	2.182	2	734	0.227	-----	-----	-----	AREA 7
8	SCS Runoff	0.479	2	752	0.148	-----	-----	-----	AREA A
9	SCS Runoff	0.470	2	716	0.026	-----	-----	-----	AREA B
10	SCS Runoff	3.196	2	716	0.177	-----	-----	-----	AREA D
11	SCS Runoff	3.196	2	716	0.177	-----	-----	-----	AREA C
12	SCS Runoff	4.418	2	716	0.245	-----	-----	-----	AREA E
13	SCS Runoff	3.008	2	716	0.167	-----	-----	-----	AREA F
14	Combine	14.30	2	716	0.938	8, 9, 10, 11, 12, 13	-----	-----	COMBINED AREA TO UNDERGRO
Wichita Existing Conditions 3.16.12.gpw					Return Period: 50 Year			Sunday, 00 18, 2012	

# Hydrograph Report

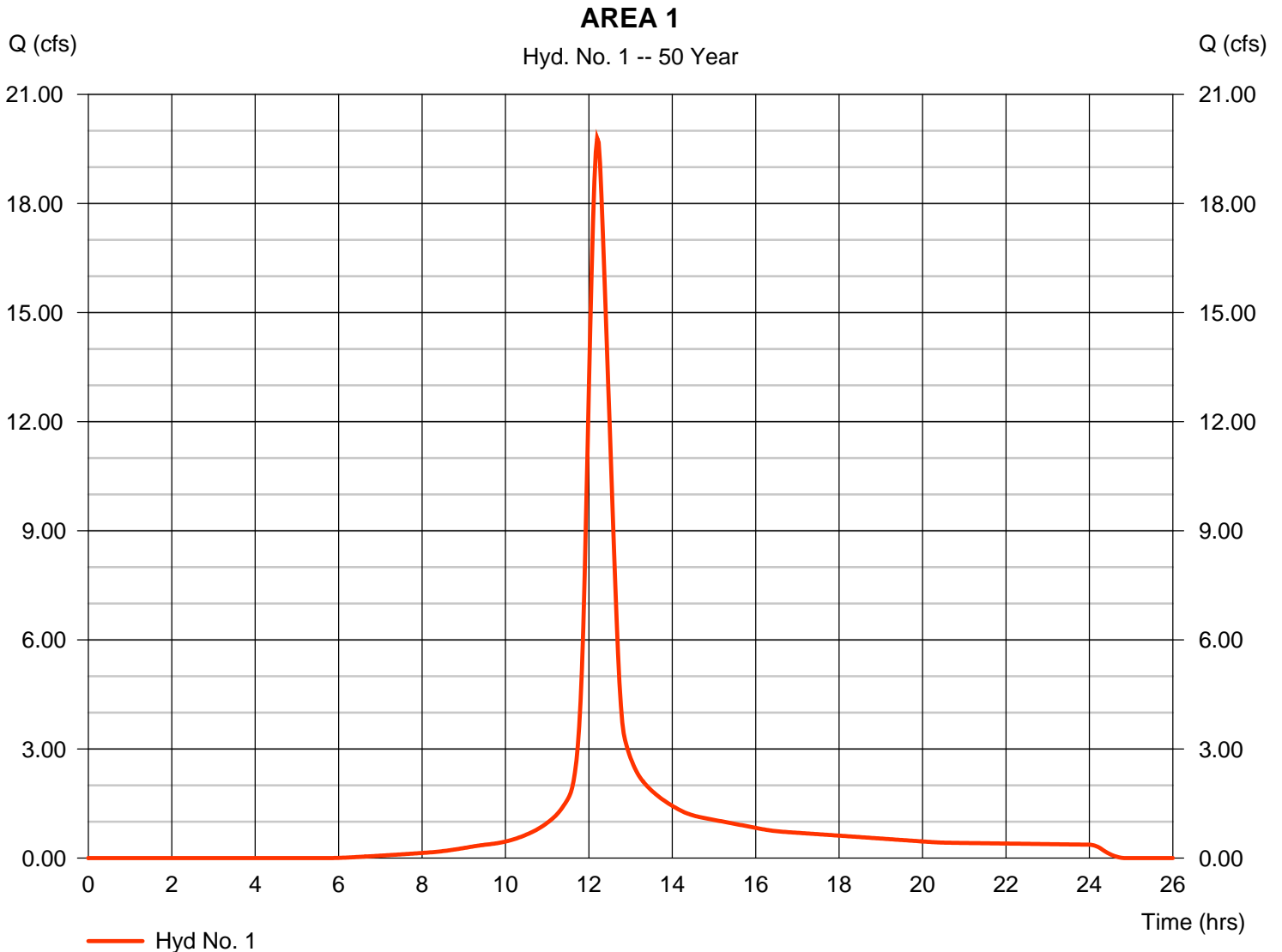
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Sunday, 00 18, 2012

## Hyd. No. 1

### AREA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 19.79 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 1.969 acft
Drainage area	= 5.070 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 32.10 min
Total precip.	= 6.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

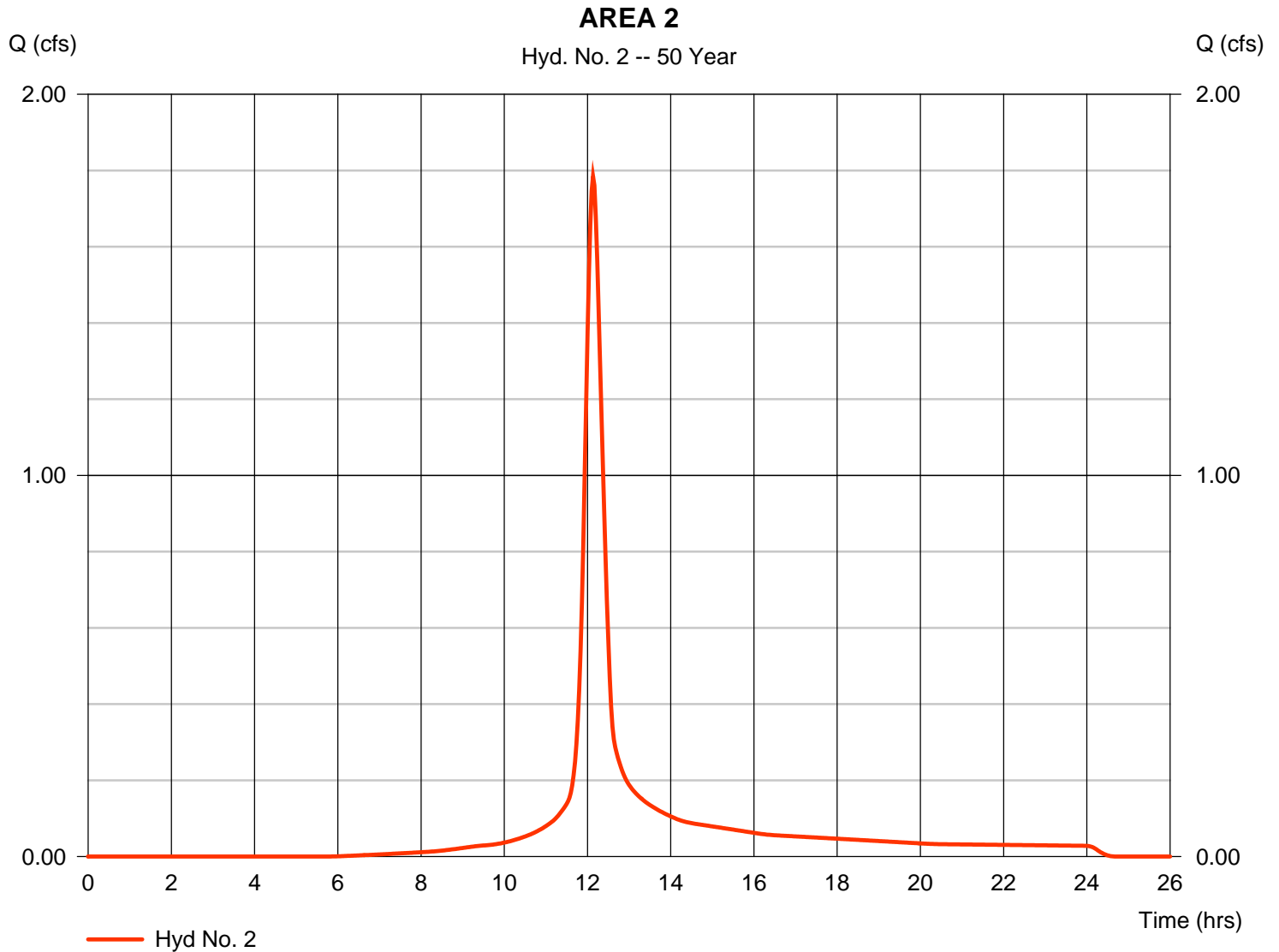
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Sunday, 00 18, 2012

## Hyd. No. 2

### AREA 2

Hydrograph type	= SCS Runoff	Peak discharge	= 1.784 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 0.151 acft
Drainage area	= 0.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.30 min
Total precip.	= 6.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

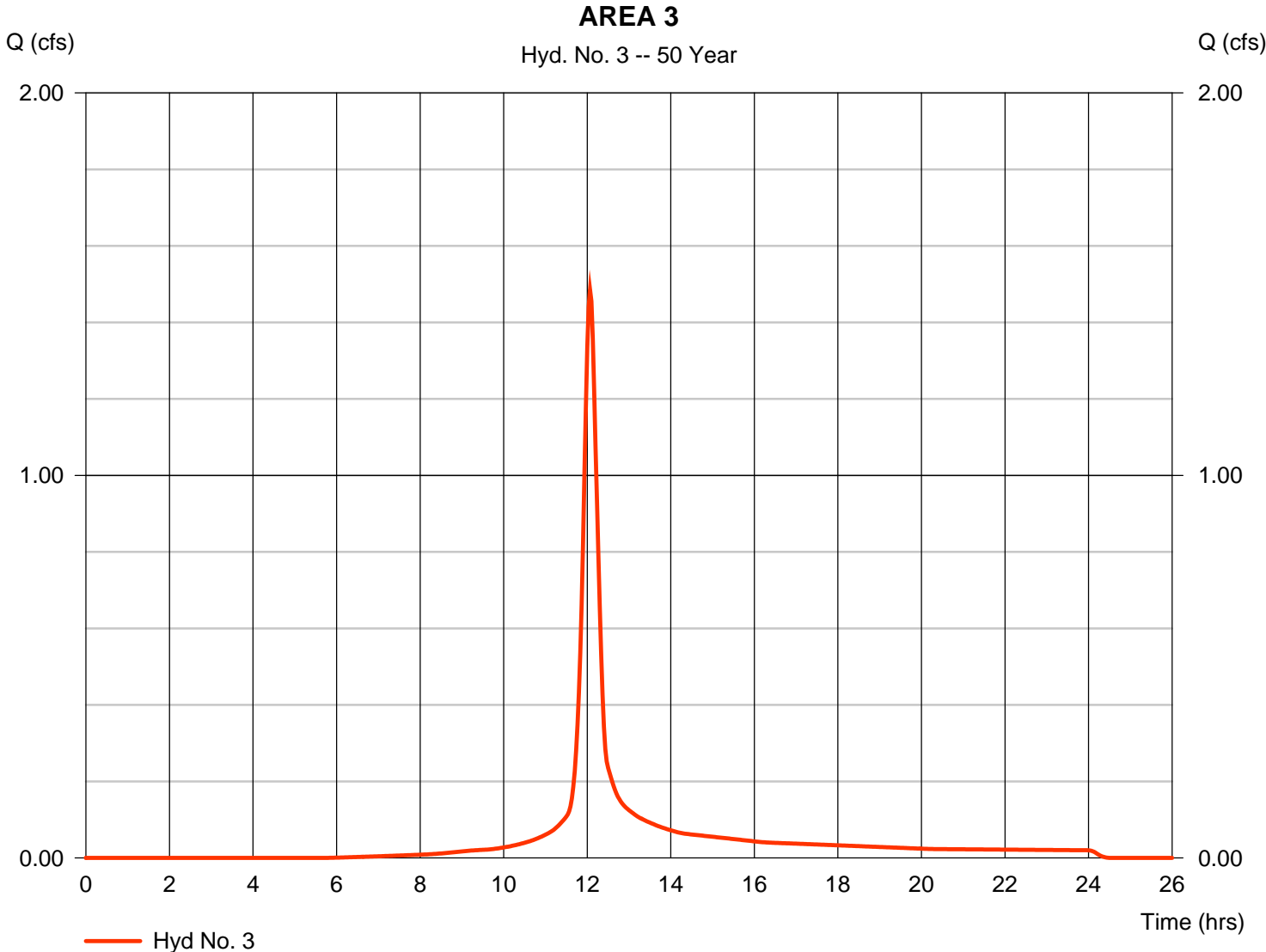


# Hydrograph Report

## Hyd. No. 3

### AREA 3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.485 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 0.107 acft
Drainage area	= 0.280 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.40 min
Total precip.	= 6.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

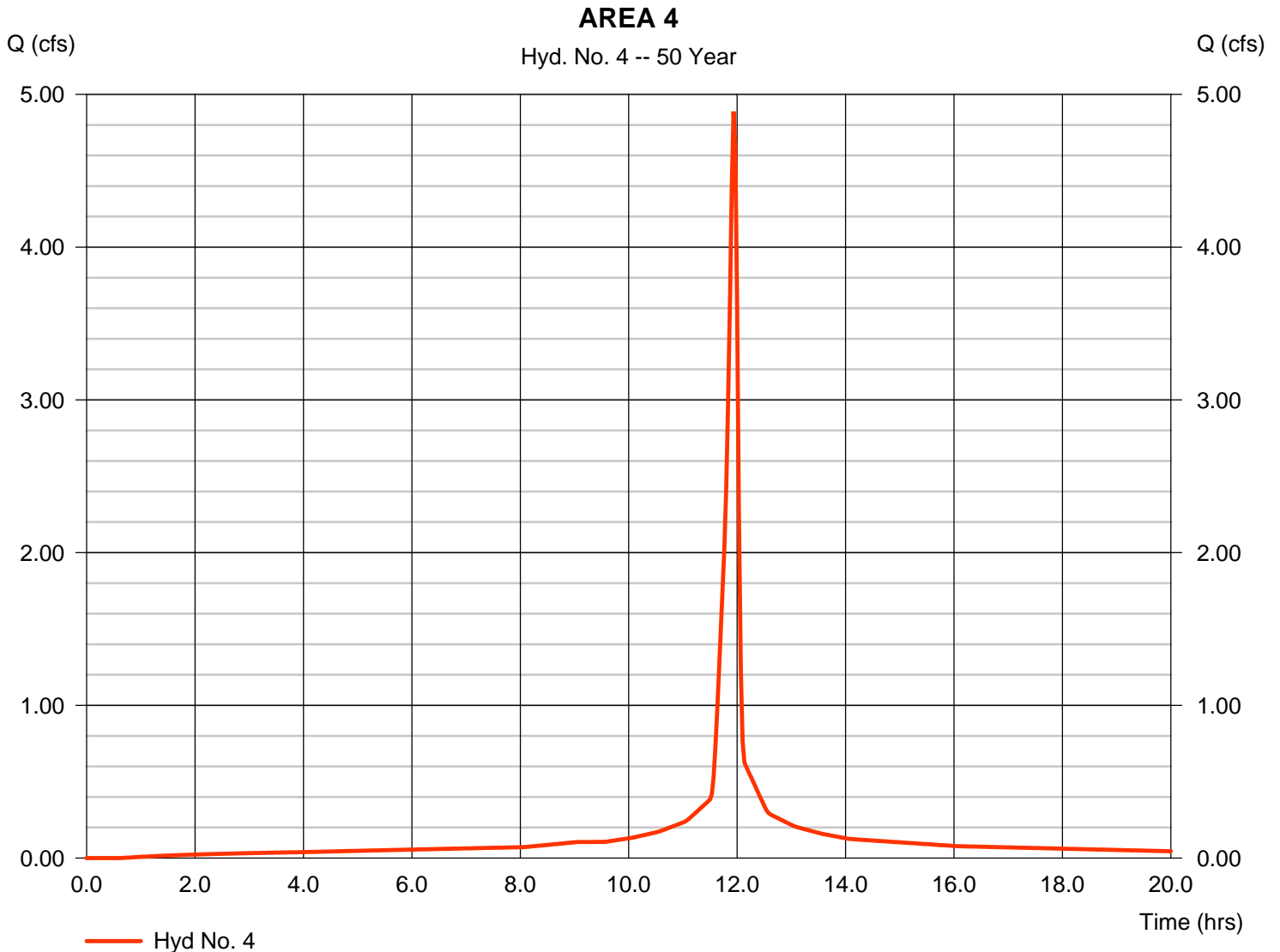
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 4

### AREA 4

Hydrograph type	= SCS Runoff	Peak discharge	= 4.888 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.271 acft
Drainage area	= 0.520 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

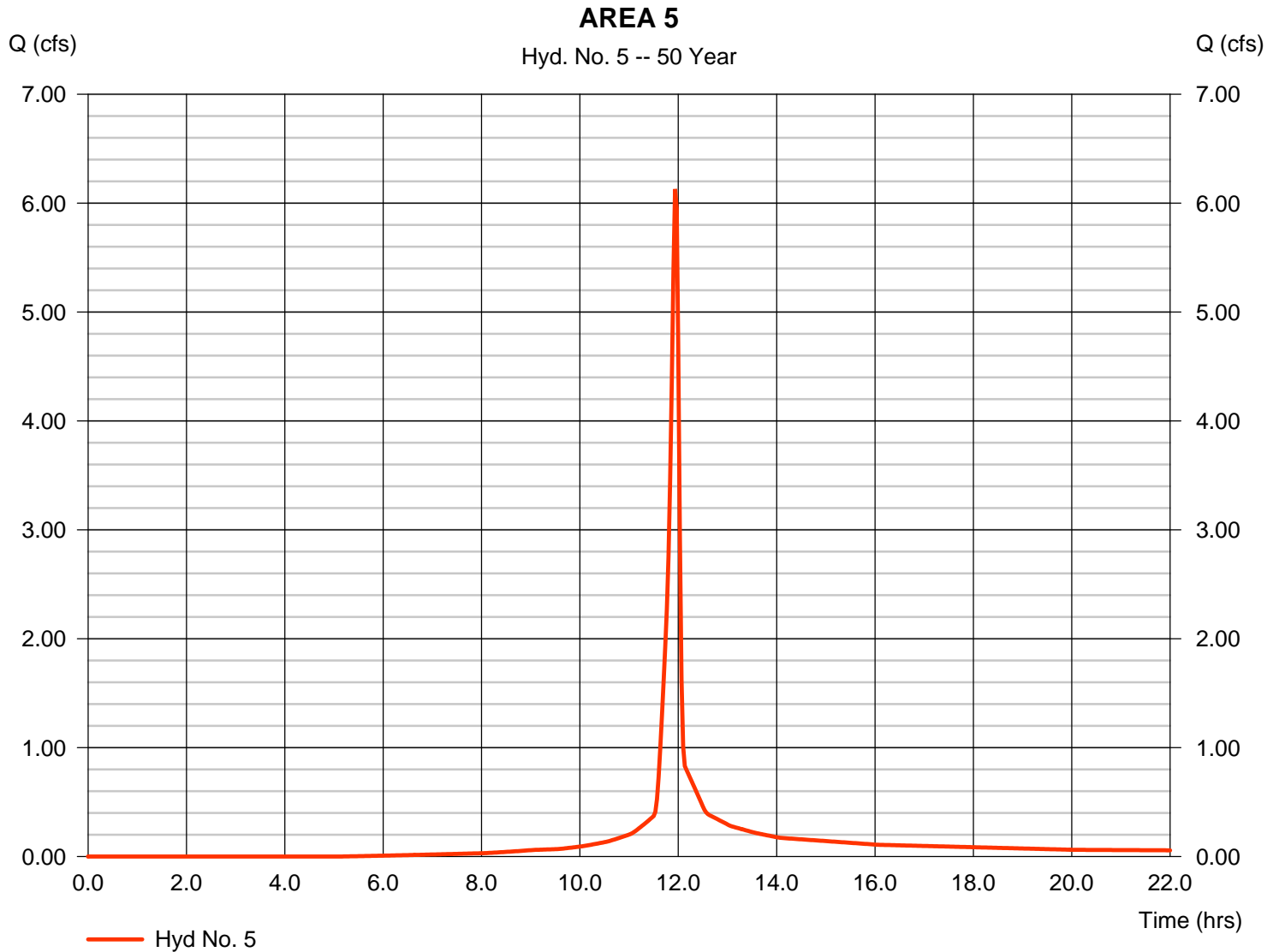
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 5

### AREA 5

Hydrograph type	= SCS Runoff	Peak discharge	= 6.130 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.294 acft
Drainage area	= 0.780 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 3.90 min
Total precip.	= 6.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

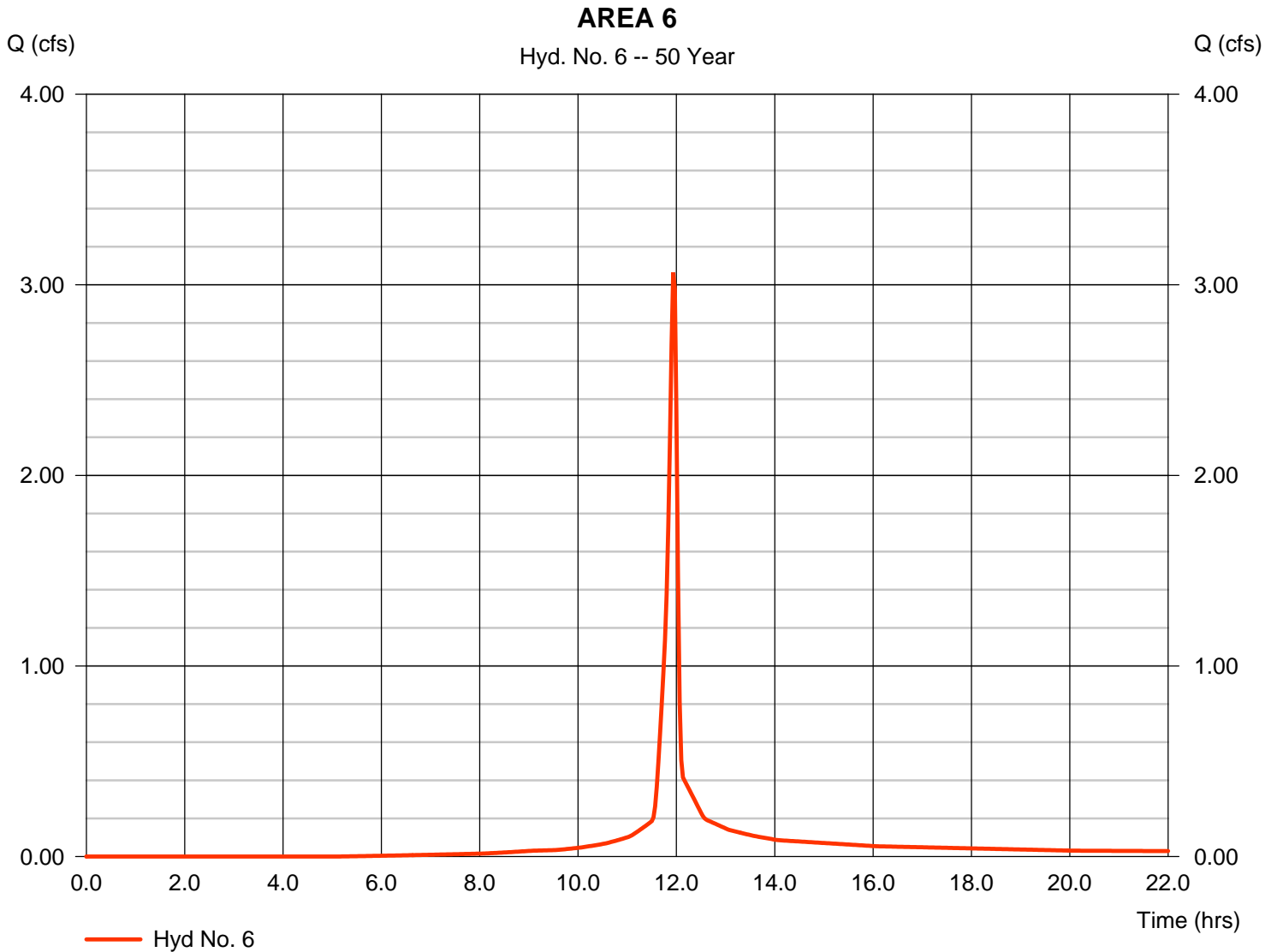
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Sunday, 00 18, 2012

## Hyd. No. 6

### AREA 6

Hydrograph type	= SCS Runoff	Peak discharge	= 3.065 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.147 acft
Drainage area	= 0.390 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 4.00 min
Total precip.	= 6.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

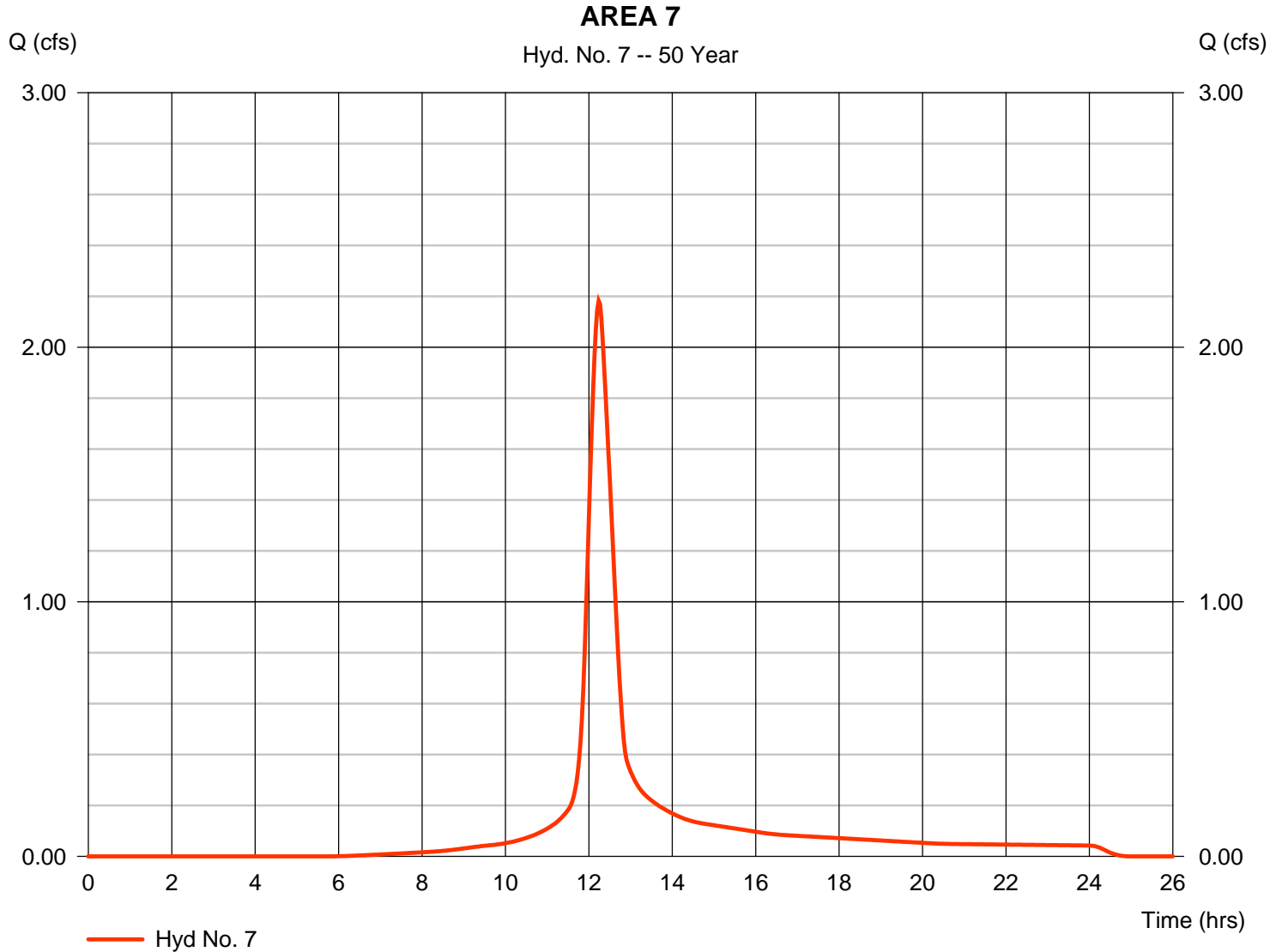
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Sunday, 00 18, 2012

## Hyd. No. 7

### AREA 7

Hydrograph type	= SCS Runoff	Peak discharge	= 2.182 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 0.227 acft
Drainage area	= 0.600 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.70 min
Total precip.	= 6.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	23.31	2	732	2.326	-----	-----	-----	AREA 1
2	SCS Runoff	2.099	2	728	0.178	-----	-----	-----	AREA 2
3	SCS Runoff	1.746	2	724	0.127	-----	-----	-----	AREA 3
4	SCS Runoff	5.529	2	716	0.307	-----	-----	-----	AREA 4
5	SCS Runoff	7.143	2	716	0.346	-----	-----	-----	AREA 5
6	SCS Runoff	3.572	2	716	0.173	-----	-----	-----	AREA 6
7	SCS Runoff	2.570	2	734	0.269	-----	-----	-----	AREA 7
8	SCS Runoff	1.043	2	744	0.234	-----	-----	-----	AREA A
9	SCS Runoff	0.532	2	716	0.030	-----	-----	-----	AREA B
10	SCS Runoff	3.615	2	716	0.201	-----	-----	-----	AREA D
11	SCS Runoff	3.615	2	716	0.201	-----	-----	-----	AREA C
12	SCS Runoff	4.998	2	716	0.278	-----	-----	-----	AREA E
13	SCS Runoff	3.403	2	716	0.189	-----	-----	-----	AREA F
14	Combine	16.23	2	716	1.131	8, 9, 10, 11, 12, 13	-----	-----	COMBINED AREA TO UNDERGRO
Wichita Existing Conditions 3.16.12.gpw					Return Period: 100 Year			Sunday, 00 18, 2012	

# Hydrograph Report

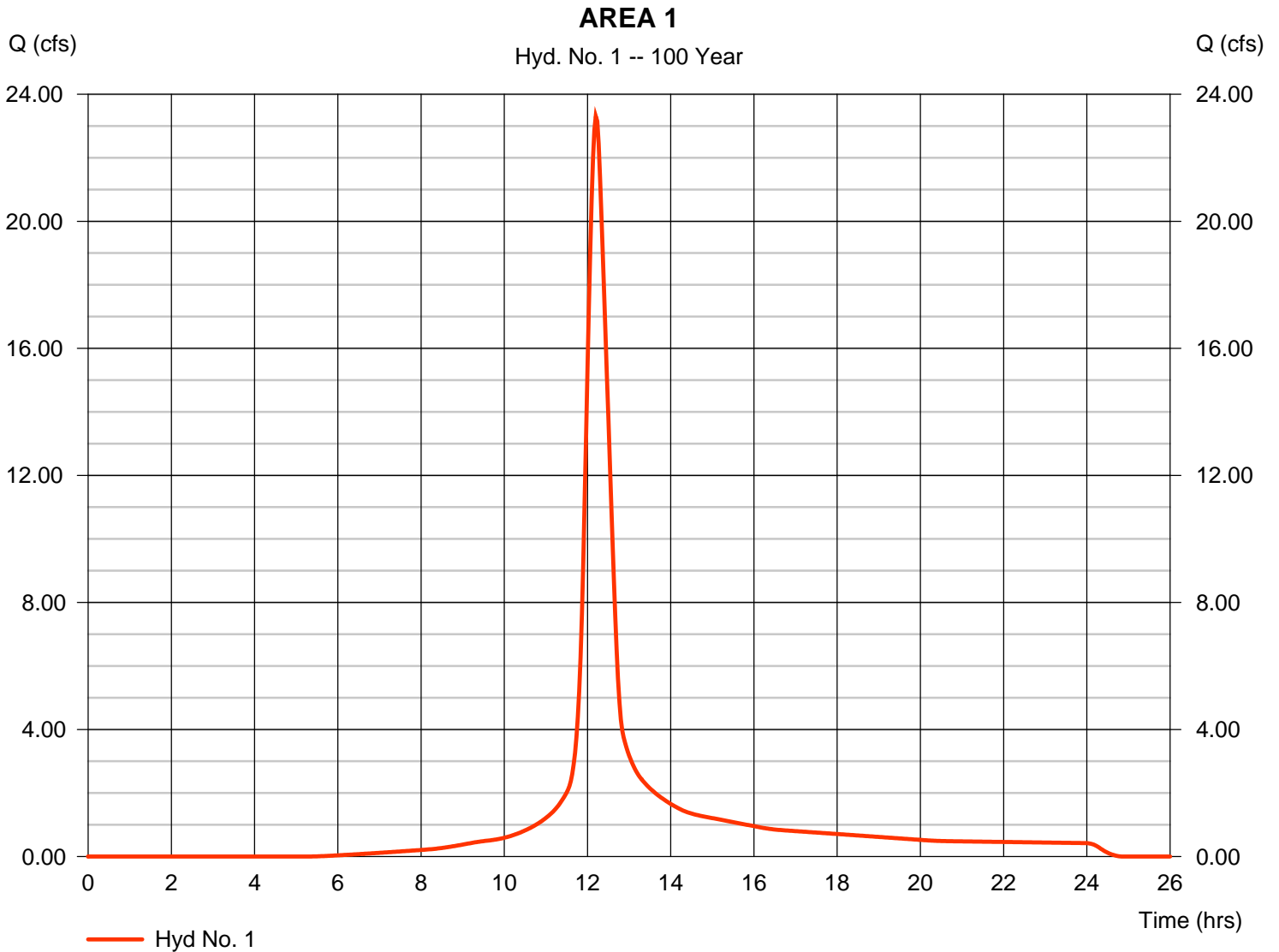
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Sunday, 00 18, 2012

## Hyd. No. 1

### AREA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 23.31 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 2.326 acft
Drainage area	= 5.070 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 32.10 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

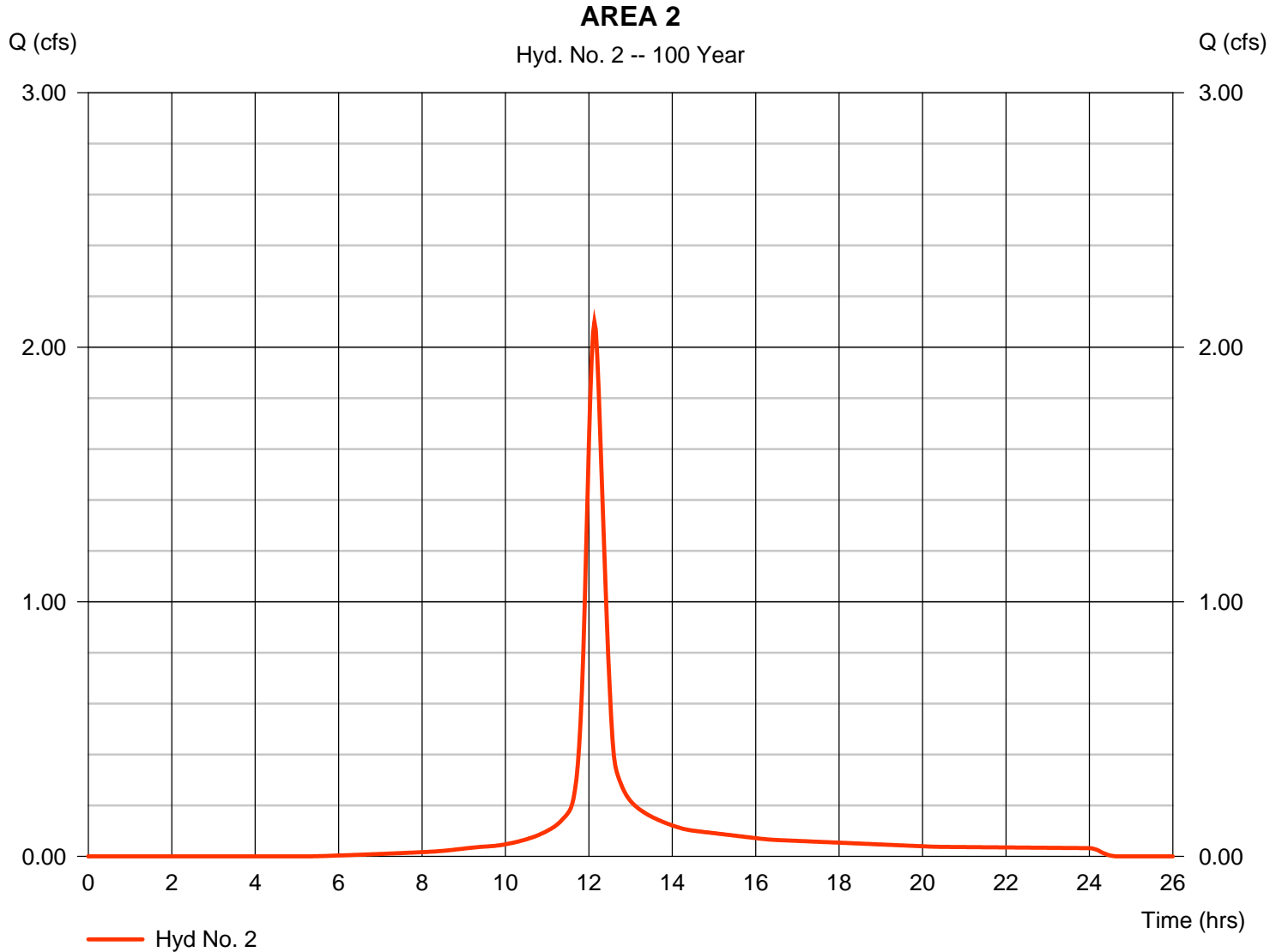
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Sunday, 00 18, 2012

## Hyd. No. 2

### AREA 2

Hydrograph type	= SCS Runoff	Peak discharge	= 2.099 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 0.178 acft
Drainage area	= 0.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.30 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

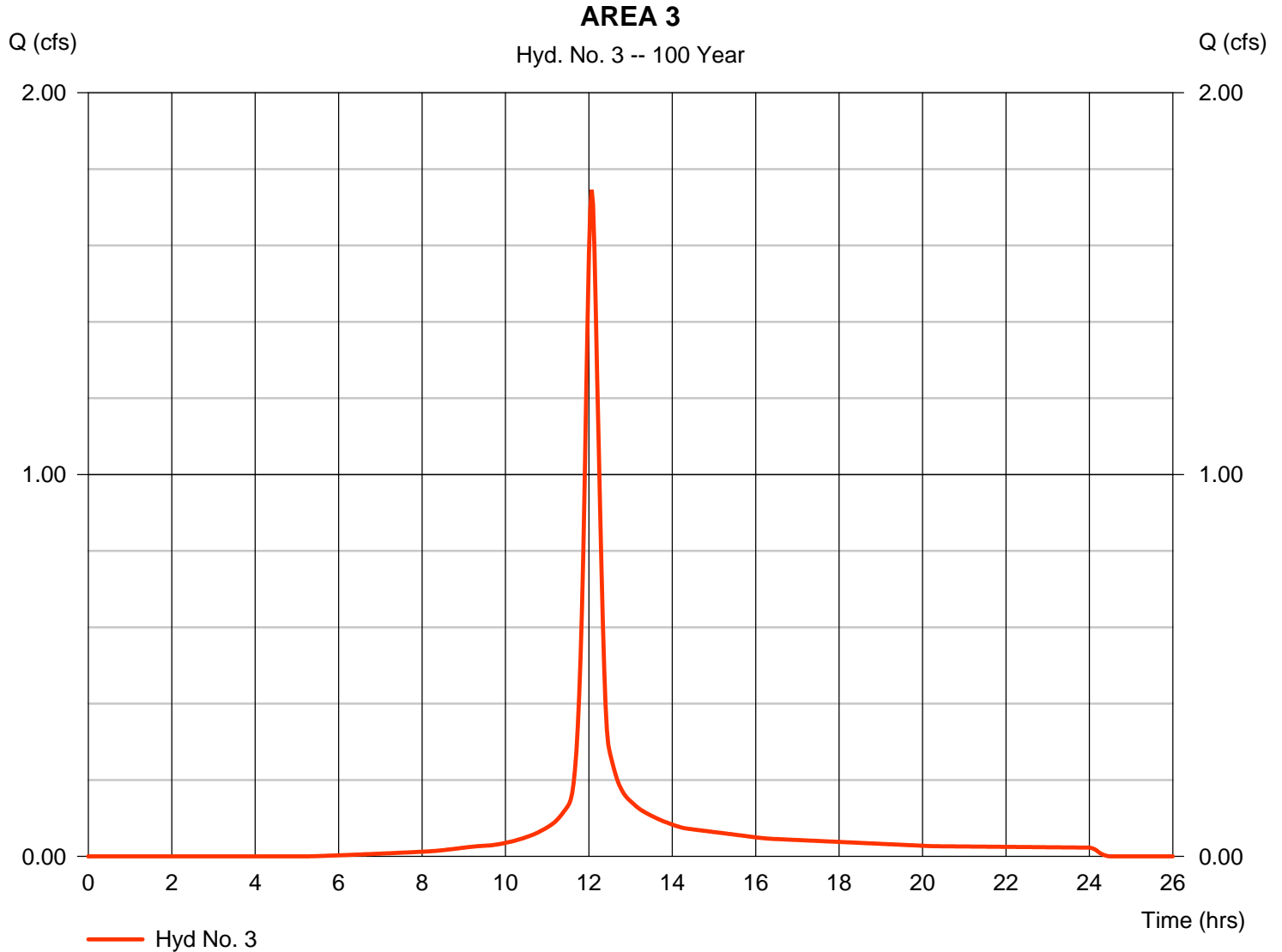
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Sunday, 00 18, 2012

## Hyd. No. 3

### AREA 3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.746 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 0.127 acft
Drainage area	= 0.280 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.40 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

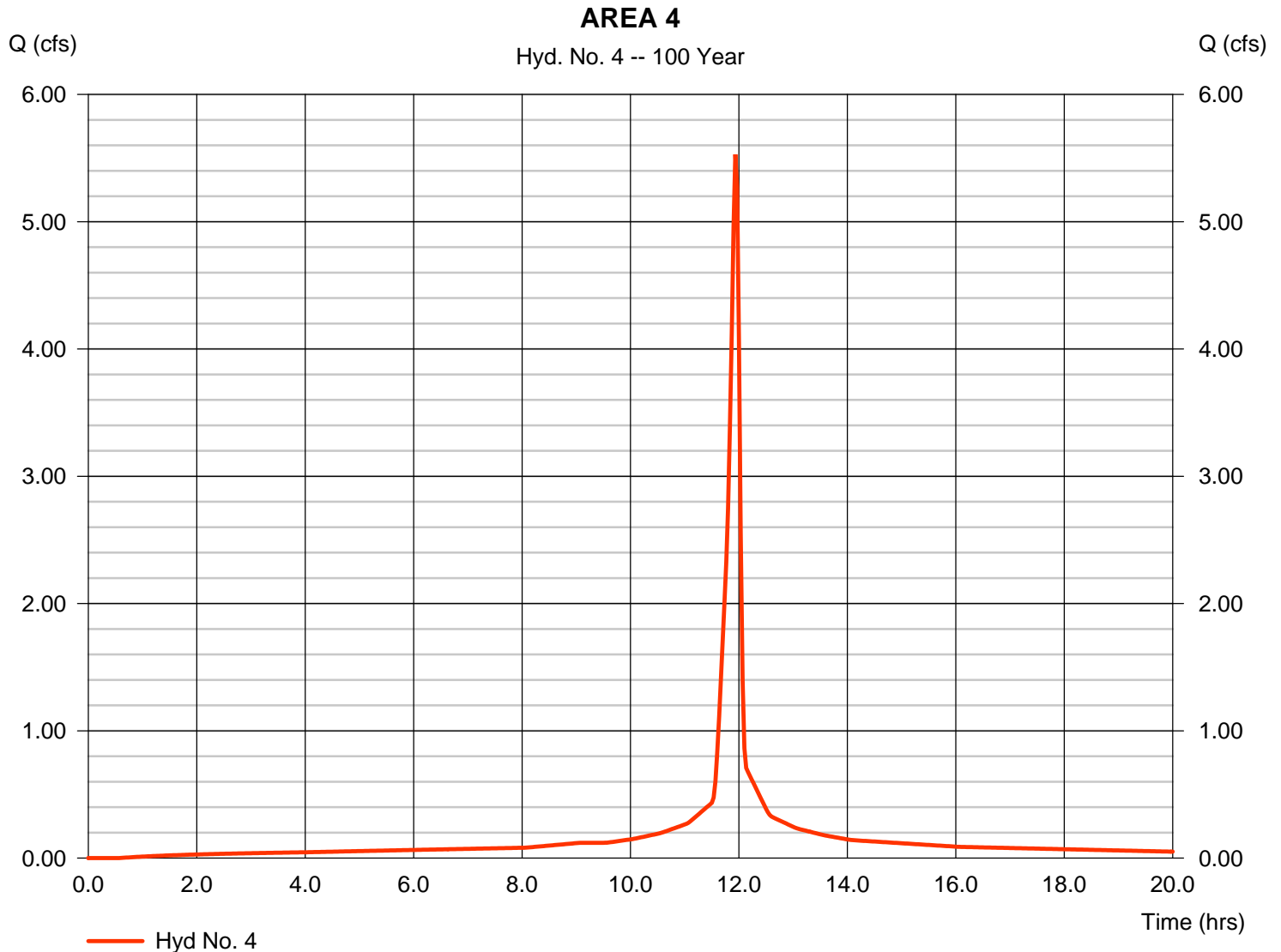
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Sunday, 00 18, 2012

## Hyd. No. 4

### AREA 4

Hydrograph type	= SCS Runoff	Peak discharge	= 5.529 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.307 acft
Drainage area	= 0.520 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

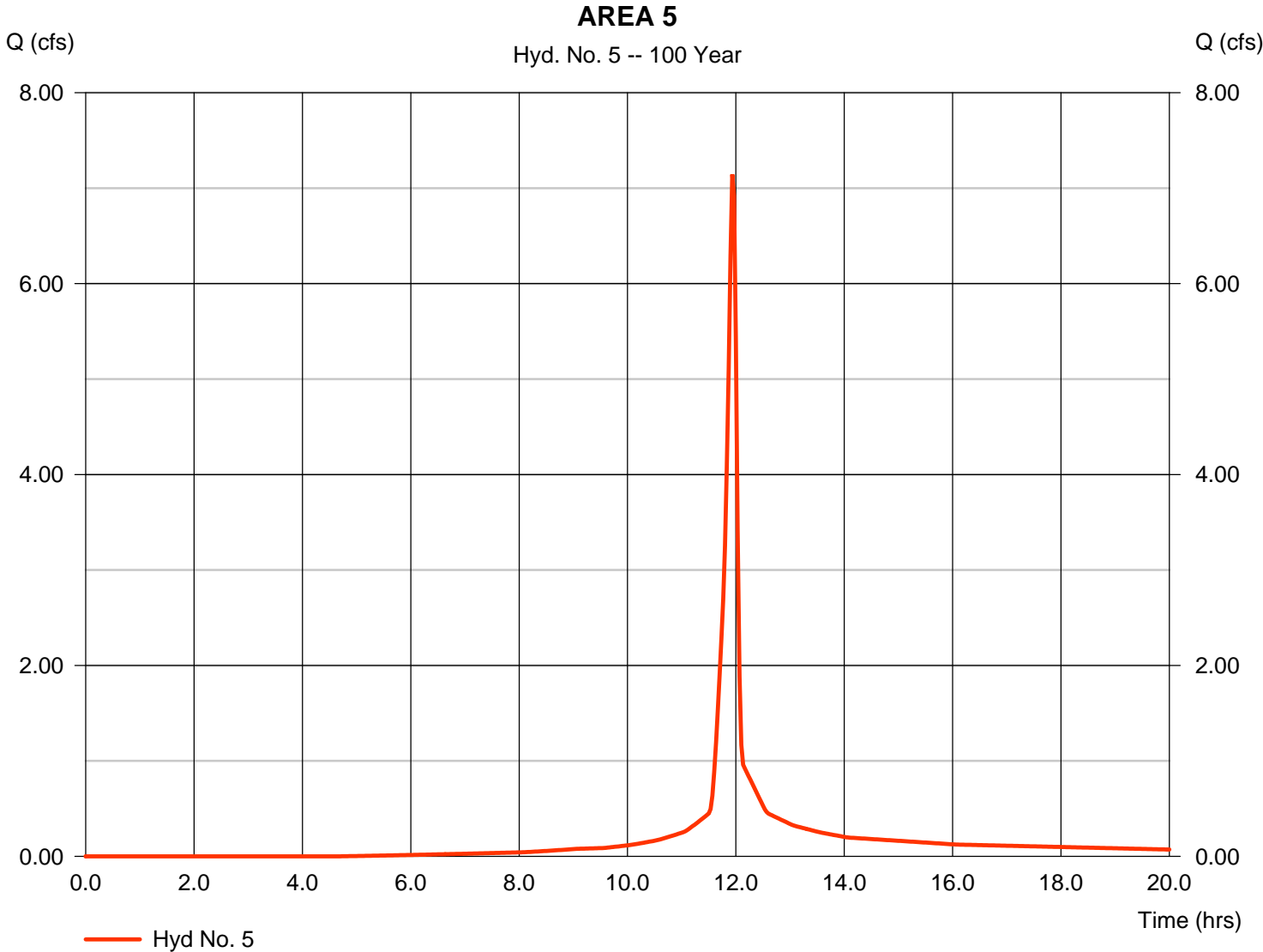


# Hydrograph Report

## Hyd. No. 5

### AREA 5

Hydrograph type	= SCS Runoff	Peak discharge	= 7.143 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.346 acft
Drainage area	= 0.780 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 3.90 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

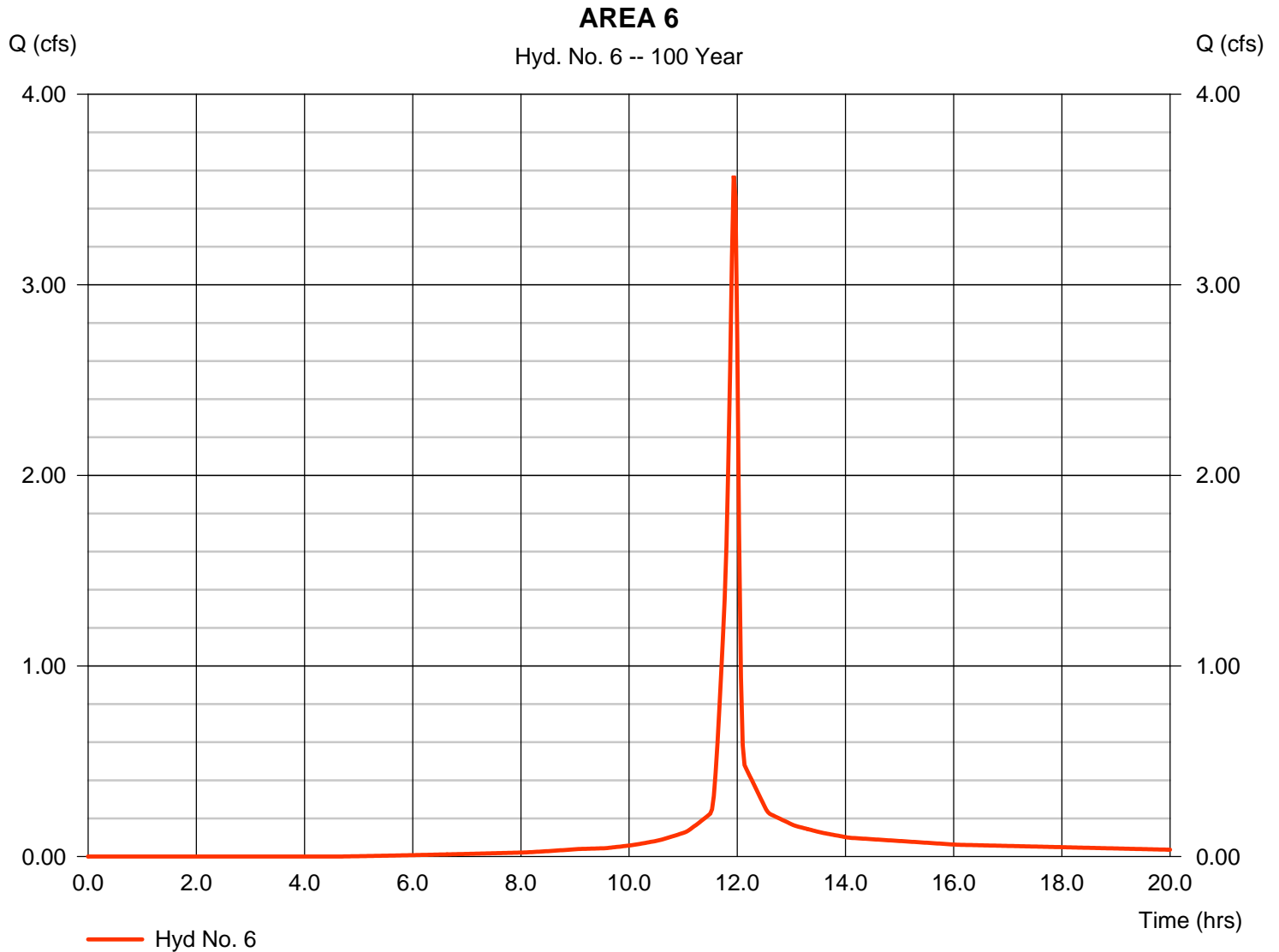
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 6

### AREA 6

Hydrograph type	= SCS Runoff	Peak discharge	= 3.572 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 0.173 acft
Drainage area	= 0.390 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 4.00 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



# Hydrograph Report

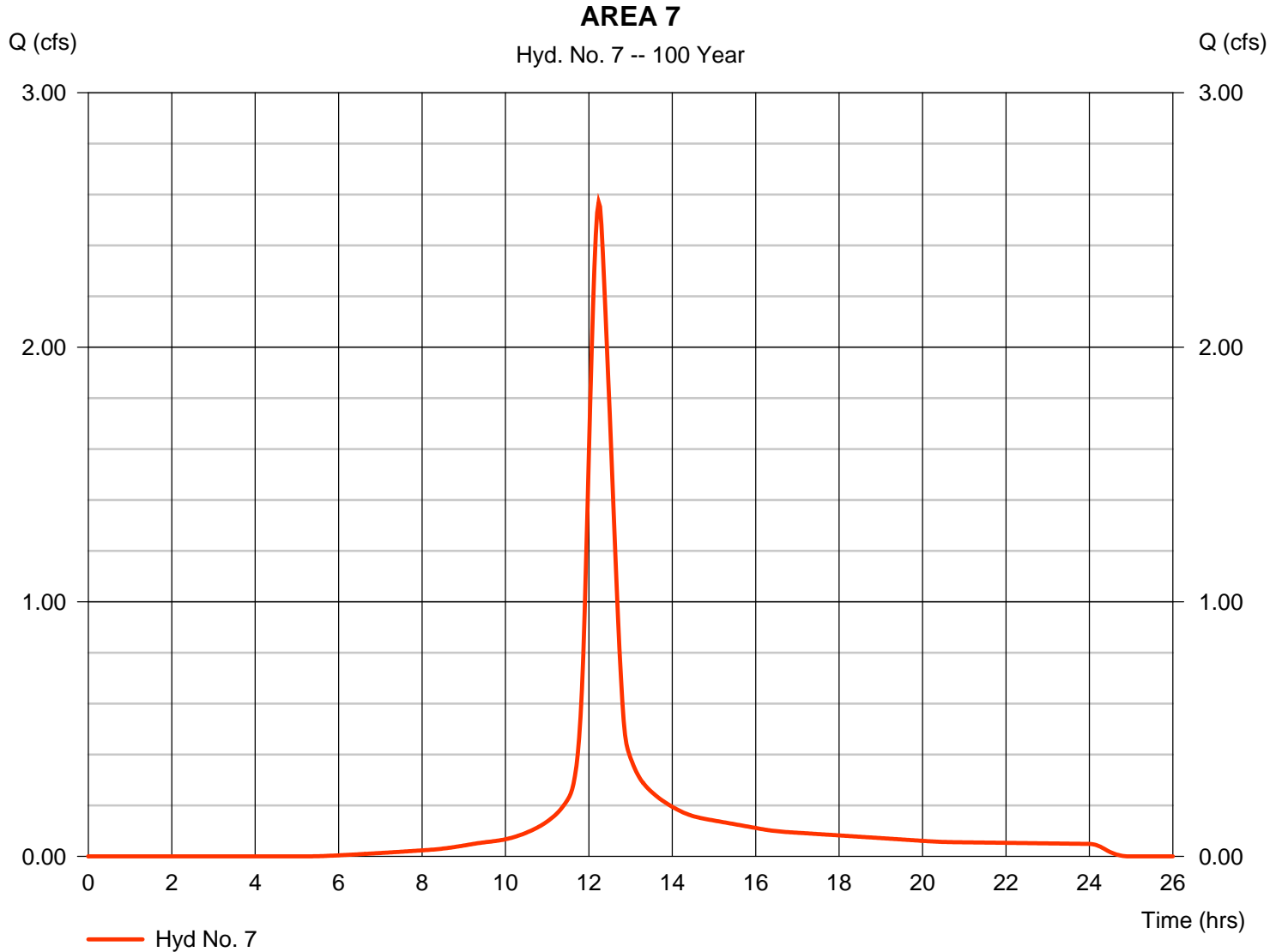
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. v9

Sunday, 00 18, 2012

## Hyd. No. 7

### AREA 7

Hydrograph type	= SCS Runoff	Peak discharge	= 2.570 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 0.269 acft
Drainage area	= 0.600 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.70 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484





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