

This report is being used as an example of preferred layout and content. It should be noted that this project was allowed a design exception for the detention criteria that requires the release the post-construction Q_{100} at rates less than or equal to the pre-construction Q_{10} . This project was allowed to release the post-construction Q_{100} at rates less than or equal to the pre-construction Q_{100} . This design exception should not be used unless specifically approved by INDOT Hydraulics.

STORM WATER DETENTION DESIGN
I-65 SOUTHEAST PROJECT (SR-28940)
PACKAGE C: STA. 2411+50 "A" TO STA. 2530+50 "A"

OUTLETS #48 - #58

PREPARED FOR:

Indiana Department of Transportation
100 N. Senate Ave.
Indianapolis, IN 46204

April 10, 2019

PREPARED BY:

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A handwritten signature in black ink, appearing to read "Whitney D. Neukam".



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Executive Summary

The I-65 Southeast Project, between Seymour and Columbus, will transform a four-lane facility into a six-lane facility that will improve travel safety conditions for motorists. The project includes the modernization and pavement reconstruction of 14 miles of I-65 between Exit 50 (US 50) and Exit 64 (SR 58) in Bartholomew and Jackson Counties, Indiana. The construction of the project will be sub-divided into three areas.

Package A - Sta. 2530+50 "A" to Sta. 2965+50 "A"

Package B - Sta. 2214+50 "A" to Sta. 2411+50 "A"

Package C - Sta. 2411+50 "A" to Sta. 2530+50 "A"

This drainage report shall encompass all computations and documentation for the storm water detention design for Outlet #48 through Outlet #58 of Package C.

This report is prepared for the Indiana Department of Transportation (INDOT) and highlights the information and processes utilized in performing storm quantity control design. The detention design is based on the requirements set forth in Section 9 of the Technical Provisions and Chapter 203 of the Indiana Design Manual (IDM).

Technical Requirements

1. No storm water detention storage is allowed in median ditches.
2. Water quantity control shall be designed by the Design-Build Contractor so that wherever storm water is leaving the project site, the post-development peak runoff shall not exceed the pre-development peak runoff at the point of discharge from the right-of-way.
3. The design pool level elevation for a detention basin outside the roadway shall not encroach on the clear zone if the depth is 2 feet or greater, unless it is protected with guardrail.
4. The Design-Build Contractor shall notify the Jackson County surveyor of any work impacting regulated drains in Jackson County prior to commencement of any construction activity. Detention design computations (as described in Section 9.3 Item 13 of the Technical Provisions) and associated plans shall be submitted to the Jackson County Surveyor's Office.

Detention Design – Hydrology Summary

According to IDM Chapter 202 and IDM Figure 202-3A, the preferred method for hydrology computations for a detention storage facility is the NRCS Unit Hydrograph Method. Inflow and

outflow hydrographs for existing and proposed conditions were developed using the Hydraflow Hydrographs Extension for AutoCAD Civil 3D 2017. The drainage area, land-use factors, time-of-concentration, and precipitation were determined and used as input parameters for the hydrology model.

The drainage area for existing conditions were delineated based on 1-foot contours provided through the topographical survey performed on the site. The drainage area for proposed conditions was delineated using existing contours from the NB and SB outside edge-of-shoulder to ROW and proposed contours in between the NB and SB outside edge-of-shoulders.

Please refer to Appendix A for Existing Detention Basin Delineations exhibits, and Proposed Detention Basin Delineations exhibits.

The runoff curve number (CN) development for the existing and proposed conditions is based on TR-55 methodology. The soil types for the project site were determined from the USDA NRCS Web Soil Survey. Each soil type is classified into a hydrology soil group (A, B, C, or D) according to their minimum infiltration rate. According to the obtained soil survey, the majority hydrologic soil group for the site is “C” soil. Below is a summary of land uses and their corresponding curve number (CN) for existing and proposed conditions:

Location	Existing Conditions Land Use	Existing Conditions Curve Number	Proposed Conditions Land Use	Proposed Conditions Curve Number
Outside EOS to ROW	Brush/Grass	70	Brush/Grass	70
Roadway	Impervious	98	Impervious	98
Median	Brush/Grass	70	RAP/Aggregate	95

Please refer to the summary tables at the end of this narrative for Runoff Curve Number supporting documentation located within the Existing Conditions Hydrology Summary and Proposed Conditions Hydrology Summary.

The time-of-concentration is the time required for water to flow from the hydraulically most-remote point of the drainage area to the point of study. Water moves through the watershed as a combination of sheet flow, shallow-concentrated flow, and channelized flow. The time-of-concentration calculations are based on TR-55 methodology.

Please refer to Appendix A for existing and proposed conditions time-of-concentration calculations and supporting documentation.

The source of precipitation data to be used for the NRCS Unit Hydrograph method is the NOAA Atlas 14 website. The rainfall depth and intensity for the design year at various storm durations was provided via the Seymour, Indiana rain gauge.

When using the NRCS Unit Hydrograph method, the accepted rainfall distribution is the 50% probability Huff Distribution Quartiles. The Huff quartile groups represent typical rainfall distributions for 4 different storm duration ranges. The 1st Quartile applies to storm less than or equal to 6 hours in duration. The 2nd Quartile applies to storms greater than 6 hours and less than or equal to 12 hours. The 3rd Quartile applies to storms greater than 12 hours and less than or equal to 24 hours. And the 4th Quartile applies to storms greater than 24 hours.

A spreadsheet was developed to determine the rainfall depth at 1-minute increments for each storm event and their corresponding Huff Quartile pulled from the Indiana LTAP Stormwater Drainage Manual (Table 2.1.5).

According to IDM Chapter 203, a storage facility should be designed to detain the 1% annual EP (100-Year Storm Event), post-development peak runoff rate, and release it at the 10% annual EP (10-Year Storm Event), pre-development peak runoff rate. However, the Technical Provisions specific to this project state that for the design storm, the post-development peak runoff rate shall not exceed the pre-development peak runoff rate. As a result, the detention design requirement is as follows:

$$Q_{100, \text{ Post}} \leq Q_{100, \text{ Pre}}$$

ALT. DESIGN CRITERIA FOR DETENTION WITHIN THE EAST FORK WHITE RIVER FLOODPLAIN

A portion of the project limits fall within the floodplain of the East Fork White River from approximate Sta. 2410+00 "A" to Sta. 2505+00 "A". The concern was raised to INDOT Hydraulics as to whether it was logical to put roadside detention ponds within the floodplain being that the 100-Year floodplain spans a portion of the end of Package B and nearly all of Package C. It is of the opinion of the design/build team that, during a 100-Year storm event, the designed ponds would be inundated and rendered unserviceable within the floodplain. Additionally, this section of roadway is elevated with steep side slopes that tie down to existing ground at the ROW with little, if any, room for a roadside detention pond footprint.

After internal coordination within INDOT Hydraulics, they advised the design/build team to determine the storm event that causes the East Fork White River to leave its banks and a revised design storm would be determined based on when the river floods.

Please refer to Appendix A for hydrographs of the design storm at 15-min, 30-min, 1-hr, 2-hr, 3-hr, 6-hr, 12-hr, and 24-hr storm durations for existing and proposed conditions. The hydrology summary tables are included at the end of this narrative. The design/build team performed an investigation of the flood conditions for the East Fork White River. Please see the following:

- Based on the FIS profile, the 10-Year elevation is approximately 578+/- and the 100-Year elevation is approximately 580+/-.

- The top-of-bank elevation for the river is approximately 570+/- at the south end and 572+/- at the north end.

As a result, the flood elevation during a 10-Year storm event would overtop the river banks by approximately 8' +/- . INDOT Hydraulics were notified of our findings and instructed the design/build team to use a 5-Year storm event as the design storm for the portion of the project that is located within the floodplain.

$$Q_{5, \text{ Post}} \leq Q_{5, \text{ Pre}}$$

Please refer to the end of this narrative for documentation for determining the alternate design criteria for detention within the East Fork White River floodplain.

Hydraflow Hydrographs software can combine multiple hydrographs to give one discharge result. This method was used to determine the allowable discharge rate at each outlet point.

Please refer to Appendix A for Existing Conditions and Proposed Conditions Outlet Hydrographs. The Existing and Proposed Outlet Discharge Summary is included at the end of this narrative.

Detention Design – Hydraulics Summary

Roadside ditch detention will be the primary source of storage during proposed conditions. A detention berm will be placed within the roadside ditch with an outlet control device sized to release storm water at a pre-development peak runoff rate and emergency spillway. The detention pond is sized only for runoff occurring within INDOT ROW unless otherwise noted. Therefore, any additional offsite discharge shall be routed around the pond or through the emergency spillway.

For the entire length of Package C, there are multiple points where storm water will leave the site either via direct flow across ROW or via roadside ditch towards a culvert/stream crossing. At a typical culvert/stream crossing, there are four quadrants where the roadside ditch meets the flow line of the crossing. A detention berm may be placed at one or all four quadrants to meet detention design requirements. There also may be instances where detention does not need to be provided at an outlet point due to proposed discharge being re-routed to a different location or due to proposed conditions remaining consistent with existing conditions.

The swale upstream of the detention berm requires re-grading to achieve the required storage. The typical shape of the proposed swale will be trapezoidal with a max 2:1 side slopes, a minimum longitudinal grade of 0.2%, and a side berm installed within ROW constraints. The swale bottom, length and berm elevation will be determined based on the design of each location that we are proposing detention.

All detention locations have been checked for the possibility of offsite flows crossing ROW and entering the detention pond. Pond 194 has an offsite area that enters the detention location. This offsite area was routed through the detention pond and the spillway elevation was set based on the 5-Yr ponding elevation. Pond 217 has an offsite area that enters the detention location. This offsite area was routed through the detention pond and the spillway elevation was set based on the 100-Yr ponding elevation.

Please refer to Appendix B for Detention Pond Detail sheets depicting the location, geometry and design information for each proposed detention pond.

The proposed detention design at each outlet was performed using Hydraflow Hydrographs Extension for AutoCAD Civil 3D 2017. Hydrographs were developed for the proposed drainage basins that contribute runoff to each outlet point. Detention is provided at the outlet points to bring proposed discharge equal to or below existing discharge. The hydrographs from the direct discharge basins as well as the outflow hydrographs from the detention ponds were combined to give once discharge result at each outlet point.

Please refer to the summary tables at the end of this narrative for the detention modeling results. In Appendix B, there is detailed software output for the required detention provided at Outlets #48 - #58.

Please refer to the summary tables at the end of this narrative for the Proposed Conditions Outlet Discharge Summary. This summary shows that proposed discharges at all outlet locations (#48 thru #58) are equal to or below the allowable discharge rates. Outlets #49, #51A, #53, and #54 meet discharge requirements without detention being implemented.

Additional Information for Outlet Points

Outlet #49

There is no change to drainage area or curve number from existing to proposed conditions at Outlet #49. Therefore, no detention is required at this location.

Outlet #51A

There is no change to drainage area or curve number from existing to proposed conditions at Outlet #51A. Therefore, no detention is required at this location.

Outlet #53

There is no change to drainage area or curve number from existing to proposed conditions at Outlet #53. Therefore, no detention is required at this location.

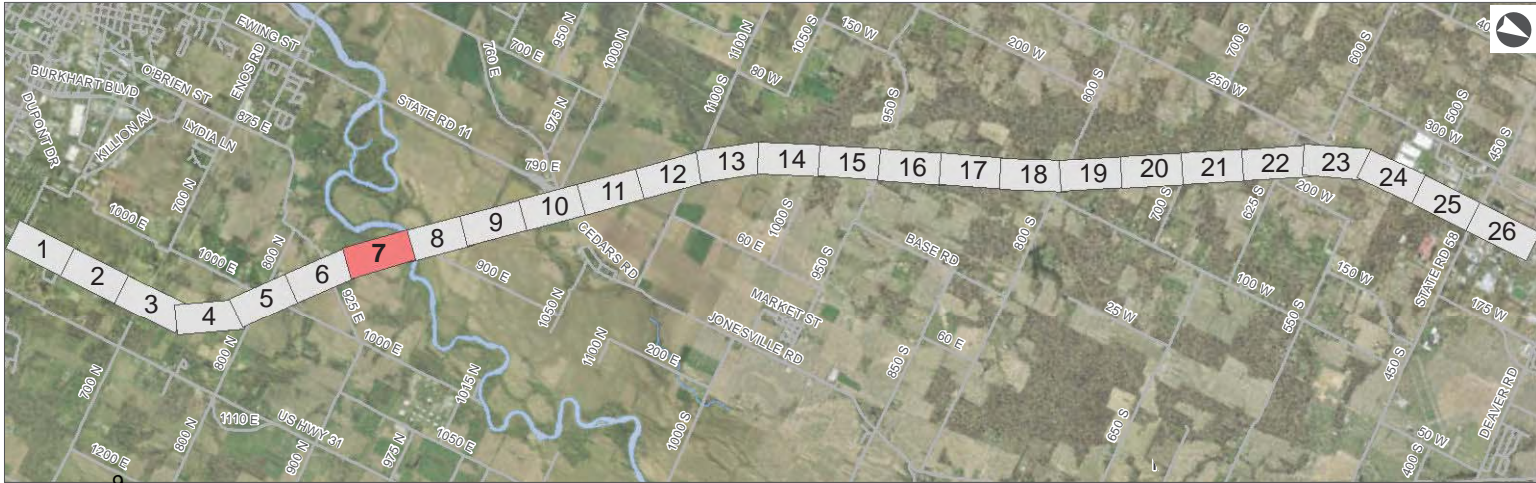
Outlet #54

There is no change to drainage area or curve number from existing to proposed conditions at Outlet #54. Therefore, no detention is required at this location.

Additional Information – POND 194

Originally, POND 194 was designed and approved as part of Package B. The pond footprint is located along the I-65 SB side and within the incidental construction area between Package B and Package C. The contractor informed the designer that this pond would be installed with the construction of Package C. This pond is within the floodplain of the East Fork White River and would fall under the alternate design criteria (5-Year Design Storm) discussed above. Therefore, this pond was re-designed based of the 5-Year storm event and is included in this detention submittal for review.

SAMPLE



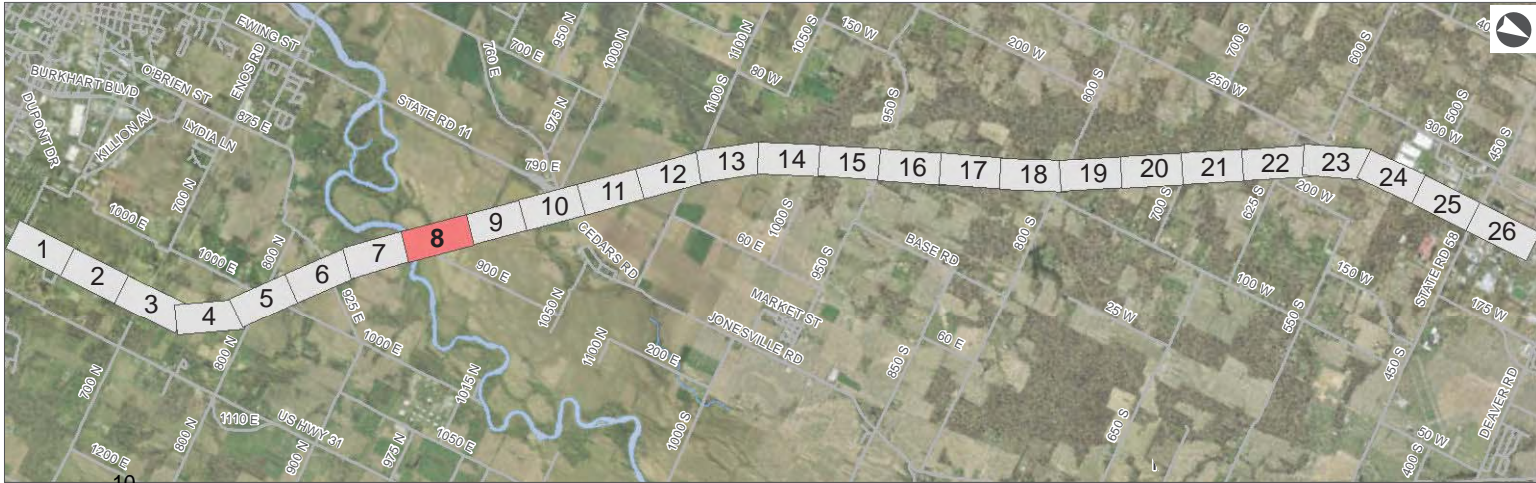
LEGEND

Wetlands	Floodplains
Freshwater Emergent Wetland	Areas of 0.2% Risk (aka 500-year Flood Zone)
Freshwater Forested/Shrub Wetland	Areas of 1% Risk (aka 100-year flood zone)
Freshwater Pond	Floodway
Lake	Investigation Limits
Riverine	Wetland Type
Upland Sample Point	Palustrine Emergent
Wetland Sample Point	Palustrine Scrub-Shrub
Stream	Palustrine Forested

Sources: U.S. Fish & Wildlife Service, Indiana Department of Natural Resources



**National Wetland Inventory
and Floodplain Maps**
I-65 SE Indiana
US 50 to SR 58
Des. 0501212
Bartholomew and Jackson County, Indiana
Appendix C
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Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Upland Sample Point
- Wetland Sample Point
- Stream

Floodplains

- Areas of 0.2% Risk (aka 500-year Flood Zone)
- Areas of 1% Risk (aka 100-year flood zone)
- Floodway
- Investigation Limits

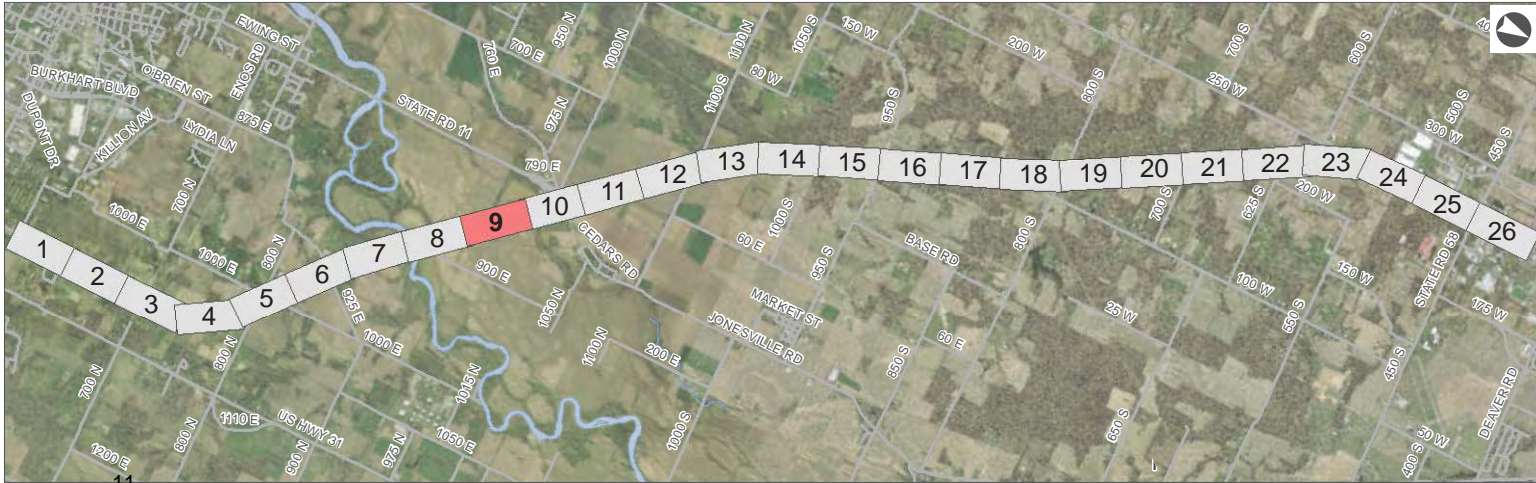
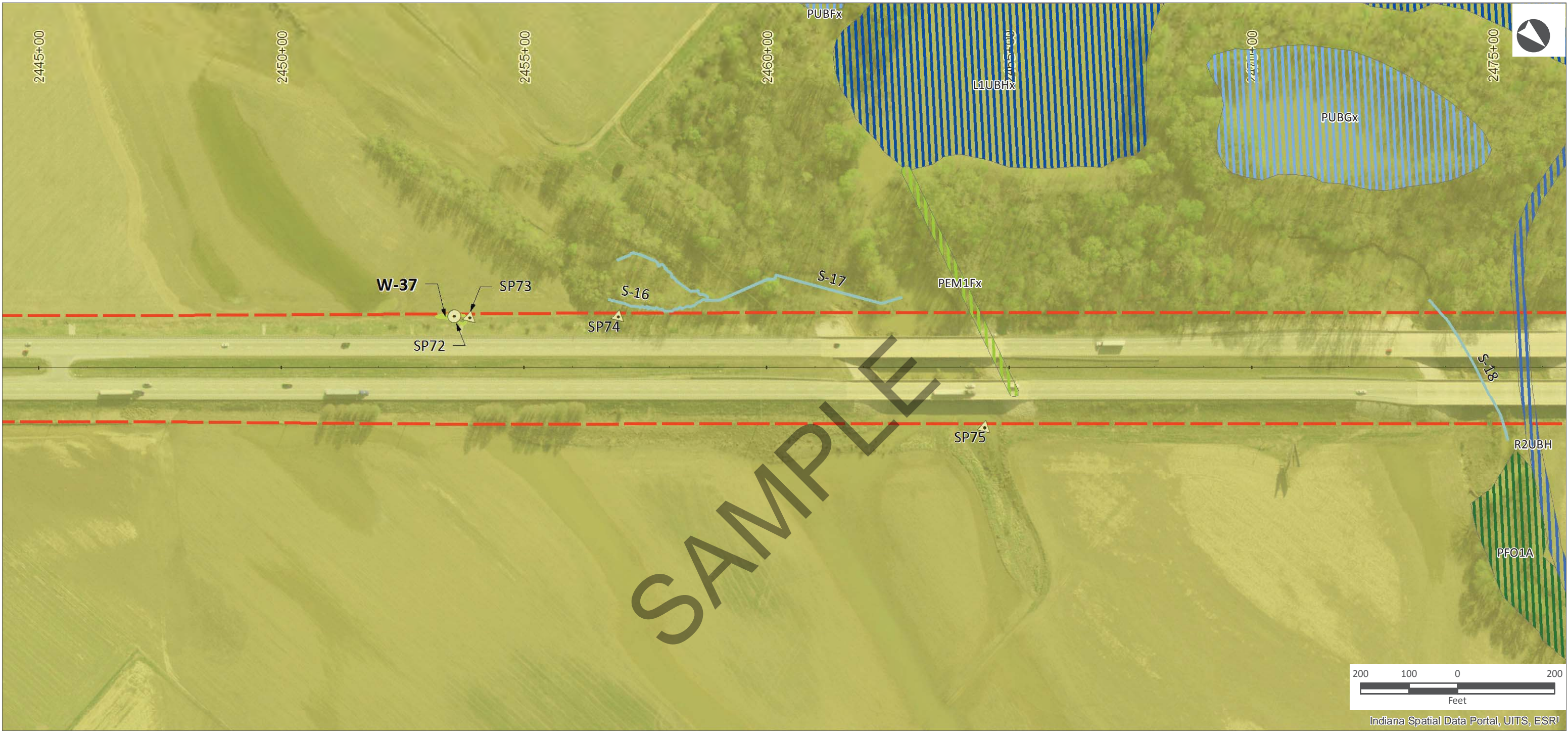
Wetland Type

- Palustrine Emergent
- Palustrine Scrub-Shrub
- Palustrine Forested

Sources: U.S. Fish & Wildlife Service, Indiana Department of Natural Resources

BLN
BEAM-LONGEST-NEFF

**National Wetland Inventory
and Floodplain Maps**
I-65 SE Indiana
US 50 to SR 58
Des. 0501212
Bartholomew and Jackson County, Indiana
Appendix C
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Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Upland Sample Point
- Wetland Sample Point
- Stream

Floodplains

- Areas of 0.2% Risk (aka 500-year Flood Zone)
- Areas of 1% Risk (aka 100-year flood zone)
- Floodway
- Investigation Limits

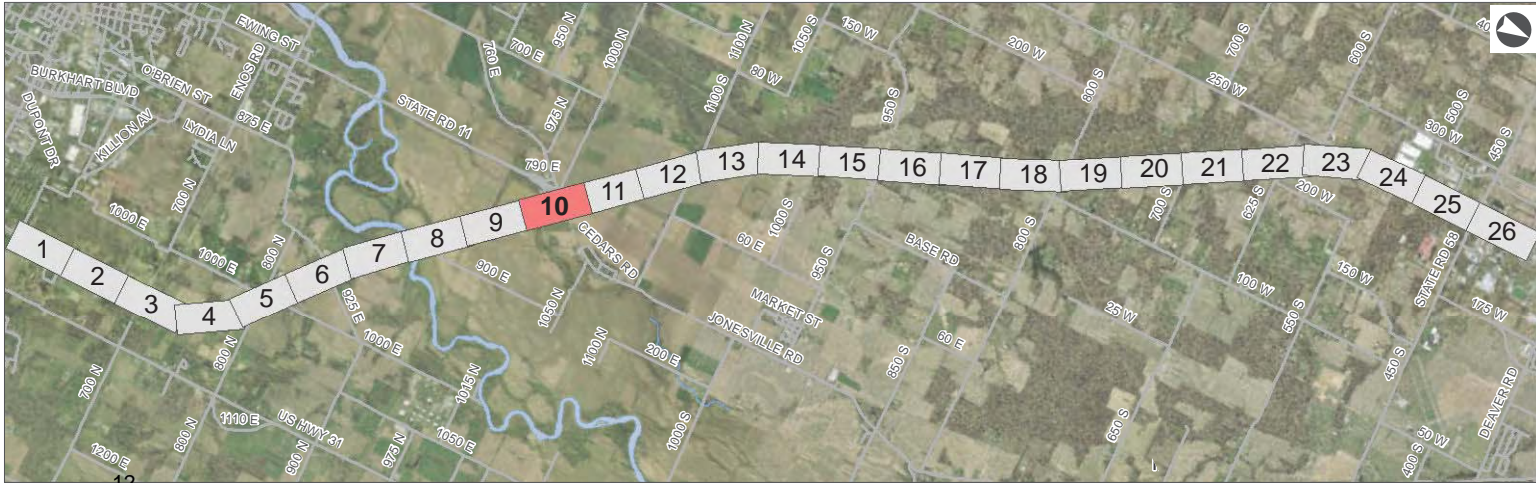
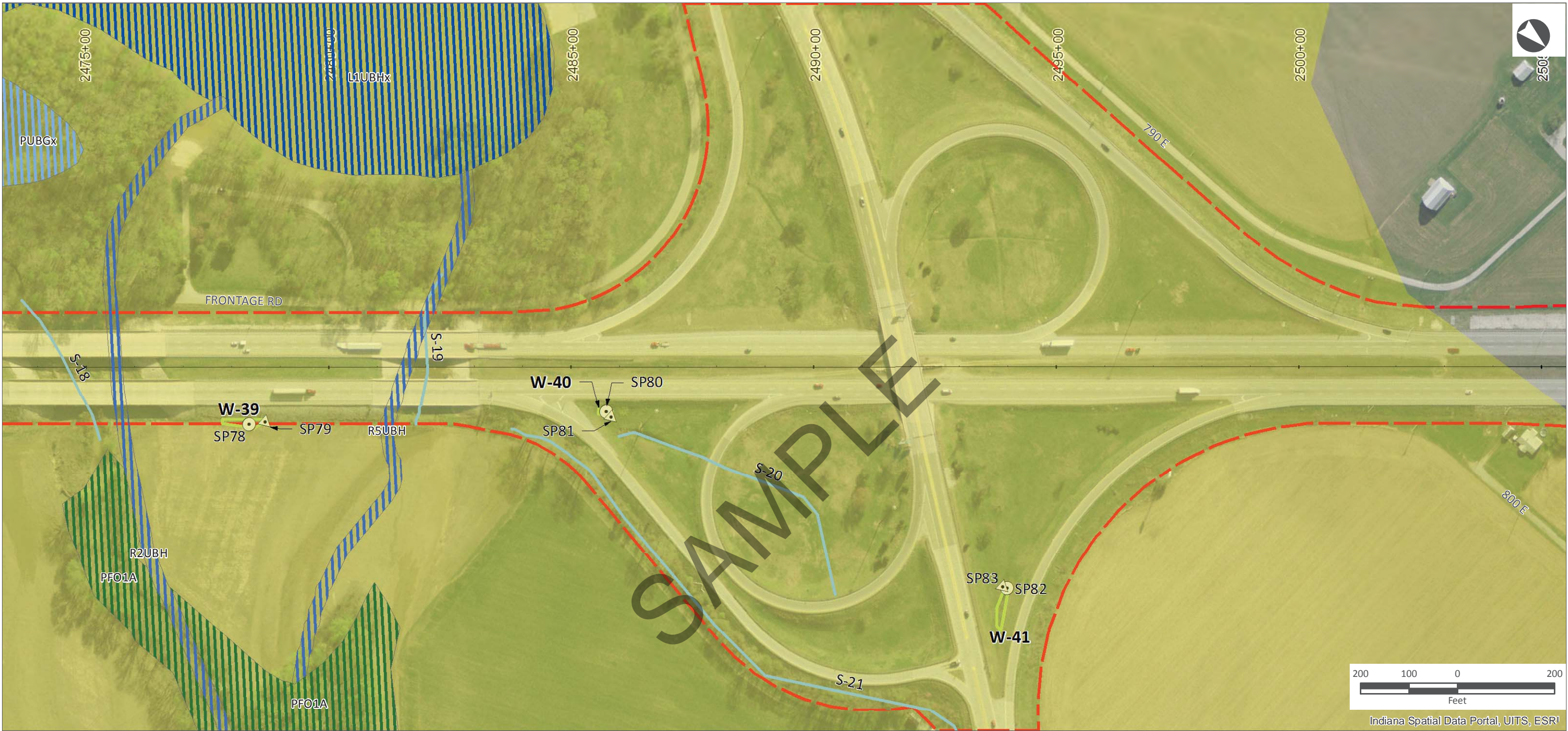
Wetland Type

- Palustrine Emergent
- Palustrine Scrub-Shrub
- Palustrine Forested

Sources: U.S. Fish & Wildlife Service, Indiana Department of Natural Resources



**National Wetland Inventory
and Floodplain Maps**
I-65 SE Indiana
US 50 to SR 58
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Bartholomew and Jackson County, Indiana
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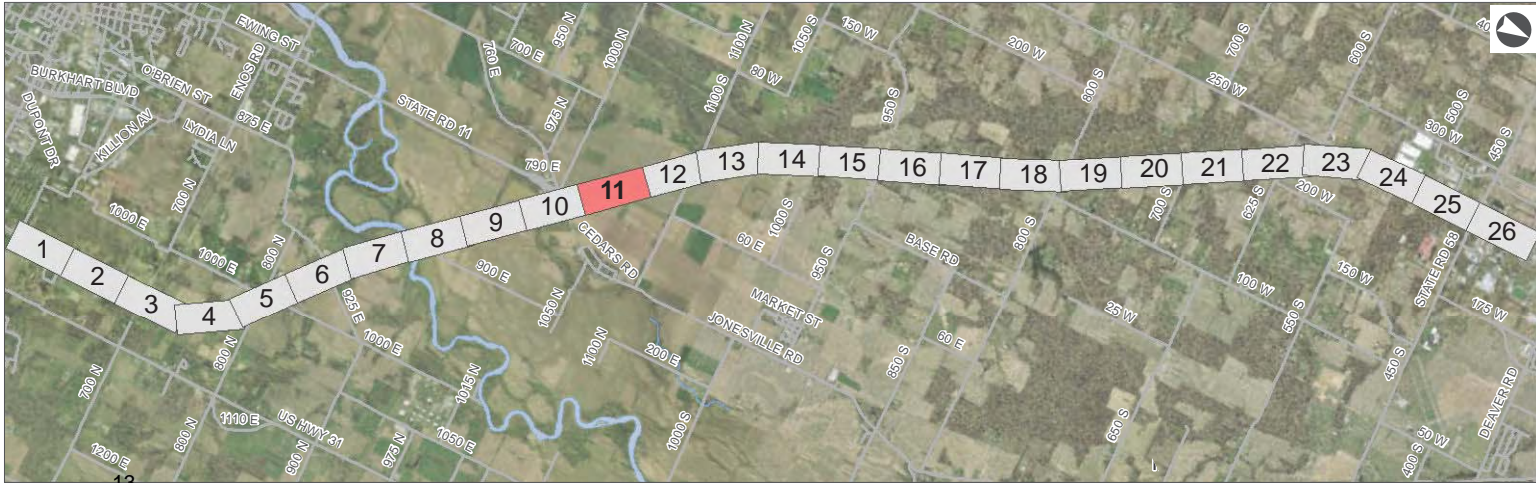
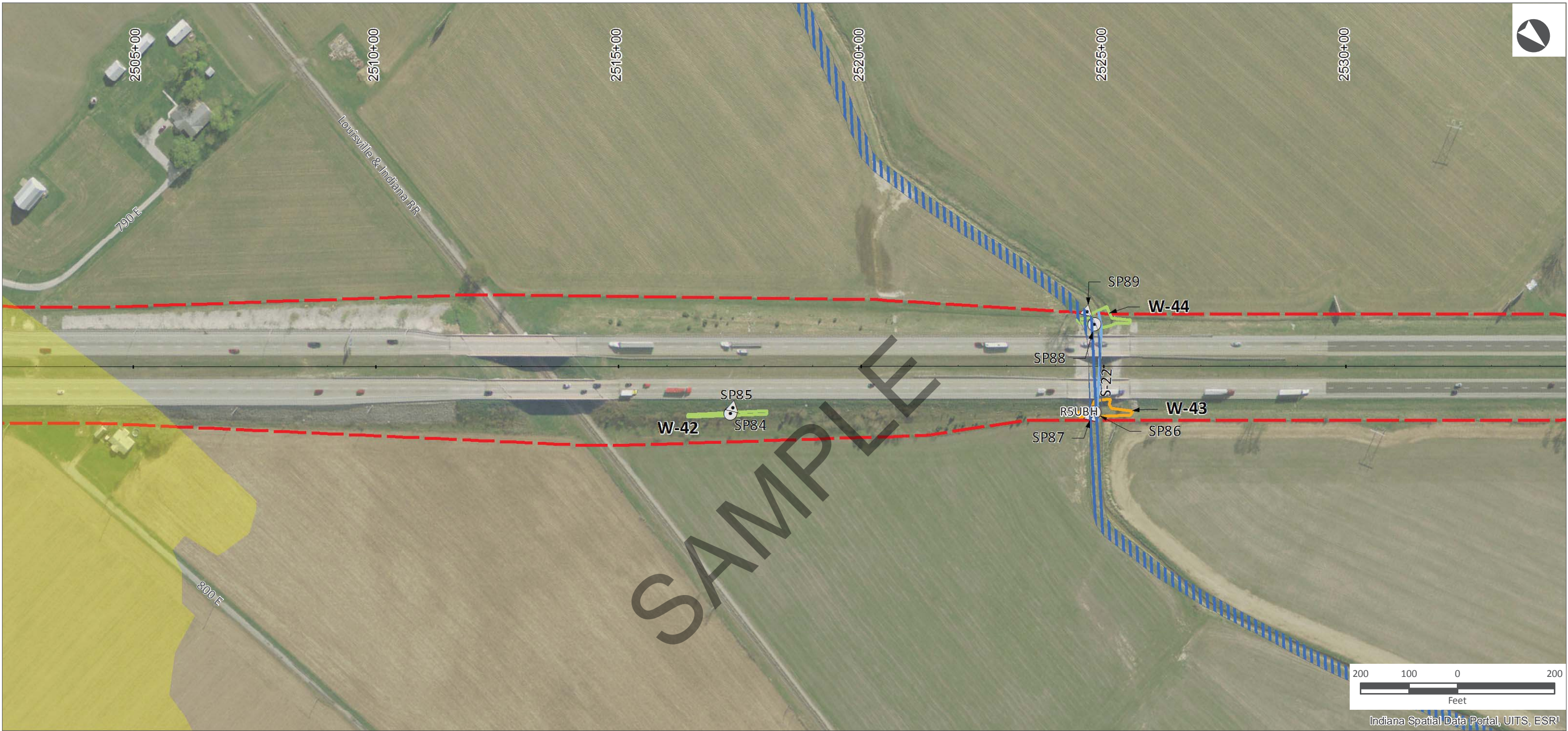
LEGEND

Wetlands	Floodplains
Freshwater Emergent Wetland	Areas of 0.2% Risk (aka 500-year Flood Zone)
Freshwater Forested/Shrub Wetland	Areas of 1% Risk (aka 100-year flood zone)
Freshwater Pond	Floodway
Lake	Investigation Limits
Riverine	Wetland Type
Upland Sample Point	Palustrine Emergent
Wetland Sample Point	Palustrine Scrub-Shrub
Stream	Palustrine Forested

Sources: U.S. Fish & Wildlife Service, Indiana Department of Natural Resources



**National Wetland Inventory
and Floodplain Maps**
I-65 SE Indiana
US 50 to SR 58
Des. 0501212
Bartholomew and Jackson County, Indiana
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Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Upland Sample Point
- Wetland Sample Point
- Stream

Floodplains

- Areas of 0.2% Risk (aka 500-year Flood Zone)
- Areas of 1% Risk (aka 100-year flood zone)
- Floodway
- Investigation Limits

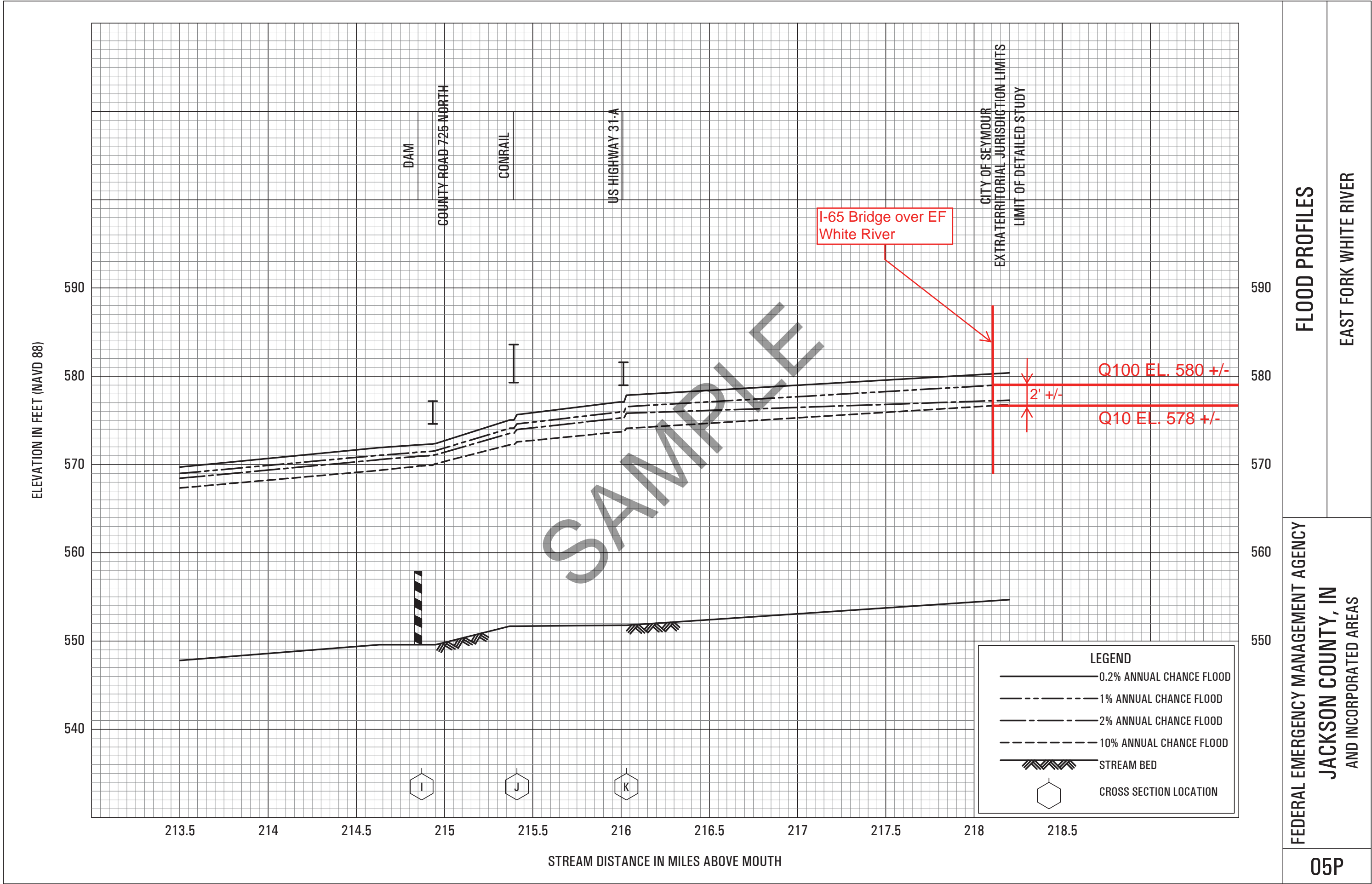
Wetland Type

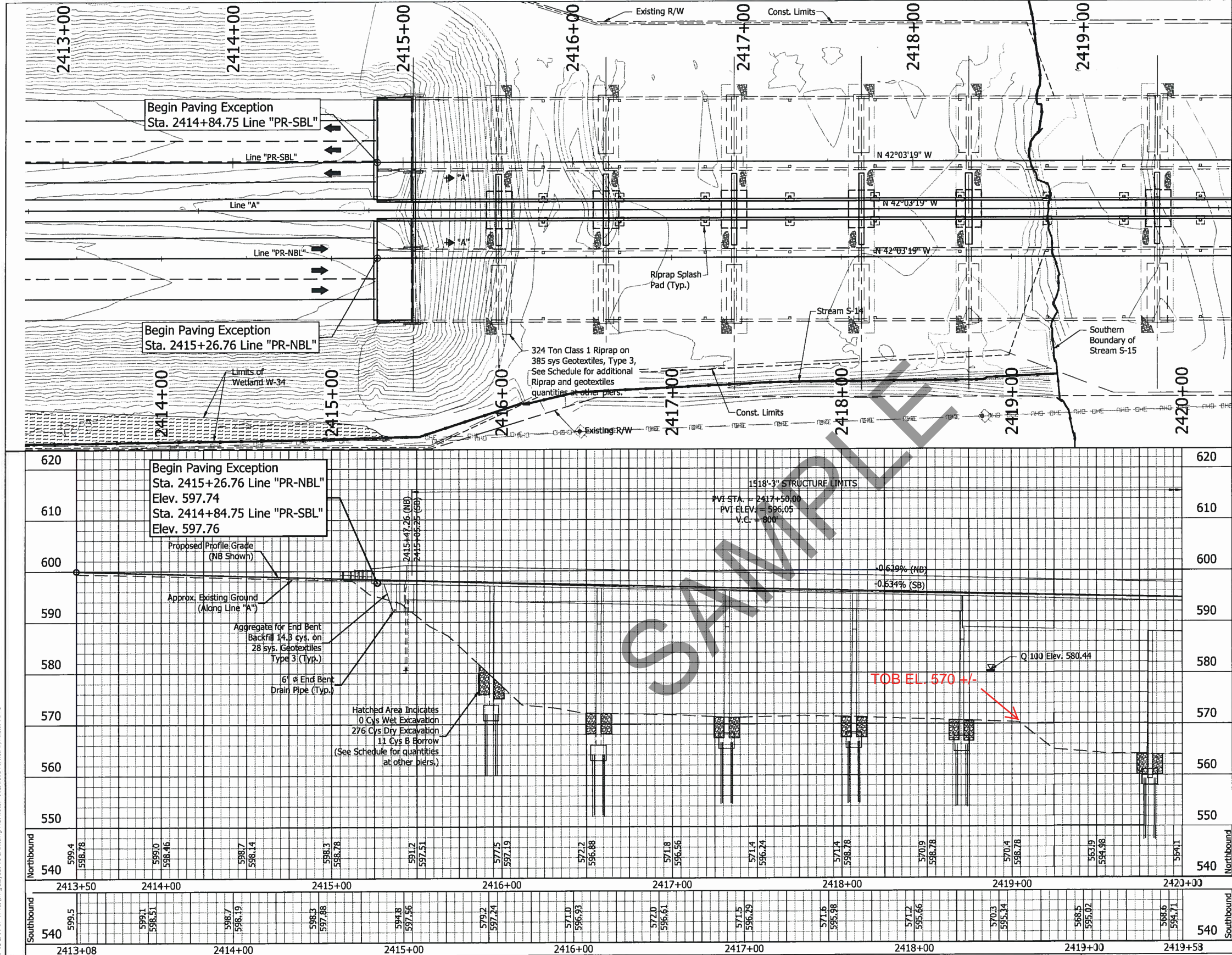
- Palustrine Emergent
- Palustrine Scrub-Shrub
- Palustrine Forested

Sources: U.S. Fish & Wildlife Service, Indiana Department of Natural Resources



**National Wetland Inventory
and Floodplain Maps**
I-65 SE Indiana
US 50 to SR 58
Des. 0501212
Bartholomew and Jackson County, Indiana
Appendix C
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EARTHWORK SUMMARY

Bent No.	Excav. Wet	Excav. Dry	B Borrow	Riprap Class 1	Geotextiles Type 3
3	0 Cys	263 Cys	11 Cys	324 Ton	385 Sys
4	0 Cys	286 Cys	12 Cys	324 Ton	385 Sys
5	0 Cys	284 Cys	12 Cys	324 Ton	385 Sys
6	0 Cys	279 Cys	11 Cys	341 Ton	398 Sys
7	210 Cys	77 Cys	12 Cys	427.2 Ton	458 Sys

Notes: For R/W, Earthwork Summary, and Additional Information see Roadway Plans, Des. No. 0501212.

Warning High Pressure Pipeline(s) Excavation and/or Construction Prohibited without written Permission from Enterprise Products Company.

For Hydraulic Scour Data, see sheet 23.

TWIN CONTINUOUS STEEL BEAM & PLATE GIRDER BRIDGES

20 SPANS: 50'-4 1/2", 63'-3", 2 @ 75'-0", 63'-3", 110'-9", 140'-0", 110'-9", 63'-3", 4 @ 75'-0", 2 @ 63'-1 1/2", 3 @ 75'-0", 63'-3", 50'-4 1/2"

SKEW: 0°00'00"

CLEAR ROADWAY: 58'-0"

I-65 OVER EAST FORK WHITE RIVER



1625 N. Post Road
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www.ucindy.com



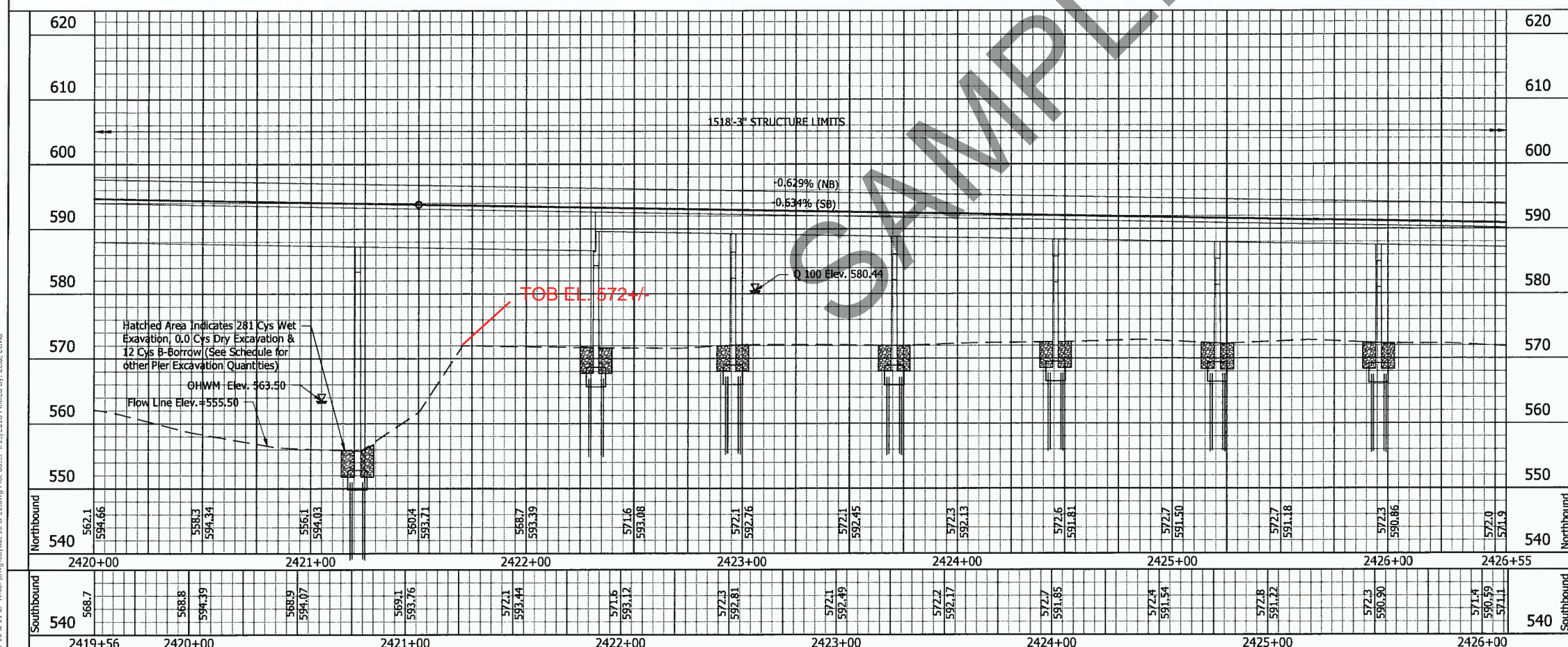
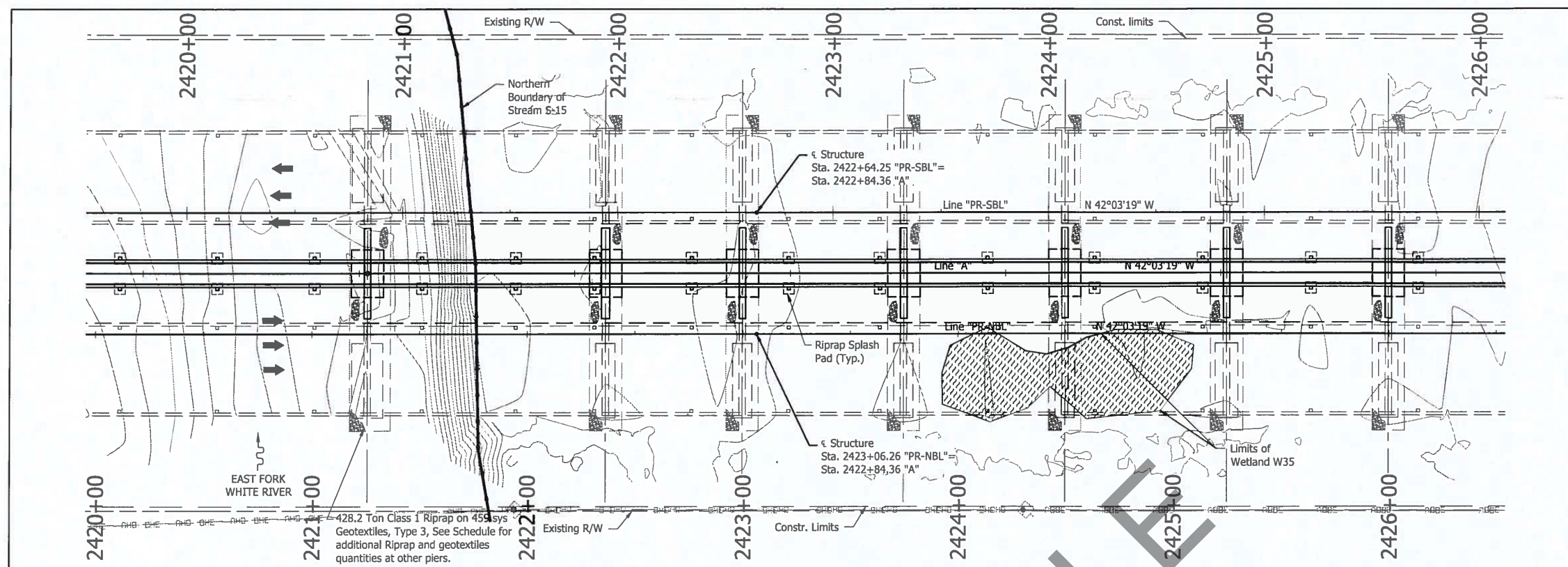
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	4-13-18	DATE
DESIGNED: JEK	DRAWN: DJZ		
CHECKED: BSF	CHECKED: JEK		

INDIANA
DEPARTMENT OF TRANSPORTATION

LAYOUT
I-65 OVER EAST FORK WHITE RIVER

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	I-65-054-04651 DNBL & DSBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1601840 & 1601917
SURVEY BOOK	SHEETS
-	21 of 34
CONTRACT	PROJECT
R-28940	0501212

File Name: P:\CD\17-165\Bridges\10 & 11 EF White/Dwg\Layout 10 & 11.dwg Plot Date: 4/13/2018 Plotted By: Zola, David



EARTHWORK SUMMARY					
Bent No.	Excav. Wet	Excav. Dry	B Borrow	Riprap Class 1	Geotextiles Type 3
9	0 Cys	279 Cys	11 Cys	324 Ton	385 Sys
10	0 Cys	286 Cys	12 Cys	324 Ton	385 Sys
11	0 Cys	288 Cys	12 Cys	324 Ton	385 Sys
12	0 Cys	283 Cys	12 Cys	324 Ton	385 Sys
13	0 Cys	264 Cys	11 Cys	324 Ton	385 Sys
14	0 Cys	285 Cys	12 Cys	324 Ton	385 Sys

Notes: For R/W, Earthwork Summary, and Additional Information see Roadway Plans, Des. No. 0501212.

Warning High Pressure Pipeline(s) Excavation and/or Construction Prohibited without written Permission from Enterprise Products Company.

For Hydraulic Scour Data, see sheet 23.

TWIN CONTINUOUS STEEL BEAM & PLATE GIRDER BRIDGES
20 SPANS: 50'-4 1/2", 63'-3", 2 @ 75'-0", 63'-3", 110'-9", 140'-0", 110'-9", 63'-3", 4 @ 75'-0", 2 @ 63'-1 1/2", 3 @ 75'-0", 63'-3", 50'-4 1/2"
SKEW: 0°00'00"
CLEAR ROADWAY: 58'-0"
I-65 OVER EAST FORK WHITE RIVER

RELEASED FOR CONSTRUCTION
5/17/2018

65 Southeast Indiana Project

RFC

E&B PAVING, Inc.
World of Concrete Solutions at a Local Level

UNITED Consulting

1625 N. Post Road
Indianapolis, IN 46219
Phone 317-895-2585
Fax 317-895-2596
www.ucindy.com

JOHN EDWARD HARST
REGISTERED PROFESSIONAL ENGINEER
No. PE11300330
STATE OF INDIANA

RECOMMENDED FOR APPROVAL

DESIGNED: JEK DRAWN: DJZ

CHECKED: BSF CHECKED: JEK

DATE: 4-13-18

INDIANA
DEPARTMENT OF TRANSPORTATION

LAYOUT
I-65 OVER EAST FORK WHITE RIVER

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE I-65-054-04651 DNBL & DSBL
VERTICAL SCALE 1" = 10'	DESIGNATION 1601840 & 1601917
SURVEY BOOK	SHEETS
CONTRACT R-28940	22 of 34 PROJECT 0501212

Whitney Neukam

From: Whitney Neukam
Sent: Wednesday, April 10, 2019 12:14 PM
To: Whitney Neukam
Subject: FW: DES 0501212 drainage

From: Whitney Neukam <wneukam@DB-Engineering.com>
Sent: Friday, March 15, 2019 9:23 AM
To: Brian Pierson <Brian.Pierson@ucindy.com>; Brian Frederick <Brian.Frederick@ucindy.com>
Subject: RE: DES 0501212 drainage

Brian,

I called Mark Bailey and presented to him our findings on an estimated design storm that would cause the White River to overtop its banks. I told him that even a Q10 would overtop and he came back with a design storm of Q5 for detention design within this floodplain area.

Thanks Brian F for taking a quick look at this situation.

Let me know if you have any questions

Whitney

From: Brian Frederick <Brian.Frederick@ucindy.com>
Sent: Thursday, March 14, 2019 5:46 PM
To: Brian Pierson <Brian.Pierson@ucindy.com>
Cc: Whitney Neukam <wneukam@DB-Engineering.com>
Subject: RE: DES 0501212 drainage

Brian,

I took a look at the FIS and found the study limits stop just downstream of the I-65 bridge. The spread in floodway profile between the 10 year and 100 year storms is +/- 2'. Q100 at the bridge is around el. 580 and the top of bank at the I-65 bridge is approximately 570'. While we don't have the modeling for the 10 year storm, it looks like the water surface elevation at this discharge would be significantly out of the banks (+/- 8'). If you need me to dig into this further it's going to take some modeling effort.

Brian Frederick, PE
Project Team Leader
United Consulting
8440 Allison Pointe Blvd., Suite 200
Indianapolis, IN 46250
Ph. 317.895.2585
brian.frederick@ucindy.com
www.ucindy.com



From: Brian Pierson <Brian.Pierson@ucindy.com>
Sent: Thursday, March 14, 2019 3:31 PM
To: Brian Frederick <Brian.Frederick@ucindy.com>
Cc: Whitney Neukam <wneukam@DB-Engineering.com>
Subject: FW: DES 0501212 drainage

Brian F,

See the email below from Mark Bailey related to the “storm event that causes the EFWR to leave its banks.” As we were just discussing, Whitney has been coordinating some alternative detention design criteria that we’d like to base on this scenario. It sounds like we should be able to determine the storm event we’re looking for, based on some of the different tools at our disposal. I realize this exercise may take a few days, so please just let us know when you come up with something. Thanks.

Sincerely,

Brian Pierson, PE
Project Team Leader

UNITED CONSULTING

8440 Allison Pointe Blvd., Suite 200

Indianapolis, Indiana 46250

Office: (317) 895-2585

Mobile: (317) 698-2945

From: Bailey, Mark <MBailey1@indot.IN.gov>
Sent: Thursday, March 14, 2019 10:48 AM
To: wneukam@db-engineering.com
Cc: Prince, Greg <gprince@indot.IN.gov>; Brian Pierson <Brian.Pierson@ucindy.com>
Subject: FW: DES 0501212 drainage

Whitney,

Please determine what year storm event causes the EFW to leave its banks. We will revise the design storm for detention for the portion of the project in the floodplain to just under when the EFW floods.

Thank you,

-Mark

From: Prince, Greg
Sent: Wednesday, March 13, 2019 4:01 PM
To: Bailey, Mark <MBailey1@indot.IN.gov>
Subject: RE: DES 0501212 drainage

Mark,

Totally okay with letting the designer know. Appreciate it, thank you.

Greg Prince

Project Manager

Capital Program Management

Indiana Department of Transportation

185 Agrico Lane

Seymour, IN 47274

Office: (812) 524-3783

Cell: (812) 528-6549

Email: gprince@indot.in.gov

From: Bailey, Mark

Sent: Wednesday, March 13, 2019 2:48 PM

To: Prince, Greg <gprince@indot.IN.gov>

Subject: RE: DES 0501212 drainage

Greg,

There is a portion of the project in the floodplain of the East Fork of the White River. The designer is claiming that there is no room to install any detention features. BLN did not do any detention design on the front end to verify that meeting the technical provisions would be possible. I am ok with lowering the design standard for detention for the stretch of road in the floodplain. Are you ok with me letting the designer know or is there another direction that you would like to take?

Thanks,

-Mark

From: Prince, Greg

Sent: Tuesday, March 12, 2019 11:02 AM

To: Bailey, Mark <MBailey1@indot.IN.gov>

Subject: Re: DES 0501212 drainage

Mark,

To my understanding, the TP's were put together by INDOT and B-L-N. on the front end.

I'm guessing that United is trying to get a read from you so if you like I can set a call up with everyone if that helps? Just let me know. Thanks a bunch Mark.

Sent from my iPhone

On Mar 12, 2019, at 9:33 AM, Bailey, Mark <MBailey1@indot.IN.gov> wrote:

Greg,

On the I-65 from US 50 to SR 58 design build, who was the designer for drainage on the front end? The current drainage designer called and is having issues providing the detention required by the TP's and I would like to know what the front end designers plan was.

Thanks,

-Mark

Mark Bailey, P.E.
Office of Hydraulics Manager

100 N. Senate Ave. N642-BR

Indianapolis, IN 46204

Office: (317) 233-2096

Email: m Bailey1@indot.in.gov

Hydraulics Website: <http://in.gov/indot/3595.htm>

Stay current on INDOT Hydraulics design guidance and policy changes by subscribing to the [INDOT Hydraulics Listserv](#).

<image001.png><image002.png><image003.png><image004.png><image005.png>

<image006.png>

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HYDROLOGY SUMMARY

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

Existing Conditions - Onsite Basin Hydrology

BAS ID	Total Area (ac)	Area (ac) Meadow CN = 70	Area (ac) Imp. CN = 98	CN _w	Tc (min)	5-Year Design Storm							
						15-Min (cfs)	30-Min (cfs)	1-Hr (cfs)	2-Hr (cfs)	3-Hr (cfs)	6-Hr (cfs)	12-Hr (cfs)	24-Hr (cfs)
194	7.3	5.1	2.2	78	20.8	1.48	3.47	3.56	2.57	2.14	1.85	1.71	1.61
DIR1	1.0	0.8	0.2	76	11.7	0.23	0.49	0.45	0.33	0.27	0.24	0.22	0.21
DIR2	1.0	0.6	0.4	81	7.9	0.62	0.73	0.60	0.51	0.42	0.33	0.26	0.23
195	3.8	2.8	1.0	77	26.5	0.54	1.43	1.69	1.27	0.97	0.88	0.85	0.81
DIR3	0.9	0.7	0.2	76	9.7	0.24	0.45	0.40	0.30	0.25	0.21	0.20	0.19
197	3.3	2.2	1.1	79	34.9	0.52	1.25	1.60	1.20	0.94	0.85	0.78	0.74
198	4.9	3.1	1.8	80	19.2	1.47	2.91	2.69	2.01	1.74	1.42	1.23	1.13
199	4.9	4.1	0.8	75	23.9	0.48	1.53	1.91	1.46	1.14	0.97	0.99	0.98
200	1.2	0.8	0.4	79	12.1	0.42	0.73	0.63	0.48	0.40	0.33	0.29	
201	1.9	1.3	0.6	79	21.6	0.46	0.99	0.99	0.70	0.61	0.52	0.46	0.43
202	0.5	0.3	0.2	81	11.4	0.26	0.37	0.30	0.25	0.21	0.16	0.13	0.12
203	2.3	1.5	0.8	80	14.3	0.87	1.50	1.29	1.01	0.84	0.68	0.58	0.53
204	0.9	0.5	0.4	82	7.3	0.62	0.71	0.61	0.50	0.40	0.32	0.24	0.22
205	0.6	0.4	0.2	79	11.7	0.23	0.38	0.32	0.25	0.21	0.17	0.15	0.14
206	0.7	0.4	0.3	82	19.2	0.28	0.50	0.43	0.35	0.29	0.23	0.19	0.17
207	0.6	0.3	0.3	84	11.5	0.45	0.55	0.47	0.40	0.31	0.25	0.18	0.16
DIR4	0.7	0.4	0.3	82	9.2	0.45	0.56	0.46	0.39	0.32	0.25	0.19	0.17
208	9.0	6.9	2.1	77	23.5	1.43	3.66	4.03	2.95	2.32	2.08	1.98	1.90
209	24.7	19.0	5.7	76	32.8	2.33	7.01	9.72	7.64	5.89	5.09	5.12	5.03

BAS ID	Total Area (ac)	Area (ac) Meadow CN = 70	Area (ac) Imp. CN = 98	CN _w	Tc (min)	100-Year Design Storm							
						15-Min (cfs)	30-Min (cfs)	1-Hr (cfs)	2-Hr (cfs)	3-Hr (cfs)	6-Hr (cfs)	12-Hr (cfs)	24-Hr (cfs)
210	2.2	1.4	0.8	80	24.5	1.87	3.35	3.26	3.21	2.76	2.17	1.36	1.09
211	2.4	1.5	0.9	81	21.3	2.51	4.15	3.85	3.88	3.23	2.54	1.55	1.22
212	1.1	0.7	0.4	80	17.5	1.19	1.87	1.75	1.73	1.41	1.12	0.68	0.54
213	3.9	2.4	1.5	81	22.2	3.83	6.47	6.09	6.09	5.14	4.02	2.46	1.94
214	2.1	1.6	0.5	77	21.1	1.53	2.88	2.71	2.73	2.33	1.85	1.22	1.01
215	4.4	2.8	1.6	80	29.8	3.20	6.03	6.48	6.00	5.34	4.23	2.71	2.17
DIR5	1.2	0.7	0.5	82	7.1	2.27	2.43	2.76	2.29	1.87	1.38	0.78	0.60
216	2.9	2.1	0.8	78	20.4	2.31	4.23	3.95	3.99	3.38	2.68	1.73	1.41
217	10.0	6.2	3.8	81	35.1	6.98	13.14	15.08	13.50	12.21	9.82	6.30	5.00



HYDROLOGY SUMMARY

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

Offsite Basin Hydrology

BAS ID	Total Area (ac)	Area (ac) Meadow CN = 70	Area (ac) Wood CN = 73	Area (ac) Imp. CN = 98	CN _w	T _c (min)	5-Year Design Storm							
							15-Min (cfs)	30-Min (cfs)	1-Hr (cfs)	2-Hr (cfs)	3-Hr (cfs)	6-Hr (cfs)	12-Hr (cfs)	24-Hr (cfs)
OFF 194	8.4	5.9	2.5	0.0	71	31.5	0.20	1.28	2.24	1.95	1.55	1.21	1.38	1.47
OFF 195	10.8	9.5	0.8	0.5	72	35.0	0.34	1.76	3.02	2.65	2.09	1.61	1.85	1.94

BAS ID	Total Area (ac)	Area (ac) Meadow CN = 70	Area (ac) Wood CN = 73	Area (ac) Imp. CN = 98	CN _w	T _c (min)	100-Year Design Storm							
							15-Min (cfs)	30-Min (cfs)	1-Hr (cfs)	2-Hr (cfs)	3-Hr (cfs)	6-Hr (cfs)	12-Hr (cfs)	24-Hr (cfs)
OFF 217	0.9	0.6	0.0	0.3	79	32.0	0.57	1.12	1.27	1.14	1.03	0.83	0.54	0.44

SAMPLE



HYDROLOGY SUMMARY

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

Proposed Conditions - Onsite Basin Hydrology

BAS	Total	Area (ac)	Area (ac)	Area (ac)	Tc	5-Year Design Storm							
	Area	Meadow	Comp. Ag.	Imp.		15-Min	30-Min	1-Hr	2-Hr	3-Hr	6-Hr	12-Hr	24-Hr
ID	(ac)	CN = 70	CN = 95	CN = 98	CN _w	(min)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
194	6.8	2.8	0.6	3.4	86	19.5	4.44	6.65	5.33	4.82	3.92	3.06	2.15
DIR1	1.0	0.8	0.0	0.2	76	11.7	0.23	0.49	0.45	0.33	0.27	0.24	0.22
195	3.8	2.8	0.0	1.0	77	26.5	0.54	1.43	1.69	1.27	0.97	0.88	0.85
DIR3	1.7	0.8	0.1	0.8	85	8.3	1.63	1.64	1.57	1.18	0.95	0.76	0.51
197	3.3	2.2	0.0	1.1	79	34.9	0.52	1.25	1.60	1.20	0.94	0.85	0.78
198	4.8	1.4	0.4	3.0	90	17.2	5.19	6.41	5.60	4.76	3.77	3.84	1.75
199	4.2	1.3	0.4	2.5	89	20.4	3.63	5.06	4.20	3.76	3.03	2.33	1.51
200	1.2	0.8	0.0	0.4	79	12.1	0.42	0.73	0.63	0.48	0.40	0.33	0.29
201	2.7	1.4	0.1	1.2	83	18.8	1.23	2.08	1.75	1.47	1.23	0.96	0.76
202	1.3	0.5	0.1	0.7	87	9.8	1.47	1.43	1.43	1.07	0.87	0.67	0.43
203	1.5	0.6	0.1	0.8	87	14.0	1.36	1.66	1.44	1.22	0.95	0.75	0.50
204	0.9	0.5	0.0	0.4	82	7.3	0.62	0.71	0.61	0.50	0.40	0.32	0.24
205	0.6	0.4	0.0	0.2	79	11.7	0.23	0.38	0.32	0.25	0.21	0.17	0.15
206	1.5	0.4	0.1	1.0	90	14.7	1.86	2.08	1.91	1.54	1.22	0.91	0.56
207	0.6	0.3	0.0	0.3	84	11.5	0.45	0.55	0.47	0.40	0.31	0.25	0.18
208	6.7	5.4	0.0	1.3	75	25.1	0.66	2.09	2.62	1.99	1.55	1.33	1.36
208A	3.1	1.6	0.1	1.4	83	18.5	1.51	2.44	2.01	1.71	1.41	1.11	0.86
209	20.6	15.7	0.2	4.7	77	33.2	2.37	6.54	8.73	6.72	5.16	4.58	4.47
209A	2.4	1.2	0.1	1.1	84	15.8	1.42	2.13	1.69	1.51	1.21	0.96	0.71

BAS	Total	Area (ac)	Area (ac)	Area (ac)	Tc	100-Year Design Storm							
	Area	Meadow	Comp. Ag.	Imp.		15-Min	30-Min	1-Hr	2-Hr	3-Hr	6-Hr	12-Hr	24-Hr
ID	(ac)	CN = 70	CN = 95	CN = 98	CN _w	(min)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
210	3.0	1.3	0.1	1.6	86	21.5	4.66	6.78	6.47	6.25	5.15	3.88	2.16
211	2.4	1.5	0.0	0.9	81	21.3	2.51	4.15	3.85	3.88	3.23	2.54	1.55
212	1.1	0.7	0.0	0.4	80	17.5	1.19	1.87	1.75	1.73	1.41	1.12	0.68
213	4.0	1.4	0.3	2.3	88	20.9	7.29	10.01	9.67	9.18	7.55	5.57	3.00
214	2.1	1.6	0.0	0.5	77	21.1	1.53	2.88	2.71	2.73	2.33	1.85	1.22
215	6.3	2.7	0.3	3.3	86	26.0	8.29	12.98	12.51	12.25	10.43	7.96	4.52
DIR5	0.9	0.0	0.2	0.7	97	5.0	5.78	6.38	5.42	3.62	2.65	1.65	0.77
216	3.2	1.7	0.2	1.3	83	19.1	4.20	6.29	5.95	5.82	4.77	3.68	2.15
217	8.1	2.8	0.6	4.7	88	34.3	9.96	15.74	16.36	15.46	13.70	10.57	5.96



PEAK DISCHARGE SUMMARY

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

Outlet Discharge Conditions - Existing / Proposed / Proposed with Detention

Outlet #48	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	2.62	6.01	4.37
	5-Yr, 30-Min.	8.21	11.54	8.62
	5-Yr, 1 Hr.	11.53	13.04	11.18
	5-Yr, 2 Hr.	9.29	10.15	9.63
	5-Yr, 3 Hr.			
Outlet #49 (197)	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	0.52	0.52	
	5-Yr, 30-Min.	1.25	1.25	
	5-Yr, 1 Hr.	1.60	1.60	
	5-Yr, 2 Hr.	1.20	1.20	
	5-Yr, 3 Hr.			
Outlet #50 (198)	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	1.47	5.19	2.10
	5-Yr, 30-Min.	2.91	6.41	2.49
	5-Yr, 1 Hr.	2.69	5.60	2.63
	5-Yr, 2 Hr.	2.01	4.76	2.44
	5-Yr, 3 Hr.			
Outlet #51 (199)	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	0.48	3.63	1.39
	5-Yr, 30-Min.	1.53	5.06	1.67
	5-Yr, 1 Hr.	1.91	4.20	1.79
	5-Yr, 2 Hr.	1.46	3.76	1.75
	5-Yr, 3 Hr.			1.61
Outlet #51A (200)	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	0.42	0.42	
	5-Yr, 30-Min.	0.73	0.73	
	5-Yr, 1 Hr.	0.63	0.63	
	5-Yr, 2 Hr.	0.48	0.48	
	5-Yr, 3 Hr.			

This report is being used as an example of preferred layout and content. It should be noted that this project was allowed a design exception for the detention criteria that requires the release the post-construction Q₁₀₀ at rates less than or equal to the pre-construction Q₁₀. This project was allowed to release the post-construction Q₁₀₀ at rates less than or equal to the pre-construction Q₁₀₀. This design exception should not be used unless specifically approved by INDOT Hydraulics.



PEAK DISCHARGE SUMMARY

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

Outlet Discharge Conditions - Existing / Proposed / Proposed with Detention

Outlet #52	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	1.49	3.71	1.85
	5-Yr, 30-Min.	2.79	5.02	2.30
	5-Yr, 1 Hr.	2.55	3.99	2.46
	5-Yr, 2 Hr.	1.88	3.61	2.23
	5-Yr, 3 Hr.			
Outlet #53 (204)	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	0.62	0.62	
	5-Yr, 30-Min.	0.71	0.71	
	5-Yr, 1 Hr.	0.61	0.61	
	5-Yr, 2 Hr.	0.50	0.50	
	5-Yr, 3 Hr.			
Outlet #54 (205)	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	0.23	0.23	
	5-Yr, 30-Min.	0.38	0.38	
	5-Yr, 1 Hr.	0.32	0.32	
	5-Yr, 2 Hr.	0.25	0.25	
	5-Yr, 3 Hr.			
Outlet #55	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	2.11	4.12	3.02
	5-Yr, 30-Min.	4.95	6.59	4.71
	5-Yr, 1 Hr.	5.23	6.24	5.05
	5-Yr, 2 Hr.	3.83	4.51	3.99
	5-Yr, 3 Hr.			
Outlet #56 (209)	Design Storm	Existing Q ₅ (cfs)	Proposed Q ₅ (cfs)	Proposed (w/Det) Q ₅ (cfs)
	5-Yr, 15-Min.	2.33	3.02	2.69
	5-Yr, 30-Min.	7.01	7.79	7.16
	5-Yr, 1 Hr.	9.72	10.24	9.55
	5-Yr, 2 Hr.	7.64	7.80	7.55
	5-Yr, 3 Hr.			

This report is being used as an example of preferred layout and content. It should be noted that this project was allowed a design exception for the detention criteria that requires the release the post-construction Q₁₀₀ at rates less than or equal to the pre-construction Q₁₀. This project was allowed to release the post-construction Q₁₀₀ at rates less than or equal to the pre-construction Q₁₀₀. This design exception should not be used unless specifically approved by INDOT Hydraulics.



PEAK DISCHARGE SUMMARY

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

Outlet Discharge Conditions - Existing / Proposed / Proposed with Detention

Outlet #57	Design Storm	Existing Q ₁₀₀ (cfs)	Proposed Q ₁₀₀ (cfs)	Proposed (w/Det) Q ₁₀₀ (cfs)
	100-Yr, 15-Min.	9.30	15.62	10.96
	100-Yr, 30-Min.	15.74	22.75	14.93
	100-Yr, 1 Hr.	14.71	21.65	14.28
	100-Yr, 2 Hr.	14.80	20.97	14.18
	100-Yr, 3 Hr.	12.50		
Outlet #58	Design Storm	Existing Q ₁₀₀ (cfs)	Proposed Q ₁₀₀ (cfs)	Proposed (w/Det) Q ₁₀₀ (cfs)
	100-Yr, 15-Min.	13.82	23.43	17.55
	100-Yr, 30-Min.	27.61	39.62	29.46
	100-Yr, 1 Hr.	30.87	39.42	29.37
	100-Yr, 2 Hr.	27.69	37.79	28.17
	100-Yr, 3 Hr.	25.19		

This report is being used as an example of preferred layout and content. It should be noted that this project was allowed a design exception for the detention criteria that requires the release the post-construction Q₁₀₀ at rates less than or equal to the pre-construction Q₁₀. This project was allowed to release the post-construction Q₁₀₀ at rates less than or equal to the pre-construction Q₁₀₀. This design exception should not be used unless specifically approved by INDOT Hydraulics.



PEAK DISCHARGE SUMMARY

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

Proposed Conditions - Peak Discharge, Peak Time and Peak Elevation from Detention

	Storm	Q ₅ (cfs)	t ₅ (min)	5-YR EL.
POND 194	5-YR, 15 MIN	3.09	30.0	574.52
	5-YR, 30 MIN	4.76	43.0	575.25
	5-YR, 1 HR	5.34	70.0	575.57
	5-YR, 2 HR	4.79	120.0	575.26
	Storm	Q ₅ (cfs)	t ₅ (min)	5-YR EL.
POND 198	5-YR, 15 MIN	2.10	31.0	572.78
	5-YR, 30 MIN	2.49	43.0	573.35
	5-YR, 1 HR	2.63	69.0	573.57
	5-YR, 2 HR	2.44	111.0	573.27
	Storm	Q ₅ (cfs)	t ₅ (min)	5-YR EL.
POND 199	5-YR, 15 MIN	1.39	36.0	572.82
	5-YR, 30 MIN	1.67	48.0	573.25
	5-YR, 1 HR	1.79	73.8	573.47
	5-YR, 2 HR	1.75	126.0	573.40
	5-YR, 3 HR	1.61	157.8	573.16
	Storm	Q ₅ (cfs)	t ₅ (min)	5-YR EL.
POND 201	5-YR, 15 MIN	0.67	32.0	572.96
	5-YR, 30 MIN	0.78	46.2	573.24
	5-YR, 1 HR	0.86	73.2	573.44
	5-YR, 2 HR	0.85	127.2	573.42
	5-YR, 3 HR	0.78	165.0	573.23
	Storm	Q ₅ (cfs)	t ₅ (min)	5-YR EL.
POND 202	5-YR, 15 MIN	0.57	23.0	575.52
	5-YR, 30 MIN	0.76	36.0	575.94
	5-YR, 1 HR	0.79	62.0	576.01
	5-YR, 2 HR	0.66	101.0	575.70
	Storm	Q ₅ (cfs)	t ₅ (min)	5-YR EL.
POND 203	5-YR, 15 MIN	0.69	27.0	577.02
	5-YR, 30 MIN	0.78	40.0	577.24
	5-YR, 1 HR	0.82	66.0	577.32
	5-YR, 2 HR	0.74	105.0	577.13



PEAK DISCHARGE SUMMARY

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

Proposed Conditions - Peak Discharge, Peak Time and Peak Elevation from Detention

	Storm	Q ₅ (cfs)	t ₅ (min)	5-YR EL.
POND 208A	5-YR, 15 MIN	0.45	34.2	578.04
	5-YR, 30 MIN	0.70	46.2	578.14
	5-YR, 1 HR	0.92	72.0	578.22
	5-YR, 2 HR	0.95	127.2	578.23
	5-YR, 3 HR	0.83	178.8	578.19
	Storm	Q ₅ (cfs)	t ₅ (min)	5-YR EL.
POND 209A	5-YR, 15 MIN	0.32	33.0	578.11
	5-YR, 30 MIN	0.63	45.0	578.27
	5-YR, 1 HR	0.86	70.2	578.40
	5-YR, 2 HR	0.86	124.2	578.40
	5-YR, 3-HR	0.73	168.8	578.33
	Storm	Q ₁₀₀ (cfs)	t ₁₀₀ (min)	100-YR EL.
POND 211	100-YR, 15 MIN	1.90	30.0	579.52
	100-YR, 30 MIN	2.54	43.0	580.43
	100-YR, 1 HR	2.77	67.0	580.82
	100-YR, 2 HR	2.56	60.0	580.47
	Storm	Q ₁₀₀ (cfs)	t ₁₀₀ (min)	100-YR EL.
POND 213	100-YR, 15 MIN	3.68	33.0	581.25
	100-YR, 30 MIN	4.24	45.0	582.18
	100-YR, 1 HR	4.45	70.0	582.56
	100-YR, 2 HR	4.35	109.2	582.37
	100-YR, 3 HR	4.19	76.8	582.09
	Storm	Q ₁₀₀ (cfs)	t ₁₀₀ (min)	100-YR EL.
POND 217	100-YR, 15 MIN	5.85	46.0	580.71
	100-YR, 30 MIN	8.08	57.0	581.39
	100-YR, 1 HR	9.33	79.2	581.87
	100-YR, 2 HR	9.21	121.2	581.82
	100-YR, 3 HR	8.35	94.2	581.49

Appendix A

Hydrology Calculations and Documentation

SAMPLE

Facility Description	Methodology					
	Rational Method*	TR-20 or HEC-HMS	IDNR Coordinated Curves	USGS Gaging Information	Stream Stats	Purdue Regression Equations
Culvert	2	2	1	--	3	--
Bridge or Channel, < 5 sq mi drainage area	--	2	1	3	3	3
Bridge or Channel, ≥ 5 sq mi drainage area	--	3	1	2	3	3
Storm Drain and Inlets	1	4	--	--	--	--
Storage Facility	5	1	--	--	--	--
Pumping Station **	--	1	--	--	--	--

Notes: Must use IDNR Discharge Letter if IDNR Permit is required.

1 is the preferred method

2 is the preferred method if 1 is unavailable

3 is the secondary method

4 may be used if a complex facility exists

5 may be used for retention storage with no outlet

* Rational Method may be used only if drainage area is less than 100 ac in an urban area or less than 200 ac in a rural area.

** See HEC-24, Chapters 5.3 – 5.5.

SELECTION OF DISCHARGE-COMPUTATION METHOD

Figure 202-3A



NOAA Atlas 14, Volume 2, Version 3
 Location name: Seymour, Indiana, US*
 Latitude: 39.0140°, Longitude: -85.8751°
 Elevation: 589 ft*
 * source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

PF tabular

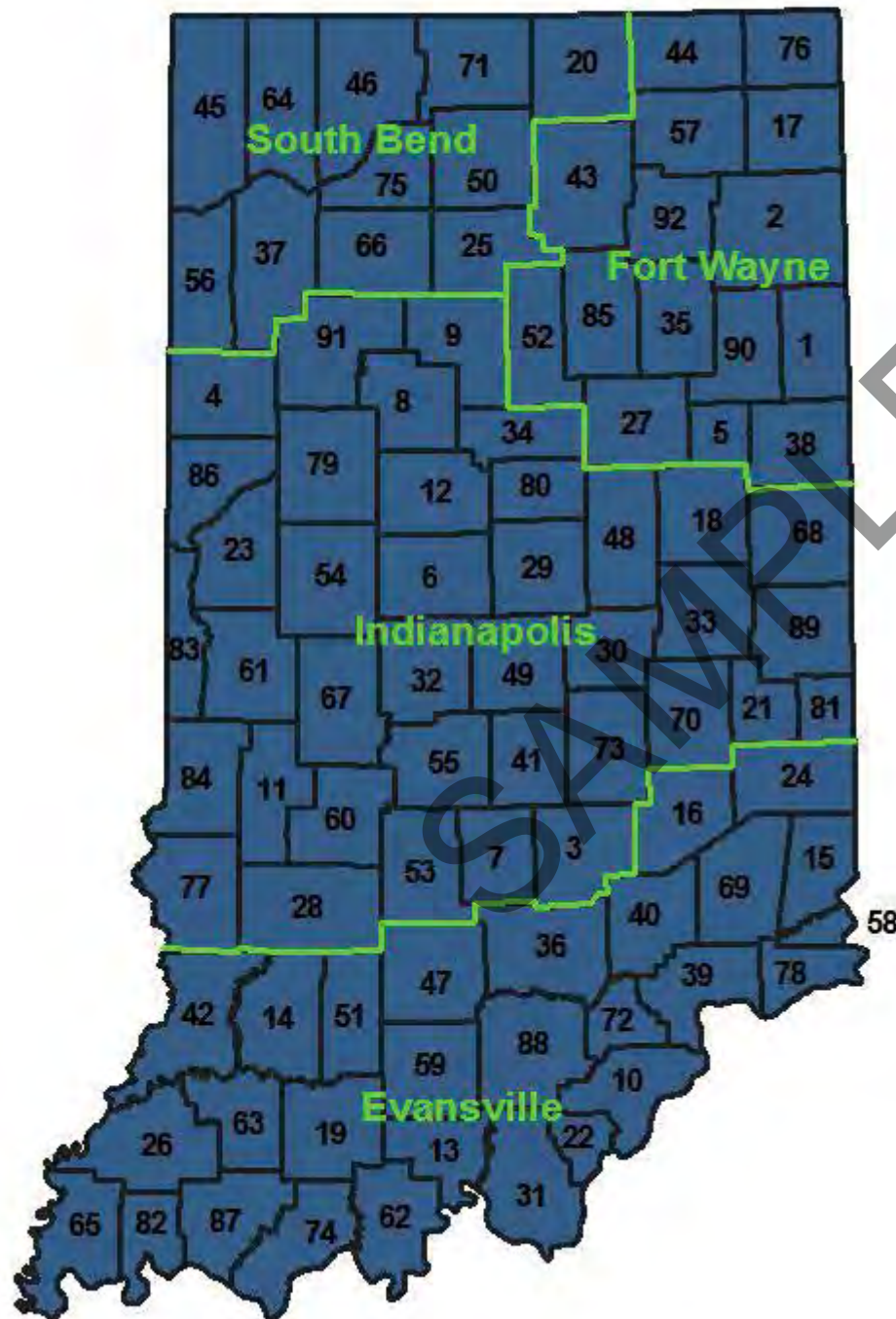
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.376 (0.341–0.418)	0.449 (0.406–0.499)	0.539 (0.486–0.599)	0.609 (0.548–0.677)	0.703 (0.627–0.780)	0.776 (0.687–0.862)	0.849 (0.745–0.945)	0.925 (0.803–1.04)	1.03 (0.877–1.16)	1.11 (0.931–1.26)
10-min	0.584 (0.529–0.649)	0.701 (0.634–0.779)	0.838 (0.755–0.931)	0.941 (0.846–1.05)	1.08 (0.958–1.19)	1.18 (1.04–1.31)	1.28 (1.12–1.42)	1.38 (1.20–1.54)	1.51 (1.29–1.71)	1.61 (1.36–1.83)
15-min	0.716 (0.649–0.796)	0.857 (0.775–0.953)	1.03 (0.927–1.14)	1.16 (1.04–1.29)	1.33 (1.18–1.47)	1.46 (1.29–1.62)	1.59 (1.39–1.77)	1.72 (1.49–1.92)	1.89 (1.61–2.13)	2.01 (1.69–2.29)
30-min	0.948 (0.858–1.05)	1.15 (1.04–1.28)	1.41 (1.27–1.57)	1.61 (1.45–1.79)	1.87 (1.67–2.08)	2.08 (1.84–2.31)	2.29 (2.01–2.55)	2.51 (2.18–2.80)	2.80 (2.38–3.15)	3.02 (2.54–3.43)
60-min	1.16 (1.05–1.29)	1.41 (1.27–1.57)	1.77 (1.59–1.97)	2.05 (1.84–2.27)	2.43 (2.17–2.70)	2.74 (2.43–3.05)	3.07 (2.69–3.41)	3.40 (2.95–3.80)	3.87 (3.30–4.36)	4.24 (3.57–4.82)
2-hr	1.37 (1.24–1.53)	1.66 (1.50–1.85)	2.10 (1.89–2.34)	2.46 (2.21–2.75)	2.98 (2.65–3.33)	3.41 (3.01–3.81)	3.88 (3.38–4.35)	4.39 (3.76–4.94)	5.13 (4.31–5.82)	5.74 (4.74–6.56)
3-hr	1.46 (1.33–1.65)	1.77 (1.60–1.99)	2.25 (2.03–2.53)	2.64 (2.37–2.96)	3.22 (2.85–3.61)	3.70 (3.25–4.15)	4.23 (3.66–4.75)	4.81 (4.10–5.41)	5.66 (4.71–6.42)	6.38 (5.19–7.28)
6-hr	1.77 (1.60–2.00)	2.15 (1.94–2.43)	2.73 (2.46–3.08)	3.21 (2.88–3.62)	3.93 (3.47–4.42)	4.54 (3.96–5.11)	5.20 (4.48–5.89)	5.94 (5.03–6.75)	7.03 (5.81–8.03)	7.96 (6.45–9.15)
12-hr	2.12 (1.92–2.37)	2.56 (2.31–2.86)	3.21 (2.89–3.59)	3.74 (3.36–4.18)	4.51 (4.01–5.04)	5.16 (4.55–5.76)	5.86 (5.09–6.55)	6.61 (5.67–7.42)	7.71 (6.49–8.72)	8.63 (7.15–9.83)
24-hr	2.53 (2.33–2.76)	3.04 (2.80–3.32)	3.79 (3.49–4.14)	4.40 (4.04–4.81)	5.29 (4.82–5.77)	6.03 (5.45–6.57)	6.81 (6.12–7.44)	7.66 (6.82–8.38)	8.88 (7.80–9.77)	9.89 (8.56–10.9)
2-day	3.01 (2.78–3.29)	3.61 (3.33–3.94)	4.46 (4.10–4.86)	5.14 (4.72–5.61)	6.11 (5.57–6.66)	6.90 (6.26–7.54)	7.72 (6.96–8.46)	8.60 (7.68–9.45)	9.83 (8.68–10.9)	10.8 (9.47–12.1)
3-day	3.23 (3.00–3.49)	3.86 (3.59–4.18)	4.75 (4.40–5.13)	5.47 (5.05–5.90)	6.47 (5.96–6.99)	7.29 (6.68–7.89)	8.16 (7.42–8.85)	9.07 (8.19–9.87)	10.3 (9.23–11.3)	11.4 (10.0–12.5)
4-day	3.44 (3.22–3.69)	4.12 (3.85–4.41)	5.04 (4.71–5.40)	5.79 (5.39–6.20)	6.84 (6.34–7.32)	7.69 (7.10–8.25)	8.59 (7.89–9.24)	9.53 (8.69–10.3)	10.9 (9.77–11.8)	11.9 (10.6–13.0)
7-day	4.11 (3.86–4.39)	4.89 (4.60–5.24)	5.93 (5.56–6.35)	6.75 (6.31–7.22)	7.87 (7.33–8.43)	8.76 (8.13–9.40)	9.67 (8.93–10.4)	10.6 (9.73–11.4)	11.9 (10.8–12.9)	12.9 (11.6–14.0)
10-day	4.69 (4.38–5.01)	5.58 (5.22–5.97)	6.72 (6.28–7.19)	7.62 (7.11–8.15)	8.84 (8.22–9.46)	9.81 (9.09–10.5)	10.8 (9.94–11.6)	11.8 (10.8–12.7)	13.1 (11.9–14.2)	14.1 (12.8–15.4)
20-day	6.44 (6.06–6.83)	7.62 (7.18–8.09)	9.02 (8.49–9.58)	10.1 (9.49–10.7)	11.5 (10.8–12.2)	12.6 (11.8–13.4)	13.7 (12.8–14.6)	14.8 (13.7–15.8)	16.2 (14.9–17.4)	17.3 (15.8–18.6)
30-day	7.93 (7.50–8.36)	9.34 (8.84–9.85)	10.9 (10.3–11.5)	12.1 (11.5–12.8)	13.8 (13.0–14.5)	15.0 (14.1–15.9)	16.2 (15.2–17.2)	17.4 (16.3–18.5)	19.0 (17.6–20.3)	20.2 (18.6–21.7)
45-day	10.0 (9.50–10.6)	11.8 (11.2–12.4)	13.6 (12.9–14.3)	15.0 (14.2–15.8)	16.8 (15.9–17.7)	18.2 (17.1–19.2)	19.5 (18.3–20.6)	20.8 (19.5–22.0)	22.4 (20.9–23.9)	23.7 (21.9–25.2)
60-day	11.9 (11.3–12.5)	14.0 (13.3–14.7)	16.0 (15.2–16.8)	17.6 (16.7–18.5)	19.6 (18.6–20.6)	21.1 (20.0–22.2)	22.6 (21.3–23.8)	23.9 (22.5–25.3)	25.6 (23.9–27.2)	26.9 (25.0–28.6)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Huff Distribution Regional Map



- | | |
|----------------|-----------------|
| 1. Adams | 47. Lawrence |
| 2. Allen | 48. Madison |
| 3. Bartholomew | 49. Marion |
| 4. Benton | 50. Marshall |
| 5. Blackford | 51. Martin |
| 6. Boone | 52. Miami |
| 7. Brown | 53. Monroe |
| 8. Carroll | 54. Montgomery |
| 9. Cass | 55. Morgan |
| 10. Clark | 56. Newton |
| 11. Clay | 57. Noble |
| 12. Clinton | 58. Ohio |
| 13. Crawford | 59. Orange |
| 14. Daviess | 60. Owen |
| 15. Dearborn | 61. Parke |
| 16. Decatur | 62. Perry |
| 17. DeKalb | 63. Pike |
| 18. Delaware | 64. Porter |
| 19. Dubois | 65. Posey |
| 20. Elkhart | 66. Pulaski |
| 21. Fayette | 67. Putnam |
| 22. Floyd | 68. Randolph |
| 23. Fountain | 69. Ripley |
| 24. Franklin | 70. Rush |
| 25. Fulton | 71. St. Joseph |
| 26. Gibson | 72. Scott |
| 27. Grant | 73. Shelby |
| 28. Greene | 74. Spencer |
| 29. Hamilton | 75. Starke |
| 30. Hancock | 76. Steuban |
| 31. Harrison | 77. Sullivan |
| 32. Hendricks | 78. Switzerland |
| 33. Henry | 79. Tippecanoe |
| 34. Howard | 80. Tipton |
| 35. Huntington | 81. Union |
| 36. Jackson | 82. Vanderburgh |
| 37. Jasper | 83. Vermillion |
| 38. Jay | 84. Vigo |
| 39. Jefferson | 85. Wabash |
| 40. Jennings | 86. Warren |
| 41. Johnson | 87. Warrick |
| 42. Knox | 88. Washington |
| 43. Kosciusko | 89. Wayne |
| 44. LaGrange | 90. Wells |
| 45. Lake | 91. White |
| 46. LaPorte | 92. Whitley |

Table 2.1.5
50% Huff Curve Ordinates (Purdue et al., 1992)

% Storm Time	Indianapolis				Evansville				Fort Wayne				South Bend			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	20.00	6.50	5.26	6.67	22.82	6.28	5.13	6.92	20.00	6.67	6.00	7.14	20.00	7.50	7.00	8.26
20	40.80	18.13	11.55	14.25	44.69	17.33	11.11	14.04	41.11	17.14	12.23	14.23	40.00	18.57	13.33	16.35
30	54.95	35.85	17.06	20.00	57.11	33.33	16.67	20.51	54.83	34.17	18.86	20.00	51.67	34.00	20.00	22.73
40	62.50	52.94	24.24	26.09	65.33	53.09	25.44	27.06	62.00	52.18	26.15	25.71	60.89	51.43	27.50	28.50
50	68.75	67.86	37.78	33.33	71.43	69.57	37.93	34.21	68.42	66.67	38.46	33.33	67.35	66.67	39.13	34.04
60	76.67	76.52	58.33	40.00	78.15	78.57	57.39	40.91	75.00	76.36	57.23	38.00	75.00	75.17	58.46	40.20
70	83.05	83.81	78.03	50.00	84.66	85.60	77.44	50.79	81.62	84.29	76.11	48.50	80.83	82.32	75.98	50.00
80	89.70	90.67	88.68	68.57	90.00	91.72	88.54	69.70	87.50	90.00	87.69	68.24	86.67	88.89	86.79	67.50
90	95.00	95.89	95.29	88.37	95.36	96.50	95.88	89.36	93.75	95.56	95.08	87.88	92.89	94.78	94.17	87.50
100	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

HUFF DISTRIBUTION, 50% CURVE ORDINATES **5-YEAR RETURN PERIOD**

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		0.25	hr
Rainfall Depth		1.03	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
6.67%	13.33	1	0.137
13.33%	26.93	2	0.277
20.00%	40.80	3	0.420
26.67%	50.23	4	0.517
33.33%	57.47	5	0.592
40.00%	62.50	6	0.644
46.67%	66.67	7	0.687
53.33%	71.39	8	0.735
60.00%	76.67	9	0.790
66.67%	80.92	10	0.834
73.33%	85.27	11	0.878
80.00%	89.70	12	0.924
86.67%	93.23	13	0.960
93.33%	96.67	14	0.996
100.00%	100.00	15	1.030

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		0.25	hr
Rainfall Depth		1.03	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	1.5	0.206
20%	40.80	3	0.420
30%	54.95	4.5	0.566
40%	62.50	6	0.644
50%	68.75	7.5	0.708
60%	76.67	9	0.790
70%	83.05	10.5	0.855
80%	89.70	12	0.924
90%	95.00	13.5	0.979
100%	100.00	15	1.030

HUFF DISTRIBUTION, 50% CURVE ORDINATES **5-YEAR RETURN PERIOD**

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		0.50	hr
Rainfall Depth		1.41	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
3.33%	6.67	1	0.094
6.67%	13.33	2	0.188
10.00%	20.00	3	0.282
13.33%	26.93	4	0.380
16.67%	33.87	5	0.478
20.00%	40.80	6	0.575
23.33%	45.52	7	0.642
26.67%	50.23	8	0.708
30.00%	54.95	9	0.77
33.33%	57.47	10	0.81
36.67%	59.98	11	0.85
40.00%	62.50	12	0.88
43.33%	64.58	13	0.91
46.67%	66.67	14	0.94
50.00%	68.75	15	0.97
53.33%	71.39	16	1.01
56.67%	74.03	17	1.04
60.00%	76.67	18	1.08
63.33%	78.80	19	1.11
66.67%	80.92	20	1.14
70.00%	83.05	21	1.17
73.33%	85.27	22	1.20
76.67%	87.48	23	1.23
80.00%	89.70	24	1.26
83.33%	91.47	25	1.29
86.67%	93.23	26	1.31
90.00%	95.00	27	1.34
93.33%	96.67	28	1.36
96.67%	98.33	29	1.39
100.00%	100.00	30	1.41

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		0.50	hr
Rainfall Depth		1.41	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	3	0.282
20%	40.80	6	0.575
30%	54.95	9	0.775
40%	62.50	12	0.881
50%	68.75	15	0.969
60%	76.67	18	1.081
70%	83.05	21	1.171
80%	89.70	24	1.265
90%	95.00	27	1.340
100%	100.00	30	1.410

HUFF DISTRIBUTION, 50% CURVE ORDINATES **5-YEAR RETURN PERIOD**

1st Quartile, 50% Huff Curve Ordinates

Storm Duration Rainfall Depth		1.00 1.77	hr in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
1.67%	3.33	1	0.059
3.33%	6.67	2	0.118
5.00%	10.00	3	0.177
6.67%	13.33	4	0.236
8.33%	16.67	5	0.295
10.00%	20.00	6	0.354
11.67%	23.33	7	0.413
13.33%	26.93	8	0.477
15.00%	30.40	9	0.538
16.67%	33.87	10	0.599
18.33%	37.33	11	0.661
20.00%	40.80	12	0.722
21.67%	44.27	13	0.784
23.33%	45.52	14	0.806
25.00%	47.88	15	0.847
26.67%	50.23	16	0.889
28.33%	52.59	17	0.931
30.00%	54.95	18	0.973
31.67%	57.31	19	1.014
33.33%	57.47	20	1.017
35.00%	58.73	21	1.039
36.67%	59.98	22	1.062
38.33%	61.24	23	1.084
40.00%	62.50	24	1.106
41.67%	63.54	25	1.125
43.33%	64.58	26	1.143
45.00%	65.63	27	1.162
46.67%	66.67	28	1.180
48.33%	67.71	29	1.198
50.00%	68.75	30	1.217
51.67%	70.07	31	1.240
53.33%	71.39	32	1.264
55.00%	72.71	33	1.287
56.67%	74.03	34	1.310
58.33%	75.35	35	1.334
60.00%	76.67	36	1.357
61.67%	77.73	37	1.376
63.33%	78.80	38	1.395
65.00%	79.86	39	1.414
66.67%	80.92	40	1.432
68.33%	81.99	41	1.451
70.00%	83.05	42	1.470
71.67%	84.16	43	1.490
73.33%	85.27	44	1.509
75.00%	86.38	45	1.529
76.67%	87.48	46	1.548
78.33%	88.59	47	1.568

1st Quartile, 50% Huff Curve Ordinates

Storm Duration Rainfall Depth		1.00 1.77	hr in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	6	0.354
20%	40.80	12	0.722
30%	54.95	18	0.973
40%	62.50	24	1.106
50%	68.75	30	1.217
60%	76.67	36	1.357
70%	83.05	42	1.470
80%	89.70	48	1.588
90%	95.00	54	1.682
100%	100.00	60	1.770

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

80.00%	89.70	48	1.588
81.67%	90.58	49	1.603
83.33%	91.47	50	1.619
85.00%	92.35	51	1.635
86.67%	93.23	52	1.650
88.33%	94.12	53	1.666
90.00%	95.00	54	1.682
91.67%	95.83	55	1.696
93.33%	96.67	56	1.711
95.00%	97.50	57	1.726
96.67%	98.33	58	1.741
98.33%	99.17	59	1.755
100.00%	100.00	60	1.770

SAMPLE

HUFF DISTRIBUTION, 50% CURVE ORDINATES **5-YEAR RETURN PERIOD**

1st Quartile, 50% Huff Curve Ordinates

Storm Duration Rainfall Depth		2.00 2.10	hr in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.83%	1.67	1	0.035
1.67%	3.33	2	0.070
2.50%	5.00	3	0.105
3.33%	6.67	4	0.140
4.17%	8.33	5	0.175
5.00%	10.00	6	0.210
5.83%	11.67	7	0.245
6.67%	13.33	8	0.280
7.50%	15.00	9	0.315
8.33%	16.67	10	0.350
9.17%	18.33	11	0.385
10.00%	20.00	12	0.420
10.83%	21.73	13	0.456
11.67%	23.47	14	0.493
12.50%	25.20	15	0.529
13.33%	26.93	16	0.566
14.17%	28.67	17	0.602
15.00%	30.40	18	0.638
15.83%	32.13	19	0.675
16.67%	33.87	20	0.711
17.50%	35.60	21	0.748
18.33%	37.33	22	0.784
19.17%	39.07	23	0.820
20.00%	40.80	24	0.857
20.83%	41.98	25	0.882
21.67%	43.16	26	0.906
22.50%	44.34	27	0.931
23.33%	45.52	28	0.956
24.17%	46.70	29	0.981
25.00%	47.88	30	1.005
25.83%	49.05	31	1.030
26.67%	50.23	32	1.055
27.50%	51.41	33	1.080
28.33%	52.59	34	1.104
29.17%	53.77	35	1.129
30.00%	54.95	36	1.154
30.83%	55.58	37	1.167
31.67%	56.21	38	1.180
32.50%	56.84	39	1.194
33.33%	57.47	40	1.207
34.17%	58.10	41	1.220
35.00%	58.73	42	1.233
35.83%	59.35	43	1.246
36.67%	59.98	44	1.260
37.50%	60.61	45	1.273
38.33%	61.24	46	1.286
39.17%	61.87	47	1.299

1st Quartile, 50% Huff Curve Ordinates

Storm Duration Rainfall Depth		2.00 2.1	hr in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	12	0.420
20%	40.80	24	0.857
30%	54.95	36	1.154
40%	62.50	48	1.313
50%	68.75	60	1.444
60%	76.67	72	1.610
70%	83.05	84	1.744
80%	89.70	96	1.884
90%	95.00	108	1.995
100%	100.00	120	2.100

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

40.00%	62.50	48	1.313
40.83%	63.02	49	1.323
41.67%	63.54	50	1.334
42.50%	64.06	51	1.345
43.33%	64.58	52	1.356
44.17%	65.10	53	1.367
45.00%	65.63	54	1.378
45.83%	66.15	55	1.389
46.67%	66.67	56	1.400
47.50%	67.19	57	1.411
48.33%	67.71	58	1.422
49.17%	68.23	59	1.433
50.00%	68.75	60	1.444
50.83%	69.41	61	1.458
51.67%	70.07	62	1.471
52.50%	70.73	63	1.485
53.33%	71.39	64	1.499
54.17%	72.05	65	1.513
55.00%	72.71	66	1.527
55.83%	73.37	67	1.541
56.67%	74.03	68	1.555
57.50%	74.69	69	1.568
58.33%	75.35	70	1.582
59.17%	76.01	71	1.596
60.00%	76.67	72	1.610
60.83%	77.20	73	1.621
61.67%	77.73	74	1.632
62.50%	78.27	75	1.644
63.33%	78.80	76	1.655
64.17%	79.33	77	1.666
65.00%	79.86	78	1.677
65.83%	80.39	79	1.688
66.67%	80.92	80	1.699
67.50%	81.46	81	1.711
68.33%	81.99	82	1.722
69.17%	82.52	83	1.733
70.00%	83.05	84	1.744
70.83%	83.60	85	1.756
71.67%	84.16	86	1.767
72.50%	84.71	87	1.779
73.33%	85.27	88	1.791
74.17%	85.82	89	1.802
75.00%	86.38	90	1.814
75.83%	86.93	91	1.826
76.67%	87.48	92	1.837
77.50%	88.04	93	1.849
78.33%	88.59	94	1.860
79.17%	89.15	95	1.872
80.00%	89.70	96	1.884
80.83%	90.14	97	1.893
81.67%	90.58	98	1.902
82.50%	91.03	99	1.912
83.33%	91.47	100	1.921
84.17%	91.91	101	1.930
85.00%	92.35	102	1.939

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

85.83%	92.79	103	1.949
86.67%	93.23	104	1.958
87.50%	93.68	105	1.967
88.33%	94.12	106	1.976
89.17%	94.56	107	1.986
90.00%	95.00	108	1.995
90.83%	95.42	109	2.004
91.67%	95.83	110	2.013
92.50%	96.25	111	2.021
93.33%	96.67	112	2.030
94.17%	97.08	113	2.039
95.00%	97.50	114	2.048
95.83%	97.92	115	2.056
96.67%	98.33	116	2.065
97.50%	98.75	117	2.074
98.33%	99.17	118	2.083
99.17%	99.58	119	2.091
100.00%	100.00	120	2.100

SAMPLE

HUFF DISTRIBUTION, 50% CURVE ORDINATES **5-YEAR RETURN PERIOD**

1st Quartile, 50% Huff Curve Ordinates

Storm Duration Rainfall Depth		3.00 2.25	hr in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.56%	1.11	1	0.025
1.11%	2.22	2	0.050
1.67%	3.33	3	0.075
2.22%	4.44	4	0.100
2.78%	5.56	5	0.125
3.33%	6.67	6	0.150
3.89%	7.78	7	0.175
4.44%	8.89	8	0.200
5.00%	10.00	9	0.225
5.56%	11.11	10	0.250
6.11%	12.22	11	0.275
6.67%	13.33	12	0.300
7.22%	14.44	13	0.325
7.78%	15.56	14	0.350
8.33%	16.67	15	0.375
8.89%	17.78	16	0.400
9.44%	18.89	17	0.425
10.00%	20.00	18	0.450
10.56%	21.16	19	0.476
11.11%	22.31	20	0.502
11.67%	23.47	21	0.528
12.22%	24.62	22	0.554
12.78%	25.78	23	0.580
13.33%	26.93	24	0.606
13.89%	28.09	25	0.632
14.44%	29.24	26	0.658
15.00%	30.40	27	0.684
15.56%	31.56	28	0.710
16.11%	32.71	29	0.736
16.67%	33.87	30	0.762
17.22%	35.02	31	0.788
17.78%	36.18	32	0.814
18.33%	37.33	33	0.840
18.89%	38.49	34	0.866
19.44%	39.64	35	0.892
20.00%	40.80	36	0.918
20.56%	41.59	37	0.936
21.11%	42.37	38	0.953
21.67%	43.16	39	0.971
22.22%	43.94	40	0.989
22.78%	44.73	41	1.006
23.33%	45.52	42	1.024
23.89%	46.30	43	1.042
24.44%	47.09	44	1.060
25.00%	47.88	45	1.077
25.56%	48.66	46	1.095
26.11%	49.45	47	1.113

1st Quartile, 50% Huff Curve Ordinates

Storm Duration Rainfall Depth		3.00 2.25	hr in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	18	0.450
20%	40.80	36	0.918
30%	54.95	54	1.236
40%	62.50	72	1.406
50%	68.75	90	1.547
60%	76.67	108	1.725
70%	83.05	126	1.869
80%	89.70	144	2.018
90%	95.00	162	2.138
100%	100.00	180	2.250

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

26.67%	50.23	48	1.130
27.22%	51.02	49	1.148
27.78%	51.81	50	1.166
28.33%	52.59	51	1.183
28.89%	53.38	52	1.201
29.44%	54.16	53	1.219
30.00%	54.95	54	1.236
30.56%	55.37	55	1.246
31.11%	55.79	56	1.255
31.67%	56.21	57	1.265
32.22%	56.63	58	1.274
32.78%	57.05	59	1.284
33.33%	57.47	60	1.293
33.89%	57.89	61	1.302
34.44%	58.31	62	1.312
35.00%	58.73	63	1.321
35.56%	59.14	64	1.331
36.11%	59.56	65	1.340
36.67%	59.98	66	1.350
37.22%	60.40	67	1.359
37.78%	60.82	68	1.369
38.33%	61.24	69	1.378
38.89%	61.66	70	1.387
39.44%	62.08	71	1.397
40.00%	62.50	72	1.406
40.56%	62.85	73	1.414
41.11%	63.19	74	1.422
41.67%	63.54	75	1.430
42.22%	63.89	76	1.438
42.78%	64.24	77	1.445
43.33%	64.58	78	1.453
43.89%	64.93	79	1.461
44.44%	65.28	80	1.469
45.00%	65.63	81	1.477
45.56%	65.97	82	1.484
46.11%	66.32	83	1.492
46.67%	66.67	84	1.500
47.22%	67.01	85	1.508
47.78%	67.36	86	1.516
48.33%	67.71	87	1.523
48.89%	68.06	88	1.531
49.44%	68.40	89	1.539
50.00%	68.75	90	1.547
50.56%	69.19	91	1.557
51.11%	69.63	92	1.567
51.67%	70.07	93	1.577
52.22%	70.51	94	1.586
52.78%	70.95	95	1.596
53.33%	71.39	96	1.606
53.89%	71.83	97	1.616
54.44%	72.27	98	1.626
55.00%	72.71	99	1.636
55.56%	73.15	100	1.646
56.11%	73.59	101	1.656
56.67%	74.03	102	1.666

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

57.22%	74.47	103	1.676
57.78%	74.91	104	1.685
58.33%	75.35	105	1.695
58.89%	75.79	106	1.705
59.44%	76.23	107	1.715
60.00%	76.67	108	1.725
60.56%	77.02	109	1.733
61.11%	77.38	110	1.741
61.67%	77.73	111	1.749
62.22%	78.09	112	1.757
62.78%	78.44	113	1.765
63.33%	78.80	114	1.773
63.89%	79.15	115	1.781
64.44%	79.51	116	1.789
65.00%	79.86	117	1.797
65.56%	80.21	118	1.805
66.11%	80.57	119	1.813
66.67%	80.92	120	1.821
67.22%	81.28	121	1.829
67.78%	81.63	122	1.837
68.33%	81.99	123	1.845
68.89%	82.34	124	1.853
69.44%	82.70	125	1.861
70.00%	83.05	126	1.869
70.56%	83.42	127	1.877
71.11%	83.79	128	1.885
71.67%	84.16	129	1.894
72.22%	84.53	130	1.902
72.78%	84.90	131	1.910
73.33%	85.27	132	1.919
73.89%	85.64	133	1.927
74.44%	86.01	134	1.935
75.00%	86.38	135	1.943
75.56%	86.74	136	1.952
76.11%	87.11	137	1.960
76.67%	87.48	138	1.968
77.22%	87.85	139	1.977
77.78%	88.22	140	1.985
78.33%	88.59	141	1.993
78.89%	88.96	142	2.002
79.44%	89.33	143	2.010
80.00%	89.70	144	2.018
80.56%	89.99	145	2.025
81.11%	90.29	146	2.032
81.67%	90.58	147	2.038
82.22%	90.88	148	2.045
82.78%	91.17	149	2.051
83.33%	91.47	150	2.058
83.89%	91.76	151	2.065
84.44%	92.06	152	2.071
85.00%	92.35	153	2.078
85.56%	92.64	154	2.085
86.11%	92.94	155	2.091
86.67%	93.23	156	2.098
87.22%	93.53	157	2.104

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

87.78%	93.82	158	2.111
88.33%	94.12	159	2.118
88.89%	94.41	160	2.124
89.44%	94.71	161	2.131
90.00%	95.00	162	2.138
90.56%	95.28	163	2.144
91.11%	95.56	164	2.150
91.67%	95.83	165	2.156
92.22%	96.11	166	2.163
92.78%	96.39	167	2.169
93.33%	96.67	168	2.175
93.89%	96.94	169	2.181
94.44%	97.22	170	2.188
95.00%	97.50	171	2.194
95.56%	97.78	172	2.200
96.11%	98.06	173	2.206
96.67%	98.33	174	2.213
97.22%	98.61	175	2.219
97.78%	98.89	176	2.225
98.33%	99.17	177	2.231
98.89%	99.44	178	2.238
99.44%	99.72	179	2.244
100.00%	100.00	180	2.250

HUFF DISTRIBUTION, 50% CURVE ORDINATES **5-YEAR RETURN PERIOD**

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		6.00	hr
Rainfall Depth		2.73	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.28%	0.56	1	0.015
0.56%	1.11	2	0.030
0.83%	1.67	3	0.046
1.11%	2.22	4	0.061
1.39%	2.78	5	0.076
1.67%	3.33	6	0.091
1.94%	3.89	7	0.106
2.22%	4.44	8	0.121
2.50%	5.00	9	0.137
2.78%	5.56	10	0.152
3.06%	6.11	11	0.167
3.33%	6.67	12	0.182
3.61%	7.22	13	0.197
3.89%	7.78	14	0.212
4.17%	8.33	15	0.228
4.44%	8.89	16	0.243
4.72%	9.44	17	0.258
5.00%	10.00	18	0.273
5.28%	10.56	19	0.288
5.56%	11.11	20	0.303
5.83%	11.67	21	0.319
6.11%	12.22	22	0.334
6.39%	12.78	23	0.349
6.67%	13.33	24	0.364
6.94%	13.89	25	0.379
7.22%	14.44	26	0.394
7.50%	15.00	27	0.410
7.78%	15.56	28	0.425
8.06%	16.11	29	0.440
8.33%	16.67	30	0.455
8.61%	17.22	31	0.470
8.89%	17.78	32	0.485
9.17%	18.33	33	0.501
9.44%	18.89	34	0.516
9.72%	19.44	35	0.531
10.00%	20.00	36	0.546
10.28%	20.58	37	0.562
10.56%	21.16	38	0.578
10.83%	21.73	39	0.593
11.11%	22.31	40	0.609
11.39%	22.89	41	0.625
11.67%	23.47	42	0.641
11.94%	24.04	43	0.656
12.22%	24.62	44	0.672
12.50%	25.20	45	0.688
12.78%	25.78	46	0.704
13.06%	26.36	47	0.720

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		6.00	hr
Rainfall Depth		2.73	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	36	0.546
20%	40.80	72	1.114
30%	54.95	108	1.500
40%	62.50	144	1.706
50%	68.75	180	1.877
60%	76.67	216	2.093
70%	83.05	252	2.267
80%	89.70	288	2.449
90%	95.00	324	2.594
100%	100.00	360	2.730

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

13.33%	26.93	48	0.735
13.61%	27.51	49	0.751
13.89%	28.09	50	0.767
14.17%	28.67	51	0.783
14.44%	29.24	52	0.798
14.72%	29.82	53	0.814
15.00%	30.40	54	0.830
15.28%	30.98	55	0.846
15.56%	31.56	56	0.861
15.83%	32.13	57	0.877
16.11%	32.71	58	0.893
16.39%	33.29	59	0.909
16.67%	33.87	60	0.925
16.94%	34.44	61	0.940
17.22%	35.02	62	0.956
17.50%	35.60	63	0.972
17.78%	36.18	64	0.988
18.06%	36.76	65	1.003
18.33%	37.33	66	1.019
18.61%	37.91	67	1.035
18.89%	38.49	68	1.051
19.17%	39.07	69	1.067
19.44%	39.64	70	1.082
19.72%	40.22	71	1.098
20.00%	40.80	72	1.114
20.28%	41.19	73	1.125
20.56%	41.59	74	1.135
20.83%	41.98	75	1.146
21.11%	42.37	76	1.157
21.39%	42.77	77	1.167
21.67%	43.16	78	1.178
21.94%	43.55	79	1.189
22.22%	43.94	80	1.200
22.50%	44.34	81	1.210
22.78%	44.73	82	1.221
23.06%	45.12	83	1.232
23.33%	45.52	84	1.243
23.61%	45.91	85	1.253
23.89%	46.30	86	1.264
24.17%	46.70	87	1.275
24.44%	47.09	88	1.286
24.72%	47.48	89	1.296
25.00%	47.88	90	1.307
25.28%	48.27	91	1.318
25.56%	48.66	92	1.328
25.83%	49.05	93	1.339
26.11%	49.45	94	1.350
26.39%	49.84	95	1.361
26.67%	50.23	96	1.371
26.94%	50.63	97	1.382
27.22%	51.02	98	1.393
27.50%	51.41	99	1.404
27.78%	51.81	100	1.414
28.06%	52.20	101	1.425
28.33%	52.59	102	1.436

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

28.61%	52.98	103	1.446
28.89%	53.38	104	1.457
29.17%	53.77	105	1.468
29.44%	54.16	106	1.479
29.72%	54.56	107	1.489
30.00%	54.95	108	1.500
30.28%	55.16	109	1.506
30.56%	55.37	110	1.512
30.83%	55.58	111	1.517
31.11%	55.79	112	1.523
31.39%	56.00	113	1.529
31.67%	56.21	114	1.534
31.94%	56.42	115	1.540
32.22%	56.63	116	1.546
32.50%	56.84	117	1.552
32.78%	57.05	118	1.557
33.06%	57.26	119	1.563
33.33%	57.47	120	1.569
33.61%	57.68	121	1.575
33.89%	57.89	122	1.580
34.17%	58.10	123	1.586
34.44%	58.31	124	1.592
34.72%	58.52	125	1.597
35.00%	58.73	126	1.603
35.28%	58.93	127	1.609
35.56%	59.14	128	1.615
35.83%	59.35	129	1.620
36.11%	59.56	130	1.626
36.39%	59.77	131	1.632
36.67%	59.98	132	1.638
36.94%	60.19	133	1.643
37.22%	60.40	134	1.649
37.50%	60.61	135	1.655
37.78%	60.82	136	1.660
38.06%	61.03	137	1.666
38.33%	61.24	138	1.672
38.61%	61.45	139	1.678
38.89%	61.66	140	1.683
39.17%	61.87	141	1.689
39.44%	62.08	142	1.695
39.72%	62.29	143	1.701
40.00%	62.50	144	1.706
40.28%	62.67	145	1.711
40.56%	62.85	146	1.716
40.83%	63.02	147	1.720
41.11%	63.19	148	1.725
41.39%	63.37	149	1.730
41.67%	63.54	150	1.735
41.94%	63.72	151	1.739
42.22%	63.89	152	1.744
42.50%	64.06	153	1.749
42.78%	64.24	154	1.754
43.06%	64.41	155	1.758
43.33%	64.58	156	1.763
43.61%	64.76	157	1.768

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

43.89%	64.93	158	1.773
44.17%	65.10	159	1.777
44.44%	65.28	160	1.782
44.72%	65.45	161	1.787
45.00%	65.63	162	1.792
45.28%	65.80	163	1.796
45.56%	65.97	164	1.801
45.83%	66.15	165	1.806
46.11%	66.32	166	1.811
46.39%	66.49	167	1.815
46.67%	66.67	168	1.820
46.94%	66.84	169	1.825
47.22%	67.01	170	1.829
47.50%	67.19	171	1.834
47.78%	67.36	172	1.839
48.06%	67.53	173	1.844
48.33%	67.71	174	1.848
48.61%	67.88	175	1.853
48.89%	68.06	176	1.858
49.17%	68.23	177	1.863
49.44%	68.40	178	1.867
49.72%	68.58	179	1.872
50.00%	68.75	180	1.877
50.28%	68.97	181	1.883
50.56%	69.19	182	1.889
50.83%	69.41	183	1.895
51.11%	69.63	184	1.901
51.39%	69.85	185	1.907
51.67%	70.07	186	1.913
51.94%	70.29	187	1.919
52.22%	70.51	188	1.925
52.50%	70.73	189	1.931
52.78%	70.95	190	1.937
53.06%	71.17	191	1.943
53.33%	71.39	192	1.949
53.61%	71.61	193	1.955
53.89%	71.83	194	1.961
54.17%	72.05	195	1.967
54.44%	72.27	196	1.973
54.72%	72.49	197	1.979
55.00%	72.71	198	1.985
55.28%	72.93	199	1.991
55.56%	73.15	200	1.997
55.83%	73.37	201	2.003
56.11%	73.59	202	2.009
56.39%	73.81	203	2.015
56.67%	74.03	204	2.021
56.94%	74.25	205	2.027
57.22%	74.47	206	2.033
57.50%	74.69	207	2.039
57.78%	74.91	208	2.045
58.06%	75.13	209	2.051
58.33%	75.35	210	2.057
58.61%	75.57	211	2.063
58.89%	75.79	212	2.069

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

59.17%	76.01	213	2.075
59.44%	76.23	214	2.081
59.72%	76.45	215	2.087
60.00%	76.67	216	2.093
60.28%	76.85	217	2.098
60.56%	77.02	218	2.103
60.83%	77.20	219	2.108
61.11%	77.38	220	2.112
61.39%	77.56	221	2.117
61.67%	77.73	222	2.122
61.94%	77.91	223	2.127
62.22%	78.09	224	2.132
62.50%	78.27	225	2.137
62.78%	78.44	226	2.141
63.06%	78.62	227	2.146
63.33%	78.80	228	2.151
63.61%	78.97	229	2.156
63.89%	79.15	230	2.161
64.17%	79.33	231	2.166
64.44%	79.51	232	2.171
64.72%	79.68	233	2.175
65.00%	79.86	234	2.180
65.28%	80.04	235	2.185
65.56%	80.21	236	2.190
65.83%	80.39	237	2.195
66.11%	80.57	238	2.200
66.39%	80.75	239	2.204
66.67%	80.92	240	2.209
66.94%	81.10	241	2.214
67.22%	81.28	242	2.219
67.50%	81.46	243	2.224
67.78%	81.63	244	2.229
68.06%	81.81	245	2.233
68.33%	81.99	246	2.238
68.61%	82.16	247	2.243
68.89%	82.34	248	2.248
69.17%	82.52	249	2.253
69.44%	82.70	250	2.258
69.72%	82.87	251	2.262
70.00%	83.05	252	2.267
70.28%	83.23	253	2.272
70.56%	83.42	254	2.277
70.83%	83.60	255	2.282
71.11%	83.79	256	2.287
71.39%	83.97	257	2.292
71.67%	84.16	258	2.298
71.94%	84.34	259	2.303
72.22%	84.53	260	2.308
72.50%	84.71	261	2.313
72.78%	84.90	262	2.318
73.06%	85.08	263	2.323
73.33%	85.27	264	2.328
73.61%	85.45	265	2.333
73.89%	85.64	266	2.338
74.17%	85.82	267	2.343

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

74.44%	86.01	268	2.348
74.72%	86.19	269	2.353
75.00%	86.38	270	2.358
75.28%	86.56	271	2.363
75.56%	86.74	272	2.368
75.83%	86.93	273	2.373
76.11%	87.11	274	2.378
76.39%	87.30	275	2.383
76.67%	87.48	276	2.388
76.94%	87.67	277	2.393
77.22%	87.85	278	2.398
77.50%	88.04	279	2.403
77.78%	88.22	280	2.408
78.06%	88.41	281	2.414
78.33%	88.59	282	2.419
78.61%	88.78	283	2.424
78.89%	88.96	284	2.429
79.17%	89.15	285	2.434
79.44%	89.33	286	2.439
79.72%	89.52	287	2.444
80.00%	89.70	288	2.449
80.28%	89.85	289	2.453
80.56%	89.99	290	2.457
80.83%	90.14	291	2.461
81.11%	90.29	292	2.465
81.39%	90.44	293	2.469
81.67%	90.58	294	2.473
81.94%	90.73	295	2.477
82.22%	90.88	296	2.481
82.50%	91.03	297	2.485
82.78%	91.17	298	2.489
83.06%	91.32	299	2.493
83.33%	91.47	300	2.497
83.61%	91.61	301	2.501
83.89%	91.76	302	2.505
84.17%	91.91	303	2.509
84.44%	92.06	304	2.513
84.72%	92.20	305	2.517
85.00%	92.35	306	2.521
85.28%	92.50	307	2.525
85.56%	92.64	308	2.529
85.83%	92.79	309	2.533
86.11%	92.94	310	2.537
86.39%	93.09	311	2.541
86.67%	93.23	312	2.545
86.94%	93.38	313	2.549
87.22%	93.53	314	2.553
87.50%	93.68	315	2.557
87.78%	93.82	316	2.561
88.06%	93.97	317	2.565
88.33%	94.12	318	2.569
88.61%	94.26	319	2.573
88.89%	94.41	320	2.577
89.17%	94.56	321	2.581
89.44%	94.71	322	2.585

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

89.72%	94.85	323	2.589
90.00%	95.00	324	2.594
90.28%	95.14	325	2.597
90.56%	95.28	326	2.601
90.83%	95.42	327	2.605
91.11%	95.56	328	2.609
91.39%	95.69	329	2.612
91.67%	95.83	330	2.616
91.94%	95.97	331	2.620
92.22%	96.11	332	2.624
92.50%	96.25	333	2.628
92.78%	96.39	334	2.631
93.06%	96.53	335	2.635
93.33%	96.67	336	2.639
93.61%	96.81	337	2.643
93.89%	96.94	338	2.647
94.17%	97.08	339	2.650
94.44%	97.22	340	2.654
94.72%	97.36	341	2.658
95.00%	97.50	342	2.662
95.28%	97.64	343	2.666
95.56%	97.78	344	2.669
95.83%	97.92	345	2.673
96.11%	98.06	346	2.677
96.39%	98.19	347	2.681
96.67%	98.33	348	2.685
96.94%	98.47	349	2.688
97.22%	98.61	350	2.692
97.50%	98.75	351	2.696
97.78%	98.89	352	2.700
98.06%	99.03	353	2.703
98.33%	99.17	354	2.707
98.61%	99.31	355	2.711
98.89%	99.44	356	2.715
99.17%	99.58	357	2.719
99.44%	99.72	358	2.722
99.72%	99.86	359	2.726
100.00%	100.00	360	2.730

HUFF DISTRIBUTION, 50% CURVE ORDINATES **5-YEAR RETURN PERIOD**

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		12.00	hr
Rainfall Depth		3.21	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.14%	0.09	1	0.003
0.28%	0.18	2	0.006
0.42%	0.27	3	0.009
0.56%	0.36	4	0.012
0.69%	0.45	5	0.014
0.83%	0.54	6	0.017
0.97%	0.63	7	0.020
1.11%	0.72	8	0.023
1.25%	0.81	9	0.026
1.39%	0.90	10	0.029
1.53%	0.99	11	0.032
1.67%	1.08	12	0.035
1.81%	1.17	13	0.038
1.94%	1.26	14	0.041
2.08%	1.35	15	0.043
2.22%	1.44	16	0.046
2.36%	1.53	17	0.049
2.50%	1.63	18	0.052
2.64%	1.72	19	0.055
2.78%	1.81	20	0.058
2.92%	1.90	21	0.061
3.06%	1.99	22	0.064
3.19%	2.08	23	0.067
3.33%	2.17	24	0.070
3.47%	2.26	25	0.072
3.61%	2.35	26	0.075
3.75%	2.44	27	0.078
3.89%	2.53	28	0.081
4.03%	2.62	29	0.084
4.17%	2.71	30	0.087
4.31%	2.80	31	0.090
4.44%	2.89	32	0.093
4.58%	2.98	33	0.096
4.72%	3.07	34	0.099
4.86%	3.16	35	0.101
5.00%	3.25	36	0.104
5.14%	3.34	37	0.107
5.28%	3.43	38	0.110
5.42%	3.52	39	0.113
5.56%	3.61	40	0.116
5.69%	3.70	41	0.119
5.83%	3.79	42	0.122
5.97%	3.88	43	0.125
6.11%	3.97	44	0.128
6.25%	4.06	45	0.130
6.39%	4.15	46	0.133
6.53%	4.24	47	0.136

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		12.00	hr
Rainfall Depth		3.21	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	6.50	72	0.209
20%	18.13	144	0.582
30%	35.85	216	1.151
40%	52.94	288	1.699
50%	67.86	360	2.178
60%	76.52	432	2.456
70%	83.81	504	2.690
80%	90.67	576	2.911
90%	95.89	648	3.078
100%	100.00	720	3.210

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

6.67%	4.33	48	0.139
6.81%	4.42	49	0.142
6.94%	4.51	50	0.145
7.08%	4.60	51	0.148
7.22%	4.69	52	0.151
7.36%	4.78	53	0.154
7.50%	4.88	54	0.156
7.64%	4.97	55	0.159
7.78%	5.06	56	0.162
7.92%	5.15	57	0.165
8.06%	5.24	58	0.168
8.19%	5.33	59	0.171
8.33%	5.42	60	0.174
8.47%	5.51	61	0.177
8.61%	5.60	62	0.180
8.75%	5.69	63	0.183
8.89%	5.78	64	0.185
9.03%	5.87	65	0.188
9.17%	5.96	66	0.191
9.31%	6.05	67	0.194
9.44%	6.14	68	0.197
9.58%	6.23	69	0.200
9.72%	6.32	70	0.203
9.86%	6.41	71	0.206
10.00%	6.50	72	0.209
10.14%	6.66	73	0.214
10.28%	6.82	74	0.219
10.42%	6.98	75	0.224
10.56%	7.15	76	0.229
10.69%	7.31	77	0.235
10.83%	7.47	78	0.240
10.97%	7.63	79	0.245
11.11%	7.79	80	0.250
11.25%	7.95	81	0.255
11.39%	8.12	82	0.261
11.53%	8.28	83	0.266
11.67%	8.44	84	0.271
11.81%	8.60	85	0.276
11.94%	8.76	86	0.281
12.08%	8.92	87	0.286
12.22%	9.08	88	0.292
12.36%	9.25	89	0.297
12.50%	9.41	90	0.302
12.64%	9.57	91	0.307
12.78%	9.73	92	0.312
12.92%	9.89	93	0.318
13.06%	10.05	94	0.323
13.19%	10.22	95	0.328
13.33%	10.38	96	0.333
13.47%	10.54	97	0.338
13.61%	10.70	98	0.343
13.75%	10.86	99	0.349
13.89%	11.02	100	0.354
14.03%	11.18	101	0.359
14.17%	11.35	102	0.364

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

14.31%	11.51	103	0.369
14.44%	11.67	104	0.375
14.58%	11.83	105	0.380
14.72%	11.99	106	0.385
14.86%	12.15	107	0.390
15.00%	12.32	108	0.395
15.14%	12.48	109	0.400
15.28%	12.64	110	0.406
15.42%	12.80	111	0.411
15.56%	12.96	112	0.416
15.69%	13.12	113	0.421
15.83%	13.28	114	0.426
15.97%	13.45	115	0.432
16.11%	13.61	116	0.437
16.25%	13.77	117	0.442
16.39%	13.93	118	0.447
16.53%	14.09	119	0.452
16.67%	14.25	120	0.458
16.81%	14.41	121	0.463
16.94%	14.58	122	0.468
17.08%	14.74	123	0.473
17.22%	14.90	124	0.478
17.36%	15.06	125	0.483
17.50%	15.22	126	0.489
17.64%	15.38	127	0.494
17.78%	15.55	128	0.499
17.92%	15.71	129	0.504
18.06%	15.87	130	0.509
18.19%	16.03	131	0.515
18.33%	16.19	132	0.520
18.47%	16.35	133	0.525
18.61%	16.51	134	0.530
18.75%	16.68	135	0.535
18.89%	16.84	136	0.540
19.03%	17.00	137	0.546
19.17%	17.16	138	0.551
19.31%	17.32	139	0.556
19.44%	17.48	140	0.561
19.58%	17.65	141	0.566
19.72%	17.81	142	0.572
19.86%	17.97	143	0.577
20.00%	18.13	144	0.582
20.14%	18.38	145	0.590
20.28%	18.62	146	0.598
20.42%	18.87	147	0.606
20.56%	19.11	148	0.614
20.69%	19.36	149	0.621
20.83%	19.61	150	0.629
20.97%	19.85	151	0.637
21.11%	20.10	152	0.645
21.25%	20.35	153	0.653
21.39%	20.59	154	0.661
21.53%	20.84	155	0.669
21.67%	21.08	156	0.677
21.81%	21.33	157	0.685

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

21.94%	21.58	158	0.693
22.08%	21.82	159	0.700
22.22%	22.07	160	0.708
22.36%	22.31	161	0.716
22.50%	22.56	162	0.724
22.64%	22.81	163	0.732
22.78%	23.05	164	0.740
22.92%	23.30	165	0.748
23.06%	23.54	166	0.756
23.19%	23.79	167	0.764
23.33%	24.04	168	0.772
23.47%	24.28	169	0.779
23.61%	24.53	170	0.787
23.75%	24.78	171	0.795
23.89%	25.02	172	0.803
24.03%	25.27	173	0.811
24.17%	25.51	174	0.819
24.31%	25.76	175	0.827
24.44%	26.01	176	0.835
24.58%	26.25	177	0.843
24.72%	26.50	178	0.851
24.86%	26.74	179	0.858
25.00%	26.99	180	0.866
25.14%	27.24	181	0.874
25.28%	27.48	182	0.882
25.42%	27.73	183	0.890
25.56%	27.97	184	0.898
25.69%	28.22	185	0.906
25.83%	28.47	186	0.914
25.97%	28.71	187	0.922
26.11%	28.96	188	0.930
26.25%	29.21	189	0.937
26.39%	29.45	190	0.945
26.53%	29.70	191	0.953
26.67%	29.94	192	0.961
26.81%	30.19	193	0.969
26.94%	30.44	194	0.977
27.08%	30.68	195	0.985
27.22%	30.93	196	0.993
27.36%	31.17	197	1.001
27.50%	31.42	198	1.009
27.64%	31.67	199	1.016
27.78%	31.91	200	1.024
27.92%	32.16	201	1.032
28.06%	32.40	202	1.040
28.19%	32.65	203	1.048
28.33%	32.90	204	1.056
28.47%	33.14	205	1.064
28.61%	33.39	206	1.072
28.75%	33.64	207	1.080
28.89%	33.88	208	1.088
29.03%	34.13	209	1.095
29.17%	34.37	210	1.103
29.31%	34.62	211	1.111
29.44%	34.87	212	1.119

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

29.58%	35.11	213	1.127
29.72%	35.36	214	1.135
29.86%	35.60	215	1.143
30.00%	35.85	216	1.151
30.14%	36.09	217	1.158
30.28%	36.32	218	1.166
30.42%	36.56	219	1.174
30.56%	36.80	220	1.181
30.69%	37.04	221	1.189
30.83%	37.27	222	1.197
30.97%	37.51	223	1.204
31.11%	37.75	224	1.212
31.25%	37.99	225	1.219
31.39%	38.22	226	1.227
31.53%	38.46	227	1.235
31.67%	38.70	228	1.242
31.81%	38.94	229	1.250
31.94%	39.17	230	1.257
32.08%	39.41	231	1.265
32.22%	39.65	232	1.273
32.36%	39.89	233	1.280
32.50%	40.12	234	1.288
32.64%	40.36	235	1.296
32.78%	40.60	236	1.303
32.92%	40.83	237	1.311
33.06%	41.07	238	1.318
33.19%	41.31	239	1.326
33.33%	41.55	240	1.334
33.47%	41.78	241	1.341
33.61%	42.02	242	1.349
33.75%	42.26	243	1.357
33.89%	42.50	244	1.364
34.03%	42.73	245	1.372
34.17%	42.97	246	1.379
34.31%	43.21	247	1.387
34.44%	43.45	248	1.395
34.58%	43.68	249	1.402
34.72%	43.92	250	1.410
34.86%	44.16	251	1.417
35.00%	44.40	252	1.425
35.14%	44.63	253	1.433
35.28%	44.87	254	1.440
35.42%	45.11	255	1.448
35.56%	45.34	256	1.456
35.69%	45.58	257	1.463
35.83%	45.82	258	1.471
35.97%	46.06	259	1.478
36.11%	46.29	260	1.486
36.25%	46.53	261	1.494
36.39%	46.77	262	1.501
36.53%	47.01	263	1.509
36.67%	47.24	264	1.517
36.81%	47.48	265	1.524
36.94%	47.72	266	1.532
37.08%	47.96	267	1.539

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

37.22%	48.19	268	1.547
37.36%	48.43	269	1.555
37.50%	48.67	270	1.562
37.64%	48.90	271	1.570
37.78%	49.14	272	1.577
37.92%	49.38	273	1.585
38.06%	49.62	274	1.593
38.19%	49.85	275	1.600
38.33%	50.09	276	1.608
38.47%	50.33	277	1.616
38.61%	50.57	278	1.623
38.75%	50.80	279	1.631
38.89%	51.04	280	1.638
39.03%	51.28	281	1.646
39.17%	51.52	282	1.654
39.31%	51.75	283	1.661
39.44%	51.99	284	1.669
39.58%	52.23	285	1.677
39.72%	52.47	286	1.684
39.86%	52.70	287	1.692
40.00%	52.94	288	1.699
40.14%	53.15	289	1.706
40.28%	53.35	290	1.713
40.42%	53.56	291	1.719
40.56%	53.77	292	1.726
40.69%	53.98	293	1.733
40.83%	54.18	294	1.739
40.97%	54.39	295	1.746
41.11%	54.60	296	1.753
41.25%	54.81	297	1.759
41.39%	55.01	298	1.766
41.53%	55.22	299	1.773
41.67%	55.43	300	1.779
41.81%	55.63	301	1.786
41.94%	55.84	302	1.792
42.08%	56.05	303	1.799
42.22%	56.26	304	1.806
42.36%	56.46	305	1.812
42.50%	56.67	306	1.819
42.64%	56.88	307	1.826
42.78%	57.08	308	1.832
42.92%	57.29	309	1.839
43.06%	57.50	310	1.846
43.19%	57.71	311	1.852
43.33%	57.91	312	1.859
43.47%	58.12	313	1.866
43.61%	58.33	314	1.872
43.75%	58.54	315	1.879
43.89%	58.74	316	1.886
44.03%	58.95	317	1.892
44.17%	59.16	318	1.899
44.31%	59.36	319	1.906
44.44%	59.57	320	1.912
44.58%	59.78	321	1.919
44.72%	59.99	322	1.926

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

44.86%	60.19	323	1.932
45.00%	60.40	324	1.939
45.14%	60.61	325	1.945
45.28%	60.81	326	1.952
45.42%	61.02	327	1.959
45.56%	61.23	328	1.965
45.69%	61.44	329	1.972
45.83%	61.64	330	1.979
45.97%	61.85	331	1.985
46.11%	62.06	332	1.992
46.25%	62.27	333	1.999
46.39%	62.47	334	2.005
46.53%	62.68	335	2.012
46.67%	62.89	336	2.019
46.81%	63.09	337	2.025
46.94%	63.30	338	2.032
47.08%	63.51	339	2.039
47.22%	63.72	340	2.045
47.36%	63.92	341	2.052
47.50%	64.13	342	2.059
47.64%	64.34	343	2.065
47.78%	64.54	344	2.072
47.92%	64.75	345	2.079
48.06%	64.96	346	2.085
48.19%	65.17	347	2.092
48.33%	65.37	348	2.098
48.47%	65.58	349	2.105
48.61%	65.79	350	2.112
48.75%	66.00	351	2.118
48.89%	66.20	352	2.125
49.03%	66.41	353	2.132
49.17%	66.62	354	2.138
49.31%	66.82	355	2.145
49.44%	67.03	356	2.152
49.58%	67.24	357	2.158
49.72%	67.45	358	2.165
49.86%	67.65	359	2.172
50.00%	67.86	360	2.178
50.14%	67.98	361	2.182
50.28%	68.10	362	2.186
50.42%	68.22	363	2.190
50.56%	68.34	364	2.194
50.69%	68.46	365	2.198
50.83%	68.58	366	2.201
50.97%	68.70	367	2.205
51.11%	68.82	368	2.209
51.25%	68.94	369	2.213
51.39%	69.06	370	2.217
51.53%	69.18	371	2.221
51.67%	69.30	372	2.225
51.81%	69.42	373	2.228
51.94%	69.54	374	2.232
52.08%	69.66	375	2.236
52.22%	69.78	376	2.240
52.36%	69.90	377	2.244

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

52.50%	70.03	378	2.248
52.64%	70.15	379	2.252
52.78%	70.27	380	2.256
52.92%	70.39	381	2.259
53.06%	70.51	382	2.263
53.19%	70.63	383	2.267
53.33%	70.75	384	2.271
53.47%	70.87	385	2.275
53.61%	70.99	386	2.279
53.75%	71.11	387	2.283
53.89%	71.23	388	2.286
54.03%	71.35	389	2.290
54.17%	71.47	390	2.294
54.31%	71.59	391	2.298
54.44%	71.71	392	2.302
54.58%	71.83	393	2.306
54.72%	71.95	394	2.310
54.86%	72.07	395	2.313
55.00%	72.19	396	2.317
55.14%	72.31	397	2.321
55.28%	72.43	398	2.325
55.42%	72.55	399	2.329
55.56%	72.67	400	2.333
55.69%	72.79	401	2.337
55.83%	72.91	402	2.340
55.97%	73.03	403	2.344
56.11%	73.15	404	2.348
56.25%	73.27	405	2.352
56.39%	73.39	406	2.356
56.53%	73.51	407	2.360
56.67%	73.63	408	2.364
56.81%	73.75	409	2.367
56.94%	73.87	410	2.371
57.08%	73.99	411	2.375
57.22%	74.11	412	2.379
57.36%	74.23	413	2.383
57.50%	74.36	414	2.387
57.64%	74.48	415	2.391
57.78%	74.60	416	2.395
57.92%	74.72	417	2.398
58.06%	74.84	418	2.402
58.19%	74.96	419	2.406
58.33%	75.08	420	2.410
58.47%	75.20	421	2.414
58.61%	75.32	422	2.418
58.75%	75.44	423	2.422
58.89%	75.56	424	2.425
59.03%	75.68	425	2.429
59.17%	75.80	426	2.433
59.31%	75.92	427	2.437
59.44%	76.04	428	2.441
59.58%	76.16	429	2.445
59.72%	76.28	430	2.449
59.86%	76.40	431	2.452
60.00%	76.52	432	2.456

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

60.14%	76.62	433	2.460
60.28%	76.72	434	2.463
60.42%	76.82	435	2.466
60.56%	76.93	436	2.469
60.69%	77.03	437	2.473
60.83%	77.13	438	2.476
60.97%	77.23	439	2.479
61.11%	77.33	440	2.482
61.25%	77.43	441	2.486
61.39%	77.53	442	2.489
61.53%	77.63	443	2.492
61.67%	77.74	444	2.495
61.81%	77.84	445	2.499
61.94%	77.94	446	2.502
62.08%	78.04	447	2.505
62.22%	78.14	448	2.508
62.36%	78.24	449	2.512
62.50%	78.34	450	2.515
62.64%	78.44	451	2.518
62.78%	78.55	452	2.521
62.92%	78.65	453	2.525
63.06%	78.75	454	2.528
63.19%	78.85	455	2.531
63.33%	78.95	456	2.534
63.47%	79.05	457	2.538
63.61%	79.15	458	2.541
63.75%	79.25	459	2.544
63.89%	79.36	460	2.547
64.03%	79.46	461	2.551
64.17%	79.56	462	2.554
64.31%	79.66	463	2.557
64.44%	79.76	464	2.560
64.58%	79.86	465	2.564
64.72%	79.96	466	2.567
64.86%	80.06	467	2.570
65.00%	80.17	468	2.573
65.14%	80.27	469	2.577
65.28%	80.37	470	2.580
65.42%	80.47	471	2.583
65.56%	80.57	472	2.586
65.69%	80.67	473	2.590
65.83%	80.77	474	2.593
65.97%	80.87	475	2.596
66.11%	80.98	476	2.599
66.25%	81.08	477	2.603
66.39%	81.18	478	2.606
66.53%	81.28	479	2.609
66.67%	81.38	480	2.612
66.81%	81.48	481	2.616
66.94%	81.58	482	2.619
67.08%	81.68	483	2.622
67.22%	81.79	484	2.625
67.36%	81.89	485	2.629
67.50%	81.99	486	2.632
67.64%	82.09	487	2.635

HUFF DISTRIBUTION, 50% CURVE ORDINATES

5-YEAR RETURN PERIOD

67.78%	82.19	488	2.638
67.92%	82.29	489	2.642
68.06%	82.39	490	2.645
68.19%	82.49	491	2.648
68.33%	82.60	492	2.651
68.47%	82.70	493	2.655
68.61%	82.80	494	2.658
68.75%	82.90	495	2.661
68.89%	83.00	496	2.664
69.03%	83.10	497	2.668
69.17%	83.20	498	2.671
69.31%	83.30	499	2.674
69.44%	83.41	500	2.677
69.58%	83.51	501	2.681
69.72%	83.61	502	2.684
69.86%	83.71	503	2.687
70.00%	83.81	504	2.690
70.14%	83.91	505	2.693
70.28%	84.00	506	2.696
70.42%	84.10	507	2.699
70.56%	84.19	508	2.703
70.69%	84.29	509	2.706
70.83%	84.38	510	2.709
70.97%	84.48	511	2.712
71.11%	84.57	512	2.715
71.25%	84.67	513	2.718
71.39%	84.76	514	2.721
71.53%	84.86	515	2.724
71.67%	84.95	516	2.727
71.81%	85.05	517	2.730
71.94%	85.14	518	2.733
72.08%	85.24	519	2.736
72.22%	85.33	520	2.739
72.36%	85.43	521	2.742
72.50%	85.53	522	2.745
72.64%	85.62	523	2.748
72.78%	85.72	524	2.751
72.92%	85.81	525	2.755
73.06%	85.91	526	2.758
73.19%	86.00	527	2.761
73.33%	86.10	528	2.764
73.47%	86.19	529	2.767
73.61%	86.29	530	2.770
73.75%	86.38	531	2.773
73.89%	86.48	532	2.776
74.03%	86.57	533	2.779
74.17%	86.67	534	2.782
74.31%	86.76	535	2.785
74.44%	86.86	536	2.788
74.58%	86.95	537	2.791
74.72%	87.05	538	2.794
74.86%	87.14	539	2.797
75.00%	87.24	540	2.800
75.14%	87.34	541	2.803
75.28%	87.43	542	2.807

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

75.42%	87.53	543	2.810
75.56%	87.62	544	2.813
75.69%	87.72	545	2.816
75.83%	87.81	546	2.819
75.97%	87.91	547	2.822
76.11%	88.00	548	2.825
76.25%	88.10	549	2.828
76.39%	88.19	550	2.831
76.53%	88.29	551	2.834
76.67%	88.38	552	2.837
76.81%	88.48	553	2.840
76.94%	88.57	554	2.843
77.08%	88.67	555	2.846
77.22%	88.76	556	2.849
77.36%	88.86	557	2.852
77.50%	88.96	558	2.855
77.64%	89.05	559	2.859
77.78%	89.15	560	2.862
77.92%	89.24	561	2.865
78.06%	89.34	562	2.868
78.19%	89.43	563	2.871
78.33%	89.53	564	2.874
78.47%	89.62	565	2.877
78.61%	89.72	566	2.880
78.75%	89.81	567	2.883
78.89%	89.91	568	2.886
79.03%	90.00	569	2.889
79.17%	90.10	570	2.892
79.31%	90.19	571	2.895
79.44%	90.29	572	2.898
79.58%	90.38	573	2.901
79.72%	90.48	574	2.904
79.86%	90.57	575	2.907
80.00%	90.67	576	2.911
80.14%	90.74	577	2.913
80.28%	90.82	578	2.915
80.42%	90.89	579	2.917
80.56%	90.96	580	2.920
80.69%	91.03	581	2.922
80.83%	91.11	582	2.924
80.97%	91.18	583	2.927
81.11%	91.25	584	2.929
81.25%	91.32	585	2.931
81.39%	91.40	586	2.934
81.53%	91.47	587	2.936
81.67%	91.54	588	2.938
81.81%	91.61	589	2.941
81.94%	91.69	590	2.943
82.08%	91.76	591	2.945
82.22%	91.83	592	2.948
82.36%	91.90	593	2.950
82.50%	91.98	594	2.952
82.64%	92.05	595	2.955
82.78%	92.12	596	2.957
82.92%	92.19	597	2.959

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

83.06%	92.27	598	2.962
83.19%	92.34	599	2.964
83.33%	92.41	600	2.966
83.47%	92.48	601	2.969
83.61%	92.56	602	2.971
83.75%	92.63	603	2.973
83.89%	92.70	604	2.976
84.03%	92.77	605	2.978
84.17%	92.85	606	2.980
84.31%	92.92	607	2.983
84.44%	92.99	608	2.985
84.58%	93.06	609	2.987
84.72%	93.14	610	2.990
84.86%	93.21	611	2.992
85.00%	93.28	612	2.994
85.14%	93.35	613	2.997
85.28%	93.43	614	2.999
85.42%	93.50	615	3.001
85.56%	93.57	616	3.004
85.69%	93.64	617	3.006
85.83%	93.72	618	3.008
85.97%	93.79	619	3.011
86.11%	93.86	620	3.013
86.25%	93.93	621	3.015
86.39%	94.01	622	3.018
86.53%	94.08	623	3.020
86.67%	94.15	624	3.022
86.81%	94.22	625	3.025
86.94%	94.30	626	3.027
87.08%	94.37	627	3.029
87.22%	94.44	628	3.032
87.36%	94.51	629	3.034
87.50%	94.59	630	3.036
87.64%	94.66	631	3.039
87.78%	94.73	632	3.041
87.92%	94.80	633	3.043
88.06%	94.88	634	3.045
88.19%	94.95	635	3.048
88.33%	95.02	636	3.050
88.47%	95.09	637	3.052
88.61%	95.17	638	3.055
88.75%	95.24	639	3.057
88.89%	95.31	640	3.059
89.03%	95.38	641	3.062
89.17%	95.46	642	3.064
89.31%	95.53	643	3.066
89.44%	95.60	644	3.069
89.58%	95.67	645	3.071
89.72%	95.75	646	3.073
89.86%	95.82	647	3.076
90.00%	95.89	648	3.078
90.14%	95.95	649	3.080
90.28%	96.00	650	3.082
90.42%	96.06	651	3.084
90.56%	96.12	652	3.085

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

90.69%	96.18	653	3.087
90.83%	96.23	654	3.089
90.97%	96.29	655	3.091
91.11%	96.35	656	3.093
91.25%	96.40	657	3.095
91.39%	96.46	658	3.096
91.53%	96.52	659	3.098
91.67%	96.58	660	3.100
91.81%	96.63	661	3.102
91.94%	96.69	662	3.104
92.08%	96.75	663	3.106
92.22%	96.80	664	3.107
92.36%	96.86	665	3.109
92.50%	96.92	666	3.111
92.64%	96.97	667	3.113
92.78%	97.03	668	3.115
92.92%	97.09	669	3.117
93.06%	97.15	670	3.118
93.19%	97.20	671	3.120
93.33%	97.26	672	3.122
93.47%	97.32	673	3.124
93.61%	97.37	674	3.126
93.75%	97.43	675	3.128
93.89%	97.49	676	3.129
94.03%	97.55	677	3.131
94.17%	97.60	678	3.133
94.31%	97.66	679	3.135
94.44%	97.72	680	3.137
94.58%	97.77	681	3.139
94.72%	97.83	682	3.140
94.86%	97.89	683	3.142
95.00%	97.95	684	3.144
95.14%	98.00	685	3.146
95.28%	98.06	686	3.148
95.42%	98.12	687	3.150
95.56%	98.17	688	3.151
95.69%	98.23	689	3.153
95.83%	98.29	690	3.155
95.97%	98.34	691	3.157
96.11%	98.40	692	3.159
96.25%	98.46	693	3.161
96.39%	98.52	694	3.162
96.53%	98.57	695	3.164
96.67%	98.63	696	3.166
96.81%	98.69	697	3.168
96.94%	98.74	698	3.170
97.08%	98.80	699	3.172
97.22%	98.86	700	3.173
97.36%	98.92	701	3.175
97.50%	98.97	702	3.177
97.64%	99.03	703	3.179
97.78%	99.09	704	3.181
97.92%	99.14	705	3.183
98.06%	99.20	706	3.184
98.19%	99.26	707	3.186

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

98.33%	99.32	708	3.188
98.47%	99.37	709	3.190
98.61%	99.43	710	3.192
98.75%	99.49	711	3.194
98.89%	99.54	712	3.195
99.03%	99.60	713	3.197
99.17%	99.66	714	3.199
99.31%	99.71	715	3.201
99.44%	99.77	716	3.203
99.58%	99.83	717	3.205
99.72%	99.89	718	3.206
99.86%	99.94	719	3.208
100.00%	100.00	720	3.210

SAMPLE

HUFF DISTRIBUTION, 50% CURVE ORDINATES **5-YEAR RETURN PERIOD**

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		24.00	hr
Rainfall Depth		3.79	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.07%	0.04	1	0.001
0.14%	0.07	2	0.003
0.21%	0.11	3	0.004
0.28%	0.15	4	0.006
0.35%	0.18	5	0.007
0.42%	0.22	6	0.008
0.49%	0.26	7	0.010
0.56%	0.29	8	0.011
0.63%	0.33	9	0.012
0.69%	0.37	10	0.014
0.76%	0.40	11	0.015
0.83%	0.44	12	0.017
0.90%	0.47	13	0.018
0.97%	0.51	14	0.019
1.04%	0.55	15	0.021
1.11%	0.58	16	0.022
1.18%	0.62	17	0.024
1.25%	0.66	18	0.025
1.32%	0.69	19	0.026
1.39%	0.73	20	0.028
1.46%	0.77	21	0.029
1.53%	0.80	22	0.030
1.60%	0.84	23	0.032
1.67%	0.88	24	0.033
1.74%	0.91	25	0.035
1.81%	0.95	26	0.036
1.88%	0.99	27	0.037
1.94%	1.02	28	0.039
2.01%	1.06	29	0.040
2.08%	1.10	30	0.042
2.15%	1.13	31	0.043
2.22%	1.17	32	0.044
2.29%	1.21	33	0.046
2.36%	1.24	34	0.047
2.43%	1.28	35	0.048
2.50%	1.32	36	0.050
2.57%	1.35	37	0.051
2.64%	1.39	38	0.053
2.71%	1.42	39	0.054
2.78%	1.46	40	0.055
2.85%	1.50	41	0.057
2.92%	1.53	42	0.058
2.99%	1.57	43	0.060
3.06%	1.61	44	0.061
3.13%	1.64	45	0.062
3.19%	1.68	46	0.064
3.26%	1.72	47	0.065

3rd Quartile, 50% Huff Curve Ordinates

Storm Duration		24.00	hr
Rainfall Depth		3.79	in
% Storm Time	Huff 3rd Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	5.26	144	0.199
20%	11.55	288	0.438
30%	17.06	432	0.647
40%	24.24	576	0.919
50%	37.78	720	1.432
60%	58.33	864	2.211
70%	78.03	1008	2.957
80%	88.68	1152	3.361
90%	95.29	1296	3.611
100%	100.00	1440	3.790

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

3.33%	1.75	48	0.066
3.40%	1.79	49	0.068
3.47%	1.83	50	0.069
3.54%	1.86	51	0.071
3.61%	1.90	52	0.072
3.68%	1.94	53	0.073
3.75%	1.97	54	0.075
3.82%	2.01	55	0.076
3.89%	2.05	56	0.078
3.96%	2.08	57	0.079
4.03%	2.12	58	0.080
4.10%	2.16	59	0.082
4.17%	2.19	60	0.083
4.24%	2.23	61	0.084
4.31%	2.26	62	0.086
4.38%	2.30	63	0.087
4.44%	2.34	64	0.089
4.51%	2.37	65	0.090
4.58%	2.41	66	0.091
4.65%	2.45	67	0.093
4.72%	2.48	68	0.094
4.79%	2.52	69	0.096
4.86%	2.56	70	0.097
4.93%	2.59	71	0.098
5.00%	2.63	72	0.100
5.07%	2.67	73	0.101
5.14%	2.70	74	0.102
5.21%	2.74	75	0.104
5.28%	2.78	76	0.105
5.35%	2.81	77	0.107
5.42%	2.85	78	0.108
5.49%	2.89	79	0.109
5.56%	2.92	80	0.111
5.63%	2.96	81	0.112
5.69%	3.00	82	0.114
5.76%	3.03	83	0.115
5.83%	3.07	84	0.116
5.90%	3.10	85	0.118
5.97%	3.14	86	0.119
6.04%	3.18	87	0.120
6.11%	3.21	88	0.122
6.18%	3.25	89	0.123
6.25%	3.29	90	0.125
6.32%	3.32	91	0.126
6.39%	3.36	92	0.127
6.46%	3.40	93	0.129
6.53%	3.43	94	0.130
6.60%	3.47	95	0.132
6.67%	3.51	96	0.133
6.74%	3.54	97	0.134
6.81%	3.58	98	0.136
6.88%	3.62	99	0.137
6.94%	3.65	100	0.138
7.01%	3.69	101	0.140
7.08%	3.73	102	0.141

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

7.15%	3.76	103	0.143
7.22%	3.80	104	0.144
7.29%	3.84	105	0.145
7.36%	3.87	106	0.147
7.43%	3.91	107	0.148
7.50%	3.95	108	0.150
7.57%	3.98	109	0.151
7.64%	4.02	110	0.152
7.71%	4.05	111	0.154
7.78%	4.09	112	0.155
7.85%	4.13	113	0.156
7.92%	4.16	114	0.158
7.99%	4.20	115	0.159
8.06%	4.24	116	0.161
8.13%	4.27	117	0.162
8.19%	4.31	118	0.163
8.26%	4.35	119	0.165
8.33%	4.38	120	0.166
8.40%	4.42	121	0.168
8.47%	4.46	122	0.169
8.54%	4.49	123	0.170
8.61%	4.53	124	0.172
8.68%	4.57	125	0.173
8.75%	4.60	126	0.174
8.82%	4.64	127	0.176
8.89%	4.68	128	0.177
8.96%	4.71	129	0.179
9.03%	4.75	130	0.180
9.10%	4.79	131	0.181
9.17%	4.82	132	0.183
9.24%	4.86	133	0.184
9.31%	4.89	134	0.186
9.38%	4.93	135	0.187
9.44%	4.97	136	0.188
9.51%	5.00	137	0.190
9.58%	5.04	138	0.191
9.65%	5.08	139	0.192
9.72%	5.11	140	0.194
9.79%	5.15	141	0.195
9.86%	5.19	142	0.197
9.93%	5.22	143	0.198
10.00%	5.26	144	0.199
10.07%	5.30	145	0.201
10.14%	5.35	146	0.203
10.21%	5.39	147	0.204
10.28%	5.43	148	0.206
10.35%	5.48	149	0.208
10.42%	5.52	150	0.209
10.49%	5.57	151	0.211
10.56%	5.61	152	0.213
10.63%	5.65	153	0.214
10.69%	5.70	154	0.216
10.76%	5.74	155	0.218
10.83%	5.78	156	0.219
10.90%	5.83	157	0.221

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

10.97%	5.87	158	0.223
11.04%	5.92	159	0.224
11.11%	5.96	160	0.226
11.18%	6.00	161	0.227
11.25%	6.05	162	0.229
11.32%	6.09	163	0.231
11.39%	6.13	164	0.232
11.46%	6.18	165	0.234
11.53%	6.22	166	0.236
11.60%	6.26	167	0.237
11.67%	6.31	168	0.239
11.74%	6.35	169	0.241
11.81%	6.40	170	0.242
11.88%	6.44	171	0.244
11.94%	6.48	172	0.246
12.01%	6.53	173	0.247
12.08%	6.57	174	0.249
12.15%	6.61	175	0.251
12.22%	6.66	176	0.252
12.29%	6.70	177	0.254
12.36%	6.75	178	0.256
12.43%	6.79	179	0.257
12.50%	6.83	180	0.259
12.57%	6.88	181	0.261
12.64%	6.92	182	0.262
12.71%	6.96	183	0.264
12.78%	7.01	184	0.266
12.85%	7.05	185	0.267
12.92%	7.09	186	0.269
12.99%	7.14	187	0.271
13.06%	7.18	188	0.272
13.13%	7.23	189	0.274
13.19%	7.27	190	0.276
13.26%	7.31	191	0.277
13.33%	7.36	192	0.279
13.40%	7.40	193	0.280
13.47%	7.44	194	0.282
13.54%	7.49	195	0.284
13.61%	7.53	196	0.285
13.68%	7.58	197	0.287
13.75%	7.62	198	0.289
13.82%	7.66	199	0.290
13.89%	7.71	200	0.292
13.96%	7.75	201	0.294
14.03%	7.79	202	0.295
14.10%	7.84	203	0.297
14.17%	7.88	204	0.299
14.24%	7.92	205	0.300
14.31%	7.97	206	0.302
14.38%	8.01	207	0.304
14.44%	8.06	208	0.305
14.51%	8.10	209	0.307
14.58%	8.14	210	0.309
14.65%	8.19	211	0.310
14.72%	8.23	212	0.312

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

14.79%	8.27	213	0.314
14.86%	8.32	214	0.315
14.93%	8.36	215	0.317
15.00%	8.41	216	0.319
15.07%	8.45	217	0.320
15.14%	8.49	218	0.322
15.21%	8.54	219	0.324
15.28%	8.58	220	0.325
15.35%	8.62	221	0.327
15.42%	8.67	222	0.328
15.49%	8.71	223	0.330
15.56%	8.75	224	0.332
15.63%	8.80	225	0.333
15.69%	8.84	226	0.335
15.76%	8.89	227	0.337
15.83%	8.93	228	0.338
15.90%	8.97	229	0.340
15.97%	9.02	230	0.342
16.04%	9.06	231	0.343
16.11%	9.10	232	0.345
16.18%	9.15	233	0.347
16.25%	9.19	234	0.348
16.32%	9.23	235	0.350
16.39%	9.28	236	0.352
16.46%	9.32	237	0.353
16.53%	9.37	238	0.355
16.60%	9.41	239	0.357
16.67%	9.45	240	0.358
16.74%	9.50	241	0.360
16.81%	9.54	242	0.362
16.88%	9.58	243	0.363
16.94%	9.63	244	0.365
17.01%	9.67	245	0.367
17.08%	9.72	246	0.368
17.15%	9.76	247	0.370
17.22%	9.80	248	0.372
17.29%	9.85	249	0.373
17.36%	9.89	250	0.375
17.43%	9.93	251	0.376
17.50%	9.98	252	0.378
17.57%	10.02	253	0.380
17.64%	10.06	254	0.381
17.71%	10.11	255	0.383
17.78%	10.15	256	0.385
17.85%	10.20	257	0.386
17.92%	10.24	258	0.388
17.99%	10.28	259	0.390
18.06%	10.33	260	0.391
18.13%	10.37	261	0.393
18.19%	10.41	262	0.395
18.26%	10.46	263	0.396
18.33%	10.50	264	0.398
18.40%	10.55	265	0.400
18.47%	10.59	266	0.401
18.54%	10.63	267	0.403

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

18.61%	10.68	268	0.405
18.68%	10.72	269	0.406
18.75%	10.76	270	0.408
18.82%	10.81	271	0.410
18.89%	10.85	272	0.411
18.96%	10.89	273	0.413
19.03%	10.94	274	0.415
19.10%	10.98	275	0.416
19.17%	11.03	276	0.418
19.24%	11.07	277	0.420
19.31%	11.11	278	0.421
19.38%	11.16	279	0.423
19.44%	11.20	280	0.425
19.51%	11.24	281	0.426
19.58%	11.29	282	0.428
19.65%	11.33	283	0.429
19.72%	11.38	284	0.431
19.79%	11.42	285	0.433
19.86%	11.46	286	0.434
19.93%	11.51	287	0.436
20.00%	11.55	288	0.438
20.07%	11.59	289	0.439
20.14%	11.63	290	0.441
20.21%	11.66	291	0.442
20.28%	11.70	292	0.444
20.35%	11.74	293	0.445
20.42%	11.78	294	0.446
20.49%	11.82	295	0.448
20.56%	11.86	296	0.449
20.63%	11.89	297	0.451
20.69%	11.93	298	0.452
20.76%	11.97	299	0.454
20.83%	12.01	300	0.455
20.90%	12.05	301	0.457
20.97%	12.09	302	0.458
21.04%	12.12	303	0.459
21.11%	12.16	304	0.461
21.18%	12.20	305	0.462
21.25%	12.24	306	0.464
21.32%	12.28	307	0.465
21.39%	12.32	308	0.467
21.46%	12.35	309	0.468
21.53%	12.39	310	0.470
21.60%	12.43	311	0.471
21.67%	12.47	312	0.473
21.74%	12.51	313	0.474
21.81%	12.54	314	0.475
21.88%	12.58	315	0.477
21.94%	12.62	316	0.478
22.01%	12.66	317	0.480
22.08%	12.70	318	0.481
22.15%	12.74	319	0.483
22.22%	12.77	320	0.484
22.29%	12.81	321	0.486
22.36%	12.85	322	0.487

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

22.43%	12.89	323	0.489
22.50%	12.93	324	0.490
22.57%	12.97	325	0.491
22.64%	13.00	326	0.493
22.71%	13.04	327	0.494
22.78%	13.08	328	0.496
22.85%	13.12	329	0.497
22.92%	13.16	330	0.499
22.99%	13.20	331	0.500
23.06%	13.23	332	0.502
23.13%	13.27	333	0.503
23.19%	13.31	334	0.504
23.26%	13.35	335	0.506
23.33%	13.39	336	0.507
23.40%	13.42	337	0.509
23.47%	13.46	338	0.510
23.54%	13.50	339	0.512
23.61%	13.54	340	0.513
23.68%	13.58	341	0.515
23.75%	13.62	342	0.516
23.82%	13.65	343	0.518
23.89%	13.69	344	0.519
23.96%	13.73	345	0.520
24.03%	13.77	346	0.522
24.10%	13.81	347	0.523
24.17%	13.85	348	0.525
24.24%	13.88	349	0.526
24.31%	13.92	350	0.528
24.38%	13.96	351	0.529
24.44%	14.00	352	0.531
24.51%	14.04	353	0.532
24.58%	14.08	354	0.533
24.65%	14.11	355	0.535
24.72%	14.15	356	0.536
24.79%	14.19	357	0.538
24.86%	14.23	358	0.539
24.93%	14.27	359	0.541
25.00%	14.31	360	0.542
25.07%	14.34	361	0.544
25.14%	14.38	362	0.545
25.21%	14.42	363	0.547
25.28%	14.46	364	0.548
25.35%	14.50	365	0.549
25.42%	14.53	366	0.551
25.49%	14.57	367	0.552
25.56%	14.61	368	0.554
25.63%	14.65	369	0.555
25.69%	14.69	370	0.557
25.76%	14.73	371	0.558
25.83%	14.76	372	0.560
25.90%	14.80	373	0.561
25.97%	14.84	374	0.562
26.04%	14.88	375	0.564
26.11%	14.92	376	0.565
26.18%	14.96	377	0.567

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

26.25%	14.99	378	0.568
26.32%	15.03	379	0.570
26.39%	15.07	380	0.571
26.46%	15.11	381	0.573
26.53%	15.15	382	0.574
26.60%	15.19	383	0.576
26.67%	15.22	384	0.577
26.74%	15.26	385	0.578
26.81%	15.30	386	0.580
26.88%	15.34	387	0.581
26.94%	15.38	388	0.583
27.01%	15.41	389	0.584
27.08%	15.45	390	0.586
27.15%	15.49	391	0.587
27.22%	15.53	392	0.589
27.29%	15.57	393	0.590
27.36%	15.61	394	0.591
27.43%	15.64	395	0.593
27.50%	15.68	396	0.594
27.57%	15.72	397	0.596
27.64%	15.76	398	0.597
27.71%	15.80	399	0.599
27.78%	15.84	400	0.600
27.85%	15.87	401	0.602
27.92%	15.91	402	0.603
27.99%	15.95	403	0.605
28.06%	15.99	404	0.606
28.13%	16.03	405	0.607
28.19%	16.07	406	0.609
28.26%	16.10	407	0.610
28.33%	16.14	408	0.612
28.40%	16.18	409	0.613
28.47%	16.22	410	0.615
28.54%	16.26	411	0.616
28.61%	16.29	412	0.618
28.68%	16.33	413	0.619
28.75%	16.37	414	0.620
28.82%	16.41	415	0.622
28.89%	16.45	416	0.623
28.96%	16.49	417	0.625
29.03%	16.52	418	0.626
29.10%	16.56	419	0.628
29.17%	16.60	420	0.629
29.24%	16.64	421	0.631
29.31%	16.68	422	0.632
29.38%	16.72	423	0.634
29.44%	16.75	424	0.635
29.51%	16.79	425	0.636
29.58%	16.83	426	0.638
29.65%	16.87	427	0.639
29.72%	16.91	428	0.641
29.79%	16.95	429	0.642
29.86%	16.98	430	0.644
29.93%	17.02	431	0.645
30.00%	17.06	432	0.647

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

30.07%	17.11	433	0.648
30.14%	17.16	434	0.650
30.21%	17.21	435	0.652
30.28%	17.26	436	0.654
30.35%	17.31	437	0.656
30.42%	17.36	438	0.658
30.49%	17.41	439	0.660
30.56%	17.46	440	0.662
30.63%	17.51	441	0.664
30.69%	17.56	442	0.665
30.76%	17.61	443	0.667
30.83%	17.66	444	0.669
30.90%	17.71	445	0.671
30.97%	17.76	446	0.673
31.04%	17.81	447	0.675
31.11%	17.86	448	0.677
31.18%	17.91	449	0.679
31.25%	17.96	450	0.681
31.32%	18.01	451	0.682
31.39%	18.06	452	0.684
31.46%	18.11	453	0.686
31.53%	18.16	454	0.688
31.60%	18.21	455	0.690
31.67%	18.26	456	0.692
31.74%	18.31	457	0.694
31.81%	18.36	458	0.696
31.88%	18.41	459	0.698
31.94%	18.46	460	0.699
32.01%	18.51	461	0.701
32.08%	18.56	462	0.703
32.15%	18.61	463	0.705
32.22%	18.66	464	0.707
32.29%	18.71	465	0.709
32.36%	18.76	466	0.711
32.43%	18.81	467	0.713
32.50%	18.86	468	0.715
32.57%	18.90	469	0.716
32.64%	18.95	470	0.718
32.71%	19.00	471	0.720
32.78%	19.05	472	0.722
32.85%	19.10	473	0.724
32.92%	19.15	474	0.726
32.99%	19.20	475	0.728
33.06%	19.25	476	0.730
33.13%	19.30	477	0.732
33.19%	19.35	478	0.734
33.26%	19.40	479	0.735
33.33%	19.45	480	0.737
33.40%	19.50	481	0.739
33.47%	19.55	482	0.741
33.54%	19.60	483	0.743
33.61%	19.65	484	0.745
33.68%	19.70	485	0.747
33.75%	19.75	486	0.749
33.82%	19.80	487	0.751

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

33.89%	19.85	488	0.752
33.96%	19.90	489	0.754
34.03%	19.95	490	0.756
34.10%	20.00	491	0.758
34.17%	20.05	492	0.760
34.24%	20.10	493	0.762
34.31%	20.15	494	0.764
34.38%	20.20	495	0.766
34.44%	20.25	496	0.768
34.51%	20.30	497	0.769
34.58%	20.35	498	0.771
34.65%	20.40	499	0.773
34.72%	20.45	500	0.775
34.79%	20.50	501	0.777
34.86%	20.55	502	0.779
34.93%	20.60	503	0.781
35.00%	20.65	504	0.783
35.07%	20.70	505	0.785
35.14%	20.75	506	0.786
35.21%	20.80	507	0.788
35.28%	20.85	508	0.790
35.35%	20.90	509	0.792
35.42%	20.95	510	0.794
35.49%	21.00	511	0.796
35.56%	21.05	512	0.798
35.63%	21.10	513	0.800
35.69%	21.15	514	0.802
35.76%	21.20	515	0.803
35.83%	21.25	516	0.805
35.90%	21.30	517	0.807
35.97%	21.35	518	0.809
36.04%	21.40	519	0.811
36.11%	21.45	520	0.813
36.18%	21.50	521	0.815
36.25%	21.55	522	0.817
36.32%	21.60	523	0.819
36.39%	21.65	524	0.820
36.46%	21.70	525	0.822
36.53%	21.75	526	0.824
36.60%	21.80	527	0.826
36.67%	21.85	528	0.828
36.74%	21.90	529	0.830
36.81%	21.95	530	0.832
36.88%	22.00	531	0.834
36.94%	22.05	532	0.836
37.01%	22.10	533	0.837
37.08%	22.15	534	0.839
37.15%	22.20	535	0.841
37.22%	22.25	536	0.843
37.29%	22.30	537	0.845
37.36%	22.35	538	0.847
37.43%	22.40	539	0.849
37.50%	22.45	540	0.851
37.57%	22.49	541	0.853
37.64%	22.54	542	0.854

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

37.71%	22.59	543	0.856
37.78%	22.64	544	0.858
37.85%	22.69	545	0.860
37.92%	22.74	546	0.862
37.99%	22.79	547	0.864
38.06%	22.84	548	0.866
38.13%	22.89	549	0.868
38.19%	22.94	550	0.870
38.26%	22.99	551	0.871
38.33%	23.04	552	0.873
38.40%	23.09	553	0.875
38.47%	23.14	554	0.877
38.54%	23.19	555	0.879
38.61%	23.24	556	0.881
38.68%	23.29	557	0.883
38.75%	23.34	558	0.885
38.82%	23.39	559	0.887
38.89%	23.44	560	0.888
38.96%	23.49	561	0.890
39.03%	23.54	562	0.892
39.10%	23.59	563	0.894
39.17%	23.64	564	0.896
39.24%	23.69	565	0.898
39.31%	23.74	566	0.900
39.38%	23.79	567	0.902
39.44%	23.84	568	0.904
39.51%	23.89	569	0.905
39.58%	23.94	570	0.907
39.65%	23.99	571	0.909
39.72%	24.04	572	0.911
39.79%	24.09	573	0.913
39.86%	24.14	574	0.915
39.93%	24.19	575	0.917
40.00%	24.24	576	0.919
40.07%	24.33	577	0.922
40.14%	24.43	578	0.926
40.21%	24.52	579	0.929
40.28%	24.62	580	0.933
40.35%	24.71	581	0.937
40.42%	24.80	582	0.940
40.49%	24.90	583	0.944
40.56%	24.99	584	0.947
40.63%	25.09	585	0.951
40.69%	25.18	586	0.954
40.76%	25.27	587	0.958
40.83%	25.37	588	0.961
40.90%	25.46	589	0.965
40.97%	25.56	590	0.969
41.04%	25.65	591	0.972
41.11%	25.74	592	0.976
41.18%	25.84	593	0.979
41.25%	25.93	594	0.983
41.32%	26.03	595	0.986
41.39%	26.12	596	0.990
41.46%	26.21	597	0.994

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

41.53%	26.31	598	0.997
41.60%	26.40	599	1.001
41.67%	26.50	600	1.004
41.74%	26.59	601	1.008
41.81%	26.68	602	1.011
41.88%	26.78	603	1.015
41.94%	26.87	604	1.018
42.01%	26.97	605	1.022
42.08%	27.06	606	1.026
42.15%	27.15	607	1.029
42.22%	27.25	608	1.033
42.29%	27.34	609	1.036
42.36%	27.44	610	1.040
42.43%	27.53	611	1.043
42.50%	27.63	612	1.047
42.57%	27.72	613	1.051
42.64%	27.81	614	1.054
42.71%	27.91	615	1.058
42.78%	28.00	616	1.061
42.85%	28.10	617	1.065
42.92%	28.19	618	1.068
42.99%	28.28	619	1.072
43.06%	28.38	620	1.075
43.13%	28.47	621	1.079
43.19%	28.57	622	1.083
43.26%	28.66	623	1.086
43.33%	28.75	624	1.090
43.40%	28.85	625	1.093
43.47%	28.94	626	1.097
43.54%	29.04	627	1.100
43.61%	29.13	628	1.104
43.68%	29.22	629	1.108
43.75%	29.32	630	1.111
43.82%	29.41	631	1.115
43.89%	29.51	632	1.118
43.96%	29.60	633	1.122
44.03%	29.69	634	1.125
44.10%	29.79	635	1.129
44.17%	29.88	636	1.133
44.24%	29.98	637	1.136
44.31%	30.07	638	1.140
44.38%	30.16	639	1.143
44.44%	30.26	640	1.147
44.51%	30.35	641	1.150
44.58%	30.45	642	1.154
44.65%	30.54	643	1.157
44.72%	30.63	644	1.161
44.79%	30.73	645	1.165
44.86%	30.82	646	1.168
44.93%	30.92	647	1.172
45.00%	31.01	648	1.175
45.07%	31.10	649	1.179
45.14%	31.20	650	1.182
45.21%	31.29	651	1.186
45.28%	31.39	652	1.190

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

45.35%	31.48	653	1.193
45.42%	31.57	654	1.197
45.49%	31.67	655	1.200
45.56%	31.76	656	1.204
45.63%	31.86	657	1.207
45.69%	31.95	658	1.211
45.76%	32.04	659	1.214
45.83%	32.14	660	1.218
45.90%	32.23	661	1.222
45.97%	32.33	662	1.225
46.04%	32.42	663	1.229
46.11%	32.51	664	1.232
46.18%	32.61	665	1.236
46.25%	32.70	666	1.239
46.32%	32.80	667	1.243
46.39%	32.89	668	1.247
46.46%	32.98	669	1.250
46.53%	33.08	670	1.254
46.60%	33.17	671	1.257
46.67%	33.27	672	1.261
46.74%	33.36	673	1.264
46.81%	33.45	674	1.268
46.88%	33.55	675	1.271
46.94%	33.64	676	1.275
47.01%	33.74	677	1.279
47.08%	33.83	678	1.282
47.15%	33.92	679	1.286
47.22%	34.02	680	1.289
47.29%	34.11	681	1.293
47.36%	34.21	682	1.296
47.43%	34.30	683	1.300
47.50%	34.40	684	1.304
47.57%	34.49	685	1.307
47.64%	34.58	686	1.311
47.71%	34.68	687	1.314
47.78%	34.77	688	1.318
47.85%	34.87	689	1.321
47.92%	34.96	690	1.325
47.99%	35.05	691	1.329
48.06%	35.15	692	1.332
48.13%	35.24	693	1.336
48.19%	35.34	694	1.339
48.26%	35.43	695	1.343
48.33%	35.52	696	1.346
48.40%	35.62	697	1.350
48.47%	35.71	698	1.353
48.54%	35.81	699	1.357
48.61%	35.90	700	1.361
48.68%	35.99	701	1.364
48.75%	36.09	702	1.368
48.82%	36.18	703	1.371
48.89%	36.28	704	1.375
48.96%	36.37	705	1.378
49.03%	36.46	706	1.382
49.10%	36.56	707	1.386

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

49.17%	36.65	708	1.389
49.24%	36.75	709	1.393
49.31%	36.84	710	1.396
49.38%	36.93	711	1.400
49.44%	37.03	712	1.403
49.51%	37.12	713	1.407
49.58%	37.22	714	1.410
49.65%	37.31	715	1.414
49.72%	37.40	716	1.418
49.79%	37.50	717	1.421
49.86%	37.59	718	1.425
49.93%	37.69	719	1.428
50.00%	37.78	720	1.432
50.07%	37.92	721	1.437
50.14%	38.07	722	1.443
50.21%	38.21	723	1.448
50.28%	38.35	724	1.453
50.35%	38.49	725	1.459
50.42%	38.64	726	1.464
50.49%	38.78	727	1.470
50.56%	38.92	728	1.475
50.63%	39.06	729	1.481
50.69%	39.21	730	1.486
50.76%	39.35	731	1.491
50.83%	39.49	732	1.497
50.90%	39.64	733	1.502
50.97%	39.78	734	1.508
51.04%	39.92	735	1.513
51.11%	40.06	736	1.518
51.18%	40.21	737	1.524
51.25%	40.35	738	1.529
51.32%	40.49	739	1.535
51.39%	40.63	740	1.540
51.46%	40.78	741	1.545
51.53%	40.92	742	1.551
51.60%	41.06	743	1.556
51.67%	41.21	744	1.562
51.74%	41.35	745	1.567
51.81%	41.49	746	1.572
51.88%	41.63	747	1.578
51.94%	41.78	748	1.583
52.01%	41.92	749	1.589
52.08%	42.06	750	1.594
52.15%	42.20	751	1.600
52.22%	42.35	752	1.605
52.29%	42.49	753	1.610
52.36%	42.63	754	1.616
52.43%	42.77	755	1.621
52.50%	42.92	756	1.627
52.57%	43.06	757	1.632
52.64%	43.20	758	1.637
52.71%	43.35	759	1.643
52.78%	43.49	760	1.648
52.85%	43.63	761	1.654
52.92%	43.77	762	1.659

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

52.99%	43.92	763	1.664
53.06%	44.06	764	1.670
53.13%	44.20	765	1.675
53.19%	44.34	766	1.681
53.26%	44.49	767	1.686
53.33%	44.63	768	1.691
53.40%	44.77	769	1.697
53.47%	44.92	770	1.702
53.54%	45.06	771	1.708
53.61%	45.20	772	1.713
53.68%	45.34	773	1.719
53.75%	45.49	774	1.724
53.82%	45.63	775	1.729
53.89%	45.77	776	1.735
53.96%	45.91	777	1.740
54.03%	46.06	778	1.746
54.10%	46.20	779	1.751
54.17%	46.34	780	1.756
54.24%	46.49	781	1.762
54.31%	46.63	782	1.767
54.38%	46.77	783	1.773
54.44%	46.91	784	1.778
54.51%	47.06	785	1.783
54.58%	47.20	786	1.789
54.65%	47.34	787	1.794
54.72%	47.48	788	1.800
54.79%	47.63	789	1.805
54.86%	47.77	790	1.810
54.93%	47.91	791	1.816
55.00%	48.06	792	1.821
55.07%	48.20	793	1.827
55.14%	48.34	794	1.832
55.21%	48.48	795	1.838
55.28%	48.63	796	1.843
55.35%	48.77	797	1.848
55.42%	48.91	798	1.854
55.49%	49.05	799	1.859
55.56%	49.20	800	1.865
55.63%	49.34	801	1.870
55.69%	49.48	802	1.875
55.76%	49.62	803	1.881
55.83%	49.77	804	1.886
55.90%	49.91	805	1.892
55.97%	50.05	806	1.897
56.04%	50.20	807	1.902
56.11%	50.34	808	1.908
56.18%	50.48	809	1.913
56.25%	50.62	810	1.919
56.32%	50.77	811	1.924
56.39%	50.91	812	1.929
56.46%	51.05	813	1.935
56.53%	51.19	814	1.940
56.60%	51.34	815	1.946
56.67%	51.48	816	1.951
56.74%	51.62	817	1.957

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

56.81%	51.77	818	1.962
56.88%	51.91	819	1.967
56.94%	52.05	820	1.973
57.01%	52.19	821	1.978
57.08%	52.34	822	1.984
57.15%	52.48	823	1.989
57.22%	52.62	824	1.994
57.29%	52.76	825	2.000
57.36%	52.91	826	2.005
57.43%	53.05	827	2.011
57.50%	53.19	828	2.016
57.57%	53.34	829	2.021
57.64%	53.48	830	2.027
57.71%	53.62	831	2.032
57.78%	53.76	832	2.038
57.85%	53.91	833	2.043
57.92%	54.05	834	2.048
57.99%	54.19	835	2.054
58.06%	54.33	836	2.059
58.13%	54.48	837	2.065
58.19%	54.62	838	2.070
58.26%	54.76	839	2.075
58.33%	54.91	840	2.081
58.40%	55.05	841	2.086
58.47%	55.19	842	2.092
58.54%	55.33	843	2.097
58.61%	55.48	844	2.103
58.68%	55.62	845	2.108
58.75%	55.76	846	2.113
58.82%	55.90	847	2.119
58.89%	56.05	848	2.124
58.96%	56.19	849	2.130
59.03%	56.33	850	2.135
59.10%	56.47	851	2.140
59.17%	56.62	852	2.146
59.24%	56.76	853	2.151
59.31%	56.90	854	2.157
59.38%	57.05	855	2.162
59.44%	57.19	856	2.167
59.51%	57.33	857	2.173
59.58%	57.47	858	2.178
59.65%	57.62	859	2.184
59.72%	57.76	860	2.189
59.79%	57.90	861	2.194
59.86%	58.04	862	2.200
59.93%	58.19	863	2.205
60.00%	58.33	864	2.211
60.07%	58.47	865	2.216
60.14%	58.60	866	2.221
60.21%	58.74	867	2.226
60.28%	58.88	868	2.231
60.35%	59.01	869	2.237
60.42%	59.15	870	2.242
60.49%	59.29	871	2.247
60.56%	59.42	872	2.252

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

60.63%	59.56	873	2.257
60.69%	59.70	874	2.263
60.76%	59.83	875	2.268
60.83%	59.97	876	2.273
60.90%	60.11	877	2.278
60.97%	60.25	878	2.283
61.04%	60.38	879	2.288
61.11%	60.52	880	2.294
61.18%	60.66	881	2.299
61.25%	60.79	882	2.304
61.32%	60.93	883	2.309
61.39%	61.07	884	2.314
61.46%	61.20	885	2.320
61.53%	61.34	886	2.325
61.60%	61.48	887	2.330
61.67%	61.61	888	2.335
61.74%	61.75	889	2.340
61.81%	61.89	890	2.346
61.88%	62.02	891	2.351
61.94%	62.16	892	2.356
62.01%	62.30	893	2.361
62.08%	62.43	894	2.366
62.15%	62.57	895	2.371
62.22%	62.71	896	2.377
62.29%	62.84	897	2.382
62.36%	62.98	898	2.387
62.43%	63.12	899	2.392
62.50%	63.26	900	2.397
62.57%	63.39	901	2.403
62.64%	63.53	902	2.408
62.71%	63.67	903	2.413
62.78%	63.80	904	2.418
62.85%	63.94	905	2.423
62.92%	64.08	906	2.428
62.99%	64.21	907	2.434
63.06%	64.35	908	2.439
63.13%	64.49	909	2.444
63.19%	64.62	910	2.449
63.26%	64.76	911	2.454
63.33%	64.90	912	2.460
63.40%	65.03	913	2.465
63.47%	65.17	914	2.470
63.54%	65.31	915	2.475
63.61%	65.44	916	2.480
63.68%	65.58	917	2.486
63.75%	65.72	918	2.491
63.82%	65.85	919	2.496
63.89%	65.99	920	2.501
63.96%	66.13	921	2.506
64.03%	66.26	922	2.511
64.10%	66.40	923	2.517
64.17%	66.54	924	2.522
64.24%	66.68	925	2.527
64.31%	66.81	926	2.532
64.38%	66.95	927	2.537

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

64.44%	67.09	928	2.543
64.51%	67.22	929	2.548
64.58%	67.36	930	2.553
64.65%	67.50	931	2.558
64.72%	67.63	932	2.563
64.79%	67.77	933	2.568
64.86%	67.91	934	2.574
64.93%	68.04	935	2.579
65.00%	68.18	936	2.584
65.07%	68.32	937	2.589
65.14%	68.45	938	2.594
65.21%	68.59	939	2.600
65.28%	68.73	940	2.605
65.35%	68.86	941	2.610
65.42%	69.00	942	2.615
65.49%	69.14	943	2.620
65.56%	69.27	944	2.626
65.63%	69.41	945	2.631
65.69%	69.55	946	2.636
65.76%	69.68	947	2.641
65.83%	69.82	948	2.646
65.90%	69.96	949	2.651
65.97%	70.10	950	2.657
66.04%	70.23	951	2.662
66.11%	70.37	952	2.667
66.18%	70.51	953	2.672
66.25%	70.64	954	2.677
66.32%	70.78	955	2.683
66.39%	70.92	956	2.688
66.46%	71.05	957	2.693
66.53%	71.19	958	2.698
66.60%	71.33	959	2.703
66.67%	71.46	960	2.708
66.74%	71.60	961	2.714
66.81%	71.74	962	2.719
66.88%	71.87	963	2.724
66.94%	72.01	964	2.729
67.01%	72.15	965	2.734
67.08%	72.28	966	2.740
67.15%	72.42	967	2.745
67.22%	72.56	968	2.750
67.29%	72.69	969	2.755
67.36%	72.83	970	2.760
67.43%	72.97	971	2.765
67.50%	73.11	972	2.771
67.57%	73.24	973	2.776
67.64%	73.38	974	2.781
67.71%	73.52	975	2.786
67.78%	73.65	976	2.791
67.85%	73.79	977	2.797
67.92%	73.93	978	2.802
67.99%	74.06	979	2.807
68.06%	74.20	980	2.812
68.13%	74.34	981	2.817
68.19%	74.47	982	2.823

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

68.26%	74.61	983	2.828
68.33%	74.75	984	2.833
68.40%	74.88	985	2.838
68.47%	75.02	986	2.843
68.54%	75.16	987	2.848
68.61%	75.29	988	2.854
68.68%	75.43	989	2.859
68.75%	75.57	990	2.864
68.82%	75.70	991	2.869
68.89%	75.84	992	2.874
68.96%	75.98	993	2.880
69.03%	76.11	994	2.885
69.10%	76.25	995	2.890
69.17%	76.39	996	2.895
69.24%	76.53	997	2.900
69.31%	76.66	998	2.905
69.38%	76.80	999	2.911
69.44%	76.94	1000	2.916
69.51%	77.07	1001	2.921
69.58%	77.21	1002	2.926
69.65%	77.35	1003	2.931
69.72%	77.48	1004	2.937
69.79%	77.62	1005	2.942
69.86%	77.76	1006	2.947
69.93%	77.89	1007	2.952
70.00%	78.03	1008	2.957
70.07%	78.10	1009	2.960
70.14%	78.18	1010	2.963
70.21%	78.25	1011	2.966
70.28%	78.33	1012	2.969
70.35%	78.40	1013	2.971
70.42%	78.47	1014	2.974
70.49%	78.55	1015	2.977
70.56%	78.62	1016	2.980
70.63%	78.70	1017	2.983
70.69%	78.77	1018	2.985
70.76%	78.84	1019	2.988
70.83%	78.92	1020	2.991
70.90%	78.99	1021	2.994
70.97%	79.07	1022	2.997
71.04%	79.14	1023	2.999
71.11%	79.21	1024	3.002
71.18%	79.29	1025	3.005
71.25%	79.36	1026	3.008
71.32%	79.44	1027	3.011
71.39%	79.51	1028	3.013
71.46%	79.58	1029	3.016
71.53%	79.66	1030	3.019
71.60%	79.73	1031	3.022
71.67%	79.81	1032	3.025
71.74%	79.88	1033	3.027
71.81%	79.95	1034	3.030
71.88%	80.03	1035	3.033
71.94%	80.10	1036	3.036
72.01%	80.17	1037	3.039

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

72.08%	80.25	1038	3.041
72.15%	80.32	1039	3.044
72.22%	80.40	1040	3.047
72.29%	80.47	1041	3.050
72.36%	80.54	1042	3.053
72.43%	80.62	1043	3.055
72.50%	80.69	1044	3.058
72.57%	80.77	1045	3.061
72.64%	80.84	1046	3.064
72.71%	80.91	1047	3.067
72.78%	80.99	1048	3.069
72.85%	81.06	1049	3.072
72.92%	81.14	1050	3.075
72.99%	81.21	1051	3.078
73.06%	81.28	1052	3.081
73.13%	81.36	1053	3.083
73.19%	81.43	1054	3.086
73.26%	81.51	1055	3.089
73.33%	81.58	1056	3.092
73.40%	81.65	1057	3.095
73.47%	81.73	1058	3.097
73.54%	81.80	1059	3.100
73.61%	81.88	1060	3.103
73.68%	81.95	1061	3.106
73.75%	82.02	1062	3.109
73.82%	82.10	1063	3.112
73.89%	82.17	1064	3.114
73.96%	82.25	1065	3.117
74.03%	82.32	1066	3.120
74.10%	82.39	1067	3.123
74.17%	82.47	1068	3.126
74.24%	82.54	1069	3.128
74.31%	82.62	1070	3.131
74.38%	82.69	1071	3.134
74.44%	82.76	1072	3.137
74.51%	82.84	1073	3.140
74.58%	82.91	1074	3.142
74.65%	82.99	1075	3.145
74.72%	83.06	1076	3.148
74.79%	83.13	1077	3.151
74.86%	83.21	1078	3.154
74.93%	83.28	1079	3.156
75.00%	83.36	1080	3.159
75.07%	83.43	1081	3.162
75.14%	83.50	1082	3.165
75.21%	83.58	1083	3.168
75.28%	83.65	1084	3.170
75.35%	83.72	1085	3.173
75.42%	83.80	1086	3.176
75.49%	83.87	1087	3.179
75.56%	83.95	1088	3.182
75.63%	84.02	1089	3.184
75.69%	84.09	1090	3.187
75.76%	84.17	1091	3.190
75.83%	84.24	1092	3.193

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

75.90%	84.32	1093	3.196
75.97%	84.39	1094	3.198
76.04%	84.46	1095	3.201
76.11%	84.54	1096	3.204
76.18%	84.61	1097	3.207
76.25%	84.69	1098	3.210
76.32%	84.76	1099	3.212
76.39%	84.83	1100	3.215
76.46%	84.91	1101	3.218
76.53%	84.98	1102	3.221
76.60%	85.06	1103	3.224
76.67%	85.13	1104	3.226
76.74%	85.20	1105	3.229
76.81%	85.28	1106	3.232
76.88%	85.35	1107	3.235
76.94%	85.43	1108	3.238
77.01%	85.50	1109	3.240
77.08%	85.57	1110	3.243
77.15%	85.65	1111	3.246
77.22%	85.72	1112	3.249
77.29%	85.80	1113	3.252
77.36%	85.87	1114	3.254
77.43%	85.94	1115	3.257
77.50%	86.02	1116	3.260
77.57%	86.09	1117	3.263
77.64%	86.17	1118	3.266
77.71%	86.24	1119	3.268
77.78%	86.31	1120	3.271
77.85%	86.39	1121	3.274
77.92%	86.46	1122	3.277
77.99%	86.54	1123	3.280
78.06%	86.61	1124	3.282
78.13%	86.68	1125	3.285
78.19%	86.76	1126	3.288
78.26%	86.83	1127	3.291
78.33%	86.91	1128	3.294
78.40%	86.98	1129	3.297
78.47%	87.05	1130	3.299
78.54%	87.13	1131	3.302
78.61%	87.20	1132	3.305
78.68%	87.27	1133	3.308
78.75%	87.35	1134	3.311
78.82%	87.42	1135	3.313
78.89%	87.50	1136	3.316
78.96%	87.57	1137	3.319
79.03%	87.64	1138	3.322
79.10%	87.72	1139	3.325
79.17%	87.79	1140	3.327
79.24%	87.87	1141	3.330
79.31%	87.94	1142	3.333
79.38%	88.01	1143	3.336
79.44%	88.09	1144	3.339
79.51%	88.16	1145	3.341
79.58%	88.24	1146	3.344
79.65%	88.31	1147	3.347

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

79.72%	88.38	1148	3.350
79.79%	88.46	1149	3.353
79.86%	88.53	1150	3.355
79.93%	88.61	1151	3.358
80.00%	88.68	1152	3.361
80.07%	88.73	1153	3.363
80.14%	88.77	1154	3.364
80.21%	88.82	1155	3.366
80.28%	88.86	1156	3.368
80.35%	88.91	1157	3.370
80.42%	88.96	1158	3.371
80.49%	89.00	1159	3.373
80.56%	89.05	1160	3.375
80.63%	89.09	1161	3.377
80.69%	89.14	1162	3.378
80.76%	89.18	1163	3.380
80.83%	89.23	1164	3.382
80.90%	89.28	1165	3.384
80.97%	89.32	1166	3.385
81.04%	89.37	1167	3.387
81.11%	89.41	1168	3.389
81.18%	89.46	1169	3.391
81.25%	89.51	1170	3.392
81.32%	89.55	1171	3.394
81.39%	89.60	1172	3.396
81.46%	89.64	1173	3.398
81.53%	89.69	1174	3.399
81.60%	89.74	1175	3.401
81.67%	89.78	1176	3.403
81.74%	89.83	1177	3.404
81.81%	89.87	1178	3.406
81.88%	89.92	1179	3.408
81.94%	89.97	1180	3.410
82.01%	90.01	1181	3.411
82.08%	90.06	1182	3.413
82.15%	90.10	1183	3.415
82.22%	90.15	1184	3.417
82.29%	90.19	1185	3.418
82.36%	90.24	1186	3.420
82.43%	90.29	1187	3.422
82.50%	90.33	1188	3.424
82.57%	90.38	1189	3.425
82.64%	90.42	1190	3.427
82.71%	90.47	1191	3.429
82.78%	90.52	1192	3.431
82.85%	90.56	1193	3.432
82.92%	90.61	1194	3.434
82.99%	90.65	1195	3.436
83.06%	90.70	1196	3.438
83.13%	90.75	1197	3.439
83.19%	90.79	1198	3.441
83.26%	90.84	1199	3.443
83.33%	90.88	1200	3.444
83.40%	90.93	1201	3.446
83.47%	90.98	1202	3.448

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

83.54%	91.02	1203	3.450
83.61%	91.07	1204	3.451
83.68%	91.11	1205	3.453
83.75%	91.16	1206	3.455
83.82%	91.20	1207	3.457
83.89%	91.25	1208	3.458
83.96%	91.30	1209	3.460
84.03%	91.34	1210	3.462
84.10%	91.39	1211	3.464
84.17%	91.43	1212	3.465
84.24%	91.48	1213	3.467
84.31%	91.53	1214	3.469
84.38%	91.57	1215	3.471
84.44%	91.62	1216	3.472
84.51%	91.66	1217	3.474
84.58%	91.71	1218	3.476
84.65%	91.76	1219	3.478
84.72%	91.80	1220	3.479
84.79%	91.85	1221	3.481
84.86%	91.89	1222	3.483
84.93%	91.94	1223	3.484
85.00%	91.99	1224	3.486
85.07%	92.03	1225	3.488
85.14%	92.08	1226	3.490
85.21%	92.12	1227	3.491
85.28%	92.17	1228	3.493
85.35%	92.21	1229	3.495
85.42%	92.26	1230	3.497
85.49%	92.31	1231	3.498
85.56%	92.35	1232	3.500
85.63%	92.40	1233	3.502
85.69%	92.44	1234	3.504
85.76%	92.49	1235	3.505
85.83%	92.54	1236	3.507
85.90%	92.58	1237	3.509
85.97%	92.63	1238	3.511
86.04%	92.67	1239	3.512
86.11%	92.72	1240	3.514
86.18%	92.77	1241	3.516
86.25%	92.81	1242	3.518
86.32%	92.86	1243	3.519
86.39%	92.90	1244	3.521
86.46%	92.95	1245	3.523
86.53%	92.99	1246	3.525
86.60%	93.04	1247	3.526
86.67%	93.09	1248	3.528
86.74%	93.13	1249	3.530
86.81%	93.18	1250	3.531
86.88%	93.22	1251	3.533
86.94%	93.27	1252	3.535
87.01%	93.32	1253	3.537
87.08%	93.36	1254	3.538
87.15%	93.41	1255	3.540
87.22%	93.45	1256	3.542
87.29%	93.50	1257	3.544

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

87.36%	93.55	1258	3.545
87.43%	93.59	1259	3.547
87.50%	93.64	1260	3.549
87.57%	93.68	1261	3.551
87.64%	93.73	1262	3.552
87.71%	93.78	1263	3.554
87.78%	93.82	1264	3.556
87.85%	93.87	1265	3.558
87.92%	93.91	1266	3.559
87.99%	93.96	1267	3.561
88.06%	94.00	1268	3.563
88.13%	94.05	1269	3.565
88.19%	94.10	1270	3.566
88.26%	94.14	1271	3.568
88.33%	94.19	1272	3.570
88.40%	94.23	1273	3.571
88.47%	94.28	1274	3.573
88.54%	94.33	1275	3.575
88.61%	94.37	1276	3.577
88.68%	94.42	1277	3.578
88.75%	94.46	1278	3.580
88.82%	94.51	1279	3.582
88.89%	94.56	1280	3.584
88.96%	94.60	1281	3.585
89.03%	94.65	1282	3.587
89.10%	94.69	1283	3.589
89.17%	94.74	1284	3.591
89.24%	94.79	1285	3.592
89.31%	94.83	1286	3.594
89.38%	94.88	1287	3.596
89.44%	94.92	1288	3.598
89.51%	94.97	1289	3.599
89.58%	95.01	1290	3.601
89.65%	95.06	1291	3.603
89.72%	95.11	1292	3.605
89.79%	95.15	1293	3.606
89.86%	95.20	1294	3.608
89.93%	95.24	1295	3.610
90.00%	95.29	1296	3.611
90.07%	95.32	1297	3.613
90.14%	95.36	1298	3.614
90.21%	95.39	1299	3.615
90.28%	95.42	1300	3.616
90.35%	95.45	1301	3.618
90.42%	95.49	1302	3.619
90.49%	95.52	1303	3.620
90.56%	95.55	1304	3.621
90.63%	95.58	1305	3.623
90.69%	95.62	1306	3.624
90.76%	95.65	1307	3.625
90.83%	95.68	1308	3.626
90.90%	95.72	1309	3.628
90.97%	95.75	1310	3.629
91.04%	95.78	1311	3.630
91.11%	95.81	1312	3.631

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

91.18%	95.85	1313	3.633
91.25%	95.88	1314	3.634
91.32%	95.91	1315	3.635
91.39%	95.94	1316	3.636
91.46%	95.98	1317	3.638
91.53%	96.01	1318	3.639
91.60%	96.04	1319	3.640
91.67%	96.08	1320	3.641
91.74%	96.11	1321	3.642
91.81%	96.14	1322	3.644
91.88%	96.17	1323	3.645
91.94%	96.21	1324	3.646
92.01%	96.24	1325	3.647
92.08%	96.27	1326	3.649
92.15%	96.30	1327	3.650
92.22%	96.34	1328	3.651
92.29%	96.37	1329	3.652
92.36%	96.40	1330	3.654
92.43%	96.43	1331	3.655
92.50%	96.47	1332	3.656
92.57%	96.50	1333	3.657
92.64%	96.53	1334	3.659
92.71%	96.57	1335	3.660
92.78%	96.60	1336	3.661
92.85%	96.63	1337	3.662
92.92%	96.66	1338	3.664
92.99%	96.70	1339	3.665
93.06%	96.73	1340	3.666
93.13%	96.76	1341	3.667
93.19%	96.79	1342	3.669
93.26%	96.83	1343	3.670
93.33%	96.86	1344	3.671
93.40%	96.89	1345	3.672
93.47%	96.93	1346	3.673
93.54%	96.96	1347	3.675
93.61%	96.99	1348	3.676
93.68%	97.02	1349	3.677
93.75%	97.06	1350	3.678
93.82%	97.09	1351	3.680
93.89%	97.12	1352	3.681
93.96%	97.15	1353	3.682
94.03%	97.19	1354	3.683
94.10%	97.22	1355	3.685
94.17%	97.25	1356	3.686
94.24%	97.29	1357	3.687
94.31%	97.32	1358	3.688
94.38%	97.35	1359	3.690
94.44%	97.38	1360	3.691
94.51%	97.42	1361	3.692
94.58%	97.45	1362	3.693
94.65%	97.48	1363	3.695
94.72%	97.51	1364	3.696
94.79%	97.55	1365	3.697
94.86%	97.58	1366	3.698
94.93%	97.61	1367	3.700

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

95.00%	97.65	1368	3.701
95.07%	97.68	1369	3.702
95.14%	97.71	1370	3.703
95.21%	97.74	1371	3.704
95.28%	97.78	1372	3.706
95.35%	97.81	1373	3.707
95.42%	97.84	1374	3.708
95.49%	97.87	1375	3.709
95.56%	97.91	1376	3.711
95.63%	97.94	1377	3.712
95.69%	97.97	1378	3.713
95.76%	98.00	1379	3.714
95.83%	98.04	1380	3.716
95.90%	98.07	1381	3.717
95.97%	98.10	1382	3.718
96.04%	98.14	1383	3.719
96.11%	98.17	1384	3.721
96.18%	98.20	1385	3.722
96.25%	98.23	1386	3.723
96.32%	98.27	1387	3.724
96.39%	98.30	1388	3.726
96.46%	98.33	1389	3.727
96.53%	98.36	1390	3.728
96.60%	98.40	1391	3.729
96.67%	98.43	1392	3.730
96.74%	98.46	1393	3.732
96.81%	98.50	1394	3.733
96.88%	98.53	1395	3.734
96.94%	98.56	1396	3.735
97.01%	98.59	1397	3.737
97.08%	98.63	1398	3.738
97.15%	98.66	1399	3.739
97.22%	98.69	1400	3.740
97.29%	98.72	1401	3.742
97.36%	98.76	1402	3.743
97.43%	98.79	1403	3.744
97.50%	98.82	1404	3.745
97.57%	98.86	1405	3.747
97.64%	98.89	1406	3.748
97.71%	98.92	1407	3.749
97.78%	98.95	1408	3.750
97.85%	98.99	1409	3.752
97.92%	99.02	1410	3.753
97.99%	99.05	1411	3.754
98.06%	99.08	1412	3.755
98.13%	99.12	1413	3.757
98.19%	99.15	1414	3.758
98.26%	99.18	1415	3.759
98.33%	99.22	1416	3.760
98.40%	99.25	1417	3.761
98.47%	99.28	1418	3.763
98.54%	99.31	1419	3.764
98.61%	99.35	1420	3.765
98.68%	99.38	1421	3.766
98.75%	99.41	1422	3.768

HUFF DISTRIBUTION, 50% CURVE ORDINATES**5-YEAR RETURN PERIOD**

98.82%	99.44	1423	3.769
98.89%	99.48	1424	3.770
98.96%	99.51	1425	3.771
99.03%	99.54	1426	3.773
99.10%	99.57	1427	3.774
99.17%	99.61	1428	3.775
99.24%	99.64	1429	3.776
99.31%	99.67	1430	3.778
99.38%	99.71	1431	3.779
99.44%	99.74	1432	3.780
99.51%	99.77	1433	3.781
99.58%	99.80	1434	3.783
99.65%	99.84	1435	3.784
99.72%	99.87	1436	3.785
99.79%	99.90	1437	3.786
99.86%	99.93	1438	3.788
99.93%	99.97	1439	3.789
100.00%	100.00	1440	3.790

SAMPLE

HUFF DISTRIBUTION, 50% CURVE ORDINATES **100-YEAR RETURN PERIOD**

Done By: MA 3/22/2018
 Checked By: WN 4/2/2018

1st Quartile, 50% Huff Curve Ordinates

Storm Duration 0.25 hr
 Rainfall Depth 1.59 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
6.67%	13.33	1	0.212
13.33%	26.93	2	0.428
20.00%	40.80	3	0.649
26.67%	50.23	4	0.799
33.33%	57.47	5	0.914
40.00%	62.50	6	0.994
46.67%	66.67	7	1.060
53.33%	71.39	8	1.135
60.00%	76.67	9	1.22
66.67%	80.92	10	1.29
73.33%	85.27	11	1.36
80.00%	89.70	12	1.43
86.67%	93.23	13	1.48
93.33%	96.67	14	1.54
100.00%	100.00	15	1.59

1st Quartile, 50% Huff Curve Ordinates

Storm Duration 0.25 hr
 Rainfall Depth 1.59 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	1.5	0.318
20%	40.80	3	0.649
30%	54.95	4.5	0.874
40%	62.50	6	0.994
50%	68.75	7.5	1.093
60%	76.67	9	1.219
70%	83.05	10.5	1.320
80%	89.70	12	1.426
90%	95.00	13.5	1.511
100%	100.00	15	1.590

HUFF DISTRIBUTION, 50% CURVE ORDINATES **100-YEAR RETURN PERIOD**

Done By: MA 3/22/2018
 Checked By: WN 4/2/2018

1st Quartile, 50% Huff Curve Ordinates

Storm Duration 0.50 hr
 Rainfall Depth 2.29 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
3.33%	6.67	1	0.153
6.67%	13.33	2	0.305
10.00%	20.00	3	0.458
13.33%	26.93	4	0.617
16.67%	33.87	5	0.776
20.00%	40.80	6	0.934
23.33%	45.52	7	1.042
26.67%	50.23	8	1.150
30.00%	54.95	9	1.26
33.33%	57.47	10	1.32
36.67%	59.98	11	1.37
40.00%	62.50	12	1.43
43.33%	64.58	13	1.48
46.67%	66.67	14	1.53
50.00%	68.75	15	1.57
53.33%	71.39	16	1.63
56.67%	74.03	17	1.70
60.00%	76.67	18	1.76
63.33%	78.80	19	1.80
66.67%	80.92	20	1.85
70.00%	83.05	21	1.90
73.33%	85.27	22	1.95
76.67%	87.48	23	2.00
80.00%	89.70	24	2.05
83.33%	91.47	25	2.09
86.67%	93.23	26	2.14
90.00%	95.00	27	2.18
93.33%	96.67	28	2.21
96.67%	98.33	29	2.25
100.00%	100.00	30	2.29

1st Quartile, 50% Huff Curve Ordinates

Storm Duration 0.50 hr
 Rainfall Depth 2.29 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	3	0.458
20%	40.80	6	0.934
30%	54.95	9	1.258
40%	62.50	12	1.431
50%	68.75	15	1.574
60%	76.67	18	1.756
70%	83.05	21	1.902
80%	89.70	24	2.054
90%	95.00	27	2.176
100%	100.00	30	2.290

HUFF DISTRIBUTION, 50% CURVE ORDINATES **100-YEAR RETURN PERIOD**

Done By: MA 3/22/2018
Checked By: WN 4/2/2018

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		1.00	hr
Rainfall Depth		3.07	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
1.67%	3.33	1	0.102
3.33%	6.67	2	0.205
5.00%	10.00	3	0.307
6.67%	13.33	4	0.409
8.33%	16.67	5	0.512
10.00%	20.00	6	0.614
11.67%	23.33	7	0.716
13.33%	26.93	8	0.827
15.00%	30.40	9	0.933
16.67%	33.87	10	1.040
18.33%	37.33	11	1.146
20.00%	40.80	12	1.253
21.67%	44.27	13	1.359
23.33%	45.52	14	1.397
25.00%	47.88	15	1.470
26.67%	50.23	16	1.542
28.33%	52.59	17	1.615
30.00%	54.95	18	1.687
31.67%	57.31	19	1.759
33.33%	57.47	20	1.764
35.00%	58.73	21	1.803
36.67%	59.98	22	1.841
38.33%	61.24	23	1.880
40.00%	62.50	24	1.919
41.67%	63.54	25	1.951
43.33%	64.58	26	1.983
45.00%	65.63	27	2.015
46.67%	66.67	28	2.047
48.33%	67.71	29	2.079
50.00%	68.75	30	2.111
51.67%	70.07	31	2.151
53.33%	71.39	32	2.192
55.00%	72.71	33	2.232
56.67%	74.03	34	2.273
58.33%	75.35	35	2.313
60.00%	76.67	36	2.354
61.67%	77.73	37	2.386
63.33%	78.80	38	2.419
65.00%	79.86	39	2.452
66.67%	80.92	40	2.484
68.33%	81.99	41	2.517
70.00%	83.05	42	2.550
71.67%	84.16	43	2.584
73.33%	85.27	44	2.618
75.00%	86.38	45	2.652

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		1.00	hr
Rainfall Depth		3.07	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	6	0.614
20%	40.80	12	1.253
30%	54.95	18	1.687
40%	62.50	24	1.919
50%	68.75	30	2.111
60%	76.67	36	2.354
70%	83.05	42	2.550
80%	89.70	48	2.754
90%	95.00	54	2.917
100%	100.00	60	3.070

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

76.67%	87.48	46	2.686
78.33%	88.59	47	2.720
80.00%	89.70	48	2.754
81.67%	90.58	49	2.781
83.33%	91.47	50	2.808
85.00%	92.35	51	2.835
86.67%	93.23	52	2.862
88.33%	94.12	53	2.889
90.00%	95.00	54	2.917
91.67%	95.83	55	2.942
93.33%	96.67	56	2.968
95.00%	97.50	57	2.993
96.67%	98.33	58	3.019
98.33%	99.17	59	3.044
100.00%	100.00	60	3.070

SAMPLE

HUFF DISTRIBUTION, 50% CURVE ORDINATES **100-YEAR RETURN PERIOD**

Done By: MA 3/22/2018
 Checked By: WN 4/2/2018

1st Quartile, 50% Huff Curve Ordinates

Storm Duration 2.00 hr
 Rainfall Depth 3.88 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.83%	1.67	1	0.065
1.67%	3.33	2	0.129
2.50%	5.00	3	0.194
3.33%	6.67	4	0.259
4.17%	8.33	5	0.323
5.00%	10.00	6	0.388
5.83%	11.67	7	0.453
6.67%	13.33	8	0.517
7.50%	15.00	9	0.582
8.33%	16.67	10	0.647
9.17%	18.33	11	0.711
10.00%	20.00	12	0.776
10.83%	21.73	13	0.843
11.67%	23.47	14	0.911
12.50%	25.20	15	0.978
13.33%	26.93	16	1.045
14.17%	28.67	17	1.112
15.00%	30.40	18	1.180
15.83%	32.13	19	1.247
16.67%	33.87	20	1.314
17.50%	35.60	21	1.381
18.33%	37.33	22	1.449
19.17%	39.07	23	1.516
20.00%	40.80	24	1.583
20.83%	41.98	25	1.629
21.67%	43.16	26	1.675
22.50%	44.34	27	1.720
23.33%	45.52	28	1.766
24.17%	46.70	29	1.812
25.00%	47.88	30	1.858
25.83%	49.05	31	1.903
26.67%	50.23	32	1.949
27.50%	51.41	33	1.995
28.33%	52.59	34	2.041
29.17%	53.77	35	2.086
30.00%	54.95	36	2.132
30.83%	55.58	37	2.156
31.67%	56.21	38	2.181
32.50%	56.84	39	2.205
33.33%	57.47	40	2.230
34.17%	58.10	41	2.254
35.00%	58.73	42	2.279
35.83%	59.35	43	2.303
36.67%	59.98	44	2.327
37.50%	60.61	45	2.352

1st Quartile, 50% Huff Curve Ordinates

Storm Duration 2.00 hr
 Rainfall Depth 3.88 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	12	0.776
20%	40.80	24	1.583
30%	54.95	36	2.132
40%	62.50	48	2.425
50%	68.75	60	2.668
60%	76.67	72	2.975
70%	83.05	84	3.222
80%	89.70	96	3.480
90%	95.00	108	3.686
100%	100.00	120	3.880

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

38.33%	61.24	46	2.376
39.17%	61.87	47	2.401
40.00%	62.50	48	2.425
40.83%	63.02	49	2.445
41.67%	63.54	50	2.465
42.50%	64.06	51	2.486
43.33%	64.58	52	2.506
44.17%	65.10	53	2.526
45.00%	65.63	54	2.546
45.83%	66.15	55	2.566
46.67%	66.67	56	2.587
47.50%	67.19	57	2.607
48.33%	67.71	58	2.627
49.17%	68.23	59	2.647
50.00%	68.75	60	2.668
50.83%	69.41	61	2.693
51.67%	70.07	62	2.719
52.50%	70.73	63	2.744
53.33%	71.39	64	2.770
54.17%	72.05	65	2.796
55.00%	72.71	66	2.821
55.83%	73.37	67	2.847
56.67%	74.03	68	2.872
57.50%	74.69	69	2.898
58.33%	75.35	70	2.924
59.17%	76.01	71	2.949
60.00%	76.67	72	2.975
60.83%	77.20	73	2.995
61.67%	77.73	74	3.016
62.50%	78.27	75	3.037
63.33%	78.80	76	3.057
64.17%	79.33	77	3.078
65.00%	79.86	78	3.099
65.83%	80.39	79	3.119
66.67%	80.92	80	3.140
67.50%	81.46	81	3.160
68.33%	81.99	82	3.181
69.17%	82.52	83	3.202
70.00%	83.05	84	3.222
70.83%	83.60	85	3.244
71.67%	84.16	86	3.265
72.50%	84.71	87	3.287
73.33%	85.27	88	3.308
74.17%	85.82	89	3.330
75.00%	86.38	90	3.351
75.83%	86.93	91	3.373
76.67%	87.48	92	3.394
77.50%	88.04	93	3.416
78.33%	88.59	94	3.437
79.17%	89.15	95	3.459
80.00%	89.70	96	3.480
80.83%	90.14	97	3.497
81.67%	90.58	98	3.515
82.50%	91.03	99	3.532
83.33%	91.47	100	3.549

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

84.17%	91.91	101	3.566
85.00%	92.35	102	3.583
85.83%	92.79	103	3.600
86.67%	93.23	104	3.617
87.50%	93.68	105	3.635
88.33%	94.12	106	3.652
89.17%	94.56	107	3.669
90.00%	95.00	108	3.686
90.83%	95.42	109	3.702
91.67%	95.83	110	3.718
92.50%	96.25	111	3.735
93.33%	96.67	112	3.751
94.17%	97.08	113	3.767
95.00%	97.50	114	3.783
95.83%	97.92	115	3.799
96.67%	98.33	116	3.815
97.50%	98.75	117	3.832
98.33%	99.17	118	3.848
99.17%	99.58	119	3.864
100.00%	100.00	120	3.880

SAMPLE

HUFF DISTRIBUTION, 50% CURVE ORDINATES **100-YEAR RETURN PERIOD**

Done By: MA 3/22/2018
 Checked By: WN 4/2/2018

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		3.00	hr
Rainfall Depth		4.23	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.56%	1.11	1	0.047
1.11%	2.22	2	0.094
1.67%	3.33	3	0.141
2.22%	4.44	4	0.188
2.78%	5.56	5	0.235
3.33%	6.67	6	0.282
3.89%	7.78	7	0.329
4.44%	8.89	8	0.376
5.00%	10.00	9	0.423
5.56%	11.11	10	0.470
6.11%	12.22	11	0.517
6.67%	13.33	12	0.564
7.22%	14.44	13	0.611
7.78%	15.56	14	0.658
8.33%	16.67	15	0.705
8.89%	17.78	16	0.752
9.44%	18.89	17	0.799
10.00%	20.00	18	0.846
10.56%	21.16	19	0.895
11.11%	22.31	20	0.944
11.67%	23.47	21	0.993
12.22%	24.62	22	1.042
12.78%	25.78	23	1.090
13.33%	26.93	24	1.139
13.89%	28.09	25	1.188
14.44%	29.24	26	1.237
15.00%	30.40	27	1.286
15.56%	31.56	28	1.335
16.11%	32.71	29	1.384
16.67%	33.87	30	1.433
17.22%	35.02	31	1.481
17.78%	36.18	32	1.530
18.33%	37.33	33	1.579
18.89%	38.49	34	1.628
19.44%	39.64	35	1.677
20.00%	40.80	36	1.726
20.56%	41.59	37	1.759
21.11%	42.37	38	1.792
21.67%	43.16	39	1.826
22.22%	43.94	40	1.859
22.78%	44.73	41	1.892
23.33%	45.52	42	1.925
23.89%	46.30	43	1.959
24.44%	47.09	44	1.992
25.00%	47.88	45	2.025

1st Quartile, 50% Huff Curve Ordinates

Storm Duration		3.00	hr
Rainfall Depth		4.23	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	18	0.846
20%	40.80	36	1.726
30%	54.95	54	2.324
40%	62.50	72	2.644
50%	68.75	90	2.908
60%	76.67	108	3.243
70%	83.05	126	3.513
80%	89.70	144	3.794
90%	95.00	162	4.019
100%	100.00	180	4.230

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

25.56%	48.66	46	2.058
26.11%	49.45	47	2.092
26.67%	50.23	48	2.125
27.22%	51.02	49	2.158
27.78%	51.81	50	2.191
28.33%	52.59	51	2.225
28.89%	53.38	52	2.258
29.44%	54.16	53	2.291
30.00%	54.95	54	2.324
30.56%	55.37	55	2.342
31.11%	55.79	56	2.360
31.67%	56.21	57	2.378
32.22%	56.63	58	2.395
32.78%	57.05	59	2.413
33.33%	57.47	60	2.431
33.89%	57.89	61	2.449
34.44%	58.31	62	2.466
35.00%	58.73	63	2.484
35.56%	59.14	64	2.502
36.11%	59.56	65	2.520
36.67%	59.98	66	2.537
37.22%	60.40	67	2.555
37.78%	60.82	68	2.573
38.33%	61.24	69	2.591
38.89%	61.66	70	2.608
39.44%	62.08	71	2.626
40.00%	62.50	72	2.644
40.56%	62.85	73	2.658
41.11%	63.19	74	2.673
41.67%	63.54	75	2.688
42.22%	63.89	76	2.703
42.78%	64.24	77	2.717
43.33%	64.58	78	2.732
43.89%	64.93	79	2.747
44.44%	65.28	80	2.761
45.00%	65.63	81	2.776
45.56%	65.97	82	2.791
46.11%	66.32	83	2.805
46.67%	66.67	84	2.820
47.22%	67.01	85	2.835
47.78%	67.36	86	2.849
48.33%	67.71	87	2.864
48.89%	68.06	88	2.879
49.44%	68.40	89	2.893
50.00%	68.75	90	2.908
50.56%	69.19	91	2.927
51.11%	69.63	92	2.945
51.67%	70.07	93	2.964
52.22%	70.51	94	2.983
52.78%	70.95	95	3.001
53.33%	71.39	96	3.020
53.89%	71.83	97	3.038
54.44%	72.27	98	3.057
55.00%	72.71	99	3.076
55.56%	73.15	100	3.094

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

56.11%	73.59	101	3.113
56.67%	74.03	102	3.131
57.22%	74.47	103	3.150
57.78%	74.91	104	3.169
58.33%	75.35	105	3.187
58.89%	75.79	106	3.206
59.44%	76.23	107	3.225
60.00%	76.67	108	3.243
60.56%	77.02	109	3.258
61.11%	77.38	110	3.273
61.67%	77.73	111	3.288
62.22%	78.09	112	3.303
62.78%	78.44	113	3.318
63.33%	78.80	114	3.333
63.89%	79.15	115	3.348
64.44%	79.51	116	3.363
65.00%	79.86	117	3.378
65.56%	80.21	118	3.393
66.11%	80.57	119	3.408
66.67%	80.92	120	3.423
67.22%	81.28	121	3.438
67.78%	81.63	122	3.453
68.33%	81.99	123	3.468
68.89%	82.34	124	3.483
69.44%	82.70	125	3.498
70.00%	83.05	126	3.513
70.56%	83.42	127	3.529
71.11%	83.79	128	3.544
71.67%	84.16	129	3.560
72.22%	84.53	130	3.576
72.78%	84.90	131	3.591
73.33%	85.27	132	3.607
73.89%	85.64	133	3.622
74.44%	86.01	134	3.638
75.00%	86.38	135	3.654
75.56%	86.74	136	3.669
76.11%	87.11	137	3.685
76.67%	87.48	138	3.701
77.22%	87.85	139	3.716
77.78%	88.22	140	3.732
78.33%	88.59	141	3.747
78.89%	88.96	142	3.763
79.44%	89.33	143	3.779
80.00%	89.70	144	3.794
80.56%	89.99	145	3.807
81.11%	90.29	146	3.819
81.67%	90.58	147	3.832
82.22%	90.88	148	3.844
82.78%	91.17	149	3.857
83.33%	91.47	150	3.869
83.89%	91.76	151	3.881
84.44%	92.06	152	3.894
85.00%	92.35	153	3.906
85.56%	92.64	154	3.919
86.11%	92.94	155	3.931

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

86.67%	93.23	156	3.944
87.22%	93.53	157	3.956
87.78%	93.82	158	3.969
88.33%	94.12	159	3.981
88.89%	94.41	160	3.994
89.44%	94.71	161	4.006
90.00%	95.00	162	4.019
90.56%	95.28	163	4.030
91.11%	95.56	164	4.042
91.67%	95.83	165	4.054
92.22%	96.11	166	4.066
92.78%	96.39	167	4.077
93.33%	96.67	168	4.089
93.89%	96.94	169	4.101
94.44%	97.22	170	4.113
95.00%	97.50	171	4.124
95.56%	97.78	172	4.136
96.11%	98.06	173	4.148
96.67%	98.33	174	4.160
97.22%	98.61	175	4.171
97.78%	98.89	176	4.183
98.33%	99.17	177	4.195
98.89%	99.44	178	4.207
99.44%	99.72	179	4.218
100.00%	100.00	180	4.230

HUFF DISTRIBUTION, 50% CURVE ORDINATES **100-YEAR RETURN PERIOD**

Done By: MA 3/22/2018
Checked By: WN 4/2/2018

1st Quartile, 50% Huff Curve Ordinates

Storm Duration 6.00 hr
Rainfall Depth 5.20 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.28%	0.56	1	0.029
0.56%	1.11	2	0.058
0.83%	1.67	3	0.087
1.11%	2.22	4	0.116
1.39%	2.78	5	0.144
1.67%	3.33	6	0.173
1.94%	3.89	7	0.202
2.22%	4.44	8	0.231
2.50%	5.00	9	0.260
2.78%	5.56	10	0.289
3.06%	6.11	11	0.318
3.33%	6.67	12	0.347
3.61%	7.22	13	0.376
3.89%	7.78	14	0.404
4.17%	8.33	15	0.433
4.44%	8.89	16	0.462
4.72%	9.44	17	0.491
5.00%	10.00	18	0.520
5.28%	10.56	19	0.549
5.56%	11.11	20	0.578
5.83%	11.67	21	0.607
6.11%	12.22	22	0.636
6.39%	12.78	23	0.664
6.67%	13.33	24	0.693
6.94%	13.89	25	0.722
7.22%	14.44	26	0.751
7.50%	15.00	27	0.780
7.78%	15.56	28	0.809
8.06%	16.11	29	0.838
8.33%	16.67	30	0.867
8.61%	17.22	31	0.896
8.89%	17.78	32	0.924
9.17%	18.33	33	0.953
9.44%	18.89	34	0.982
9.72%	19.44	35	1.011
10.00%	20.00	36	1.040
10.28%	20.58	37	1.070
10.56%	21.16	38	1.100
10.83%	21.73	39	1.130
11.11%	22.31	40	1.160
11.39%	22.89	41	1.190
11.67%	23.47	42	1.220
11.94%	24.04	43	1.250
12.22%	24.62	44	1.280
12.50%	25.20	45	1.310

1st Quartile, 50% Huff Curve Ordinates

Storm Duration 6.00 hr
Rainfall Depth 5.20 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	20.00	36	1.040
20%	40.80	72	2.122
30%	54.95	108	2.857
40%	62.50	144	3.250
50%	68.75	180	3.575
60%	76.67	216	3.987
70%	83.05	252	4.319
80%	89.70	288	4.664
90%	95.00	324	4.940
100%	100.00	360	5.200

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

12.78%	25.78	46	1.340
13.06%	26.36	47	1.370
13.33%	26.93	48	1.401
13.61%	27.51	49	1.431
13.89%	28.09	50	1.461
14.17%	28.67	51	1.491
14.44%	29.24	52	1.521
14.72%	29.82	53	1.551
15.00%	30.40	54	1.581
15.28%	30.98	55	1.611
15.56%	31.56	56	1.641
15.83%	32.13	57	1.671
16.11%	32.71	58	1.701
16.39%	33.29	59	1.731
16.67%	33.87	60	1.761
16.94%	34.44	61	1.791
17.22%	35.02	62	1.821
17.50%	35.60	63	1.851
17.78%	36.18	64	1.881
18.06%	36.76	65	1.911
18.33%	37.33	66	1.941
18.61%	37.91	67	1.971
18.89%	38.49	68	2.001
19.17%	39.07	69	2.031
19.44%	39.64	70	2.062
19.72%	40.22	71	2.092
20.00%	40.80	72	2.122
20.28%	41.19	73	2.142
20.56%	41.59	74	2.162
20.83%	41.98	75	2.183
21.11%	42.37	76	2.203
21.39%	42.77	77	2.224
21.67%	43.16	78	2.244
21.94%	43.55	79	2.265
22.22%	43.94	80	2.285
22.50%	44.34	81	2.306
22.78%	44.73	82	2.326
23.06%	45.12	83	2.346
23.33%	45.52	84	2.367
23.61%	45.91	85	2.387
23.89%	46.30	86	2.408
24.17%	46.70	87	2.428
24.44%	47.09	88	2.449
24.72%	47.48	89	2.469
25.00%	47.88	90	2.490
25.28%	48.27	91	2.510
25.56%	48.66	92	2.530
25.83%	49.05	93	2.551
26.11%	49.45	94	2.571
26.39%	49.84	95	2.592
26.67%	50.23	96	2.612
26.94%	50.63	97	2.633
27.22%	51.02	98	2.653
27.50%	51.41	99	2.673
27.78%	51.81	100	2.694

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

28.06%	52.20	101	2.714
28.33%	52.59	102	2.735
28.61%	52.98	103	2.755
28.89%	53.38	104	2.776
29.17%	53.77	105	2.796
29.44%	54.16	106	2.817
29.72%	54.56	107	2.837
30.00%	54.95	108	2.857
30.28%	55.16	109	2.868
30.56%	55.37	110	2.879
30.83%	55.58	111	2.890
31.11%	55.79	112	2.901
31.39%	56.00	113	2.912
31.67%	56.21	114	2.923
31.94%	56.42	115	2.934
32.22%	56.63	116	2.945
32.50%	56.84	117	2.956
32.78%	57.05	118	2.966
33.06%	57.26	119	2.977
33.33%	57.47	120	2.988
33.61%	57.68	121	2.999
33.89%	57.89	122	3.010
34.17%	58.10	123	3.021
34.44%	58.31	124	3.032
34.72%	58.52	125	3.043
35.00%	58.73	126	3.054
35.28%	58.93	127	3.065
35.56%	59.14	128	3.076
35.83%	59.35	129	3.086
36.11%	59.56	130	3.097
36.39%	59.77	131	3.108
36.67%	59.98	132	3.119
36.94%	60.19	133	3.130
37.22%	60.40	134	3.141
37.50%	60.61	135	3.152
37.78%	60.82	136	3.163
38.06%	61.03	137	3.174
38.33%	61.24	138	3.185
38.61%	61.45	139	3.195
38.89%	61.66	140	3.206
39.17%	61.87	141	3.217
39.44%	62.08	142	3.228
39.72%	62.29	143	3.239
40.00%	62.50	144	3.250
40.28%	62.67	145	3.259
40.56%	62.85	146	3.268
40.83%	63.02	147	3.277
41.11%	63.19	148	3.286
41.39%	63.37	149	3.295
41.67%	63.54	150	3.304
41.94%	63.72	151	3.313
42.22%	63.89	152	3.322
42.50%	64.06	153	3.331
42.78%	64.24	154	3.340
43.06%	64.41	155	3.349

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

43.33%	64.58	156	3.358
43.61%	64.76	157	3.367
43.89%	64.93	158	3.376
44.17%	65.10	159	3.385
44.44%	65.28	160	3.394
44.72%	65.45	161	3.403
45.00%	65.63	162	3.413
45.28%	65.80	163	3.422
45.56%	65.97	164	3.431
45.83%	66.15	165	3.440
46.11%	66.32	166	3.449
46.39%	66.49	167	3.458
46.67%	66.67	168	3.467
46.94%	66.84	169	3.476
47.22%	67.01	170	3.485
47.50%	67.19	171	3.494
47.78%	67.36	172	3.503
48.06%	67.53	173	3.512
48.33%	67.71	174	3.521
48.61%	67.88	175	3.530
48.89%	68.06	176	3.539
49.17%	68.23	177	3.548
49.44%	68.40	178	3.557
49.72%	68.58	179	3.566
50.00%	68.75	180	3.575
50.28%	68.97	181	3.586
50.56%	69.19	182	3.598
50.83%	69.41	183	3.609
51.11%	69.63	184	3.621
51.39%	69.85	185	3.632
51.67%	70.07	186	3.644
51.94%	70.29	187	3.655
52.22%	70.51	188	3.667
52.50%	70.73	189	3.678
52.78%	70.95	190	3.689
53.06%	71.17	191	3.701
53.33%	71.39	192	3.712
53.61%	71.61	193	3.724
53.89%	71.83	194	3.735
54.17%	72.05	195	3.747
54.44%	72.27	196	3.758
54.72%	72.49	197	3.769
55.00%	72.71	198	3.781
55.28%	72.93	199	3.792
55.56%	73.15	200	3.804
55.83%	73.37	201	3.815
56.11%	73.59	202	3.827
56.39%	73.81	203	3.838
56.67%	74.03	204	3.850
56.94%	74.25	205	3.861
57.22%	74.47	206	3.872
57.50%	74.69	207	3.884
57.78%	74.91	208	3.895
58.06%	75.13	209	3.907
58.33%	75.35	210	3.918

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

58.61%	75.57	211	3.930
58.89%	75.79	212	3.941
59.17%	76.01	213	3.953
59.44%	76.23	214	3.964
59.72%	76.45	215	3.975
60.00%	76.67	216	3.987
60.28%	76.85	217	3.996
60.56%	77.02	218	4.005
60.83%	77.20	219	4.014
61.11%	77.38	220	4.024
61.39%	77.56	221	4.033
61.67%	77.73	222	4.042
61.94%	77.91	223	4.051
62.22%	78.09	224	4.061
62.50%	78.27	225	4.070
62.78%	78.44	226	4.079
63.06%	78.62	227	4.088
63.33%	78.80	228	4.097
63.61%	78.97	229	4.107
63.89%	79.15	230	4.116
64.17%	79.33	231	4.125
64.44%	79.51	232	4.134
64.72%	79.68	233	4.144
65.00%	79.86	234	4.153
65.28%	80.04	235	4.162
65.56%	80.21	236	4.171
65.83%	80.39	237	4.180
66.11%	80.57	238	4.190
66.39%	80.75	239	4.199
66.67%	80.92	240	4.208
66.94%	81.10	241	4.217
67.22%	81.28	242	4.226
67.50%	81.46	243	4.236
67.78%	81.63	244	4.245
68.06%	81.81	245	4.254
68.33%	81.99	246	4.263
68.61%	82.16	247	4.273
68.89%	82.34	248	4.282
69.17%	82.52	249	4.291
69.44%	82.70	250	4.300
69.72%	82.87	251	4.309
70.00%	83.05	252	4.319
70.28%	83.23	253	4.328
70.56%	83.42	254	4.338
70.83%	83.60	255	4.347
71.11%	83.79	256	4.357
71.39%	83.97	257	4.367
71.67%	84.16	258	4.376
71.94%	84.34	259	4.386
72.22%	84.53	260	4.395
72.50%	84.71	261	4.405
72.78%	84.90	262	4.415
73.06%	85.08	263	4.424
73.33%	85.27	264	4.434
73.61%	85.45	265	4.443

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

73.89%	85.64	266	4.453
74.17%	85.82	267	4.463
74.44%	86.01	268	4.472
74.72%	86.19	269	4.482
75.00%	86.38	270	4.492
75.28%	86.56	271	4.501
75.56%	86.74	272	4.511
75.83%	86.93	273	4.520
76.11%	87.11	274	4.530
76.39%	87.30	275	4.540
76.67%	87.48	276	4.549
76.94%	87.67	277	4.559
77.22%	87.85	278	4.568
77.50%	88.04	279	4.578
77.78%	88.22	280	4.588
78.06%	88.41	281	4.597
78.33%	88.59	282	4.607
78.61%	88.78	283	4.616
78.89%	88.96	284	4.626
79.17%	89.15	285	4.636
79.44%	89.33	286	4.645
79.72%	89.52	287	4.655
80.00%	89.70	288	4.664
80.28%	89.85	289	4.672
80.56%	89.99	290	4.680
80.83%	90.14	291	4.687
81.11%	90.29	292	4.695
81.39%	90.44	293	4.703
81.67%	90.58	294	4.710
81.94%	90.73	295	4.718
82.22%	90.88	296	4.726
82.50%	91.03	297	4.733
82.78%	91.17	298	4.741
83.06%	91.32	299	4.749
83.33%	91.47	300	4.756
83.61%	91.61	301	4.764
83.89%	91.76	302	4.772
84.17%	91.91	303	4.779
84.44%	92.06	304	4.787
84.72%	92.20	305	4.795
85.00%	92.35	306	4.802
85.28%	92.50	307	4.810
85.56%	92.64	308	4.818
85.83%	92.79	309	4.825
86.11%	92.94	310	4.833
86.39%	93.09	311	4.840
86.67%	93.23	312	4.848
86.94%	93.38	313	4.856
87.22%	93.53	314	4.863
87.50%	93.68	315	4.871
87.78%	93.82	316	4.879
88.06%	93.97	317	4.886
88.33%	94.12	318	4.894
88.61%	94.26	319	4.902
88.89%	94.41	320	4.909

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

89.17%	94.56	321	4.917
89.44%	94.71	322	4.925
89.72%	94.85	323	4.932
90.00%	95.00	324	4.940
90.28%	95.14	325	4.947
90.56%	95.28	326	4.954
90.83%	95.42	327	4.962
91.11%	95.56	328	4.969
91.39%	95.69	329	4.976
91.67%	95.83	330	4.983
91.94%	95.97	331	4.991
92.22%	96.11	332	4.998
92.50%	96.25	333	5.005
92.78%	96.39	334	5.012
93.06%	96.53	335	5.019
93.33%	96.67	336	5.027
93.61%	96.81	337	5.034
93.89%	96.94	338	5.041
94.17%	97.08	339	5.048
94.44%	97.22	340	5.056
94.72%	97.36	341	5.063
95.00%	97.50	342	5.070
95.28%	97.64	343	5.077
95.56%	97.78	344	5.084
95.83%	97.92	345	5.092
96.11%	98.06	346	5.099
96.39%	98.19	347	5.106
96.67%	98.33	348	5.113
96.94%	98.47	349	5.121
97.22%	98.61	350	5.128
97.50%	98.75	351	5.135
97.78%	98.89	352	5.142
98.06%	99.03	353	5.149
98.33%	99.17	354	5.157
98.61%	99.31	355	5.164
98.89%	99.44	356	5.171
99.17%	99.58	357	5.178
99.44%	99.72	358	5.186
99.72%	99.86	359	5.193
100.00%	100.00	360	5.200

HUFF DISTRIBUTION, 50% CURVE ORDINATES **100-YEAR RETURN PERIOD**

Done By: MA 3/22/2018
 Checked By: WN 4/2/2018

2nd Quartile, 50% Huff Curve Ordinates

Storm Duration 12.00 hr
 Rainfall Depth 5.86 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.14%	0.09	1	0.005
0.28%	0.18	2	0.011
0.42%	0.27	3	0.016
0.56%	0.36	4	0.021
0.69%	0.45	5	0.026
0.83%	0.54	6	0.032
0.97%	0.63	7	0.037
1.11%	0.72	8	0.042
1.25%	0.81	9	0.048
1.39%	0.90	10	0.053
1.53%	0.99	11	0.058
1.67%	1.08	12	0.063
1.81%	1.17	13	0.069
1.94%	1.26	14	0.074
2.08%	1.35	15	0.079
2.22%	1.44	16	0.085
2.36%	1.53	17	0.090
2.50%	1.63	18	0.095
2.64%	1.72	19	0.101
2.78%	1.81	20	0.106
2.92%	1.90	21	0.111
3.06%	1.99	22	0.116
3.19%	2.08	23	0.122
3.33%	2.17	24	0.127
3.47%	2.26	25	0.132
3.61%	2.35	26	0.138
3.75%	2.44	27	0.143
3.89%	2.53	28	0.148
4.03%	2.62	29	0.153
4.17%	2.71	30	0.159
4.31%	2.80	31	0.164
4.44%	2.89	32	0.169
4.58%	2.98	33	0.175
4.72%	3.07	34	0.180
4.86%	3.16	35	0.185
5.00%	3.25	36	0.190
5.14%	3.34	37	0.196
5.28%	3.43	38	0.201
5.42%	3.52	39	0.206
5.56%	3.61	40	0.212
5.69%	3.70	41	0.217
5.83%	3.79	42	0.222
5.97%	3.88	43	0.227
6.11%	3.97	44	0.233
6.25%	4.06	45	0.238

2nd Quartile, 50% Huff Curve Ordinates

Storm Duration 12.00 hr
 Rainfall Depth 5.86 in

% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	6.50	72	0.381
20%	18.13	144	1.062
30%	35.85	216	2.101
40%	52.94	288	3.102
50%	67.86	360	3.977
60%	76.52	432	4.484
70%	83.81	504	4.911
80%	90.67	576	5.313
90%	95.89	648	5.619
100%	100.00	720	5.860

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

6.39%	4.15	46	0.243
6.53%	4.24	47	0.249
6.67%	4.33	48	0.254
6.81%	4.42	49	0.259
6.94%	4.51	50	0.265
7.08%	4.60	51	0.270
7.22%	4.69	52	0.275
7.36%	4.78	53	0.280
7.50%	4.88	54	0.286
7.64%	4.97	55	0.291
7.78%	5.06	56	0.296
7.92%	5.15	57	0.302
8.06%	5.24	58	0.307
8.19%	5.33	59	0.312
8.33%	5.42	60	0.317
8.47%	5.51	61	0.323
8.61%	5.60	62	0.328
8.75%	5.69	63	0.333
8.89%	5.78	64	0.339
9.03%	5.87	65	0.344
9.17%	5.96	66	0.349
9.31%	6.05	67	0.354
9.44%	6.14	68	0.360
9.58%	6.23	69	0.365
9.72%	6.32	70	0.370
9.86%	6.41	71	0.376
10.00%	6.50	72	0.381
10.14%	6.66	73	0.390
10.28%	6.82	74	0.400
10.42%	6.98	75	0.409
10.56%	7.15	76	0.419
10.69%	7.31	77	0.428
10.83%	7.47	78	0.438
10.97%	7.63	79	0.447
11.11%	7.79	80	0.457
11.25%	7.95	81	0.466
11.39%	8.12	82	0.476
11.53%	8.28	83	0.485
11.67%	8.44	84	0.494
11.81%	8.60	85	0.504
11.94%	8.76	86	0.513
12.08%	8.92	87	0.523
12.22%	9.08	88	0.532
12.36%	9.25	89	0.542
12.50%	9.41	90	0.551
12.64%	9.57	91	0.561
12.78%	9.73	92	0.570
12.92%	9.89	93	0.580
13.06%	10.05	94	0.589
13.19%	10.22	95	0.599
13.33%	10.38	96	0.608
13.47%	10.54	97	0.618
13.61%	10.70	98	0.627
13.75%	10.86	99	0.636
13.89%	11.02	100	0.646

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

14.03%	11.18	101	0.655
14.17%	11.35	102	0.665
14.31%	11.51	103	0.674
14.44%	11.67	104	0.684
14.58%	11.83	105	0.693
14.72%	11.99	106	0.703
14.86%	12.15	107	0.712
15.00%	12.32	108	0.722
15.14%	12.48	109	0.731
15.28%	12.64	110	0.741
15.42%	12.80	111	0.750
15.56%	12.96	112	0.760
15.69%	13.12	113	0.769
15.83%	13.28	114	0.778
15.97%	13.45	115	0.788
16.11%	13.61	116	0.797
16.25%	13.77	117	0.807
16.39%	13.93	118	0.816
16.53%	14.09	119	0.826
16.67%	14.25	120	0.835
16.81%	14.41	121	0.845
16.94%	14.58	122	0.854
17.08%	14.74	123	0.864
17.22%	14.90	124	0.873
17.36%	15.06	125	0.883
17.50%	15.22	126	0.892
17.64%	15.38	127	0.902
17.78%	15.55	128	0.911
17.92%	15.71	129	0.920
18.06%	15.87	130	0.930
18.19%	16.03	131	0.939
18.33%	16.19	132	0.949
18.47%	16.35	133	0.958
18.61%	16.51	134	0.968
18.75%	16.68	135	0.977
18.89%	16.84	136	0.987
19.03%	17.00	137	0.996
19.17%	17.16	138	1.006
19.31%	17.32	139	1.015
19.44%	17.48	140	1.025
19.58%	17.65	141	1.034
19.72%	17.81	142	1.043
19.86%	17.97	143	1.053
20.00%	18.13	144	1.062
20.14%	18.38	145	1.077
20.28%	18.62	146	1.091
20.42%	18.87	147	1.106
20.56%	19.11	148	1.120
20.69%	19.36	149	1.135
20.83%	19.61	150	1.149
20.97%	19.85	151	1.163
21.11%	20.10	152	1.178
21.25%	20.35	153	1.192
21.39%	20.59	154	1.207
21.53%	20.84	155	1.221

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

21.67%	21.08	156	1.235
21.81%	21.33	157	1.250
21.94%	21.58	158	1.264
22.08%	21.82	159	1.279
22.22%	22.07	160	1.293
22.36%	22.31	161	1.308
22.50%	22.56	162	1.322
22.64%	22.81	163	1.336
22.78%	23.05	164	1.351
22.92%	23.30	165	1.365
23.06%	23.54	166	1.380
23.19%	23.79	167	1.394
23.33%	24.04	168	1.409
23.47%	24.28	169	1.423
23.61%	24.53	170	1.437
23.75%	24.78	171	1.452
23.89%	25.02	172	1.466
24.03%	25.27	173	1.481
24.17%	25.51	174	1.495
24.31%	25.76	175	1.510
24.44%	26.01	176	1.524
24.58%	26.25	177	1.538
24.72%	26.50	178	1.553
24.86%	26.74	179	1.567
25.00%	26.99	180	1.582
25.14%	27.24	181	1.596
25.28%	27.48	182	1.610
25.42%	27.73	183	1.625
25.56%	27.97	184	1.639
25.69%	28.22	185	1.654
25.83%	28.47	186	1.668
25.97%	28.71	187	1.683
26.11%	28.96	188	1.697
26.25%	29.21	189	1.711
26.39%	29.45	190	1.726
26.53%	29.70	191	1.740
26.67%	29.94	192	1.755
26.81%	30.19	193	1.769
26.94%	30.44	194	1.784
27.08%	30.68	195	1.798
27.22%	30.93	196	1.812
27.36%	31.17	197	1.827
27.50%	31.42	198	1.841
27.64%	31.67	199	1.856
27.78%	31.91	200	1.870
27.92%	32.16	201	1.884
28.06%	32.40	202	1.899
28.19%	32.65	203	1.913
28.33%	32.90	204	1.928
28.47%	33.14	205	1.942
28.61%	33.39	206	1.957
28.75%	33.64	207	1.971
28.89%	33.88	208	1.985
29.03%	34.13	209	2.000
29.17%	34.37	210	2.014

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

29.31%	34.62	211	2.029
29.44%	34.87	212	2.043
29.58%	35.11	213	2.058
29.72%	35.36	214	2.072
29.86%	35.60	215	2.086
30.00%	35.85	216	2.101
30.14%	36.09	217	2.115
30.28%	36.32	218	2.129
30.42%	36.56	219	2.143
30.56%	36.80	220	2.156
30.69%	37.04	221	2.170
30.83%	37.27	222	2.184
30.97%	37.51	223	2.198
31.11%	37.75	224	2.212
31.25%	37.99	225	2.226
31.39%	38.22	226	2.240
31.53%	38.46	227	2.254
31.67%	38.70	228	2.268
31.81%	38.94	229	2.282
31.94%	39.17	230	2.296
32.08%	39.41	231	2.309
32.22%	39.65	232	2.323
32.36%	39.89	233	2.337
32.50%	40.12	234	2.351
32.64%	40.36	235	2.365
32.78%	40.60	236	2.379
32.92%	40.83	237	2.393
33.06%	41.07	238	2.407
33.19%	41.31	239	2.421
33.33%	41.55	240	2.435
33.47%	41.78	241	2.449
33.61%	42.02	242	2.462
33.75%	42.26	243	2.476
33.89%	42.50	244	2.490
34.03%	42.73	245	2.504
34.17%	42.97	246	2.518
34.31%	43.21	247	2.532
34.44%	43.45	248	2.546
34.58%	43.68	249	2.560
34.72%	43.92	250	2.574
34.86%	44.16	251	2.588
35.00%	44.40	252	2.602
35.14%	44.63	253	2.615
35.28%	44.87	254	2.629
35.42%	45.11	255	2.643
35.56%	45.34	256	2.657
35.69%	45.58	257	2.671
35.83%	45.82	258	2.685
35.97%	46.06	259	2.699
36.11%	46.29	260	2.713
36.25%	46.53	261	2.727
36.39%	46.77	262	2.741
36.53%	47.01	263	2.755
36.67%	47.24	264	2.768
36.81%	47.48	265	2.782

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

36.94%	47.72	266	2.796
37.08%	47.96	267	2.810
37.22%	48.19	268	2.824
37.36%	48.43	269	2.838
37.50%	48.67	270	2.852
37.64%	48.90	271	2.866
37.78%	49.14	272	2.880
37.92%	49.38	273	2.894
38.06%	49.62	274	2.908
38.19%	49.85	275	2.921
38.33%	50.09	276	2.935
38.47%	50.33	277	2.949
38.61%	50.57	278	2.963
38.75%	50.80	279	2.977
38.89%	51.04	280	2.991
39.03%	51.28	281	3.005
39.17%	51.52	282	3.019
39.31%	51.75	283	3.033
39.44%	51.99	284	3.047
39.58%	52.23	285	3.061
39.72%	52.47	286	3.074
39.86%	52.70	287	3.088
40.00%	52.94	288	3.102
40.14%	53.15	289	3.114
40.28%	53.35	290	3.127
40.42%	53.56	291	3.139
40.56%	53.77	292	3.151
40.69%	53.98	293	3.163
40.83%	54.18	294	3.175
40.97%	54.39	295	3.187
41.11%	54.60	296	3.199
41.25%	54.81	297	3.212
41.39%	55.01	298	3.224
41.53%	55.22	299	3.236
41.67%	55.43	300	3.248
41.81%	55.63	301	3.260
41.94%	55.84	302	3.272
42.08%	56.05	303	3.284
42.22%	56.26	304	3.297
42.36%	56.46	305	3.309
42.50%	56.67	306	3.321
42.64%	56.88	307	3.333
42.78%	57.08	308	3.345
42.92%	57.29	309	3.357
43.06%	57.50	310	3.369
43.19%	57.71	311	3.382
43.33%	57.91	312	3.394
43.47%	58.12	313	3.406
43.61%	58.33	314	3.418
43.75%	58.54	315	3.430
43.89%	58.74	316	3.442
44.03%	58.95	317	3.454
44.17%	59.16	318	3.467
44.31%	59.36	319	3.479
44.44%	59.57	320	3.491

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

44.58%	59.78	321	3.503
44.72%	59.99	322	3.515
44.86%	60.19	323	3.527
45.00%	60.40	324	3.539
45.14%	60.61	325	3.552
45.28%	60.81	326	3.564
45.42%	61.02	327	3.576
45.56%	61.23	328	3.588
45.69%	61.44	329	3.600
45.83%	61.64	330	3.612
45.97%	61.85	331	3.624
46.11%	62.06	332	3.637
46.25%	62.27	333	3.649
46.39%	62.47	334	3.661
46.53%	62.68	335	3.673
46.67%	62.89	336	3.685
46.81%	63.09	337	3.697
46.94%	63.30	338	3.709
47.08%	63.51	339	3.722
47.22%	63.72	340	3.734
47.36%	63.92	341	3.746
47.50%	64.13	342	3.758
47.64%	64.34	343	3.770
47.78%	64.54	344	3.782
47.92%	64.75	345	3.794
48.06%	64.96	346	3.807
48.19%	65.17	347	3.819
48.33%	65.37	348	3.831
48.47%	65.58	349	3.843
48.61%	65.79	350	3.855
48.75%	66.00	351	3.867
48.89%	66.20	352	3.879
49.03%	66.41	353	3.892
49.17%	66.62	354	3.904
49.31%	66.82	355	3.916
49.44%	67.03	356	3.928
49.58%	67.24	357	3.940
49.72%	67.45	358	3.952
49.86%	67.65	359	3.964
50.00%	67.86	360	3.977
50.14%	67.98	361	3.984
50.28%	68.10	362	3.991
50.42%	68.22	363	3.998
50.56%	68.34	364	4.005
50.69%	68.46	365	4.012
50.83%	68.58	366	4.019
50.97%	68.70	367	4.026
51.11%	68.82	368	4.033
51.25%	68.94	369	4.040
51.39%	69.06	370	4.047
51.53%	69.18	371	4.054
51.67%	69.30	372	4.061
51.81%	69.42	373	4.068
51.94%	69.54	374	4.075
52.08%	69.66	375	4.082

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

52.22%	69.78	376	4.089
52.36%	69.90	377	4.096
52.50%	70.03	378	4.103
52.64%	70.15	379	4.111
52.78%	70.27	380	4.118
52.92%	70.39	381	4.125
53.06%	70.51	382	4.132
53.19%	70.63	383	4.139
53.33%	70.75	384	4.146
53.47%	70.87	385	4.153
53.61%	70.99	386	4.160
53.75%	71.11	387	4.167
53.89%	71.23	388	4.174
54.03%	71.35	389	4.181
54.17%	71.47	390	4.188
54.31%	71.59	391	4.195
54.44%	71.71	392	4.202
54.58%	71.83	393	4.209
54.72%	71.95	394	4.216
54.86%	72.07	395	4.223
55.00%	72.19	396	4.230
55.14%	72.31	397	4.237
55.28%	72.43	398	4.244
55.42%	72.55	399	4.251
55.56%	72.67	400	4.259
55.69%	72.79	401	4.266
55.83%	72.91	402	4.273
55.97%	73.03	403	4.280
56.11%	73.15	404	4.287
56.25%	73.27	405	4.294
56.39%	73.39	406	4.301
56.53%	73.51	407	4.308
56.67%	73.63	408	4.315
56.81%	73.75	409	4.322
56.94%	73.87	410	4.329
57.08%	73.99	411	4.336
57.22%	74.11	412	4.343
57.36%	74.23	413	4.350
57.50%	74.36	414	4.357
57.64%	74.48	415	4.364
57.78%	74.60	416	4.371
57.92%	74.72	417	4.378
58.06%	74.84	418	4.385
58.19%	74.96	419	4.392
58.33%	75.08	420	4.399
58.47%	75.20	421	4.407
58.61%	75.32	422	4.414
58.75%	75.44	423	4.421
58.89%	75.56	424	4.428
59.03%	75.68	425	4.435
59.17%	75.80	426	4.442
59.31%	75.92	427	4.449
59.44%	76.04	428	4.456
59.58%	76.16	429	4.463
59.72%	76.28	430	4.470

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

59.86%	76.40	431	4.477
60.00%	76.52	432	4.484
60.14%	76.62	433	4.490
60.28%	76.72	434	4.496
60.42%	76.82	435	4.502
60.56%	76.93	436	4.508
60.69%	77.03	437	4.514
60.83%	77.13	438	4.520
60.97%	77.23	439	4.526
61.11%	77.33	440	4.532
61.25%	77.43	441	4.537
61.39%	77.53	442	4.543
61.53%	77.63	443	4.549
61.67%	77.74	444	4.555
61.81%	77.84	445	4.561
61.94%	77.94	446	4.567
62.08%	78.04	447	4.573
62.22%	78.14	448	4.579
62.36%	78.24	449	4.585
62.50%	78.34	450	4.591
62.64%	78.44	451	4.597
62.78%	78.55	452	4.603
62.92%	78.65	453	4.609
63.06%	78.75	454	4.615
63.19%	78.85	455	4.621
63.33%	78.95	456	4.626
63.47%	79.05	457	4.632
63.61%	79.15	458	4.638
63.75%	79.25	459	4.644
63.89%	79.36	460	4.650
64.03%	79.46	461	4.656
64.17%	79.56	462	4.662
64.31%	79.66	463	4.668
64.44%	79.76	464	4.674
64.58%	79.86	465	4.680
64.72%	79.96	466	4.686
64.86%	80.06	467	4.692
65.00%	80.17	468	4.698
65.14%	80.27	469	4.704
65.28%	80.37	470	4.710
65.42%	80.47	471	4.715
65.56%	80.57	472	4.721
65.69%	80.67	473	4.727
65.83%	80.77	474	4.733
65.97%	80.87	475	4.739
66.11%	80.98	476	4.745
66.25%	81.08	477	4.751
66.39%	81.18	478	4.757
66.53%	81.28	479	4.763
66.67%	81.38	480	4.769
66.81%	81.48	481	4.775
66.94%	81.58	482	4.781
67.08%	81.68	483	4.787
67.22%	81.79	484	4.793
67.36%	81.89	485	4.799

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

67.50%	81.99	486	4.804
67.64%	82.09	487	4.810
67.78%	82.19	488	4.816
67.92%	82.29	489	4.822
68.06%	82.39	490	4.828
68.19%	82.49	491	4.834
68.33%	82.60	492	4.840
68.47%	82.70	493	4.846
68.61%	82.80	494	4.852
68.75%	82.90	495	4.858
68.89%	83.00	496	4.864
69.03%	83.10	497	4.870
69.17%	83.20	498	4.876
69.31%	83.30	499	4.882
69.44%	83.41	500	4.888
69.58%	83.51	501	4.893
69.72%	83.61	502	4.899
69.86%	83.71	503	4.905
70.00%	83.81	504	4.911
70.14%	83.91	505	4.917
70.28%	84.00	506	4.922
70.42%	84.10	507	4.928
70.56%	84.19	508	4.934
70.69%	84.29	509	4.939
70.83%	84.38	510	4.945
70.97%	84.48	511	4.950
71.11%	84.57	512	4.956
71.25%	84.67	513	4.962
71.39%	84.76	514	4.967
71.53%	84.86	515	4.973
71.67%	84.95	516	4.978
71.81%	85.05	517	4.984
71.94%	85.14	518	4.989
72.08%	85.24	519	4.995
72.22%	85.33	520	5.001
72.36%	85.43	521	5.006
72.50%	85.53	522	5.012
72.64%	85.62	523	5.017
72.78%	85.72	524	5.023
72.92%	85.81	525	5.029
73.06%	85.91	526	5.034
73.19%	86.00	527	5.040
73.33%	86.10	528	5.045
73.47%	86.19	529	5.051
73.61%	86.29	530	5.056
73.75%	86.38	531	5.062
73.89%	86.48	532	5.068
74.03%	86.57	533	5.073
74.17%	86.67	534	5.079
74.31%	86.76	535	5.084
74.44%	86.86	536	5.090
74.58%	86.95	537	5.096
74.72%	87.05	538	5.101
74.86%	87.14	539	5.107
75.00%	87.24	540	5.112

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

75.14%	87.34	541	5.118
75.28%	87.43	542	5.123
75.42%	87.53	543	5.129
75.56%	87.62	544	5.135
75.69%	87.72	545	5.140
75.83%	87.81	546	5.146
75.97%	87.91	547	5.151
76.11%	88.00	548	5.157
76.25%	88.10	549	5.163
76.39%	88.19	550	5.168
76.53%	88.29	551	5.174
76.67%	88.38	552	5.179
76.81%	88.48	553	5.185
76.94%	88.57	554	5.190
77.08%	88.67	555	5.196
77.22%	88.76	556	5.202
77.36%	88.86	557	5.207
77.50%	88.96	558	5.213
77.64%	89.05	559	5.218
77.78%	89.15	560	5.224
77.92%	89.24	561	5.230
78.06%	89.34	562	5.235
78.19%	89.43	563	5.241
78.33%	89.53	564	5.246
78.47%	89.62	565	5.252
78.61%	89.72	566	5.257
78.75%	89.81	567	5.263
78.89%	89.91	568	5.269
79.03%	90.00	569	5.274
79.17%	90.10	570	5.280
79.31%	90.19	571	5.285
79.44%	90.29	572	5.291
79.58%	90.38	573	5.297
79.72%	90.48	574	5.302
79.86%	90.57	575	5.308
80.00%	90.67	576	5.313
80.14%	90.74	577	5.318
80.28%	90.82	578	5.322
80.42%	90.89	579	5.326
80.56%	90.96	580	5.330
80.69%	91.03	581	5.335
80.83%	91.11	582	5.339
80.97%	91.18	583	5.343
81.11%	91.25	584	5.347
81.25%	91.32	585	5.351
81.39%	91.40	586	5.356
81.53%	91.47	587	5.360
81.67%	91.54	588	5.364
81.81%	91.61	589	5.368
81.94%	91.69	590	5.373
82.08%	91.76	591	5.377
82.22%	91.83	592	5.381
82.36%	91.90	593	5.385
82.50%	91.98	594	5.390
82.64%	92.05	595	5.394

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

82.78%	92.12	596	5.398
82.92%	92.19	597	5.402
83.06%	92.27	598	5.407
83.19%	92.34	599	5.411
83.33%	92.41	600	5.415
83.47%	92.48	601	5.419
83.61%	92.56	602	5.424
83.75%	92.63	603	5.428
83.89%	92.70	604	5.432
84.03%	92.77	605	5.436
84.17%	92.85	606	5.441
84.31%	92.92	607	5.445
84.44%	92.99	608	5.449
84.58%	93.06	609	5.453
84.72%	93.14	610	5.458
84.86%	93.21	611	5.462
85.00%	93.28	612	5.466
85.14%	93.35	613	5.470
85.28%	93.43	614	5.475
85.42%	93.50	615	5.479
85.56%	93.57	616	5.483
85.69%	93.64	617	5.487
85.83%	93.72	618	5.492
85.97%	93.79	619	5.496
86.11%	93.86	620	5.500
86.25%	93.93	621	5.504
86.39%	94.01	622	5.509
86.53%	94.08	623	5.513
86.67%	94.15	624	5.517
86.81%	94.22	625	5.521
86.94%	94.30	626	5.526
87.08%	94.37	627	5.530
87.22%	94.44	628	5.534
87.36%	94.51	629	5.538
87.50%	94.59	630	5.543
87.64%	94.66	631	5.547
87.78%	94.73	632	5.551
87.92%	94.80	633	5.555
88.06%	94.88	634	5.560
88.19%	94.95	635	5.564
88.33%	95.02	636	5.568
88.47%	95.09	637	5.572
88.61%	95.17	638	5.577
88.75%	95.24	639	5.581
88.89%	95.31	640	5.585
89.03%	95.38	641	5.589
89.17%	95.46	642	5.594
89.31%	95.53	643	5.598
89.44%	95.60	644	5.602
89.58%	95.67	645	5.606
89.72%	95.75	646	5.611
89.86%	95.82	647	5.615
90.00%	95.89	648	5.619
90.14%	95.95	649	5.622
90.28%	96.00	650	5.626

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

90.42%	96.06	651	5.629
90.56%	96.12	652	5.633
90.69%	96.18	653	5.636
90.83%	96.23	654	5.639
90.97%	96.29	655	5.643
91.11%	96.35	656	5.646
91.25%	96.40	657	5.649
91.39%	96.46	658	5.653
91.53%	96.52	659	5.656
91.67%	96.58	660	5.659
91.81%	96.63	661	5.663
91.94%	96.69	662	5.666
92.08%	96.75	663	5.669
92.22%	96.80	664	5.673
92.36%	96.86	665	5.676
92.50%	96.92	666	5.679
92.64%	96.97	667	5.683
92.78%	97.03	668	5.686
92.92%	97.09	669	5.689
93.06%	97.15	670	5.693
93.19%	97.20	671	5.696
93.33%	97.26	672	5.699
93.47%	97.32	673	5.703
93.61%	97.37	674	5.706
93.75%	97.43	675	5.709
93.89%	97.49	676	5.713
94.03%	97.55	677	5.716
94.17%	97.60	678	5.720
94.31%	97.66	679	5.723
94.44%	97.72	680	5.726
94.58%	97.77	681	5.730
94.72%	97.83	682	5.733
94.86%	97.89	683	5.736
95.00%	97.95	684	5.740
95.14%	98.00	685	5.743
95.28%	98.06	686	5.746
95.42%	98.12	687	5.750
95.56%	98.17	688	5.753
95.69%	98.23	689	5.756
95.83%	98.29	690	5.760
95.97%	98.34	691	5.763
96.11%	98.40	692	5.766
96.25%	98.46	693	5.770
96.39%	98.52	694	5.773
96.53%	98.57	695	5.776
96.67%	98.63	696	5.780
96.81%	98.69	697	5.783
96.94%	98.74	698	5.786
97.08%	98.80	699	5.790
97.22%	98.86	700	5.793
97.36%	98.92	701	5.796
97.50%	98.97	702	5.800
97.64%	99.03	703	5.803
97.78%	99.09	704	5.806
97.92%	99.14	705	5.810

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

98.06%	99.20	706	5.813
98.19%	99.26	707	5.817
98.33%	99.32	708	5.820
98.47%	99.37	709	5.823
98.61%	99.43	710	5.827
98.75%	99.49	711	5.830
98.89%	99.54	712	5.833
99.03%	99.60	713	5.837
99.17%	99.66	714	5.840
99.31%	99.71	715	5.843
99.44%	99.77	716	5.847
99.58%	99.83	717	5.850
99.72%	99.89	718	5.853
99.86%	99.94	719	5.857
100.00%	100.00	720	5.860

SAMPLE

HUFF DISTRIBUTION, 50% CURVE ORDINATES **100-YEAR RETURN PERIOD**

Done By: MA 3/22/2018
 Checked By: WN 4/2/2018

3rd Quartile, 50% Huff Curve Ordinates

Storm Duration		24.00	hr
Rainfall Depth		6.81	in
% Storm Time	Huff 1st Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
0.07%	0.04	1	0.002
0.14%	0.07	2	0.005
0.21%	0.11	3	0.007
0.28%	0.15	4	0.010
0.35%	0.18	5	0.012
0.42%	0.22	6	0.015
0.49%	0.26	7	0.017
0.56%	0.29	8	0.020
0.63%	0.33	9	0.022
0.69%	0.37	10	0.025
0.76%	0.40	11	0.027
0.83%	0.44	12	0.030
0.90%	0.47	13	0.032
0.97%	0.51	14	0.035
1.04%	0.55	15	0.037
1.11%	0.58	16	0.040
1.18%	0.62	17	0.042
1.25%	0.66	18	0.045
1.32%	0.69	19	0.047
1.39%	0.73	20	0.050
1.46%	0.77	21	0.052
1.53%	0.80	22	0.055
1.60%	0.84	23	0.057
1.67%	0.88	24	0.060
1.74%	0.91	25	0.062
1.81%	0.95	26	0.065
1.88%	0.99	27	0.067
1.94%	1.02	28	0.070
2.01%	1.06	29	0.072
2.08%	1.10	30	0.075
2.15%	1.13	31	0.077
2.22%	1.17	32	0.080
2.29%	1.21	33	0.082
2.36%	1.24	34	0.085
2.43%	1.28	35	0.087
2.50%	1.32	36	0.090
2.57%	1.35	37	0.092
2.64%	1.39	38	0.095
2.71%	1.42	39	0.097
2.78%	1.46	40	0.100
2.85%	1.50	41	0.102
2.92%	1.53	42	0.104
2.99%	1.57	43	0.107
3.06%	1.61	44	0.109
3.13%	1.64	45	0.112

3rd Quartile, 50% Huff Curve Ordinates

Storm Duration		24.00	hr
Rainfall Depth		6.81	in
% Storm Time	Huff 3rd Quartile	Time (Min)	Rainfall Depth (in)
0%	0.00	0	0
10%	5.26	144	0.358
20%	11.55	288	0.787
30%	17.06	432	1.162
40%	24.24	576	1.651
50%	37.78	720	2.573
60%	58.33	864	3.972
70%	78.03	1008	5.314
80%	88.68	1152	6.039
90%	95.29	1296	6.489
100%	100.00	1440	6.810

HUFF DISTRIBUTION, 50% CURVE ORDINATES
100-YEAR RETURN PERIOD

3.19%	1.68	46	0.114
3.26%	1.72	47	0.117
3.33%	1.75	48	0.119
3.40%	1.79	49	0.122
3.47%	1.83	50	0.124
3.54%	1.86	51	0.127
3.61%	1.90	52	0.129
3.68%	1.94	53	0.132
3.75%	1.97	54	0.134
3.82%	2.01	55	0.137
3.89%	2.05	56	0.139
3.96%	2.08	57	0.142
4.03%	2.12	58	0.144
4.10%	2.16	59	0.147
4.17%	2.19	60	0.149
4.24%	2.23	61	0.152
4.31%	2.26	62	0.154
4.38%	2.30	63	0.157
4.44%	2.34	64	0.159
4.51%	2.37	65	0.162
4.58%	2.41	66	0.164
4.65%	2.45	67	0.167
4.72%	2.48	68	0.169
4.79%	2.52	69	0.172
4.86%	2.56	70	0.174
4.93%	2.59	71	0.177
5.00%	2.63	72	0.179
5.07%	2.67	73	0.182
5.14%	2.70	74	0.184
5.21%	2.74	75	0.187
5.28%	2.78	76	0.189
5.35%	2.81	77	0.192
5.42%	2.85	78	0.194
5.49%	2.89	79	0.197
5.56%	2.92	80	0.199
5.63%	2.96	81	0.201
5.69%	3.00	82	0.204
5.76%	3.03	83	0.206
5.83%	3.07	84	0.209
5.90%	3.10	85	0.211
5.97%	3.14	86	0.214
6.04%	3.18	87	0.216
6.11%	3.21	88	0.219
6.18%	3.25	89	0.221
6.25%	3.29	90	0.224
6.32%	3.32	91	0.226
6.39%	3.36	92	0.229
6.46%	3.40	93	0.231
6.53%	3.43	94	0.234
6.60%	3.47	95	0.236
6.67%	3.51	96	0.239
6.74%	3.54	97	0.241
6.81%	3.58	98	0.244
6.88%	3.62	99	0.246
6.94%	3.65	100	0.249

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

7.01%	3.69	101	0.251
7.08%	3.73	102	0.254
7.15%	3.76	103	0.256
7.22%	3.80	104	0.259
7.29%	3.84	105	0.261
7.36%	3.87	106	0.264
7.43%	3.91	107	0.266
7.50%	3.95	108	0.269
7.57%	3.98	109	0.271
7.64%	4.02	110	0.274
7.71%	4.05	111	0.276
7.78%	4.09	112	0.279
7.85%	4.13	113	0.281
7.92%	4.16	114	0.284
7.99%	4.20	115	0.286
8.06%	4.24	116	0.289
8.13%	4.27	117	0.291
8.19%	4.31	118	0.294
8.26%	4.35	119	0.296
8.33%	4.38	120	0.299
8.40%	4.42	121	0.301
8.47%	4.46	122	0.303
8.54%	4.49	123	0.306
8.61%	4.53	124	0.308
8.68%	4.57	125	0.311
8.75%	4.60	126	0.313
8.82%	4.64	127	0.316
8.89%	4.68	128	0.318
8.96%	4.71	129	0.321
9.03%	4.75	130	0.323
9.10%	4.79	131	0.326
9.17%	4.82	132	0.328
9.24%	4.86	133	0.331
9.31%	4.89	134	0.333
9.38%	4.93	135	0.336
9.44%	4.97	136	0.338
9.51%	5.00	137	0.341
9.58%	5.04	138	0.343
9.65%	5.08	139	0.346
9.72%	5.11	140	0.348
9.79%	5.15	141	0.351
9.86%	5.19	142	0.353
9.93%	5.22	143	0.356
10.00%	5.26	144	0.358
10.07%	5.30	145	0.361
10.14%	5.35	146	0.364
10.21%	5.39	147	0.367
10.28%	5.43	148	0.370
10.35%	5.48	149	0.373
10.42%	5.52	150	0.376
10.49%	5.57	151	0.379
10.56%	5.61	152	0.382
10.63%	5.65	153	0.385
10.69%	5.70	154	0.388
10.76%	5.74	155	0.391

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

10.83%	5.78	156	0.394
10.90%	5.83	157	0.397
10.97%	5.87	158	0.400
11.04%	5.92	159	0.403
11.11%	5.96	160	0.406
11.18%	6.00	161	0.409
11.25%	6.05	162	0.412
11.32%	6.09	163	0.415
11.39%	6.13	164	0.418
11.46%	6.18	165	0.421
11.53%	6.22	166	0.424
11.60%	6.26	167	0.427
11.67%	6.31	168	0.430
11.74%	6.35	169	0.433
11.81%	6.40	170	0.436
11.88%	6.44	171	0.439
11.94%	6.48	172	0.441
12.01%	6.53	173	0.444
12.08%	6.57	174	0.447
12.15%	6.61	175	0.450
12.22%	6.66	176	0.453
12.29%	6.70	177	0.456
12.36%	6.75	178	0.459
12.43%	6.79	179	0.462
12.50%	6.83	180	0.465
12.57%	6.88	181	0.468
12.64%	6.92	182	0.471
12.71%	6.96	183	0.474
12.78%	7.01	184	0.477
12.85%	7.05	185	0.480
12.92%	7.09	186	0.483
12.99%	7.14	187	0.486
13.06%	7.18	188	0.489
13.13%	7.23	189	0.492
13.19%	7.27	190	0.495
13.26%	7.31	191	0.498
13.33%	7.36	192	0.501
13.40%	7.40	193	0.504
13.47%	7.44	194	0.507
13.54%	7.49	195	0.510
13.61%	7.53	196	0.513
13.68%	7.58	197	0.516
13.75%	7.62	198	0.519
13.82%	7.66	199	0.522
13.89%	7.71	200	0.525
13.96%	7.75	201	0.528
14.03%	7.79	202	0.531
14.10%	7.84	203	0.534
14.17%	7.88	204	0.537
14.24%	7.92	205	0.540
14.31%	7.97	206	0.543
14.38%	8.01	207	0.546
14.44%	8.06	208	0.549
14.51%	8.10	209	0.552
14.58%	8.14	210	0.555

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

14.65%	8.19	211	0.558
14.72%	8.23	212	0.560
14.79%	8.27	213	0.563
14.86%	8.32	214	0.566
14.93%	8.36	215	0.569
15.00%	8.41	216	0.572
15.07%	8.45	217	0.575
15.14%	8.49	218	0.578
15.21%	8.54	219	0.581
15.28%	8.58	220	0.584
15.35%	8.62	221	0.587
15.42%	8.67	222	0.590
15.49%	8.71	223	0.593
15.56%	8.75	224	0.596
15.63%	8.80	225	0.599
15.69%	8.84	226	0.602
15.76%	8.89	227	0.605
15.83%	8.93	228	0.608
15.90%	8.97	229	0.611
15.97%	9.02	230	0.614
16.04%	9.06	231	0.617
16.11%	9.10	232	0.620
16.18%	9.15	233	0.623
16.25%	9.19	234	0.626
16.32%	9.23	235	0.629
16.39%	9.28	236	0.632
16.46%	9.32	237	0.635
16.53%	9.37	238	0.638
16.60%	9.41	239	0.641
16.67%	9.45	240	0.644
16.74%	9.50	241	0.647
16.81%	9.54	242	0.650
16.88%	9.58	243	0.653
16.94%	9.63	244	0.656
17.01%	9.67	245	0.659
17.08%	9.72	246	0.662
17.15%	9.76	247	0.665
17.22%	9.80	248	0.668
17.29%	9.85	249	0.671
17.36%	9.89	250	0.674
17.43%	9.93	251	0.676
17.50%	9.98	252	0.679
17.57%	10.02	253	0.682
17.64%	10.06	254	0.685
17.71%	10.11	255	0.688
17.78%	10.15	256	0.691
17.85%	10.20	257	0.694
17.92%	10.24	258	0.697
17.99%	10.28	259	0.700
18.06%	10.33	260	0.703
18.13%	10.37	261	0.706
18.19%	10.41	262	0.709
18.26%	10.46	263	0.712
18.33%	10.50	264	0.715
18.40%	10.55	265	0.718

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

18.47%	10.59	266	0.721
18.54%	10.63	267	0.724
18.61%	10.68	268	0.727
18.68%	10.72	269	0.730
18.75%	10.76	270	0.733
18.82%	10.81	271	0.736
18.89%	10.85	272	0.739
18.96%	10.89	273	0.742
19.03%	10.94	274	0.745
19.10%	10.98	275	0.748
19.17%	11.03	276	0.751
19.24%	11.07	277	0.754
19.31%	11.11	278	0.757
19.38%	11.16	279	0.760
19.44%	11.20	280	0.763
19.51%	11.24	281	0.766
19.58%	11.29	282	0.769
19.65%	11.33	283	0.772
19.72%	11.38	284	0.775
19.79%	11.42	285	0.778
19.86%	11.46	286	0.781
19.93%	11.51	287	0.784
20.00%	11.55	288	0.787
20.07%	11.59	289	0.789
20.14%	11.63	290	0.792
20.21%	11.66	291	0.794
20.28%	11.70	292	0.797
20.35%	11.74	293	0.800
20.42%	11.78	294	0.802
20.49%	11.82	295	0.805
20.56%	11.86	296	0.807
20.63%	11.89	297	0.810
20.69%	11.93	298	0.813
20.76%	11.97	299	0.815
20.83%	12.01	300	0.818
20.90%	12.05	301	0.820
20.97%	12.09	302	0.823
21.04%	12.12	303	0.826
21.11%	12.16	304	0.828
21.18%	12.20	305	0.831
21.25%	12.24	306	0.833
21.32%	12.28	307	0.836
21.39%	12.32	308	0.839
21.46%	12.35	309	0.841
21.53%	12.39	310	0.844
21.60%	12.43	311	0.846
21.67%	12.47	312	0.849
21.74%	12.51	313	0.852
21.81%	12.54	314	0.854
21.88%	12.58	315	0.857
21.94%	12.62	316	0.860
22.01%	12.66	317	0.862
22.08%	12.70	318	0.865
22.15%	12.74	319	0.867
22.22%	12.77	320	0.870

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

22.29%	12.81	321	0.873
22.36%	12.85	322	0.875
22.43%	12.89	323	0.878
22.50%	12.93	324	0.880
22.57%	12.97	325	0.883
22.64%	13.00	326	0.886
22.71%	13.04	327	0.888
22.78%	13.08	328	0.891
22.85%	13.12	329	0.893
22.92%	13.16	330	0.896
22.99%	13.20	331	0.899
23.06%	13.23	332	0.901
23.13%	13.27	333	0.904
23.19%	13.31	334	0.906
23.26%	13.35	335	0.909
23.33%	13.39	336	0.912
23.40%	13.42	337	0.914
23.47%	13.46	338	0.917
23.54%	13.50	339	0.919
23.61%	13.54	340	0.922
23.68%	13.58	341	0.925
23.75%	13.62	342	0.927
23.82%	13.65	343	0.930
23.89%	13.69	344	0.932
23.96%	13.73	345	0.935
24.03%	13.77	346	0.938
24.10%	13.81	347	0.940
24.17%	13.85	348	0.943
24.24%	13.88	349	0.946
24.31%	13.92	350	0.948
24.38%	13.96	351	0.951
24.44%	14.00	352	0.953
24.51%	14.04	353	0.956
24.58%	14.08	354	0.959
24.65%	14.11	355	0.961
24.72%	14.15	356	0.964
24.79%	14.19	357	0.966
24.86%	14.23	358	0.969
24.93%	14.27	359	0.972
25.00%	14.31	360	0.974
25.07%	14.34	361	0.977
25.14%	14.38	362	0.979
25.21%	14.42	363	0.982
25.28%	14.46	364	0.985
25.35%	14.50	365	0.987
25.42%	14.53	366	0.990
25.49%	14.57	367	0.992
25.56%	14.61	368	0.995
25.63%	14.65	369	0.998
25.69%	14.69	370	1.000
25.76%	14.73	371	1.003
25.83%	14.76	372	1.005
25.90%	14.80	373	1.008
25.97%	14.84	374	1.011
26.04%	14.88	375	1.013

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

26.11%	14.92	376	1.016
26.18%	14.96	377	1.018
26.25%	14.99	378	1.021
26.32%	15.03	379	1.024
26.39%	15.07	380	1.026
26.46%	15.11	381	1.029
26.53%	15.15	382	1.031
26.60%	15.19	383	1.034
26.67%	15.22	384	1.037
26.74%	15.26	385	1.039
26.81%	15.30	386	1.042
26.88%	15.34	387	1.045
26.94%	15.38	388	1.047
27.01%	15.41	389	1.050
27.08%	15.45	390	1.052
27.15%	15.49	391	1.055
27.22%	15.53	392	1.058
27.29%	15.57	393	1.060
27.36%	15.61	394	1.063
27.43%	15.64	395	1.065
27.50%	15.68	396	1.068
27.57%	15.72	397	1.071
27.64%	15.76	398	1.073
27.71%	15.80	399	1.076
27.78%	15.84	400	1.078
27.85%	15.87	401	1.081
27.92%	15.91	402	1.084
27.99%	15.95	403	1.086
28.06%	15.99	404	1.089
28.13%	16.03	405	1.091
28.19%	16.07	406	1.094
28.26%	16.10	407	1.097
28.33%	16.14	408	1.099
28.40%	16.18	409	1.102
28.47%	16.22	410	1.104
28.54%	16.26	411	1.107
28.61%	16.29	412	1.110
28.68%	16.33	413	1.112
28.75%	16.37	414	1.115
28.82%	16.41	415	1.117
28.89%	16.45	416	1.120
28.96%	16.49	417	1.123
29.03%	16.52	418	1.125
29.10%	16.56	419	1.128
29.17%	16.60	420	1.131
29.24%	16.64	421	1.133
29.31%	16.68	422	1.136
29.38%	16.72	423	1.138
29.44%	16.75	424	1.141
29.51%	16.79	425	1.144
29.58%	16.83	426	1.146
29.65%	16.87	427	1.149
29.72%	16.91	428	1.151
29.79%	16.95	429	1.154
29.86%	16.98	430	1.157

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

29.93%	17.02	431	1.159
30.00%	17.06	432	1.162
30.07%	17.11	433	1.165
30.14%	17.16	434	1.169
30.21%	17.21	435	1.172
30.28%	17.26	436	1.175
30.35%	17.31	437	1.179
30.42%	17.36	438	1.182
30.49%	17.41	439	1.186
30.56%	17.46	440	1.189
30.63%	17.51	441	1.192
30.69%	17.56	442	1.196
30.76%	17.61	443	1.199
30.83%	17.66	444	1.203
30.90%	17.71	445	1.206
30.97%	17.76	446	1.209
31.04%	17.81	447	1.213
31.11%	17.86	448	1.216
31.18%	17.91	449	1.220
31.25%	17.96	450	1.223
31.32%	18.01	451	1.226
31.39%	18.06	452	1.230
31.46%	18.11	453	1.233
31.53%	18.16	454	1.236
31.60%	18.21	455	1.240
31.67%	18.26	456	1.243
31.74%	18.31	457	1.247
31.81%	18.36	458	1.250
31.88%	18.41	459	1.253
31.94%	18.46	460	1.257
32.01%	18.51	461	1.260
32.08%	18.56	462	1.264
32.15%	18.61	463	1.267
32.22%	18.66	464	1.270
32.29%	18.71	465	1.274
32.36%	18.76	466	1.277
32.43%	18.81	467	1.281
32.50%	18.86	468	1.284
32.57%	18.90	469	1.287
32.64%	18.95	470	1.291
32.71%	19.00	471	1.294
32.78%	19.05	472	1.298
32.85%	19.10	473	1.301
32.92%	19.15	474	1.304
32.99%	19.20	475	1.308
33.06%	19.25	476	1.311
33.13%	19.30	477	1.315
33.19%	19.35	478	1.318
33.26%	19.40	479	1.321
33.33%	19.45	480	1.325
33.40%	19.50	481	1.328
33.47%	19.55	482	1.332
33.54%	19.60	483	1.335
33.61%	19.65	484	1.338
33.68%	19.70	485	1.342

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

33.75%	19.75	486	1.345
33.82%	19.80	487	1.349
33.89%	19.85	488	1.352
33.96%	19.90	489	1.355
34.03%	19.95	490	1.359
34.10%	20.00	491	1.362
34.17%	20.05	492	1.366
34.24%	20.10	493	1.369
34.31%	20.15	494	1.372
34.38%	20.20	495	1.376
34.44%	20.25	496	1.379
34.51%	20.30	497	1.382
34.58%	20.35	498	1.386
34.65%	20.40	499	1.389
34.72%	20.45	500	1.393
34.79%	20.50	501	1.396
34.86%	20.55	502	1.399
34.93%	20.60	503	1.403
35.00%	20.65	504	1.406
35.07%	20.70	505	1.410
35.14%	20.75	506	1.413
35.21%	20.80	507	1.416
35.28%	20.85	508	1.420
35.35%	20.90	509	1.423
35.42%	20.95	510	1.427
35.49%	21.00	511	1.430
35.56%	21.05	512	1.433
35.63%	21.10	513	1.437
35.69%	21.15	514	1.440
35.76%	21.20	515	1.444
35.83%	21.25	516	1.447
35.90%	21.30	517	1.450
35.97%	21.35	518	1.454
36.04%	21.40	519	1.457
36.11%	21.45	520	1.461
36.18%	21.50	521	1.464
36.25%	21.55	522	1.467
36.32%	21.60	523	1.471
36.39%	21.65	524	1.474
36.46%	21.70	525	1.478
36.53%	21.75	526	1.481
36.60%	21.80	527	1.484
36.67%	21.85	528	1.488
36.74%	21.90	529	1.491
36.81%	21.95	530	1.495
36.88%	22.00	531	1.498
36.94%	22.05	532	1.501
37.01%	22.10	533	1.505
37.08%	22.15	534	1.508
37.15%	22.20	535	1.512
37.22%	22.25	536	1.515
37.29%	22.30	537	1.518
37.36%	22.35	538	1.522
37.43%	22.40	539	1.525
37.50%	22.45	540	1.529

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

37.57%	22.49	541	1.532
37.64%	22.54	542	1.535
37.71%	22.59	543	1.539
37.78%	22.64	544	1.542
37.85%	22.69	545	1.545
37.92%	22.74	546	1.549
37.99%	22.79	547	1.552
38.06%	22.84	548	1.556
38.13%	22.89	549	1.559
38.19%	22.94	550	1.562
38.26%	22.99	551	1.566
38.33%	23.04	552	1.569
38.40%	23.09	553	1.573
38.47%	23.14	554	1.576
38.54%	23.19	555	1.579
38.61%	23.24	556	1.583
38.68%	23.29	557	1.586
38.75%	23.34	558	1.590
38.82%	23.39	559	1.593
38.89%	23.44	560	1.596
38.96%	23.49	561	1.600
39.03%	23.54	562	1.603
39.10%	23.59	563	1.607
39.17%	23.64	564	1.610
39.24%	23.69	565	1.613
39.31%	23.74	566	1.617
39.38%	23.79	567	1.620
39.44%	23.84	568	1.624
39.51%	23.89	569	1.627
39.58%	23.94	570	1.630
39.65%	23.99	571	1.634
39.72%	24.04	572	1.637
39.79%	24.09	573	1.641
39.86%	24.14	574	1.644
39.93%	24.19	575	1.647
40.00%	24.24	576	1.651
40.07%	24.33	577	1.657
40.14%	24.43	578	1.664
40.21%	24.52	579	1.670
40.28%	24.62	580	1.676
40.35%	24.71	581	1.683
40.42%	24.80	582	1.689
40.49%	24.90	583	1.696
40.56%	24.99	584	1.702
40.63%	25.09	585	1.708
40.69%	25.18	586	1.715
40.76%	25.27	587	1.721
40.83%	25.37	588	1.728
40.90%	25.46	589	1.734
40.97%	25.56	590	1.740
41.04%	25.65	591	1.747
41.11%	25.74	592	1.753
41.18%	25.84	593	1.760
41.25%	25.93	594	1.766
41.32%	26.03	595	1.772

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

41.39%	26.12	596	1.779
41.46%	26.21	597	1.785
41.53%	26.31	598	1.792
41.60%	26.40	599	1.798
41.67%	26.50	600	1.804
41.74%	26.59	601	1.811
41.81%	26.68	602	1.817
41.88%	26.78	603	1.824
41.94%	26.87	604	1.830
42.01%	26.97	605	1.836
42.08%	27.06	606	1.843
42.15%	27.15	607	1.849
42.22%	27.25	608	1.856
42.29%	27.34	609	1.862
42.36%	27.44	610	1.868
42.43%	27.53	611	1.875
42.50%	27.63	612	1.881
42.57%	27.72	613	1.888
42.64%	27.81	614	1.894
42.71%	27.91	615	1.900
42.78%	28.00	616	1.907
42.85%	28.10	617	1.913
42.92%	28.19	618	1.920
42.99%	28.28	619	1.926
43.06%	28.38	620	1.932
43.13%	28.47	621	1.939
43.19%	28.57	622	1.945
43.26%	28.66	623	1.952
43.33%	28.75	624	1.958
43.40%	28.85	625	1.965
43.47%	28.94	626	1.971
43.54%	29.04	627	1.977
43.61%	29.13	628	1.984
43.68%	29.22	629	1.990
43.75%	29.32	630	1.997
43.82%	29.41	631	2.003
43.89%	29.51	632	2.009
43.96%	29.60	633	2.016
44.03%	29.69	634	2.022
44.10%	29.79	635	2.029
44.17%	29.88	636	2.035
44.24%	29.98	637	2.041
44.31%	30.07	638	2.048
44.38%	30.16	639	2.054
44.44%	30.26	640	2.061
44.51%	30.35	641	2.067
44.58%	30.45	642	2.073
44.65%	30.54	643	2.080
44.72%	30.63	644	2.086
44.79%	30.73	645	2.093
44.86%	30.82	646	2.099
44.93%	30.92	647	2.105
45.00%	31.01	648	2.112
45.07%	31.10	649	2.118
45.14%	31.20	650	2.125

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

45.21%	31.29	651	2.131
45.28%	31.39	652	2.137
45.35%	31.48	653	2.144
45.42%	31.57	654	2.150
45.49%	31.67	655	2.157
45.56%	31.76	656	2.163
45.63%	31.86	657	2.169
45.69%	31.95	658	2.176
45.76%	32.04	659	2.182
45.83%	32.14	660	2.189
45.90%	32.23	661	2.195
45.97%	32.33	662	2.201
46.04%	32.42	663	2.208
46.11%	32.51	664	2.214
46.18%	32.61	665	2.221
46.25%	32.70	666	2.227
46.32%	32.80	667	2.233
46.39%	32.89	668	2.240
46.46%	32.98	669	2.246
46.53%	33.08	670	2.253
46.60%	33.17	671	2.259
46.67%	33.27	672	2.265
46.74%	33.36	673	2.272
46.81%	33.45	674	2.278
46.88%	33.55	675	2.285
46.94%	33.64	676	2.291
47.01%	33.74	677	2.297
47.08%	33.83	678	2.304
47.15%	33.92	679	2.310
47.22%	34.02	680	2.317
47.29%	34.11	681	2.323
47.36%	34.21	682	2.329
47.43%	34.30	683	2.336
47.50%	34.40	684	2.342
47.57%	34.49	685	2.349
47.64%	34.58	686	2.355
47.71%	34.68	687	2.362
47.78%	34.77	688	2.368
47.85%	34.87	689	2.374
47.92%	34.96	690	2.381
47.99%	35.05	691	2.387
48.06%	35.15	692	2.394
48.13%	35.24	693	2.400
48.19%	35.34	694	2.406
48.26%	35.43	695	2.413
48.33%	35.52	696	2.419
48.40%	35.62	697	2.426
48.47%	35.71	698	2.432
48.54%	35.81	699	2.438
48.61%	35.90	700	2.445
48.68%	35.99	701	2.451
48.75%	36.09	702	2.458
48.82%	36.18	703	2.464
48.89%	36.28	704	2.470
48.96%	36.37	705	2.477

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

49.03%	36.46	706	2.483
49.10%	36.56	707	2.490
49.17%	36.65	708	2.496
49.24%	36.75	709	2.502
49.31%	36.84	710	2.509
49.38%	36.93	711	2.515
49.44%	37.03	712	2.522
49.51%	37.12	713	2.528
49.58%	37.22	714	2.534
49.65%	37.31	715	2.541
49.72%	37.40	716	2.547
49.79%	37.50	717	2.554
49.86%	37.59	718	2.560
49.93%	37.69	719	2.566
50.00%	37.78	720	2.573
50.07%	37.92	721	2.583
50.14%	38.07	722	2.592
50.21%	38.21	723	2.602
50.28%	38.35	724	2.612
50.35%	38.49	725	2.621
50.42%	38.64	726	2.631
50.49%	38.78	727	2.641
50.56%	38.92	728	2.651
50.63%	39.06	729	2.660
50.69%	39.21	730	2.670
50.76%	39.35	731	2.680
50.83%	39.49	732	2.689
50.90%	39.64	733	2.699
50.97%	39.78	734	2.709
51.04%	39.92	735	2.719
51.11%	40.06	736	2.728
51.18%	40.21	737	2.738
51.25%	40.35	738	2.748
51.32%	40.49	739	2.757
51.39%	40.63	740	2.767
51.46%	40.78	741	2.777
51.53%	40.92	742	2.787
51.60%	41.06	743	2.796
51.67%	41.21	744	2.806
51.74%	41.35	745	2.816
51.81%	41.49	746	2.825
51.88%	41.63	747	2.835
51.94%	41.78	748	2.845
52.01%	41.92	749	2.855
52.08%	42.06	750	2.864
52.15%	42.20	751	2.874
52.22%	42.35	752	2.884
52.29%	42.49	753	2.894
52.36%	42.63	754	2.903
52.43%	42.77	755	2.913
52.50%	42.92	756	2.923
52.57%	43.06	757	2.932
52.64%	43.20	758	2.942
52.71%	43.35	759	2.952
52.78%	43.49	760	2.962

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

52.85%	43.63	761	2.971
52.92%	43.77	762	2.981
52.99%	43.92	763	2.991
53.06%	44.06	764	3.000
53.13%	44.20	765	3.010
53.19%	44.34	766	3.020
53.26%	44.49	767	3.030
53.33%	44.63	768	3.039
53.40%	44.77	769	3.049
53.47%	44.92	770	3.059
53.54%	45.06	771	3.068
53.61%	45.20	772	3.078
53.68%	45.34	773	3.088
53.75%	45.49	774	3.098
53.82%	45.63	775	3.107
53.89%	45.77	776	3.117
53.96%	45.91	777	3.127
54.03%	46.06	778	3.136
54.10%	46.20	779	3.146
54.17%	46.34	780	3.156
54.24%	46.49	781	3.166
54.31%	46.63	782	3.175
54.38%	46.77	783	3.185
54.44%	46.91	784	3.195
54.51%	47.06	785	3.205
54.58%	47.20	786	3.214
54.65%	47.34	787	3.224
54.72%	47.48	788	3.234
54.79%	47.63	789	3.243
54.86%	47.77	790	3.253
54.93%	47.91	791	3.263
55.00%	48.06	792	3.273
55.07%	48.20	793	3.282
55.14%	48.34	794	3.292
55.21%	48.48	795	3.302
55.28%	48.63	796	3.311
55.35%	48.77	797	3.321
55.42%	48.91	798	3.331
55.49%	49.05	799	3.341
55.56%	49.20	800	3.350
55.63%	49.34	801	3.360
55.69%	49.48	802	3.370
55.76%	49.62	803	3.379
55.83%	49.77	804	3.389
55.90%	49.91	805	3.399
55.97%	50.05	806	3.409
56.04%	50.20	807	3.418
56.11%	50.34	808	3.428
56.18%	50.48	809	3.438
56.25%	50.62	810	3.447
56.32%	50.77	811	3.457
56.39%	50.91	812	3.467
56.46%	51.05	813	3.477
56.53%	51.19	814	3.486
56.60%	51.34	815	3.496

HUFF DISTRIBUTION, 50% CURVE ORDINATES

100-YEAR RETURN PERIOD

56.67%	51.48	816	3.506
56.74%	51.62	817	3.516
56.81%	51.77	818	3.525
56.88%	51.91	819	3.535
56.94%	52.05	820	3.545
57.01%	52.19	821	3.554
57.08%	52.34	822	3.564
57.15%	52.48	823	3.574
57.22%	52.62	824	3.584
57.29%	52.76	825	3.593
57.36%	52.91	826	3.603
57.43%	53.05	827	3.613
57.50%	53.19	828	3.622
57.57%	53.34	829	3.632
57.64%	53.48	830	3.642
57.71%	53.62	831	3.652
57.78%	53.76	832	3.661
57.85%	53.91	833	3.671
57.92%	54.05	834	3.681
57.99%	54.19	835	3.690
58.06%	54.33	836	3.700
58.13%	54.48	837	3.710
58.19%	54.62	838	3.720
58.26%	54.76	839	3.729
58.33%	54.91	840	3.739
58.40%	55.05	841	3.749
58.47%	55.19	842	3.758
58.54%	55.33	843	3.768
58.61%	55.48	844	3.778
58.68%	55.62	845	3.788
58.75%	55.76	846	3.797
58.82%	55.90	847	3.807
58.89%	56.05	848	3.817
58.96%	56.19	849	3.826
59.03%	56.33	850	3.836
59.10%	56.47	851	3.846
59.17%	56.62	852	3.856
59.24%	56.76	853	3.865
59.31%	56.90	854	3.875
59.38%	57.05	855	3.885
59.44%	57.19	856	3.895
59.51%	57.33	857	3.904
59.58%	57.47	858	3.914
59.65%	57.62	859	3.924
59.72%	57.76	860	3.933
59.79%	57.90	861	3.943
59.86%	58.04	862	3.953
59.93%	58.19	863	3.963
60.00%	58.33	864	3.972
60.07%	58.47	865	3.982
60.14%	58.60	866	3.991
60.21%	58.74	867	4.000
60.28%	58.88	868	4.010
60.35%	59.01	869	4.019
60.42%	59.15	870	4.028

HUFF DISTRIBUTION, 50% CURVE ORDINATES

100-YEAR RETURN PERIOD

60.49%	59.29	871	4.037
60.56%	59.42	872	4.047
60.63%	59.56	873	4.056
60.69%	59.70	874	4.065
60.76%	59.83	875	4.075
60.83%	59.97	876	4.084
60.90%	60.11	877	4.093
60.97%	60.25	878	4.103
61.04%	60.38	879	4.112
61.11%	60.52	880	4.121
61.18%	60.66	881	4.131
61.25%	60.79	882	4.140
61.32%	60.93	883	4.149
61.39%	61.07	884	4.159
61.46%	61.20	885	4.168
61.53%	61.34	886	4.177
61.60%	61.48	887	4.187
61.67%	61.61	888	4.196
61.74%	61.75	889	4.205
61.81%	61.89	890	4.215
61.88%	62.02	891	4.224
61.94%	62.16	892	4.233
62.01%	62.30	893	4.242
62.08%	62.43	894	4.252
62.15%	62.57	895	4.261
62.22%	62.71	896	4.270
62.29%	62.84	897	4.280
62.36%	62.98	898	4.289
62.43%	63.12	899	4.298
62.50%	63.26	900	4.308
62.57%	63.39	901	4.317
62.64%	63.53	902	4.326
62.71%	63.67	903	4.336
62.78%	63.80	904	4.345
62.85%	63.94	905	4.354
62.92%	64.08	906	4.364
62.99%	64.21	907	4.373
63.06%	64.35	908	4.382
63.13%	64.49	909	4.392
63.19%	64.62	910	4.401
63.26%	64.76	911	4.410
63.33%	64.90	912	4.419
63.40%	65.03	913	4.429
63.47%	65.17	914	4.438
63.54%	65.31	915	4.447
63.61%	65.44	916	4.457
63.68%	65.58	917	4.466
63.75%	65.72	918	4.475
63.82%	65.85	919	4.485
63.89%	65.99	920	4.494
63.96%	66.13	921	4.503
64.03%	66.26	922	4.513
64.10%	66.40	923	4.522
64.17%	66.54	924	4.531
64.24%	66.68	925	4.541

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

64.31%	66.81	926	4.550
64.38%	66.95	927	4.559
64.44%	67.09	928	4.569
64.51%	67.22	929	4.578
64.58%	67.36	930	4.587
64.65%	67.50	931	4.596
64.72%	67.63	932	4.606
64.79%	67.77	933	4.615
64.86%	67.91	934	4.624
64.93%	68.04	935	4.634
65.00%	68.18	936	4.643
65.07%	68.32	937	4.652
65.14%	68.45	938	4.662
65.21%	68.59	939	4.671
65.28%	68.73	940	4.680
65.35%	68.86	941	4.690
65.42%	69.00	942	4.699
65.49%	69.14	943	4.708
65.56%	69.27	944	4.718
65.63%	69.41	945	4.727
65.69%	69.55	946	4.736
65.76%	69.68	947	4.746
65.83%	69.82	948	4.755
65.90%	69.96	949	4.764
65.97%	70.10	950	4.773
66.04%	70.23	951	4.783
66.11%	70.37	952	4.792
66.18%	70.51	953	4.801
66.25%	70.64	954	4.811
66.32%	70.78	955	4.820
66.39%	70.92	956	4.829
66.46%	71.05	957	4.839
66.53%	71.19	958	4.848
66.60%	71.33	959	4.857
66.67%	71.46	960	4.867
66.74%	71.60	961	4.876
66.81%	71.74	962	4.885
66.88%	71.87	963	4.895
66.94%	72.01	964	4.904
67.01%	72.15	965	4.913
67.08%	72.28	966	4.923
67.15%	72.42	967	4.932
67.22%	72.56	968	4.941
67.29%	72.69	969	4.951
67.36%	72.83	970	4.960
67.43%	72.97	971	4.969
67.50%	73.11	972	4.978
67.57%	73.24	973	4.988
67.64%	73.38	974	4.997
67.71%	73.52	975	5.006
67.78%	73.65	976	5.016
67.85%	73.79	977	5.025
67.92%	73.93	978	5.034
67.99%	74.06	979	5.044
68.06%	74.20	980	5.053

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

68.13%	74.34	981	5.062
68.19%	74.47	982	5.072
68.26%	74.61	983	5.081
68.33%	74.75	984	5.090
68.40%	74.88	985	5.100
68.47%	75.02	986	5.109
68.54%	75.16	987	5.118
68.61%	75.29	988	5.128
68.68%	75.43	989	5.137
68.75%	75.57	990	5.146
68.82%	75.70	991	5.155
68.89%	75.84	992	5.165
68.96%	75.98	993	5.174
69.03%	76.11	994	5.183
69.10%	76.25	995	5.193
69.17%	76.39	996	5.202
69.24%	76.53	997	5.211
69.31%	76.66	998	5.221
69.38%	76.80	999	5.230
69.44%	76.94	1000	5.239
69.51%	77.07	1001	5.249
69.58%	77.21	1002	5.258
69.65%	77.35	1003	5.267
69.72%	77.48	1004	5.277
69.79%	77.62	1005	5.286
69.86%	77.76	1006	5.295
69.93%	77.89	1007	5.305
70.00%	78.03	1008	5.314
70.07%	78.10	1009	5.319
70.14%	78.18	1010	5.324
70.21%	78.25	1011	5.329
70.28%	78.33	1012	5.334
70.35%	78.40	1013	5.339
70.42%	78.47	1014	5.344
70.49%	78.55	1015	5.349
70.56%	78.62	1016	5.354
70.63%	78.70	1017	5.359
70.69%	78.77	1018	5.364
70.76%	78.84	1019	5.369
70.83%	78.92	1020	5.374
70.90%	78.99	1021	5.379
70.97%	79.07	1022	5.384
71.04%	79.14	1023	5.389
71.11%	79.21	1024	5.394
71.18%	79.29	1025	5.399
71.25%	79.36	1026	5.405
71.32%	79.44	1027	5.410
71.39%	79.51	1028	5.415
71.46%	79.58	1029	5.420
71.53%	79.66	1030	5.425
71.60%	79.73	1031	5.430
71.67%	79.81	1032	5.435
71.74%	79.88	1033	5.440
71.81%	79.95	1034	5.445
71.88%	80.03	1035	5.450

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

71.94%	80.10	1036	5.455
72.01%	80.17	1037	5.460
72.08%	80.25	1038	5.465
72.15%	80.32	1039	5.470
72.22%	80.40	1040	5.475
72.29%	80.47	1041	5.480
72.36%	80.54	1042	5.485
72.43%	80.62	1043	5.490
72.50%	80.69	1044	5.495
72.57%	80.77	1045	5.500
72.64%	80.84	1046	5.505
72.71%	80.91	1047	5.510
72.78%	80.99	1048	5.515
72.85%	81.06	1049	5.520
72.92%	81.14	1050	5.525
72.99%	81.21	1051	5.530
73.06%	81.28	1052	5.535
73.13%	81.36	1053	5.540
73.19%	81.43	1054	5.546
73.26%	81.51	1055	5.551
73.33%	81.58	1056	5.556
73.40%	81.65	1057	5.561
73.47%	81.73	1058	5.566
73.54%	81.80	1059	5.571
73.61%	81.88	1060	5.576
73.68%	81.95	1061	5.581
73.75%	82.02	1062	5.586
73.82%	82.10	1063	5.591
73.89%	82.17	1064	5.596
73.96%	82.25	1065	5.601
74.03%	82.32	1066	5.606
74.10%	82.39	1067	5.611
74.17%	82.47	1068	5.616
74.24%	82.54	1069	5.621
74.31%	82.62	1070	5.626
74.38%	82.69	1071	5.631
74.44%	82.76	1072	5.636
74.51%	82.84	1073	5.641
74.58%	82.91	1074	5.646
74.65%	82.99	1075	5.651
74.72%	83.06	1076	5.656
74.79%	83.13	1077	5.661
74.86%	83.21	1078	5.666
74.93%	83.28	1079	5.671
75.00%	83.36	1080	5.676
75.07%	83.43	1081	5.682
75.14%	83.50	1082	5.687
75.21%	83.58	1083	5.692
75.28%	83.65	1084	5.697
75.35%	83.72	1085	5.702
75.42%	83.80	1086	5.707
75.49%	83.87	1087	5.712
75.56%	83.95	1088	5.717
75.63%	84.02	1089	5.722
75.69%	84.09	1090	5.727

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

75.76%	84.17	1091	5.732
75.83%	84.24	1092	5.737
75.90%	84.32	1093	5.742
75.97%	84.39	1094	5.747
76.04%	84.46	1095	5.752
76.11%	84.54	1096	5.757
76.18%	84.61	1097	5.762
76.25%	84.69	1098	5.767
76.32%	84.76	1099	5.772
76.39%	84.83	1100	5.777
76.46%	84.91	1101	5.782
76.53%	84.98	1102	5.787
76.60%	85.06	1103	5.792
76.67%	85.13	1104	5.797
76.74%	85.20	1105	5.802
76.81%	85.28	1106	5.807
76.88%	85.35	1107	5.812
76.94%	85.43	1108	5.817
77.01%	85.50	1109	5.823
77.08%	85.57	1110	5.828
77.15%	85.65	1111	5.833
77.22%	85.72	1112	5.838
77.29%	85.80	1113	5.843
77.36%	85.87	1114	5.848
77.43%	85.94	1115	5.853
77.50%	86.02	1116	5.858
77.57%	86.09	1117	5.863
77.64%	86.17	1118	5.868
77.71%	86.24	1119	5.873
77.78%	86.31	1120	5.878
77.85%	86.39	1121	5.883
77.92%	86.46	1122	5.888
77.99%	86.54	1123	5.893
78.06%	86.61	1124	5.898
78.13%	86.68	1125	5.903
78.19%	86.76	1126	5.908
78.26%	86.83	1127	5.913
78.33%	86.91	1128	5.918
78.40%	86.98	1129	5.923
78.47%	87.05	1130	5.928
78.54%	87.13	1131	5.933
78.61%	87.20	1132	5.938
78.68%	87.27	1133	5.943
78.75%	87.35	1134	5.948
78.82%	87.42	1135	5.953
78.89%	87.50	1136	5.959
78.96%	87.57	1137	5.964
79.03%	87.64	1138	5.969
79.10%	87.72	1139	5.974
79.17%	87.79	1140	5.979
79.24%	87.87	1141	5.984
79.31%	87.94	1142	5.989
79.38%	88.01	1143	5.994
79.44%	88.09	1144	5.999
79.51%	88.16	1145	6.004

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

79.58%	88.24	1146	6.009
79.65%	88.31	1147	6.014
79.72%	88.38	1148	6.019
79.79%	88.46	1149	6.024
79.86%	88.53	1150	6.029
79.93%	88.61	1151	6.034
80.00%	88.68	1152	6.039
80.07%	88.73	1153	6.042
80.14%	88.77	1154	6.045
80.21%	88.82	1155	6.048
80.28%	88.86	1156	6.052
80.35%	88.91	1157	6.055
80.42%	88.96	1158	6.058
80.49%	89.00	1159	6.061
80.56%	89.05	1160	6.064
80.63%	89.09	1161	6.067
80.69%	89.14	1162	6.070
80.76%	89.18	1163	6.073
80.83%	89.23	1164	6.077
80.90%	89.28	1165	6.080
80.97%	89.32	1166	6.083
81.04%	89.37	1167	6.086
81.11%	89.41	1168	6.089
81.18%	89.46	1169	6.092
81.25%	89.51	1170	6.095
81.32%	89.55	1171	6.099
81.39%	89.60	1172	6.102
81.46%	89.64	1173	6.105
81.53%	89.69	1174	6.108
81.60%	89.74	1175	6.111
81.67%	89.78	1176	6.114
81.74%	89.83	1177	6.117
81.81%	89.87	1178	6.120
81.88%	89.92	1179	6.124
81.94%	89.97	1180	6.127
82.01%	90.01	1181	6.130
82.08%	90.06	1182	6.133
82.15%	90.10	1183	6.136
82.22%	90.15	1184	6.139
82.29%	90.19	1185	6.142
82.36%	90.24	1186	6.145
82.43%	90.29	1187	6.149
82.50%	90.33	1188	6.152
82.57%	90.38	1189	6.155
82.64%	90.42	1190	6.158
82.71%	90.47	1191	6.161
82.78%	90.52	1192	6.164
82.85%	90.56	1193	6.167
82.92%	90.61	1194	6.170
82.99%	90.65	1195	6.174
83.06%	90.70	1196	6.177
83.13%	90.75	1197	6.180
83.19%	90.79	1198	6.183
83.26%	90.84	1199	6.186
83.33%	90.88	1200	6.189

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

83.40%	90.93	1201	6.192
83.47%	90.98	1202	6.195
83.54%	91.02	1203	6.199
83.61%	91.07	1204	6.202
83.68%	91.11	1205	6.205
83.75%	91.16	1206	6.208
83.82%	91.20	1207	6.211
83.89%	91.25	1208	6.214
83.96%	91.30	1209	6.217
84.03%	91.34	1210	6.220
84.10%	91.39	1211	6.224
84.17%	91.43	1212	6.227
84.24%	91.48	1213	6.230
84.31%	91.53	1214	6.233
84.38%	91.57	1215	6.236
84.44%	91.62	1216	6.239
84.51%	91.66	1217	6.242
84.58%	91.71	1218	6.245
84.65%	91.76	1219	6.249
84.72%	91.80	1220	6.252
84.79%	91.85	1221	6.255
84.86%	91.89	1222	6.258
84.93%	91.94	1223	6.261
85.00%	91.99	1224	6.264
85.07%	92.03	1225	6.267
85.14%	92.08	1226	6.270
85.21%	92.12	1227	6.274
85.28%	92.17	1228	6.277
85.35%	92.21	1229	6.280
85.42%	92.26	1230	6.283
85.49%	92.31	1231	6.286
85.56%	92.35	1232	6.289
85.63%	92.40	1233	6.292
85.69%	92.44	1234	6.295
85.76%	92.49	1235	6.299
85.83%	92.54	1236	6.302
85.90%	92.58	1237	6.305
85.97%	92.63	1238	6.308
86.04%	92.67	1239	6.311
86.11%	92.72	1240	6.314
86.18%	92.77	1241	6.317
86.25%	92.81	1242	6.320
86.32%	92.86	1243	6.324
86.39%	92.90	1244	6.327
86.46%	92.95	1245	6.330
86.53%	92.99	1246	6.333
86.60%	93.04	1247	6.336
86.67%	93.09	1248	6.339
86.74%	93.13	1249	6.342
86.81%	93.18	1250	6.345
86.88%	93.22	1251	6.349
86.94%	93.27	1252	6.352
87.01%	93.32	1253	6.355
87.08%	93.36	1254	6.358
87.15%	93.41	1255	6.361

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

87.22%	93.45	1256	6.364
87.29%	93.50	1257	6.367
87.36%	93.55	1258	6.370
87.43%	93.59	1259	6.374
87.50%	93.64	1260	6.377
87.57%	93.68	1261	6.380
87.64%	93.73	1262	6.383
87.71%	93.78	1263	6.386
87.78%	93.82	1264	6.389
87.85%	93.87	1265	6.392
87.92%	93.91	1266	6.395
87.99%	93.96	1267	6.399
88.06%	94.00	1268	6.402
88.13%	94.05	1269	6.405
88.19%	94.10	1270	6.408
88.26%	94.14	1271	6.411
88.33%	94.19	1272	6.414
88.40%	94.23	1273	6.417
88.47%	94.28	1274	6.420
88.54%	94.33	1275	6.424
88.61%	94.37	1276	6.427
88.68%	94.42	1277	6.430
88.75%	94.46	1278	6.433
88.82%	94.51	1279	6.436
88.89%	94.56	1280	6.439
88.96%	94.60	1281	6.442
89.03%	94.65	1282	6.445
89.10%	94.69	1283	6.449
89.17%	94.74	1284	6.452
89.24%	94.79	1285	6.455
89.31%	94.83	1286	6.458
89.38%	94.88	1287	6.461
89.44%	94.92	1288	6.464
89.51%	94.97	1289	6.467
89.58%	95.01	1290	6.470
89.65%	95.06	1291	6.474
89.72%	95.11	1292	6.477
89.79%	95.15	1293	6.480
89.86%	95.20	1294	6.483
89.93%	95.24	1295	6.486
90.00%	95.29	1296	6.489
90.07%	95.32	1297	6.491
90.14%	95.36	1298	6.494
90.21%	95.39	1299	6.496
90.28%	95.42	1300	6.498
90.35%	95.45	1301	6.500
90.42%	95.49	1302	6.503
90.49%	95.52	1303	6.505
90.56%	95.55	1304	6.507
90.63%	95.58	1305	6.509
90.69%	95.62	1306	6.512
90.76%	95.65	1307	6.514
90.83%	95.68	1308	6.516
90.90%	95.72	1309	6.518
90.97%	95.75	1310	6.520

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

91.04%	95.78	1311	6.523
91.11%	95.81	1312	6.525
91.18%	95.85	1313	6.527
91.25%	95.88	1314	6.529
91.32%	95.91	1315	6.532
91.39%	95.94	1316	6.534
91.46%	95.98	1317	6.536
91.53%	96.01	1318	6.538
91.60%	96.04	1319	6.540
91.67%	96.08	1320	6.543
91.74%	96.11	1321	6.545
91.81%	96.14	1322	6.547
91.88%	96.17	1323	6.549
91.94%	96.21	1324	6.552
92.01%	96.24	1325	6.554
92.08%	96.27	1326	6.556
92.15%	96.30	1327	6.558
92.22%	96.34	1328	6.561
92.29%	96.37	1329	6.563
92.36%	96.40	1330	6.565
92.43%	96.43	1331	6.567
92.50%	96.47	1332	6.569
92.57%	96.50	1333	6.572
92.64%	96.53	1334	6.574
92.71%	96.57	1335	6.576
92.78%	96.60	1336	6.578
92.85%	96.63	1337	6.581
92.92%	96.66	1338	6.583
92.99%	96.70	1339	6.585
93.06%	96.73	1340	6.587
93.13%	96.76	1341	6.589
93.19%	96.79	1342	6.592
93.26%	96.83	1343	6.594
93.33%	96.86	1344	6.596
93.40%	96.89	1345	6.598
93.47%	96.93	1346	6.601
93.54%	96.96	1347	6.603
93.61%	96.99	1348	6.605
93.68%	97.02	1349	6.607
93.75%	97.06	1350	6.610
93.82%	97.09	1351	6.612
93.89%	97.12	1352	6.614
93.96%	97.15	1353	6.616
94.03%	97.19	1354	6.618
94.10%	97.22	1355	6.621
94.17%	97.25	1356	6.623
94.24%	97.29	1357	6.625
94.31%	97.32	1358	6.627
94.38%	97.35	1359	6.630
94.44%	97.38	1360	6.632
94.51%	97.42	1361	6.634
94.58%	97.45	1362	6.636
94.65%	97.48	1363	6.638
94.72%	97.51	1364	6.641
94.79%	97.55	1365	6.643

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

94.86%	97.58	1366	6.645
94.93%	97.61	1367	6.647
95.00%	97.65	1368	6.650
95.07%	97.68	1369	6.652
95.14%	97.71	1370	6.654
95.21%	97.74	1371	6.656
95.28%	97.78	1372	6.659
95.35%	97.81	1373	6.661
95.42%	97.84	1374	6.663
95.49%	97.87	1375	6.665
95.56%	97.91	1376	6.667
95.63%	97.94	1377	6.670
95.69%	97.97	1378	6.672
95.76%	98.00	1379	6.674
95.83%	98.04	1380	6.676
95.90%	98.07	1381	6.679
95.97%	98.10	1382	6.681
96.04%	98.14	1383	6.683
96.11%	98.17	1384	6.685
96.18%	98.20	1385	6.687
96.25%	98.23	1386	6.690
96.32%	98.27	1387	6.692
96.39%	98.30	1388	6.694
96.46%	98.33	1389	6.696
96.53%	98.36	1390	6.699
96.60%	98.40	1391	6.701
96.67%	98.43	1392	6.703
96.74%	98.46	1393	6.705
96.81%	98.50	1394	6.708
96.88%	98.53	1395	6.710
96.94%	98.56	1396	6.712
97.01%	98.59	1397	6.714
97.08%	98.63	1398	6.716
97.15%	98.66	1399	6.719
97.22%	98.69	1400	6.721
97.29%	98.72	1401	6.723
97.36%	98.76	1402	6.725
97.43%	98.79	1403	6.728
97.50%	98.82	1404	6.730
97.57%	98.86	1405	6.732
97.64%	98.89	1406	6.734
97.71%	98.92	1407	6.736
97.78%	98.95	1408	6.739
97.85%	98.99	1409	6.741
97.92%	99.02	1410	6.743
97.99%	99.05	1411	6.745
98.06%	99.08	1412	6.748
98.13%	99.12	1413	6.750
98.19%	99.15	1414	6.752
98.26%	99.18	1415	6.754
98.33%	99.22	1416	6.757
98.40%	99.25	1417	6.759
98.47%	99.28	1418	6.761
98.54%	99.31	1419	6.763
98.61%	99.35	1420	6.765

HUFF DISTRIBUTION, 50% CURVE ORDINATES**100-YEAR RETURN PERIOD**

98.68%	99.38	1421	6.768
98.75%	99.41	1422	6.770
98.82%	99.44	1423	6.772
98.89%	99.48	1424	6.774
98.96%	99.51	1425	6.777
99.03%	99.54	1426	6.779
99.10%	99.57	1427	6.781
99.17%	99.61	1428	6.783
99.24%	99.64	1429	6.785
99.31%	99.67	1430	6.788
99.38%	99.71	1431	6.790
99.44%	99.74	1432	6.792
99.51%	99.77	1433	6.794
99.58%	99.80	1434	6.797
99.65%	99.84	1435	6.799
99.72%	99.87	1436	6.801
99.79%	99.90	1437	6.803
99.86%	99.93	1438	6.806
99.93%	99.97	1439	6.808
100.00%	100.00	1440	6.810

SAMPLE

TYPE OF SURFACE	<i>n</i> VALUE
Smooth, such as concrete, asphalt, gravel, or bare soil	0.011
Rangeland	0.13
Short Grass	0.15
Cultivated Soil	0.17
Dense Grass	0.24
Light Woods and Underbrush	0.40
Dense Woods and Underbrush	0.80

MANNING'S ROUGHNESS COEFFICIENT, *n*, FOR SHEET FLOW

Adapted from Engman, 1983

Figure 202-2B

Type of Surface **n** **Fairly Regular Section**

Some grass and weeds, little or no brush.....	0.03 - 0.035
Dense growth of weeds, flow greater than weeds height.....	0.035 - 0.05
Some weeds, light brush on banks.....	0.035 - 0.05
Some weeds, heavy brush on banks.....	0.05 - 0.07
Some weeds, dense willows on banks	0.06 - 0.08
Trees within channel, branches submerged during high flow, increase value by.....	0.01 - 0.02

Irregular Section with Pools, Slight Channel Meander

Increase value by.....	0.01 - 0.02
------------------------	-------------

Steep Stream, Trees Only on Steep Banks

Bottom of gravel, cobbles, and few boulders	0.04 - 0.05
Bottom of cobbles with large boulders	0.05 - 0.07

Floodplain

Short grass.....	0.03 - 0.035
High Grass	0.035 - 0.05
Mature field crop.....	0.04 - 0.06
Scattered brush, heavy weed.....	0.05 - 0.07
Light brush and trees.....	0.06 - 0.08
Medium to dense brush and trees.....	0.10 - 0.16
Heavy stand of timber, few downed trees, little undergrowth.....	0.10 - 0.12

MANNING'S ROUGHNESS COEFFICIENT, n , FOR CHANNEL FLOW
Adapted from Chow, 1970

Figure 202-2C

Runoff Curve Number for Rural Area				
Cover Type	A	B	C	D
Brush or Brush-Weed Mixture	35	56	70	77
Meadow	30	58	71	78
Pasture or Rangeland	49	69	79	84
Row Crops	67	76	83	86
Water	100	100	100	100
Woods and Grass, Orchard	43	65	76	82
Woods or Forest	36	60	73	79

Runoff Curve Number for Urban Area				
Cover Type	A	B	C	D
Open Space: Lawn or Golf Course				
Fair Condition, grass cover <75%	49	69	79	84
Good Condition, grass cover ≥75%	39	61	74	80
Street or Road				
Paved, open ditches, entire right of way	83	89	92	93
Gravel, open ditches, entire right of way	76	85	89	91
Earth, open ditches, entire right of way	72	82	87	89
Impervious	98	98	98	98
Urban Area				
Commercial or Business, 85% impervious	89	92	94	95
Industrial, 72% impervious	81	88	91	93
Residential Area				
1/8 acre, apartments, 65% impervious	77	85	90	92
1/4 acre, 38% impervious	61	75	83	87
1/3 acre, 30% impervious	57	72	81	86
1/2 acre, 25% impervious	54	70	80	85
1 acre, 20% impervious	51	68	79	84
2 acres, 12% impervious	46	65	77	82
Developing Urban Area				
Newly graded, pervious with no vegetation	57	73	82	86
Water	100	100	100	100

CURVE-NUMBER TABLE
Adapted from NRCS, July 1999

Figure 202-2F

Whitney Neukam

From: Bailey, Mark <MBailey1@indot.IN.gov>
Sent: Tuesday, August 29, 2017 1:01 PM
To: Whitney Neukam
Cc: Pierson, Brian; Carlin, Whitney; scott.oneil@ebpaving.com
Subject: RE: I-65 Southeast Design Build - Hydrologic and Hydraulic Parameter Justification

Whitney,

- For RAP a curve number of 95 or c value of 0.8 or higher will be acceptable.
- For RAP a Manning's n of 0.025 will be acceptable.

Let me know if you have any additional questions or concerns.

-Mark

Mark Bailey, P.E.
Office of Hydraulics Manager
100 N. Senate Ave. N642-BR
Indianapolis, IN 46204
Office: (317) 233-2096
Email: mbailey1@indot.in.gov

Stay current on INDOT Hydraulics design guidance and policy changes by subscribing to the [INDOT Hydraulics Listserv](#).



From: Whitney Neukam [mailto:wneukam@DB-Engineering.com]
Sent: Friday, August 18, 2017 8:56 AM
To: Bailey, Mark <MBailey1@indot.IN.gov>
Cc: Pierson, Brian <BRIANP@ucindy.com>; Carlin, Whitney <WCarlin@indot.IN.gov>; scott.oneil@ebpaving.com
Subject: I-65 Southeast Design Build - Hydrologic and Hydraulic Parameter Justification

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Mark,

Please find attached the technical memorandum for your review. This memo serves as an explanation of our assumptions regarding the runoff coefficient and Manning's n-value for both #53 stone and recycled asphalt pavement (RAP) which will be used as median construction material throughout the project. Please respond back as soon as you can with an approval or revision from INDOT Hydraulics.

Sincerely,

Whitney D. Neukam, PE, CPESC

Senior Project Manager

DB Engineering, LLC

101 West Ohio Street, Suite 1515

Indianapolis, IN 46204

Office: (317) 829-0047

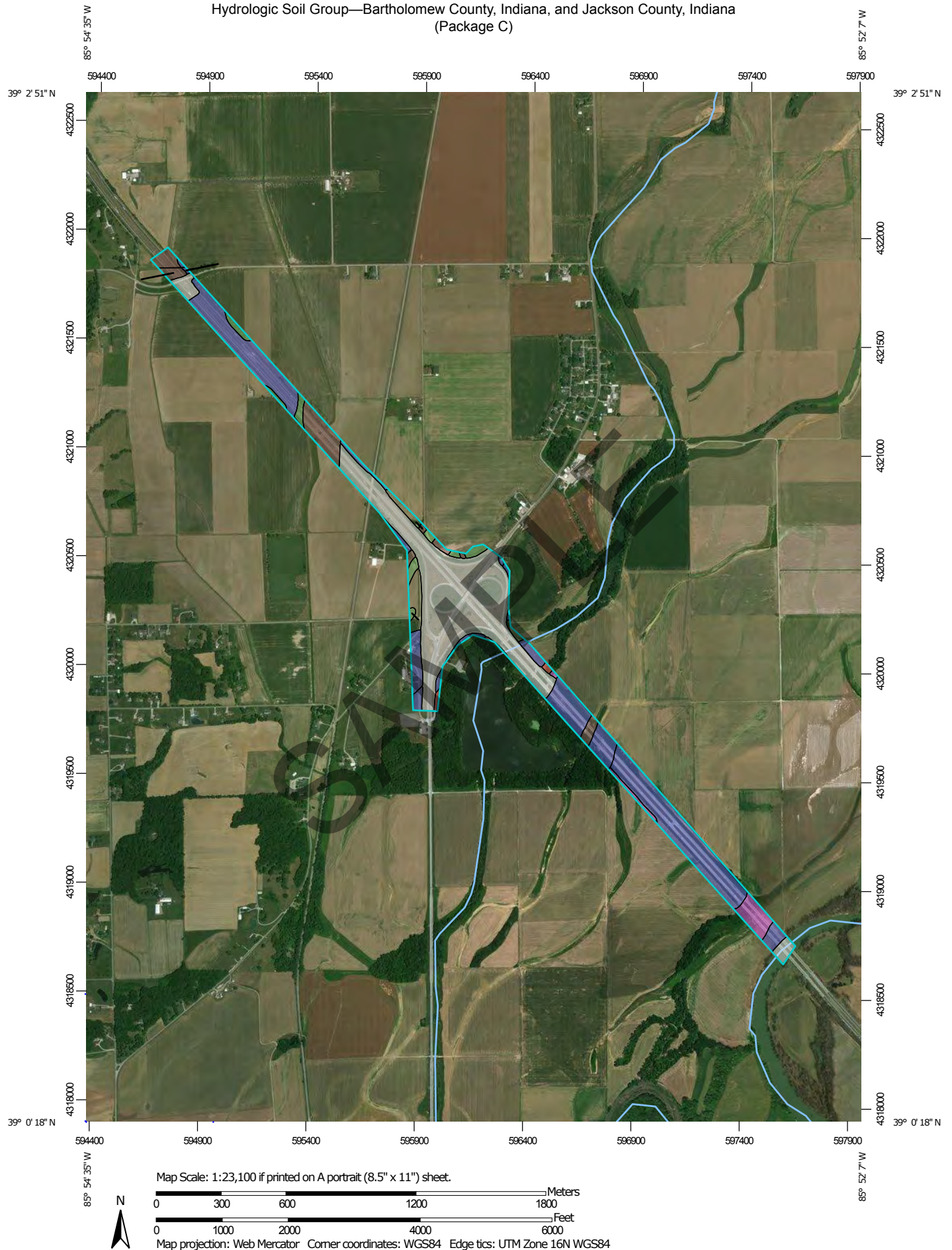
Fax: (317) 602-4766

Mobile: (317) 509-9907

Email: wneukam@db-engineering.com


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Hydrologic Soil Group—Bartholomew County, Indiana, and Jackson County, Indiana (Package C)





MAP LEGEND

Area of Interest (AOI)


 Area of Interest (AOI)

Soils


Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:12,000 to 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bartholomew County, Indiana

Survey Area Data: Version 21, Sep 5, 2018

Soil Survey Area: Jackson County, Indiana

Survey Area Data: Version 24, Sep 7, 2018

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 24, 2014—Mar 20, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MfxA	Martinsville sandy loam, sandy substratum, 0 to 2 percent slopes	B	0.2	0.1%
WsyAQ	Whitaker sandy loam, 0 to 2 percent slopes, rarely flooded	B/D	1.9	1.2%
Subtotals for Soil Survey Area			2.1	1.3%
Totals for Area of Interest			157.2	100.0%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AsuAH	Armiesburg silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded, brief duration	B	30.2	19.2%
FhxA	Fox-Ockley sandy loams, sandy substratums, 0 to 2 percent slopes	B	2.4	1.5%
GccAH	Genesee loam, 0 to 2 percent slopes, frequently flooded, brief duration	B	2.0	1.3%
GcpAH	Genesee silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	B	3.8	2.4%
MfxA	Martinsville sandy loam, sandy substratum, 0 to 2 percent slopes	B	20.6	13.1%
RnpAQ	Roby sandy loam, 0 to 2 percent slopes, rarely flooded	A/D	6.7	4.2%
RtxAH	Rosburg silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	B	0.0	0.0%
SldAH	Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	B/D	1.4	0.9%
SuoAH	Stonelick fine sandy loam, 0 to 2 percent slopes, frequently flooded, brief duration	A	5.6	3.6%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Uby	Udorthents, loamy		67.3	42.8%
VnvAW	Vincennes sandy loam, sandy substratum, 0 to 2 percent slopes, occasionally flooded, very brief duration	B/D	0.1	0.1%
W	Water		1.7	1.1%
WoIAHU	Wilhite silty clay, undrained, 0 to 1 percent slopes, frequently flooded, brief duration	D	1.5	0.9%
WsyAQ	Whitaker sandy loam, 0 to 2 percent slopes, rarely flooded	B/D	11.7	7.5%
Subtotals for Soil Survey Area			155.1	98.7%
Totals for Area of Interest			157.2	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

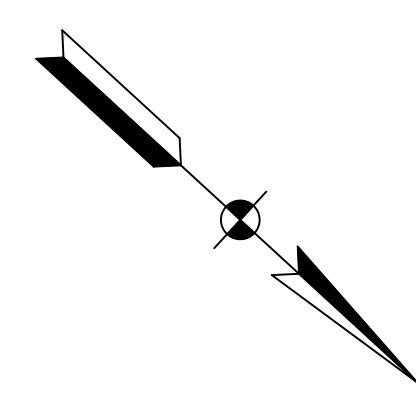
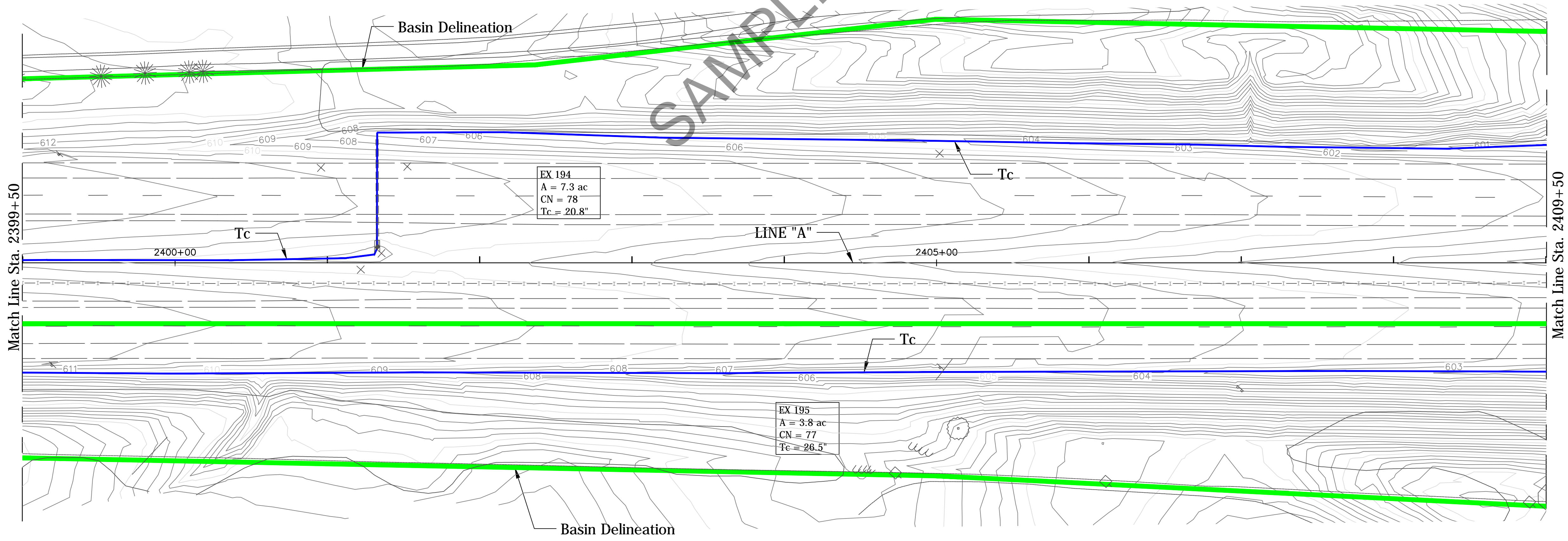
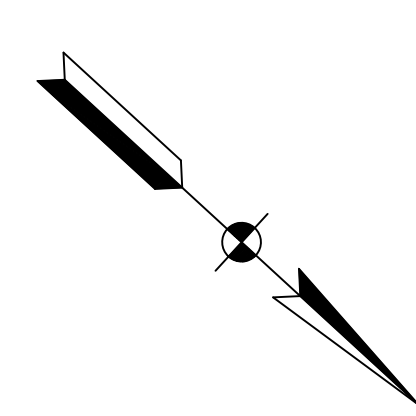
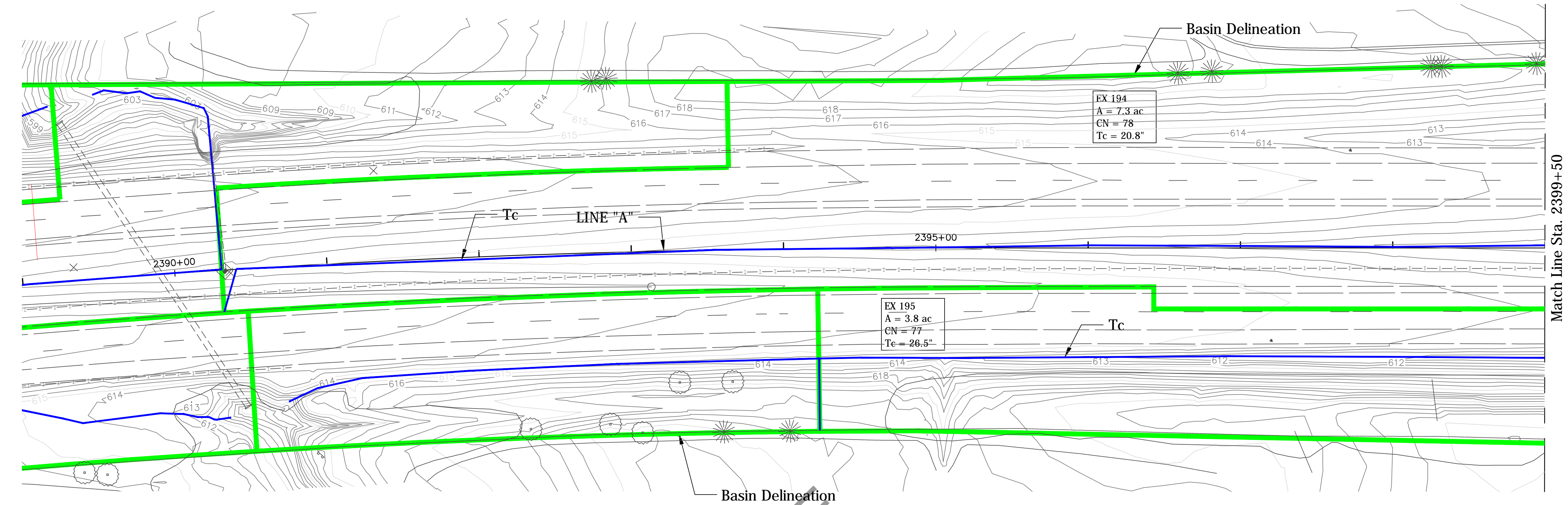
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Existing Conditions Hydrology

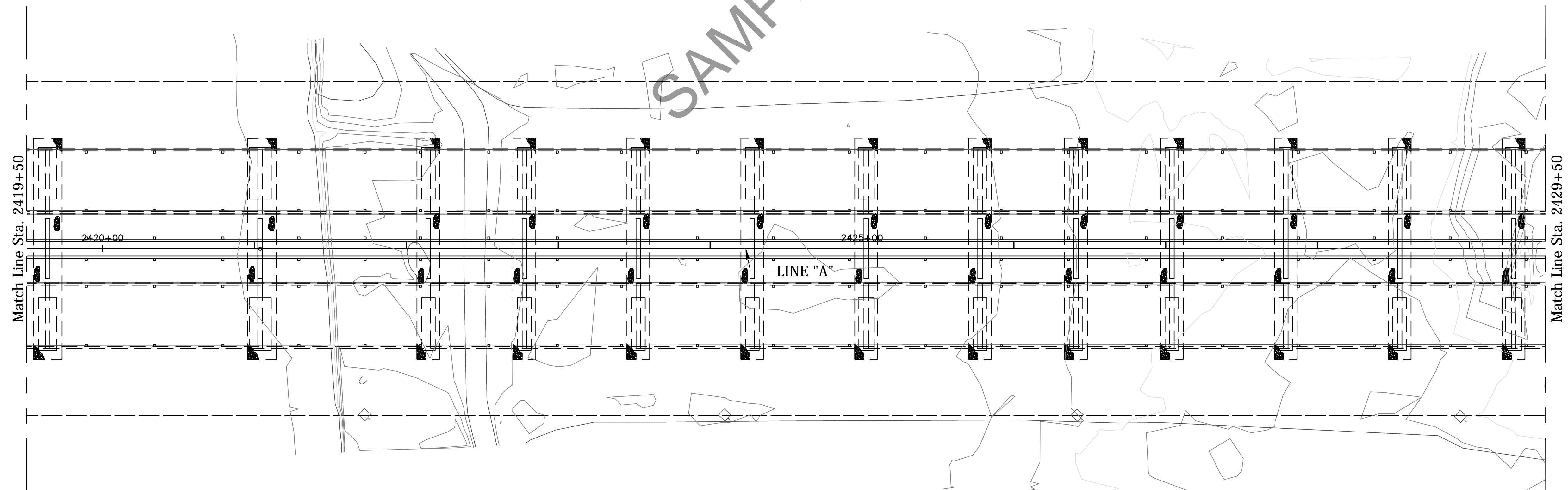
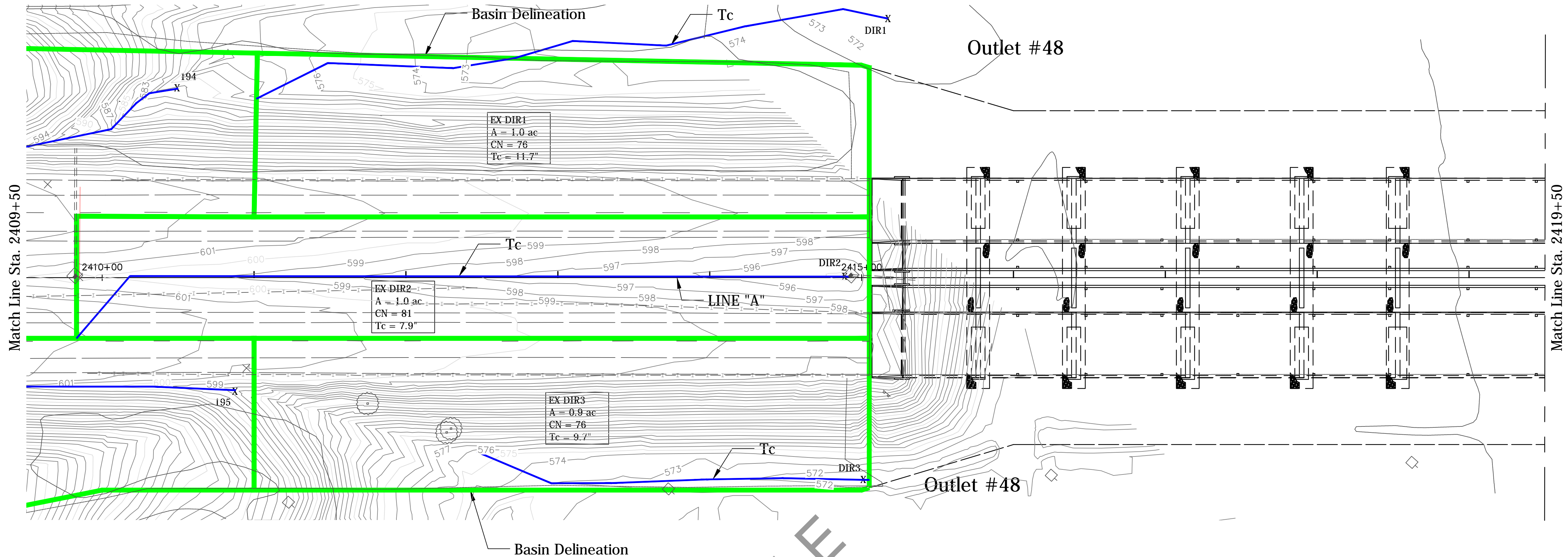
SAMPLE

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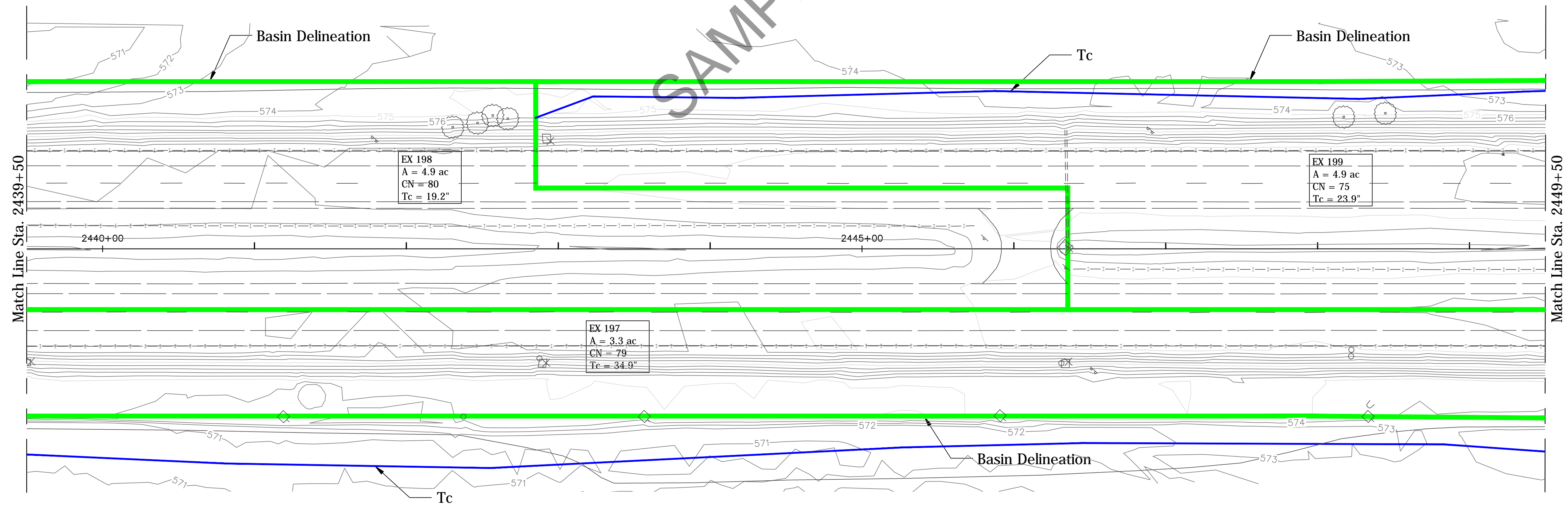
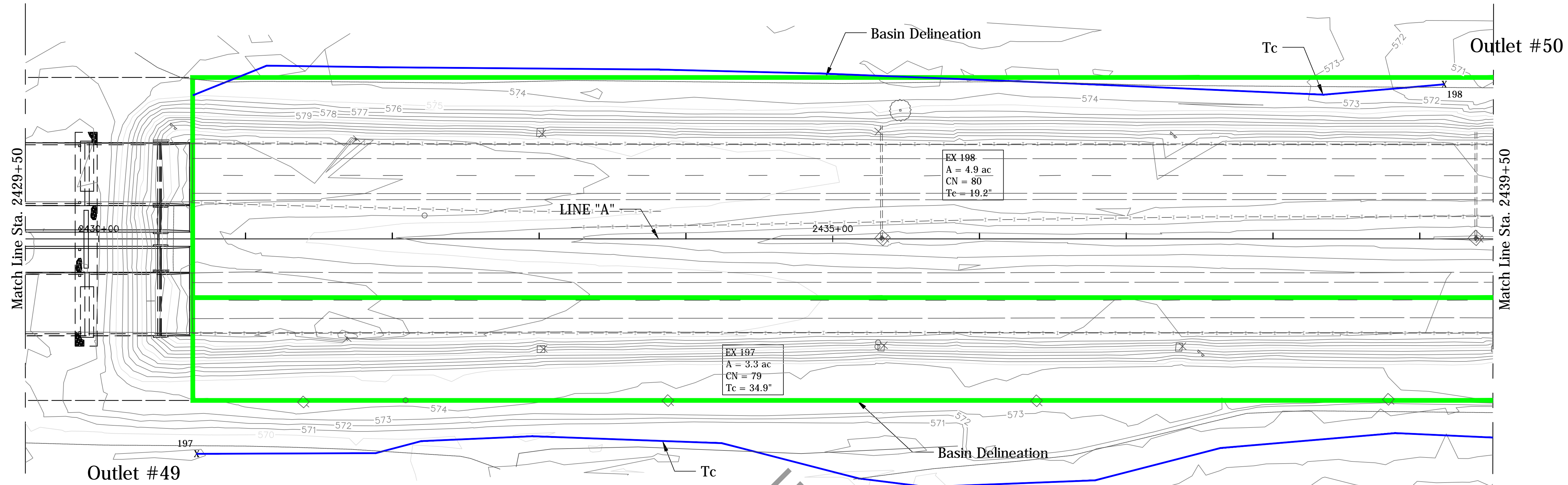


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						1"=40'	DESIGNATION
		DESIGNED: _____ DRAWN: _____ CHECKED: _____ CHECKED: _____		EXISTING DETENTION BASIN DELINEATIONS		VERTICAL SCALE N/A	---
						SURVEY BOOK	SHEETS
						CONTRACT	3 of --- PROJECT
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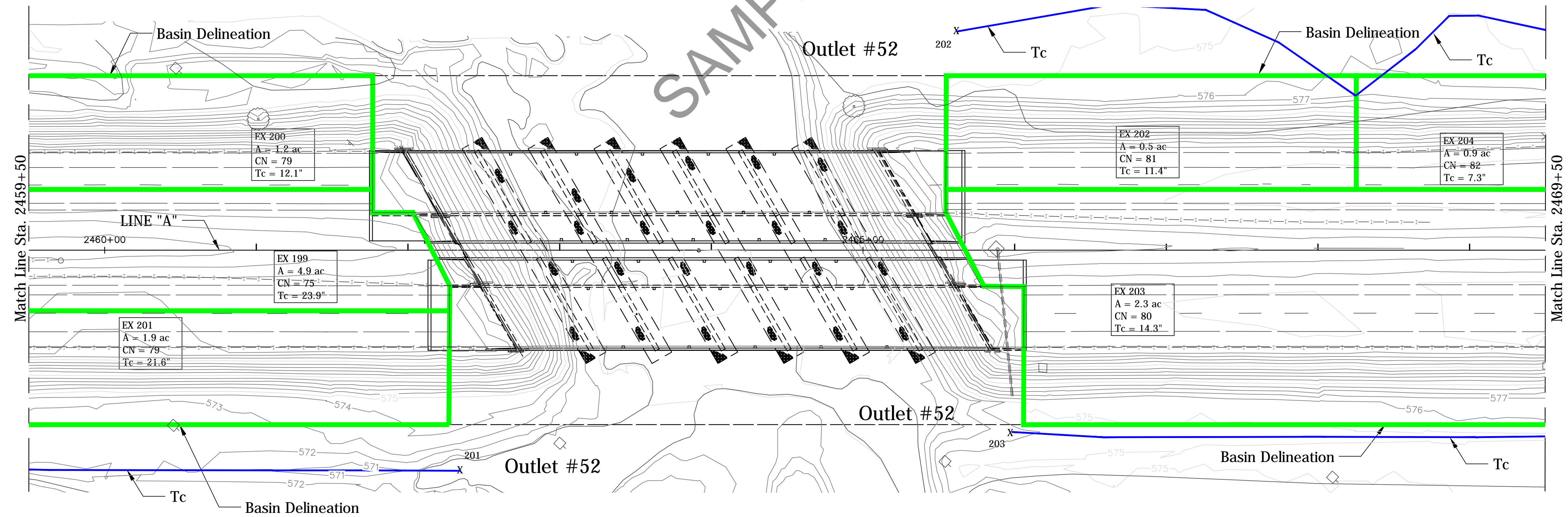
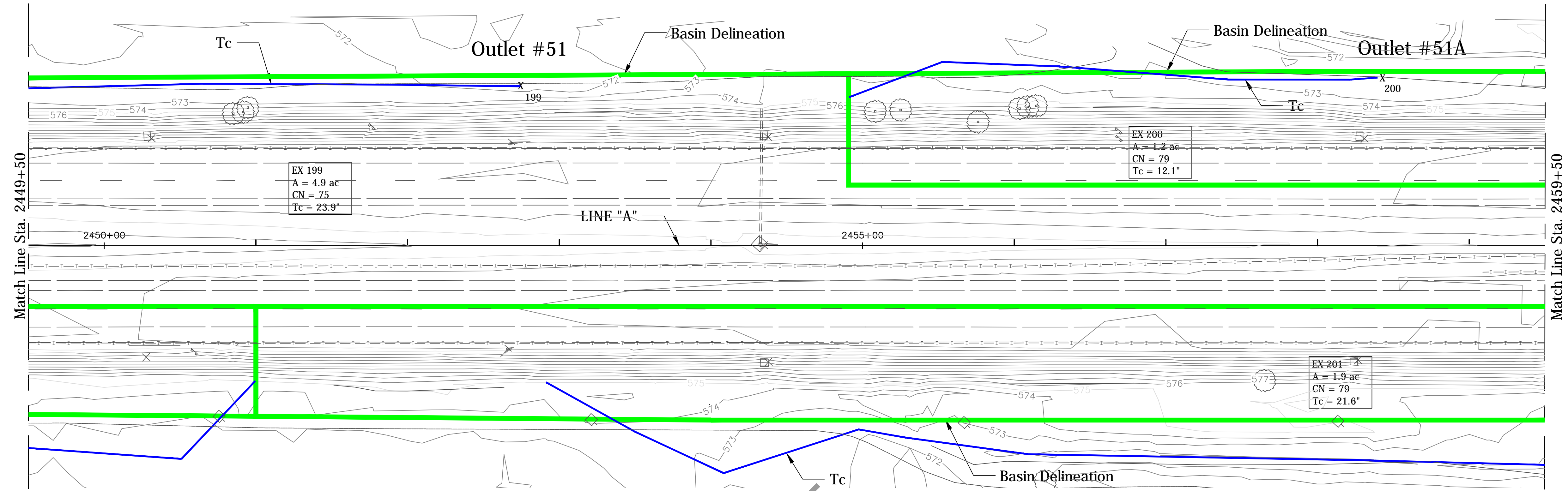
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						VERTICAL SCALE N/A	DESIGNATION
		DESIGNED: _____	DRAWN: _____	EXISTING DETENTION BASIN DELINEATIONS		SURVEY BOOK	SHEETS
		CHECKED: _____	CHECKED: _____			CONTRACT	3 of ---- PROJECT



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		ENGINEER		DATE	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1"=40'	BRIDGE FILE	
		DESIGNED: _____		DRAWN: _____	EXISTING DETENTION BASIN DELINEATIONS		VERTICAL SCALE N/A	DESIGNATION	
		CHECKED: _____		CHECKED: _____			SURVEY BOOK	SHEETS	
							CONTRACT	3	of 4
							---	PROJECT	
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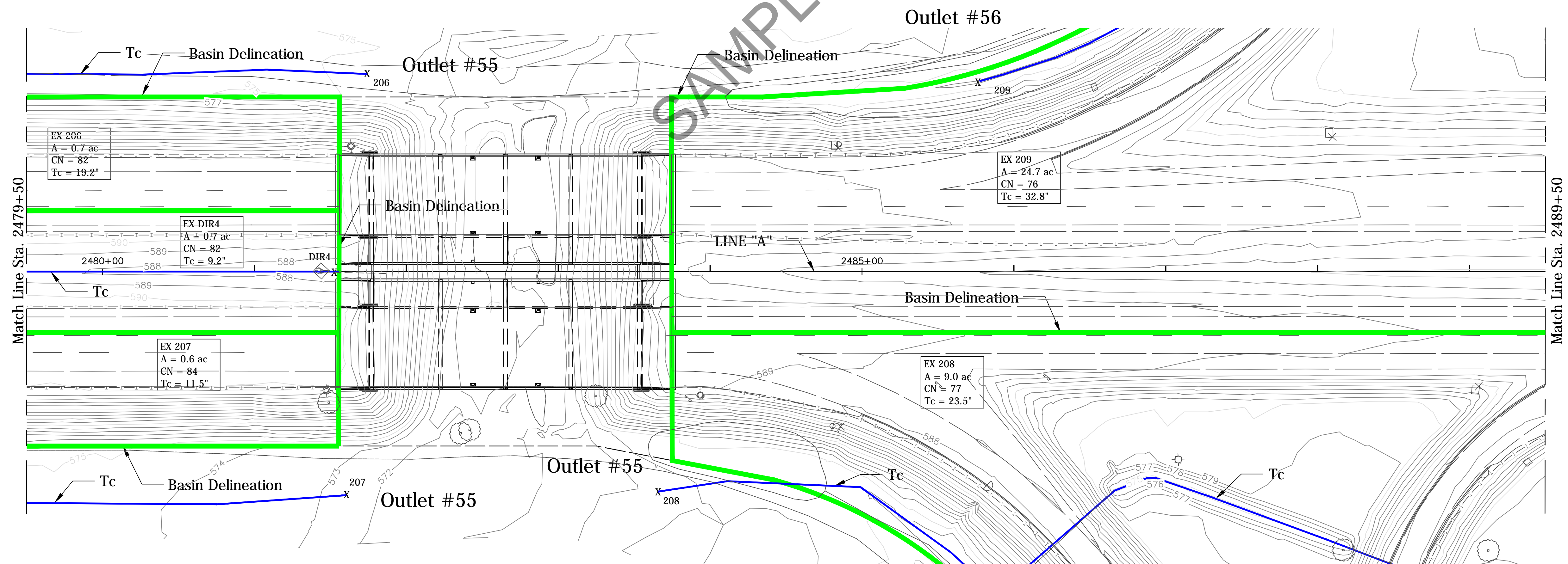
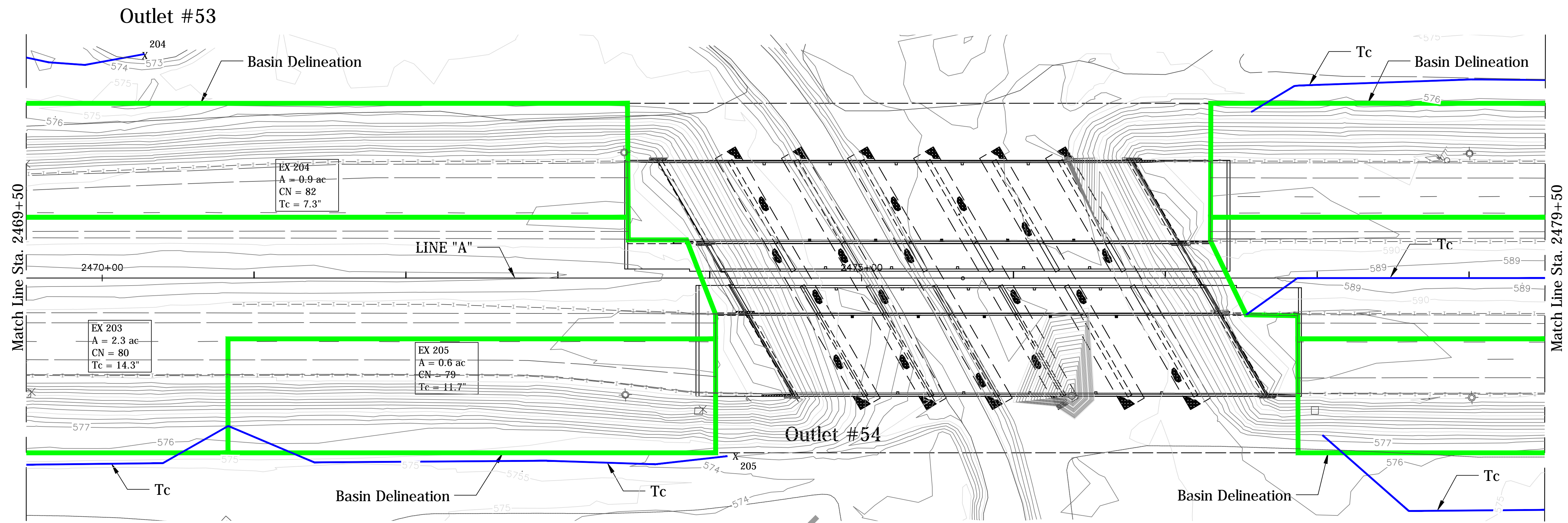


ENGINEER		DATE	
DESIGNED: _____	_____	DRAWN: _____	_____
CHECKED: _____	_____	CHECKED: _____	_____

INDIANA DEPARTMENT OF TRANSPORTATION	
EXISTING DETENTION BASIN DELINEATIONS	

HORIZONTAL SCALE		BRIDGE FILE	
1"=40'		DESIGNATION	
VERTICAL SCALE		---	
N/A		SURVEY BOOK	
---		SHEETS	
---		3 of ---	
---		PROJECT	
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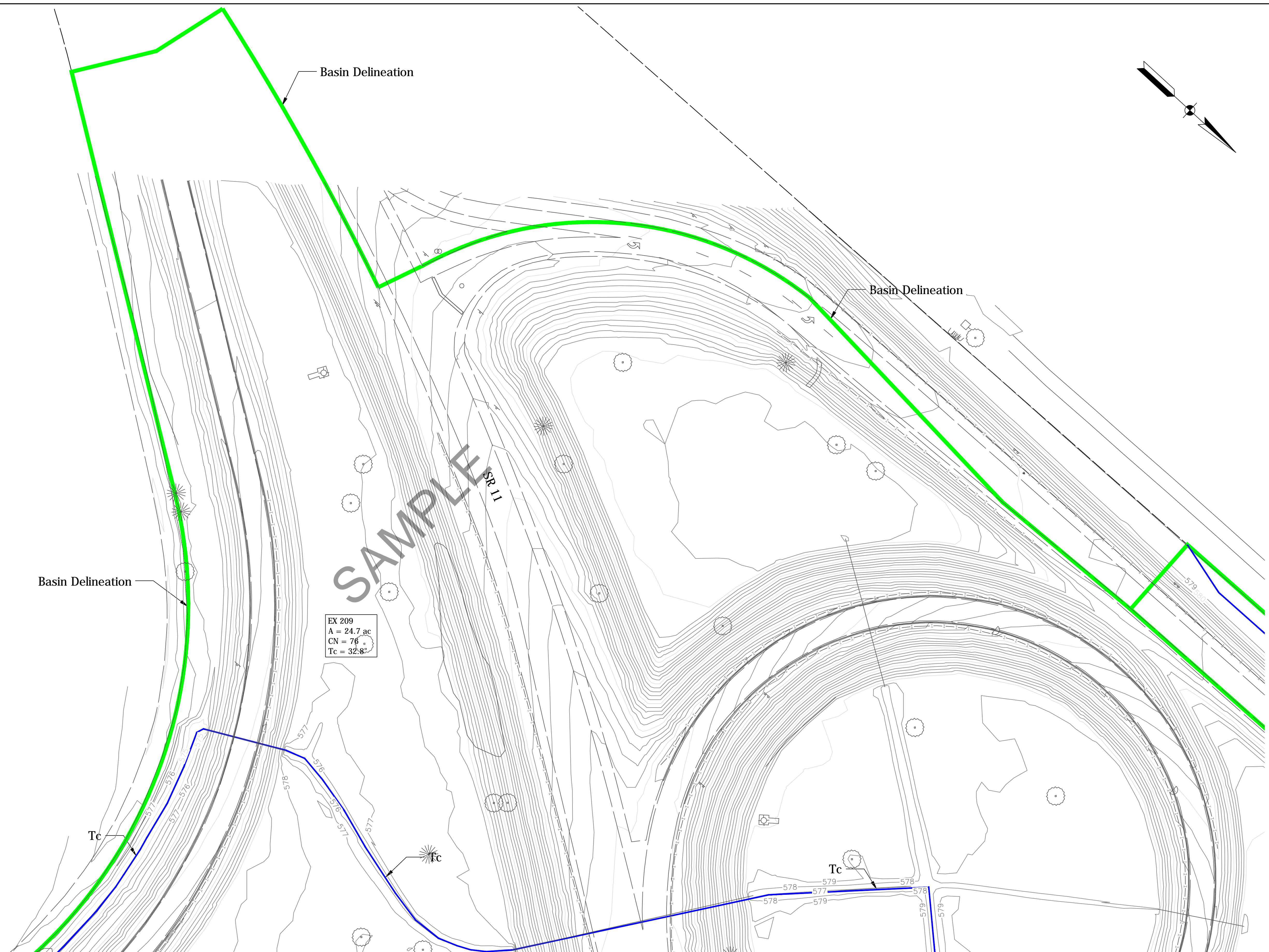


ENGINEER		DATE	
DESIGNED: _____	_____	DRAWN: _____	_____
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INDIANA DEPARTMENT OF TRANSPORTATION	
EXISTING DETENTION BASIN DELINEATIONS	

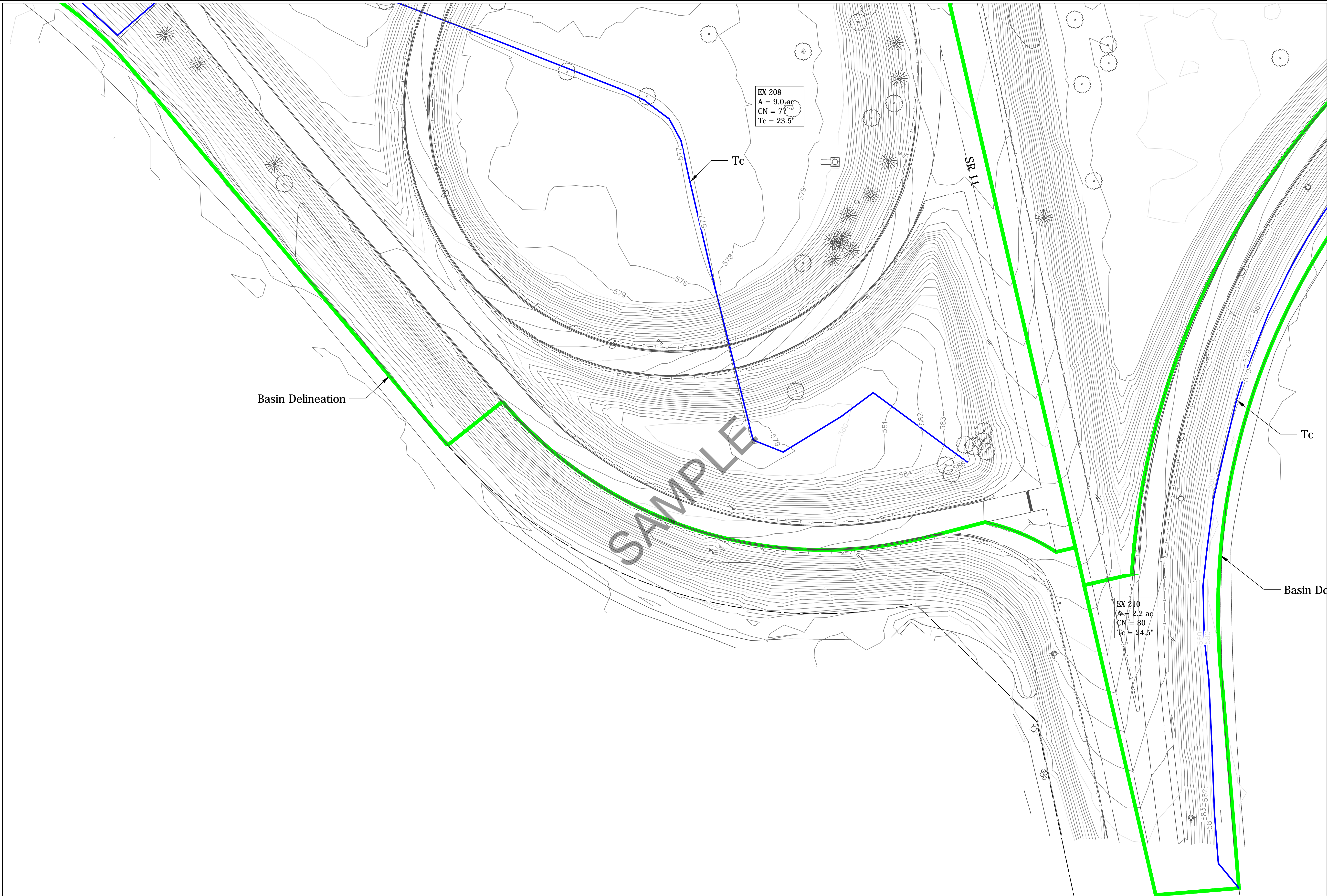
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1"=40'		DESIGNATION	
VERTICAL SCALE		---	
N/A		---	
SURVEY BOOK		SHEETS	
---		3 of ---	
CONTRACT		PROJECT	
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		ENGINEERDATE		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
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		DESIGNED: -----DRAWN: -----		EXISTING DETENTION BASIN DELINEATIONS		VERTICAL SCALE		SURVEY BOOK	
						N/A		SHEETS	
		CHECKED: -----CHECKED: -----				CONTRACT		3 of ----	
						---		PROJECT	

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Basin Delineation

EX 208
A = 9.0 ac
CN = 77
Tc = 23.5"

EX 210
A = 2.2 ac
CN = 80
Tc = 24.5"

Basin Delineation

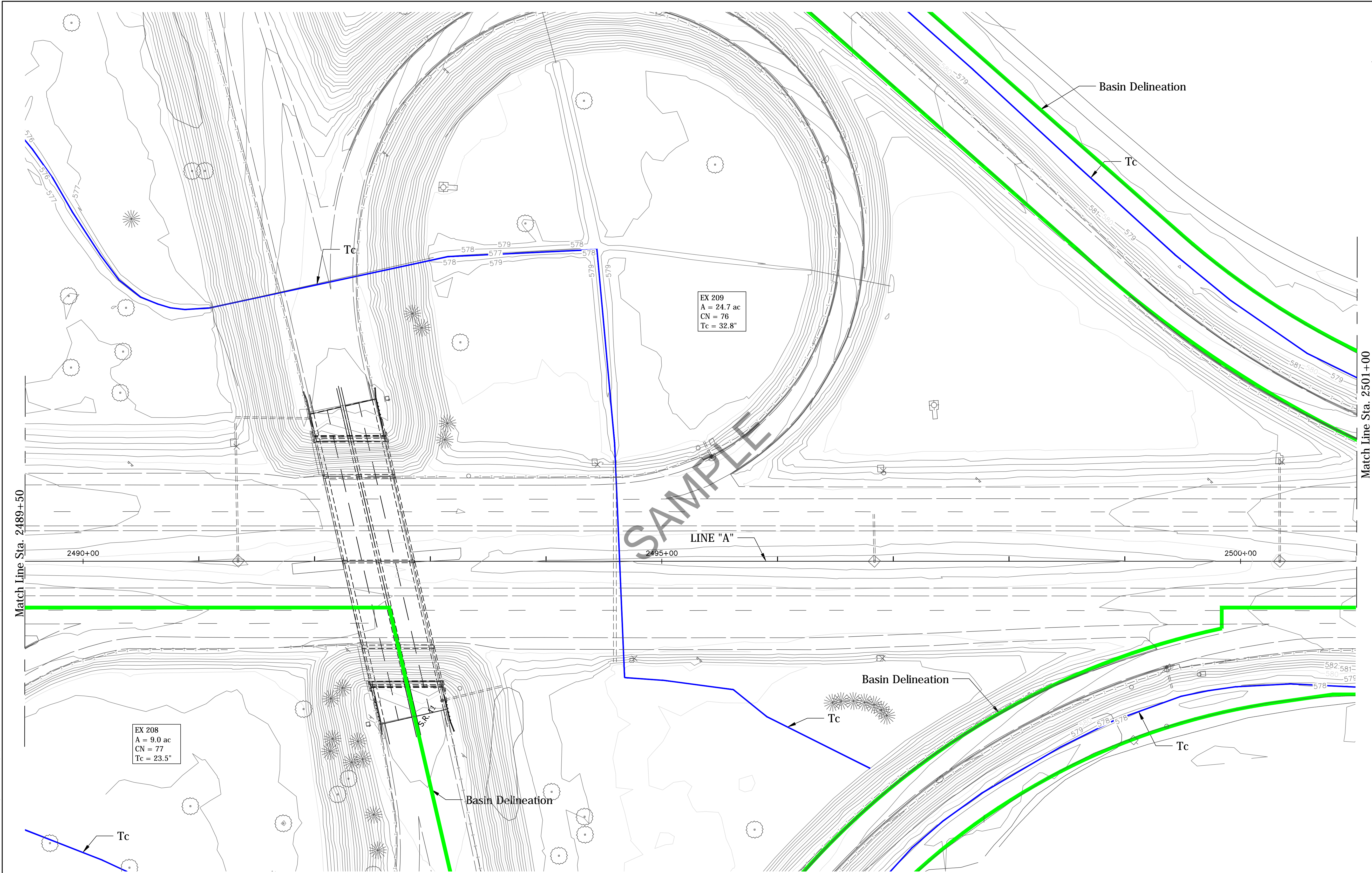
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DESIGNED: _____	DRAWN: _____	
CHECKED: _____	CHECKED: _____	

INDIANA
DEPARTMENT OF TRANSPORTATION

EXISTING DETENTION BASIN
DELINEATIONS

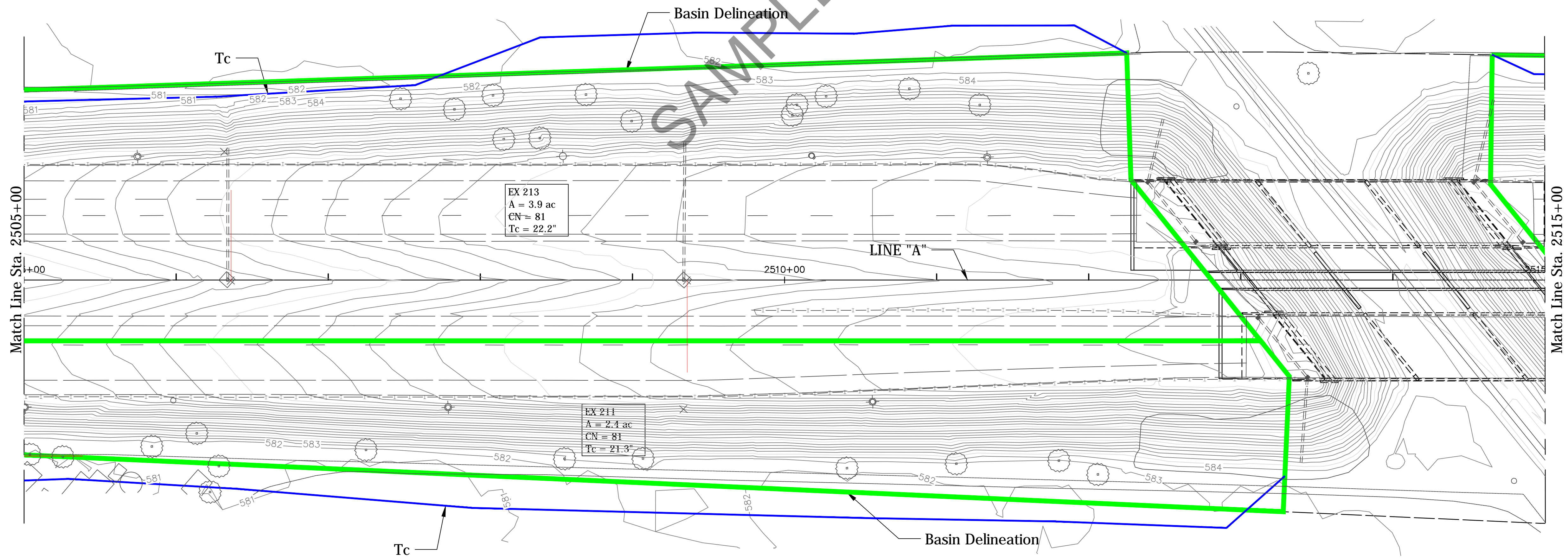
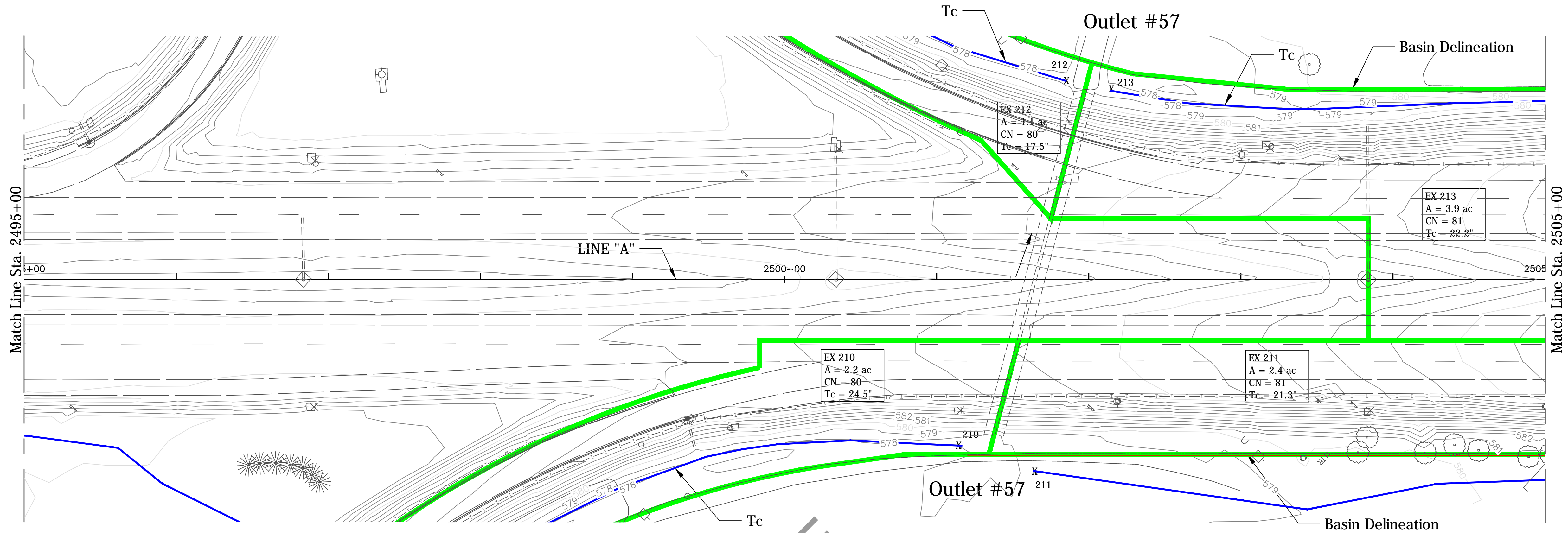
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1"=40'			
VERTICAL SCALE	DESIGNATION		
N/A	---		
SURVEY BOOK	SHEETS		
	3	of	----
CONTRACT	PROJECT		
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		ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
						1"=40'			
						VERTICAL SCALE		DESIGNATION	
		N/A		---					
		DESIGNED: ----		DRAWN: ----		EXISTING DETENTION BASIN DELINEATIONS		SURVEY BOOK	
CHECKED: ----		CHECKED: ----		3 of ----				PROJECT	
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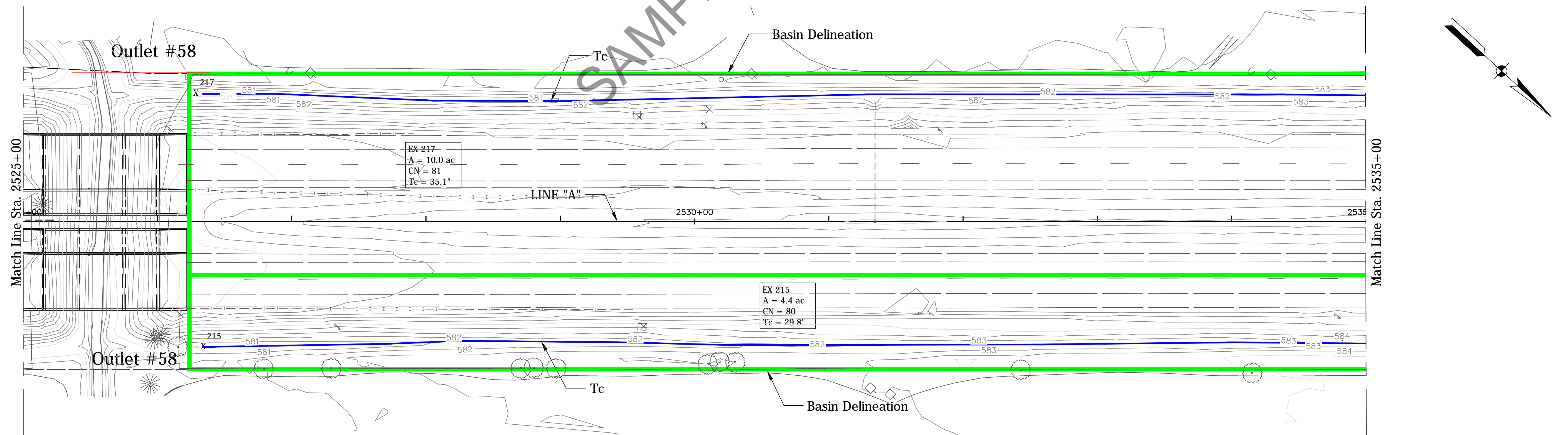
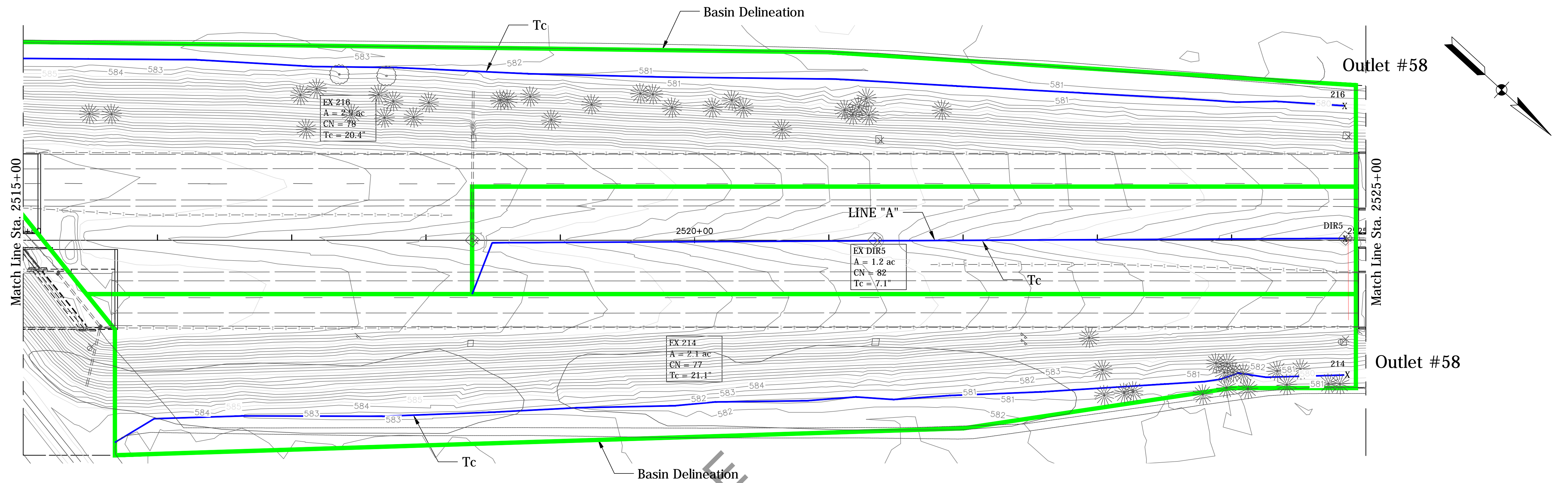
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RECOMMENDED FOR APPROVAL	ENGINEER	DATE
DESIGNED: _____	DRAWN: _____	
CHECKED: _____	CHECKED: _____	

INDIANA DEPARTMENT OF TRANSPORTATION
EXISTING DETENTION BASIN DELINEATIONS

HORIZONTAL SCALE 1"=40'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION
SURVEY BOOK	SHEETS
CONTRACT	PROJECT



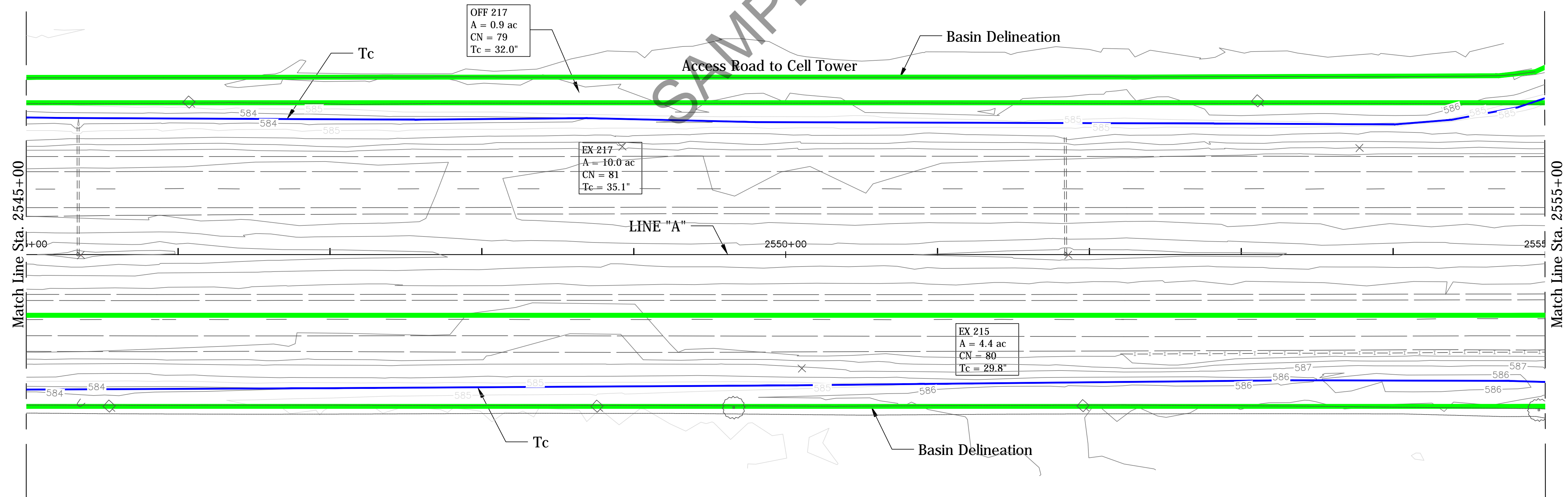
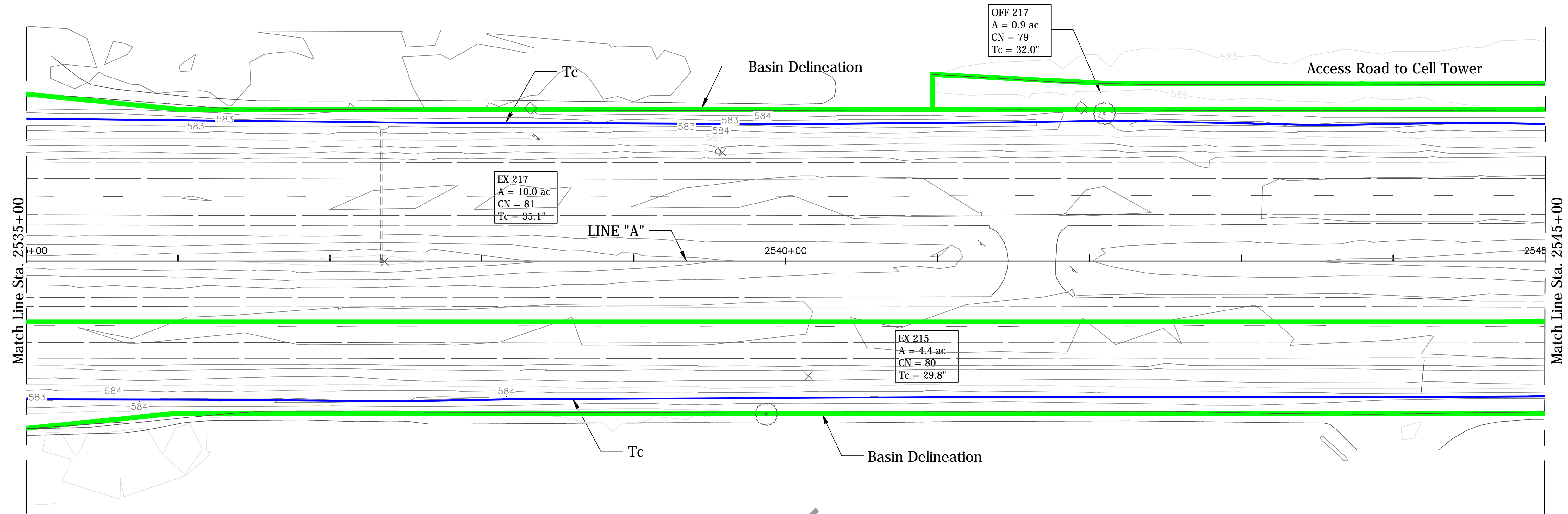
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RECOMMENDED FOR APPROVAL	ENGINEER	DATE
DESIGNED: _____	DRAWN: _____	
CHECKED: _____	CHECKED: _____	

INDIANA DEPARTMENT OF TRANSPORTATION
EXISTING DETENTION BASIN DELINEATIONS

HORIZONTAL SCALE 1"=40'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION
SURVEY BOOK	SHEETS
CONTRACT	3 of ---
---	PROJECT

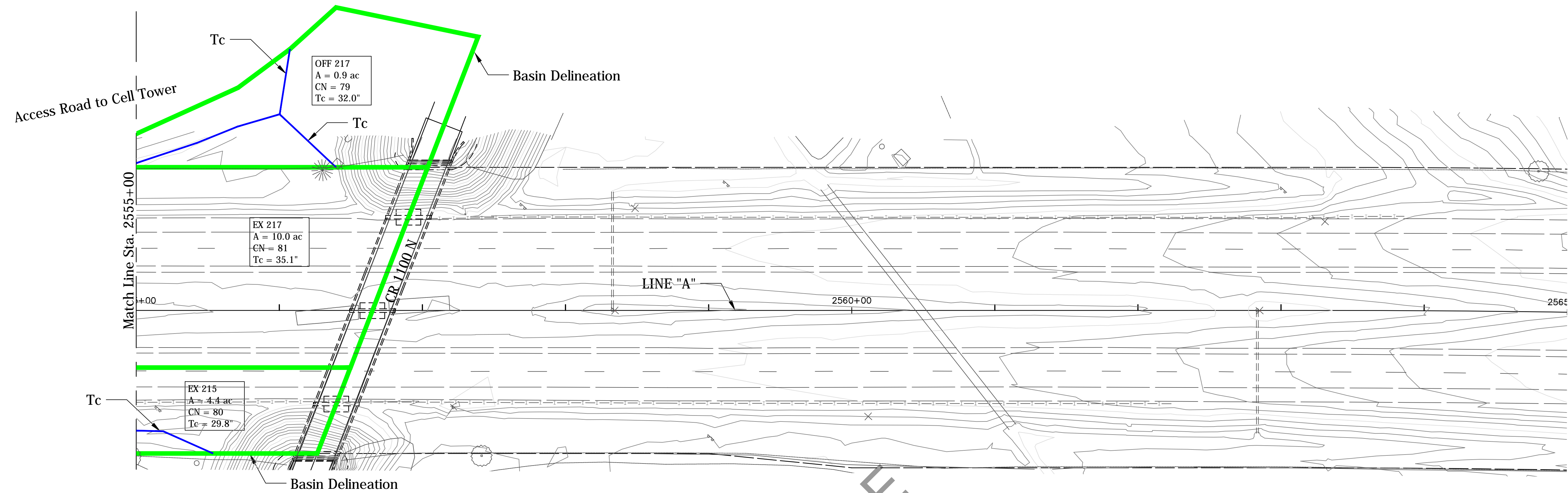
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RECOMMENDED FOR APPROVAL	ENGINEER	DATE
DESIGNED: _____	DRAWN: _____	
CHECKED: _____	CHECKED: _____	

INDIANA DEPARTMENT OF TRANSPORTATION
EXISTING DETENTION BASIN DELINEATIONS

HORIZONTAL SCALE 1"=40'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION
SURVEY BOOK	SHEETS
CONTRACT	4 of 4
	PROJECT

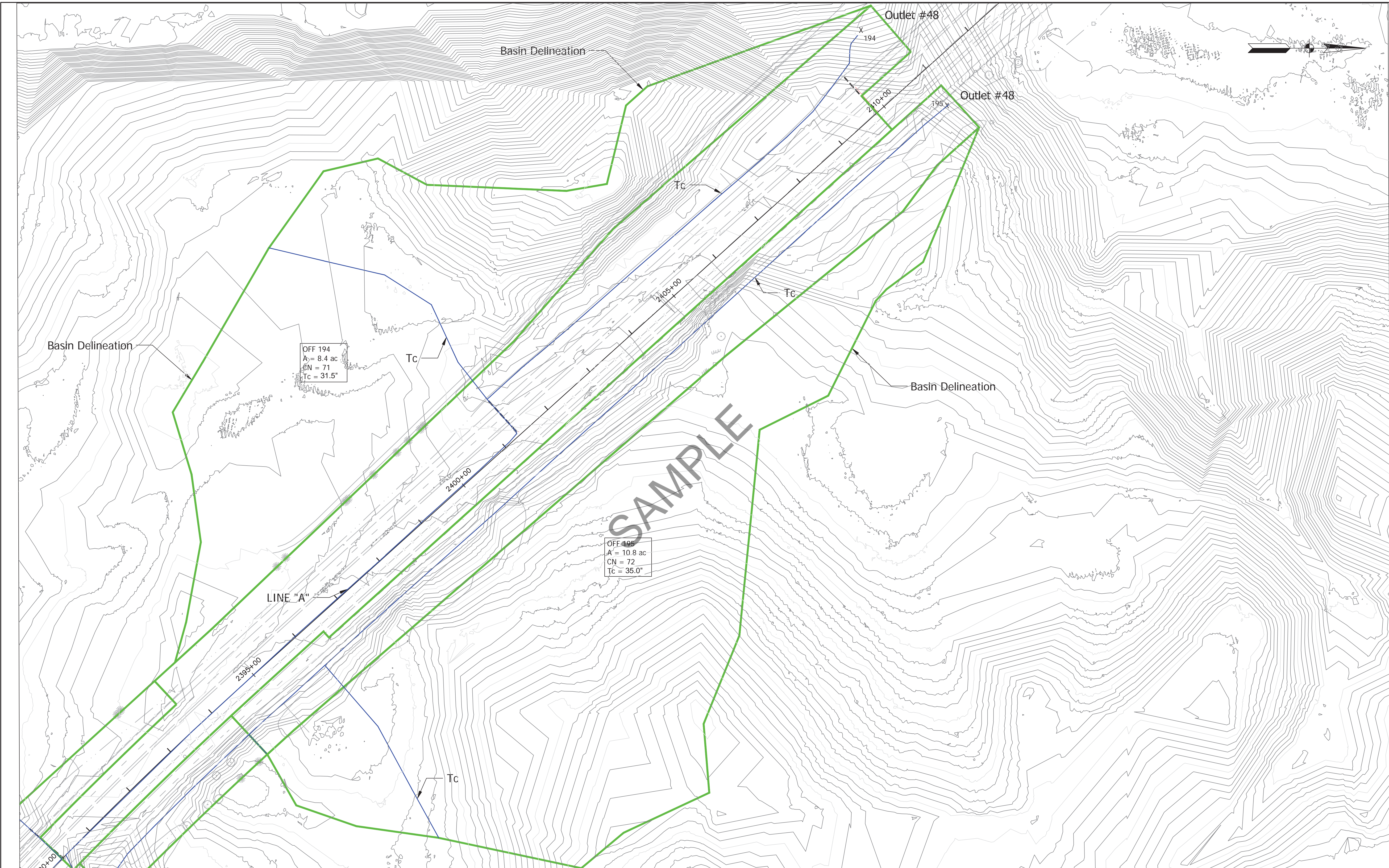


SAMPLE

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RECOMMENDED FOR APPROVAL		-----		INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE		BRIDGE FILE			
		ENGINEER			DATE	1"=40'		DESIGNATION		
DESIGNED: -----		DRAWN: -----			VERTICAL SCALE		N/A			
CHECKED: -----		CHECKED: -----			EXISTING DETENTION BASIN DELINEATIONS		SURVEY BOOK		SHEETS	
							CONTRACT		5 of -----	
						---		PROJECT		---

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SCOPE COMPLIANCE SUBMITTAL		RECOMMENDED FOR APPROVAL		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
		ENGINEER		DATE		1"=80'		DESIGNATION	
DESIGNED: _____		DRAWN: _____		DETENTION OFFSITE BASIN DELINEATIONS		SURVEY BOOK		SHEETS	
CHECKED: _____		CHECKED: _____				CONTRACT		PROJECT	
						---		---	



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 194

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	30		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.1		
Compute T_t	hr	0.03	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.03**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1	CH2		
Channel Description	Trapezoidal	Trapezoidal		
Cross-Sectional Flow Area, a	ft ²	2.5	2.5	
Wetted Perimeter, p _w	ft	6.0	6.0	
Hydraulic Radius, r	ft	0.415	0.415	
Channel Slope, s	ft/ft	0.007	0.028	
Manning's Roughness Coefficient, n		0.05	0.05	
Velocity, V	ft/s	1.39	2.77	
Flow Length, L	ft	1095	930	
Compute T_t	hr	0.22	+	0.09

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.31**

Watershed or Sub-Area T_c

0.35 hr

20.8 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: OFF 194

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Agriculture			
Manning's Roughness Coefficient, n	0.17			
Flow Length, L	ft	100		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.005		
Compute T_t	hr	0.32	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.32**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID	SC1			
Surface Description	UNPAVED			
Flow Length, L	ft	405		
Watercourse Slope, s	ft/ft	0.0088		
Average Velocity, V	ft/s	1.51		
Compute T_t	hr	0.07	+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D
 = **0.07**

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.1		
Wetted Perimeter, p _w	ft	4.3		
Hydraulic Radius, r	ft	0.259		
Channel Slope, s	ft/ft	0.0278		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	2.02		
Flow Length, L	ft	930		
Compute T_t	hr	0.13	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C
 = **0.13**

Watershed or Sub-Area T_c

0.52 hr

31.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 195

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	45		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.021		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.3		
Wetted Perimeter, p _w	ft	4.6		
Hydraulic Radius, r	ft	0.288		
Channel Slope, s	ft/ft	0.01		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.30		
Flow Length, L	ft	1665		
Compute T_t	hr	0.36	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.36**

Watershed or Sub-Area T_c

0.44 hr

26.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: OFF 195

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Agriculture			
Manning's Roughness Coefficient, n	0.17			
Flow Length, L	ft	100		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.007		
Compute T_t	hr	0.28	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.28**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID	SC1			
Surface Description	UNPAVED			
Flow Length, L	ft	275		
Watercourse Slope, s	ft/ft	0.02		
Average Velocity, V	ft/s	2.28		
Compute T_t	hr	0.03	+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D
 = **0.03**

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	2.0		
Wetted Perimeter, p _w	ft	5.4		
Hydraulic Radius, r	ft	0.361		
Channel Slope, s	ft/ft	0.0104		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.54		
Flow Length, L	ft	1490		
Compute T_t	hr	0.27	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C
 = **0.27**

Watershed or Sub-Area T_c

0.58 hr

35.0 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX DIR1

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.024		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.5		
Wetted Perimeter, p _w	ft	2.7		
Hydraulic Radius, r	ft	0.177		
Channel Slope, s	ft/ft	0.011		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.98		
Flow Length, L	ft	375		
Compute T_t	hr	0.11	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.11**

Watershed or Sub-Area T_c

0.20 hr

11.7 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX DIR2

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Pvmt			
Manning's Roughness Coefficient, n	0.012			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.01	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.01**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.7		
Wetted Perimeter, p _w	ft	2.9		
Hydraulic Radius, r	ft	0.226		
Channel Slope, s	ft/ft	0.01		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.11		
Flow Length, L	ft	475		
Compute T_t	hr	0.12	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.12**

Watershed or Sub-Area T_c

0.13 hr

7.9 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX DIR3

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.6		
Wetted Perimeter, p _w	ft	2.8		
Hydraulic Radius, r	ft	0.202		
Channel Slope, s	ft/ft	0.006		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.80		
Flow Length, L	ft	210		
Compute T_t	hr	0.07	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.07**

Watershed or Sub-Area T_c

0.16 hr

9.7 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 197

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	70		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.03		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.4		
Wetted Perimeter, p _w	ft	3.8		
Hydraulic Radius, r	ft	0.359		
Channel Slope, s	ft/ft	0.006		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.17		
Flow Length, L	ft	1990		
Compute T_t	hr	0.47	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.47

Watershed or Sub-Area T_c

0.58 hr

34.9 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 198

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.011		
Compute T_t	hr	0.13	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.13

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	2.5		
Wetted Perimeter, p _w	ft	4.9		
Hydraulic Radius, r	ft	0.504		
Channel Slope, s	ft/ft	0.0039		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.18		
Flow Length, L	ft	800		
Compute T_t	hr	0.19	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.19

Watershed or Sub-Area T_c

0.32 hr

19.2 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 199

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.01		
Compute T_t	hr	0.14	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.14**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.9		
Wetted Perimeter, p _w	ft	4.3		
Hydraulic Radius, r	ft	0.436		
Channel Slope, s	ft/ft	0.0035		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.01		
Flow Length, L	ft	950		
Compute T_t	hr	0.26	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.26**

Watershed or Sub-Area T_c

0.40 hr

23.9 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 200

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	65		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.023		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.8		
Wetted Perimeter, p_w	ft	3.1		
Hydraulic Radius, r	ft	0.249		
Channel Slope, s	ft/ft	0.0059		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.91		
Flow Length, L	ft	290		
Compute T_t	hr	0.09	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.09

Watershed or Sub-Area T_c

0.20 hr

12.1 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 201

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	65		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.022		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.0		
Wetted Perimeter, p _w	ft	3.3		
Hydraulic Radius, r	ft	0.292		
Channel Slope, s	ft/ft	0.006		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.02		
Flow Length, L	ft	900		
Compute T_t	hr	0.25	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.25

Watershed or Sub-Area T_c

0.36 hr

21.6 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 202

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	60		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.027		
Compute T_t	hr	0.10	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.10**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.7		
Wetted Perimeter, p _w	ft	2.9		
Hydraulic Radius, r	ft	0.226		
Channel Slope, s	ft/ft	0.0036		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.66		
Flow Length, L	ft	220		
Compute T_t	hr	0.09	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.09**

Watershed or Sub-Area T_c

0.19 hr

11.4 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 202

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.8		
Wetted Perimeter, p _w	ft	4.3		
Hydraulic Radius, r	ft	0.428		
Channel Slope, s	ft/ft	0.0023		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.81		
Flow Length, L	ft	440		
Compute T_t	hr	0.15	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.15**

Watershed or Sub-Area T_c

0.24 hr

14.3 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 204

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.026		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.5		
Wetted Perimeter, p _w	ft	2.8		
Hydraulic Radius, r	ft	0.190		
Channel Slope, s	ft/ft	0.02		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.39		
Flow Length, L	ft	175		
Compute T_t	hr	0.03	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.03**

Watershed or Sub-Area T_c

0.12 hr

7.3 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 205

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	60		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.03		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.5		
Wetted Perimeter, p _w	ft	2.8		
Hydraulic Radius, r	ft	0.190		
Channel Slope, s	ft/ft	0.006		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.76		
Flow Length, L	ft	275		
Compute T_t	hr	0.10	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.10**

Watershed or Sub-Area T_c

0.19 hr

11.7 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 206

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.031		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.0		
Wetted Perimeter, p _w	ft	3.4		
Hydraulic Radius, r	ft	0.302		
Channel Slope, s	ft/ft	0.0014		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.50		
Flow Length, L	ft	420		
Compute T_t	hr	0.23	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.23**

Watershed or Sub-Area T_c

0.32 hr

19.2 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 207

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	75		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.032		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.6		
Wetted Perimeter, p _w	ft	2.8		
Hydraulic Radius, r	ft	0.202		
Channel Slope, s	ft/ft	0.01		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.03		
Flow Length, L	ft	300		
Compute T_t	hr	0.08	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.08

Watershed or Sub-Area T_c

0.19 hr

11.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 207

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Pvmt			
Manning's Roughness Coefficient, n	0.012			
Flow Length, L	ft	40		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.01	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.01**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.8		
Wetted Perimeter, p _w	ft	3.1		
Hydraulic Radius, r	ft	0.260		
Channel Slope, s	ft/ft	0.0035		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.72		
Flow Length, L	ft	370		
Compute T_t	hr	0.14	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.14**

Watershed or Sub-Area T_c

0.15 hr

9.2 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 208

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	100		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.15	+	
			=	0.15

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

SHALLOW-CONCENTRATED FLOW

SEGMENT ID	SC1			
Surface Description	UNPAVED			
Flow Length, L	ft	120		
Watercourse Slope, s	ft/ft	0.021		
Average Velocity, V	ft/s	3.00		
Compute T_t	hr	0.01	+	
			=	0.01

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.1		
Wetted Perimeter, p _w	ft	5.5		
Hydraulic Radius, r	ft	0.567		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.29		
Flow Length, L	ft	1060		
Compute T_t	hr	0.23	+	
			=	0.23

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

Watershed or Sub-Area T_c

0.39 hr

23.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 209

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	100		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.006		
Compute T_t	hr	0.27	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.27**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID	SC1			
Surface Description	UNPAVED			
Flow Length, L	ft	130		
Watercourse Slope, s	ft/ft	0.0054		
Average Velocity, V	ft/s	1.52		
Compute T_t	hr	0.02	+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D
 = **0.02**

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	6.0		
Wetted Perimeter, p_w	ft	7.7		
Hydraulic Radius, r	ft	0.784		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.60		
Flow Length, L	ft	1450		
Compute T_t	hr	0.25	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C
 = **0.25**

Watershed or Sub-Area T_c

0.55 hr

32.8 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 210

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	30		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.0153		
Compute T_t	hr	0.07	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.07**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.6		
Wetted Perimeter, p_w	ft	5.9		
Hydraulic Radius, r	ft	0.614		
Channel Slope, s	ft/ft	0.002		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.96		
Flow Length, L	ft	1170		
Compute T_t	hr	0.34	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.34**

Watershed or Sub-Area T_c

0.41 hr

24.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 211

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.012		
Compute T_t	hr	0.12	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.12**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.1		
Wetted Perimeter, p _w	ft	5.5		
Hydraulic Radius, r	ft	0.567		
Channel Slope, s	ft/ft	0.0042		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.32		
Flow Length, L	ft	1130		
Compute T_t	hr	0.24	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.24**

Watershed or Sub-Area T_c

0.36 hr

21.3 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 212

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	45		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.014		
Compute T_t	hr	0.10	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.10**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.9		
Wetted Perimeter, p _w	ft	4.3		
Hydraulic Radius, r	ft	0.436		
Channel Slope, s	ft/ft	0.003		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.94		
Flow Length, L	ft	640		
Compute T_t	hr	0.19	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.19**

Watershed or Sub-Area T_c

0.29 hr

17.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 213

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.01		
Compute T_t	hr	0.13	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.13**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	5.9		
Wetted Perimeter, p _w	ft	7.6		
Hydraulic Radius, r	ft	0.778		
Channel Slope, s	ft/ft	0.002		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.13		
Flow Length, L	ft	985		
Compute T_t	hr	0.24	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.24**

Watershed or Sub-Area T_c

0.37 hr

22.2 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 214

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	35		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.0143		
Compute T_t	hr	0.08	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.08**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.2		
Wetted Perimeter, p _w	ft	5.5		
Hydraulic Radius, r	ft	0.574		
Channel Slope, s	ft/ft	0.002		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.92		
Flow Length, L	ft	890		
Compute T_t	hr	0.27	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.27**

Watershed or Sub-Area T_c

0.35 hr

21.1 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 215

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	40		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.07	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.07**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.5		
Wetted Perimeter, p _w	ft	5.8		
Hydraulic Radius, r	ft	0.601		
Channel Slope, s	ft/ft	0.008		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.90		
Flow Length, L	ft	2890		
Compute T_t	hr	0.42	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.42**

Watershed or Sub-Area T_c

0.50 hr

29.8 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX DIR5

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Pvmt			
Manning's Roughness Coefficient, n	0.012			
Flow Length, L	ft	40		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.02		
Compute T_t	hr	0.01	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.01**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.7		
Wetted Perimeter, p _w	ft	4.2		
Hydraulic Radius, r	ft	0.411		
Channel Slope, s	ft/ft	0.01		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.65		
Flow Length, L	ft	635		
Compute T_t	hr	0.11	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.11**

Watershed or Sub-Area T_c

0.12 hr

7.1 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 216

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	40		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.01		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.6		
Wetted Perimeter, p _w	ft	5.9		
Hydraulic Radius, r	ft	0.614		
Channel Slope, s	ft/ft	0.003		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.18		
Flow Length, L	ft	990		
Compute T_t	hr	0.23	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.23

Watershed or Sub-Area T_c

0.34 hr

20.4 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: EX 217

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.015		
Compute T_t	hr	0.12	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.12

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	8.2		
Wetted Perimeter, p _w	ft	9.1		
Hydraulic Radius, r	ft	0.907		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.77		
Flow Length, L	ft	2975		
Compute T_t	hr	0.47	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.47

Watershed or Sub-Area T_c

0.58 hr

35.1 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: OFF 217

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	35		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.07	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.07**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	8.2		
Wetted Perimeter, p _w	ft	9.1		
Hydraulic Radius, r	ft	0.907		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.77		
Flow Length, L	ft	2975		
Compute T_t	hr	0.47	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

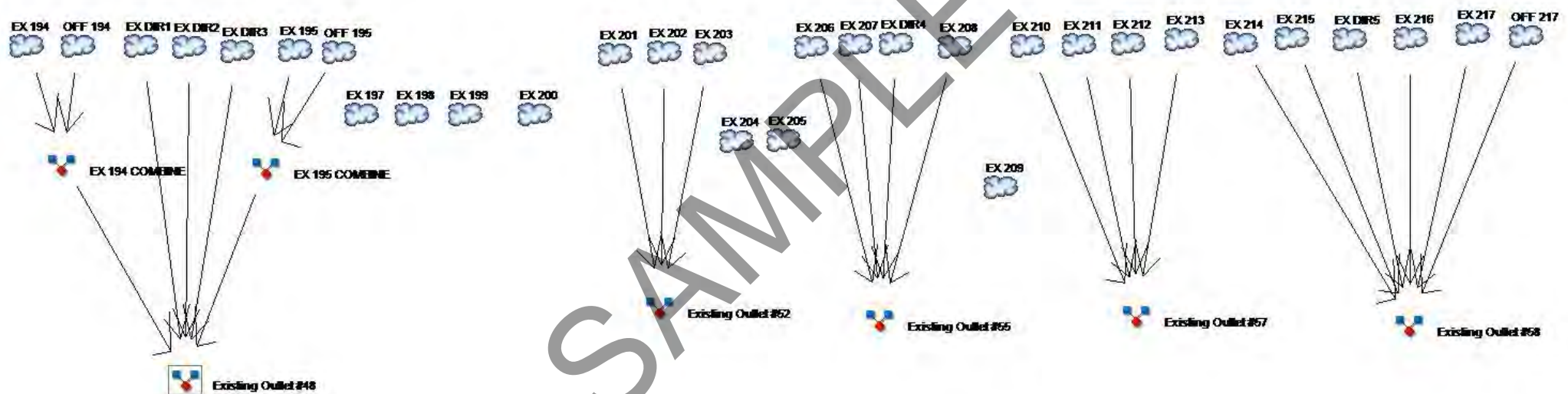
= **0.47**

Watershed or Sub-Area T_c

0.53 hr

32.0 min

Existing Conditions - Hydraflow Hydrograph Schematic



Hydrograph Report

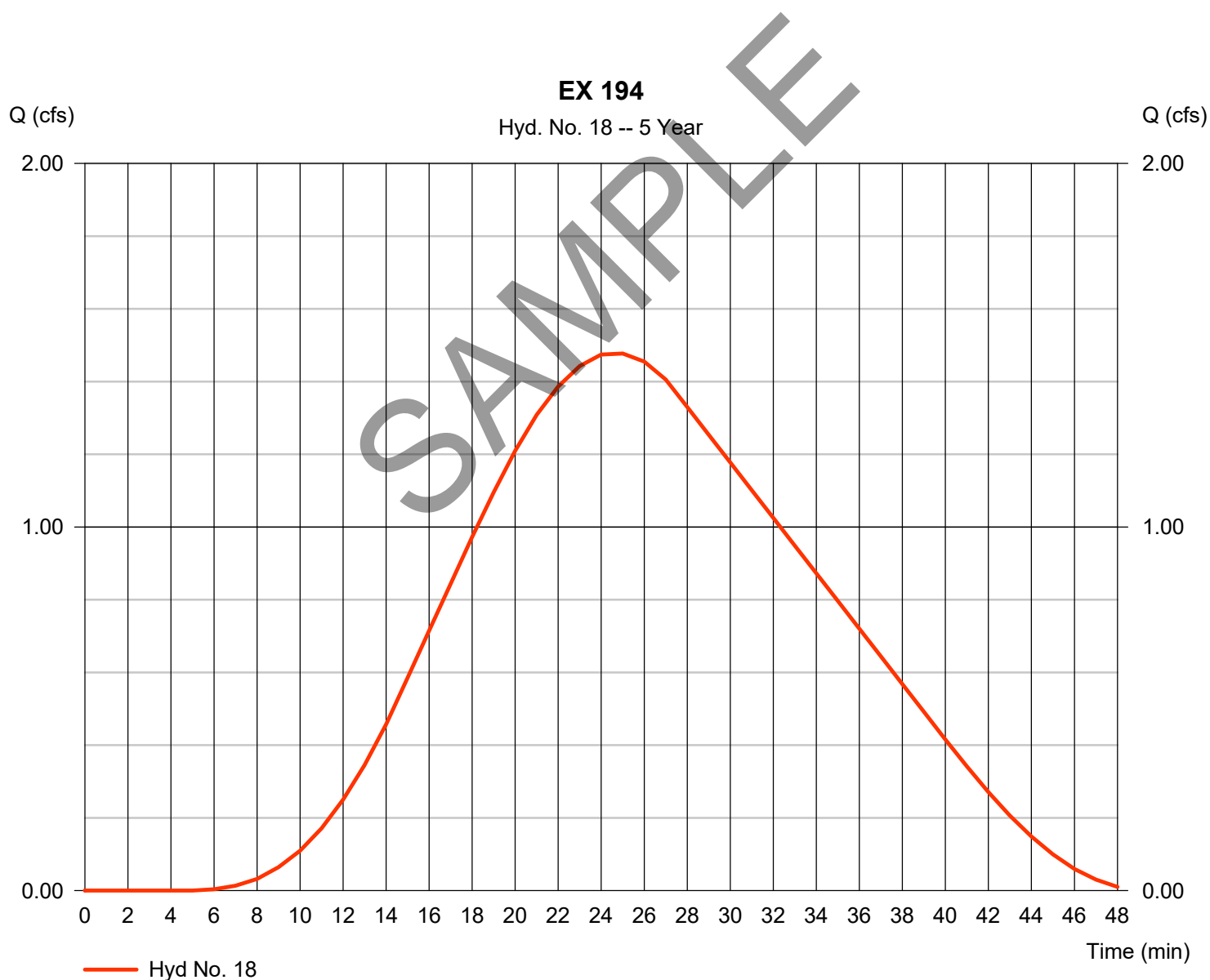
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Tuesday, 03 / 19 / 2019

Hyd. No. 18

EX 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.477 cfs
Storm frequency	= 5 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 1,760 cuft
Drainage area	= 7.300 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.80 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

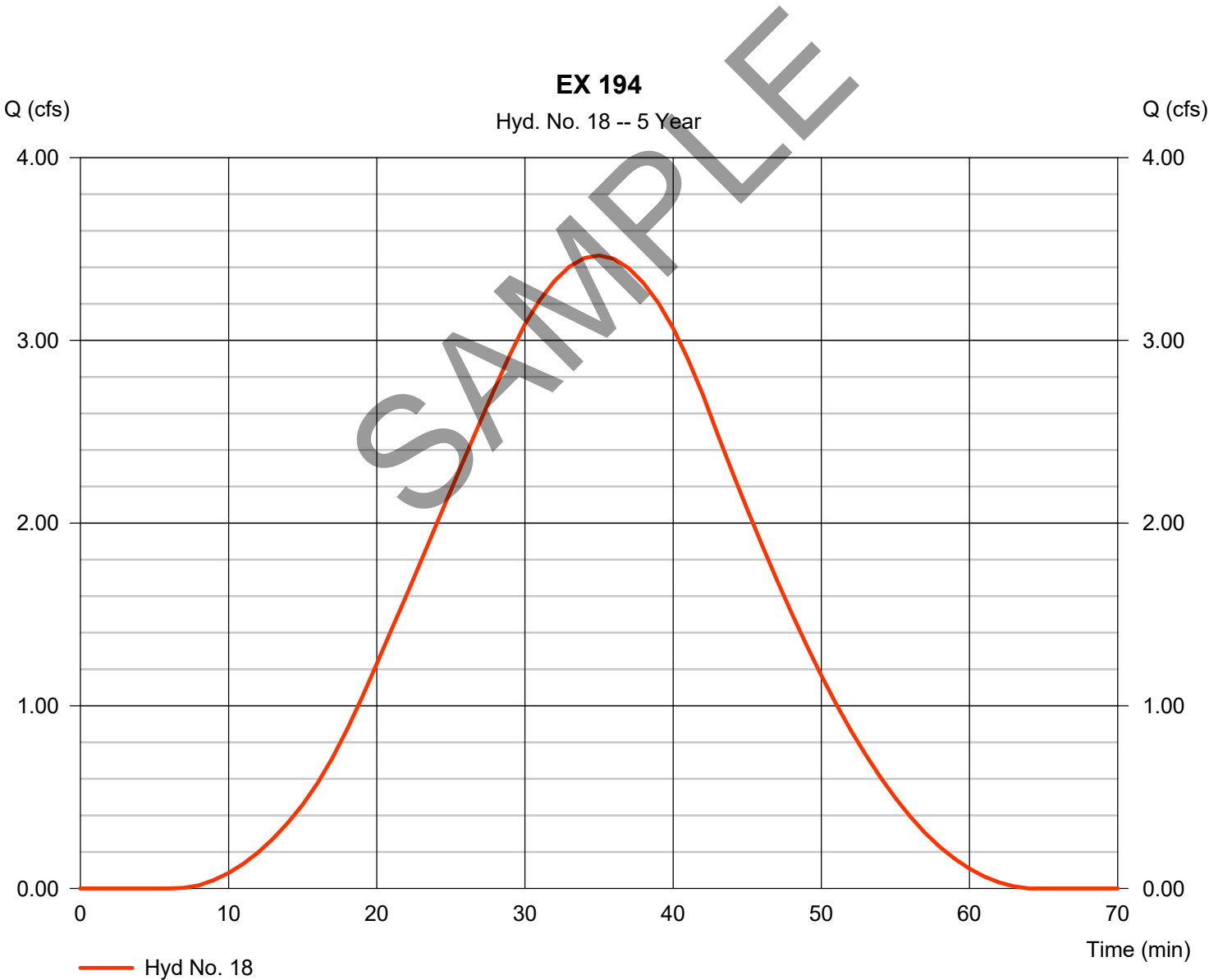


Hydrograph Report

Hyd. No. 18

EX 194

Hydrograph type	= SCS Runoff	Peak discharge	= 3.465 cfs
Storm frequency	= 5 yrs	Time to peak	= 35 min
Time interval	= 1 min	Hyd. volume	= 5,220 cuft
Drainage area	= 7.300 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.80 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

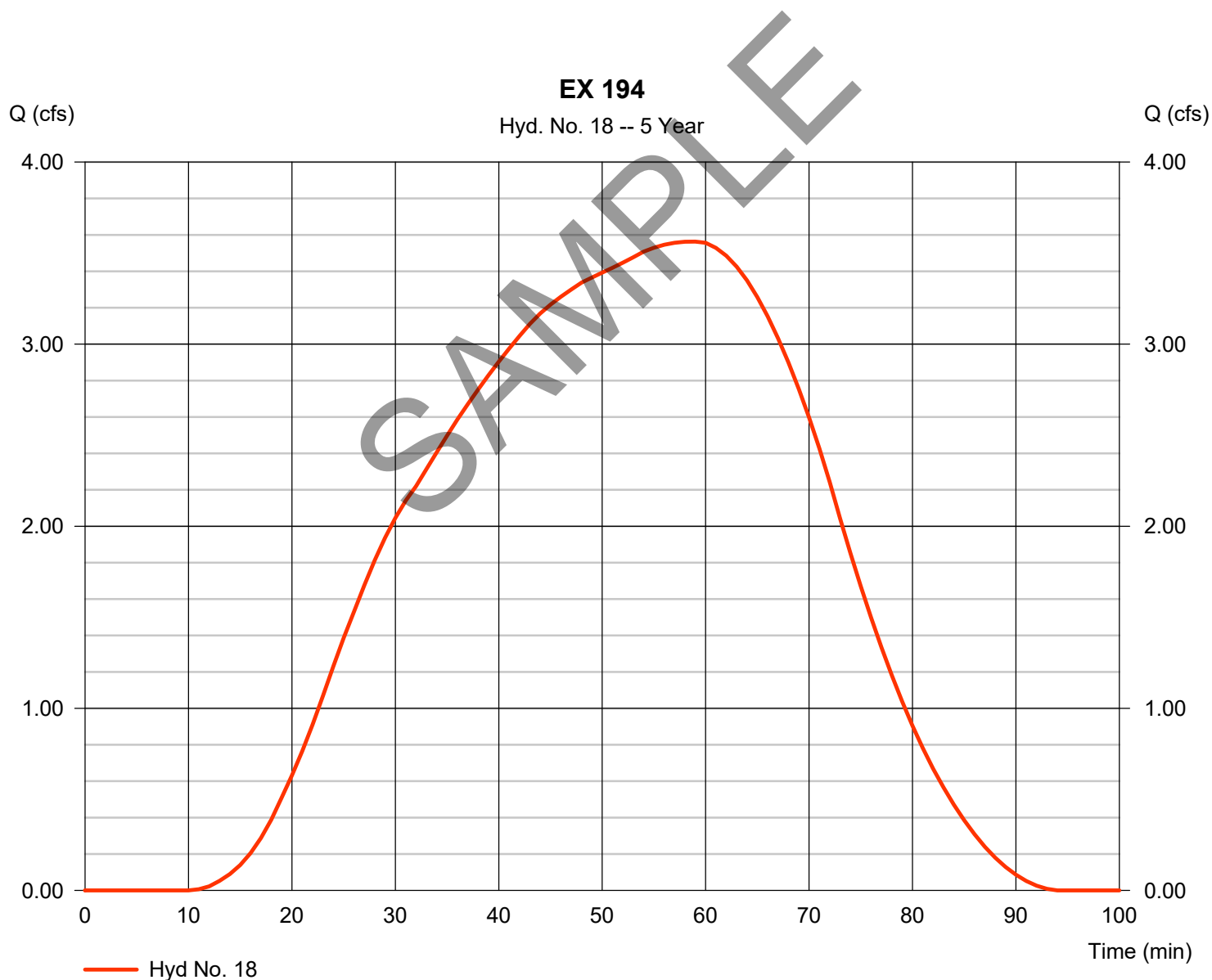
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Tuesday, 03 / 19 / 2019

Hyd. No. 18

EX 194

Hydrograph type	= SCS Runoff	Peak discharge	= 3.563 cfs
Storm frequency	= 5 yrs	Time to peak	= 59 min
Time interval	= 1 min	Hyd. volume	= 9,656 cuft
Drainage area	= 7.300 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.80 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

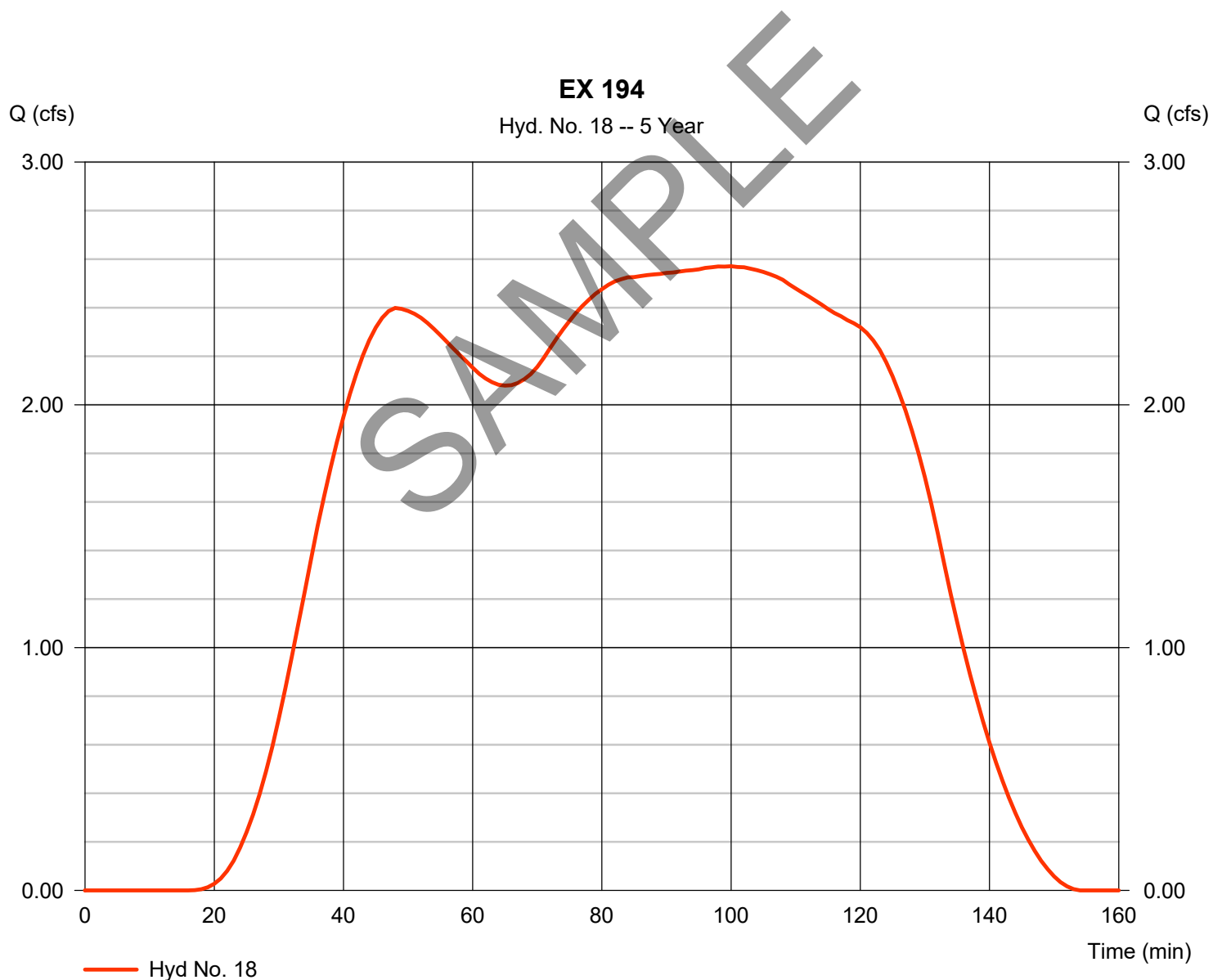
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Tuesday, 03 / 19 / 2019

Hyd. No. 18

EX 194

Hydrograph type	= SCS Runoff	Peak discharge	= 2.571 cfs
Storm frequency	= 5 yrs	Time to peak	= 100 min
Time interval	= 1 min	Hyd. volume	= 14,487 cuft
Drainage area	= 7.300 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.80 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

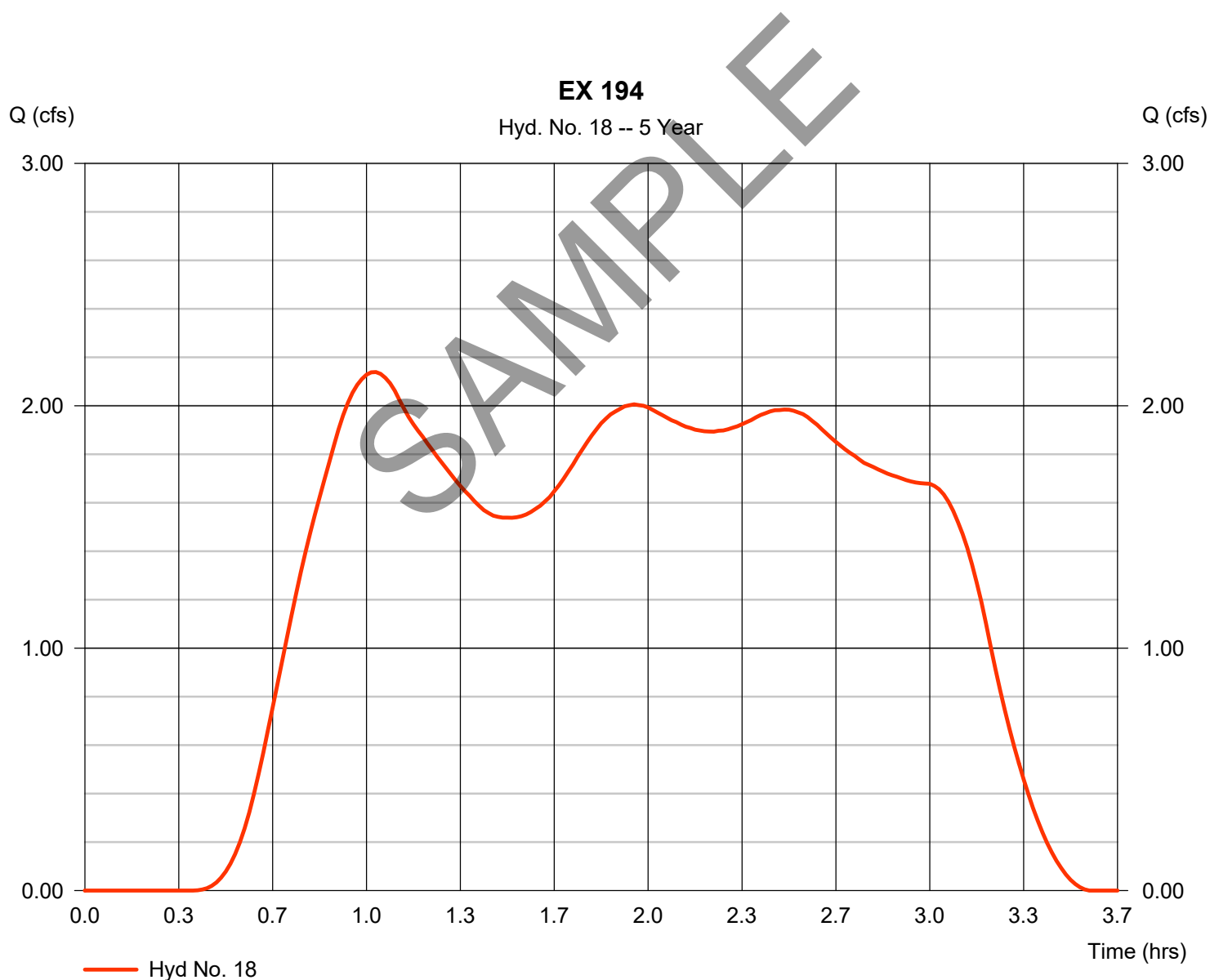
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Tuesday, 03 / 19 / 2019

Hyd. No. 18

EX 194

Hydrograph type	= SCS Runoff	Peak discharge	= 2.139 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.03 hrs
Time interval	= 1 min	Hyd. volume	= 16,873 cuft
Drainage area	= 7.300 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.80 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

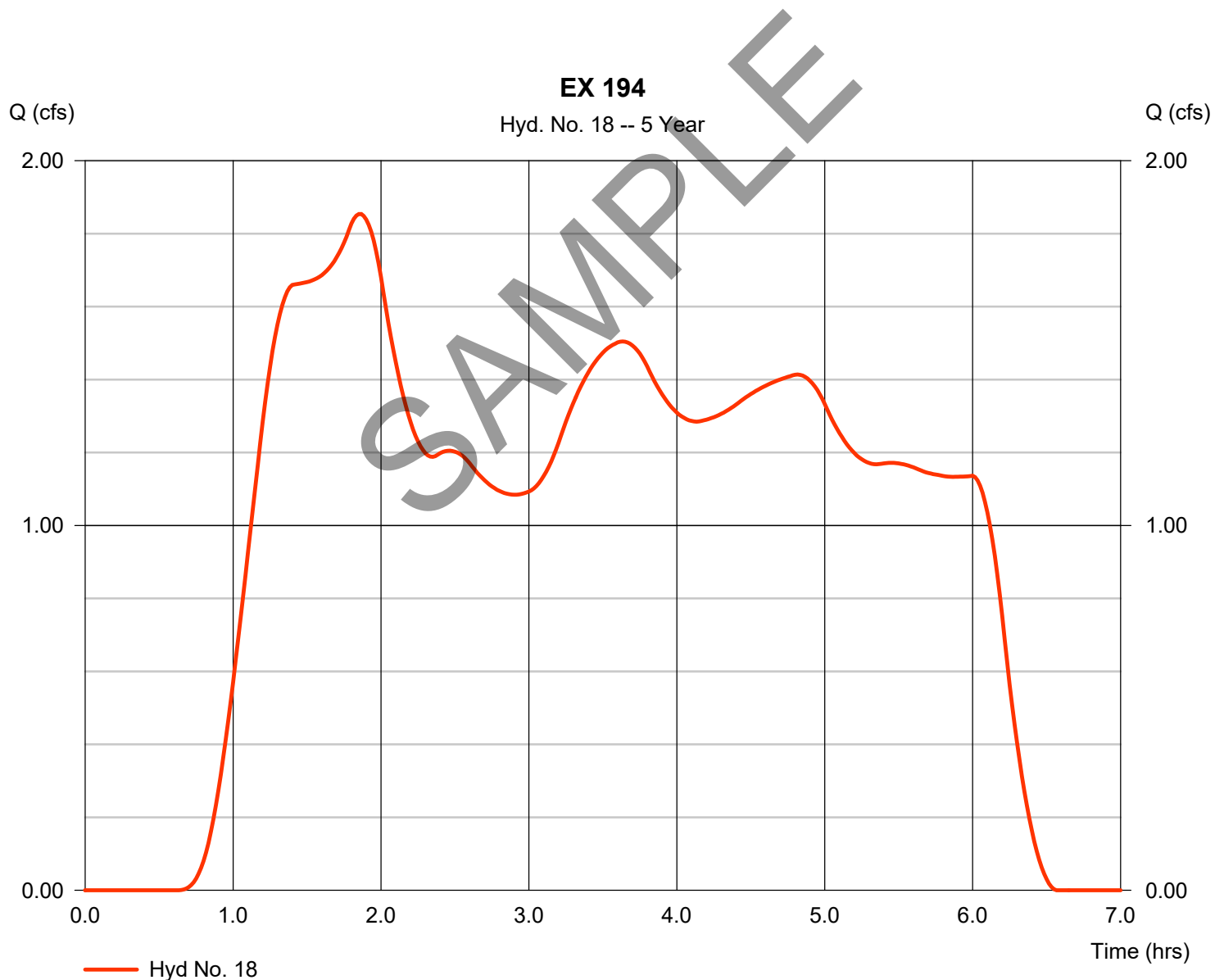
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Hyd. No. 18

EX 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 7.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 1.854 cfs
Time to peak = 1.85 hrs
Hyd. volume = 25,169 cuft
Curve number = 78
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

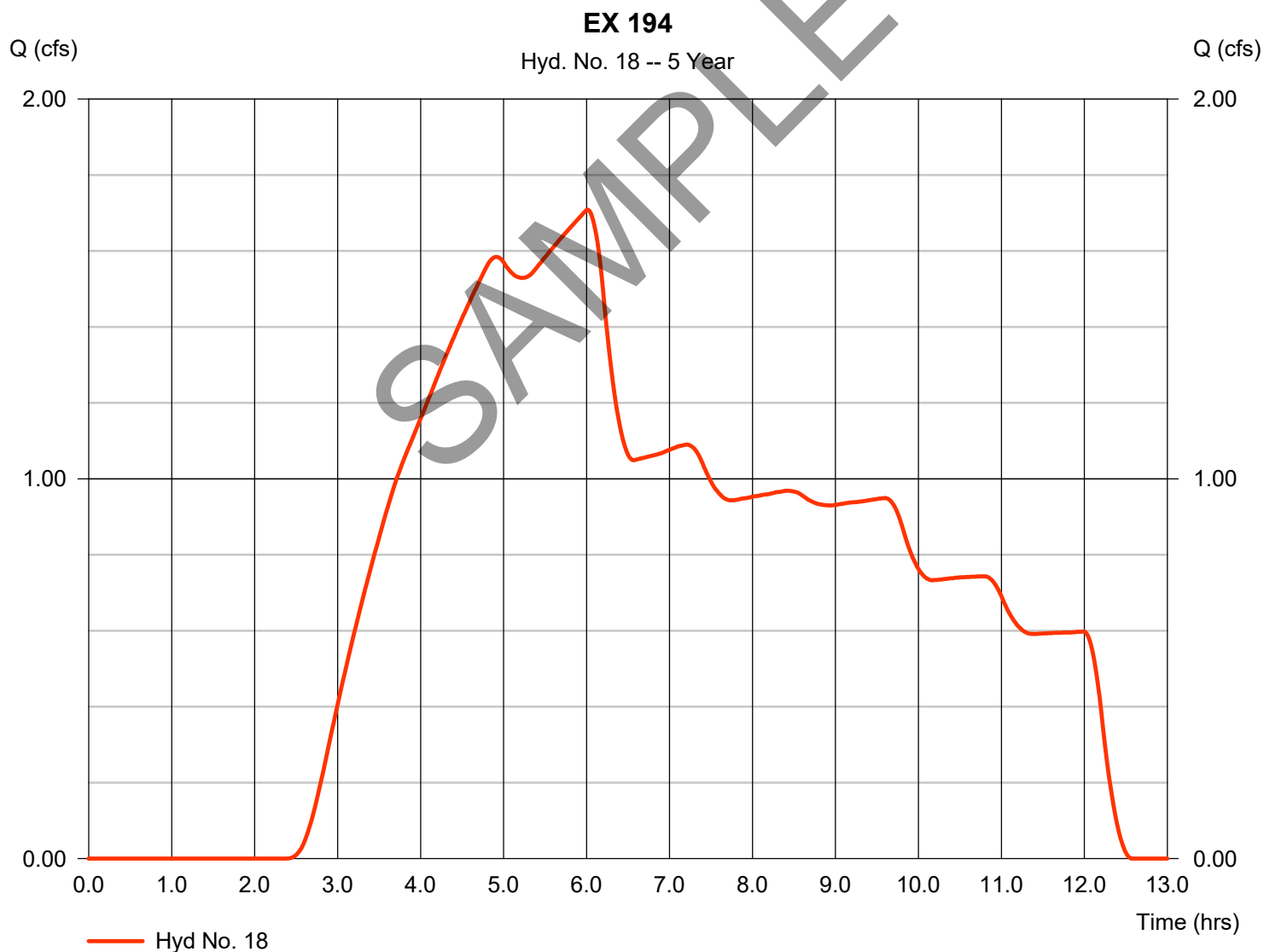
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Tuesday, 03 / 19 / 2019

Hyd. No. 18

EX 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.709 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.02 hrs
Time interval	= 1 min	Hyd. volume	= 34,263 cuft
Drainage area	= 7.300 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.80 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

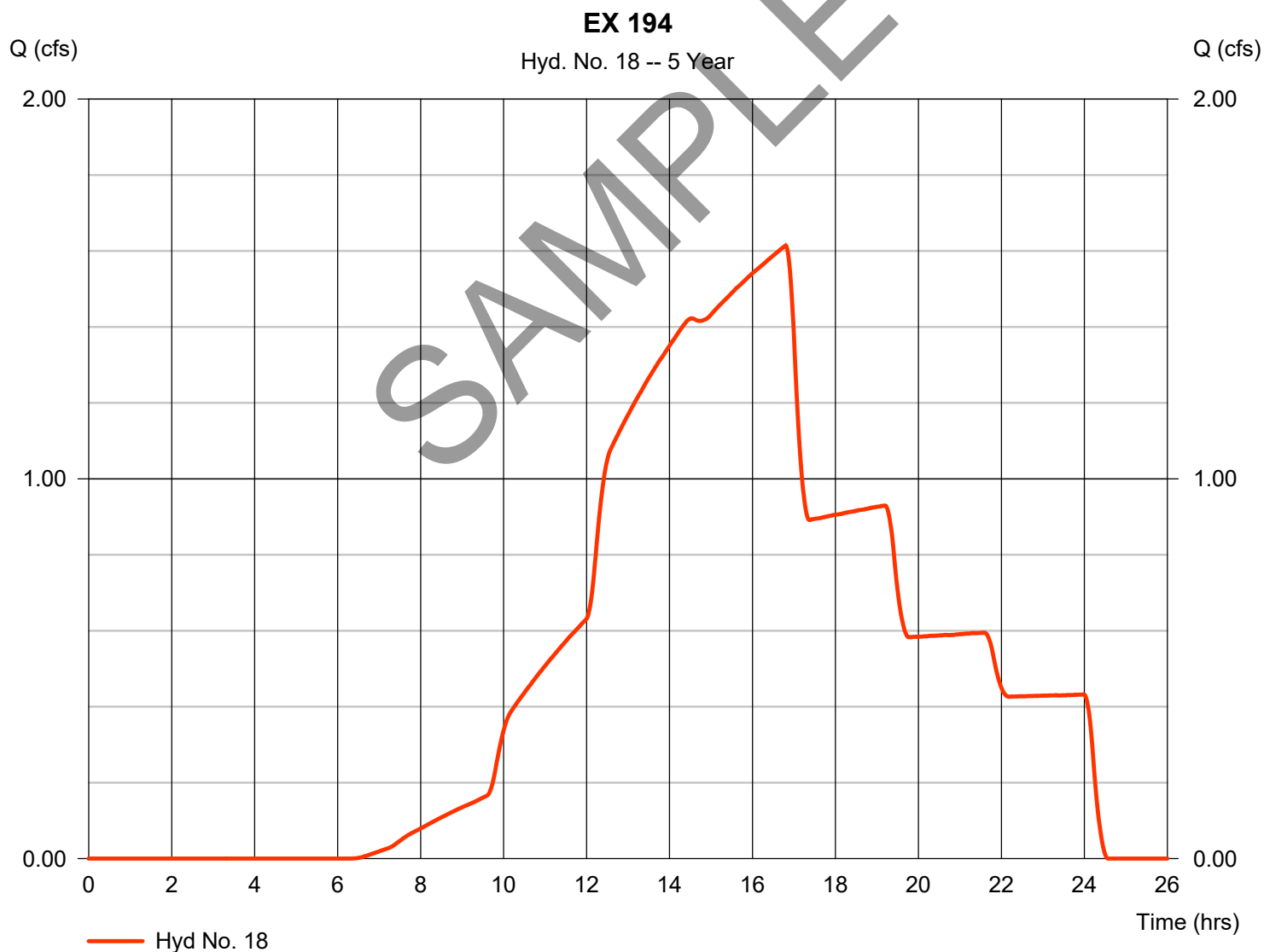
Tuesday, 03 / 19 / 2019

Hyd. No. 18

EX 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 7.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.614 cfs
Time to peak = 16.80 hrs
Hyd. volume = 46,046 cuft
Curve number = 78
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

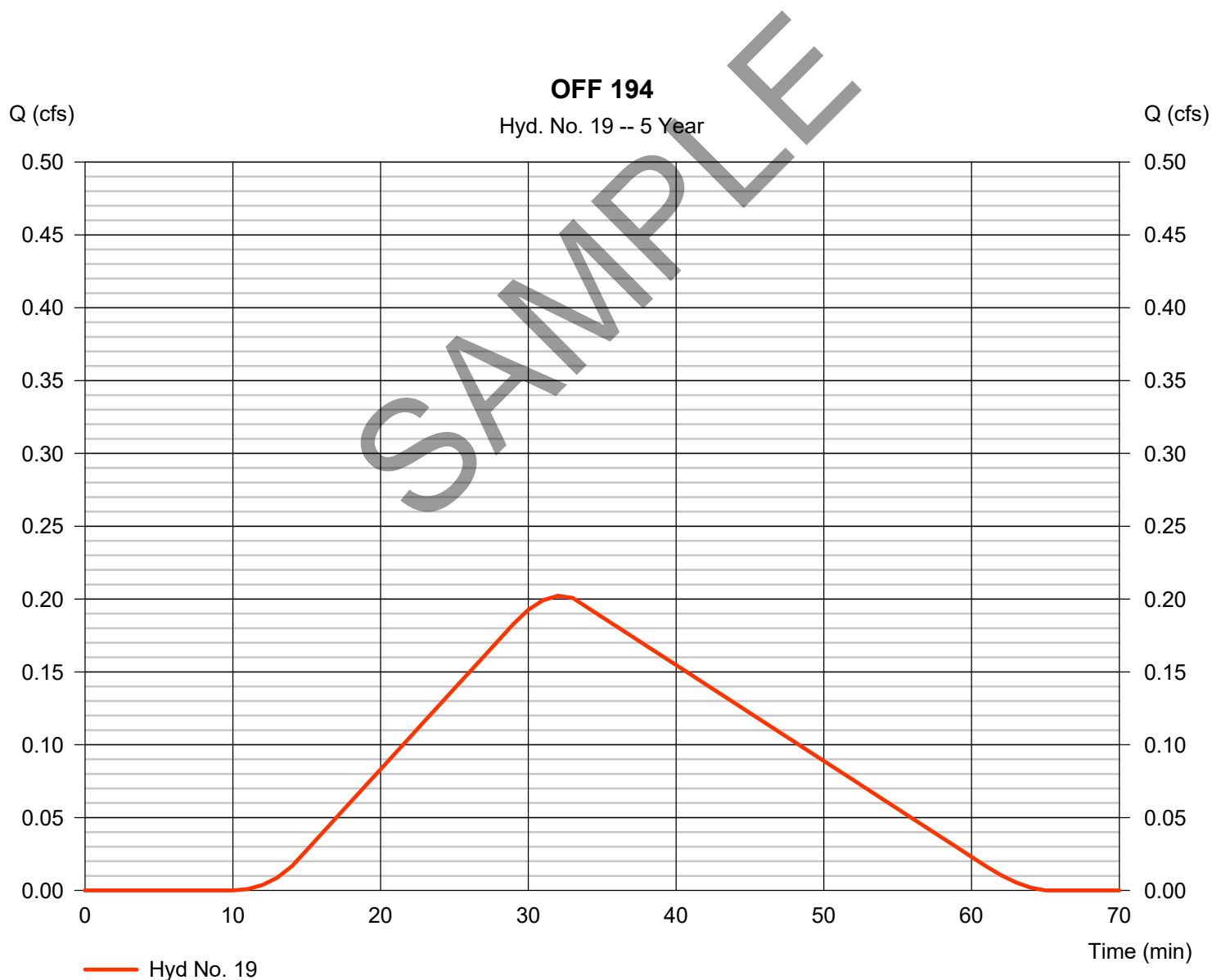
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Tuesday, 03 / 19 / 2019

Hyd. No. 19

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 0.202 cfs
Storm frequency	= 5 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 322 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

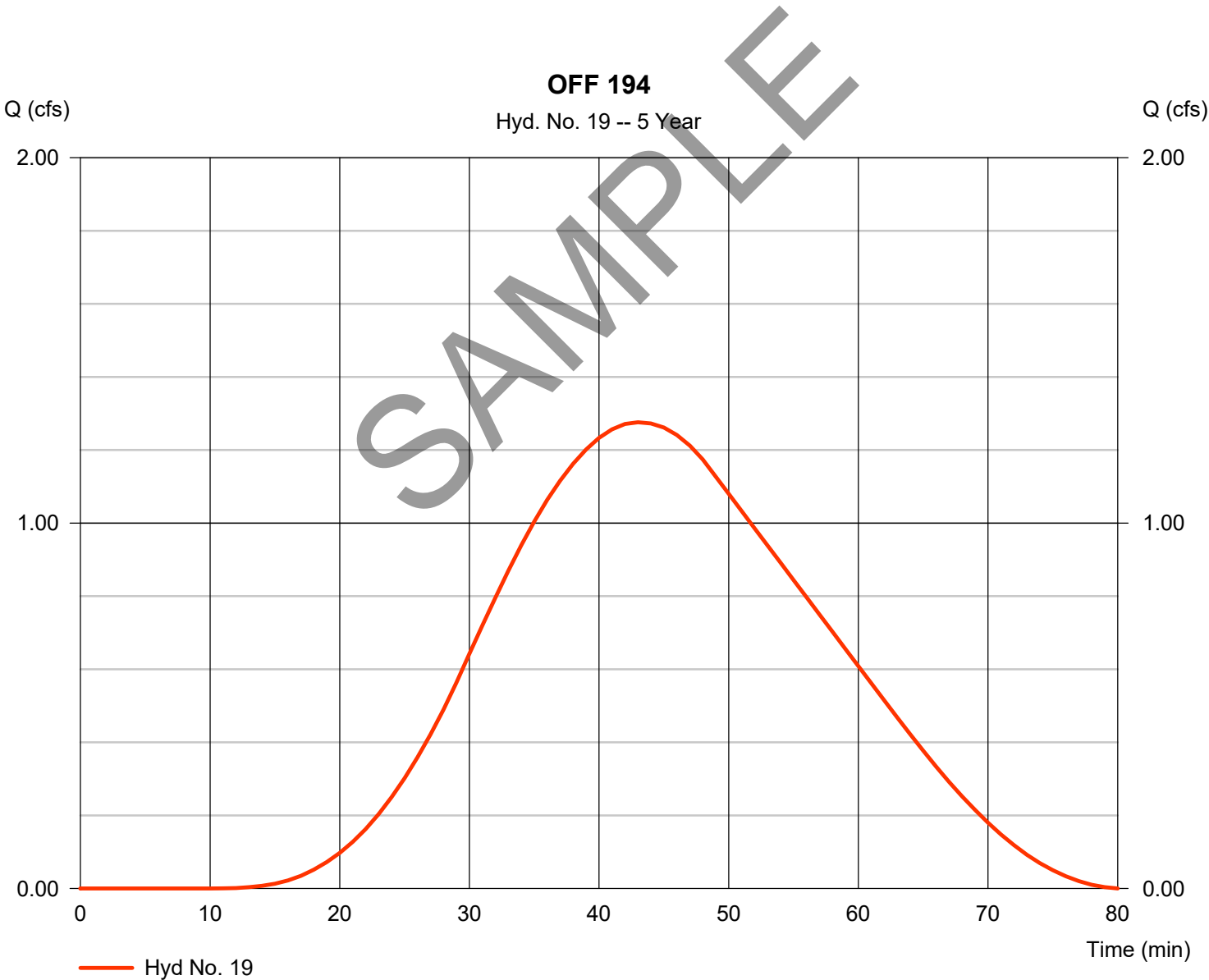


Hydrograph Report

Hyd. No. 19

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.276 cfs
Storm frequency	= 5 yrs	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 2,308 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

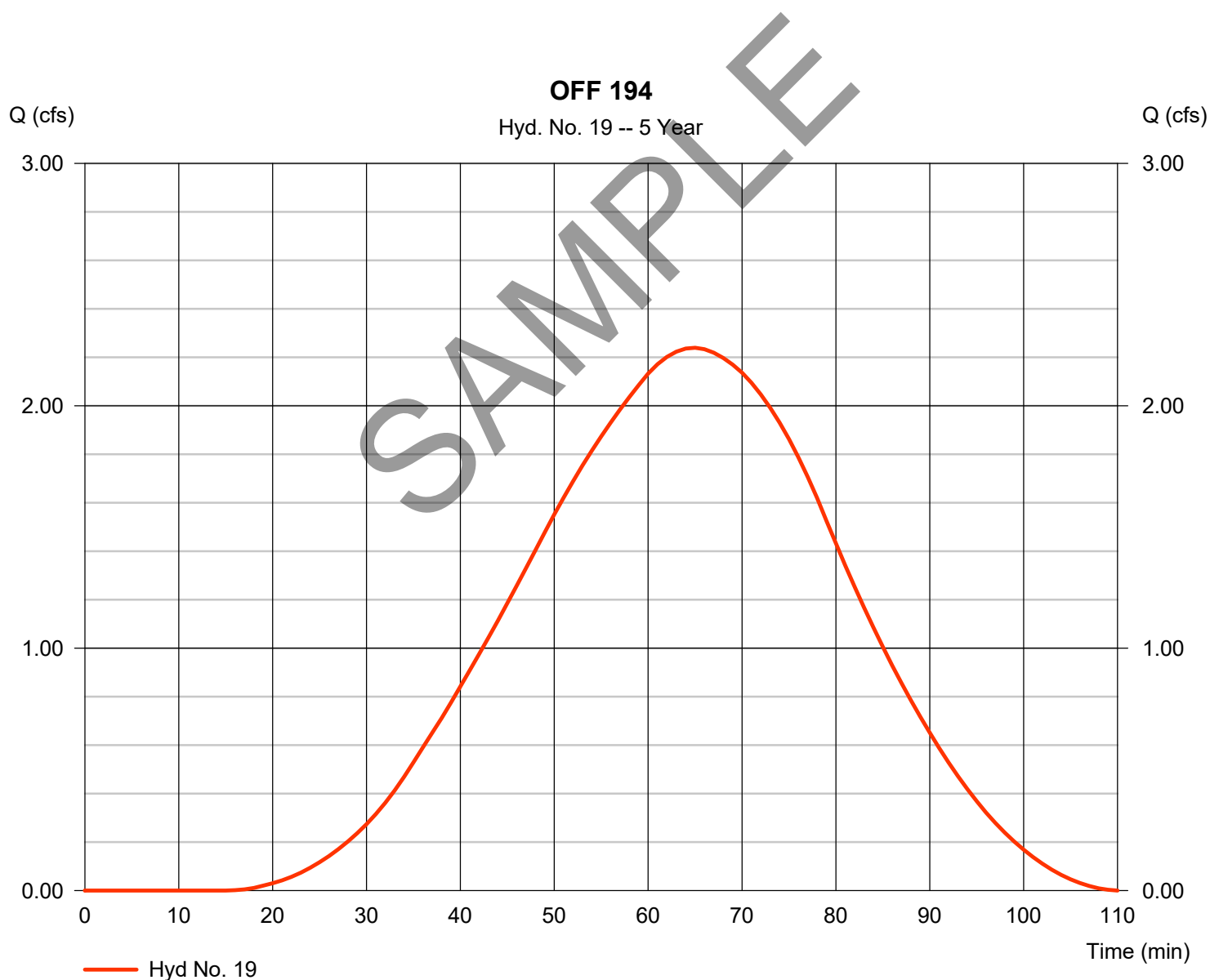
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Tuesday, 03 / 19 / 2019

Hyd. No. 19

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 2.239 cfs
Storm frequency	= 5 yrs	Time to peak	= 65 min
Time interval	= 1 min	Hyd. volume	= 5,534 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

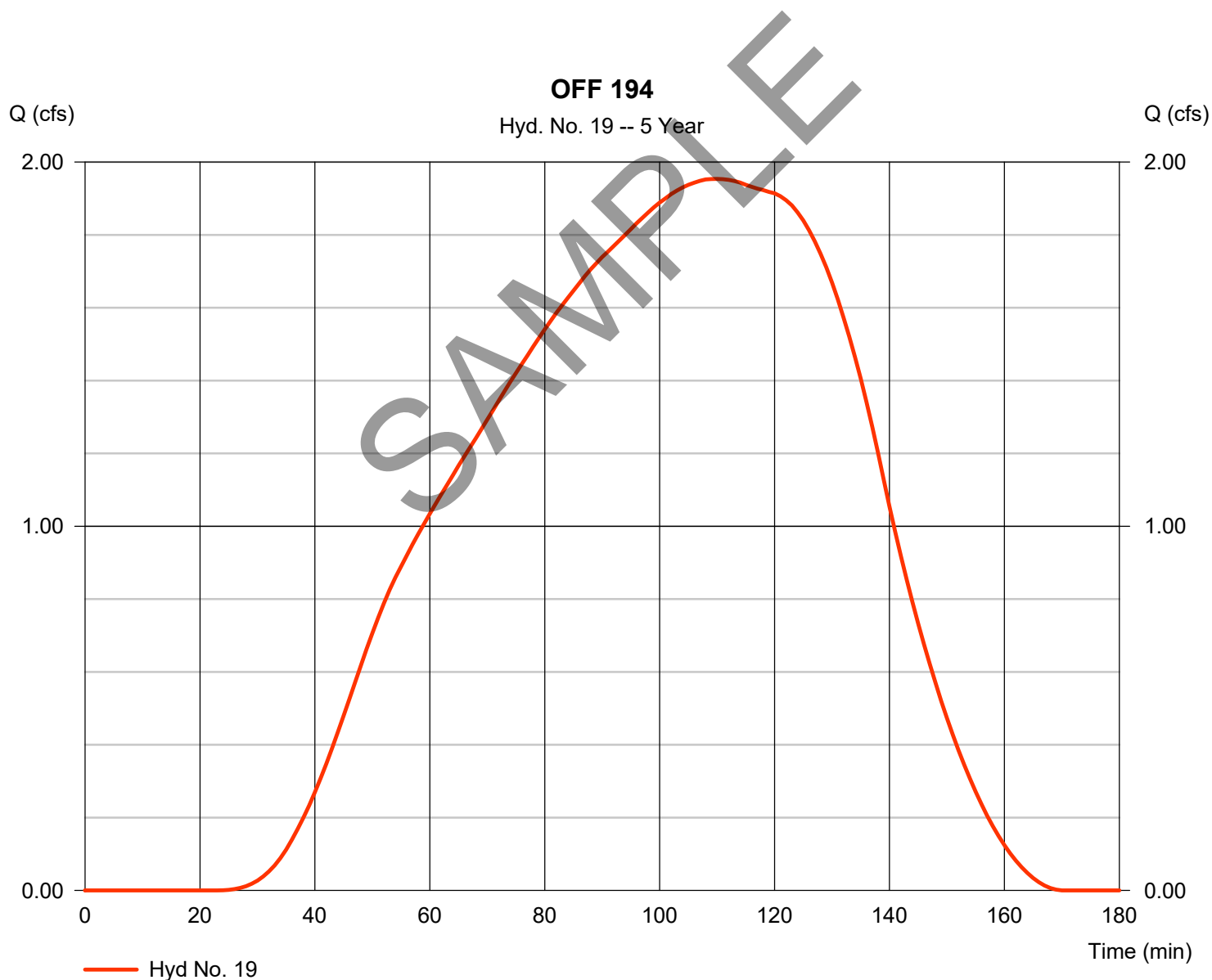
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Tuesday, 03 / 19 / 2019

Hyd. No. 19

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.954 cfs
Storm frequency	= 5 yrs	Time to peak	= 110 min
Time interval	= 1 min	Hyd. volume	= 9,414 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

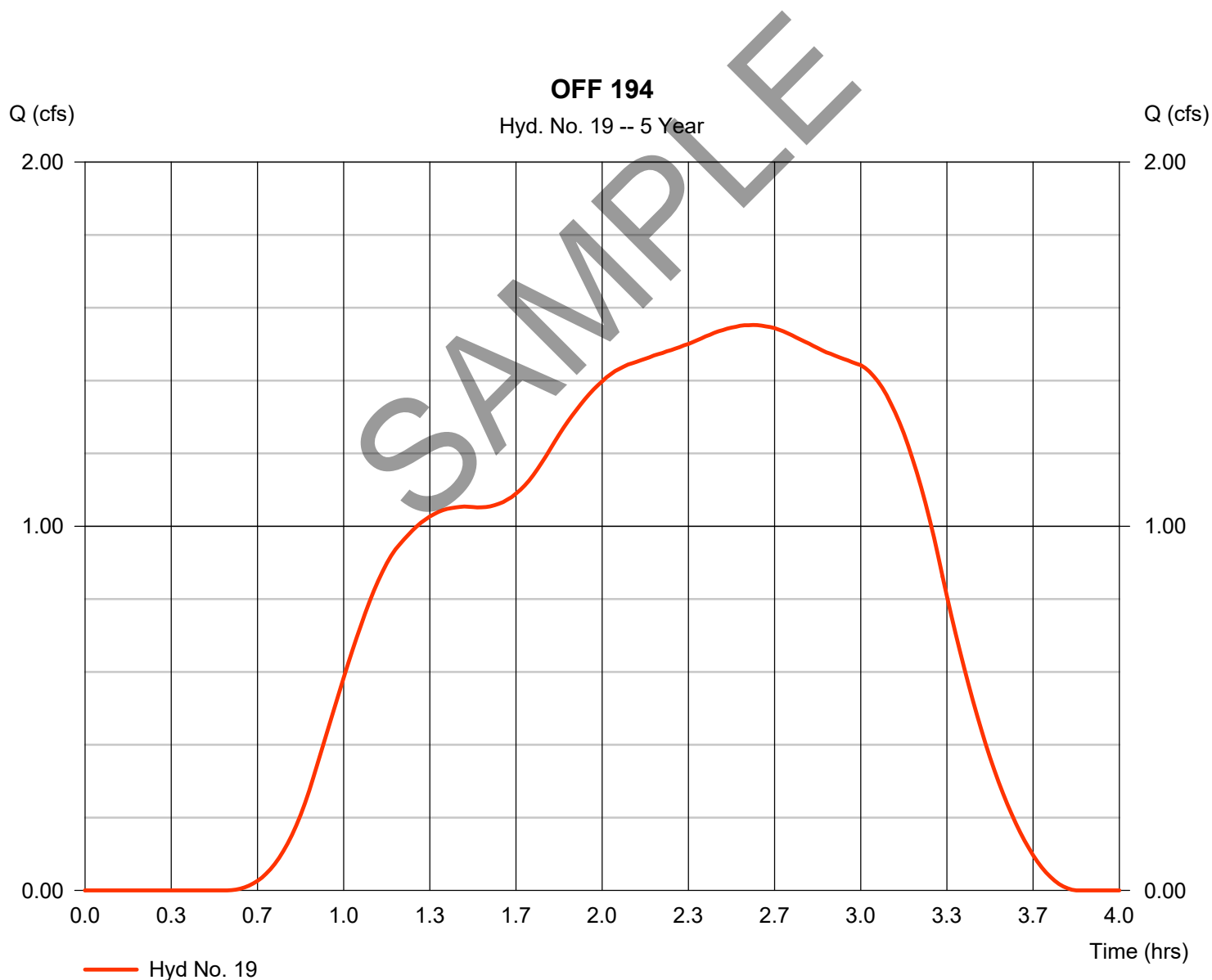
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 19

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.552 cfs
Storm frequency	= 5 yrs	Time to peak	= 2.58 hrs
Time interval	= 1 min	Hyd. volume	= 11,424 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

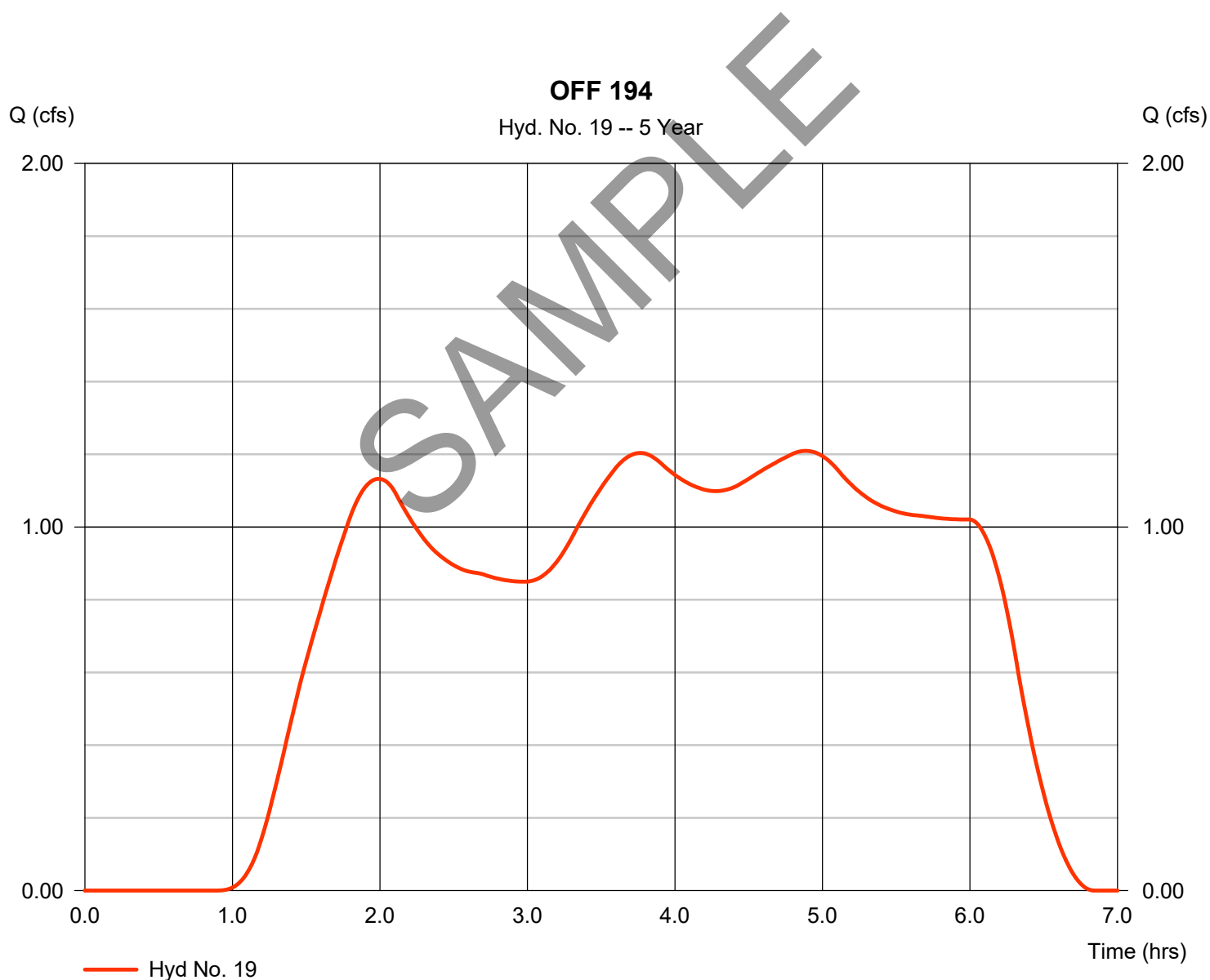
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 19

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.209 cfs
Storm frequency	= 5 yrs	Time to peak	= 4.88 hrs
Time interval	= 1 min	Hyd. volume	= 18,730 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

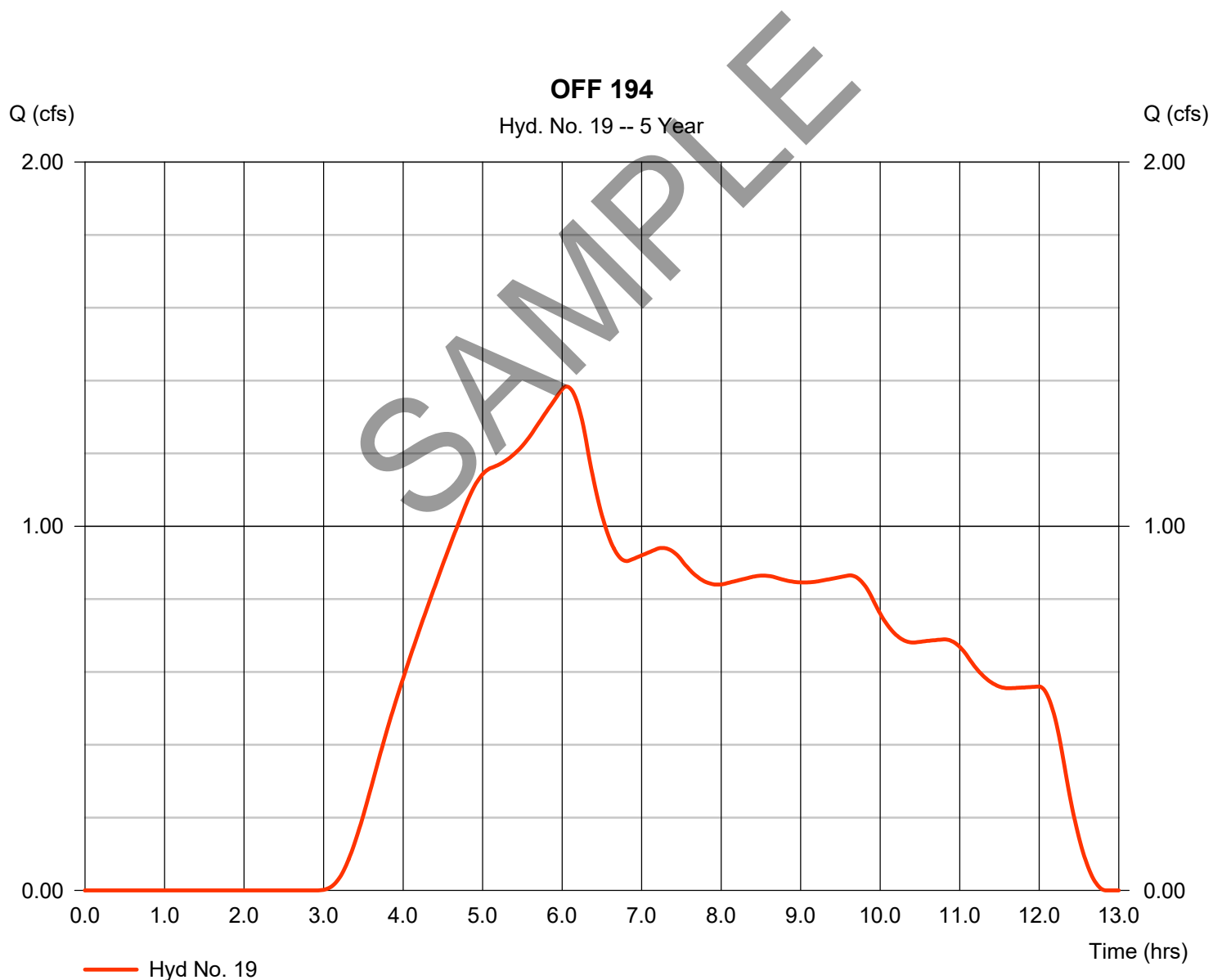
Tuesday, 03 / 19 / 2019

Hyd. No. 19

OFF 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 8.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 1.384 cfs
Time to peak = 6.05 hrs
Hyd. volume = 27,136 cuft
Curve number = 71
Hydraulic length = 0 ft
Time of conc. (Tc) = 31.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

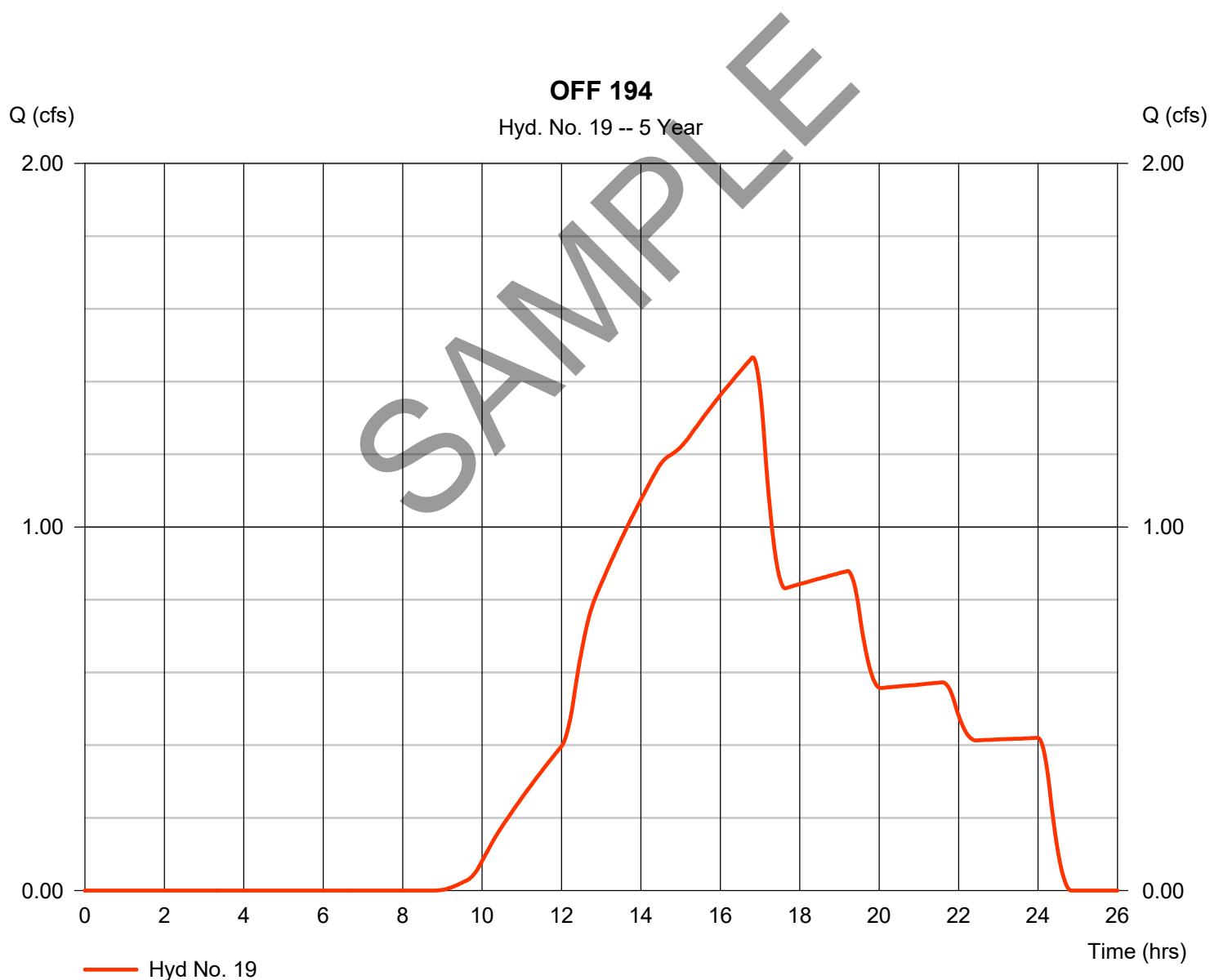
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 19

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.466 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.82 hrs
Time interval	= 1 min	Hyd. volume	= 38,441 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484

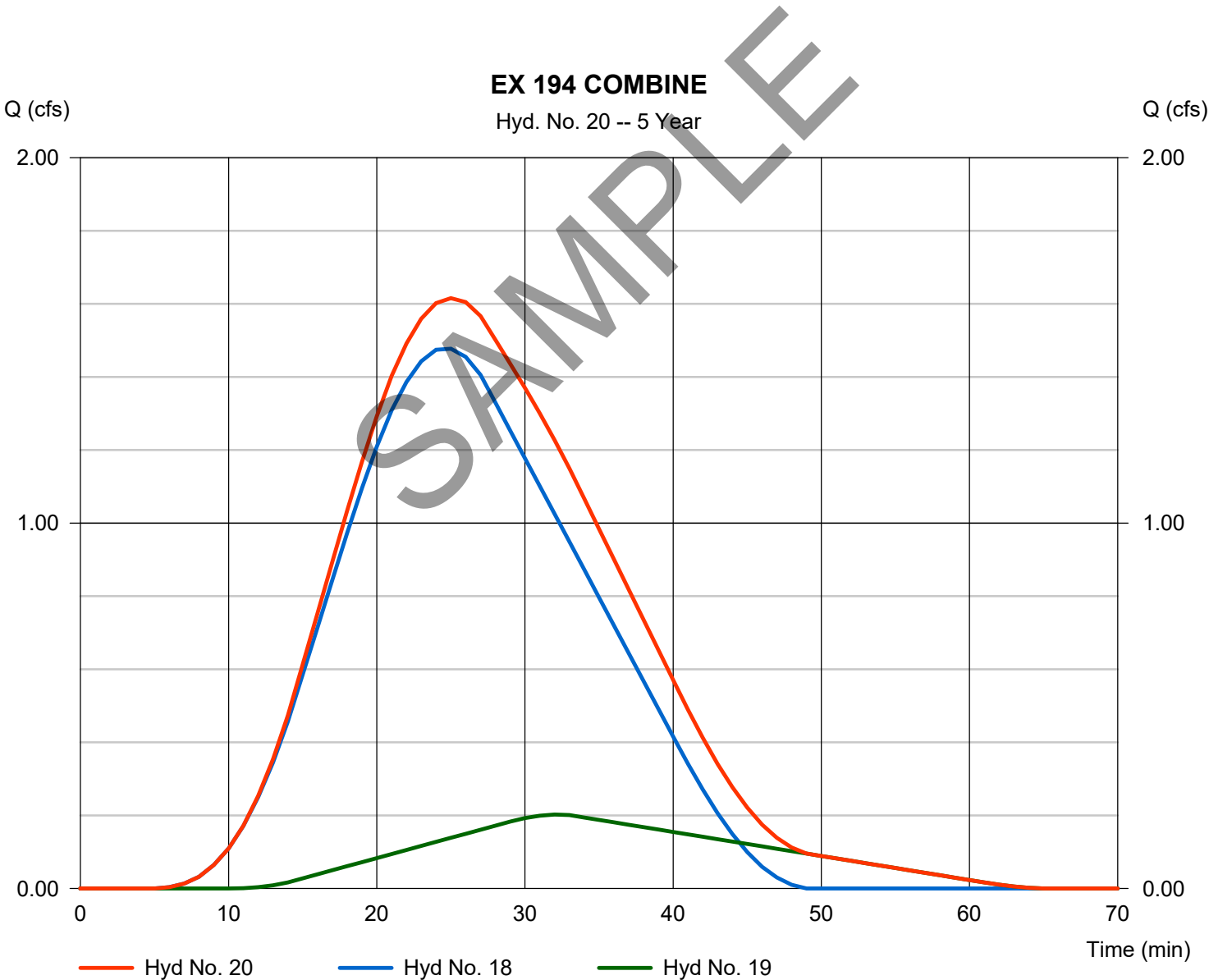


Hydrograph Report

Hyd. No. 20

EX 194 COMBINE

Hydrograph type	= Combine	Peak discharge	= 1.616 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 2,082 cuft
Inflow hyds.	= 18, 19	Contrib. drain. area	= 15.700 ac



Hydrograph Report

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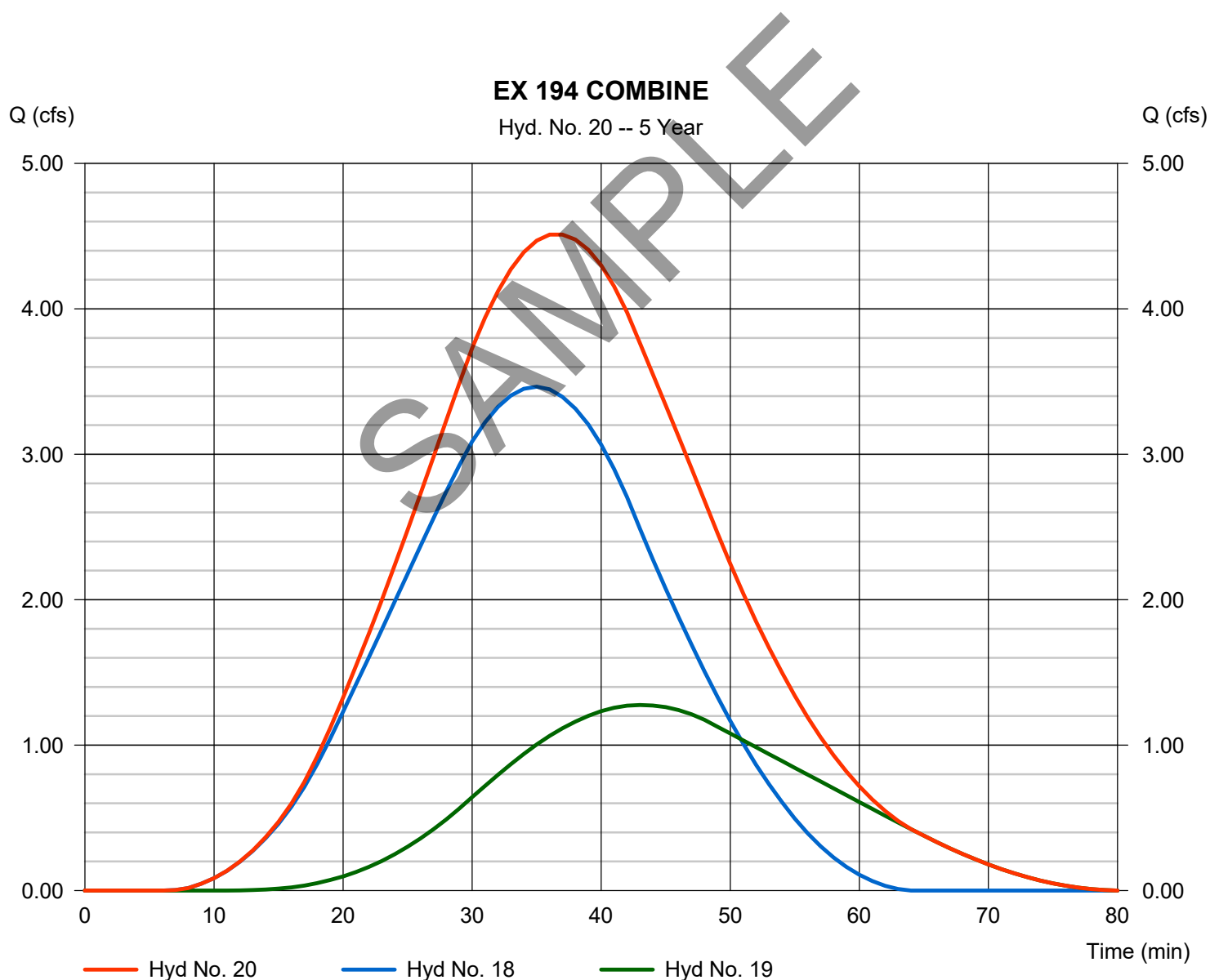
Tuesday, 03 / 19 / 2019

Hyd. No. 20

EX 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 18, 19

Peak discharge = 4.511 cfs
Time to peak = 37 min
Hyd. volume = 7,528 cuft
Contrib. drain. area = 15.700 ac



Hydrograph Report

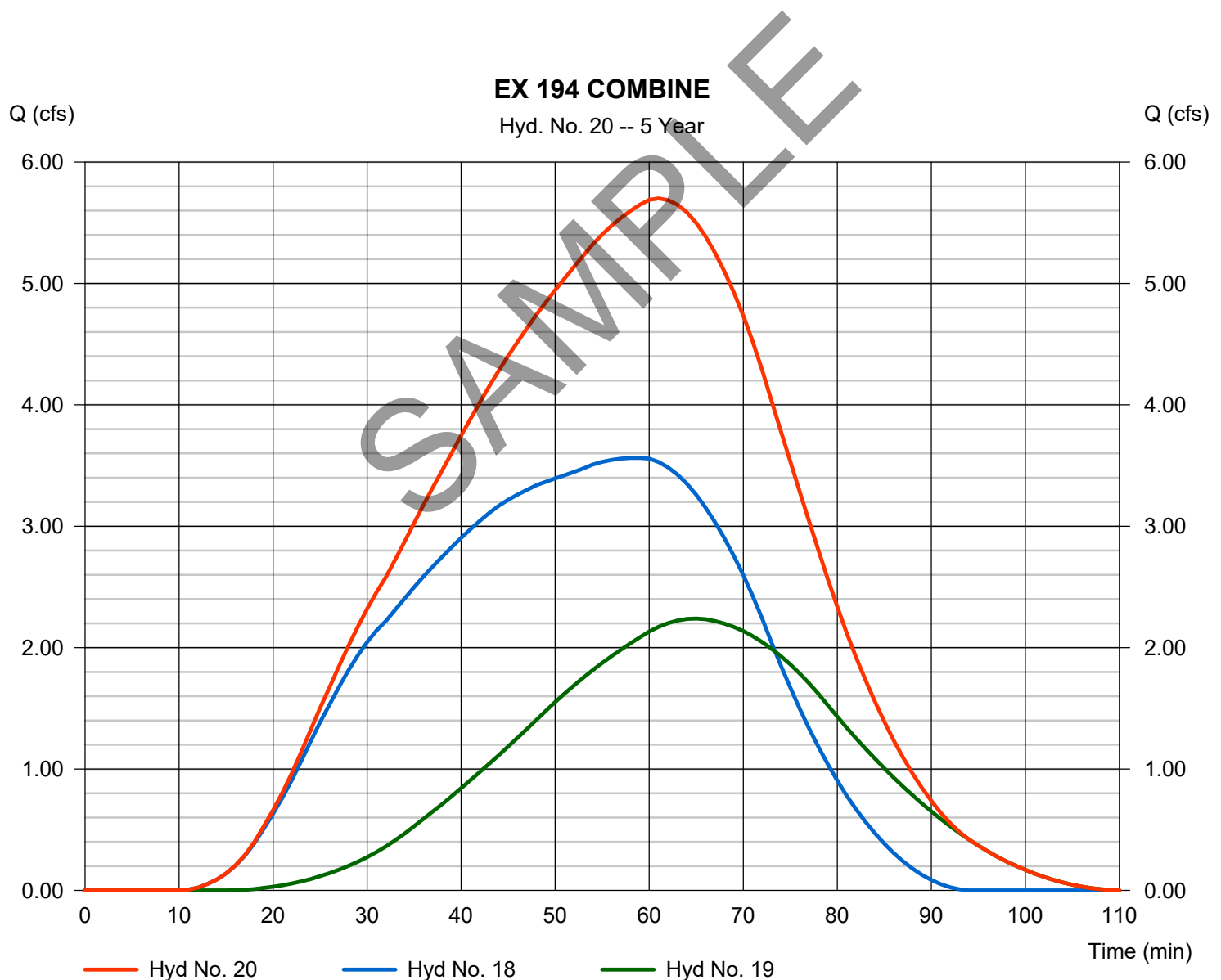
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Tuesday, 03 / 19 / 2019

Hyd. No. 20

EX 194 COMBINE

Hydrograph type	= Combine	Peak discharge	= 5.700 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 61 min
Time interval	= 1 min	Hyd. volume	= 15,190 cuft
Inflow hyds.	= 18, 19	Contrib. drain. area	= 15.700 ac



Hydrograph Report

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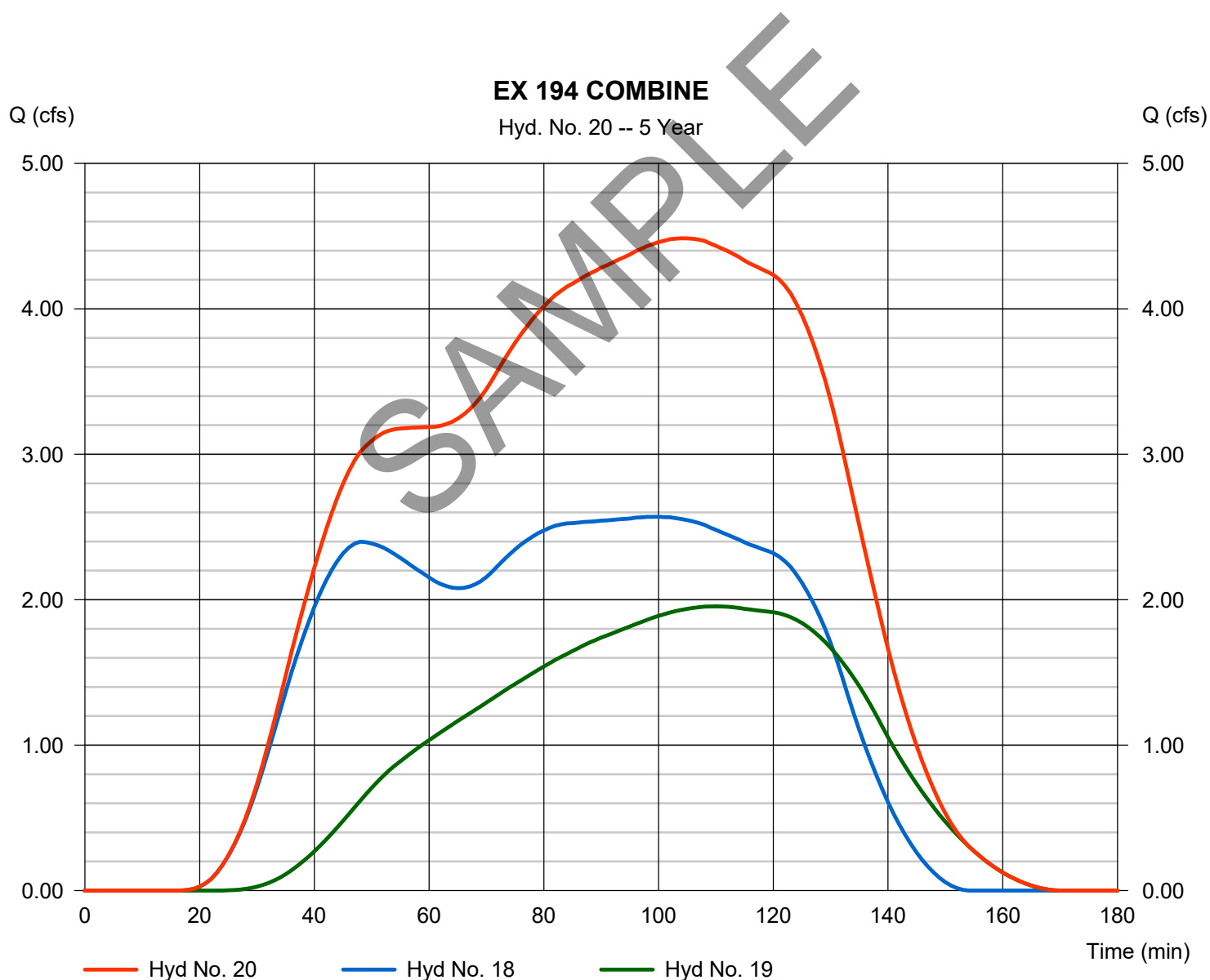
Tuesday, 03 / 19 / 2019

Hyd. No. 20

EX 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 18, 19

Peak discharge = 4.485 cfs
Time to peak = 104 min
Hyd. volume = 23,901 cuft
Contrib. drain. area = 15.700 ac



Hydrograph Report

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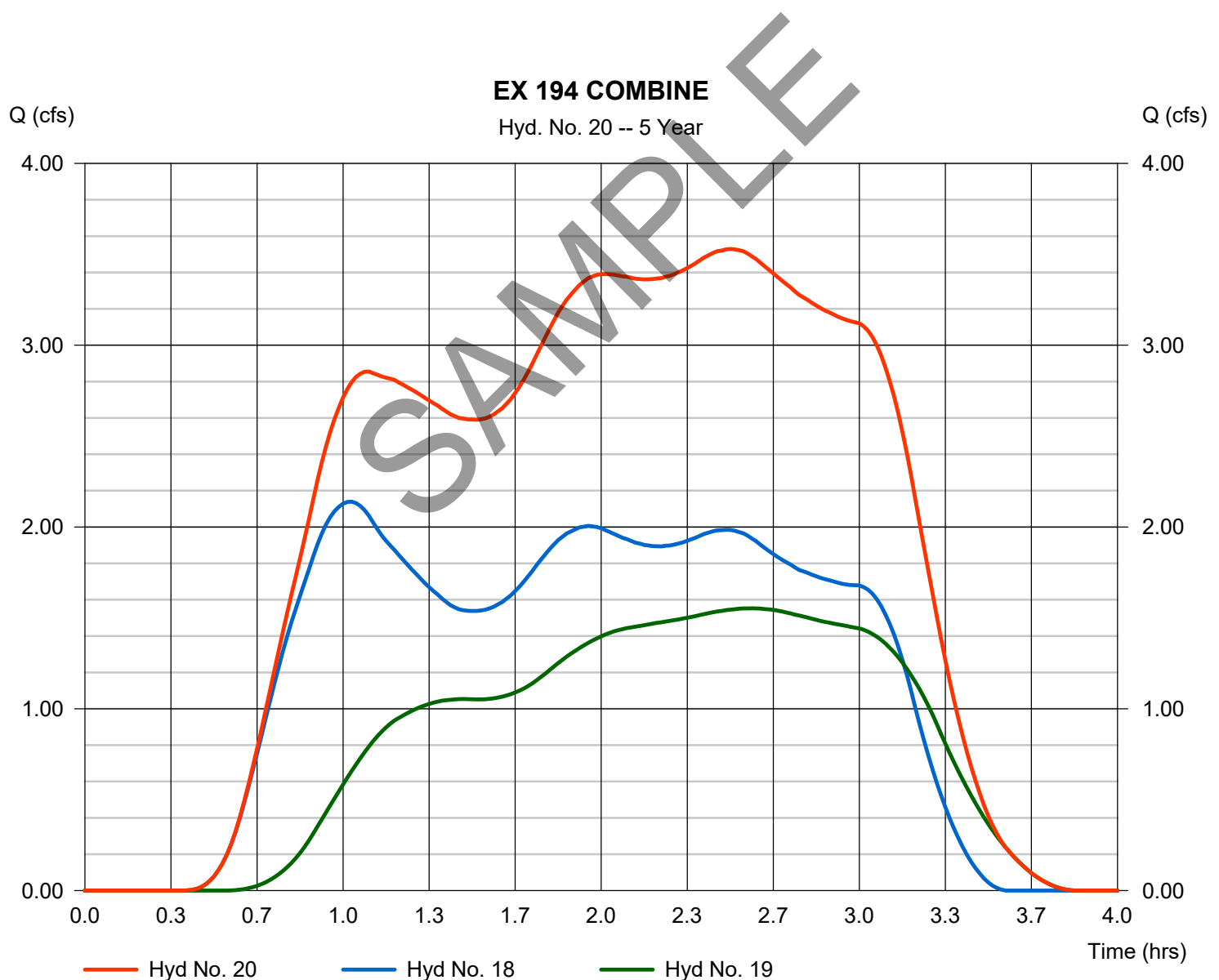
Tuesday, 03 / 19 / 2019

Hyd. No. 20

EX 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 3 hr
Time interval = 1 min
Inflow hyds. = 18, 19

Peak discharge = 3.529 cfs
Time to peak = 2.50 hrs
Hyd. volume = 28,297 cuft
Contrib. drain. area = 15.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

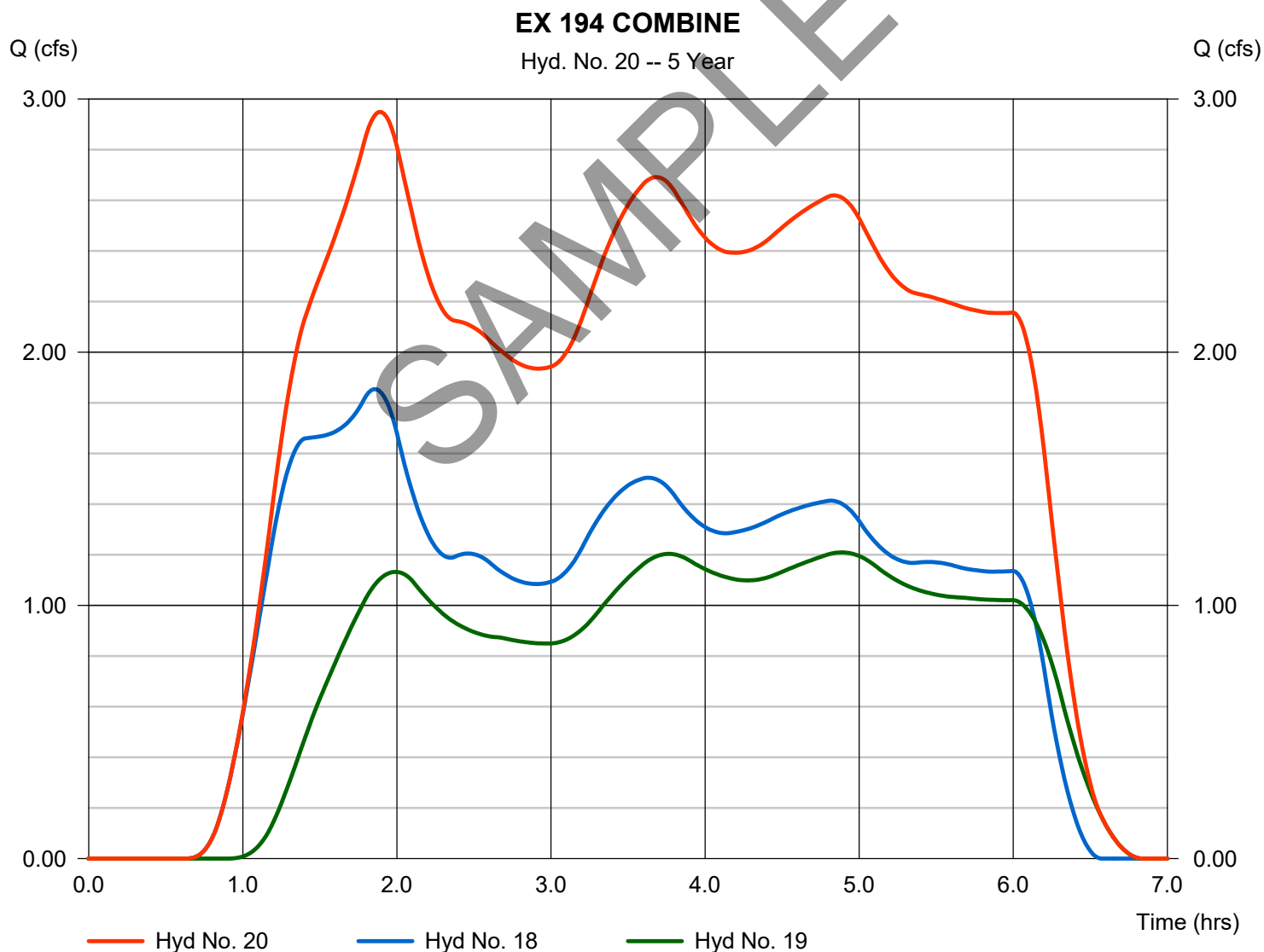
Tuesday, 03 / 19 / 2019

Hyd. No. 20

EX 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 6 hr
Time interval = 1 min
Inflow hyds. = 18, 19

Peak discharge = 2.949 cfs
Time to peak = 1.88 hrs
Hyd. volume = 43,899 cuft
Contrib. drain. area = 15.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

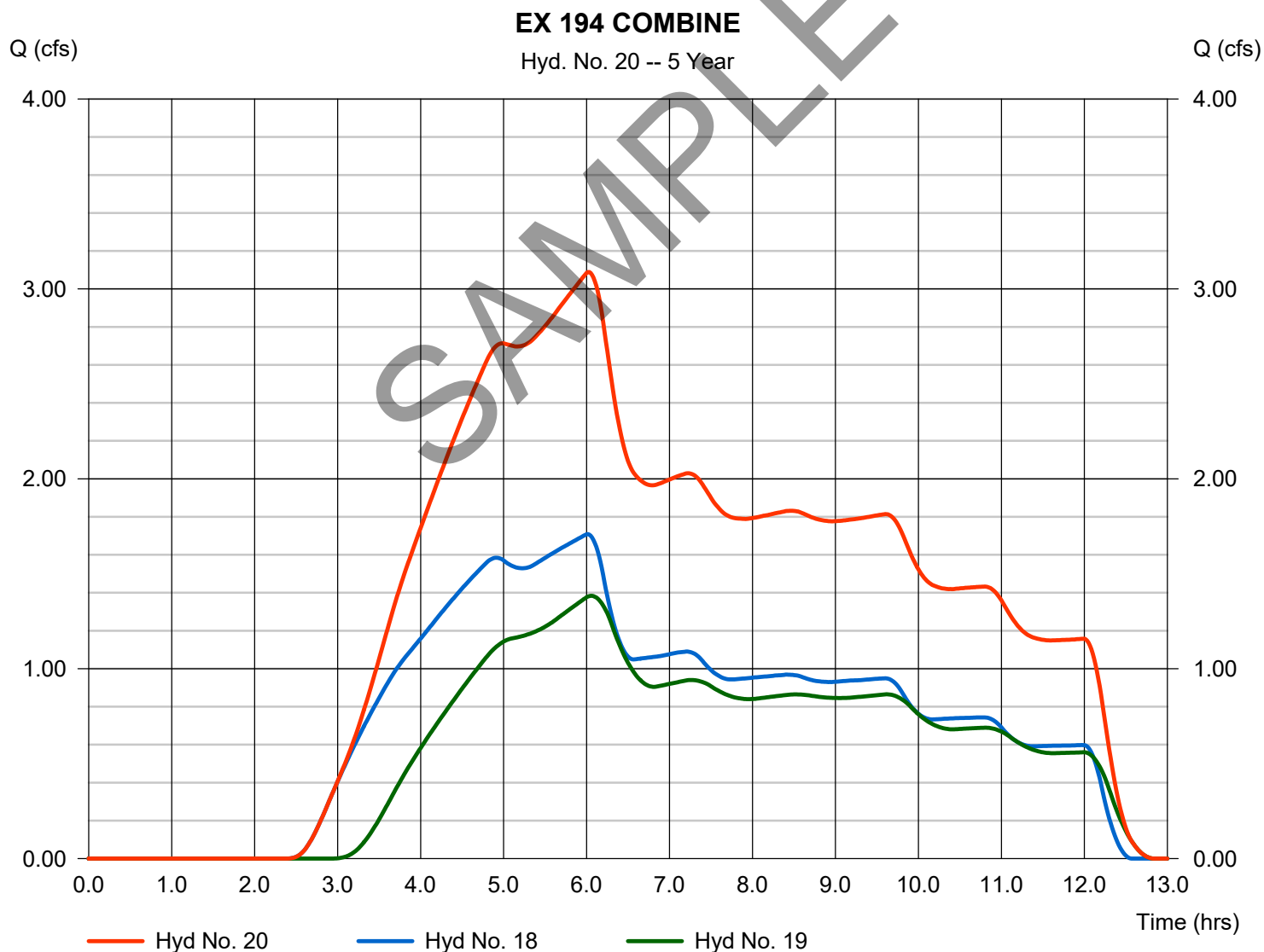
Tuesday, 03 / 19 / 2019

Hyd. No. 20

EX 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 12 hr
Time interval = 1 min
Inflow hyds. = 18, 19

Peak discharge = 3.089 cfs
Time to peak = 6.02 hrs
Hyd. volume = 61,399 cuft
Contrib. drain. area = 15.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

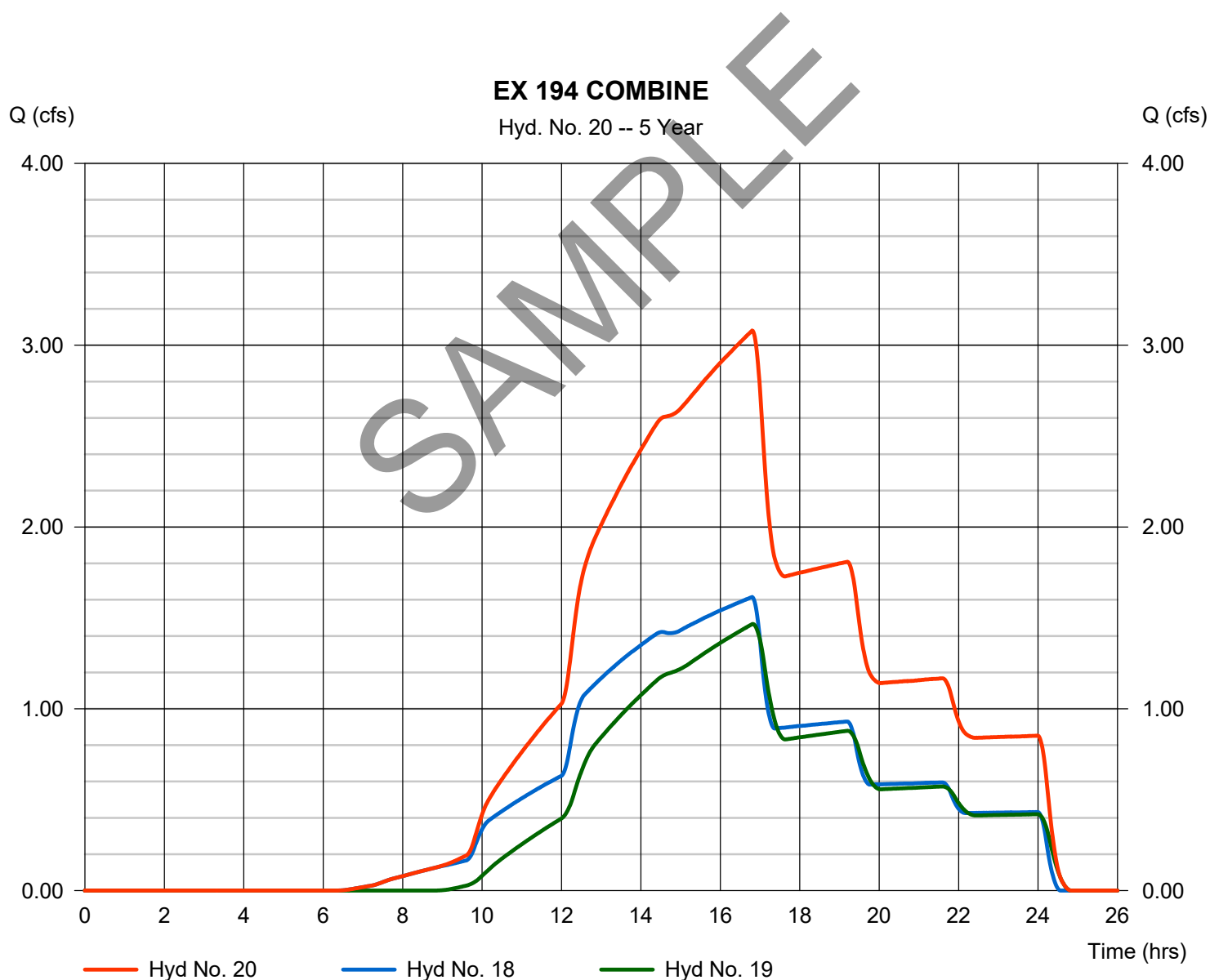
Tuesday, 03 / 19 / 2019

Hyd. No. 20

EX 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 24 hr
Time interval = 1 min
Inflow hyds. = 18, 19

Peak discharge = 3.080 cfs
Time to peak = 16.80 hrs
Hyd. volume = 84,487 cuft
Contrib. drain. area = 15.700 ac



Hydrograph Report

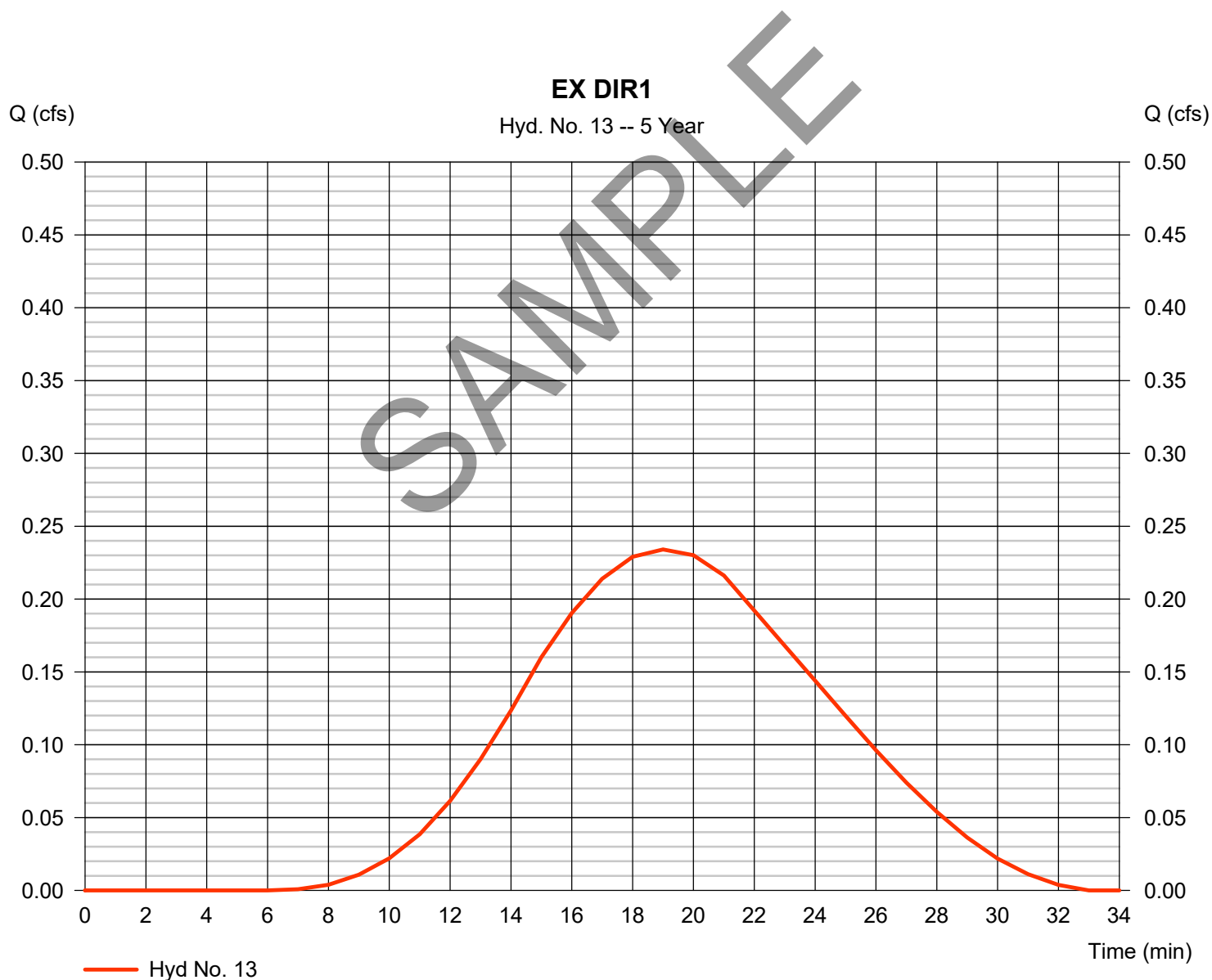
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Tuesday, 03 / 19 / 2019

Hyd. No. 13

EX DIR1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.234 cfs
Storm frequency	= 5 yrs	Time to peak	= 19 min
Time interval	= 1 min	Hyd. volume	= 165 cuft
Drainage area	= 1.000 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

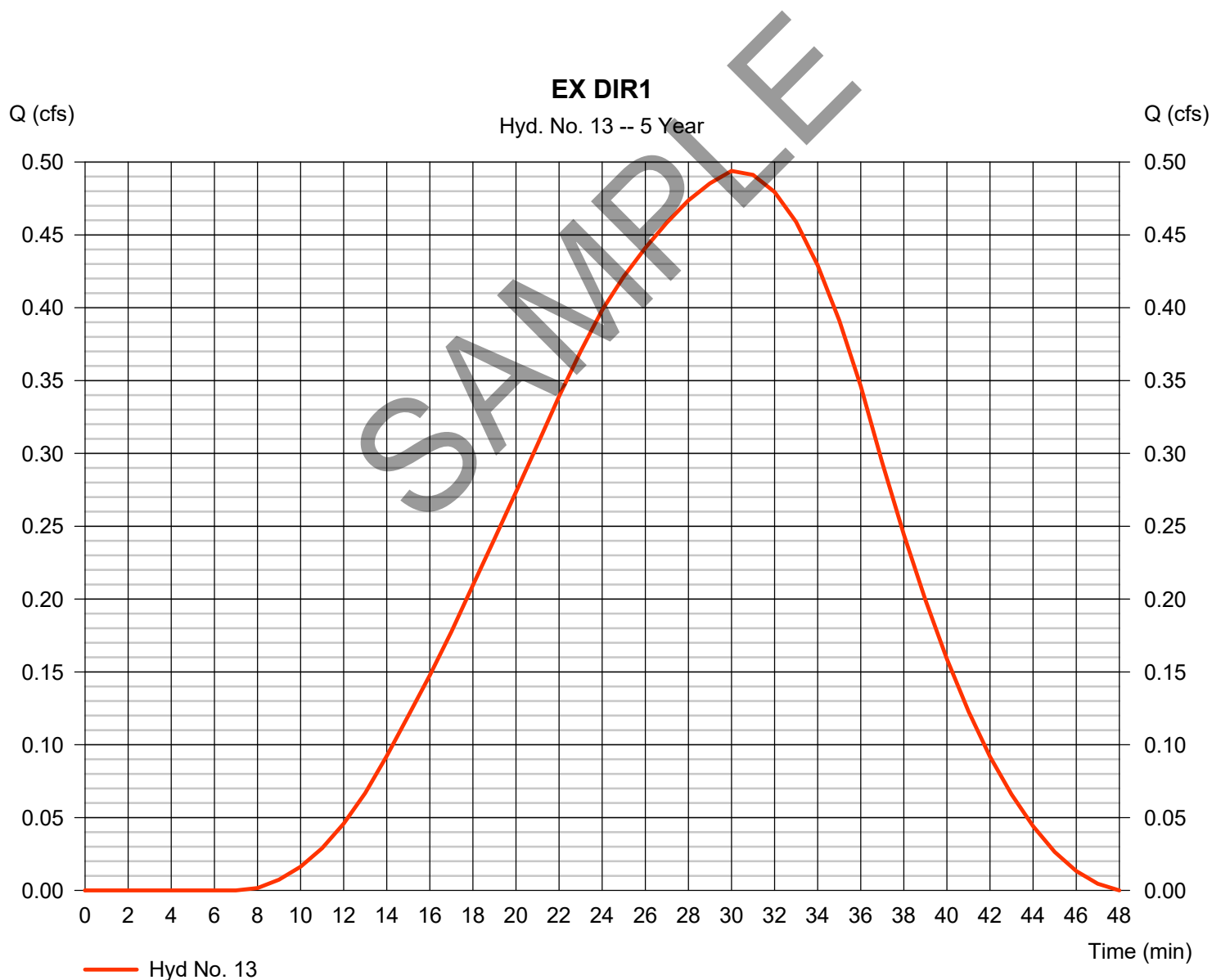
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Tuesday, 03 / 19 / 2019

Hyd. No. 13

EX DIR1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.494 cfs
Storm frequency	= 5 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 569 cuft
Drainage area	= 1.000 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

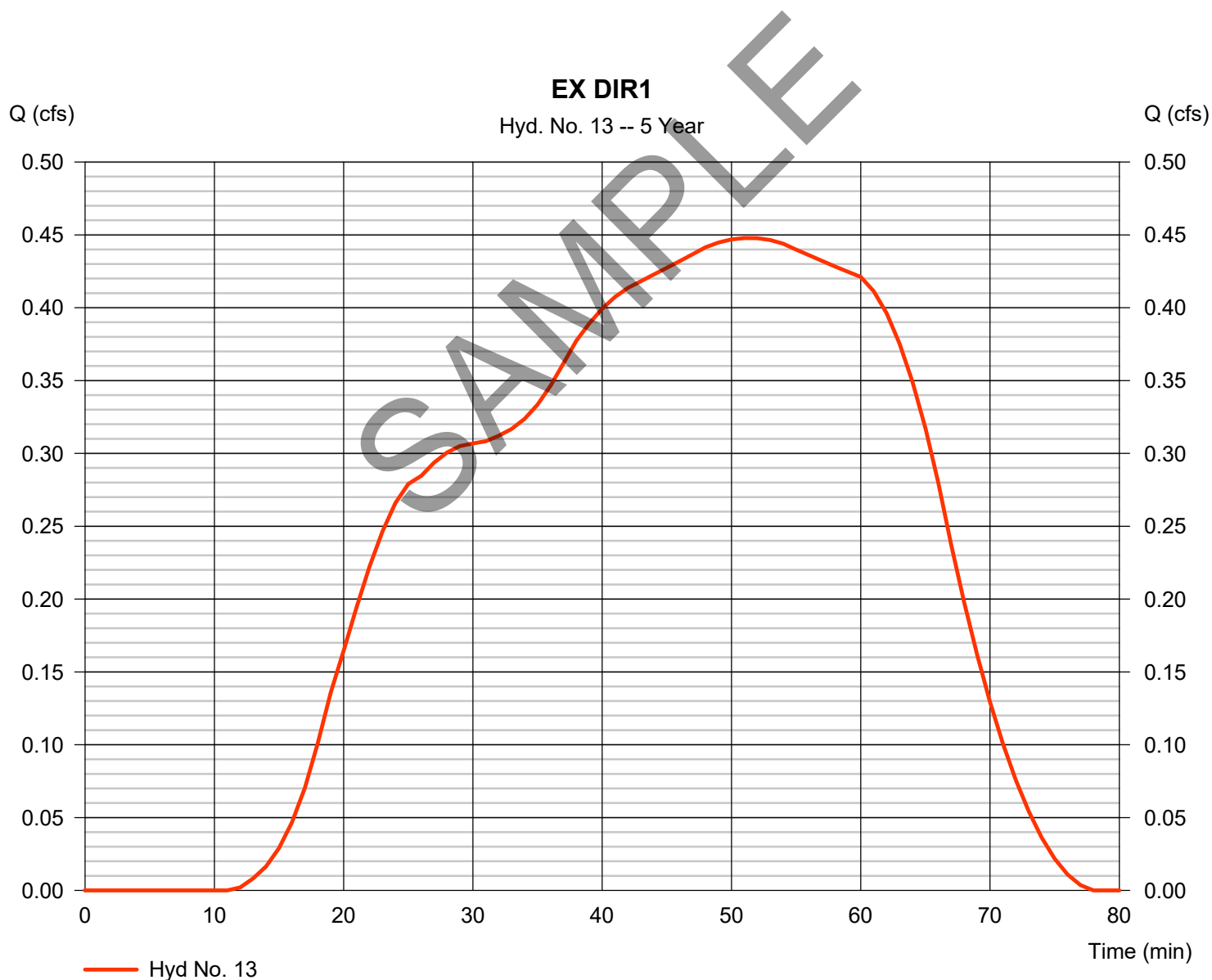
Tuesday, 03 / 19 / 2019

Hyd. No. 13

EX DIR1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.448 cfs
Time to peak = 51 min
Hyd. volume = 1,114 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

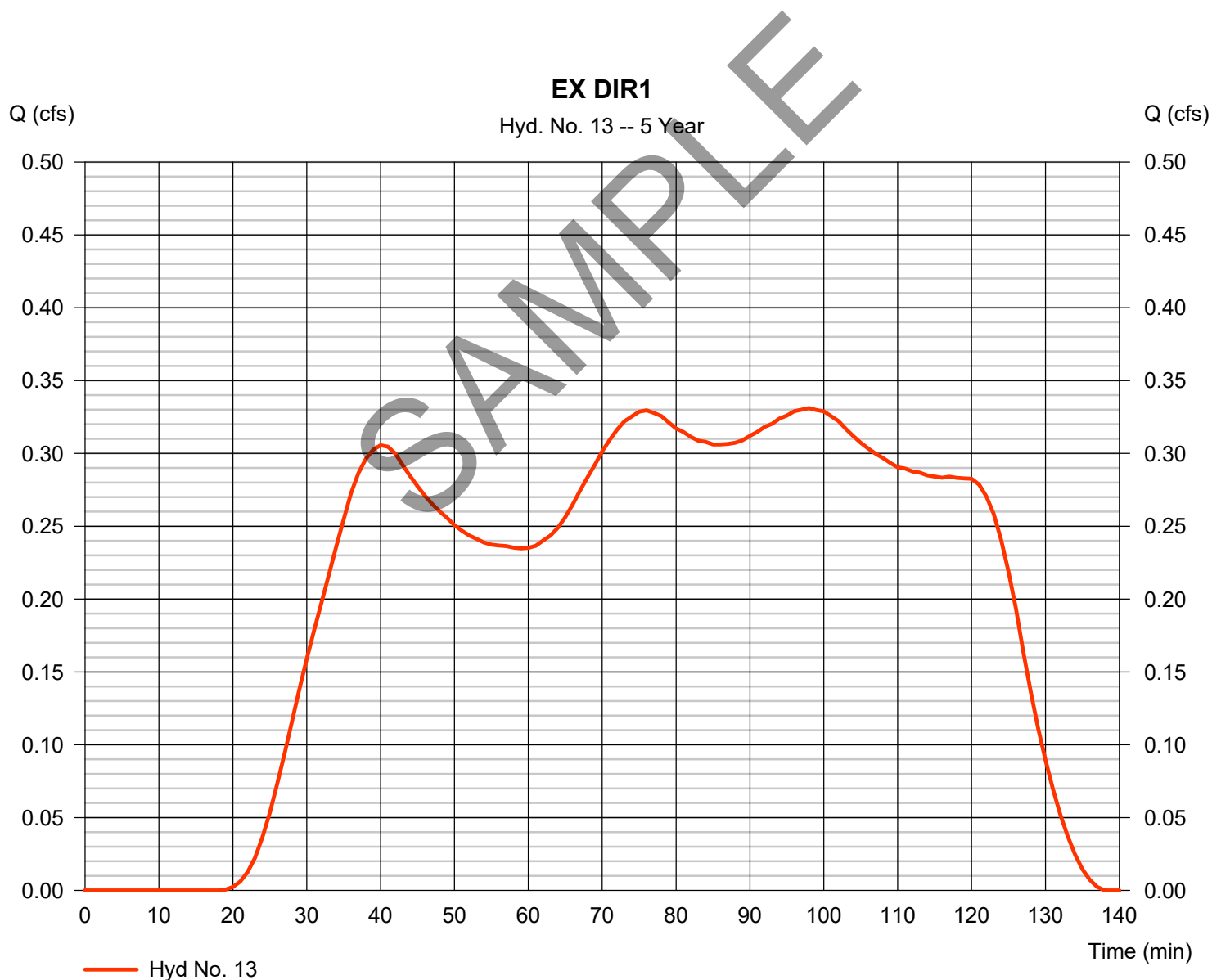
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Tuesday, 03 / 19 / 2019

Hyd. No. 13

EX DIR1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.331 cfs
Storm frequency	= 5 yrs	Time to peak	= 98 min
Time interval	= 1 min	Hyd. volume	= 1,722 cuft
Drainage area	= 1.000 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

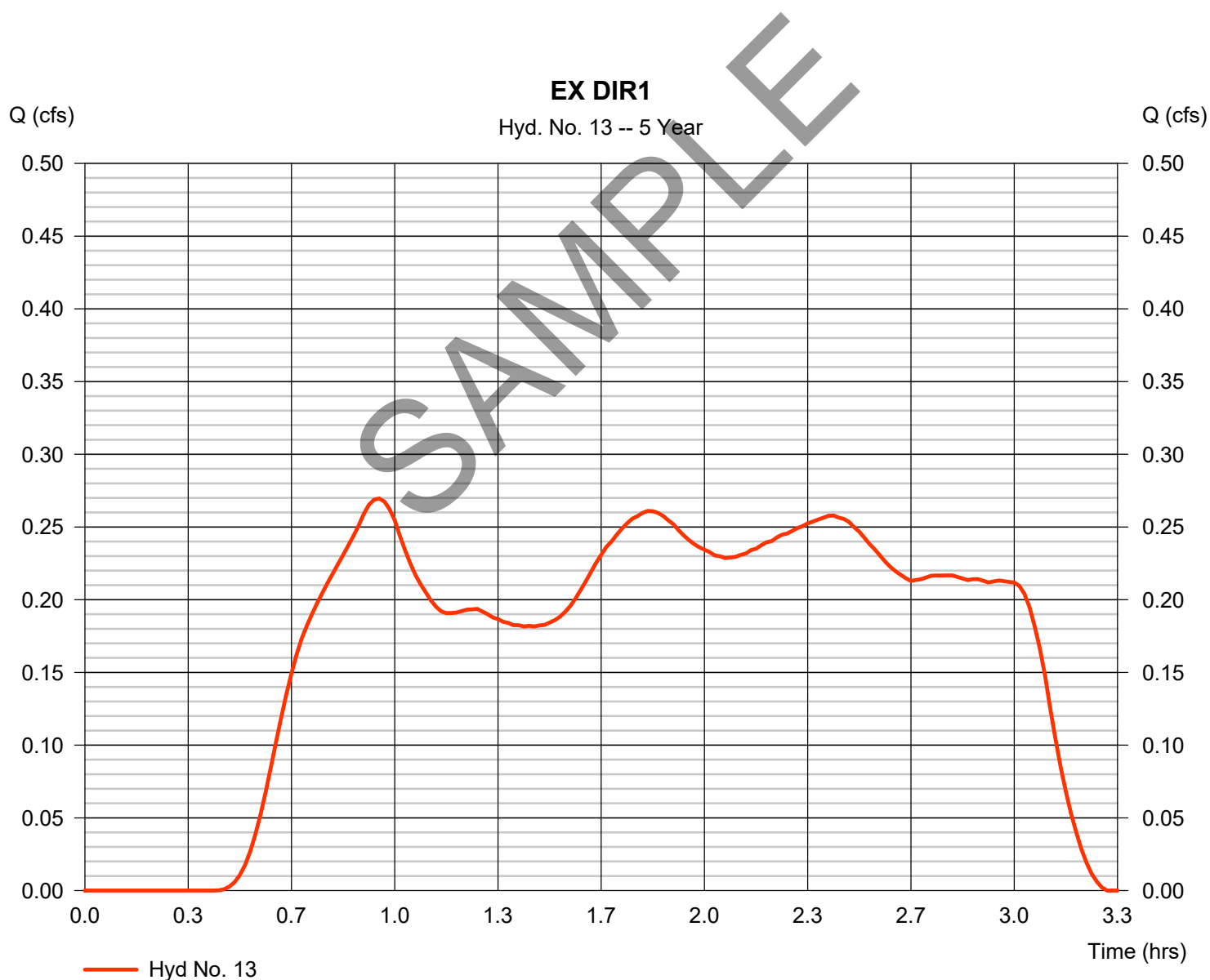
Tuesday, 03 / 19 / 2019

Hyd. No. 13

EX DIR1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.270 cfs
Time to peak = 0.95 hrs
Hyd. volume = 2,026 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

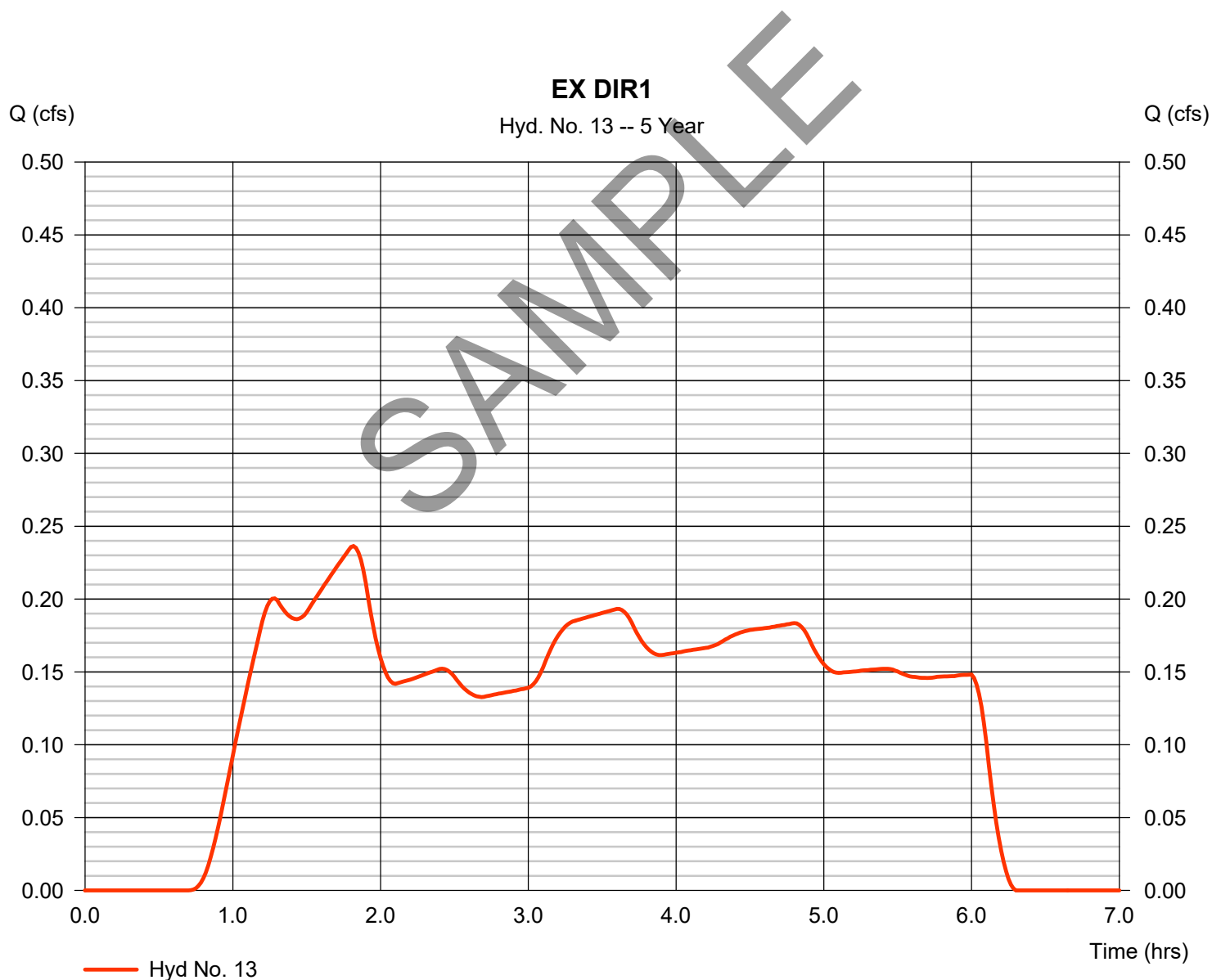
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Tuesday, 03 / 19 / 2019

Hyd. No. 13

EX DIR1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.236 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.82 hrs
Time interval	= 1 min	Hyd. volume	= 3,095 cuft
Drainage area	= 1.000 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

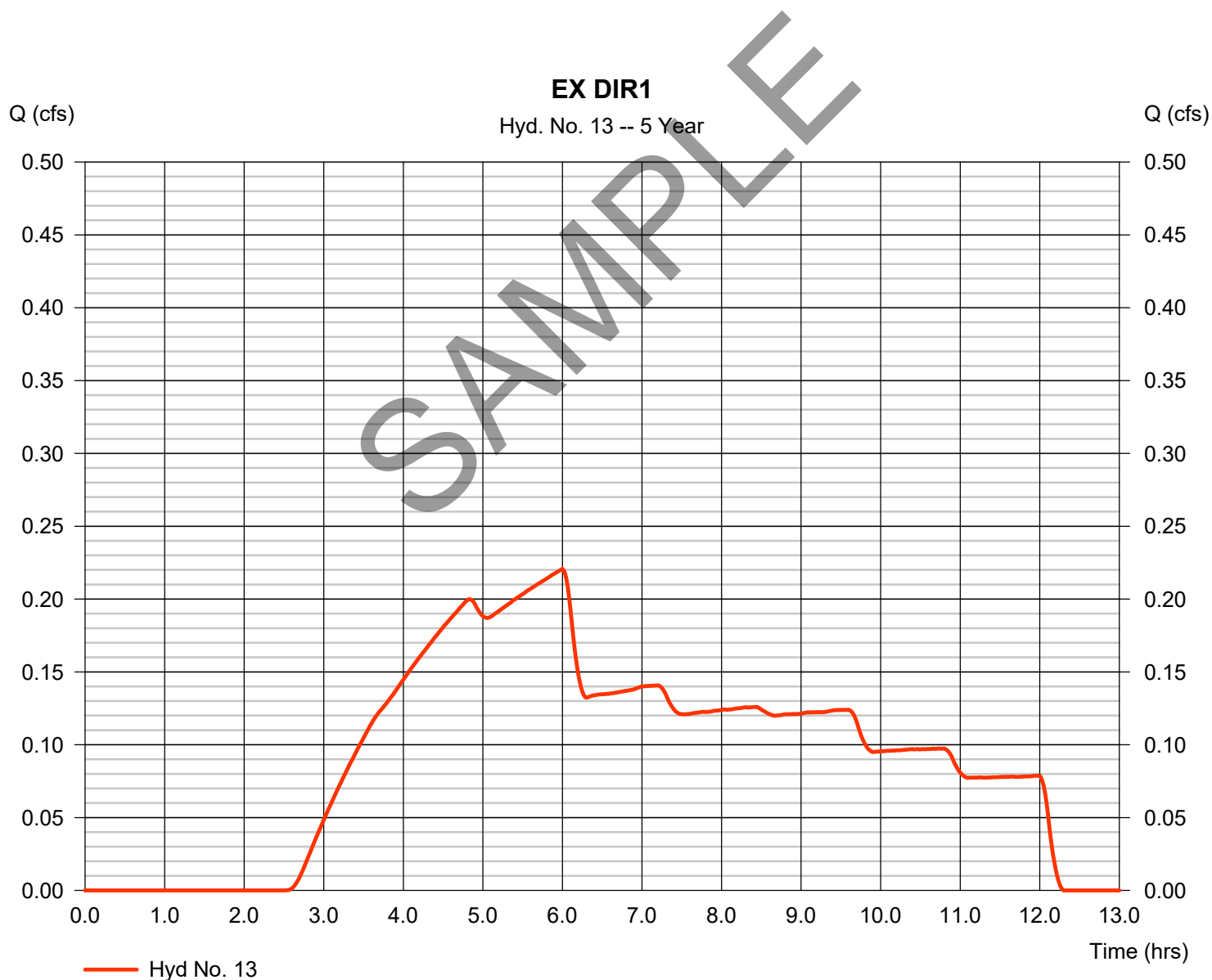
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Tuesday, 03 / 19 / 2019

Hyd. No. 13

EX DIR1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.221 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 4,282 cuft
Drainage area	= 1.000 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

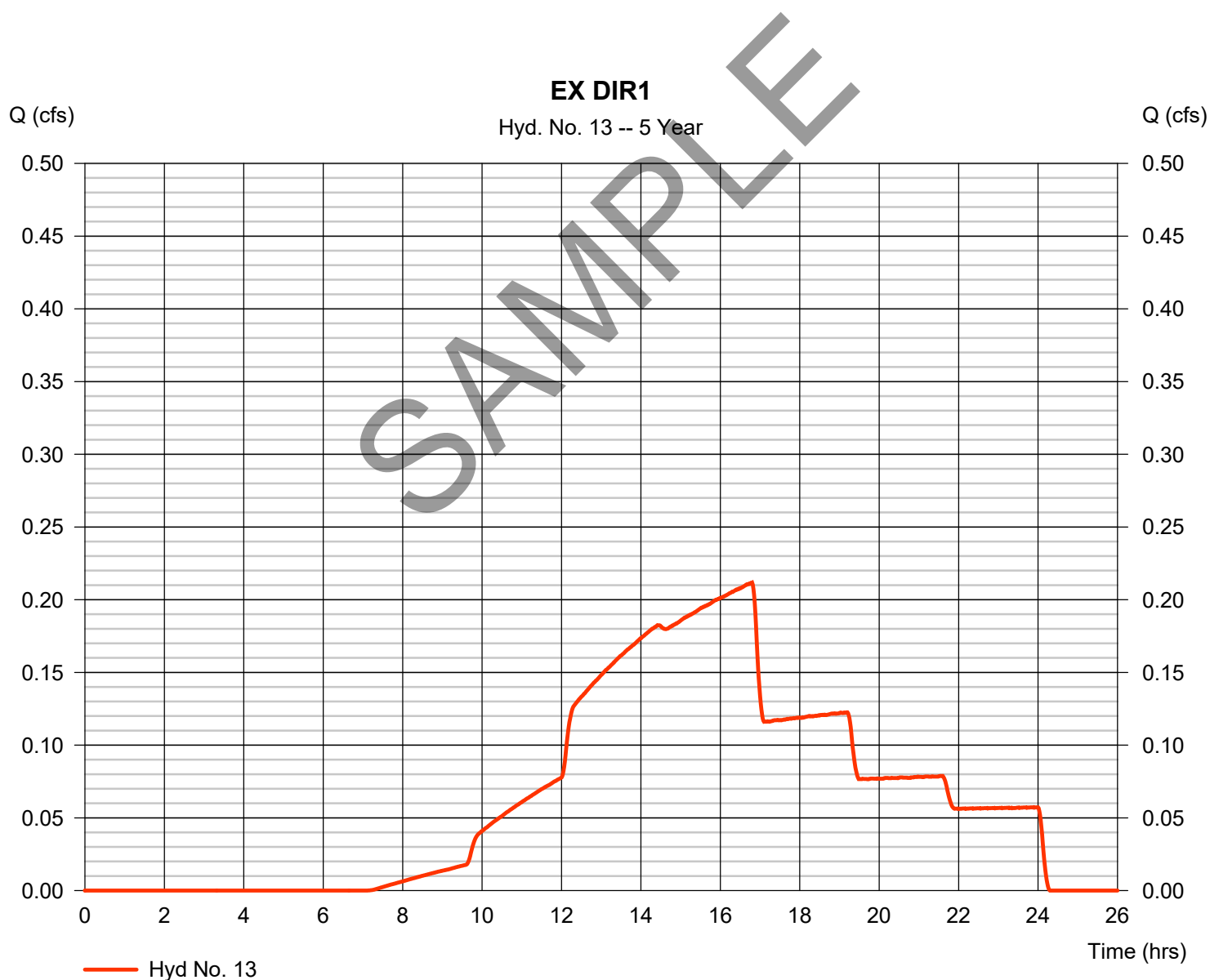
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Tuesday, 03 / 19 / 2019

Hyd. No. 13

EX DIR1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.212 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.80 hrs
Time interval	= 1 min	Hyd. volume	= 5,835 cuft
Drainage area	= 1.000 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

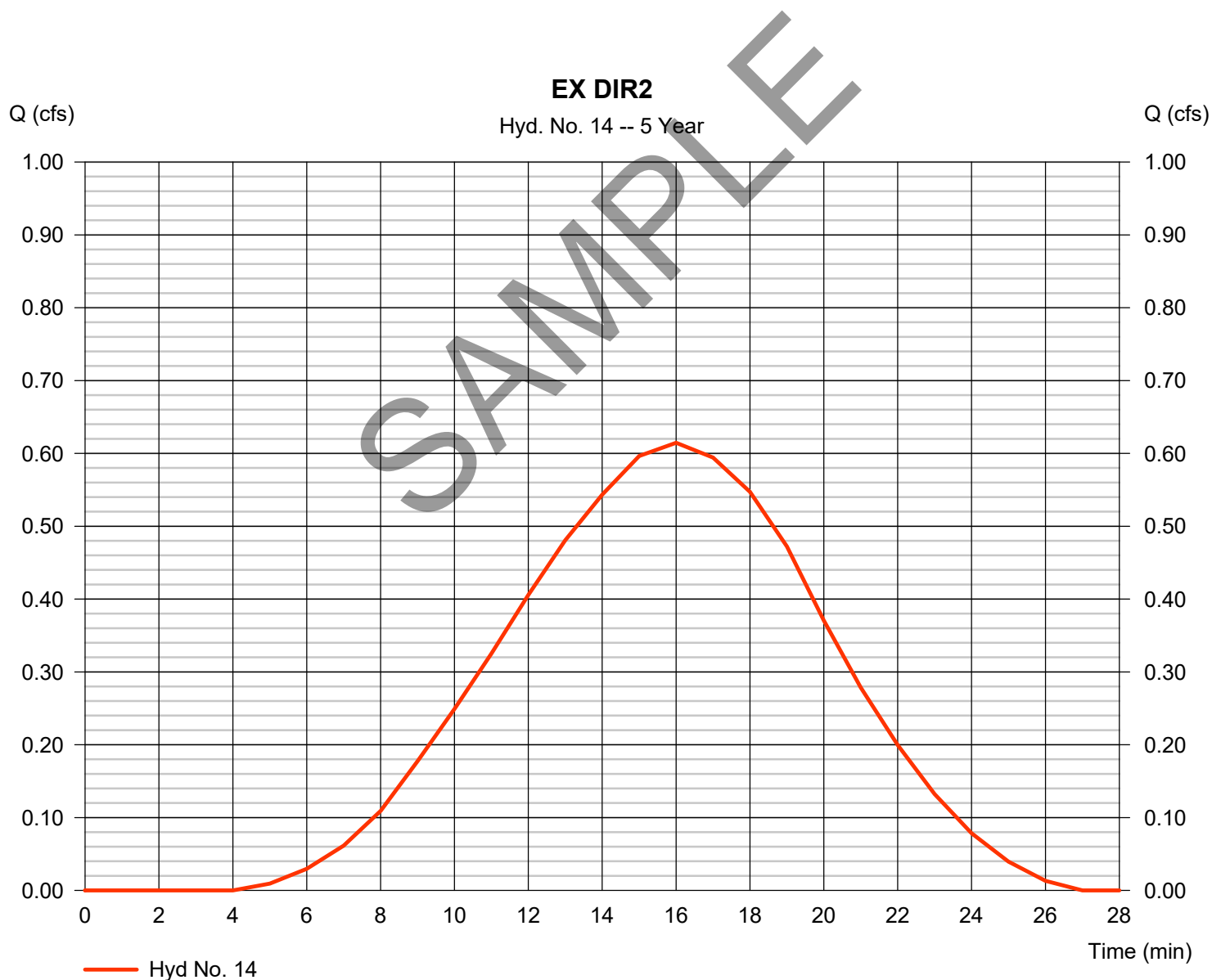
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Hyd. No. 14

EX DIR2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.615 cfs
Storm frequency	= 5 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 380 cuft
Drainage area	= 1.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

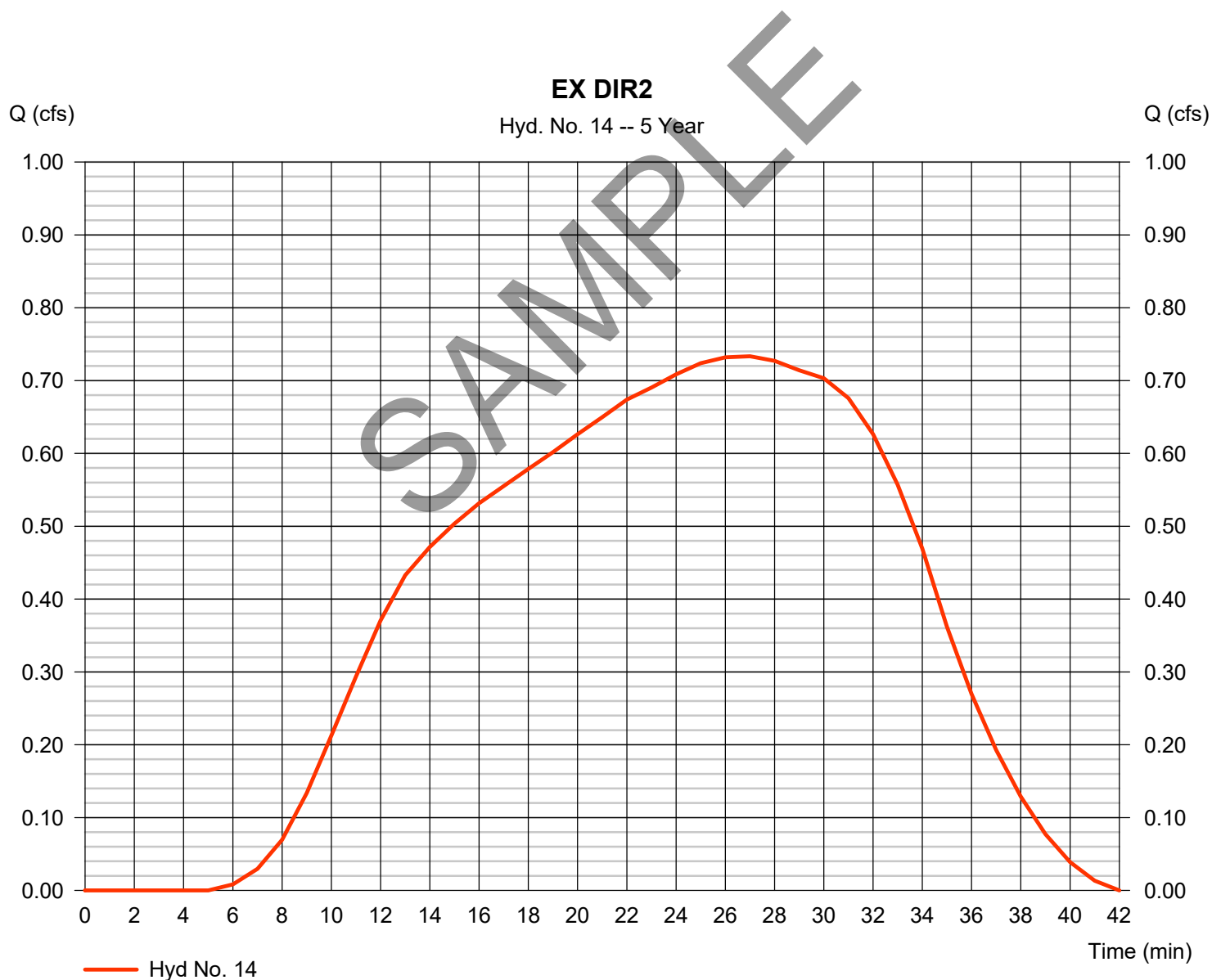
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Tuesday, 03 / 19 / 2019

Hyd. No. 14

EX DIR2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.733 cfs
Storm frequency	= 5 yrs	Time to peak	= 27 min
Time interval	= 1 min	Hyd. volume	= 953 cuft
Drainage area	= 1.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

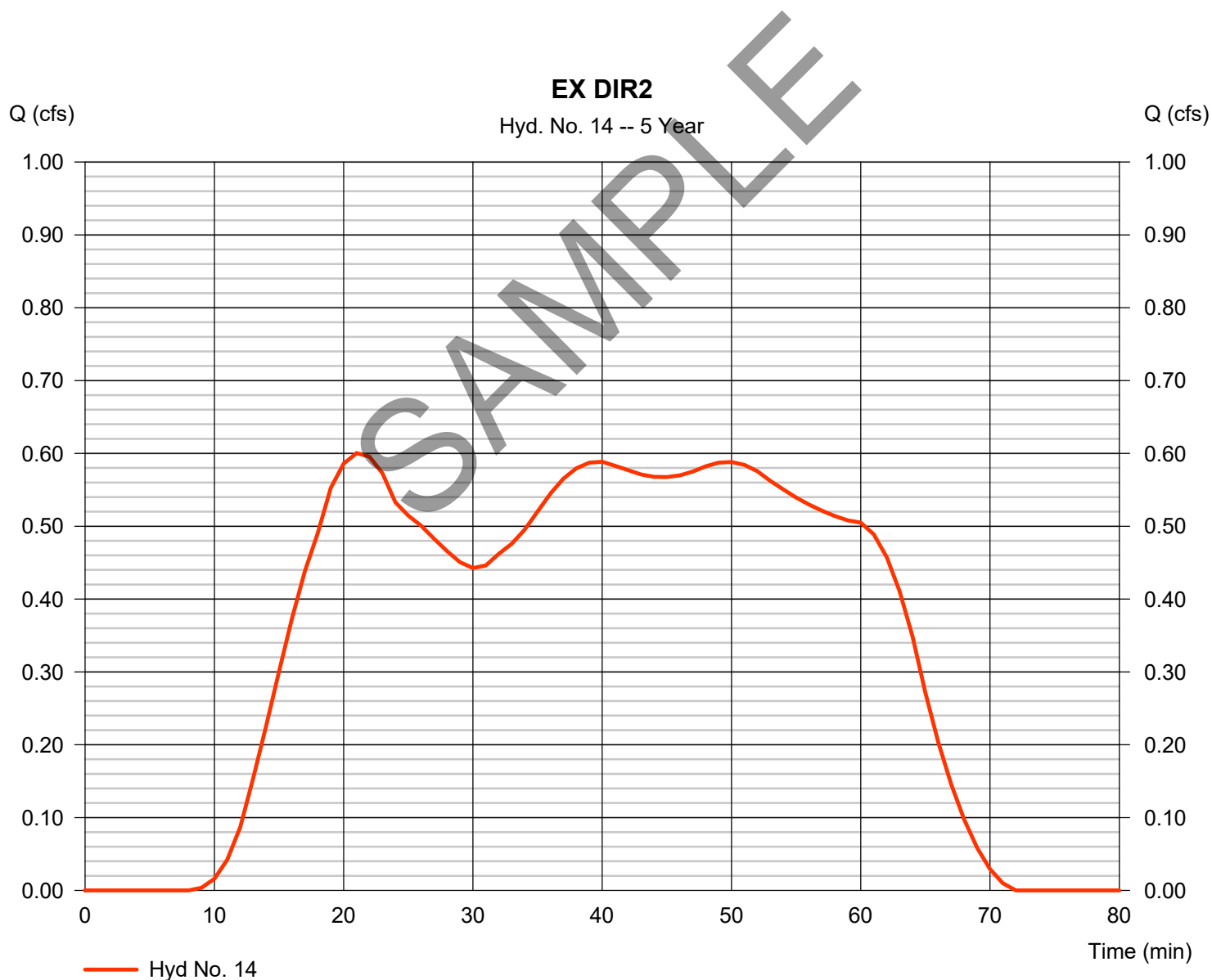
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Tuesday, 03 / 19 / 2019

Hyd. No. 14

EX DIR2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.600 cfs
Storm frequency	= 5 yrs	Time to peak	= 21 min
Time interval	= 1 min	Hyd. volume	= 1,642 cuft
Drainage area	= 1.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

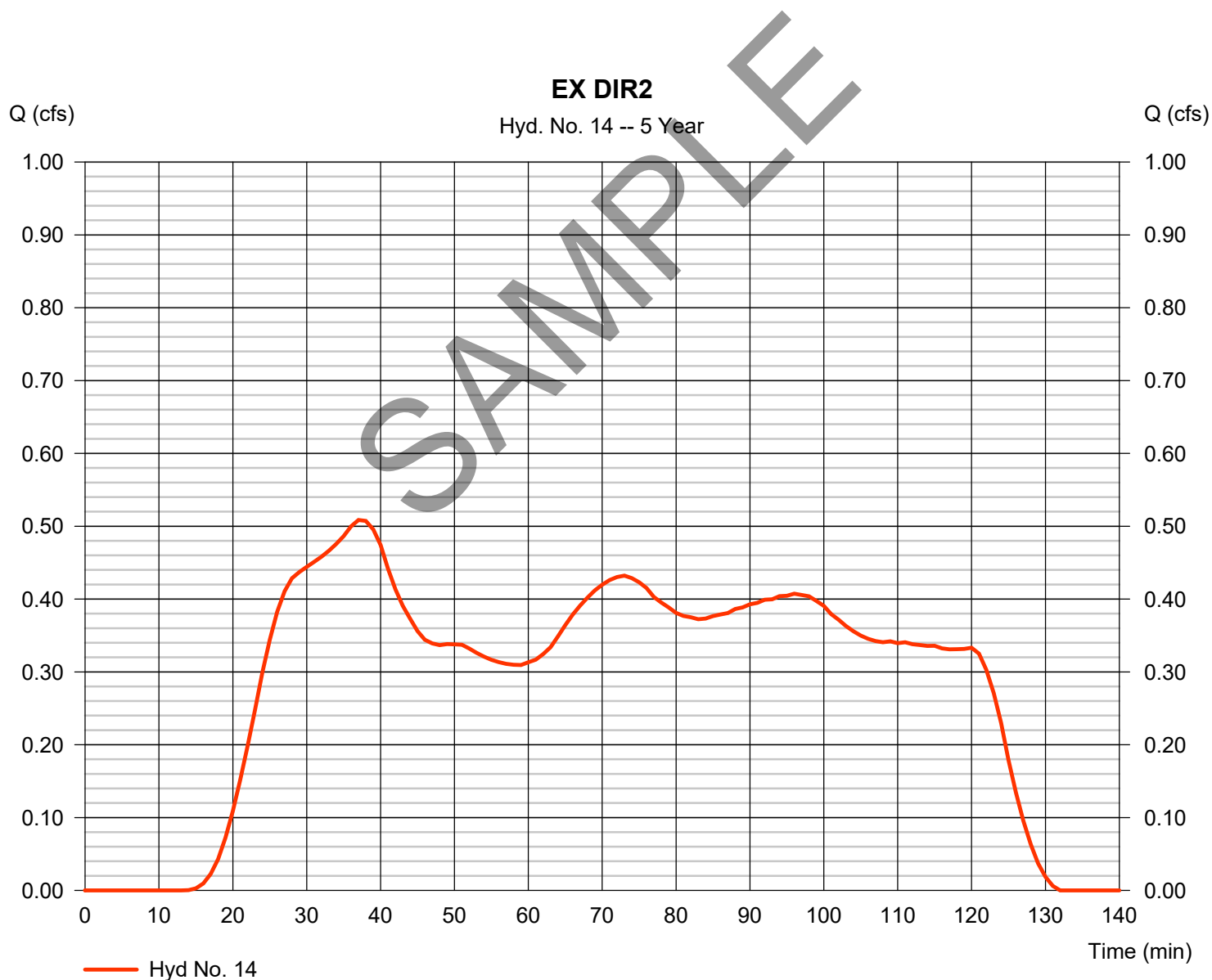
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Hyd. No. 14

EX DIR2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.509 cfs
Storm frequency	= 5 yrs	Time to peak	= 37 min
Time interval	= 1 min	Hyd. volume	= 2,367 cuft
Drainage area	= 1.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

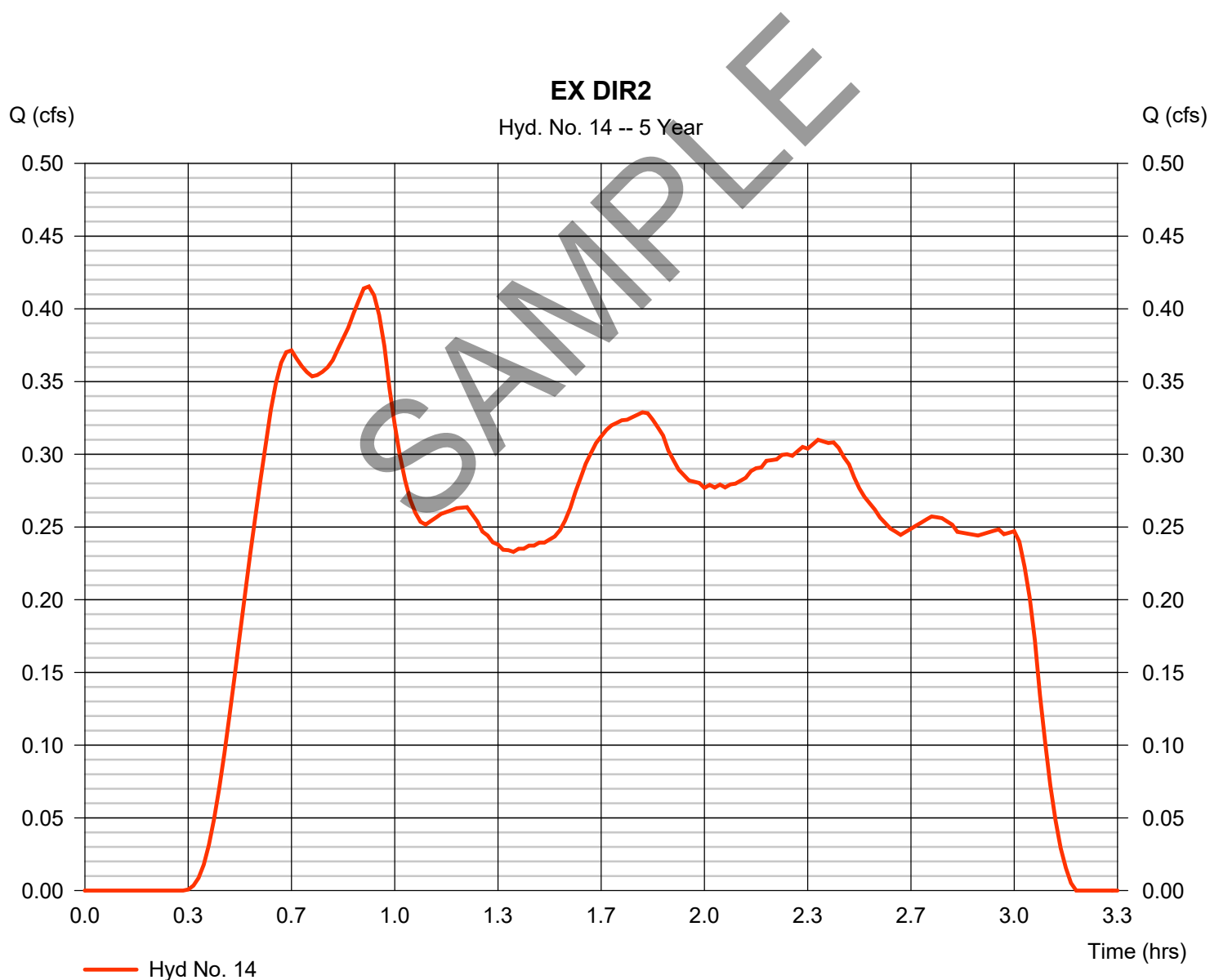
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Hyd. No. 14

EX DIR2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.415 cfs
Storm frequency	= 5 yrs	Time to peak	= 0.92 hrs
Time interval	= 1 min	Hyd. volume	= 2,720 cuft
Drainage area	= 1.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

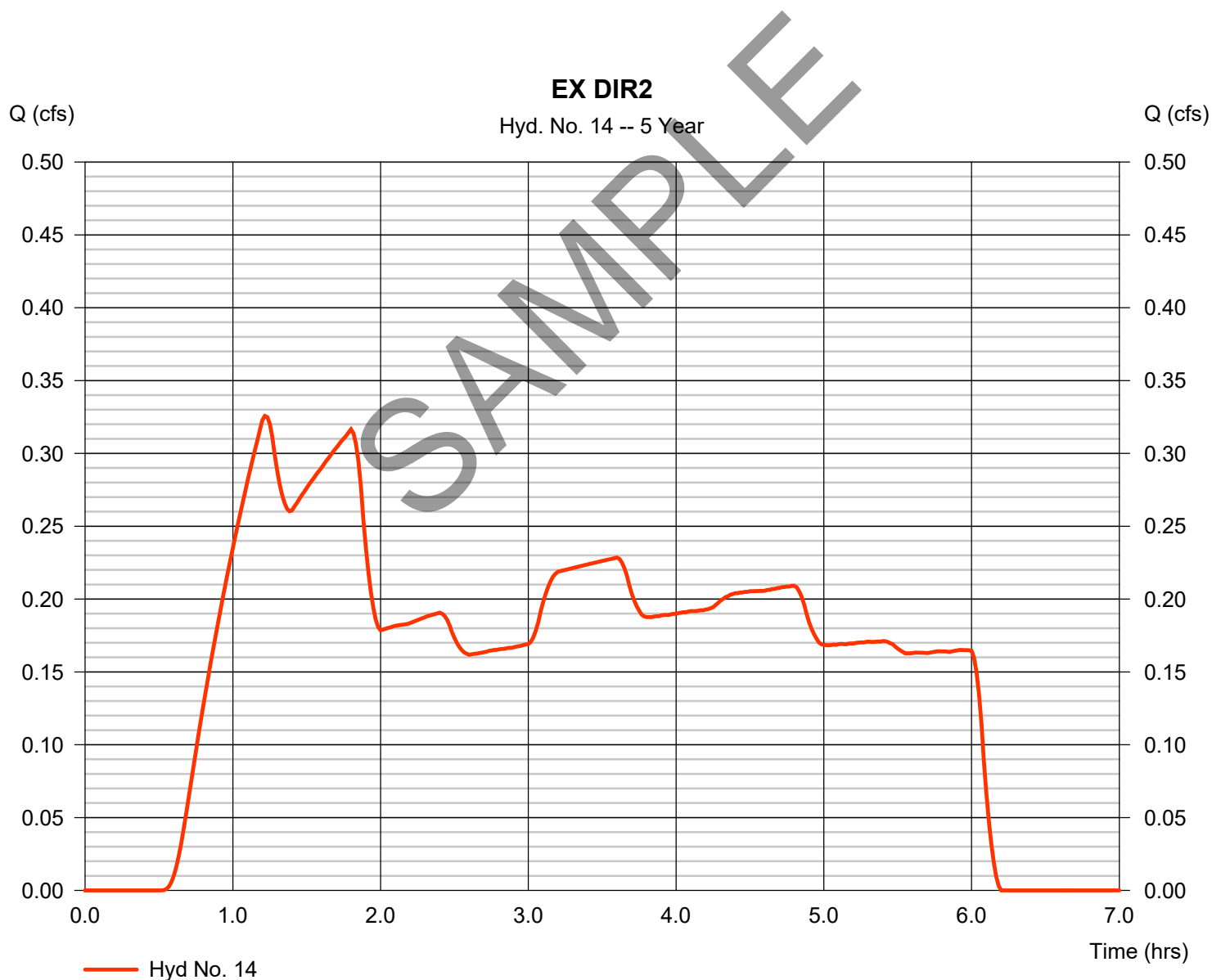
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Hyd. No. 14

EX DIR2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.326 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.22 hrs
Time interval	= 1 min	Hyd. volume	= 3,927 cuft
Drainage area	= 1.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

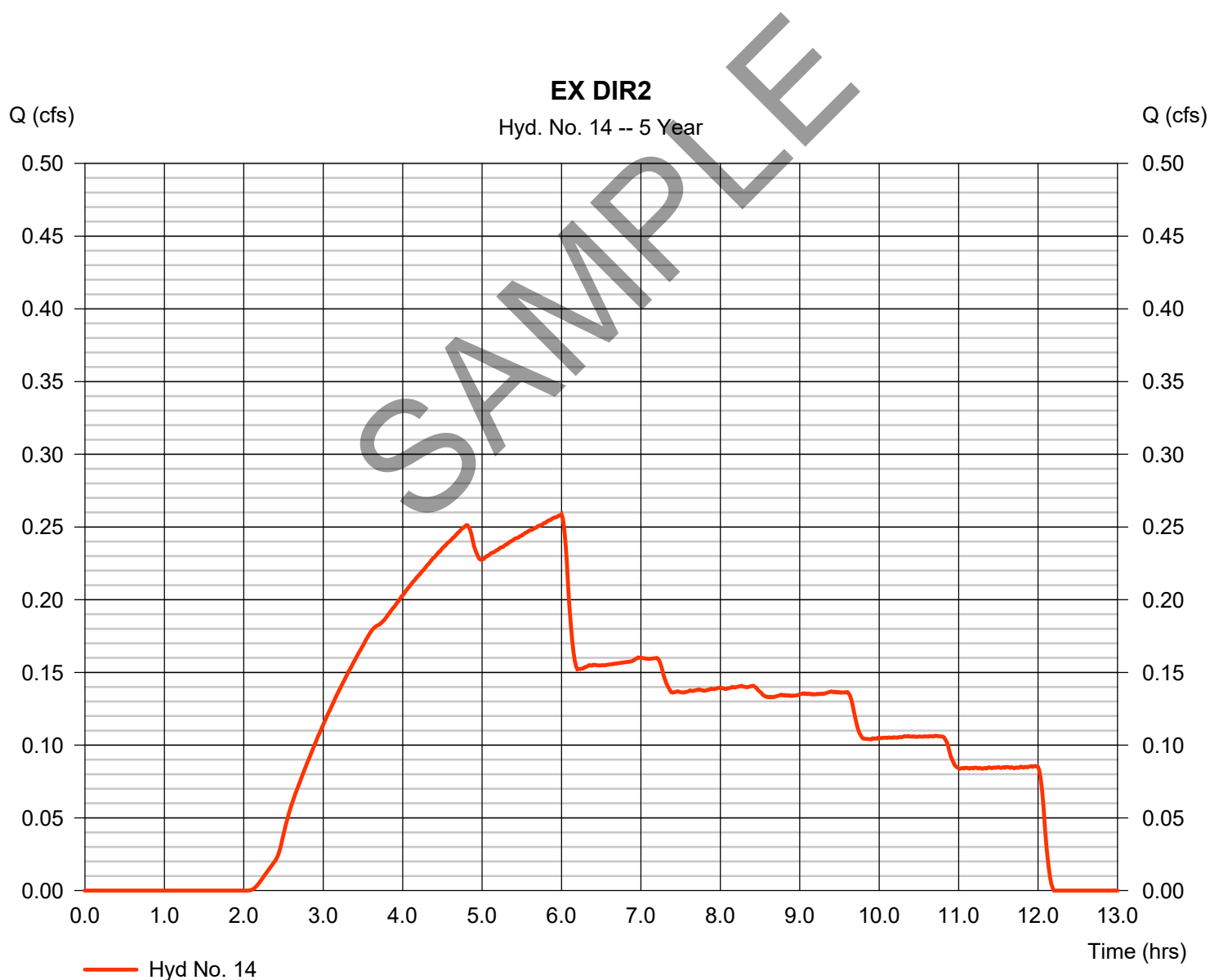
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Hyd. No. 14

EX DIR2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.259 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 5,227 cuft
Drainage area	= 1.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

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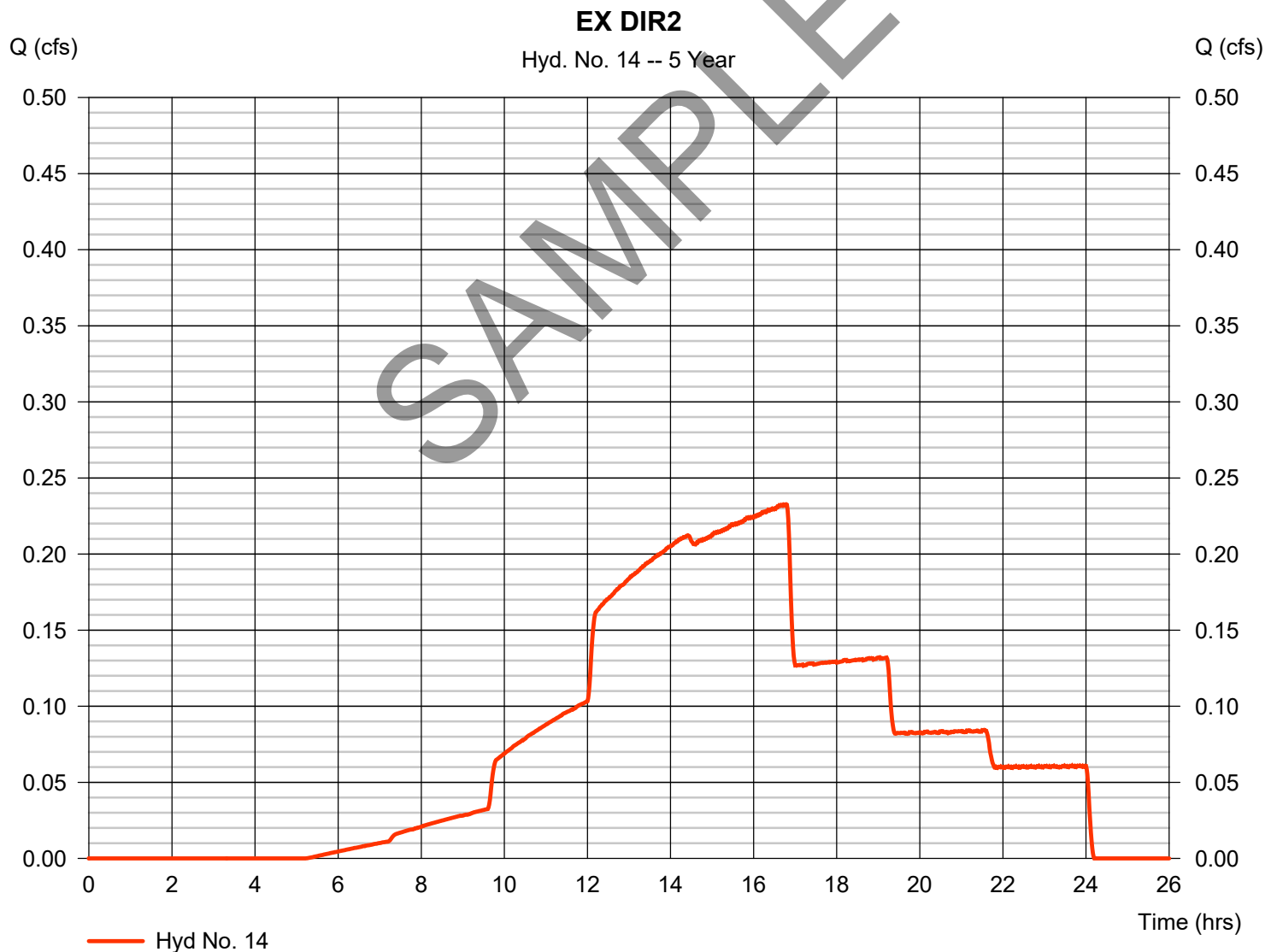
Tuesday, 03 / 19 / 2019

Hyd. No. 14

EX DIR2

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.233 cfs
Time to peak = 16.78 hrs
Hyd. volume = 6,888 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

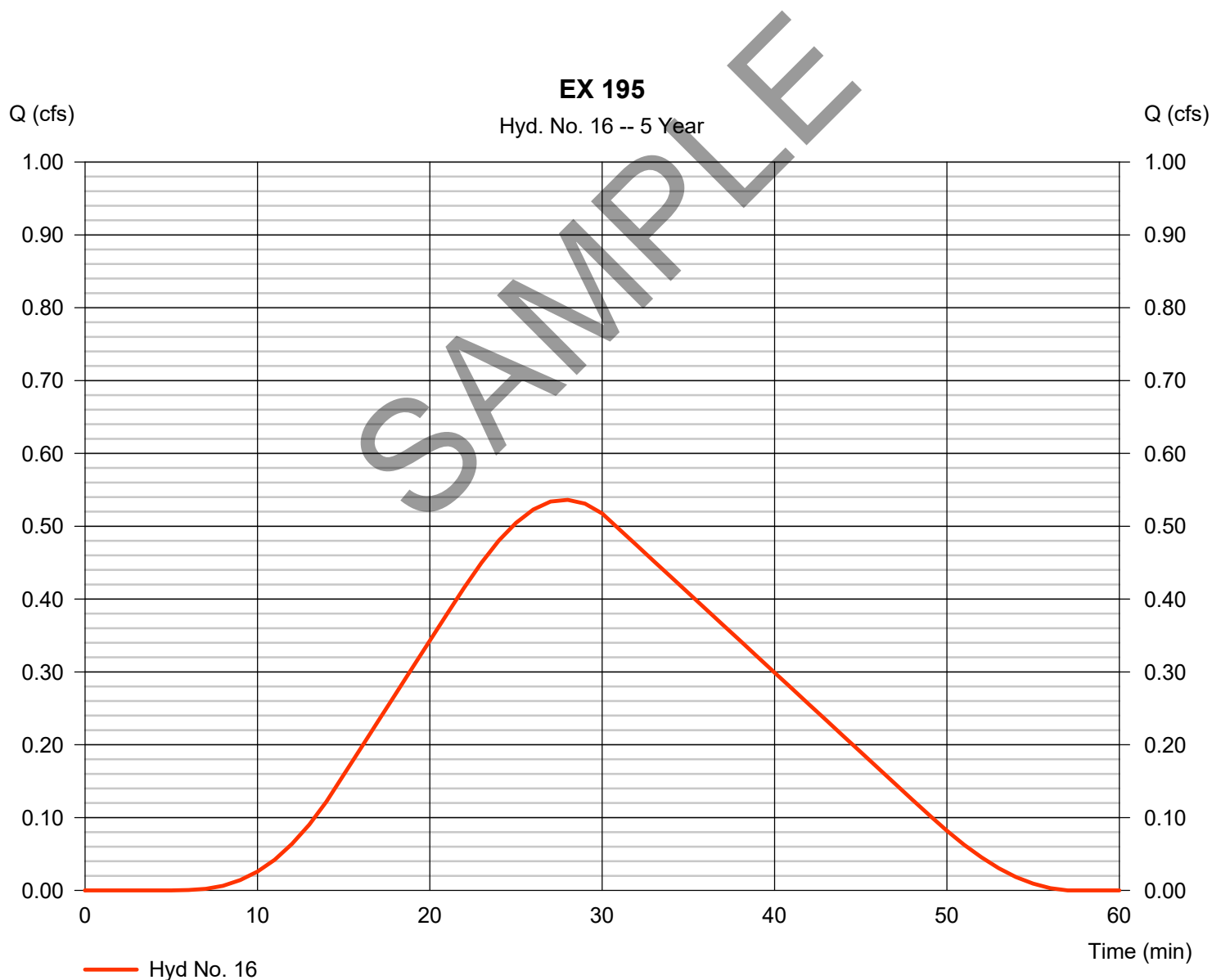
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Hyd. No. 16

EX 195

Hydrograph type	= SCS Runoff	Peak discharge	= 0.536 cfs
Storm frequency	= 5 yrs	Time to peak	= 28 min
Time interval	= 1 min	Hyd. volume	= 761 cuft
Drainage area	= 3.800 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.50 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

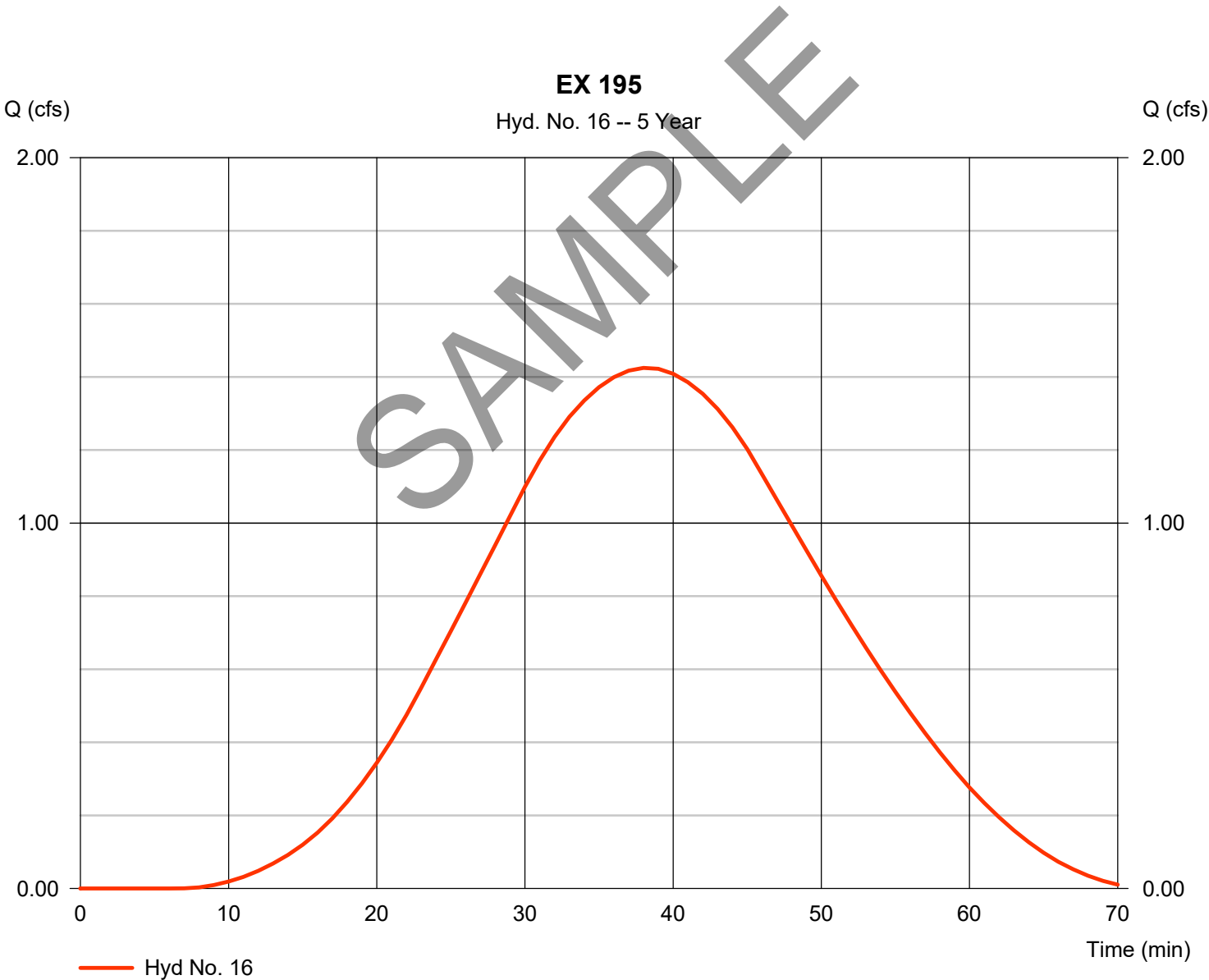


Hydrograph Report

Hyd. No. 16

EX 195

Hydrograph type	= SCS Runoff	Peak discharge	= 1.425 cfs
Storm frequency	= 5 yrs	Time to peak	= 38 min
Time interval	= 1 min	Hyd. volume	= 2,414 cuft
Drainage area	= 3.800 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.50 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

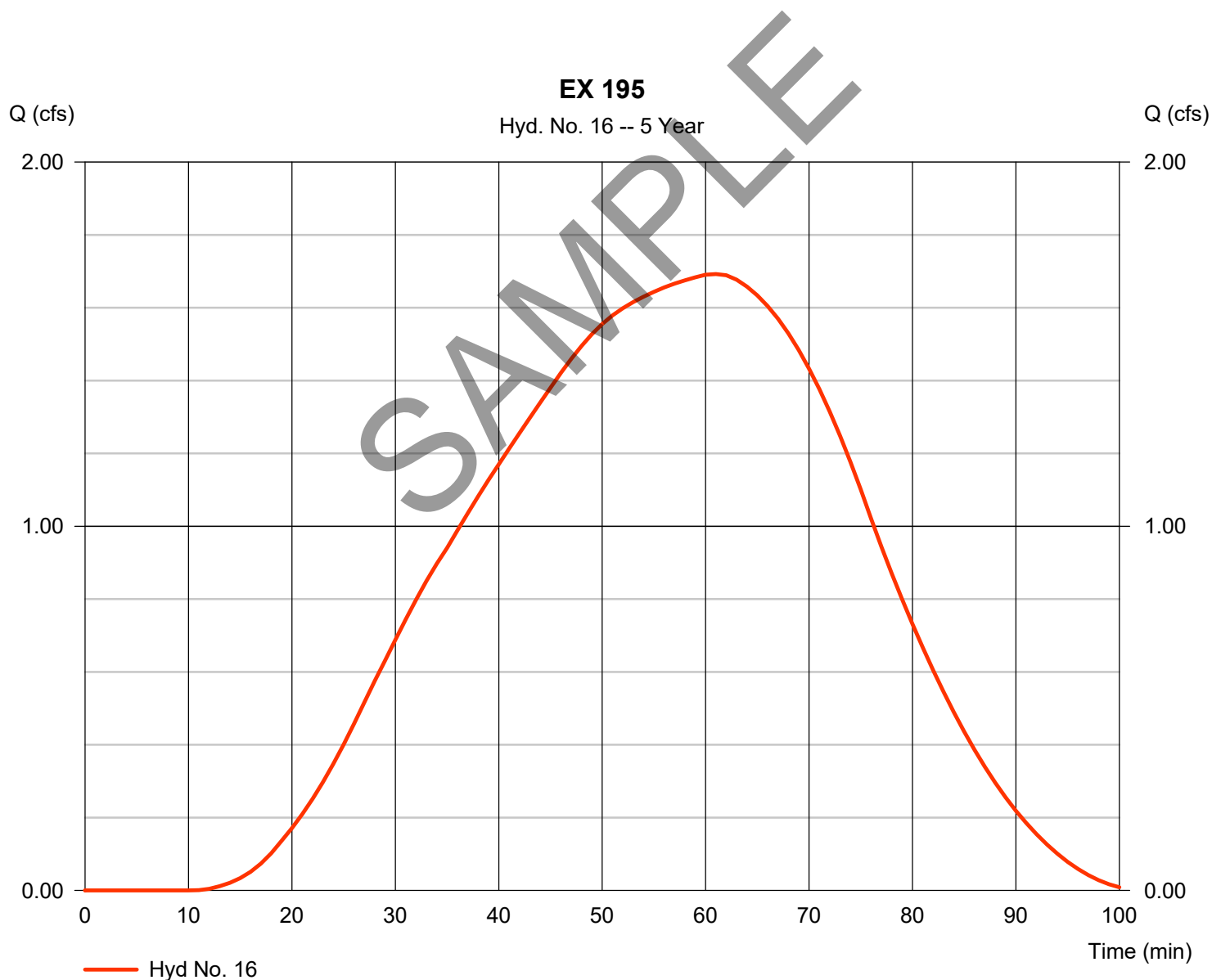
Tuesday, 03 / 19 / 2019

Hyd. No. 16

EX 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 1.692 cfs
Time to peak = 61 min
Hyd. volume = 4,595 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.50 min
Distribution = Custom
Shape factor = 484

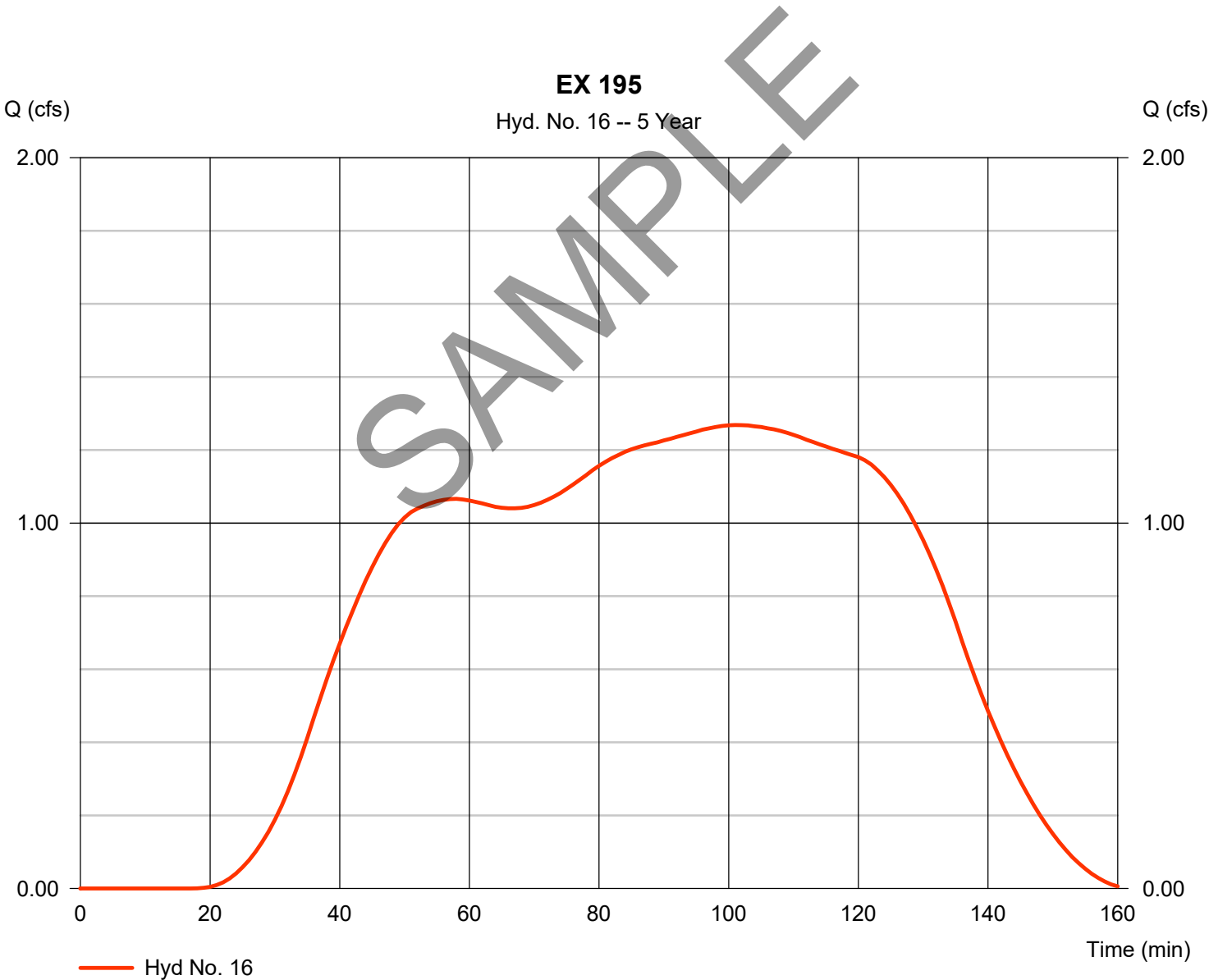


Hydrograph Report

Hyd. No. 16

EX 195

Hydrograph type	= SCS Runoff	Peak discharge	= 1.268 cfs
Storm frequency	= 5 yrs	Time to peak	= 101 min
Time interval	= 1 min	Hyd. volume	= 6,991 cuft
Drainage area	= 3.800 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.50 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

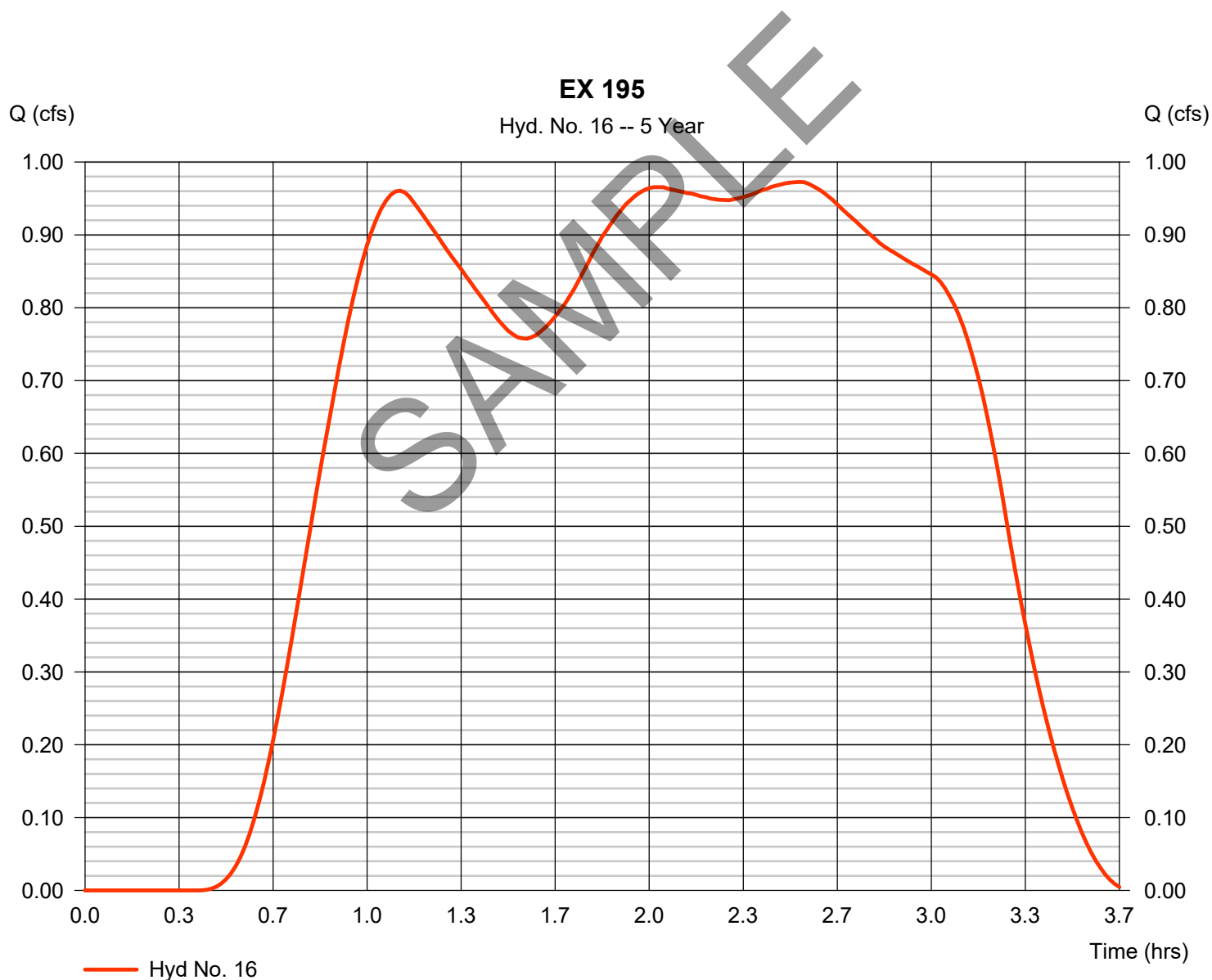
Tuesday, 03 / 19 / 2019

Hyd. No. 16

EX 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.973 cfs
Time to peak = 2.53 hrs
Hyd. volume = 8,183 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.50 min
Distribution = Custom
Shape factor = 484

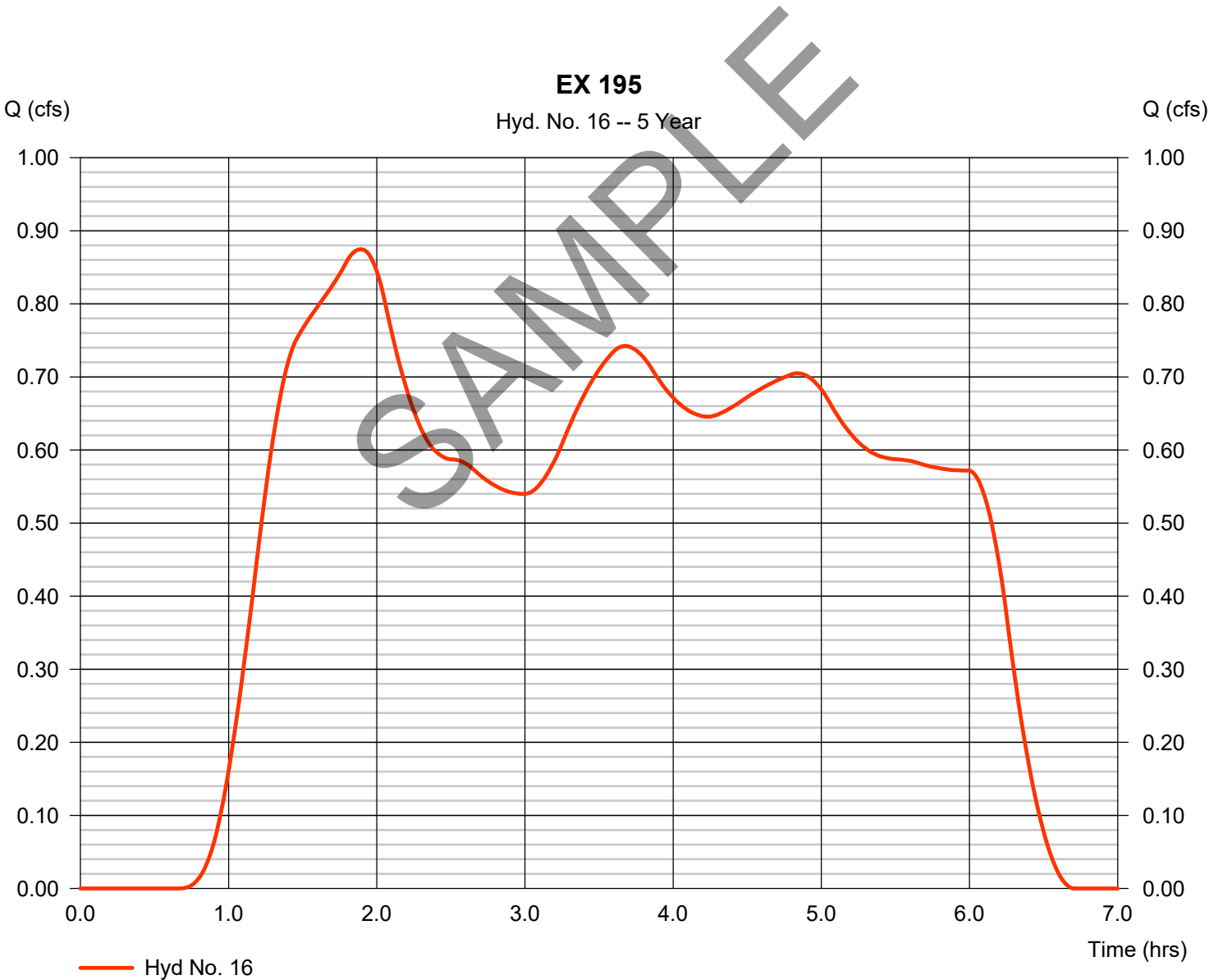


Hydrograph Report

Hyd. No. 16

EX 195

Hydrograph type	= SCS Runoff	Peak discharge	= 0.875 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.88 hrs
Time interval	= 1 min	Hyd. volume	= 12,349 cuft
Drainage area	= 3.800 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.50 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484

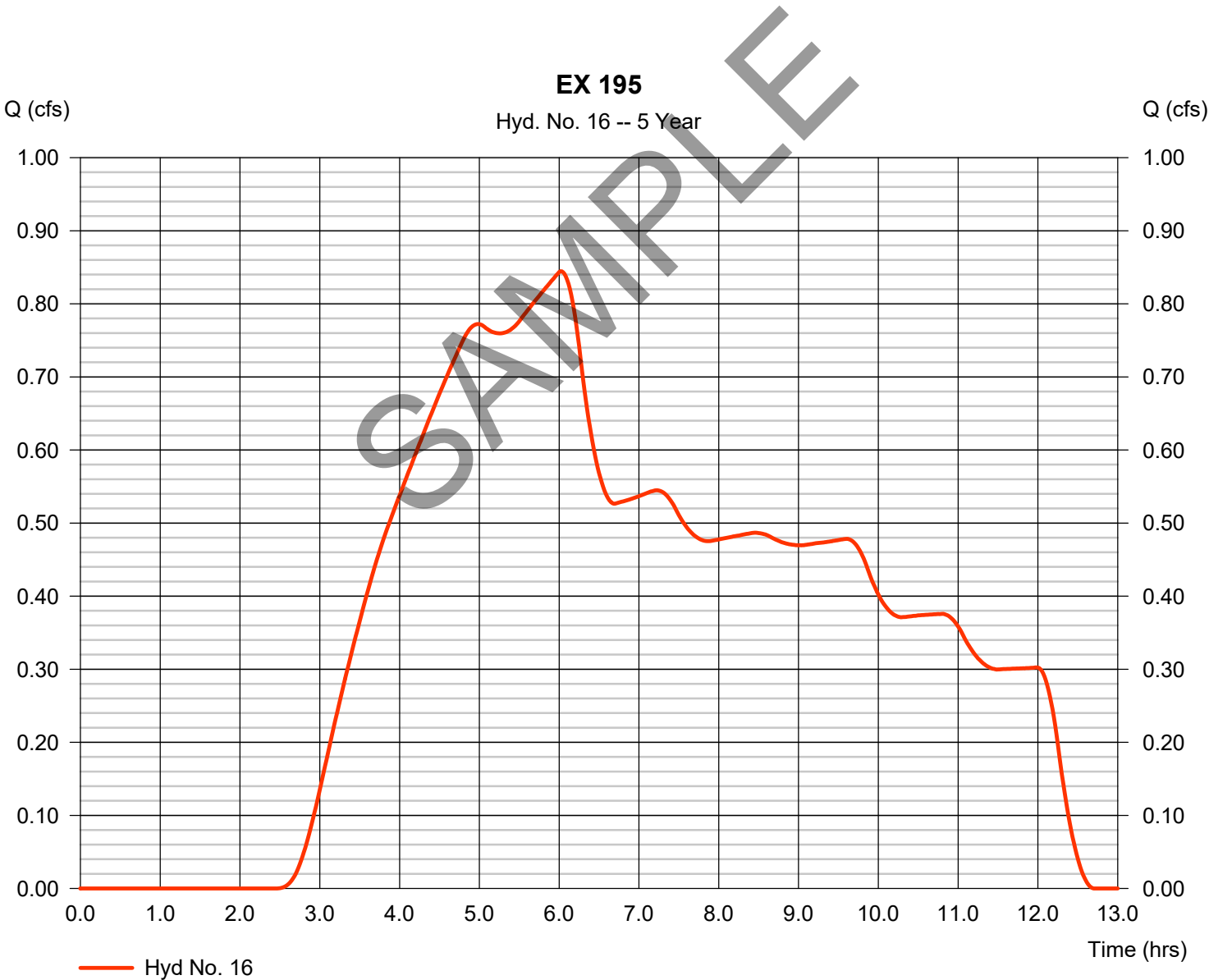


Hydrograph Report

Hyd. No. 16

EX 195

Hydrograph type	= SCS Runoff	Peak discharge	= 0.845 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.02 hrs
Time interval	= 1 min	Hyd. volume	= 16,946 cuft
Drainage area	= 3.800 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.50 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

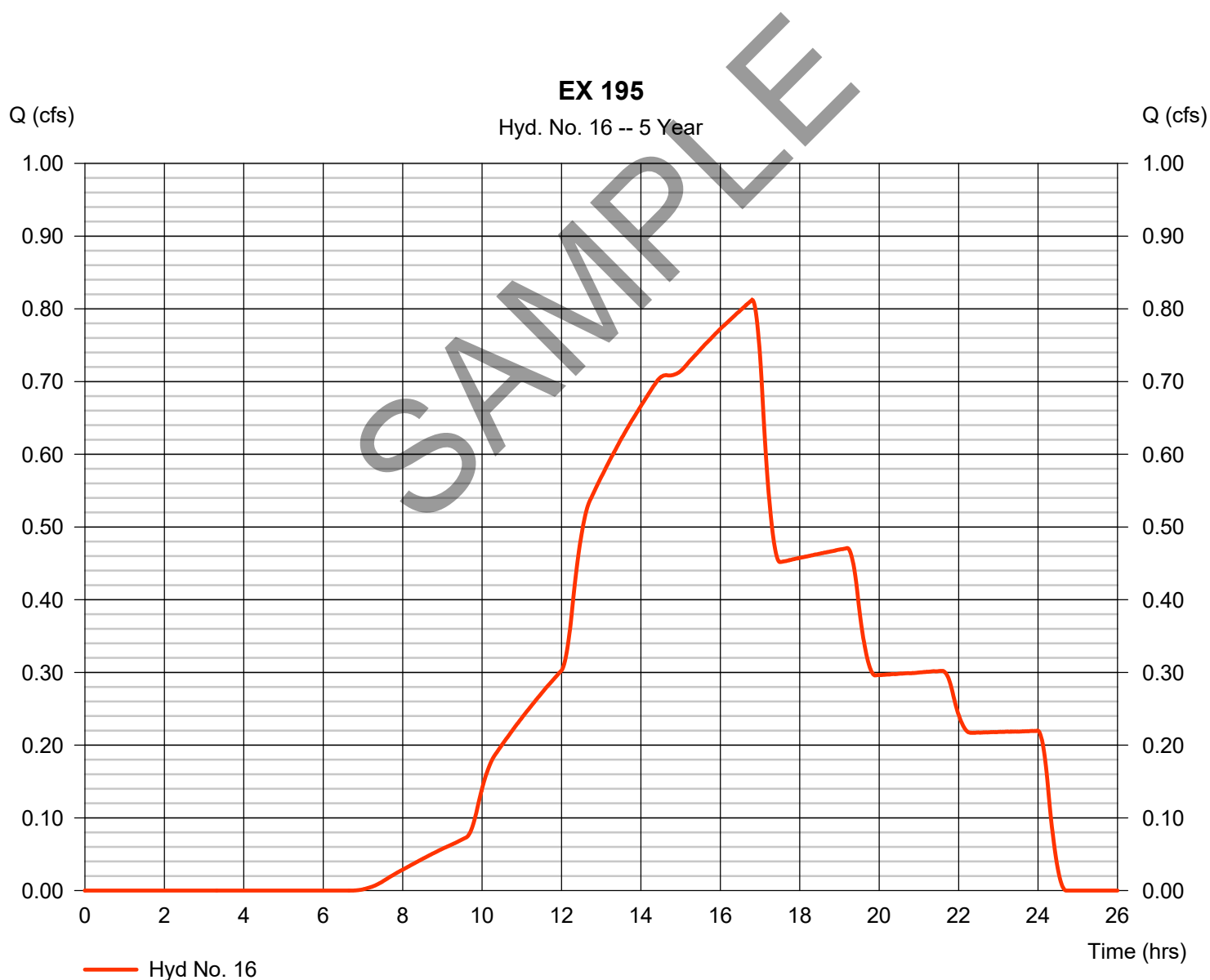
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Tuesday, 03 / 19 / 2019

Hyd. No. 16

EX 195

Hydrograph type	= SCS Runoff	Peak discharge	= 0.812 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.80 hrs
Time interval	= 1 min	Hyd. volume	= 22,930 cuft
Drainage area	= 3.800 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.50 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

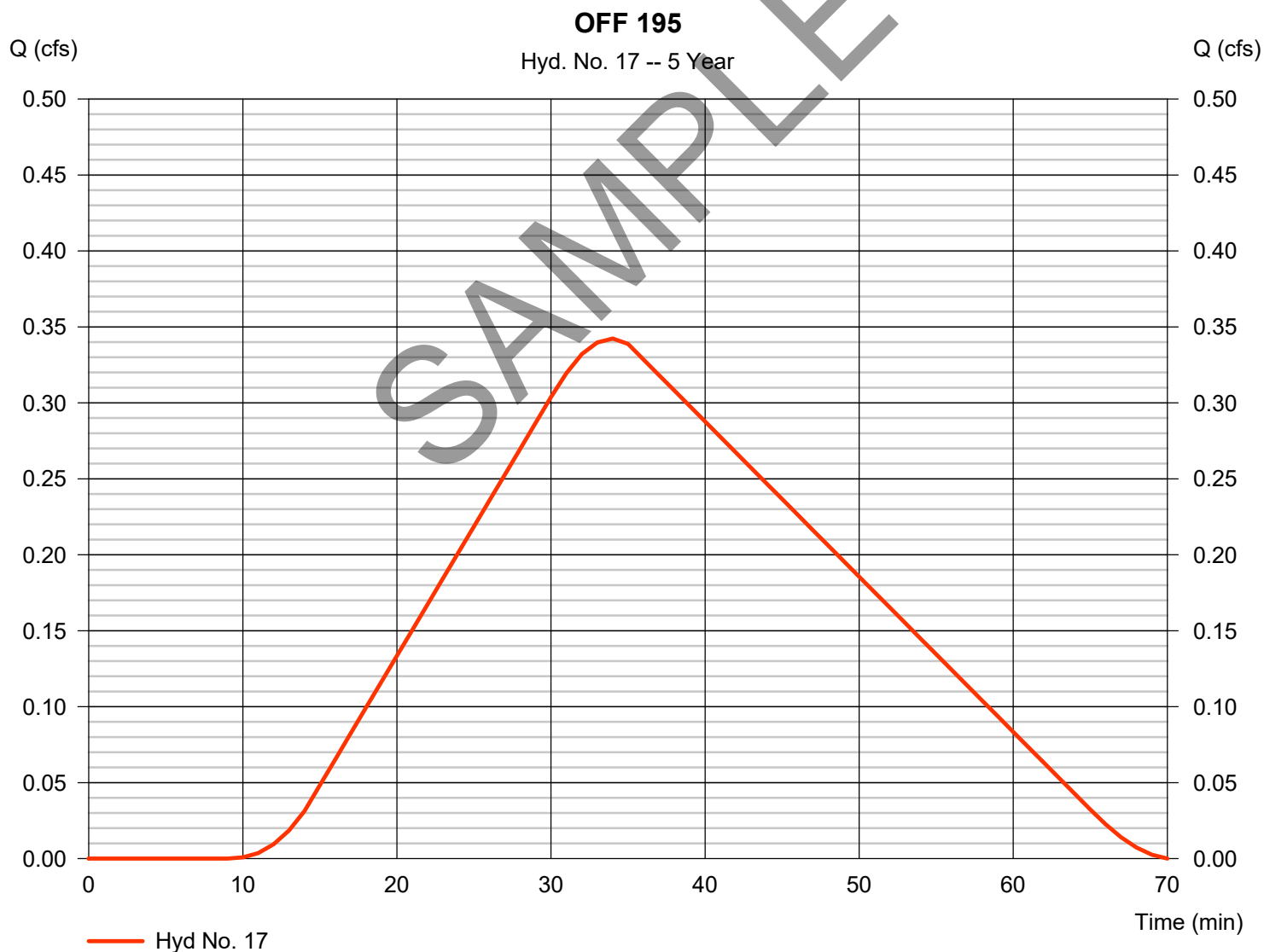
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Tuesday, 03 / 19 / 2019

Hyd. No. 17

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 0.342 cfs
Storm frequency	= 5 yrs	Time to peak	= 34 min
Time interval	= 1 min	Hyd. volume	= 601 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

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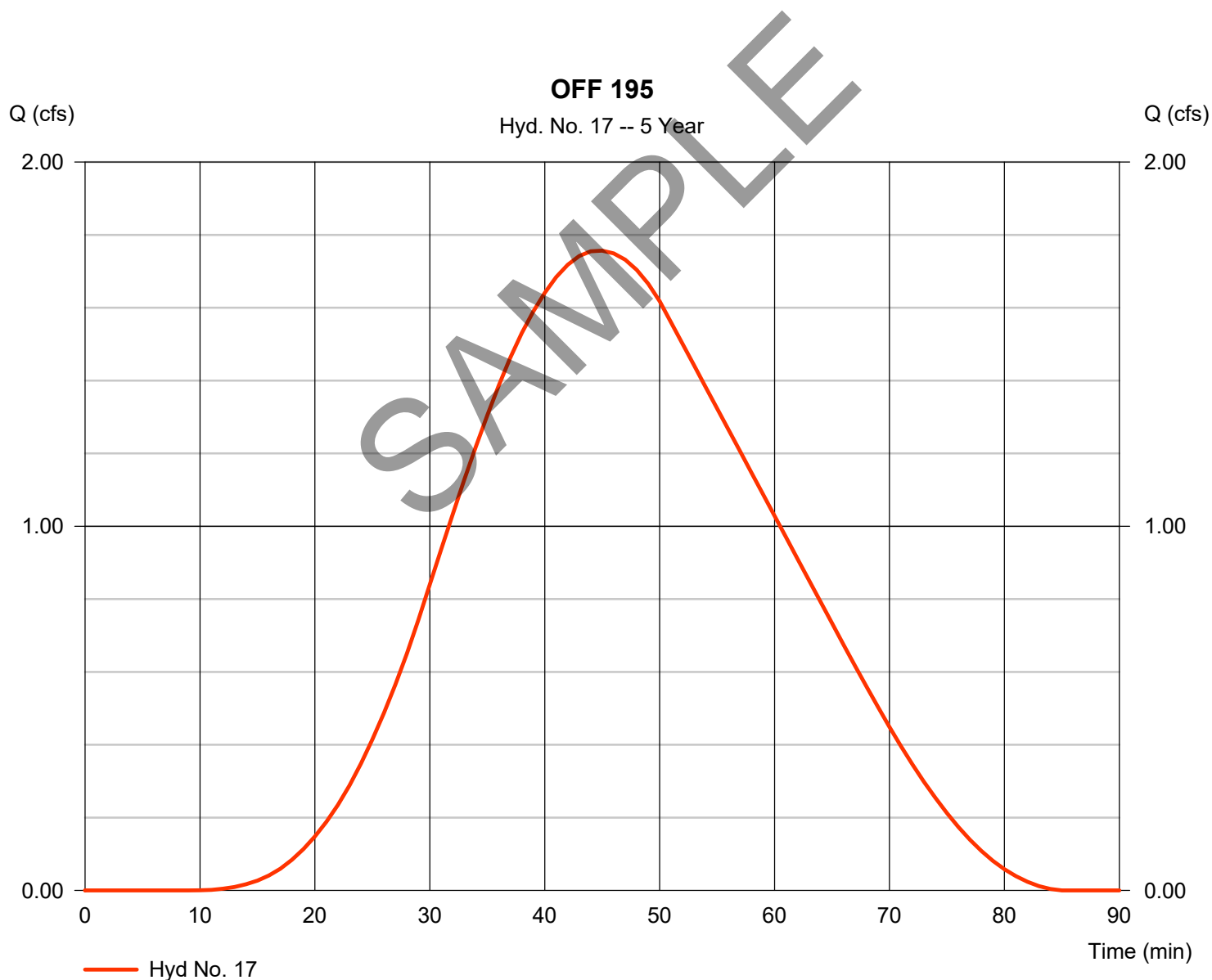
Tuesday, 03 / 19 / 2019

Hyd. No. 17

OFF 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 10.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 1.757 cfs
Time to peak = 45 min
Hyd. volume = 3,466 cuft
Curve number = 72
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

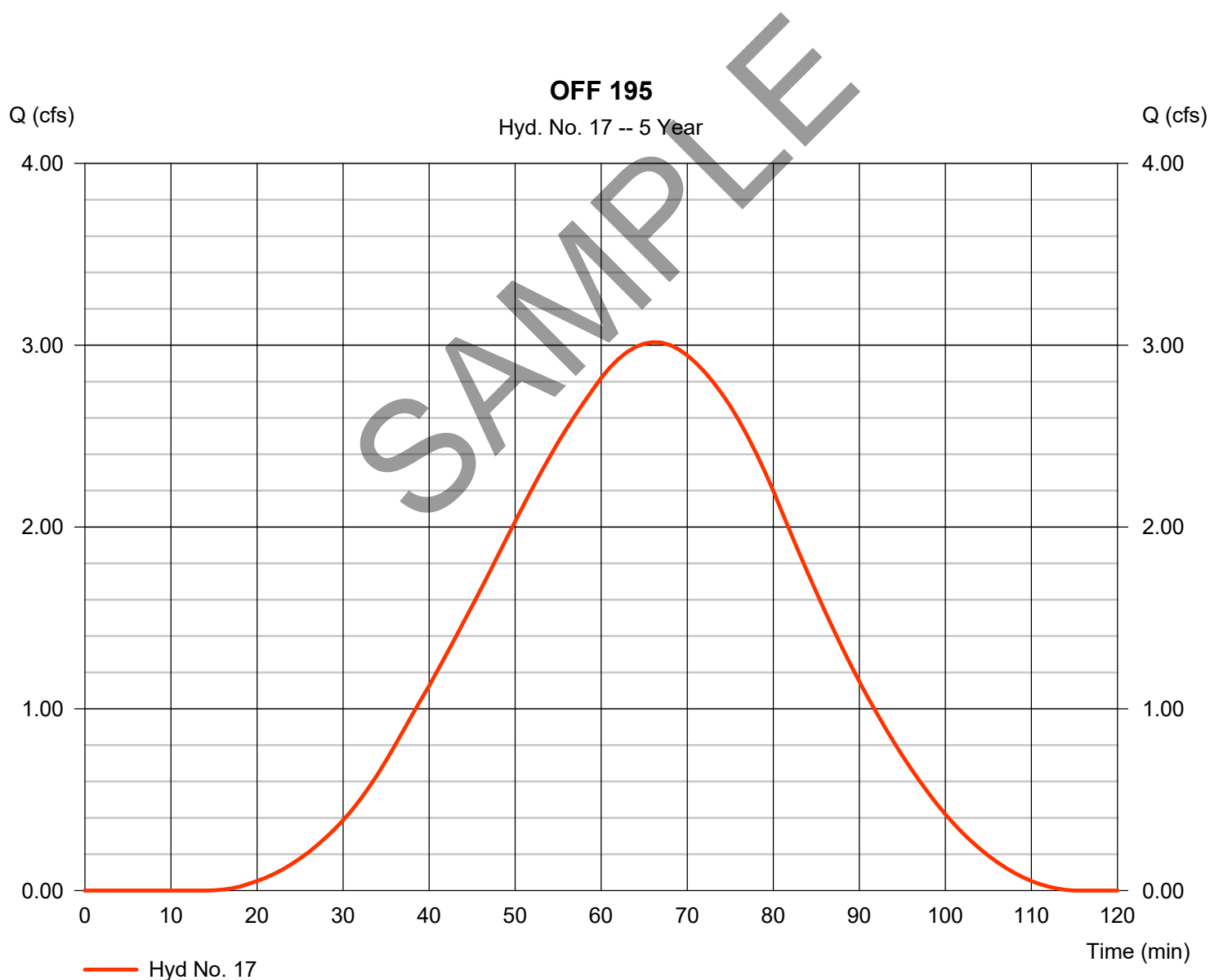
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Tuesday, 03 / 19 / 2019

Hyd. No. 17

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 3.017 cfs
Storm frequency	= 5 yrs	Time to peak	= 66 min
Time interval	= 1 min	Hyd. volume	= 7,907 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

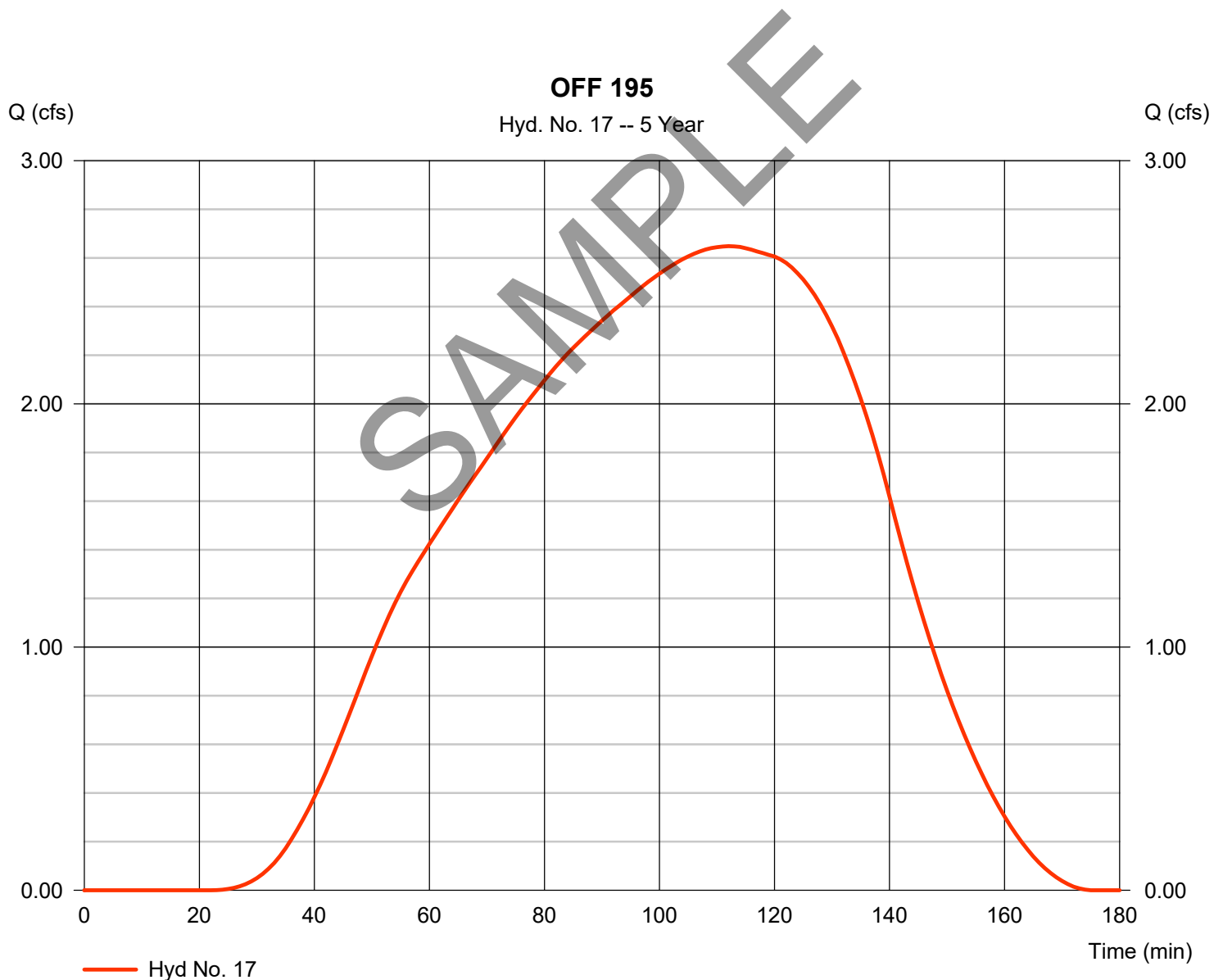
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Tuesday, 03 / 19 / 2019

Hyd. No. 17

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 2.649 cfs
Storm frequency	= 5 yrs	Time to peak	= 112 min
Time interval	= 1 min	Hyd. volume	= 13,152 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

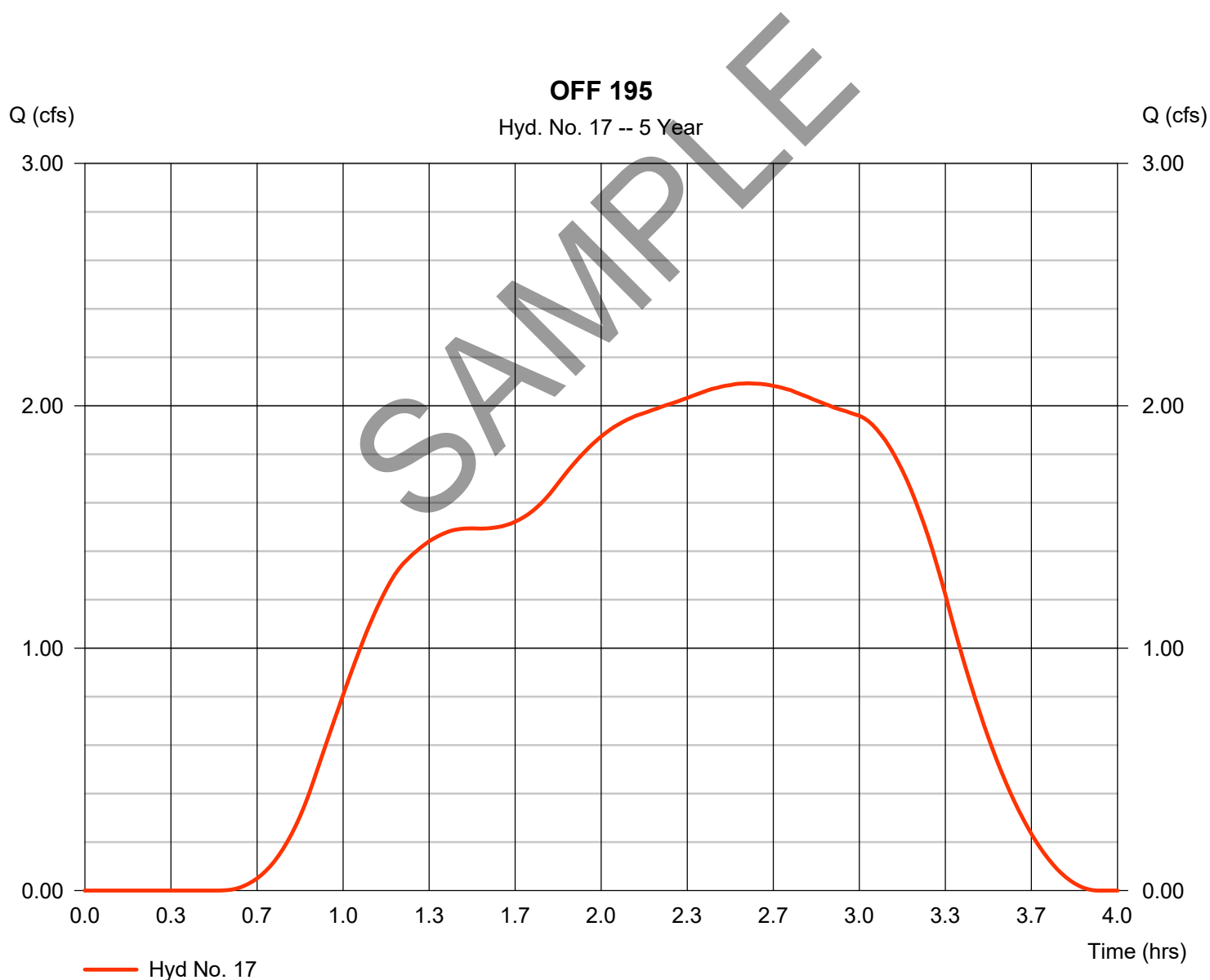
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Hyd. No. 17

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 2.093 cfs
Storm frequency	= 5 yrs	Time to peak	= 2.57 hrs
Time interval	= 1 min	Hyd. volume	= 15,849 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

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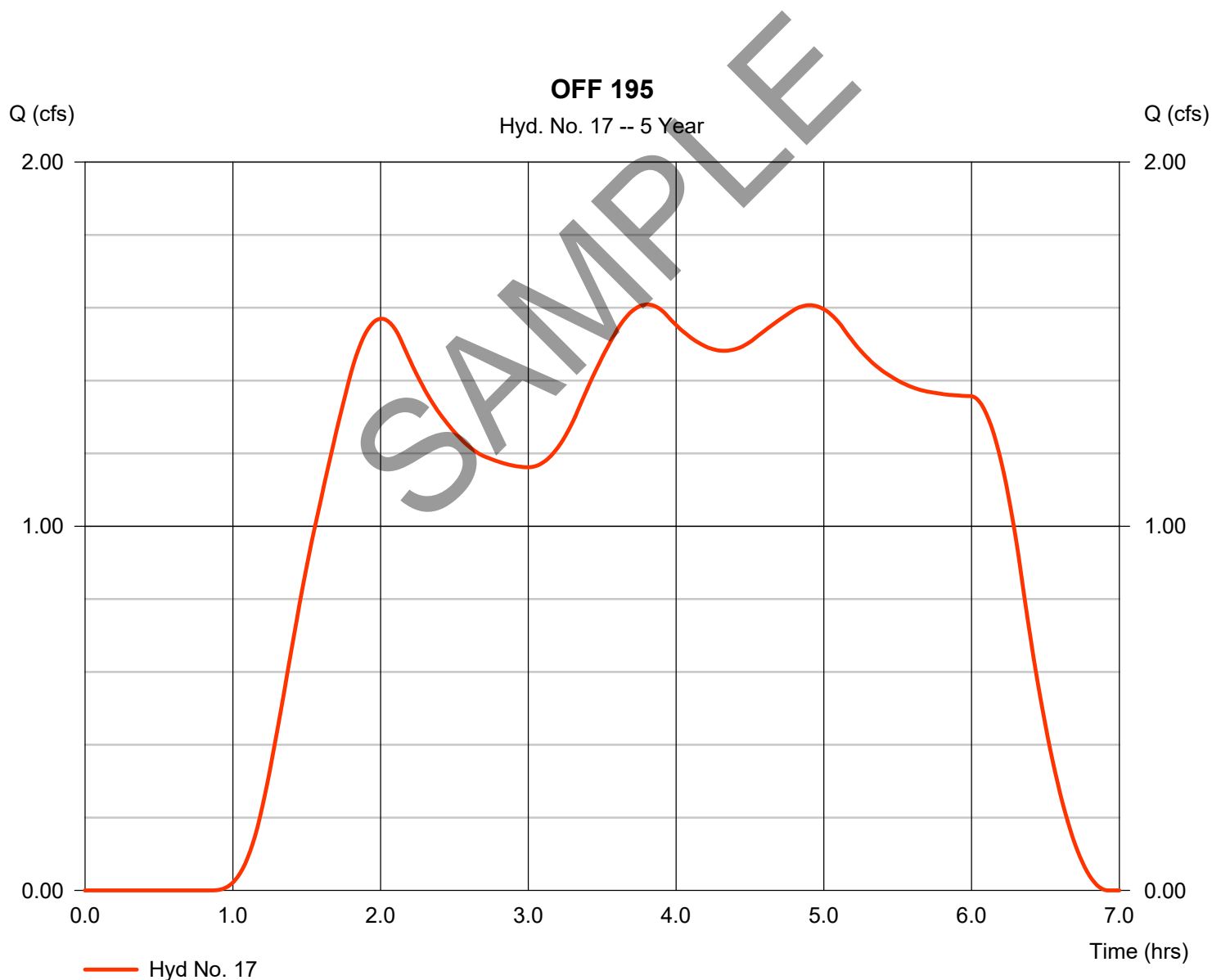
Tuesday, 03 / 19 / 2019

Hyd. No. 17

OFF 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 10.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 1.609 cfs
Time to peak = 3.80 hrs
Hyd. volume = 25,579 cuft
Curve number = 72
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

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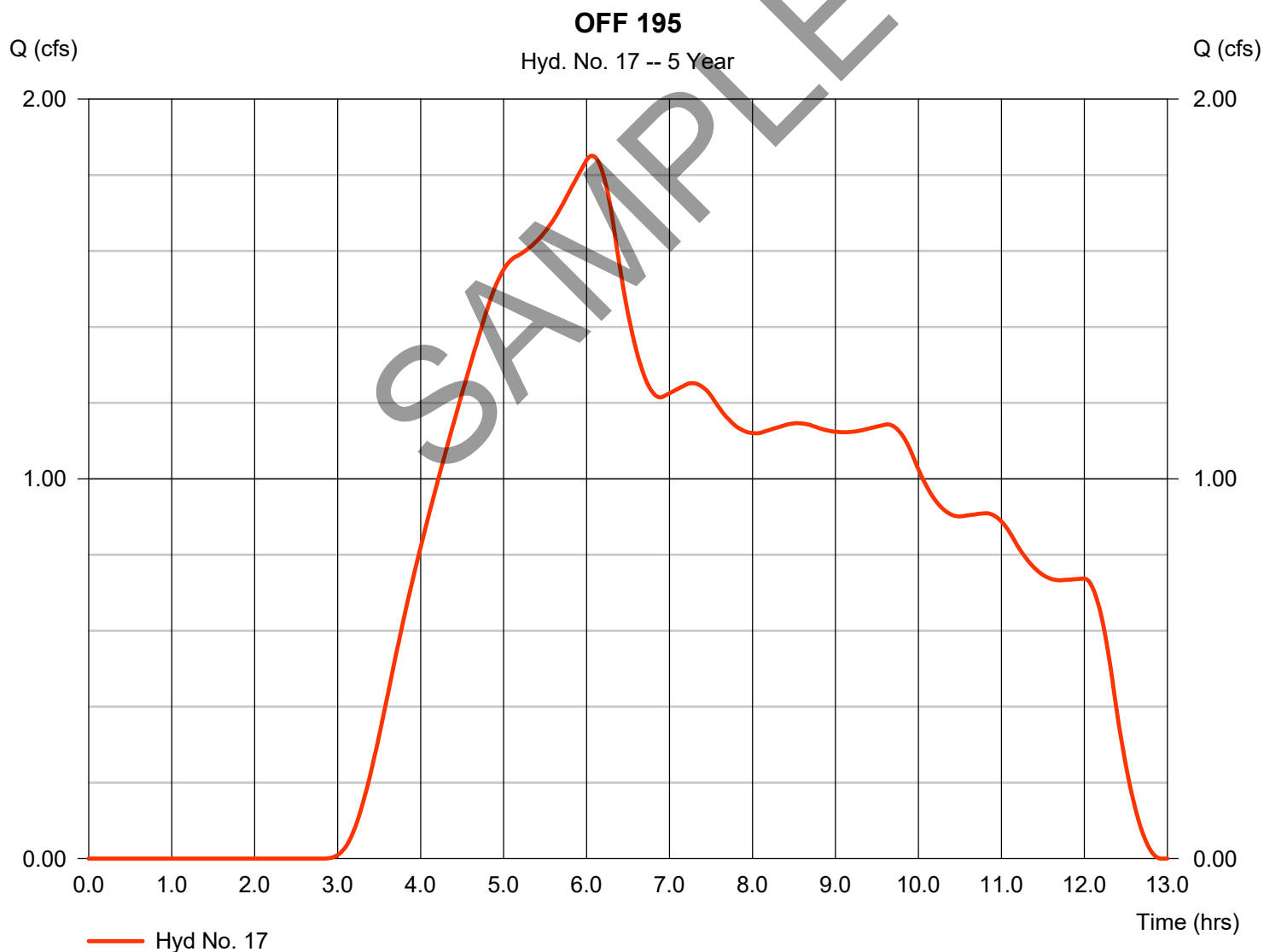
Tuesday, 03 / 19 / 2019

Hyd. No. 17

OFF 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 10.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 1.851 cfs
Time to peak = 6.07 hrs
Hyd. volume = 36,690 cuft
Curve number = 72
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

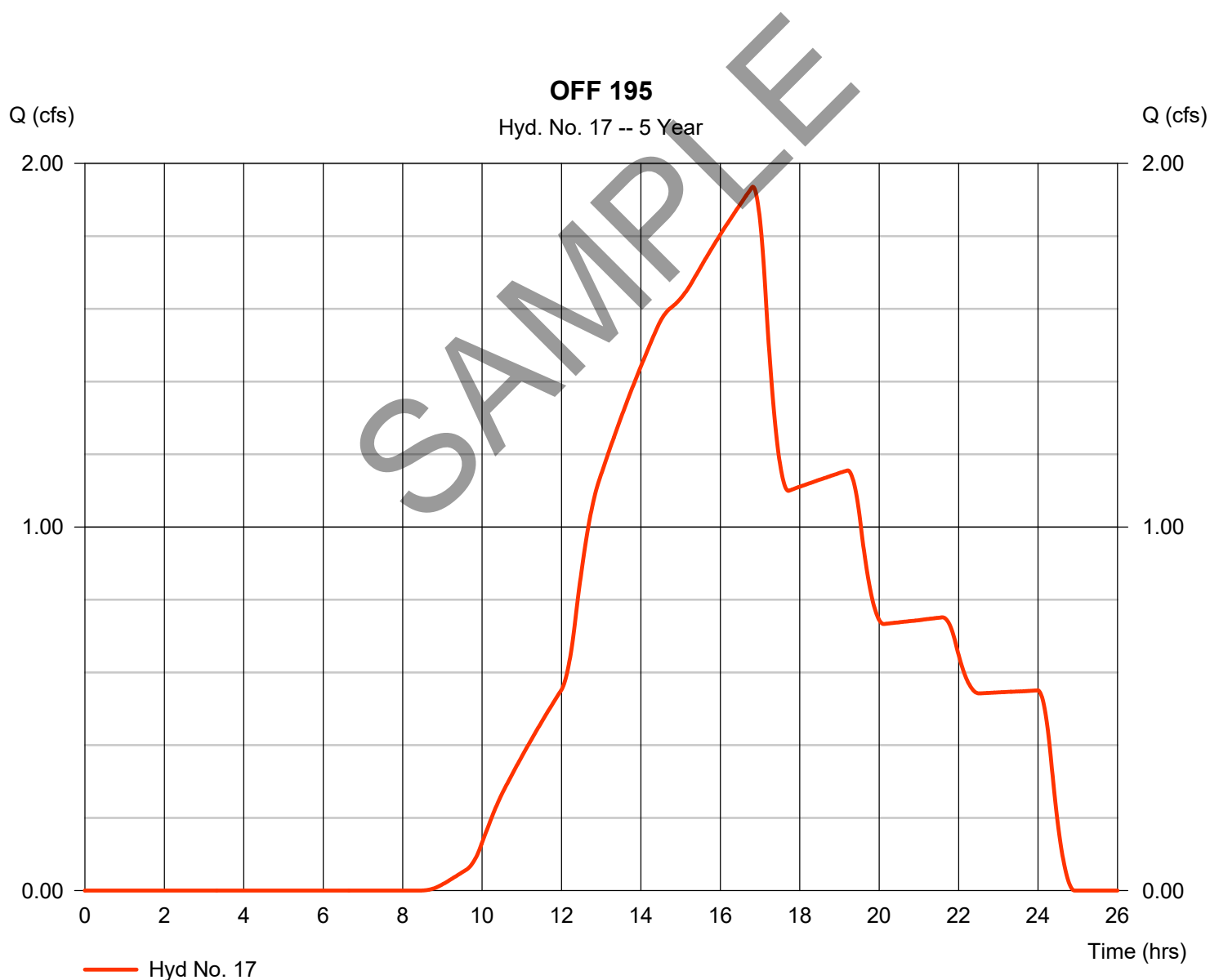
Tuesday, 03 / 19 / 2019

Hyd. No. 17

OFF 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 10.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.936 cfs
Time to peak = 16.82 hrs
Hyd. volume = 51,545 cuft
Curve number = 72
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

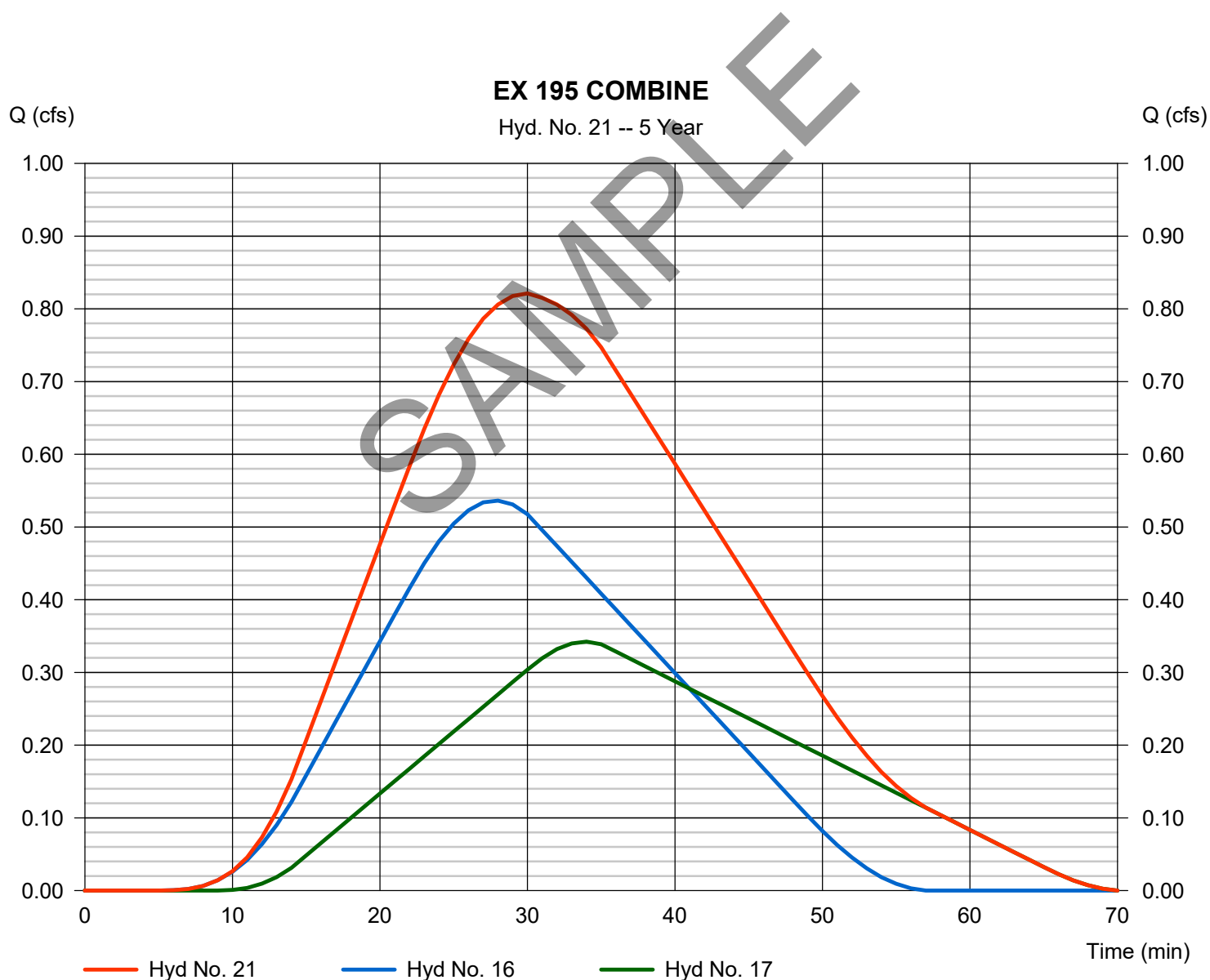
Tuesday, 03 / 19 / 2019

Hyd. No. 21

EX 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 16, 17

Peak discharge = 0.821 cfs
Time to peak = 30 min
Hyd. volume = 1,361 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

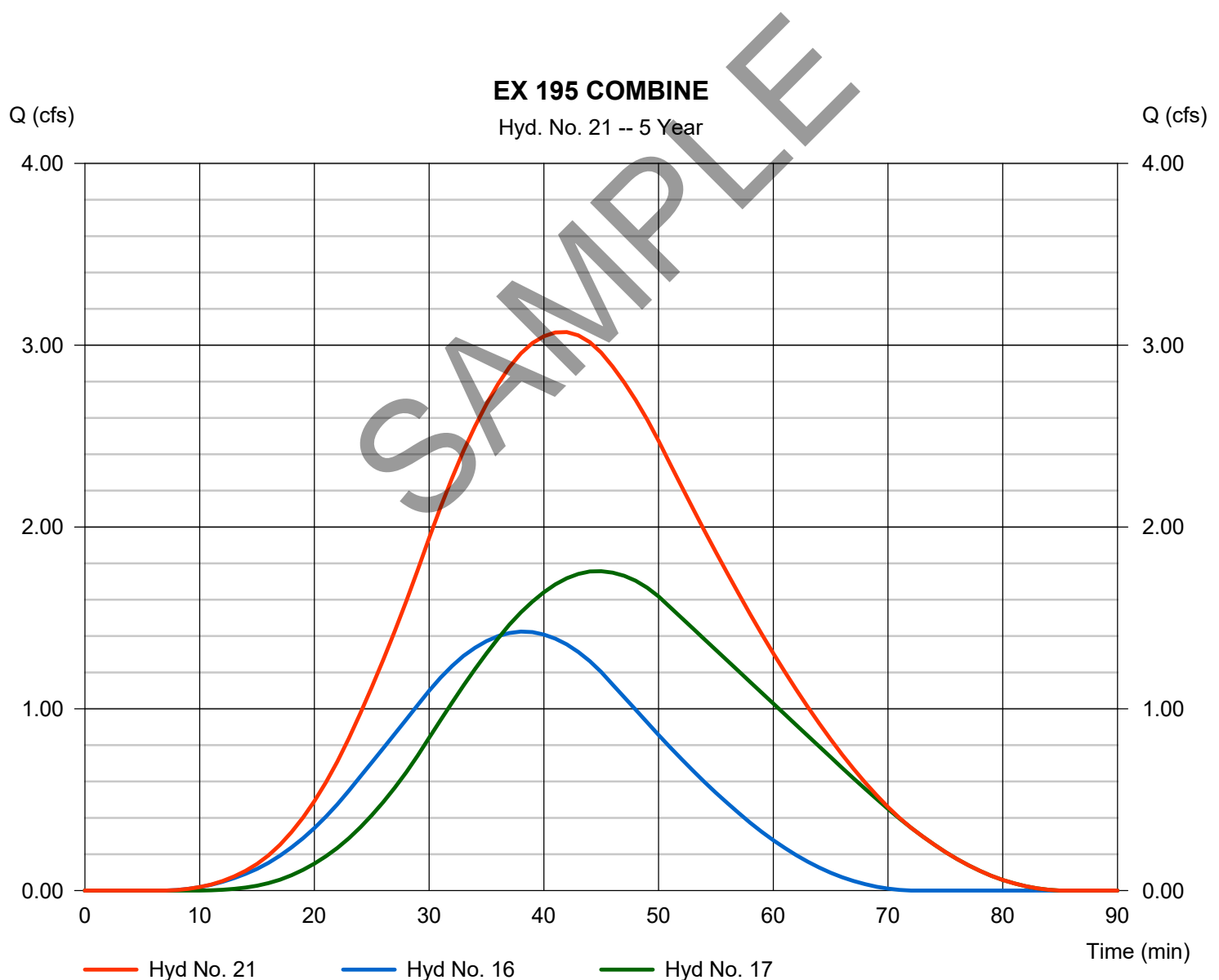
Tuesday, 03 / 19 / 2019

Hyd. No. 21

EX 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 16, 17

Peak discharge = 3.072 cfs
Time to peak = 42 min
Hyd. volume = 5,880 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

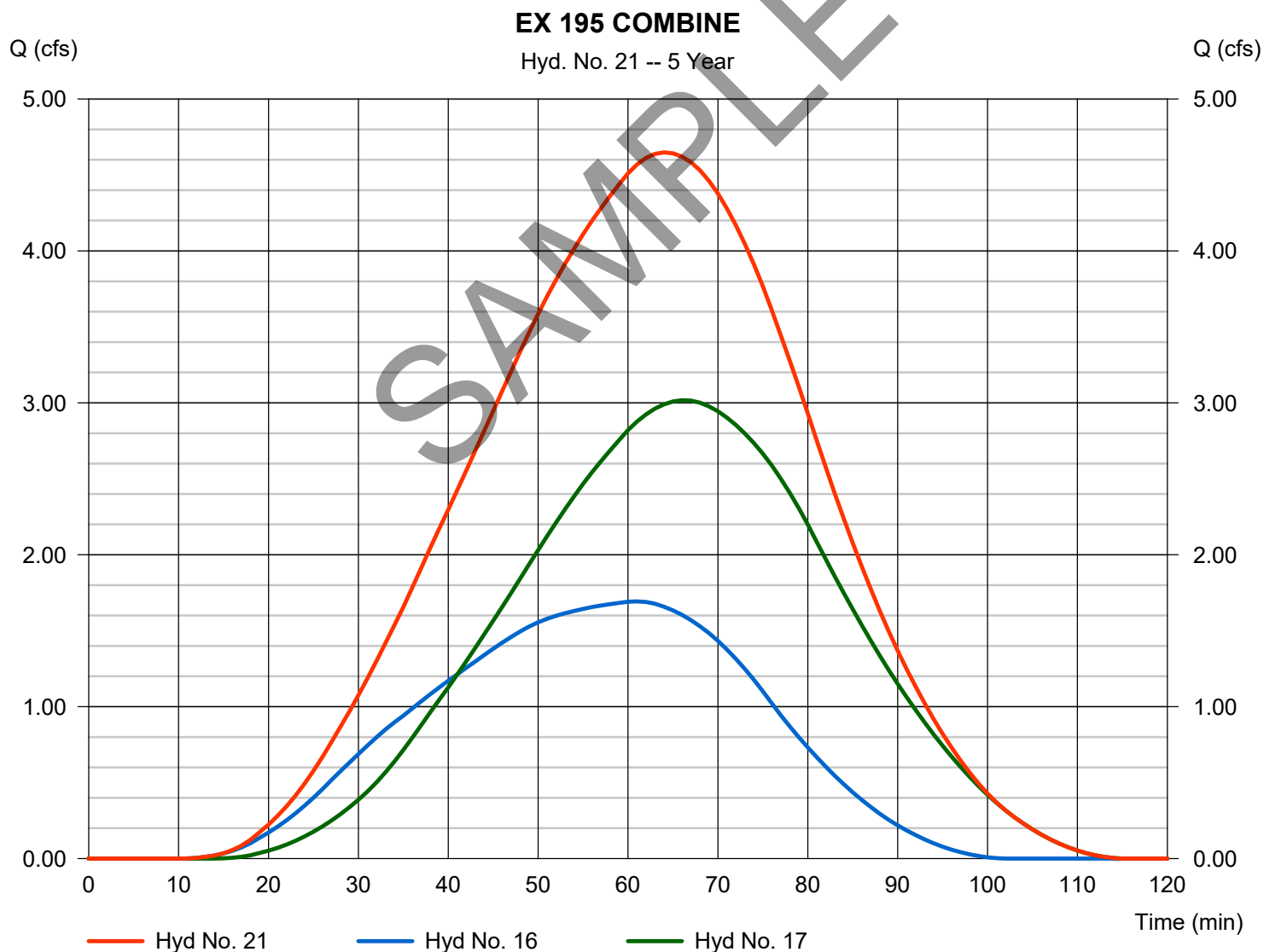
Tuesday, 03 / 19 / 2019

Hyd. No. 21

EX 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 16, 17

Peak discharge = 4.648 cfs
Time to peak = 64 min
Hyd. volume = 12,502 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

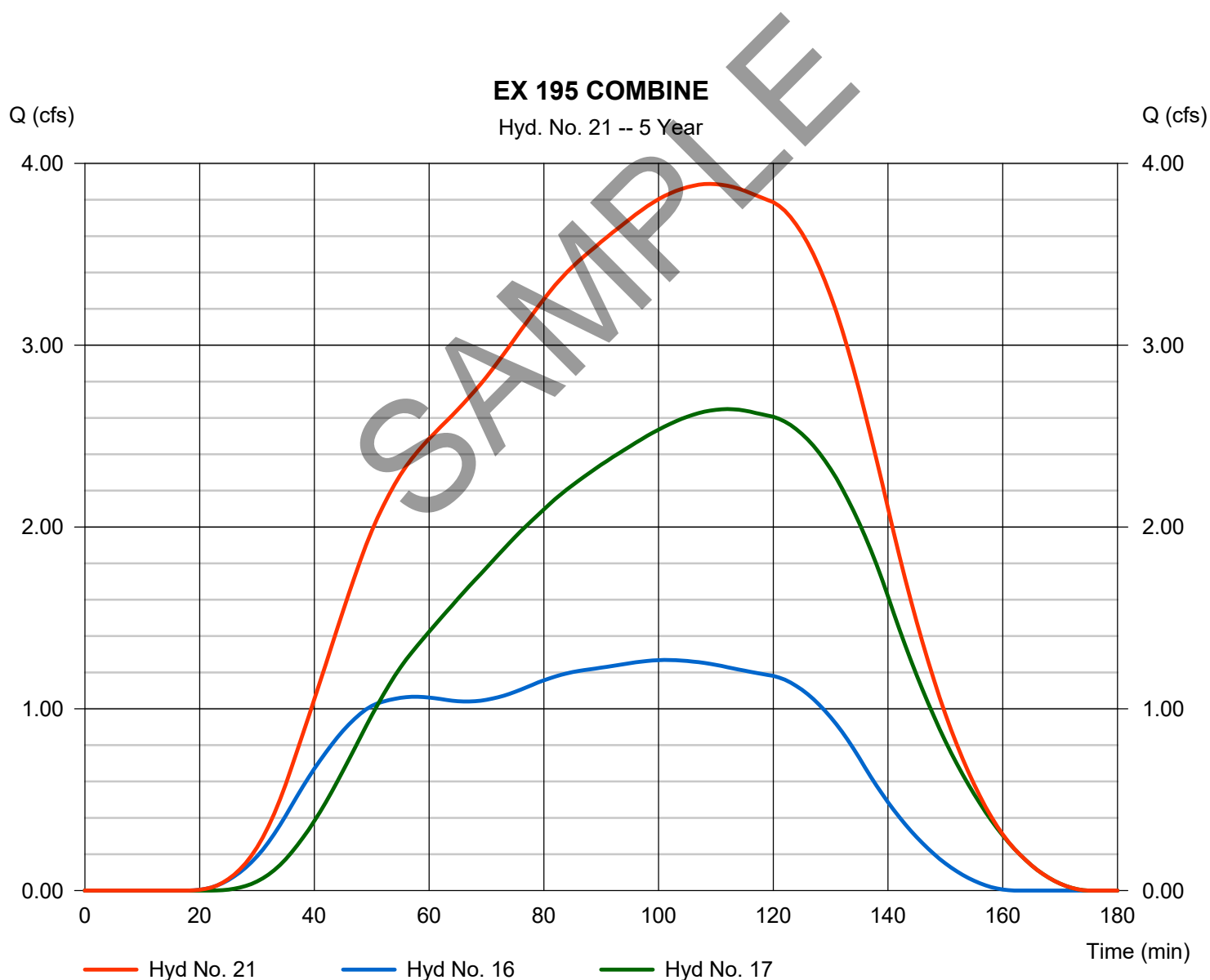
Tuesday, 03 / 19 / 2019

Hyd. No. 21

EX 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 16, 17

Peak discharge = 3.887 cfs
Time to peak = 109 min
Hyd. volume = 20,143 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

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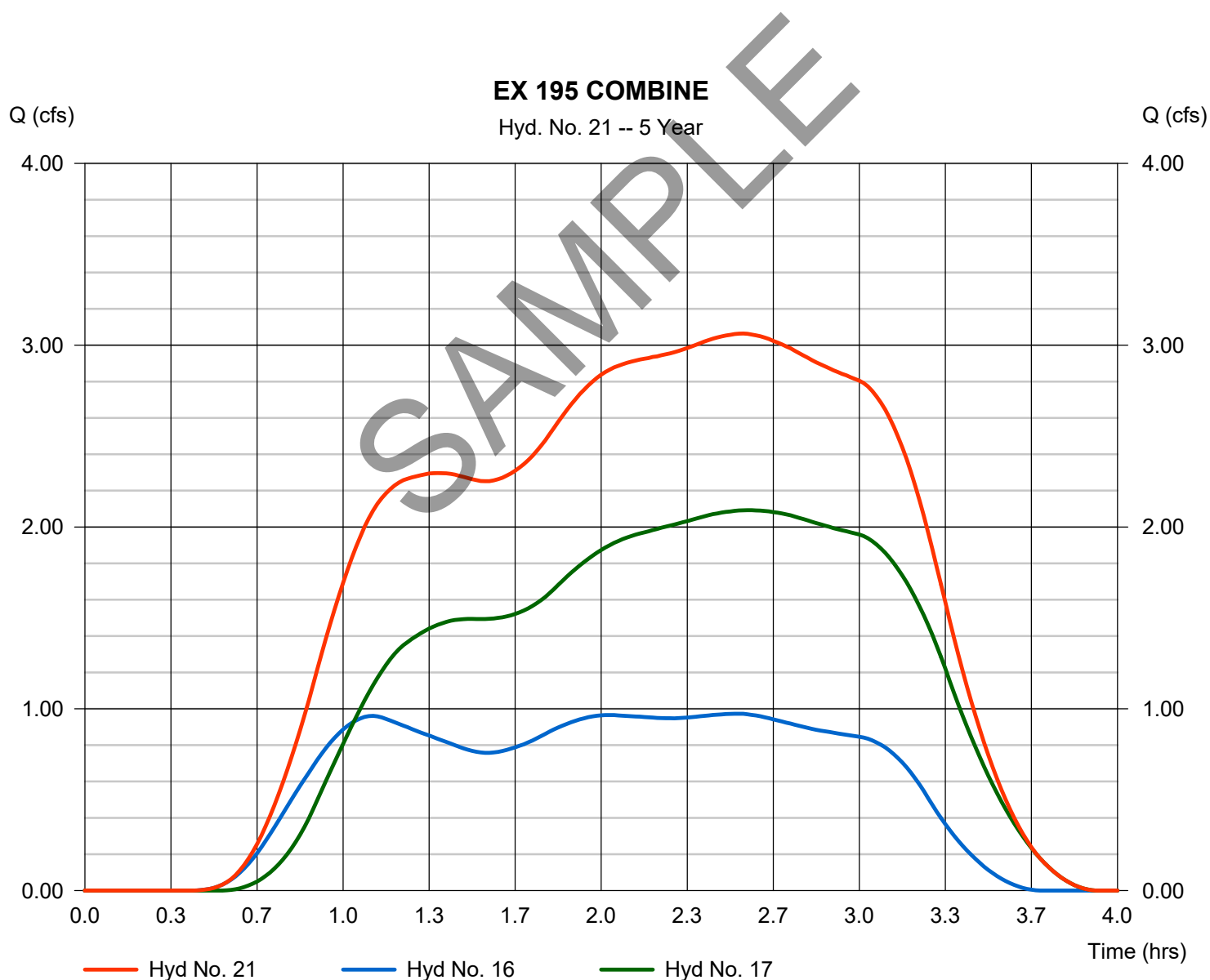
Tuesday, 03 / 19 / 2019

Hyd. No. 21

EX 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 3 hr
Time interval = 1 min
Inflow hyds. = 16, 17

Peak discharge = 3.064 cfs
Time to peak = 2.55 hrs
Hyd. volume = 24,032 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

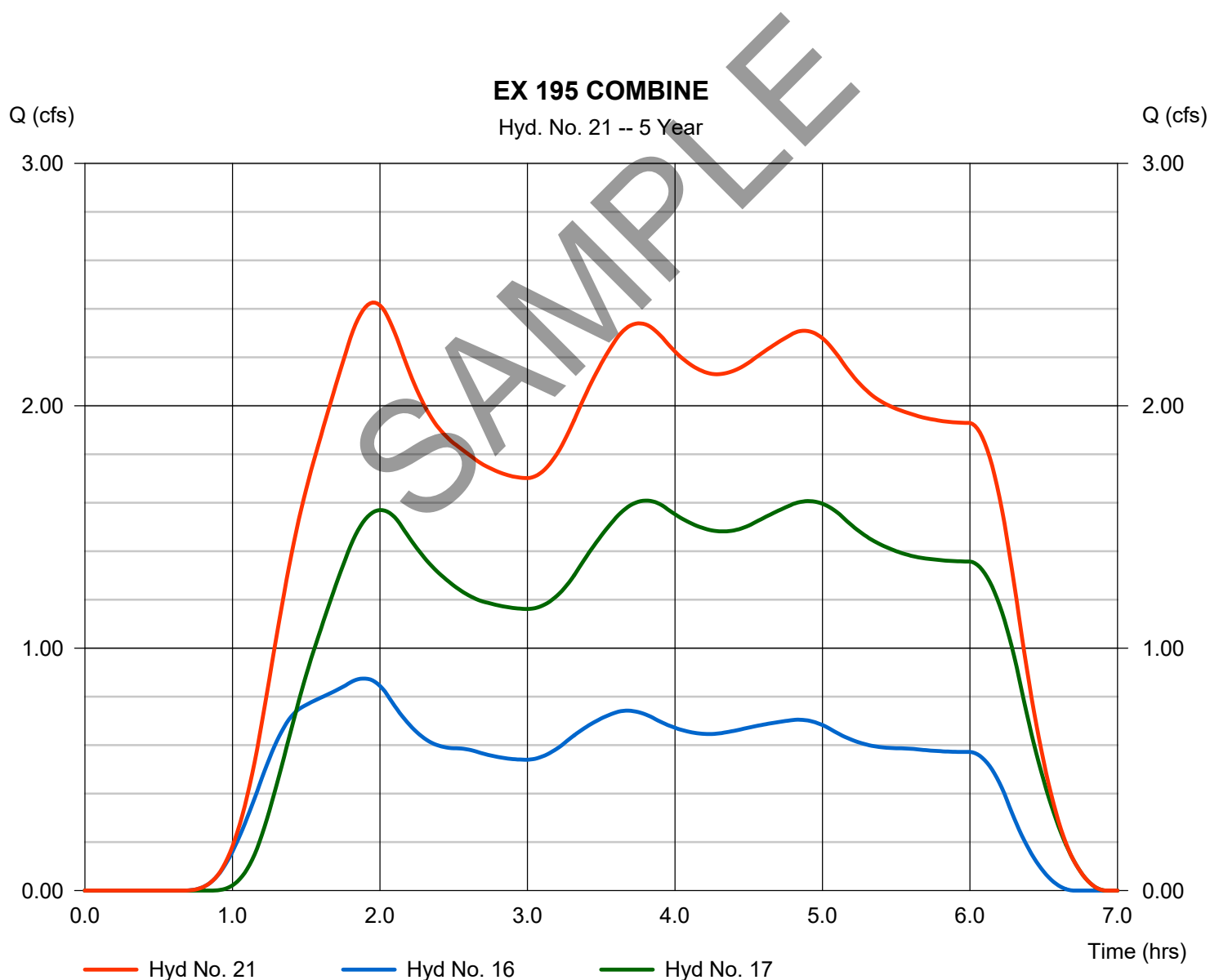
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Hyd. No. 21

EX 195 COMBINE

Hydrograph type	= Combine	Peak discharge	= 2.426 cfs
Storm frequency	= 5 yrs, 6 hr	Time to peak	= 1.95 hrs
Time interval	= 1 min	Hyd. volume	= 37,929 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 14.600 ac



Hydrograph Report

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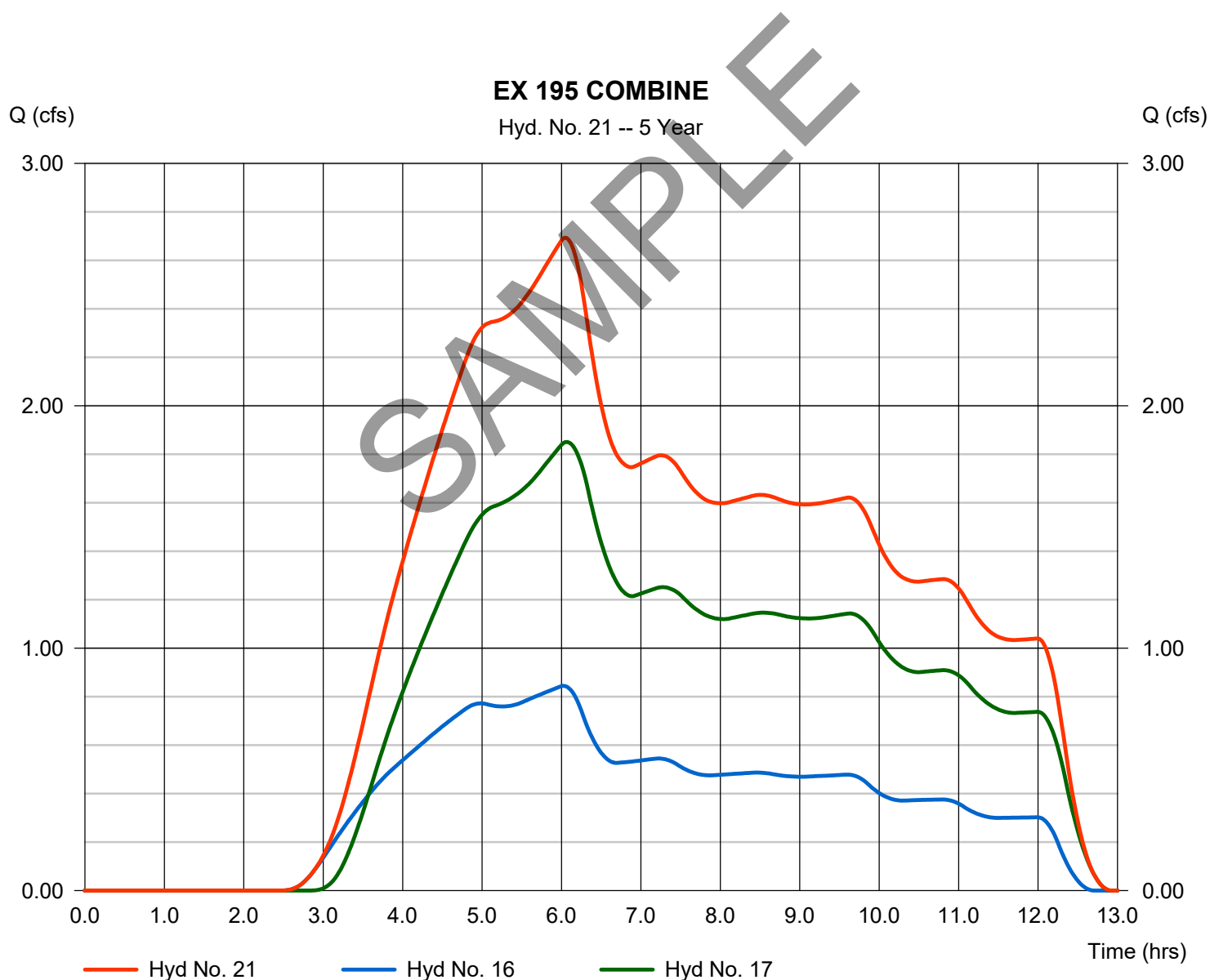
Tuesday, 03 / 19 / 2019

Hyd. No. 21

EX 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 12 hr
Time interval = 1 min
Inflow hyds. = 16, 17

Peak discharge = 2.693 cfs
Time to peak = 6.05 hrs
Hyd. volume = 53,635 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

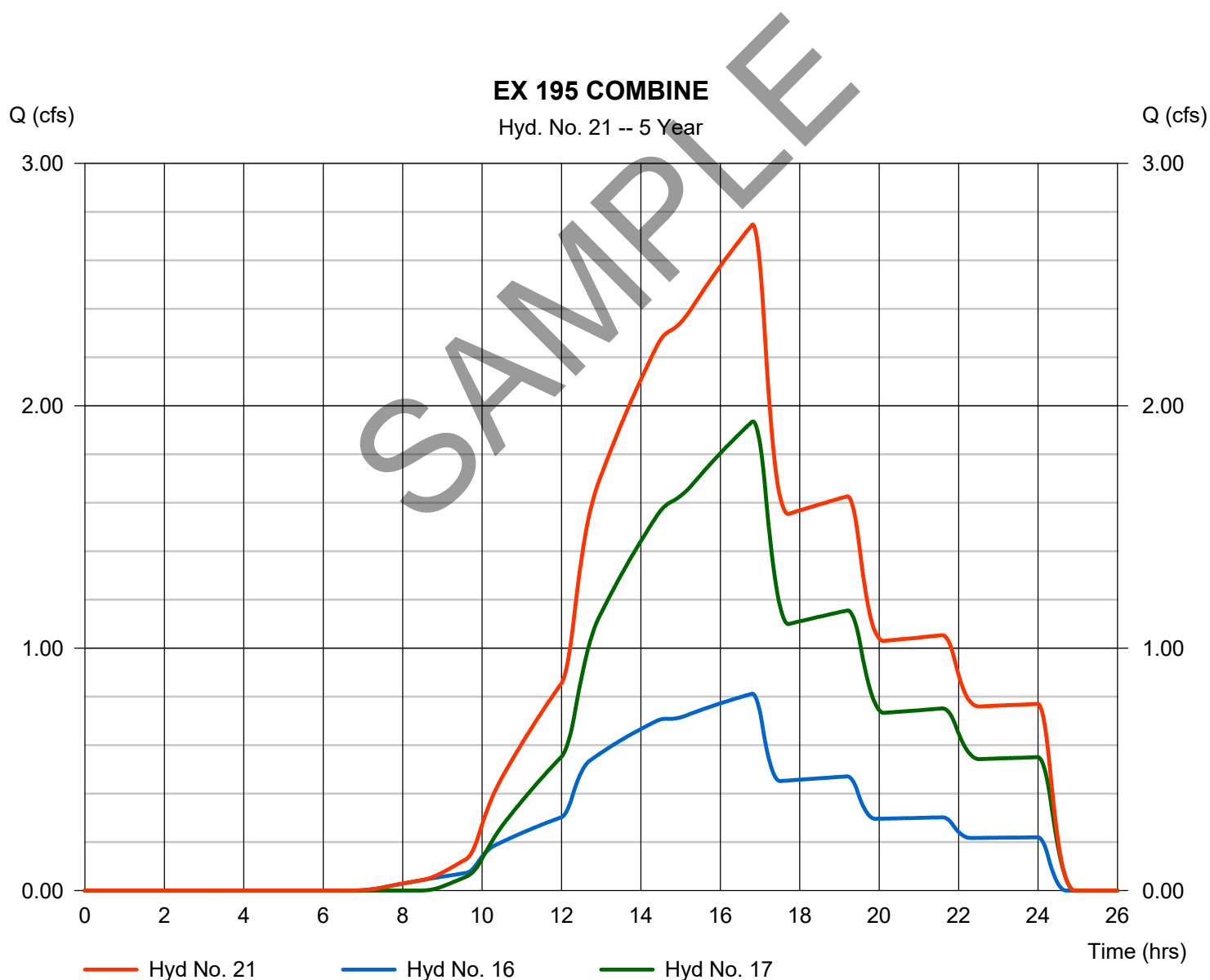
Tuesday, 03 / 19 / 2019

Hyd. No. 21

EX 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 24 hr
Time interval = 1 min
Inflow hyds. = 16, 17

Peak discharge = 2.747 cfs
Time to peak = 16.82 hrs
Hyd. volume = 74,474 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

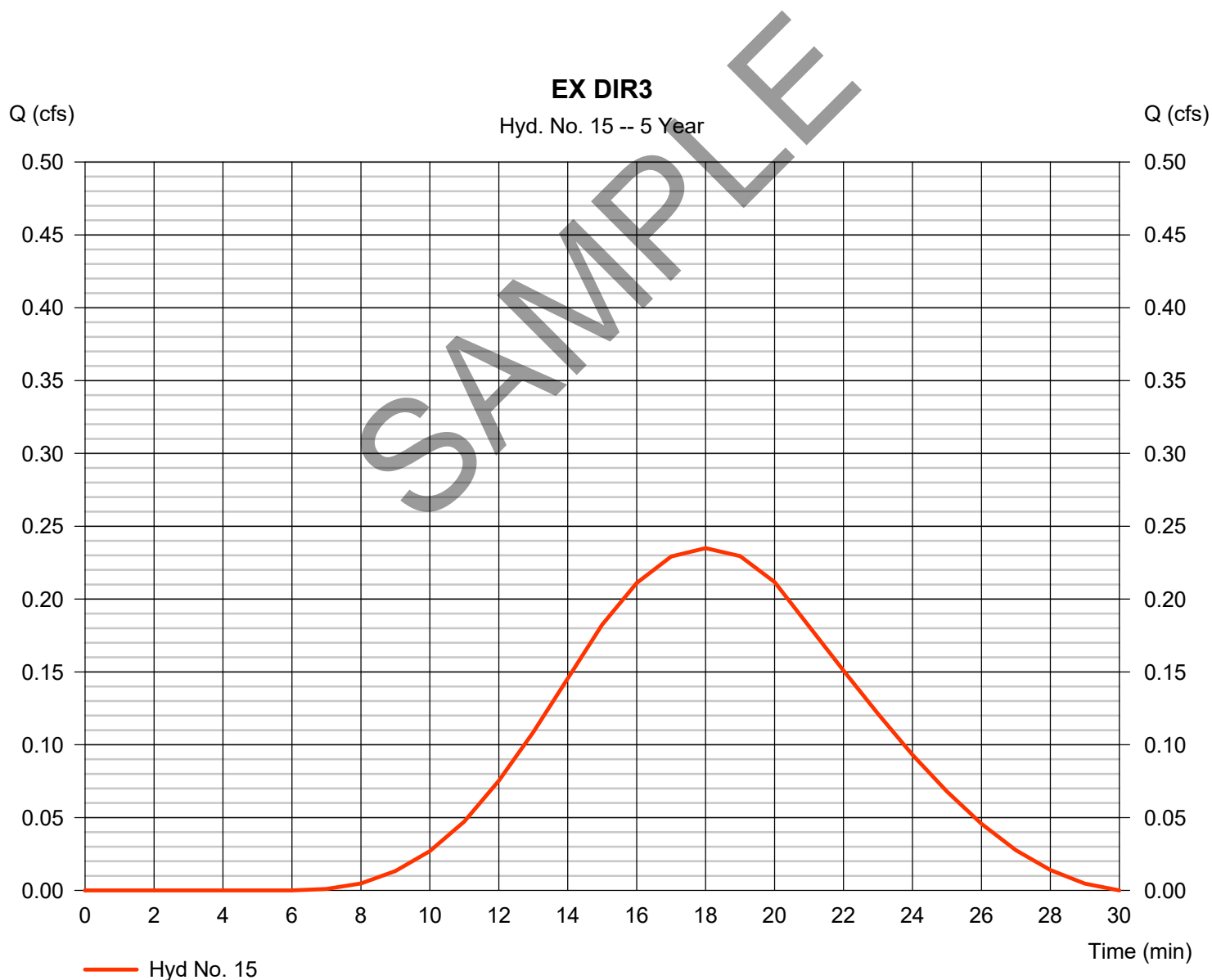
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Tuesday, 03 / 19 / 2019

Hyd. No. 15

EX DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.235 cfs
Storm frequency	= 5 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 146 cuft
Drainage area	= 0.900 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.70 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

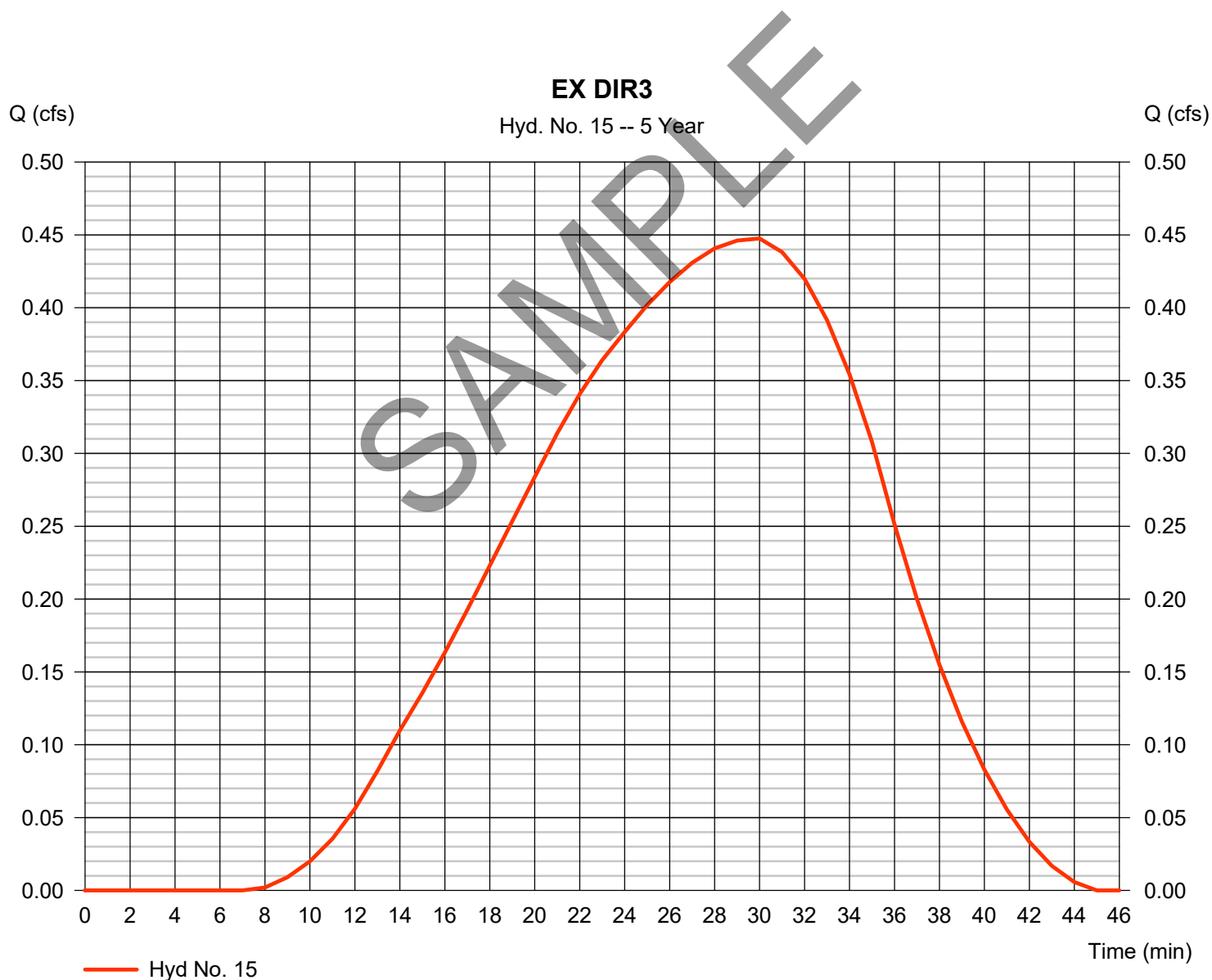
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Tuesday, 03 / 19 / 2019

Hyd. No. 15

EX DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.448 cfs
Storm frequency	= 5 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 503 cuft
Drainage area	= 0.900 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.70 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

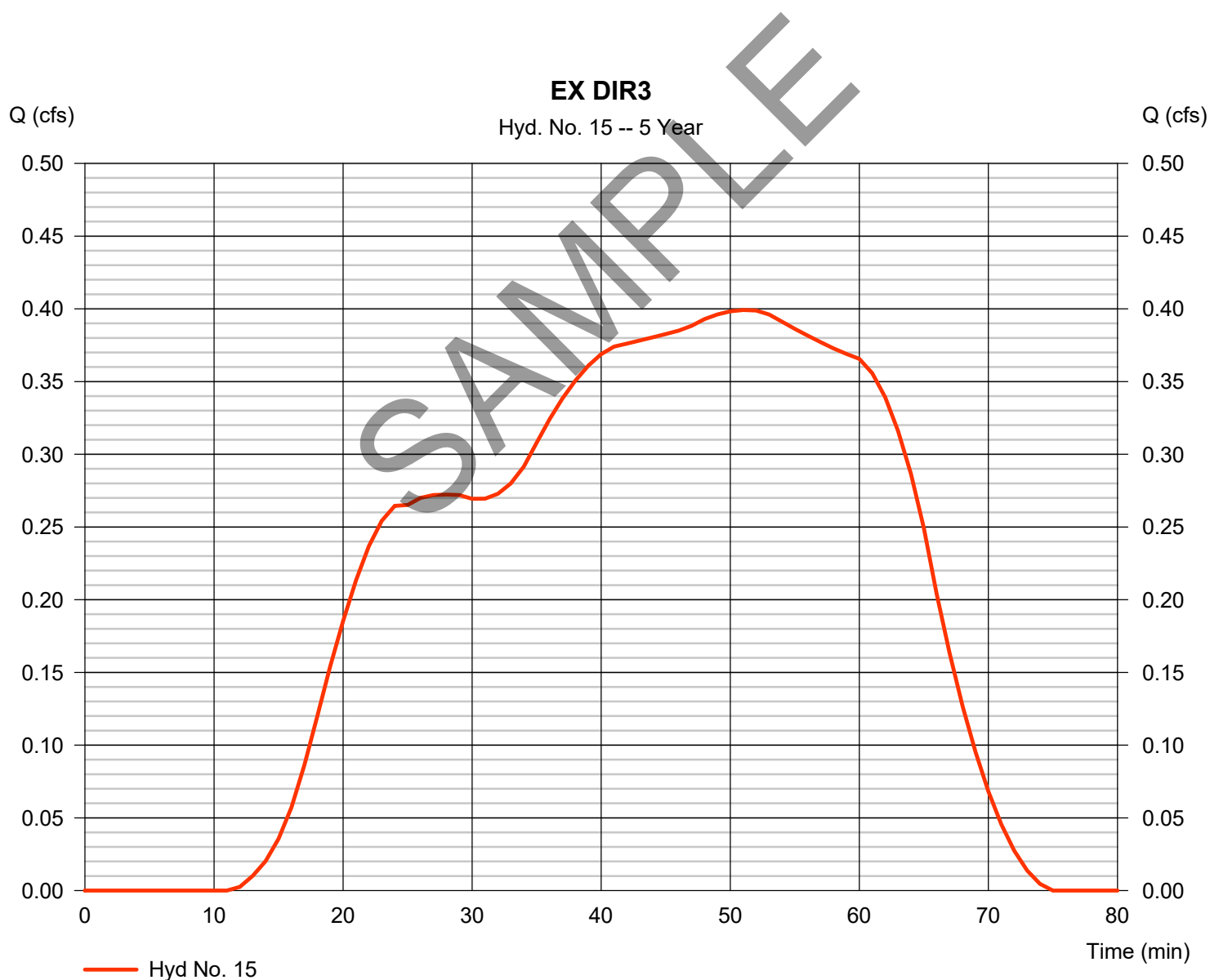
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Tuesday, 03 / 19 / 2019

Hyd. No. 15

EX DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.399 cfs
Storm frequency	= 5 yrs	Time to peak	= 51 min
Time interval	= 1 min	Hyd. volume	= 985 cuft
Drainage area	= 0.900 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.70 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

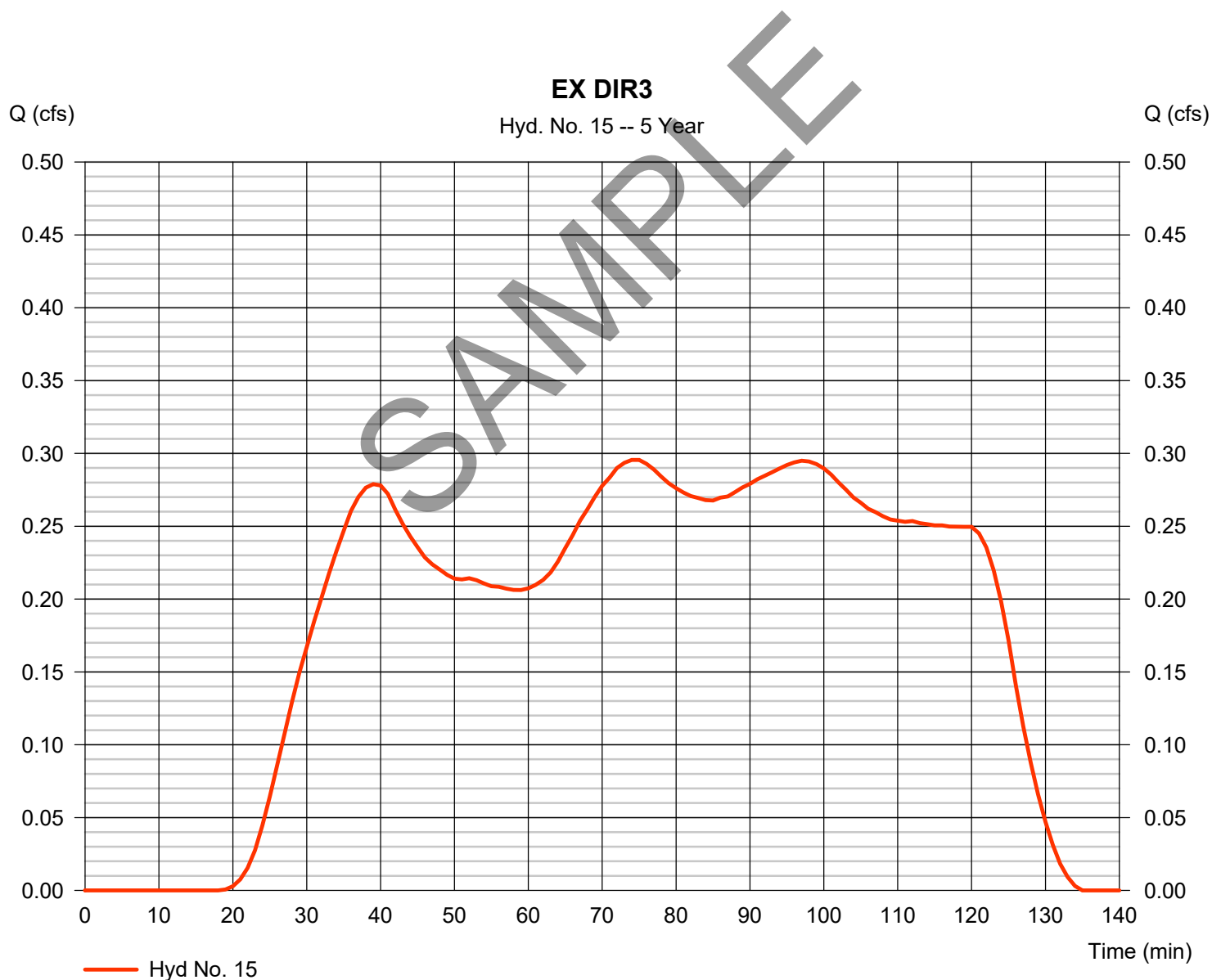
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Hyd. No. 15

EX DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.296 cfs
Storm frequency	= 5 yrs	Time to peak	= 74 min
Time interval	= 1 min	Hyd. volume	= 1,523 cuft
Drainage area	= 0.900 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.70 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

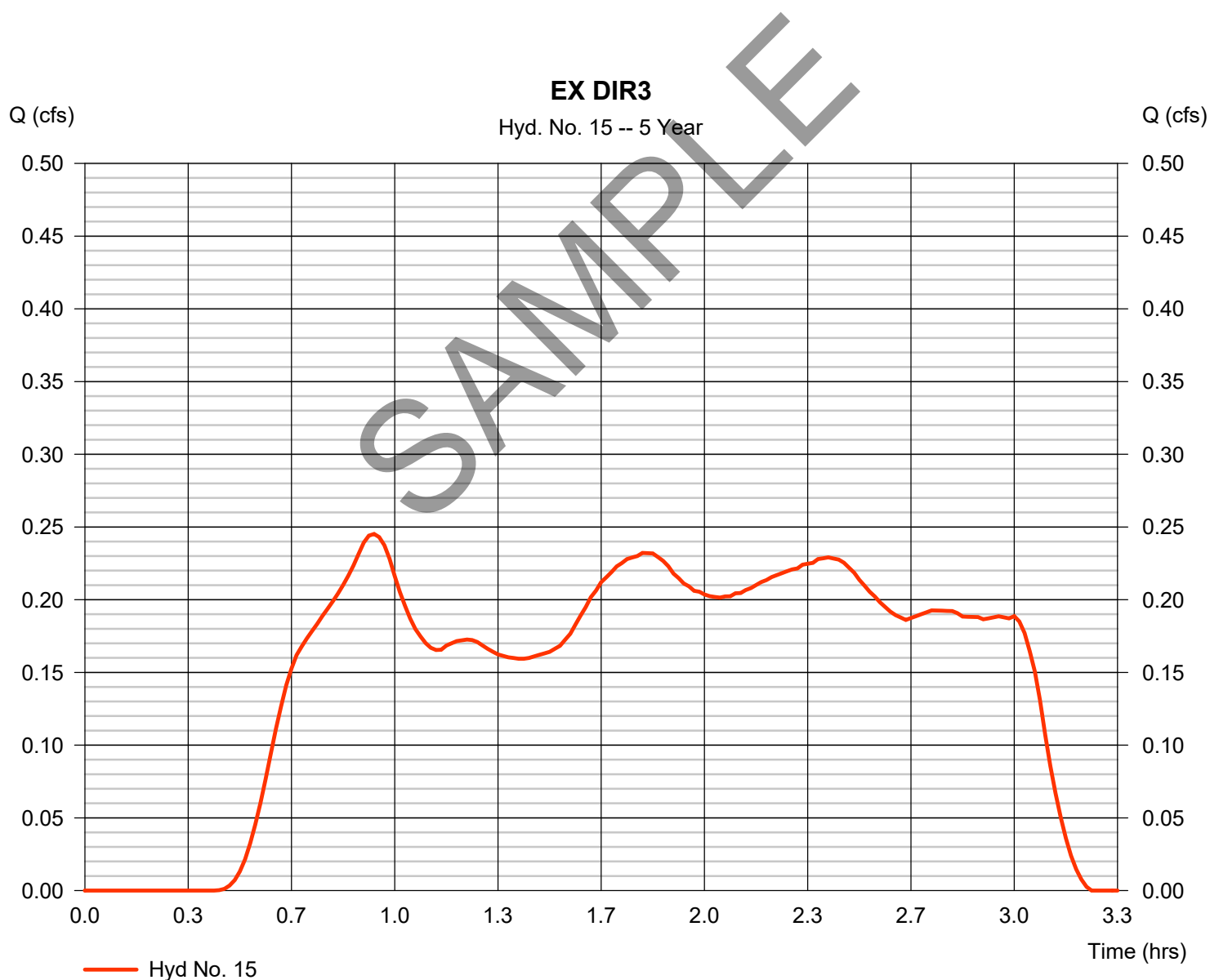
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Hyd. No. 15

EX DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.245 cfs
Storm frequency	= 5 yrs	Time to peak	= 0.93 hrs
Time interval	= 1 min	Hyd. volume	= 1,792 cuft
Drainage area	= 0.900 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.70 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

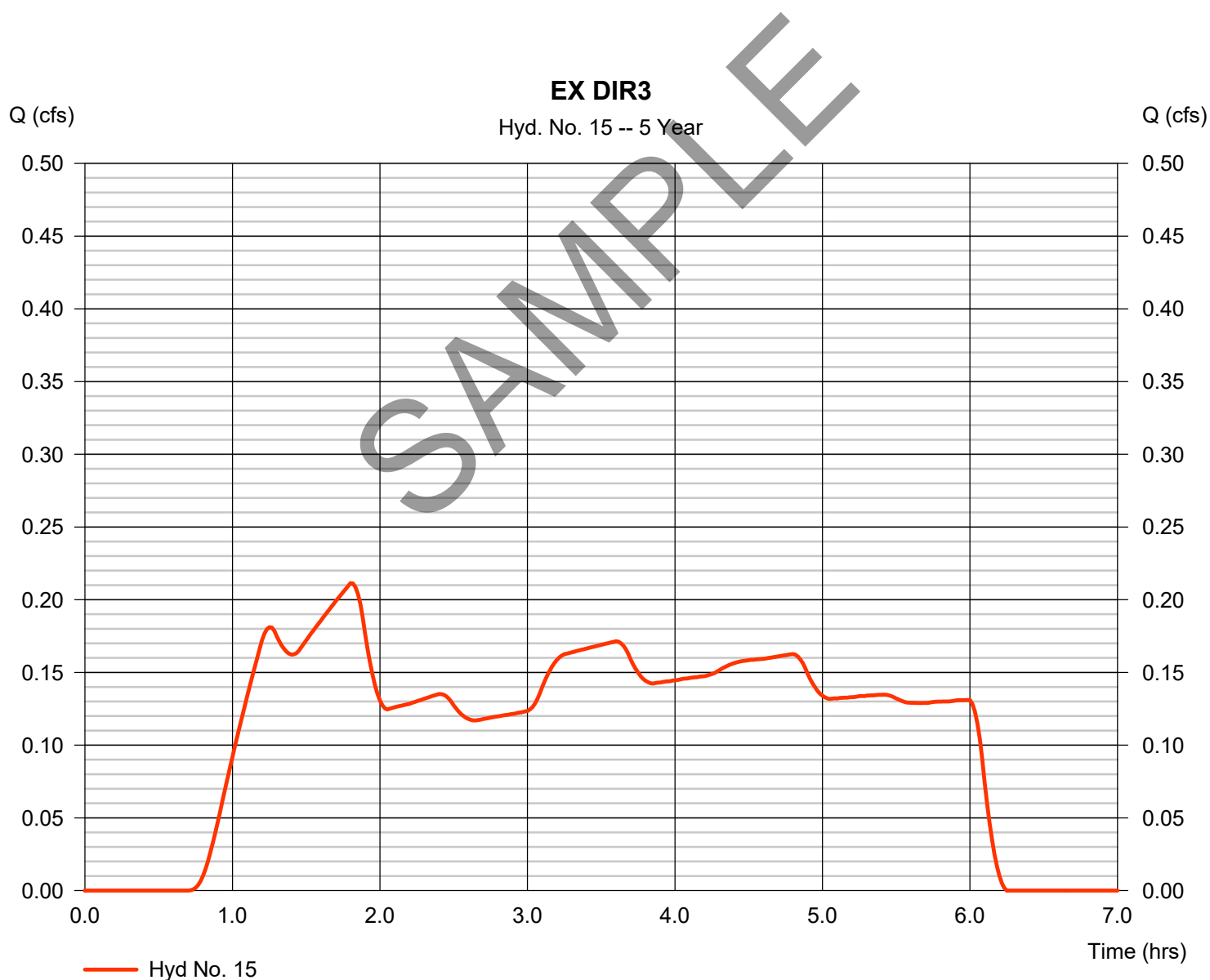
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Hyd. No. 15

EX DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.211 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.80 hrs
Time interval	= 1 min	Hyd. volume	= 2,737 cuft
Drainage area	= 0.900 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.70 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

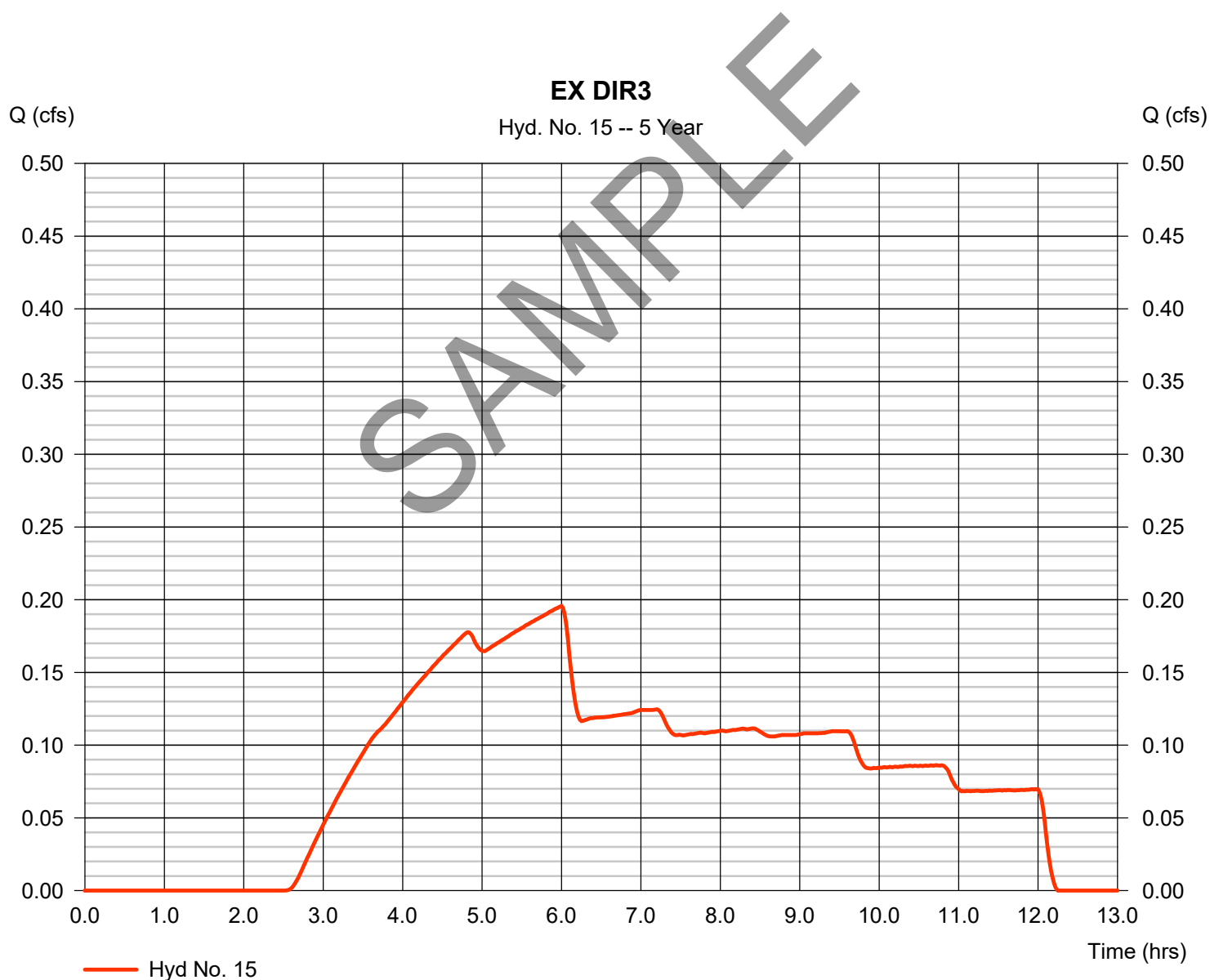
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Tuesday, 03 / 19 / 2019

Hyd. No. 15

EX DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.196 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 3,786 cuft
Drainage area	= 0.900 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.70 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

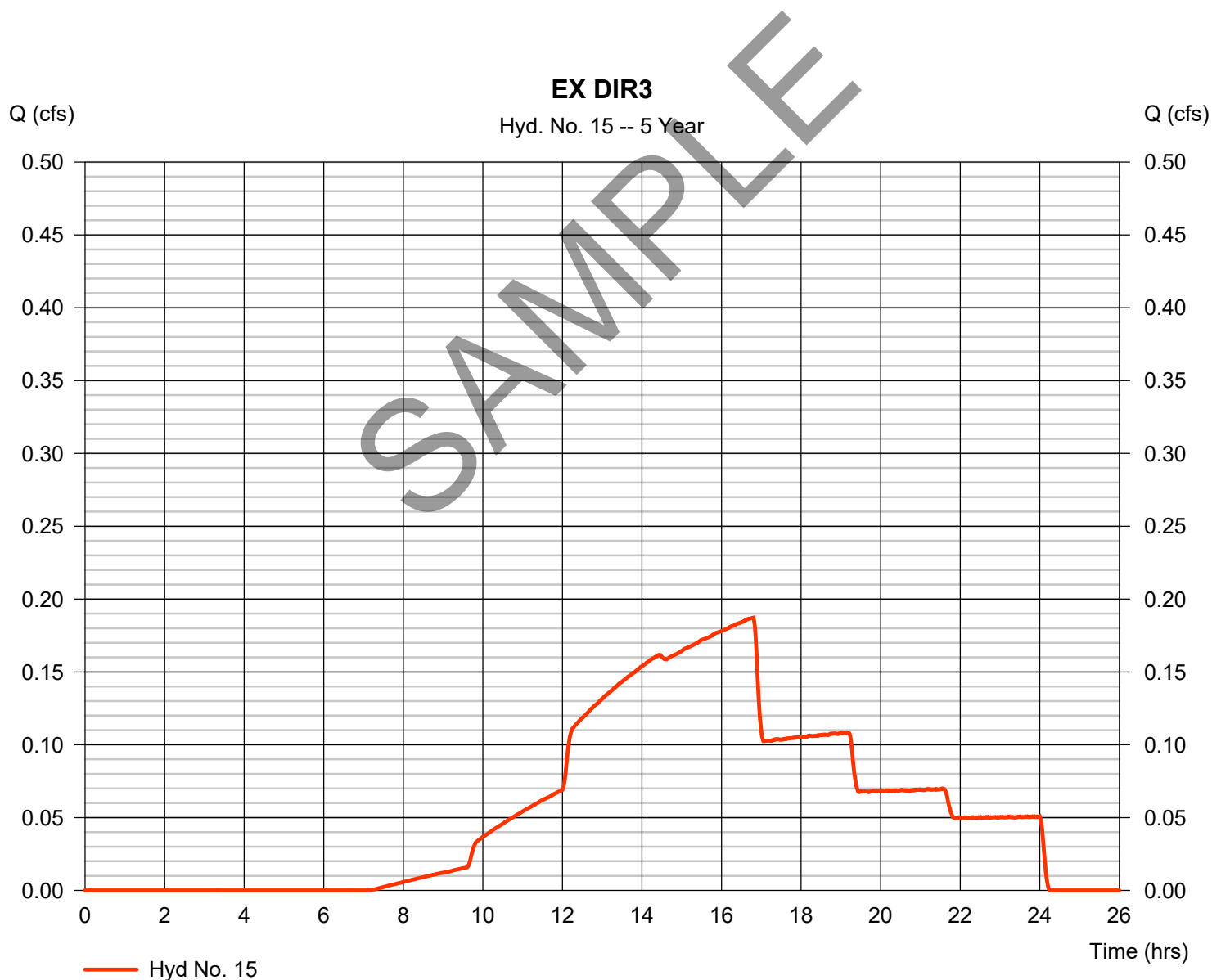
Tuesday, 03 / 19 / 2019

Hyd. No. 15

EX DIR3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.187 cfs
Time to peak = 16.80 hrs
Hyd. volume = 5,160 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.70 min
Distribution = Custom
Shape factor = 484

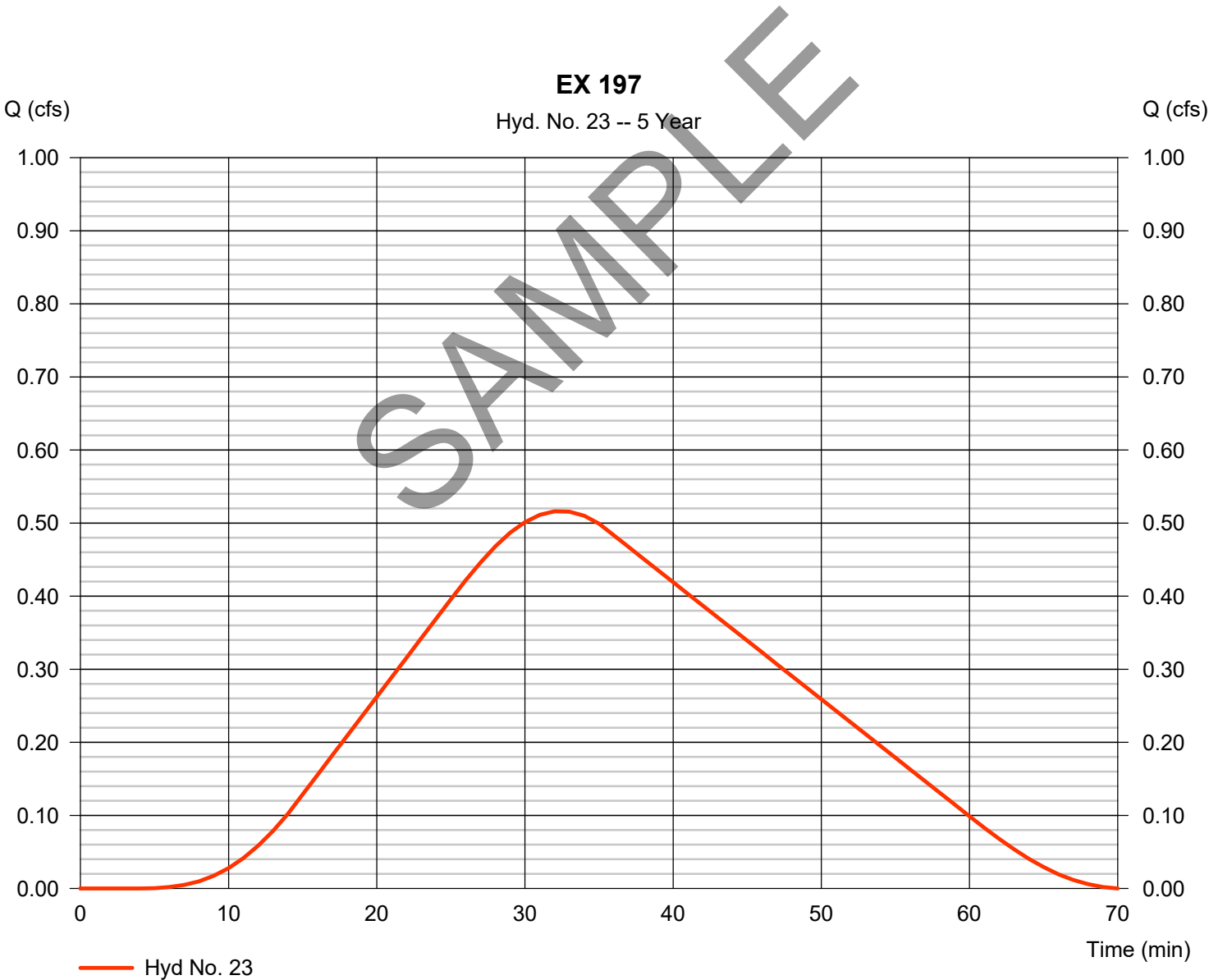


Hydrograph Report

Hyd. No. 23

EX 197

Hydrograph type	= SCS Runoff	Peak discharge	= 0.516 cfs
Storm frequency	= 5 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 942 cuft
Drainage area	= 3.300 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.90 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

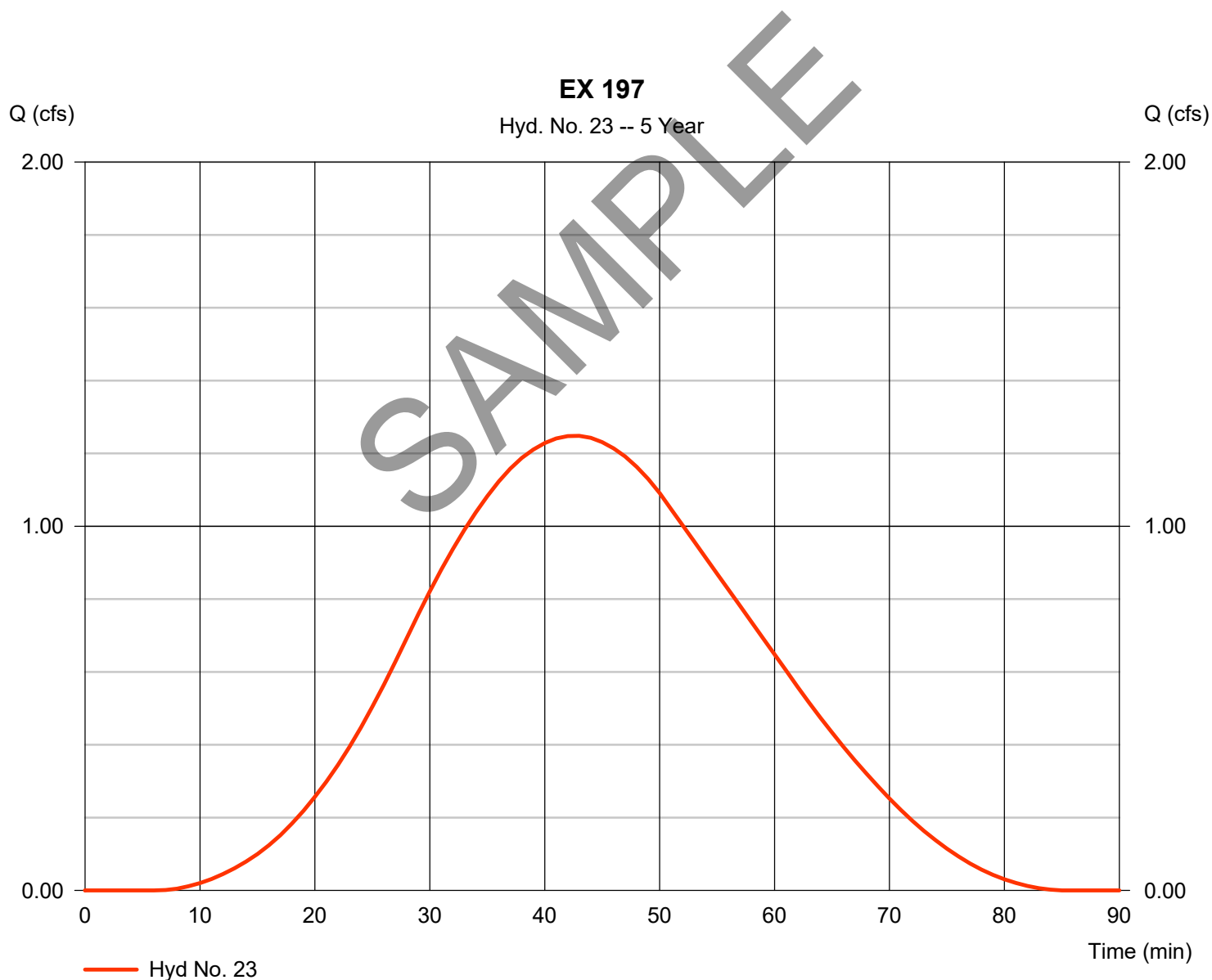
Tuesday, 03 / 19 / 2019

Hyd. No. 23

EX 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 1.248 cfs
Time to peak = 43 min
Hyd. volume = 2,605 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484

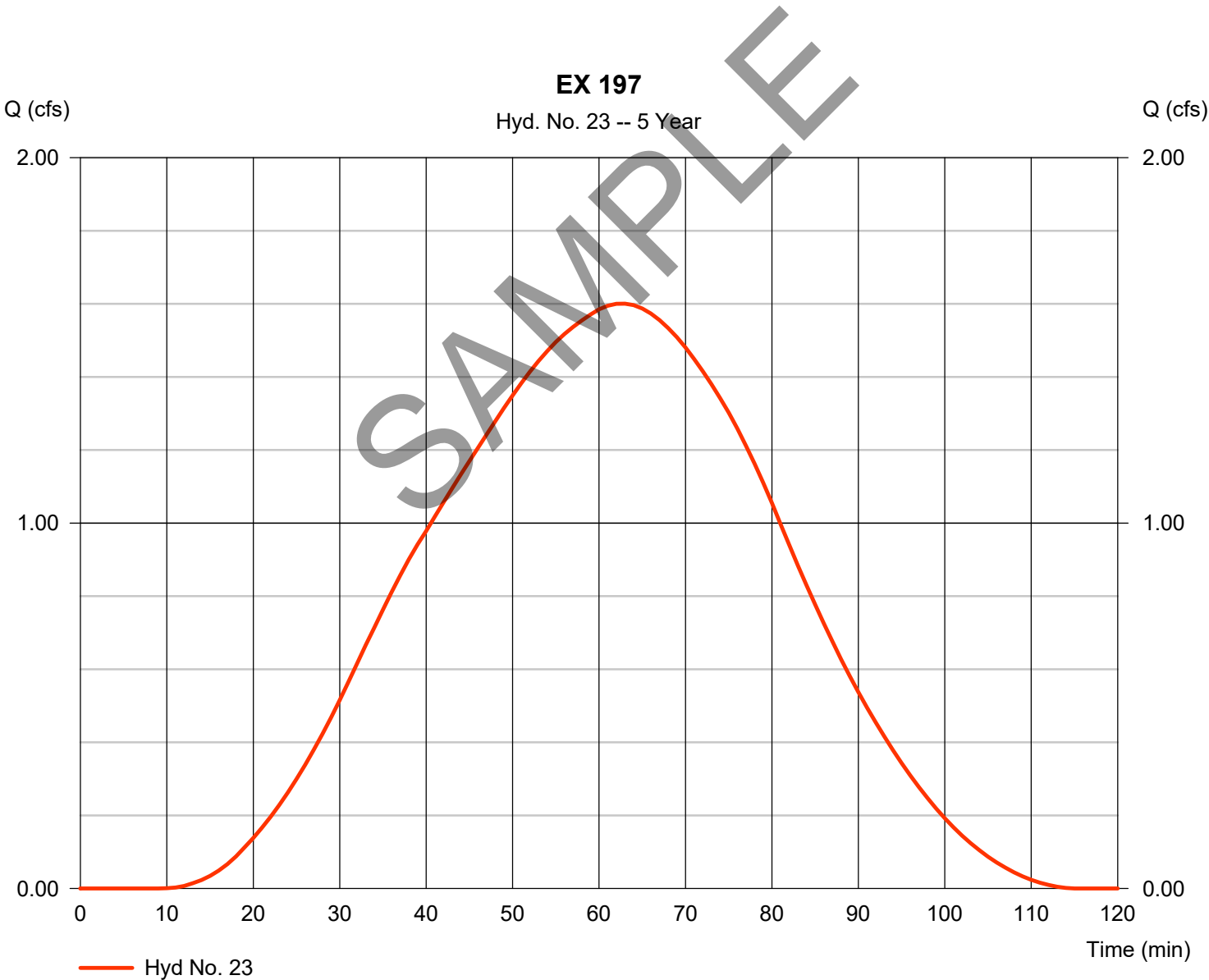


Hydrograph Report

Hyd. No. 23

EX 197

Hydrograph type	= SCS Runoff	Peak discharge	= 1.601 cfs
Storm frequency	= 5 yrs	Time to peak	= 63 min
Time interval	= 1 min	Hyd. volume	= 4,714 cuft
Drainage area	= 3.300 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.90 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

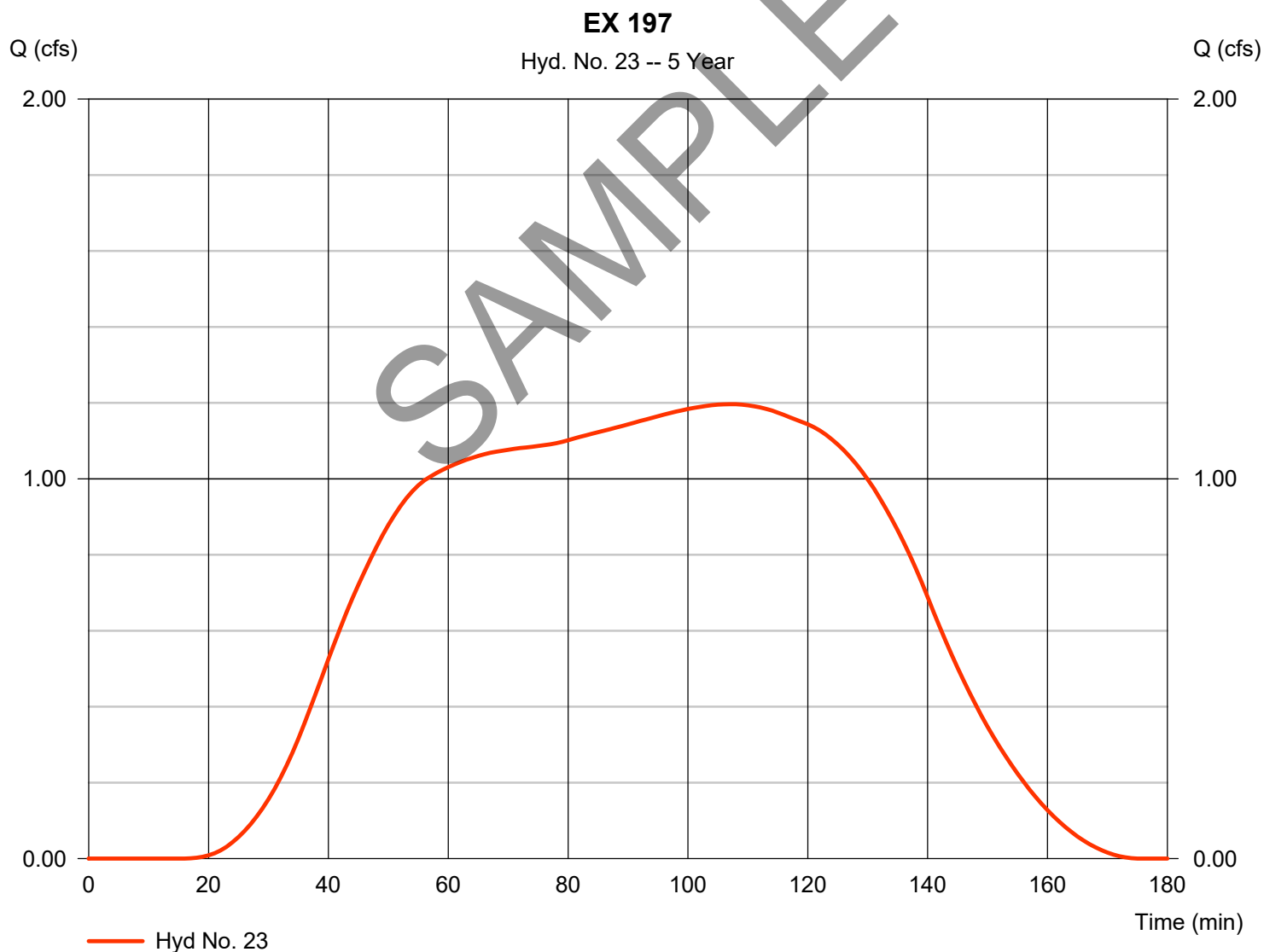
Tuesday, 03 / 19 / 2019

Hyd. No. 23

EX 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 1.197 cfs
Time to peak = 107 min
Hyd. volume = 6,971 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

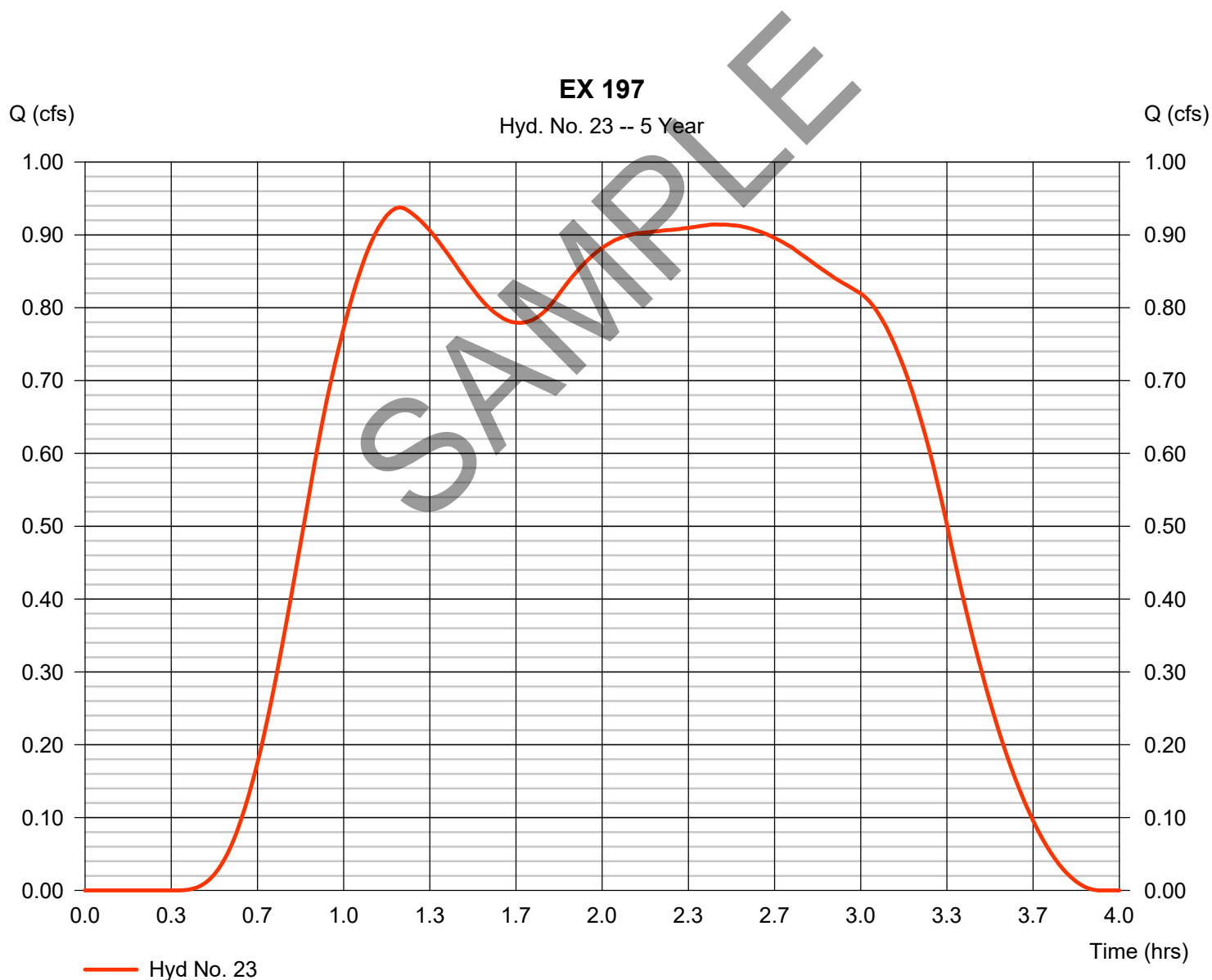
Tuesday, 03 / 19 / 2019

Hyd. No. 23

EX 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.938 cfs
Time to peak = 1.22 hrs
Hyd. volume = 8,082 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

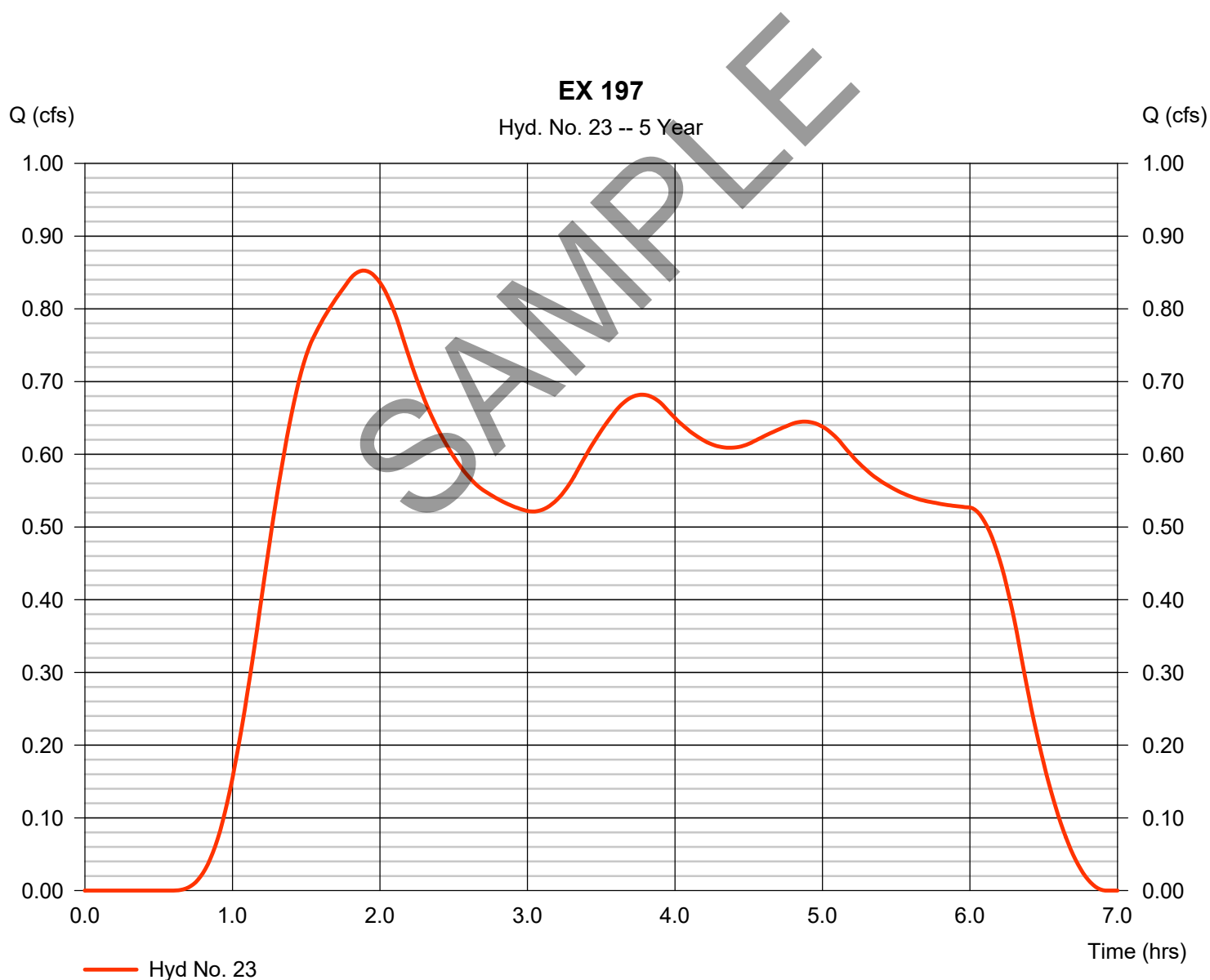
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 23

EX 197

Hydrograph type	= SCS Runoff	Peak discharge	= 0.853 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.88 hrs
Time interval	= 1 min	Hyd. volume	= 11,920 cuft
Drainage area	= 3.300 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.90 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

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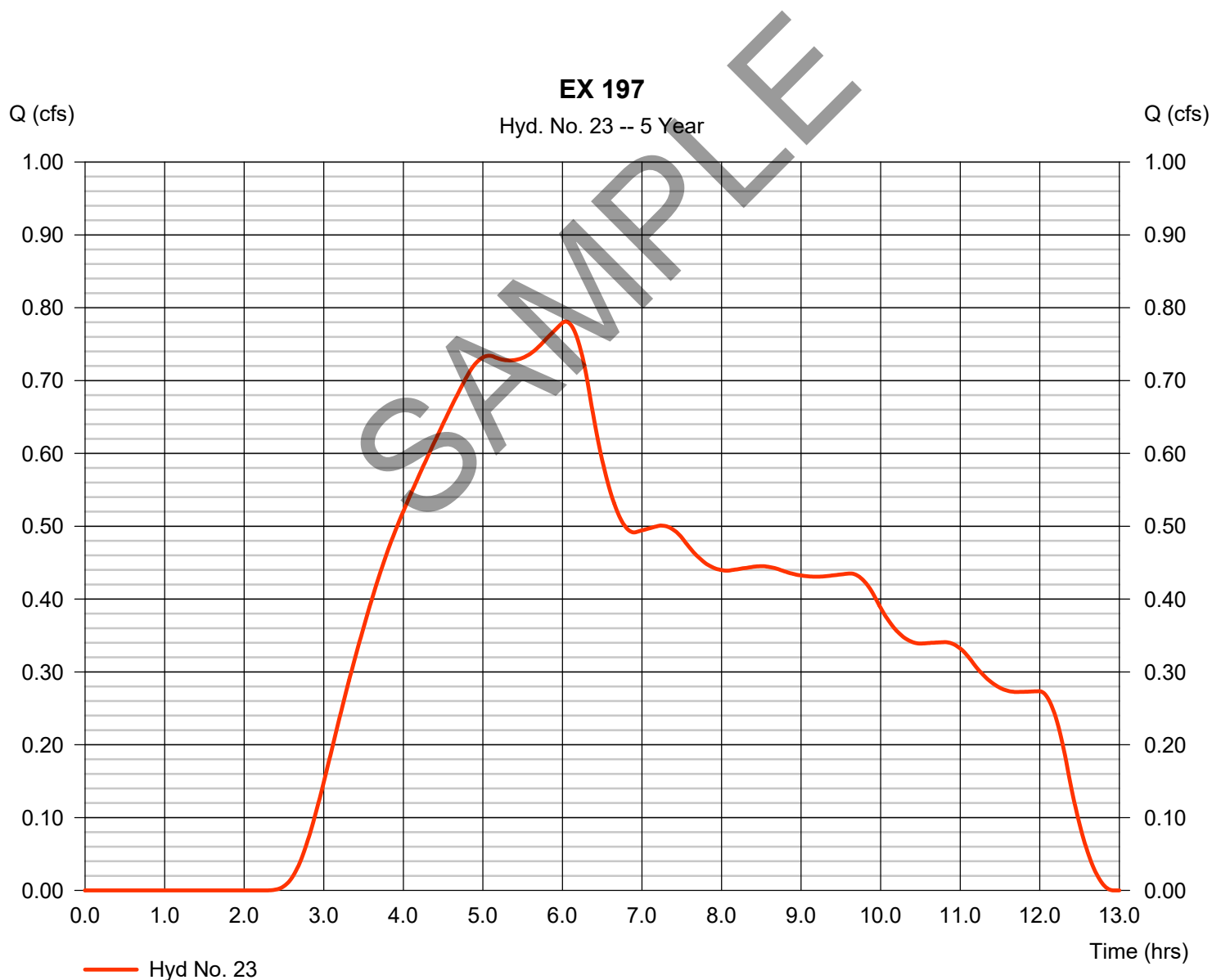
Tuesday, 03 / 19 / 2019

Hyd. No. 23

EX 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.781 cfs
Time to peak = 6.03 hrs
Hyd. volume = 16,103 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

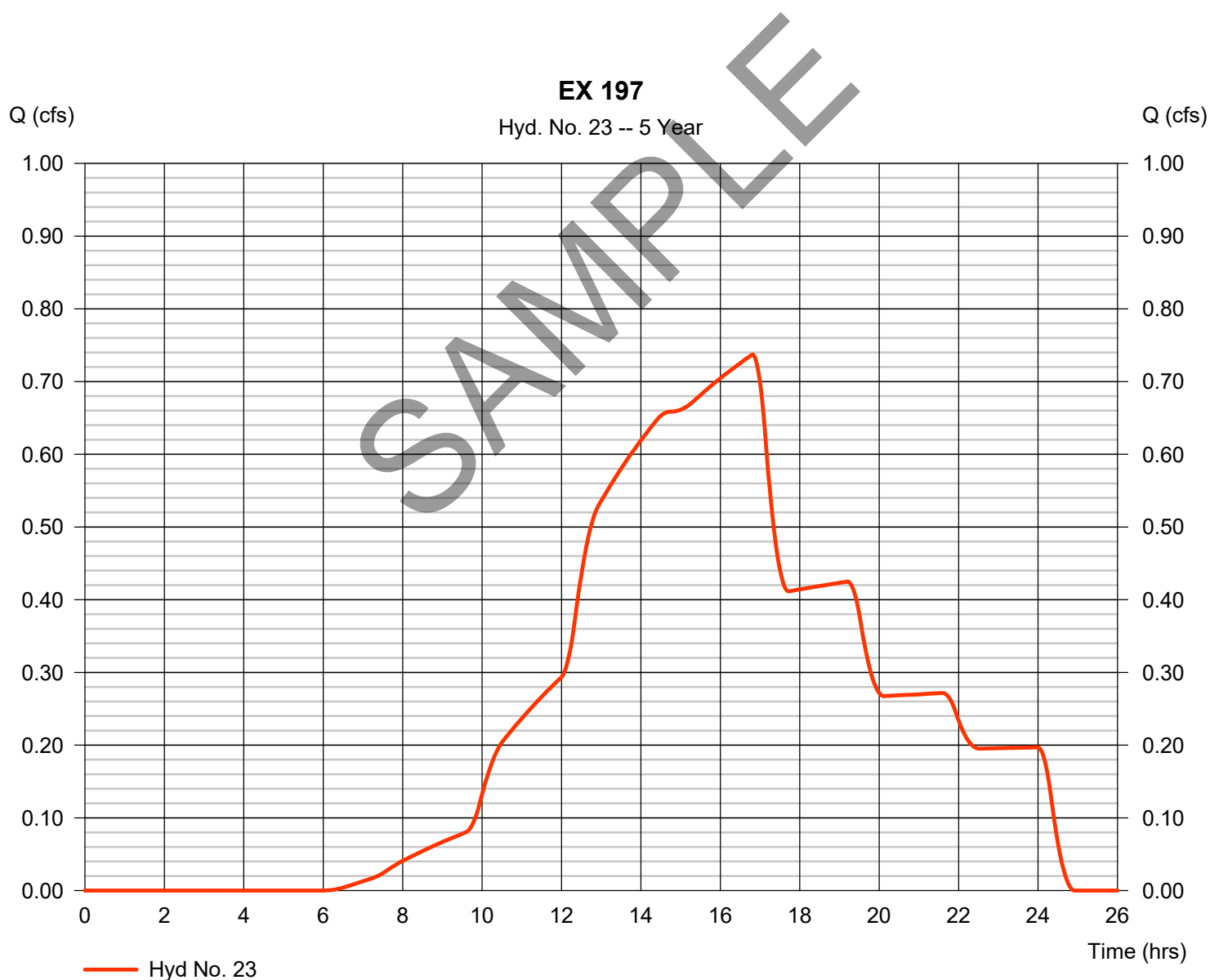
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Hyd. No. 23

EX 197

Hydrograph type	= SCS Runoff	Peak discharge	= 0.737 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.82 hrs
Time interval	= 1 min	Hyd. volume	= 21,495 cuft
Drainage area	= 3.300 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.90 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

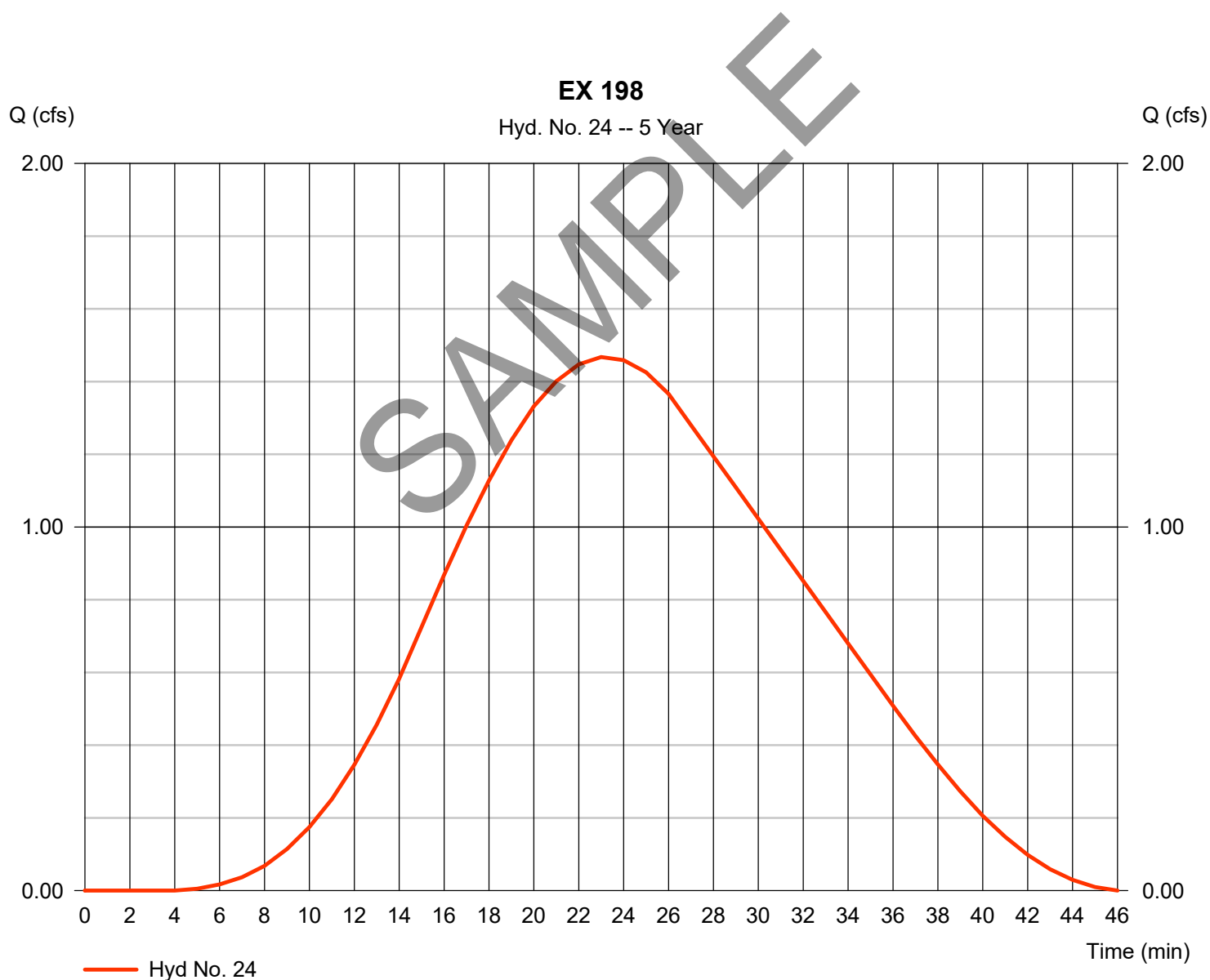
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

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Hyd. No. 24

EX 198

Hydrograph type	= SCS Runoff	Peak discharge	= 1.467 cfs
Storm frequency	= 5 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 1,647 cuft
Drainage area	= 4.900 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

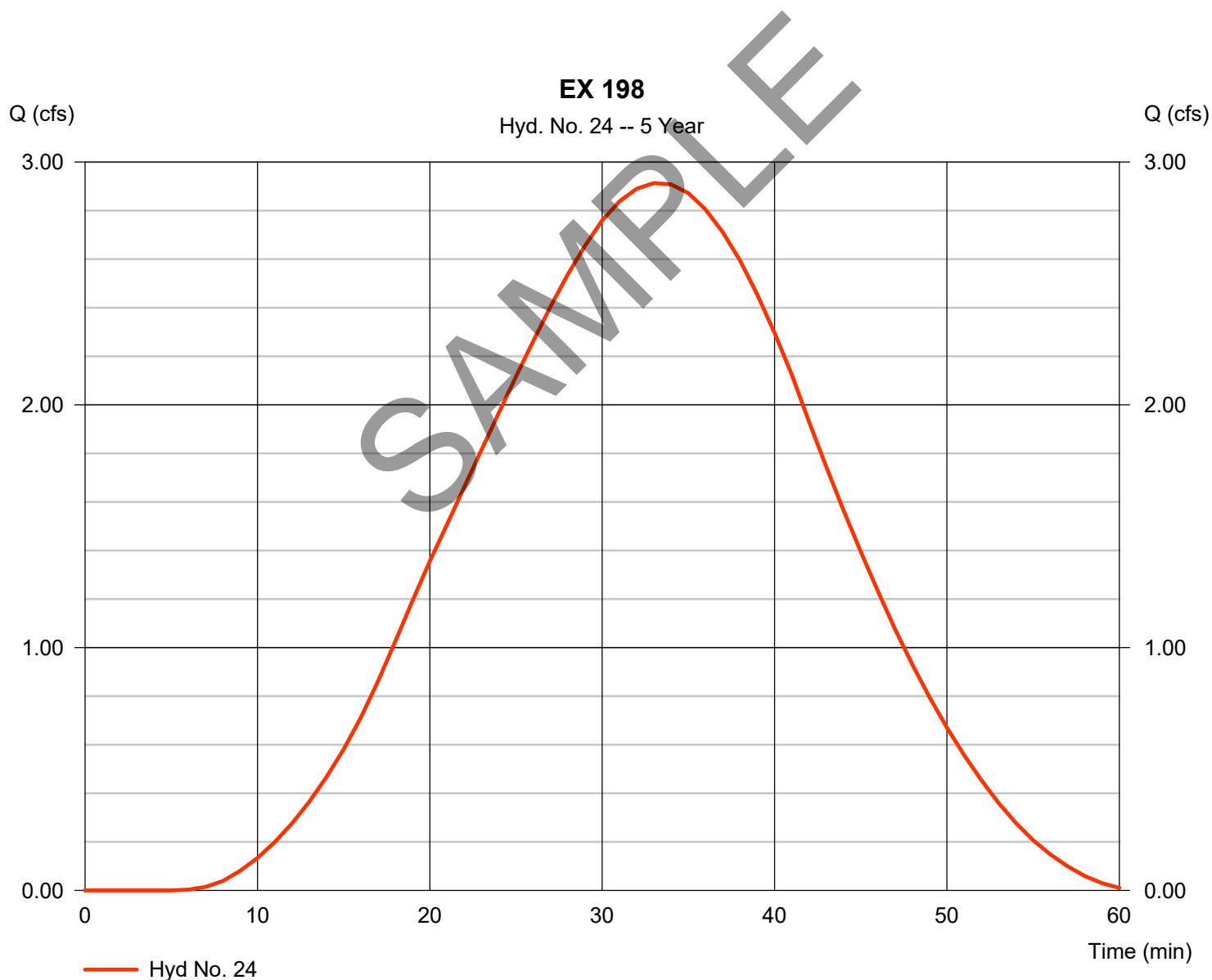
Tuesday, 03 / 19 / 2019

Hyd. No. 24

EX 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 2.914 cfs
Time to peak = 33 min
Hyd. volume = 4,316 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

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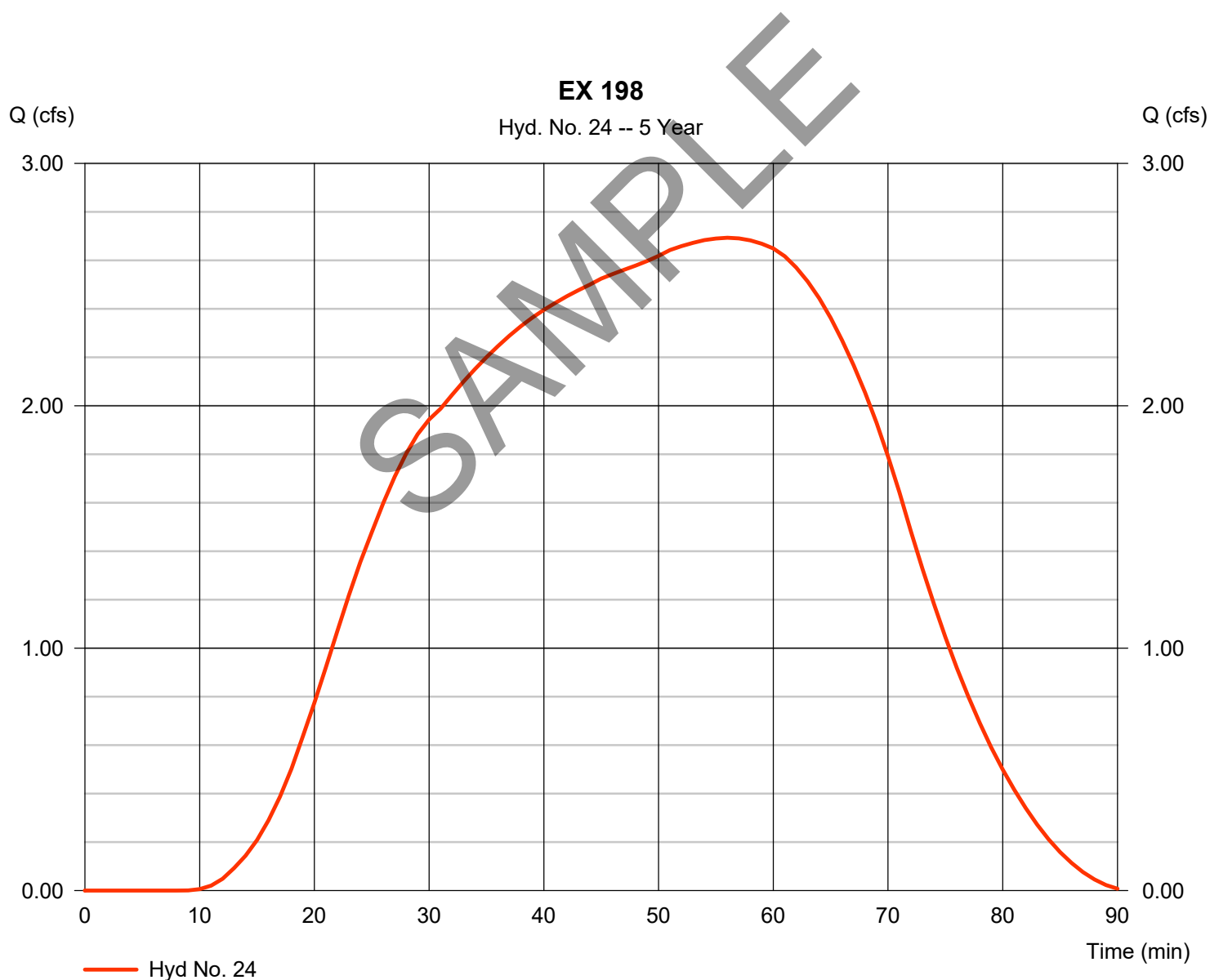
Tuesday, 03 / 19 / 2019

Hyd. No. 24

EX 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 2.693 cfs
Time to peak = 56 min
Hyd. volume = 7,606 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.20 min
Distribution = Custom
Shape factor = 484

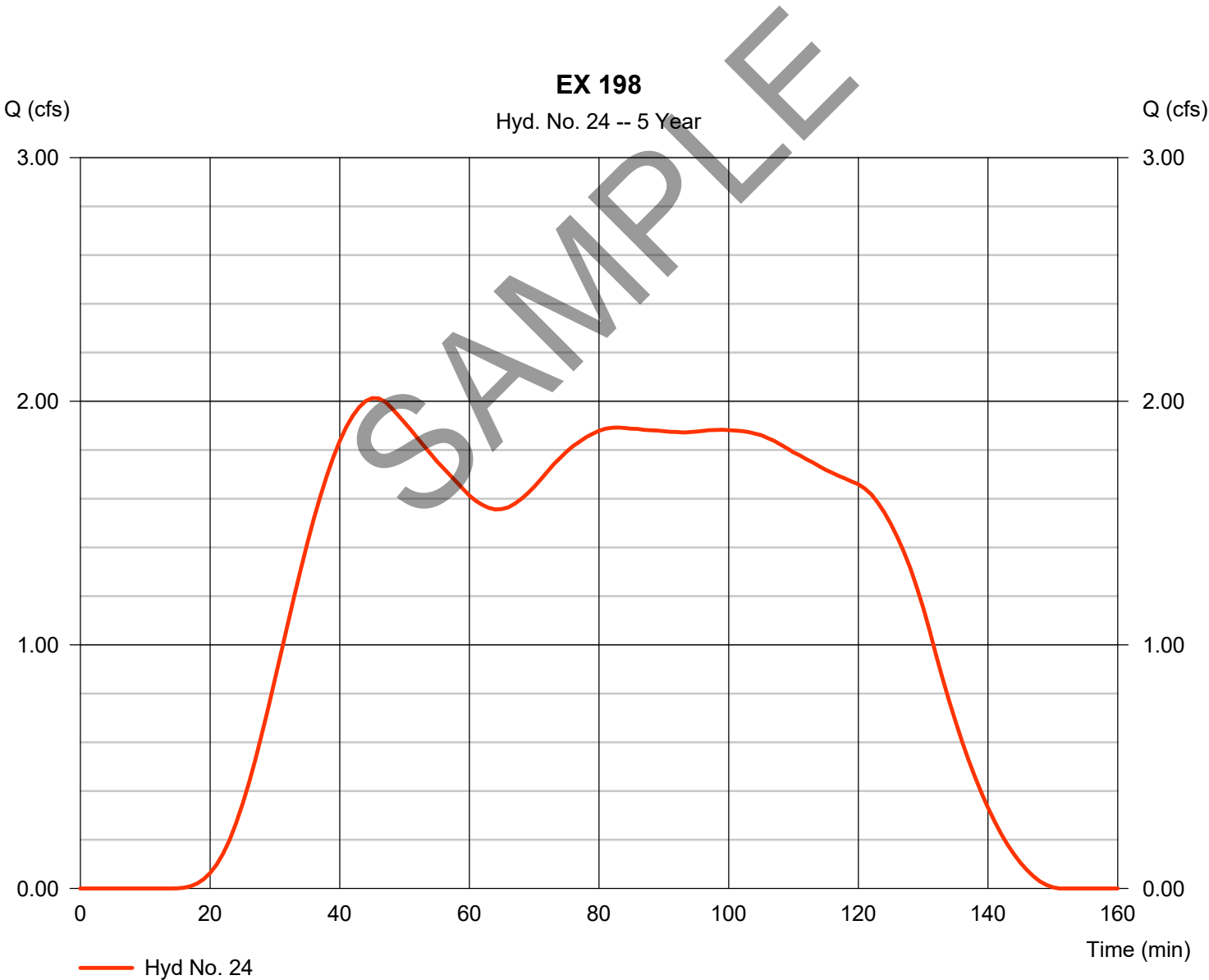


Hydrograph Report

Hyd. No. 24

EX 198

Hydrograph type	= SCS Runoff	Peak discharge	= 2.013 cfs
Storm frequency	= 5 yrs	Time to peak	= 45 min
Time interval	= 1 min	Hyd. volume	= 11,106 cuft
Drainage area	= 4.900 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

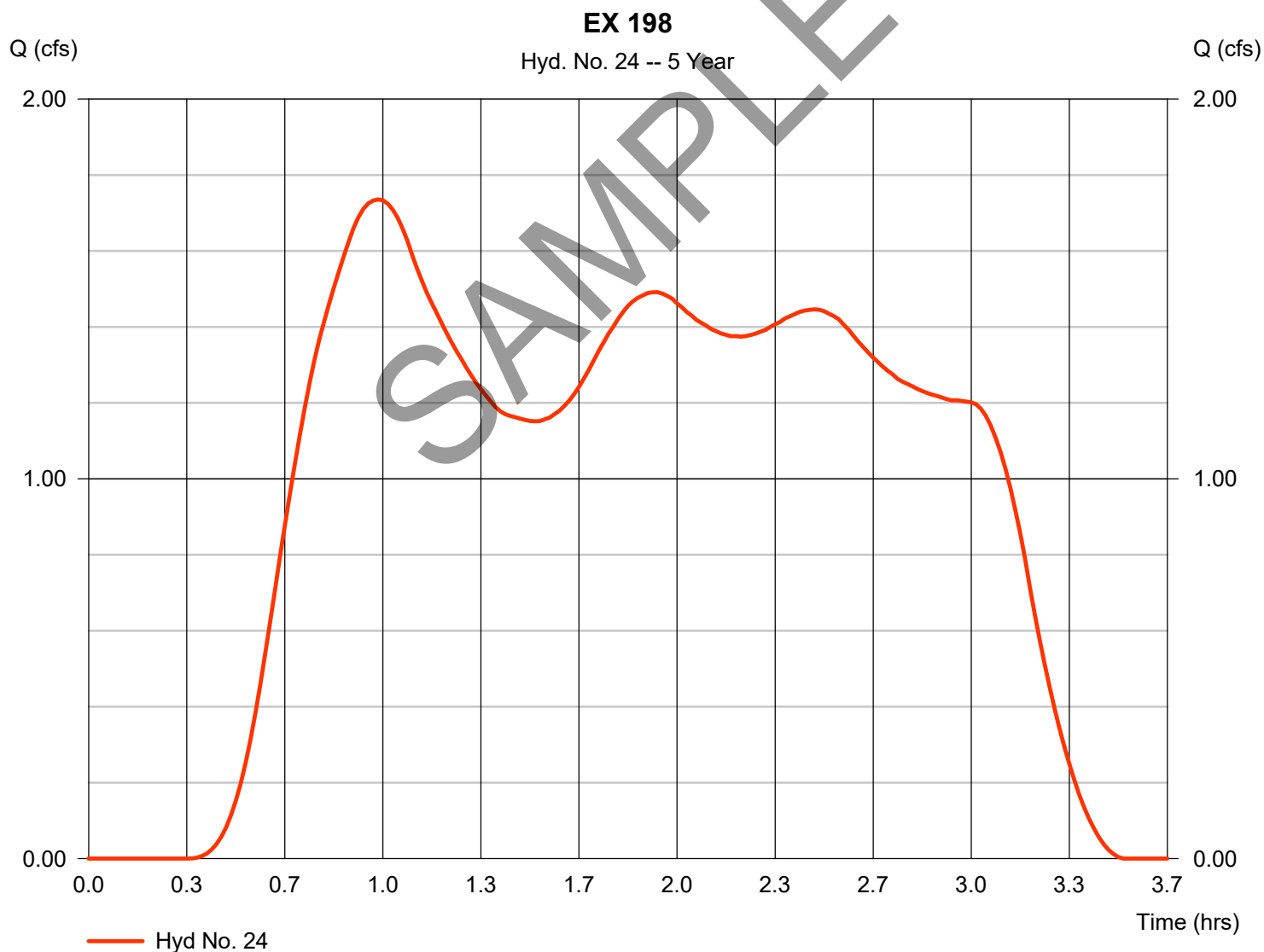
Tuesday, 03 / 19 / 2019

Hyd. No. 24

EX 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 1.736 cfs
Time to peak = 0.98 hrs
Hyd. volume = 12,817 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

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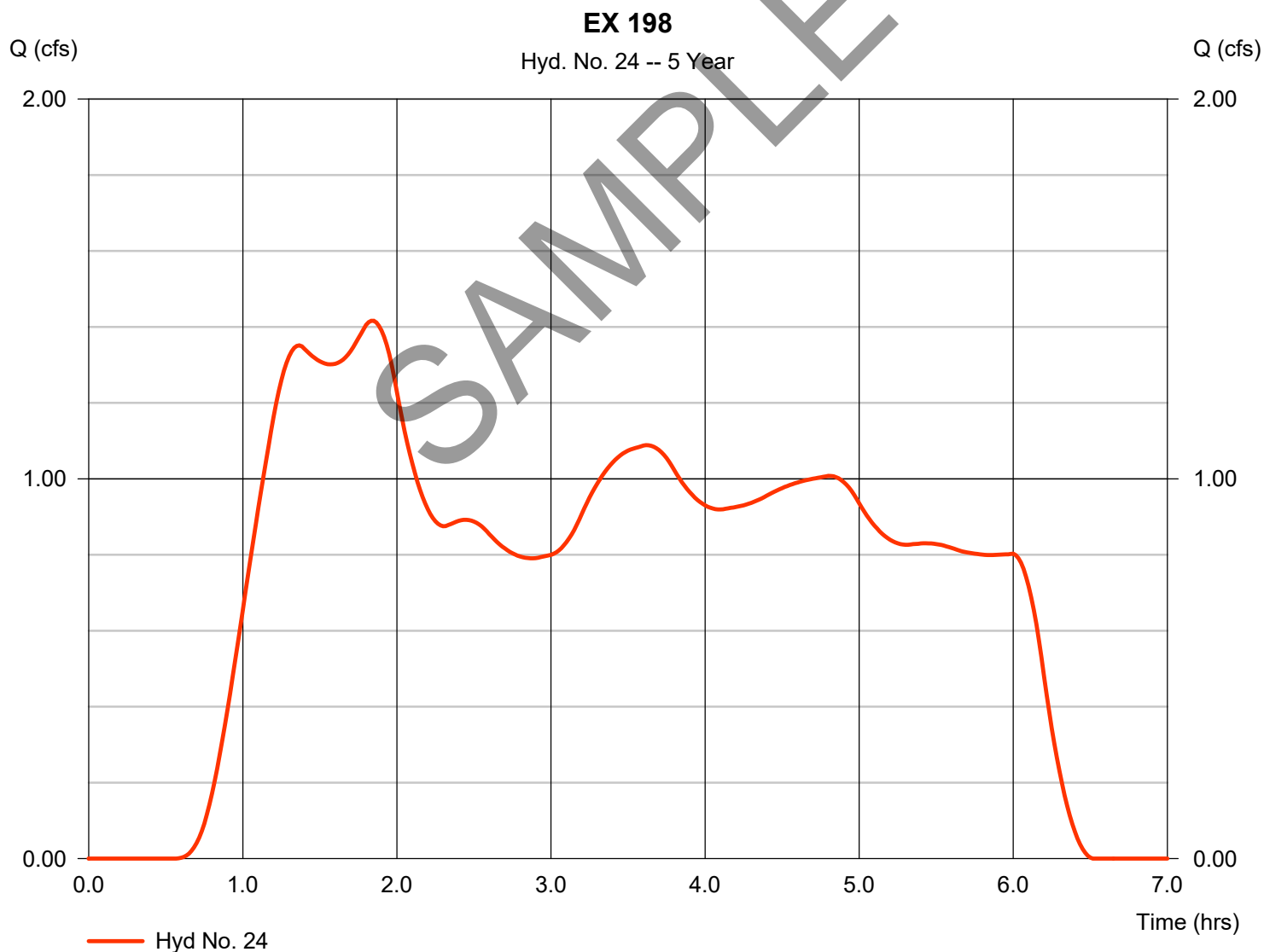
Tuesday, 03 / 19 / 2019

Hyd. No. 24

EX 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 1.416 cfs
Time to peak = 1.83 hrs
Hyd. volume = 18,700 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

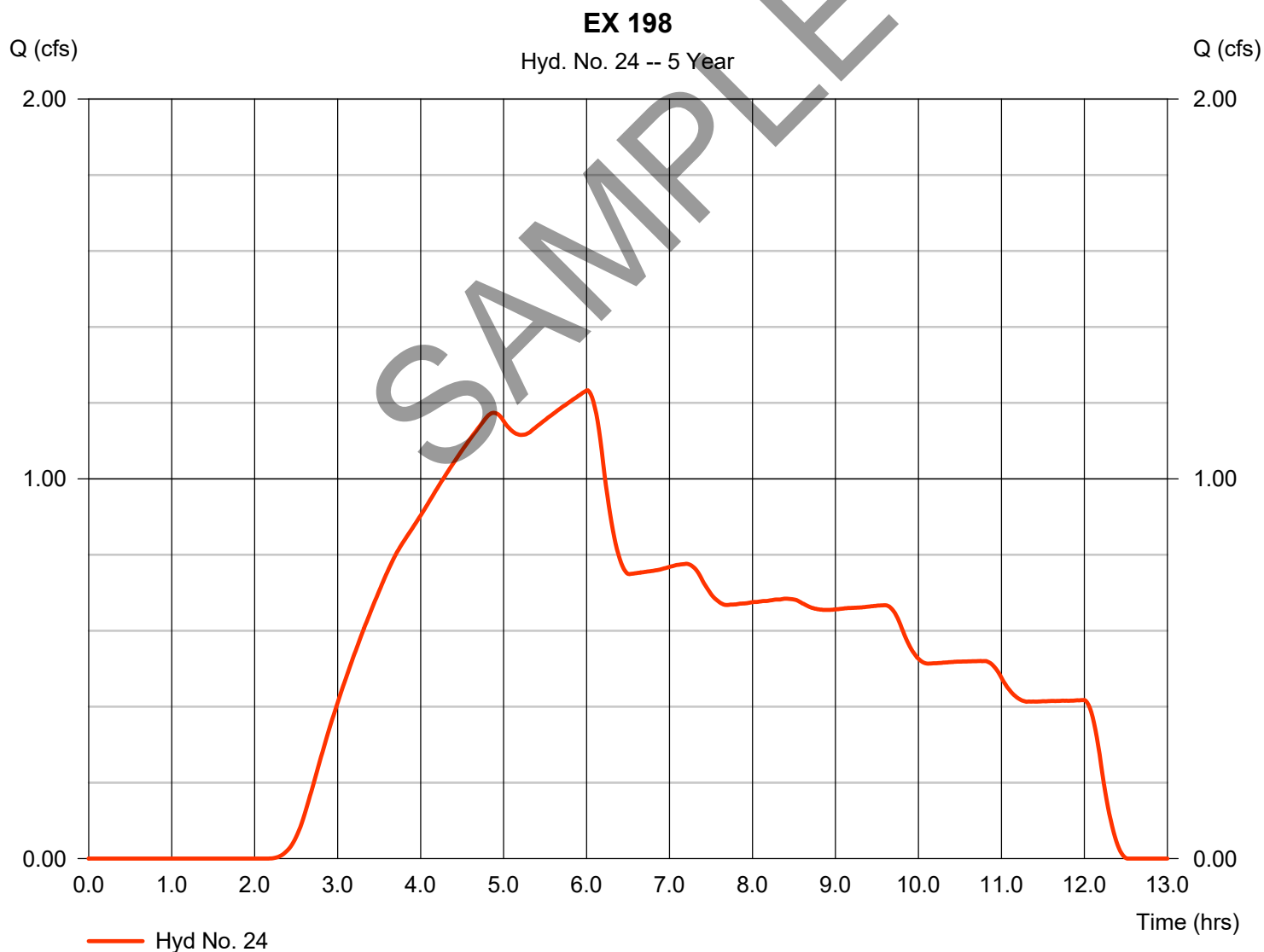
Tuesday, 03 / 19 / 2019

Hyd. No. 24

EX 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 1.233 cfs
Time to peak = 6.00 hrs
Hyd. volume = 25,073 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

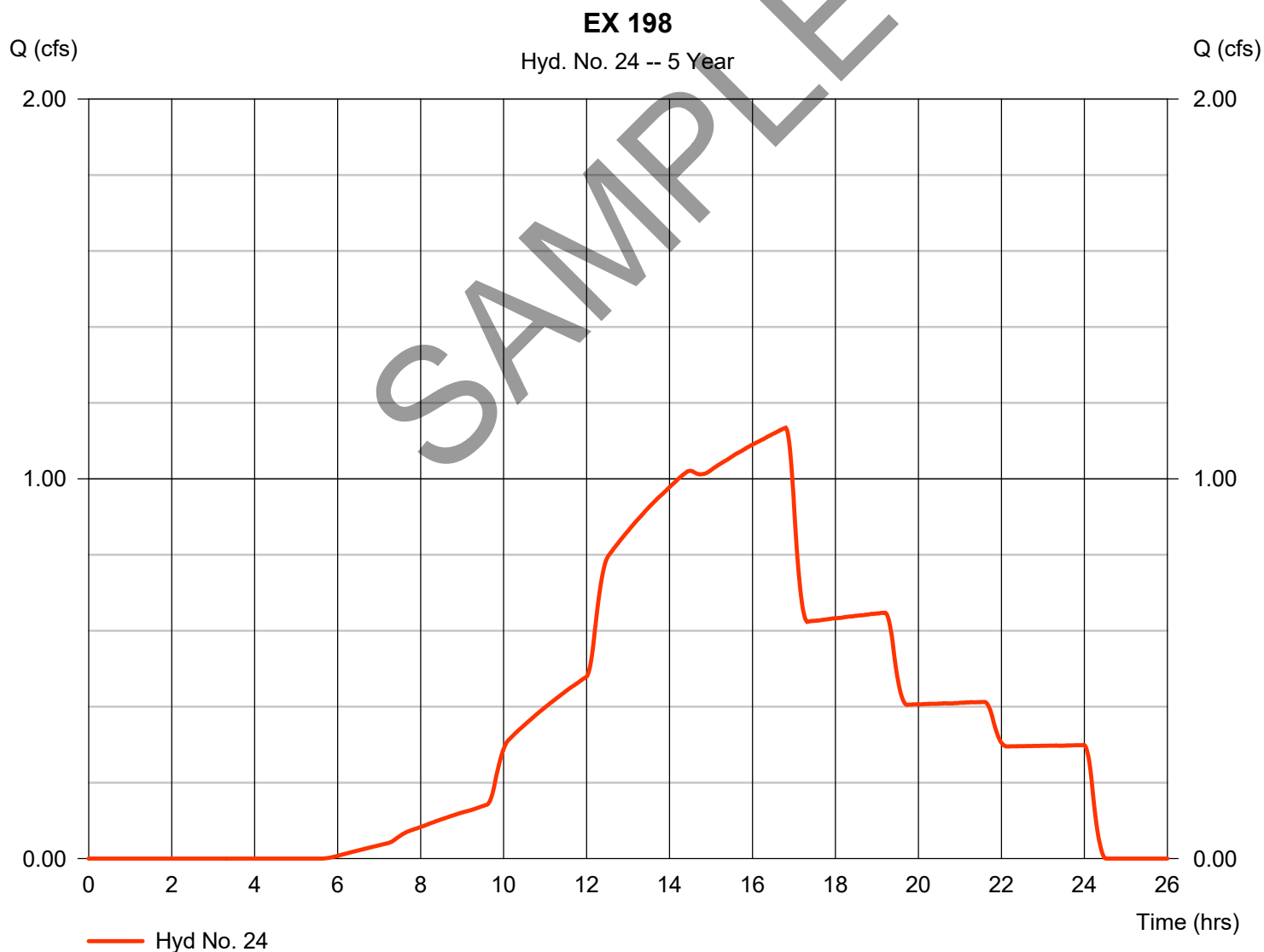
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Hyd. No. 24

EX 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.134 cfs
Time to peak = 16.80 hrs
Hyd. volume = 33,252 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

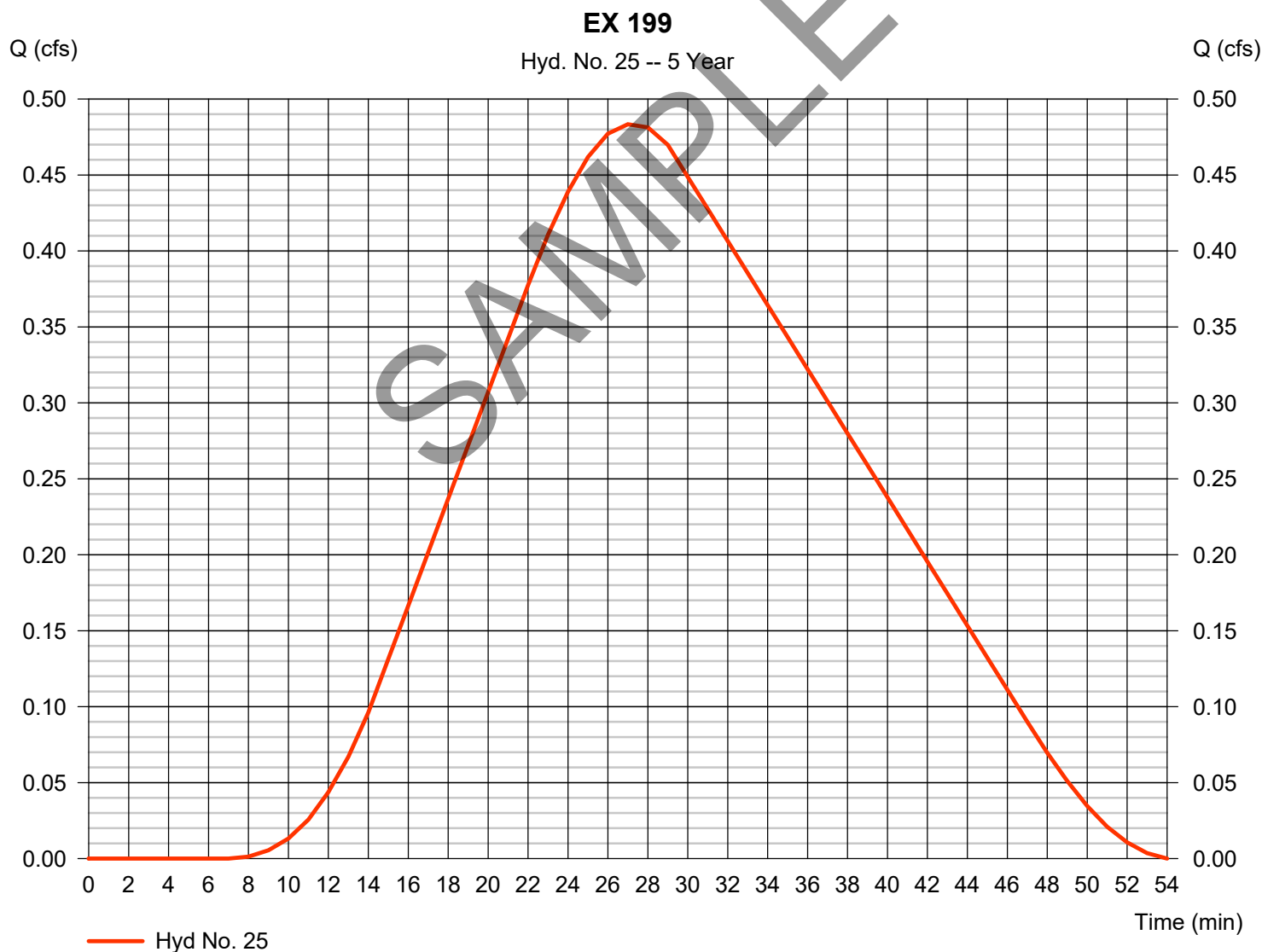
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Hyd. No. 25

EX 199

Hydrograph type	= SCS Runoff	Peak discharge	= 0.483 cfs
Storm frequency	= 5 yrs	Time to peak	= 27 min
Time interval	= 1 min	Hyd. volume	= 633 cuft
Drainage area	= 4.900 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.90 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

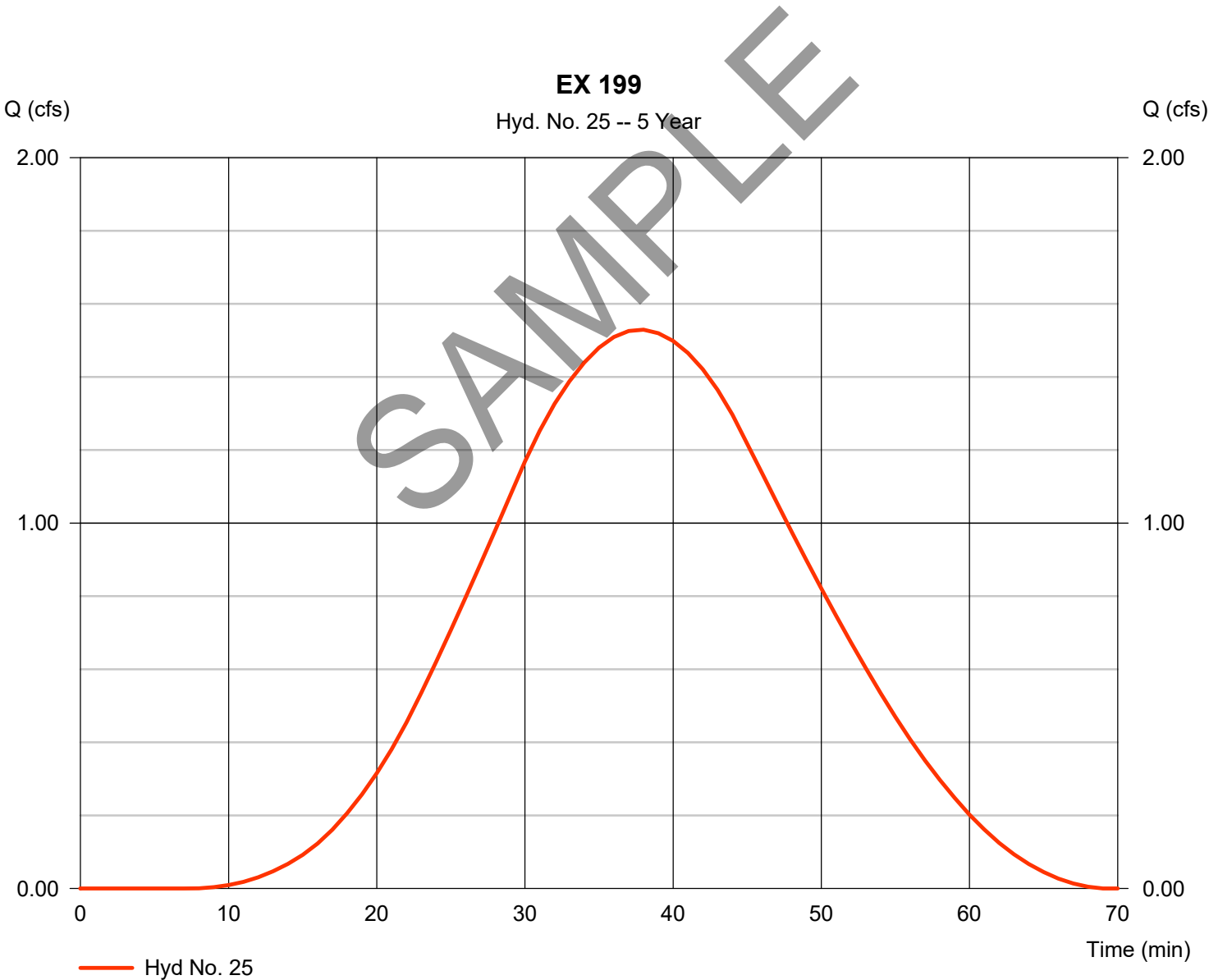


Hydrograph Report

Hyd. No. 25

EX 199

Hydrograph type	= SCS Runoff	Peak discharge	= 1.529 cfs
Storm frequency	= 5 yrs	Time to peak	= 38 min
Time interval	= 1 min	Hyd. volume	= 2,407 cuft
Drainage area	= 4.900 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.90 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

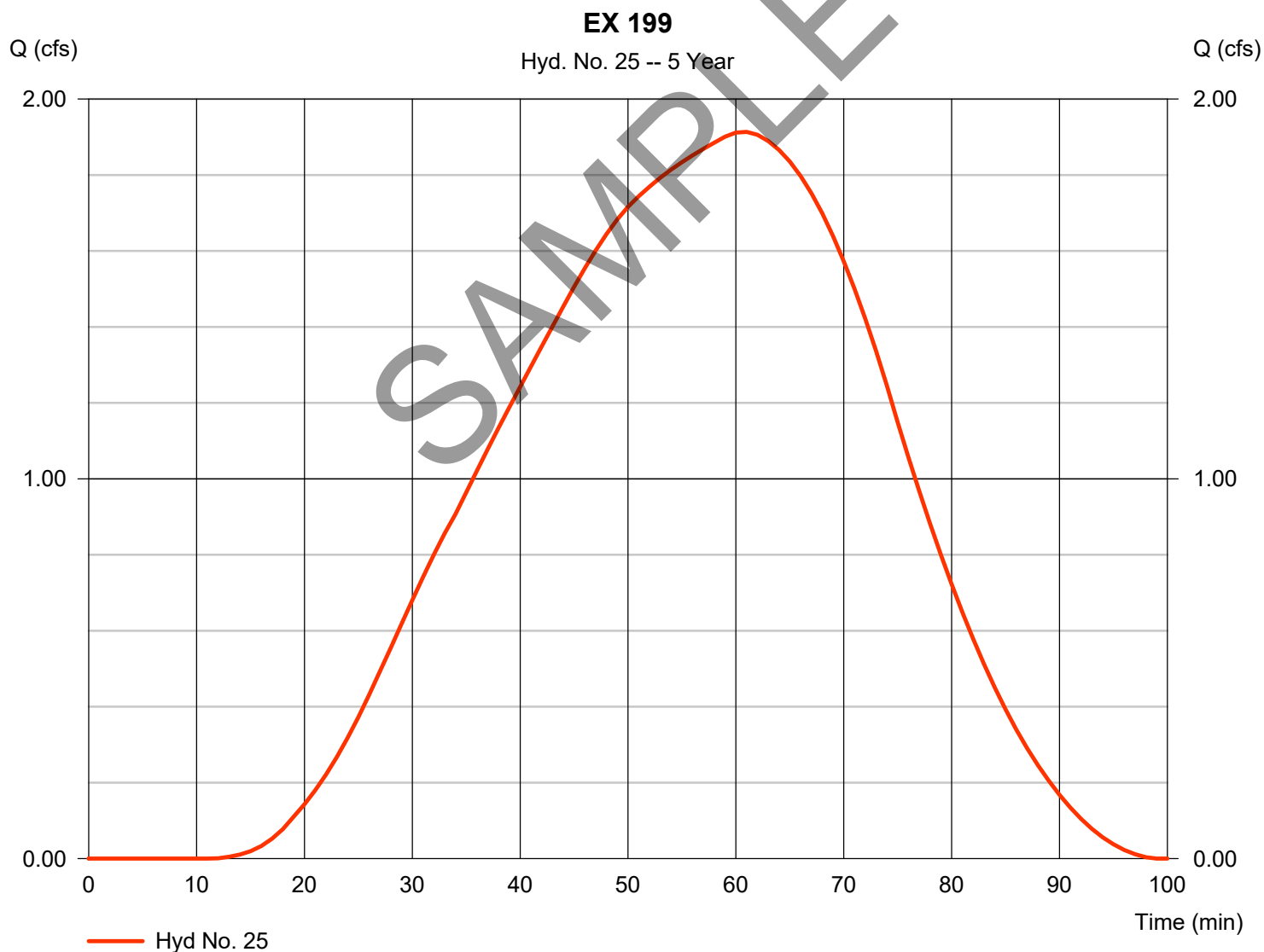
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

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Hyd. No. 25

EX 199

Hydrograph type	= SCS Runoff	Peak discharge	= 1.913 cfs
Storm frequency	= 5 yrs	Time to peak	= 61 min
Time interval	= 1 min	Hyd. volume	= 4,880 cuft
Drainage area	= 4.900 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.90 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

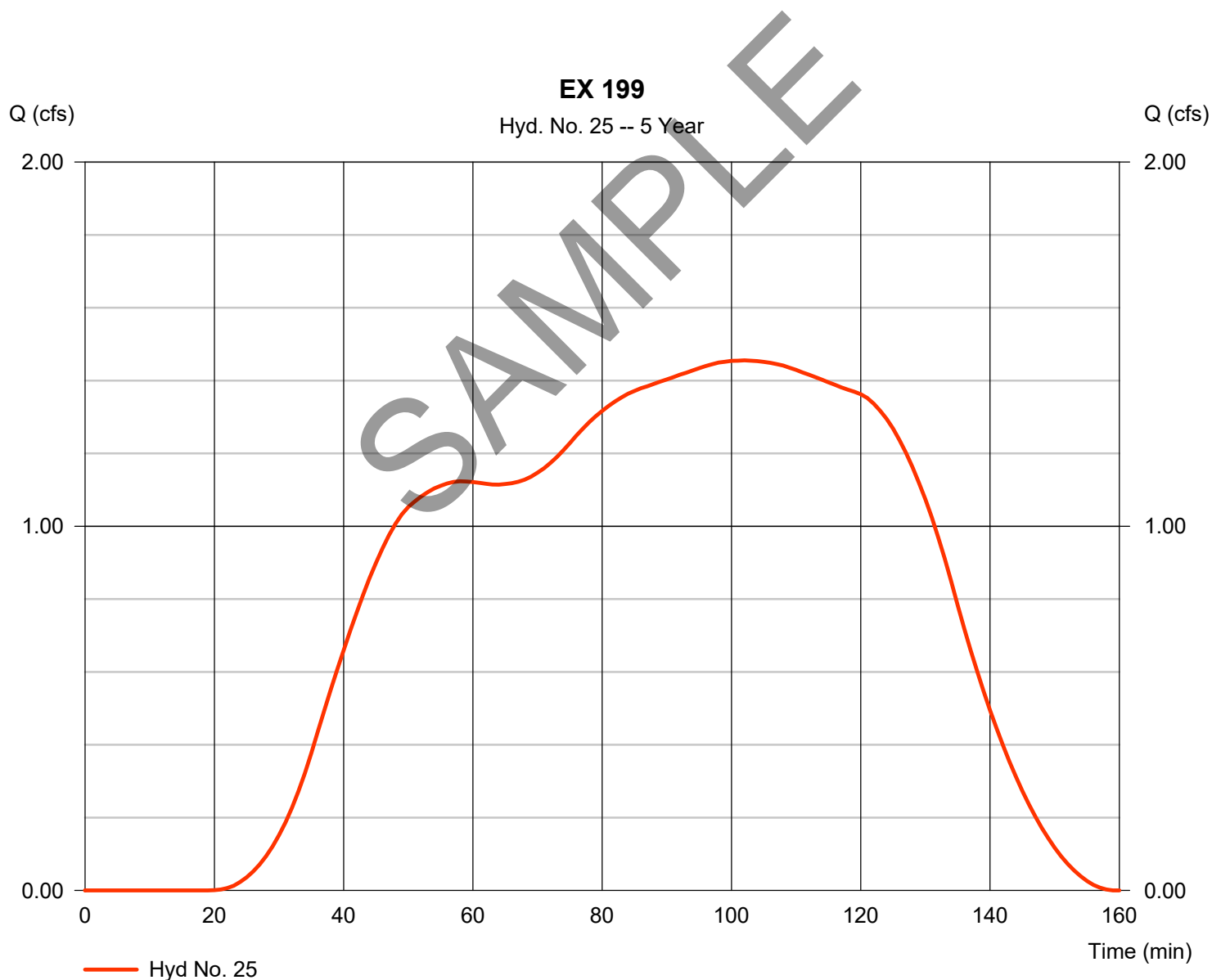
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Hyd. No. 25

EX 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 1.456 cfs
Time to peak = 102 min
Hyd. volume = 7,666 cuft
Curve number = 75
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

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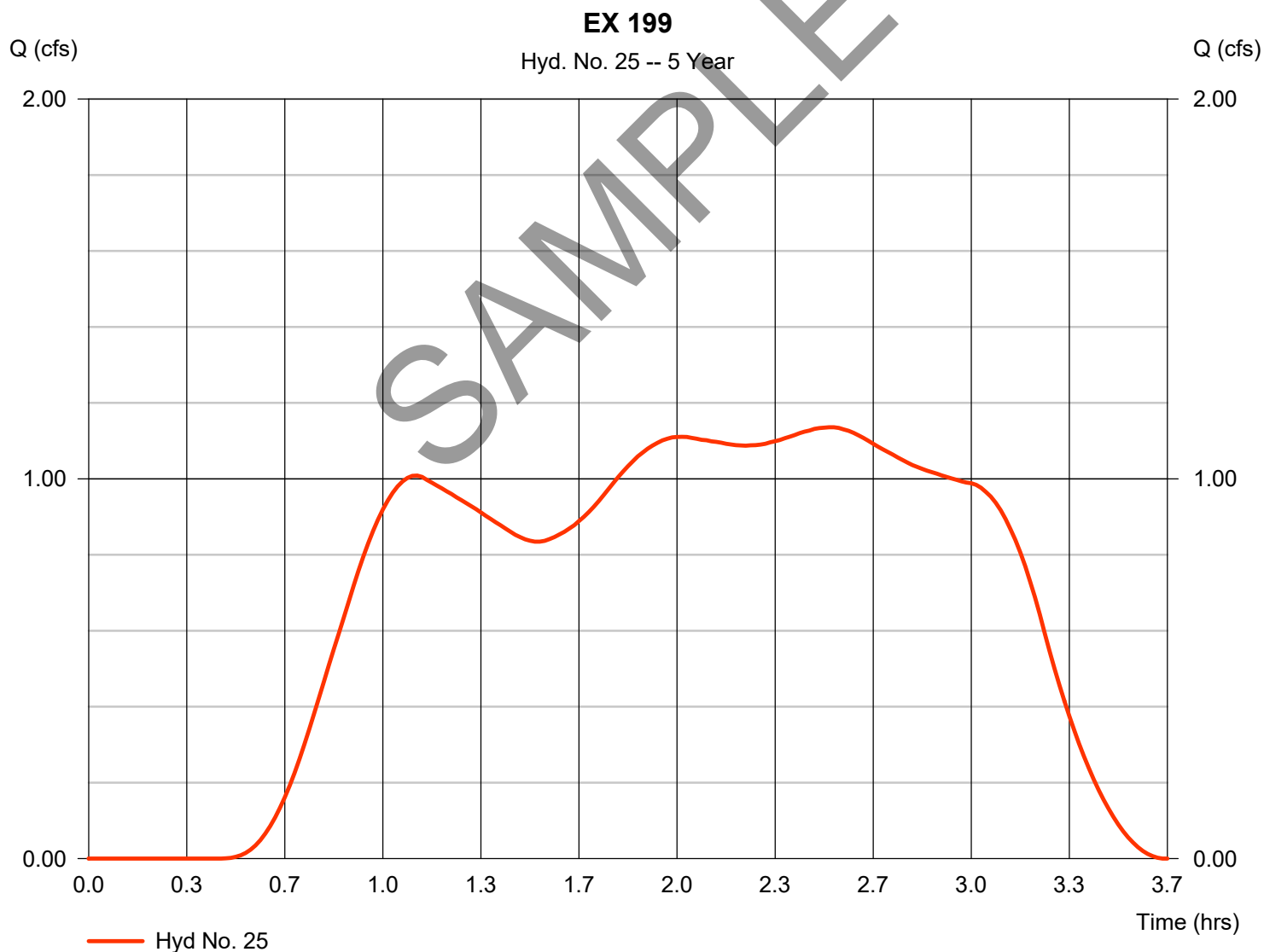
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Hyd. No. 25

EX 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 1.136 cfs
Time to peak = 2.52 hrs
Hyd. volume = 9,069 cuft
Curve number = 75
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

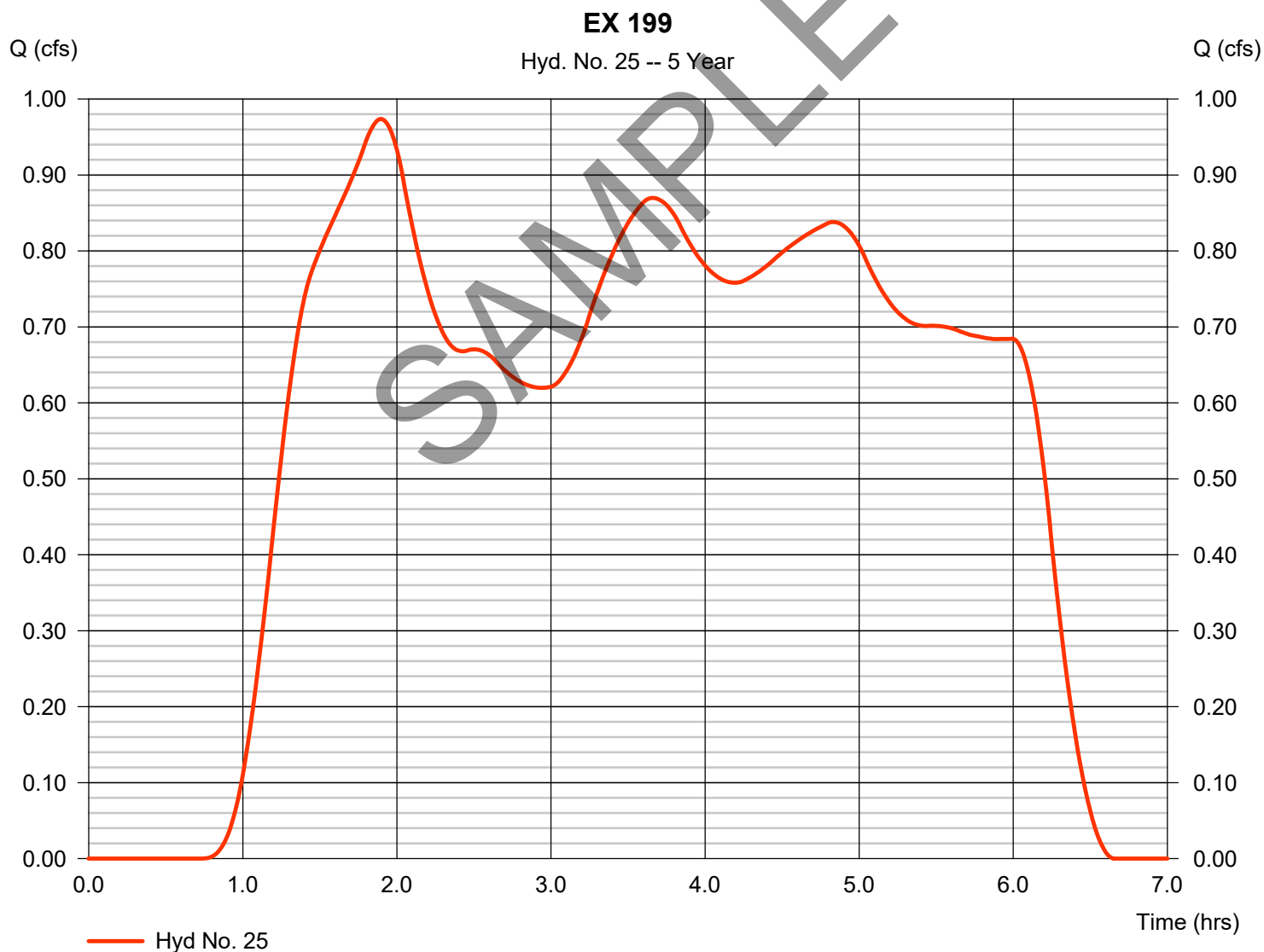
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Hyd. No. 25

EX 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.974 cfs
Time to peak = 1.90 hrs
Hyd. volume = 14,032 cuft
Curve number = 75
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

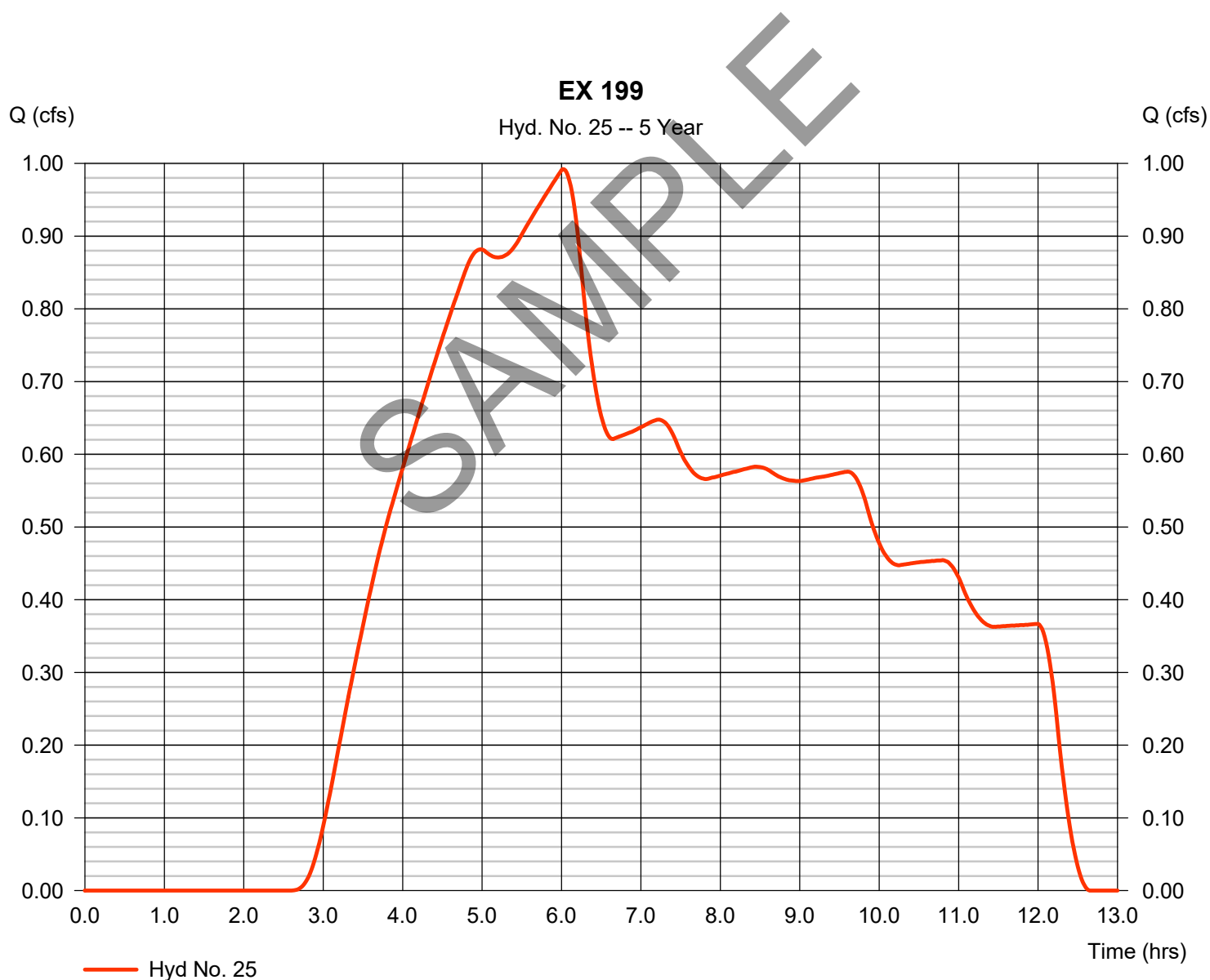
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Hyd. No. 25

EX 199

Hydrograph type	= SCS Runoff	Peak discharge	= 0.992 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.02 hrs
Time interval	= 1 min	Hyd. volume	= 19,578 cuft
Drainage area	= 4.900 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.90 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

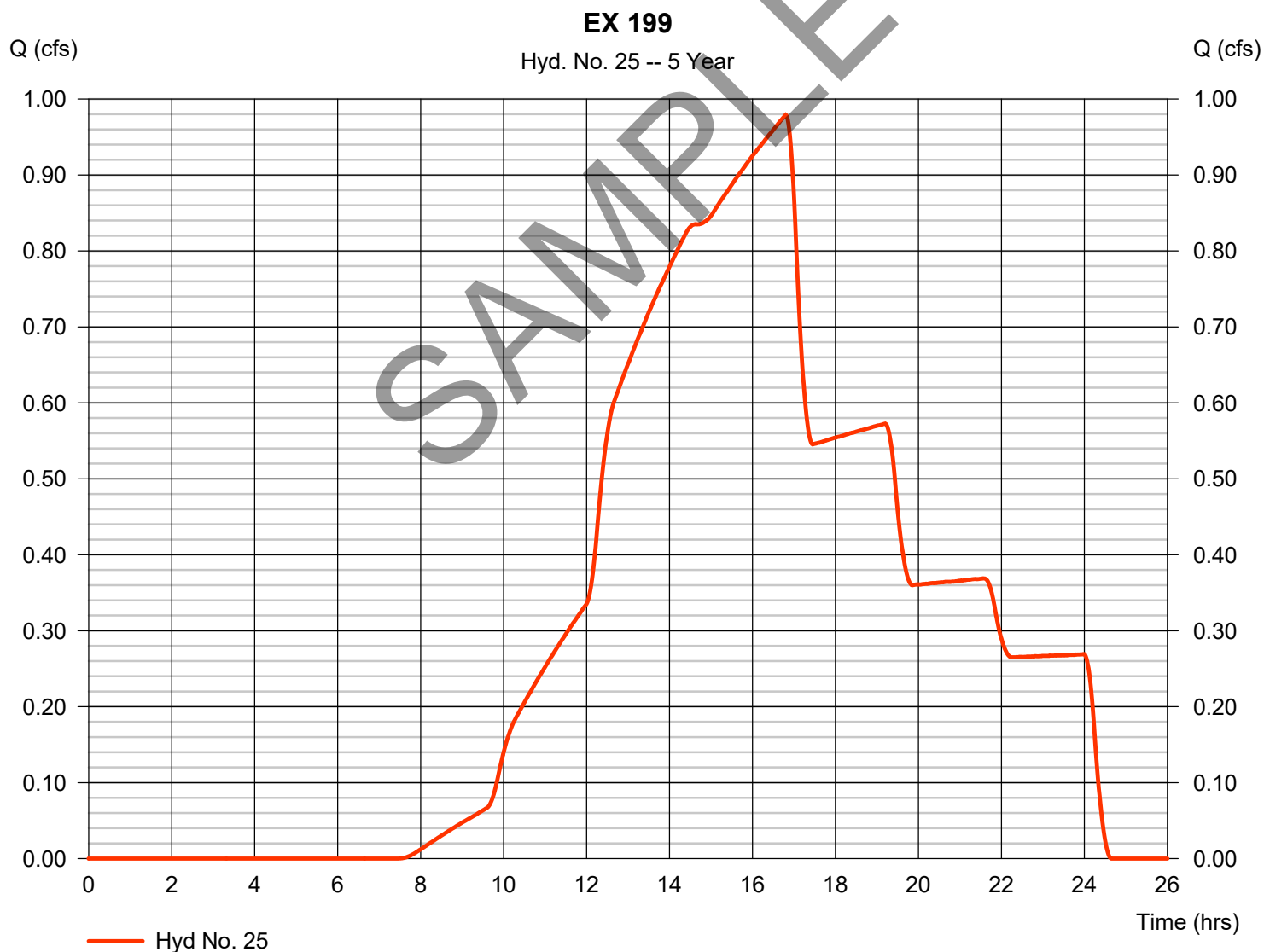
Wednesday, 03 / 20 / 2019

Hyd. No. 25

EX 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.979 cfs
Time to peak = 16.80 hrs
Hyd. volume = 26,874 cuft
Curve number = 75
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

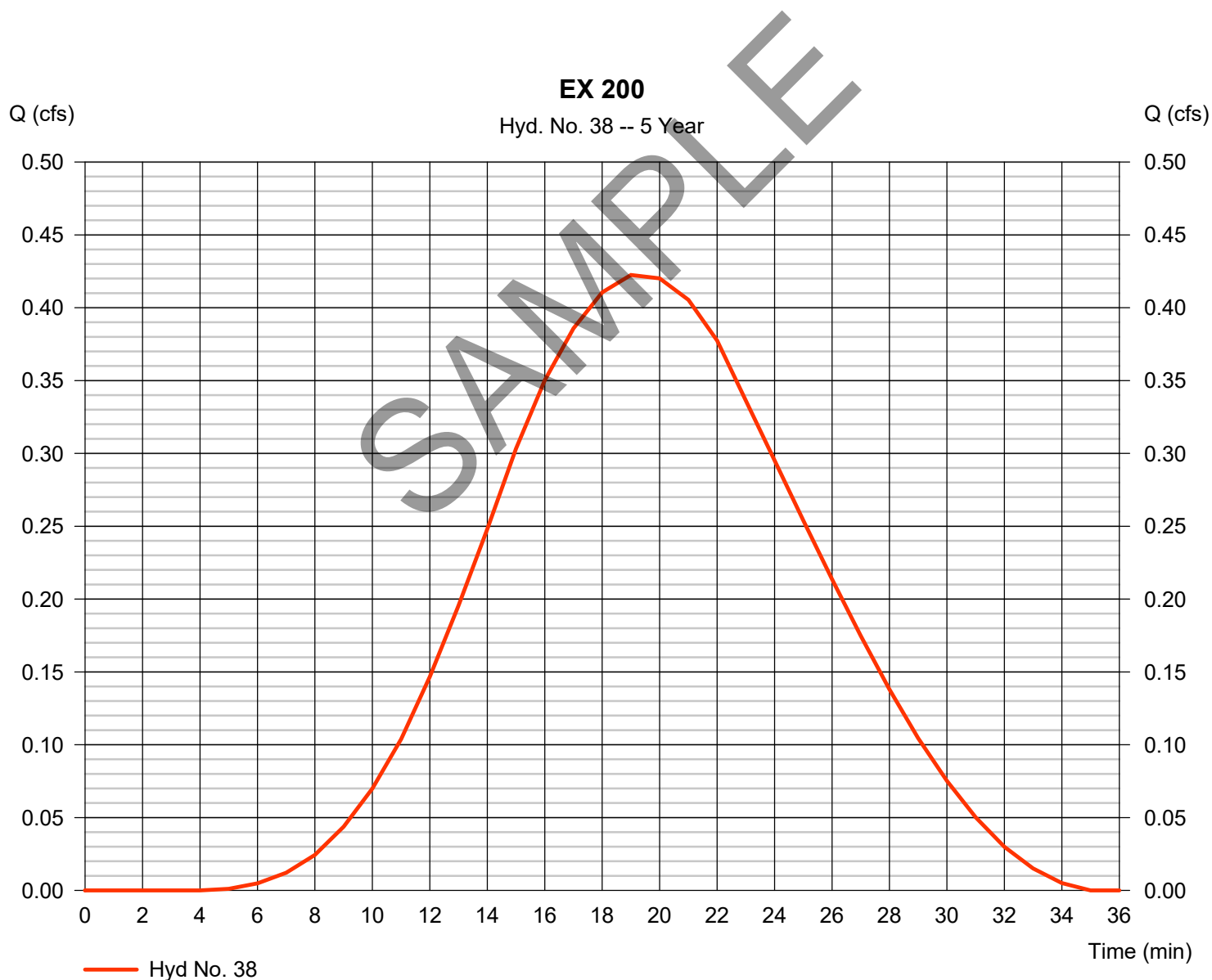
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Hyd. No. 38

EX 200

Hydrograph type	= SCS Runoff	Peak discharge	= 0.422 cfs
Storm frequency	= 5 yrs	Time to peak	= 19 min
Time interval	= 1 min	Hyd. volume	= 337 cuft
Drainage area	= 1.200 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.10 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

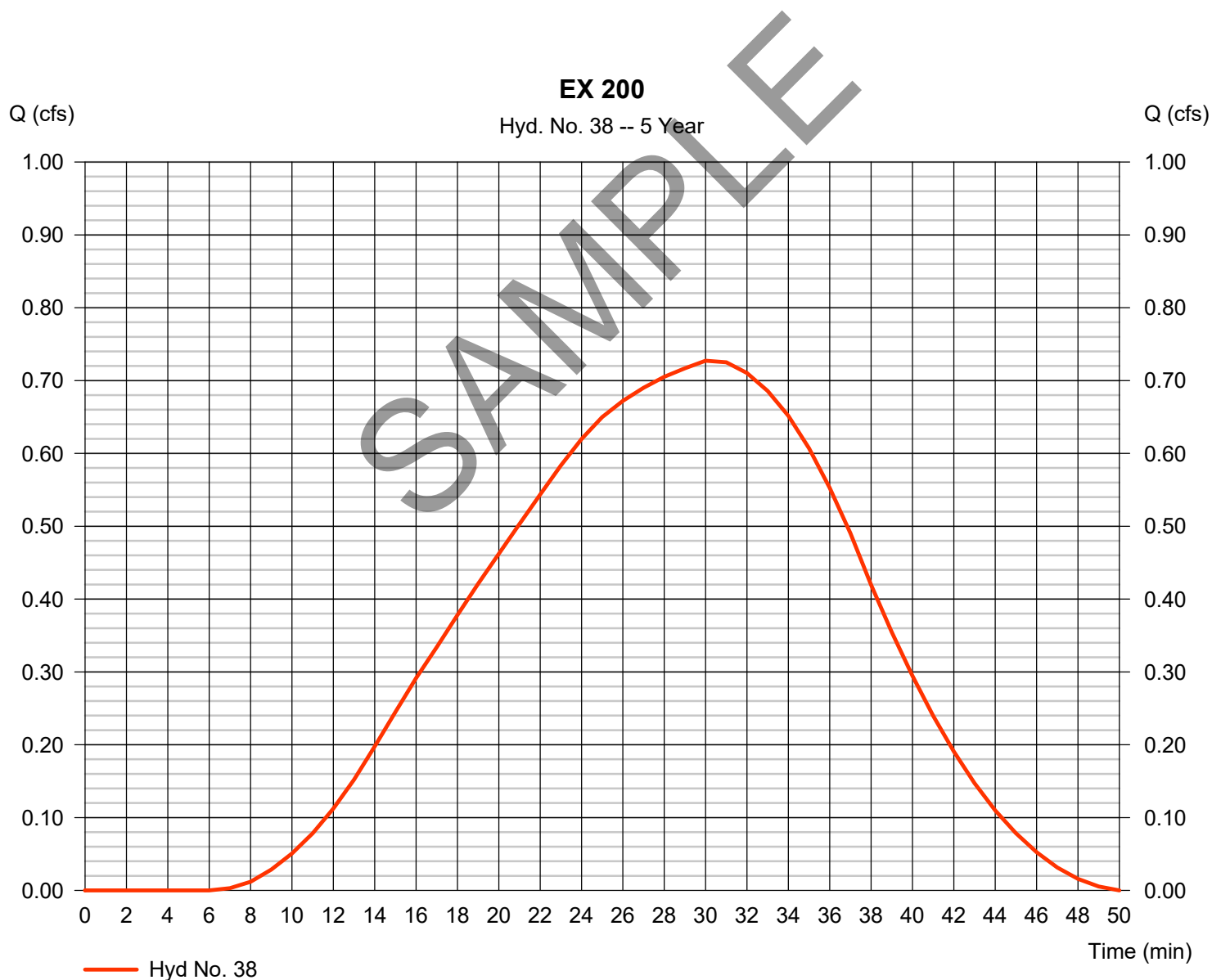
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Hyd. No. 38

EX 200

Hydrograph type	= SCS Runoff	Peak discharge	= 0.727 cfs
Storm frequency	= 5 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 932 cuft
Drainage area	= 1.200 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.10 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

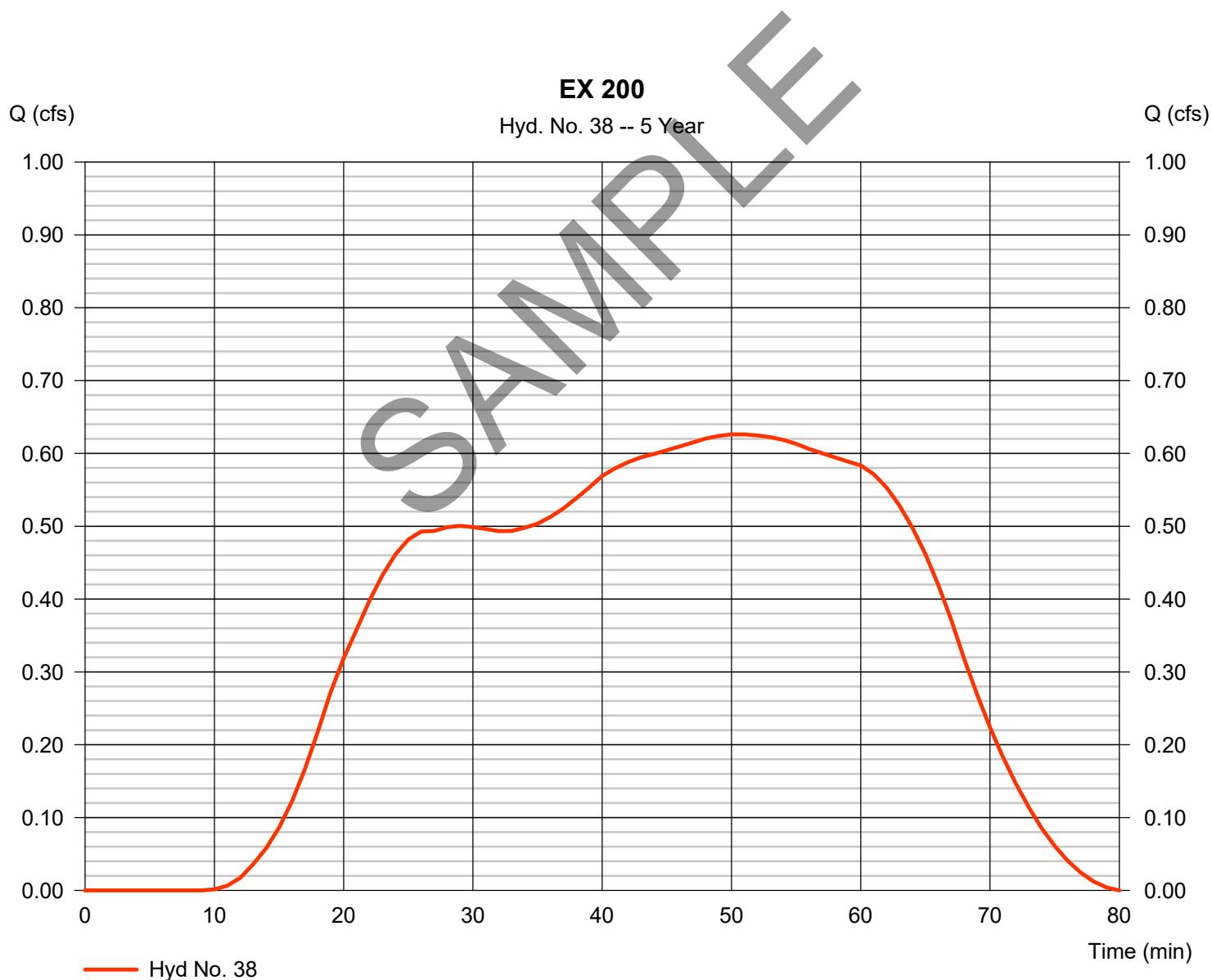
Wednesday, 03 / 20 / 2019

Hyd. No. 38

EX 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.626 cfs
Time to peak = 50 min
Hyd. volume = 1,687 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

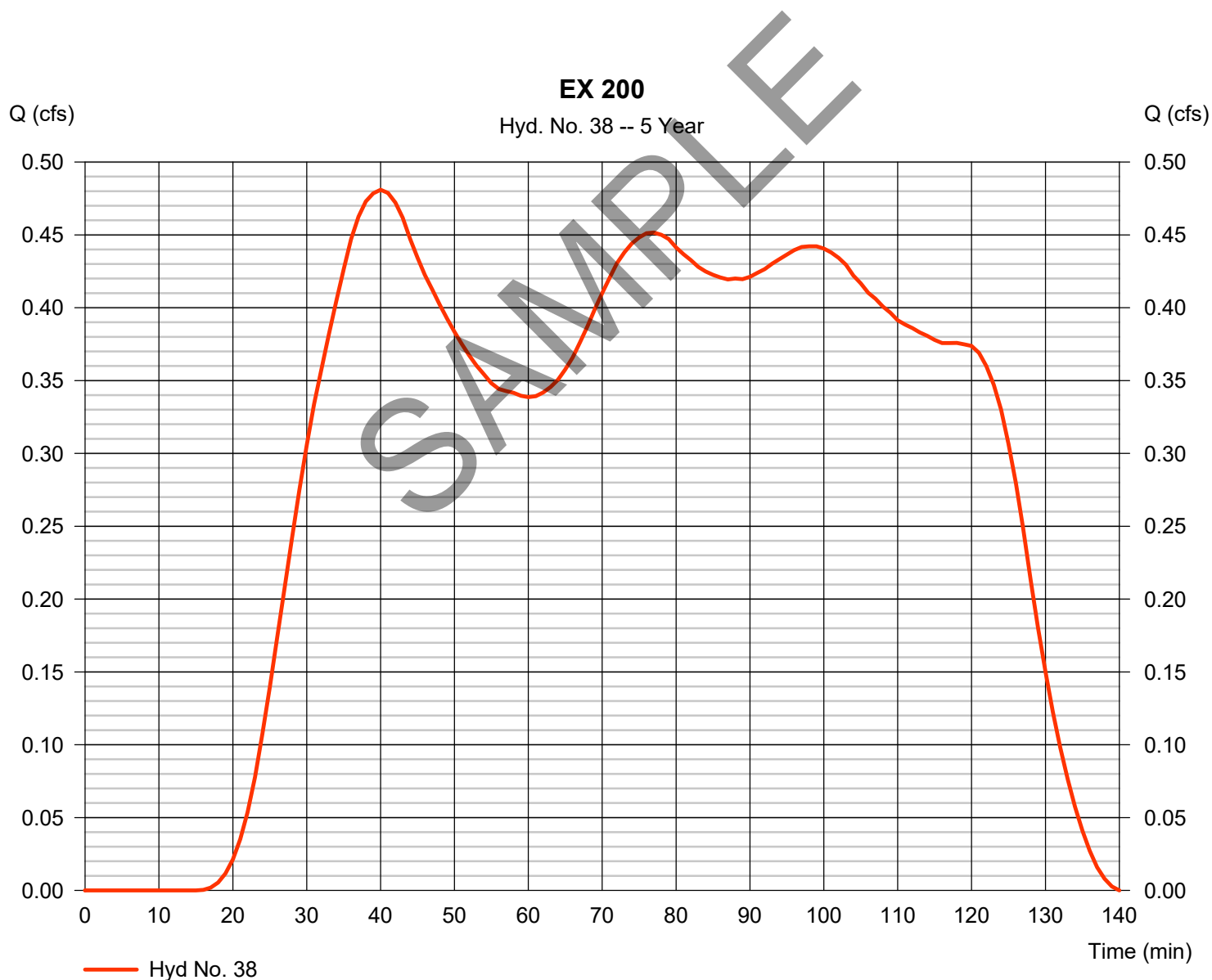
Wednesday, 03 / 20 / 2019

Hyd. No. 38

EX 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.481 cfs
Time to peak = 40 min
Hyd. volume = 2,495 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

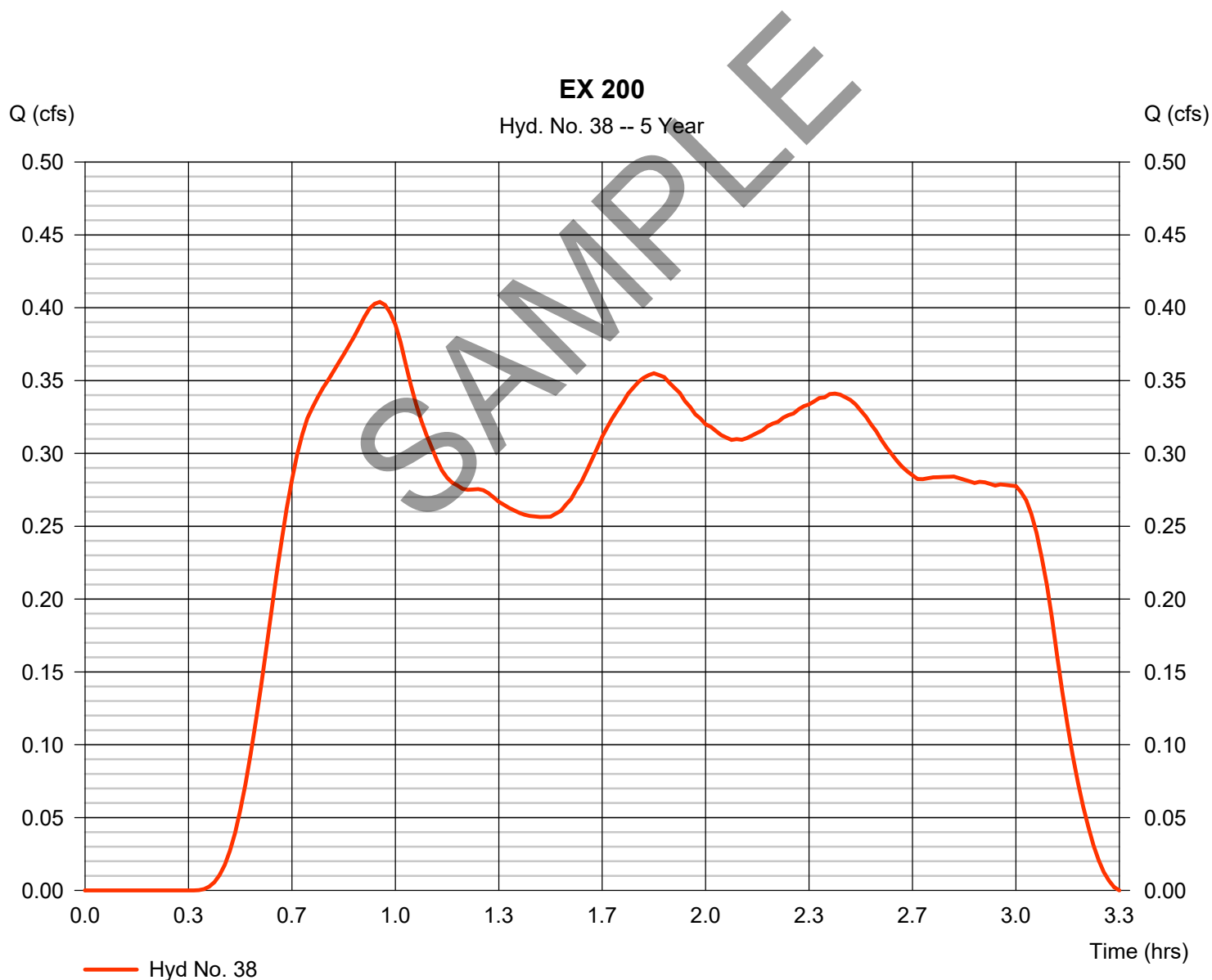
Wednesday, 03 / 20 / 2019

Hyd. No. 38

EX 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.404 cfs
Time to peak = 0.95 hrs
Hyd. volume = 2,893 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

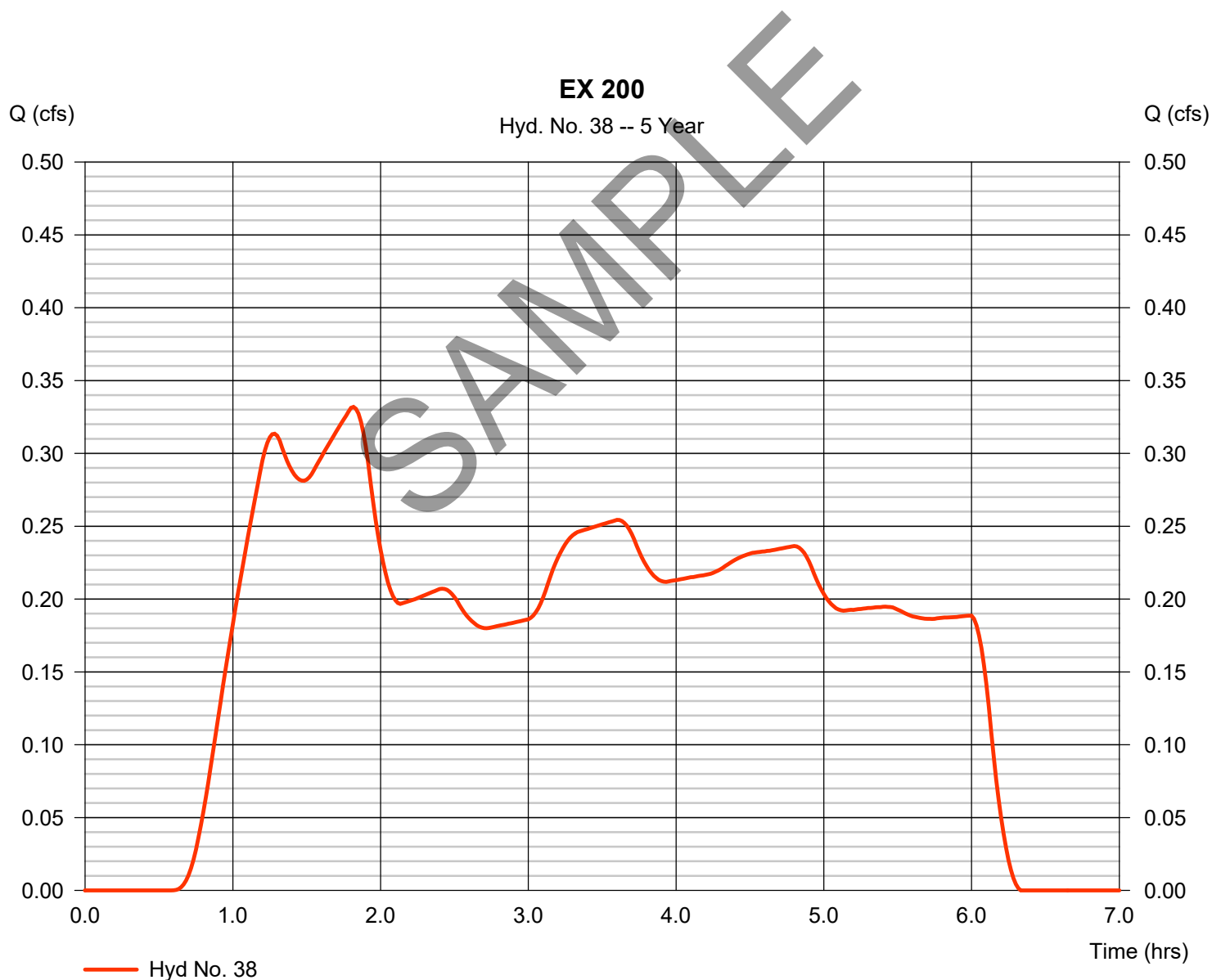
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Hyd. No. 38

EX 200

Hydrograph type	= SCS Runoff	Peak discharge	= 0.332 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.82 hrs
Time interval	= 1 min	Hyd. volume	= 4,267 cuft
Drainage area	= 1.200 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.10 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

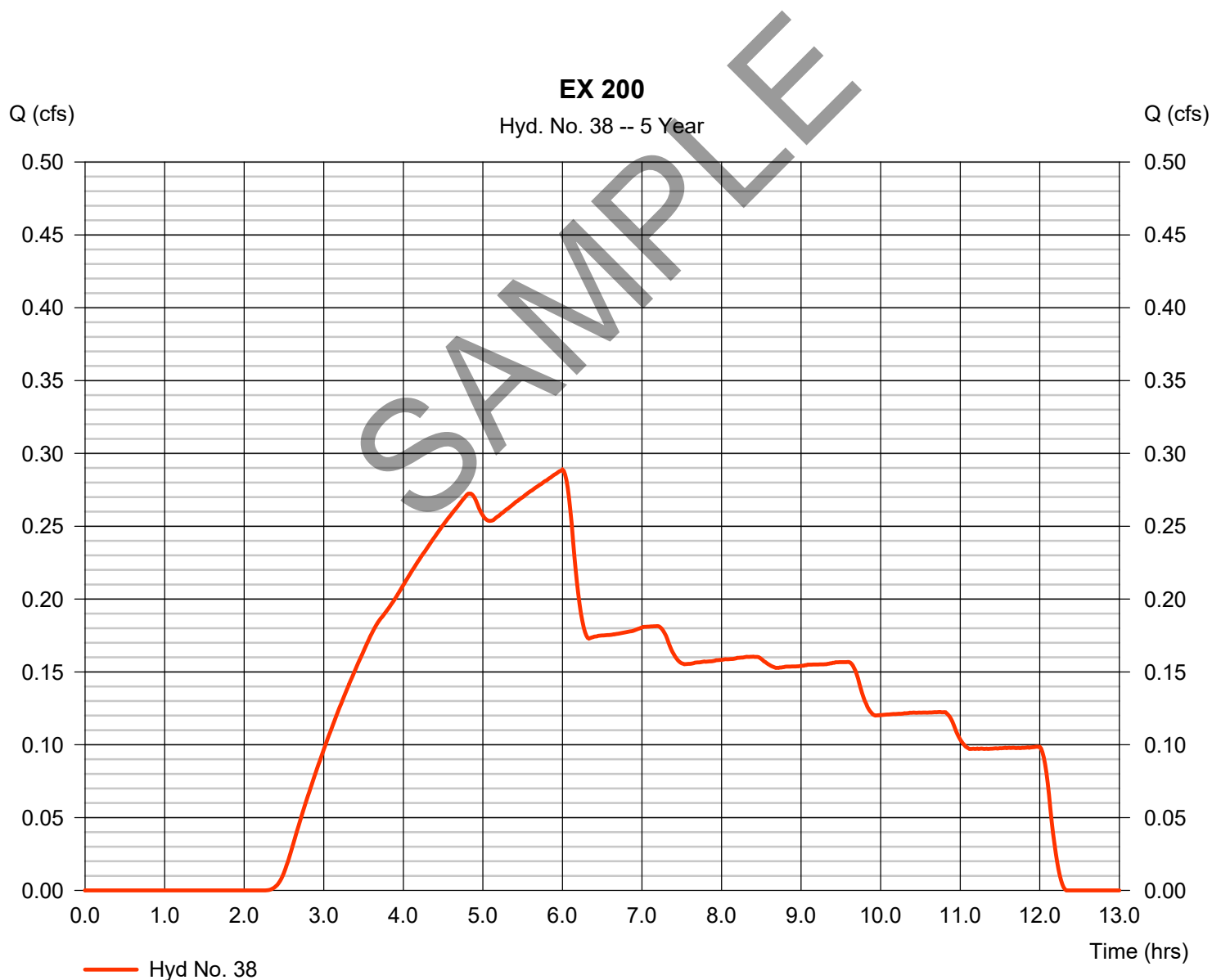
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 38

EX 200

Hydrograph type	= SCS Runoff	Peak discharge	= 0.289 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 5,764 cuft
Drainage area	= 1.200 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.10 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

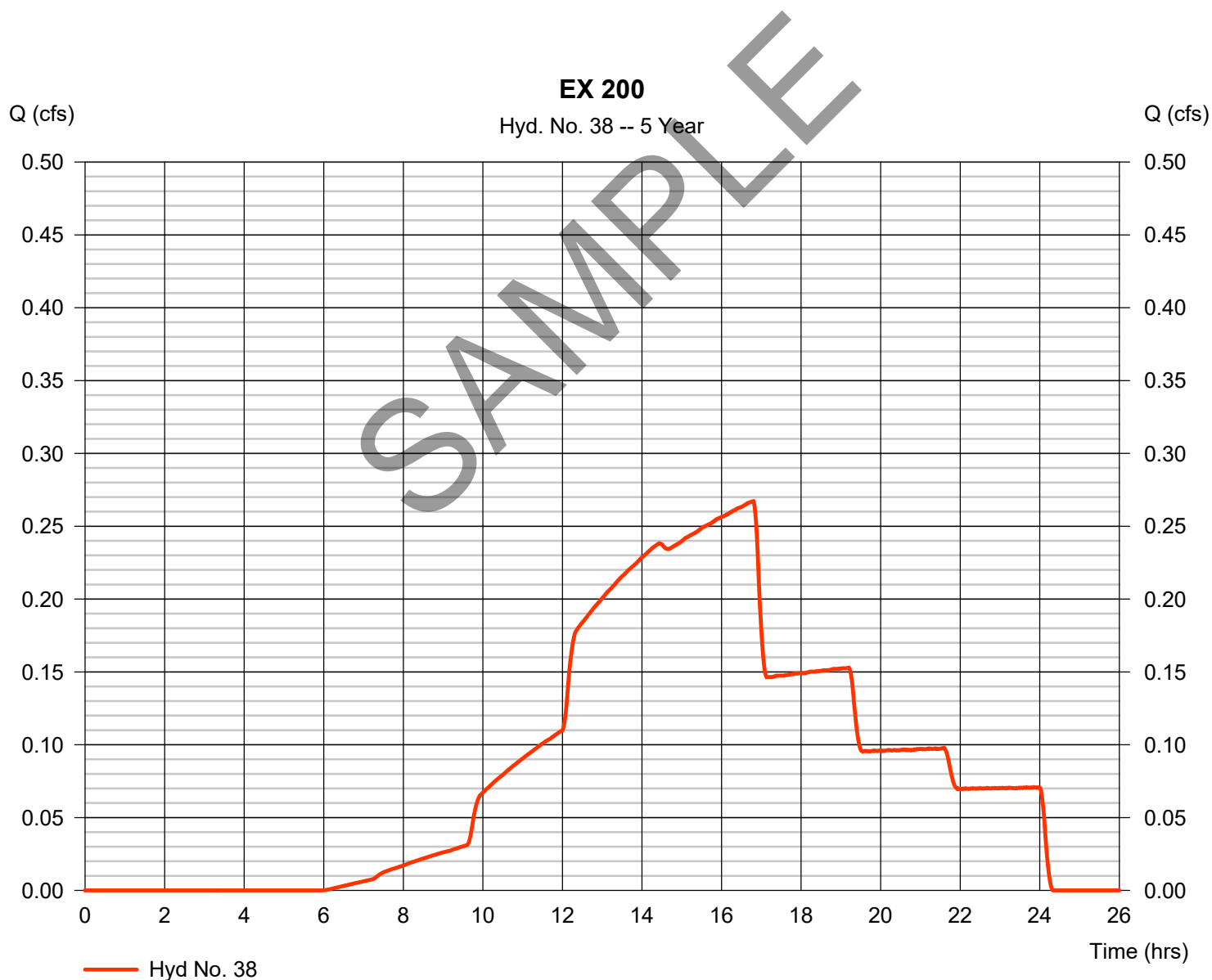
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 38

EX 200

Hydrograph type	= SCS Runoff	Peak discharge	= 0.267 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.80 hrs
Time interval	= 1 min	Hyd. volume	= 7,694 cuft
Drainage area	= 1.200 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.10 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

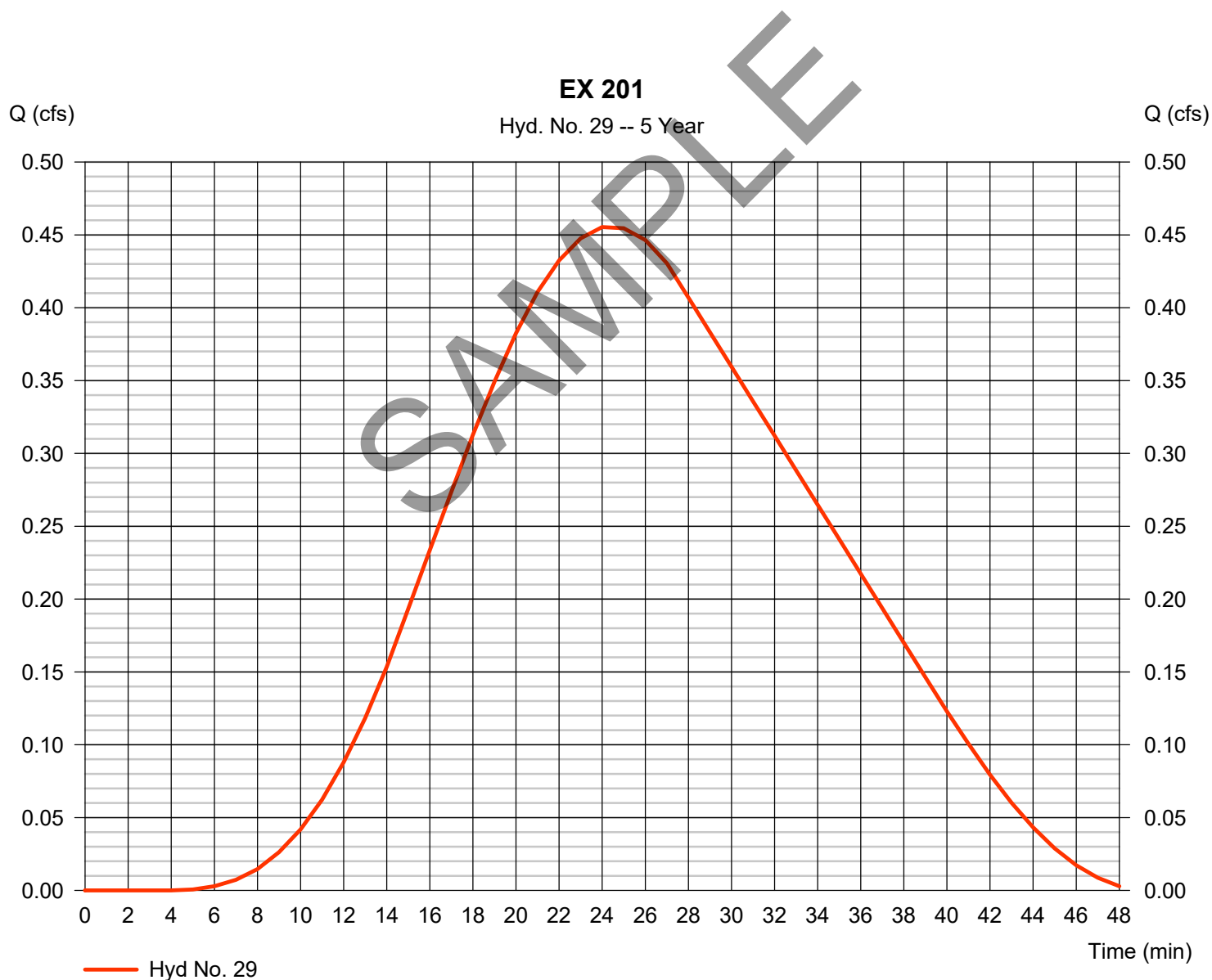
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 29

EX 201

Hydrograph type	= SCS Runoff	Peak discharge	= 0.455 cfs
Storm frequency	= 5 yrs	Time to peak	= 24 min
Time interval	= 1 min	Hyd. volume	= 547 cuft
Drainage area	= 1.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.60 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

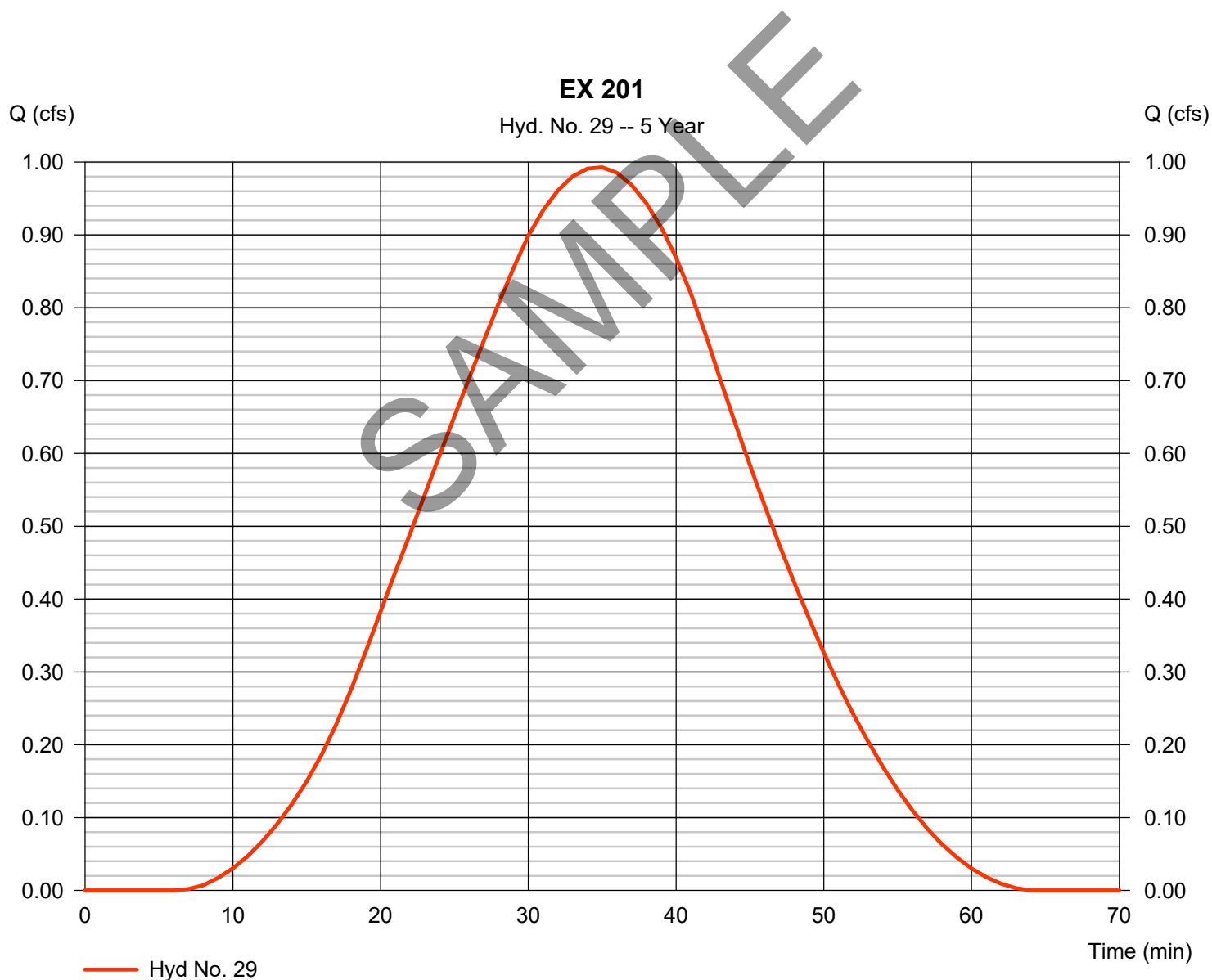
Tuesday, 03 / 19 / 2019

Hyd. No. 29

EX 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 0.993 cfs
Time to peak = 35 min
Hyd. volume = 1,514 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.60 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

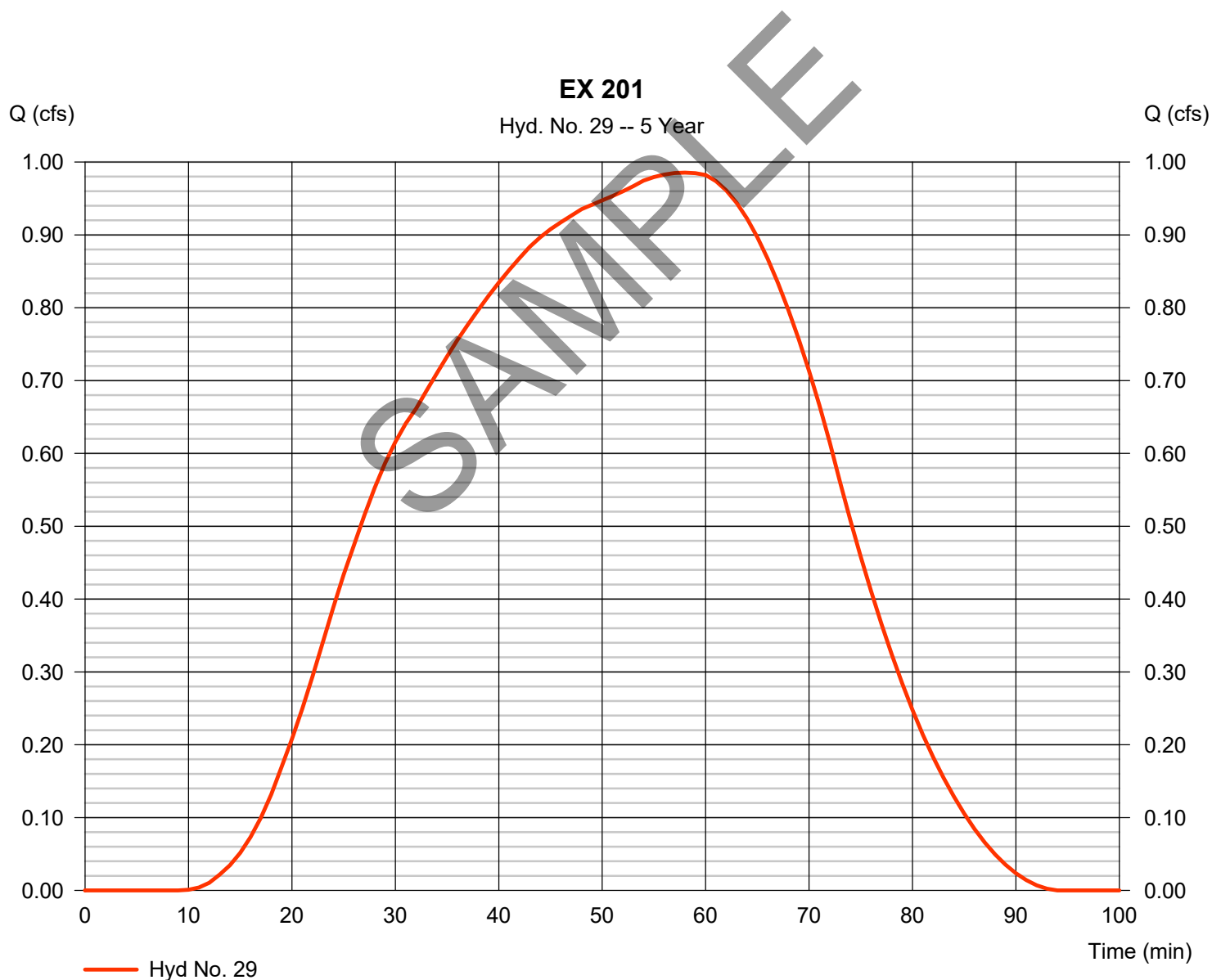
Tuesday, 03 / 19 / 2019

Hyd. No. 29

EX 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.986 cfs
Time to peak = 58 min
Hyd. volume = 2,740 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.60 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

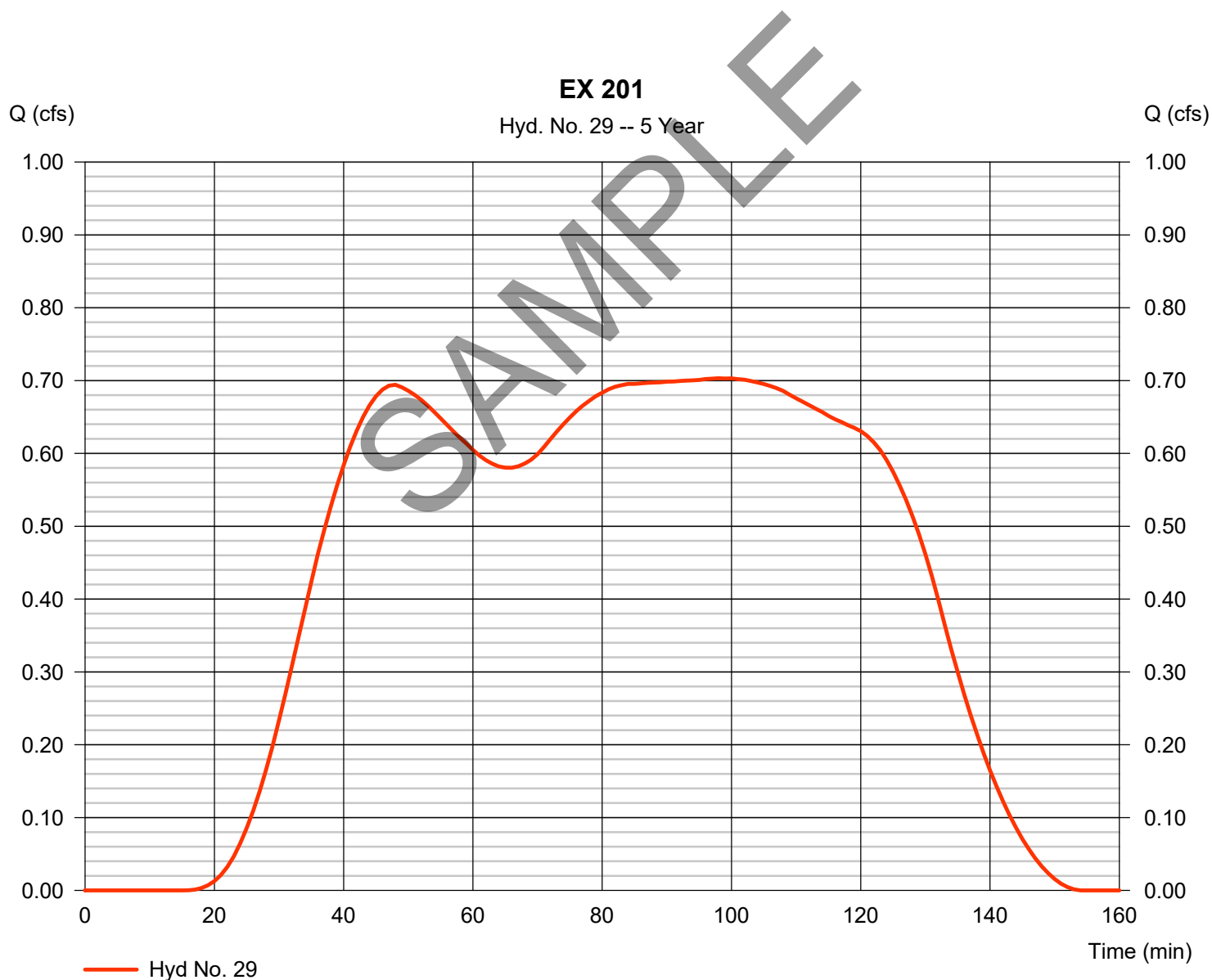
Tuesday, 03 / 19 / 2019

Hyd. No. 29

EX 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.703 cfs
Time to peak = 98 min
Hyd. volume = 4,052 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.60 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

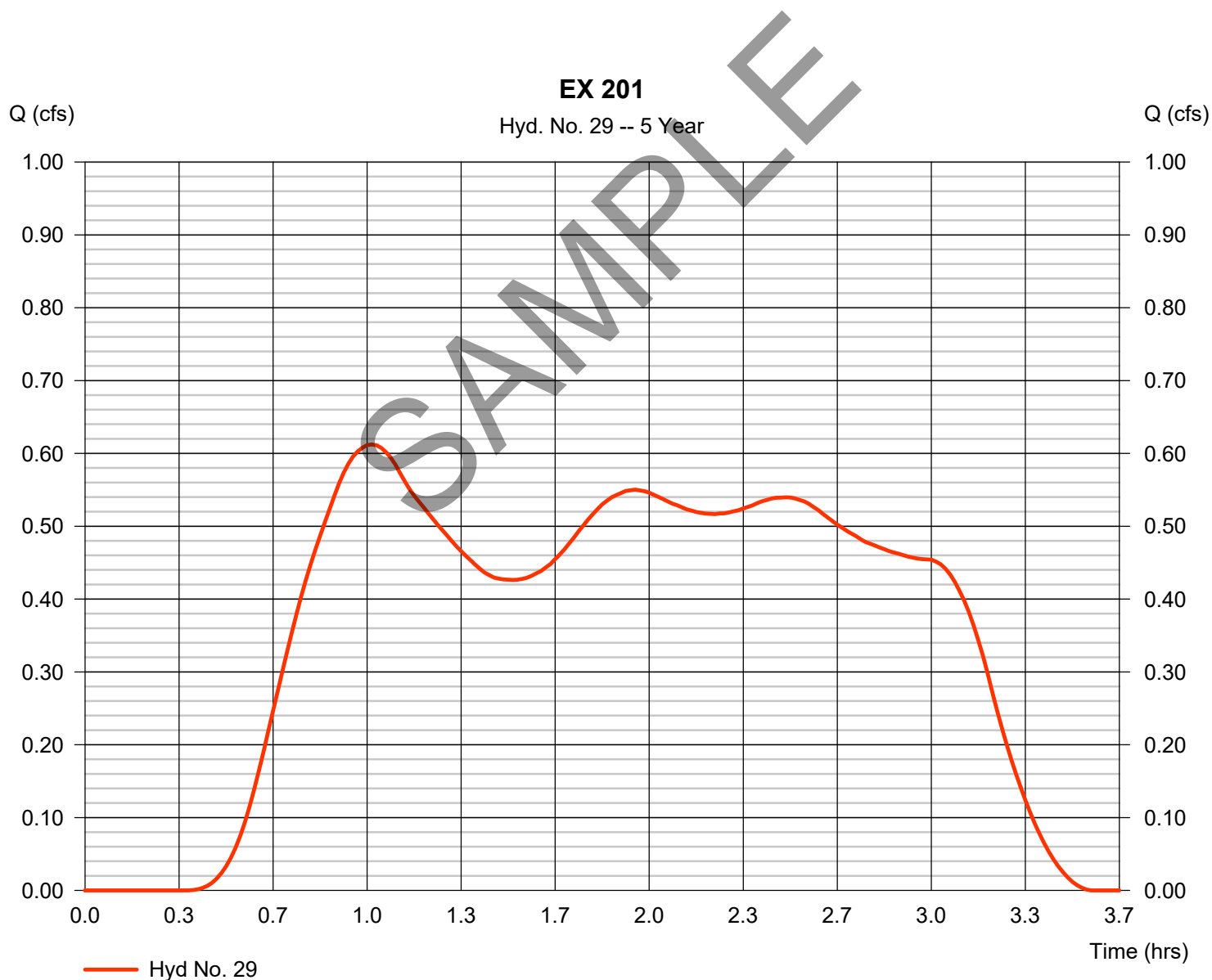
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Tuesday, 03 / 19 / 2019

Hyd. No. 29

EX 201

Hydrograph type	= SCS Runoff	Peak discharge	= 0.612 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.02 hrs
Time interval	= 1 min	Hyd. volume	= 4,698 cuft
Drainage area	= 1.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.60 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

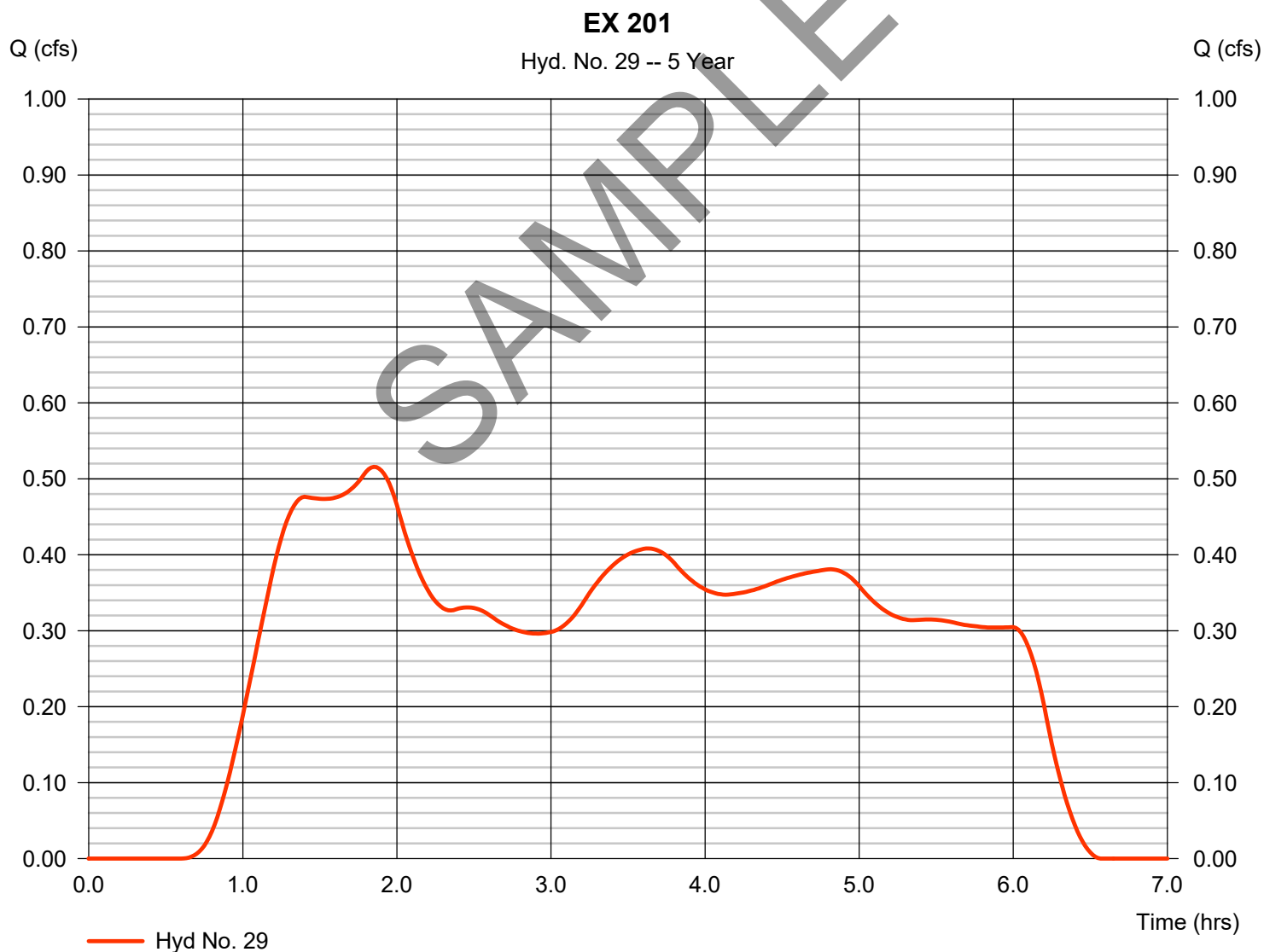
Tuesday, 03 / 19 / 2019

Hyd. No. 29

EX 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.516 cfs
Time to peak = 1.85 hrs
Hyd. volume = 6,929 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.60 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

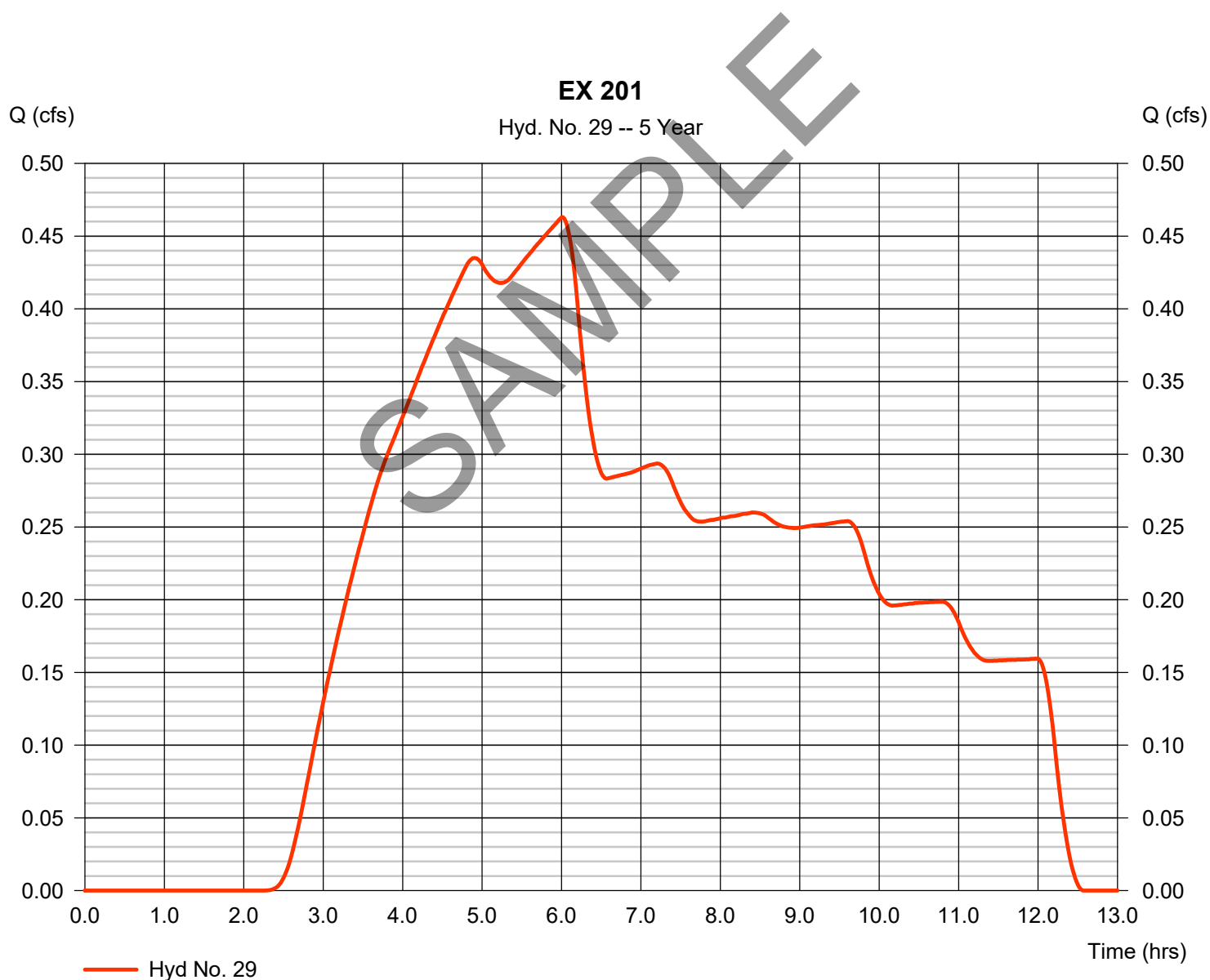
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Tuesday, 03 / 19 / 2019

Hyd. No. 29

EX 201

Hydrograph type	= SCS Runoff	Peak discharge	= 0.463 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.02 hrs
Time interval	= 1 min	Hyd. volume	= 9,360 cuft
Drainage area	= 1.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.60 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

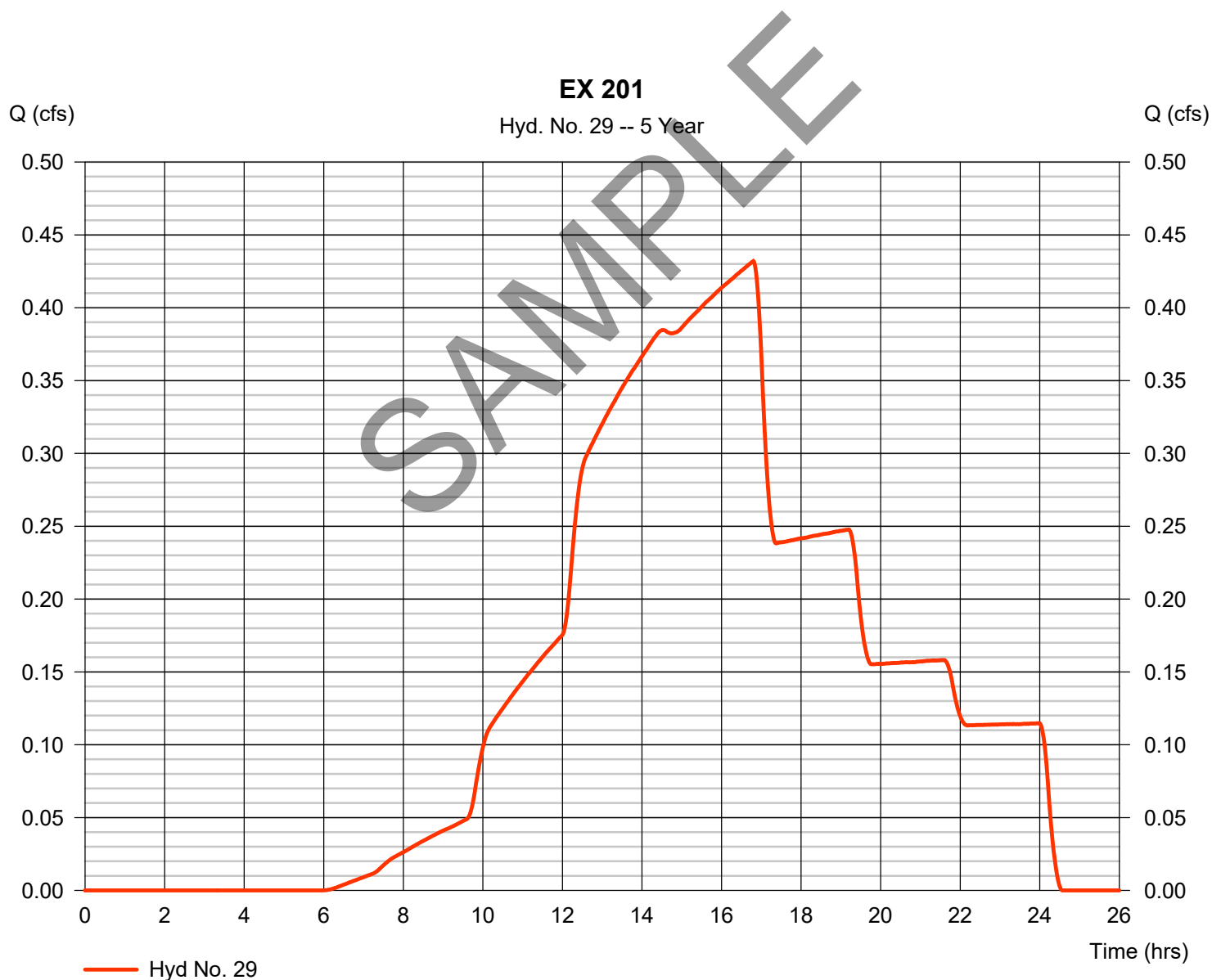
Tuesday, 03 / 19 / 2019

Hyd. No. 29

EX 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.432 cfs
Time to peak = 16.80 hrs
Hyd. volume = 12,495 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.60 min
Distribution = Custom
Shape factor = 484

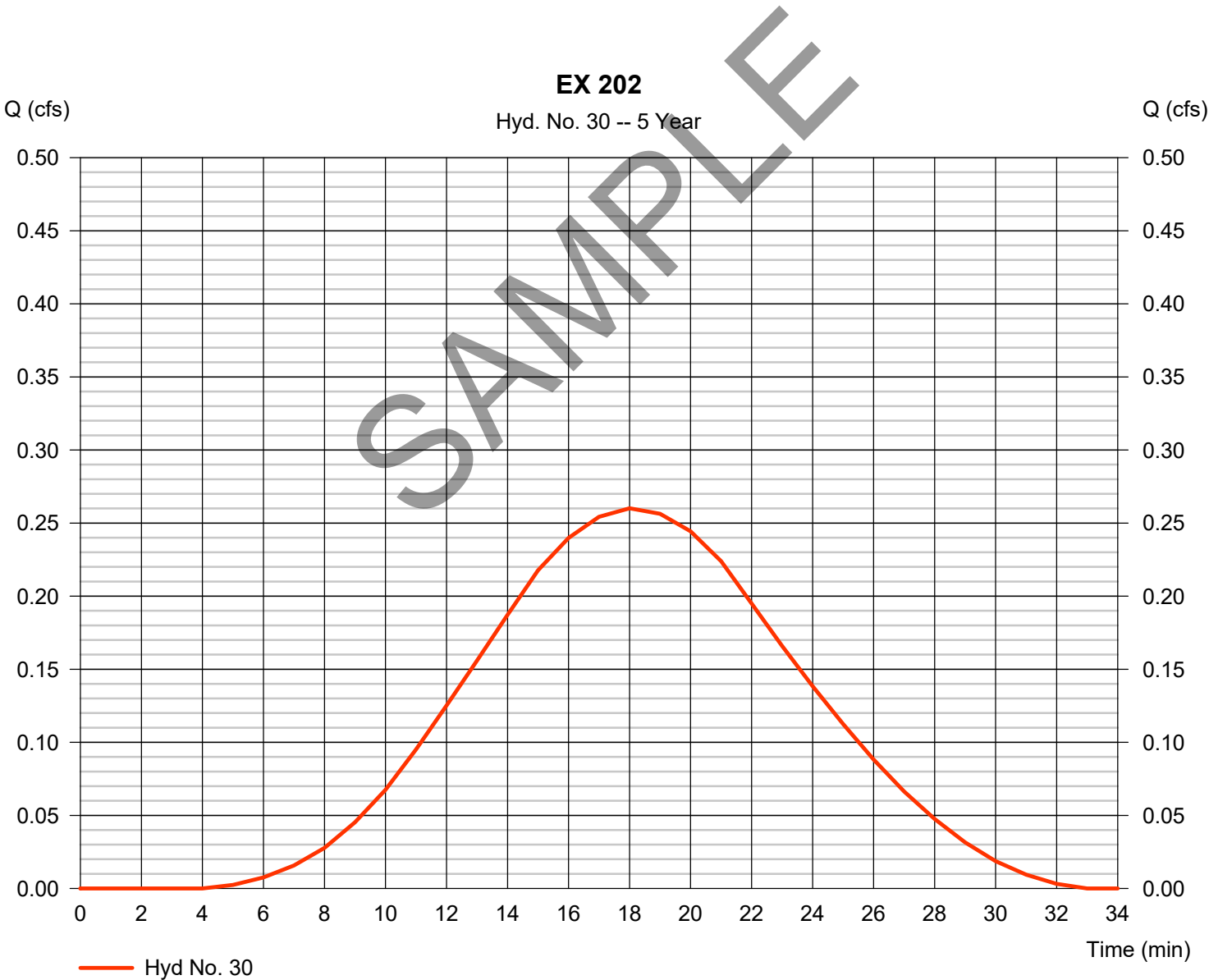


Hydrograph Report

Hyd. No. 30

EX 202

Hydrograph type	= SCS Runoff	Peak discharge	= 0.260 cfs
Storm frequency	= 5 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 198 cuft
Drainage area	= 0.500 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.40 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

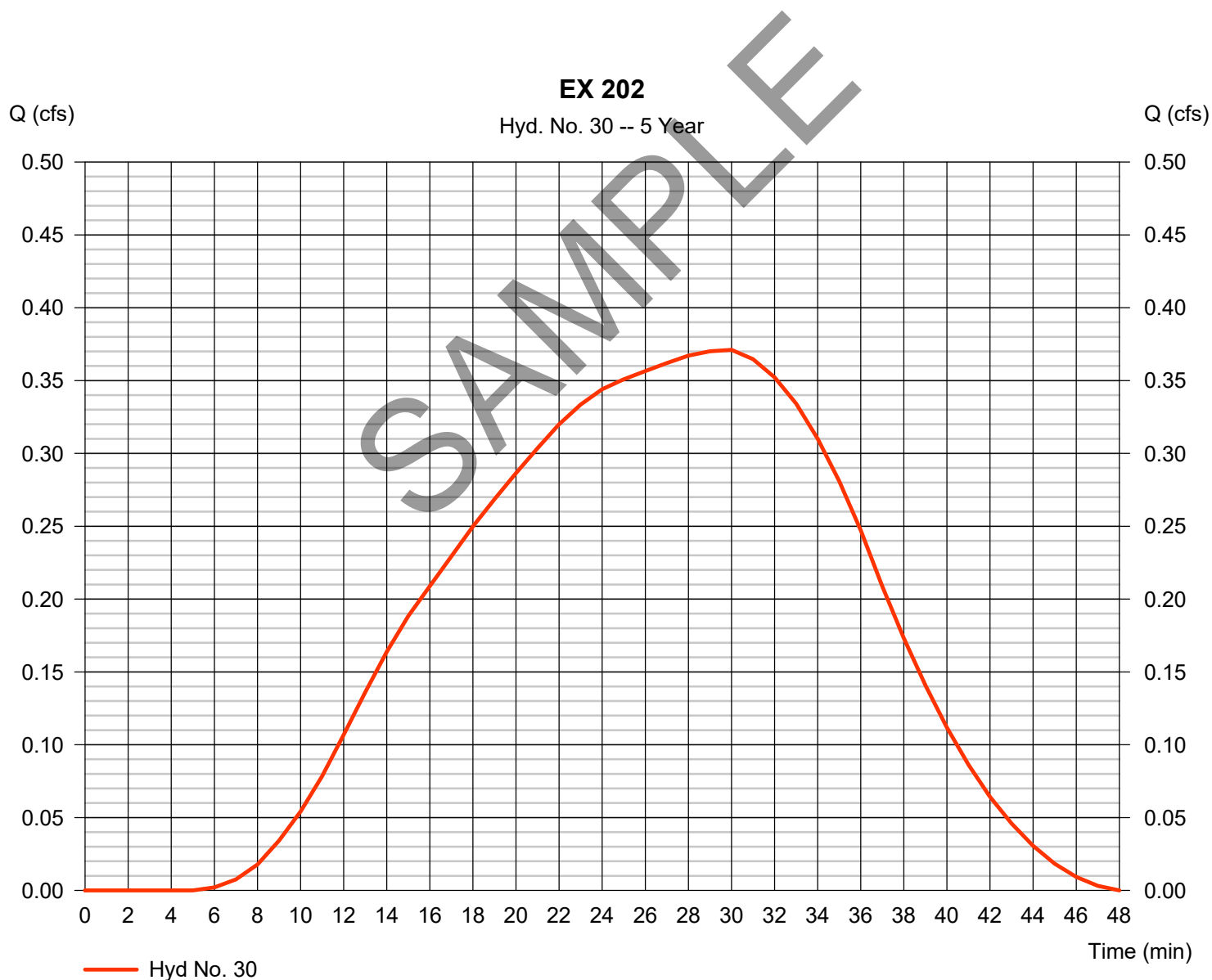
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Tuesday, 03 / 19 / 2019

Hyd. No. 30

EX 202

Hydrograph type	= SCS Runoff	Peak discharge	= 0.371 cfs
Storm frequency	= 5 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 498 cuft
Drainage area	= 0.500 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.40 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

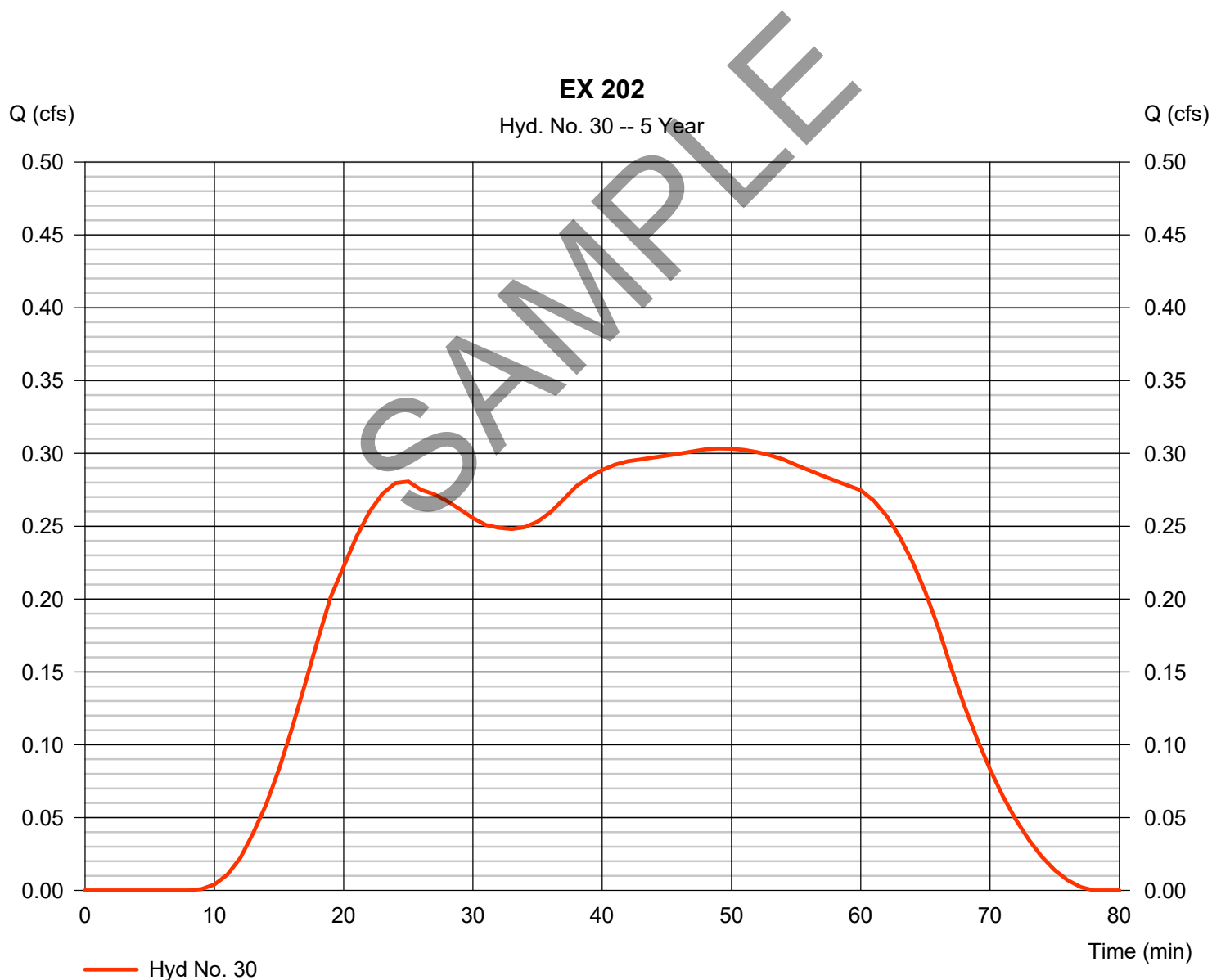
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Tuesday, 03 / 19 / 2019

Hyd. No. 30

EX 202

Hydrograph type	= SCS Runoff	Peak discharge	= 0.303 cfs
Storm frequency	= 5 yrs	Time to peak	= 49 min
Time interval	= 1 min	Hyd. volume	= 857 cuft
Drainage area	= 0.500 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.40 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

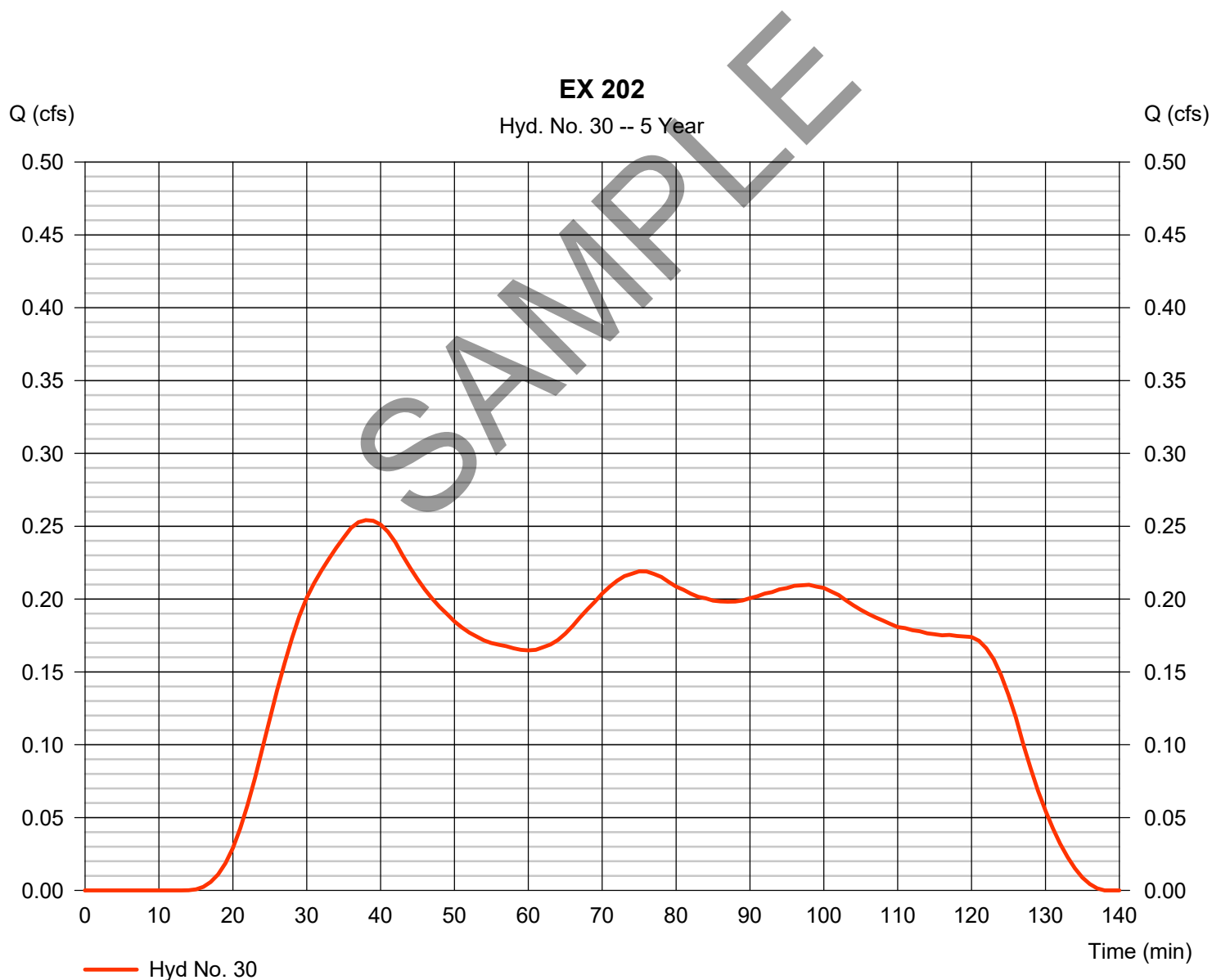
Tuesday, 03 / 19 / 2019

Hyd. No. 30

EX 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.254 cfs
Time to peak = 38 min
Hyd. volume = 1,236 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

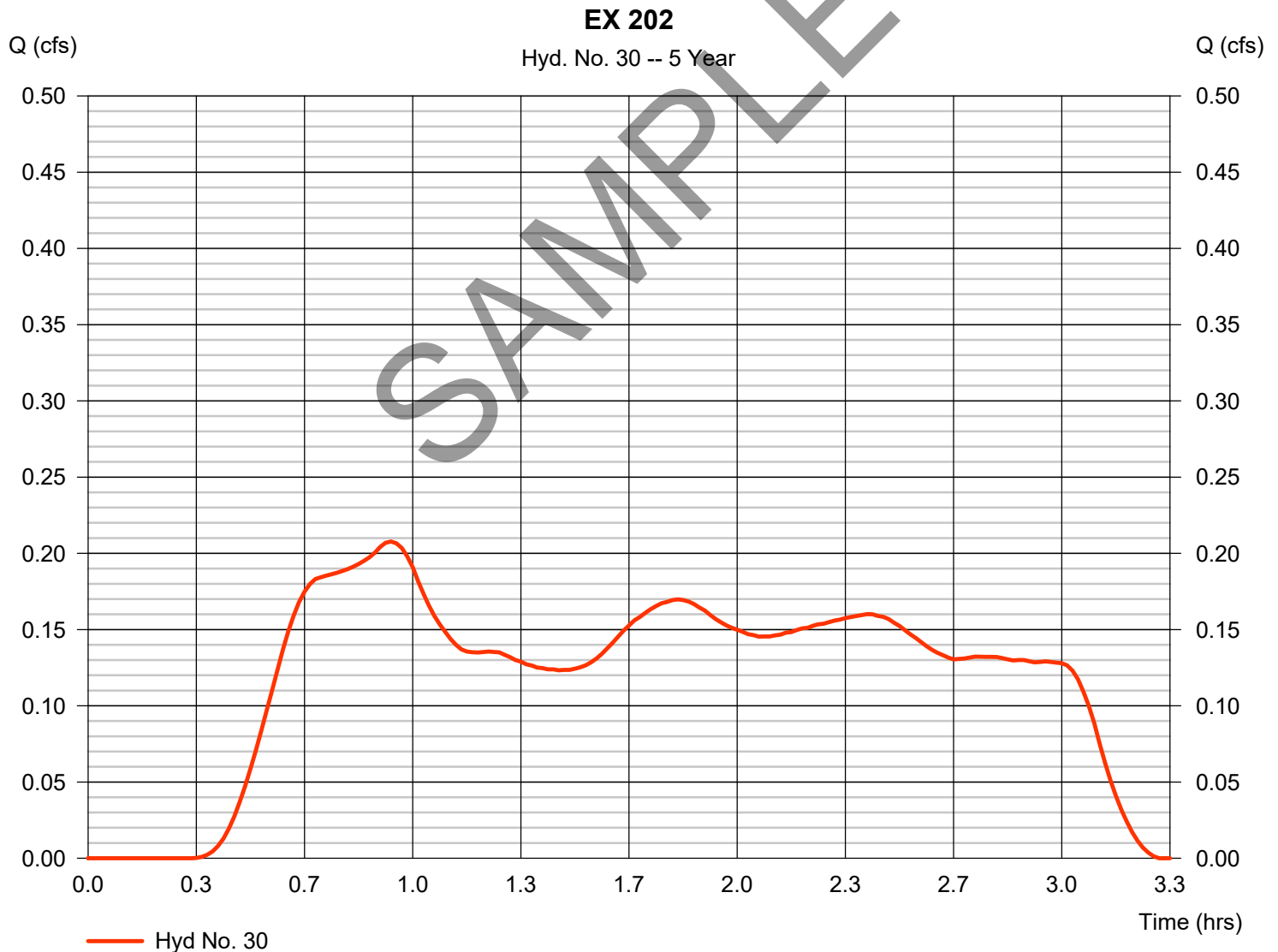
Tuesday, 03 / 19 / 2019

Hyd. No. 30

EX 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.208 cfs
Time to peak = 0.93 hrs
Hyd. volume = 1,420 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

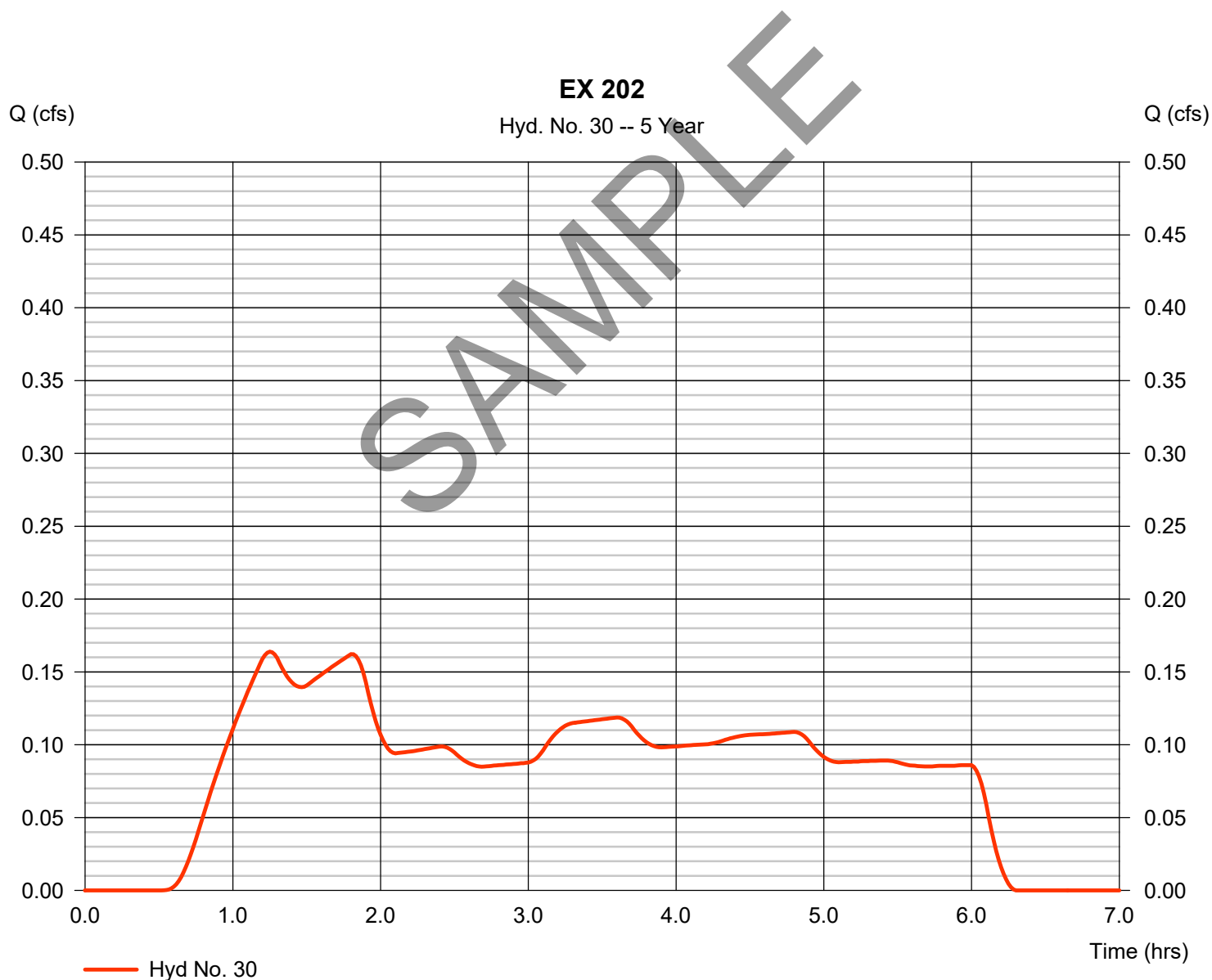
Tuesday, 03 / 19 / 2019

Hyd. No. 30

EX 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.164 cfs
Time to peak = 1.25 hrs
Hyd. volume = 2,050 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

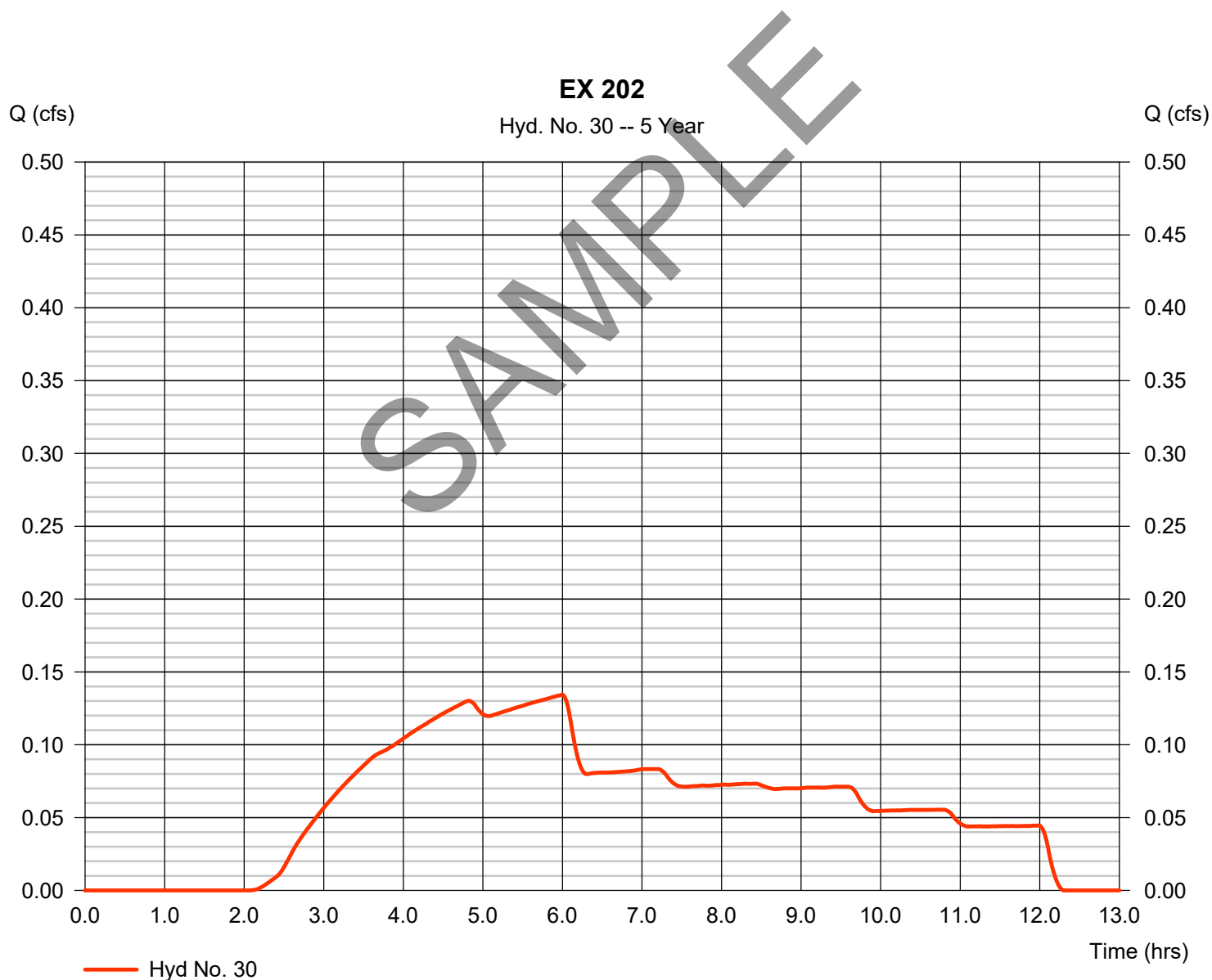
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Tuesday, 03 / 19 / 2019

Hyd. No. 30

EX 202

Hydrograph type	= SCS Runoff	Peak discharge	= 0.134 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 2,728 cuft
Drainage area	= 0.500 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.40 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

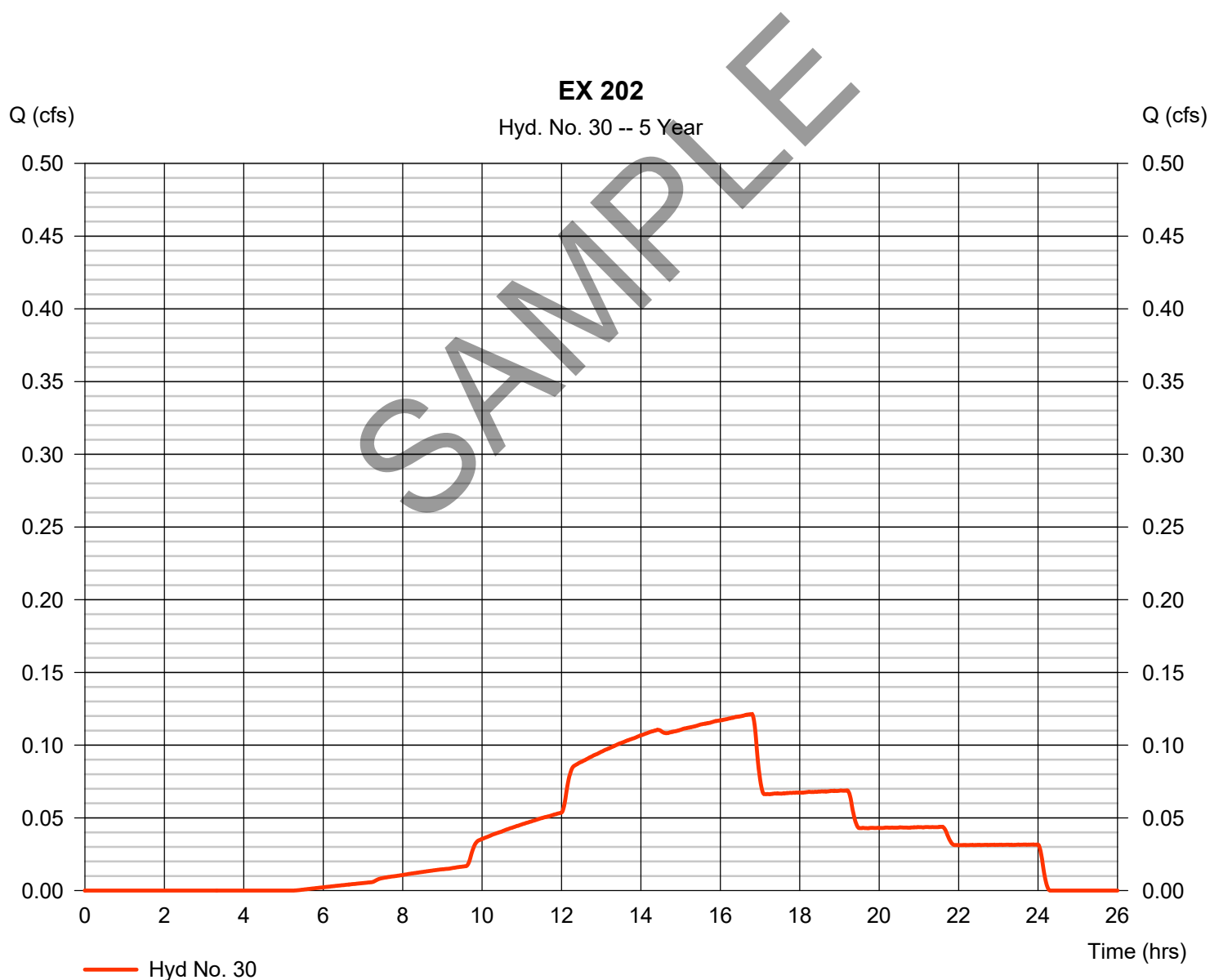
Tuesday, 03 / 19 / 2019

Hyd. No. 30

EX 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.121 cfs
Time to peak = 16.80 hrs
Hyd. volume = 3,595 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.40 min
Distribution = Custom
Shape factor = 484

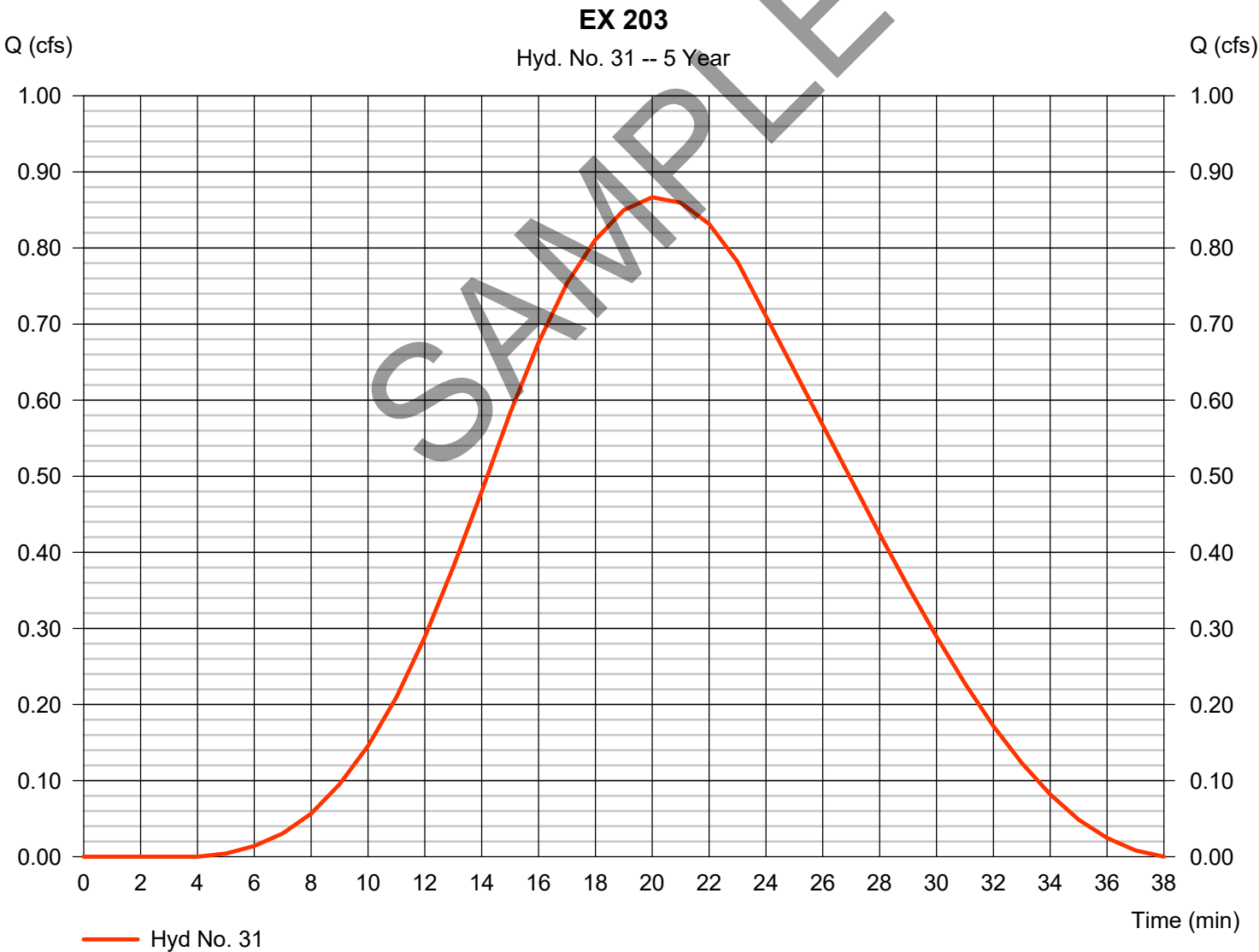


Hydrograph Report

Hyd. No. 31

EX 203

Hydrograph type	= SCS Runoff	Peak discharge	= 0.867 cfs
Storm frequency	= 5 yrs	Time to peak	= 20 min
Time interval	= 1 min	Hyd. volume	= 773 cuft
Drainage area	= 2.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.30 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 60 min	Shape factor	= 484

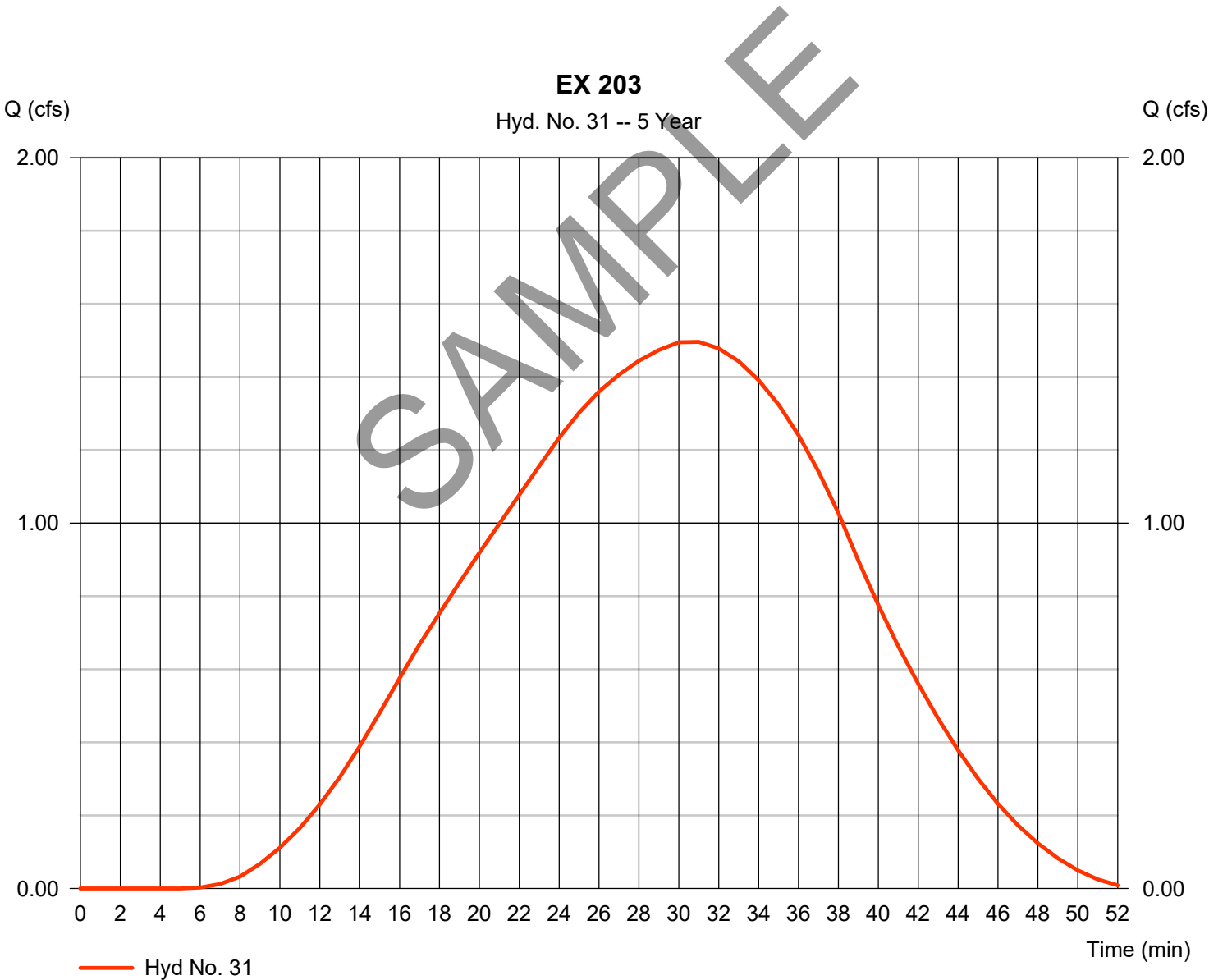


Hydrograph Report

Hyd. No. 31

EX 203

Hydrograph type	= SCS Runoff	Peak discharge	= 1.496 cfs
Storm frequency	= 5 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 2,026 cuft
Drainage area	= 2.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.30 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 60 min	Shape factor	= 484

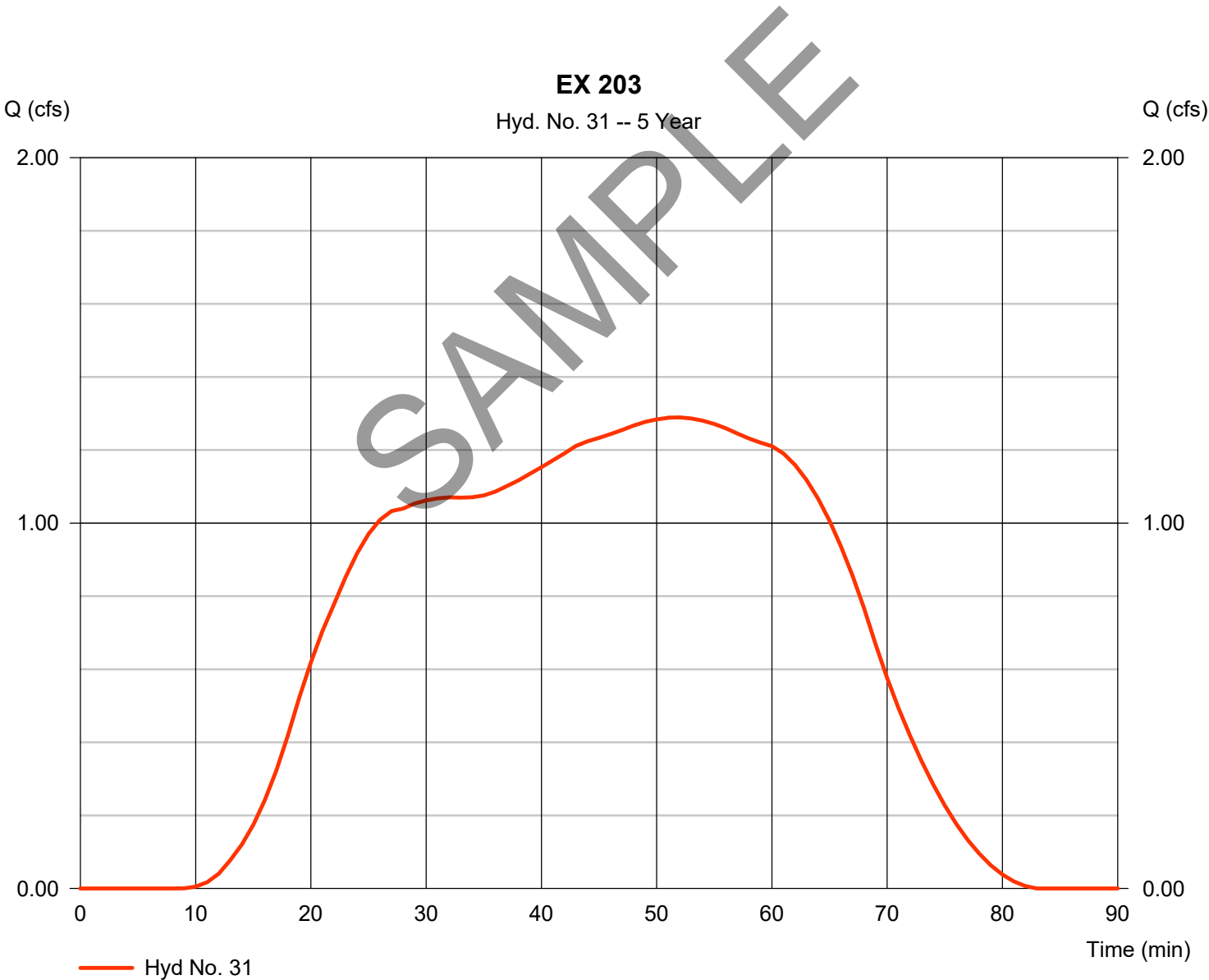


Hydrograph Report

Hyd. No. 31

EX 203

Hydrograph type	= SCS Runoff	Peak discharge	= 1.289 cfs
Storm frequency	= 5 yrs	Time to peak	= 52 min
Time interval	= 1 min	Hyd. volume	= 3,570 cuft
Drainage area	= 2.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.30 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 60 min	Shape factor	= 1.484

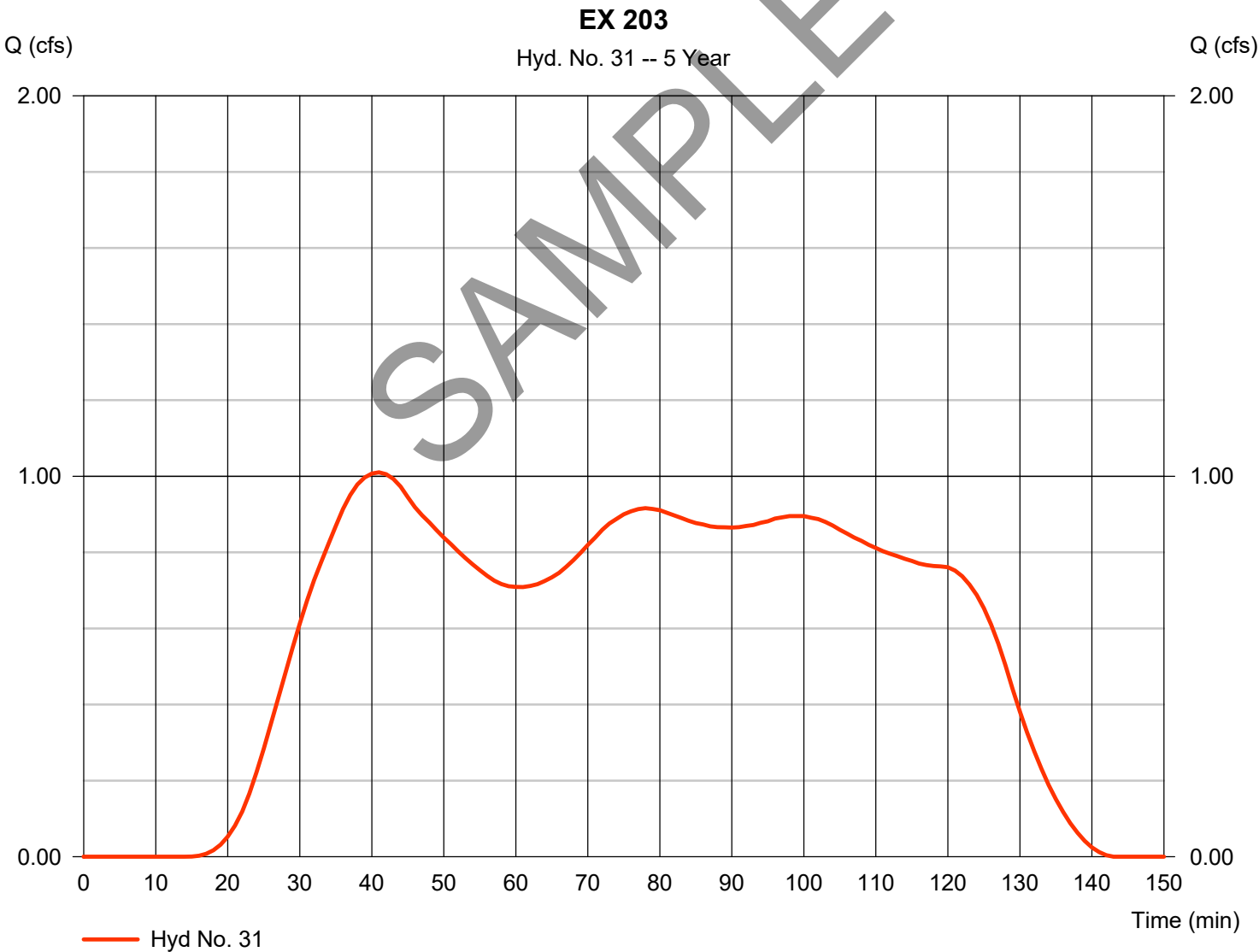


Hydrograph Report

Hyd. No. 31

EX 203

Hydrograph type	= SCS Runoff	Peak discharge	= 1.010 cfs
Storm frequency	= 5 yrs	Time to peak	= 41 min
Time interval	= 1 min	Hyd. volume	= 5,213 cuft
Drainage area	= 2.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.30 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 144 min	Shape factor	= 484

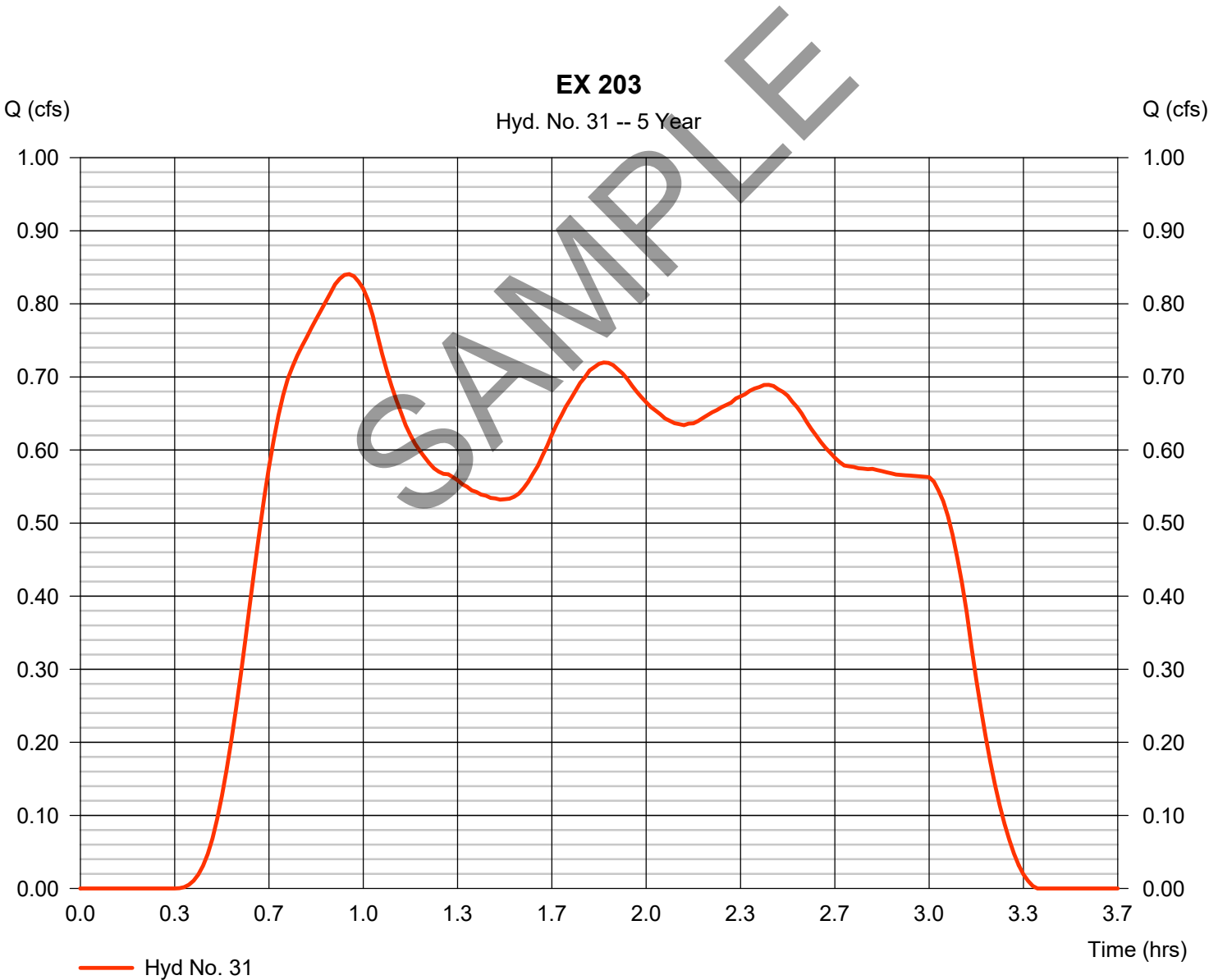


Hydrograph Report

Hyd. No. 31

EX 203

Hydrograph type	= SCS Runoff	Peak discharge	= 0.841 cfs
Storm frequency	= 5 yrs	Time to peak	= 0.95 hrs
Time interval	= 1 min	Hyd. volume	= 6,016 cuft
Drainage area	= 2.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.30 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 11.00 hrs	Ushape factor	= 484



Hydrograph Report

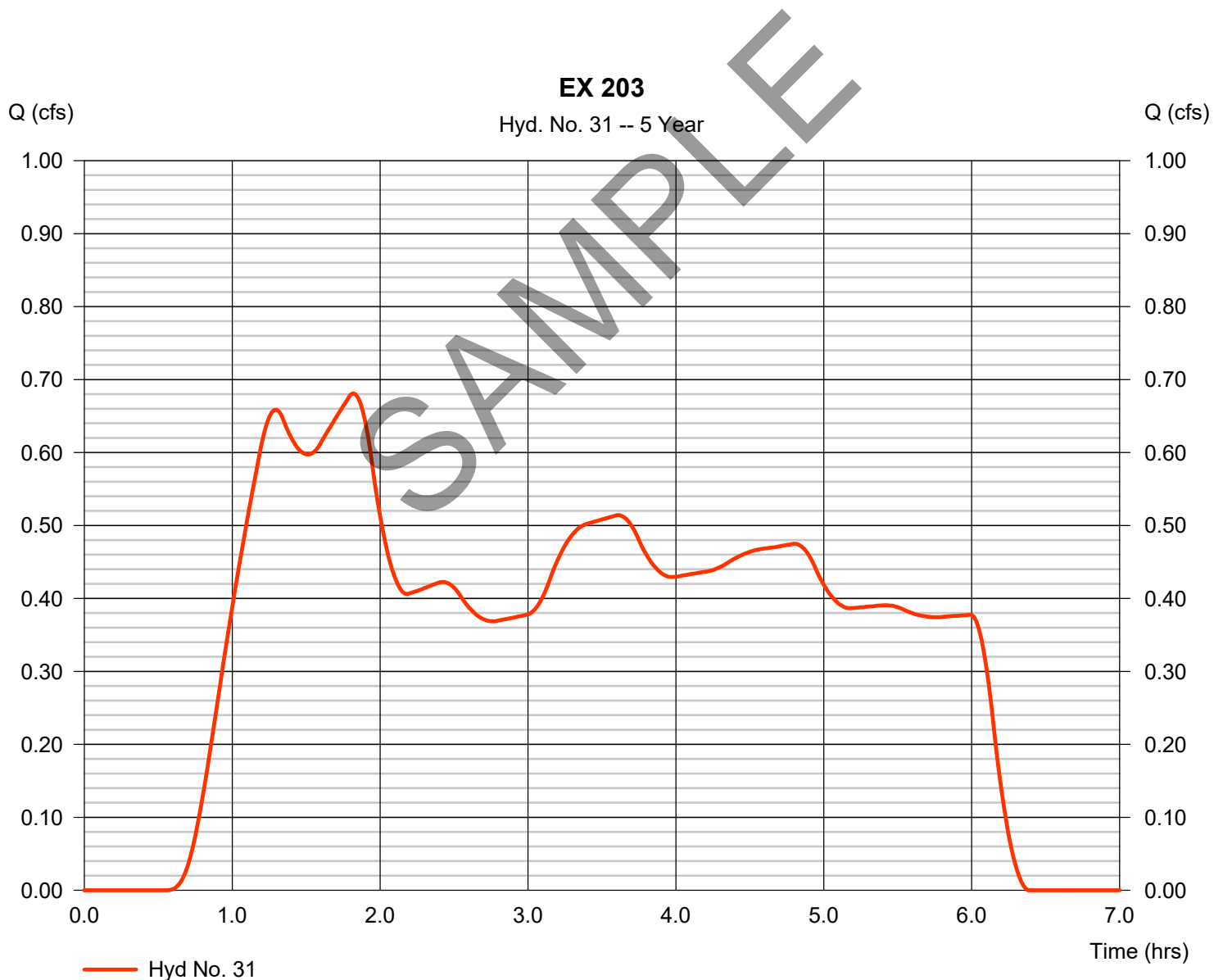
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Tuesday, 03 / 19 / 2019

Hyd. No. 31

EX 203

Hydrograph type	= SCS Runoff	Peak discharge	= 0.681 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.82 hrs
Time interval	= 1 min	Hyd. volume	= 8,778 cuft
Drainage area	= 2.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.30 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 1 hr	Shape factor	= 484

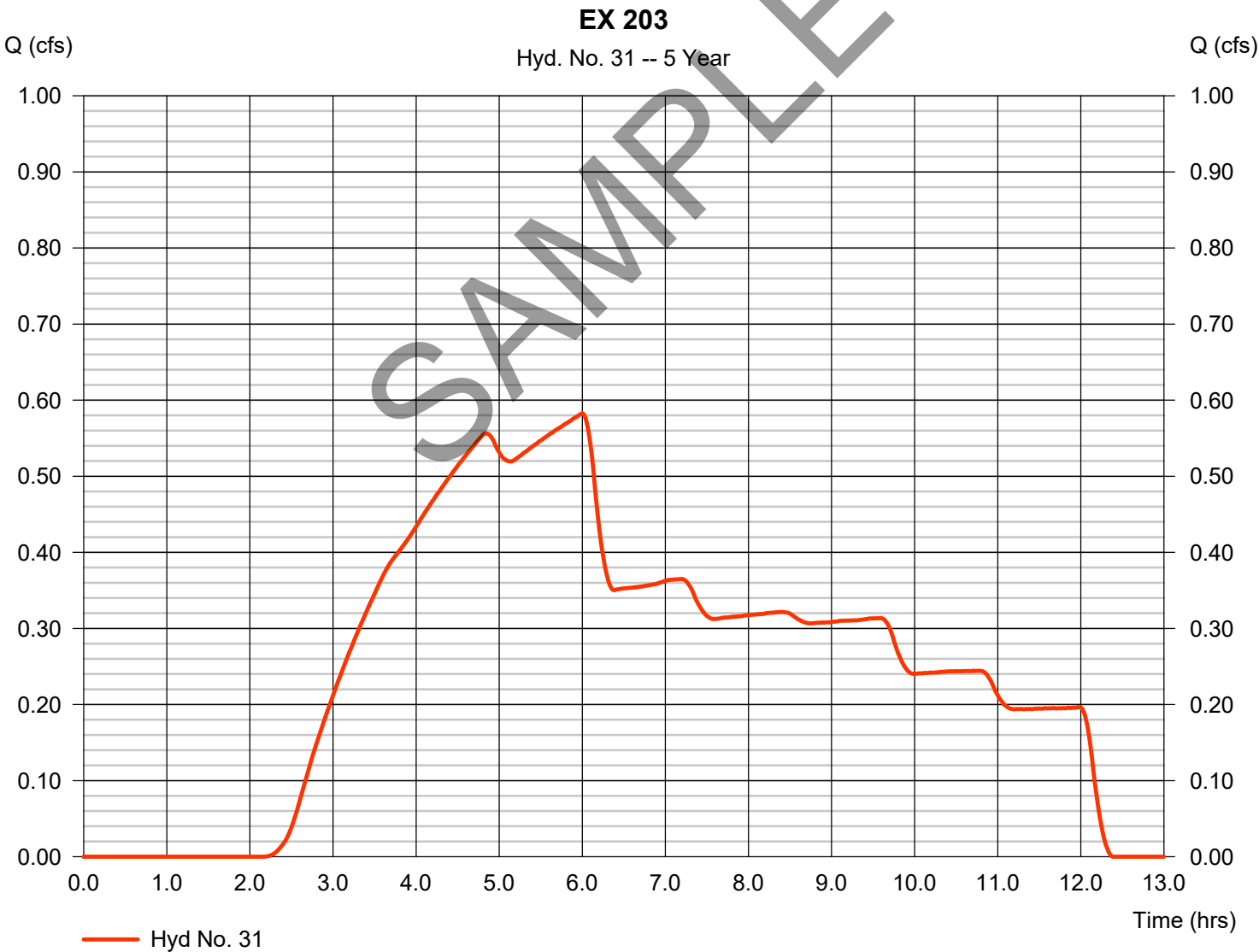


Hydrograph Report

Hyd. No. 31

EX 203

Hydrograph type	= SCS Runoff	Peak discharge	= 0.583 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 11,769 cuft
Drainage area	= 2.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.30 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Ushape factor	= 484

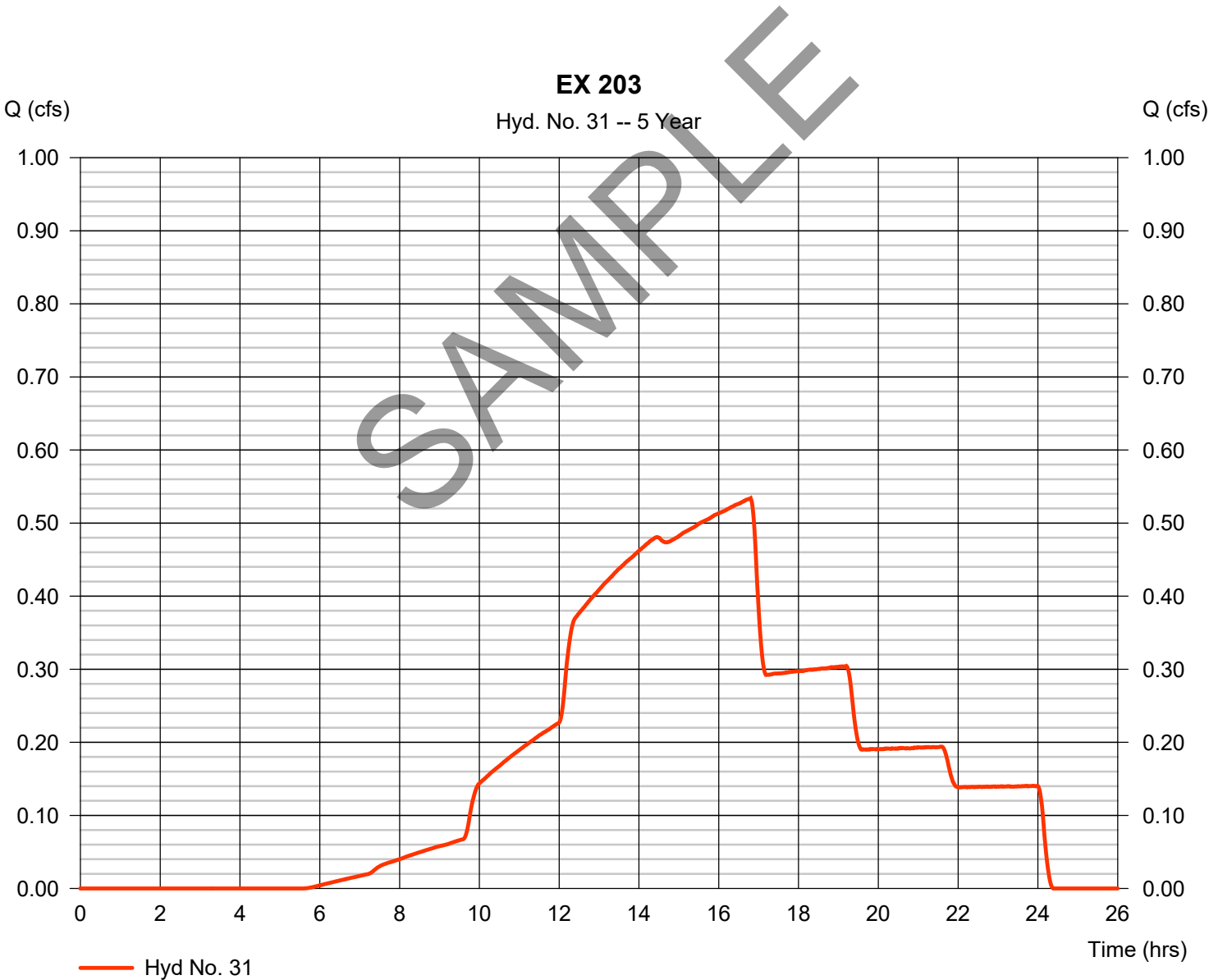


Hydrograph Report

Hyd. No. 31

EX 203

Hydrograph type	= SCS Runoff	Peak discharge	= 0.534 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.80 hrs
Time interval	= 1 min	Hyd. volume	= 15,608 cuft
Drainage area	= 2.300 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.30 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 6 hrs	Shape factor	= 1.484



Hydrograph Report

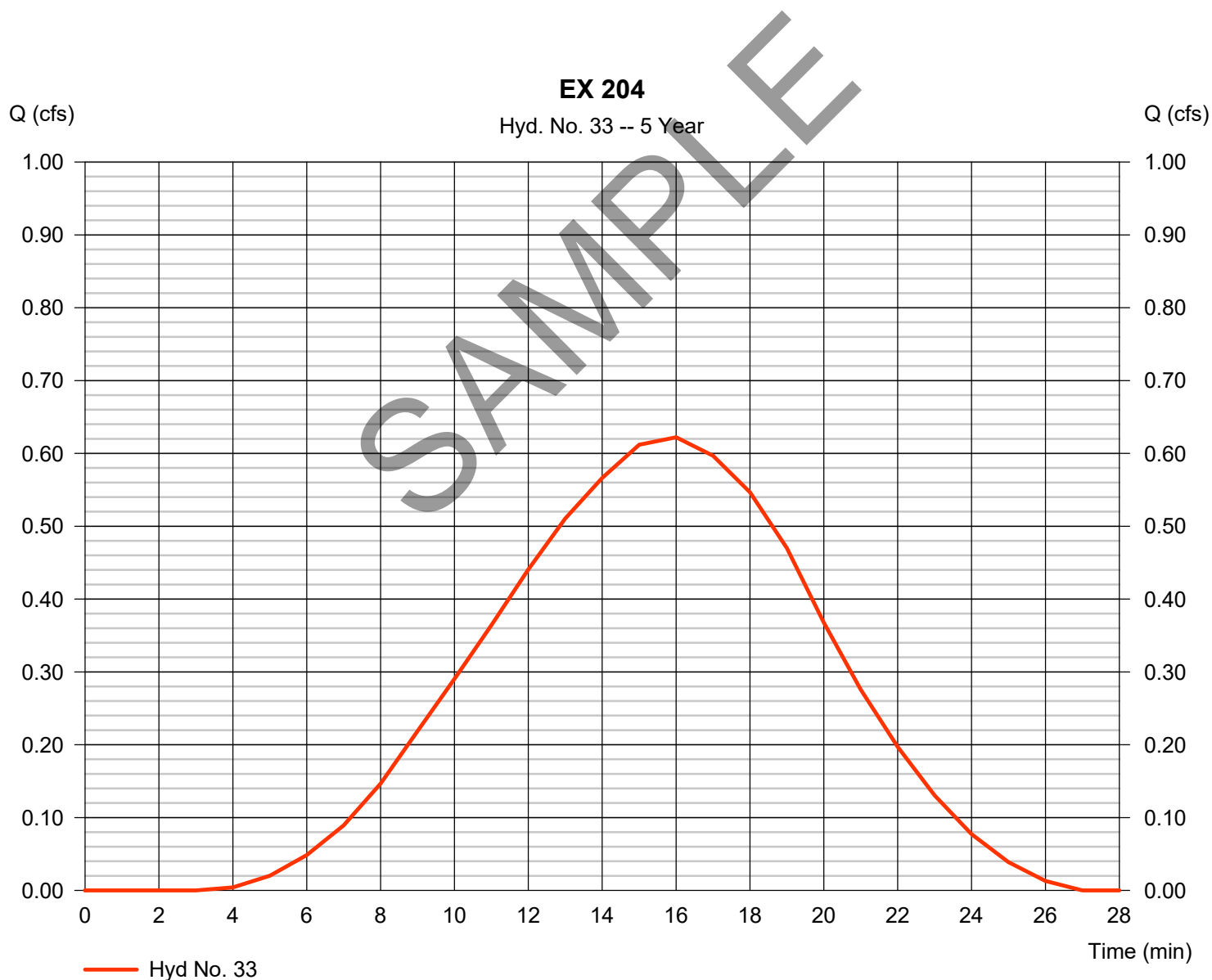
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Tuesday, 03 / 19 / 2019

Hyd. No. 33

EX 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.622 cfs
Storm frequency	= 5 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 399 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

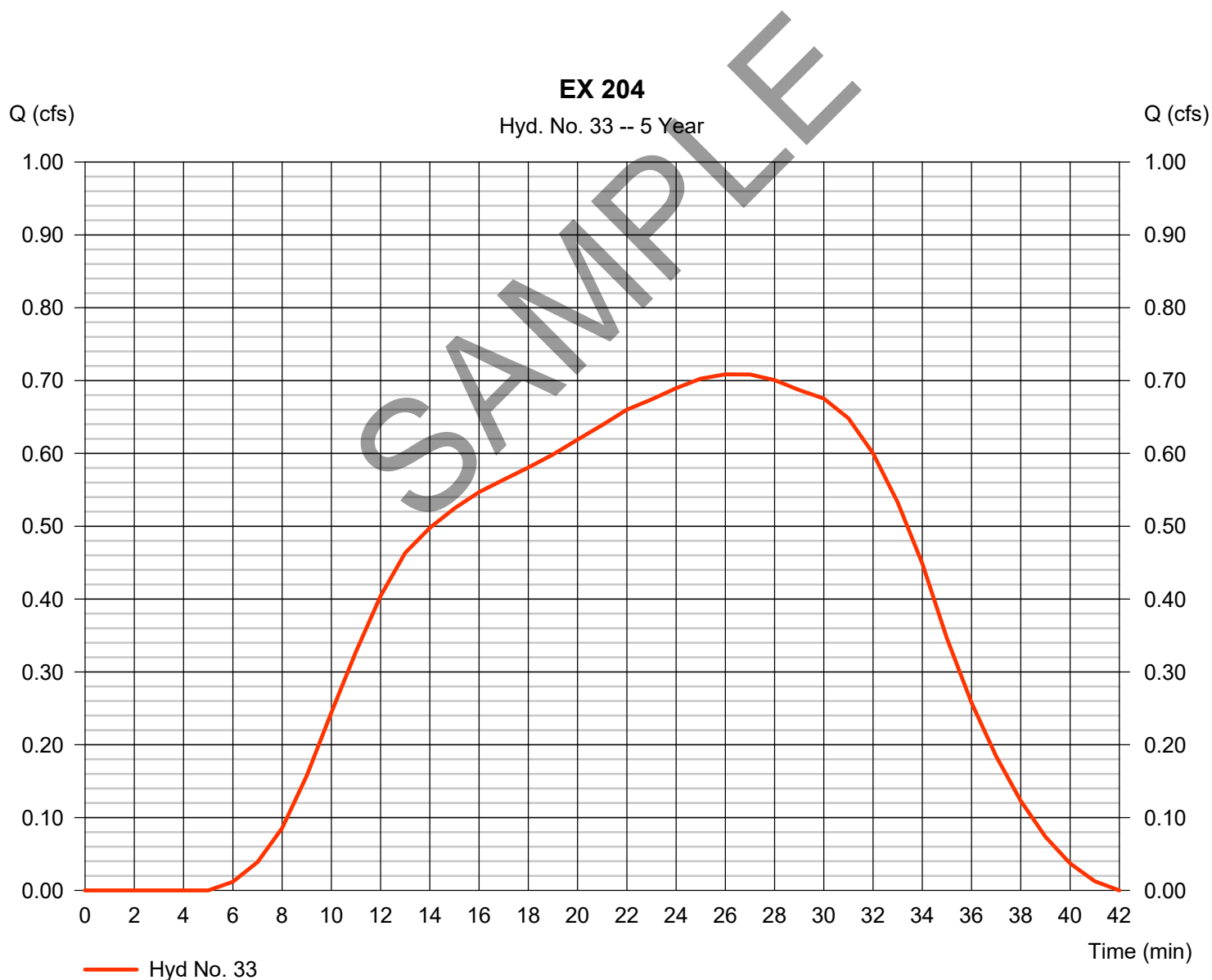
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 33

EX 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.709 cfs
Storm frequency	= 5 yrs	Time to peak	= 26 min
Time interval	= 1 min	Hyd. volume	= 946 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

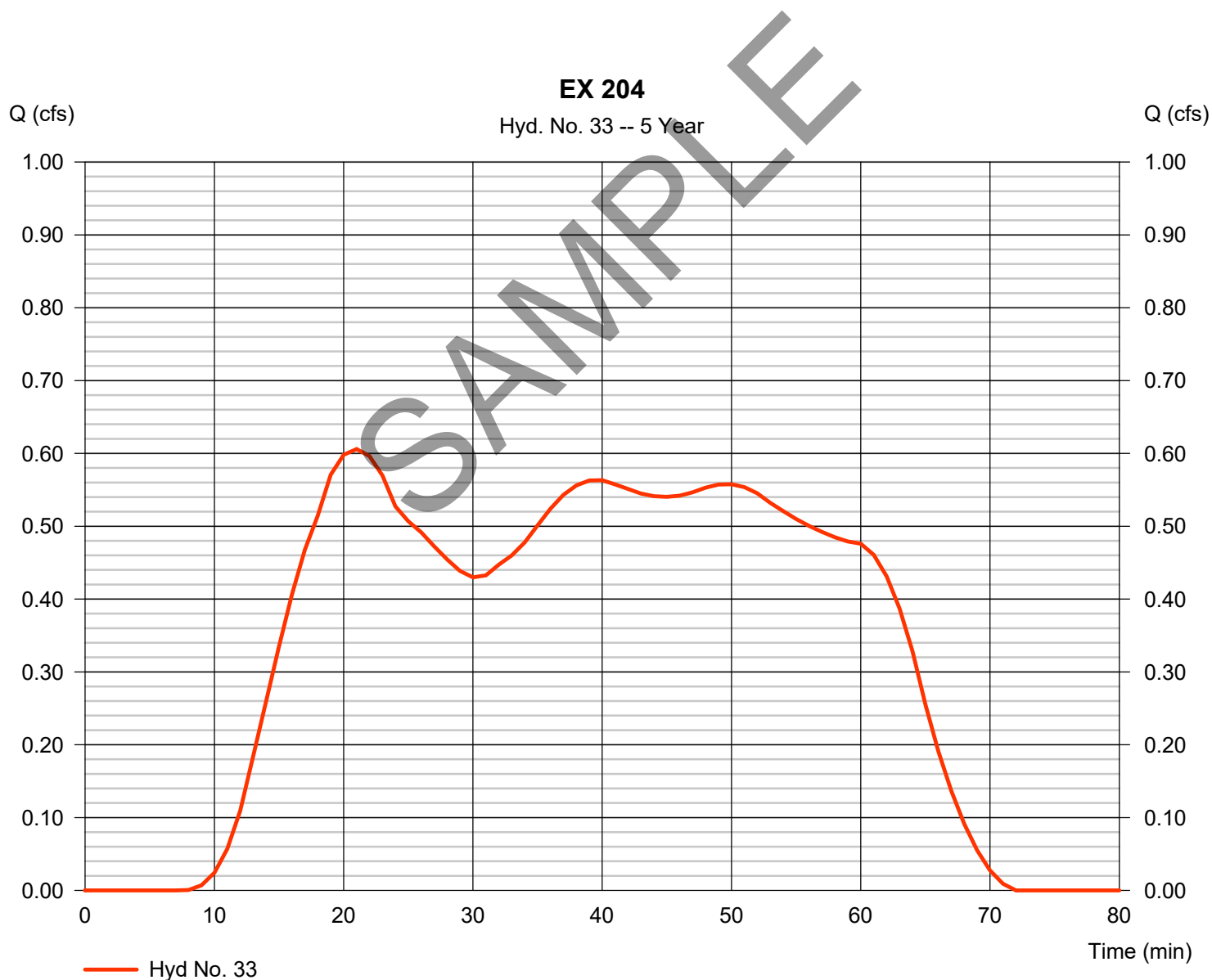
Tuesday, 03 / 19 / 2019

Hyd. No. 33

EX 204

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.606 cfs
Time to peak = 21 min
Hyd. volume = 1,599 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

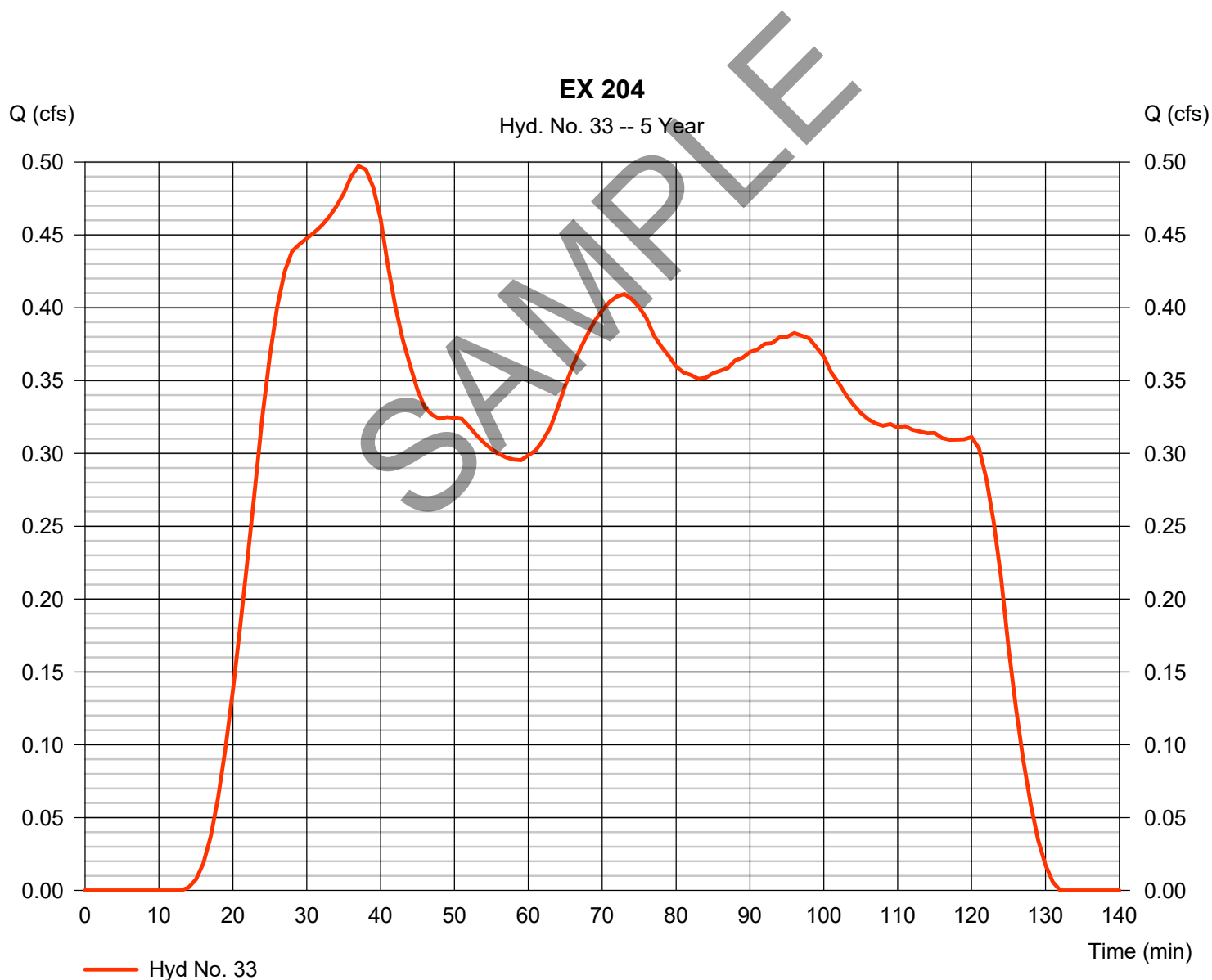
Tuesday, 03 / 19 / 2019

Hyd. No. 33

EX 204

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.497 cfs
Time to peak = 37 min
Hyd. volume = 2,279 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

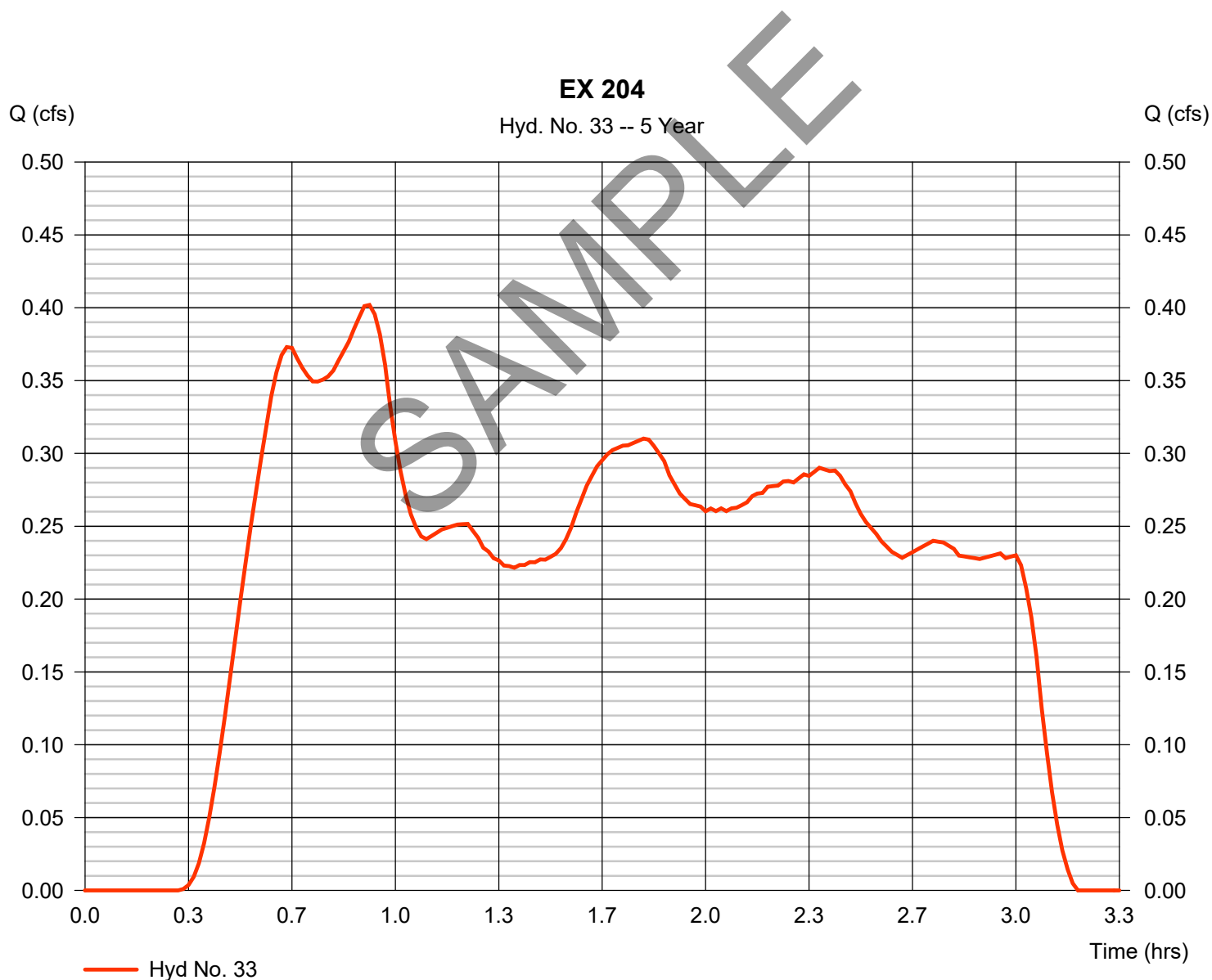
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 33

EX 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.402 cfs
Storm frequency	= 5 yrs	Time to peak	= 0.92 hrs
Time interval	= 1 min	Hyd. volume	= 2,608 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

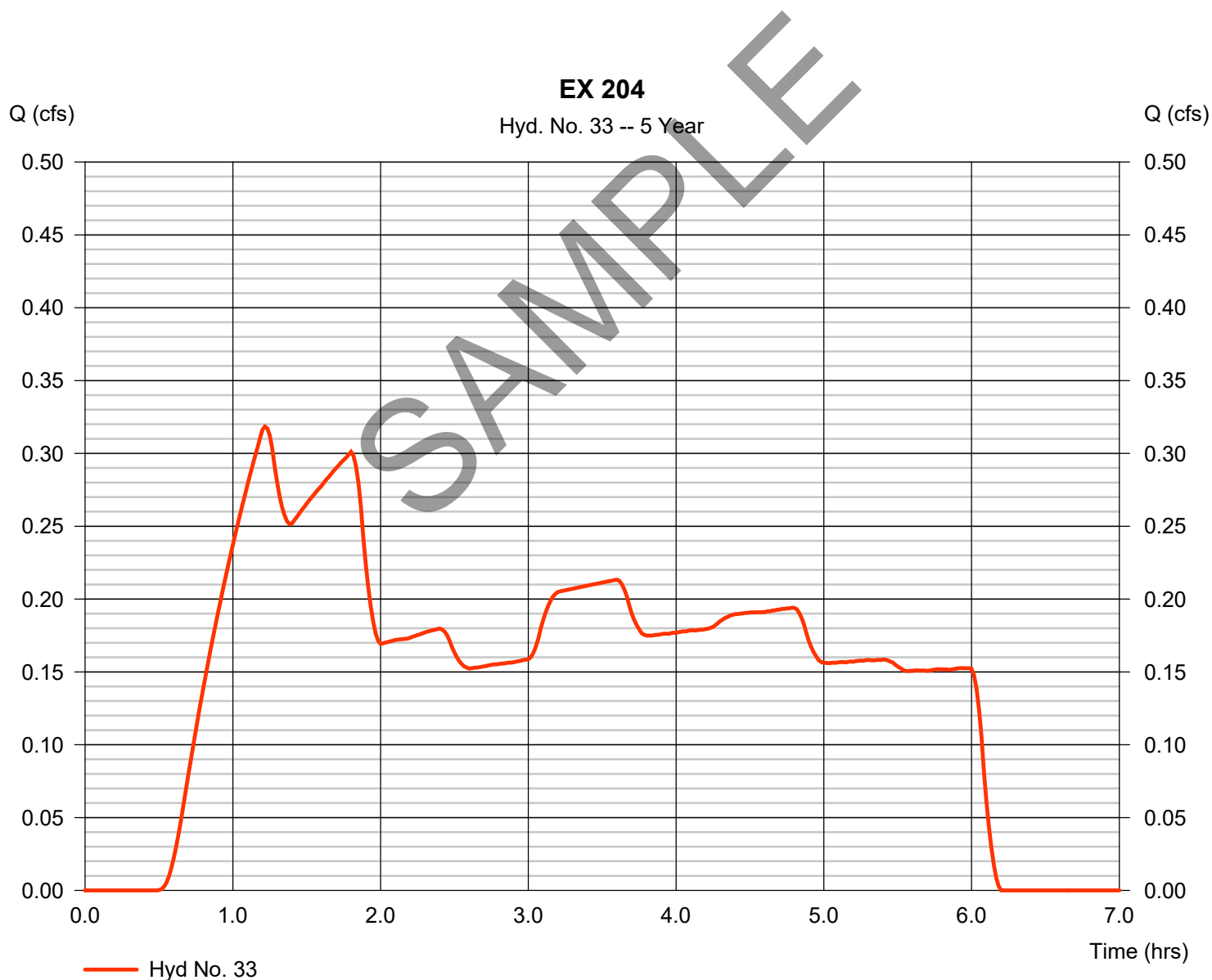
Tuesday, 03 / 19 / 2019

Hyd. No. 33

EX 204

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.318 cfs
Time to peak = 1.22 hrs
Hyd. volume = 3,727 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

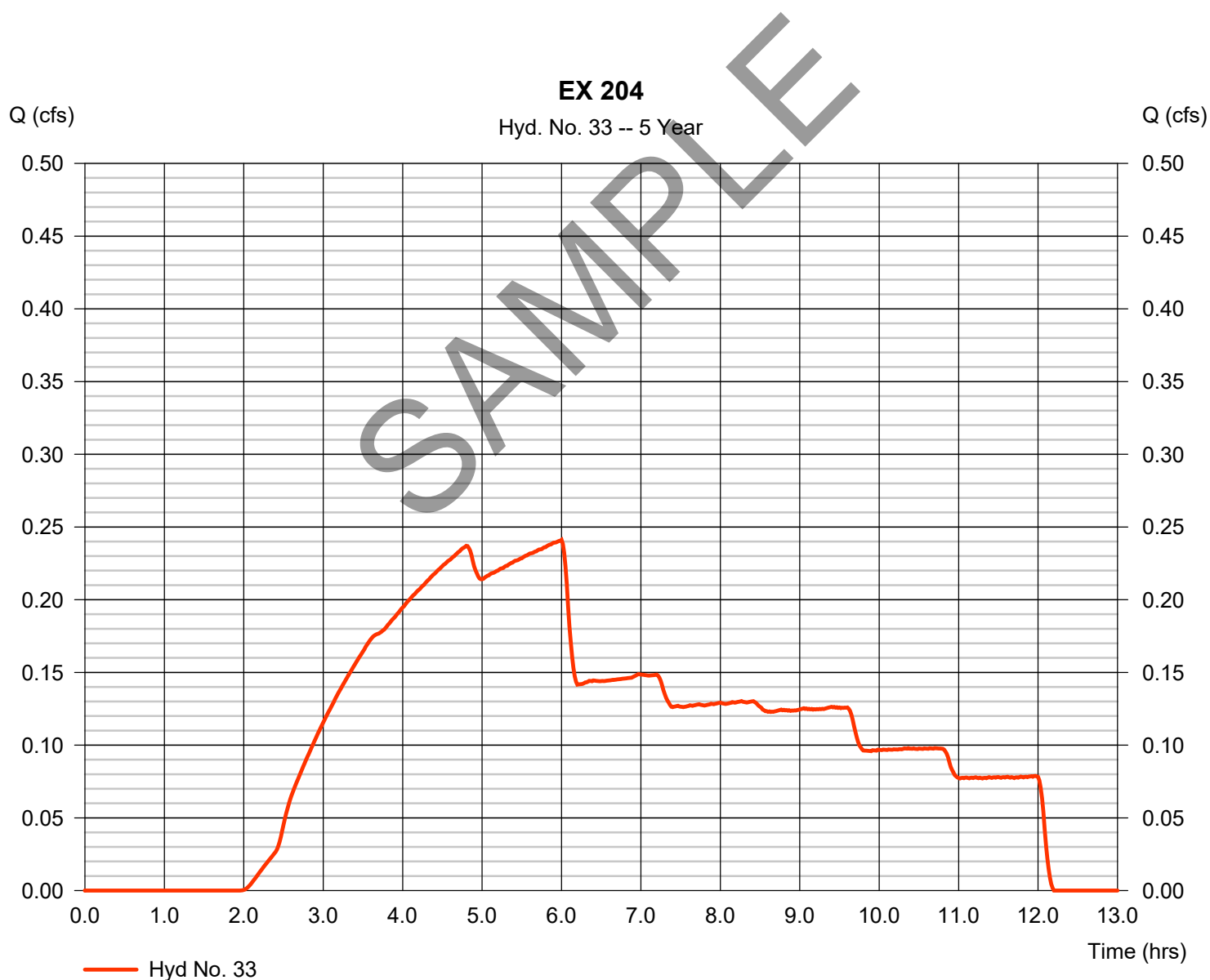
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Tuesday, 03 / 19 / 2019

Hyd. No. 33

EX 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.241 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 4,925 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

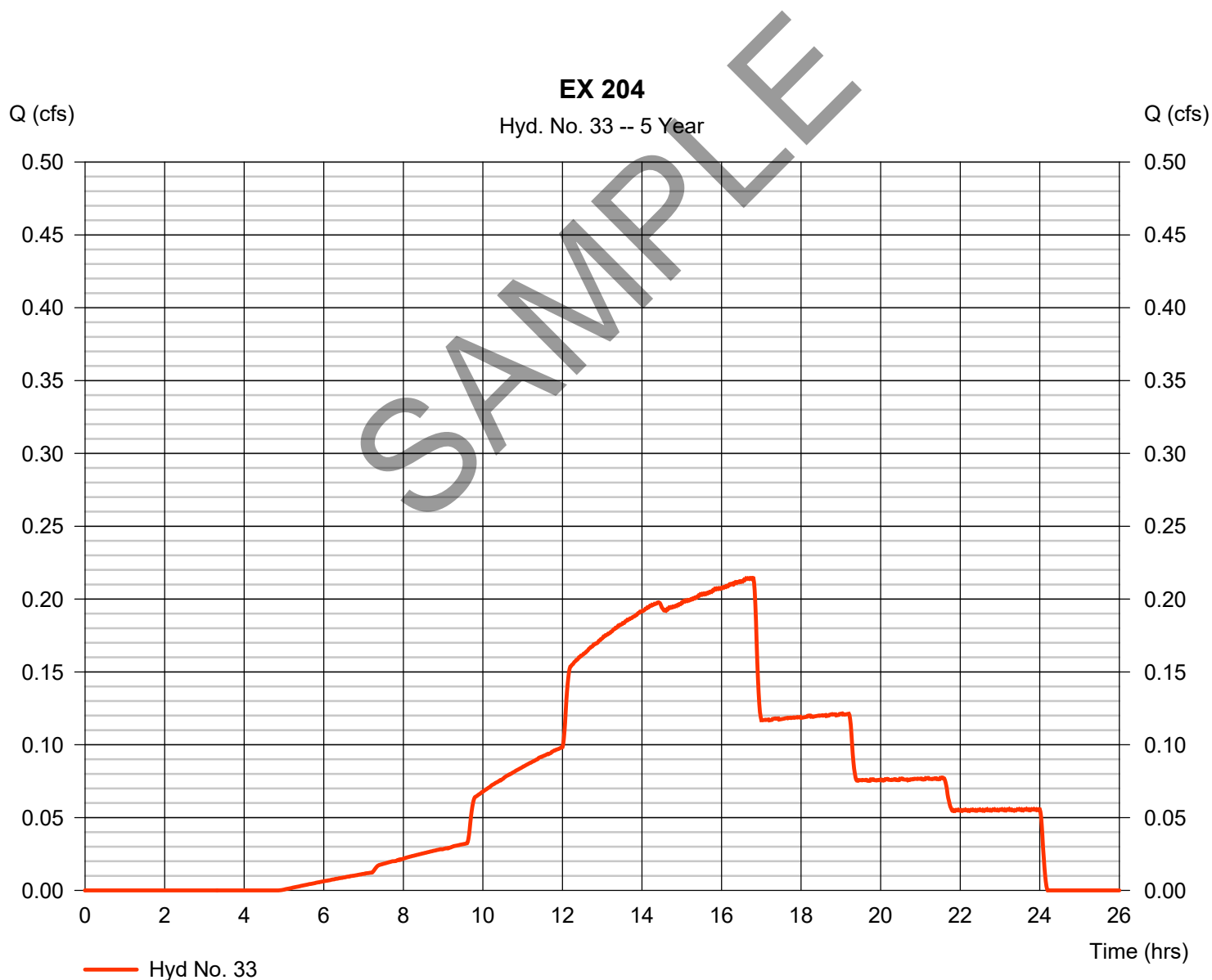
Tuesday, 03 / 19 / 2019

Hyd. No. 33

EX 204

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.215 cfs
Time to peak = 16.78 hrs
Hyd. volume = 6,449 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.30 min
Distribution = Custom
Shape factor = 484

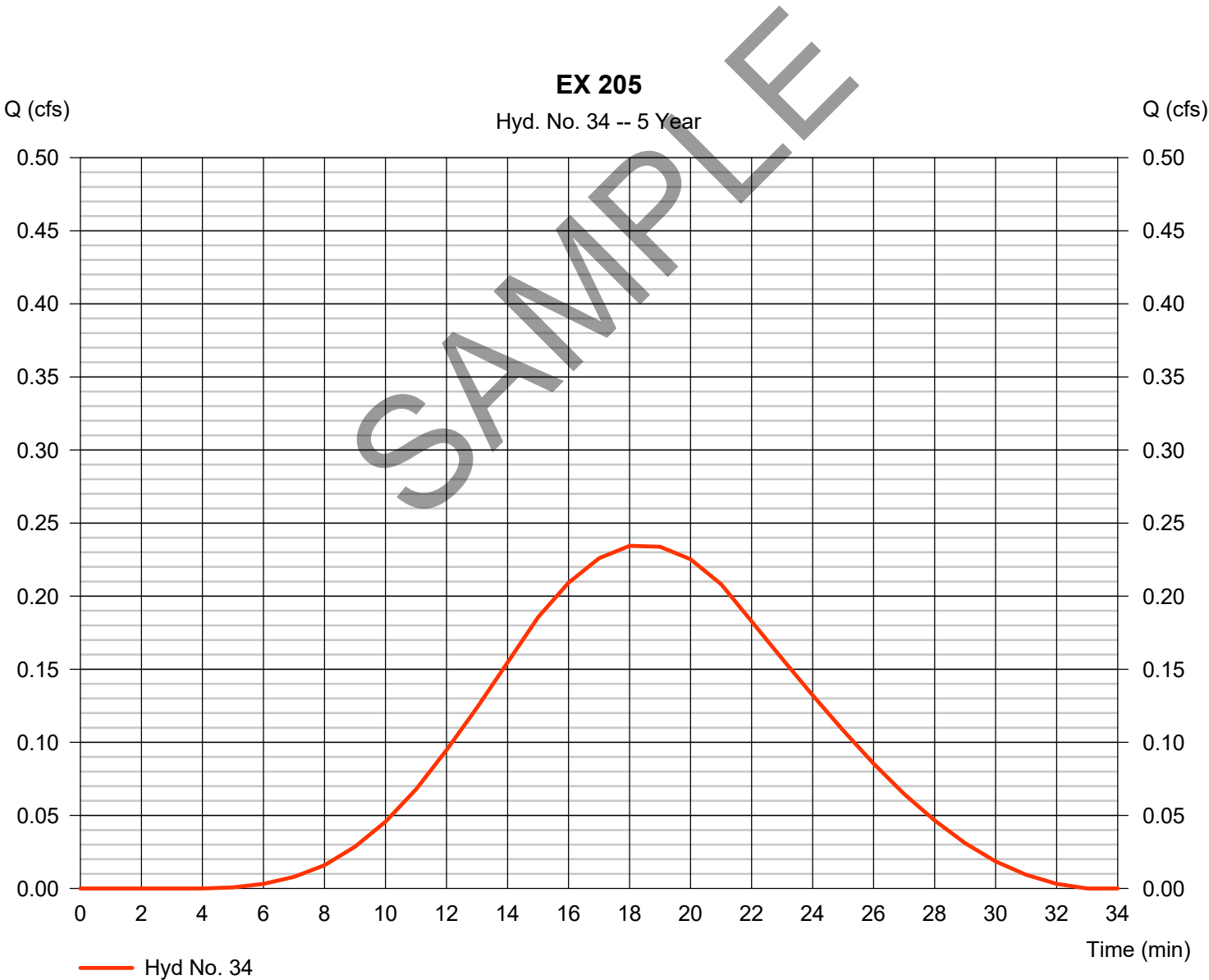


Hydrograph Report

Hyd. No. 34

EX 205

Hydrograph type	= SCS Runoff	Peak discharge	= 0.234 cfs
Storm frequency	= 5 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 174 cuft
Drainage area	= 0.600 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

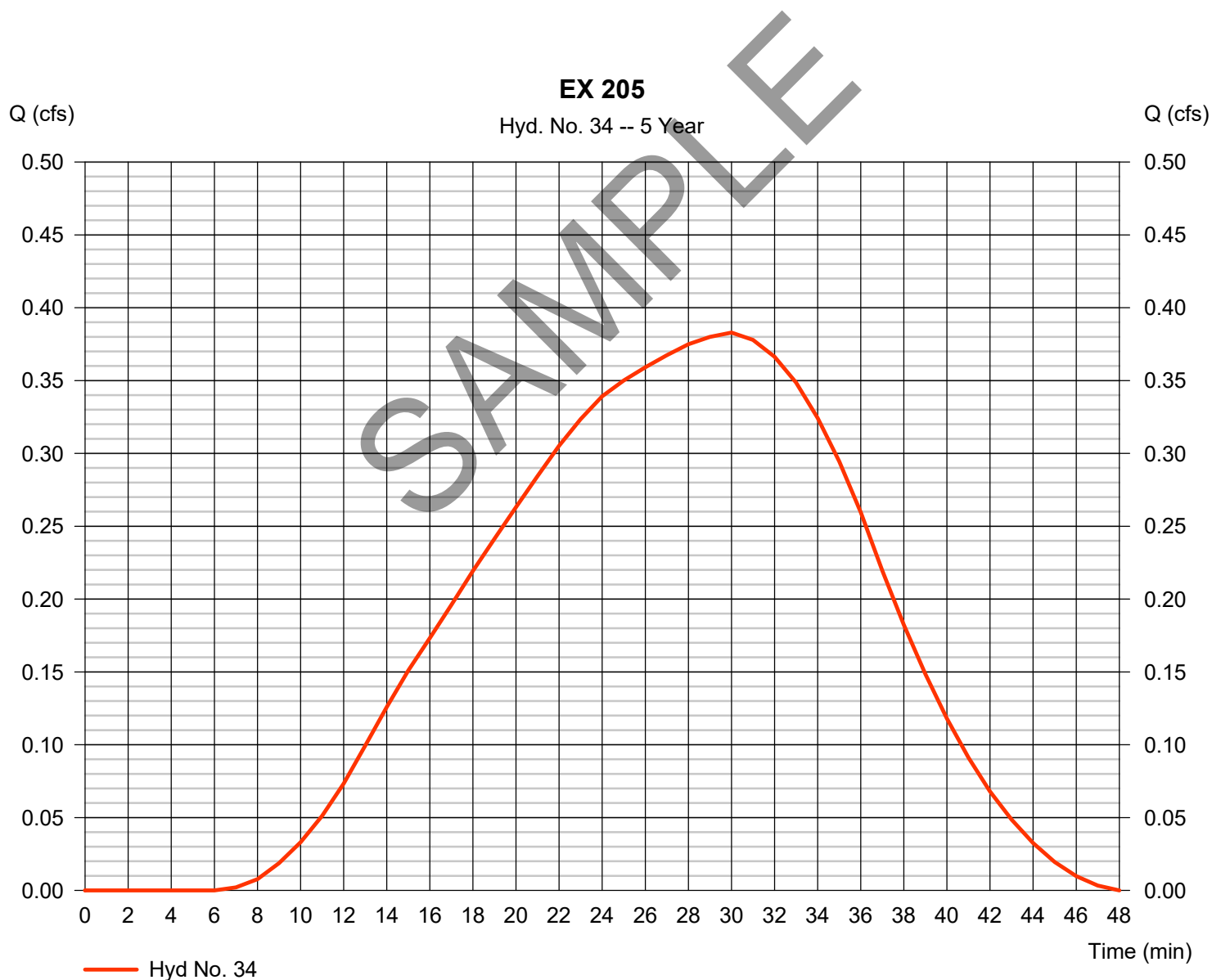
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Tuesday, 03 / 19 / 2019

Hyd. No. 34

EX 205

Hydrograph type	= SCS Runoff	Peak discharge	= 0.383 cfs
Storm frequency	= 5 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 482 cuft
Drainage area	= 0.600 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

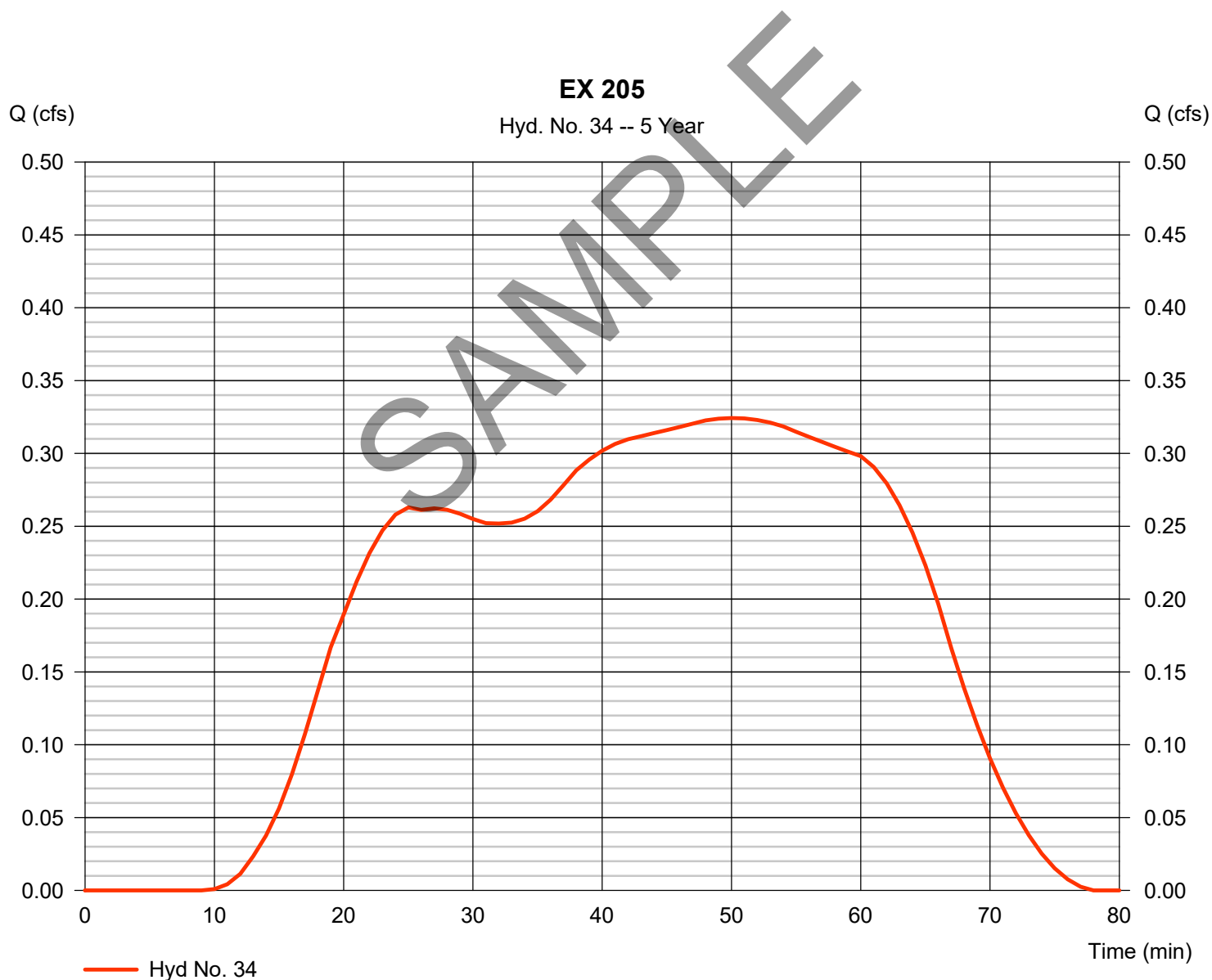
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Tuesday, 03 / 19 / 2019

Hyd. No. 34

EX 205

Hydrograph type	= SCS Runoff	Peak discharge	= 0.324 cfs
Storm frequency	= 5 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 872 cuft
Drainage area	= 0.600 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

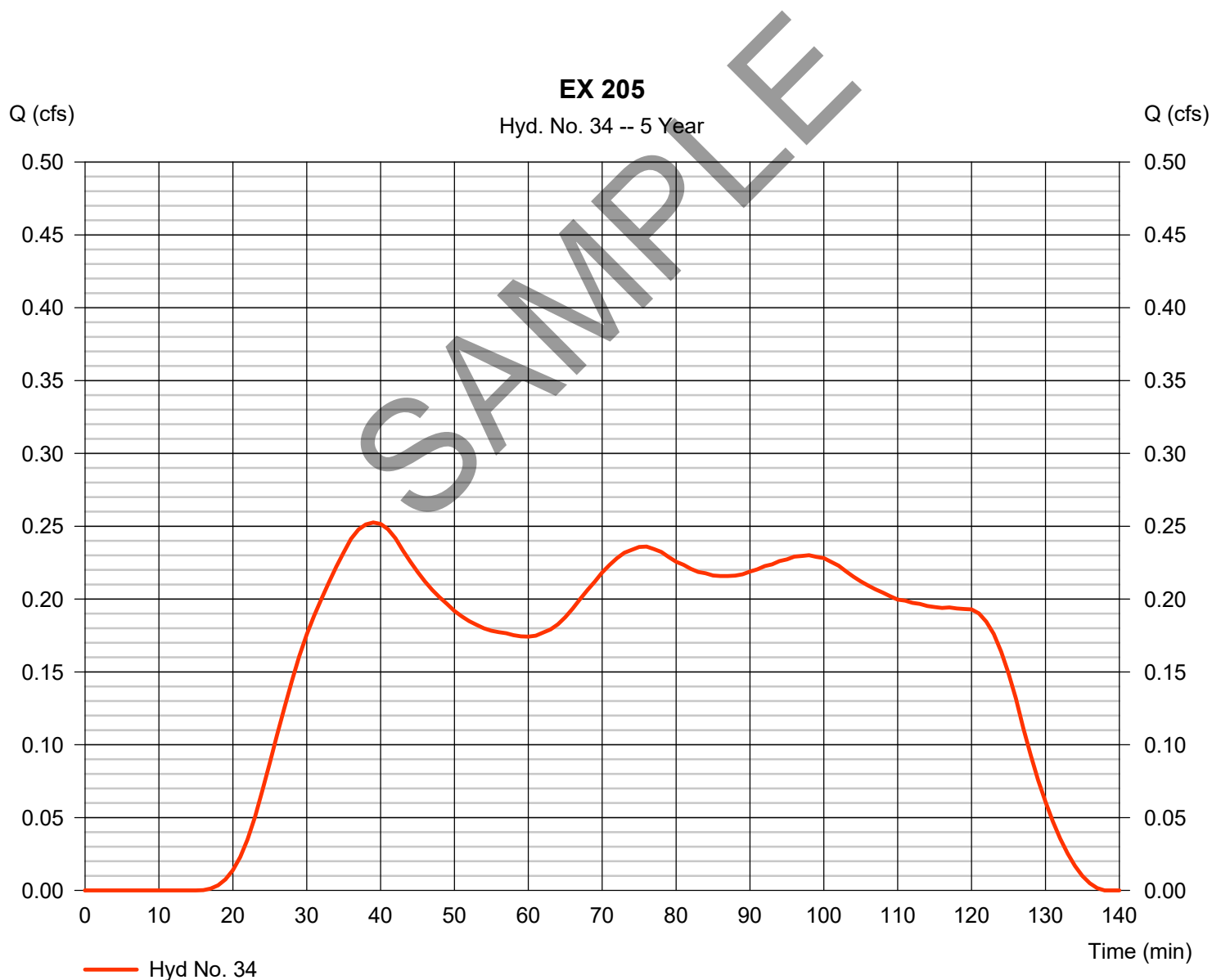
Tuesday, 03 / 19 / 2019

Hyd. No. 34

EX 205

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.253 cfs
Time to peak = 39 min
Hyd. volume = 1,290 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

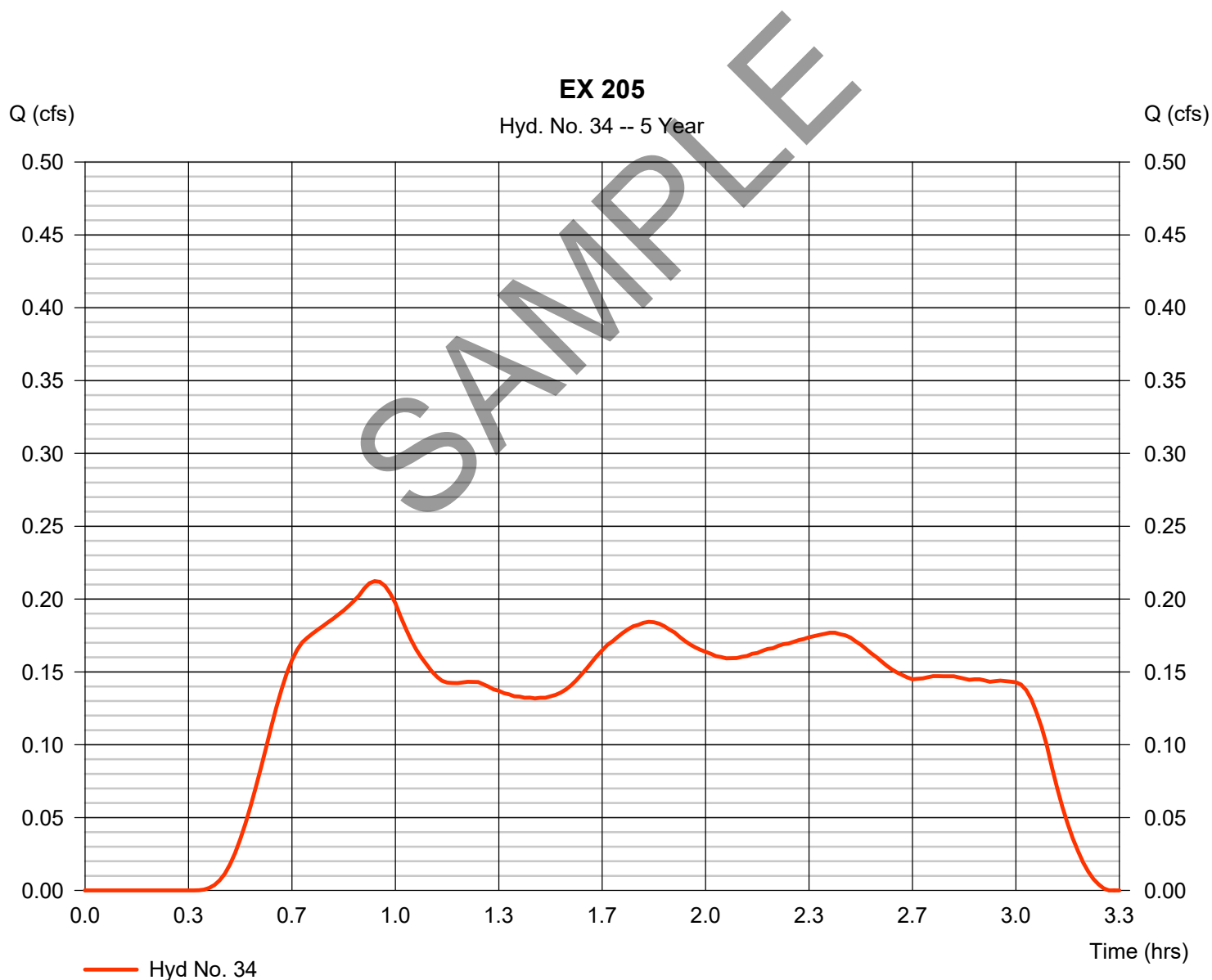
Tuesday, 03 / 19 / 2019

Hyd. No. 34

EX 205

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.212 cfs
Time to peak = 0.93 hrs
Hyd. volume = 1,496 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

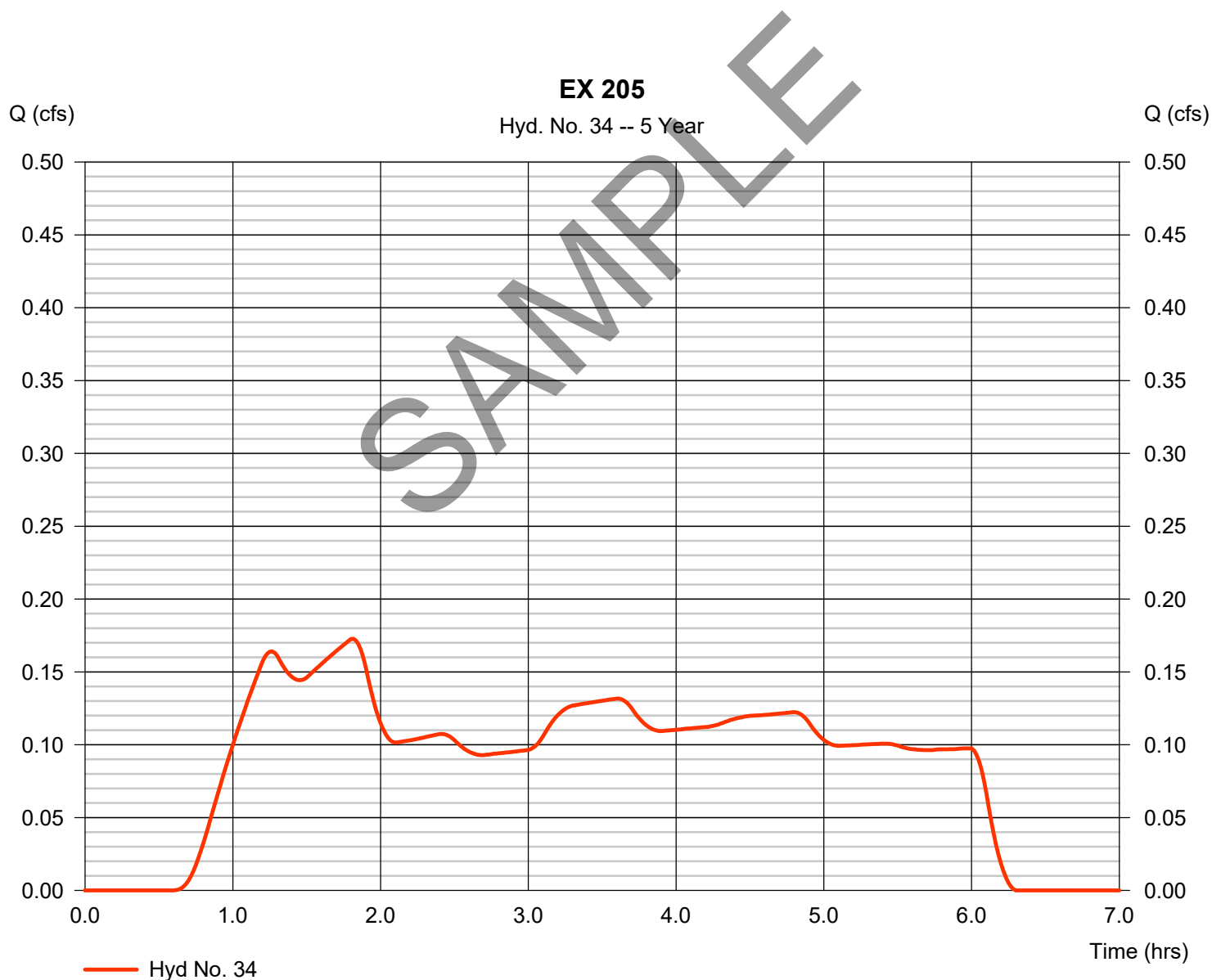
Tuesday, 03 / 19 / 2019

Hyd. No. 34

EX 205

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.173 cfs
Time to peak = 1.82 hrs
Hyd. volume = 2,206 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

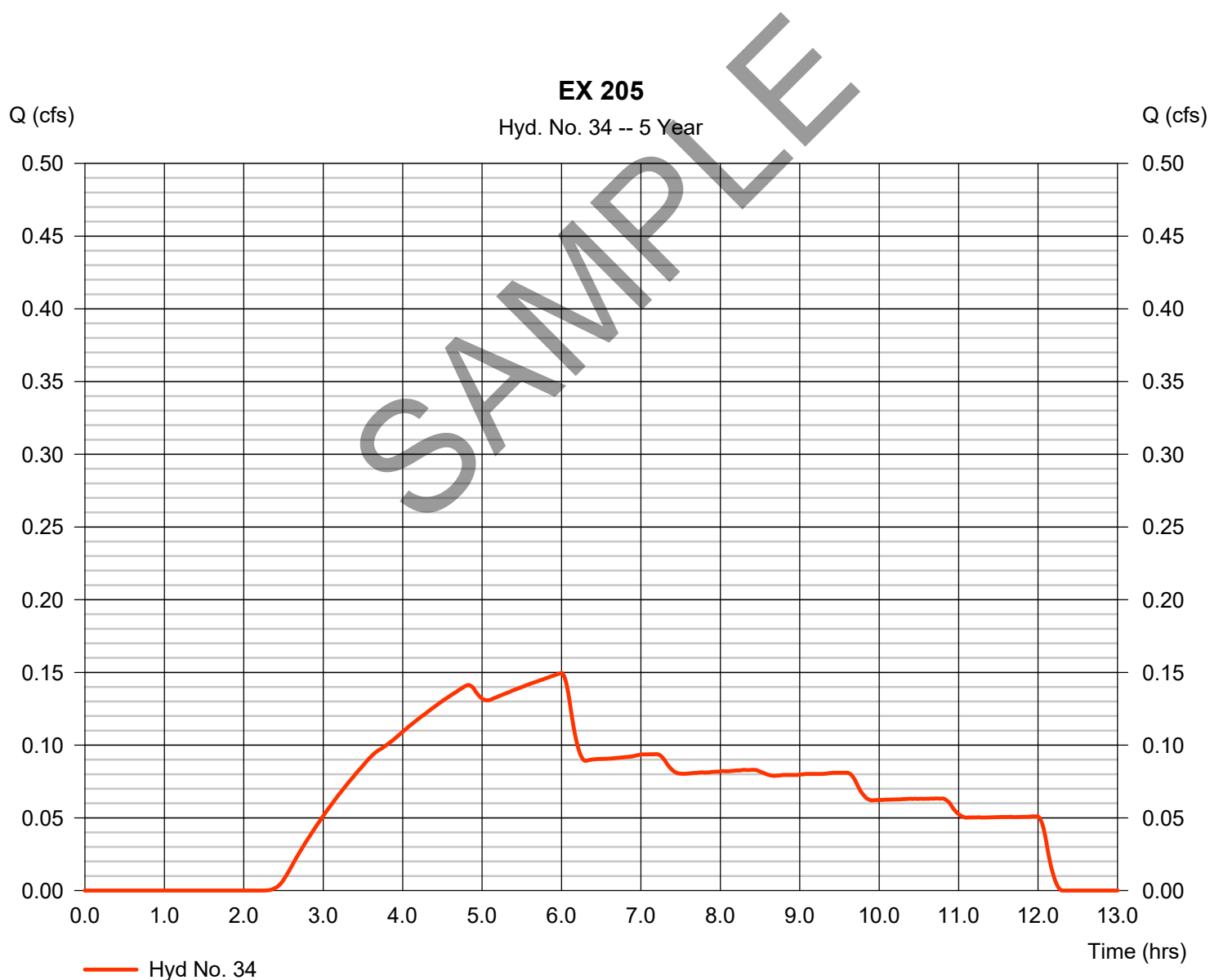
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Tuesday, 03 / 19 / 2019

Hyd. No. 34

EX 205

Hydrograph type	= SCS Runoff	Peak discharge	= 0.150 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 2,980 cuft
Drainage area	= 0.600 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

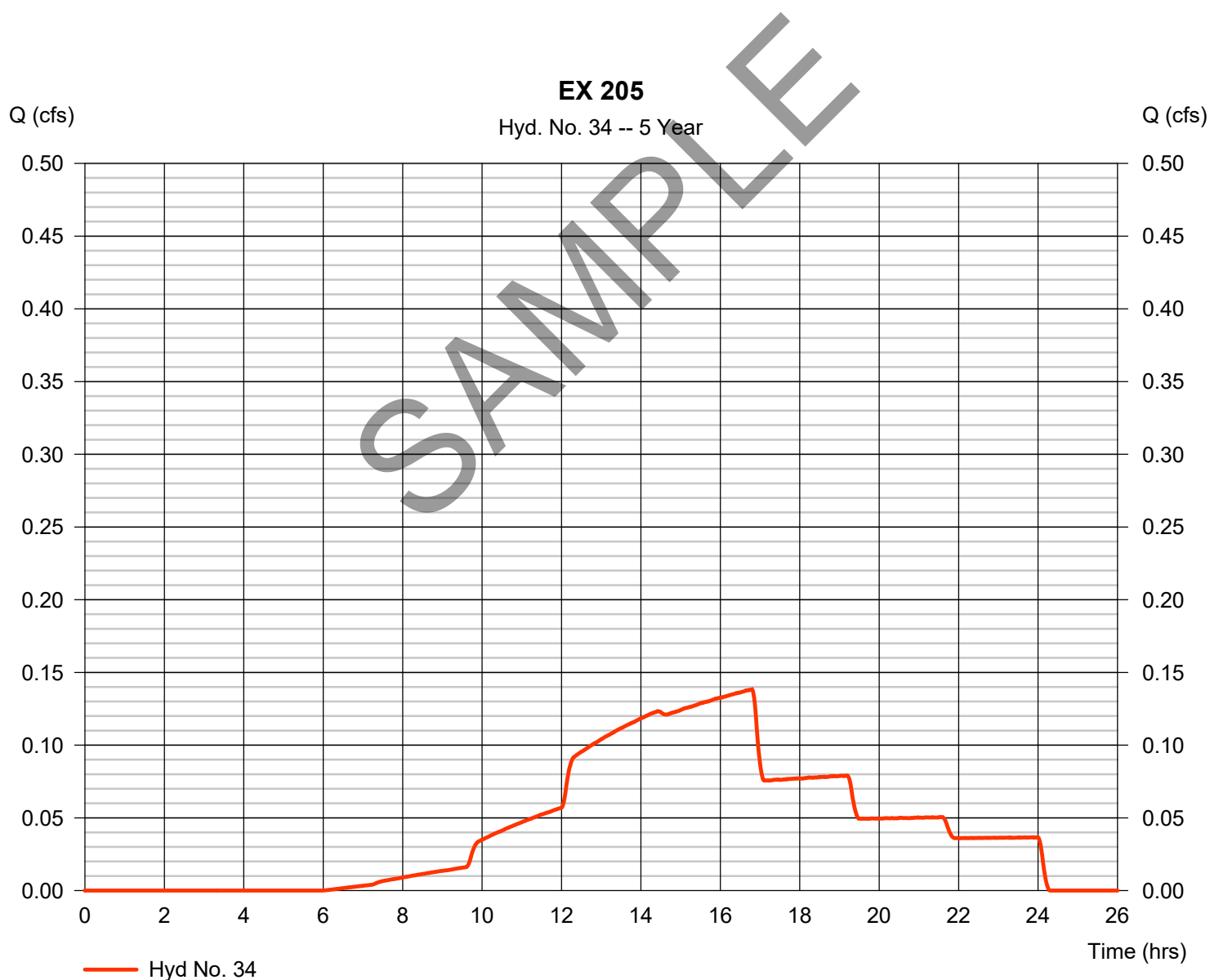
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 34

EX 205

Hydrograph type	= SCS Runoff	Peak discharge	= 0.138 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.80 hrs
Time interval	= 1 min	Hyd. volume	= 3,978 cuft
Drainage area	= 0.600 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

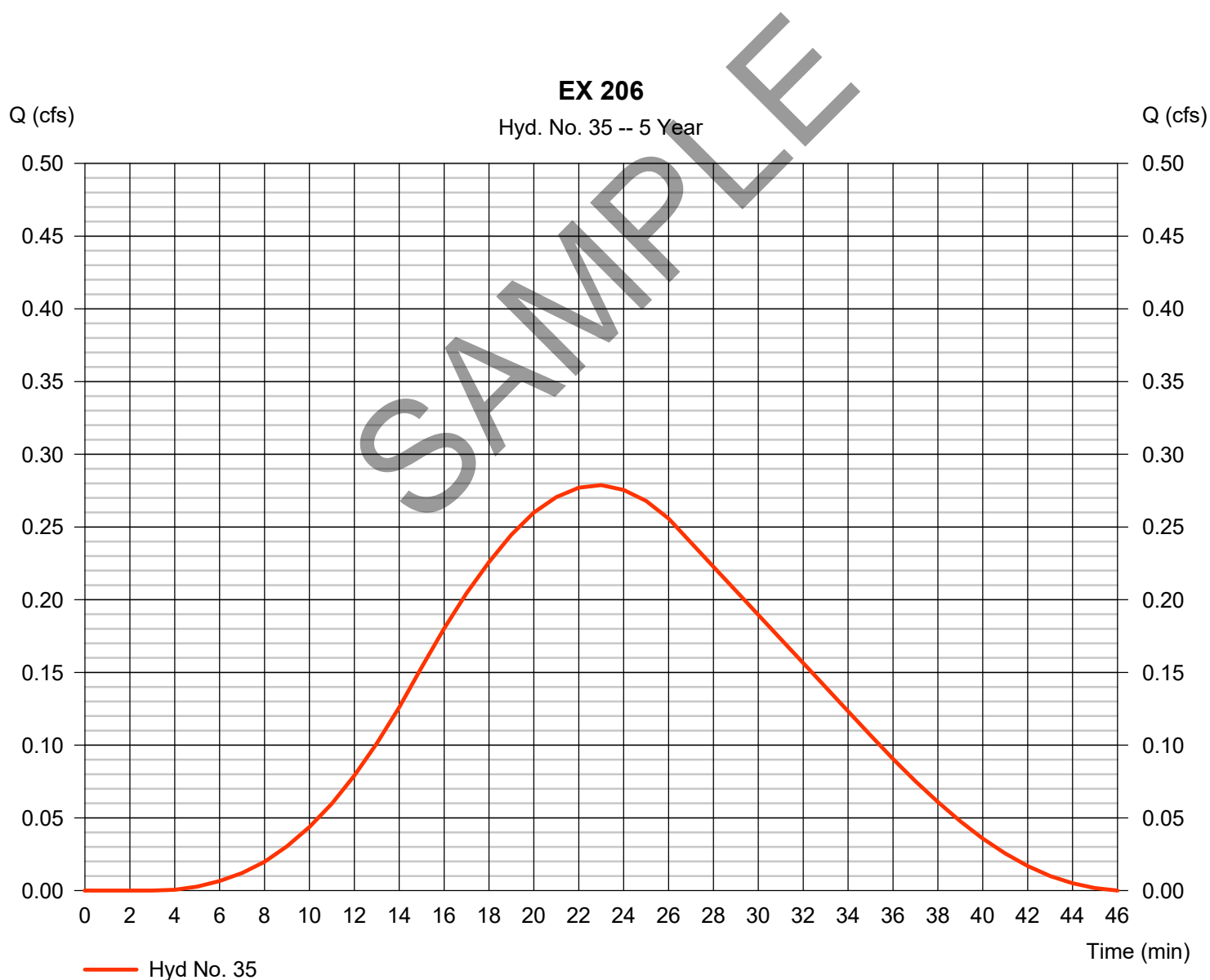
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Tuesday, 03 / 19 / 2019

Hyd. No. 35

EX 206

Hydrograph type	= SCS Runoff	Peak discharge	= 0.279 cfs
Storm frequency	= 5 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 318 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

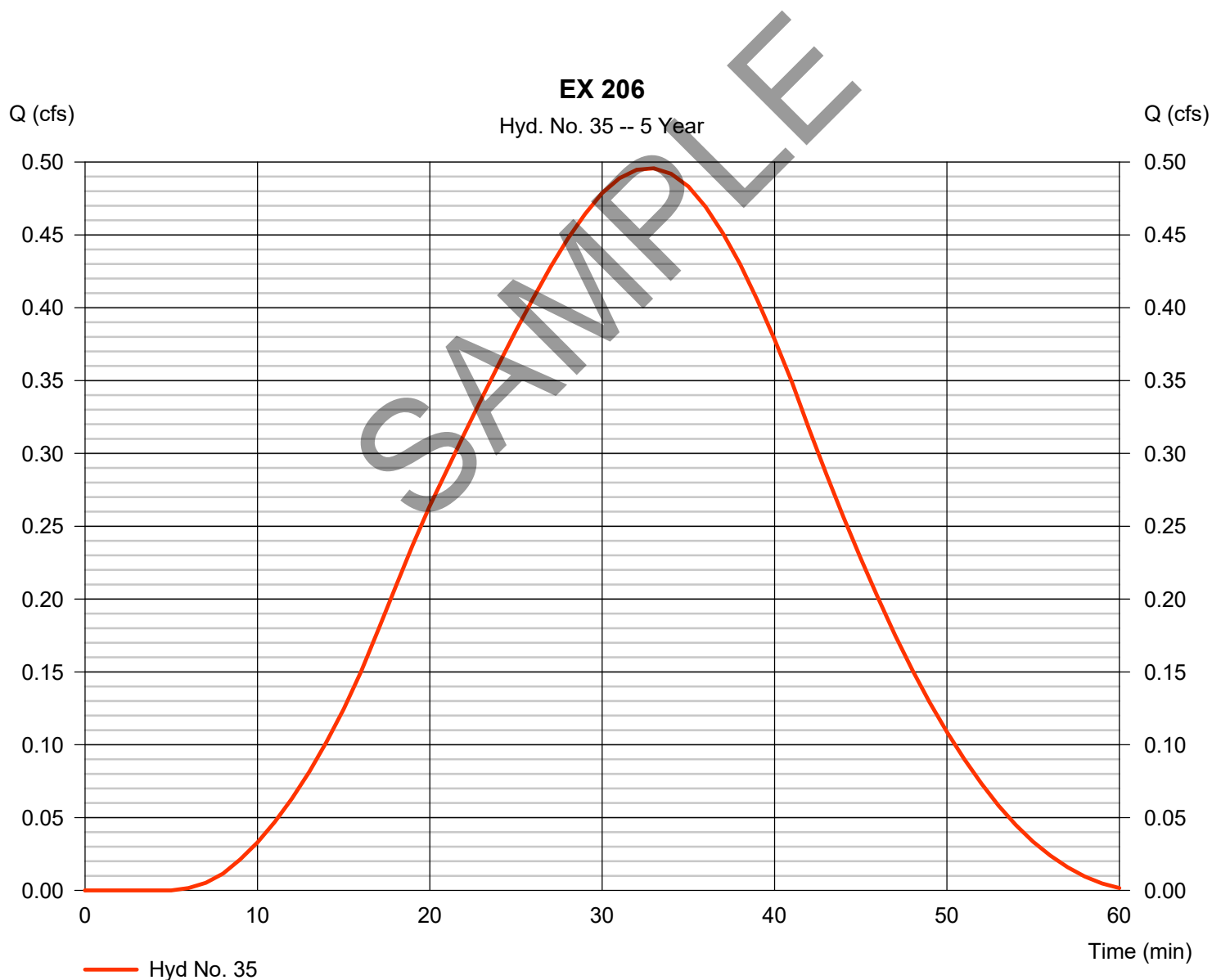
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Hyd. No. 35

EX 206

Hydrograph type	= SCS Runoff	Peak discharge	= 0.496 cfs
Storm frequency	= 5 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 755 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

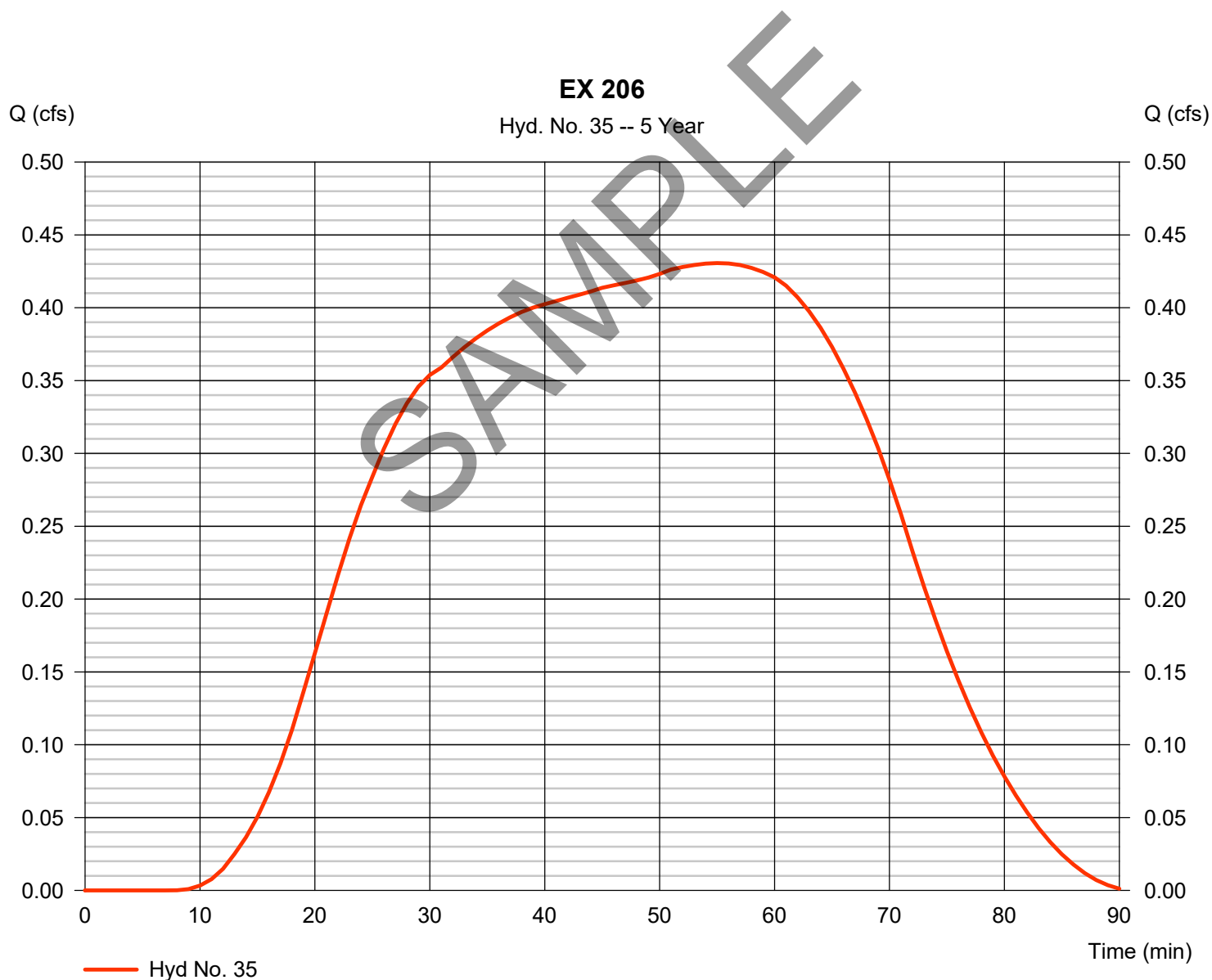
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Tuesday, 03 / 19 / 2019

Hyd. No. 35

EX 206

Hydrograph type	= SCS Runoff	Peak discharge	= 0.431 cfs
Storm frequency	= 5 yrs	Time to peak	= 55 min
Time interval	= 1 min	Hyd. volume	= 1,276 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

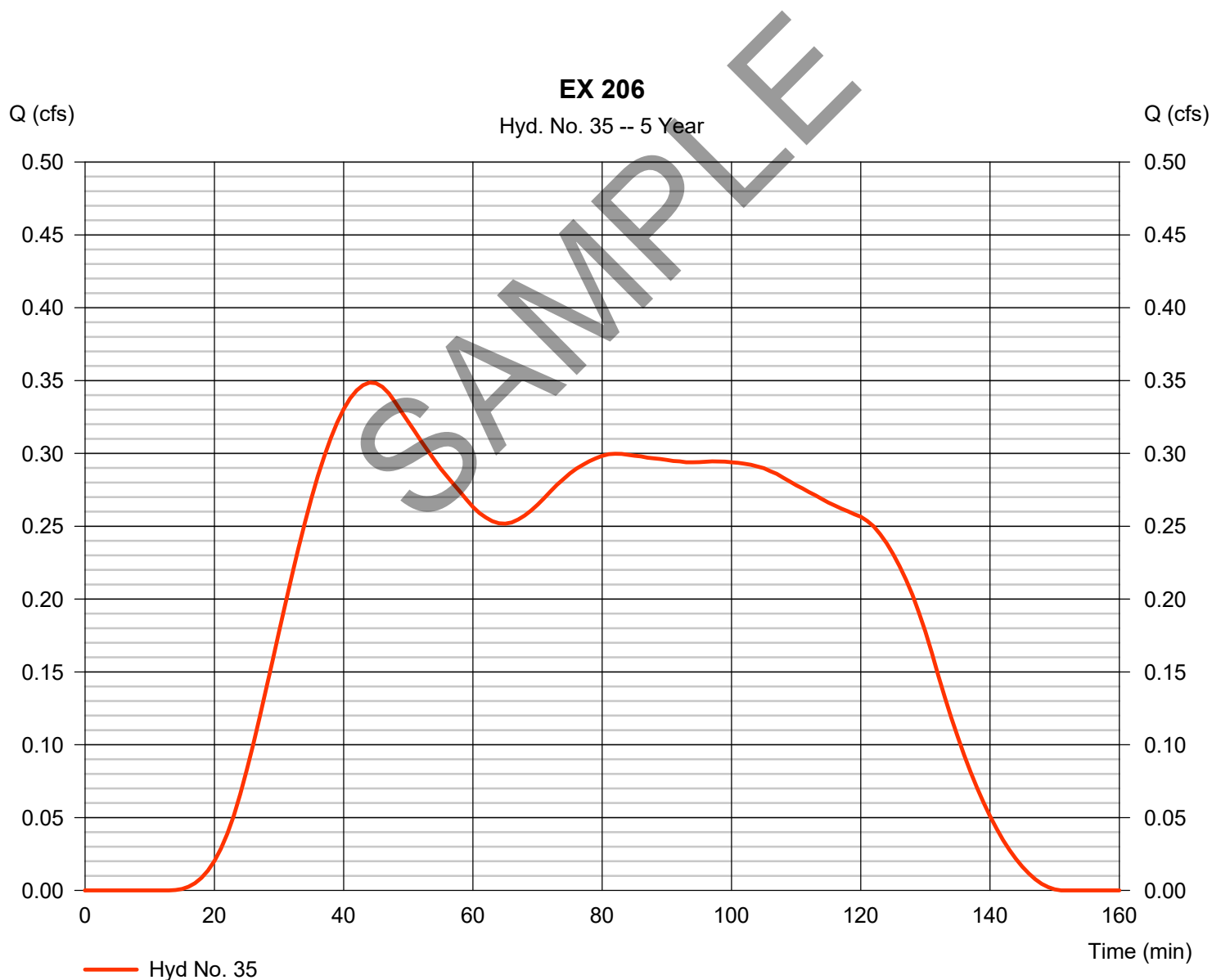
Tuesday, 03 / 19 / 2019

Hyd. No. 35

EX 206

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.349 cfs
Time to peak = 44 min
Hyd. volume = 1,818 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

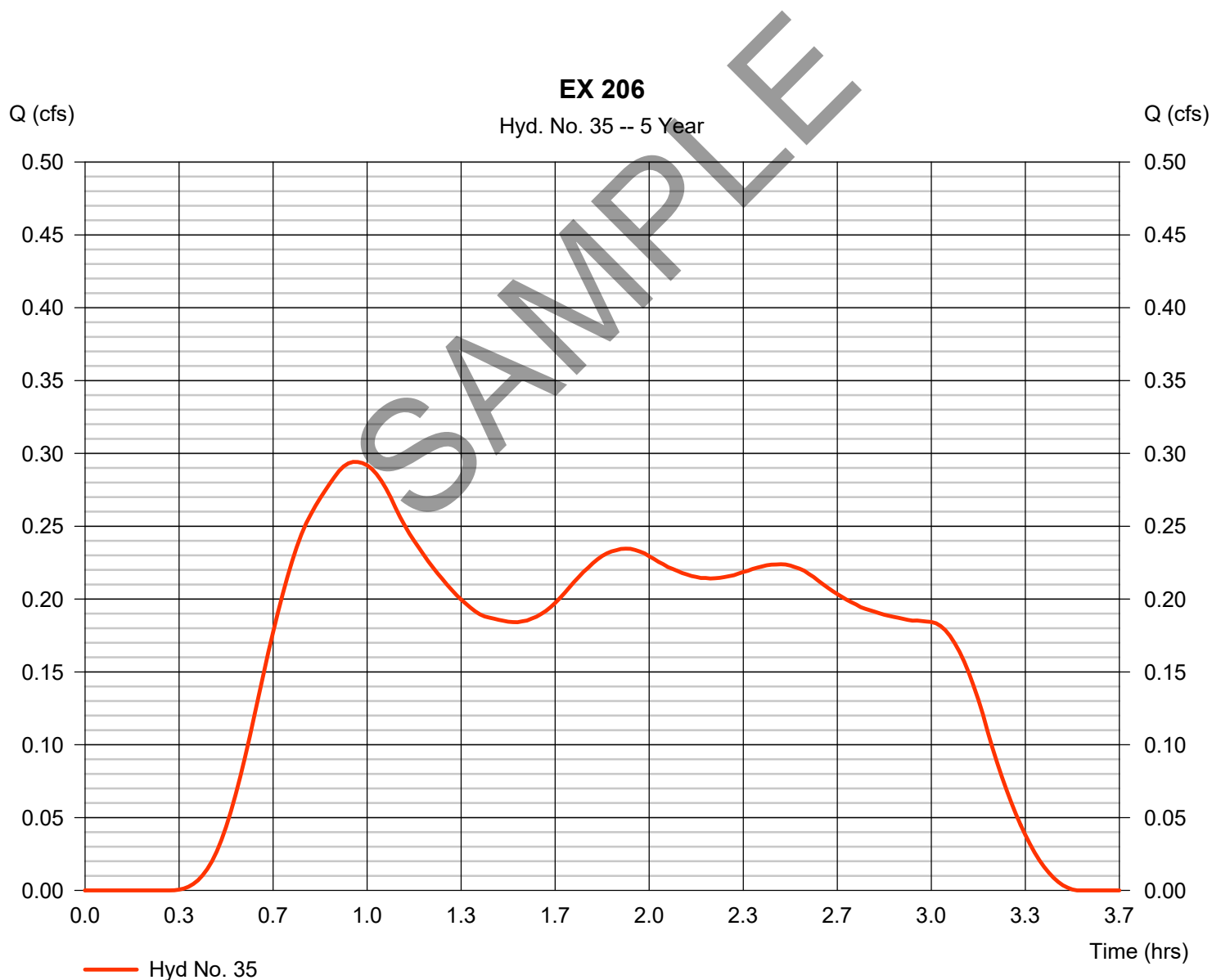
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Tuesday, 03 / 19 / 2019

Hyd. No. 35

EX 206

Hydrograph type	= SCS Runoff	Peak discharge	= 0.294 cfs
Storm frequency	= 5 yrs	Time to peak	= 0.95 hrs
Time interval	= 1 min	Hyd. volume	= 2,080 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

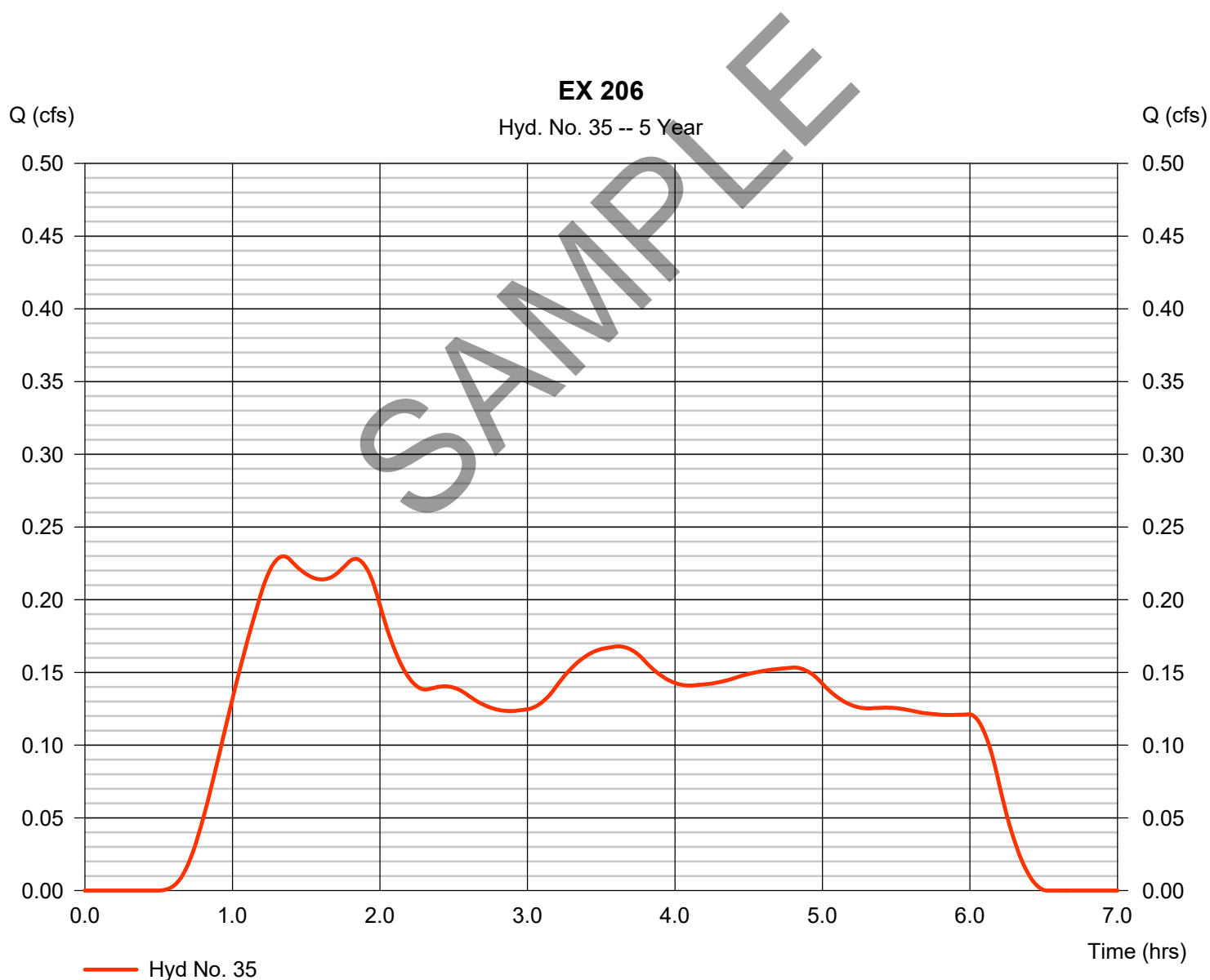
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 35

EX 206

Hydrograph type	= SCS Runoff	Peak discharge	= 0.230 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.35 hrs
Time interval	= 1 min	Hyd. volume	= 2,973 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

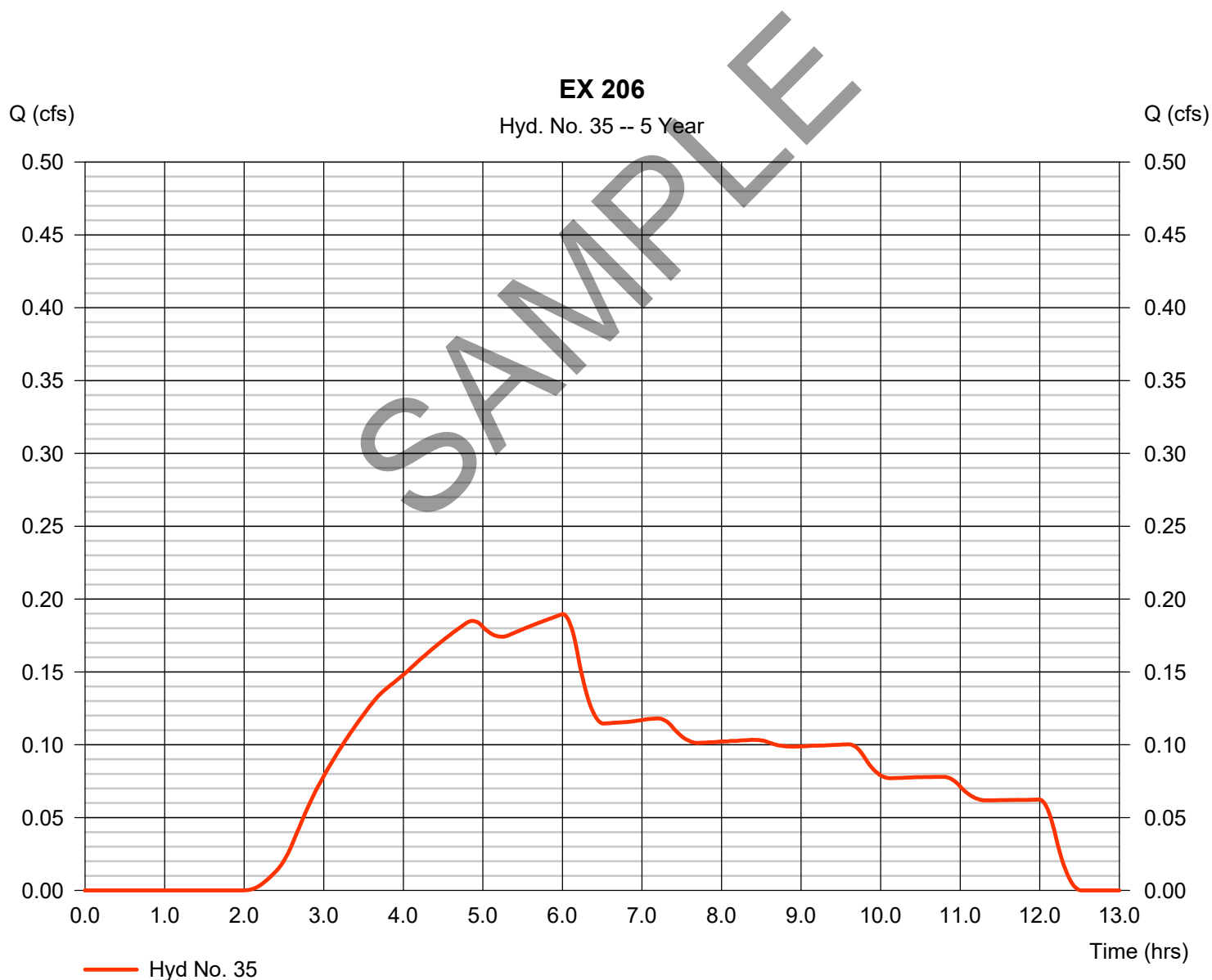
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Tuesday, 03 / 19 / 2019

Hyd. No. 35

EX 206

Hydrograph type	= SCS Runoff	Peak discharge	= 0.190 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 3,929 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

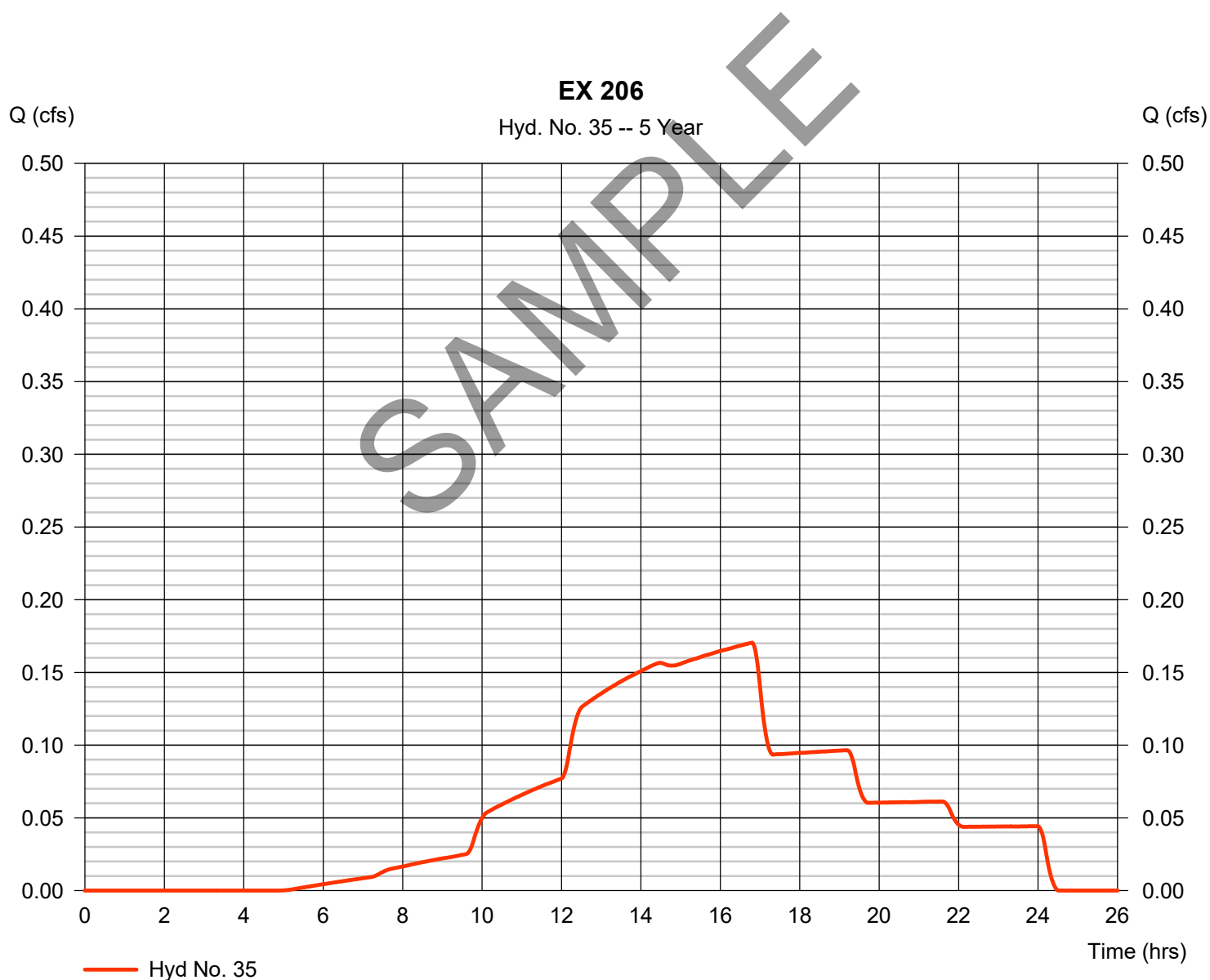
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 35

EX 206

Hydrograph type	= SCS Runoff	Peak discharge	= 0.170 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.80 hrs
Time interval	= 1 min	Hyd. volume	= 5,145 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.20 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

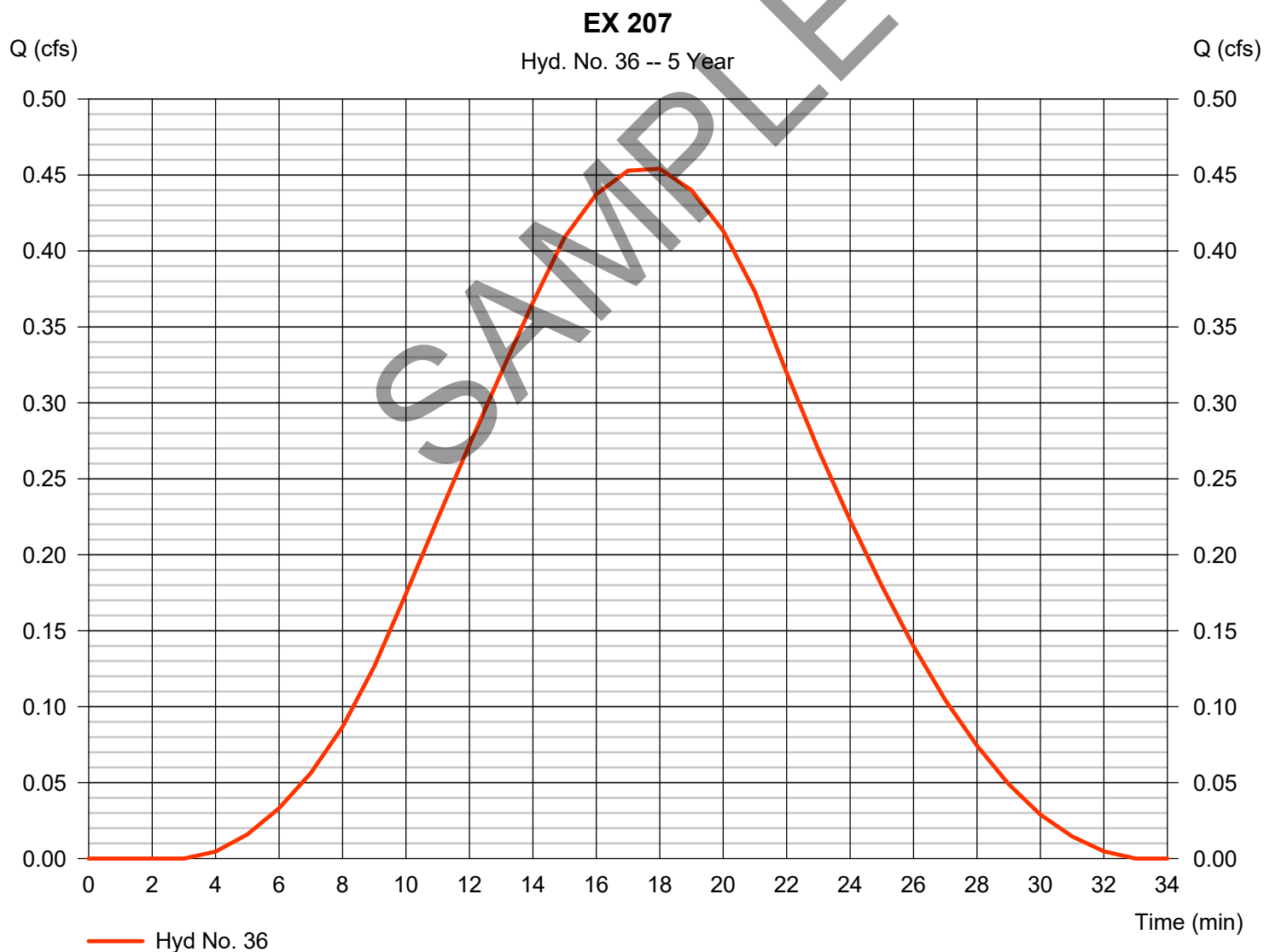
Tuesday, 03 / 19 / 2019

Hyd. No. 36

EX 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 0.454 cfs
Time to peak = 18 min
Hyd. volume = 364 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

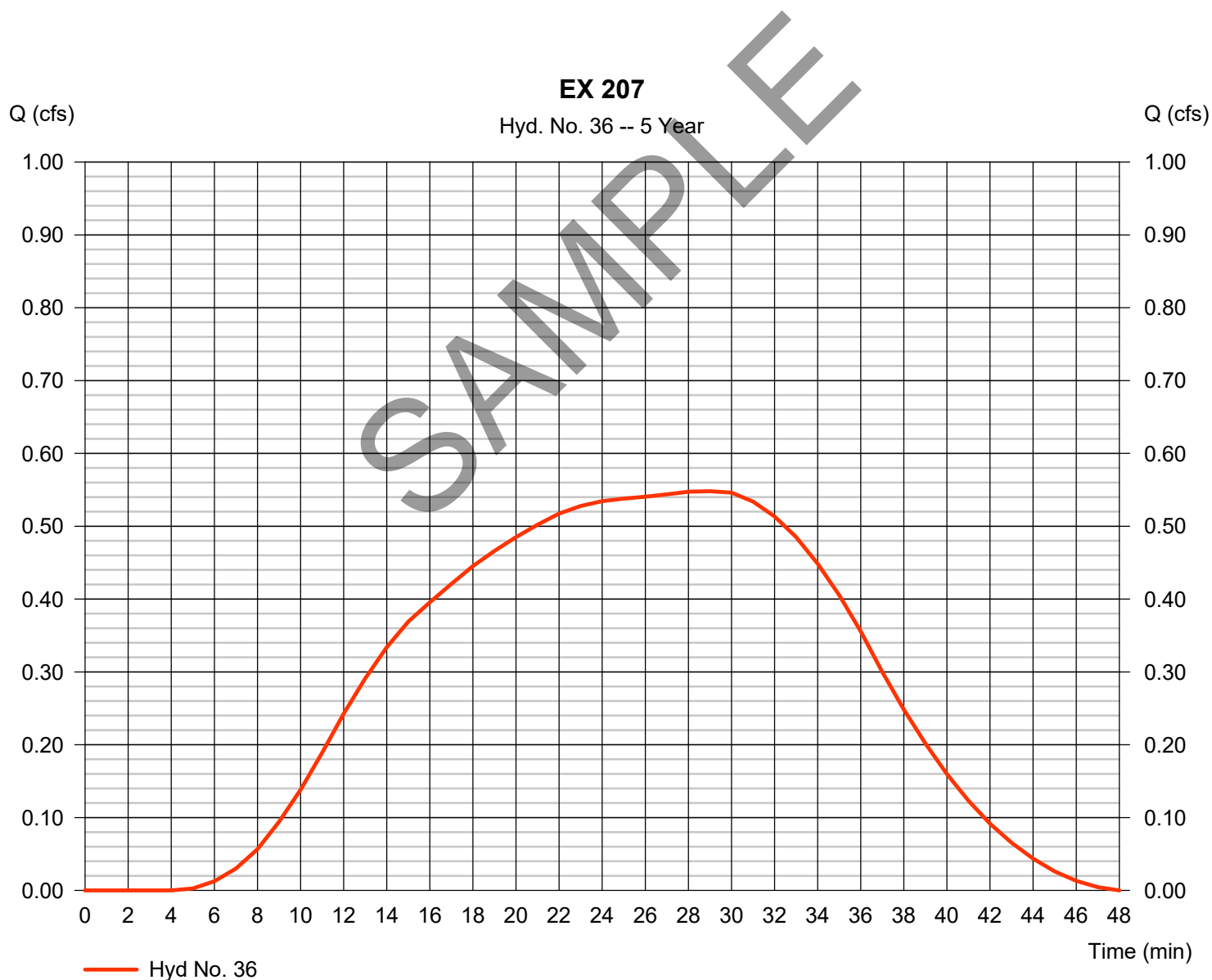
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 36

EX 207

Hydrograph type	= SCS Runoff	Peak discharge	= 0.548 cfs
Storm frequency	= 5 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 800 cuft
Drainage area	= 0.600 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

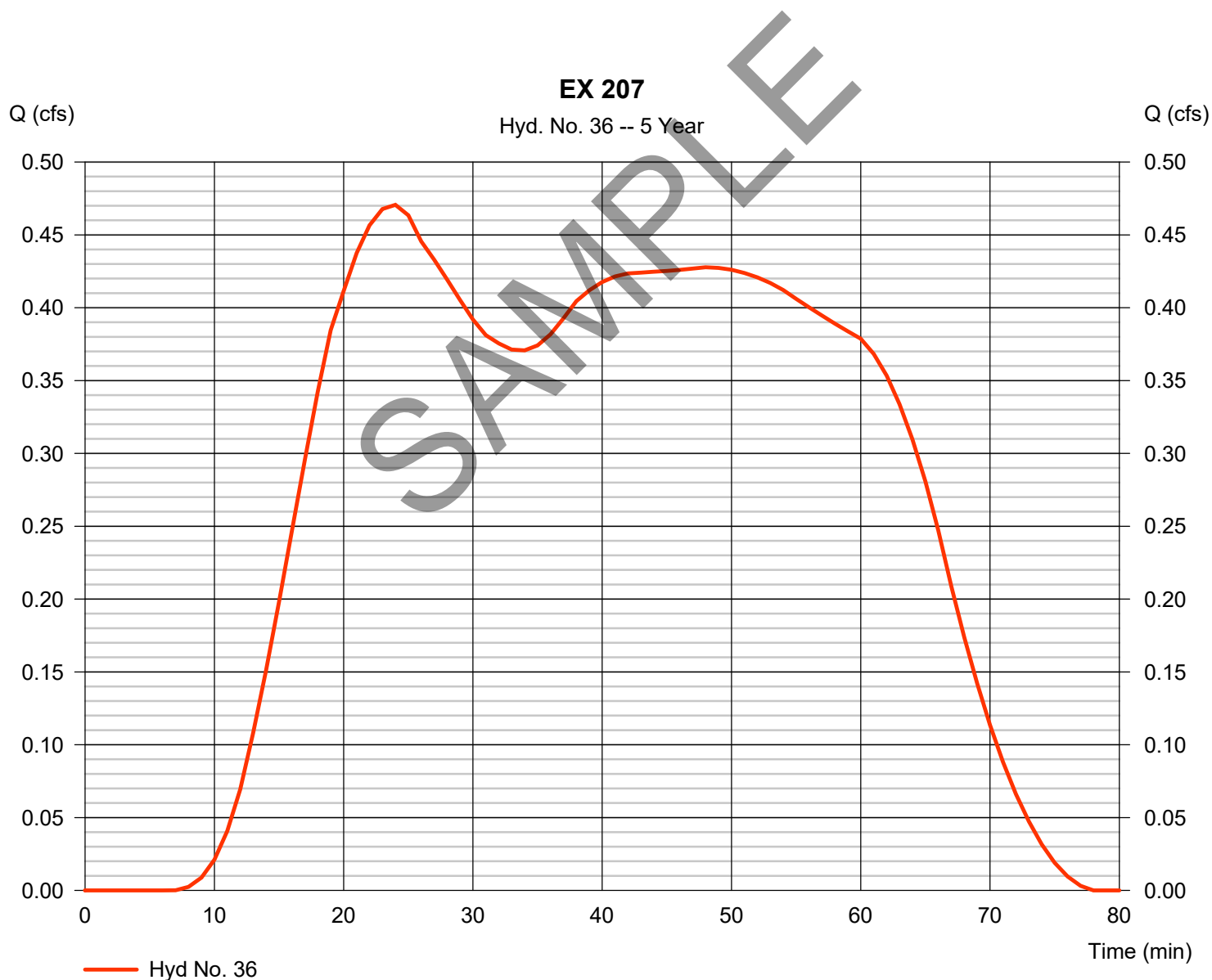
Tuesday, 03 / 19 / 2019

Hyd. No. 36

EX 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.471 cfs
Time to peak = 24 min
Hyd. volume = 1,298 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

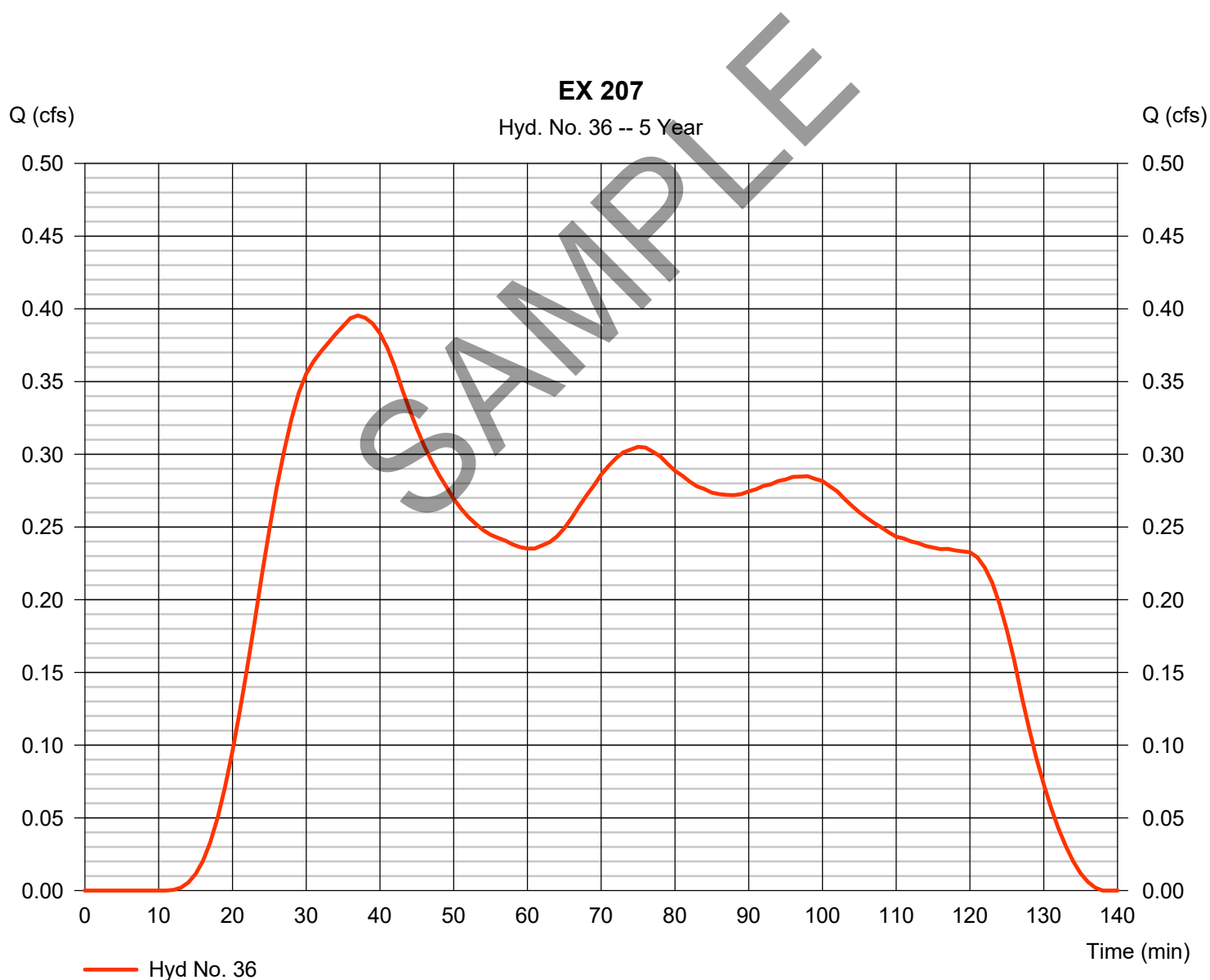
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Hyd. No. 36

EX 207

Hydrograph type	= SCS Runoff	Peak discharge	= 0.395 cfs
Storm frequency	= 5 yrs	Time to peak	= 37 min
Time interval	= 1 min	Hyd. volume	= 1,808 cuft
Drainage area	= 0.600 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

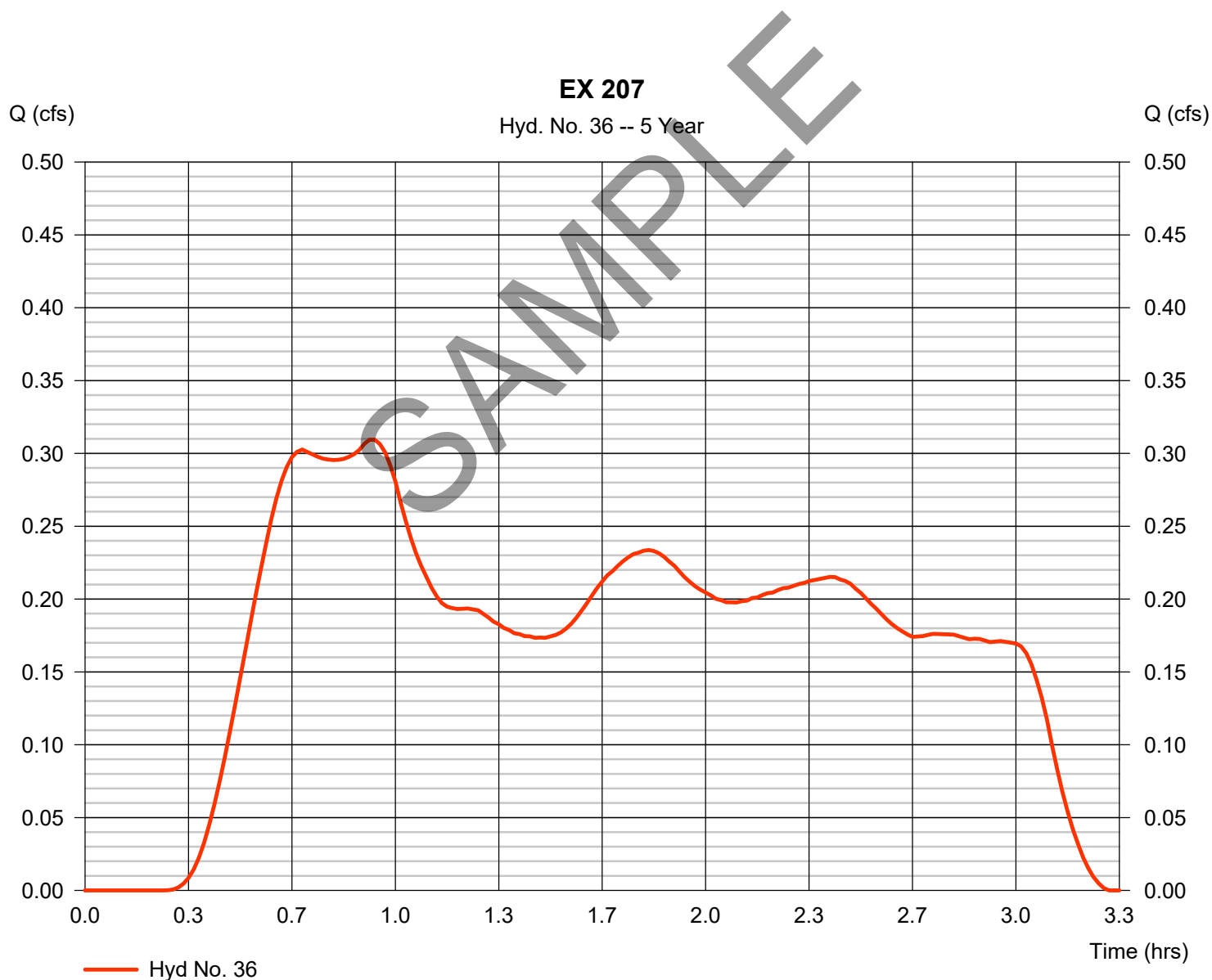
Tuesday, 03 / 19 / 2019

Hyd. No. 36

EX 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.309 cfs
Time to peak = 0.92 hrs
Hyd. volume = 2,052 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

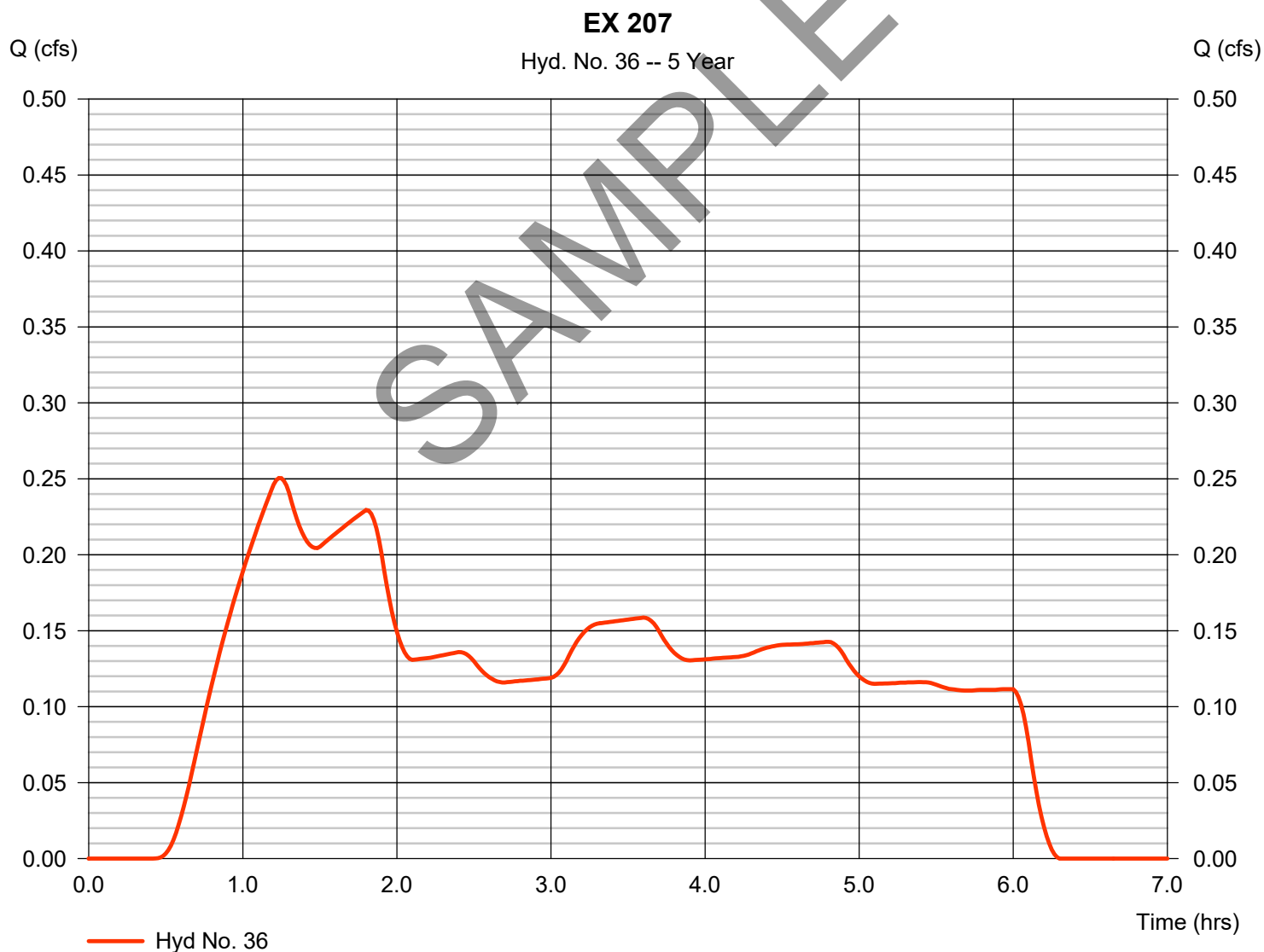
Tuesday, 03 / 19 / 2019

Hyd. No. 36

EX 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.250 cfs
Time to peak = 1.23 hrs
Hyd. volume = 2,876 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

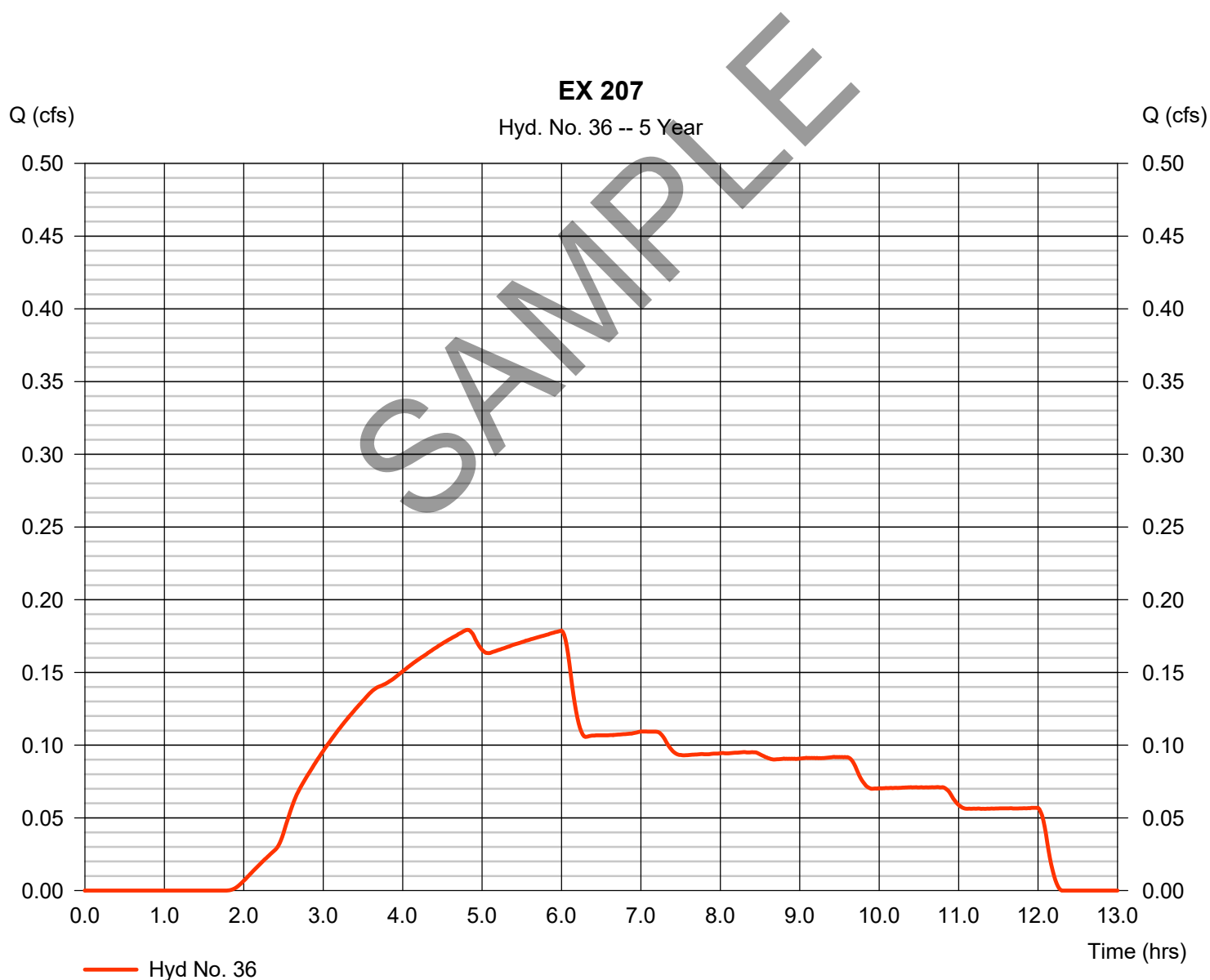
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Tuesday, 03 / 19 / 2019

Hyd. No. 36

EX 207

Hydrograph type	= SCS Runoff	Peak discharge	= 0.179 cfs
Storm frequency	= 5 yrs	Time to peak	= 4.82 hrs
Time interval	= 1 min	Hyd. volume	= 3,748 cuft
Drainage area	= 0.600 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

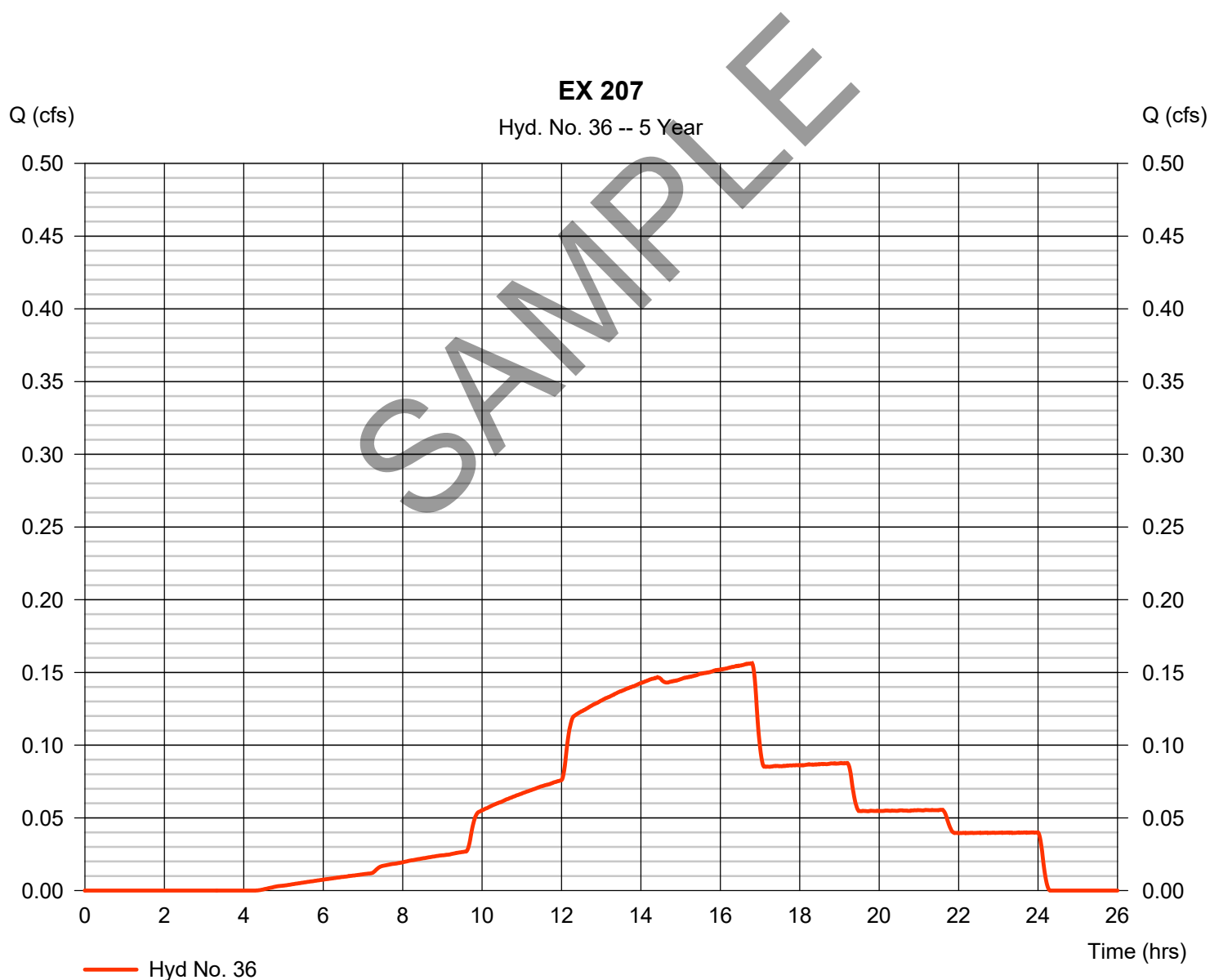
Tuesday, 03 / 19 / 2019

Hyd. No. 36

EX 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.156 cfs
Time to peak = 16.80 hrs
Hyd. volume = 4,848 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

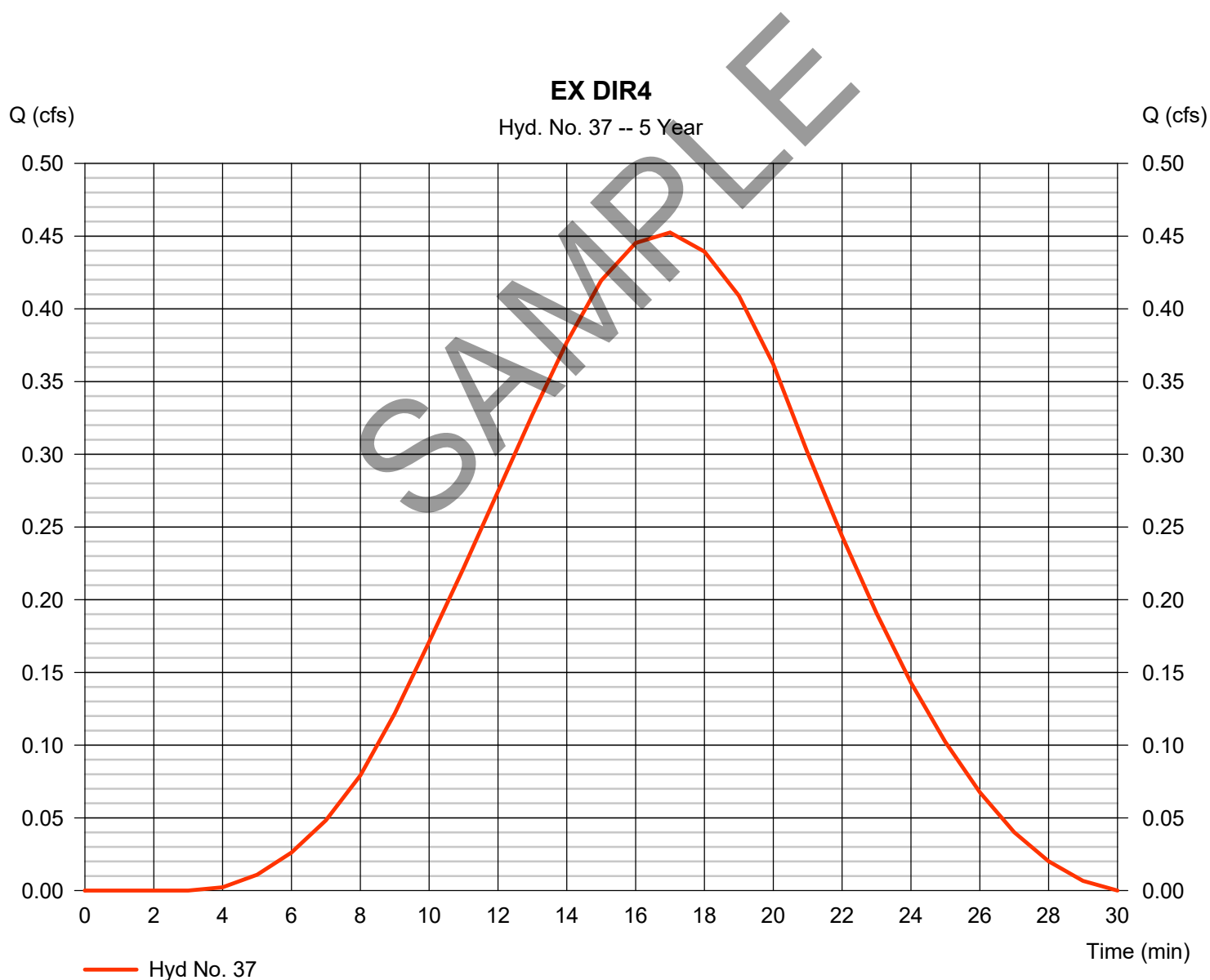
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 37

EX DIR4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.452 cfs
Storm frequency	= 5 yrs	Time to peak	= 17 min
Time interval	= 1 min	Hyd. volume	= 318 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.20 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

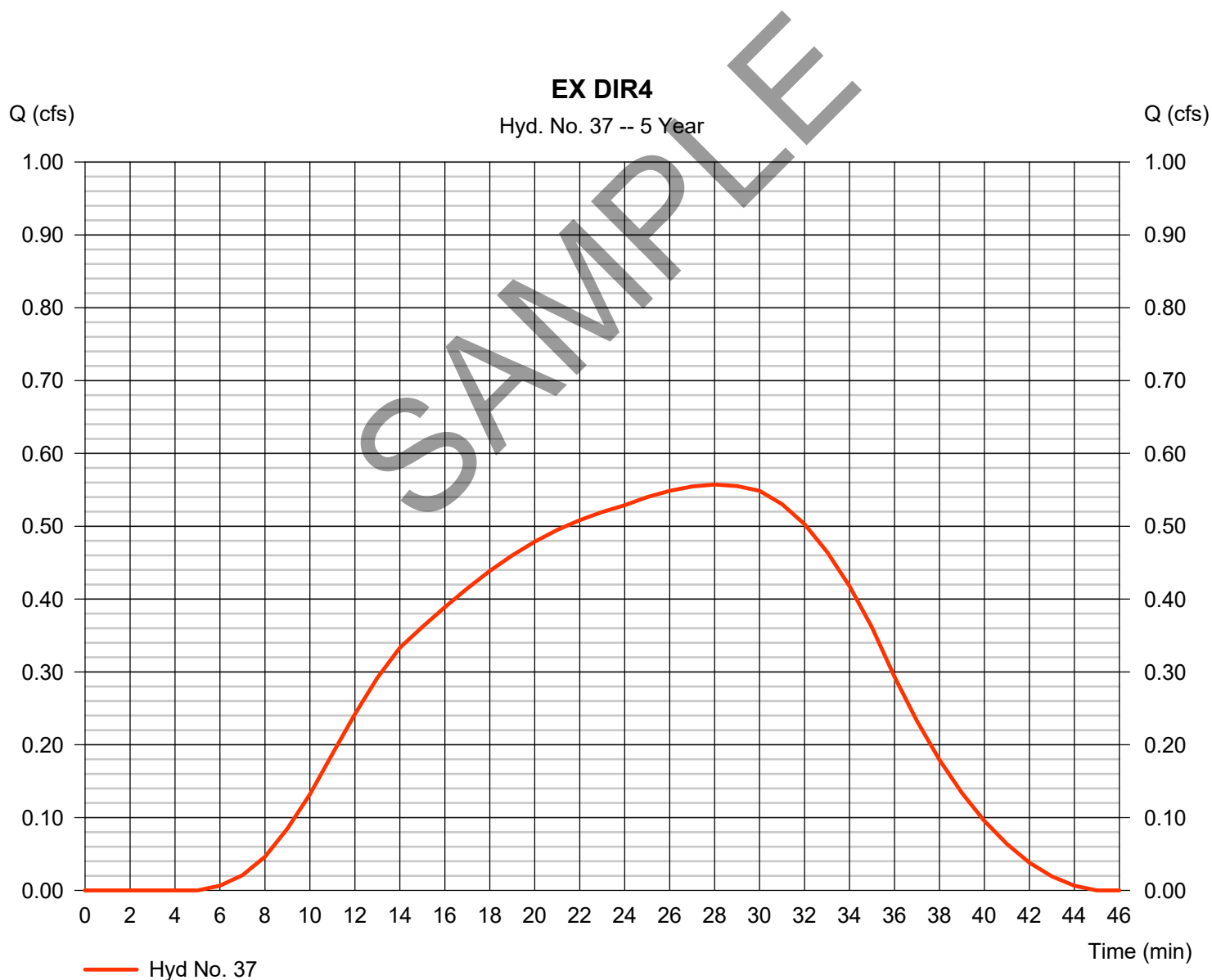
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 37

EX DIR4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.557 cfs
Storm frequency	= 5 yrs	Time to peak	= 28 min
Time interval	= 1 min	Hyd. volume	= 755 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.20 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

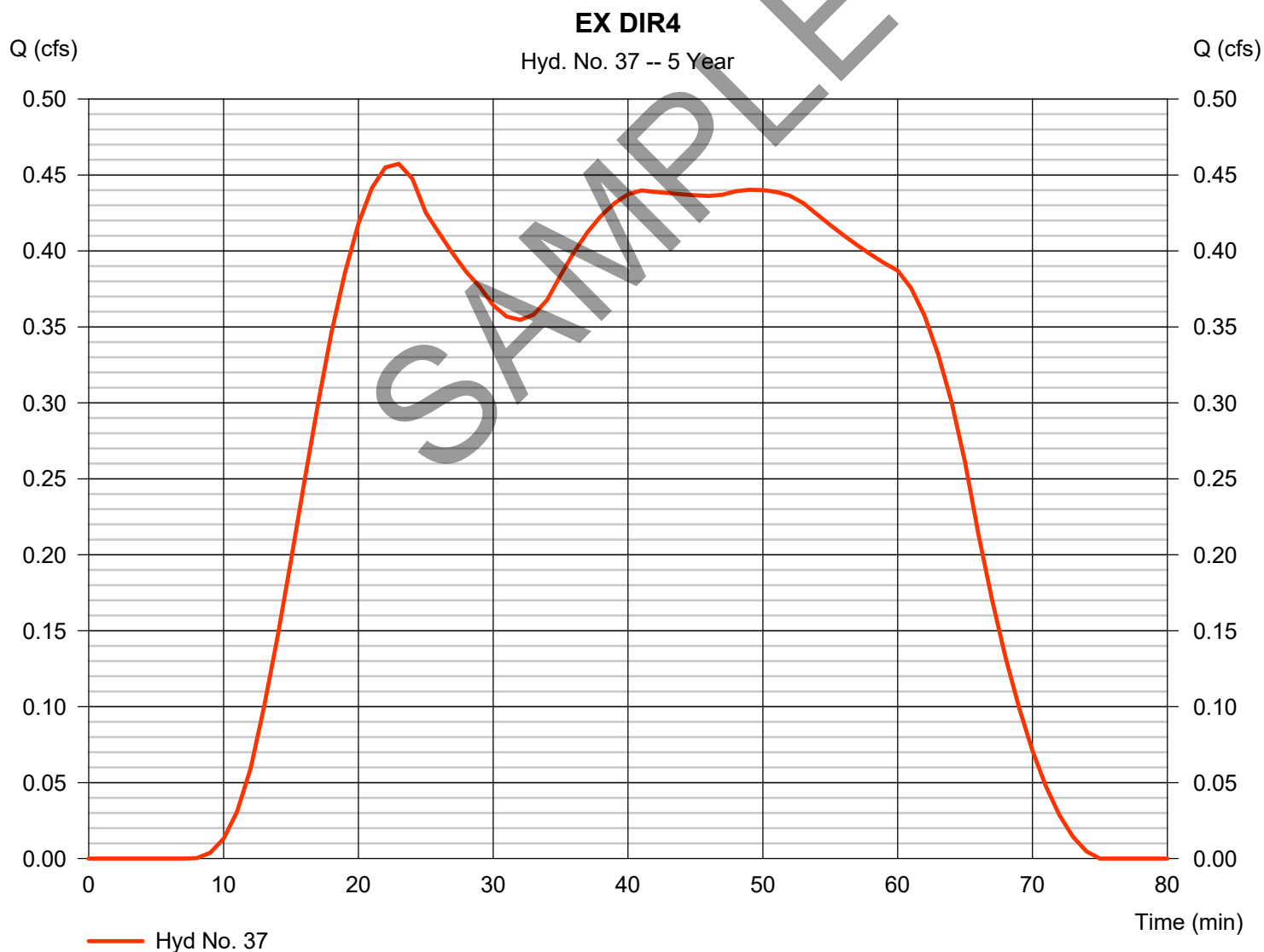
Tuesday, 03 / 19 / 2019

Hyd. No. 37

EX DIR4

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.457 cfs
Time to peak = 23 min
Hyd. volume = 1,276 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

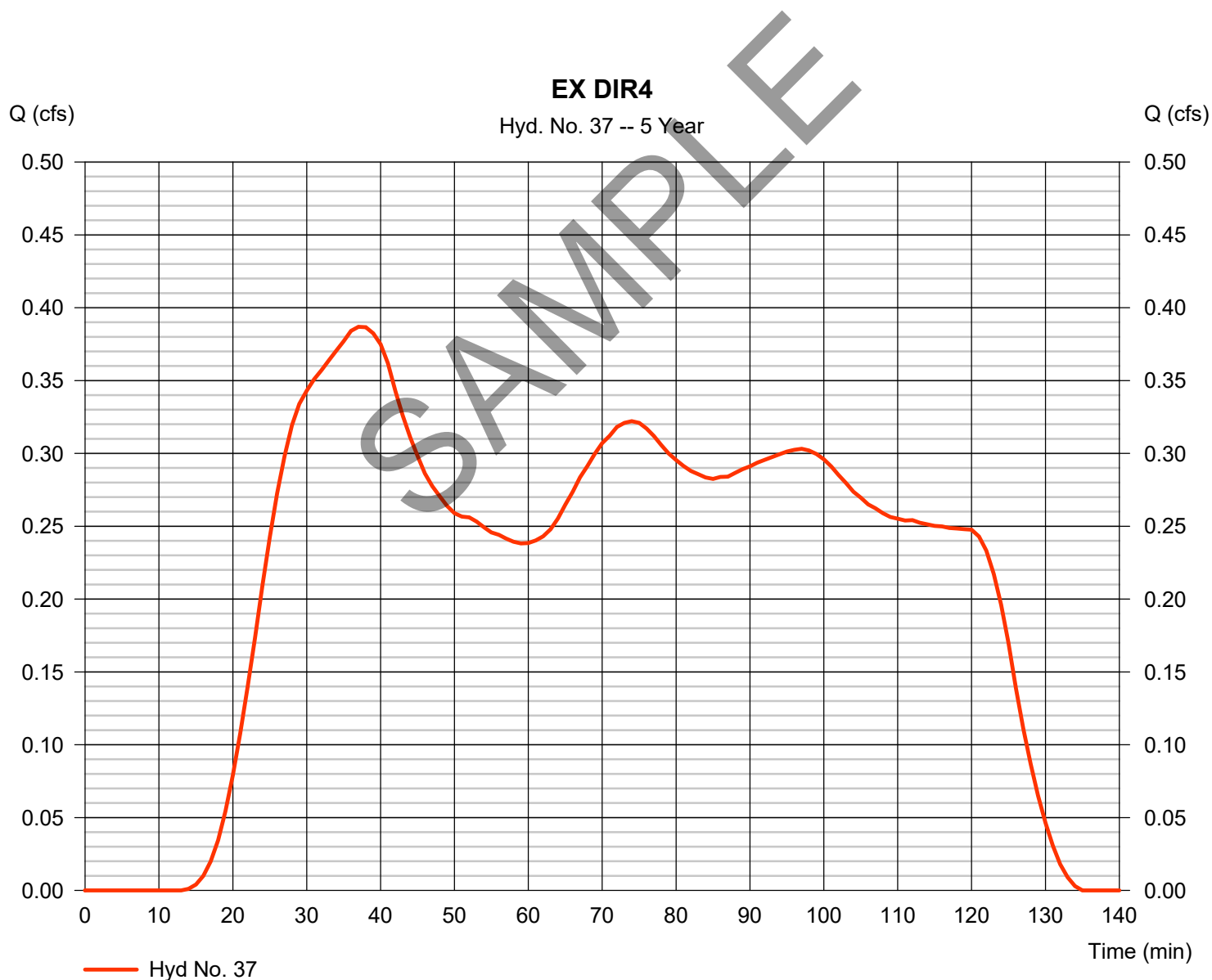
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 37

EX DIR4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.387 cfs
Storm frequency	= 5 yrs	Time to peak	= 37 min
Time interval	= 1 min	Hyd. volume	= 1,818 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.20 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

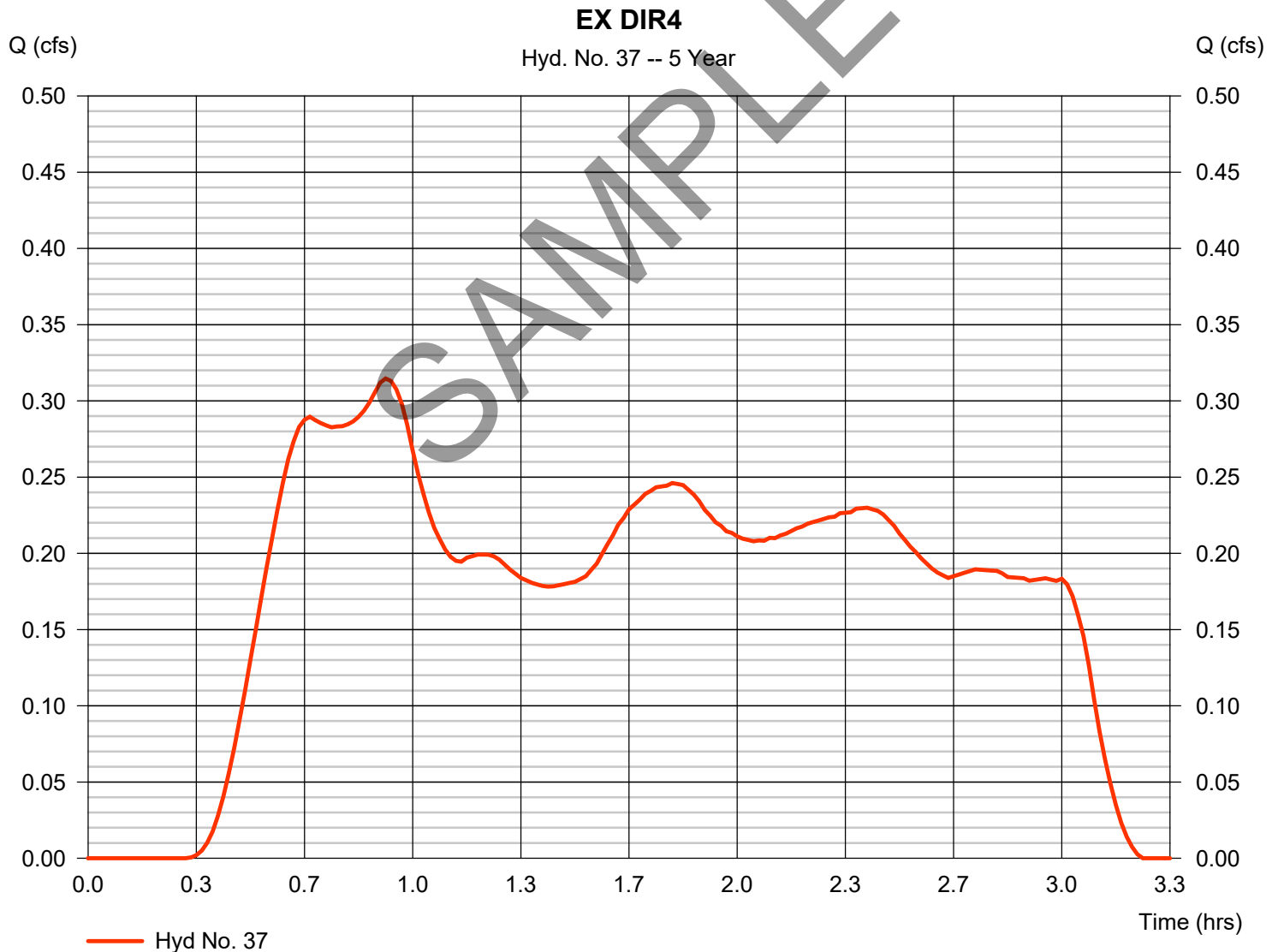
Tuesday, 03 / 19 / 2019

Hyd. No. 37

EX DIR4

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.315 cfs
Time to peak = 0.92 hrs
Hyd. volume = 2,080 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

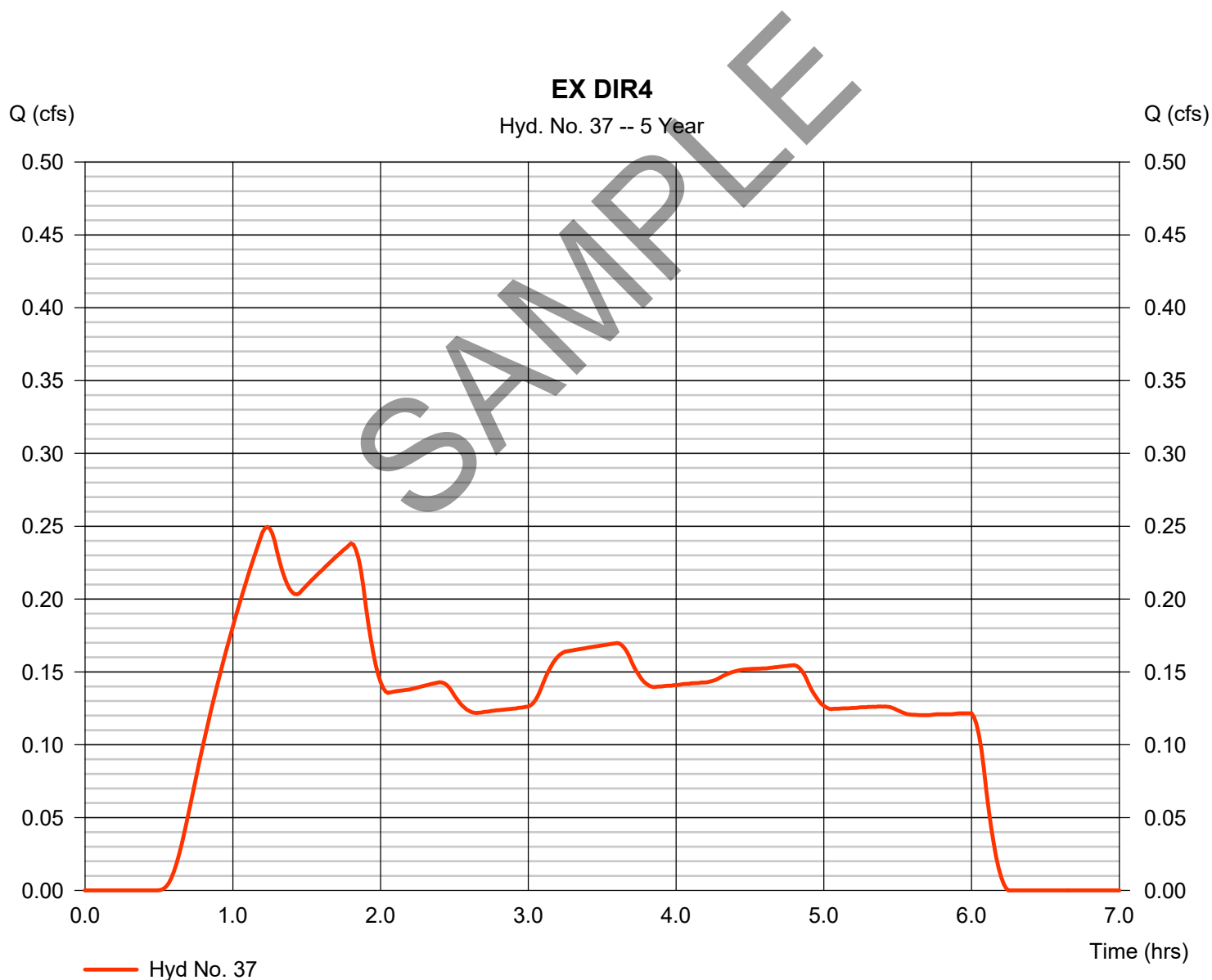
Tuesday, 03 / 19 / 2019

Hyd. No. 37

EX DIR4

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.249 cfs
Time to peak = 1.23 hrs
Hyd. volume = 2,973 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

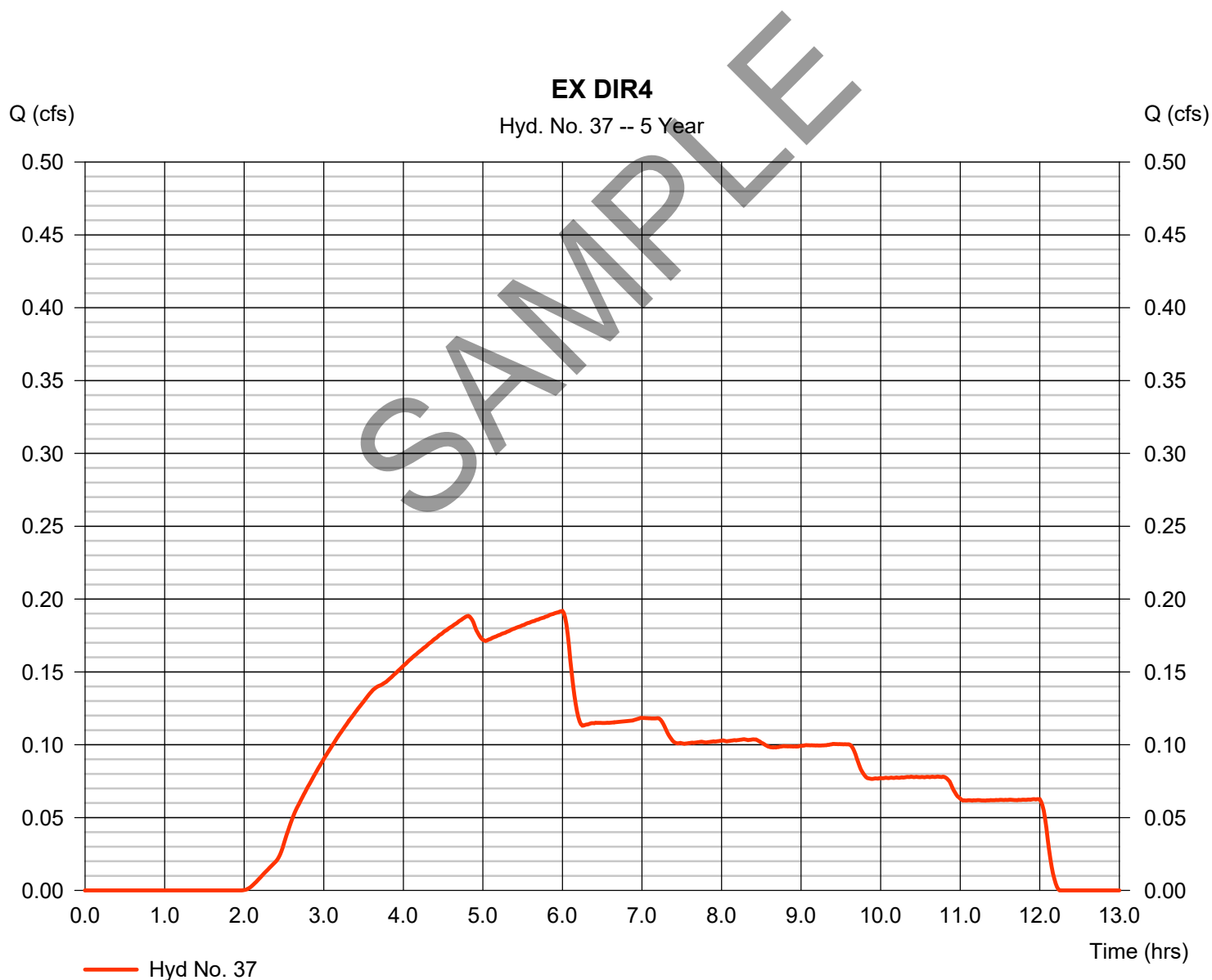
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 37

EX DIR4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.192 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 3,929 cuft
Drainage area	= 0.700 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.20 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

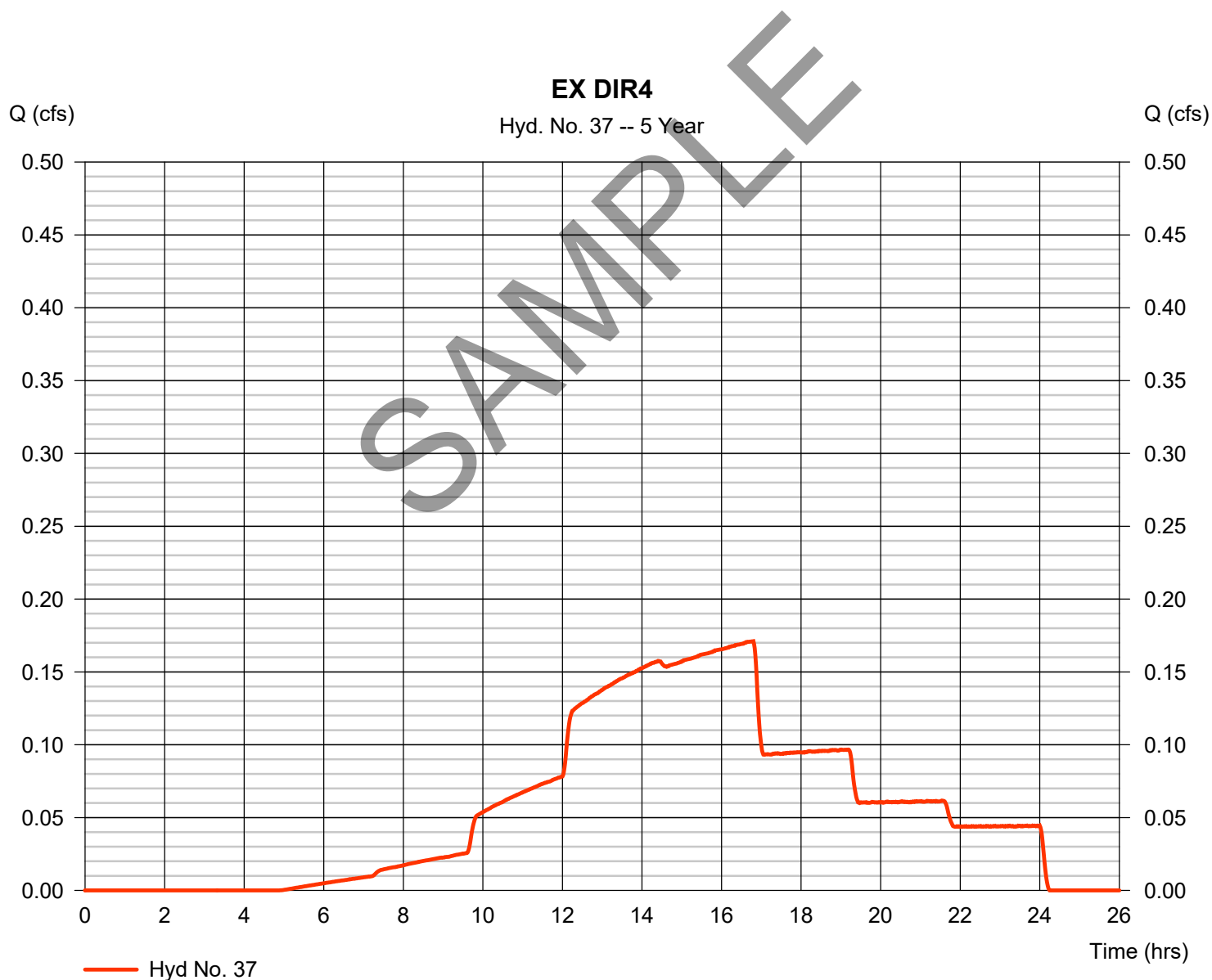
Tuesday, 03 / 19 / 2019

Hyd. No. 37

EX DIR4

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.171 cfs
Time to peak = 16.80 hrs
Hyd. volume = 5,145 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

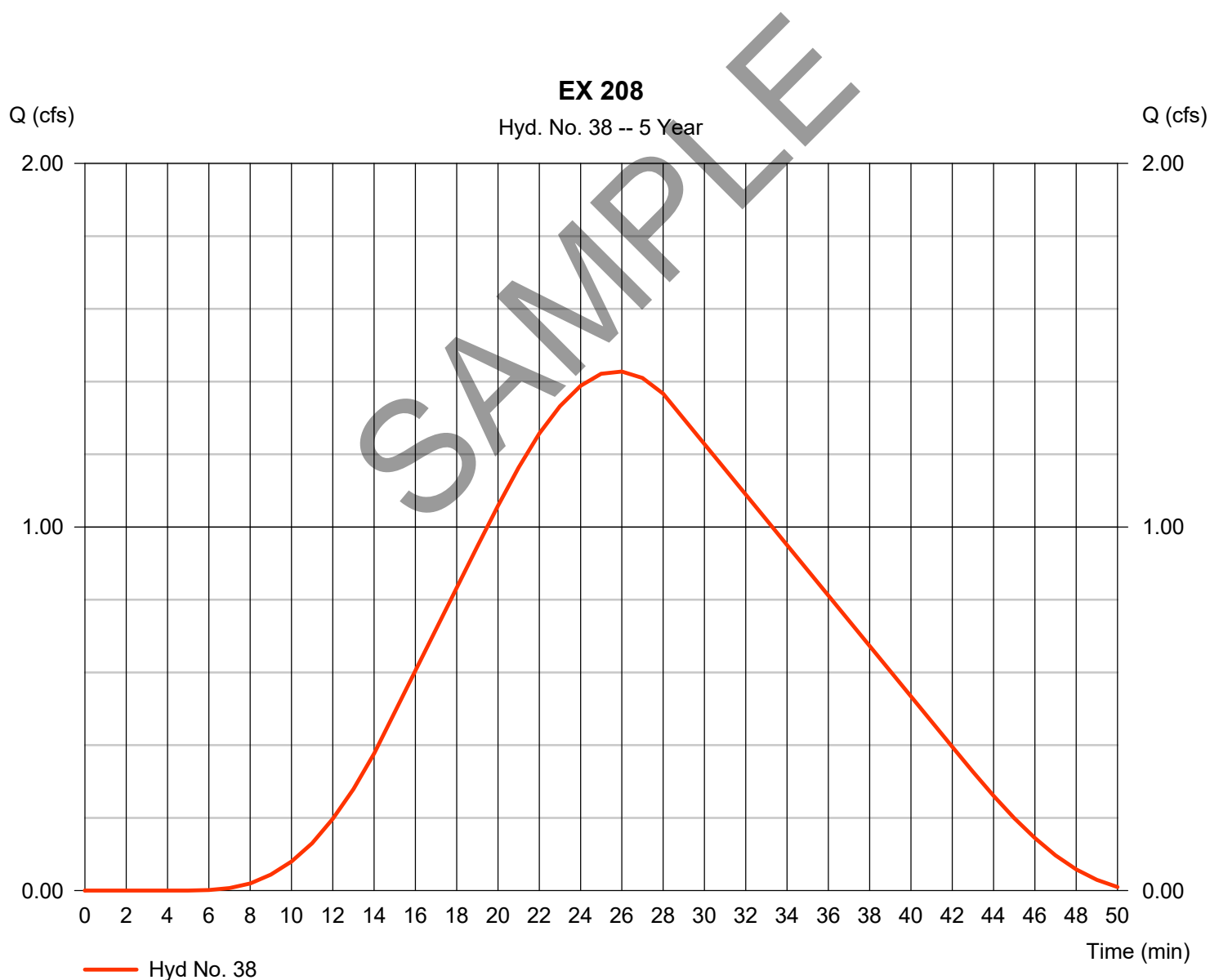
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 38

EX 208

Hydrograph type	= SCS Runoff	Peak discharge	= 1.428 cfs
Storm frequency	= 5 yrs	Time to peak	= 26 min
Time interval	= 1 min	Hyd. volume	= 1,772 cuft
Drainage area	= 9.000 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.50 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

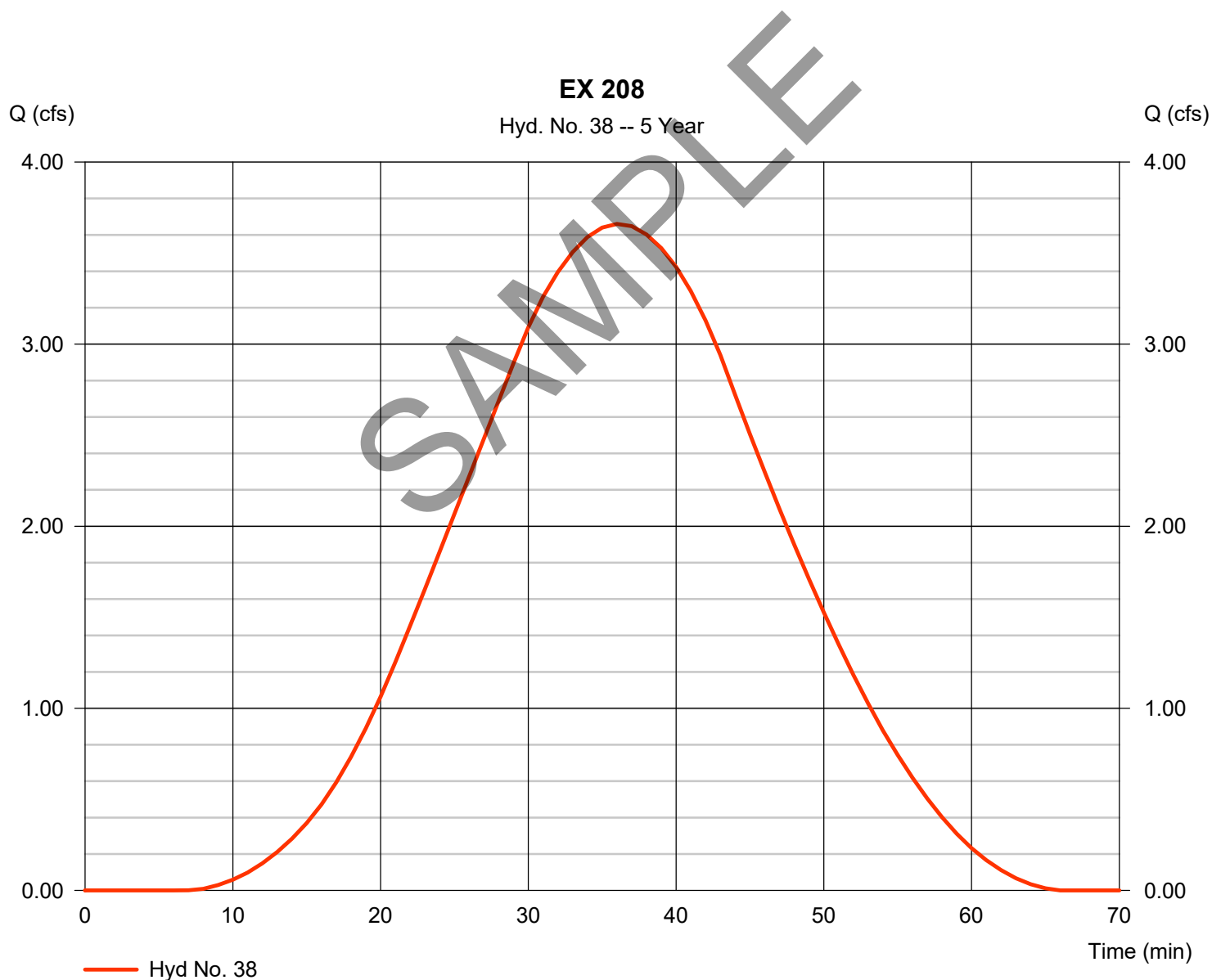
Tuesday, 03 / 19 / 2019

Hyd. No. 38

EX 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 9.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 3.660 cfs
Time to peak = 36 min
Hyd. volume = 5,622 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

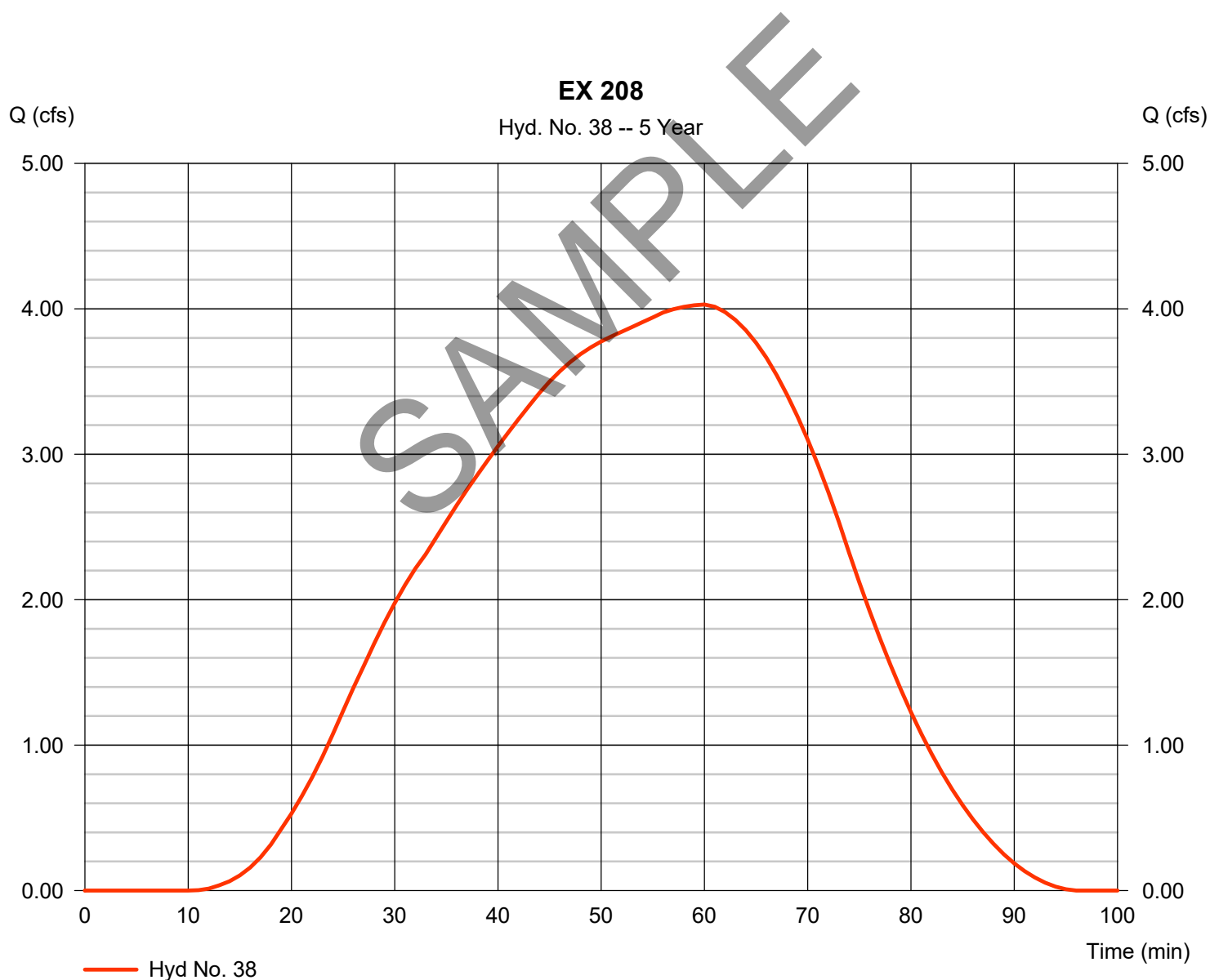
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 38

EX 208

Hydrograph type	= SCS Runoff	Peak discharge	= 4.030 cfs
Storm frequency	= 5 yrs	Time to peak	= 60 min
Time interval	= 1 min	Hyd. volume	= 10,703 cuft
Drainage area	= 9.000 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.50 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484

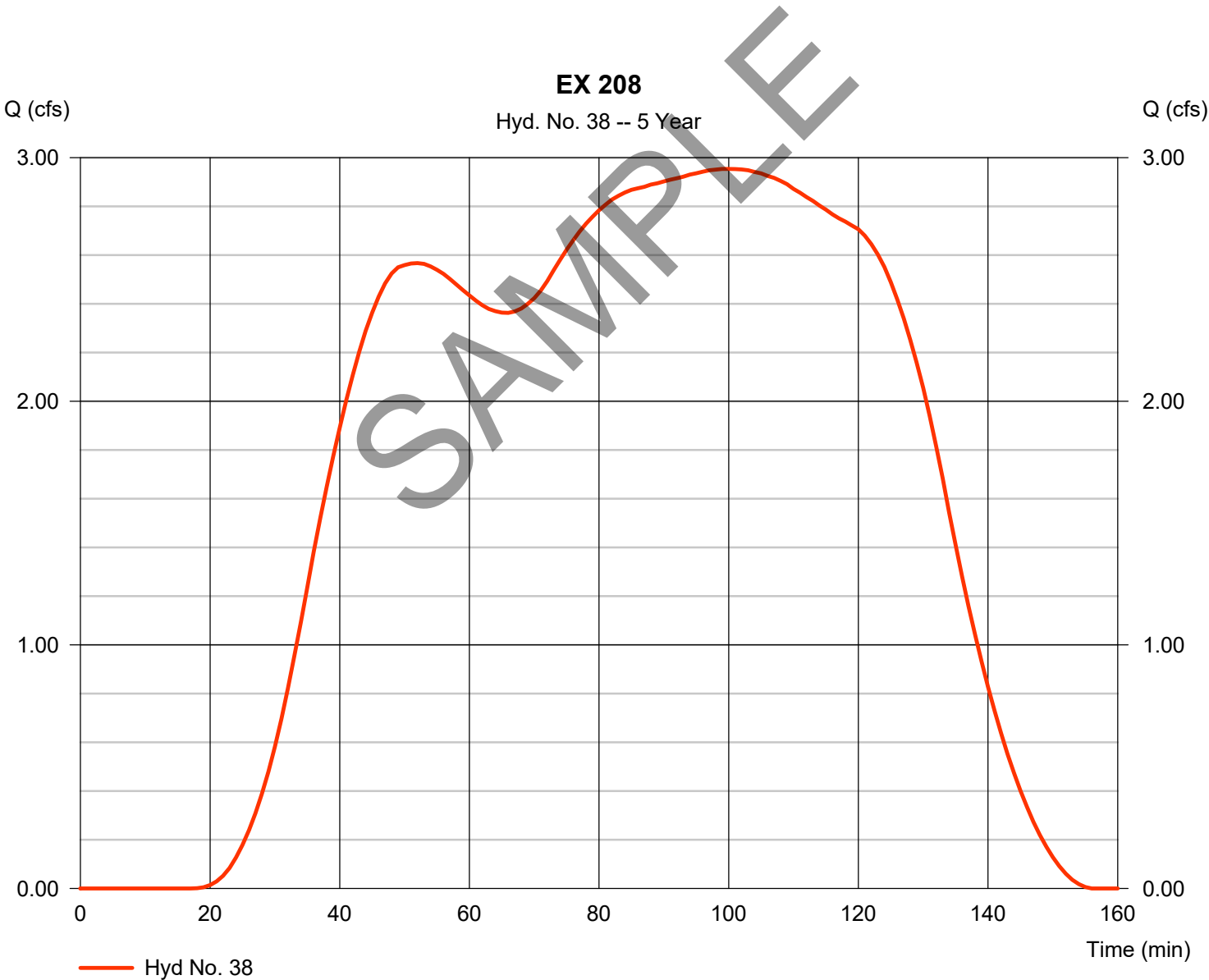


Hydrograph Report

Hyd. No. 38

EX 208

Hydrograph type	= SCS Runoff	Peak discharge	= 2.954 cfs
Storm frequency	= 5 yrs	Time to peak	= 100 min
Time interval	= 1 min	Hyd. volume	= 16,283 cuft
Drainage area	= 9.000 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.50 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

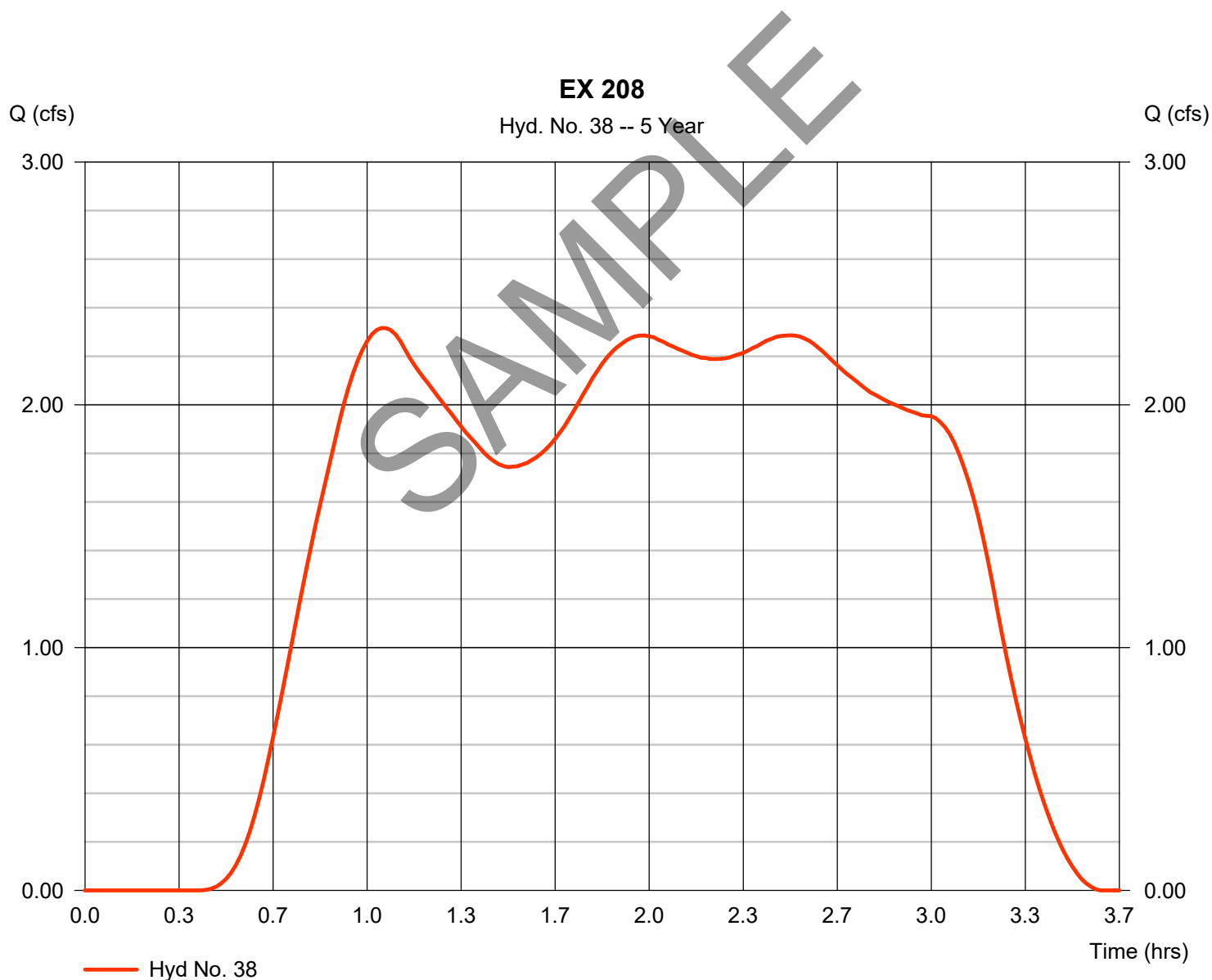
Tuesday, 03 / 19 / 2019

Hyd. No. 38

EX 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 9.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 2.316 cfs
Time to peak = 1.05 hrs
Hyd. volume = 19,059 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

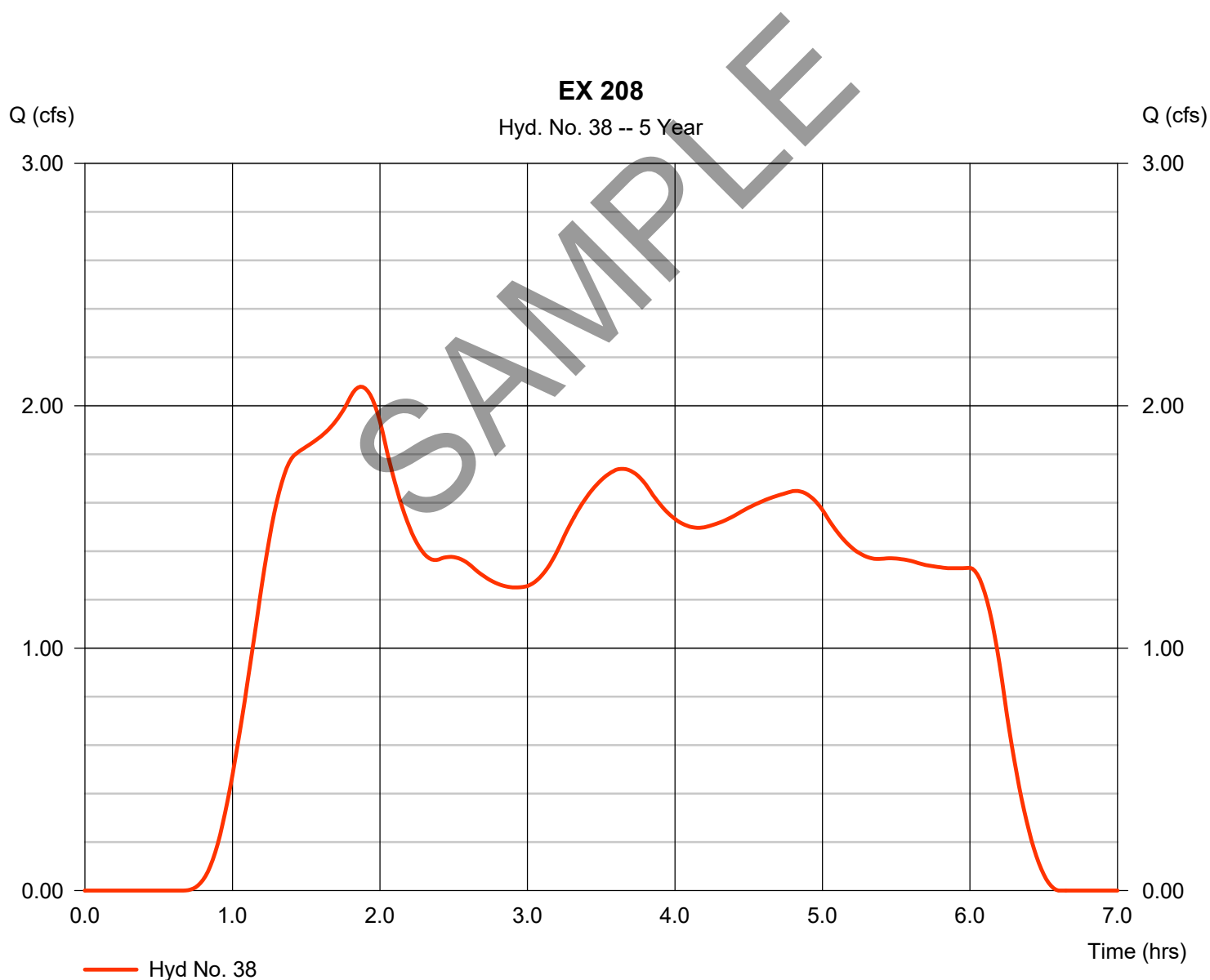
Tuesday, 03 / 19 / 2019

Hyd. No. 38

EX 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 9.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 2.079 cfs
Time to peak = 1.87 hrs
Hyd. volume = 28,763 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

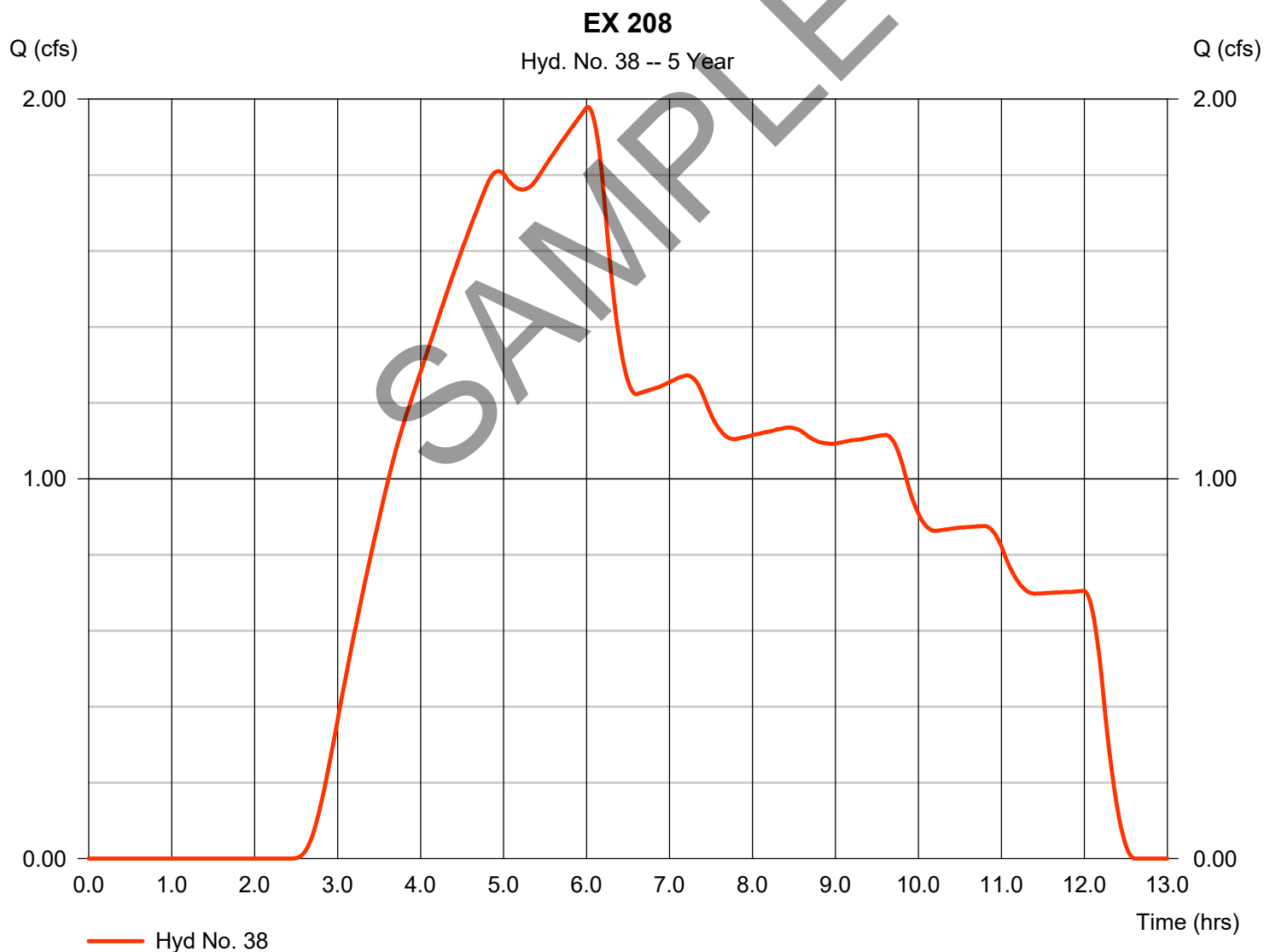
Tuesday, 03 / 19 / 2019

Hyd. No. 38

EX 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 9.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 1.979 cfs
Time to peak = 6.02 hrs
Hyd. volume = 39,468 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

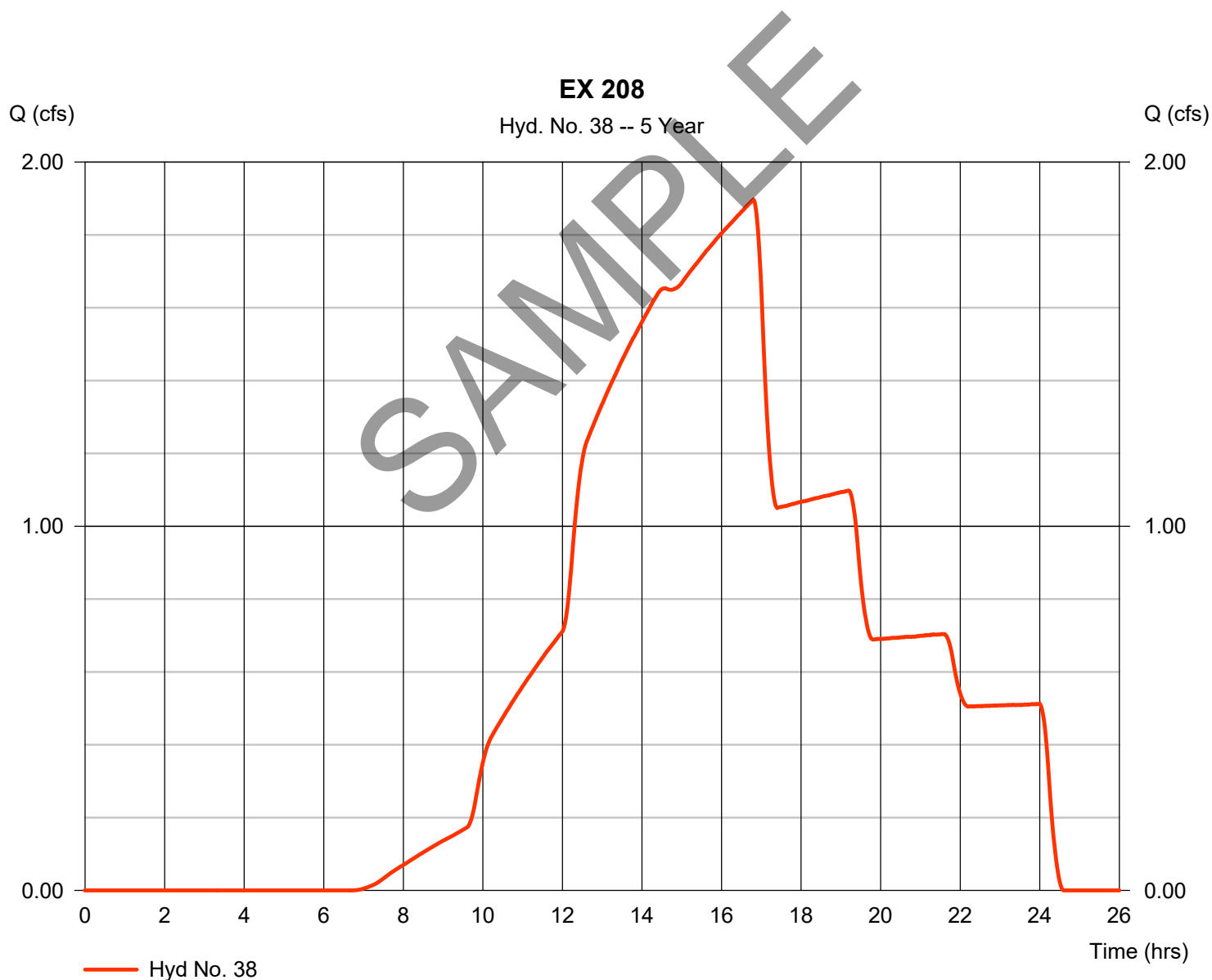
Tuesday, 03 / 19 / 2019

Hyd. No. 38

EX 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 9.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.896 cfs
Time to peak = 16.80 hrs
Hyd. volume = 53,405 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 23.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

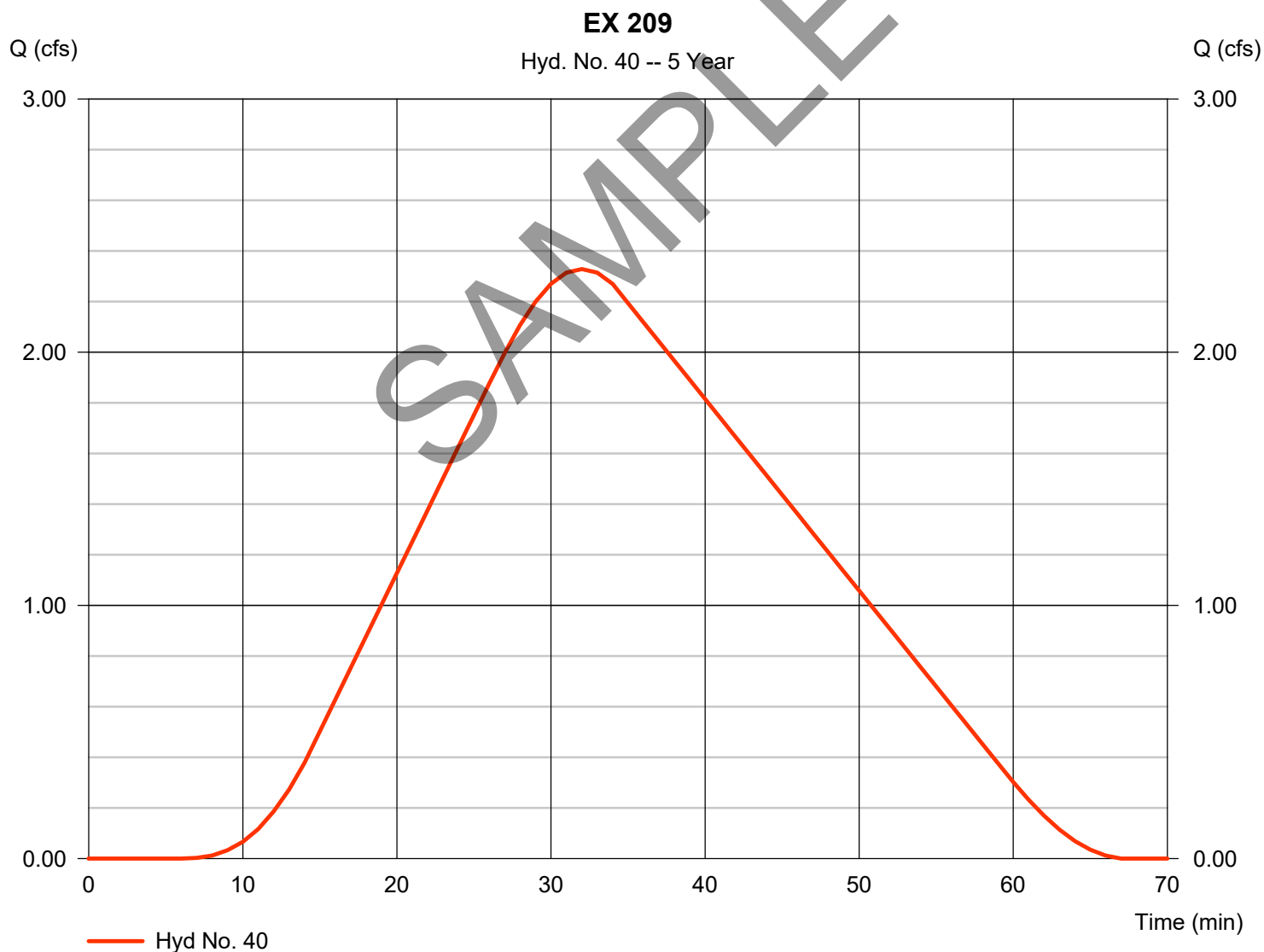
Tuesday, 03 / 19 / 2019

Hyd. No. 40

EX 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 24.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 2.328 cfs
Time to peak = 32 min
Hyd. volume = 3,973 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.80 min
Distribution = Custom
Shape factor = 484

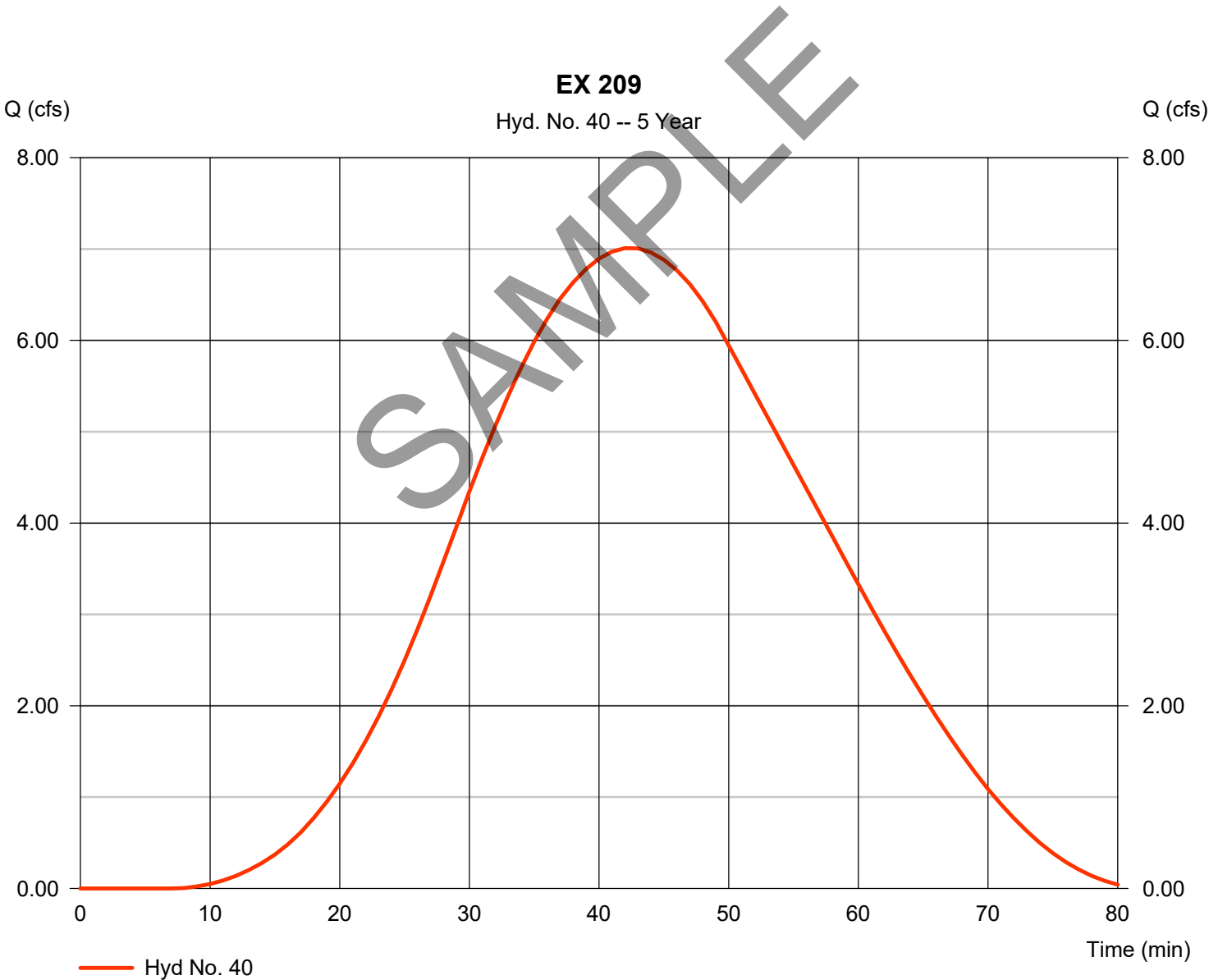


Hydrograph Report

Hyd. No. 40

EX 209

Hydrograph type	= SCS Runoff	Peak discharge	= 7.009 cfs
Storm frequency	= 5 yrs	Time to peak	= 42 min
Time interval	= 1 min	Hyd. volume	= 13,713 cuft
Drainage area	= 24.700 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.80 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

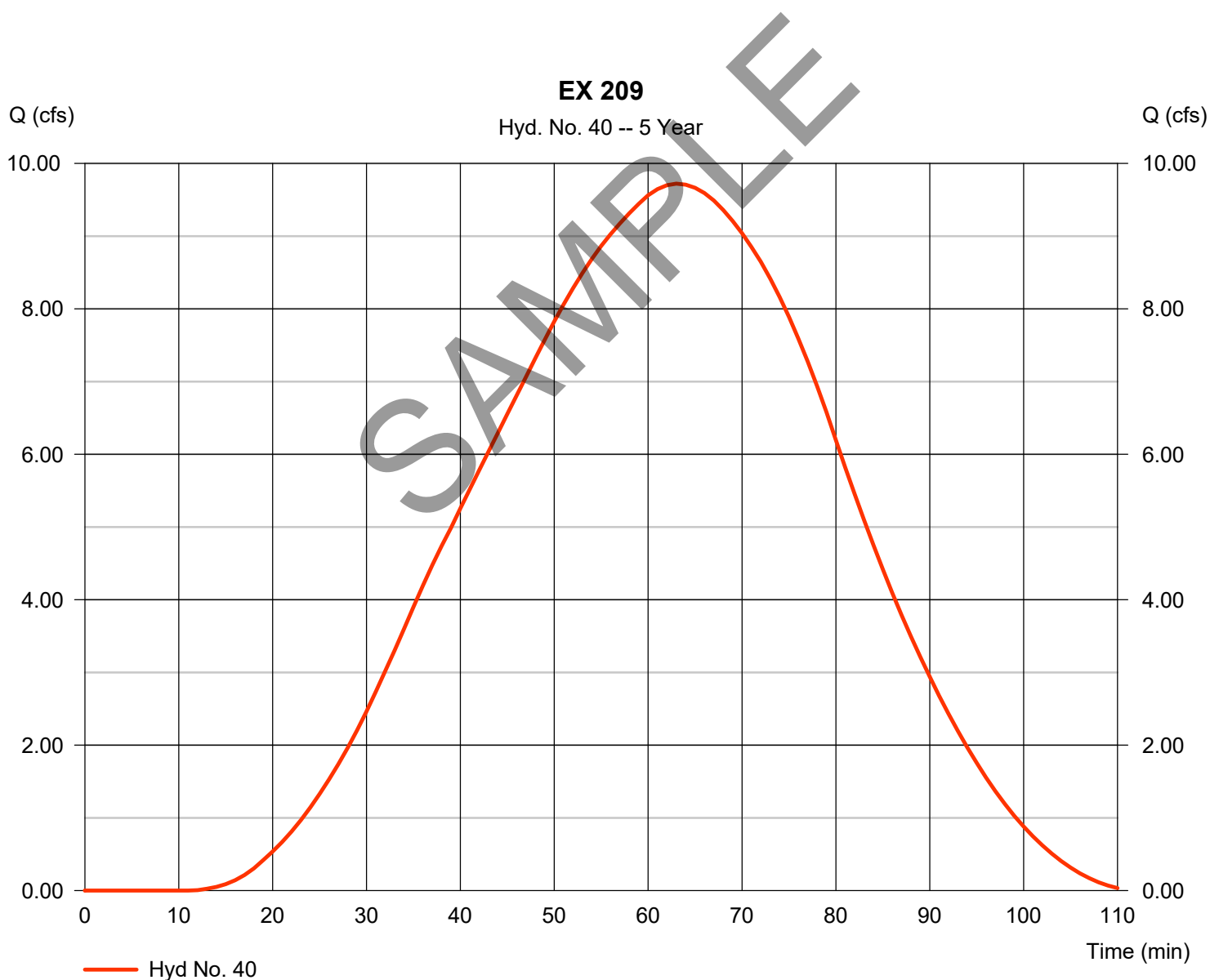
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 40

EX 209

Hydrograph type	= SCS Runoff	Peak discharge	= 9.721 cfs
Storm frequency	= 5 yrs	Time to peak	= 63 min
Time interval	= 1 min	Hyd. volume	= 26,854 cuft
Drainage area	= 24.700 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.80 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

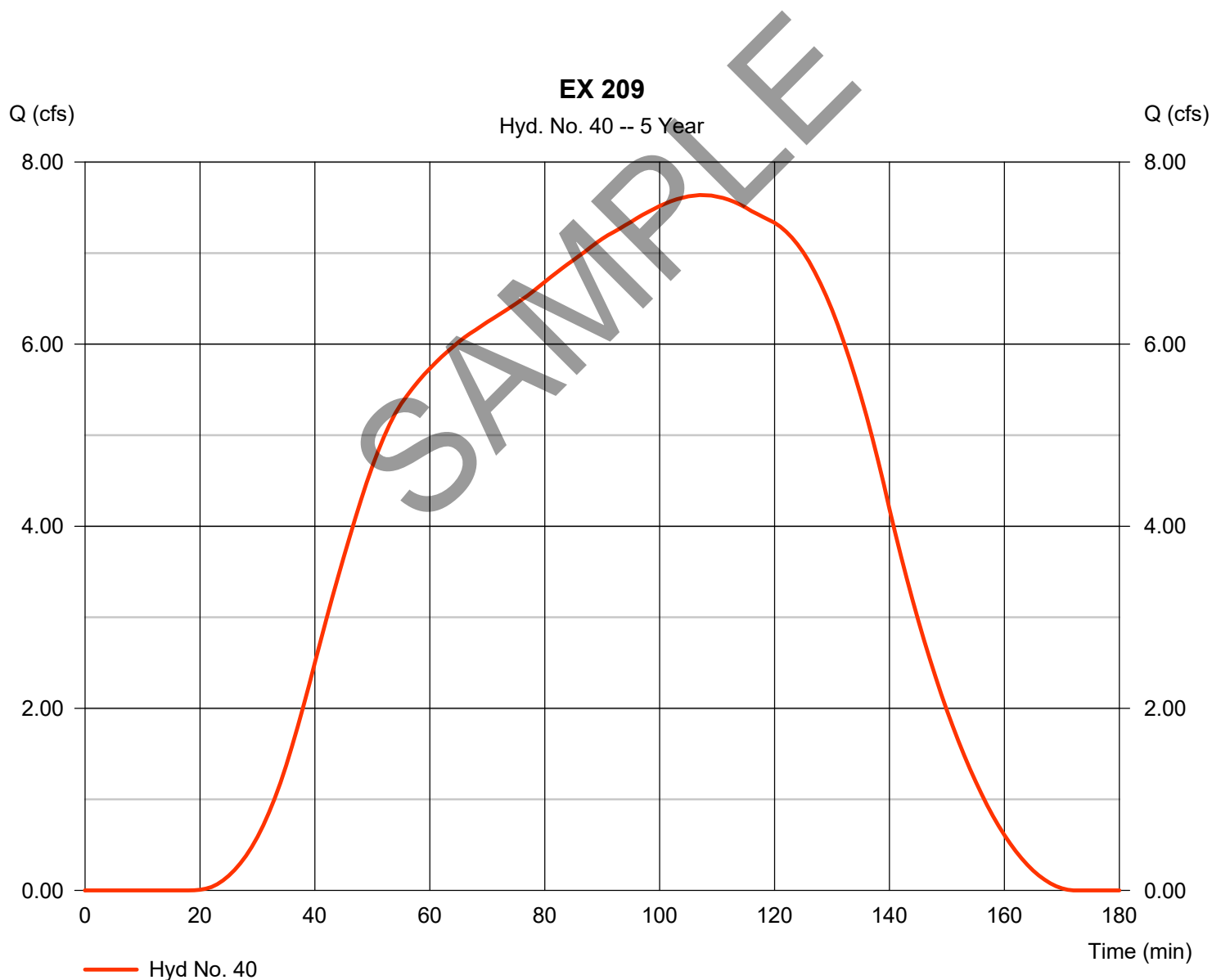
Tuesday, 03 / 19 / 2019

Hyd. No. 40

EX 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 24.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 7.637 cfs
Time to peak = 107 min
Hyd. volume = 41,527 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

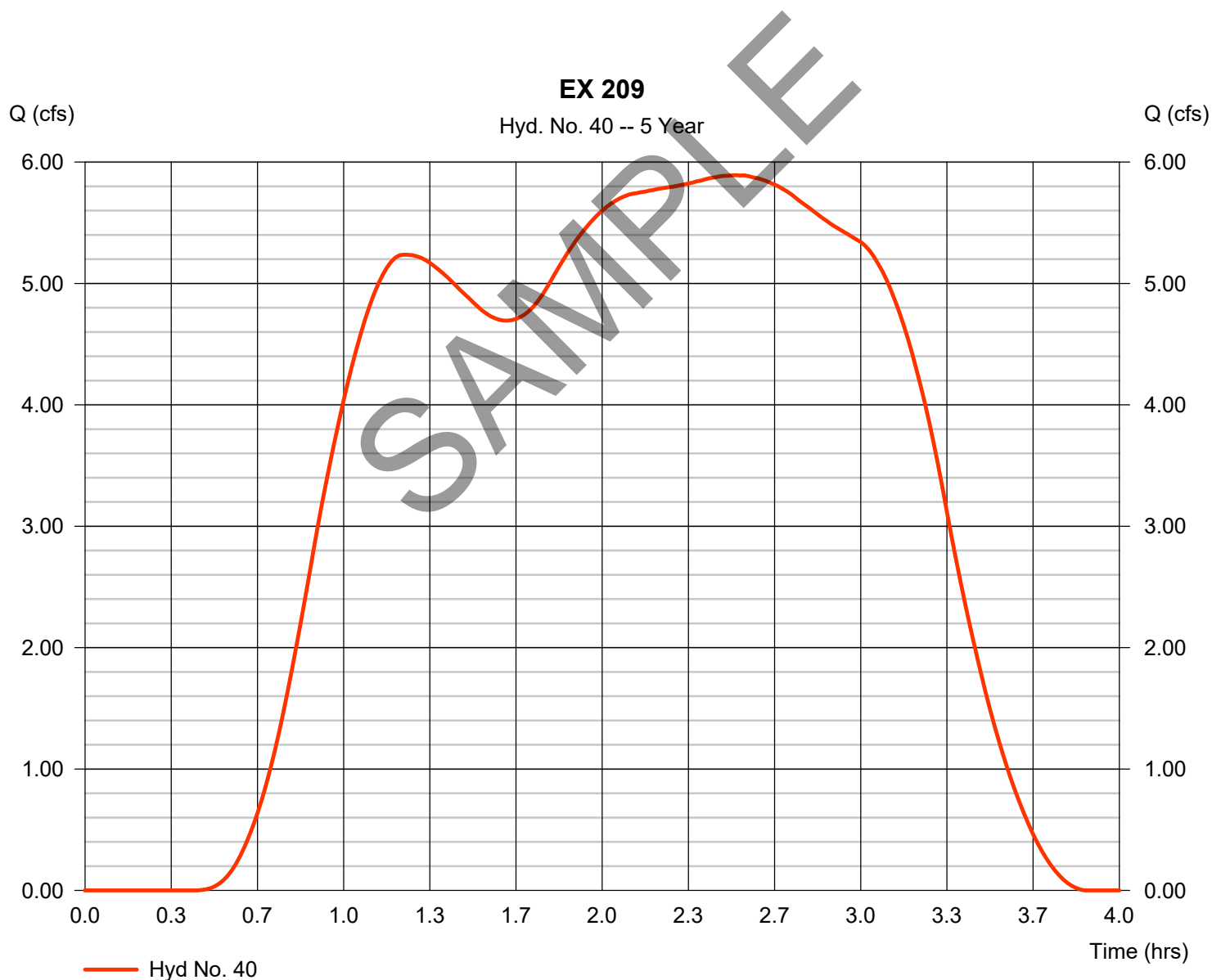
Tuesday, 03 / 19 / 2019

Hyd. No. 40

EX 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 24.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 5.892 cfs
Time to peak = 2.52 hrs
Hyd. volume = 48,862 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

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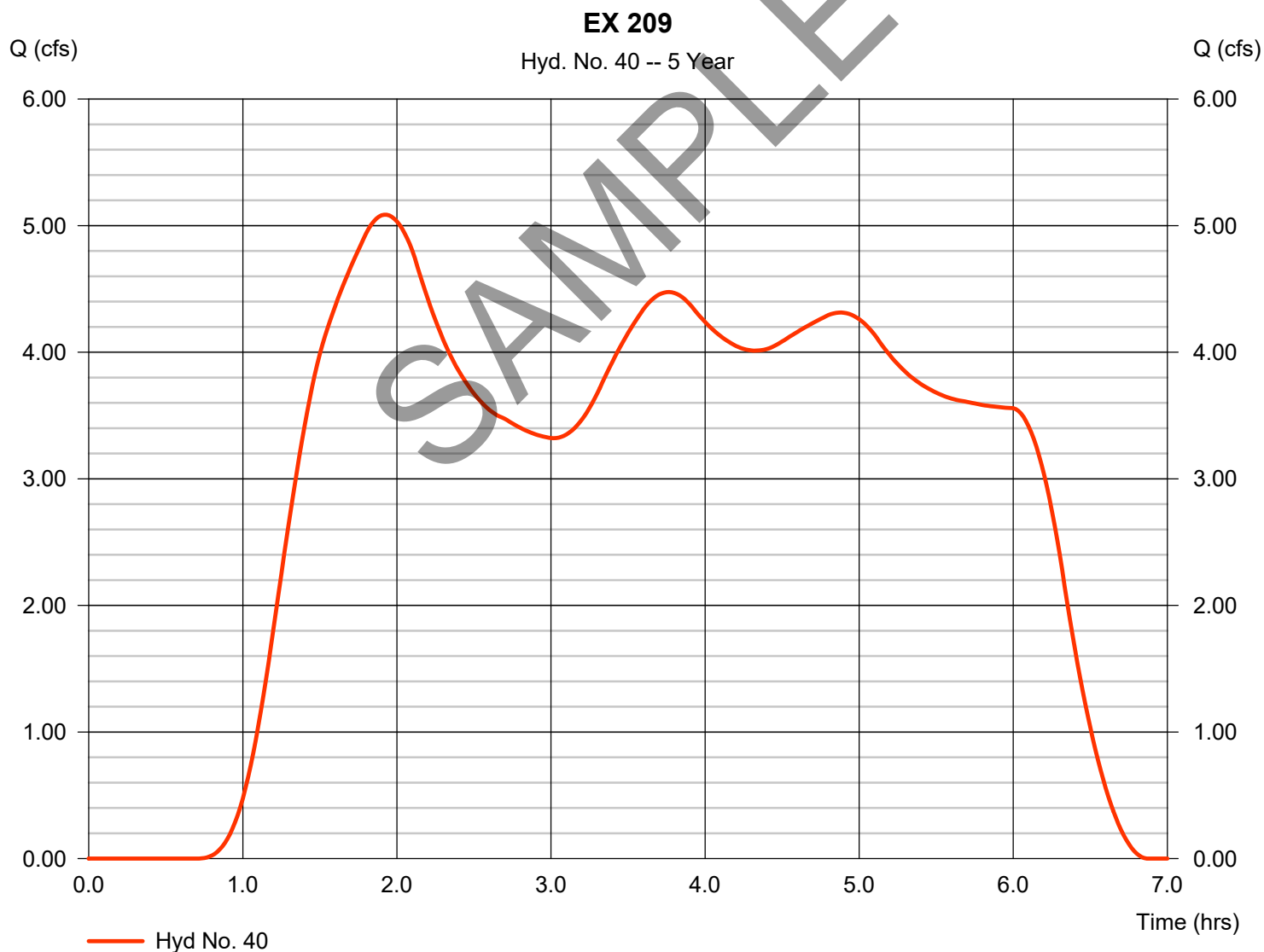
Tuesday, 03 / 19 / 2019

Hyd. No. 40

EX 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 24.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 5.086 cfs
Time to peak = 1.92 hrs
Hyd. volume = 74,641 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

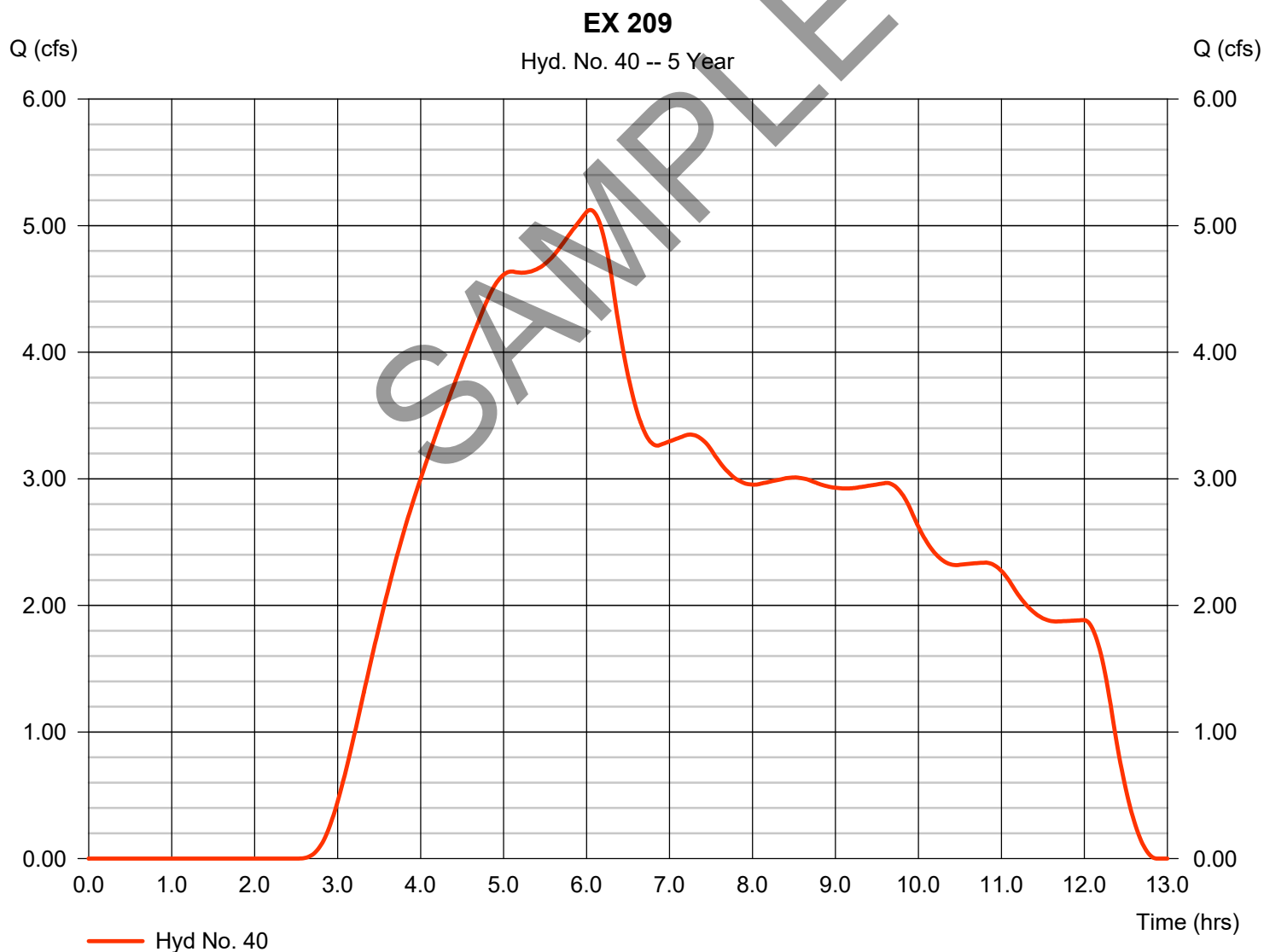
Tuesday, 03 / 19 / 2019

Hyd. No. 40

EX 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 24.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 5.124 cfs
Time to peak = 6.05 hrs
Hyd. volume = 103,265 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

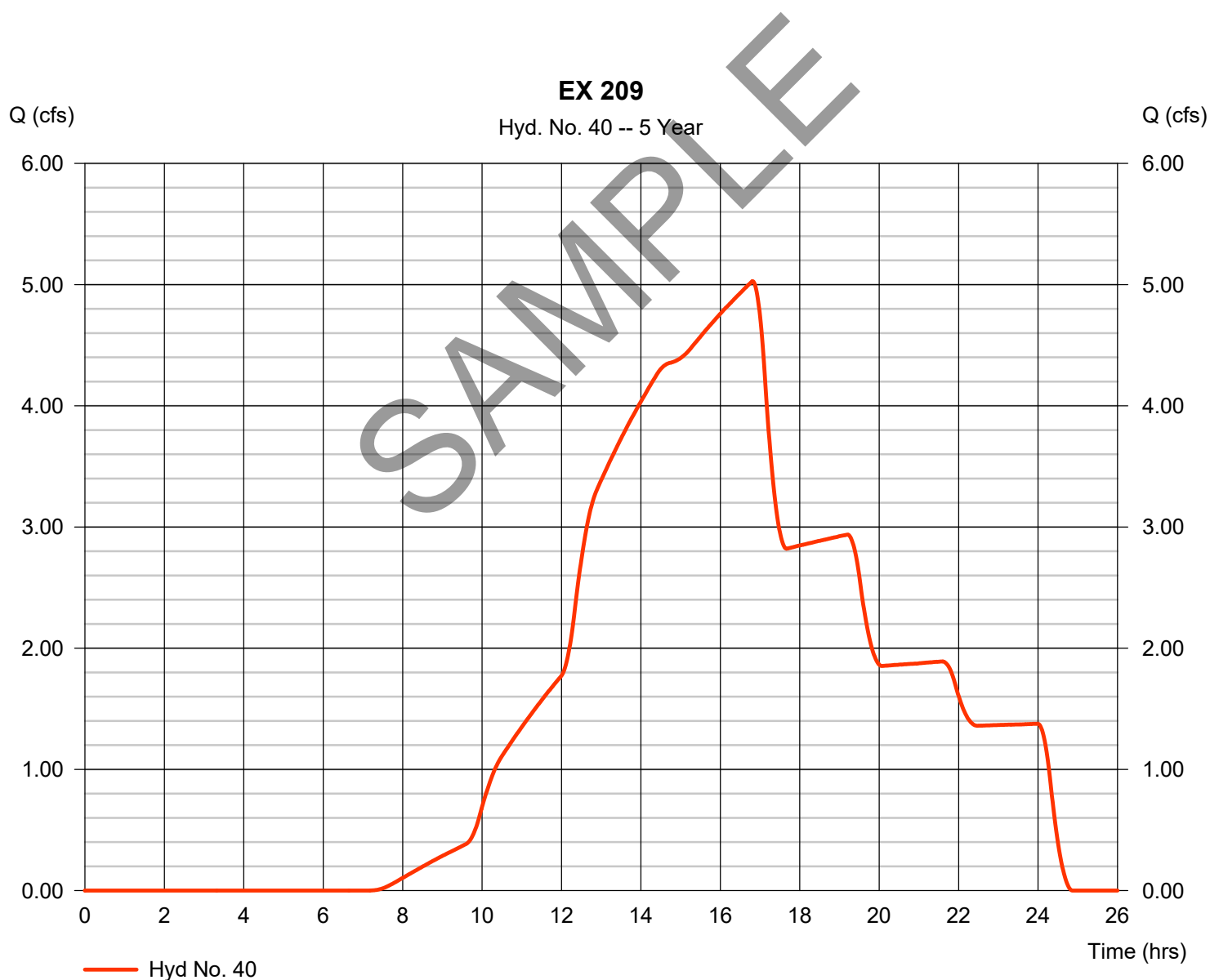
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 40

EX 209

Hydrograph type	= SCS Runoff	Peak discharge	= 5.028 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.82 hrs
Time interval	= 1 min	Hyd. volume	= 140,720 cuft
Drainage area	= 24.700 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.80 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484

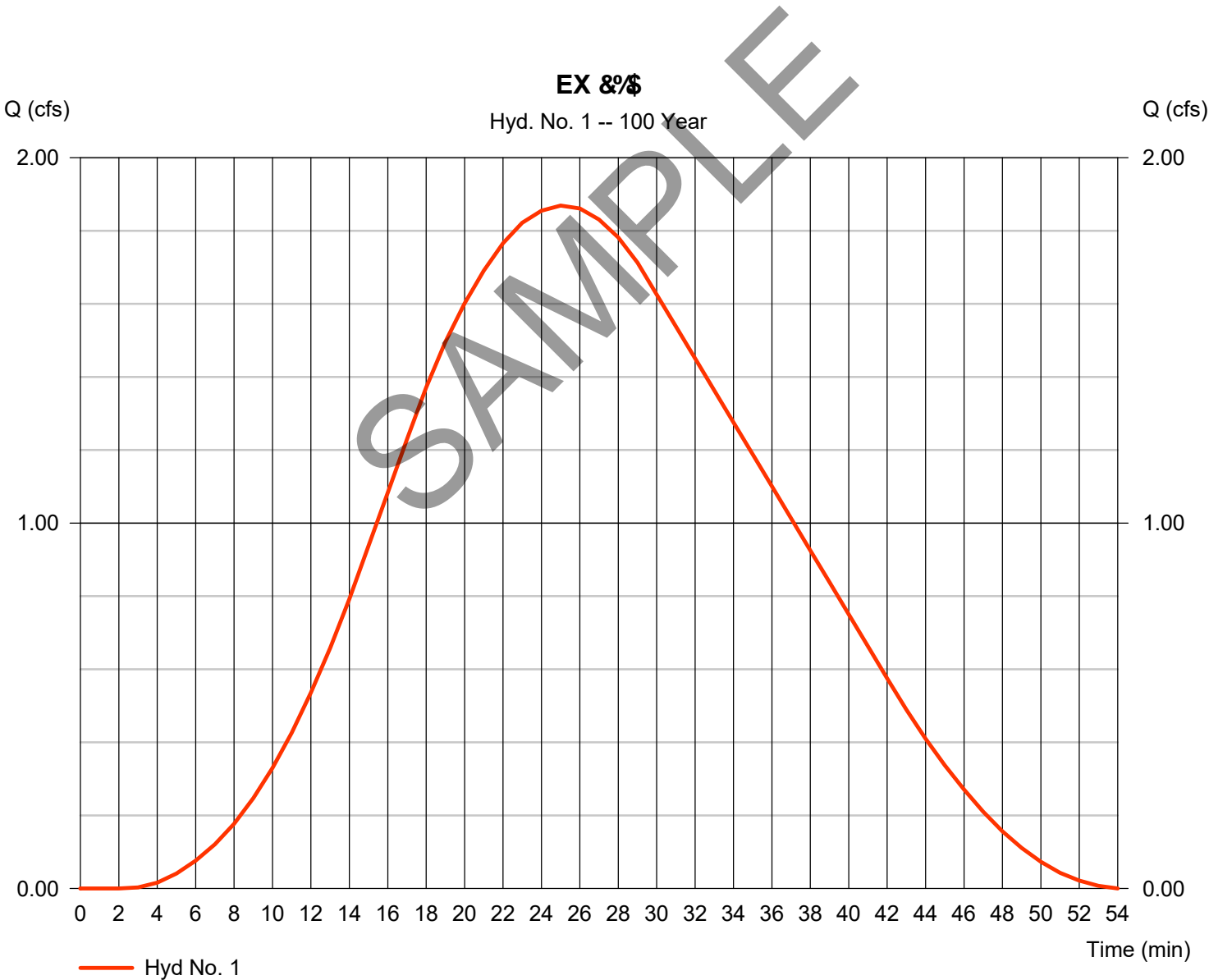


Hydrograph Report

Hyd. No. 1

EX GF€

Hydrograph type	= SCS Runoff	Peak discharge	= 1.869 cfs
Storm frequency	= 100 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 2,626 cuft
Drainage area	= 2.200 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 24.50 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

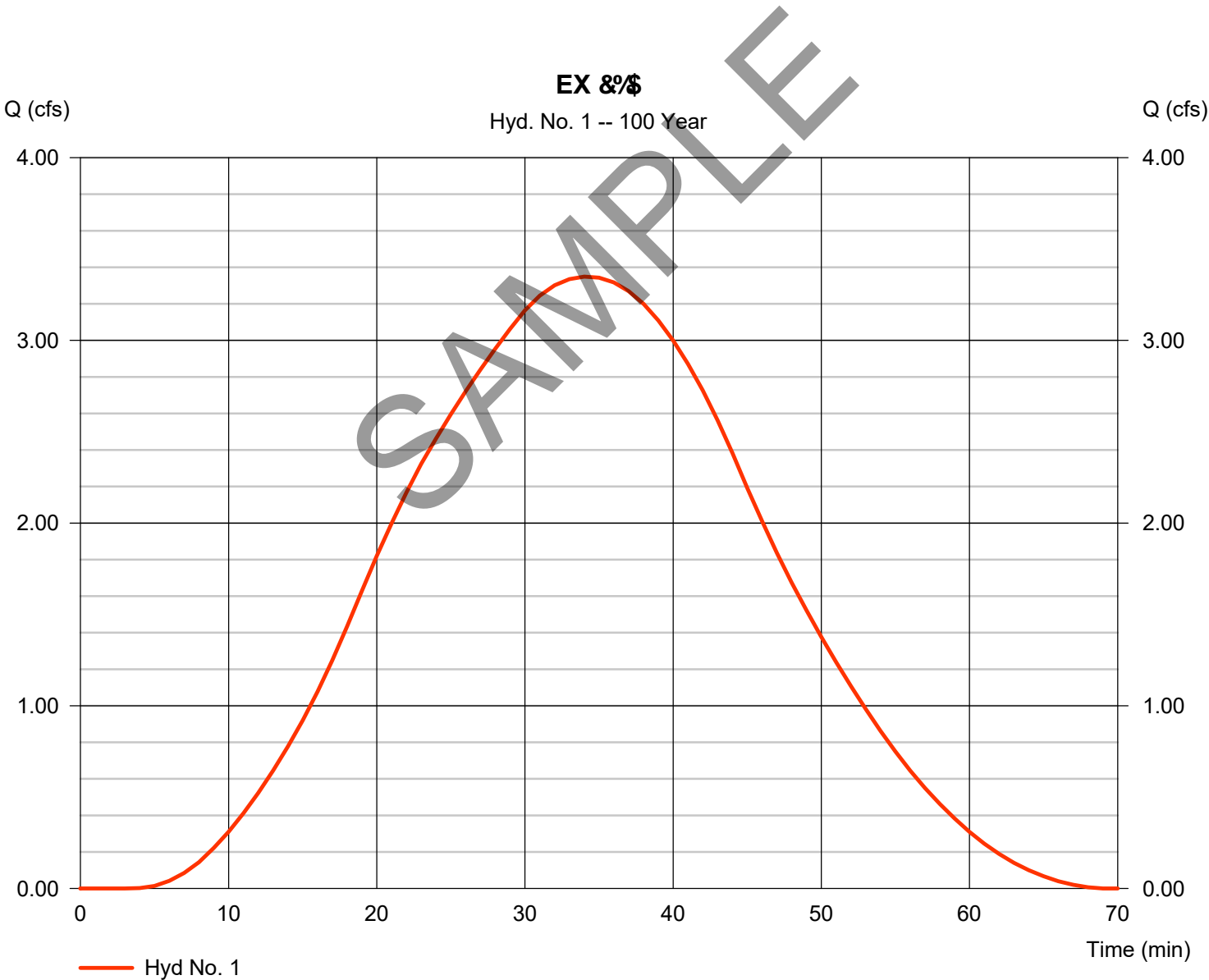


Hydrograph Report

Hyd. No. 1

EX GF€

Hydrograph type	= SCS Runoff	Peak discharge	= 3.349 cfs
Storm frequency	= 100 yrs	Time to peak	= 34 min
Time interval	= 1 min	Hyd. volume	= 5,959 cuft
Drainage area	= 2.200 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 24.50 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484

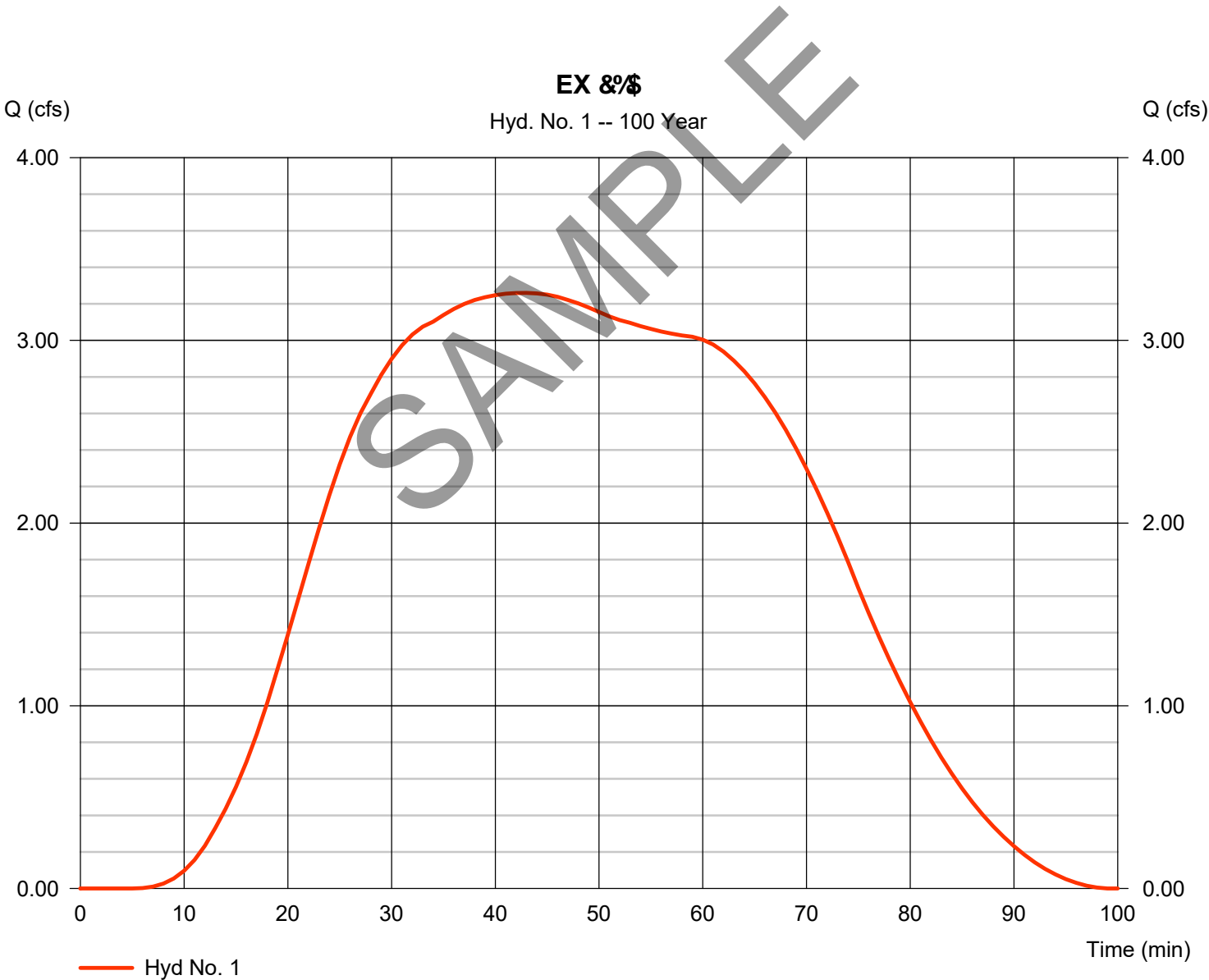


Hydrograph Report

Hyd. No. 1

EX GF€

Hydrograph type	= SCS Runoff	Peak discharge	= 3.260 cfs
Storm frequency	= 100 yrs	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 10,403 cuft
Drainage area	= 2.200 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 24.50 min
Total precip.	= 3.07 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484

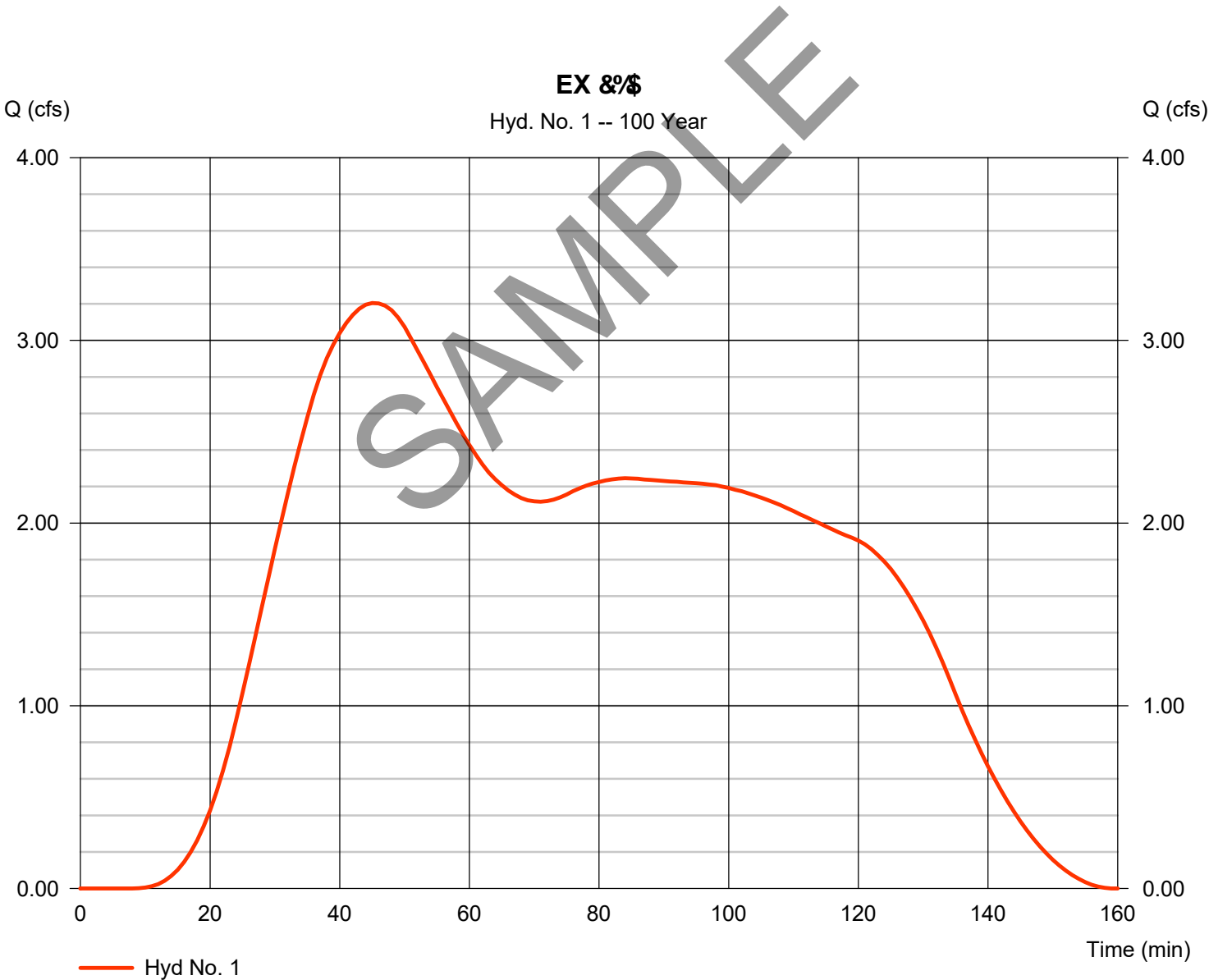


Hydrograph Report

Hyd. No. 1

EX GF€

Hydrograph type	= SCS Runoff	Peak discharge	= 3.205 cfs
Storm frequency	= 100 yrs	Time to peak	= 45 min
Time interval	= 1 min	Hyd. volume	= 15,515 cuft
Drainage area	= 2.200 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 24.50 min
Total precip.	= 3.88 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

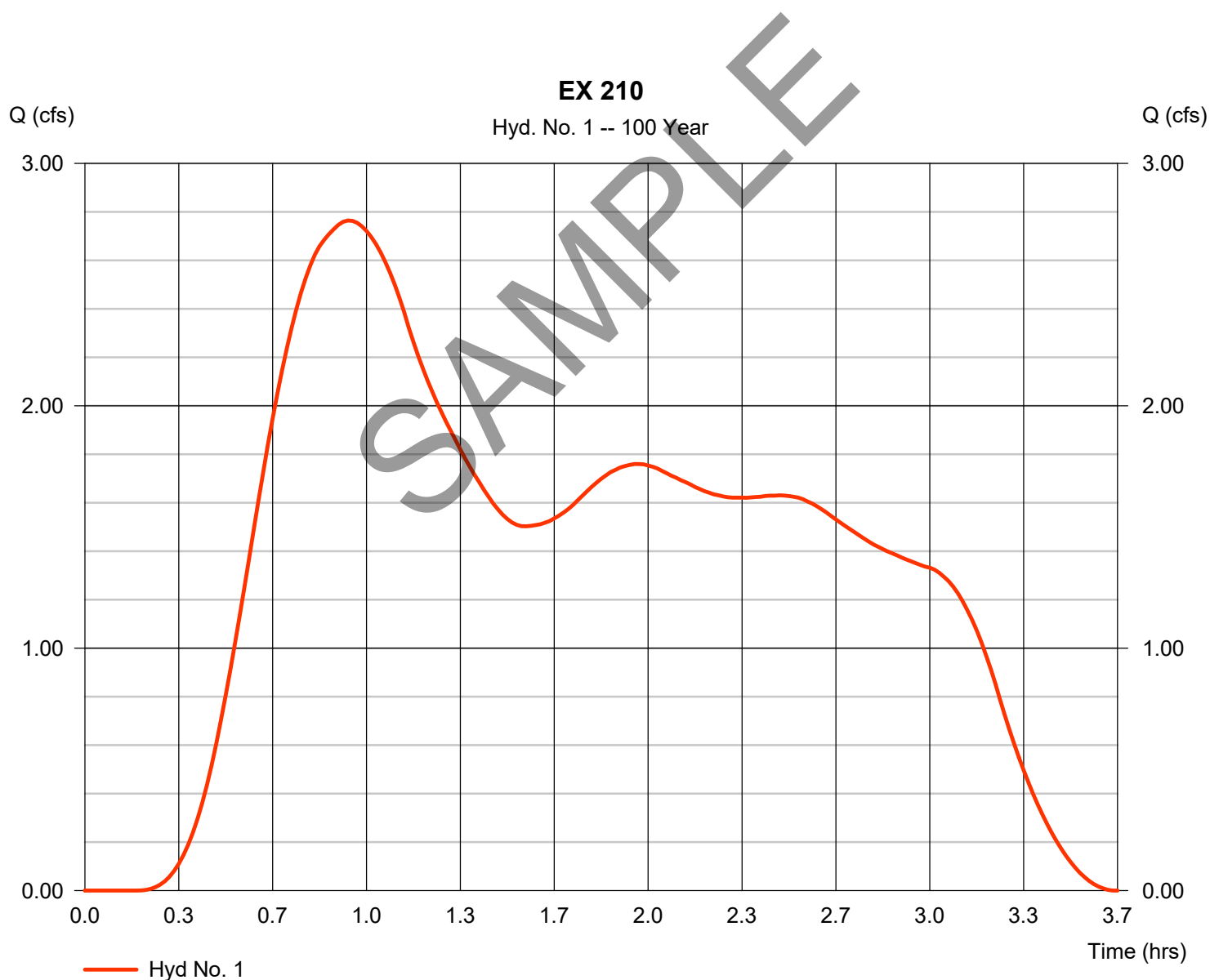
Tuesday, 03 / 12 / 2019

Hyd. No. 1

EX 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 2.764 cfs
Time to peak = 0.93 hrs
Hyd. volume = 17,834 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 24.50 min
Distribution = Custom
Shape factor = 484

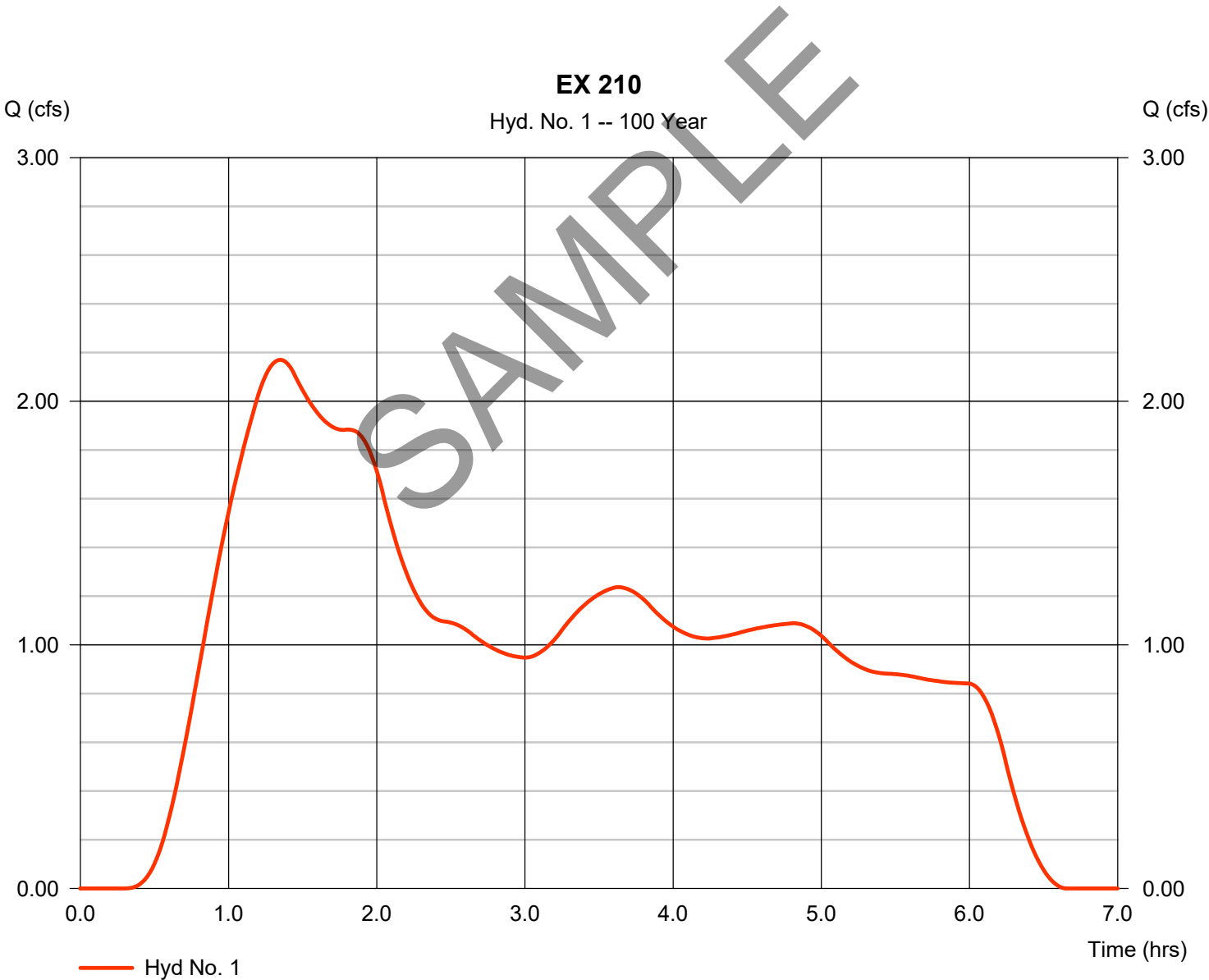


Hydrograph Report

Hyd. No. 1

EX 210

Hydrograph type	= SCS Runoff	Peak discharge	= 2.170 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.35 hrs
Time interval	= 1 min	Hyd. volume	= 24,501 cuft
Drainage area	= 2.200 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 24.50 min
Total precip.	= 5.20 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

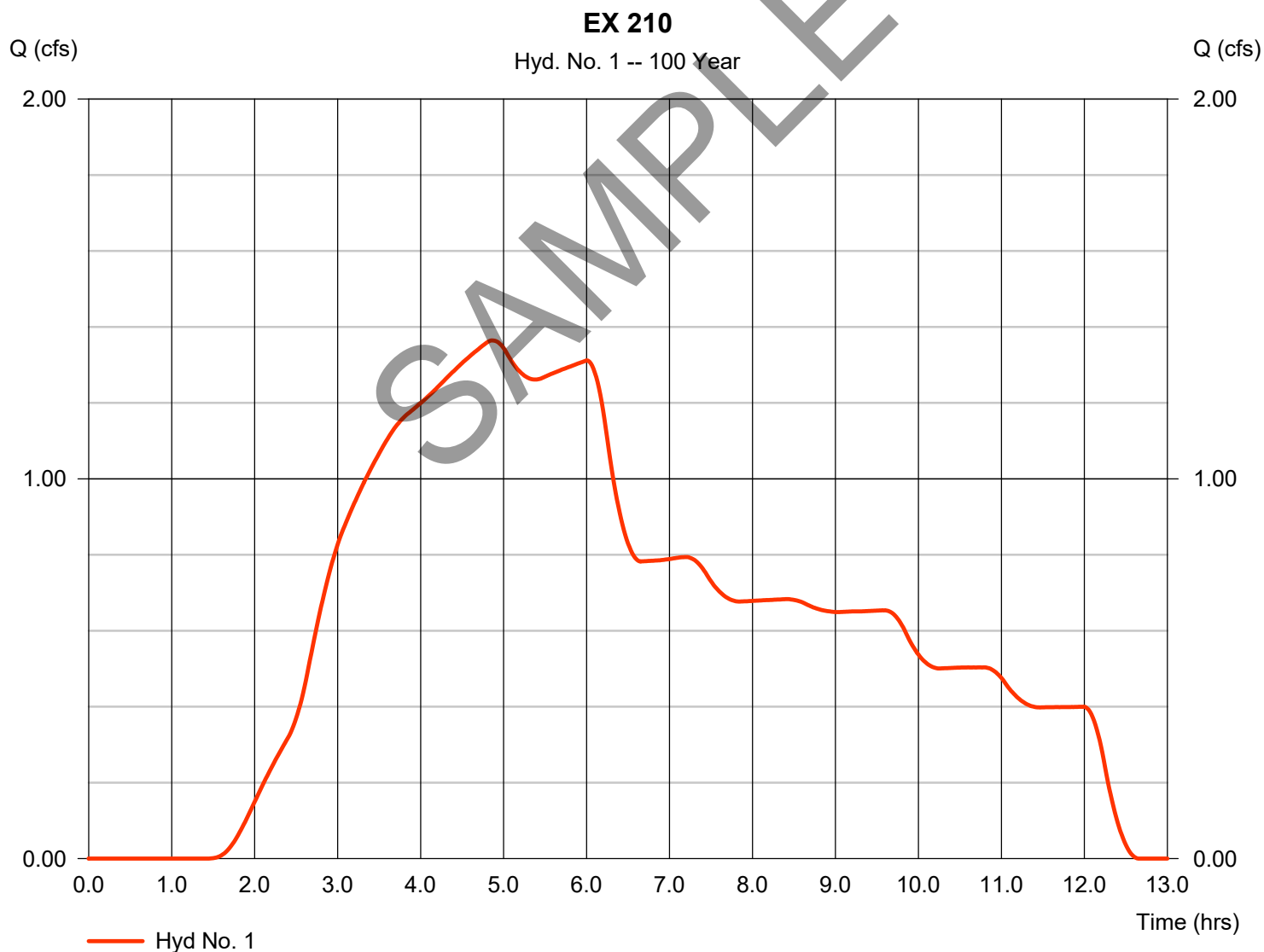
Tuesday, 03 / 12 / 2019

Hyd. No. 1

EX 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 1.364 cfs
Time to peak = 4.87 hrs
Hyd. volume = 29,190 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 24.50 min
Distribution = Custom
Shape factor = 484

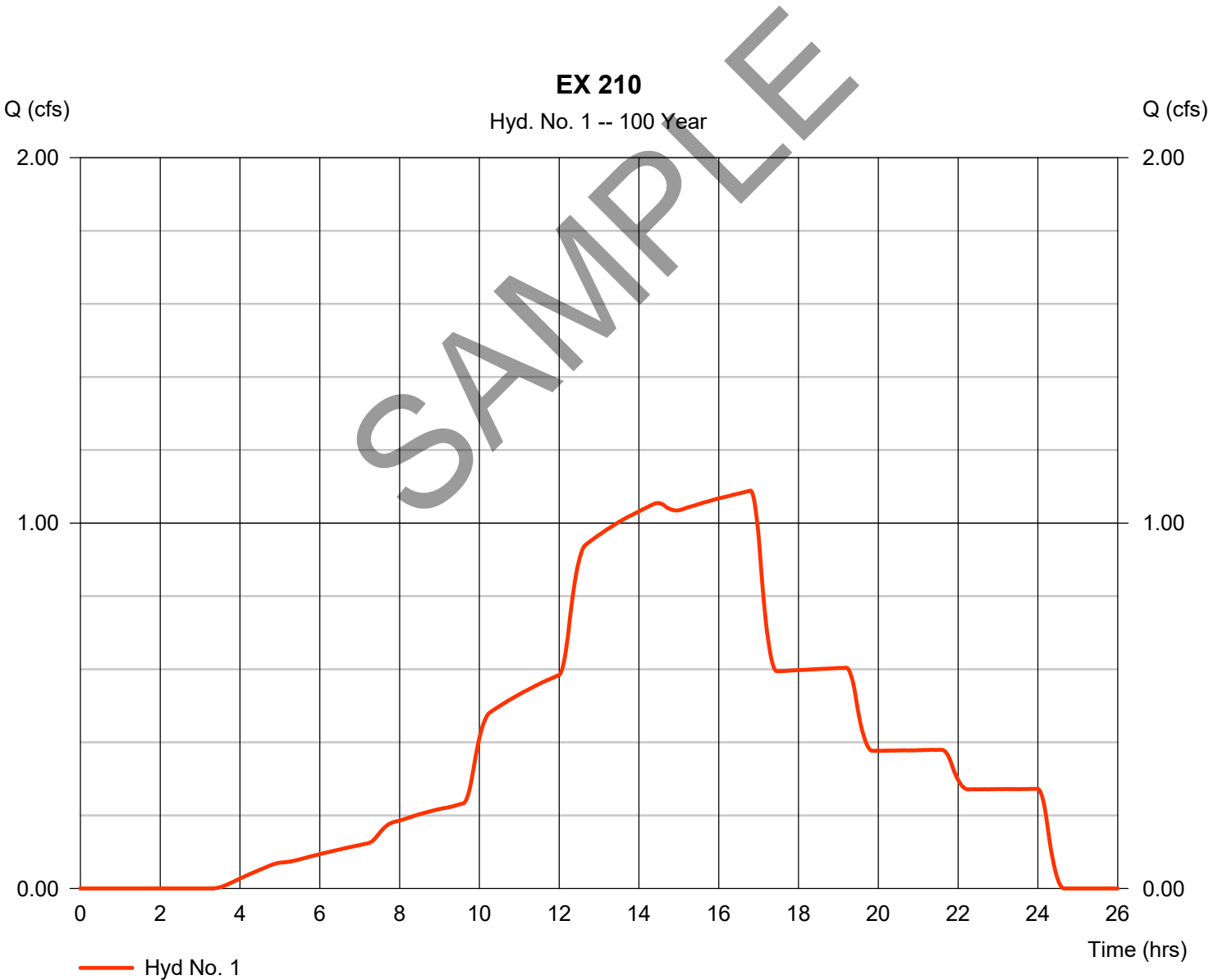


Hydrograph Report

Hyd. No. 1

EX 210

Hydrograph type	= SCS Runoff	Peak discharge	= 1.089 cfs
Storm frequency	= 100 yrs	Time to peak	= 16.80 hrs
Time interval	= 1 min	Hyd. volume	= 36,092 cuft
Drainage area	= 2.200 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 24.50 min
Total precip.	= 6.81 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

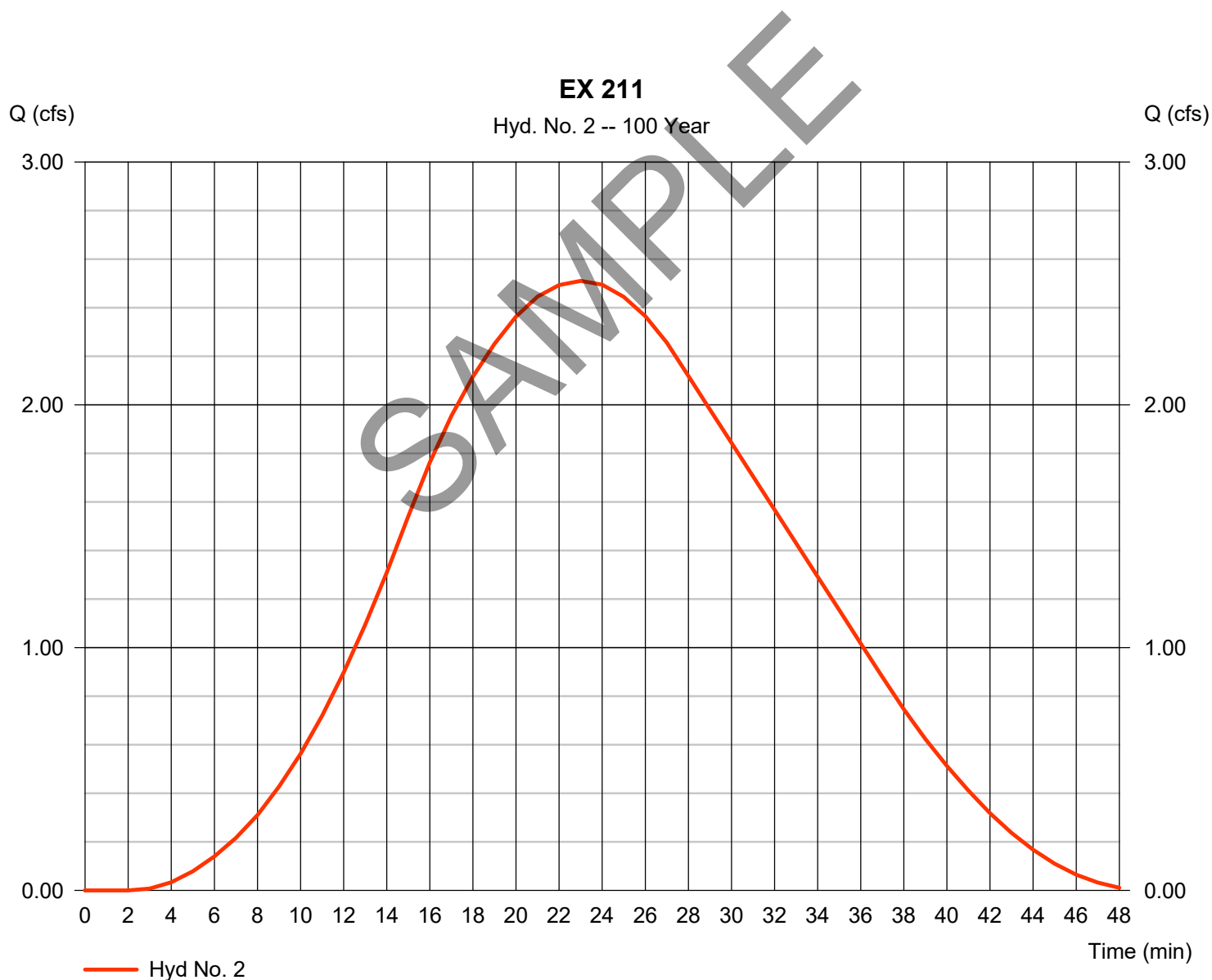
Tuesday, 03 / 12 / 2019

Hyd. No. 2

EX 211

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.59 in
Storm duration = 0.25 hrs

Peak discharge = 2.511 cfs
Time to peak = 23 min
Hyd. volume = 3,181 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484

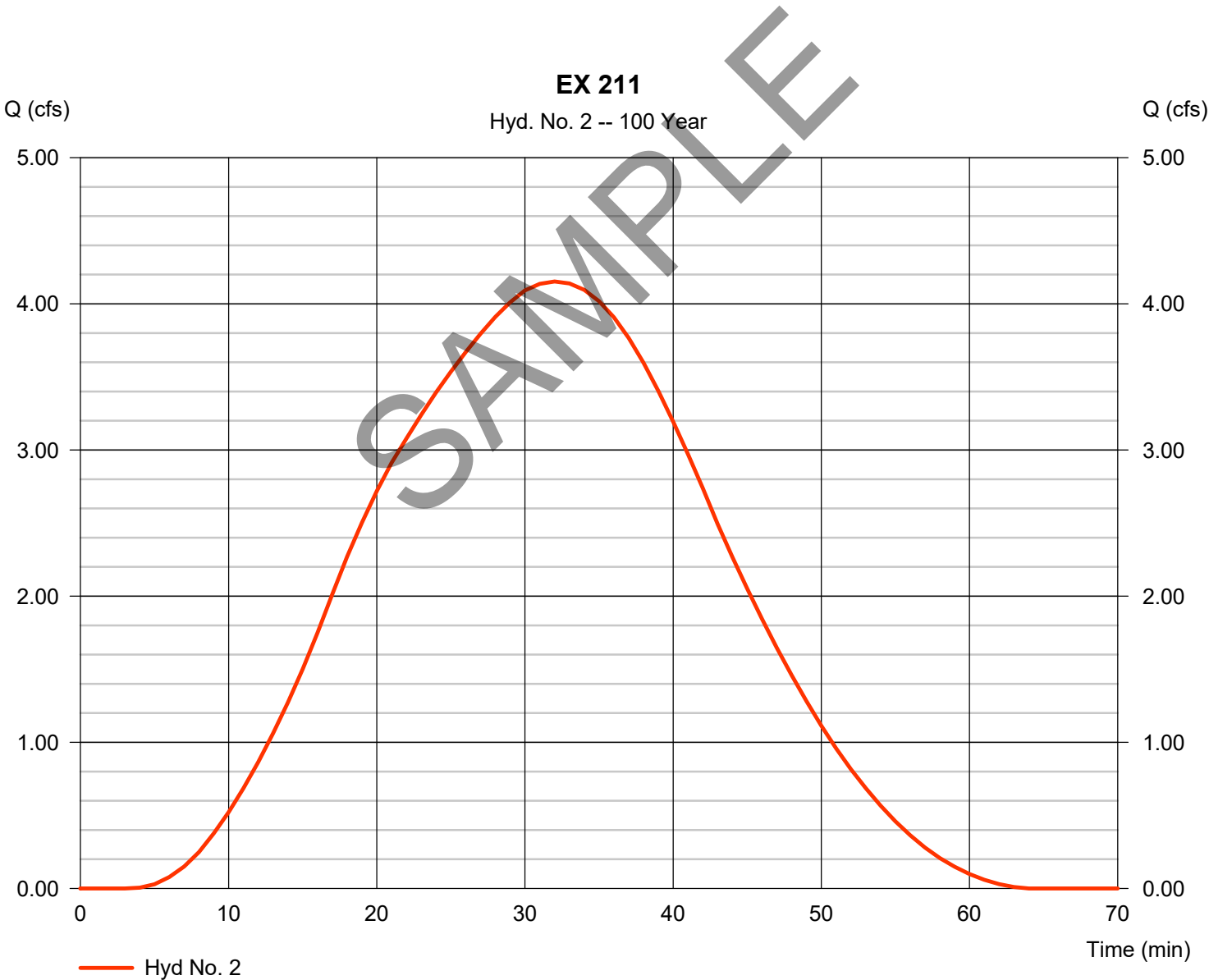


Hydrograph Report

Hyd. No. 2

EX 211

Hydrograph type	= SCS Runoff	Peak discharge	= 4.153 cfs
Storm frequency	= 100 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 6,999 cuft
Drainage area	= 2.400 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.30 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484

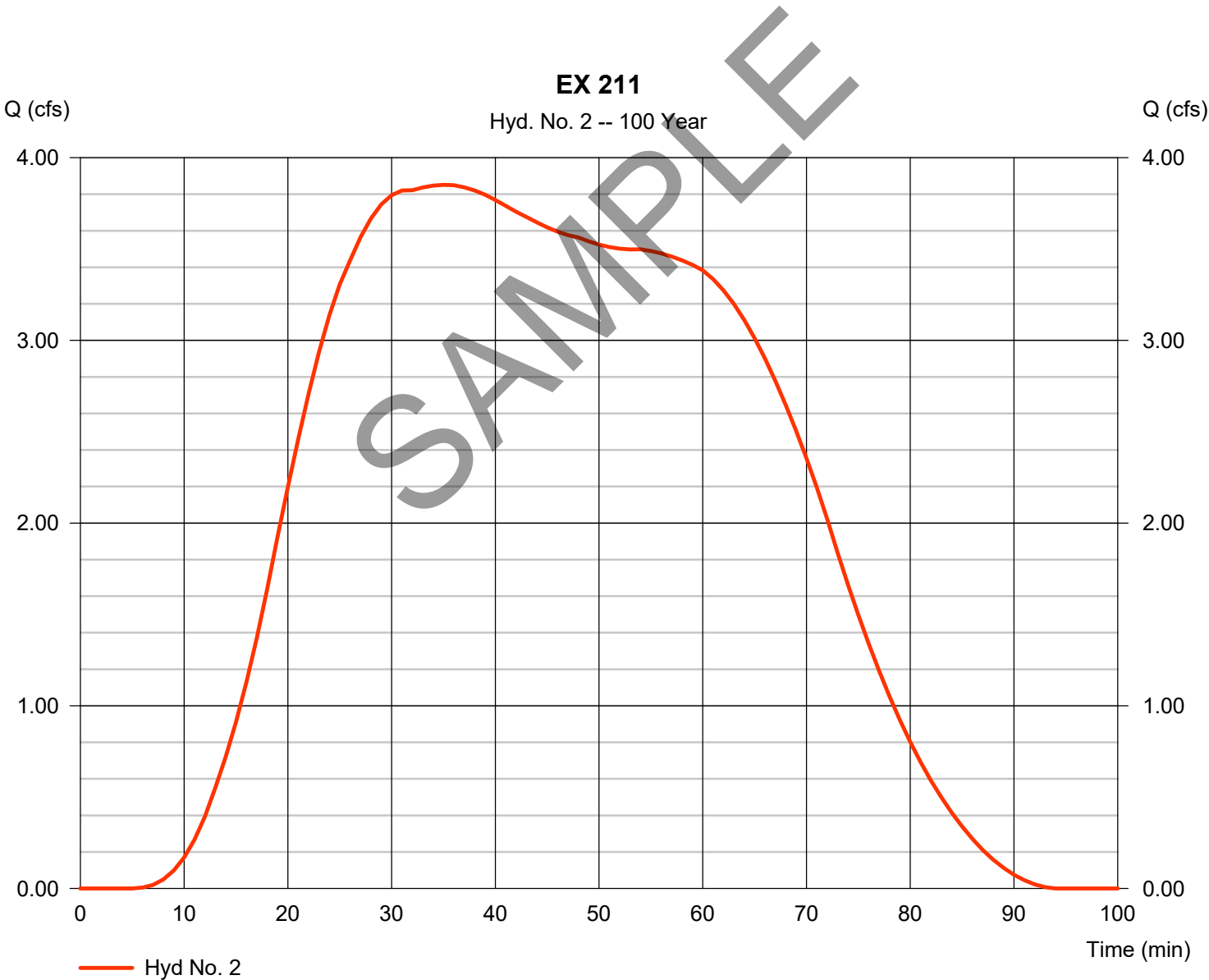


Hydrograph Report

Hyd. No. 2

EX 211

Hydrograph type	= SCS Runoff	Peak discharge	= 3.851 cfs
Storm frequency	= 100 yrs	Time to peak	= 35 min
Time interval	= 1 min	Hyd. volume	= 12,022 cuft
Drainage area	= 2.400 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.30 min
Total precip.	= 3.07 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

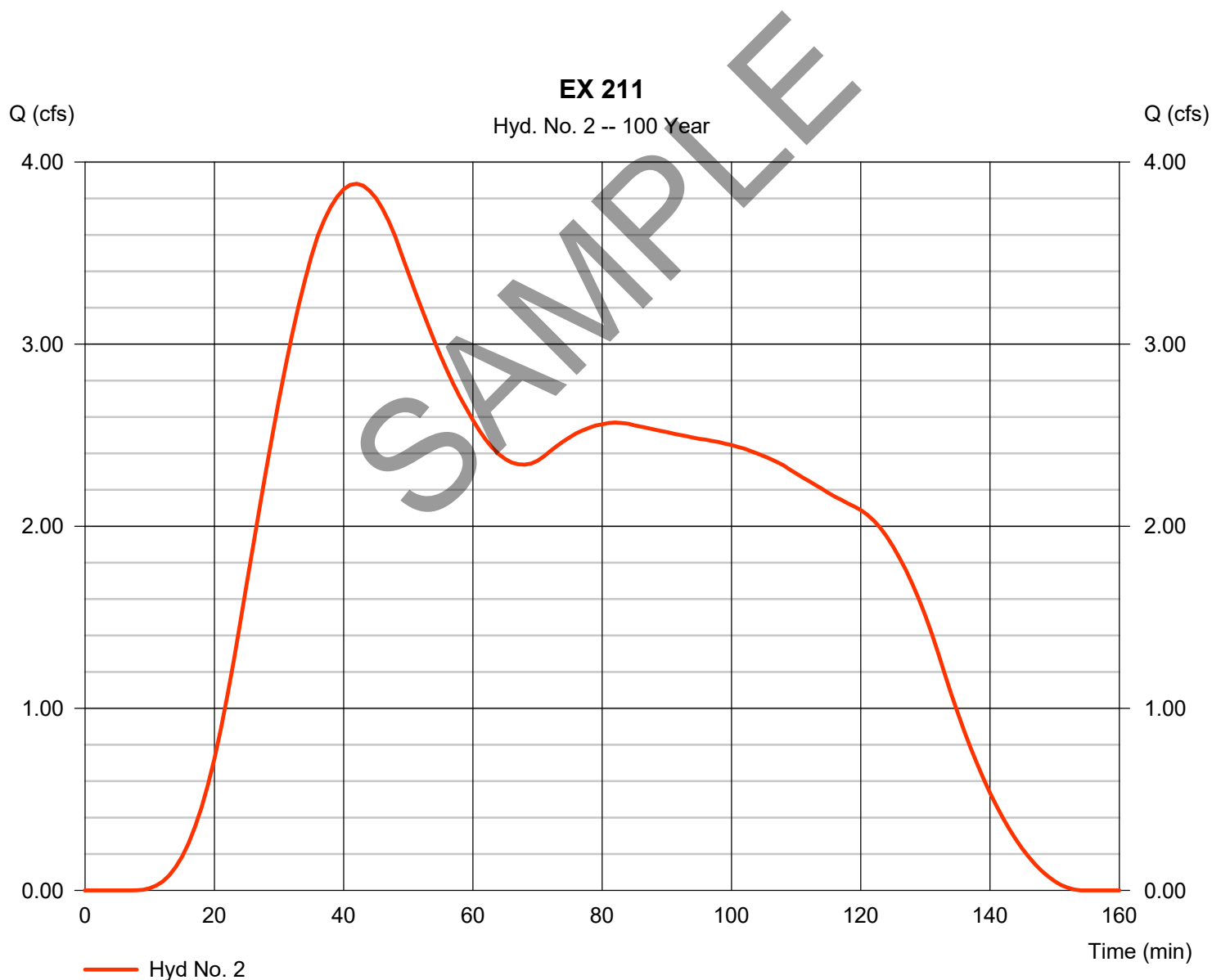
Tuesday, 03 / 12 / 2019

Hyd. No. 2

EX 211

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 3.881 cfs
Time to peak = 42 min
Hyd. volume = 17,775 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

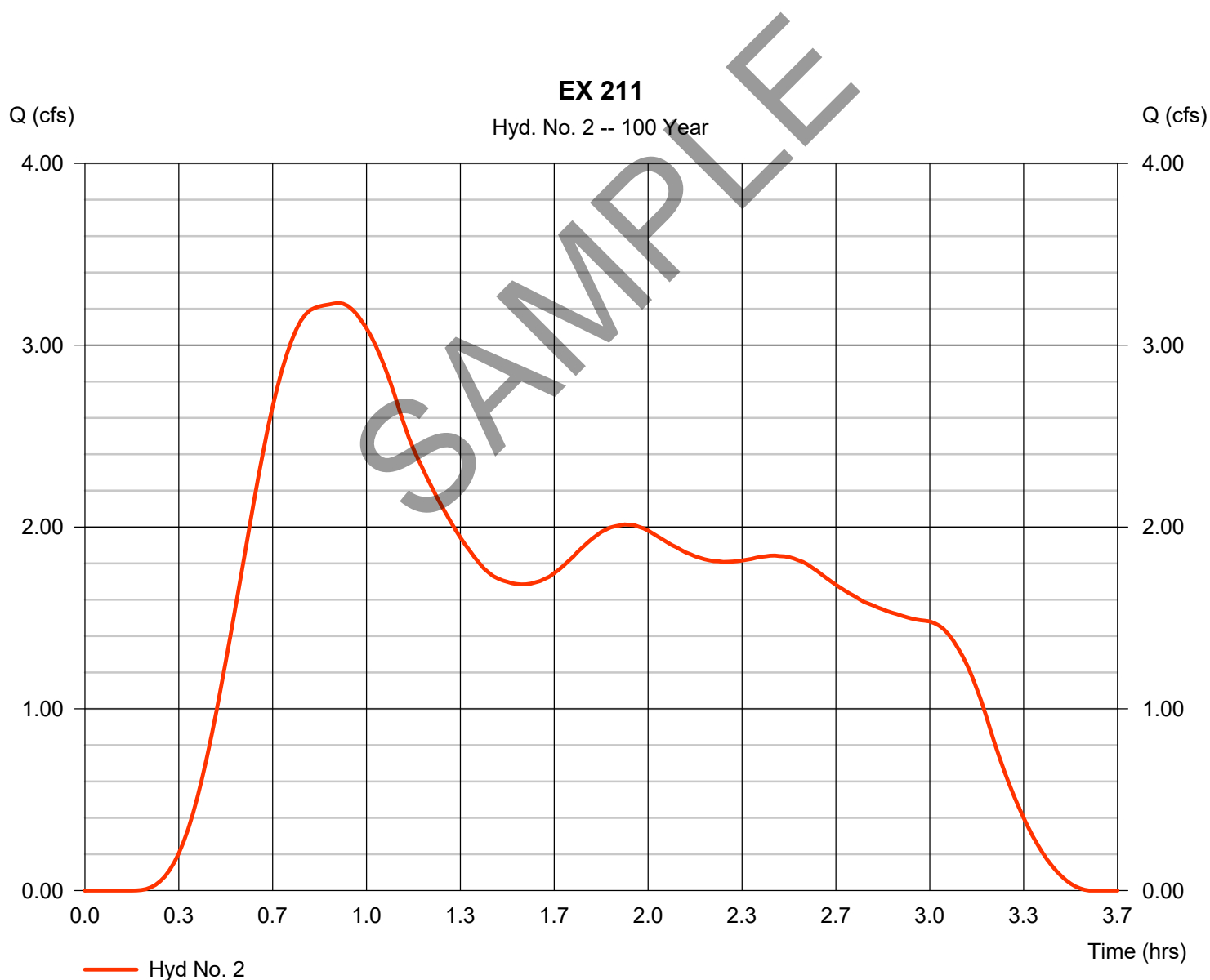
Tuesday, 03 / 12 / 2019

Hyd. No. 2

EX 211

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 3.232 cfs
Time to peak = 0.90 hrs
Hyd. volume = 20,373 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

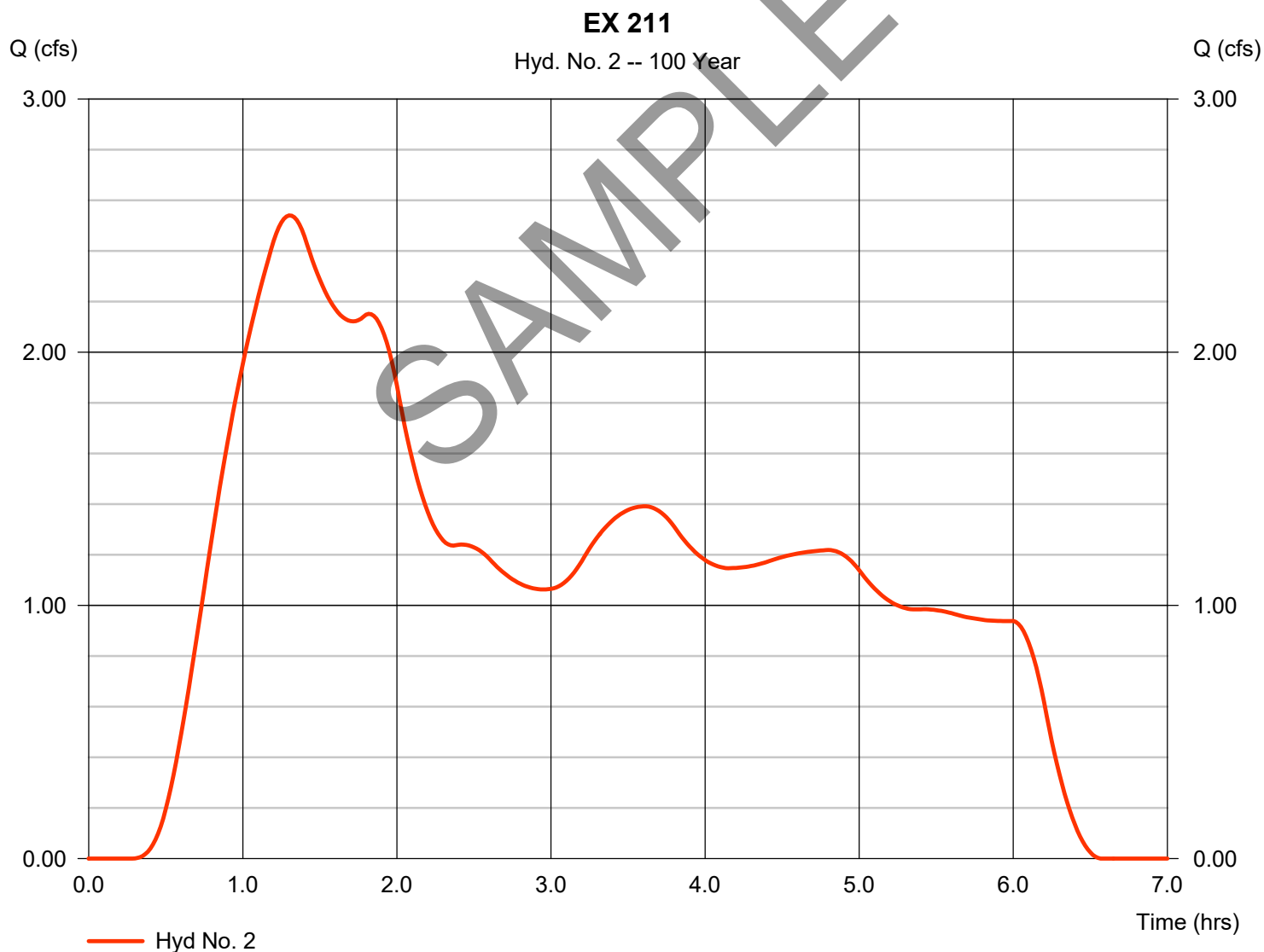
Tuesday, 03 / 12 / 2019

Hyd. No. 2

EX 211

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 2.540 cfs
Time to peak = 1.30 hrs
Hyd. volume = 27,818 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

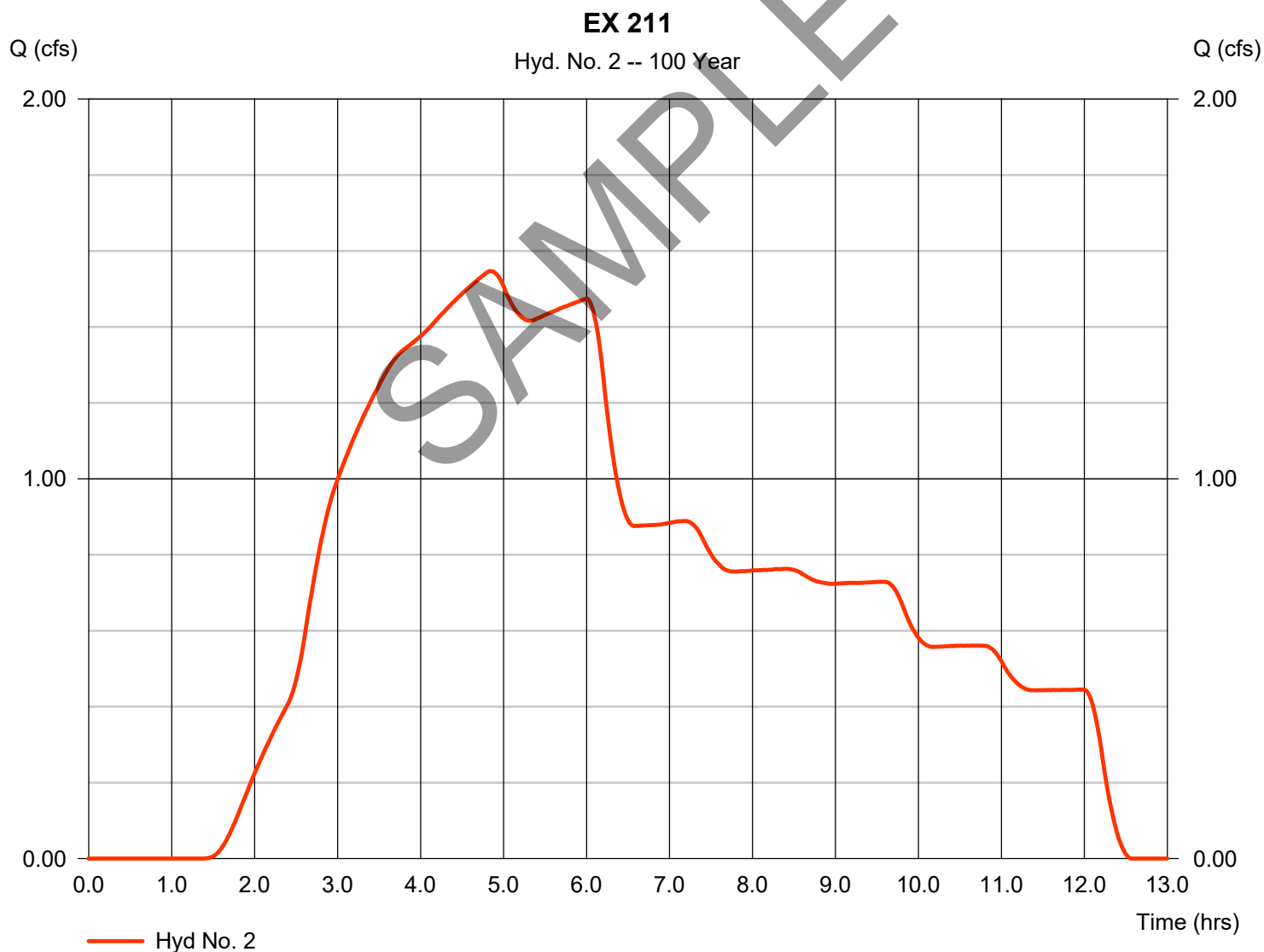
Tuesday, 03 / 12 / 2019

Hyd. No. 2

EX 211

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 1.547 cfs
Time to peak = 4.83 hrs
Hyd. volume = 33,040 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

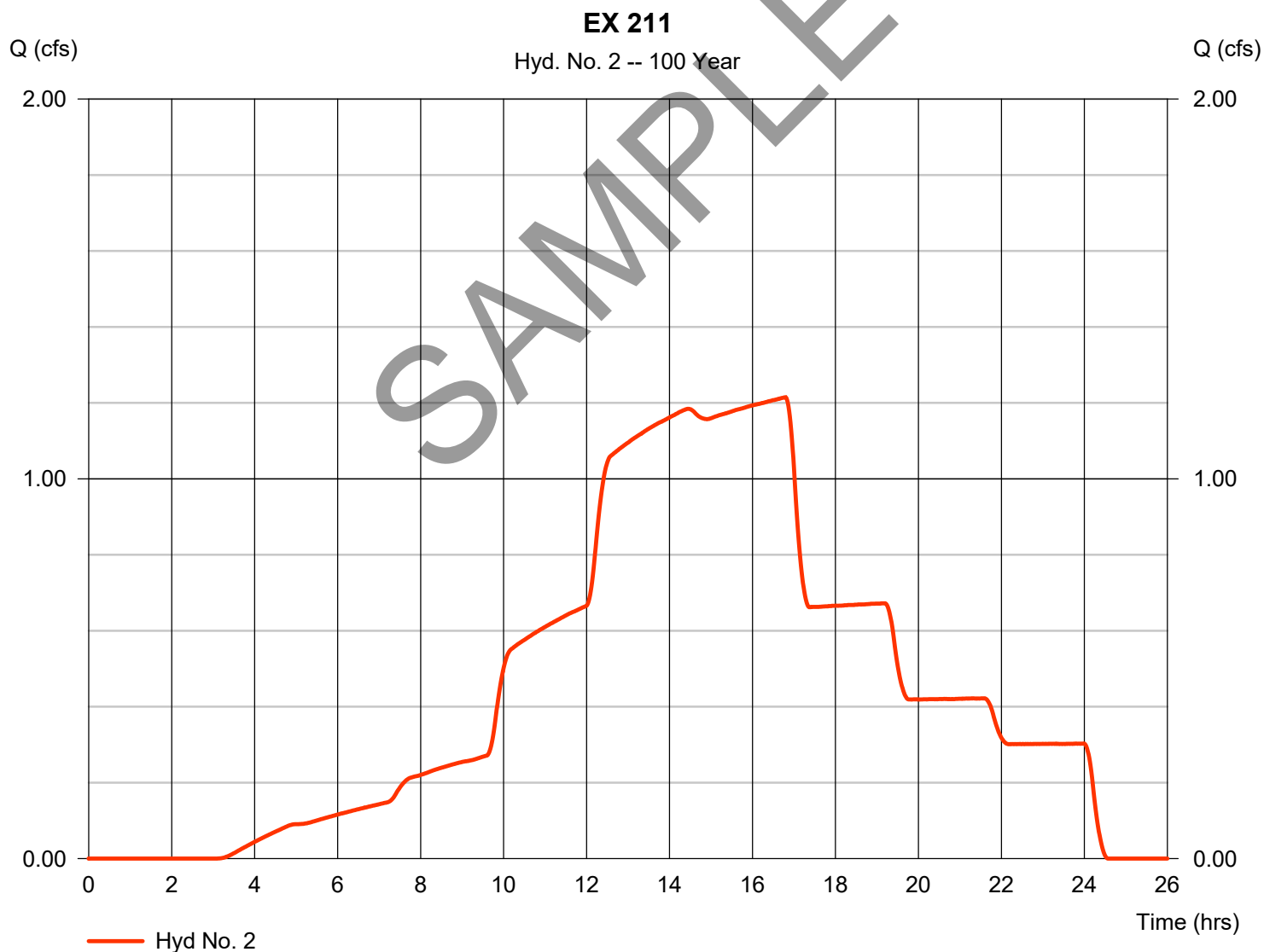
Tuesday, 03 / 12 / 2019

Hyd. No. 2

EX 211

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 1.215 cfs
Time to peak = 16.80 hrs
Hyd. volume = 40,712 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484

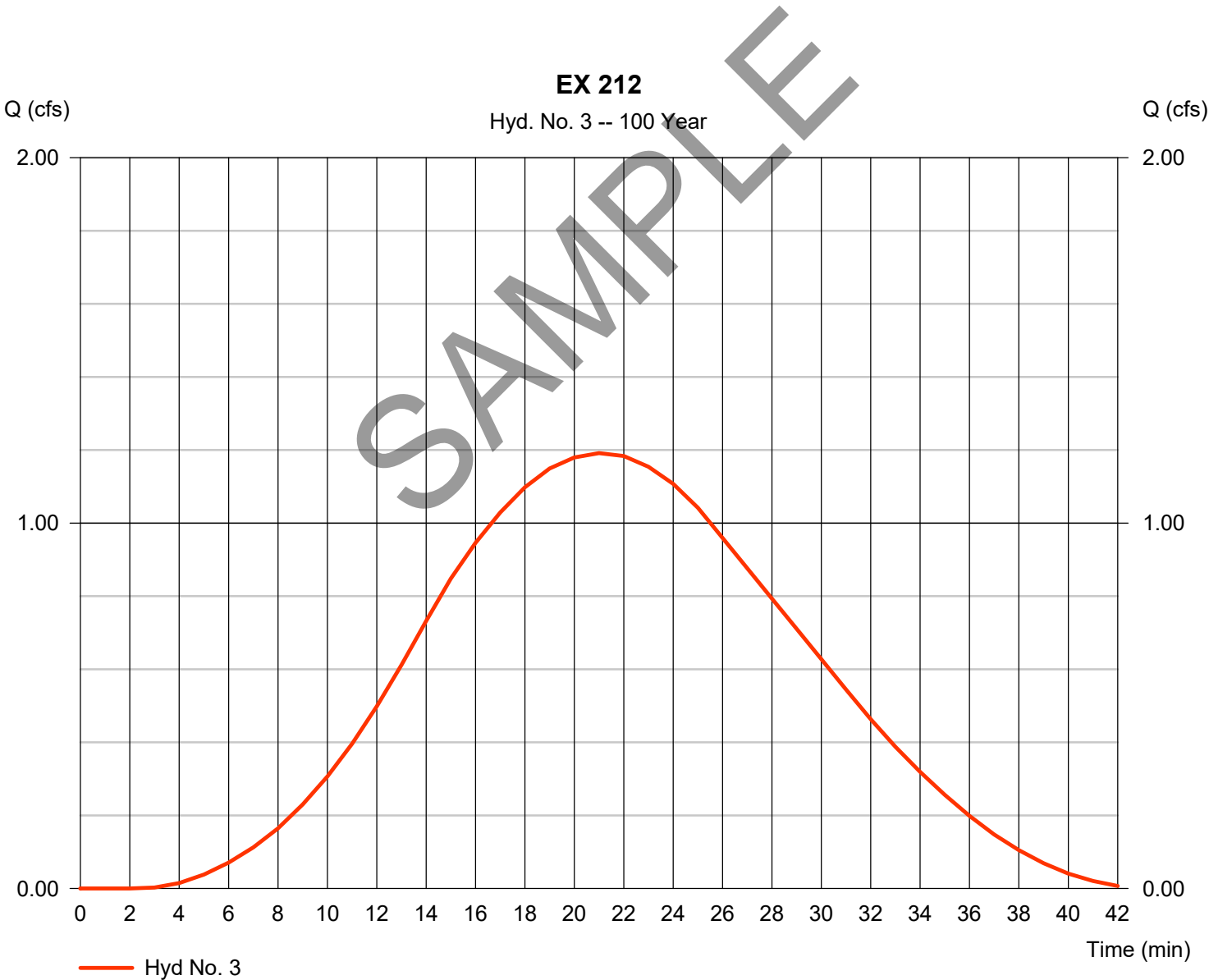


Hydrograph Report

Hyd. No. 3

EX 212

Hydrograph type	= SCS Runoff	Peak discharge	= 1.192 cfs
Storm frequency	= 100 yrs	Time to peak	= 21 min
Time interval	= 1 min	Hyd. volume	= 1,298 cuft
Drainage area	= 1.100 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 17.50 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

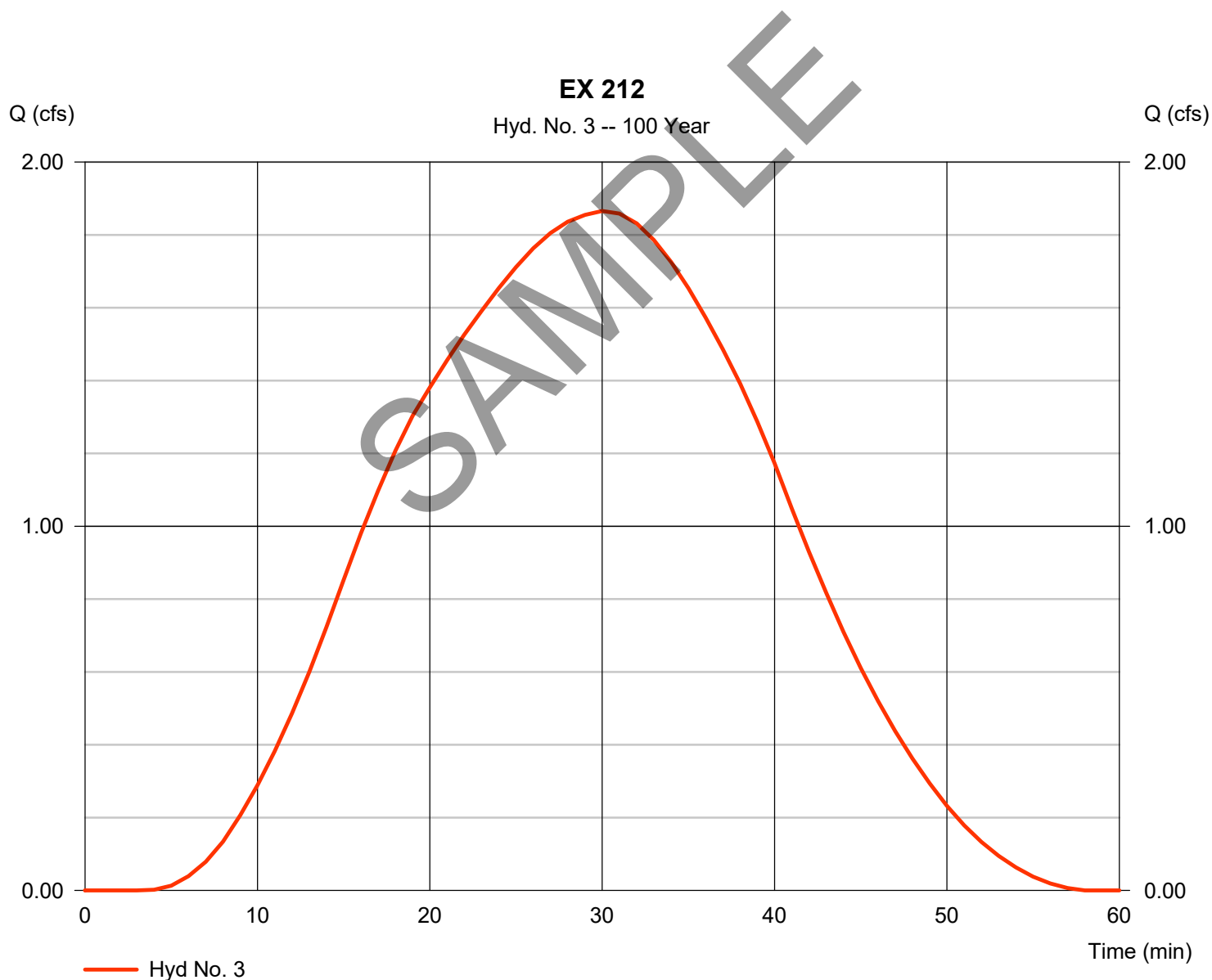
Tuesday, 03 / 12 / 2019

Hyd. No. 3

EX 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 1.866 cfs
Time to peak = 30 min
Hyd. volume = 2,946 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

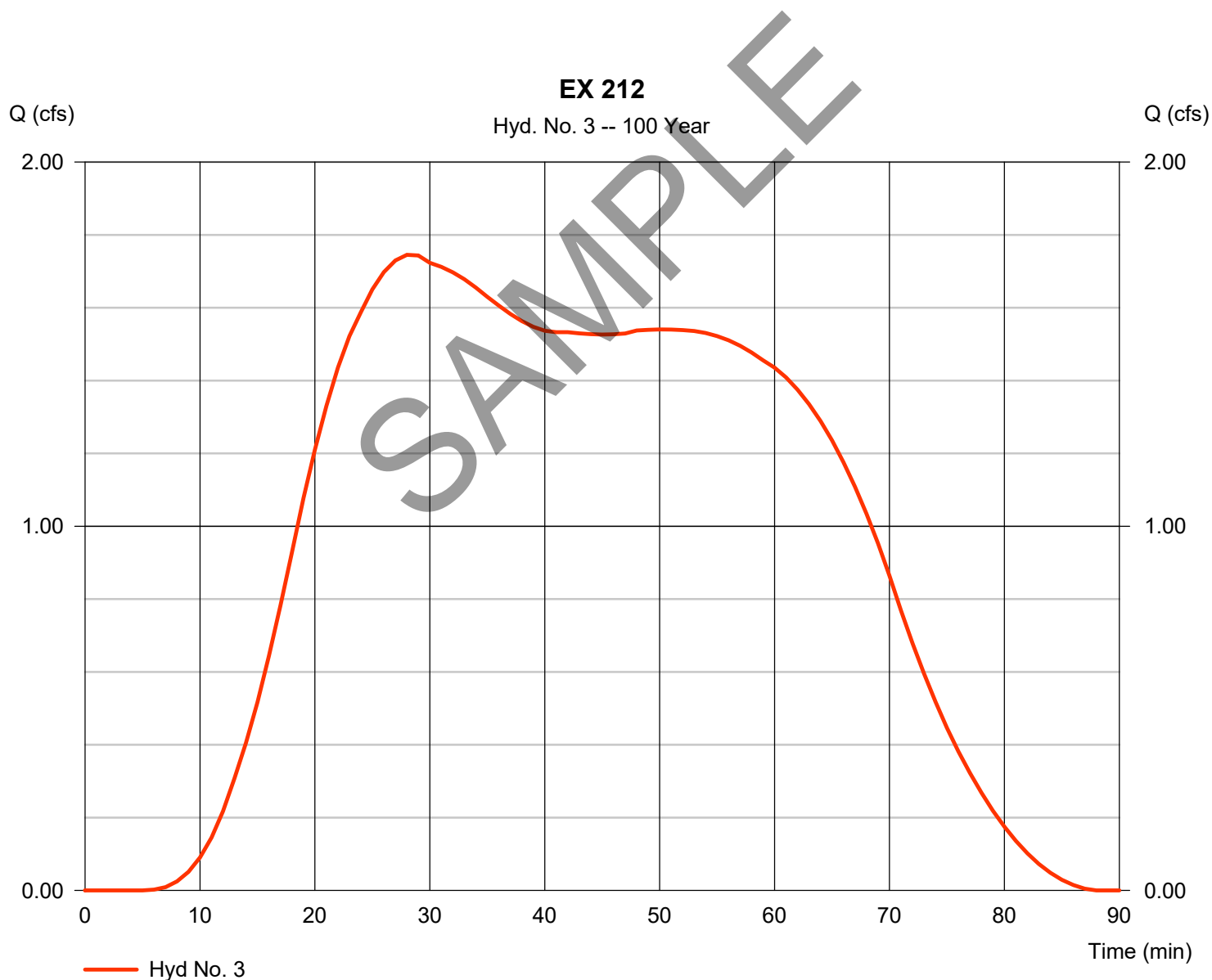
Tuesday, 03 / 12 / 2019

Hyd. No. 3

EX 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 1.745 cfs
Time to peak = 28 min
Hyd. volume = 5,143 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

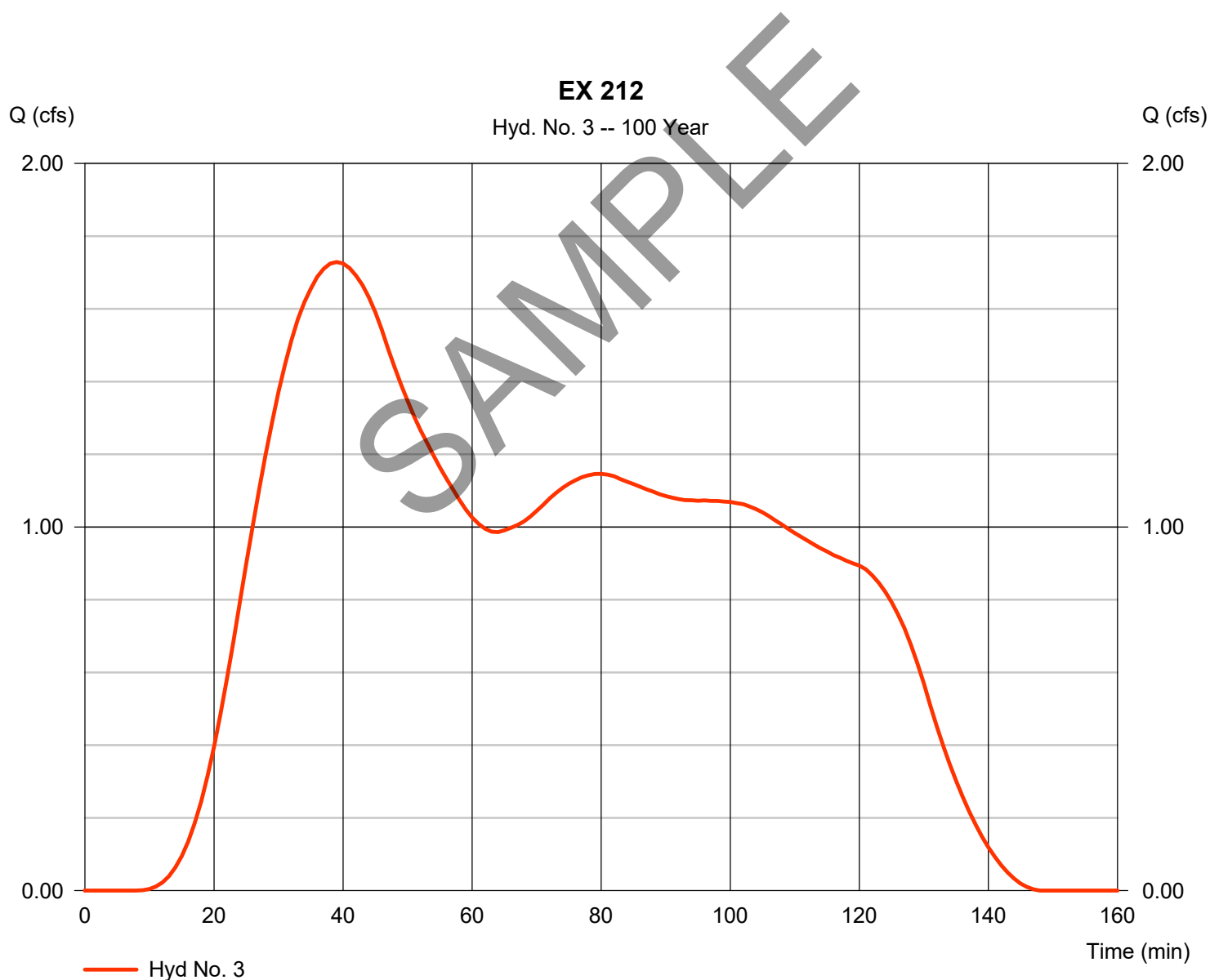
Tuesday, 03 / 12 / 2019

Hyd. No. 3

EX 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 1.729 cfs
Time to peak = 39 min
Hyd. volume = 7,670 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

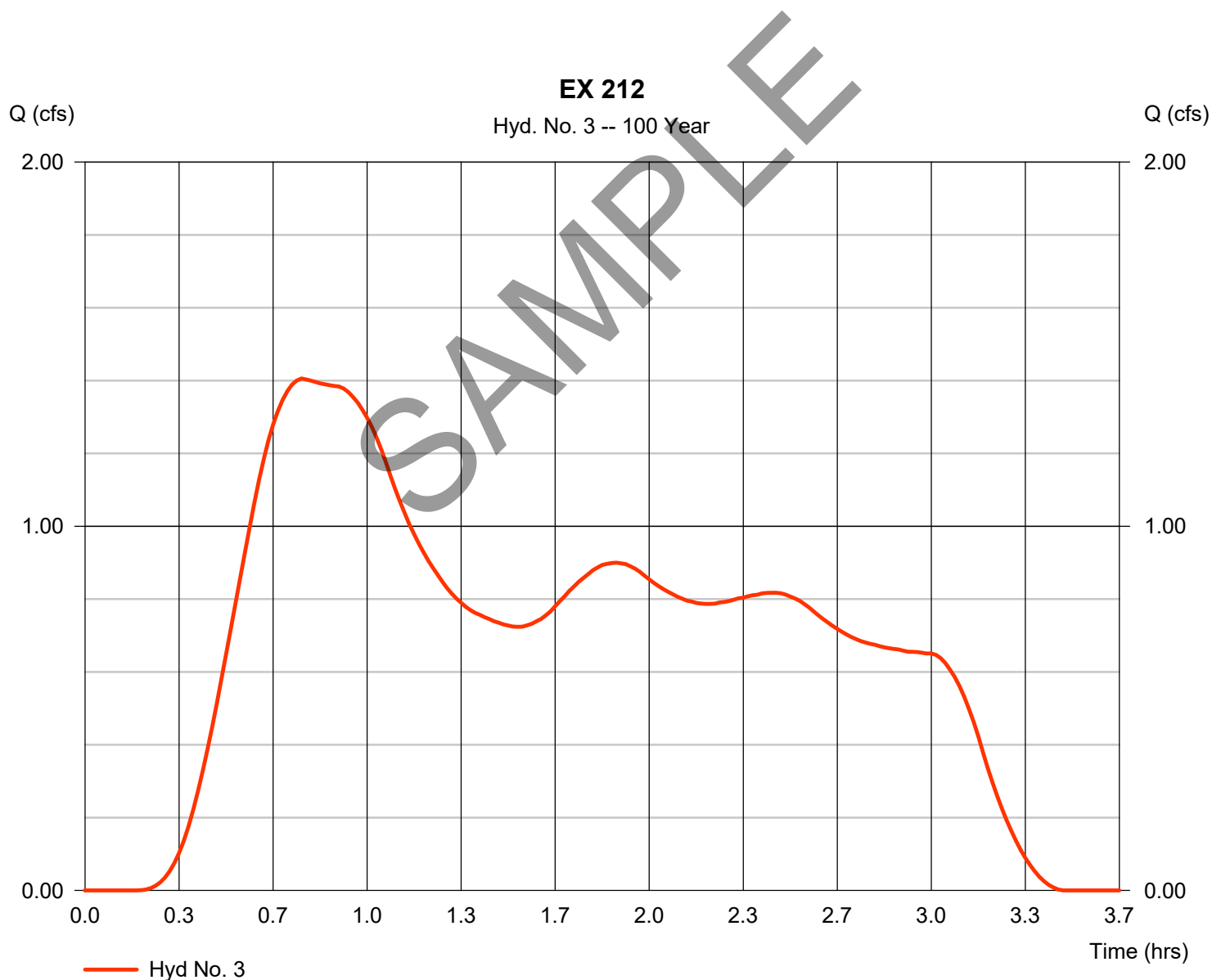
Tuesday, 03 / 12 / 2019

Hyd. No. 3

EX 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 1.406 cfs
Time to peak = 0.77 hrs
Hyd. volume = 8,815 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

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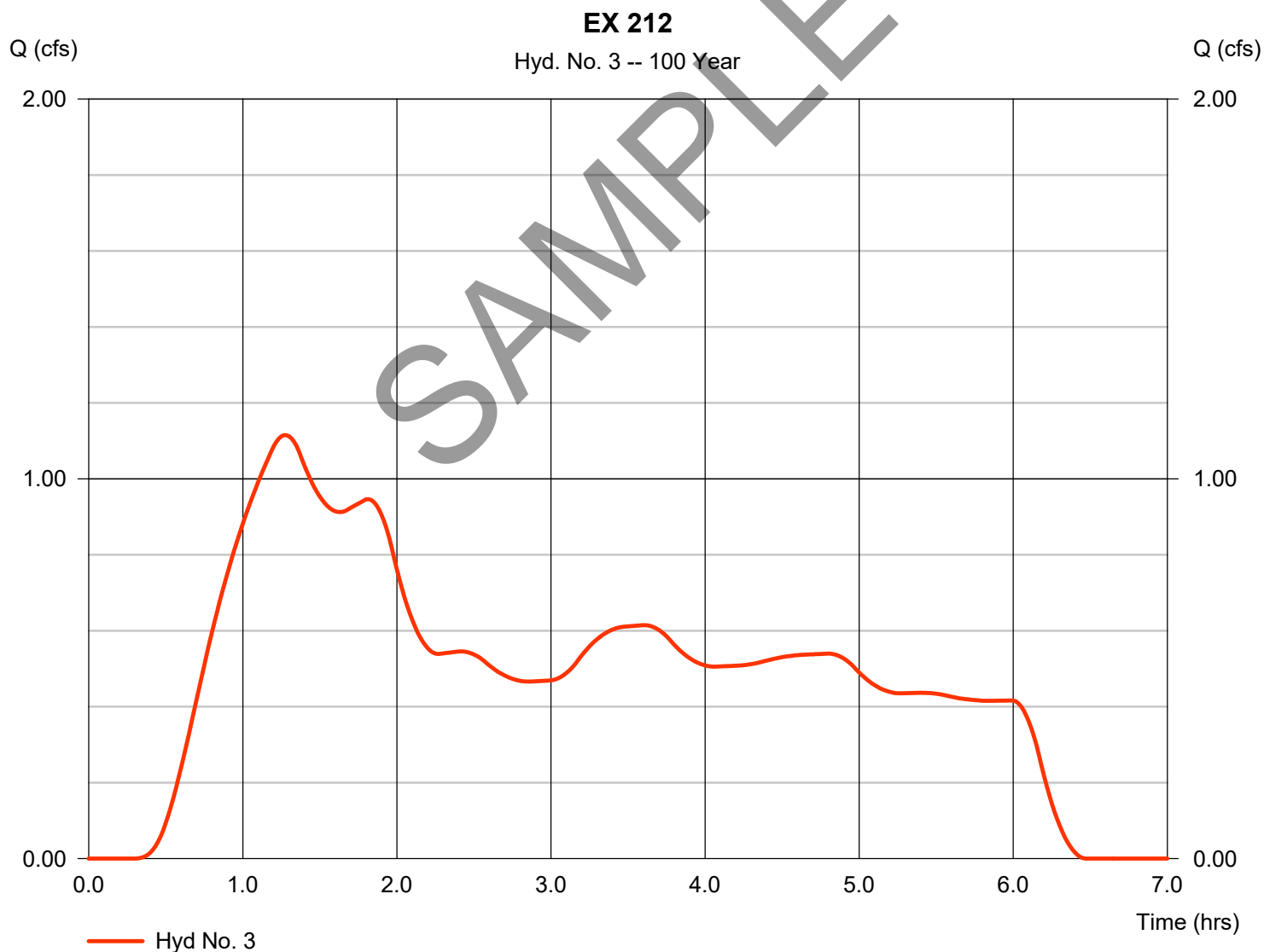
Tuesday, 03 / 12 / 2019

Hyd. No. 3

EX 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 1.115 cfs
Time to peak = 1.28 hrs
Hyd. volume = 12,111 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

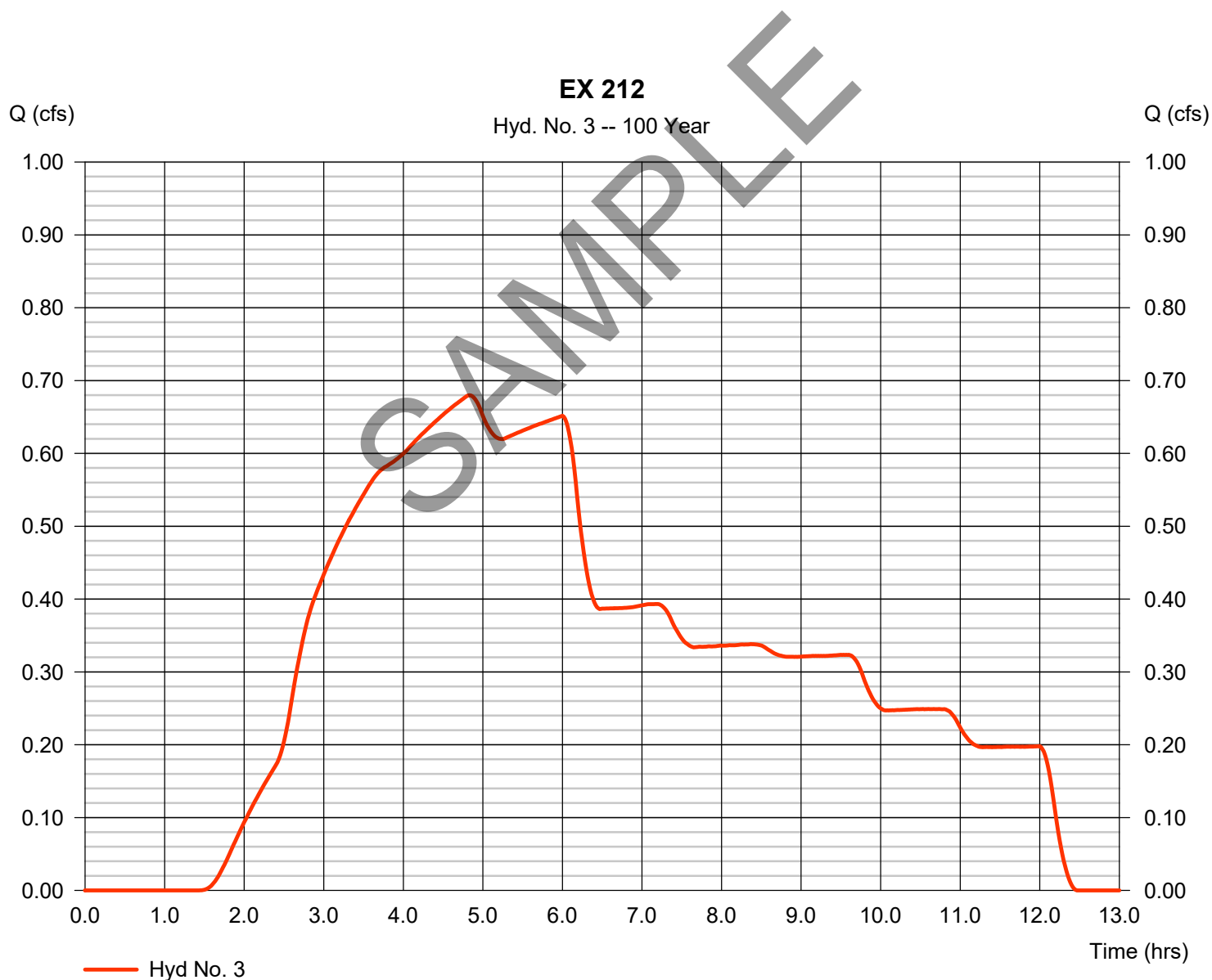
Tuesday, 03 / 12 / 2019

Hyd. No. 3

EX 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 0.680 cfs
Time to peak = 4.83 hrs
Hyd. volume = 14,429 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

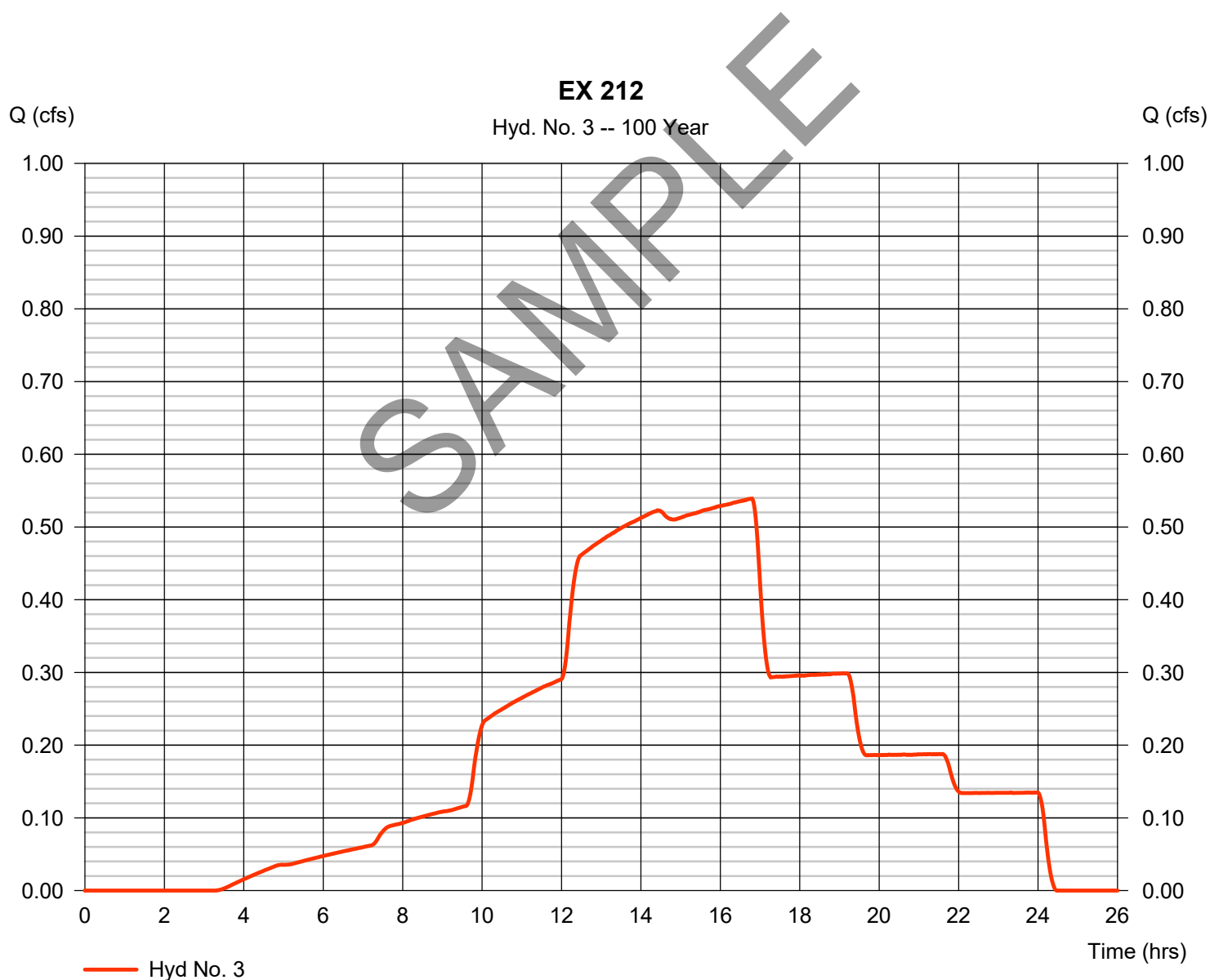
Tuesday, 03 / 12 / 2019

Hyd. No. 3

EX 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 0.539 cfs
Time to peak = 16.78 hrs
Hyd. volume = 17,841 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

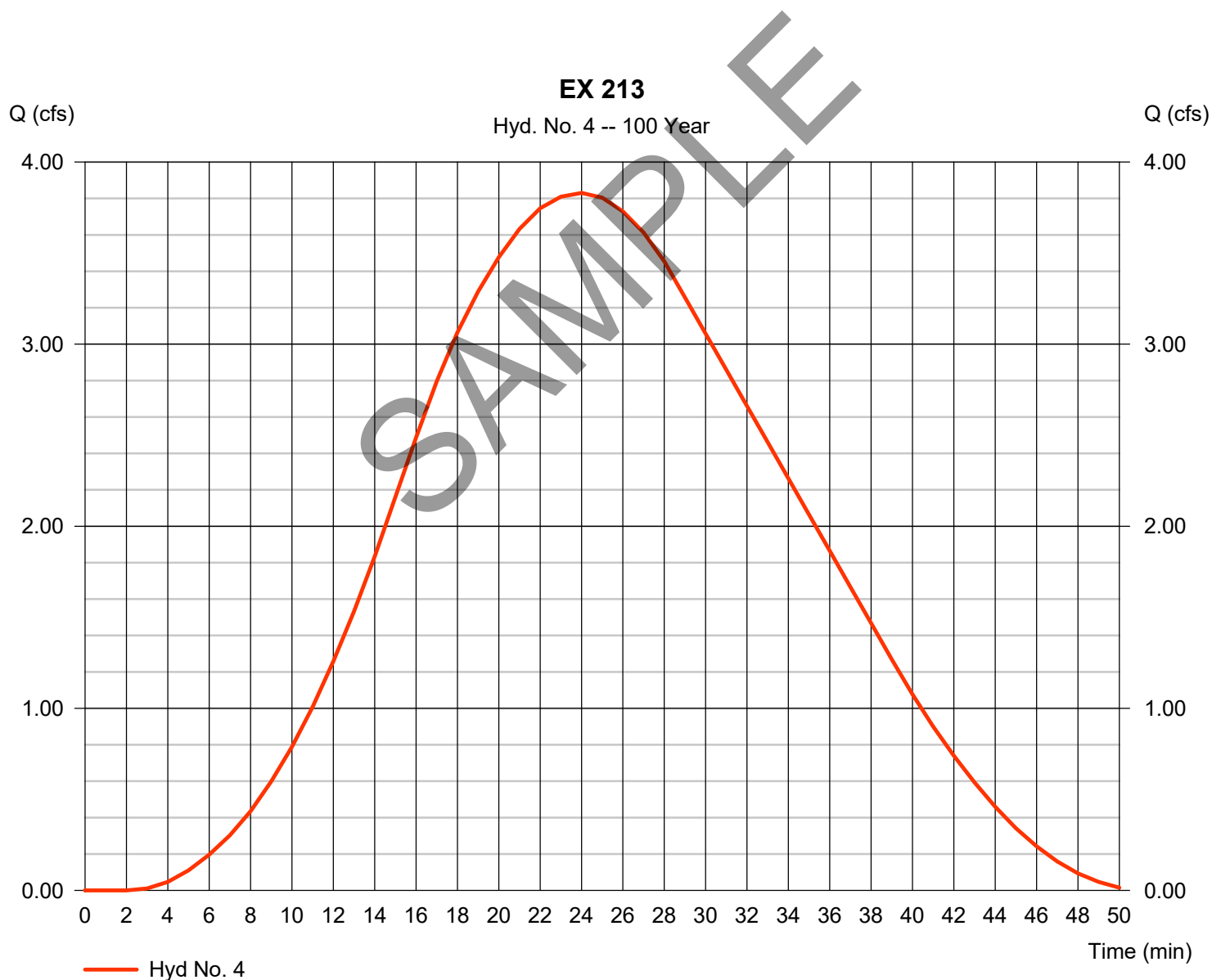
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 4

EX 213

Hydrograph type	= SCS Runoff	Peak discharge	= 3.830 cfs
Storm frequency	= 100 yrs	Time to peak	= 24 min
Time interval	= 1 min	Hyd. volume	= 5,074 cuft
Drainage area	= 3.900 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.20 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

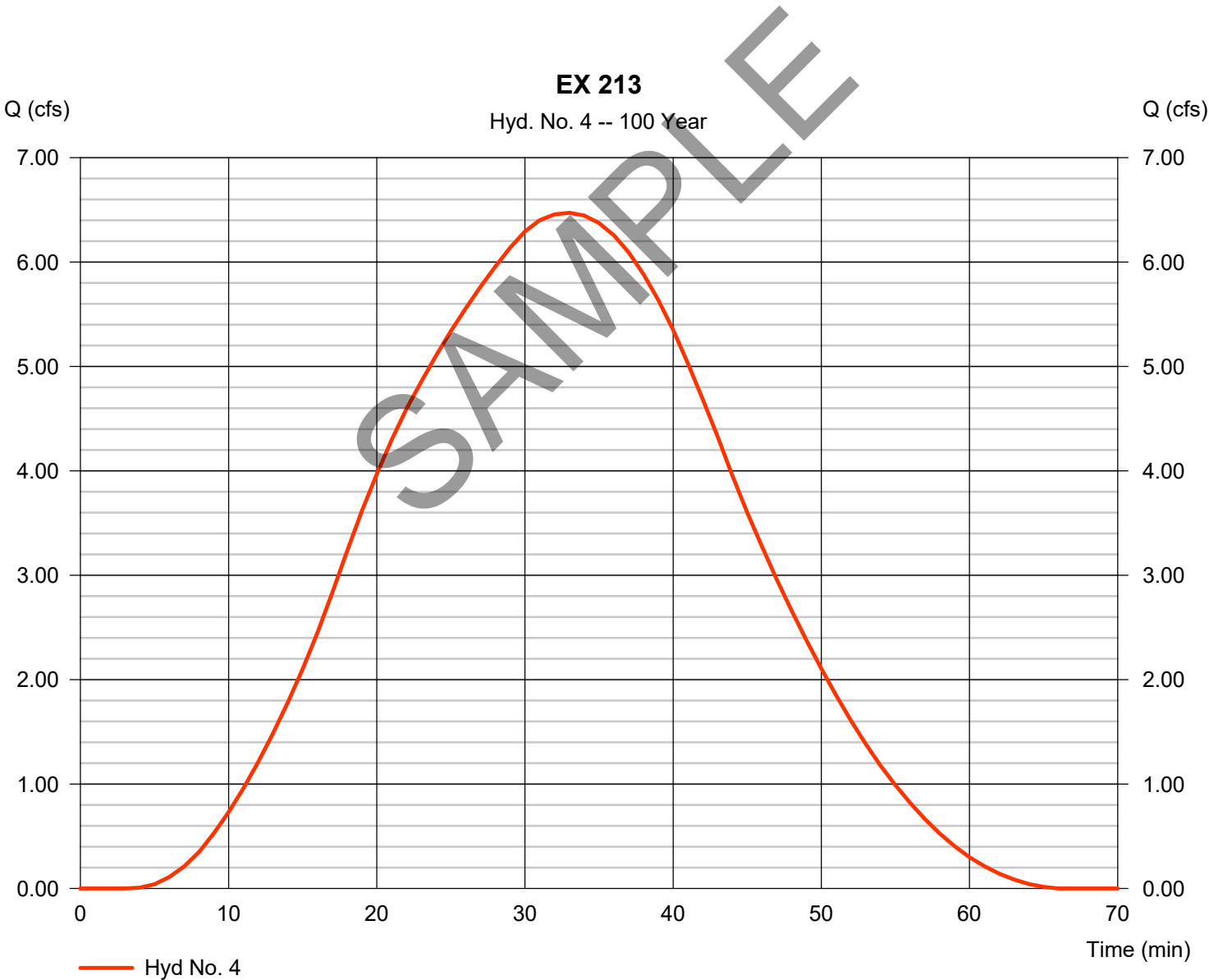


Hydrograph Report

Hyd. No. 4

EX 213

Hydrograph type	= SCS Runoff	Peak discharge	= 6.472 cfs
Storm frequency	= 100 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 11,164 cuft
Drainage area	= 3.900 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.20 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

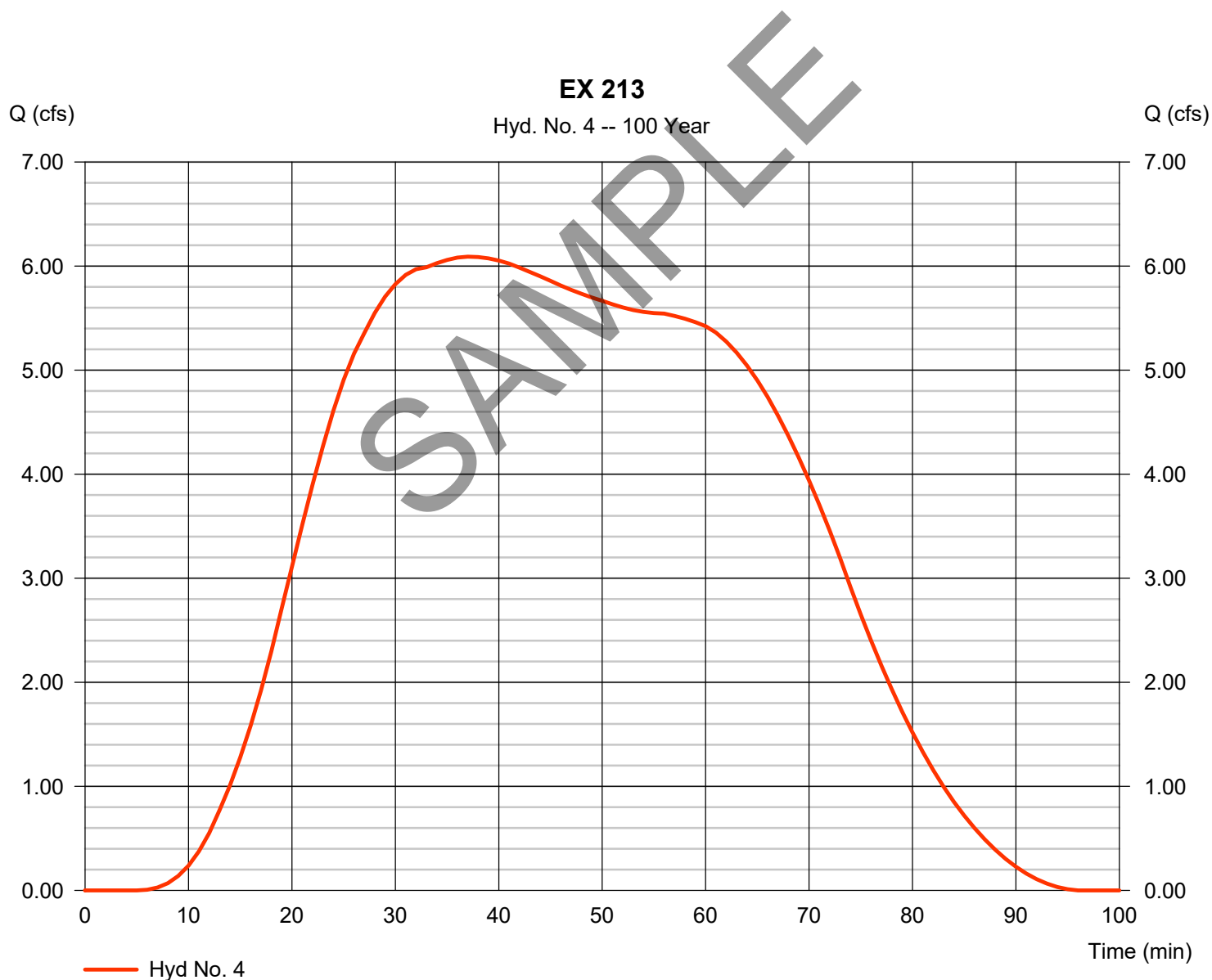
Tuesday, 03 / 12 / 2019

Hyd. No. 4

EX 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 6.091 cfs
Time to peak = 37 min
Hyd. volume = 19,176 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 22.20 min
Distribution = Custom
Shape factor = 484

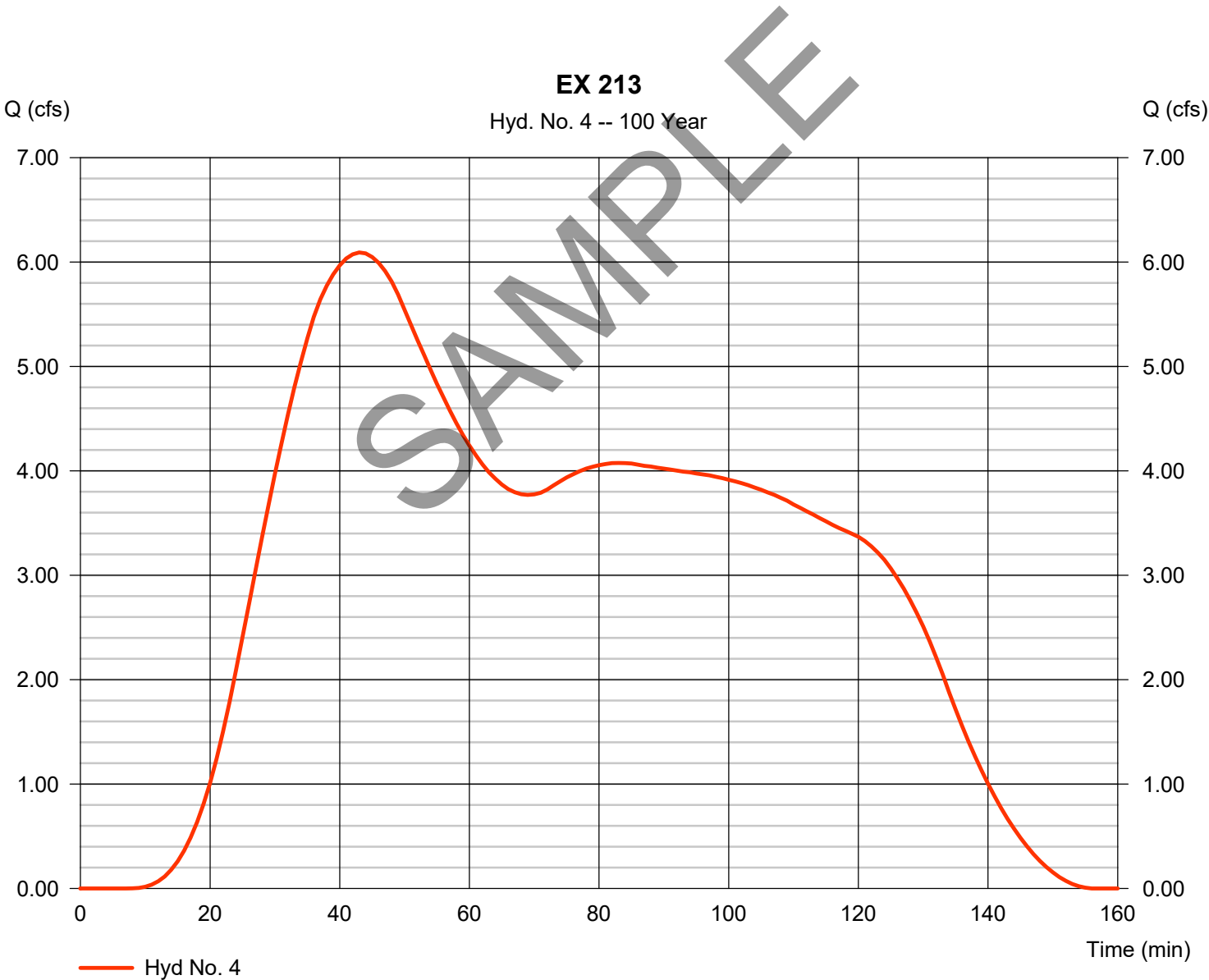


Hydrograph Report

Hyd. No. 4

EX 213

Hydrograph type	= SCS Runoff	Peak discharge	= 6.092 cfs
Storm frequency	= 100 yrs	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 28,355 cuft
Drainage area	= 3.900 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.20 min
Total precip.	= 3.88 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

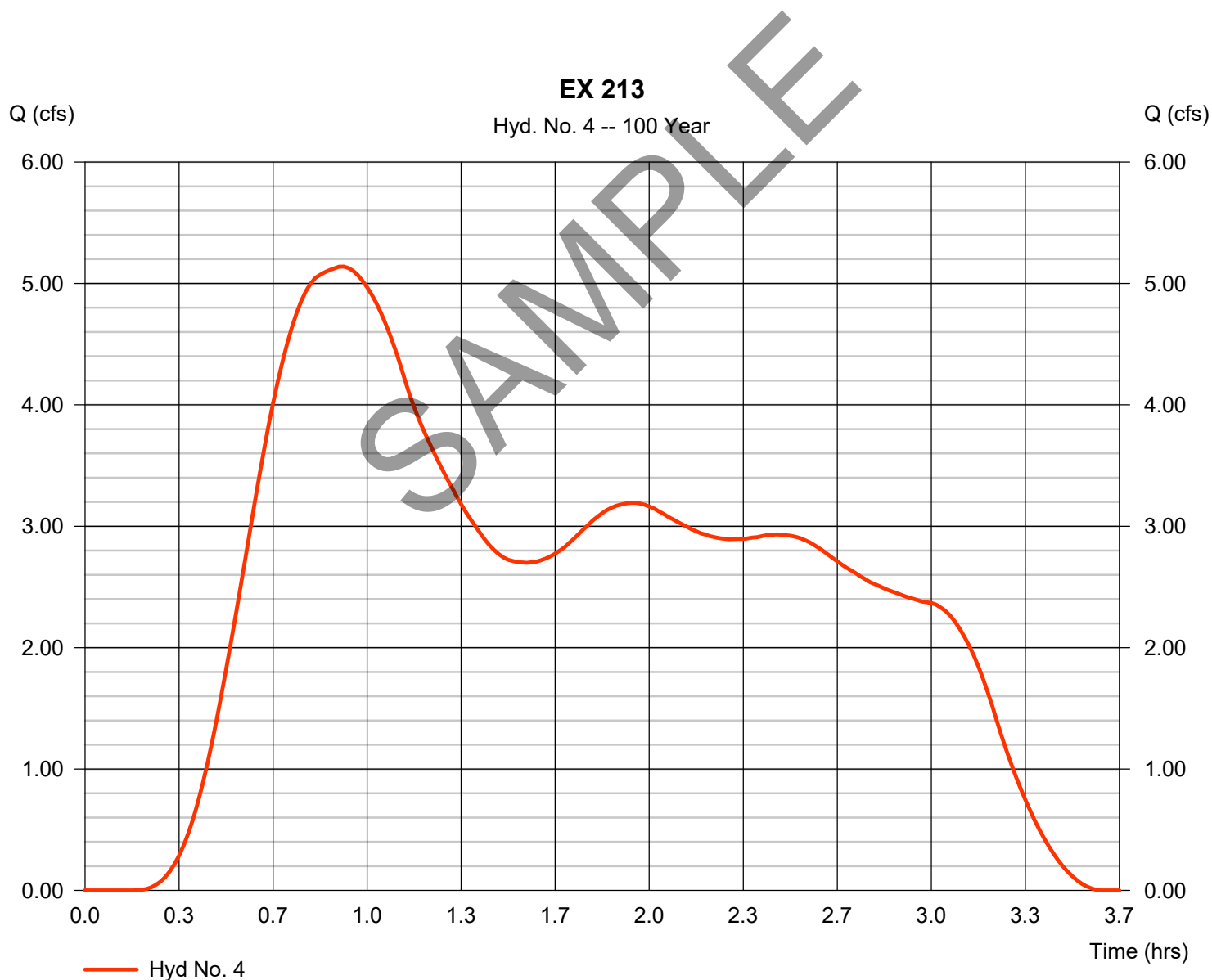
Tuesday, 03 / 12 / 2019

Hyd. No. 4

EX 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 5.138 cfs
Time to peak = 0.92 hrs
Hyd. volume = 32,498 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 22.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

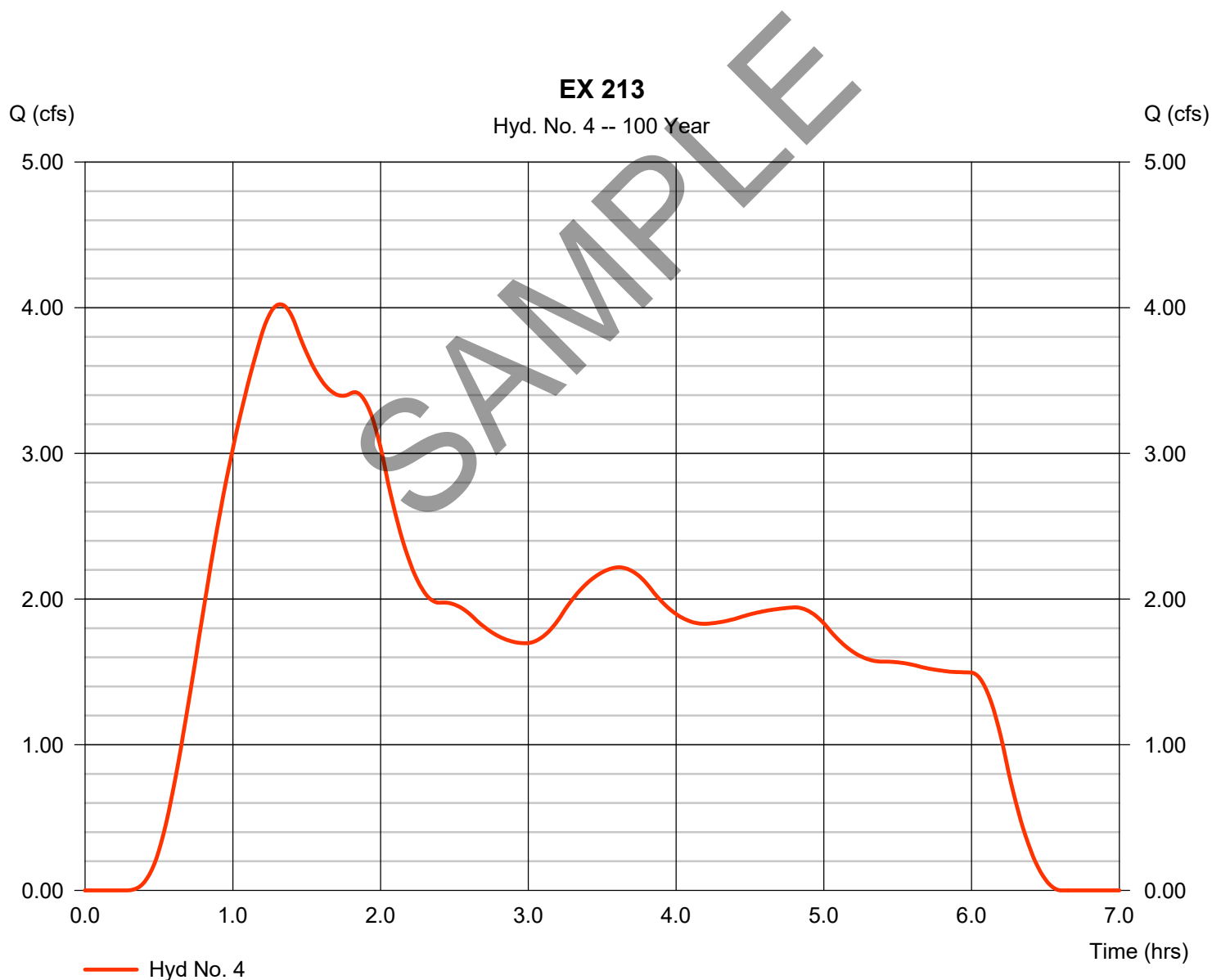
Tuesday, 03 / 12 / 2019

Hyd. No. 4

EX 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 4.024 cfs
Time to peak = 1.32 hrs
Hyd. volume = 44,374 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 22.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

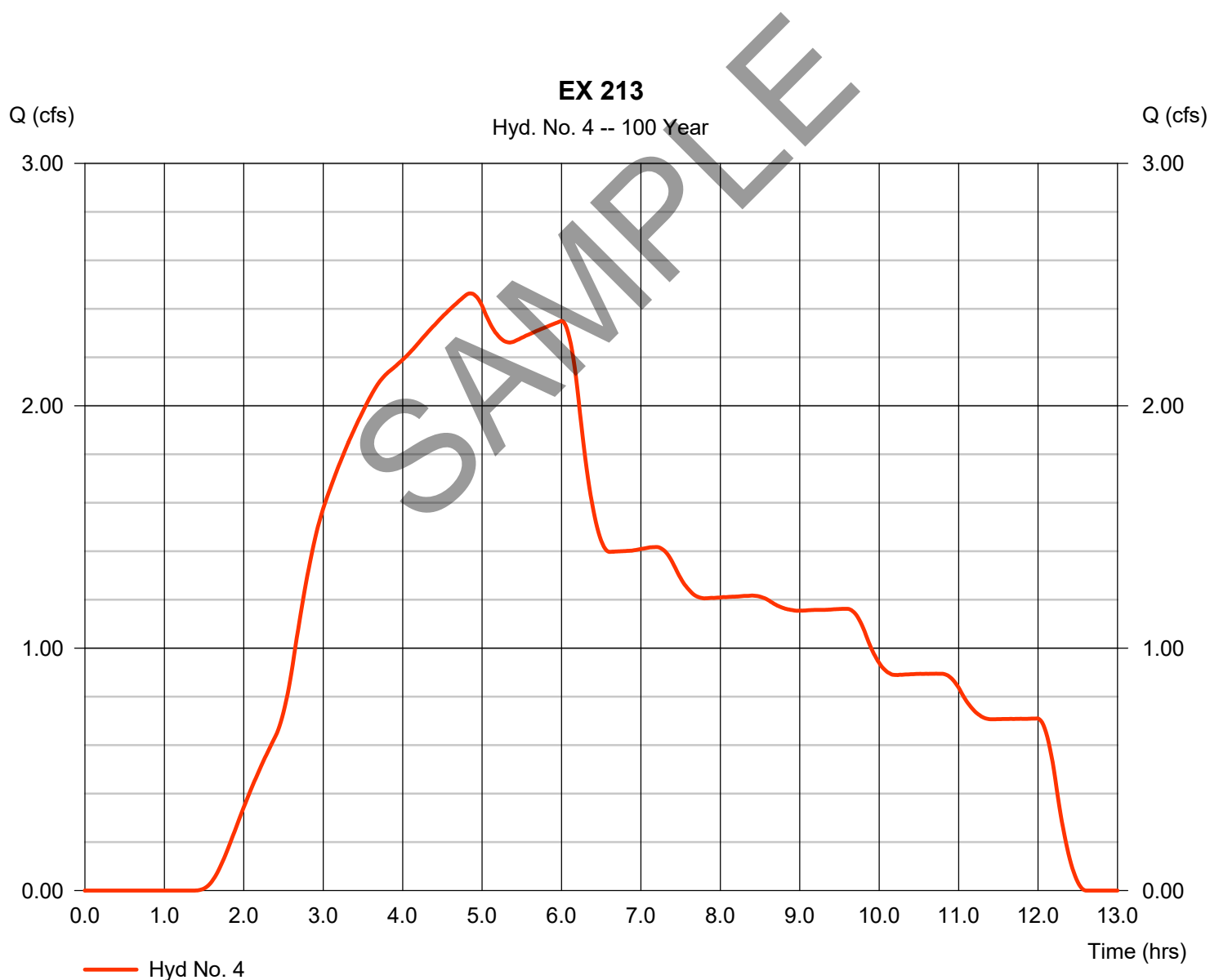
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

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Hyd. No. 4

EX 213

Hydrograph type	= SCS Runoff	Peak discharge	= 2.464 cfs
Storm frequency	= 100 yrs	Time to peak	= 4.85 hrs
Time interval	= 1 min	Hyd. volume	= 52,704 cuft
Drainage area	= 3.900 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.20 min
Total precip.	= 5.86 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

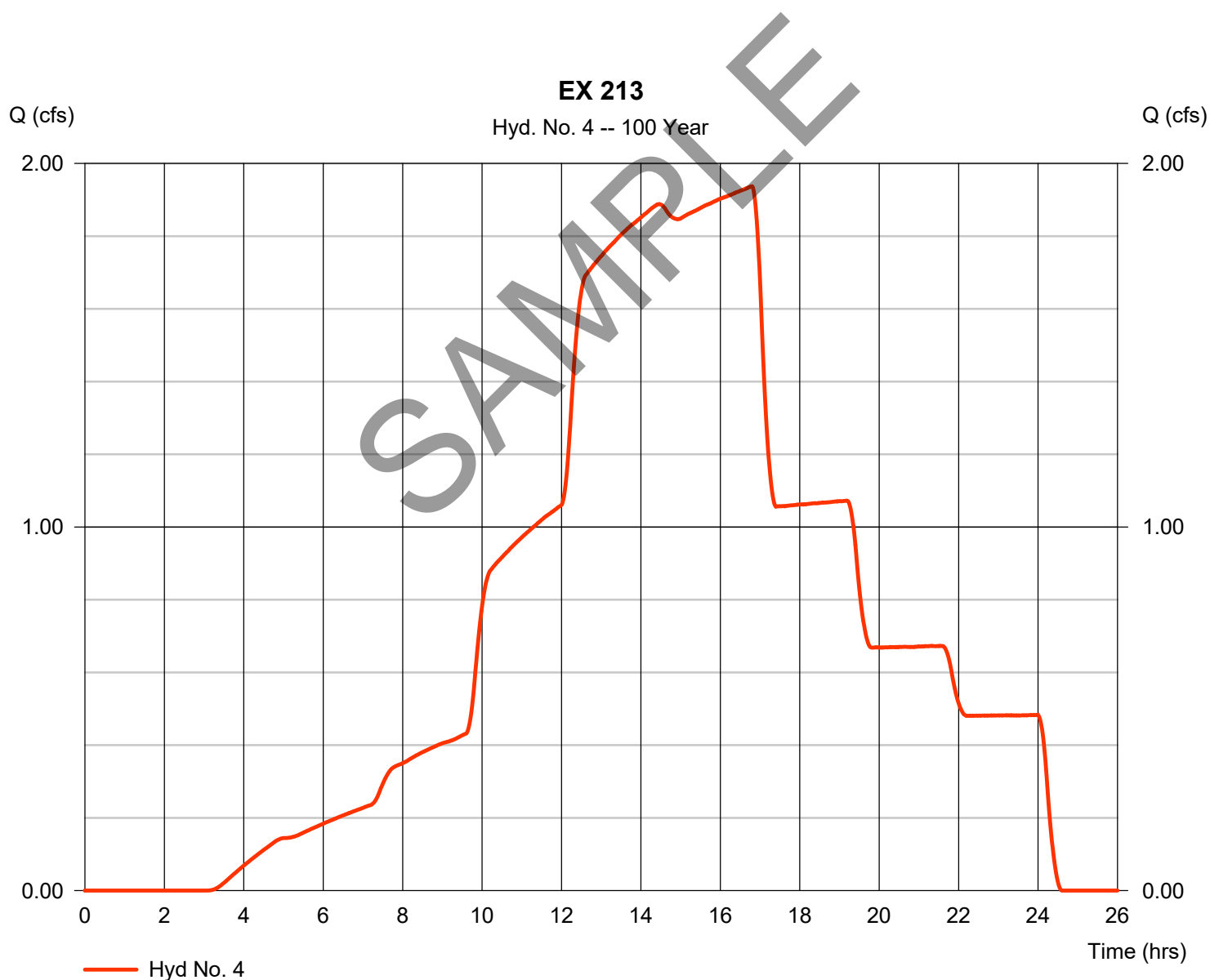
Tuesday, 03 / 12 / 2019

Hyd. No. 4

EX 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 1.937 cfs
Time to peak = 16.80 hrs
Hyd. volume = 64,942 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 22.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

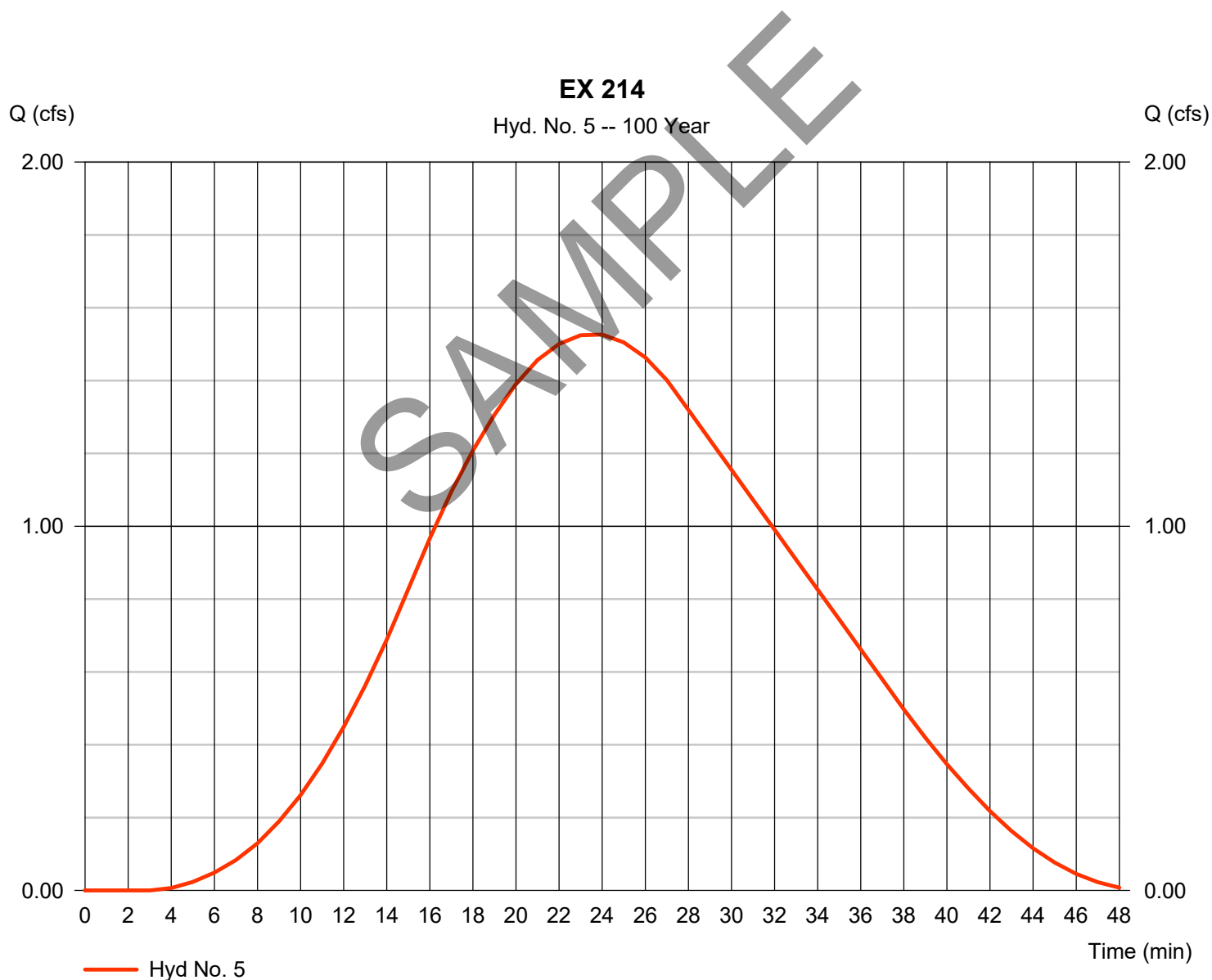
Tuesday, 03 / 12 / 2019

Hyd. No. 5

EX 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.59 in
Storm duration = 0.25 hrs

Peak discharge = 1.526 cfs
Time to peak = 24 min
Hyd. volume = 1,899 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

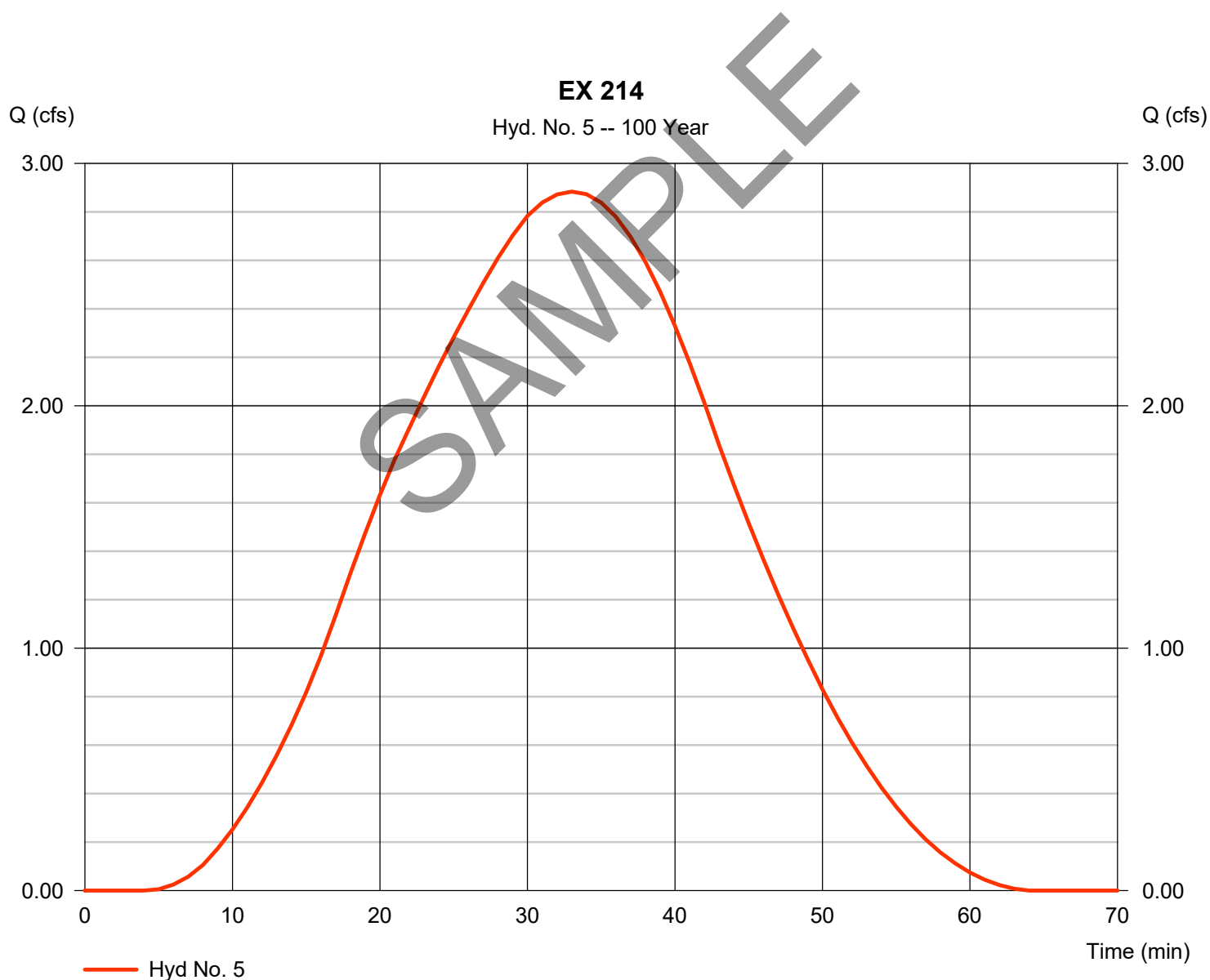
Tuesday, 03 / 12 / 2019

Hyd. No. 5

EX 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 2.884 cfs
Time to peak = 33 min
Hyd. volume = 4,711 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

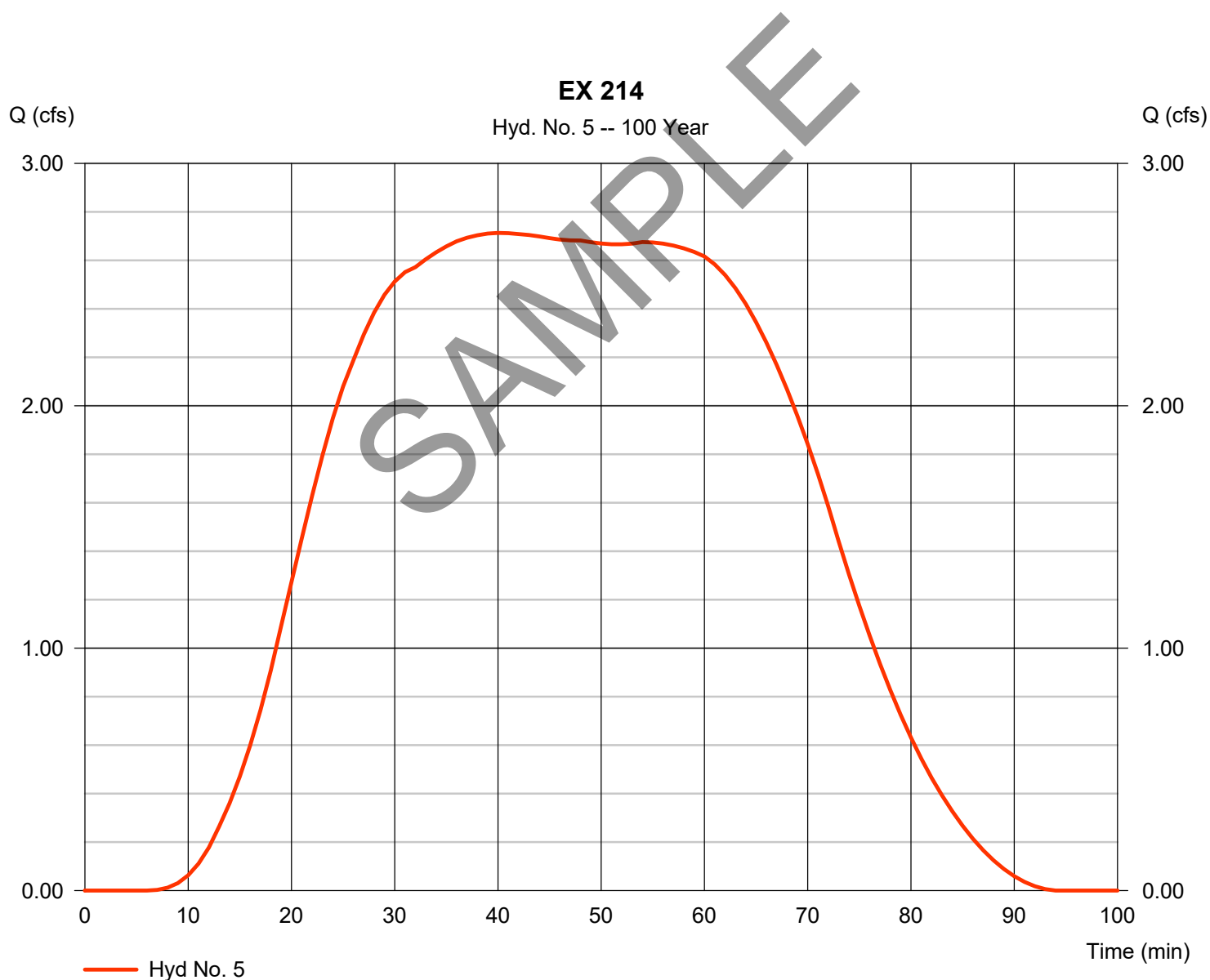
Tuesday, 03 / 12 / 2019

Hyd. No. 5

EX 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 2.713 cfs
Time to peak = 40 min
Hyd. volume = 8,618 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

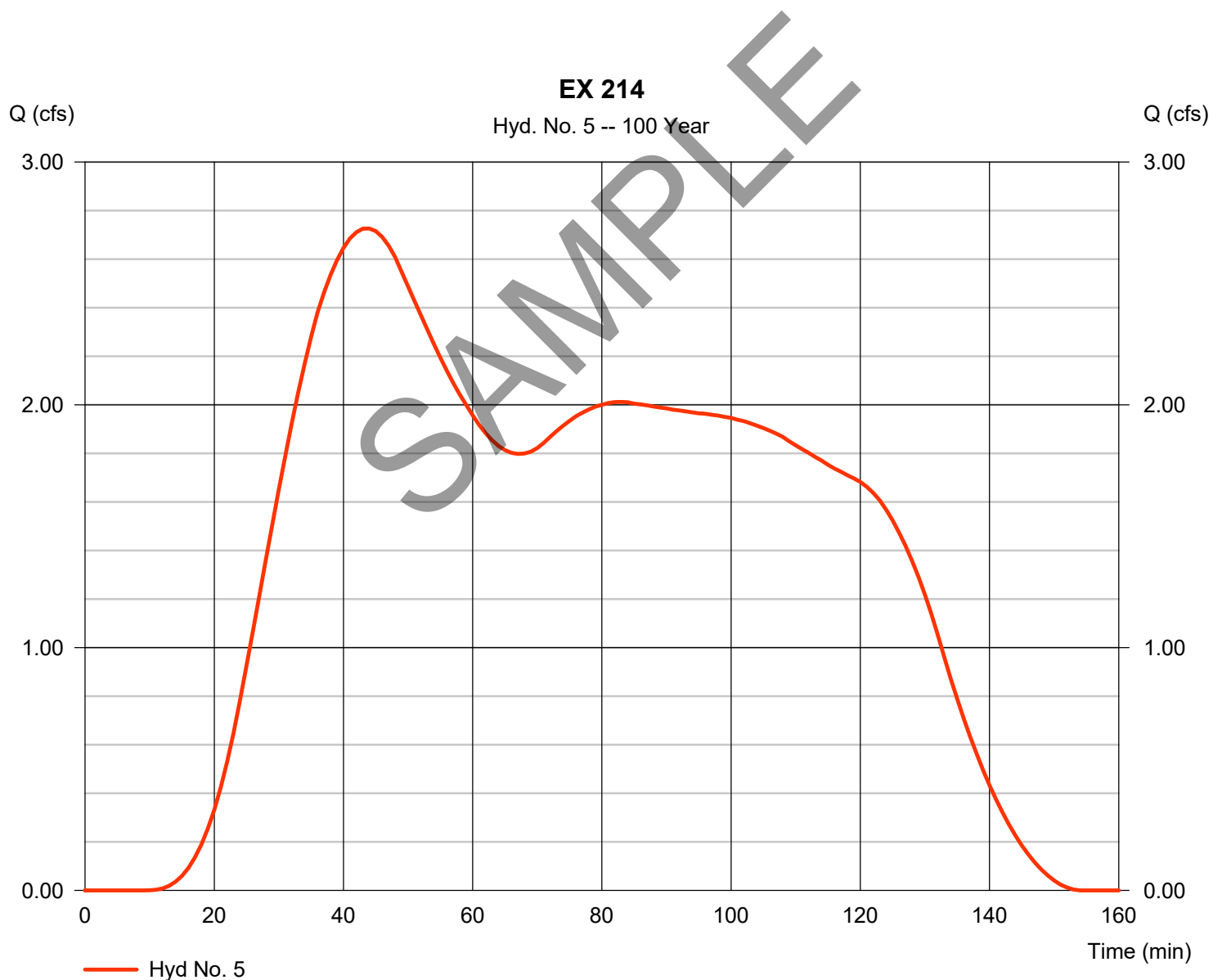
Tuesday, 03 / 12 / 2019

Hyd. No. 5

EX 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 2.726 cfs
Time to peak = 44 min
Hyd. volume = 13,227 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

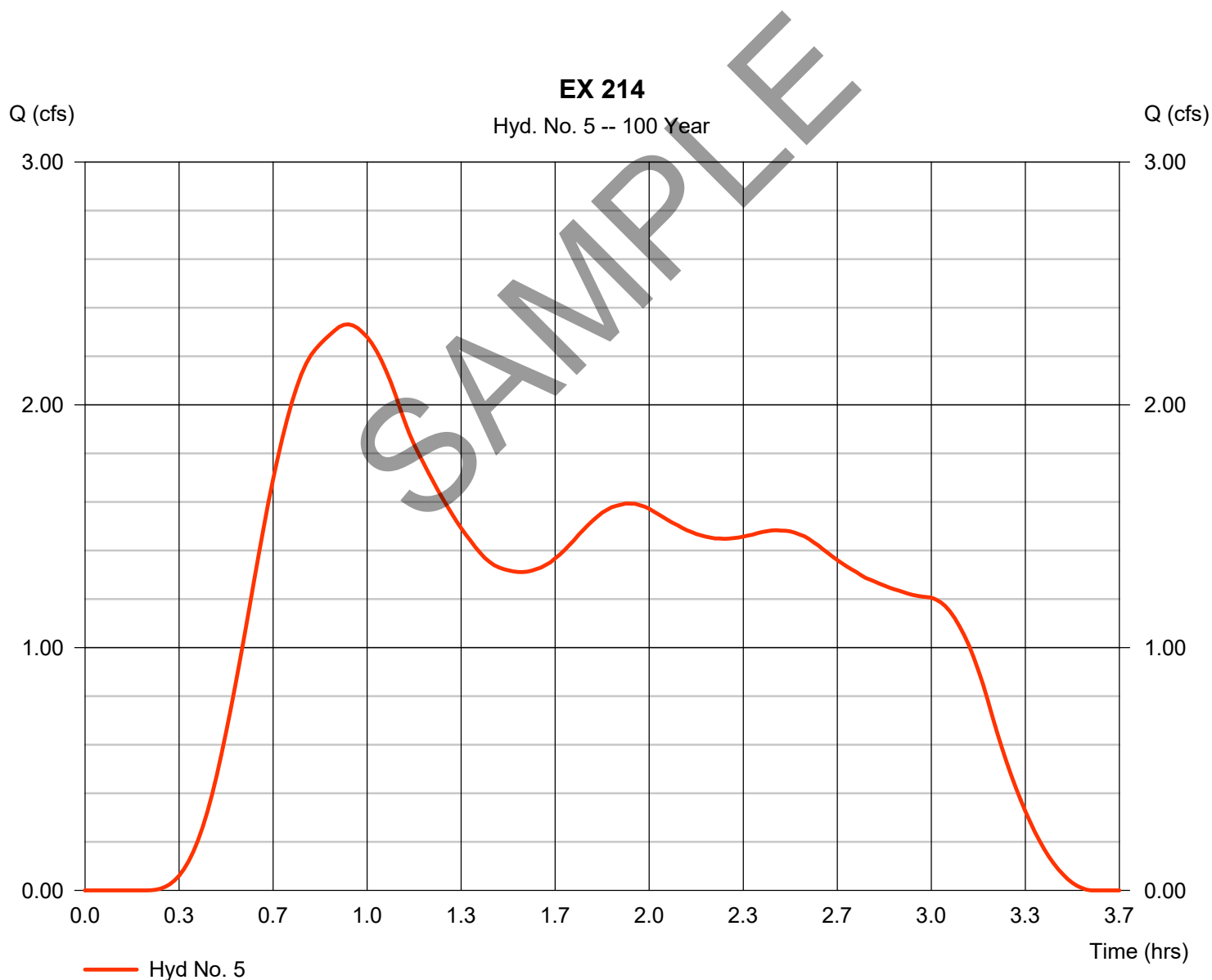
Tuesday, 03 / 12 / 2019

Hyd. No. 5

EX 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 2.331 cfs
Time to peak = 0.93 hrs
Hyd. volume = 15,342 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

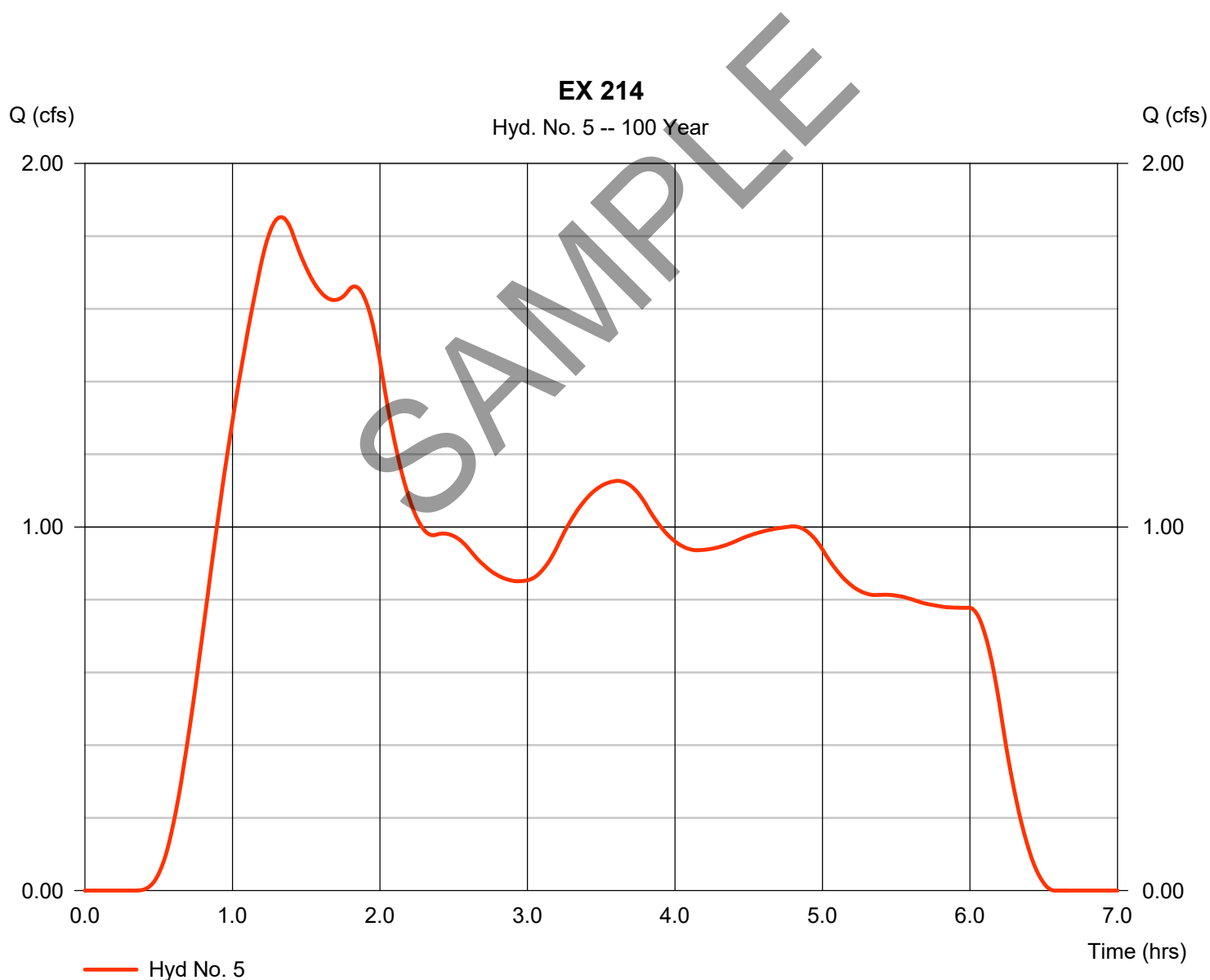
Tuesday, 03 / 12 / 2019

Hyd. No. 5

EX 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 1.852 cfs
Time to peak = 1.33 hrs
Hyd. volume = 21,481 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

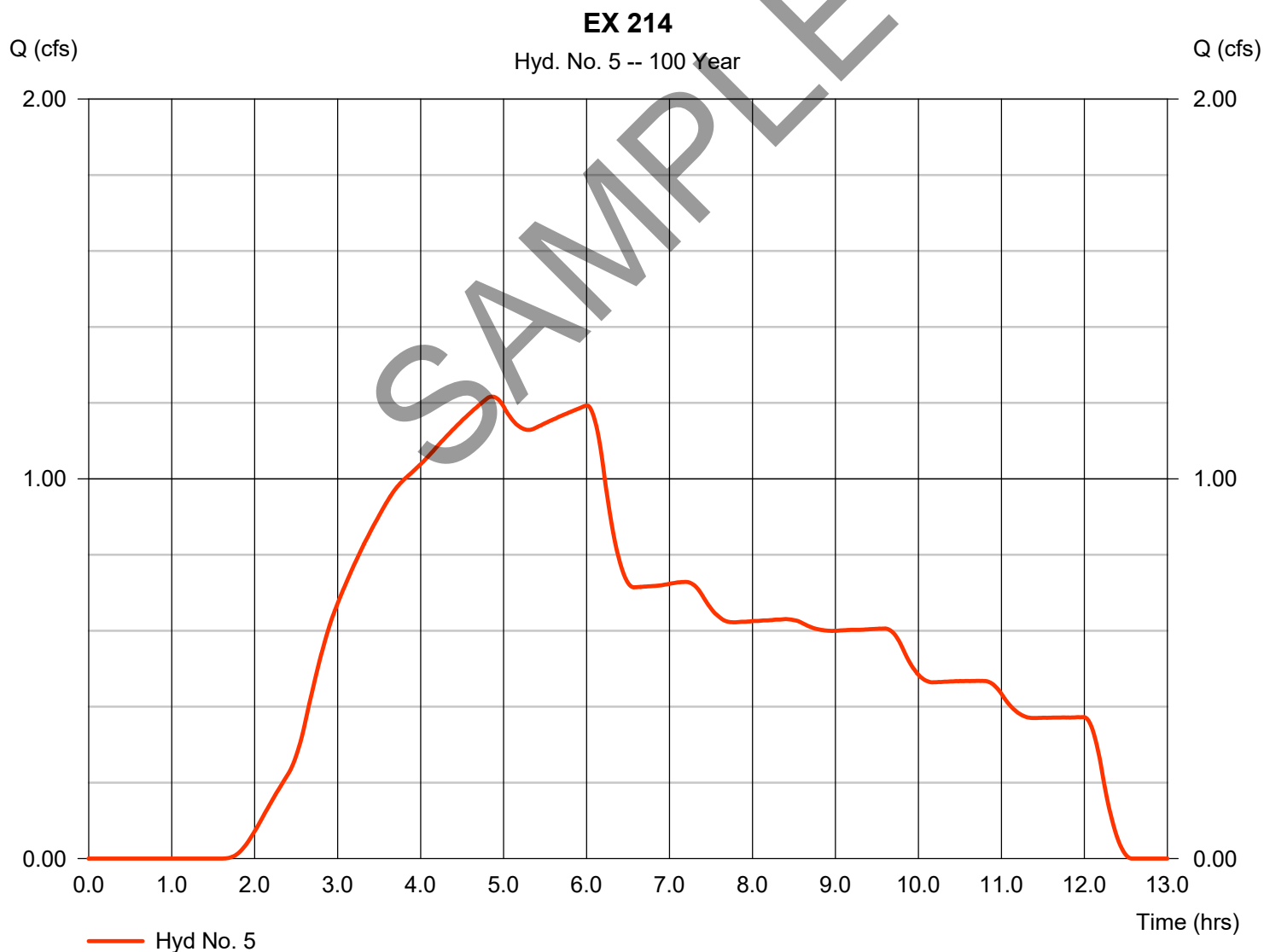
Tuesday, 03 / 12 / 2019

Hyd. No. 5

EX 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 1.216 cfs
Time to peak = 4.87 hrs
Hyd. volume = 25,837 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

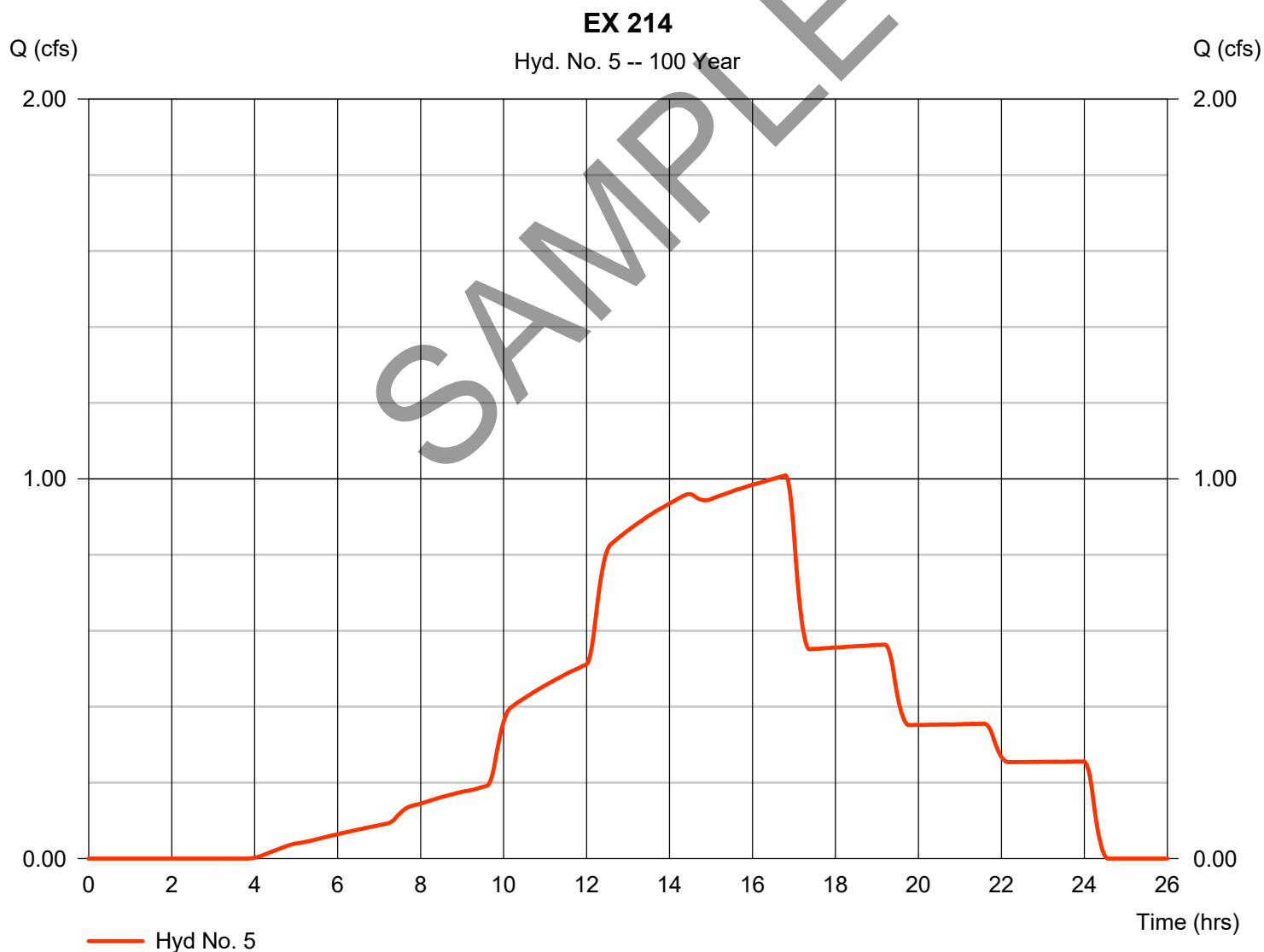
Tuesday, 03 / 12 / 2019

Hyd. No. 5

EX 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 1.009 cfs
Time to peak = 16.80 hrs
Hyd. volume = 32,289 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

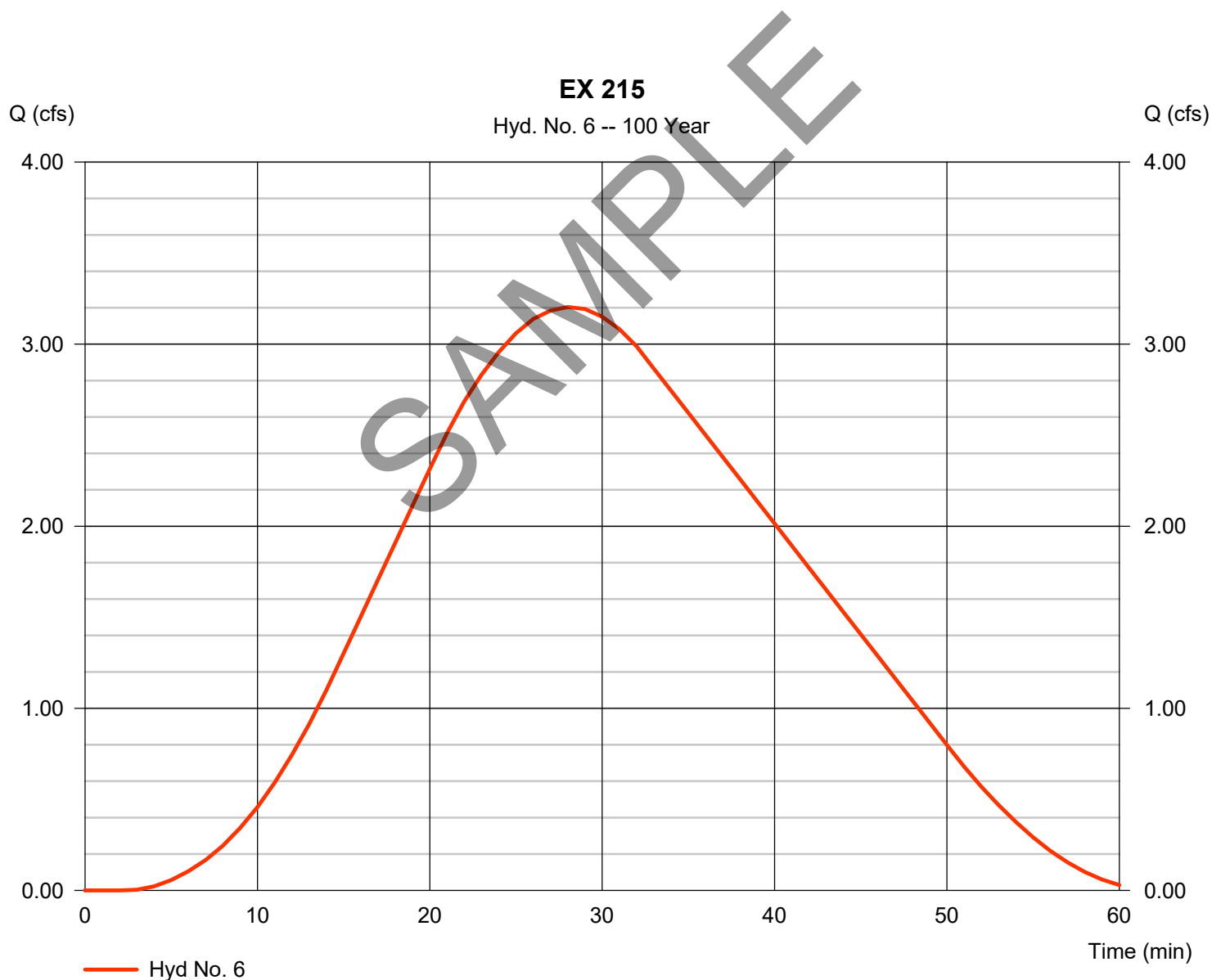
Tuesday, 03 / 12 / 2019

Hyd. No. 6

EX 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.59 in
Storm duration = 0.25 hrs

Peak discharge = 3.203 cfs
Time to peak = 28 min
Hyd. volume = 5,252 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 29.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

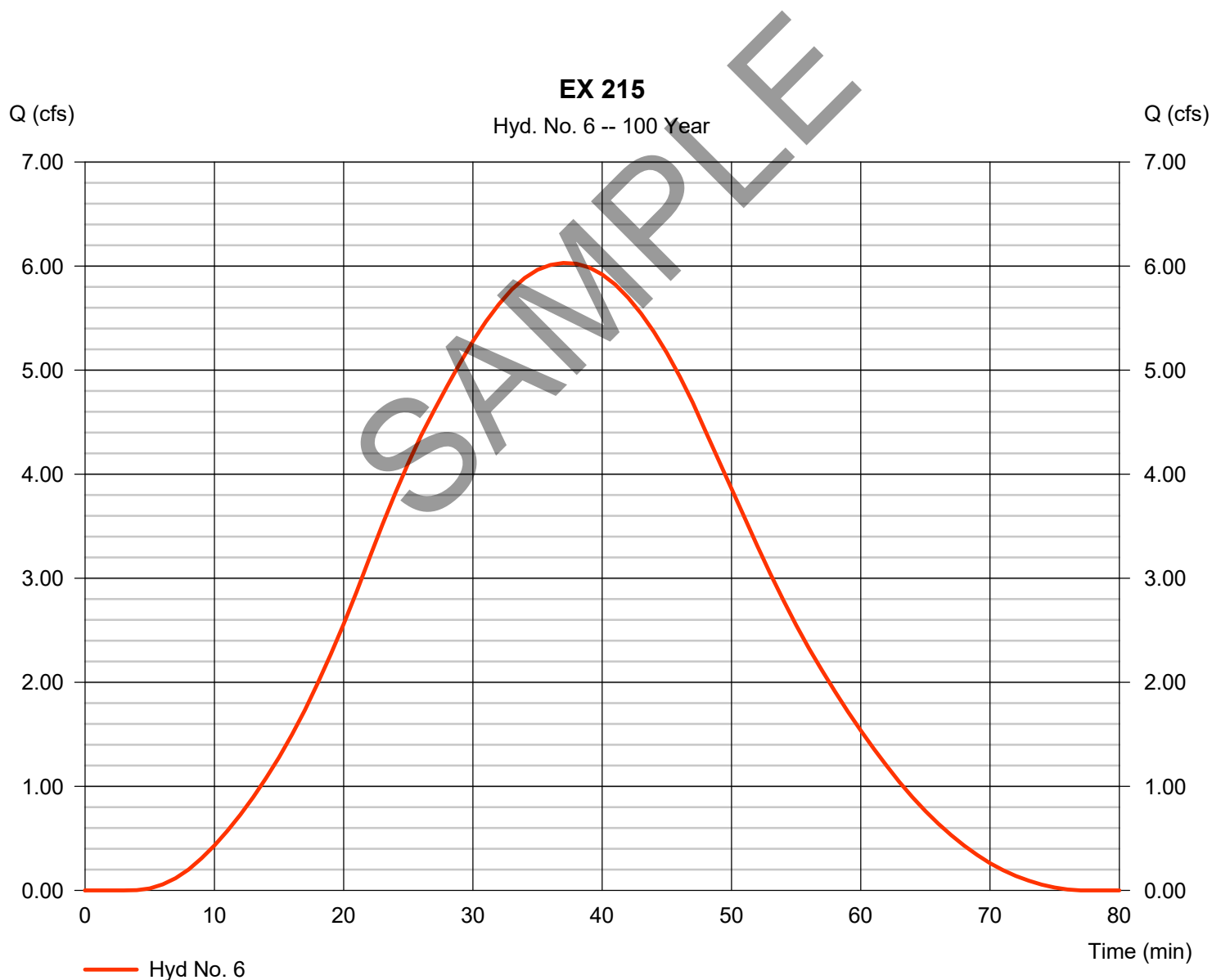
Tuesday, 03 / 12 / 2019

Hyd. No. 6

EX 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 6.031 cfs
Time to peak = 37 min
Hyd. volume = 11,918 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 29.80 min
Distribution = Custom
Shape factor = 484

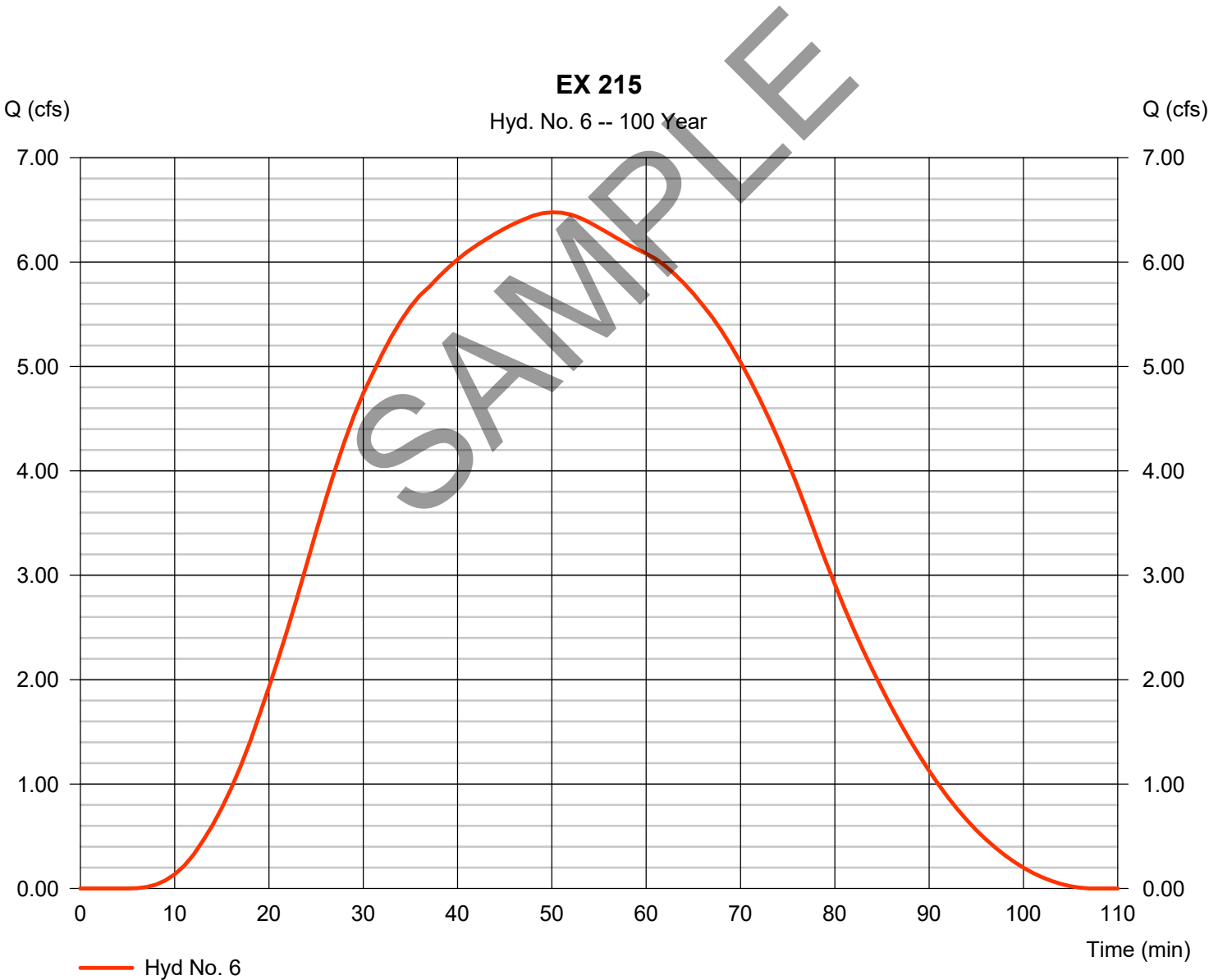


Hydrograph Report

Hyd. No. 6

EX 215

Hydrograph type	= SCS Runoff	Peak discharge	= 6.477 cfs
Storm frequency	= 100 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 20,807 cuft
Drainage area	= 4.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 29.80 min
Total precip.	= 3.07 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484

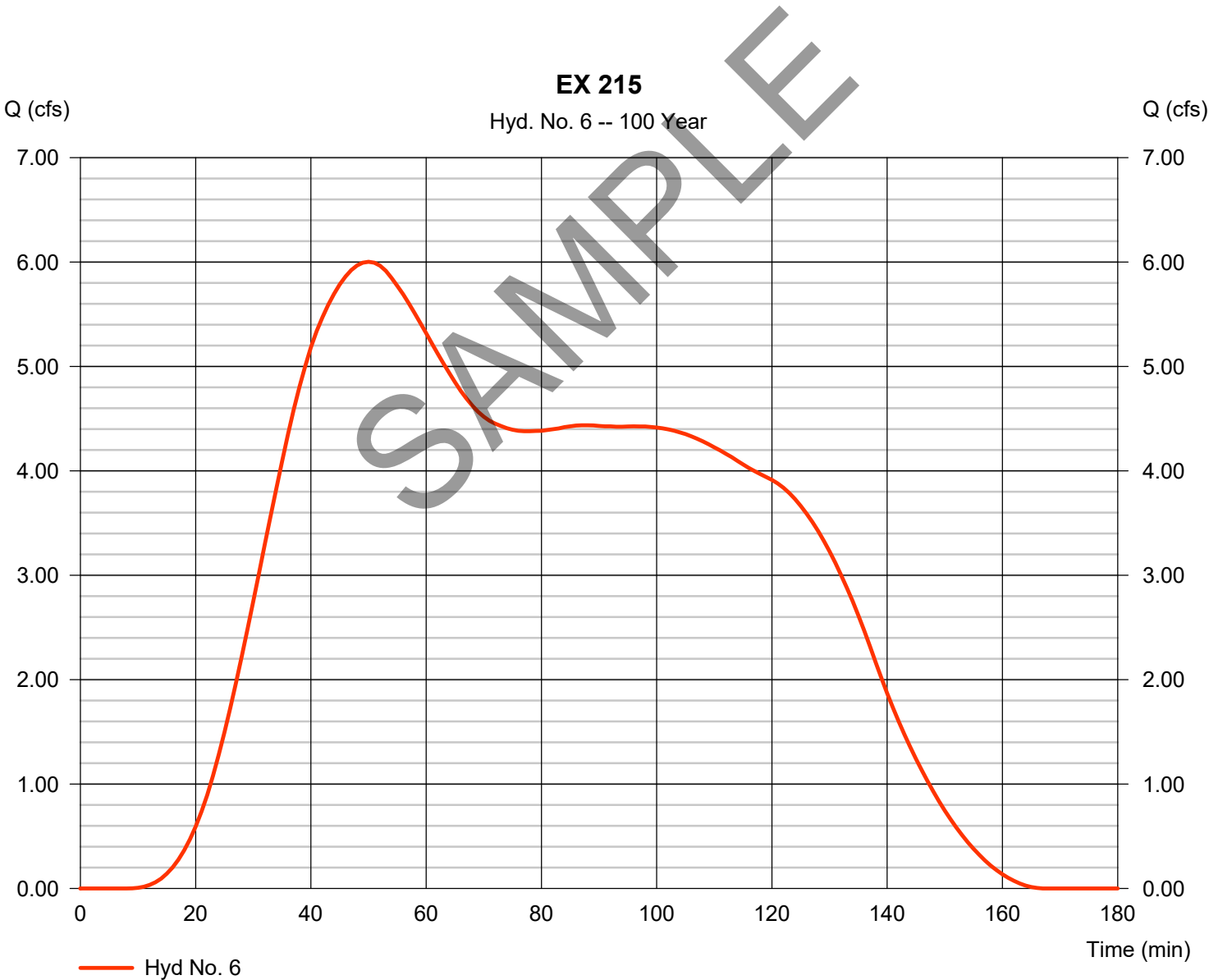


Hydrograph Report

Hyd. No. 6

EX 215

Hydrograph type	= SCS Runoff	Peak discharge	= 6.003 cfs
Storm frequency	= 100 yrs	Time to peak	= 50 min
Time interval	= 1 min	Hyd. volume	= 31,031 cuft
Drainage area	= 4.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 29.80 min
Total precip.	= 3.88 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

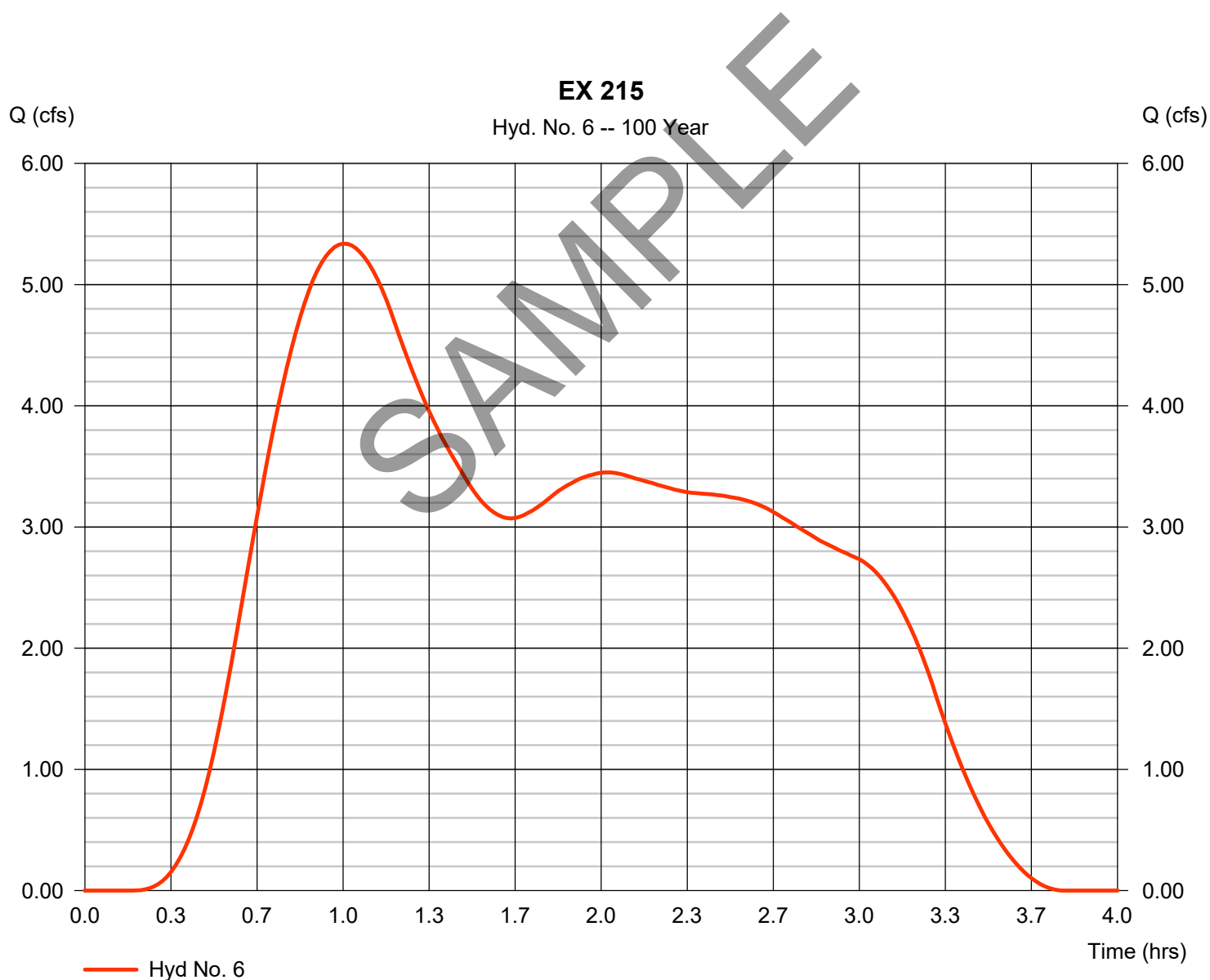
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Tuesday, 03 / 12 / 2019

Hyd. No. 6

EX 215

Hydrograph type	= SCS Runoff	Peak discharge	= 5.338 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.00 hrs
Time interval	= 1 min	Hyd. volume	= 35,667 cuft
Drainage area	= 4.400 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 29.80 min
Total precip.	= 4.23 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

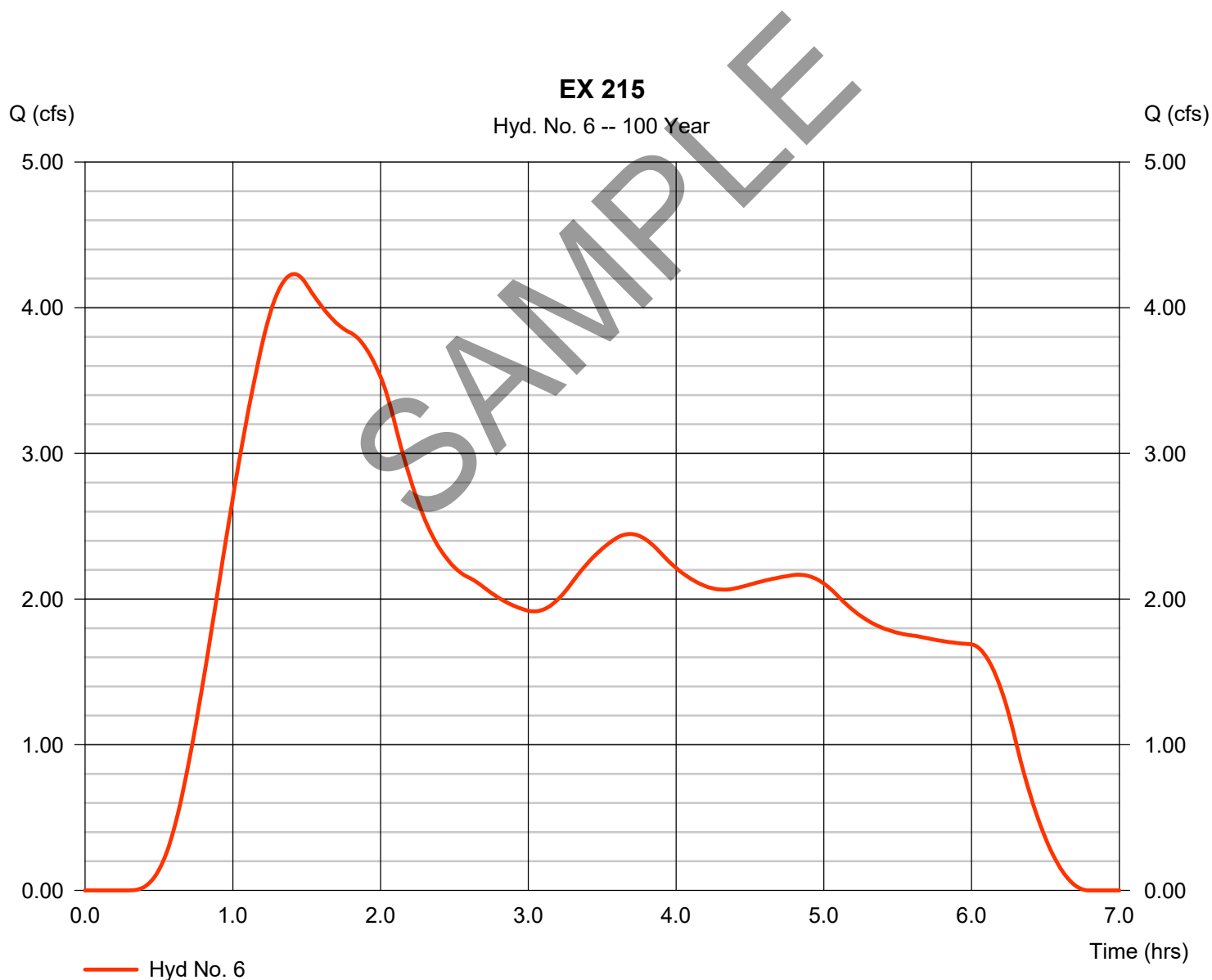
Tuesday, 03 / 12 / 2019

Hyd. No. 6

EX 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 4.231 cfs
Time to peak = 1.42 hrs
Hyd. volume = 49,002 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 29.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

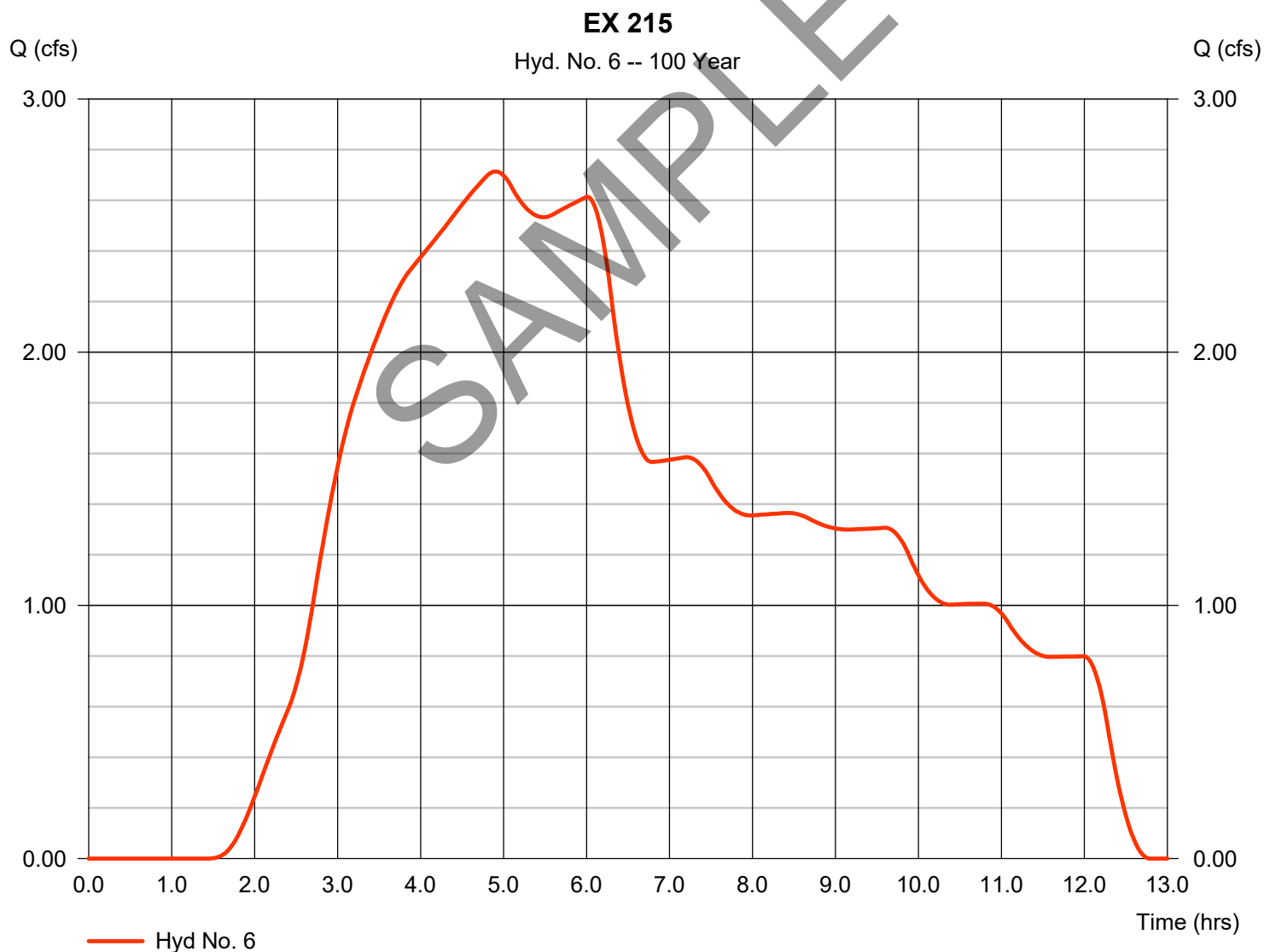
Tuesday, 03 / 12 / 2019

Hyd. No. 6

EX 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 2.714 cfs
Time to peak = 4.90 hrs
Hyd. volume = 58,380 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 29.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

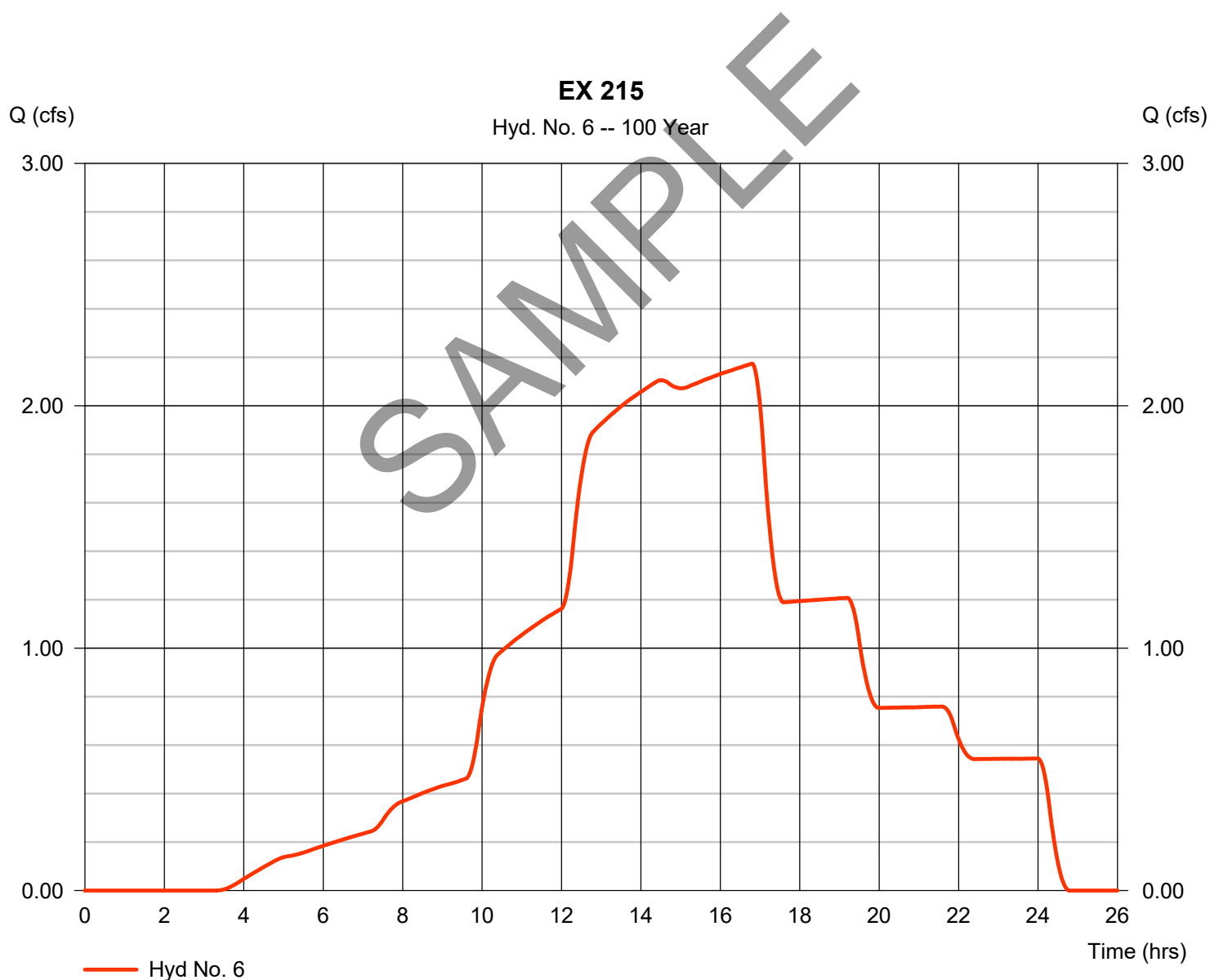
Tuesday, 03 / 12 / 2019

Hyd. No. 6

EX 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 2.174 cfs
Time to peak = 16.80 hrs
Hyd. volume = 72,184 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 29.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

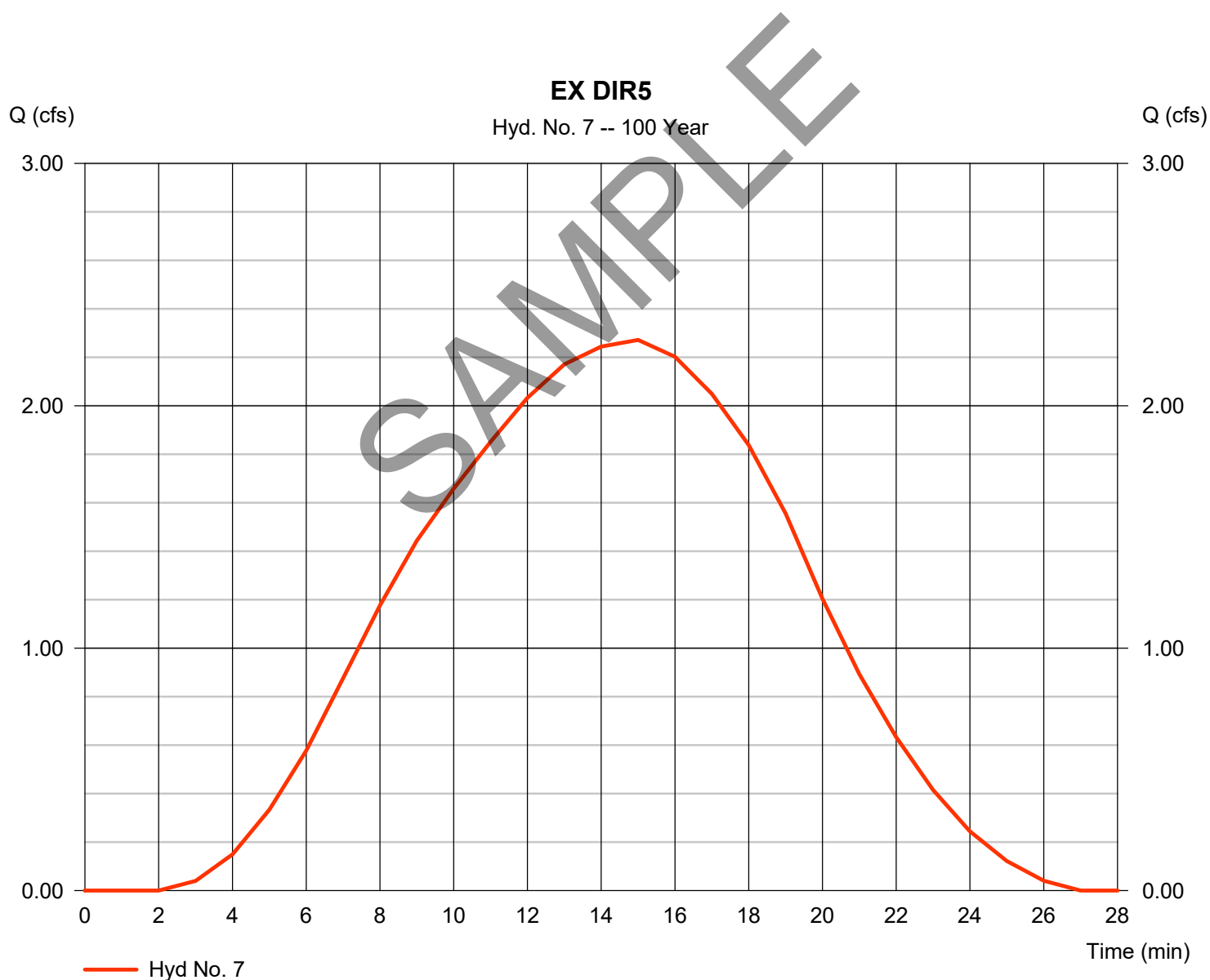
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Tuesday, 03 / 12 / 2019

Hyd. No. 7

EX DIR5

Hydrograph type	= SCS Runoff	Peak discharge	= 2.272 cfs
Storm frequency	= 100 yrs	Time to peak	= 15 min
Time interval	= 1 min	Hyd. volume	= 1,681 cuft
Drainage area	= 1.200 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

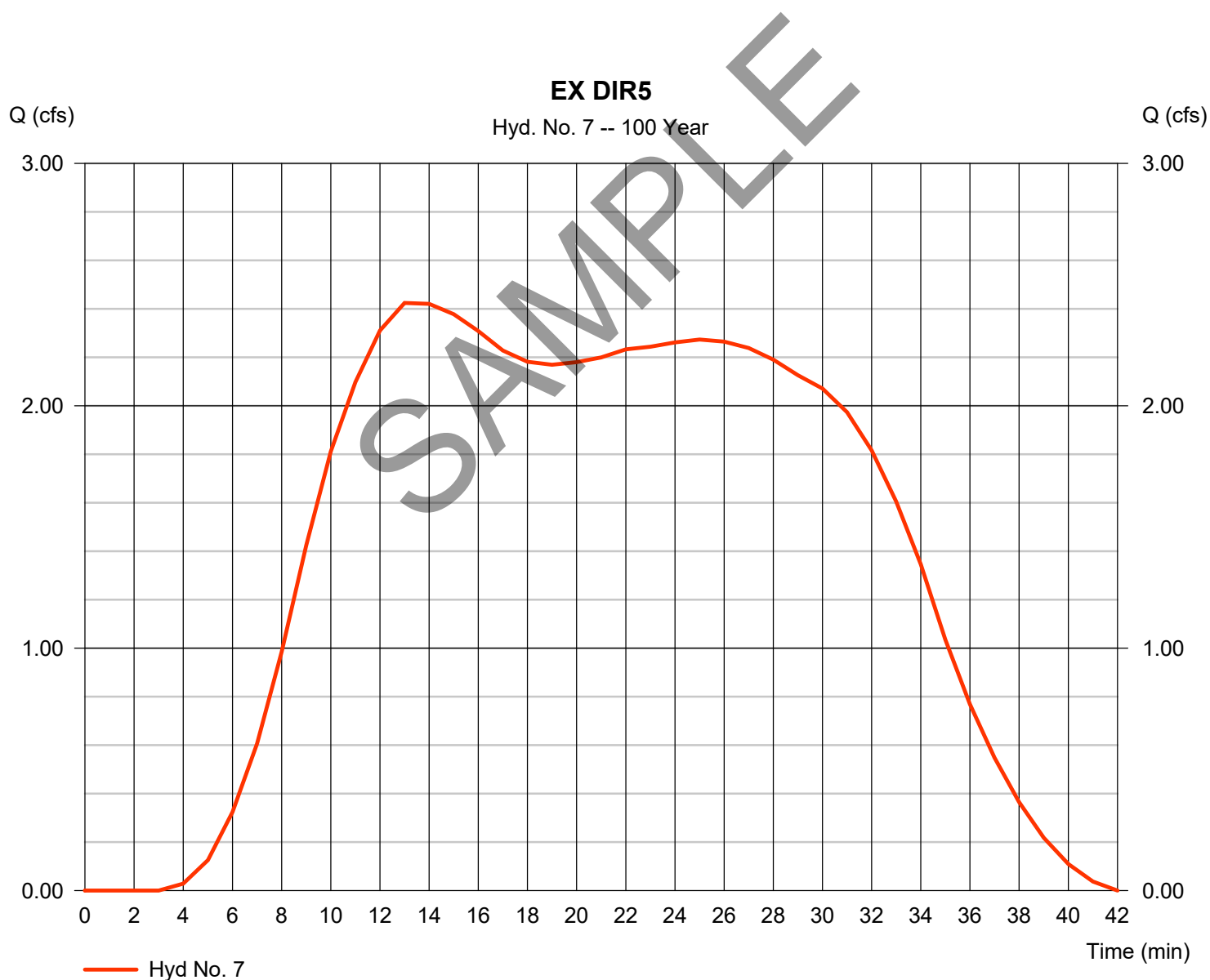
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 7

EX DIR5

Hydrograph type	= SCS Runoff	Peak discharge	= 2.425 cfs
Storm frequency	= 100 yrs	Time to peak	= 13 min
Time interval	= 1 min	Hyd. volume	= 3,596 cuft
Drainage area	= 1.200 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

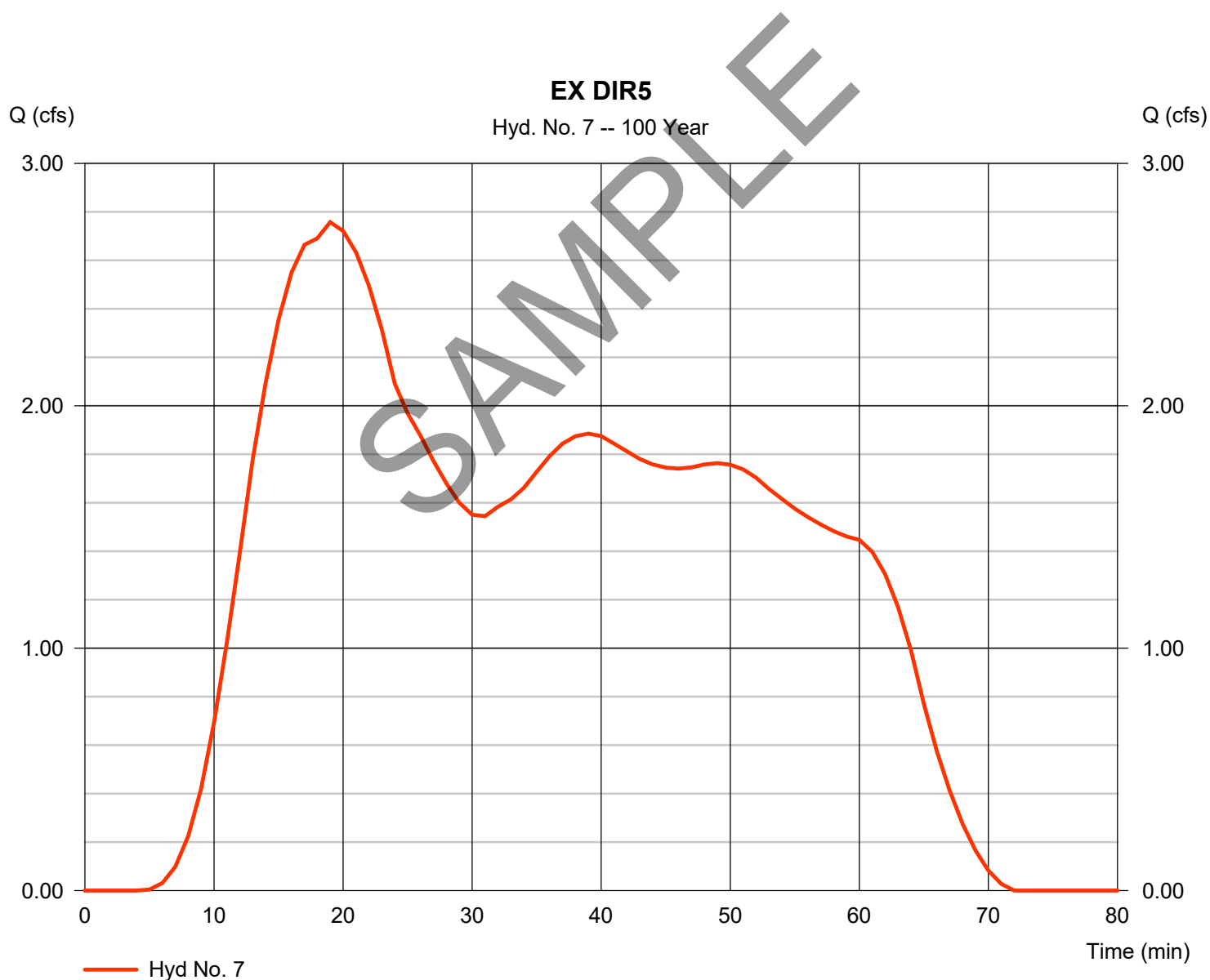
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 7

EX DIR5

Hydrograph type	= SCS Runoff	Peak discharge	= 2.757 cfs
Storm frequency	= 100 yrs	Time to peak	= 19 min
Time interval	= 1 min	Hyd. volume	= 6,090 cuft
Drainage area	= 1.200 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 3.07 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

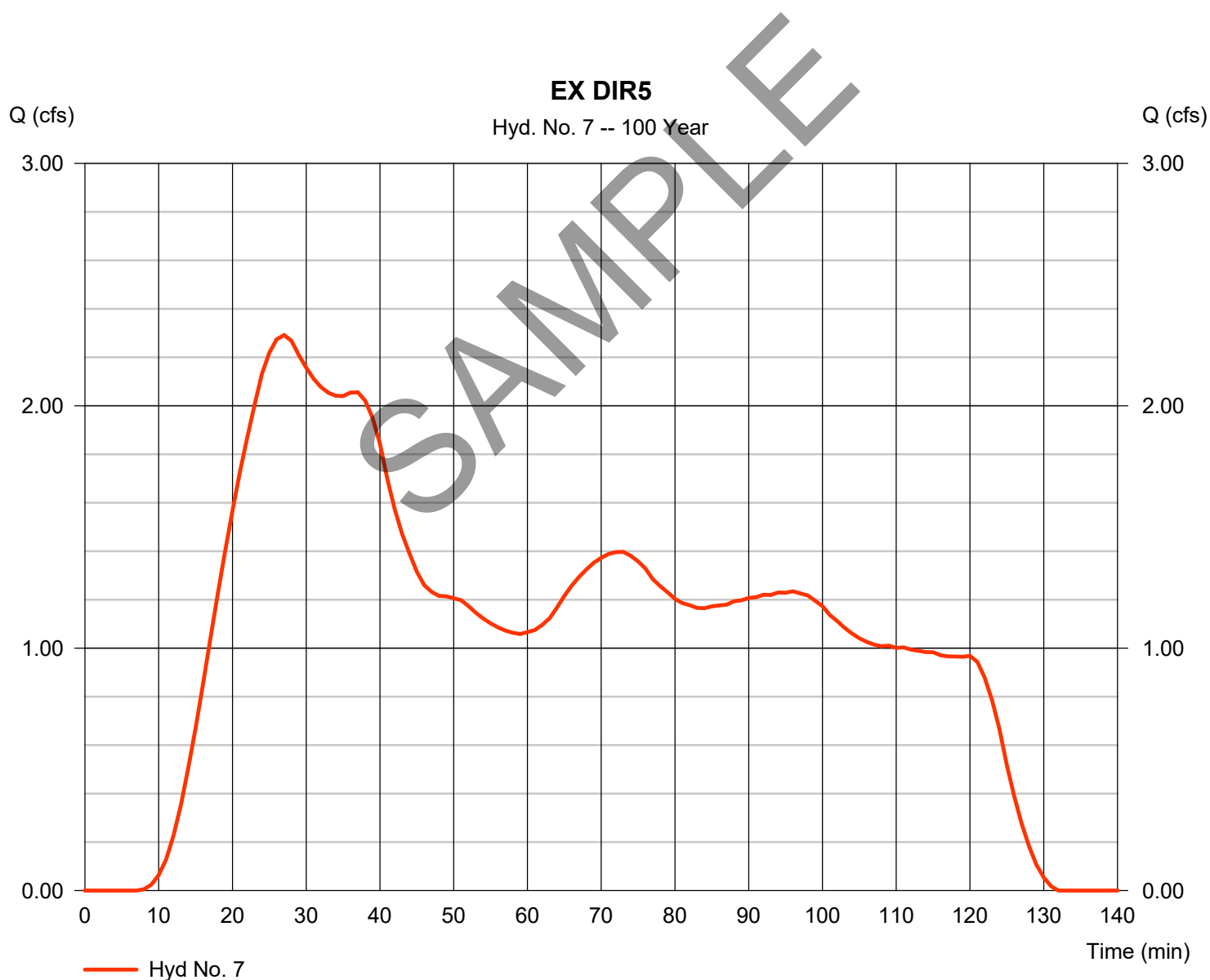
Tuesday, 03 / 12 / 2019

Hyd. No. 7

EX DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 2.292 cfs
Time to peak = 27 min
Hyd. volume = 8,922 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

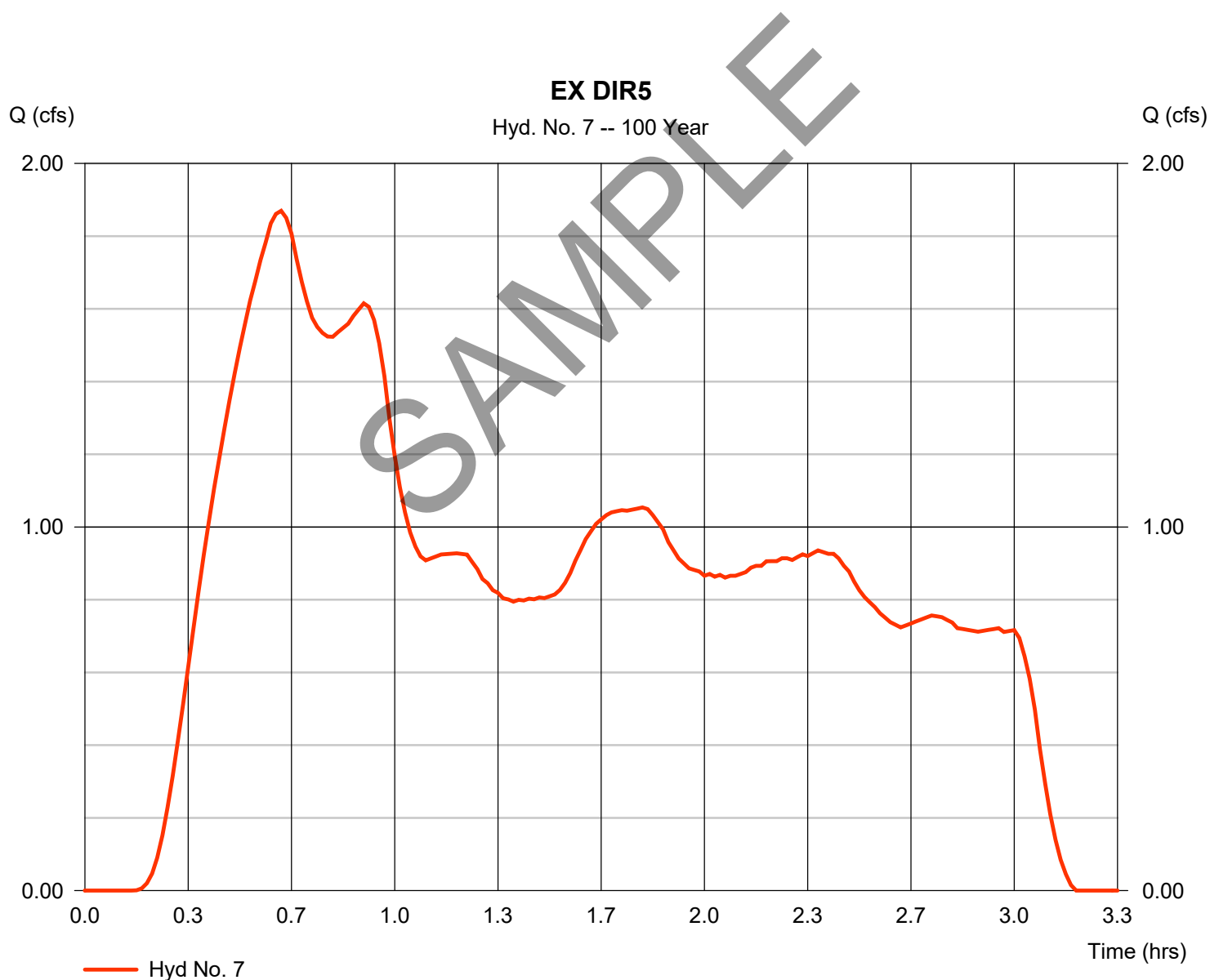
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 7

EX DIR5

Hydrograph type	= SCS Runoff	Peak discharge	= 1.870 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.63 hrs
Time interval	= 1 min	Hyd. volume	= 10,196 cuft
Drainage area	= 1.200 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 4.23 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

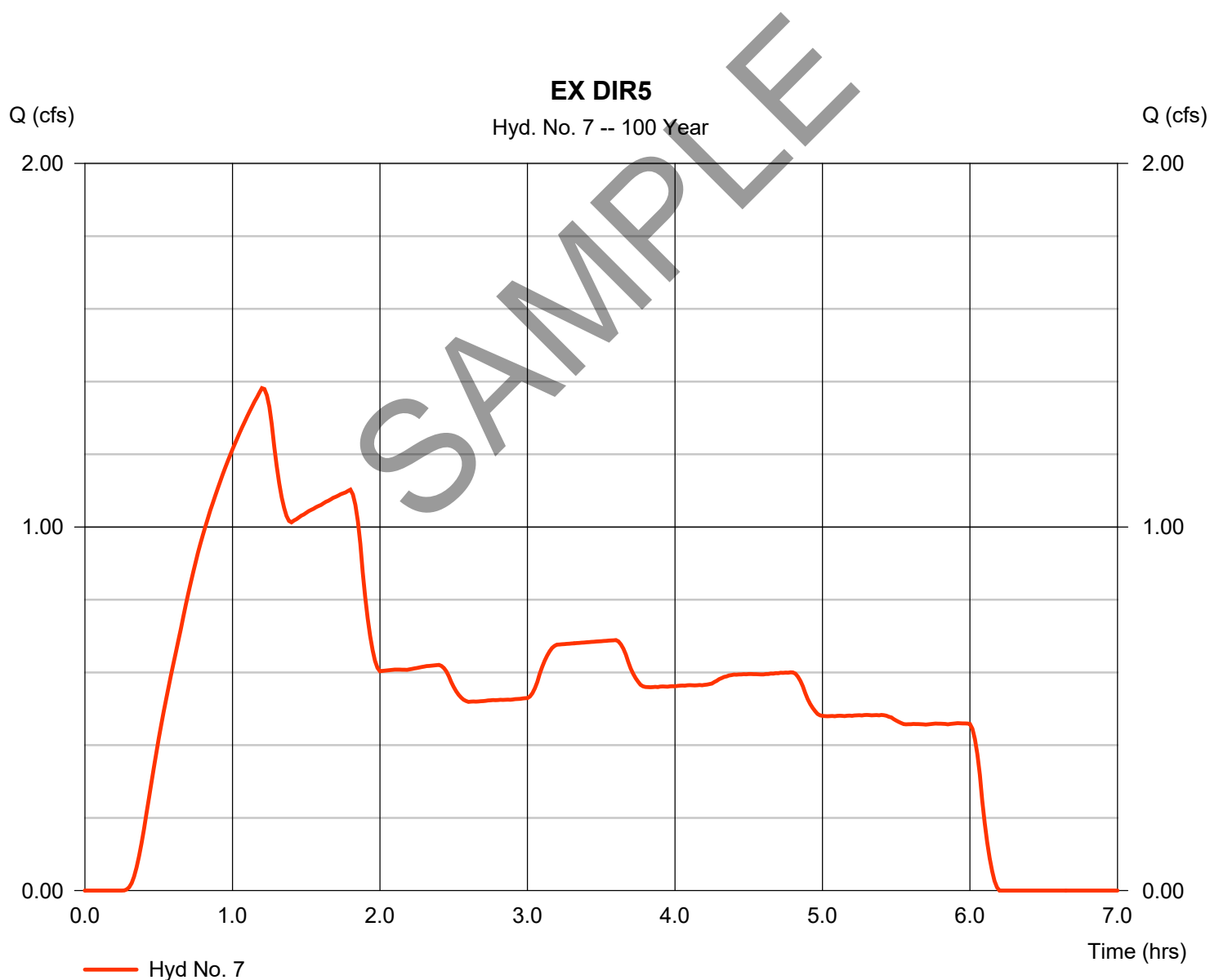
Tuesday, 03 / 12 / 2019

Hyd. No. 7

EX DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 1.382 cfs
Time to peak = 1.20 hrs
Hyd. volume = 13,839 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

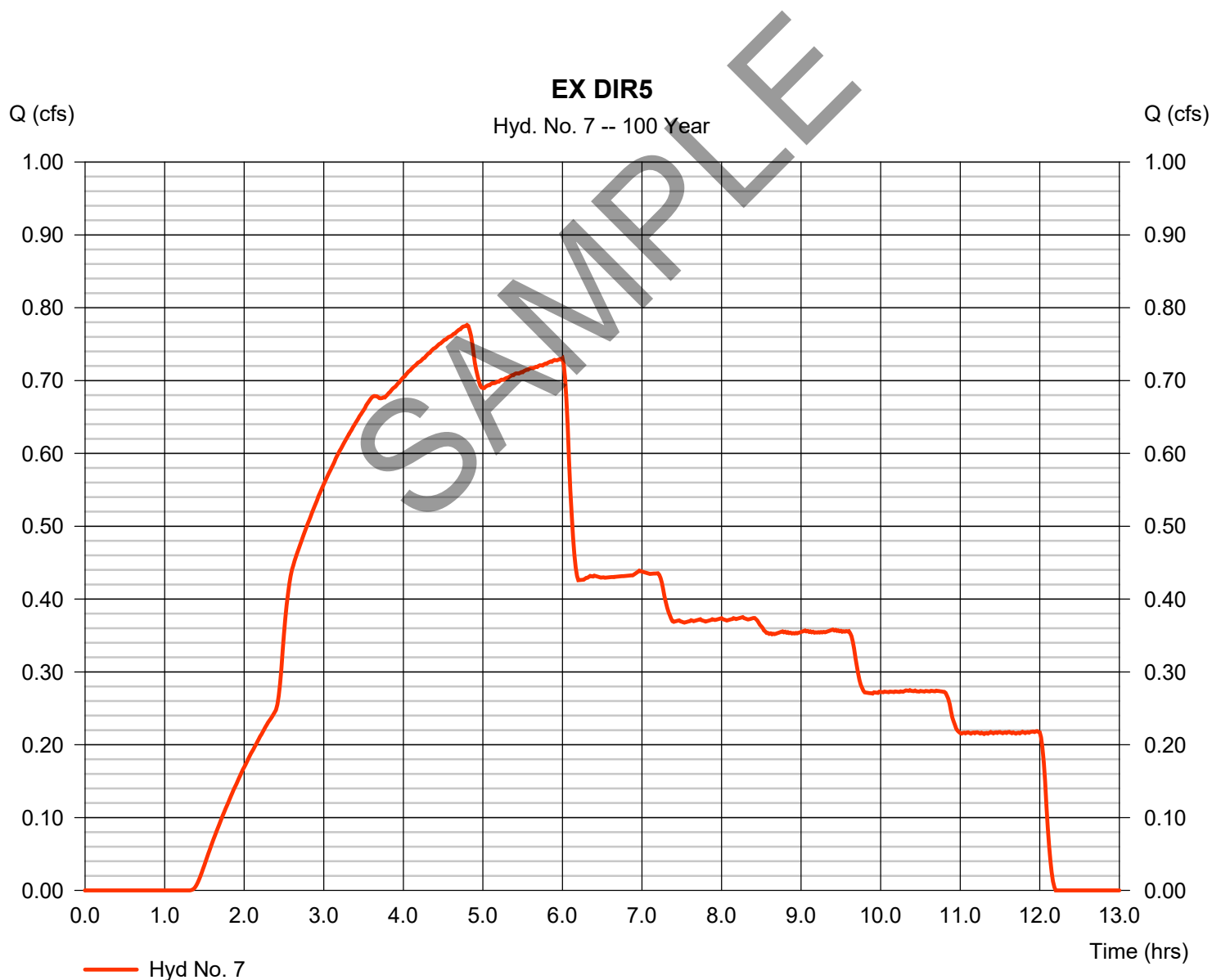
Tuesday, 03 / 12 / 2019

Hyd. No. 7

EX DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 0.776 cfs
Time to peak = 4.80 hrs
Hyd. volume = 16,388 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

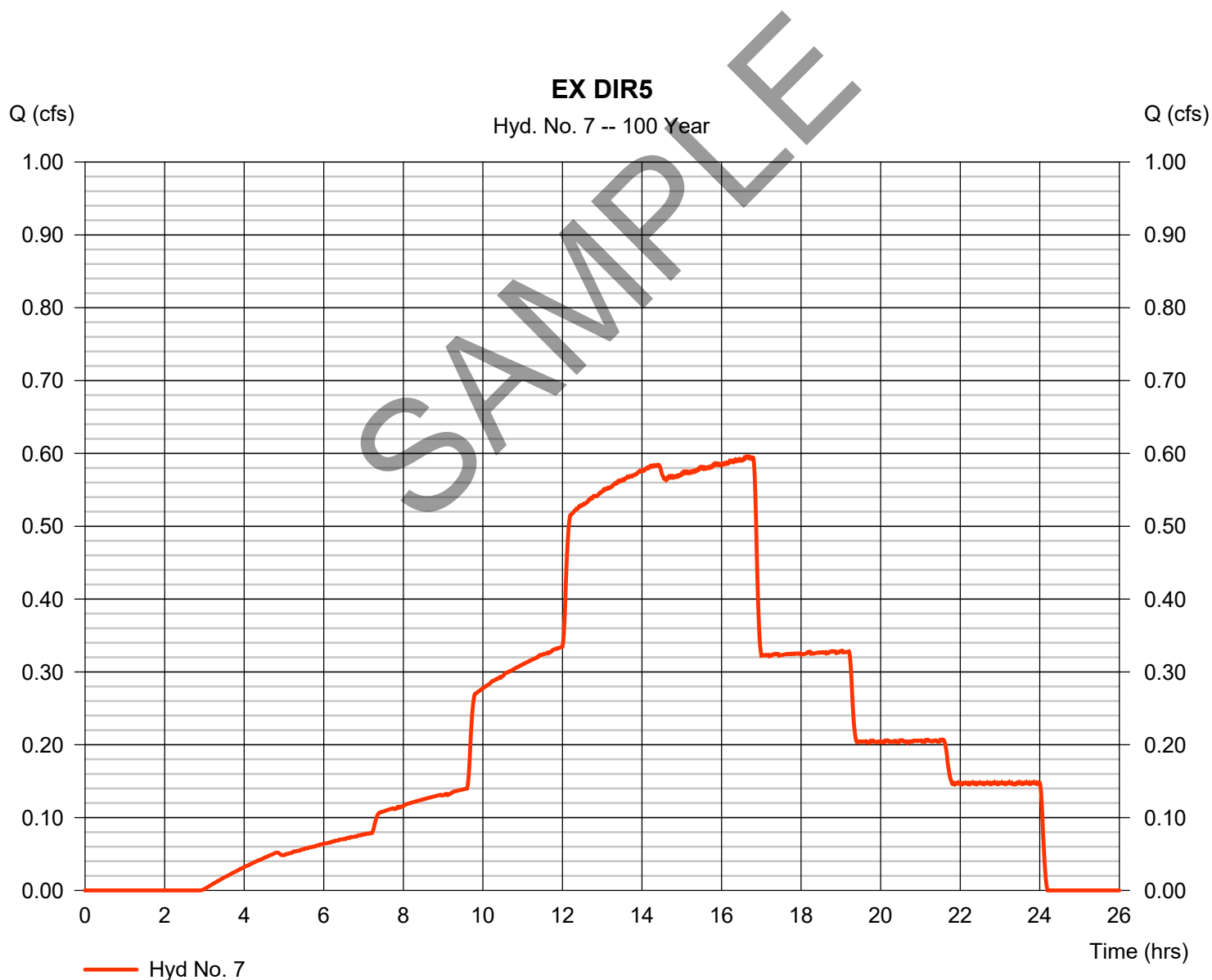
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 7

EX DIR5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.595 cfs
Storm frequency	= 100 yrs	Time to peak	= 16.62 hrs
Time interval	= 1 min	Hyd. volume	= 20,124 cuft
Drainage area	= 1.200 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 6.81 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

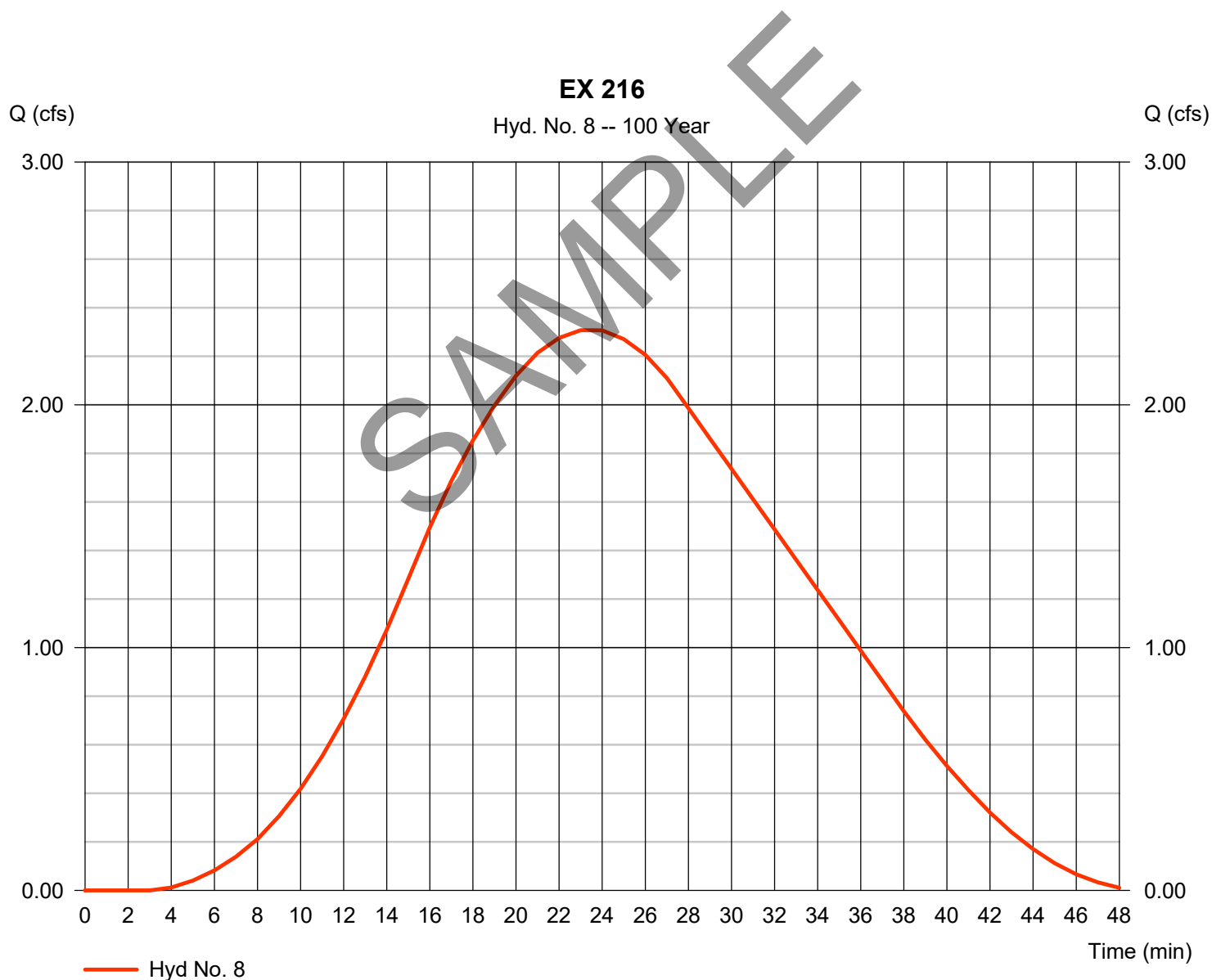
Tuesday, 03 / 12 / 2019

Hyd. No. 8

EX 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.59 in
Storm duration = 0.25 hrs

Peak discharge = 2.308 cfs
Time to peak = 23 min
Hyd. volume = 2,882 cuft
Curve number = 78
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484

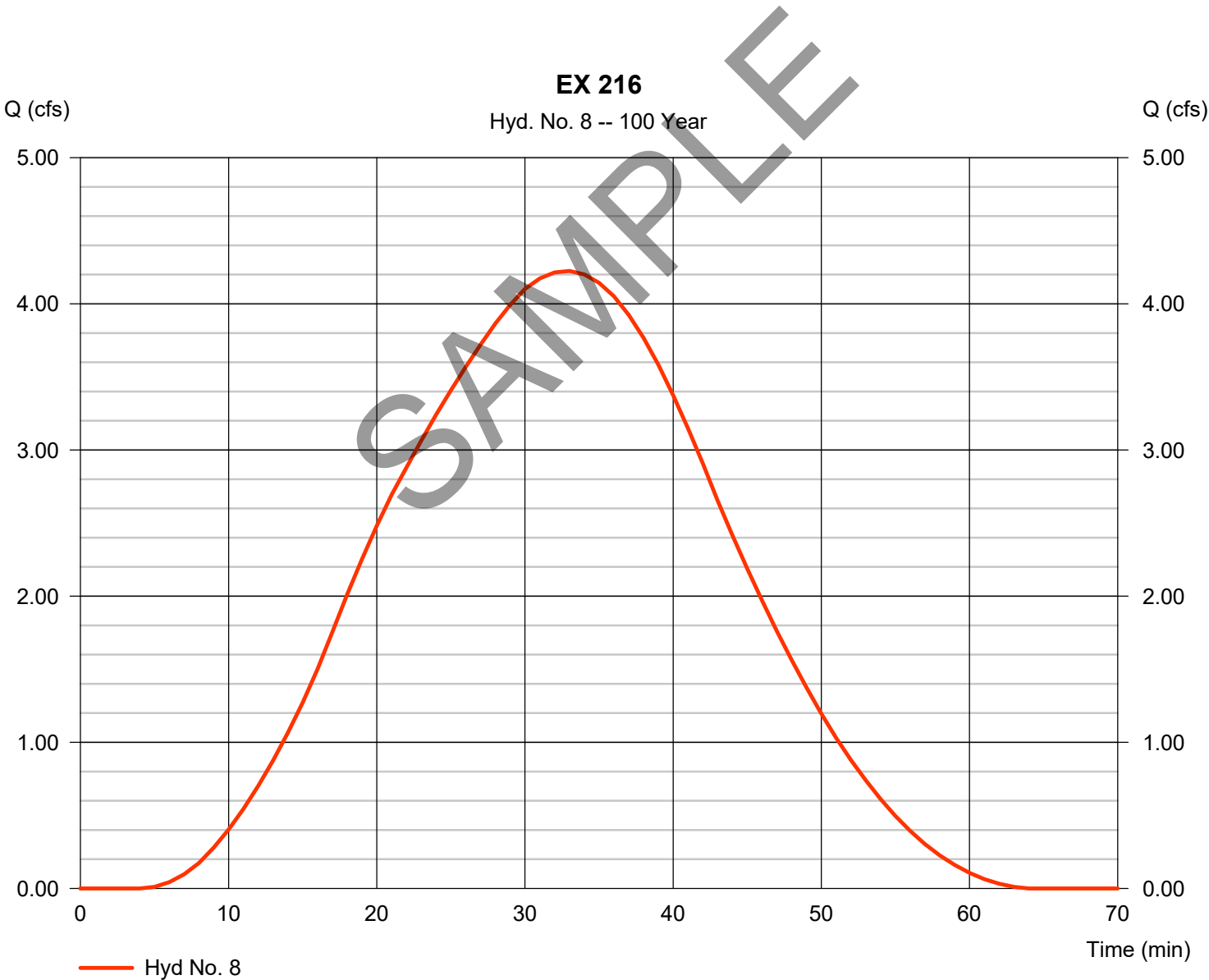


Hydrograph Report

Hyd. No. 8

EX 216

Hydrograph type	= SCS Runoff	Peak discharge	= 4.225 cfs
Storm frequency	= 100 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 6,953 cuft
Drainage area	= 2.900 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.40 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

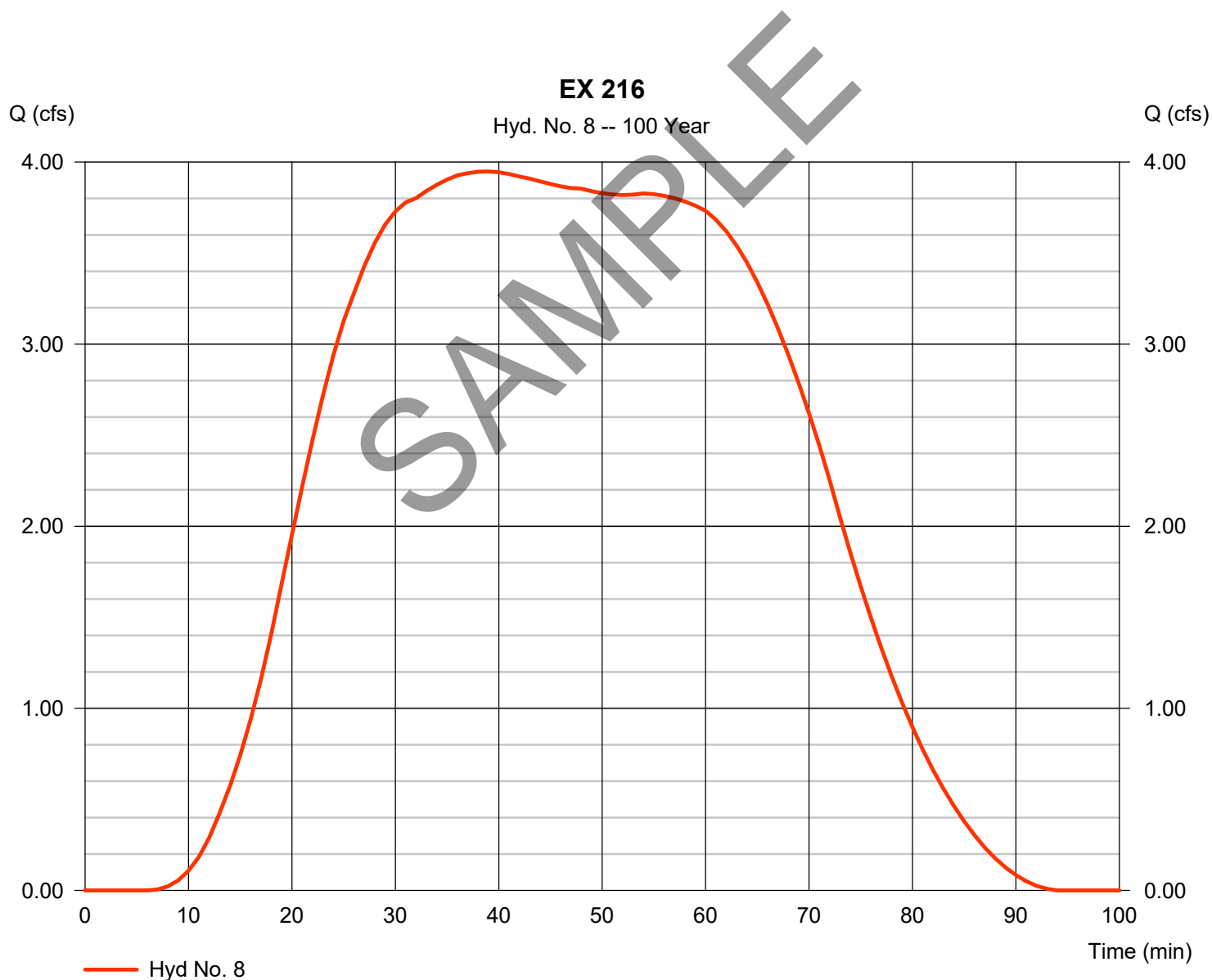
Tuesday, 03 / 12 / 2019

Hyd. No. 8

EX 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 3.948 cfs
Time to peak = 39 min
Hyd. volume = 12,521 cuft
Curve number = 78
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484

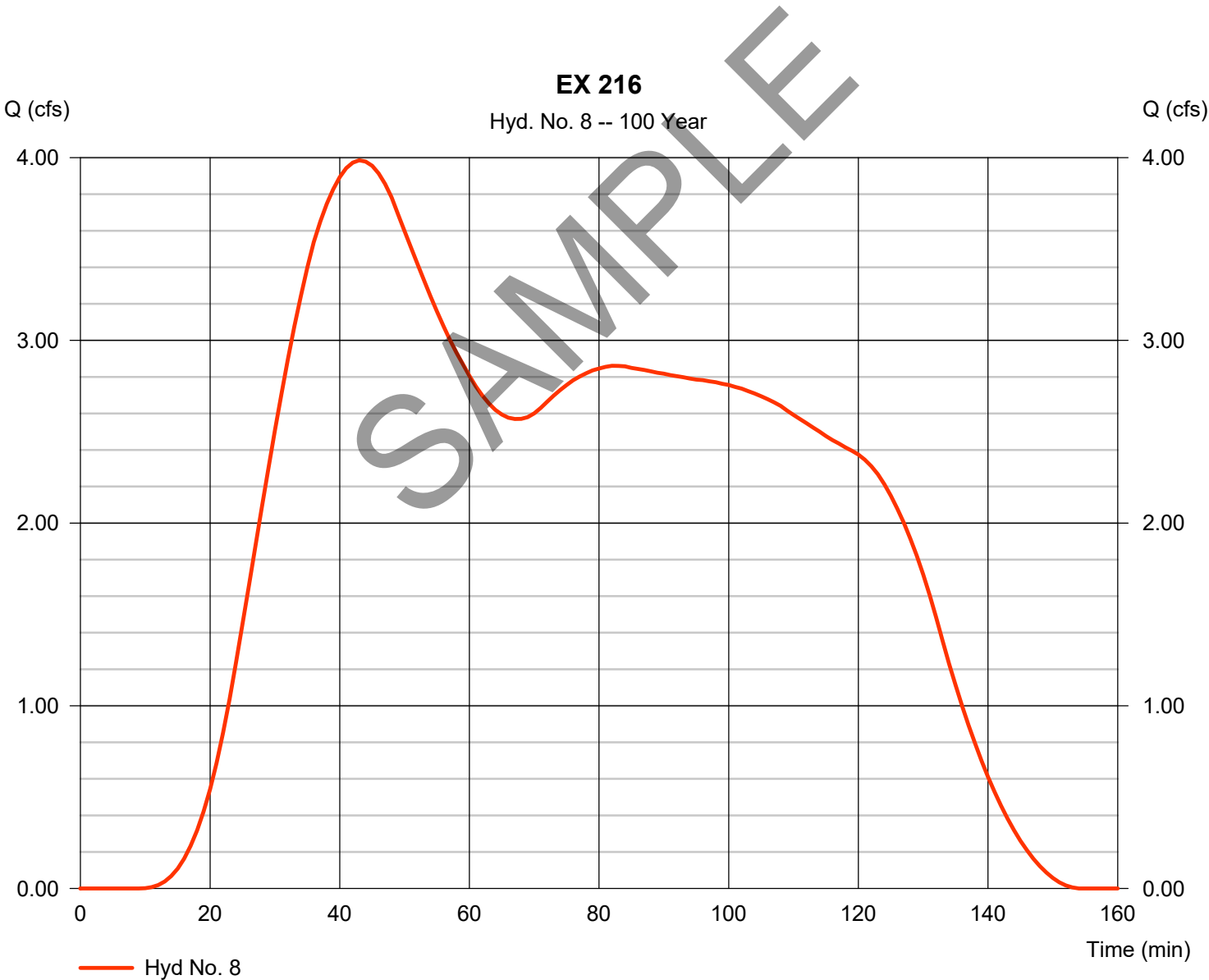


Hydrograph Report

Hyd. No. 8

EX 216

Hydrograph type	= SCS Runoff	Peak discharge	= 3.985 cfs
Storm frequency	= 100 yrs	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 19,042 cuft
Drainage area	= 2.900 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.40 min
Total precip.	= 3.88 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

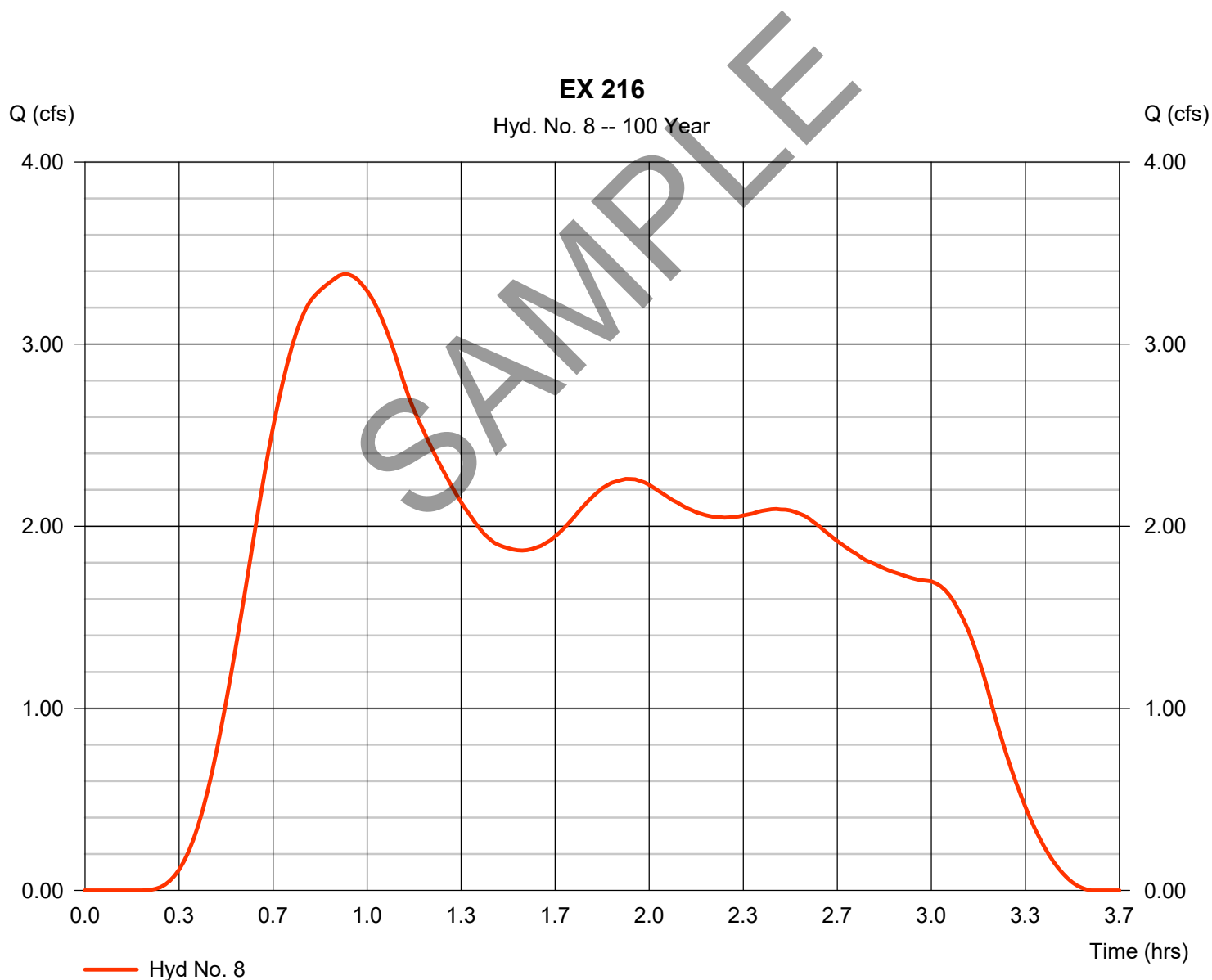
Tuesday, 03 / 12 / 2019

Hyd. No. 8

EX 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 3.384 cfs
Time to peak = 0.92 hrs
Hyd. volume = 22,020 cuft
Curve number = 78
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

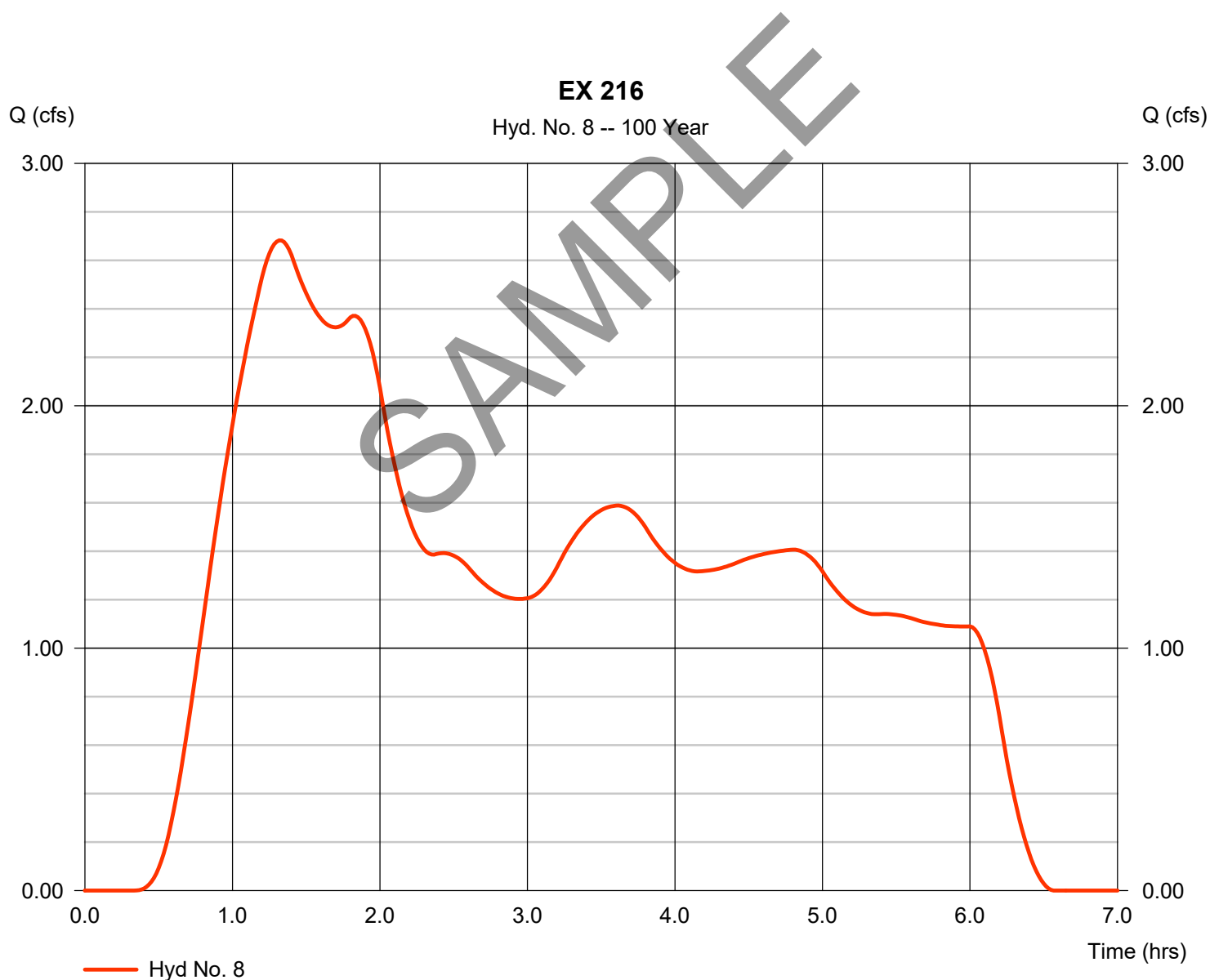
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 8

EX 216

Hydrograph type	= SCS Runoff	Peak discharge	= 2.682 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.32 hrs
Time interval	= 1 min	Hyd. volume	= 30,633 cuft
Drainage area	= 2.900 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.40 min
Total precip.	= 5.20 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 8

EX 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 1.727 cfs
Time to peak = 4.87 hrs
Hyd. volume = 36,726 cuft
Curve number = 78
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

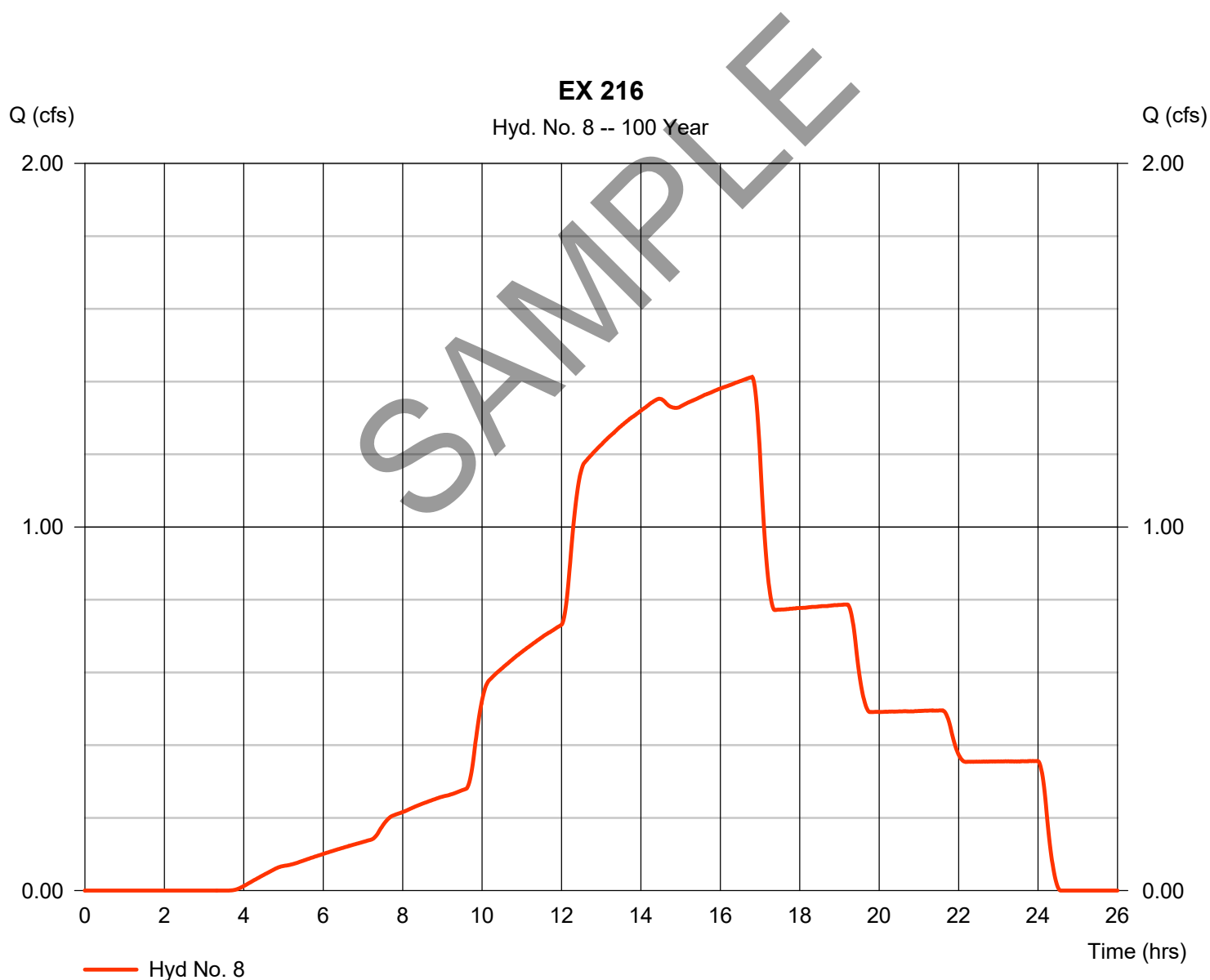
Tuesday, 03 / 12 / 2019

Hyd. No. 8

EX 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 1.413 cfs
Time to peak = 16.80 hrs
Hyd. volume = 45,731 cuft
Curve number = 78
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484

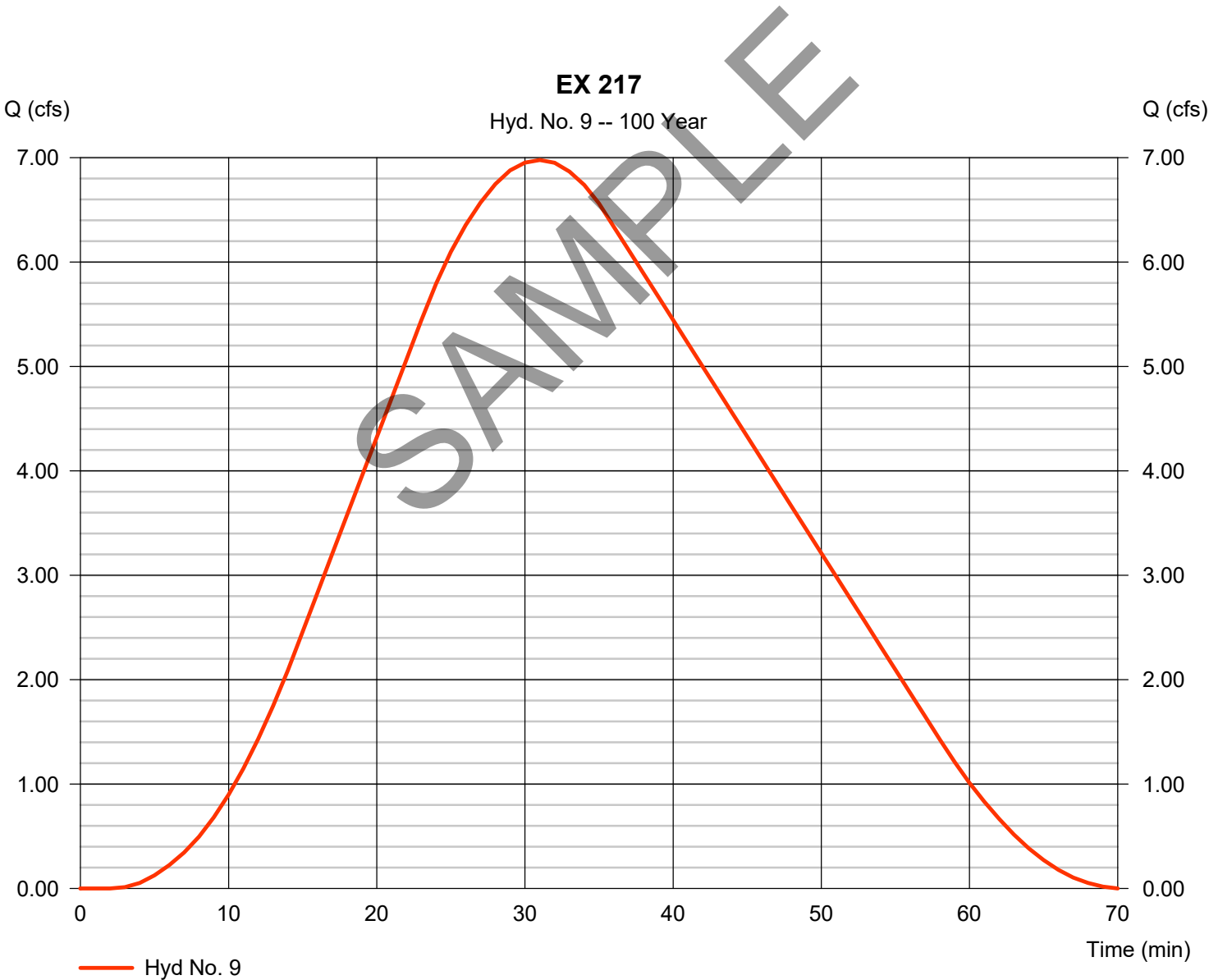


Hydrograph Report

Hyd. No. 9

EX 217

Hydrograph type	= SCS Runoff	Peak discharge	= 6.978 cfs
Storm frequency	= 100 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 13,129 cuft
Drainage area	= 10.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.10 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

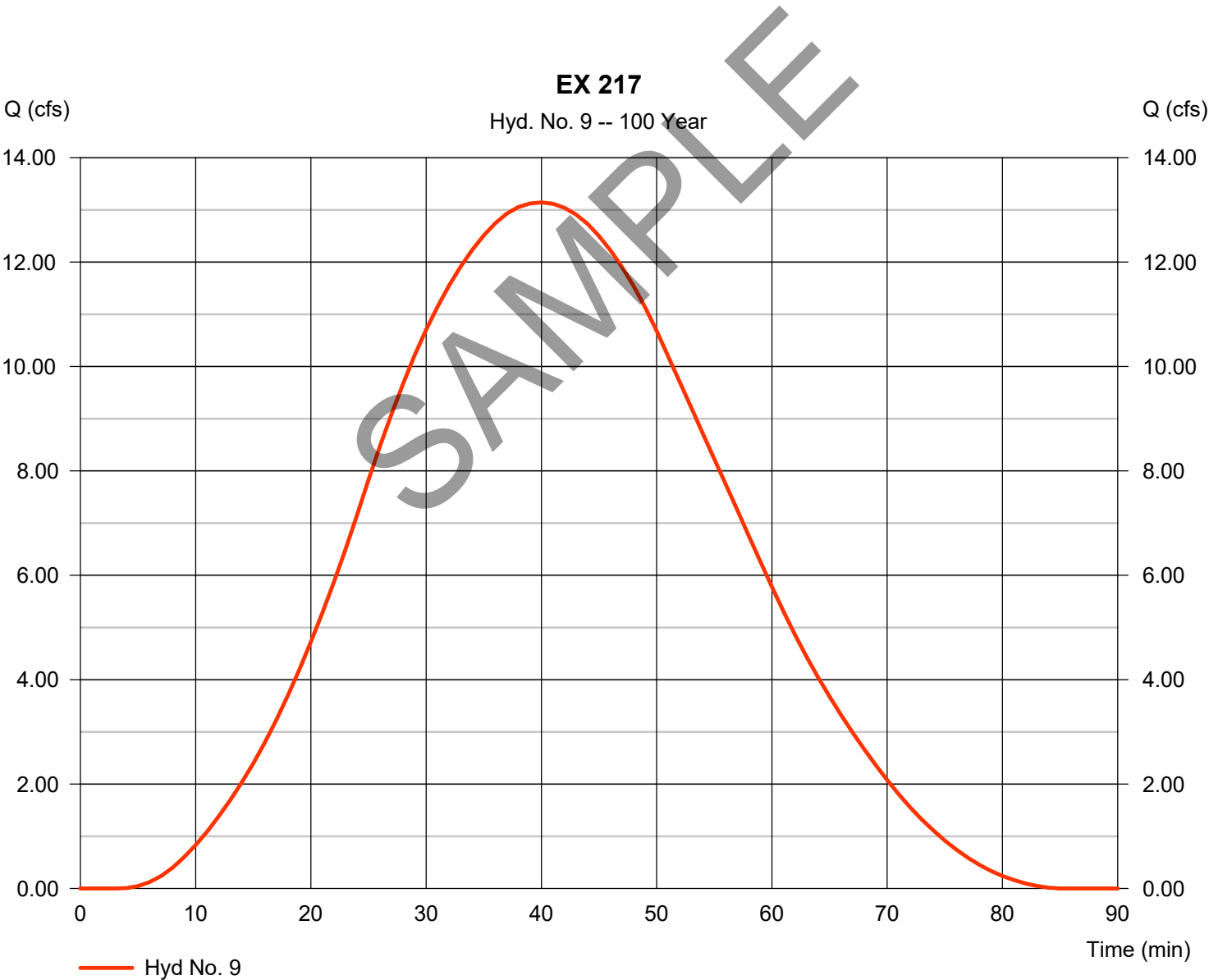


Hydrograph Report

Hyd. No. 9

EX 217

Hydrograph type	= SCS Runoff	Peak discharge	= 13.14 cfs
Storm frequency	= 100 yrs	Time to peak	= 40 min
Time interval	= 1 min	Hyd. volume	= 28,884 cuft
Drainage area	= 10.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.10 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484

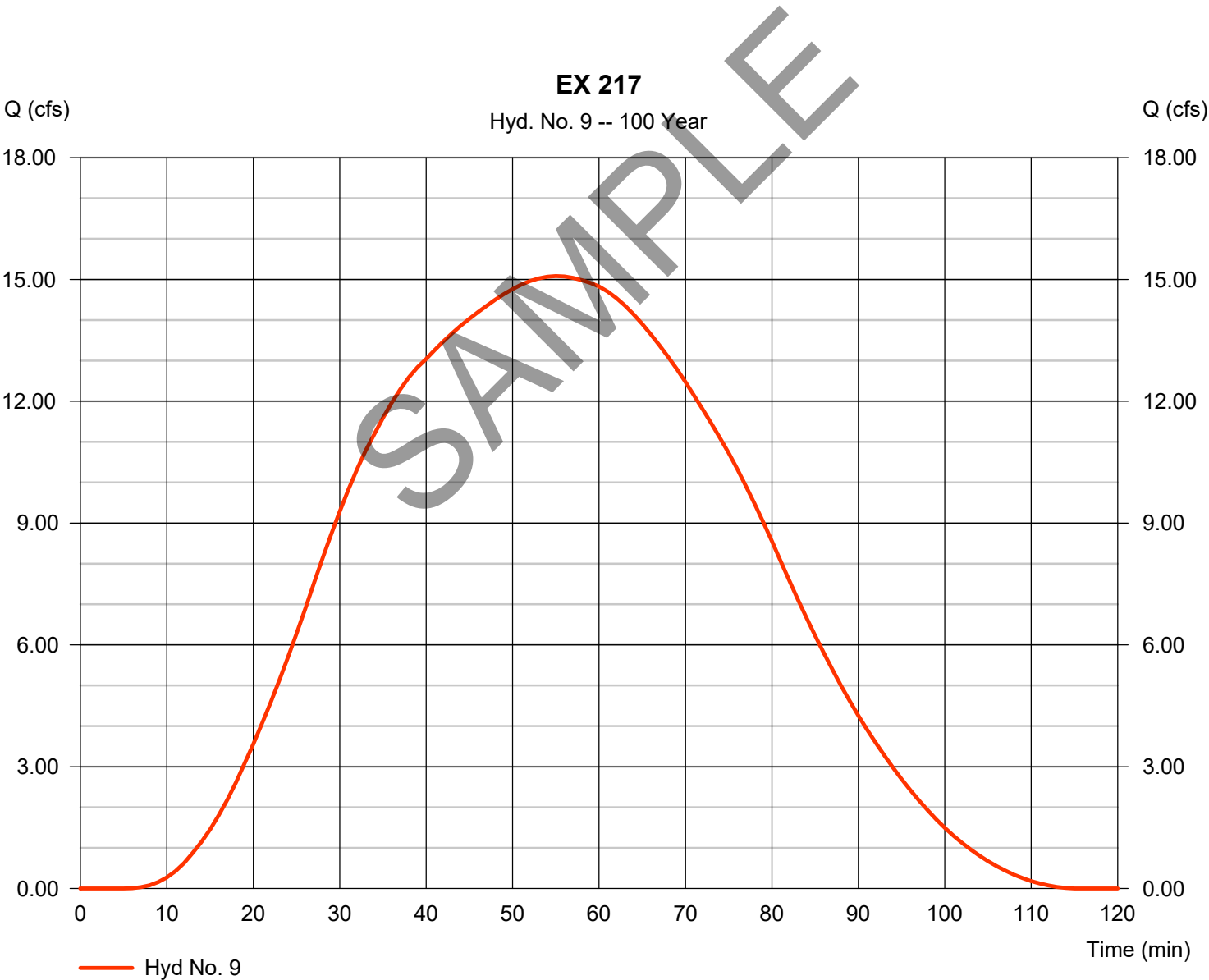


Hydrograph Report

Hyd. No. 9

EX 217

Hydrograph type	= SCS Runoff	Peak discharge	= 15.08 cfs
Storm frequency	= 100 yrs	Time to peak	= 55 min
Time interval	= 1 min	Hyd. volume	= 49,613 cuft
Drainage area	= 10.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.10 min
Total precip.	= 3.07 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

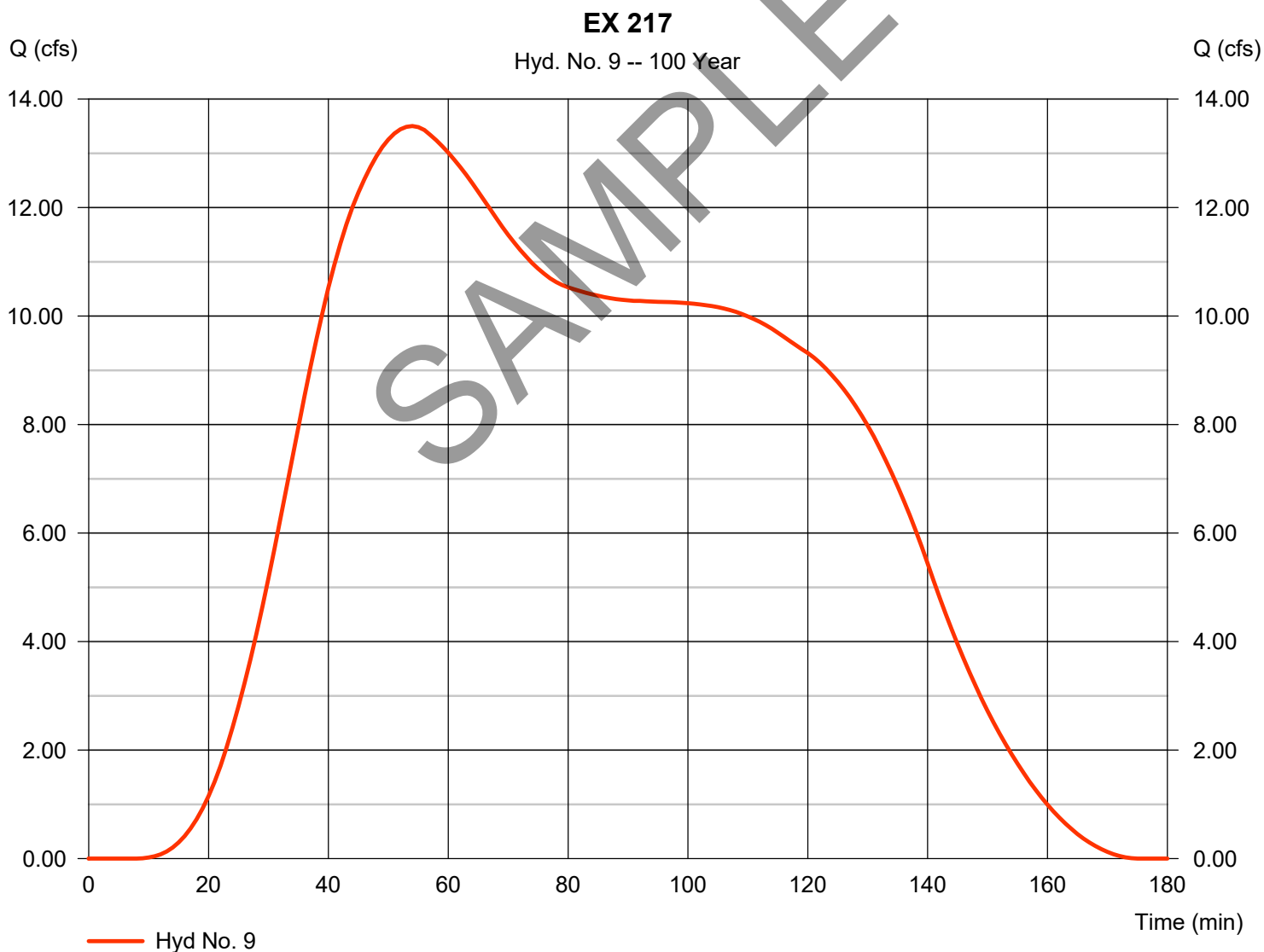
Tuesday, 03 / 12 / 2019

Hyd. No. 9

EX 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 10.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 13.50 cfs
Time to peak = 54 min
Hyd. volume = 73,359 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

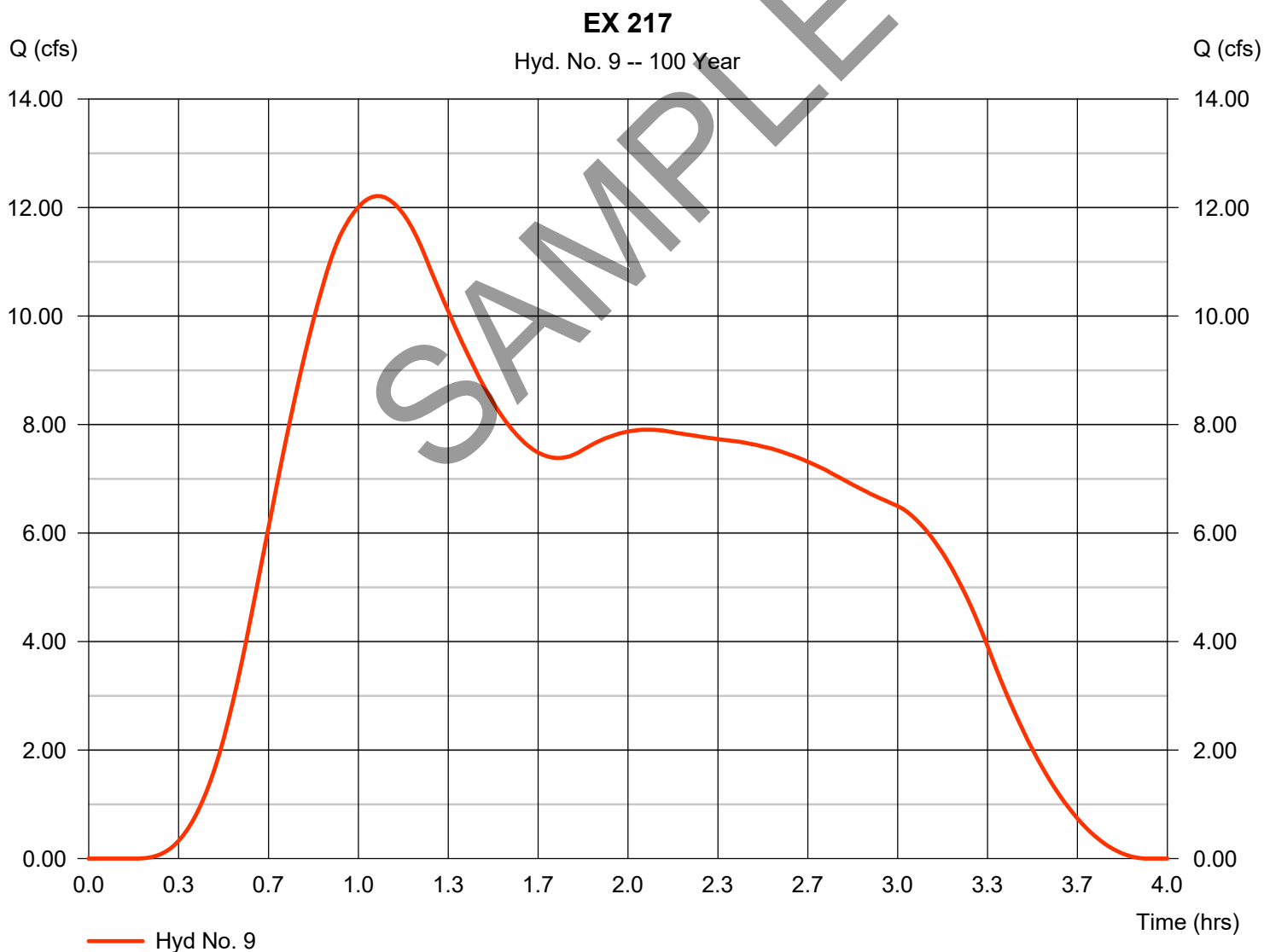
Tuesday, 03 / 12 / 2019

Hyd. No. 9

EX 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 10.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 12.21 cfs
Time to peak = 1.07 hrs
Hyd. volume = 84,079 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.10 min
Distribution = Custom
Shape factor = 484

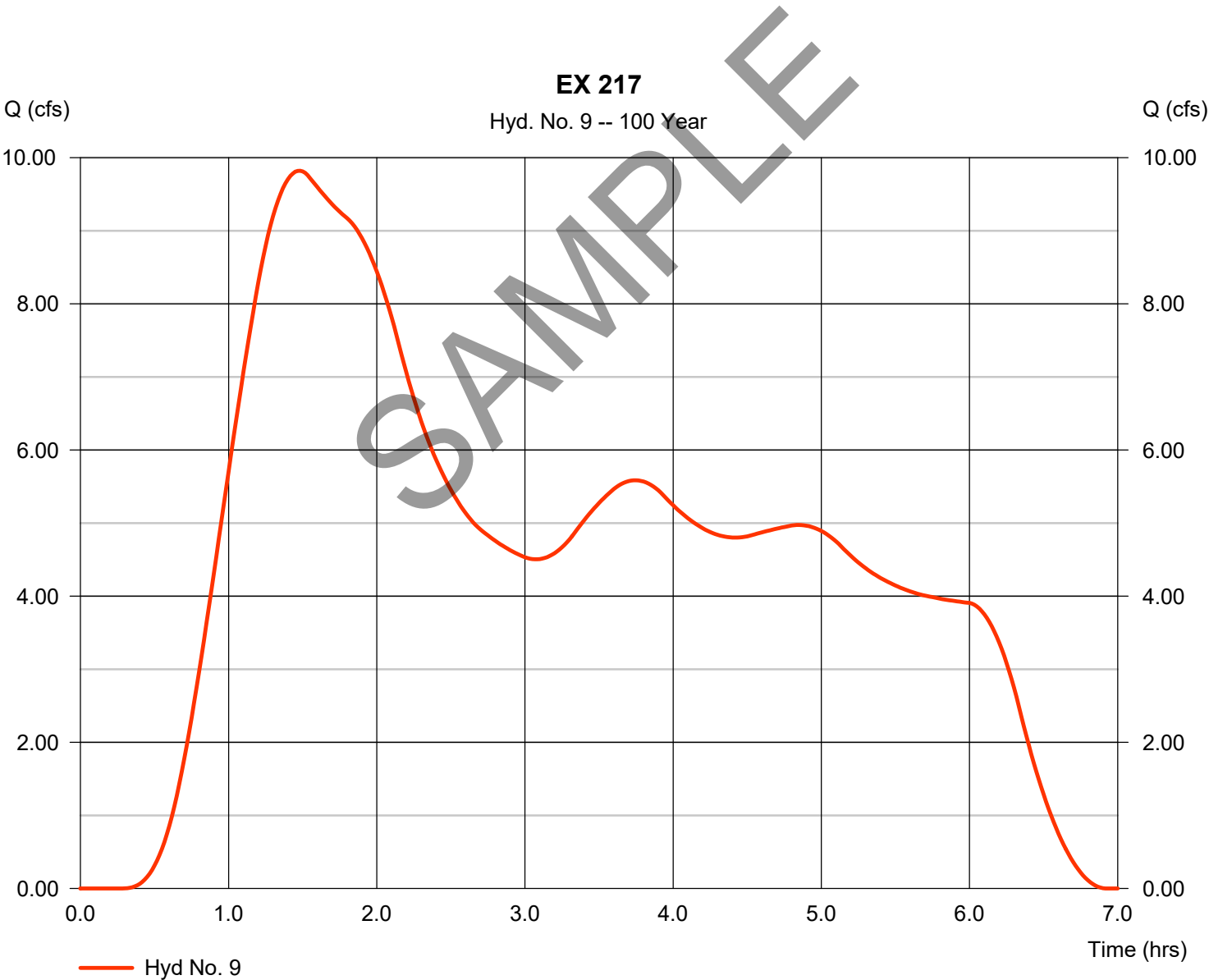


Hydrograph Report

Hyd. No. 9

EX 217

Hydrograph type	= SCS Runoff	Peak discharge	= 9.821 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.48 hrs
Time interval	= 1 min	Hyd. volume	= 114,806 cuft
Drainage area	= 10.000 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.10 min
Total precip.	= 5.20 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

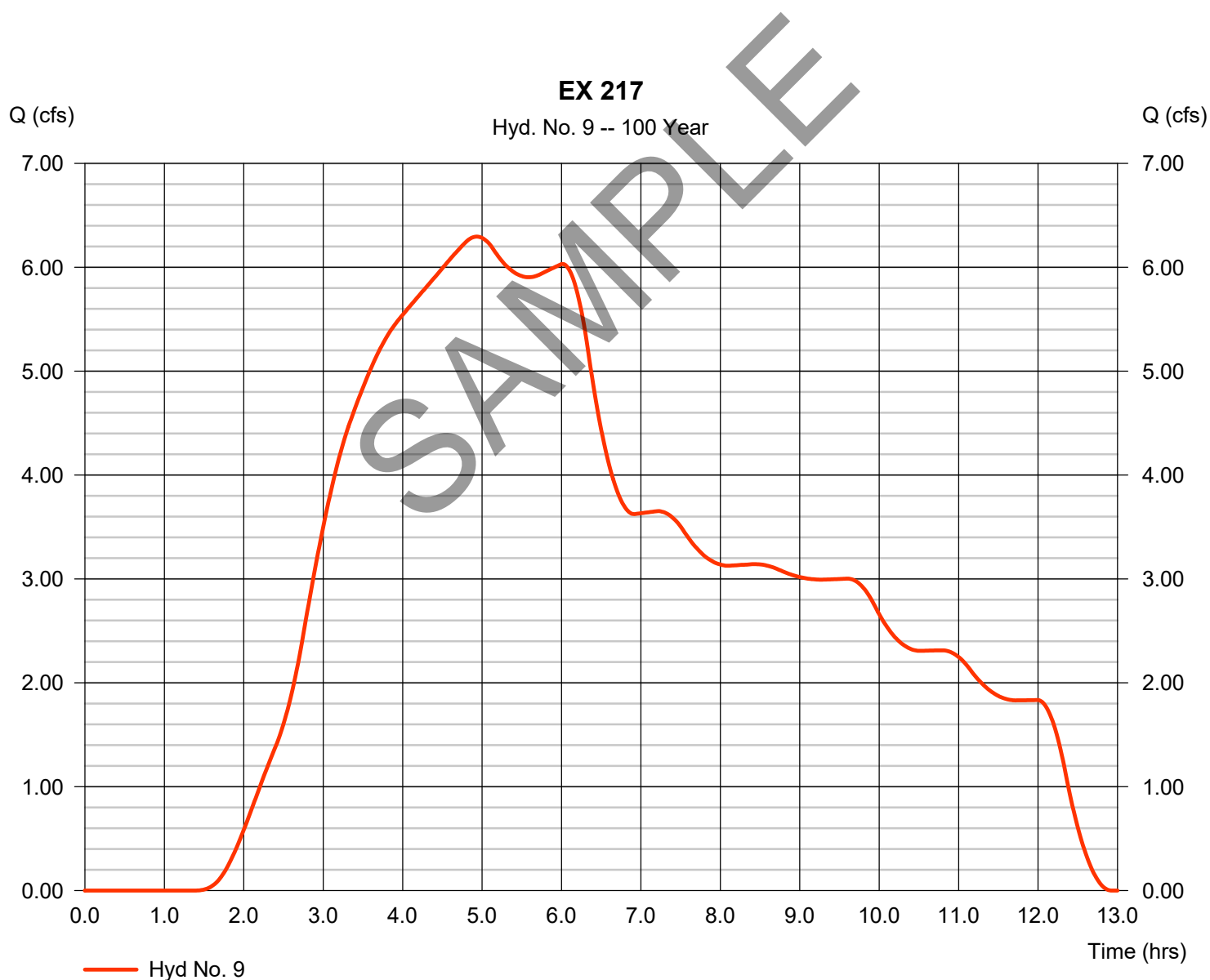
Tuesday, 03 / 12 / 2019

Hyd. No. 9

EX 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 10.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 6.296 cfs
Time to peak = 4.93 hrs
Hyd. volume = 136,357 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

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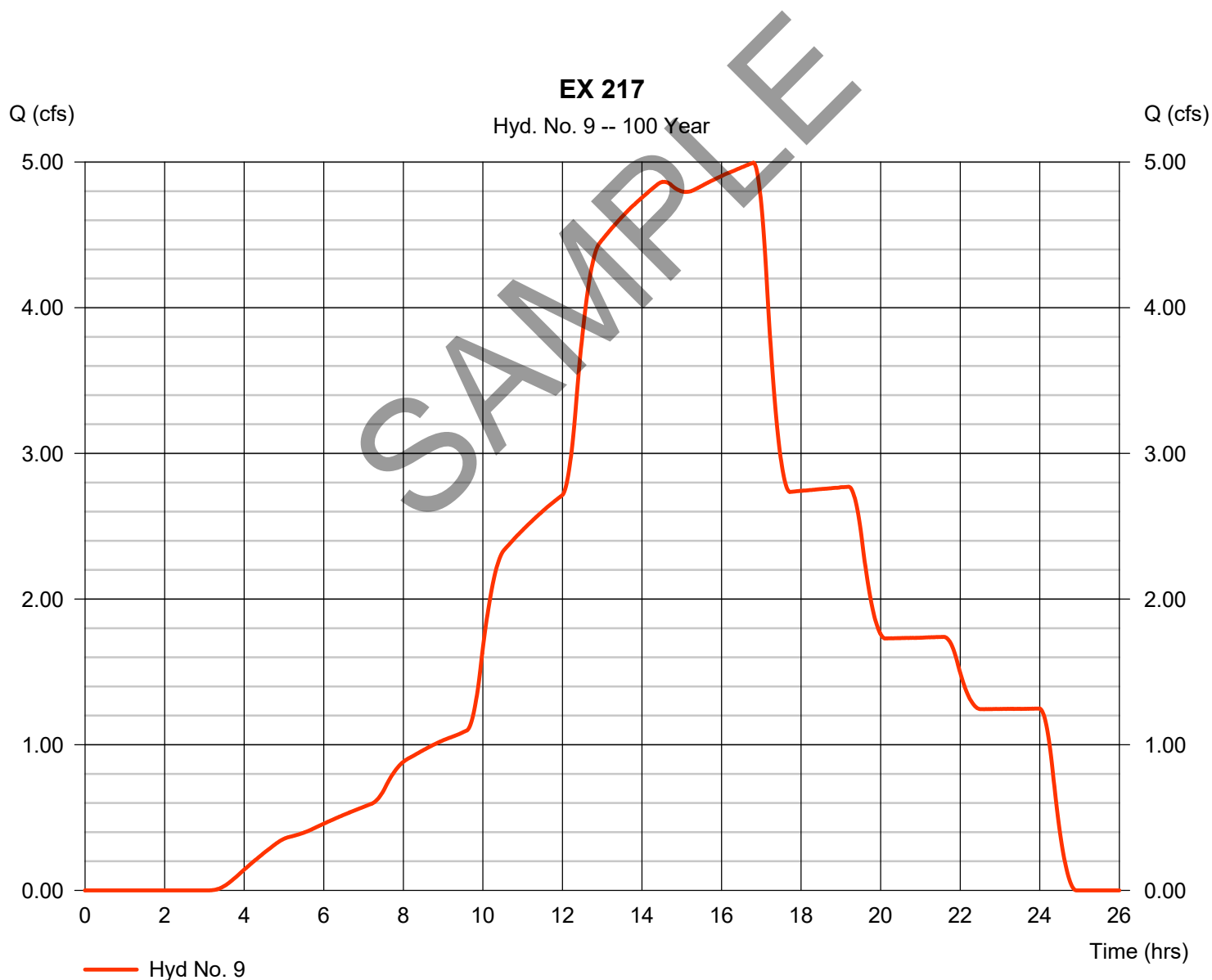
Tuesday, 03 / 12 / 2019

Hyd. No. 9

EX 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 10.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 4.996 cfs
Time to peak = 16.80 hrs
Hyd. volume = 168,018 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

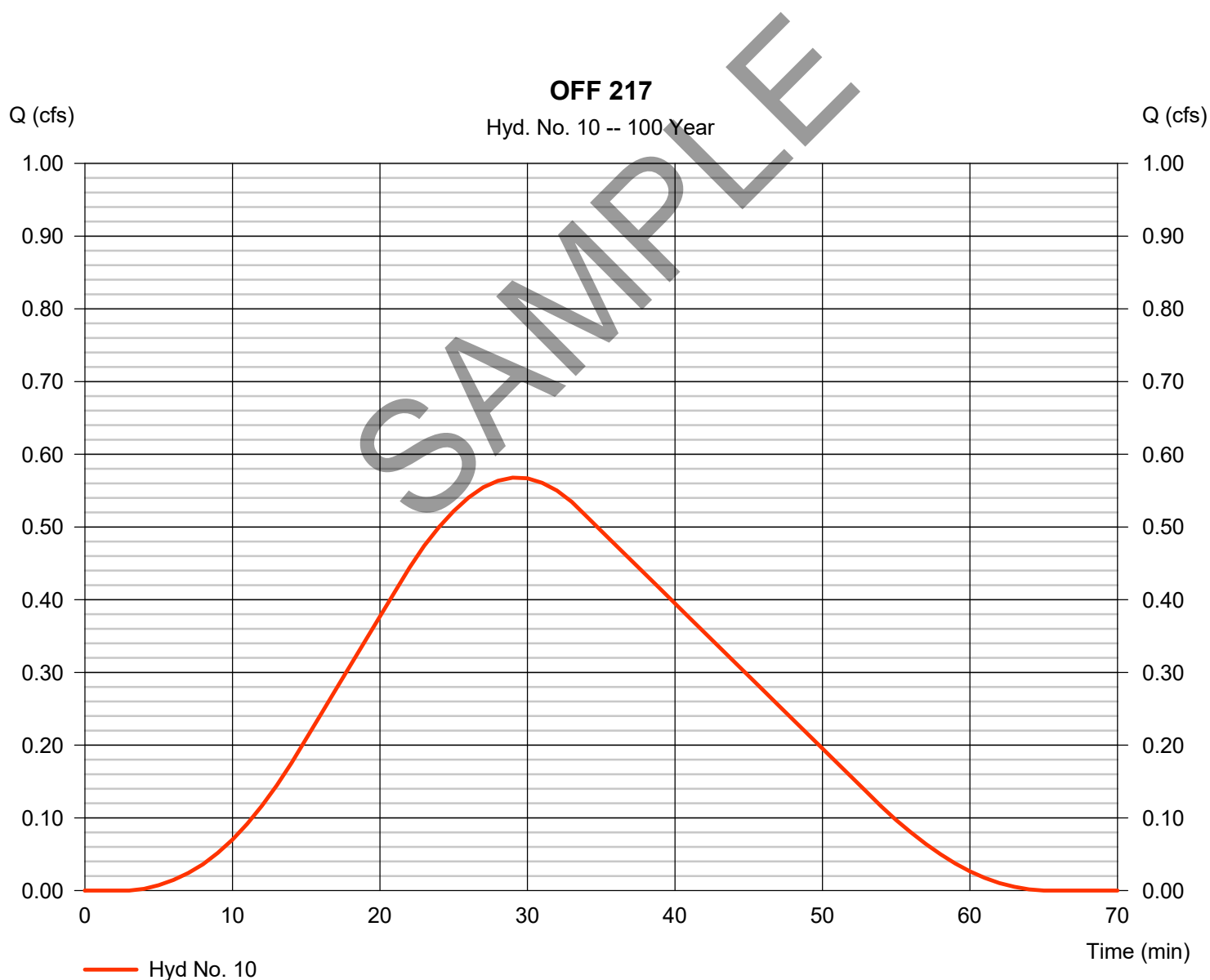
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Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type	= SCS Runoff	Peak discharge	= 0.568 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 977 cuft
Drainage area	= 0.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.00 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

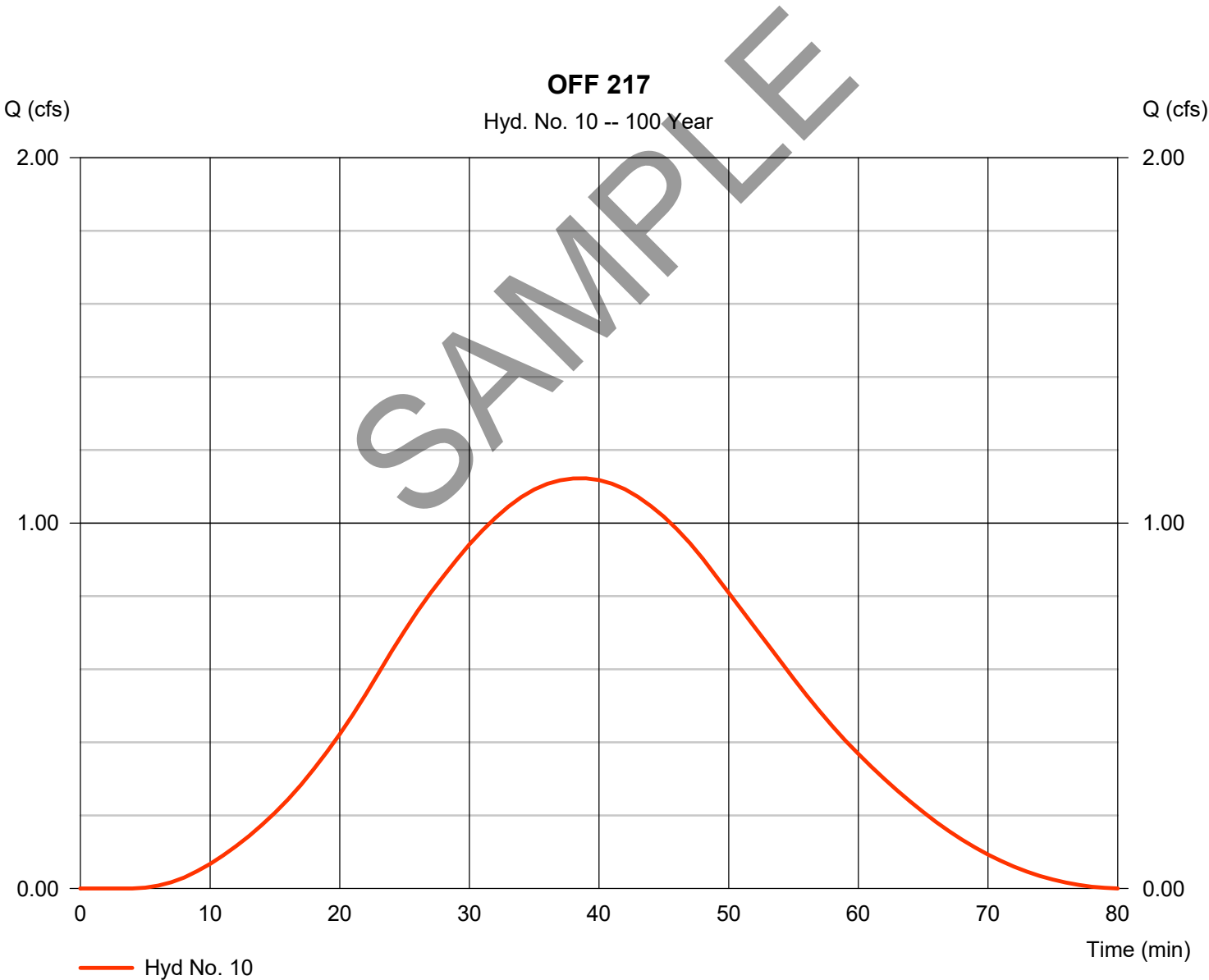


Hydrograph Report

Hyd. No. 10

OFF 217

Hydrograph type	= SCS Runoff	Peak discharge	= 1.122 cfs
Storm frequency	= 100 yrs	Time to peak	= 39 min
Time interval	= 1 min	Hyd. volume	= 2,295 cuft
Drainage area	= 0.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.00 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

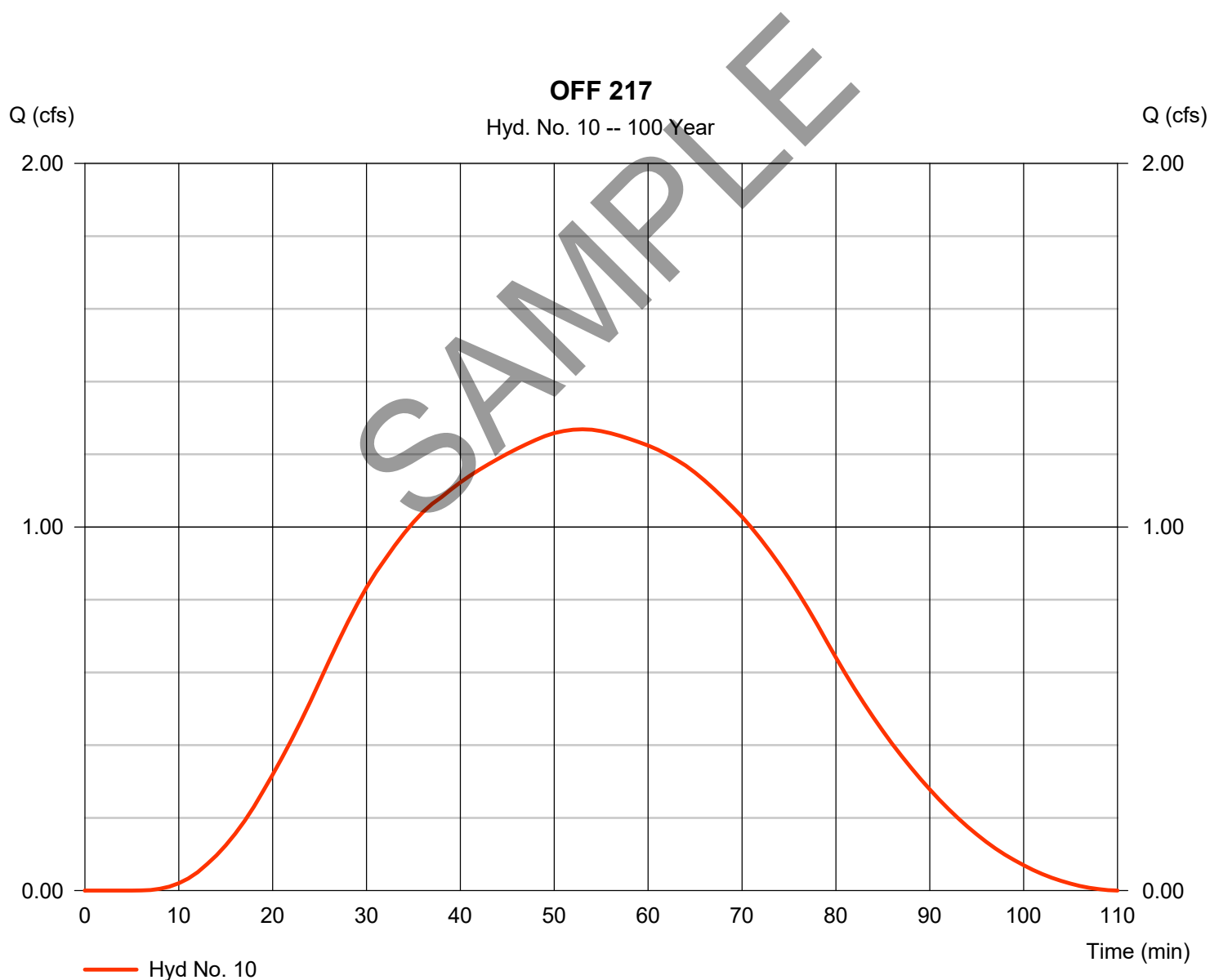
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type	= SCS Runoff	Peak discharge	= 1.269 cfs
Storm frequency	= 100 yrs	Time to peak	= 53 min
Time interval	= 1 min	Hyd. volume	= 4,077 cuft
Drainage area	= 0.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.00 min
Total precip.	= 3.07 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

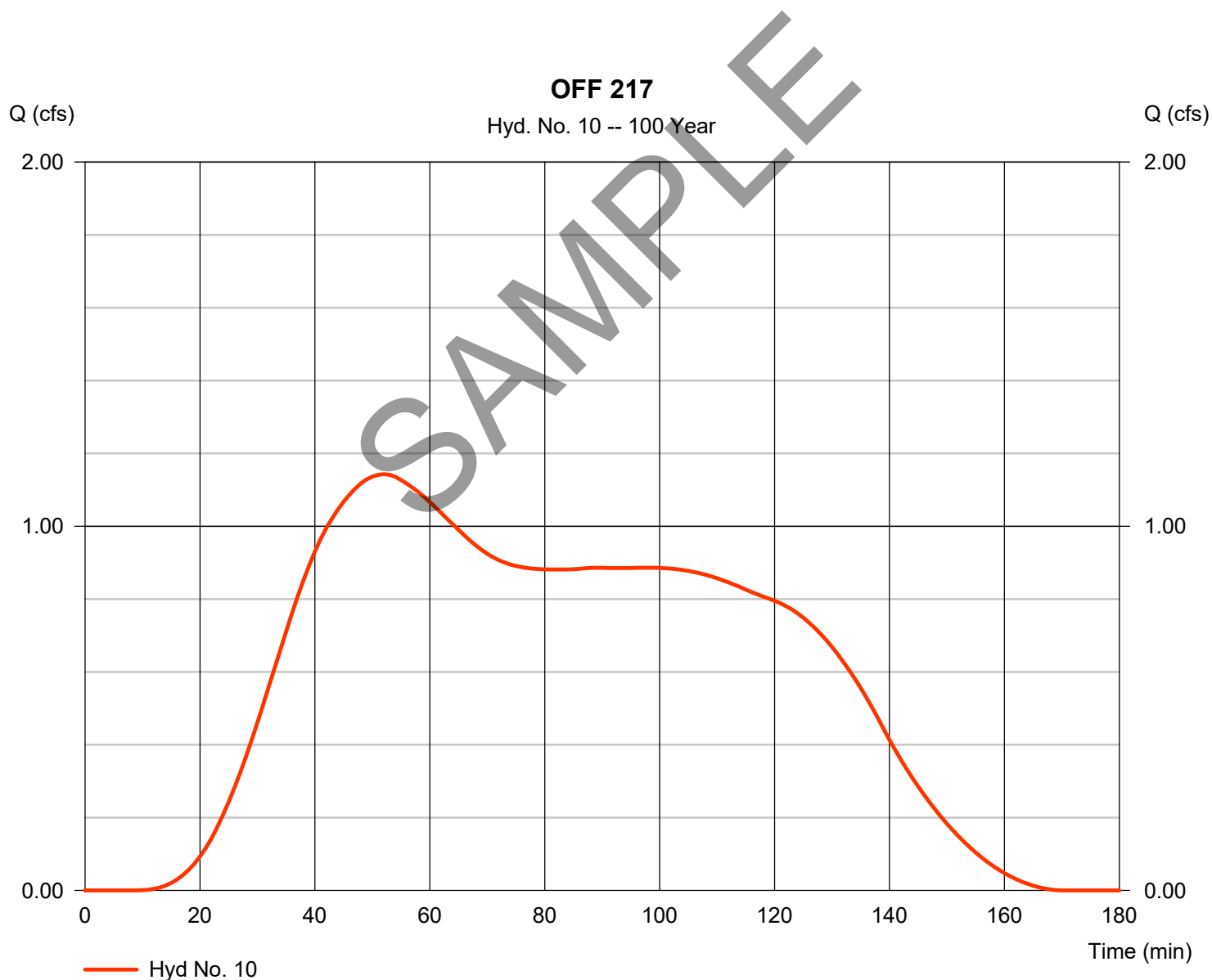
Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 1.143 cfs
Time to peak = 52 min
Hyd. volume = 6,138 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.00 min
Distribution = Custom
Shape factor = 484

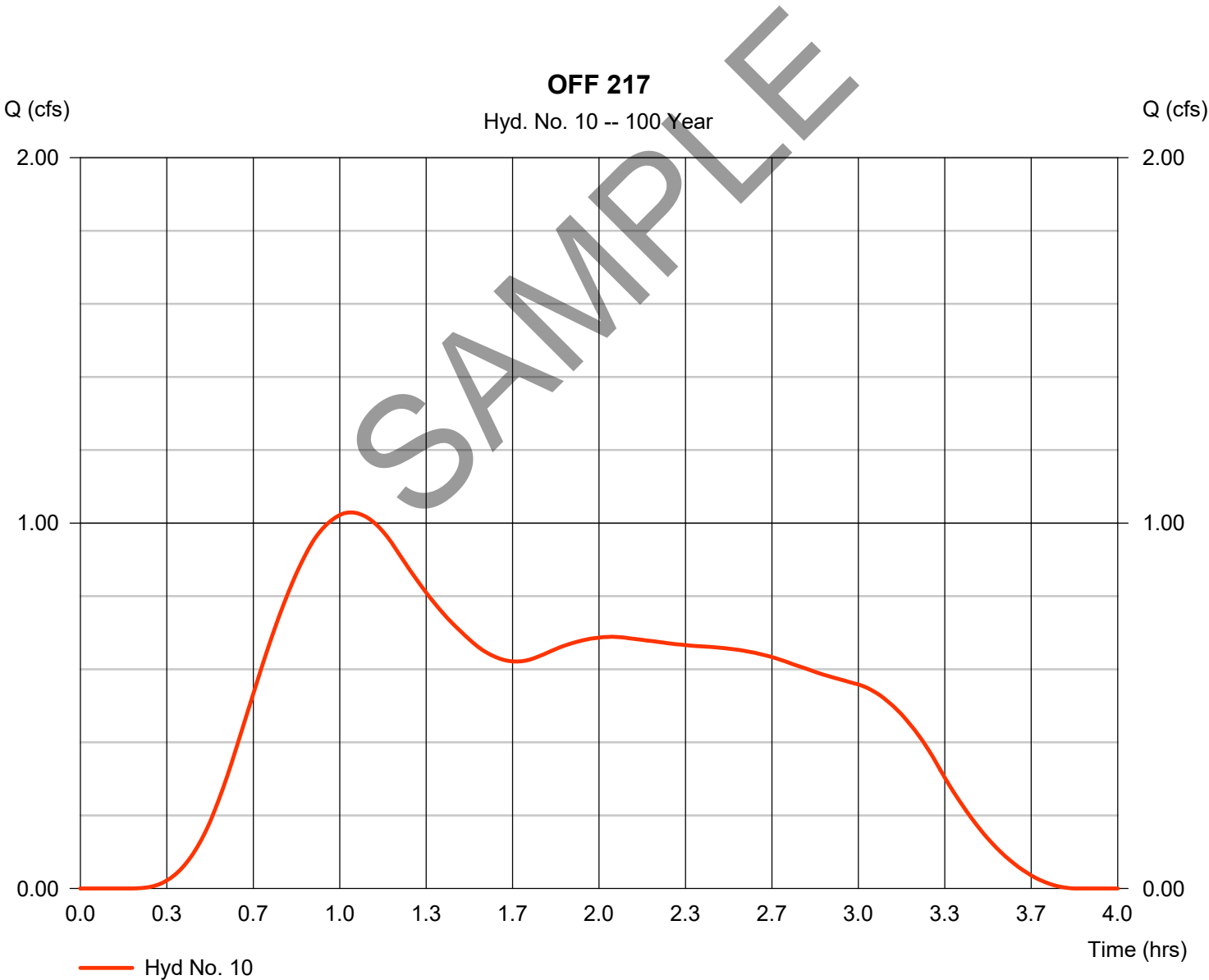


Hydrograph Report

Hyd. No. 10

OFF 217

Hydrograph type	= SCS Runoff	Peak discharge	= 1.029 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.05 hrs
Time interval	= 1 min	Hyd. volume	= 7,076 cuft
Drainage area	= 0.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.00 min
Total precip.	= 4.23 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

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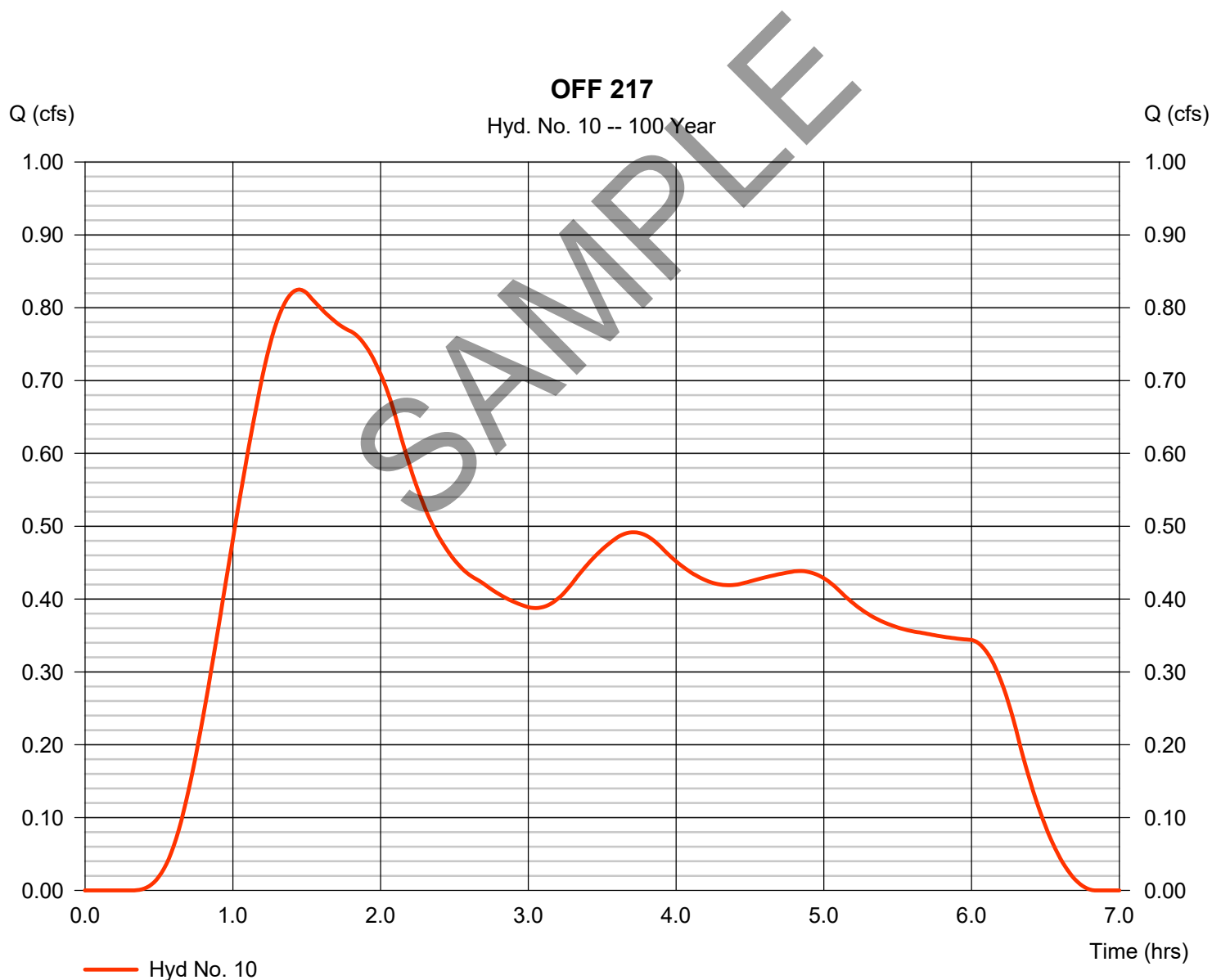
Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 0.825 cfs
Time to peak = 1.45 hrs
Hyd. volume = 9,782 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

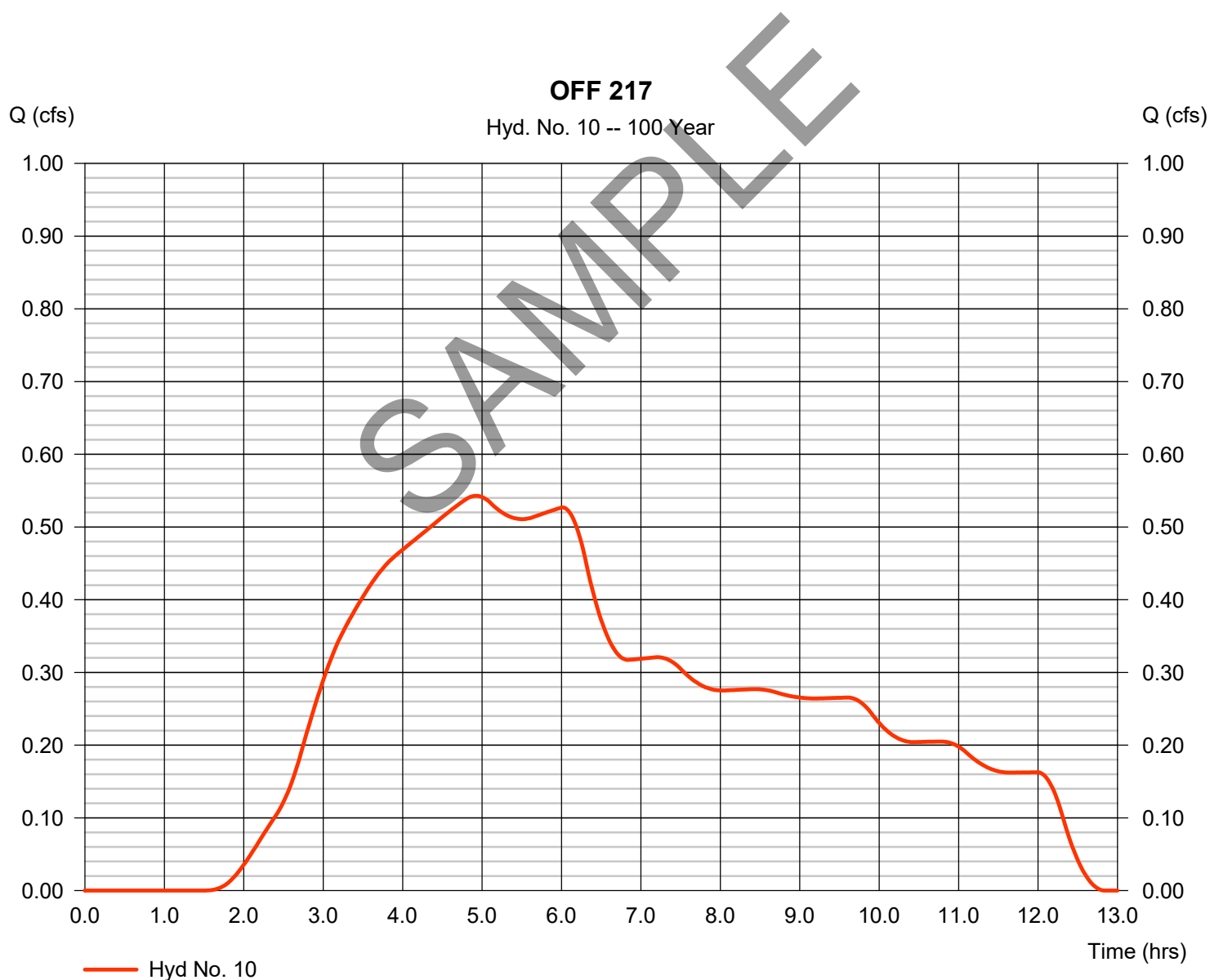
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Hyd. No. 10

OFF 217

Hydrograph type	= SCS Runoff	Peak discharge	= 0.543 cfs
Storm frequency	= 100 yrs	Time to peak	= 4.92 hrs
Time interval	= 1 min	Hyd. volume	= 11,690 cuft
Drainage area	= 0.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.00 min
Total precip.	= 5.86 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

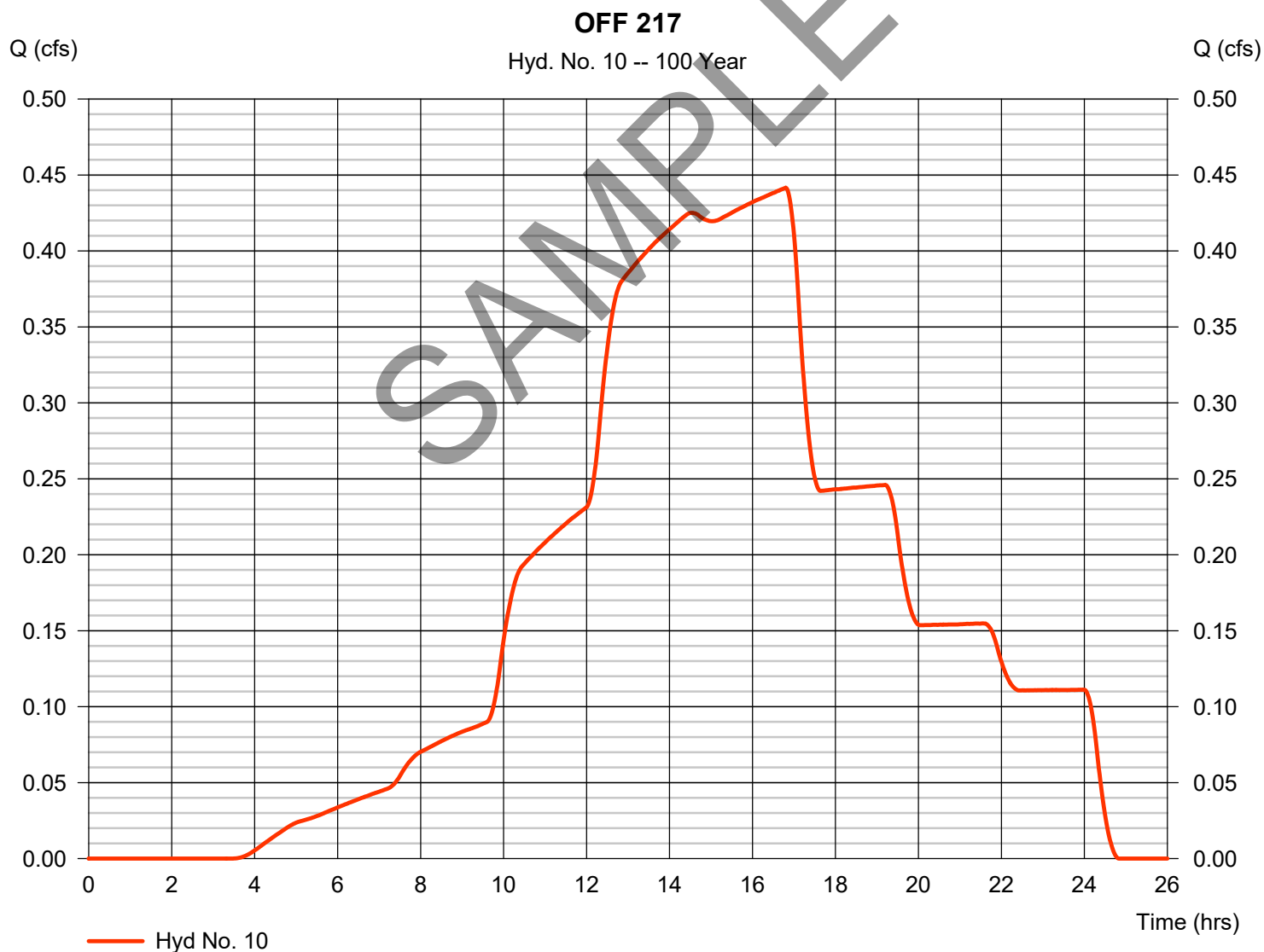
Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 0.442 cfs
Time to peak = 16.80 hrs
Hyd. volume = 14,505 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

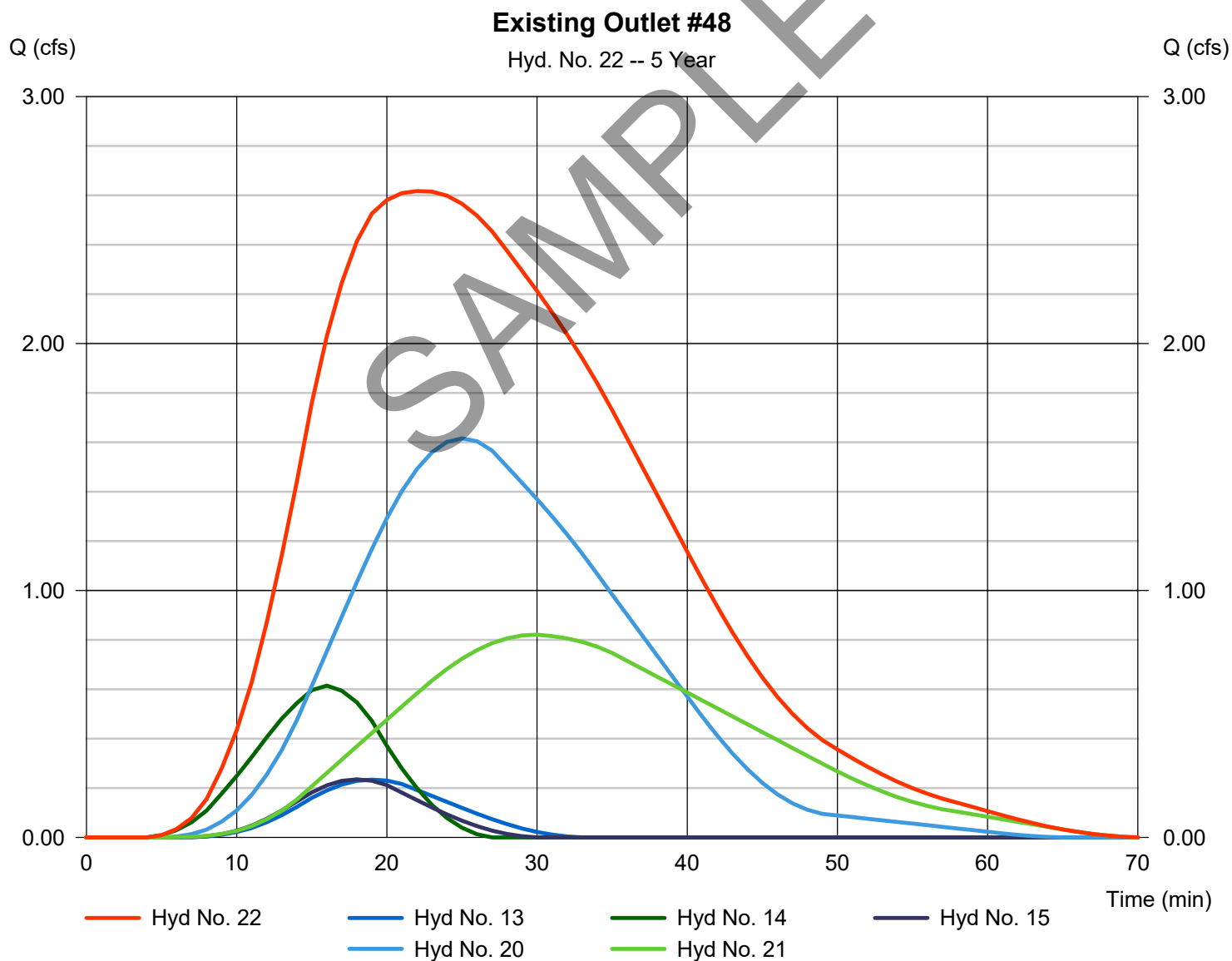
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 22

Existing Outlet #48

Hydrograph type	= Combine	Peak discharge	= 2.617 cfs
Storm frequency	= 5 yrs	Time to peak	= 22 min
Time interval	= 1 min	Hyd. volume	= 4,133 cuft
Inflow hyds.	= 13, 14, 15, 20, 21	Contrib. drain. area	= 2.900 ac



Hydrograph Report

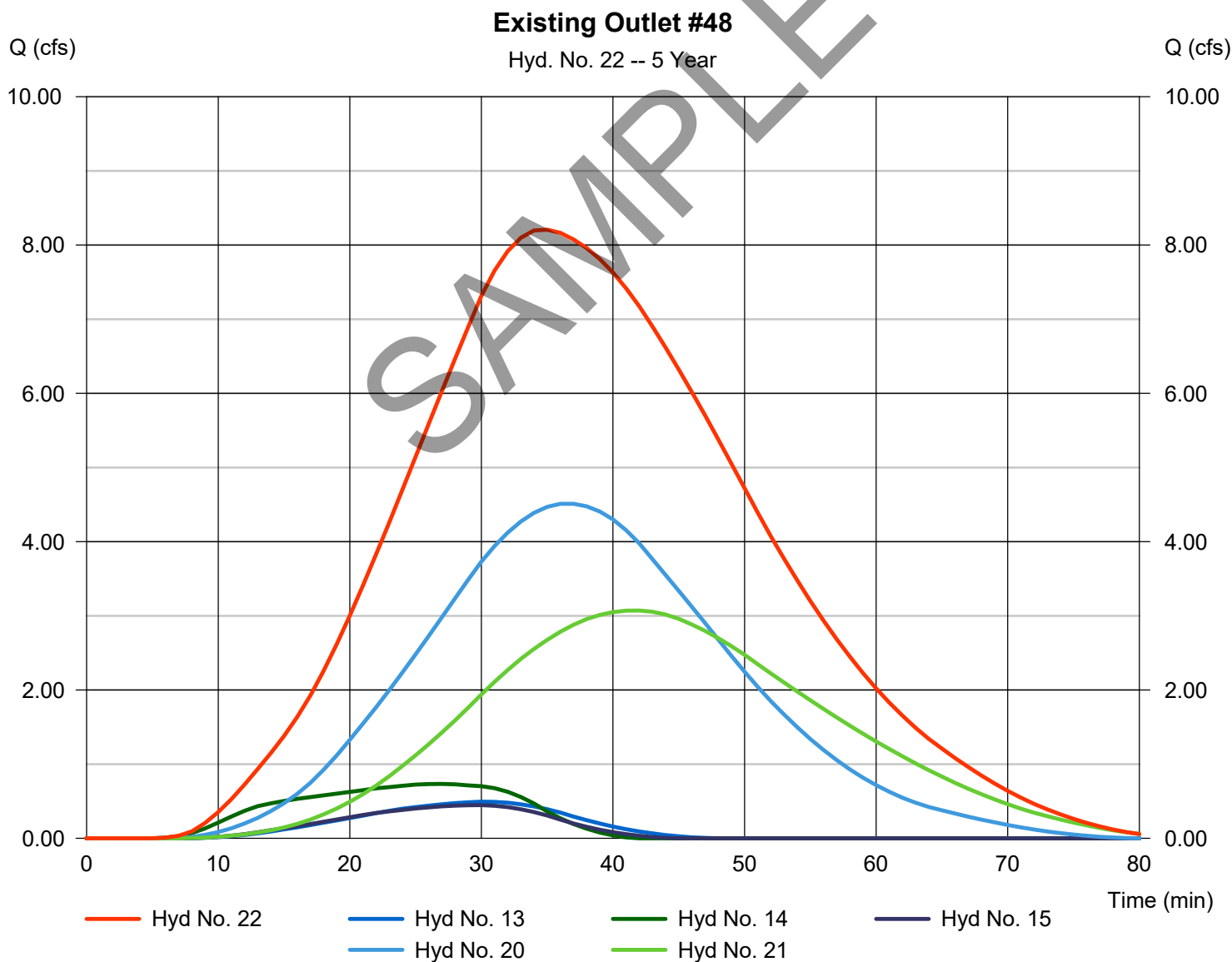
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 22

Existing Outlet #48

Hydrograph type	= Combine	Peak discharge	= 8.207 cfs
Storm frequency	= 5 yrs	Time to peak	= 35 min
Time interval	= 1 min	Hyd. volume	= 15,432 cuft
Inflow hyds.	= 13, 14, 15, 20, 21	Contrib. drain. area	= 2.900 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

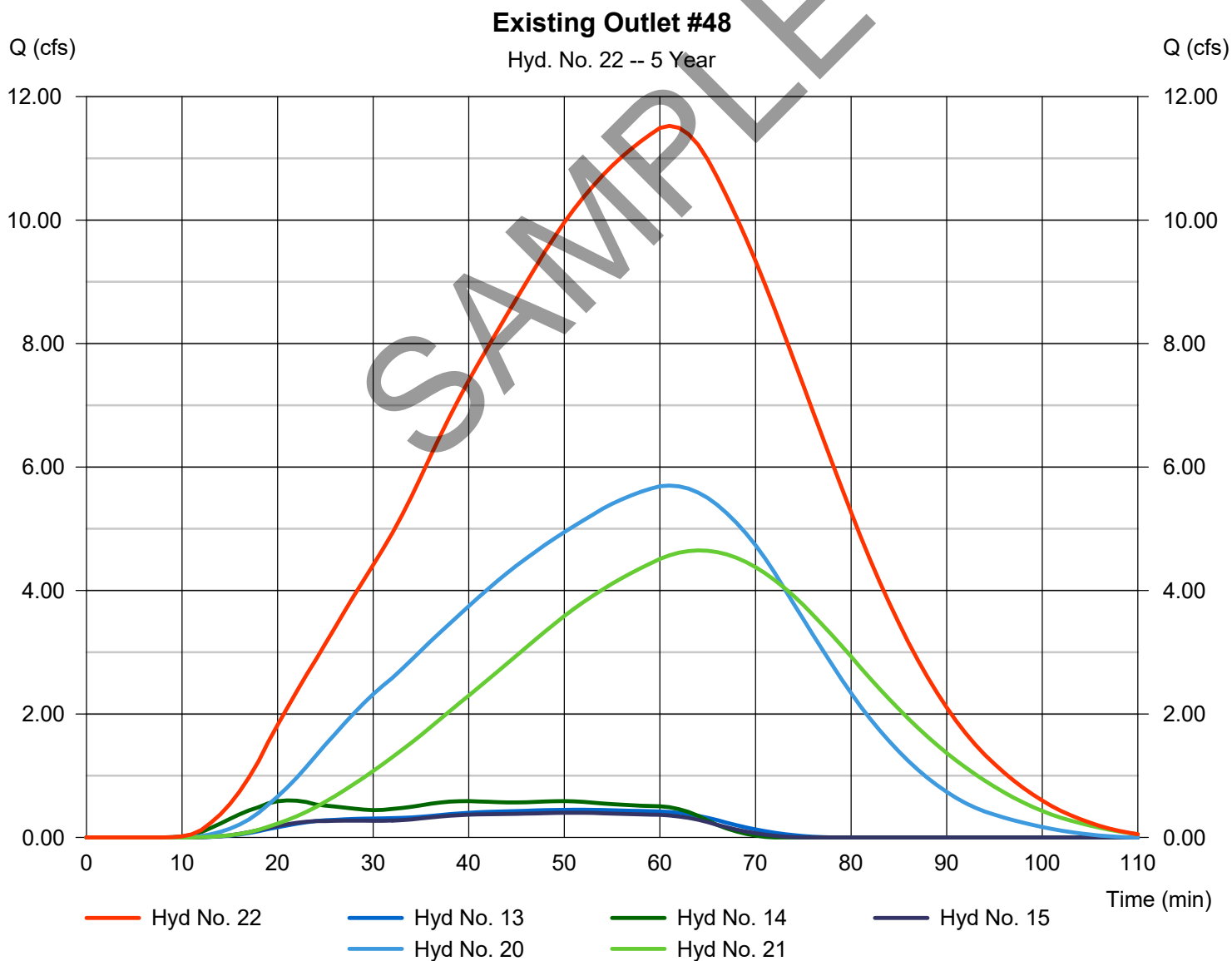
Tuesday, 03 / 19 / 2019

Hyd. No. 22

Existing Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs @ 1 in
Time interval = 1 min
Inflow hyds. = 13, 14, 15, 20, 21

Peak discharge = 11.53 cfs
Time to peak = 61 min
Hyd. volume = 31,432 cuft
Contrib. drain. area = 2.900 ac



Hydrograph Report

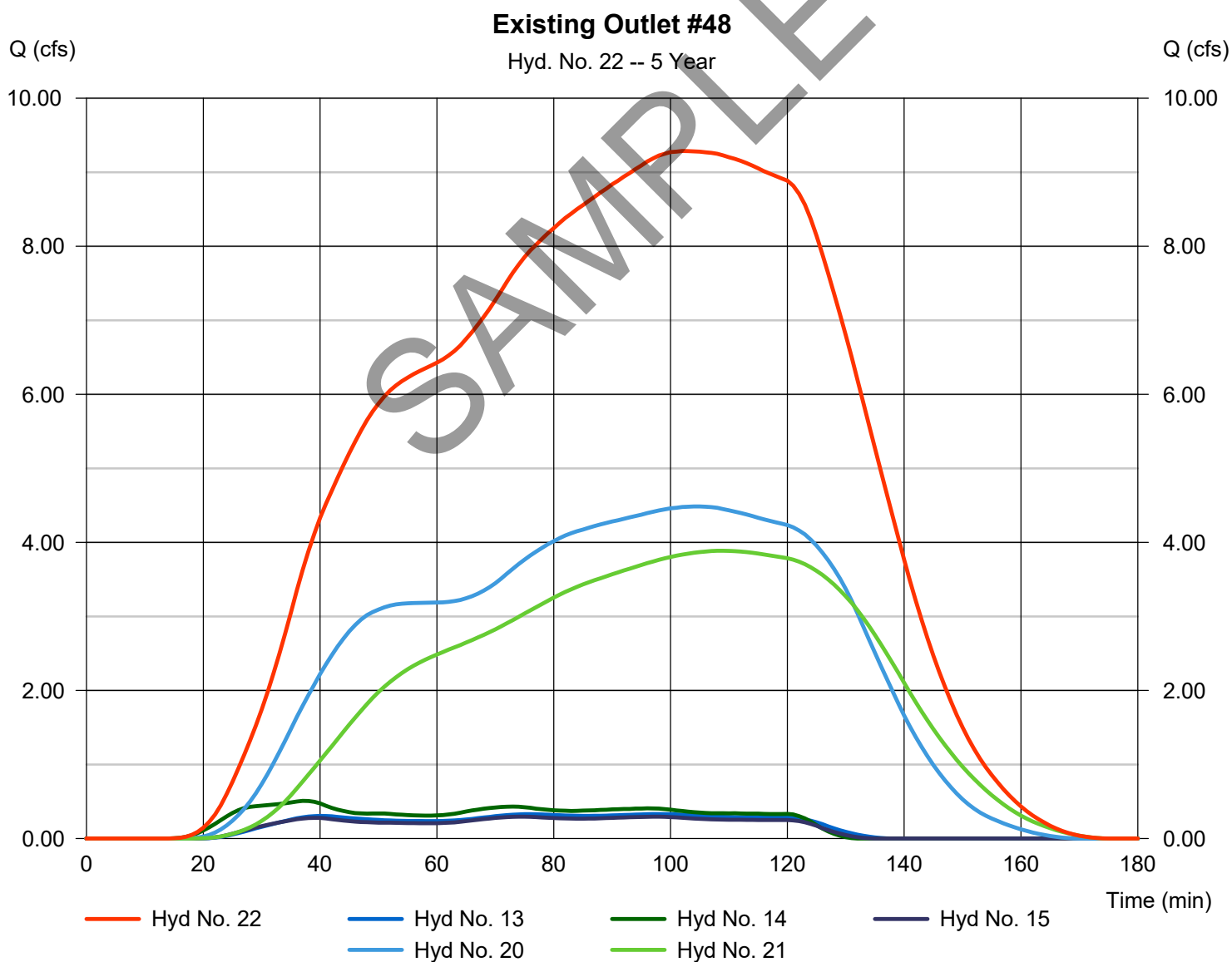
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 22

Existing Outlet #48

Hydrograph type	= Combine	Peak discharge	= 9.287 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 102 min
Time interval	= 1 min	Hyd. volume	= 49,656 cuft
Inflow hyds.	= 13, 14, 15, 20, 21	Contrib. drain. area	= 2.900 ac



Hydrograph Report

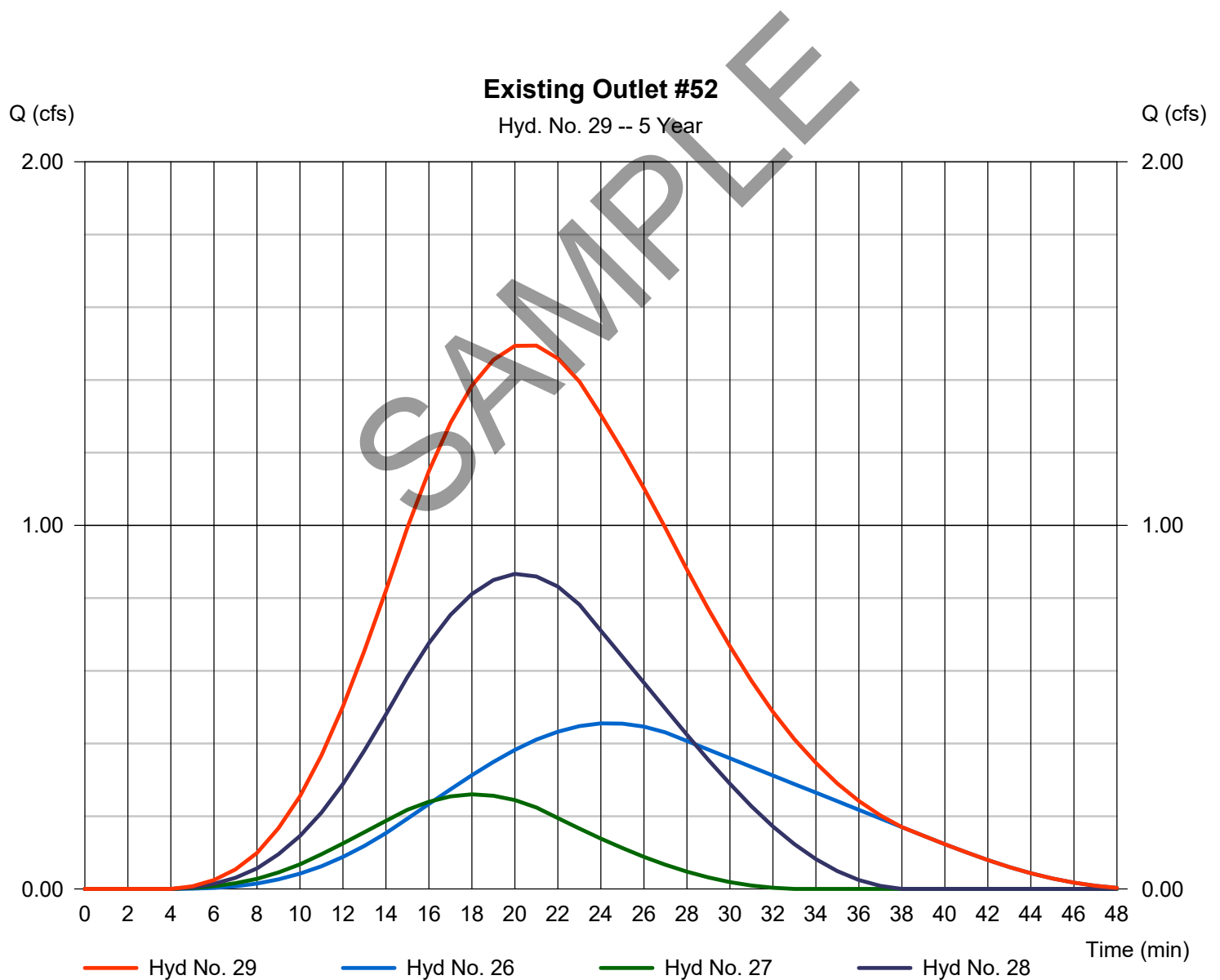
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

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Hyd. No. 29

Existing Outlet #52

Hydrograph type	= Combine	Peak discharge	= 1.494 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 21 min
Time interval	= 1 min	Hyd. volume	= 1,519 cuft
Inflow hyds.	= 26, 27, 28	Contrib. drain. area	= 4.700 ac



Hydrograph Report

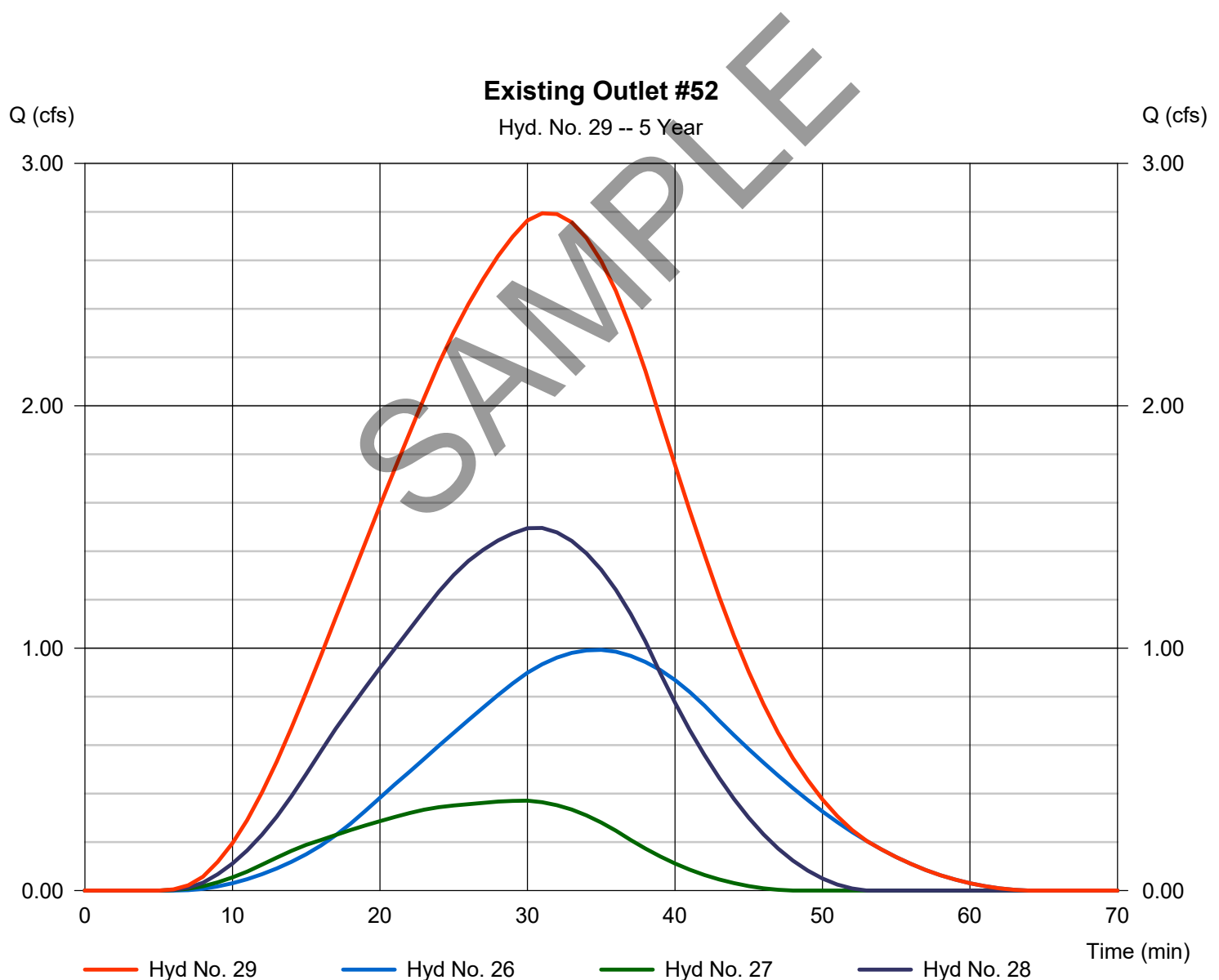
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 29

Existing Outlet #52

Hydrograph type	= Combine	Peak discharge	= 2.794 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 4,038 cuft
Inflow hyds.	= 26, 27, 28	Contrib. drain. area	= 4.700 ac



Hydrograph Report

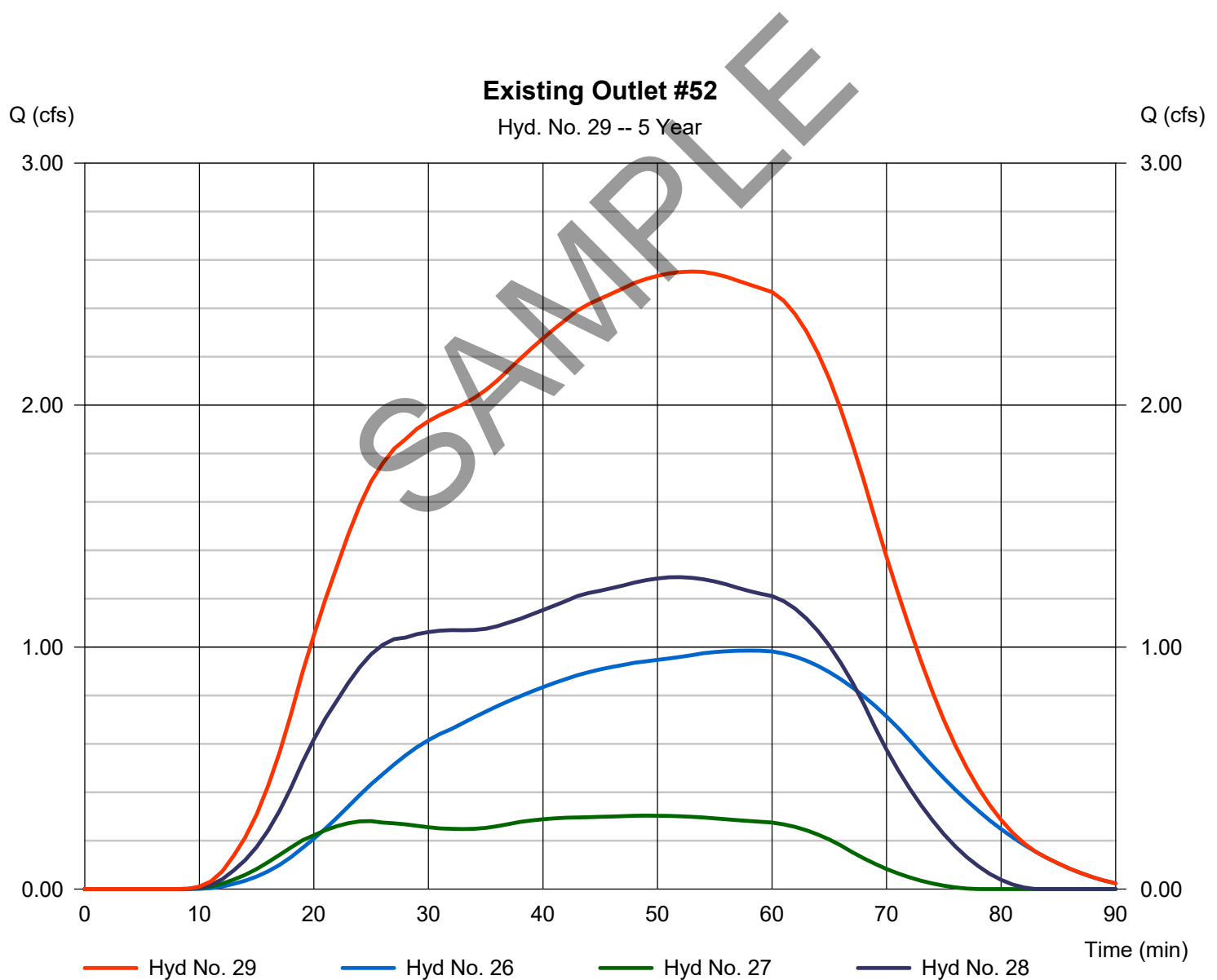
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

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Hyd. No. 29

Existing Outlet #52

Hydrograph type	= Combine	Peak discharge	= 2.552 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 53 min
Time interval	= 1 min	Hyd. volume	= 7,168 cuft
Inflow hyds.	= 26, 27, 28	Contrib. drain. area	= 4.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

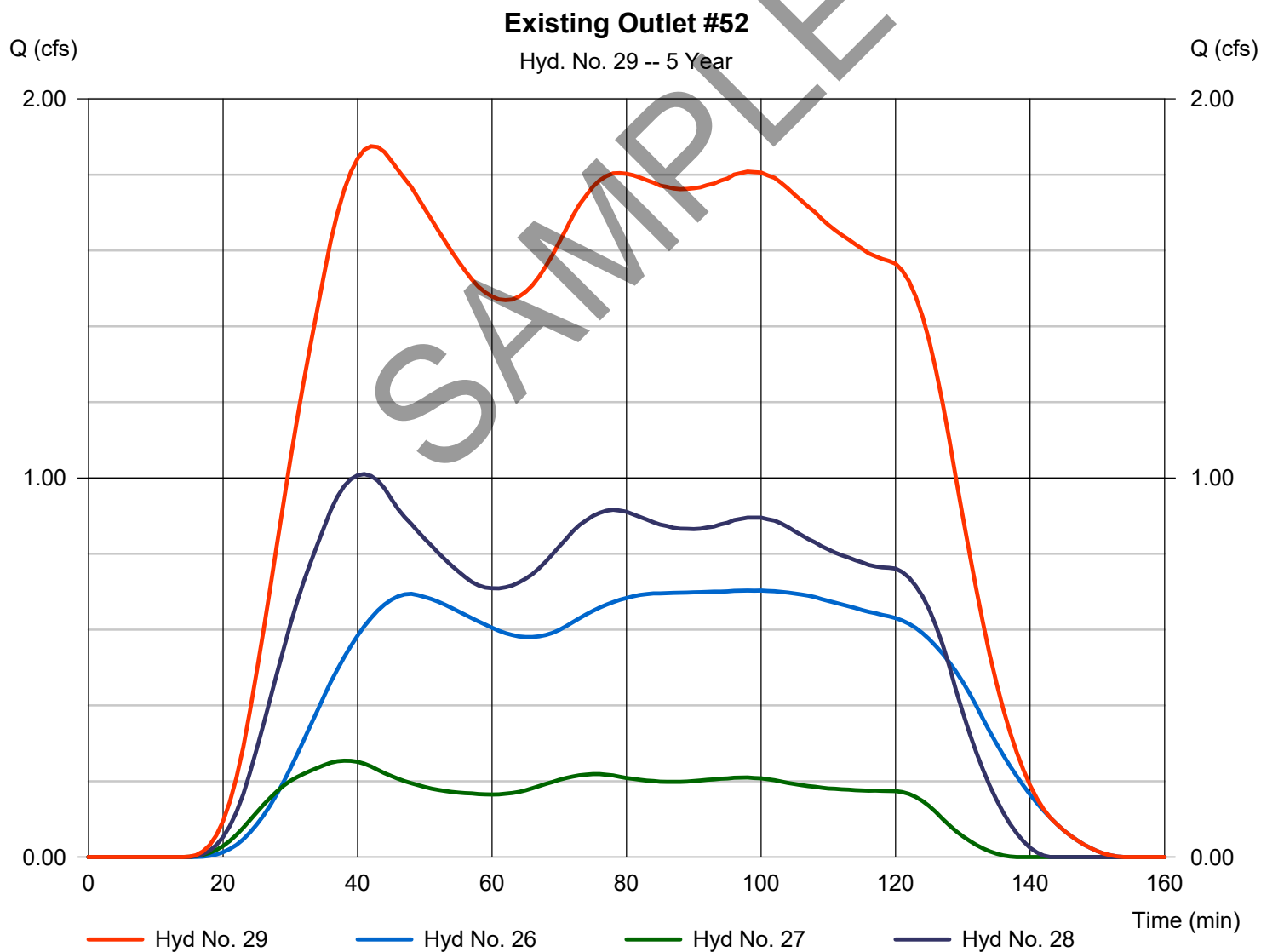
Tuesday, 03 / 19 / 2019

Hyd. No. 29

Existing Outlet #52

Hydrograph type = Combine
Storm frequency = 5 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 26, 27, 28

Peak discharge = 1.875 cfs
Time to peak = 42 min
Hyd. volume = 10,501 cuft
Contrib. drain. area = 4.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

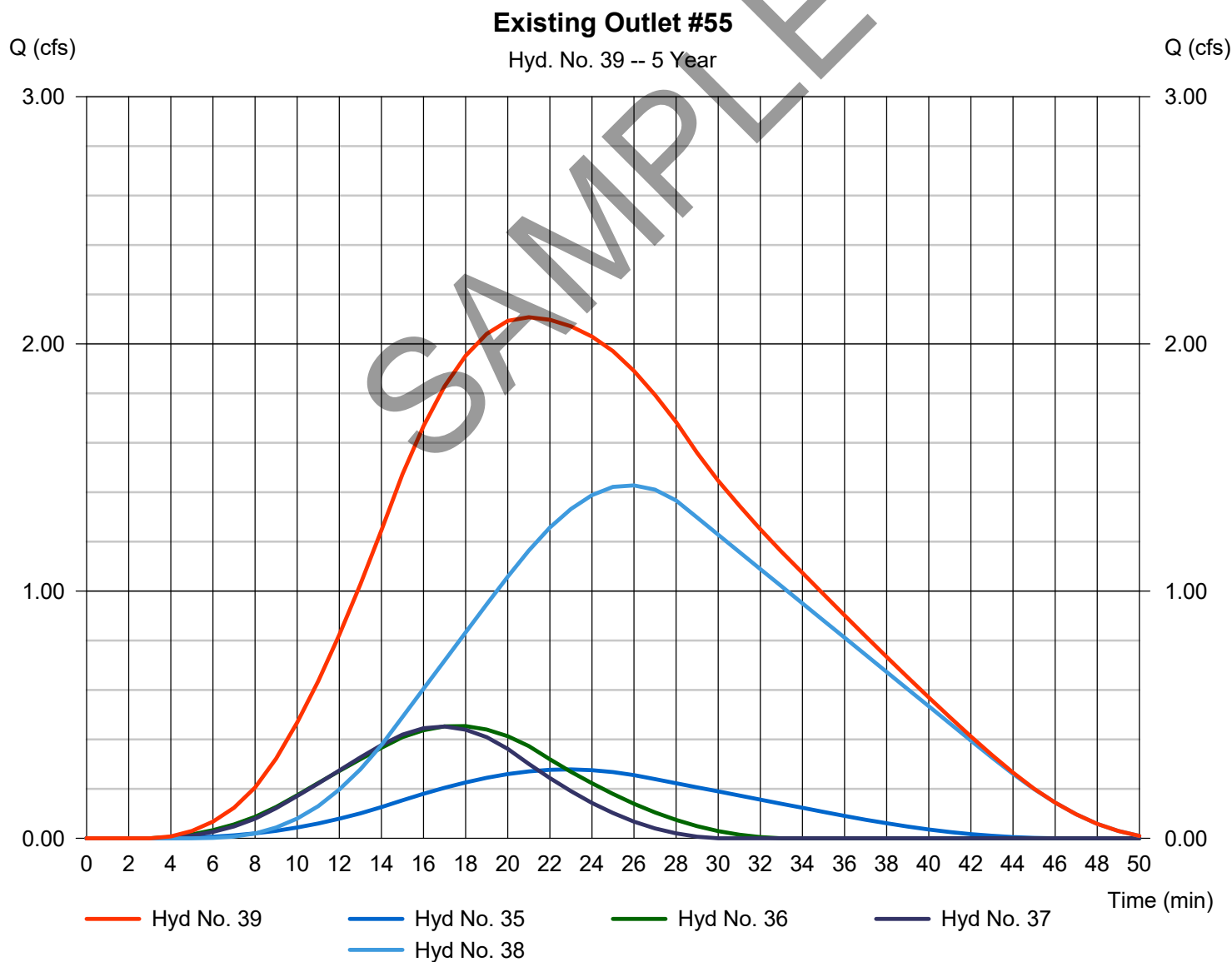
Tuesday, 03 / 19 / 2019

Hyd. No. 39

Existing Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs
Time interval = 1 min
Inflow hyds. = 35, 36, 37, 38

Peak discharge = 2.108 cfs
Time to peak = 21 min
Hyd. volume = 2,772 cuft
Contrib. drain. area = 11.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

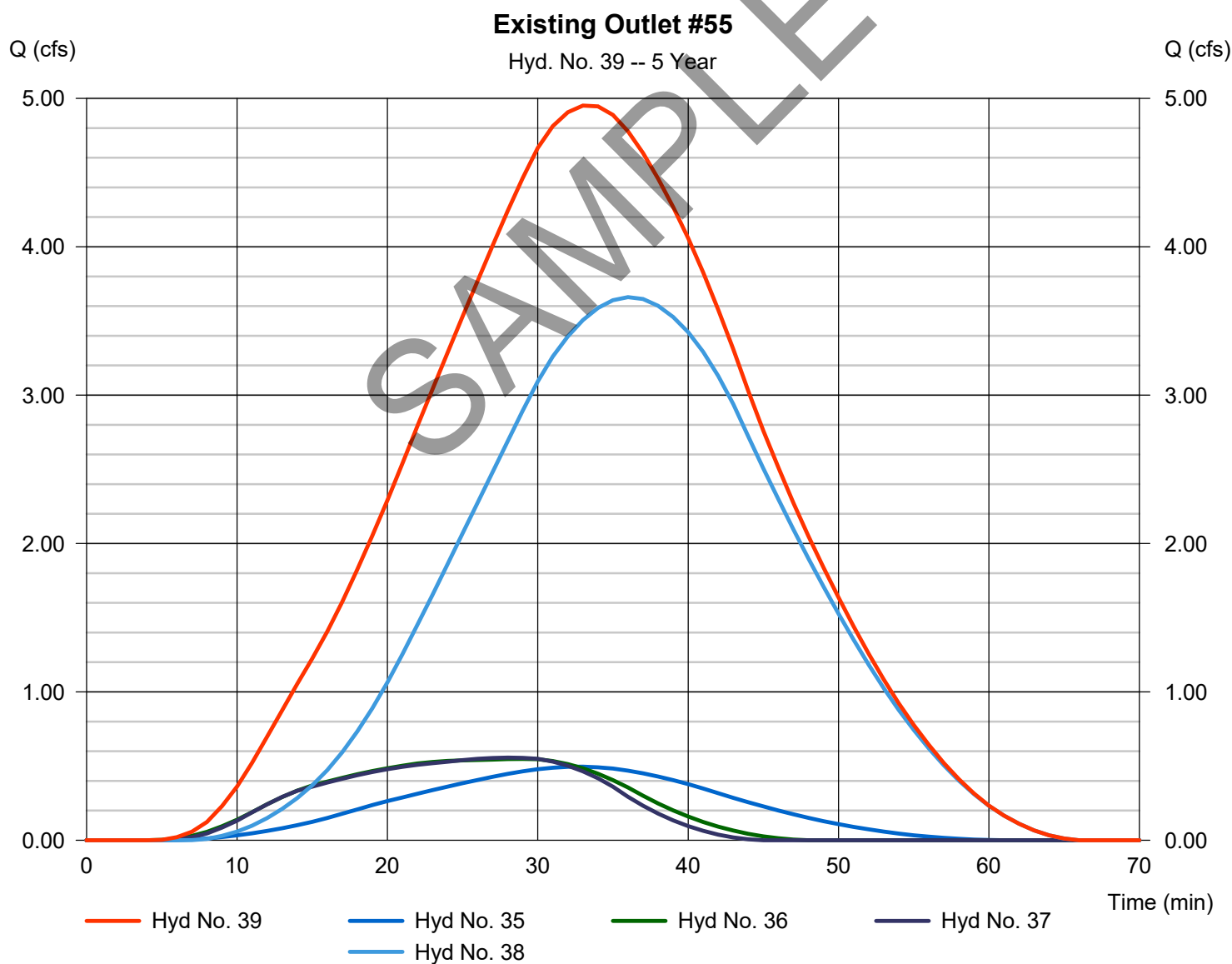
Tuesday, 03 / 19 / 2019

Hyd. No. 39

Existing Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs -- 1 ac
Time interval = 1 min
Inflow hyds. = 35, 36, 37, 38

Peak discharge = 4.952 cfs
Time to peak = 33 min
Hyd. volume = 7,932 cuft
Contrib. drain. area = 11.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

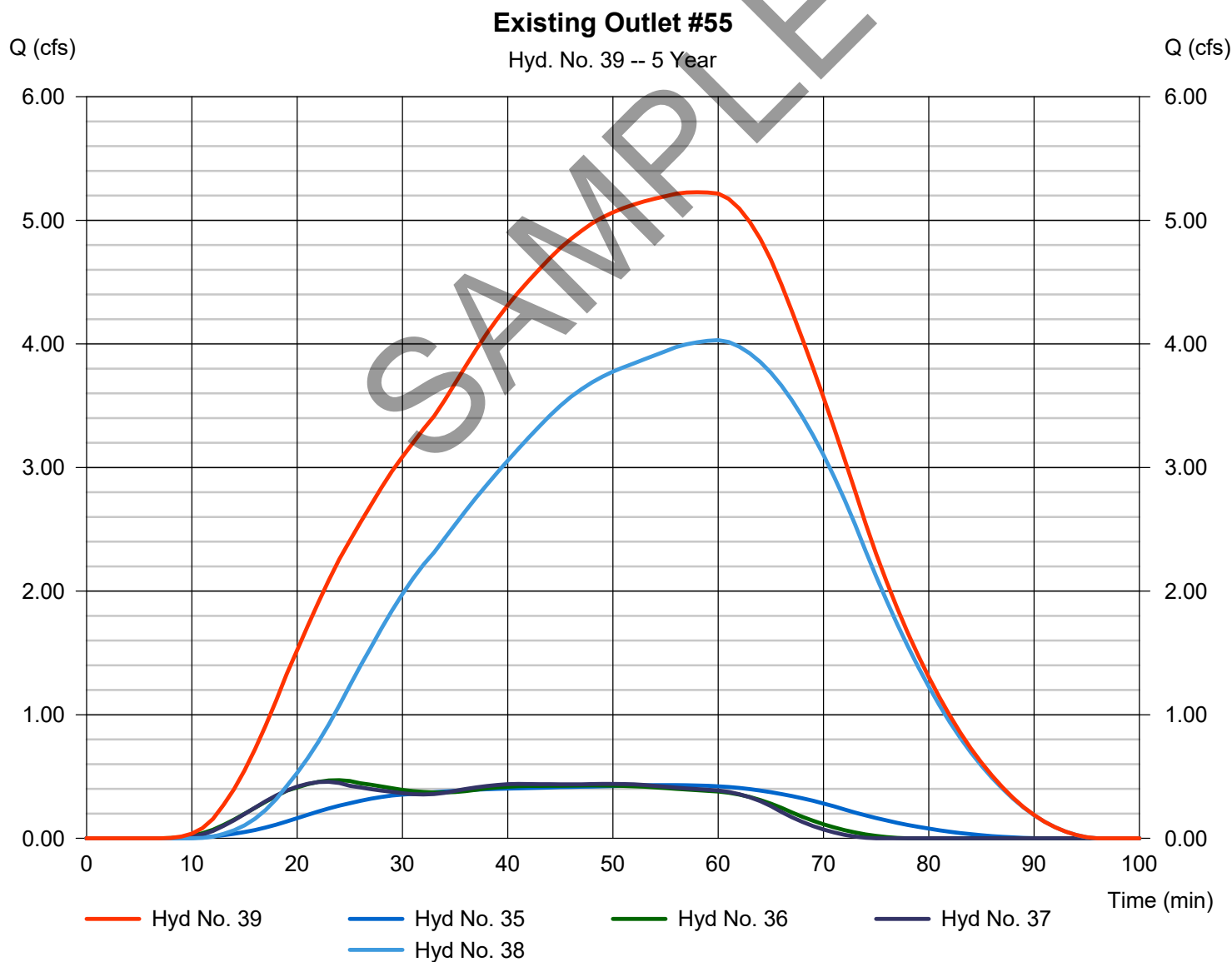
Tuesday, 03 / 19 / 2019

Hyd. No. 39

Existing Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs @ 1 in
Time interval = 1 min
Inflow hyds. = 35, 36, 37, 38

Peak discharge = 5.227 cfs
Time to peak = 58 min
Hyd. volume = 14,552 cuft
Contrib. drain. area = 11.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

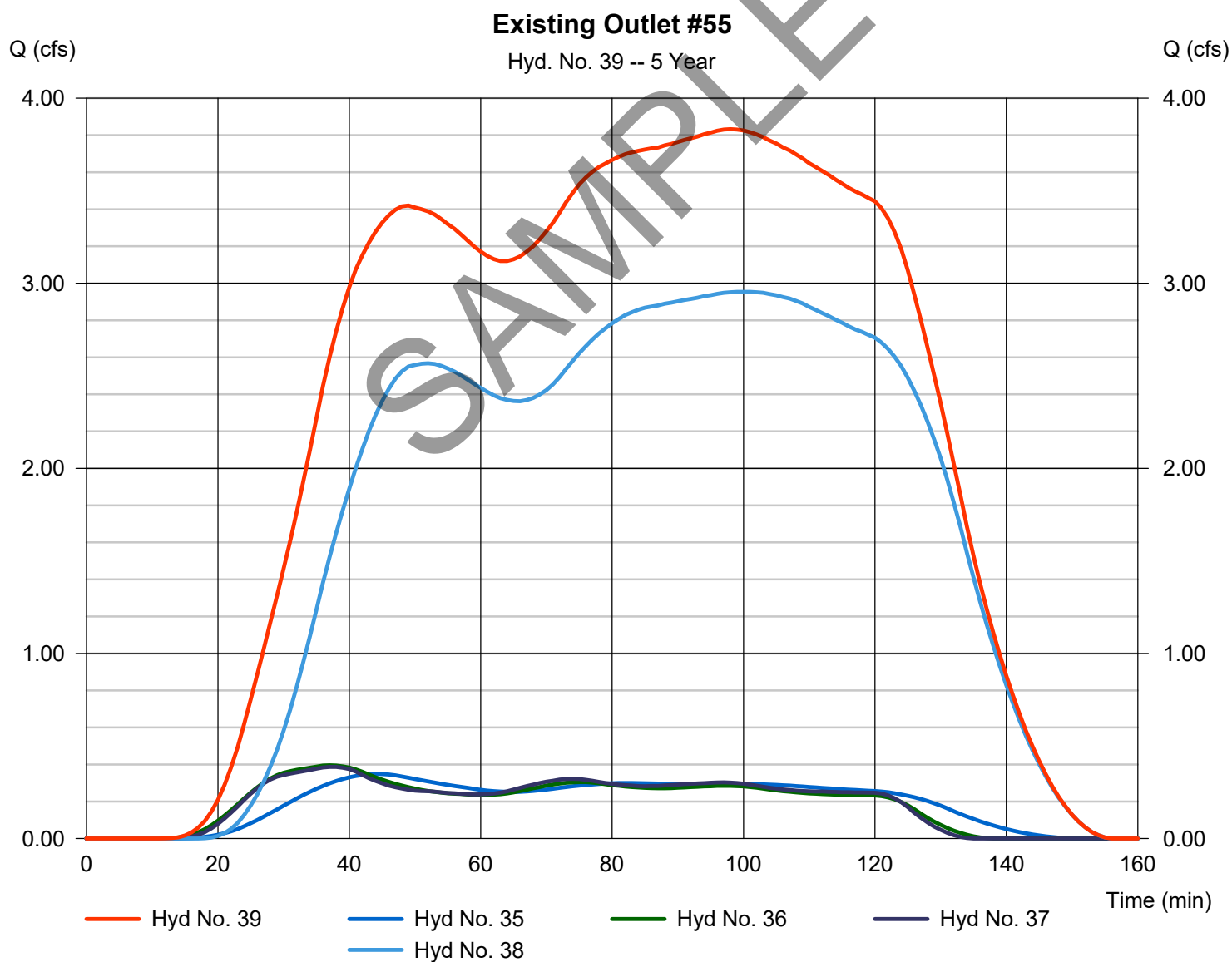
Tuesday, 03 / 19 / 2019

Hyd. No. 39

Existing Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 35, 36, 37, 38

Peak discharge = 3.832 cfs
Time to peak = 98 min
Hyd. volume = 21,726 cuft
Contrib. drain. area = 11.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

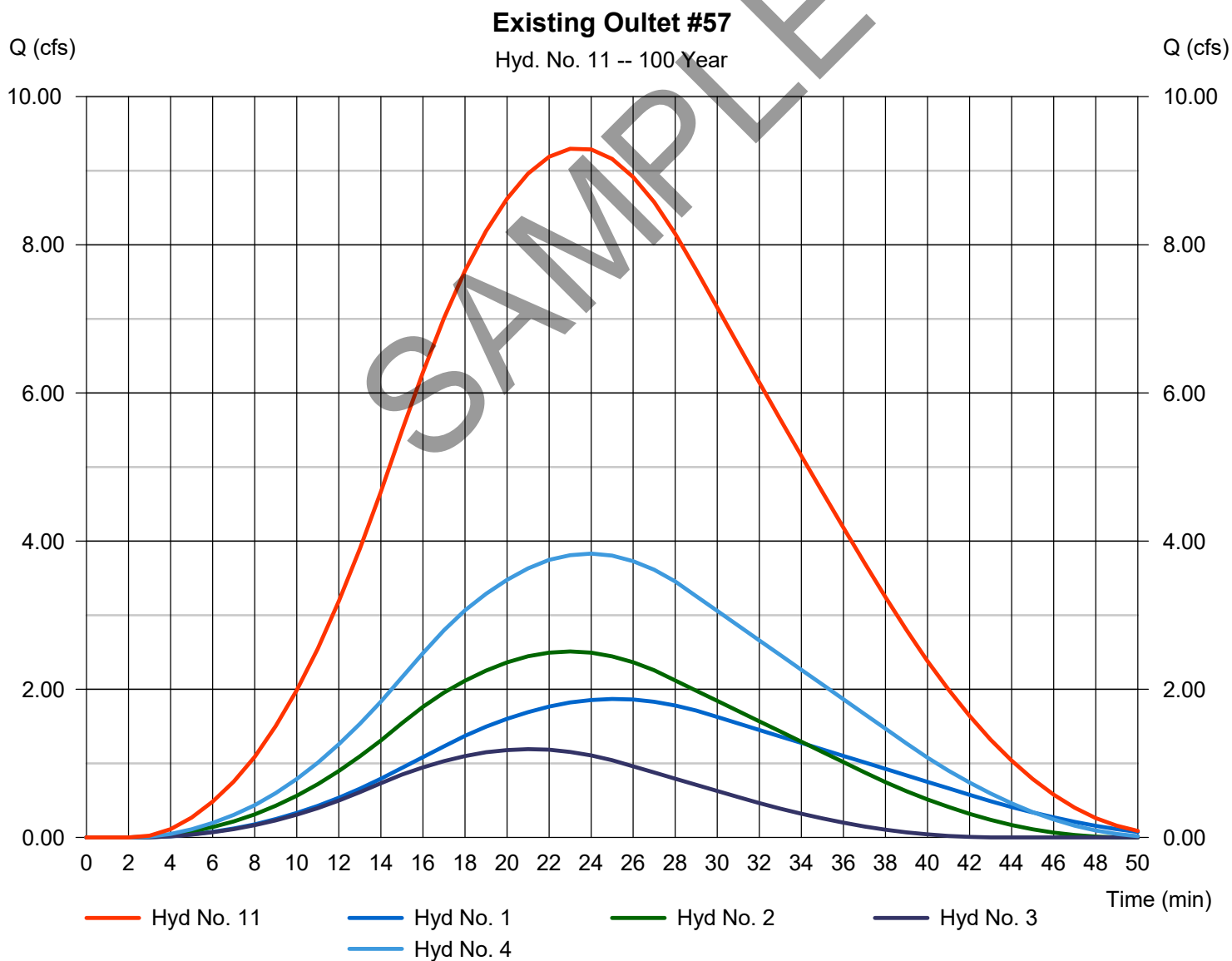
Tuesday, 03 / 12 / 2019

Hyd. No. 11

Existing Oultet #57

Hydrograph type = Combine
Storm frequency = 100 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 1, 2, 3, 4

Peak discharge = 9.296 cfs
Time to peak = 23 min
Hyd. volume = 12,179 cuft
Contrib. drain. area = 9.600 ac



Hydrograph Report

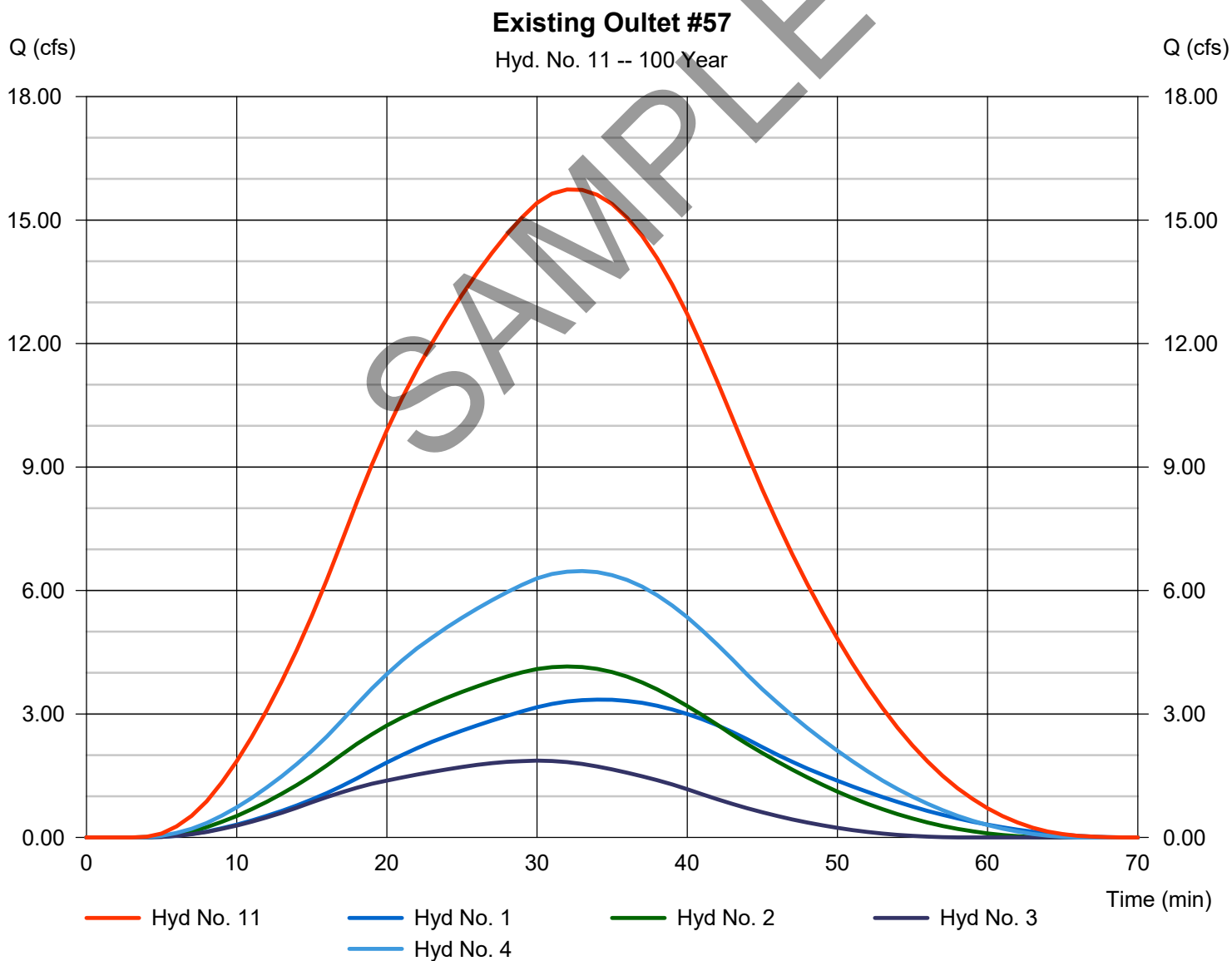
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 11

Existing Oultet #57

Hydrograph type	= Combine	Peak discharge	= 15.74 cfs
Storm frequency	= 100 yrs, 30 min	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 27,067 cuft
Inflow hyds.	= 1, 2, 3, 4	Contrib. drain. area	= 9.600 ac



Hydrograph Report

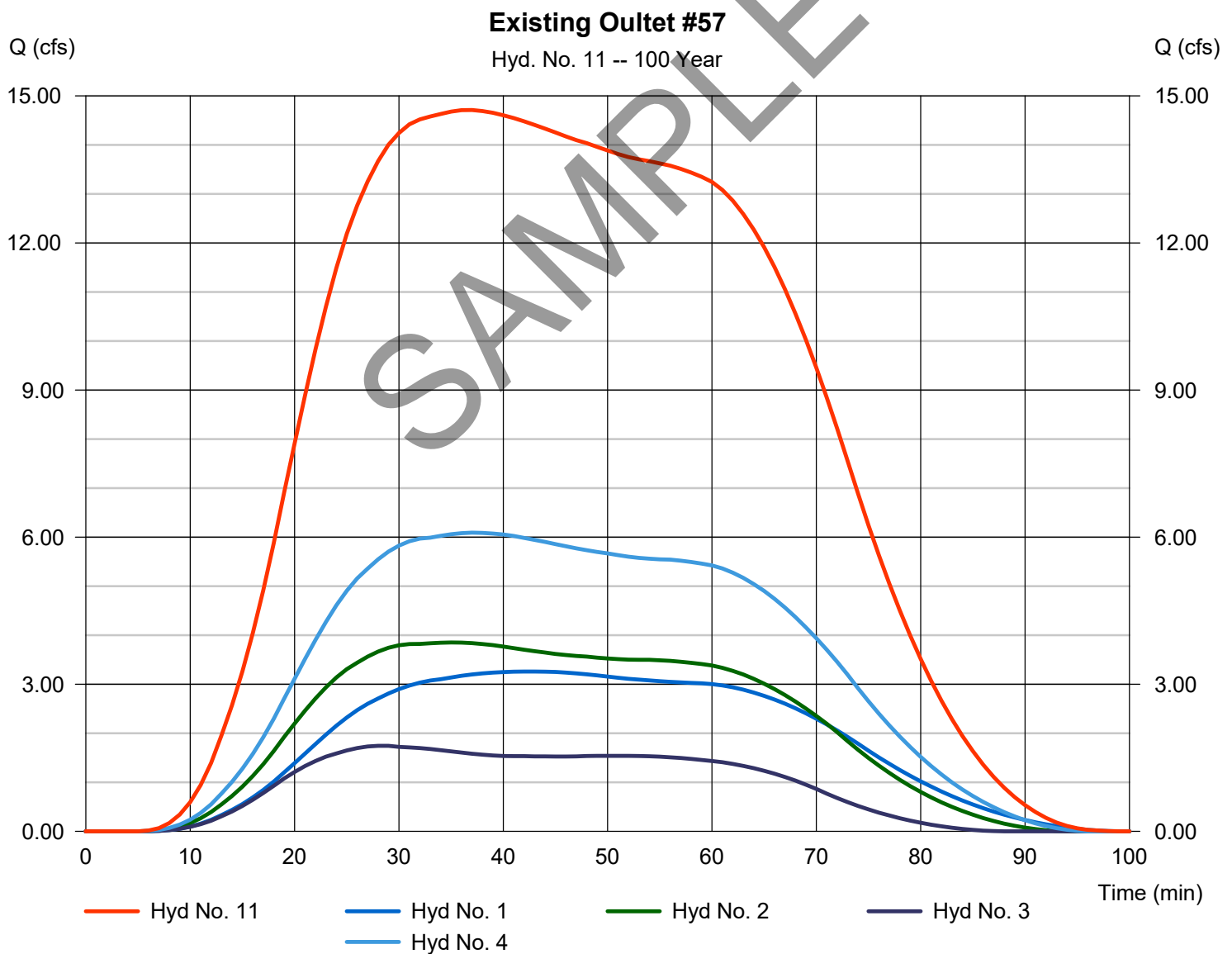
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 11

Existing Oultet #57

Hydrograph type	= Combine	Peak discharge	= 14.71 cfs
Storm frequency	= 100 yrs, 1 hr	Time to peak	= 37 min
Time interval	= 1 min	Hyd. volume	= 46,744 cuft
Inflow hyds.	= 1, 2, 3, 4	Contrib. drain. area	= 9.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

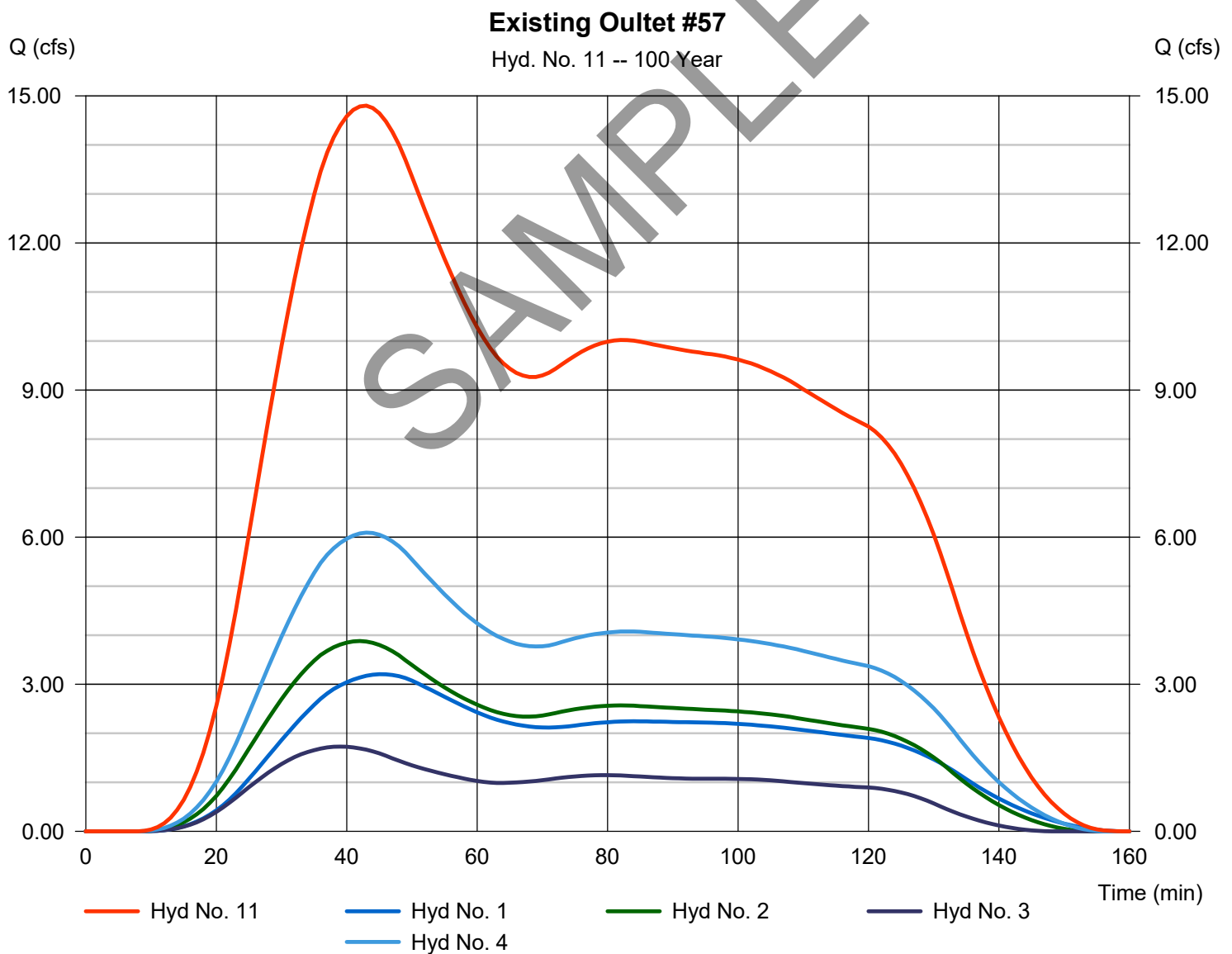
Tuesday, 03 / 12 / 2019

Hyd. No. 11

Existing Oultet #57

Hydrograph type = Combine
Storm frequency = 100 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 1, 2, 3, 4

Peak discharge = 14.80 cfs
Time to peak = 43 min
Hyd. volume = 69,315 cuft
Contrib. drain. area = 9.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

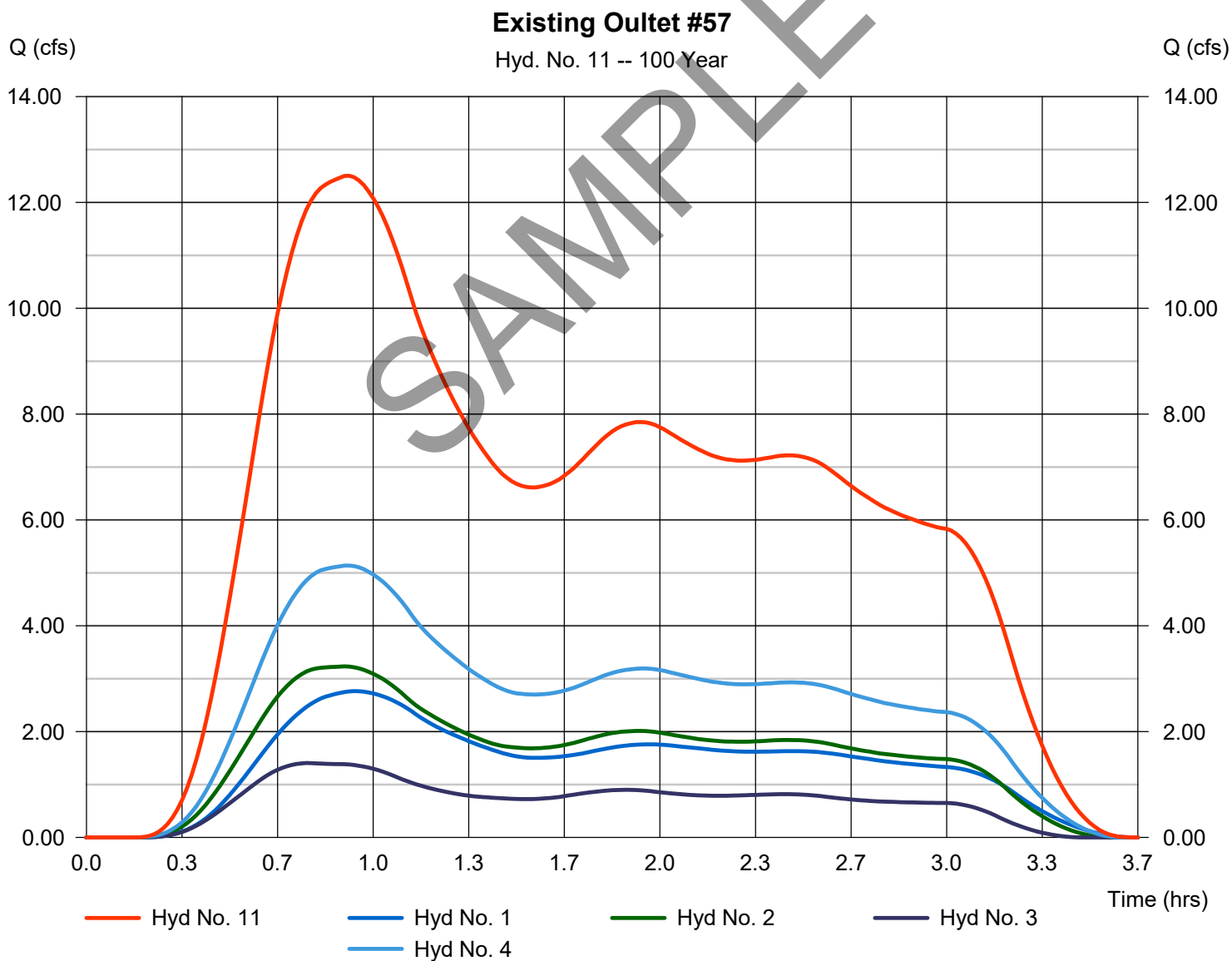
Tuesday, 03 / 12 / 2019

Hyd. No. 11

Existing Oultet #57

Hydrograph type = Combine
Storm frequency = 100 yrs, 3 hr
Time interval = 1 min
Inflow hyds. = 1, 2, 3, 4

Peak discharge = 12.50 cfs
Time to peak = 0.92 hrs
Hyd. volume = 79,520 cuft
Contrib. drain. area = 9.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

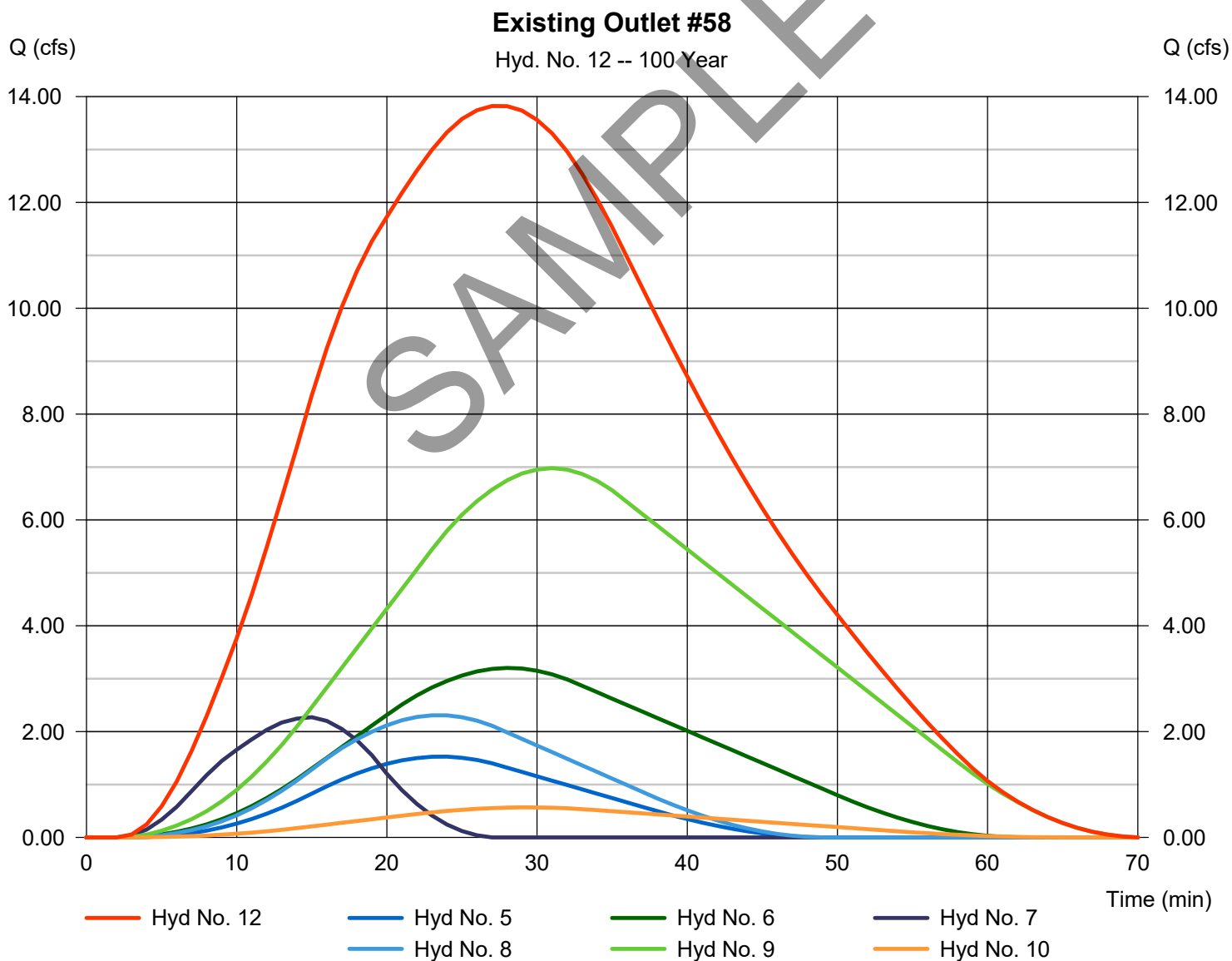
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Existing Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

Peak discharge = 13.82 cfs
Time to peak = 27 min
Hyd. volume = 25,819 cuft
Contrib. drain. area = 21.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

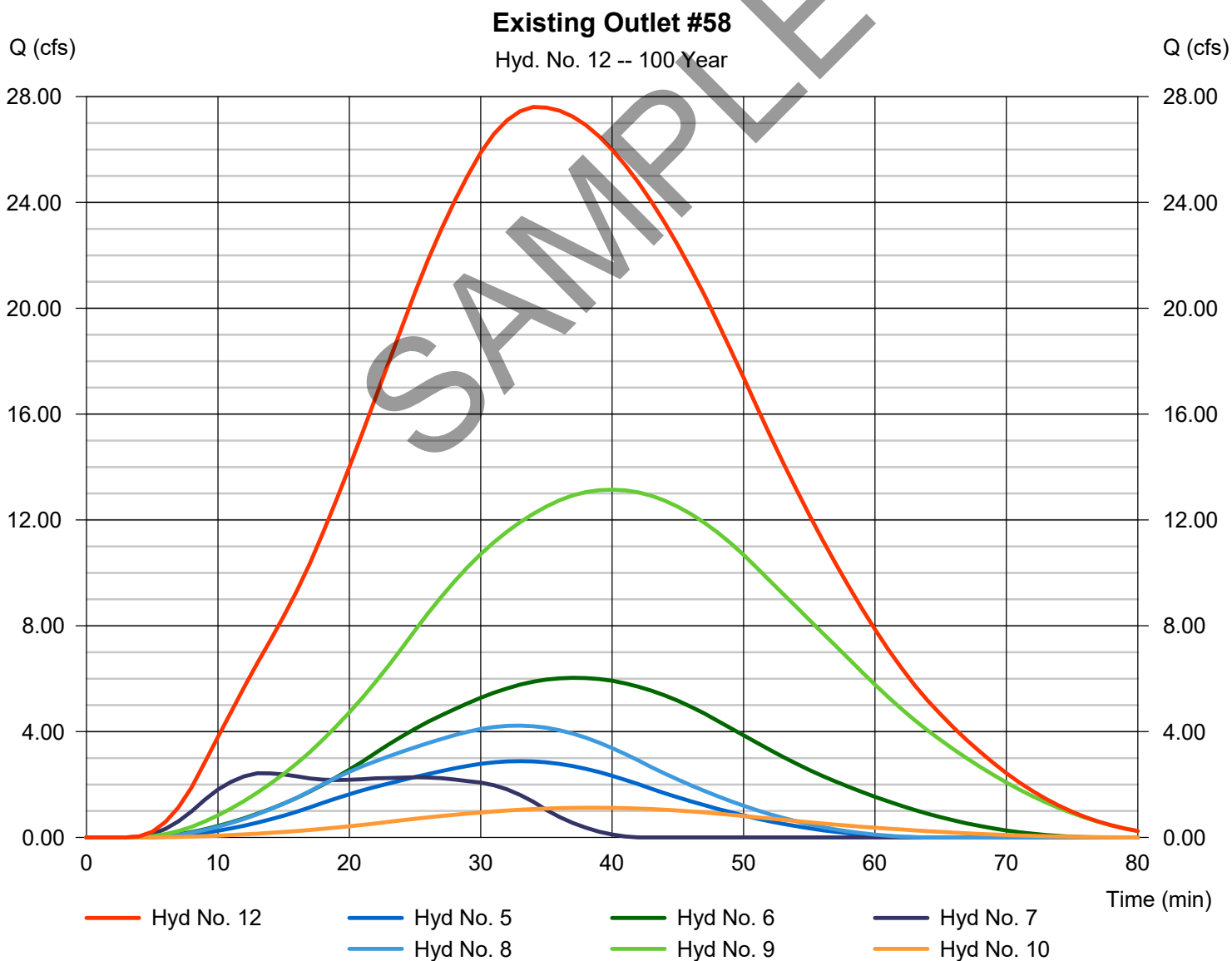
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Existing Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

Peak discharge = 27.61 cfs
Time to peak = 34 min
Hyd. volume = 58,357 cuft
Contrib. drain. area = 21.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

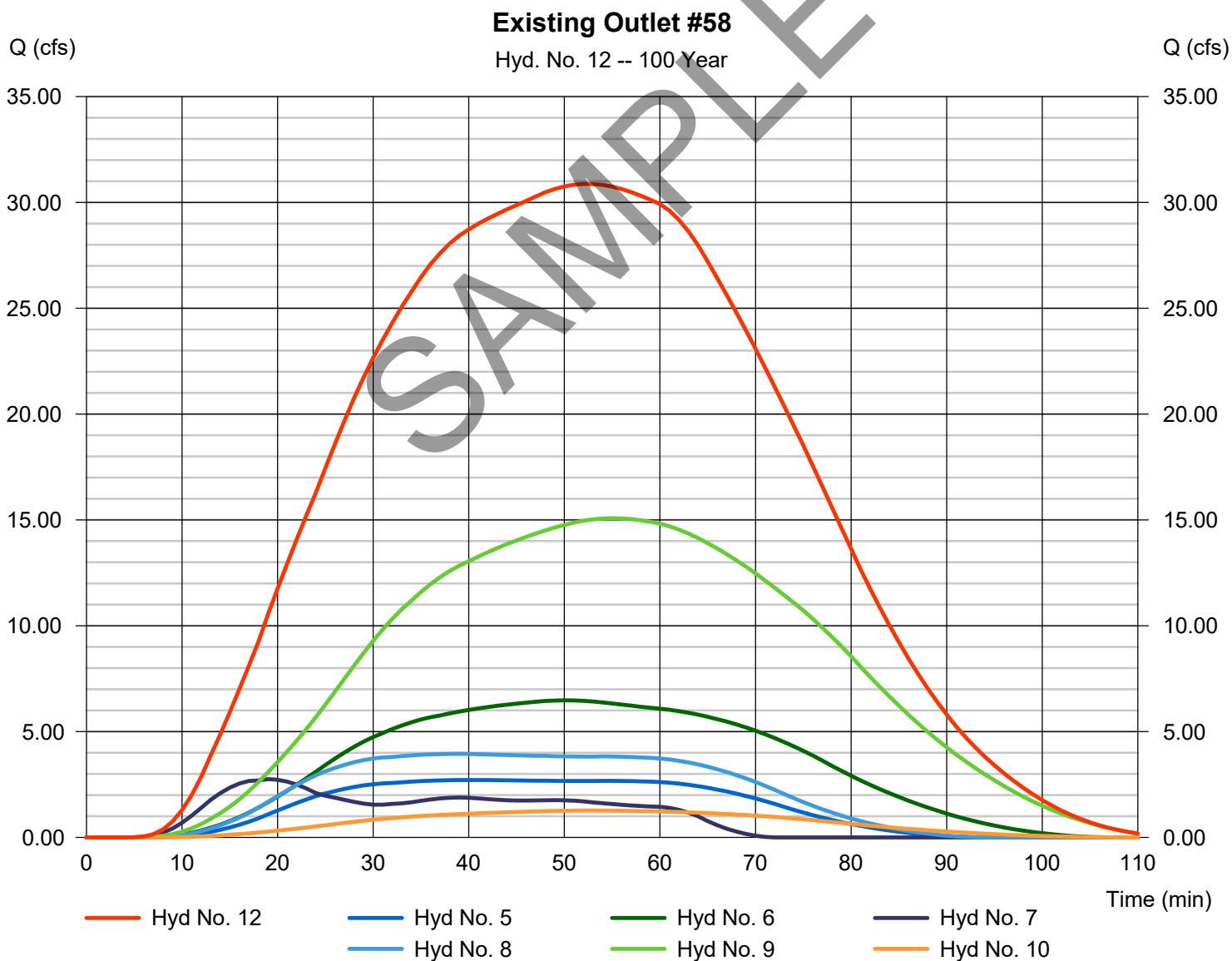
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Existing Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

Peak discharge = 30.87 cfs
Time to peak = 52 min
Hyd. volume = 101,725 cuft
Contrib. drain. area = 21.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

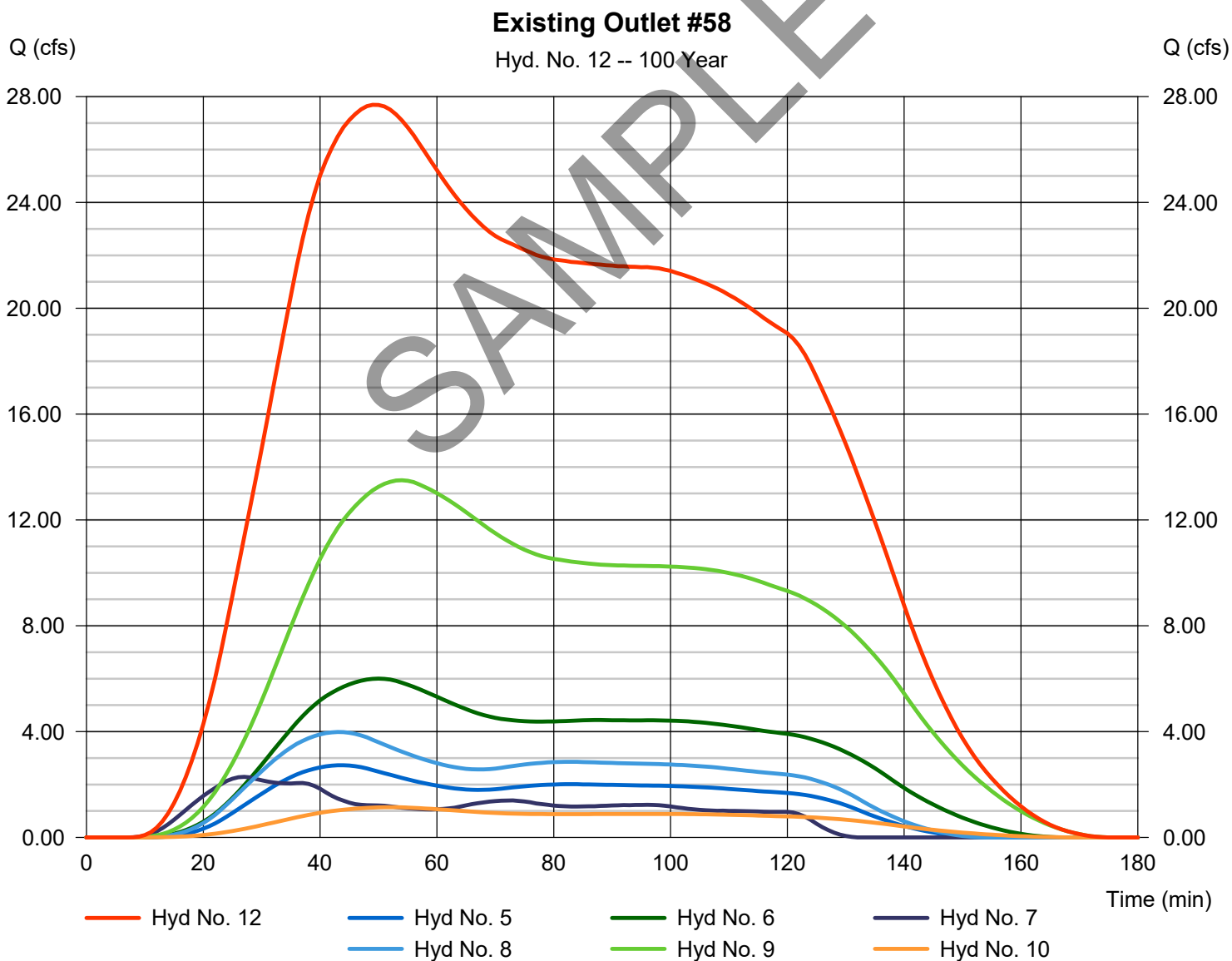
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Existing Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

Peak discharge = 27.69 cfs
Time to peak = 49 min
Hyd. volume = 151,719 cuft
Contrib. drain. area = 21.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

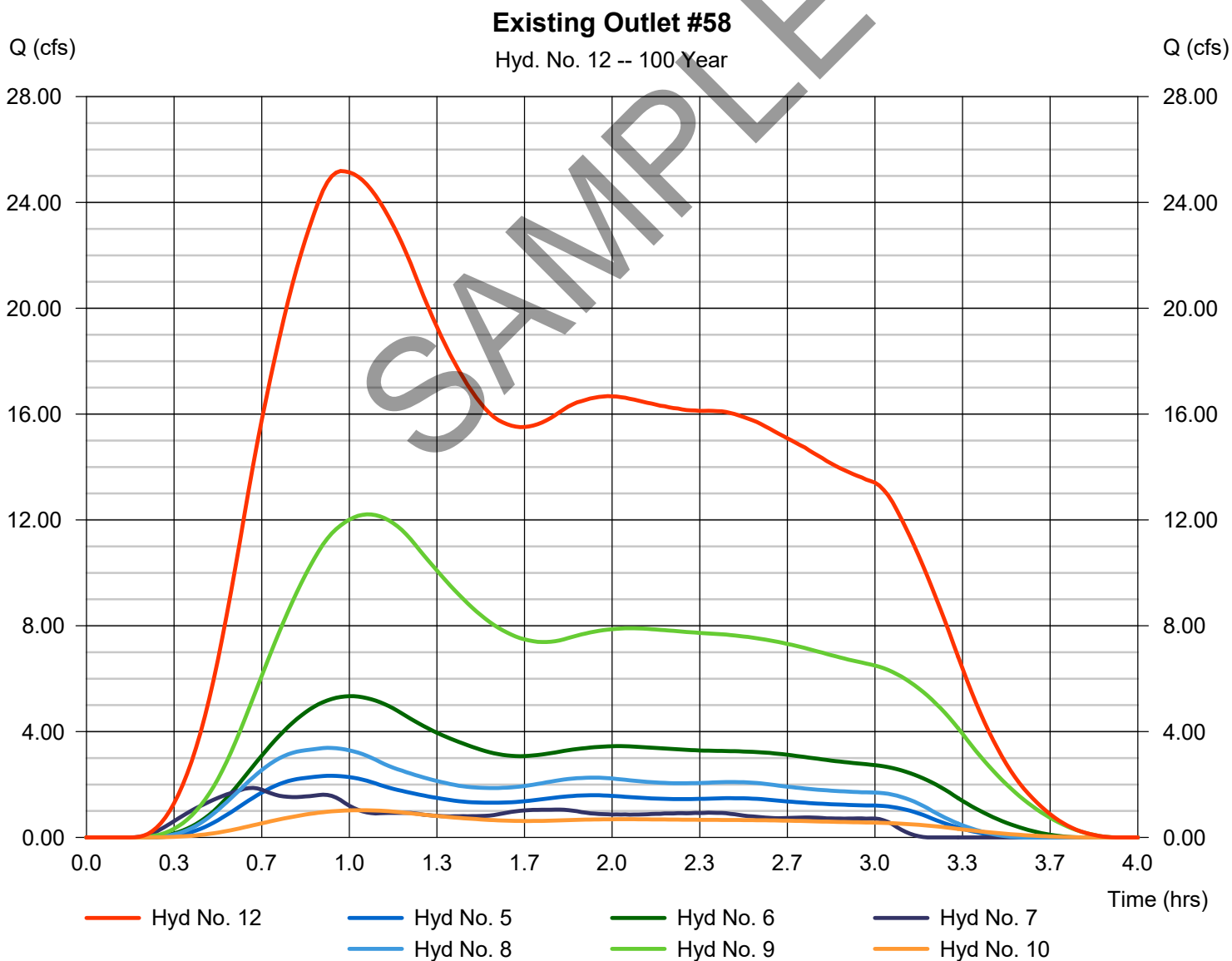
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Existing Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 3 hr
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

Peak discharge = 25.19 cfs
Time to peak = 0.97 hrs
Hyd. volume = 174,379 cuft
Contrib. drain. area = 21.500 ac

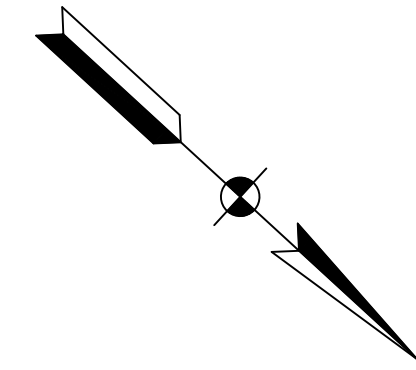
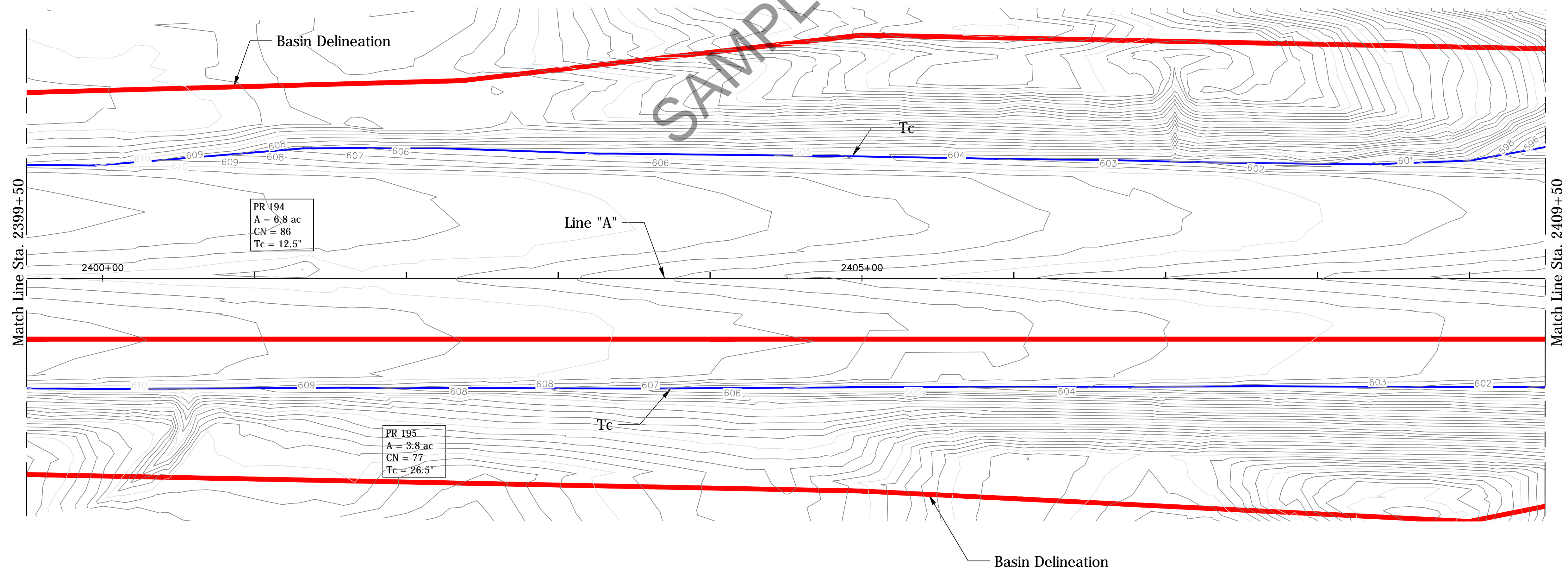
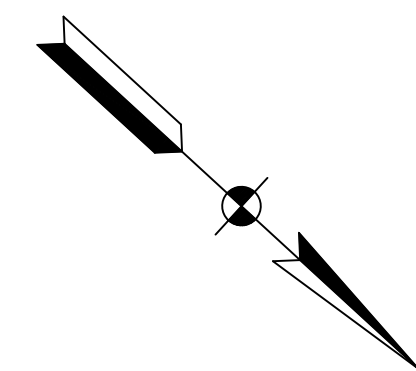
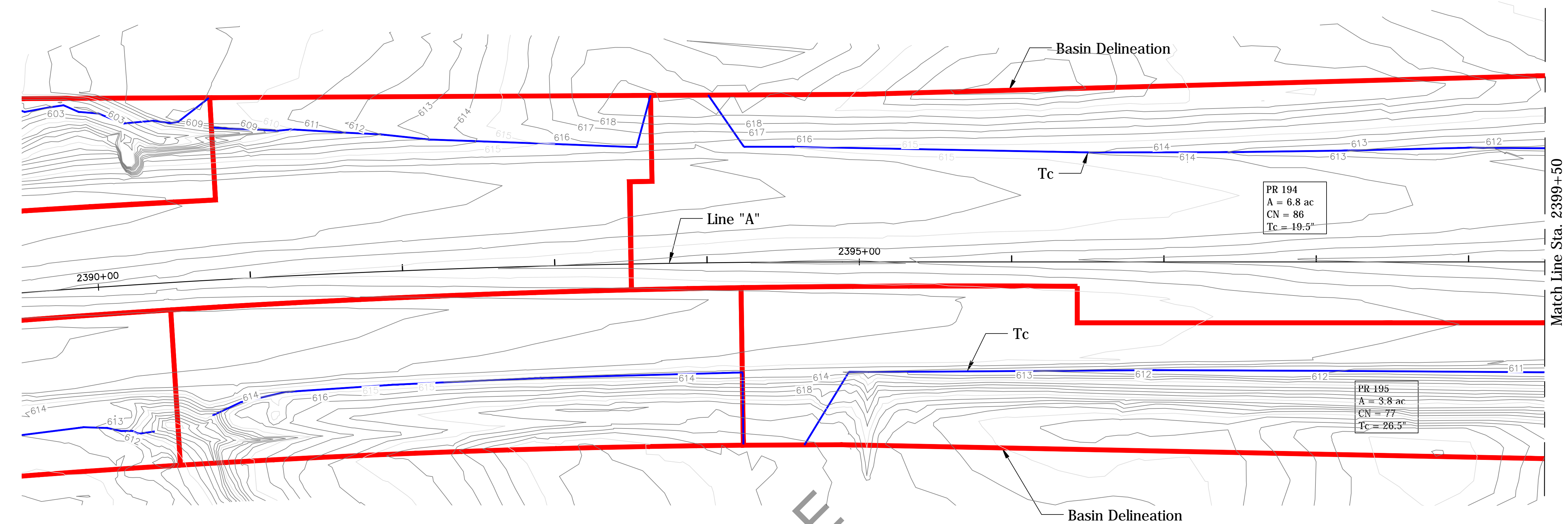


Proposed Conditions

Hydrology

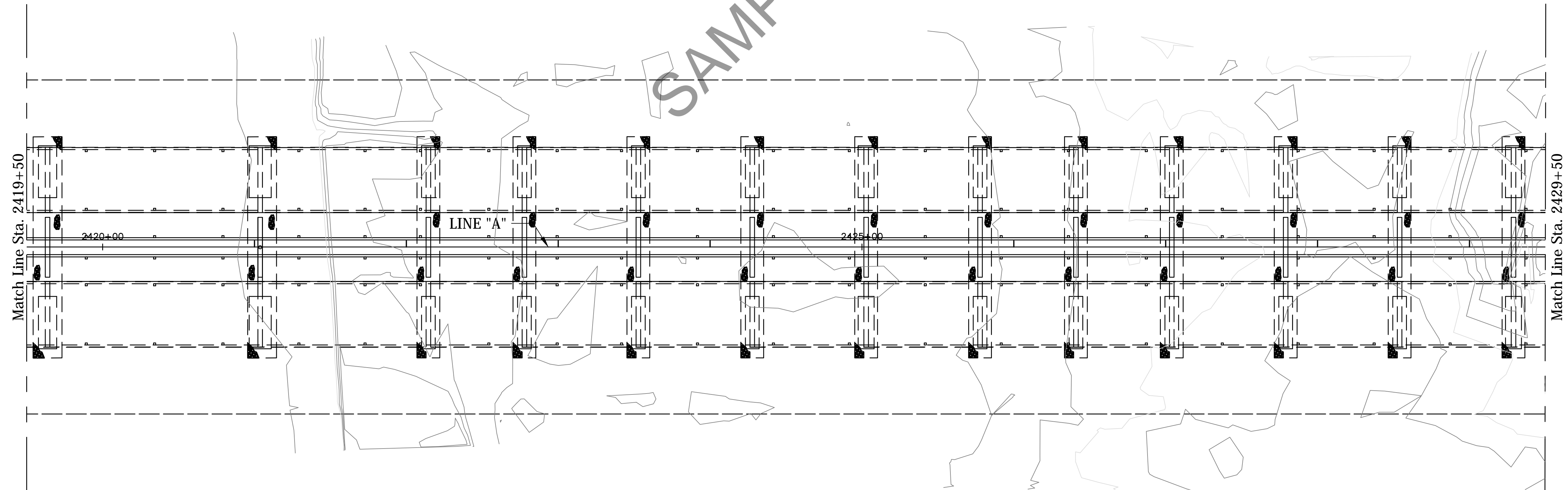
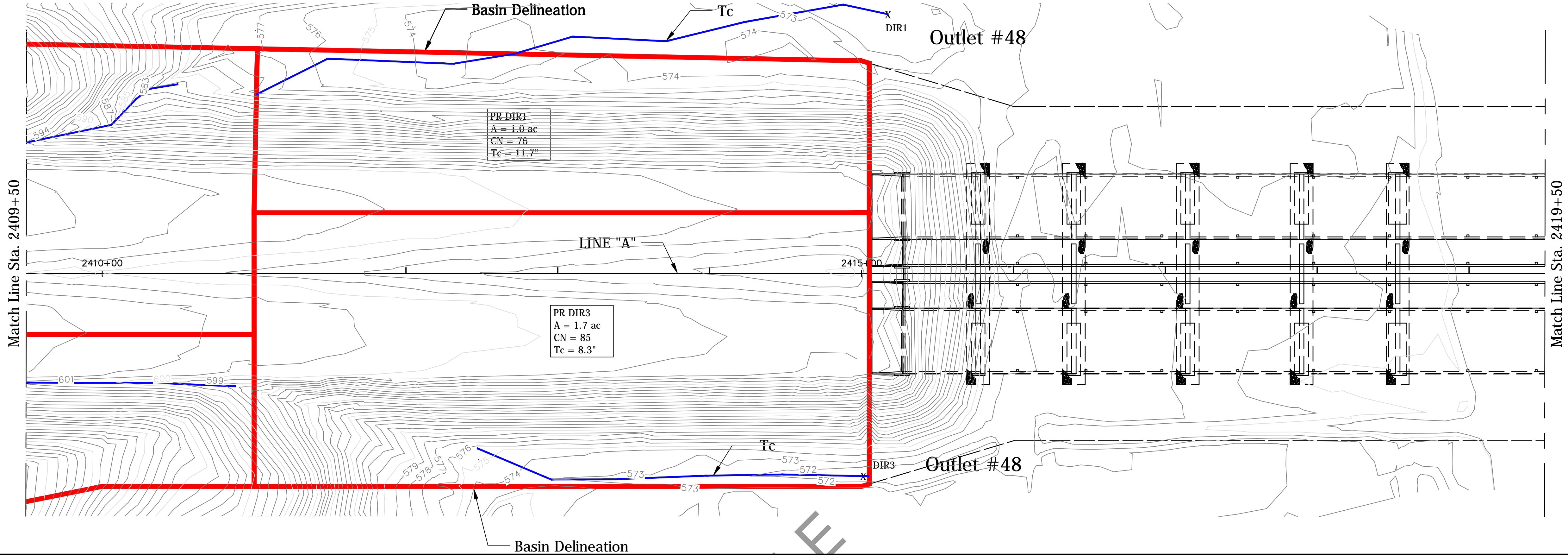
SAMPLE

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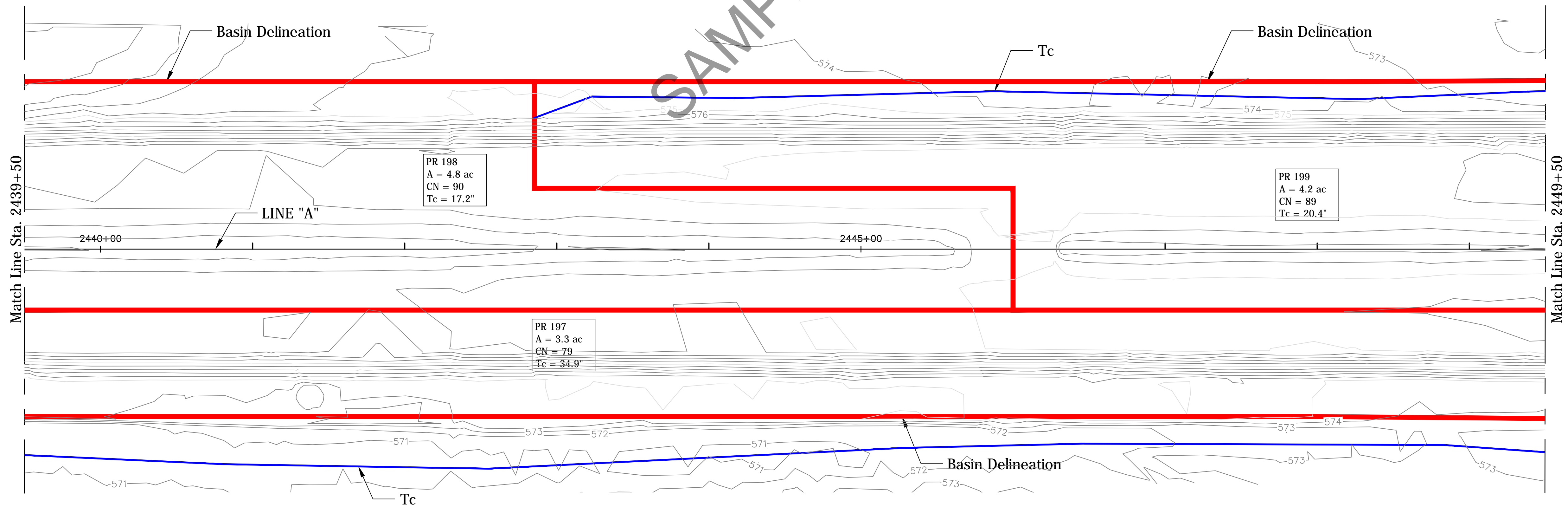
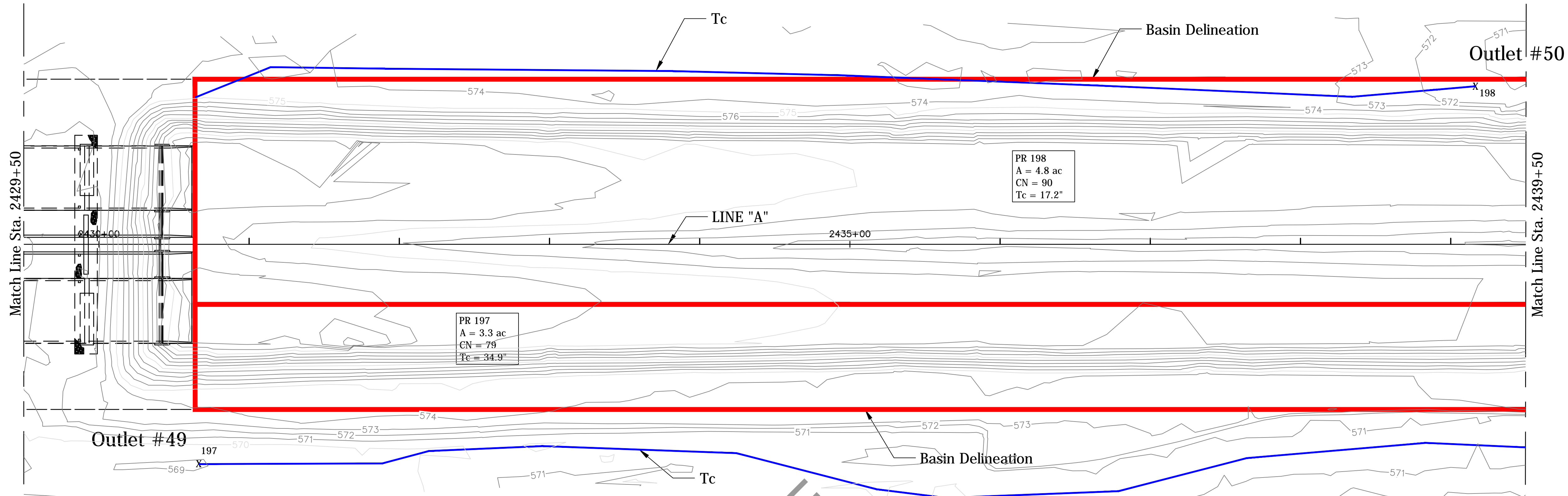
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									SHEETS	
							CONTRACT		3 of ---	
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						VERTICAL SCALE		---	
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								3 of ----	
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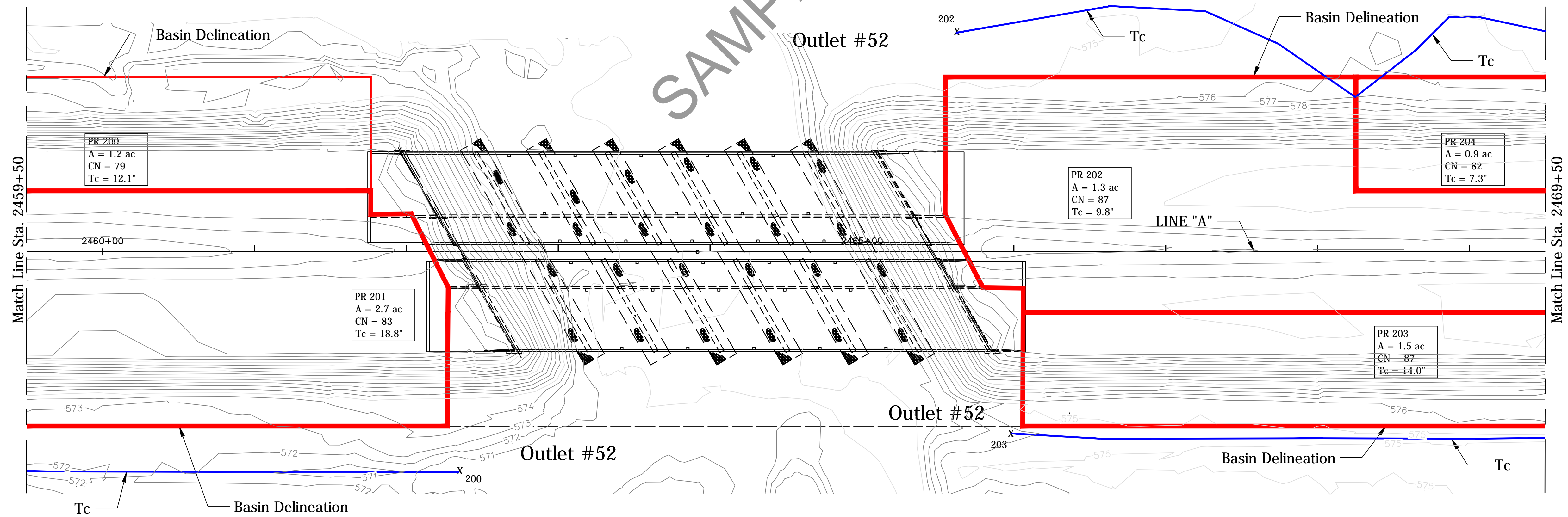
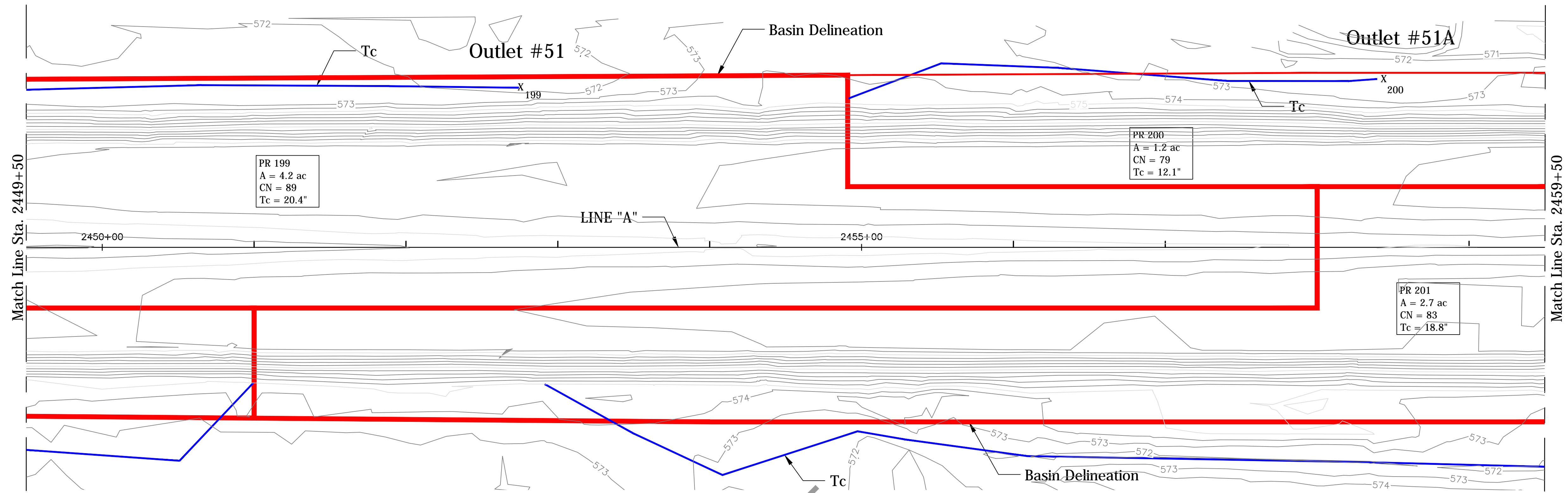
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INDIANA DEPARTMENT OF TRANSPORTATION	
PROPOSED DETENTION BASIN DELINEATIONS	

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SURVEY BOOK	SHEETS	
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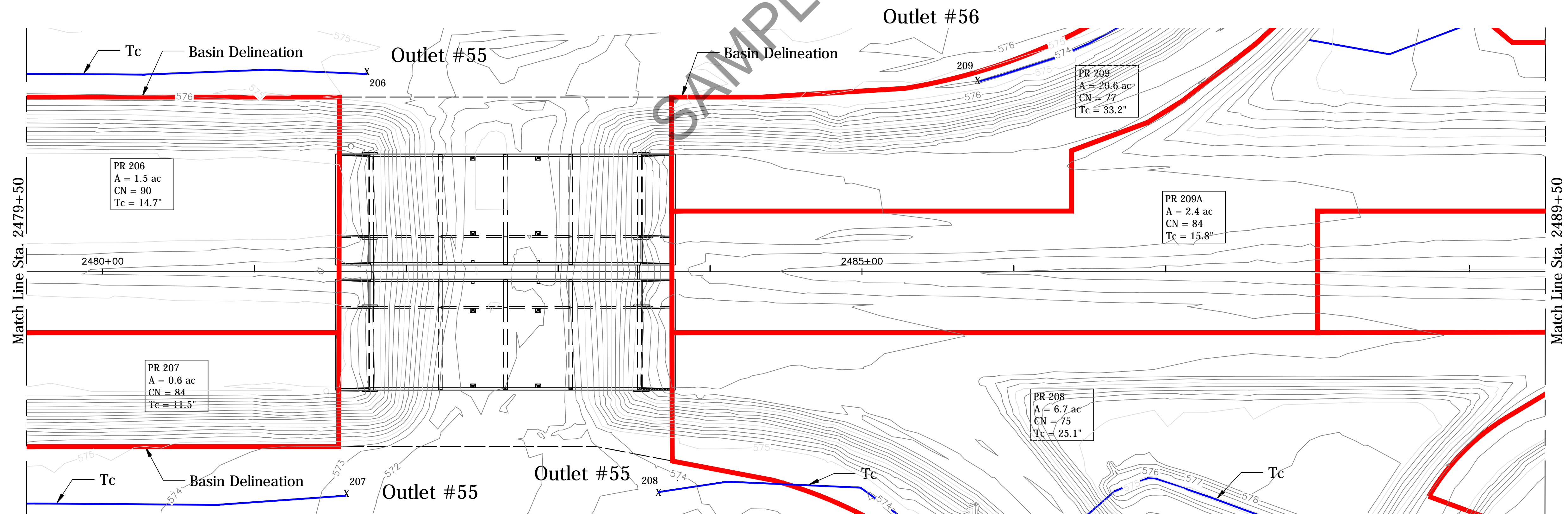
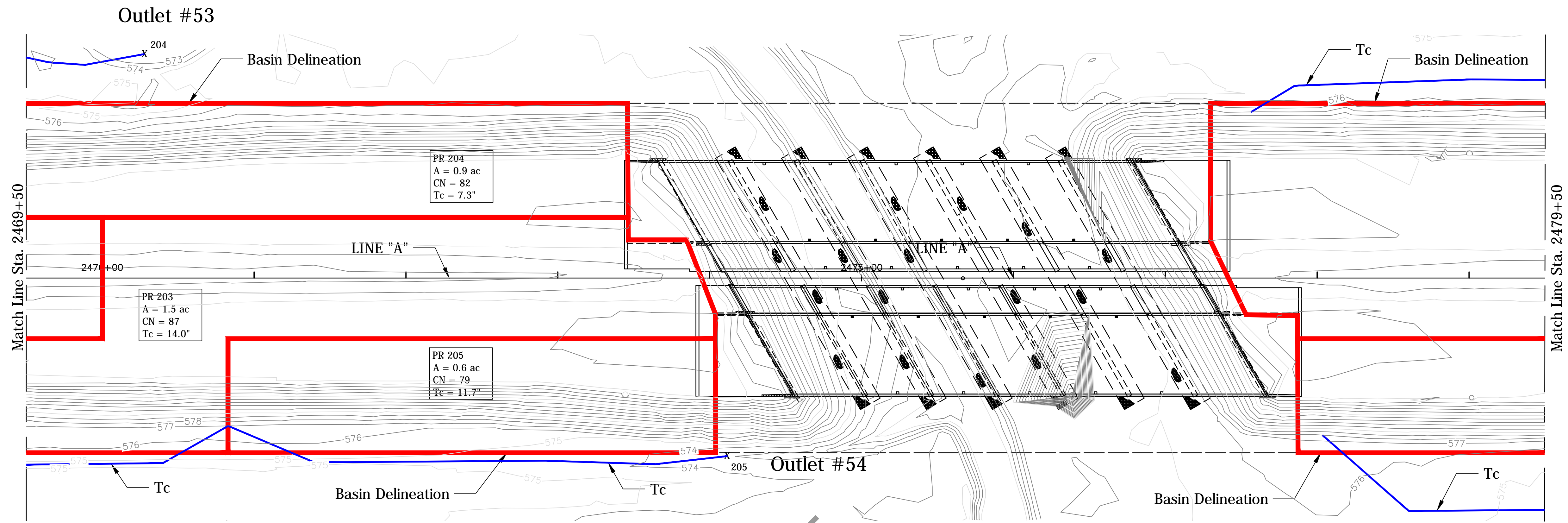


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INDIANA DEPARTMENT OF TRANSPORTATION	
PROPOSED DETENTION BASIN DELINEATIONS	

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CONTRACT	3	of ---
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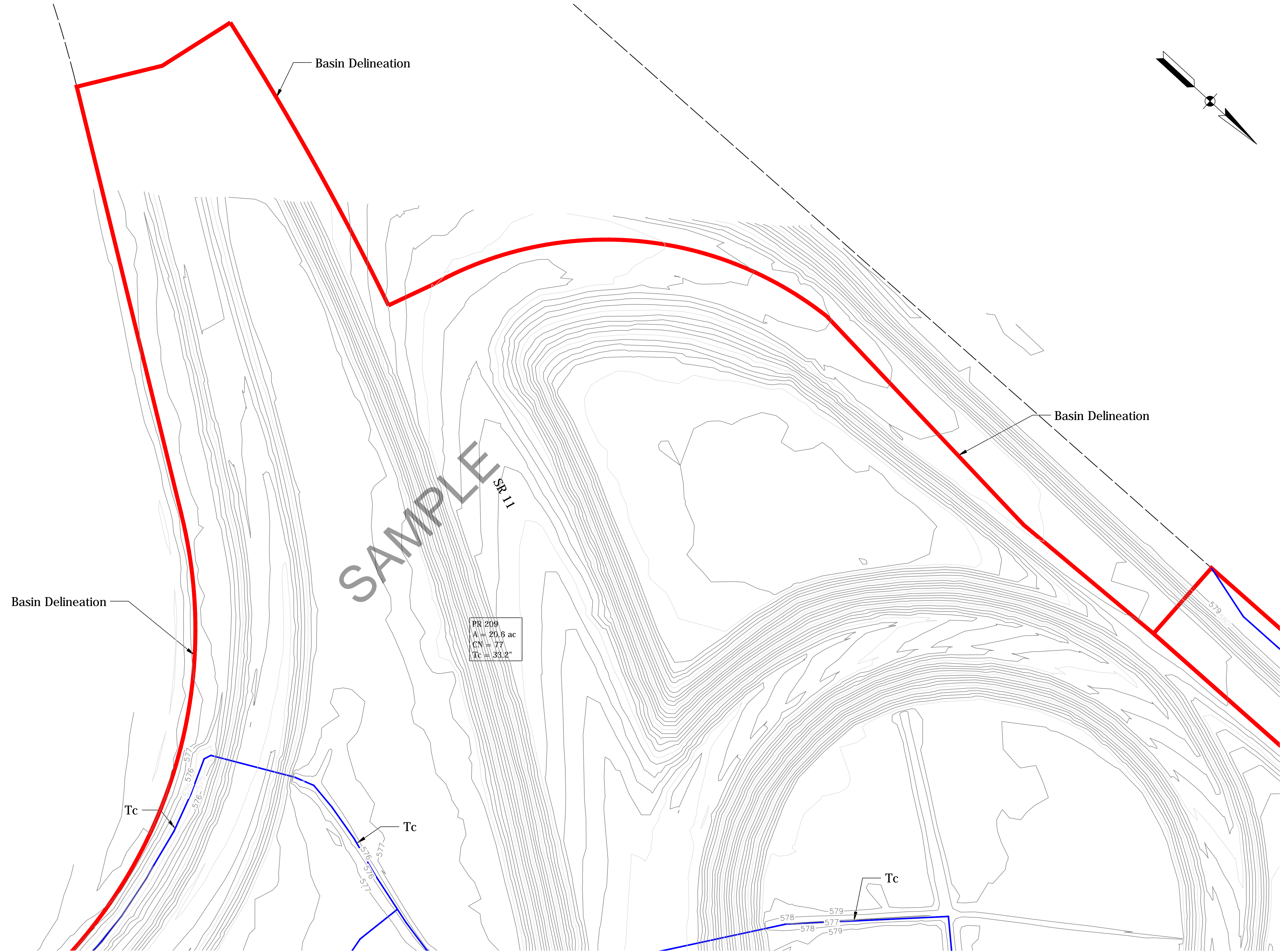


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PROPOSED DETENTION BASIN DELINEATIONS	

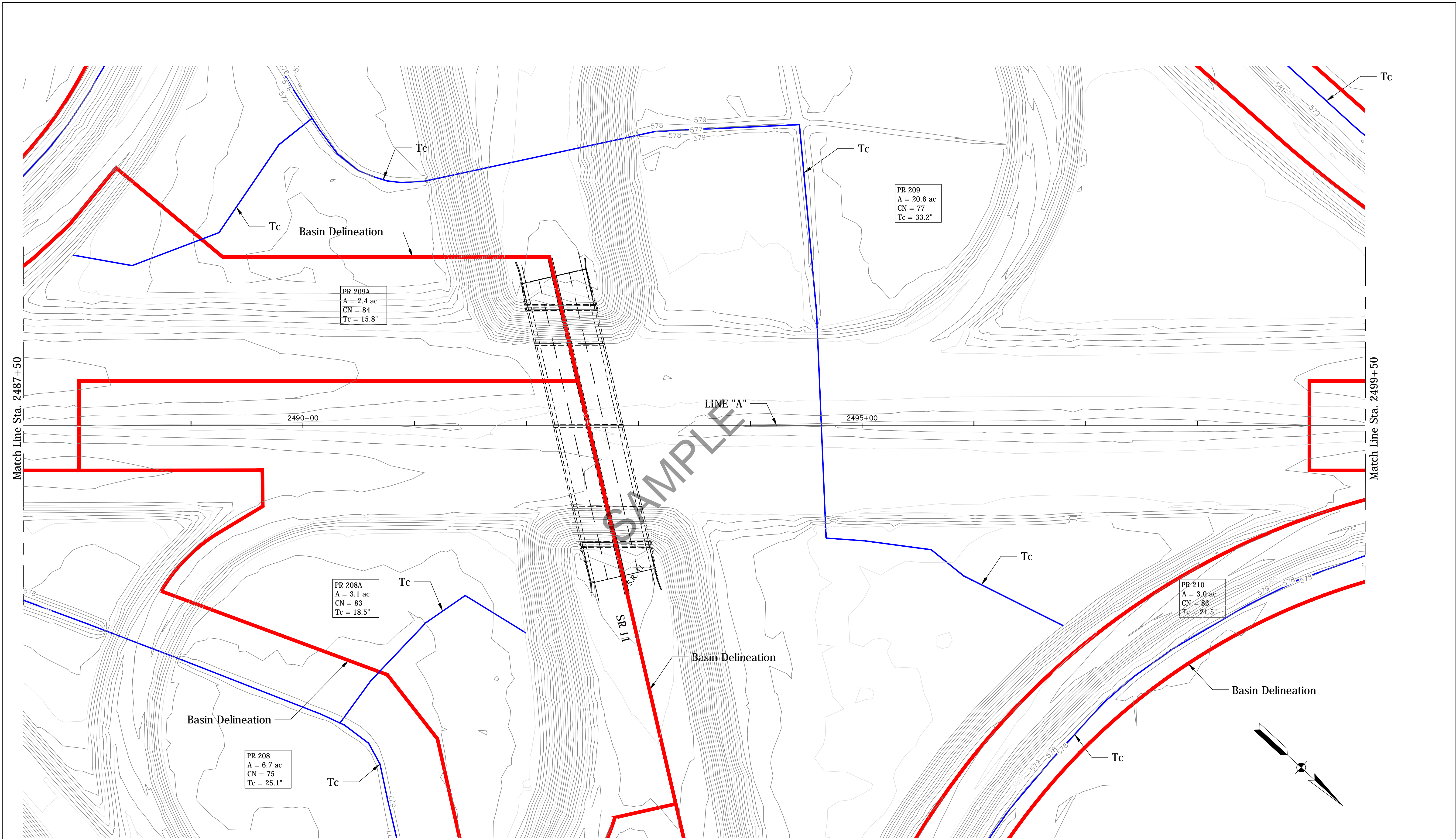
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SURVEY BOOK		SHEETS	
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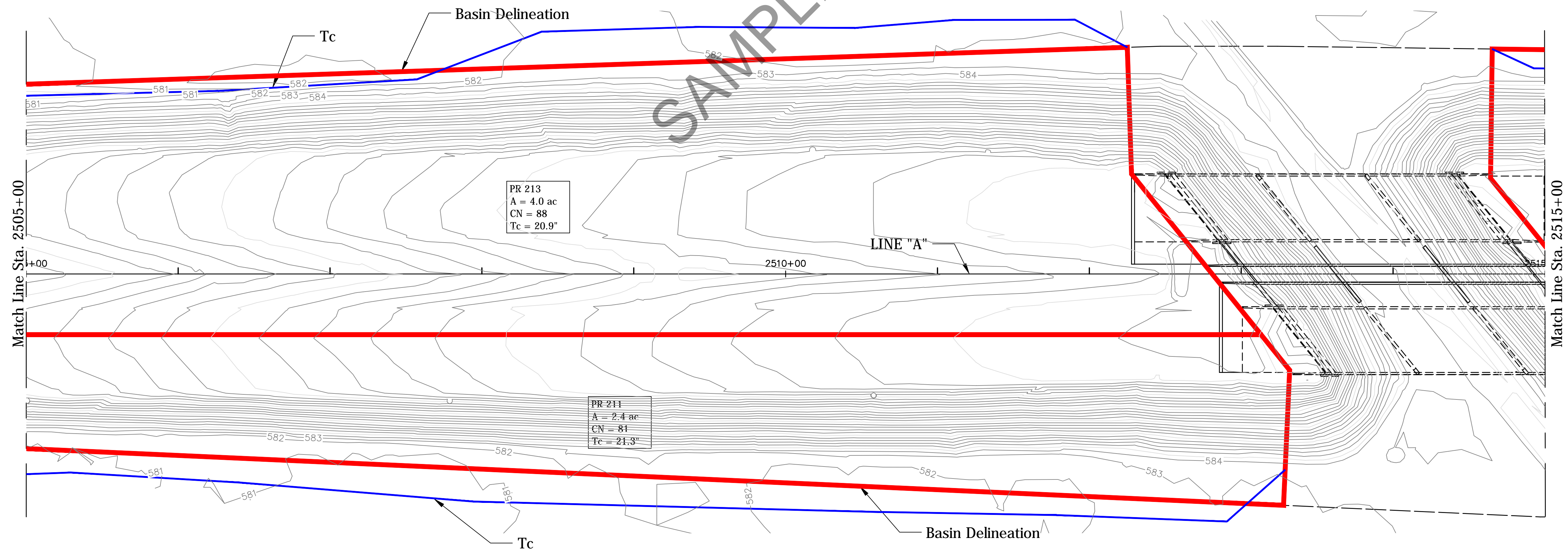
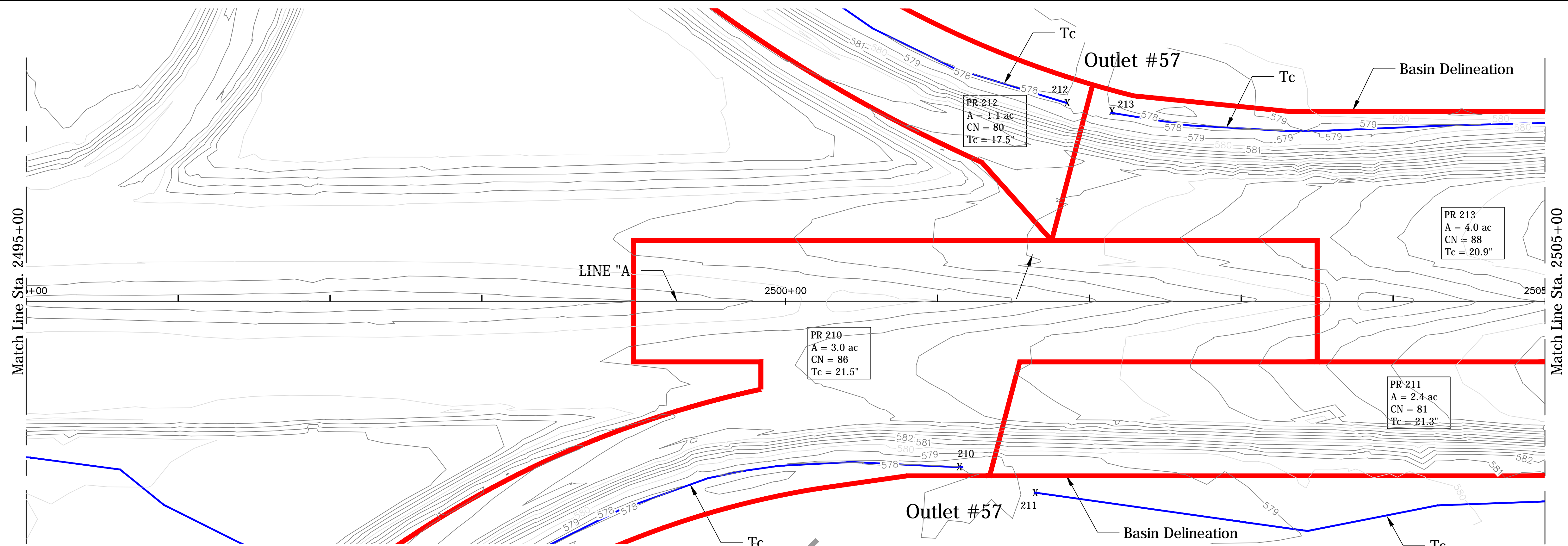
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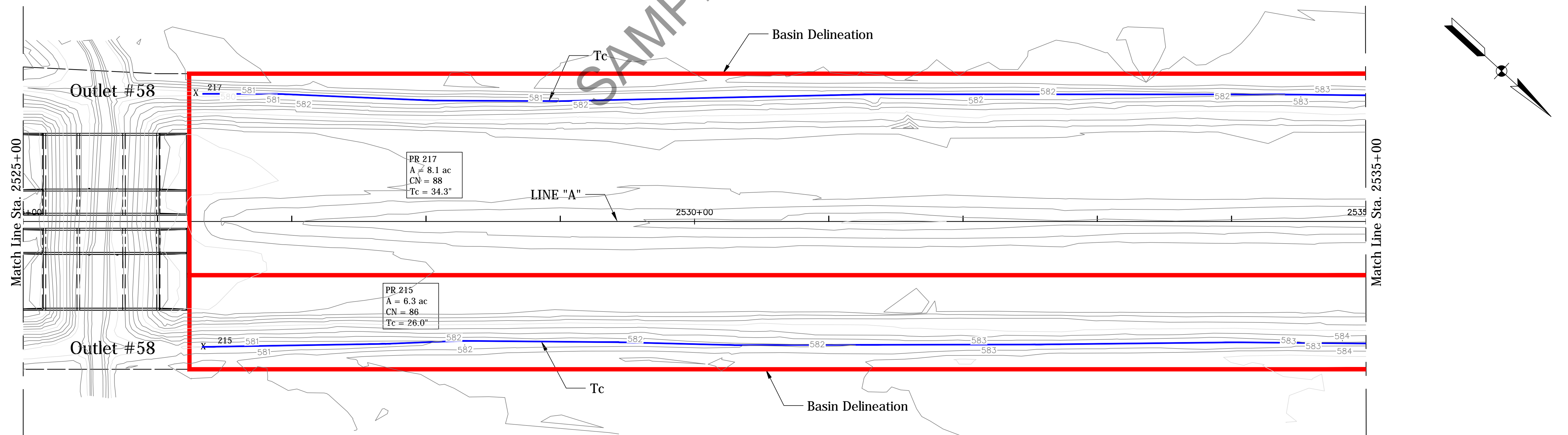
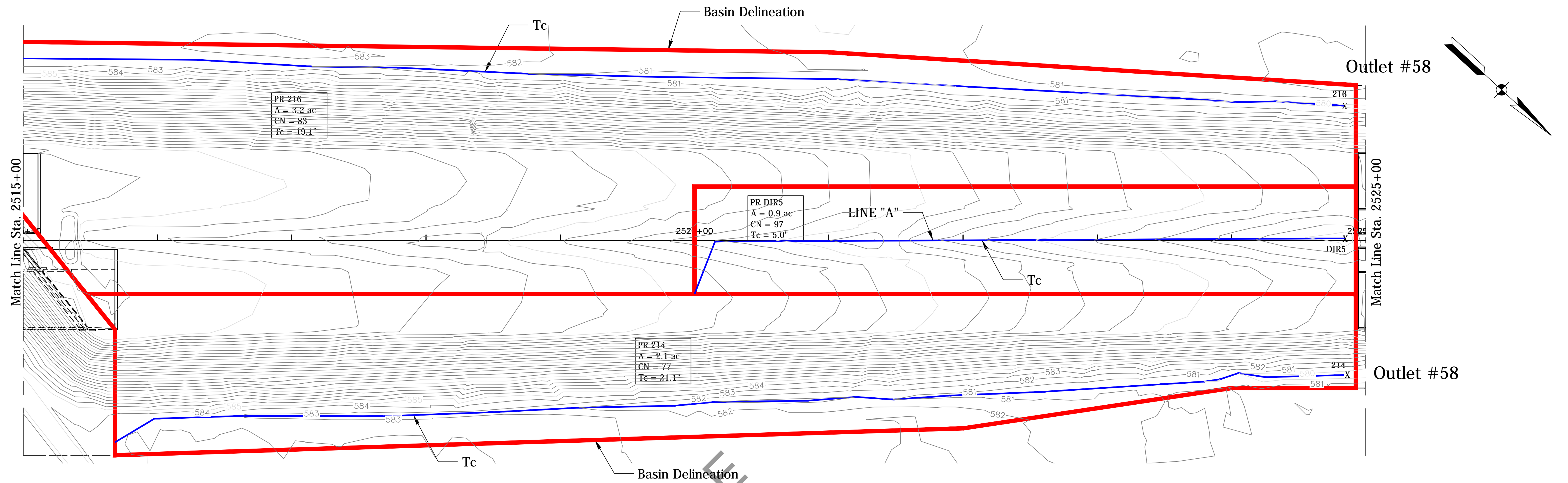
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RECOMMENDED FOR APPROVAL	ENGINEER	DATE
DESIGNED: _____	DRAWN: _____	
CHECKED: _____	CHECKED: _____	

INDIANA DEPARTMENT OF TRANSPORTATION
PROPOSED DETENTION BASIN DELINEATIONS

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VERTICAL SCALE N/A	DESIGNATION
SURVEY BOOK	SHEETS
CONTRACT	PROJECT



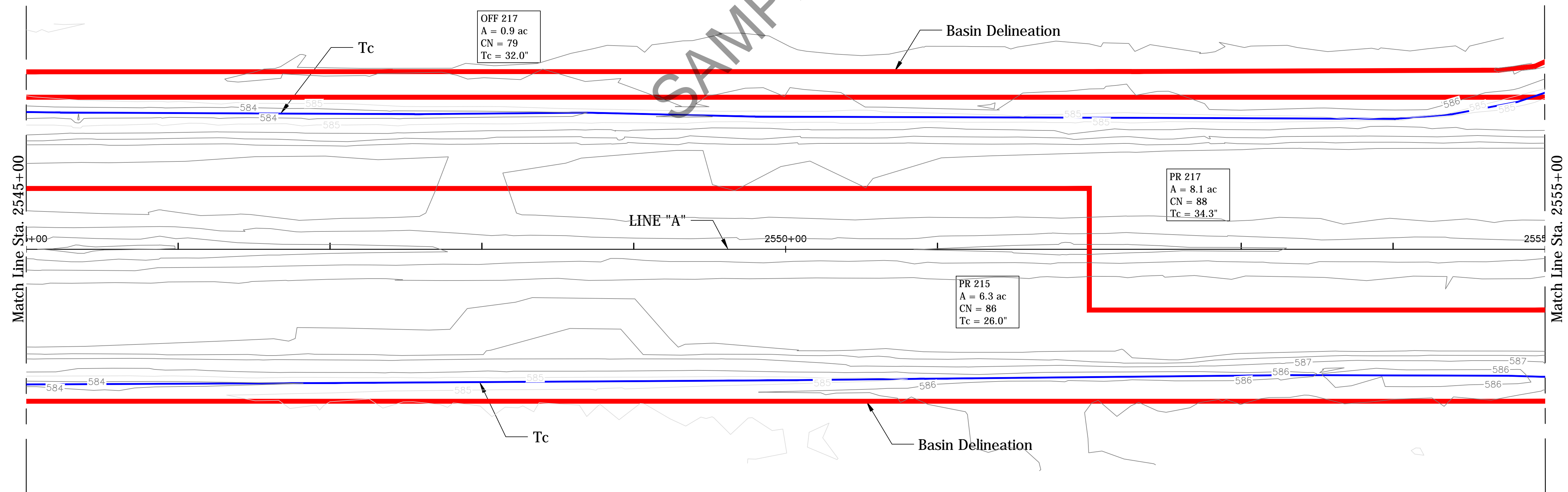
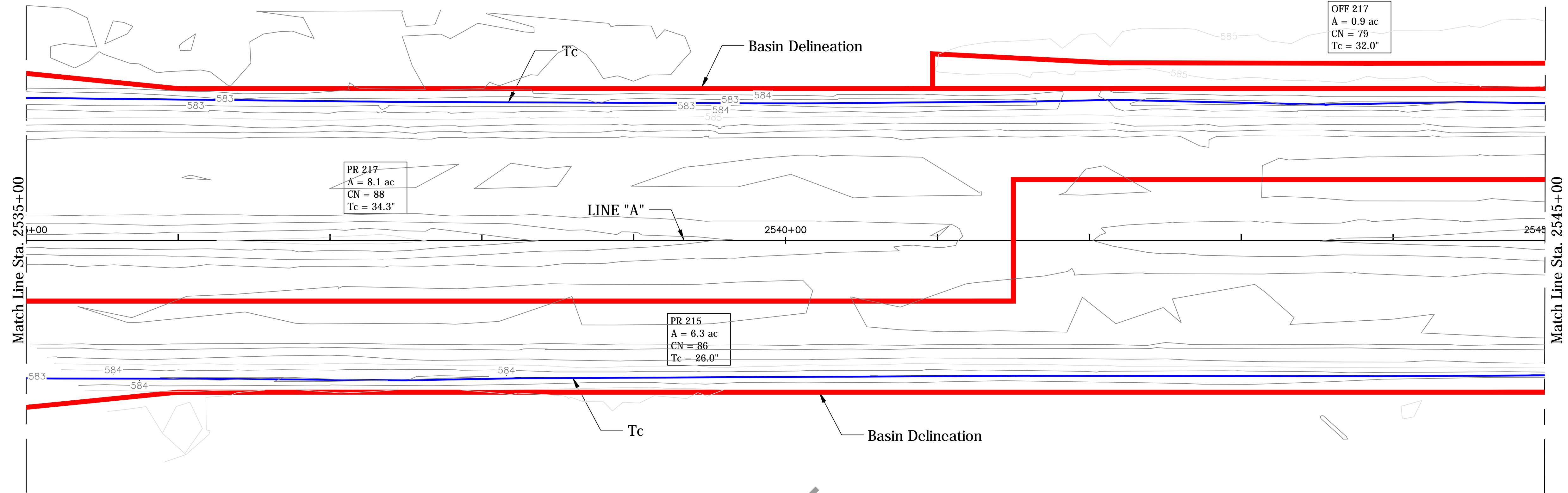
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ENGINEER	DATE
DESIGNED: _____	DRAWN: _____
CHECKED: _____	CHECKED: _____

INDIANA DEPARTMENT OF TRANSPORTATION	
PROPOSED DETENTION BASIN DELINEATIONS	

HORIZONTAL SCALE	BRIDGE FILE	
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SURVEY BOOK	SHEETS	
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CONTRACT	PROJECT	
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						CONTRACT		4 of _____	
						PROPOSED DETENTION BASIN DELINEATIONS		PROJECT	



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 194

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	60		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.02		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.1		
Wetted Perimeter, p _w	ft	6.6		
Hydraulic Radius, r	ft	0.462		
Channel Slope, s	ft/ft	0.015		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	2.18		
Flow Length, L	ft	1680		
Compute T_t	hr	0.21	+	0.00

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.21

Watershed or Sub-Area T_c

0.33 hr

19.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR DIR1

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.024		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.5		
Wetted Perimeter, p _w	ft	2.7		
Hydraulic Radius, r	ft	0.177		
Channel Slope, s	ft/ft	0.011		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.98		
Flow Length, L	ft	375		
Compute T_t	hr	0.11	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.11**

Watershed or Sub-Area T_c

0.20 hr

11.7 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 195

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	45		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.021		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D
 =

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.3		
Wetted Perimeter, p _w	ft	4.6		
Hydraulic Radius, r	ft	0.288		
Channel Slope, s	ft/ft	0.01		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.30		
Flow Length, L	ft	1665		
Compute T_t	hr	0.36	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C
 = **0.36**

Watershed or Sub-Area T_c

0.44 hr

26.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR DIR3

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.4		
Wetted Perimeter, p _w	ft	3.8		
Hydraulic Radius, r	ft	0.359		
Channel Slope, s	ft/ft	0.006		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.17		
Flow Length, L	ft	210		
Compute T_t	hr	0.05	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.05**

Watershed or Sub-Area T_c

0.14 hr

8.3 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 197

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	70		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.03		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.11**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.4		
Wetted Perimeter, p _w	ft	3.8		
Hydraulic Radius, r	ft	0.359		
Channel Slope, s	ft/ft	0.006		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.17		
Flow Length, L	ft	1990		
Compute T_t	hr	0.47	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.47**

Watershed or Sub-Area T_c

0.58 hr

34.9 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 198

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.011		
Compute T_t	hr	0.13	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.13

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	4.4		
Wetted Perimeter, p _w	ft	6.6		
Hydraulic Radius, r	ft	0.677		
Channel Slope, s	ft/ft	0.0039		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.43		
Flow Length, L	ft	800		
Compute T_t	hr	0.15	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.15

Watershed or Sub-Area T_c

0.29 hr

17.2 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 199

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.01		
Compute T_t	hr	0.14	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.14**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.9		
Wetted Perimeter, p _w	ft	6.1		
Hydraulic Radius, r	ft	0.636		
Channel Slope, s	ft/ft	0.0035		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.30		
Flow Length, L	ft	950		
Compute T_t	hr	0.20	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.20**

Watershed or Sub-Area T_c

0.34 hr

20.4 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 200

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	65		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.023		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.8		
Wetted Perimeter, p _w	ft	3.1		
Hydraulic Radius, r	ft	0.249		
Channel Slope, s	ft/ft	0.0059		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.91		
Flow Length, L	ft	290		
Compute T_t	hr	0.09	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.09

Watershed or Sub-Area T_c

0.20 hr

12.1 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 201

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	65		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.022		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.6		
Wetted Perimeter, p _w	ft	4.1		
Hydraulic Radius, r	ft	0.403		
Channel Slope, s	ft/ft	0.006		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.26		
Flow Length, L	ft	900		
Compute T_t	hr	0.20	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.20

Watershed or Sub-Area T_c

0.31 hr

18.8 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 202

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	60		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.027		
Compute T_t	hr	0.10	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.10

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.5		
Wetted Perimeter, p _w	ft	4.0		
Hydraulic Radius, r	ft	0.386		
Channel Slope, s	ft/ft	0.0036		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.95		
Flow Length, L	ft	220		
Compute T_t	hr	0.06	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.06

Watershed or Sub-Area T_c

0.16 hr

9.8 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 203

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	2.0		
Wetted Perimeter, p _w	ft	4.5		
Hydraulic Radius, r	ft	0.451		
Channel Slope, s	ft/ft	0.0023		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.84		
Flow Length, L	ft	440		
Compute T_t	hr	0.15	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.15**

Watershed or Sub-Area T_c

0.23 hr

14.0 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: **PR 204**

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.026		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.5		
Wetted Perimeter, p _w	ft	2.8		
Hydraulic Radius, r	ft	0.190		
Channel Slope, s	ft/ft	0.02		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.39		
Flow Length, L	ft	175		
Compute T_t	hr	0.03	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.03**

Watershed or Sub-Area T_c

0.12 hr

7.3 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 205

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	60		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.03		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.5		
Wetted Perimeter, p _w	ft	2.8		
Hydraulic Radius, r	ft	0.190		
Channel Slope, s	ft/ft	0.006		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.76		
Flow Length, L	ft	275		
Compute T_t	hr	0.10	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.10**

Watershed or Sub-Area T_c

0.19 hr

11.7 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 206

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.031		
Compute T_t	hr	0.09	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.09**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	2.8		
Wetted Perimeter, p _w	ft	5.2		
Hydraulic Radius, r	ft	0.540		
Channel Slope, s	ft/ft	0.0014		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.74		
Flow Length, L	ft	420		
Compute T_t	hr	0.16	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.16**

Watershed or Sub-Area T_c

0.24 hr

14.7 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 207

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	75		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.032		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	0.6		
Wetted Perimeter, p _w	ft	2.8		
Hydraulic Radius, r	ft	0.202		
Channel Slope, s	ft/ft	0.01		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.03		
Flow Length, L	ft	300		
Compute T_t	hr	0.08	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.08

Watershed or Sub-Area T_c

0.19 hr

11.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 208

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	100		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.15	+	
			=	0.15

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

SHALLOW-CONCENTRATED FLOW

SEGMENT ID	SC1			
Surface Description	UNPAVED			
Flow Length, L	ft	120		
Watercourse Slope, s	ft/ft	0.021		
Average Velocity, V	ft/s	3.00		
Compute T_t	hr	0.01	+	
			=	0.01

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	2.3		
Wetted Perimeter, p _w	ft	4.7		
Hydraulic Radius, r	ft	0.482		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.16		
Flow Length, L	ft	1060		
Compute T_t	hr	0.25	+	
			=	0.25

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

Watershed or Sub-Area T_c

0.42 hr

25.1 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 208A

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	65		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID	SC1			
Surface Description	UNPAVED			
Flow Length, L	ft	160		
Watercourse Slope, s	ft/ft	0.016		
Average Velocity, V	ft/s	2.62		
Compute T_t	hr	0.02	+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D
 = 0.02

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	2.1		
Wetted Perimeter, p _w	ft	4.6		
Hydraulic Radius, r	ft	0.467		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.13		
Flow Length, L	ft	745		
Compute T_t	hr	0.18	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C
 = 0.18

Watershed or Sub-Area T_c

0.31 hr

18.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 209

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	100		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.006		
Compute T_t	hr	0.27	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.27**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID	SC1			
Surface Description	UNPAVED			
Flow Length, L	ft	130		
Watercourse Slope, s	ft/ft	0.0054		
Average Velocity, V	ft/s	1.52		
Compute T_t	hr	0.02	+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D
 = **0.02**

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	5.6		
Wetted Perimeter, p _w	ft	7.4		
Hydraulic Radius, r	ft	0.755		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.56		
Flow Length, L	ft	1450		
Compute T_t	hr	0.26	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C
 = **0.26**

Watershed or Sub-Area T_c

0.55 hr

33.2 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 209A

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.033		
Compute T_t	hr	0.08	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.08**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID	SC1			
Surface Description	UNPAVED			
Flow Length, L	ft	215		
Watercourse Slope, s	ft/ft	0.017		
Average Velocity, V	ft/s	2.70		
Compute T_t	hr	0.02	+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D
 = **0.02**

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	2.0		
Wetted Perimeter, p _w	ft	4.4		
Hydraulic Radius, r	ft	0.444		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.10		
Flow Length, L	ft	615		
Compute T_t	hr	0.16	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C
 = **0.16**

Watershed or Sub-Area T_c

0.26 hr

15.8 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 210

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	30		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.0153		
Compute T_t	hr	0.07	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.07

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	6.0		
Wetted Perimeter, p_w	ft	7.7		
Hydraulic Radius, r	ft	0.784		
Channel Slope, s	ft/ft	0.002		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.13		
Flow Length, L	ft	1170		
Compute T_t	hr	0.29	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.29

Watershed or Sub-Area T_c

0.36 hr

21.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 211

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.012		
Compute T_t	hr	0.12	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.12**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.1		
Wetted Perimeter, p _w	ft	5.5		
Hydraulic Radius, r	ft	0.567		
Channel Slope, s	ft/ft	0.0042		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.32		
Flow Length, L	ft	1130		
Compute T_t	hr	0.24	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.24**

Watershed or Sub-Area T_c

0.36 hr

21.3 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 212

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	45		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.014		
Compute T_t	hr	0.10	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.10

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	1.9		
Wetted Perimeter, p _w	ft	4.3		
Hydraulic Radius, r	ft	0.436		
Channel Slope, s	ft/ft	0.003		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.94		
Flow Length, L	ft	640		
Compute T_t	hr	0.19	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.19

Watershed or Sub-Area T_c

0.29 hr

17.5 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 213

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	50		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.01		
Compute T_t	hr	0.13	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.13**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	8.0		
Wetted Perimeter, p _w	ft	9.0		
Hydraulic Radius, r	ft	0.897		
Channel Slope, s	ft/ft	0.002		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.24		
Flow Length, L	ft	985		
Compute T_t	hr	0.22	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.22**

Watershed or Sub-Area T_c

0.35 hr

20.9 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 214

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	35		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.0143		
Compute T_t	hr	0.08	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.08**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	3.2		
Wetted Perimeter, p _w	ft	5.5		
Hydraulic Radius, r	ft	0.574		
Channel Slope, s	ft/ft	0.002		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	0.92		
Flow Length, L	ft	890		
Compute T_t	hr	0.27	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.27**

Watershed or Sub-Area T_c

0.35 hr

21.1 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 215

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	40		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.025		
Compute T_t	hr	0.07	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.07**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	5.8		
Wetted Perimeter, p_w	ft	7.5		
Hydraulic Radius, r	ft	0.767		
Channel Slope, s	ft/ft	0.008		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	2.23		
Flow Length, L	ft	2890		
Compute T_t	hr	0.36	+	

$$r = \frac{a}{p_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.36**

Watershed or Sub-Area T_c

0.43 hr

26.0 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR DIR5

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Pmvt			
Manning's Roughness Coefficient, n	0.012			
Flow Length, L	ft	40		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.02		
Compute T_t	hr	0.01	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.01**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	2.1		
Wetted Perimeter, p _w	ft	11.2		
Hydraulic Radius, r	ft	0.188		
Channel Slope, s	ft/ft	0.0244		
Manning's Roughness Coefficient, n		0.025		
Velocity, V	ft/s	3.06		
Flow Length, L	ft	470		
Compute T_t	hr	0.04	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= **0.04**

Watershed or Sub-Area T_c

0.05 hr

3.2 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 216

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	40		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.01		
Compute T_t	hr	0.11	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= 0.11

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	4.9		
Wetted Perimeter, p _w	ft	6.9		
Hydraulic Radius, r	ft	0.707		
Channel Slope, s	ft/ft	0.003		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.30		
Flow Length, L	ft	990		
Compute T_t	hr	0.21	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

= 0.21

Watershed or Sub-Area T_c

0.32 hr

19.1 min



TIME OF CONCENTRATION CALCULATIONS

PROJECT: I-65 Southeast Design Build
 LOCATION: Package C
 COUNTY: Jackson

PREPARED BY: MA
 DATE: 2/22/19
 CHECKED BY: WN
 DATE: 2/28/19

BASIN ID: PR 217

SHEET FLOW

SEGMENT ID	SF1			
Surface Description	Grass			
Manning's Roughness Coefficient, n	0.15			
Flow Length, L	ft	55		
2-Year, 24-Hour Rainfall, P	in	3.04		
Land Slope, s	ft/ft	0.015		
Compute T_t	hr	0.12	+	

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$$

= **0.12**

SHALLOW-CONCENTRATED FLOW

SEGMENT ID				
Surface Description				
Flow Length, L	ft			
Watercourse Slope, s	ft/ft			
Average Velocity, V	ft/s			
Compute T_t	hr		+	

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2D

=

CHANNEL FLOW

SEGMENT ID	CH1			
Channel Description	Trapezoidal			
Cross-Sectional Flow Area, a	ft ²	9.0		
Wetted Perimeter, p _w	ft	9.5		
Hydraulic Radius, r	ft	0.946		
Channel Slope, s	ft/ft	0.004		
Manning's Roughness Coefficient, n		0.05		
Velocity, V	ft/s	1.82		
Flow Length, L	ft	2975		
Compute T_t	hr	0.46	+	

$$r = \frac{a}{P_w}$$

$$V = \frac{1.49r^{2/3}S^{1/2}}{n}$$

$$T_t = \frac{L}{3600V}$$

IDM Fig. 202-2C

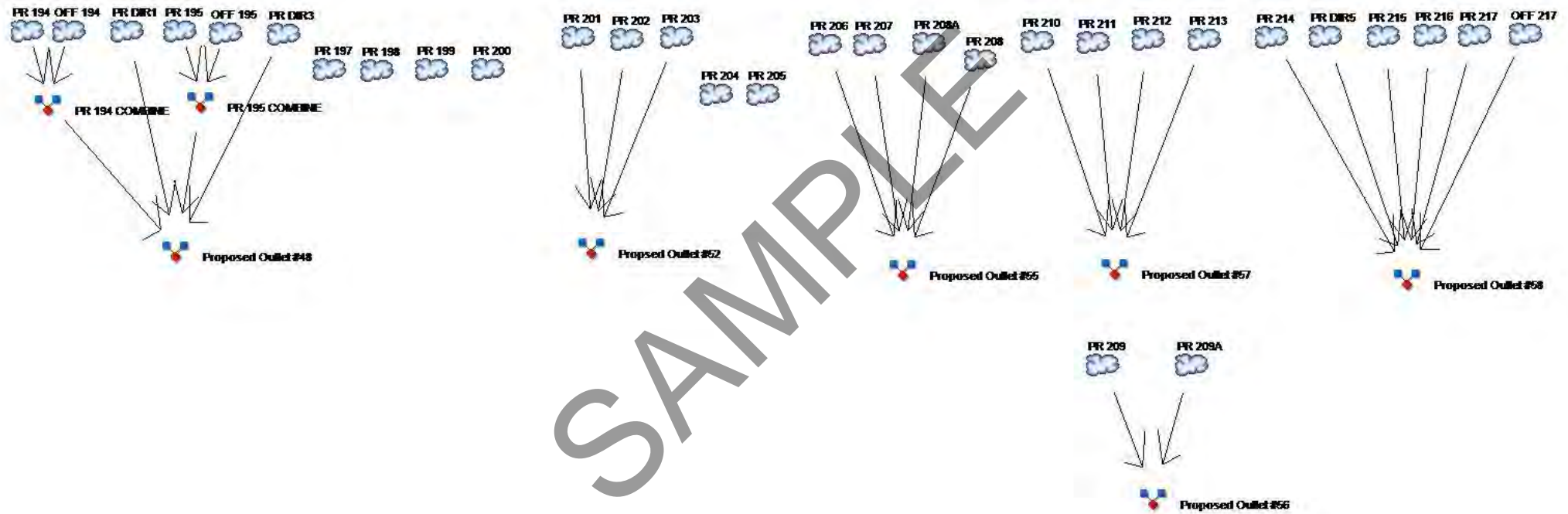
= **0.46**

Watershed or Sub-Area T_c

0.57 hr

34.3 min

Proposed Conditions - Hydraflow Hydrograph Schematic



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

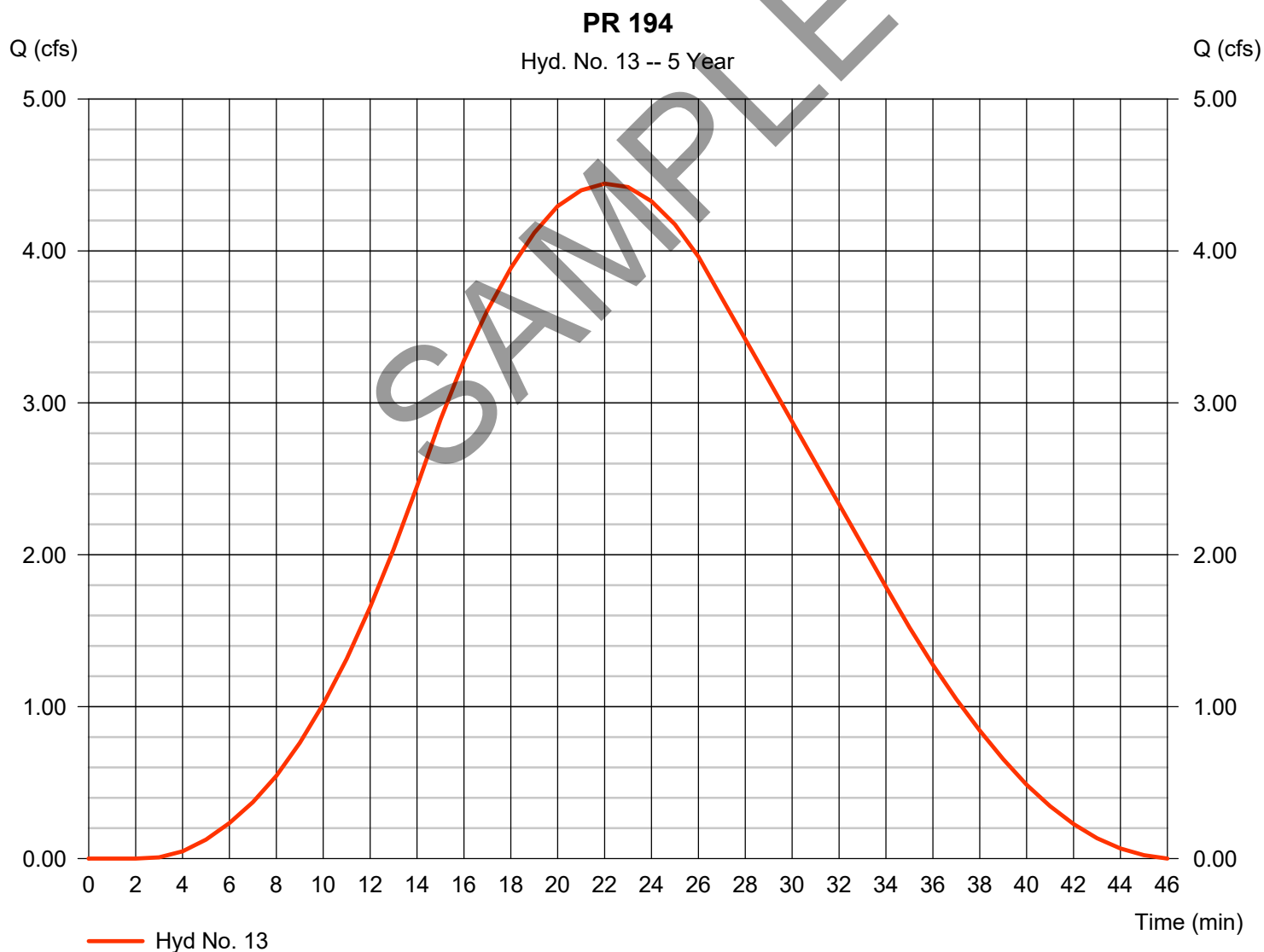
Tuesday, 03 / 19 / 2019

Hyd. No. 13

PR 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 4.443 cfs
Time to peak = 22 min
Hyd. volume = 5,215 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.50 min
Distribution = Custom
Shape factor = 484

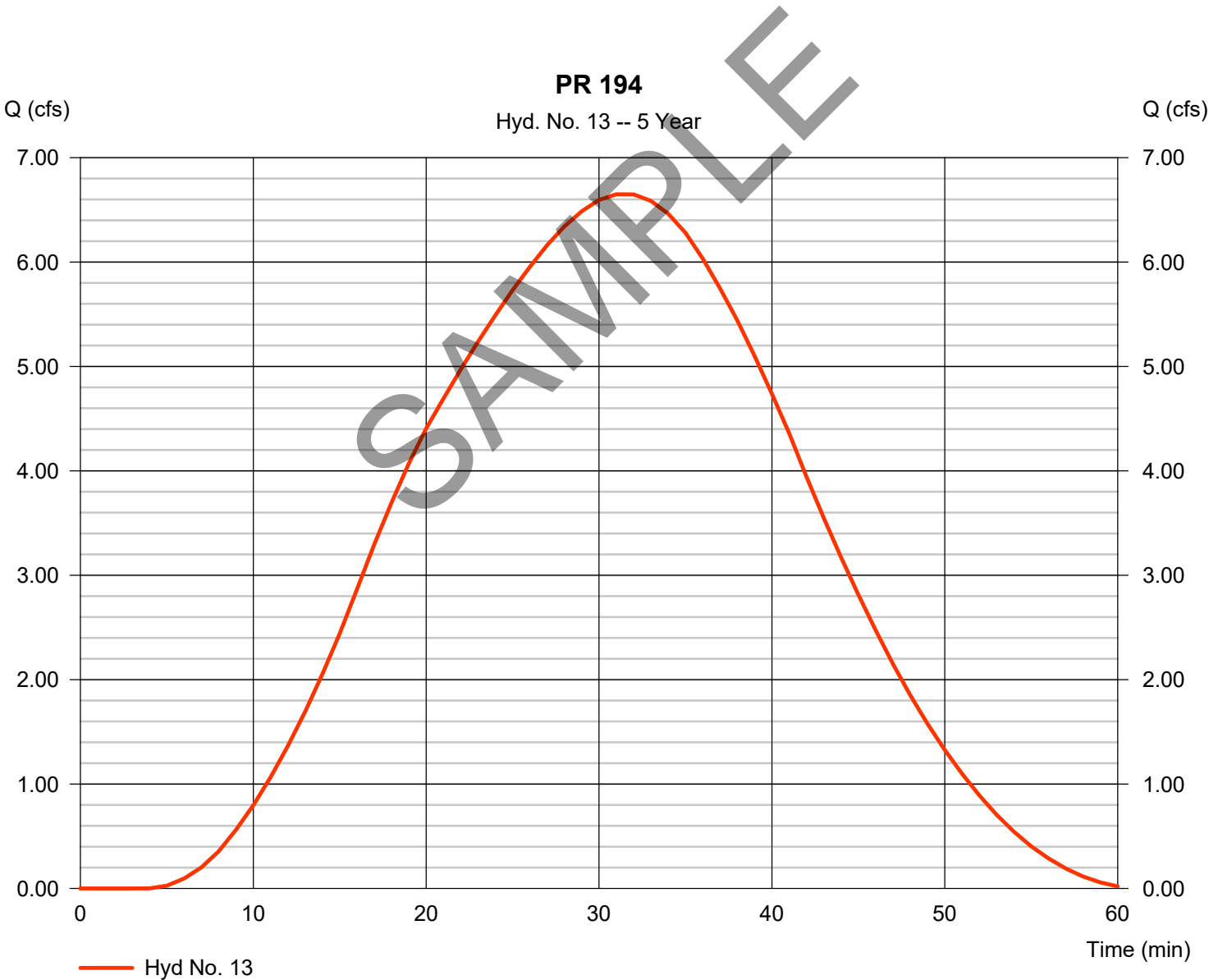


Hydrograph Report

Hyd. No. 13

PR 194

Hydrograph type	= SCS Runoff	Peak discharge	= 6.649 cfs
Storm frequency	= 5 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 10,672 cuft
Drainage area	= 6.800 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.50 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

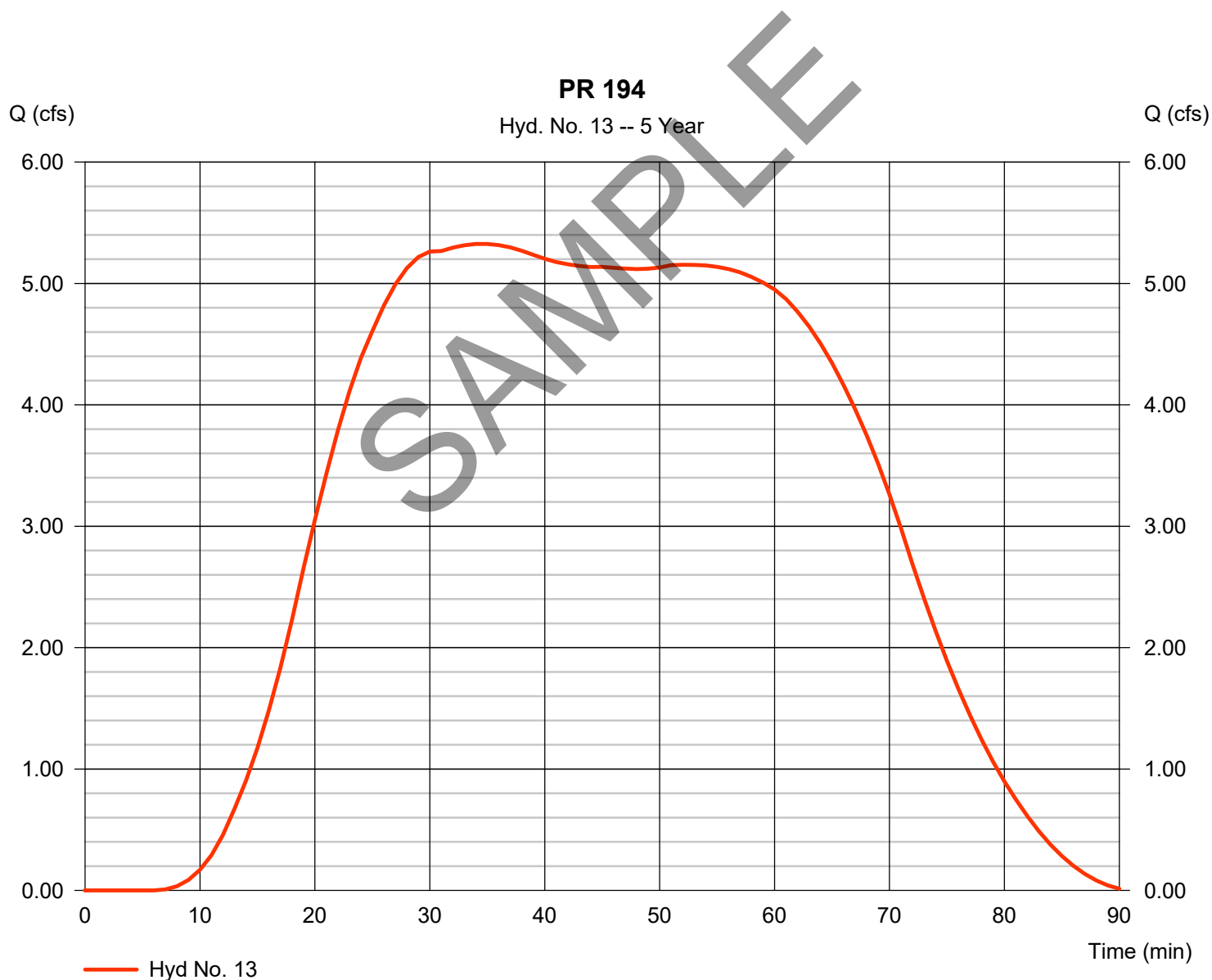
Tuesday, 03 / 19 / 2019

Hyd. No. 13

PR 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 5.325 cfs
Time to peak = 35 min
Hyd. volume = 16,750 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.50 min
Distribution = Custom
Shape factor = 484

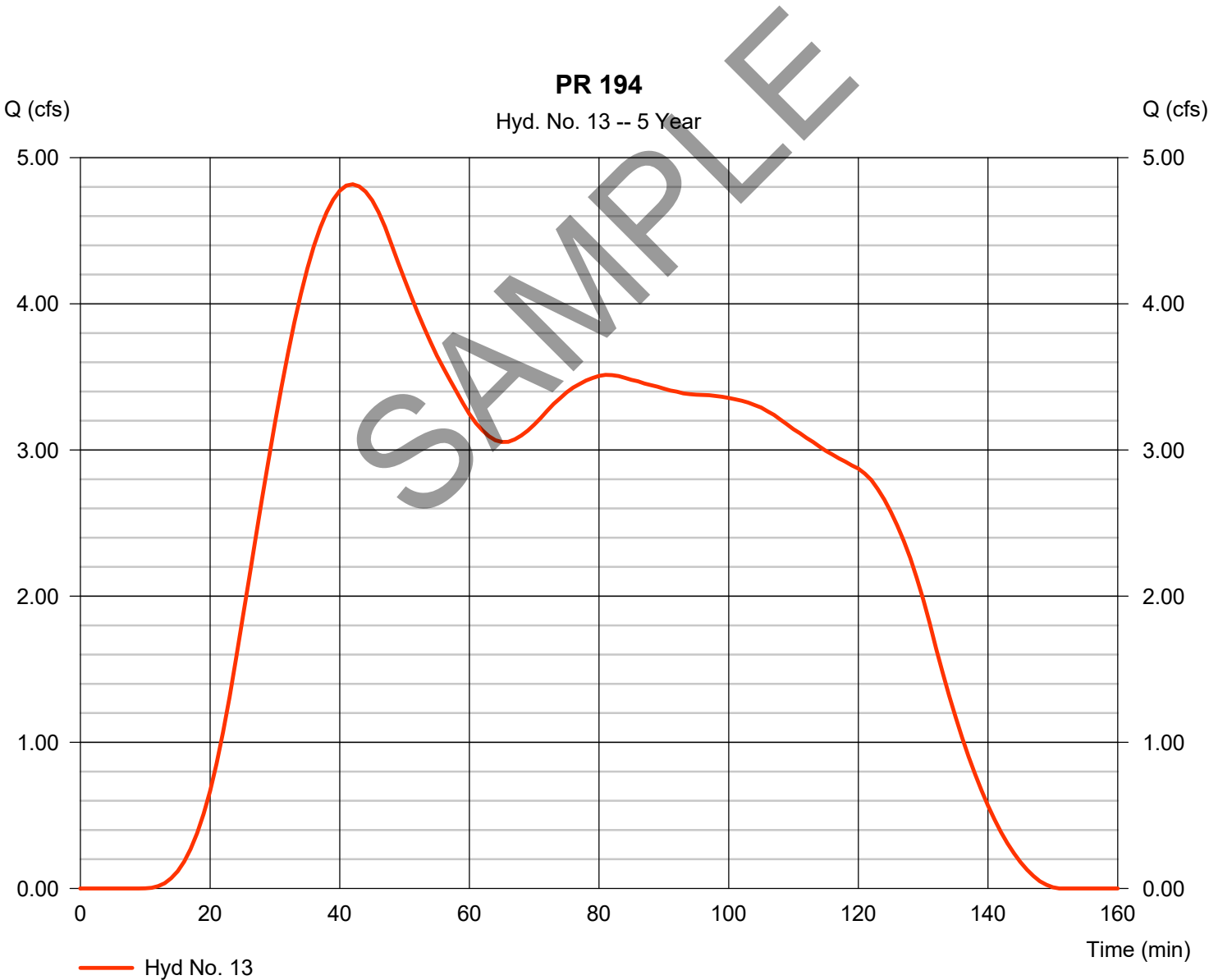


Hydrograph Report

Hyd. No. 13

PR 194

Hydrograph type	= SCS Runoff	Peak discharge	= 4.818 cfs
Storm frequency	= 5 yrs	Time to peak	= 42 min
Time interval	= 1 min	Hyd. volume	= 22,841 cuft
Drainage area	= 6.800 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.50 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

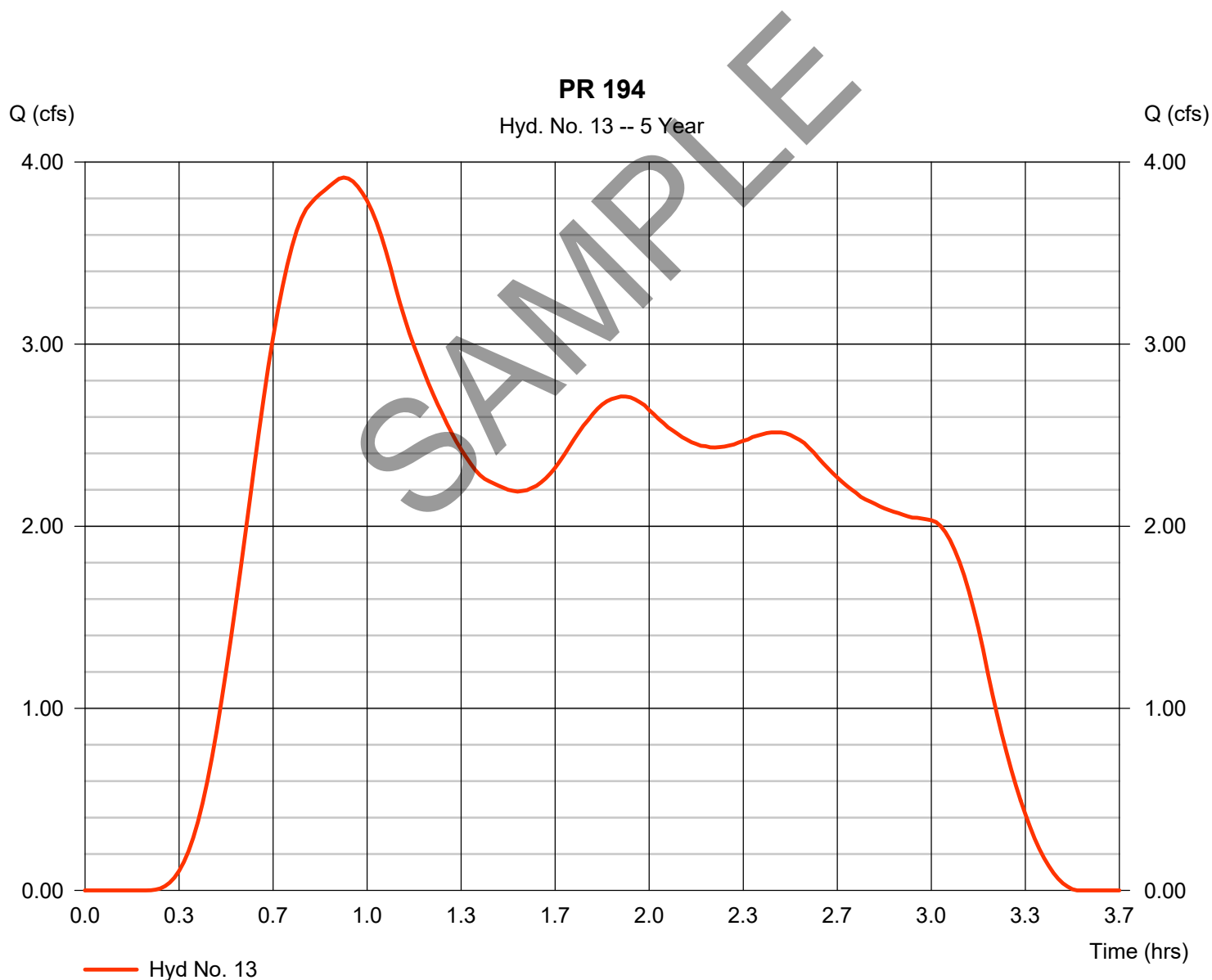
Tuesday, 03 / 19 / 2019

Hyd. No. 13

PR 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 3.915 cfs
Time to peak = 0.92 hrs
Hyd. volume = 25,734 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

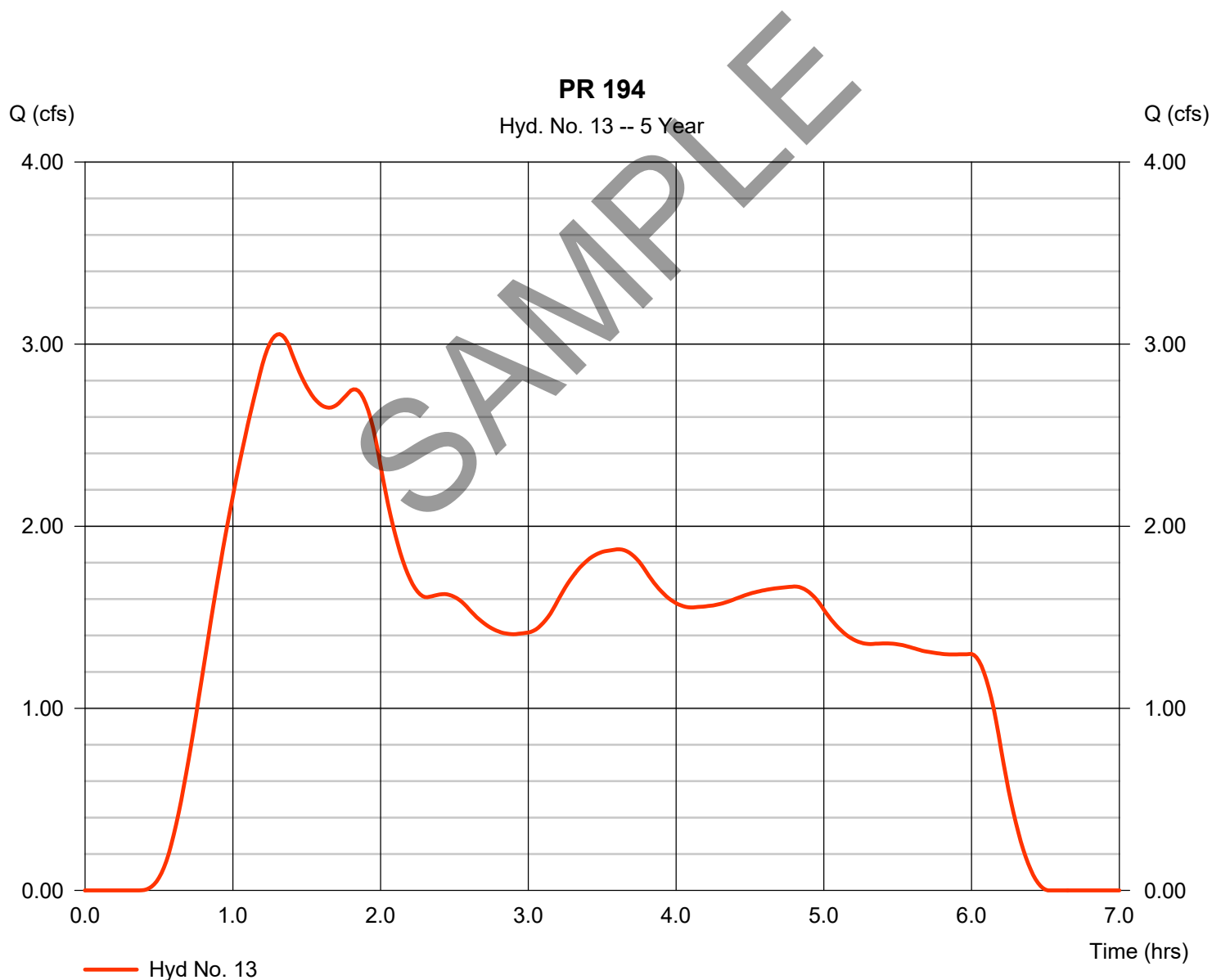
Tuesday, 03 / 19 / 2019

Hyd. No. 13

PR 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 3.055 cfs
Time to peak = 1.32 hrs
Hyd. volume = 35,389 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

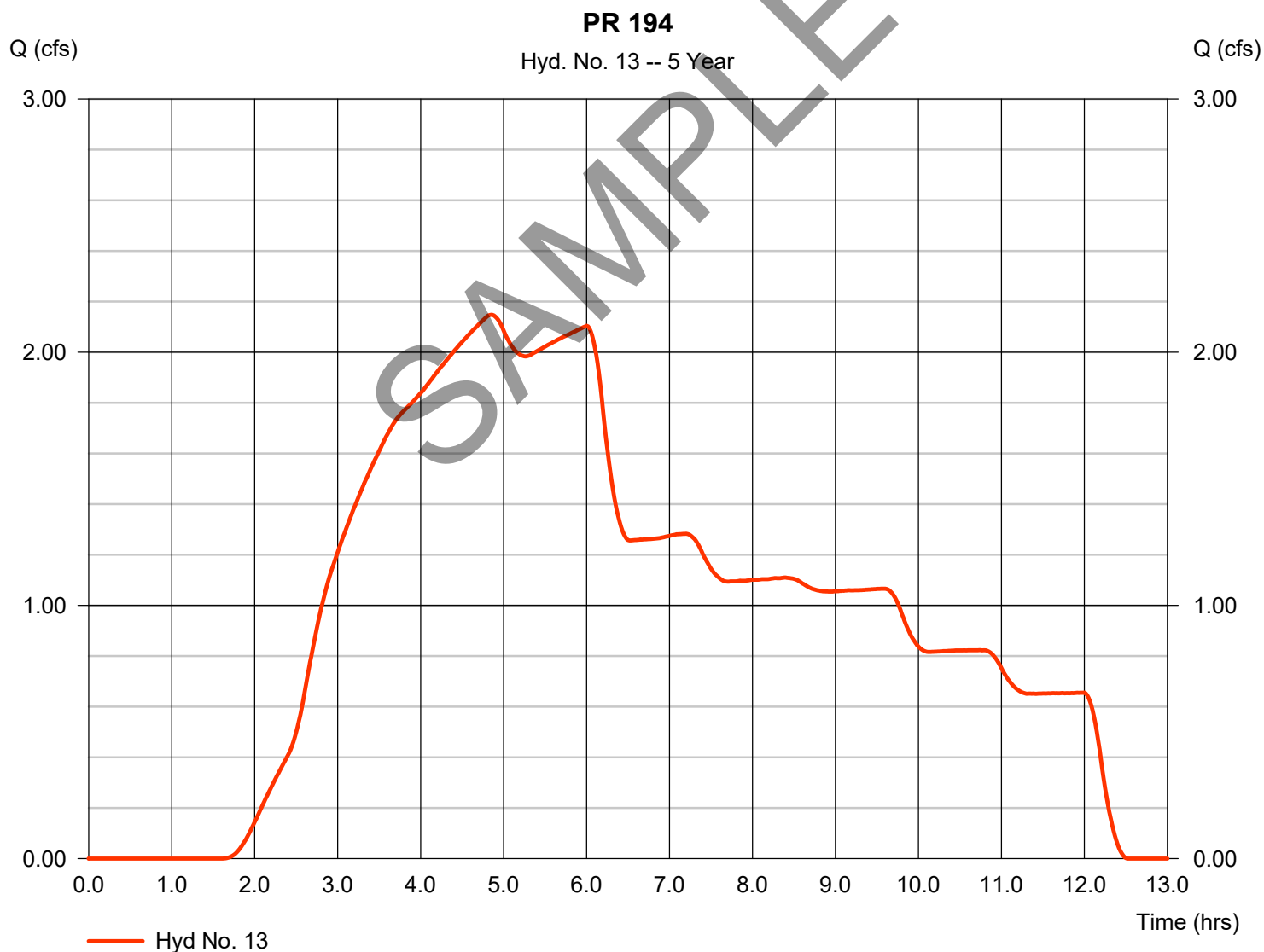
Tuesday, 03 / 19 / 2019

Hyd. No. 13

PR 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 2.148 cfs
Time to peak = 4.85 hrs
Hyd. volume = 45,512 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

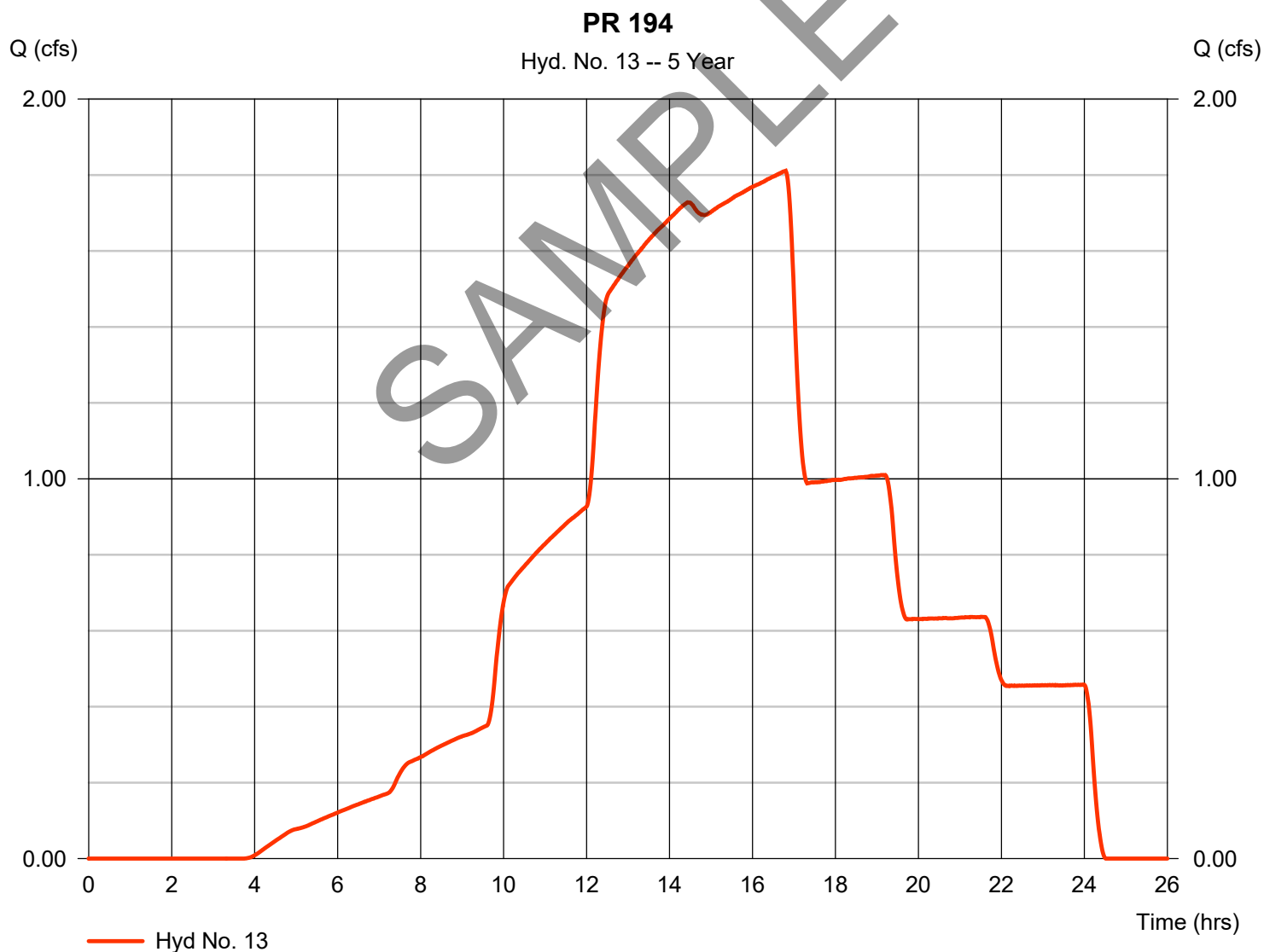
Tuesday, 03 / 19 / 2019

Hyd. No. 13

PR 194

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.811 cfs
Time to peak = 16.80 hrs
Hyd. volume = 58,178 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.50 min
Distribution = Custom
Shape factor = 484

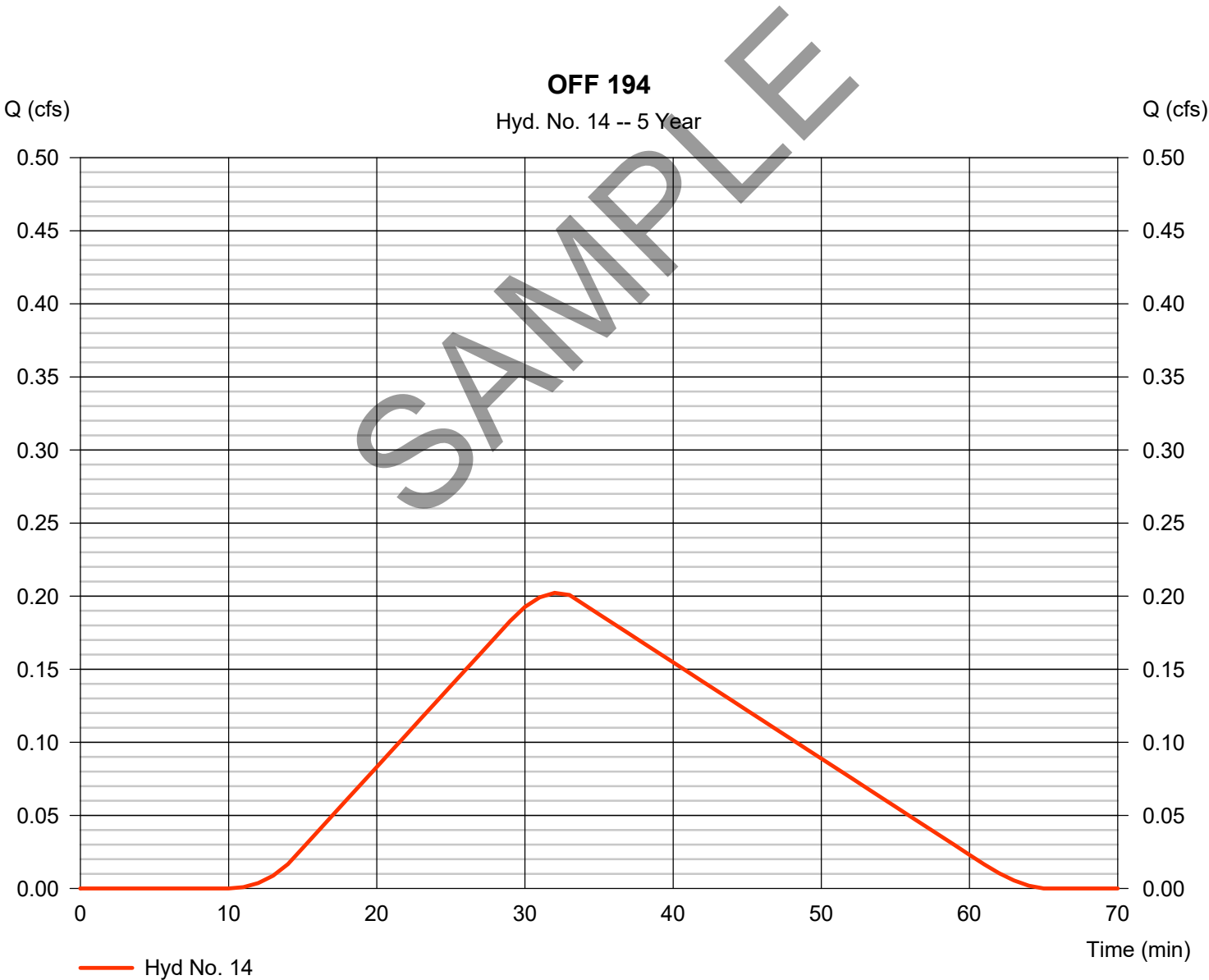


Hydrograph Report

Hyd. No. 14

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 0.202 cfs
Storm frequency	= 5 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 322 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

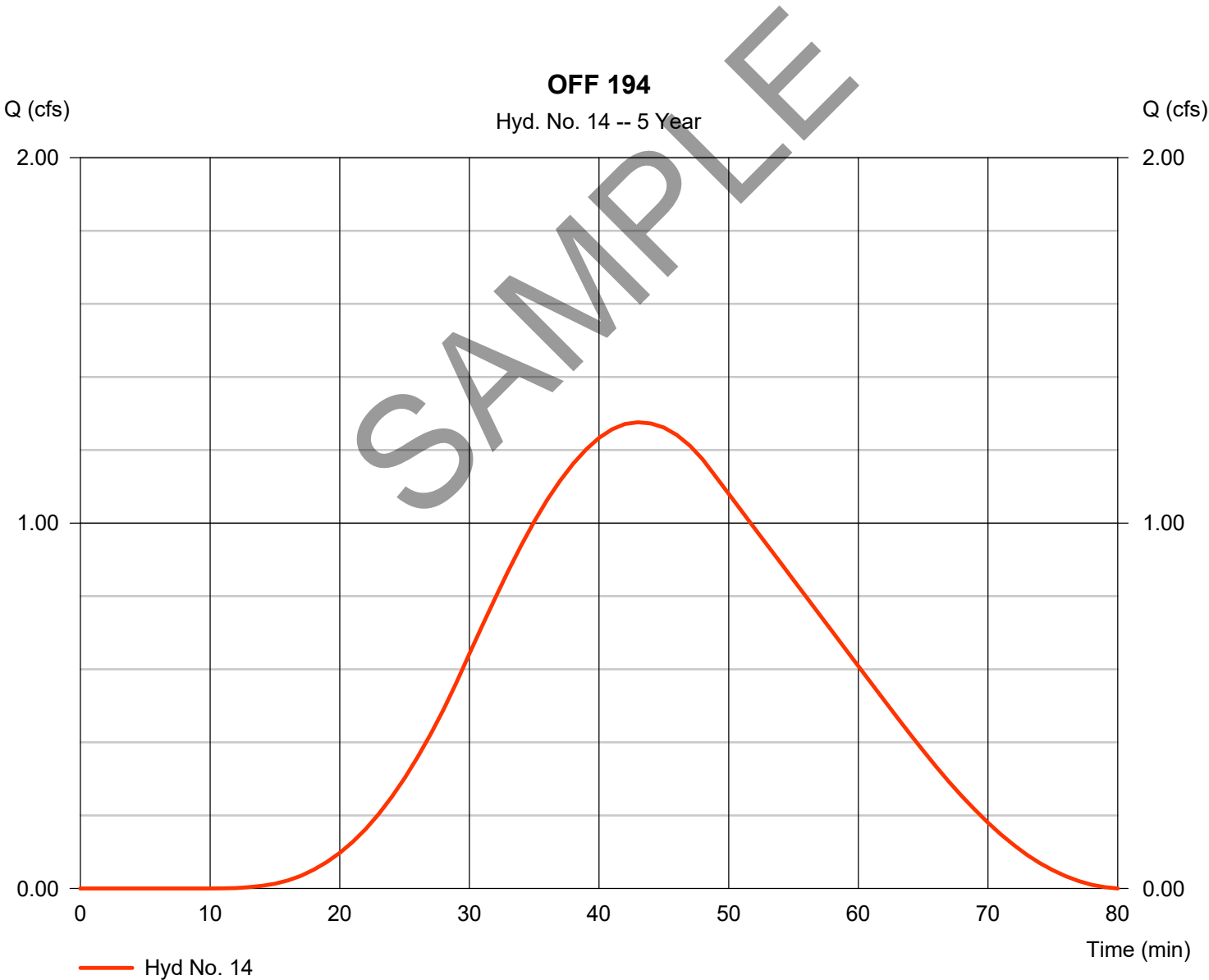


Hydrograph Report

Hyd. No. 14

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.276 cfs
Storm frequency	= 5 yrs	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 2,308 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

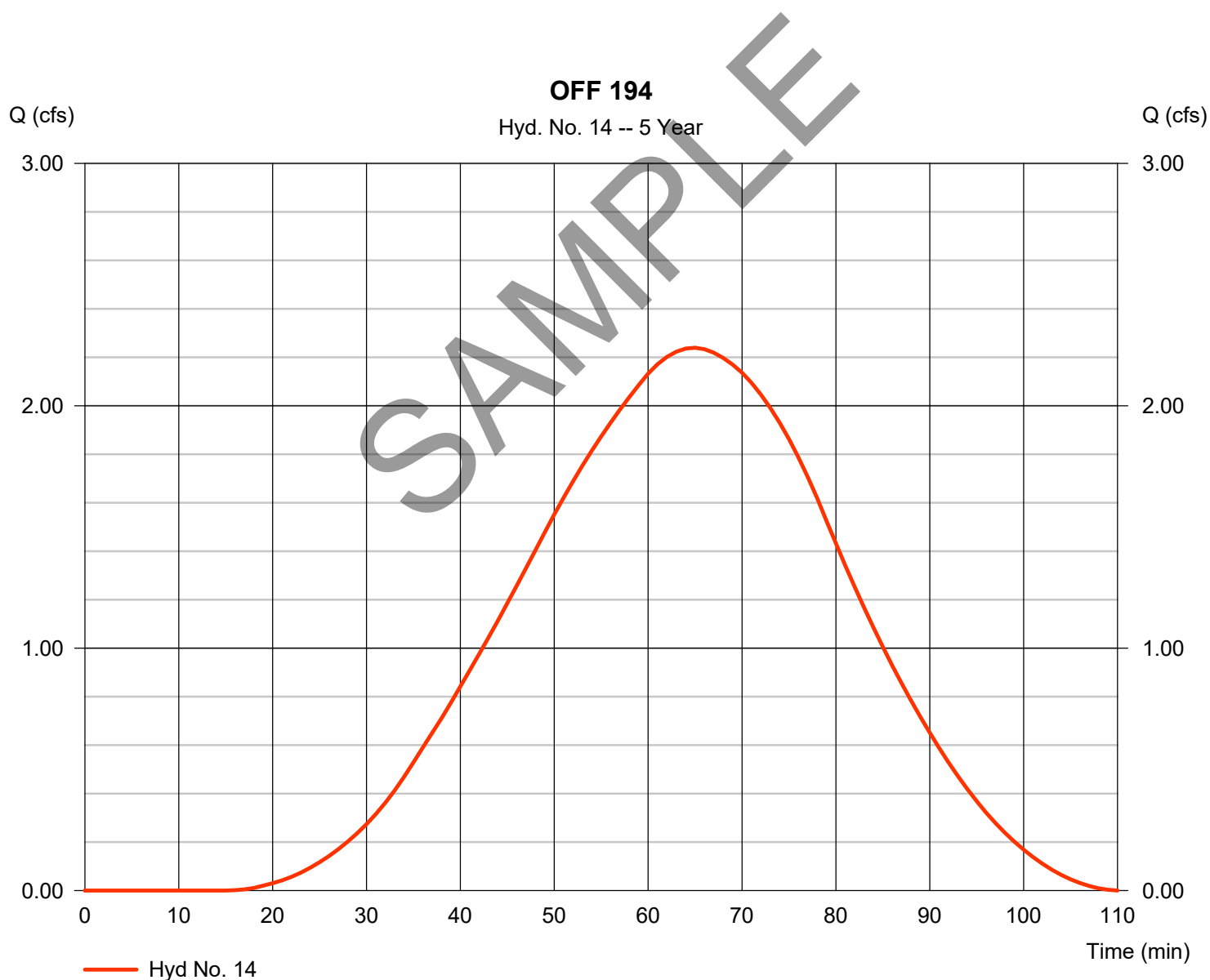
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 14

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 2.239 cfs
Storm frequency	= 5 yrs	Time to peak	= 65 min
Time interval	= 1 min	Hyd. volume	= 5,534 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

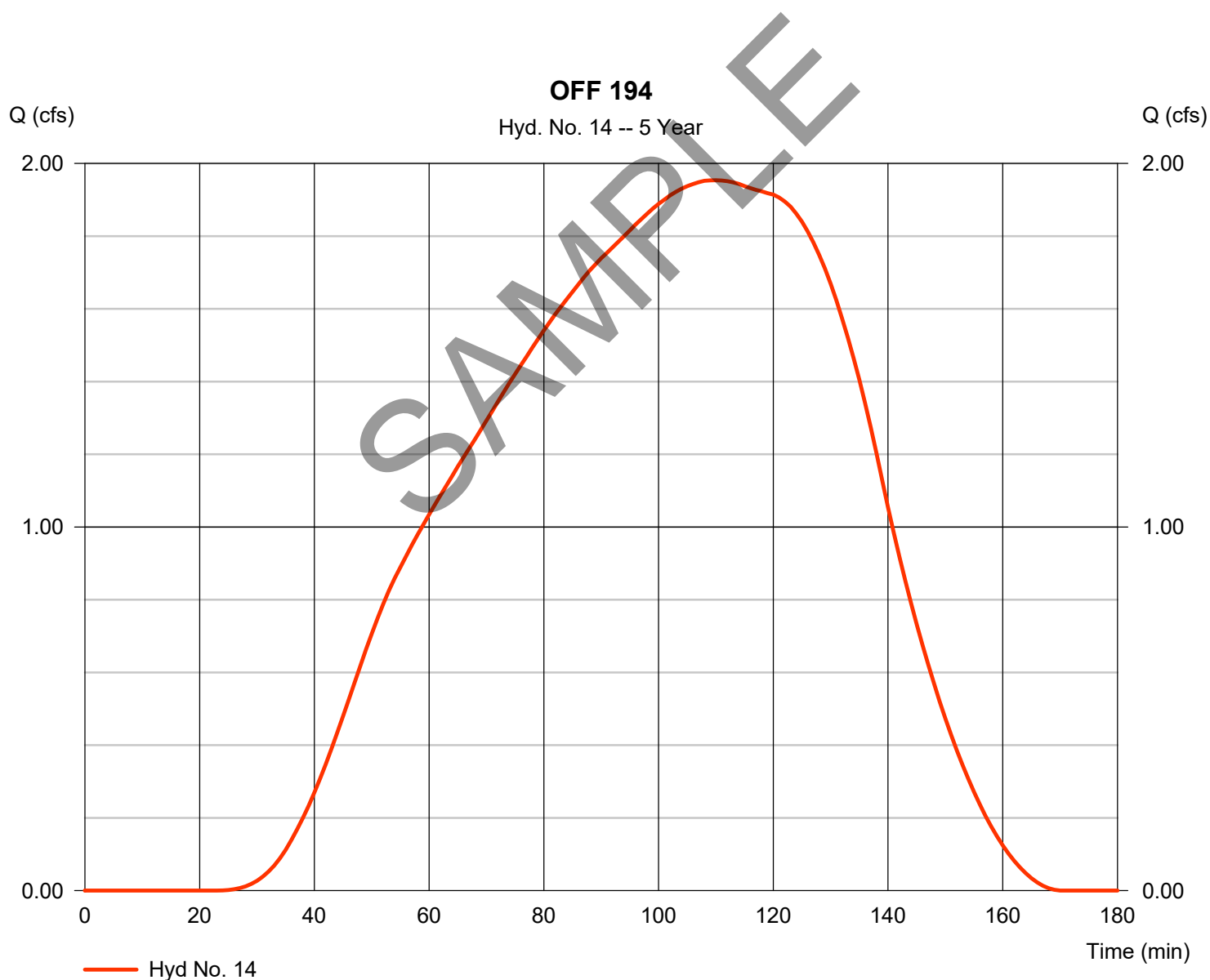
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 14

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.954 cfs
Storm frequency	= 5 yrs	Time to peak	= 110 min
Time interval	= 1 min	Hyd. volume	= 9,414 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

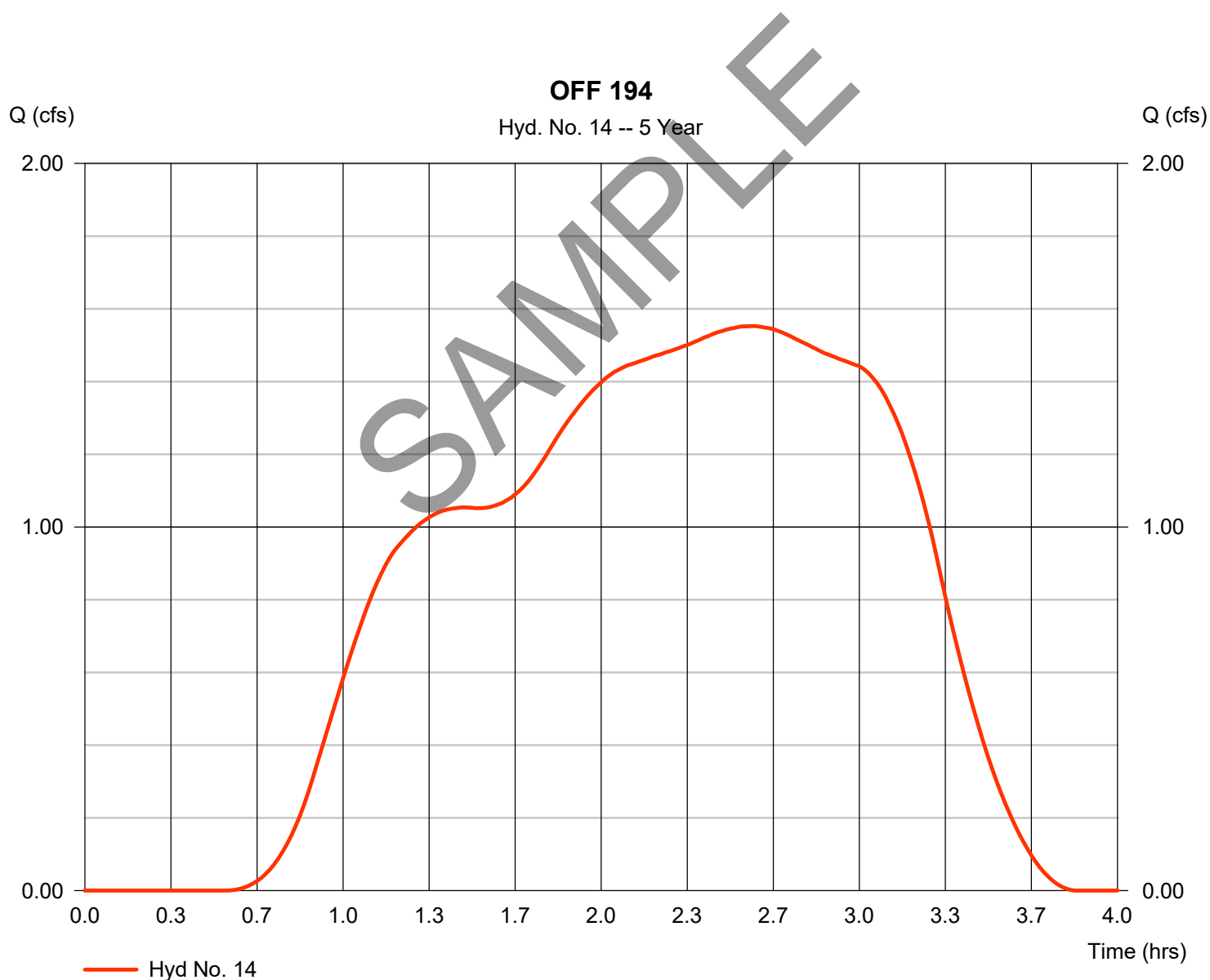
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 14

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.552 cfs
Storm frequency	= 5 yrs	Time to peak	= 2.58 hrs
Time interval	= 1 min	Hyd. volume	= 11,424 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484

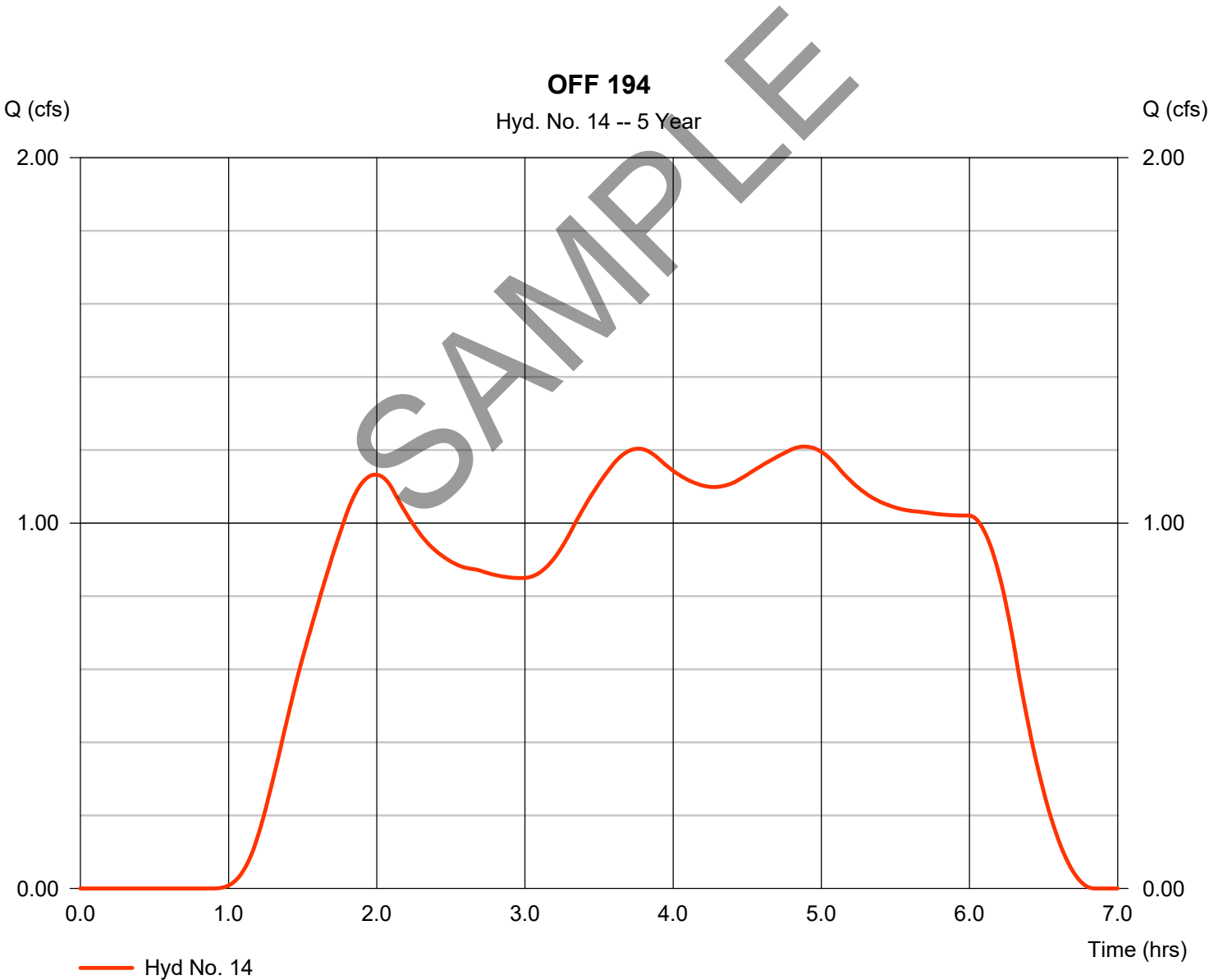


Hydrograph Report

Hyd. No. 14

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.209 cfs
Storm frequency	= 5 yrs	Time to peak	= 4.88 hrs
Time interval	= 1 min	Hyd. volume	= 18,730 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

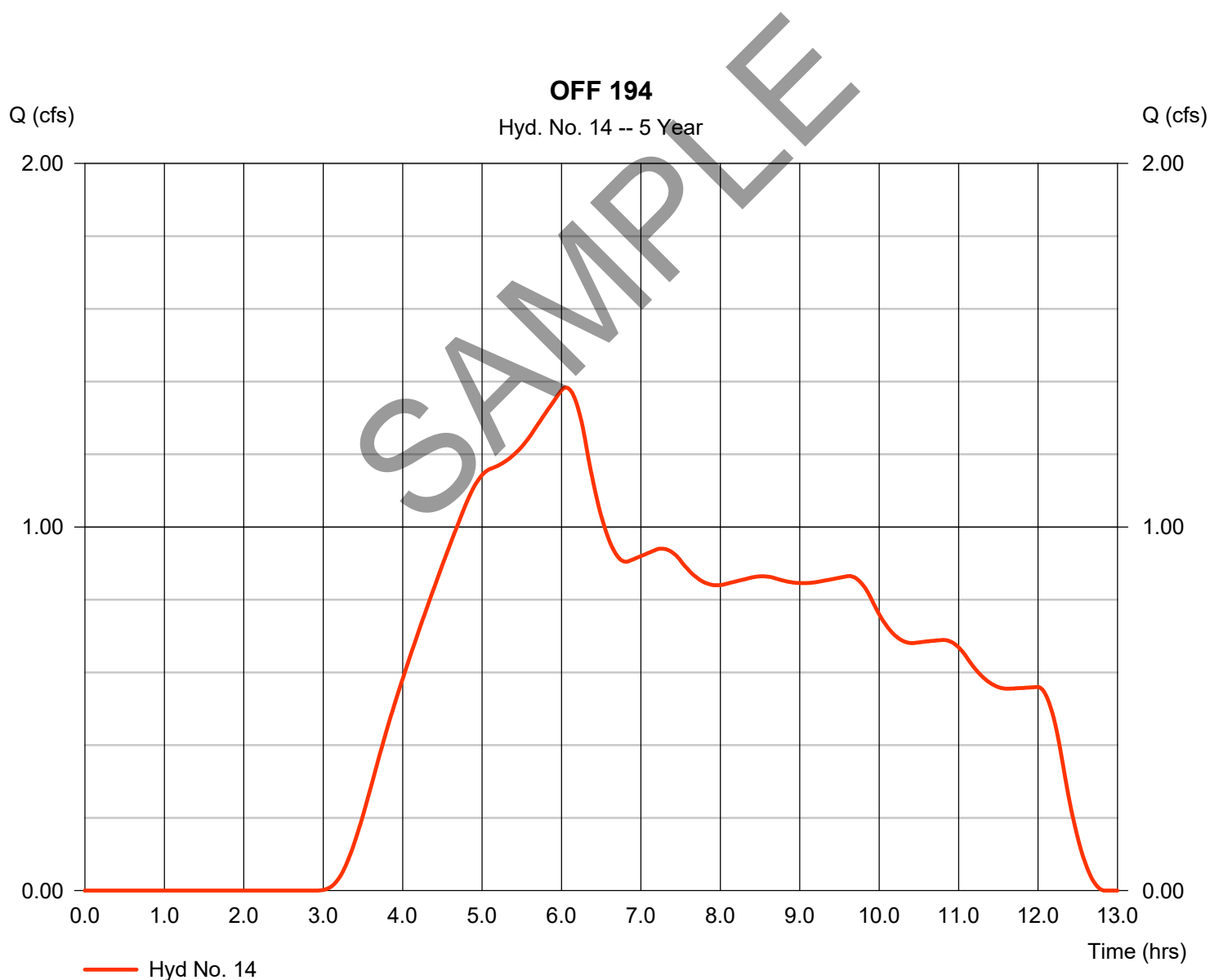
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 14

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.384 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.05 hrs
Time interval	= 1 min	Hyd. volume	= 27,136 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

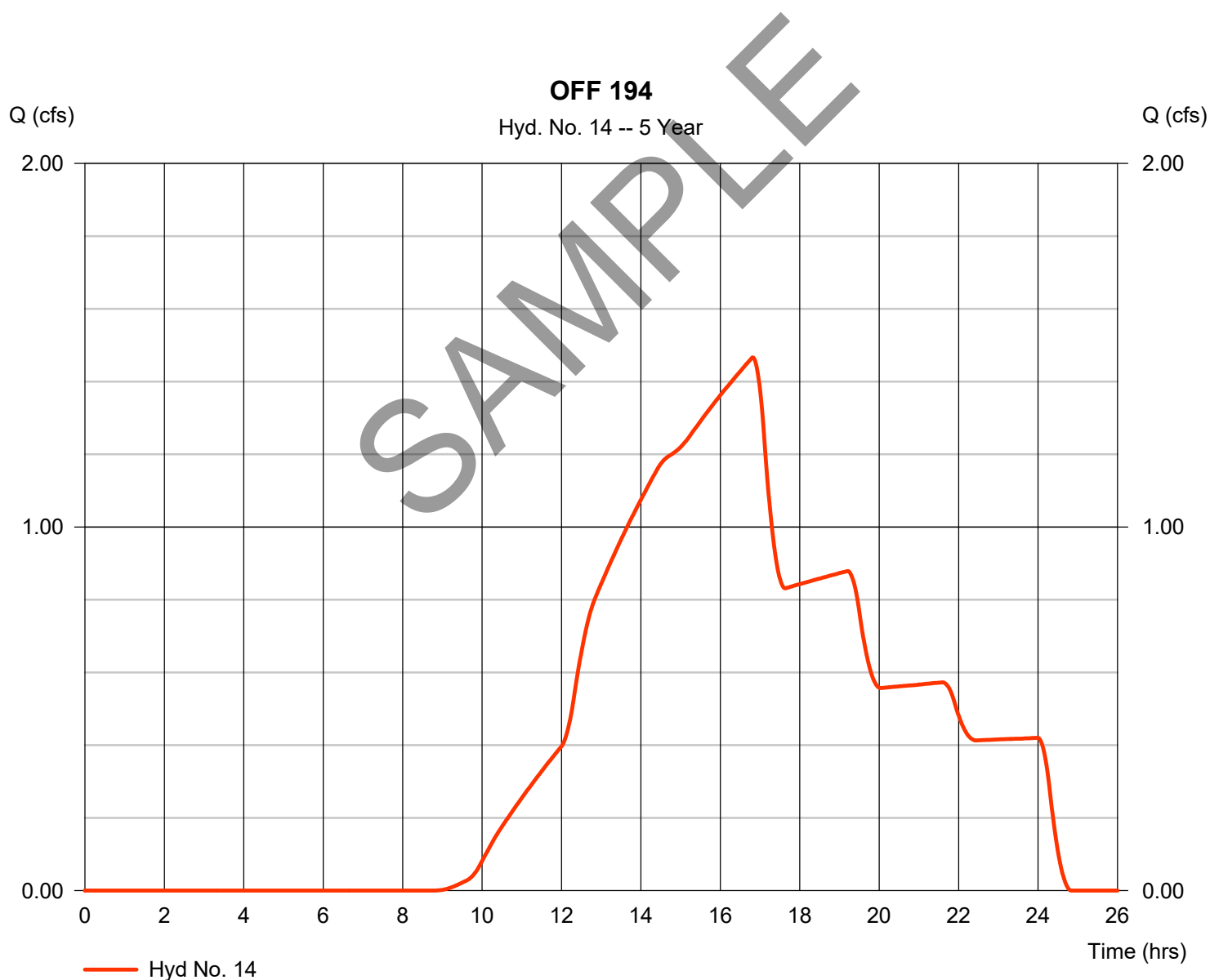
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 14

OFF 194

Hydrograph type	= SCS Runoff	Peak discharge	= 1.466 cfs
Storm frequency	= 5 yrs	Time to peak	= 16.82 hrs
Time interval	= 1 min	Hyd. volume	= 38,441 cuft
Drainage area	= 8.400 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 31.50 min
Total precip.	= 3.79 in	Distribution	= Custom
Storm duration	= 24.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

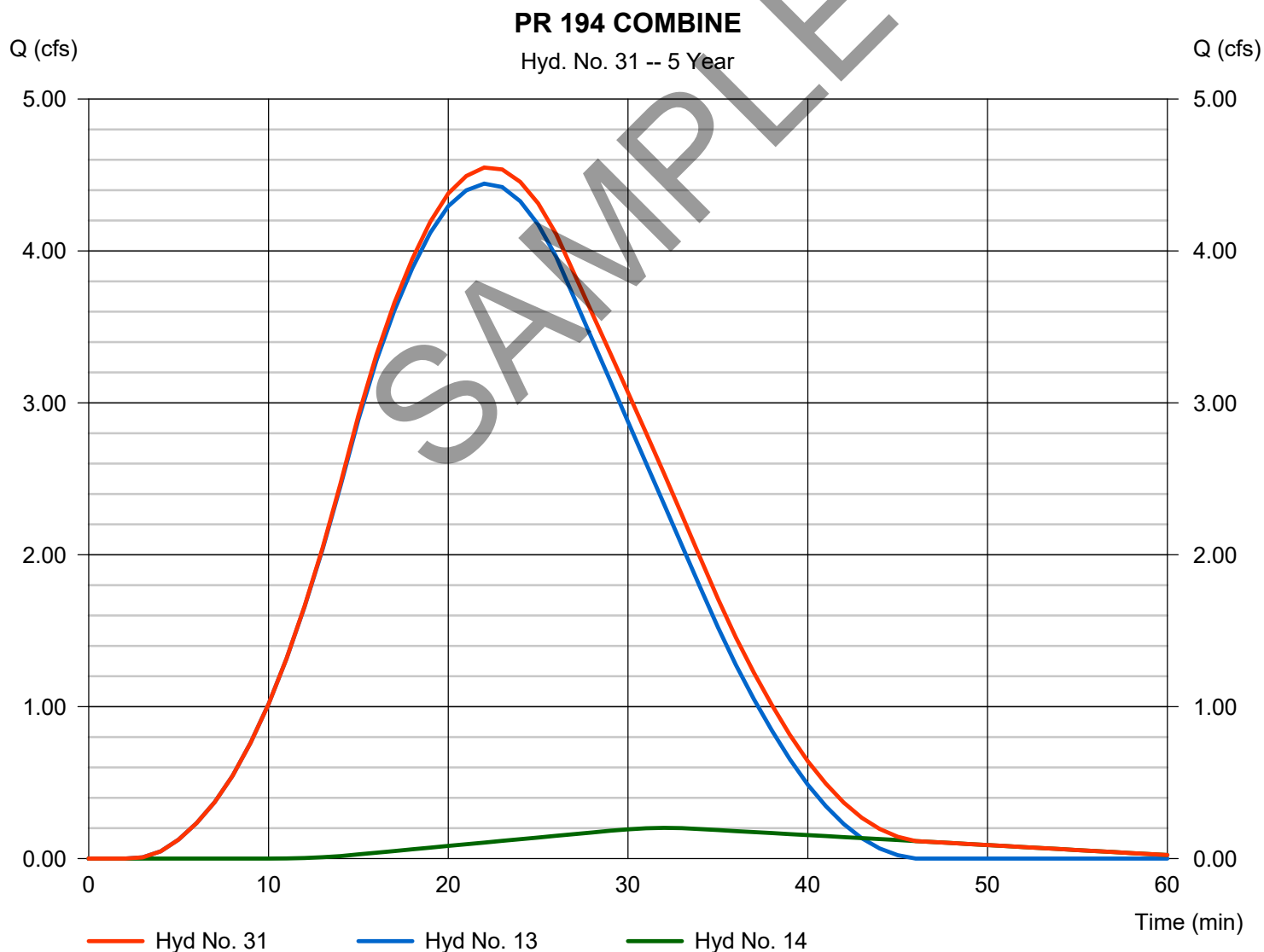
Tuesday, 03 / 19 / 2019

Hyd. No. 31

PR 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 13, 14

Peak discharge = 4.549 cfs
Time to peak = 22 min
Hyd. volume = 5,537 cuft
Contrib. drain. area = 15.200 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

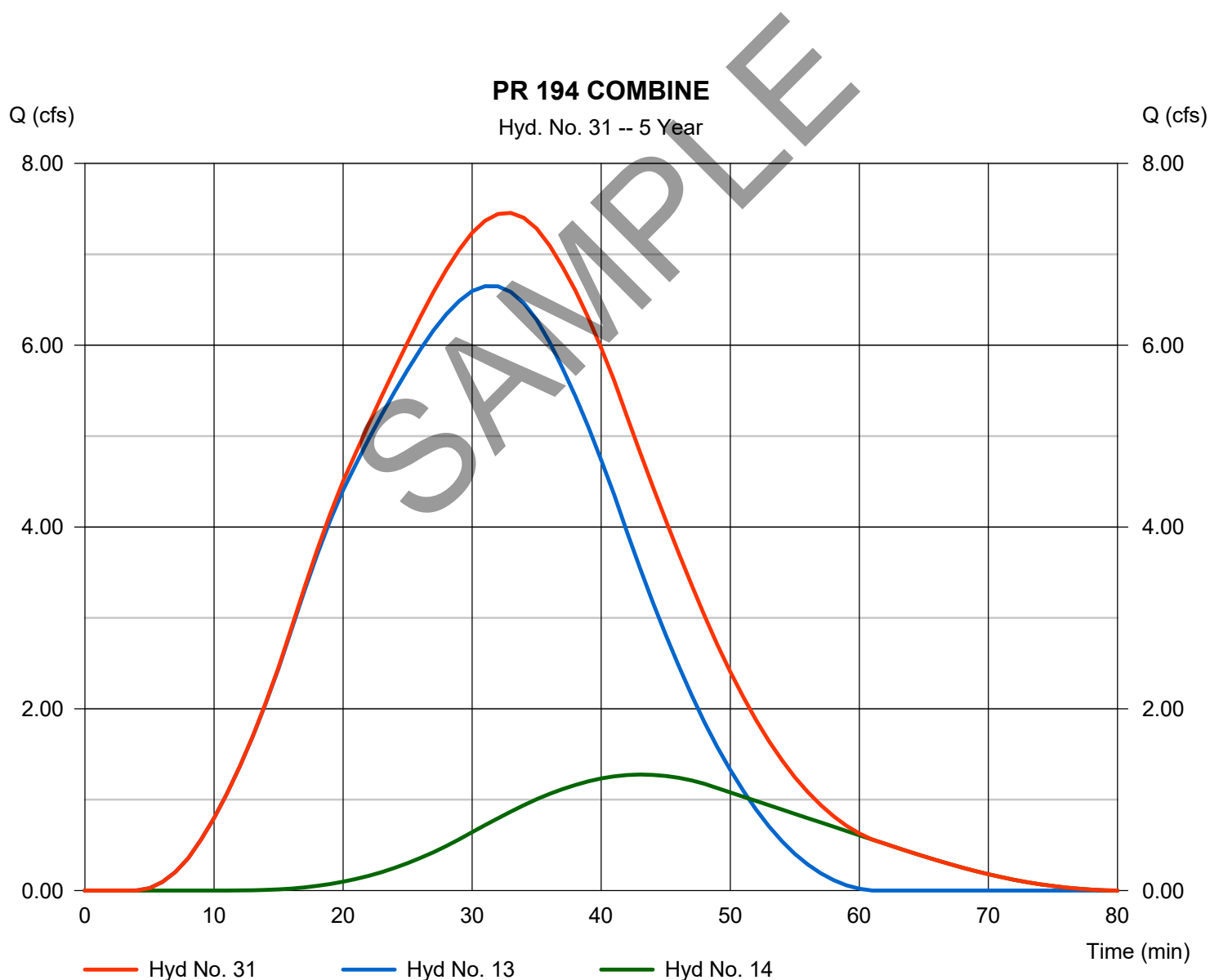
Tuesday, 03 / 19 / 2019

Hyd. No. 31

PR 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 13, 14

Peak discharge = 7.455 cfs
Time to peak = 33 min
Hyd. volume = 12,980 cuft
Contrib. drain. area = 15.200 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

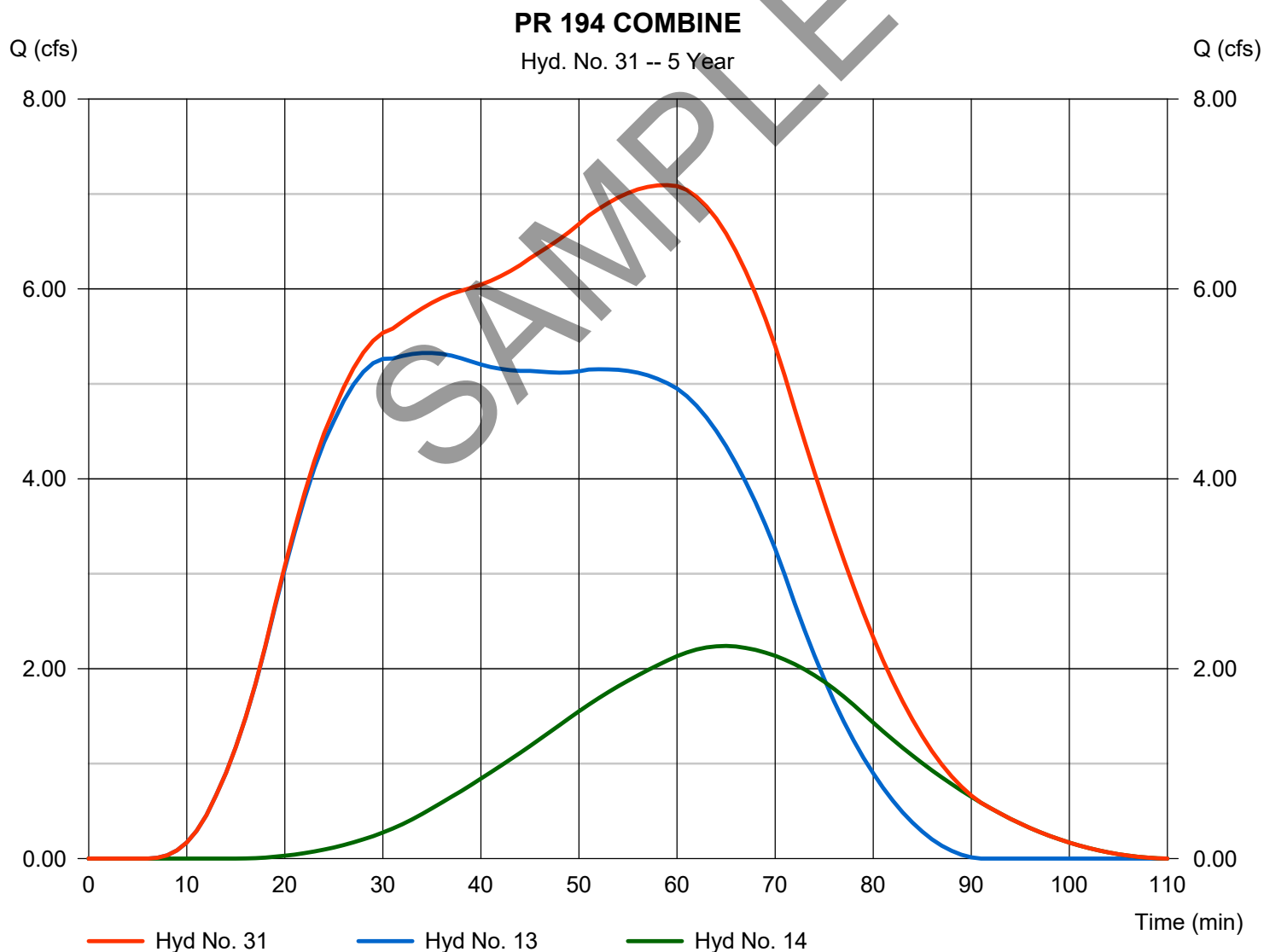
Tuesday, 03 / 19 / 2019

Hyd. No. 31

PR 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 13, 14

Peak discharge = 7.092 cfs
Time to peak = 59 min
Hyd. volume = 22,284 cuft
Contrib. drain. area = 15.200 ac



Hydrograph Report

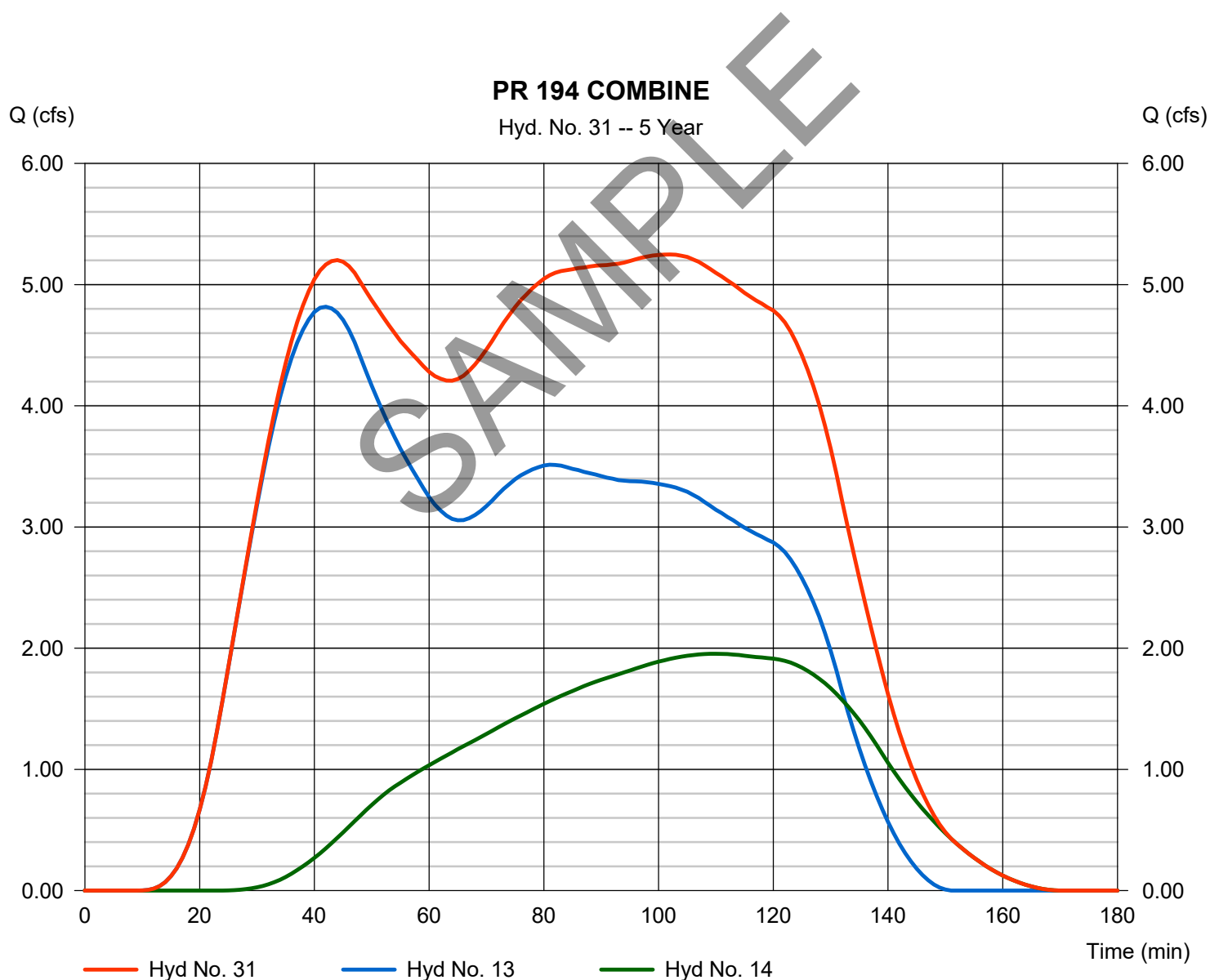
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 31

PR 194 COMBINE

Hydrograph type	= Combine	Peak discharge	= 5.249 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 102 min
Time interval	= 1 min	Hyd. volume	= 32,255 cuft
Inflow hyds.	= 13, 14	Contrib. drain. area	= 15.200 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

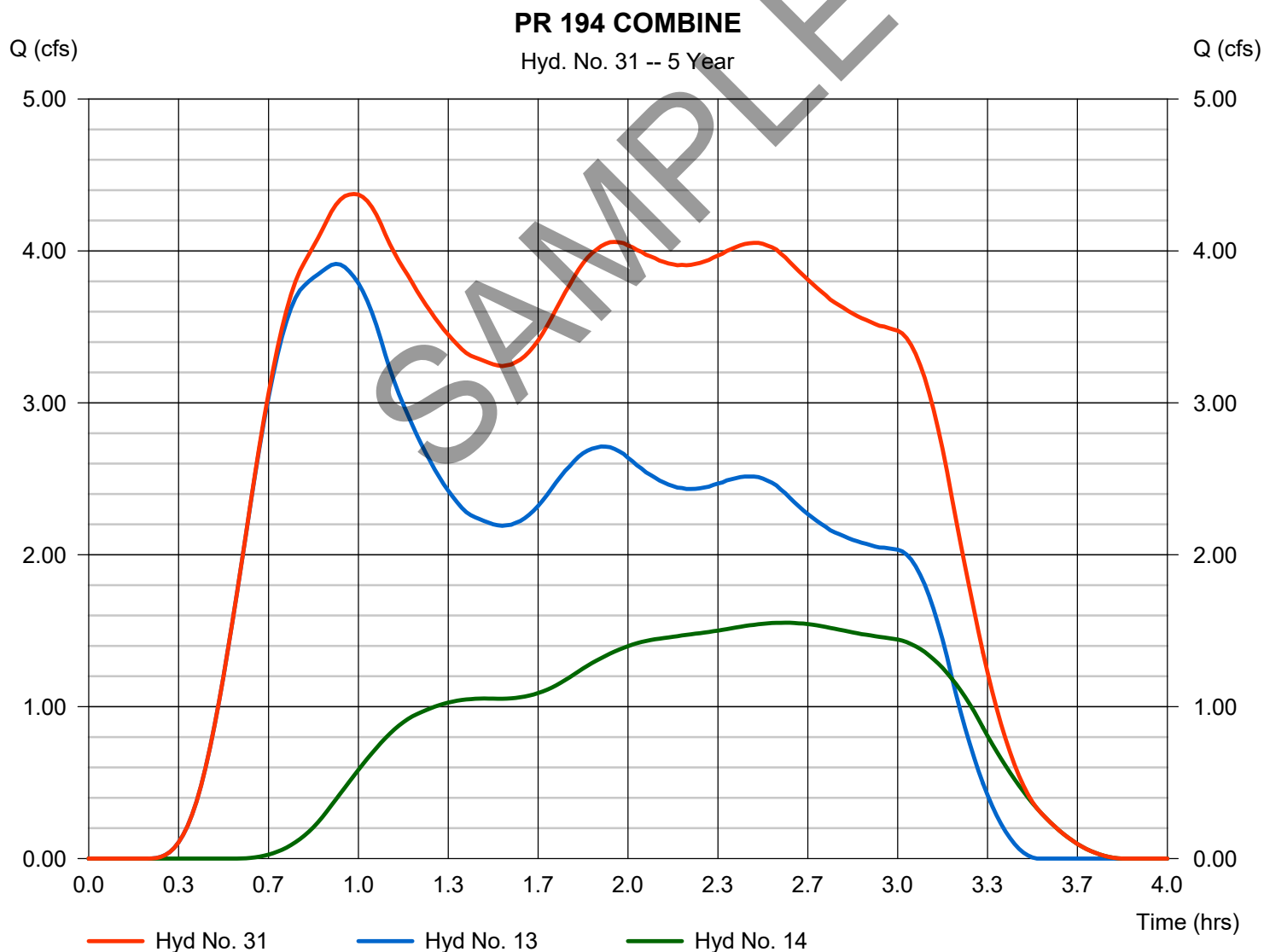
Tuesday, 03 / 19 / 2019

Hyd. No. 31

PR 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 3 hr
Time interval = 1 min
Inflow hyds. = 13, 14

Peak discharge = 4.375 cfs
Time to peak = 0.98 hrs
Hyd. volume = 37,158 cuft
Contrib. drain. area = 15.200 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

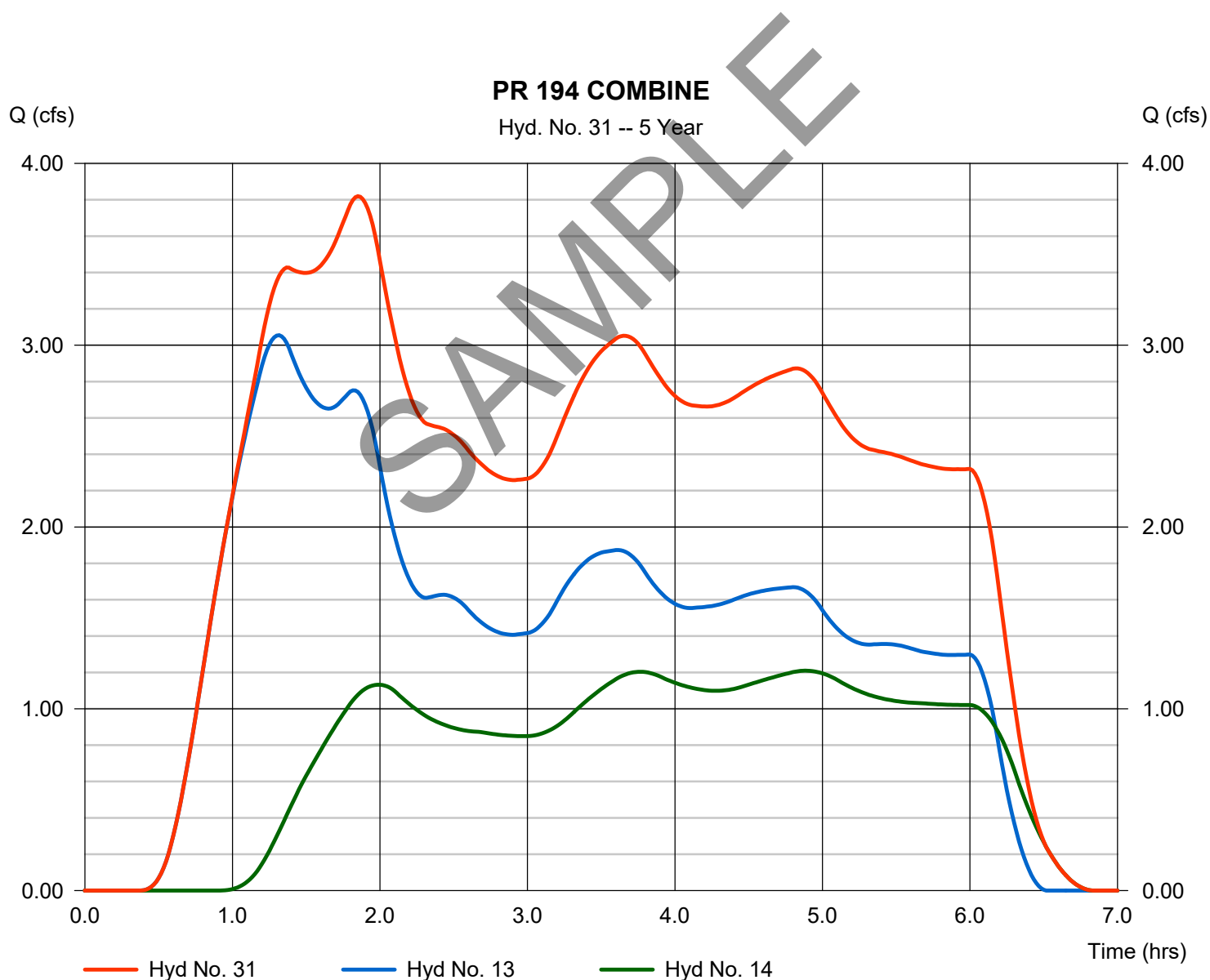
Tuesday, 03 / 19 / 2019

Hyd. No. 31

PR 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 6 hr
Time interval = 1 min
Inflow hyds. = 13, 14

Peak discharge = 3.820 cfs
Time to peak = 1.85 hrs
Hyd. volume = 54,119 cuft
Contrib. drain. area = 15.200 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

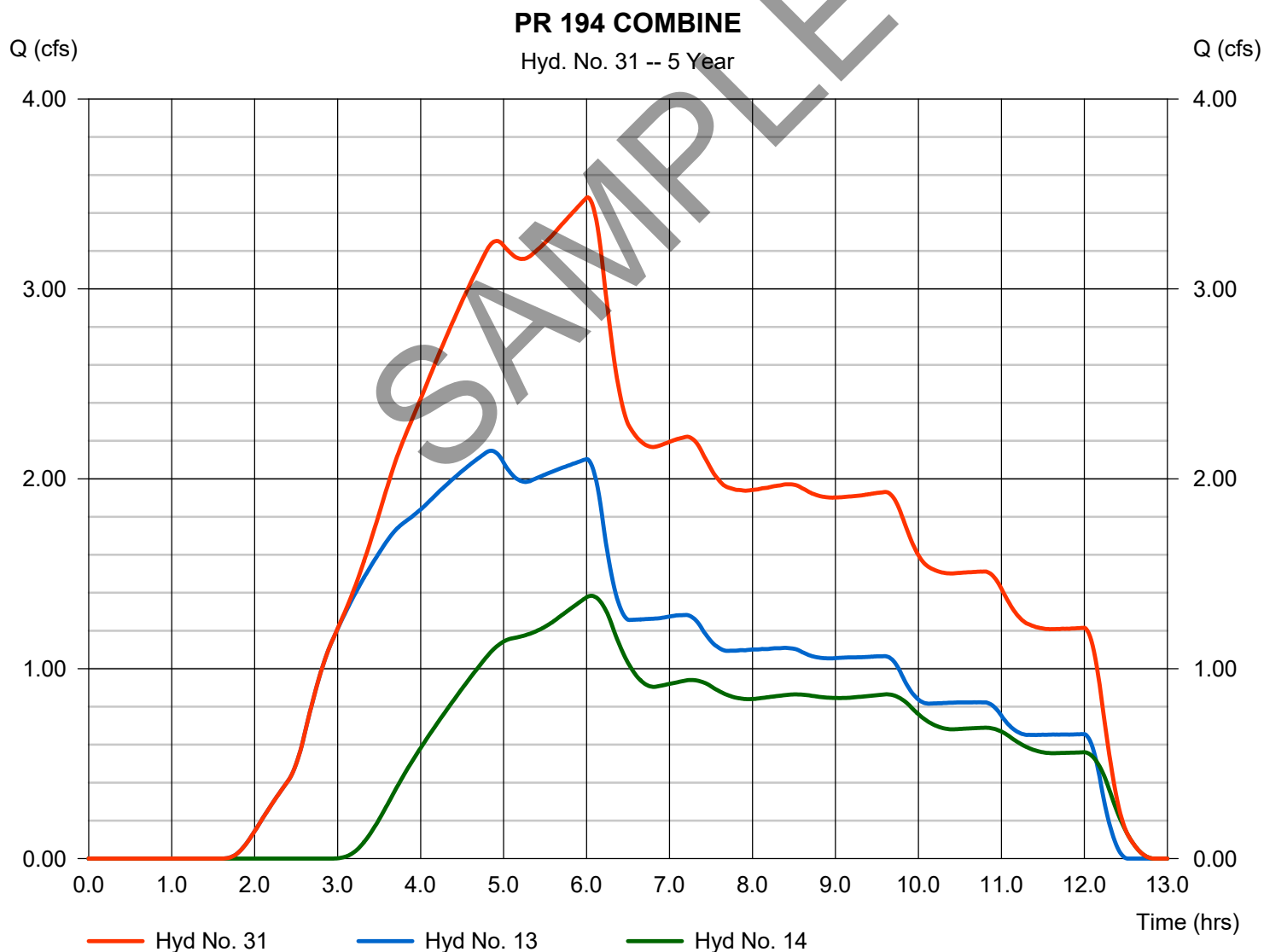
Tuesday, 03 / 19 / 2019

Hyd. No. 31

PR 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 12 hr
Time interval = 1 min
Inflow hyds. = 13, 14

Peak discharge = 3.482 cfs
Time to peak = 6.02 hrs
Hyd. volume = 72,648 cuft
Contrib. drain. area = 15.200 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

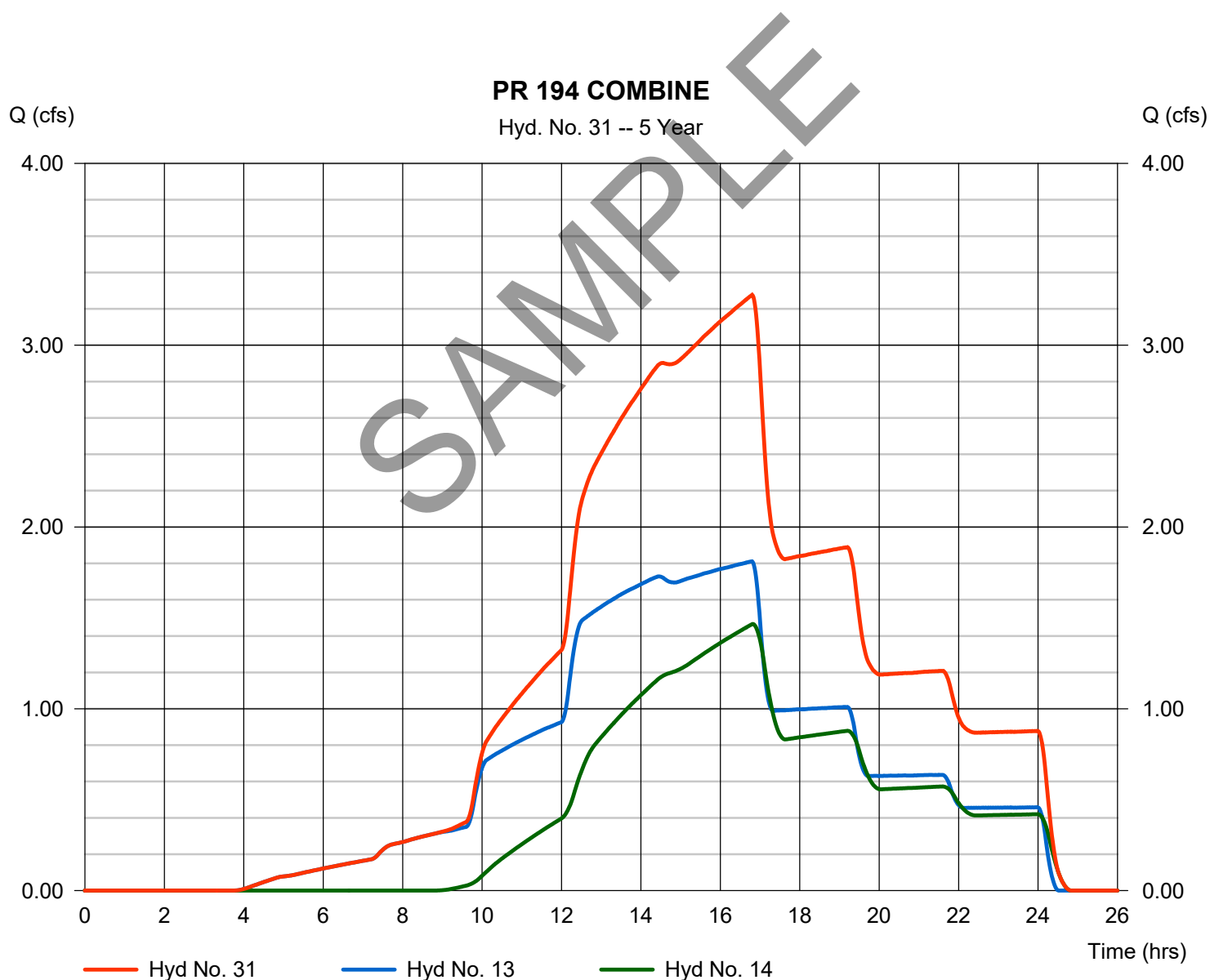
Tuesday, 03 / 19 / 2019

Hyd. No. 31

PR 194 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 24 hr
Time interval = 1 min
Inflow hyds. = 13, 14

Peak discharge = 3.277 cfs
Time to peak = 16.80 hrs
Hyd. volume = 96,619 cuft
Contrib. drain. area = 15.200 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

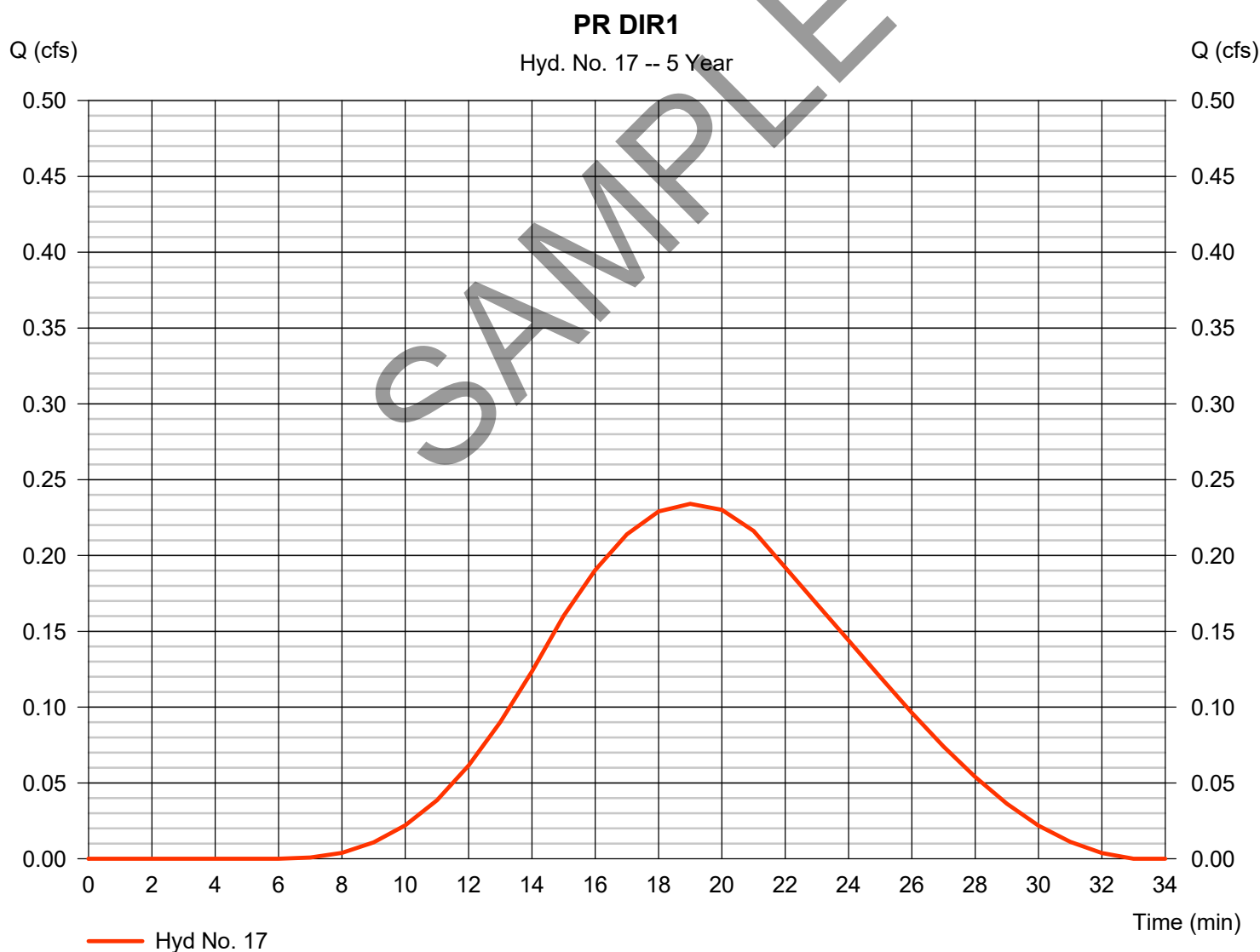
Tuesday, 03 / 19 / 2019

Hyd. No. 17

PR DIR1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 0.234 cfs
Time to peak = 19 min
Hyd. volume = 165 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

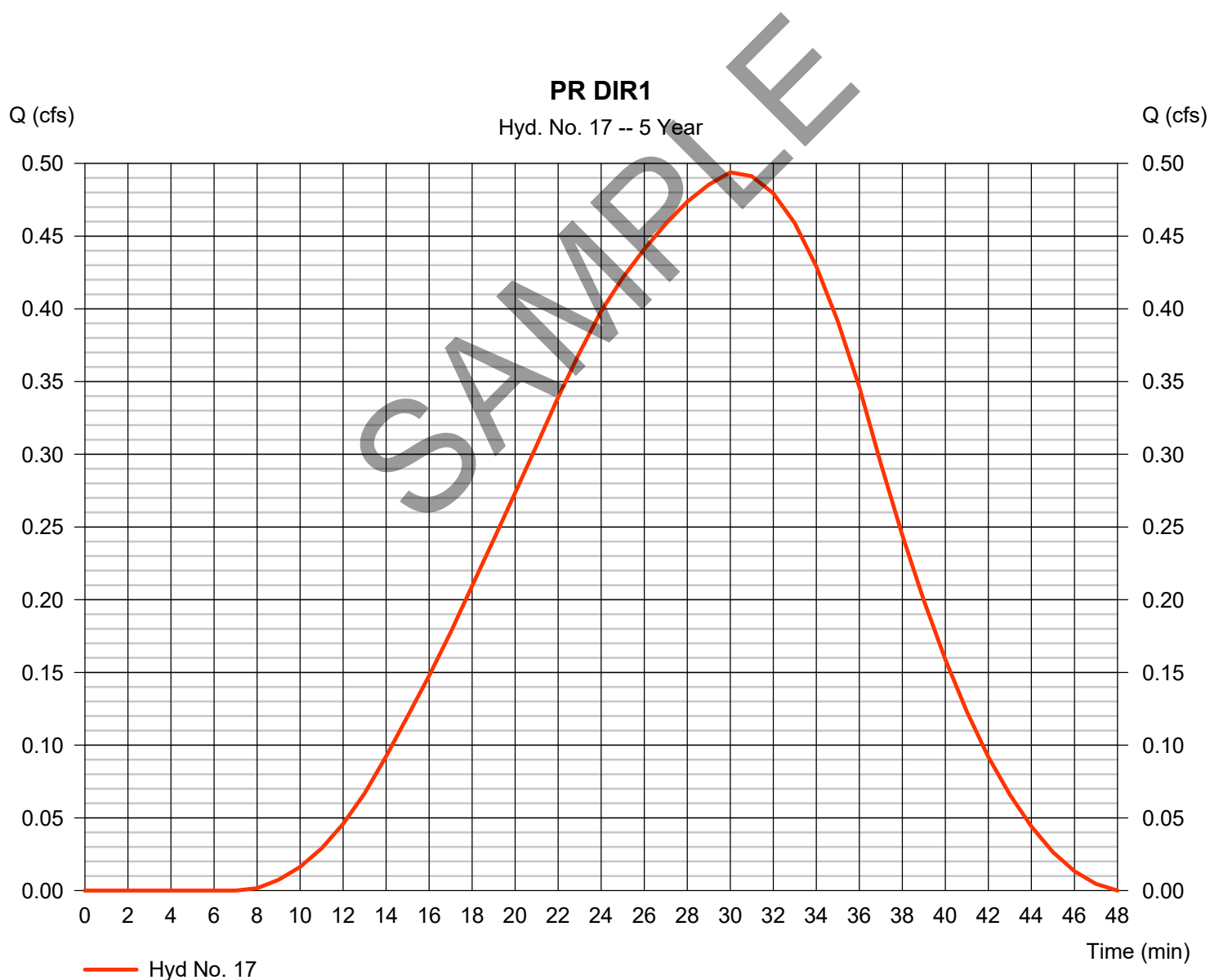
Tuesday, 03 / 19 / 2019

Hyd. No. 17

PR DIR1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 0.494 cfs
Time to peak = 30 min
Hyd. volume = 569 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

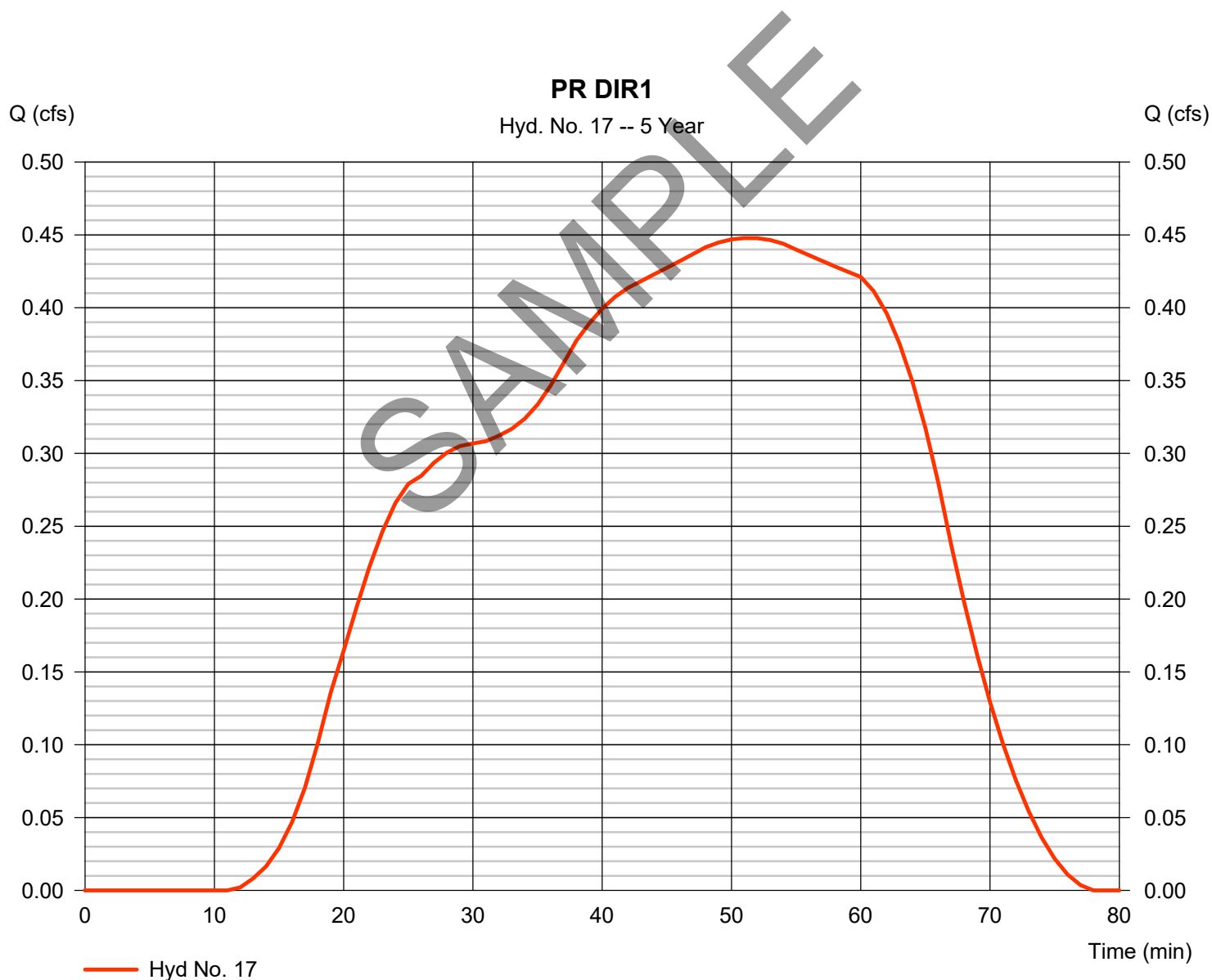
Tuesday, 03 / 19 / 2019

Hyd. No. 17

PR DIR1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.448 cfs
Time to peak = 51 min
Hyd. volume = 1,114 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

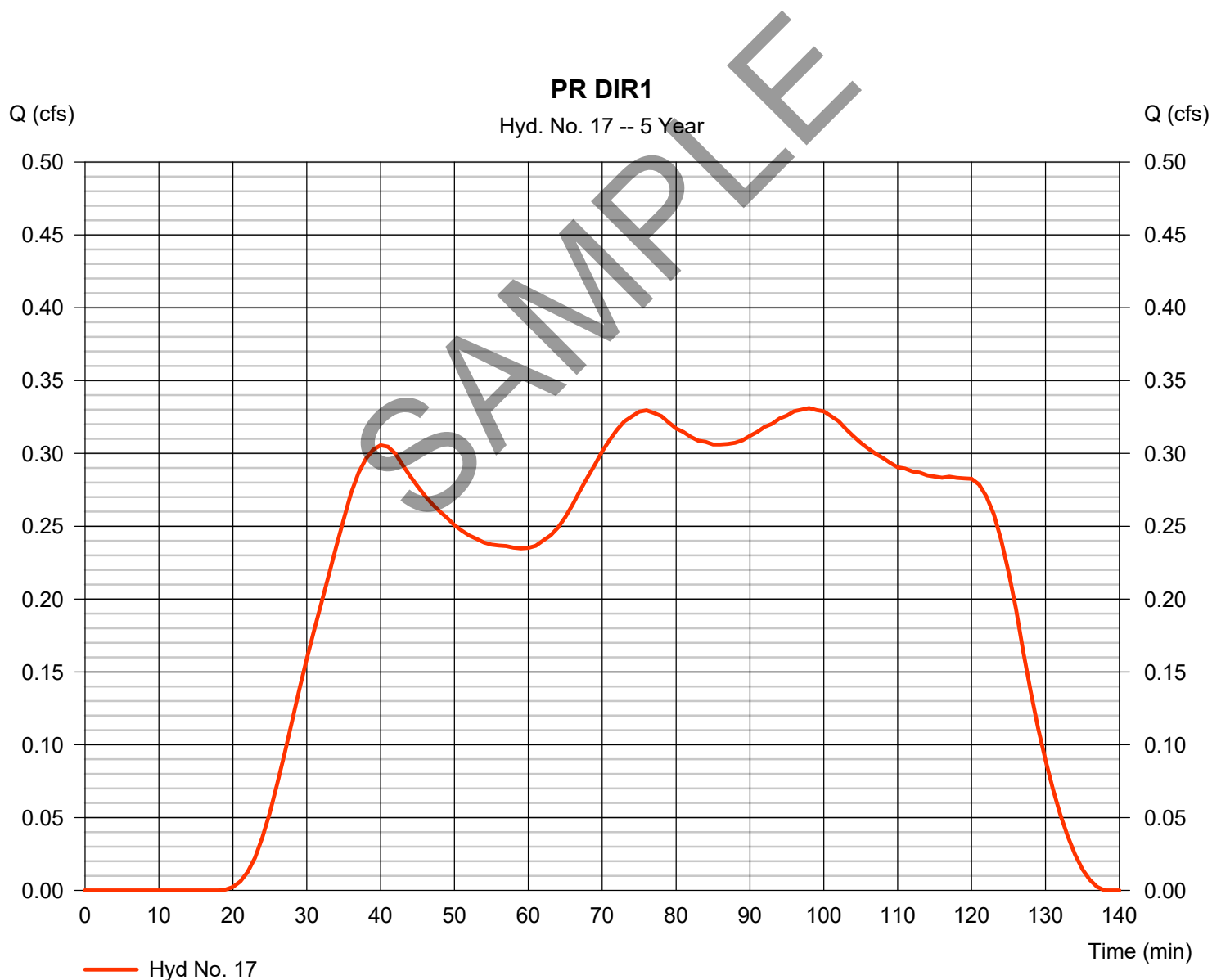
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 17

PR DIR1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.331 cfs
Storm frequency	= 5 yrs	Time to peak	= 98 min
Time interval	= 1 min	Hyd. volume	= 1,722 cuft
Drainage area	= 1.000 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

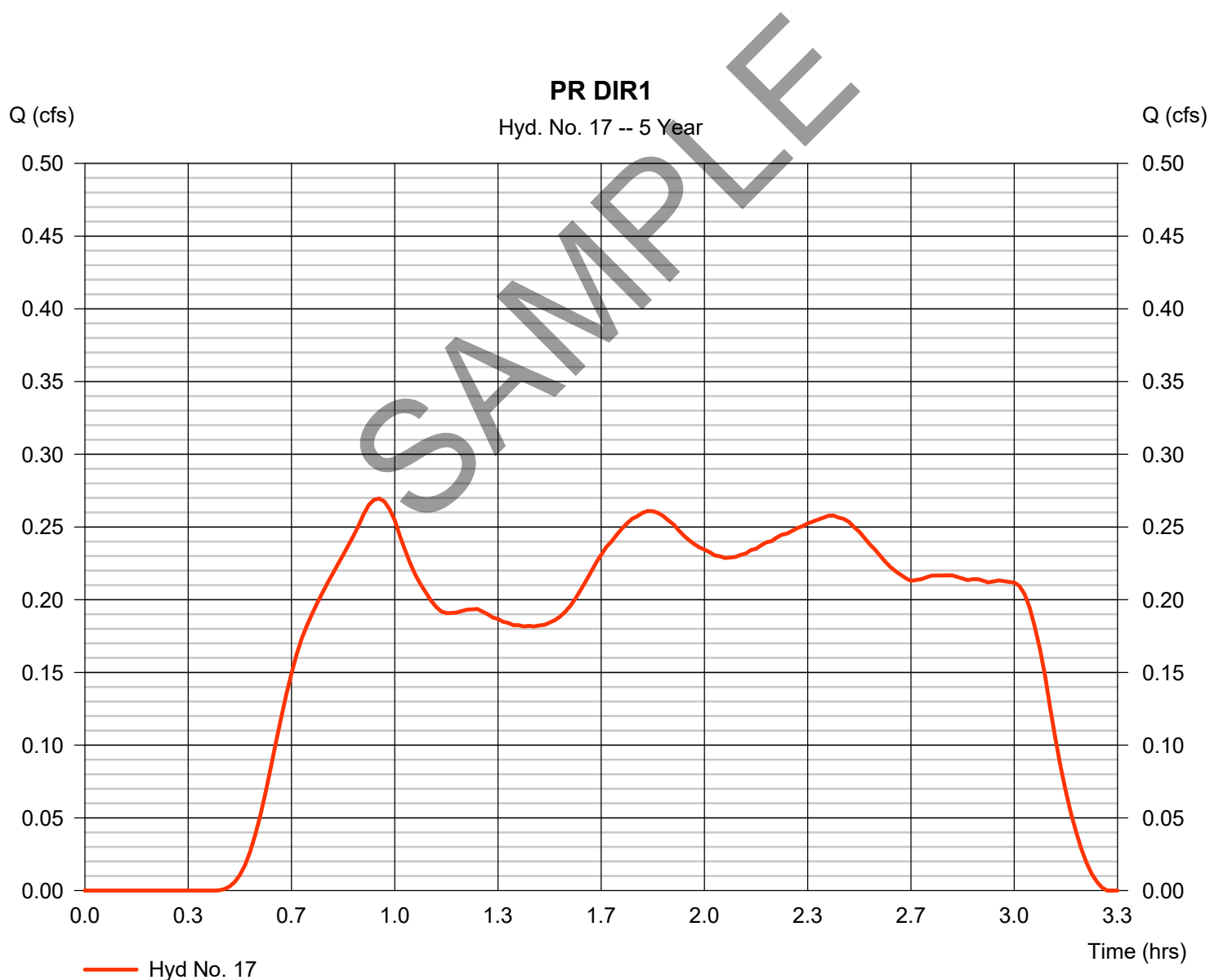
Tuesday, 03 / 19 / 2019

Hyd. No. 17

PR DIR1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.270 cfs
Time to peak = 0.95 hrs
Hyd. volume = 2,026 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

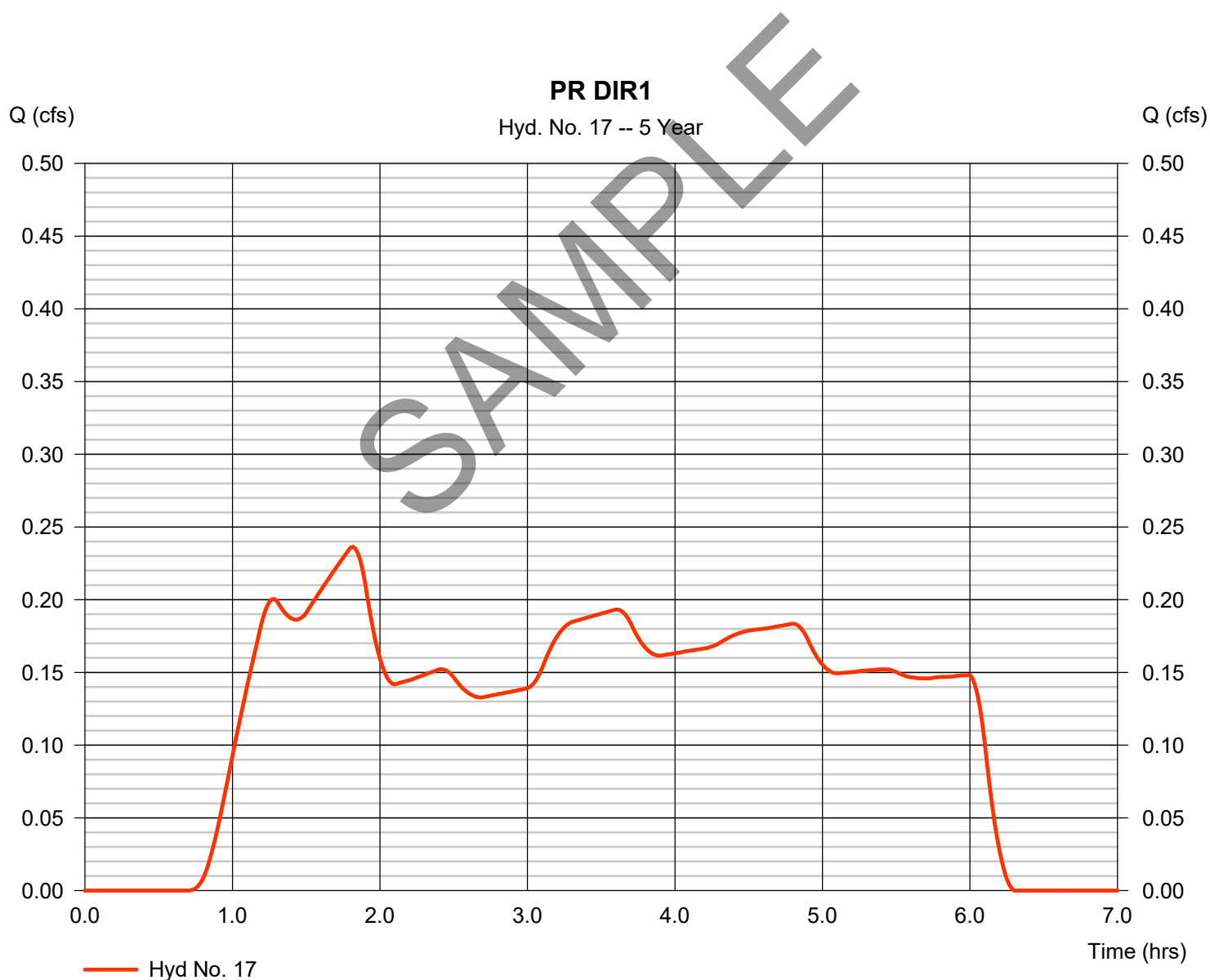
Tuesday, 03 / 19 / 2019

Hyd. No. 17

PR DIR1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.236 cfs
Time to peak = 1.82 hrs
Hyd. volume = 3,095 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

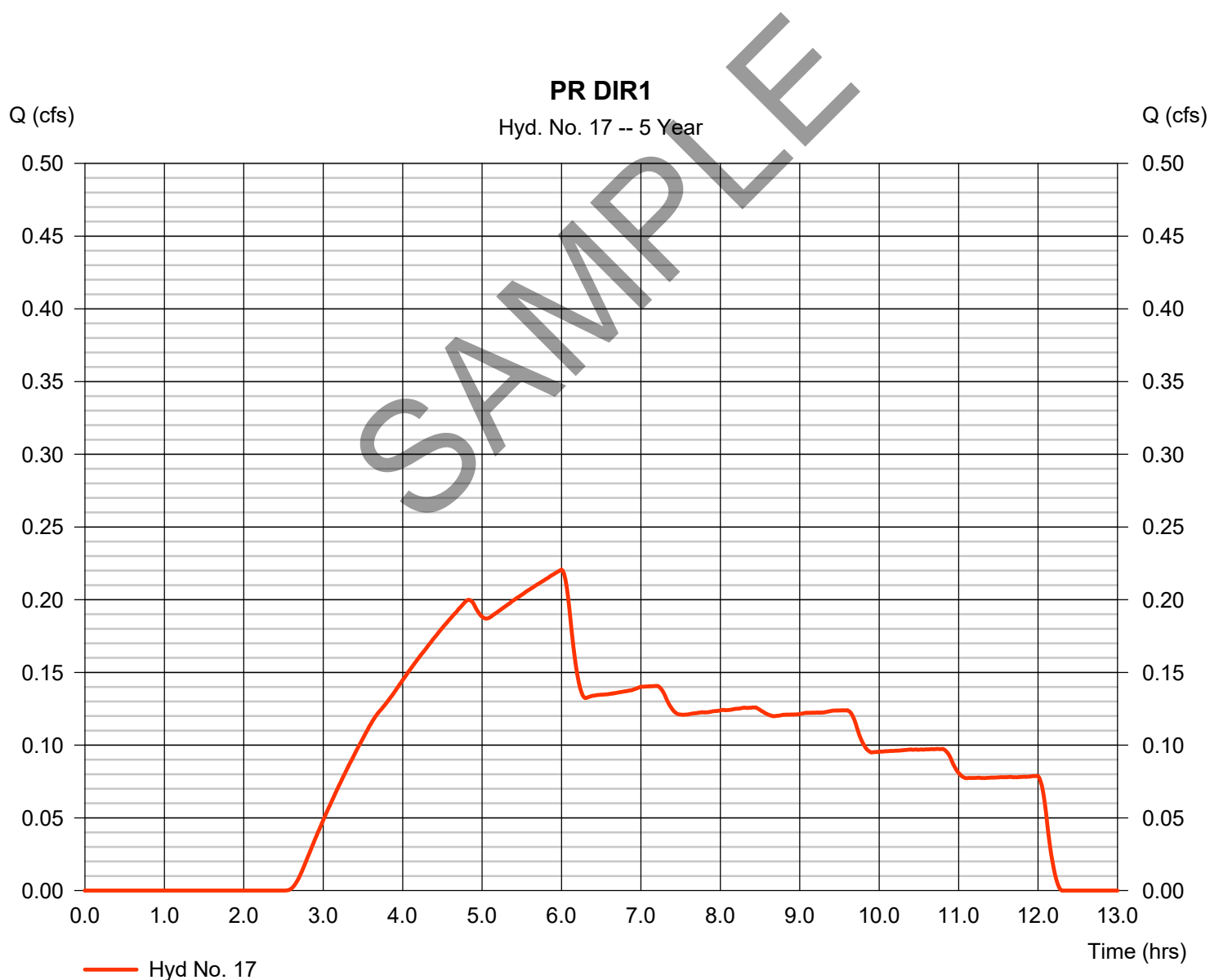
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 17

PR DIR1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.221 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 4,282 cuft
Drainage area	= 1.000 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

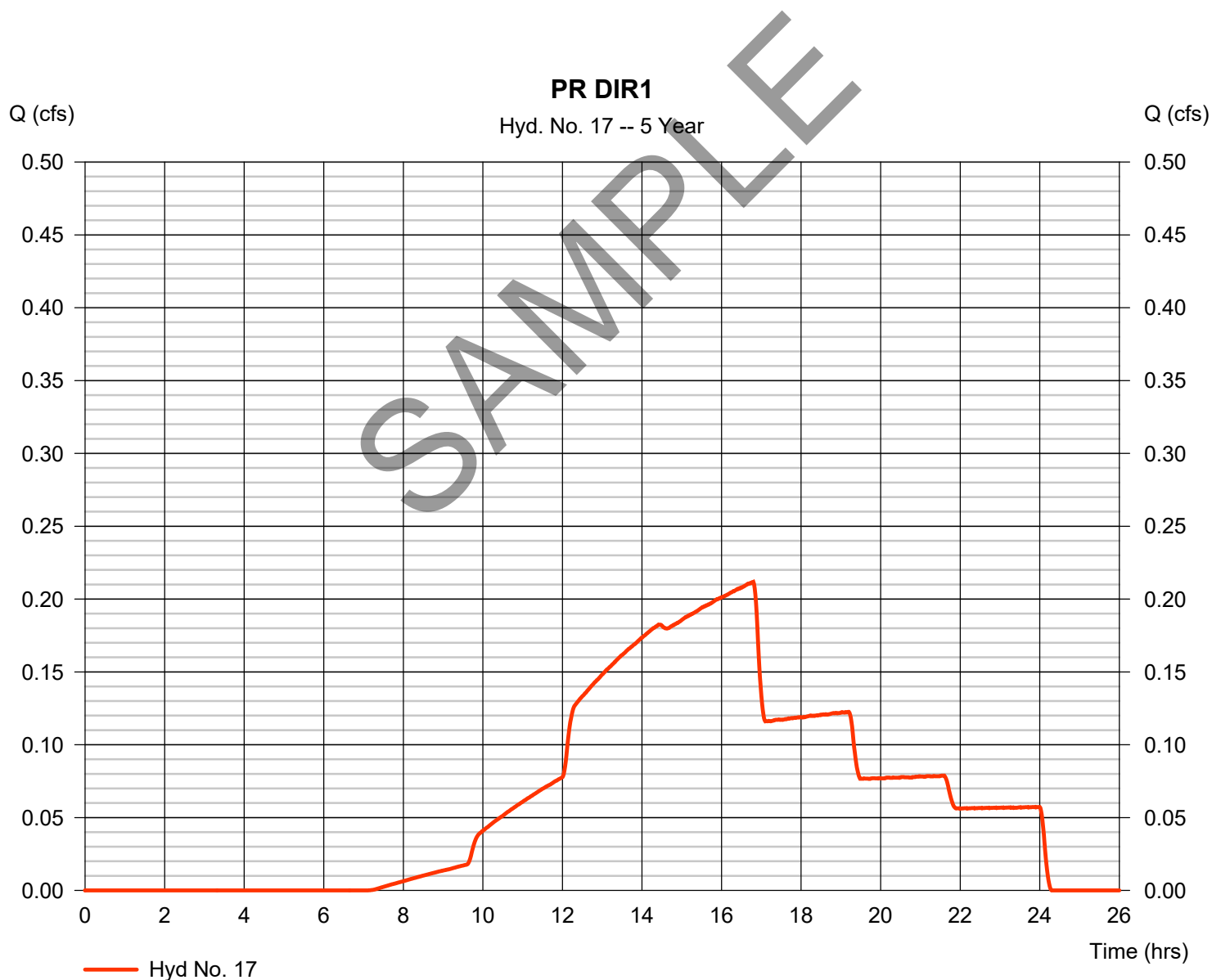
Tuesday, 03 / 19 / 2019

Hyd. No. 17

PR DIR1

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.212 cfs
Time to peak = 16.80 hrs
Hyd. volume = 5,835 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

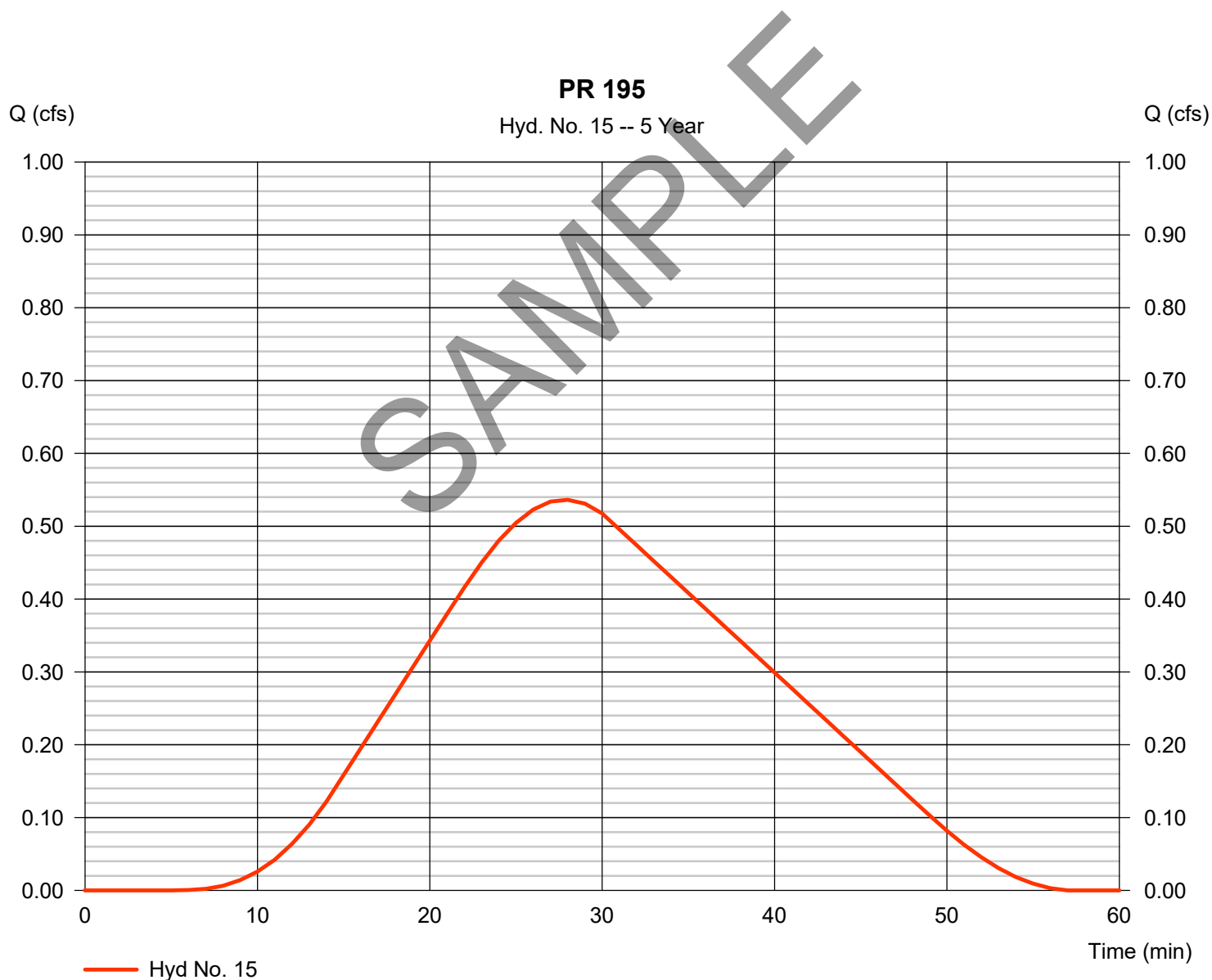
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 15

PR 195

Hydrograph type	= SCS Runoff	Peak discharge	= 0.536 cfs
Storm frequency	= 5 yrs	Time to peak	= 28 min
Time interval	= 1 min	Hyd. volume	= 761 cuft
Drainage area	= 3.800 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.50 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

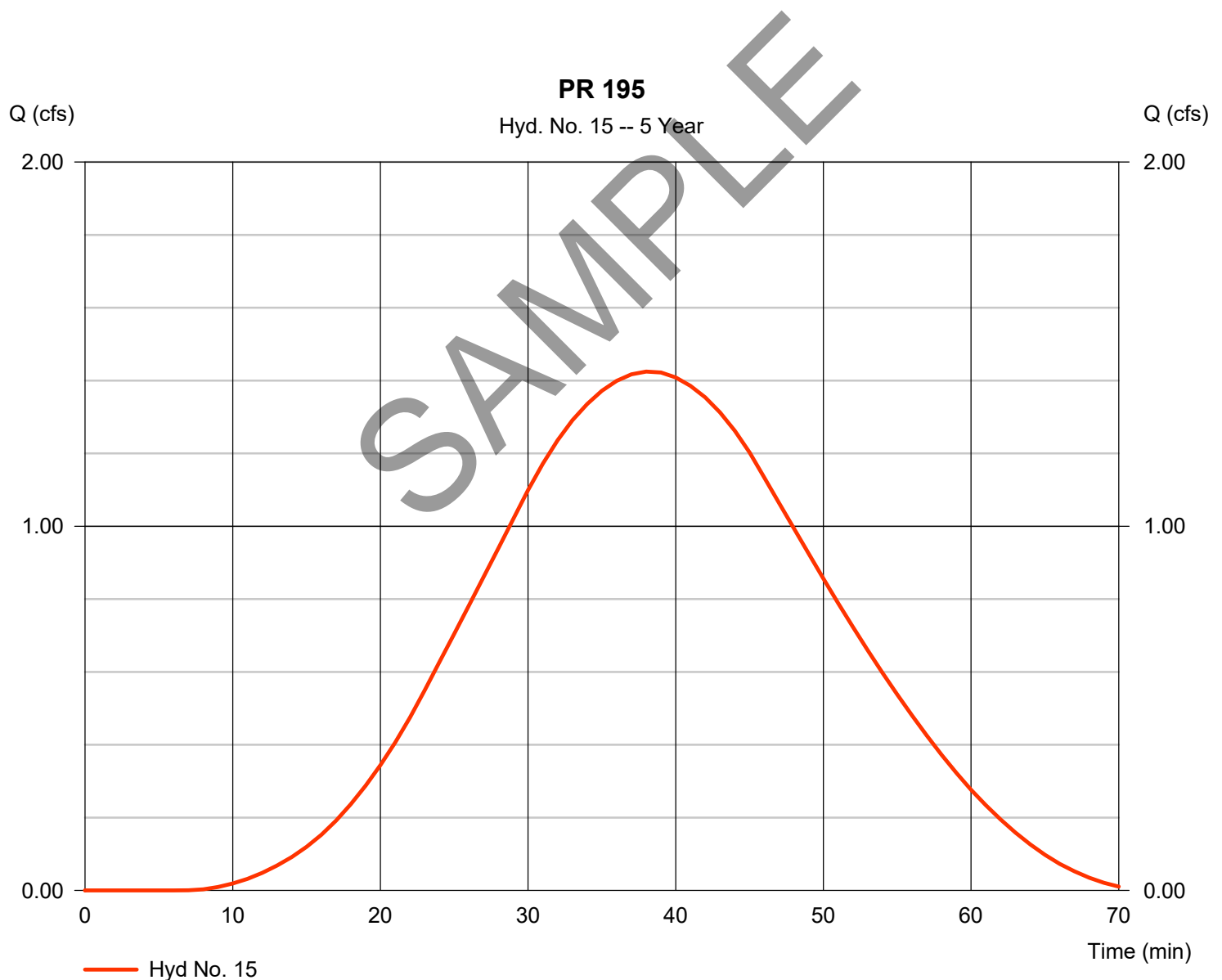
Tuesday, 03 / 19 / 2019

Hyd. No. 15

PR 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 1.425 cfs
Time to peak = 38 min
Hyd. volume = 2,414 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

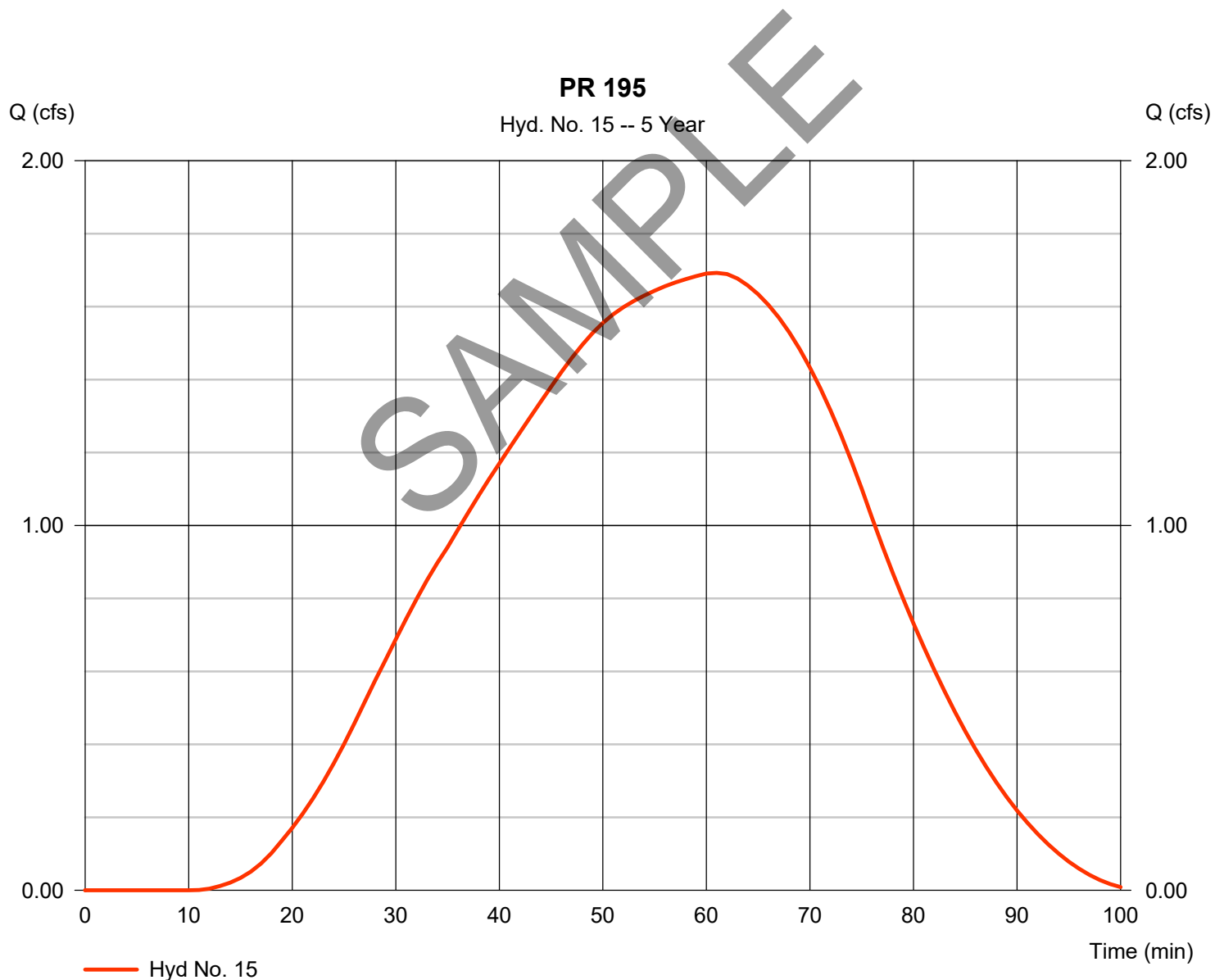
Tuesday, 03 / 19 / 2019

Hyd. No. 15

PR 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 1.692 cfs
Time to peak = 61 min
Hyd. volume = 4,595 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

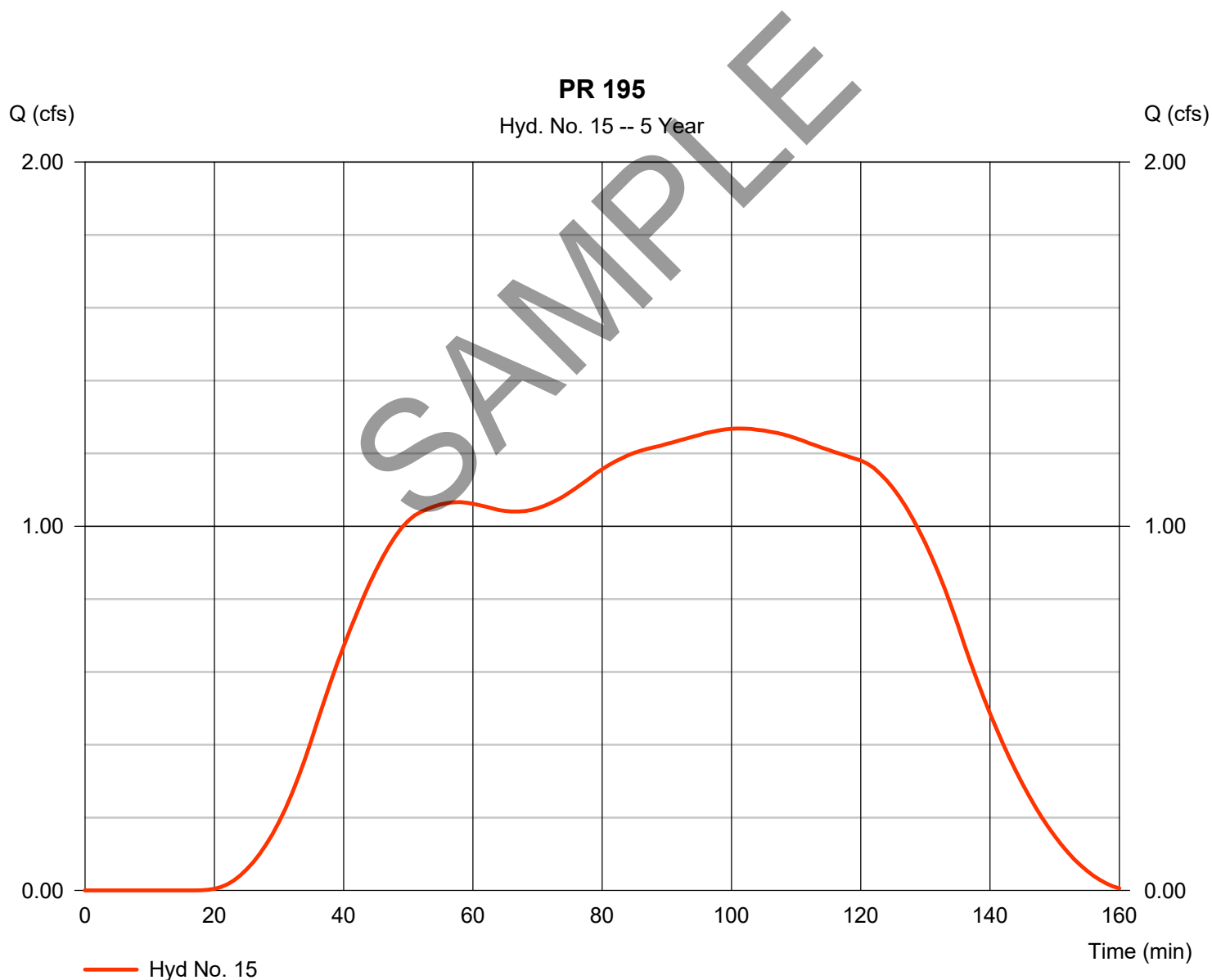
Tuesday, 03 / 19 / 2019

Hyd. No. 15

PR 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 1.268 cfs
Time to peak = 101 min
Hyd. volume = 6,991 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

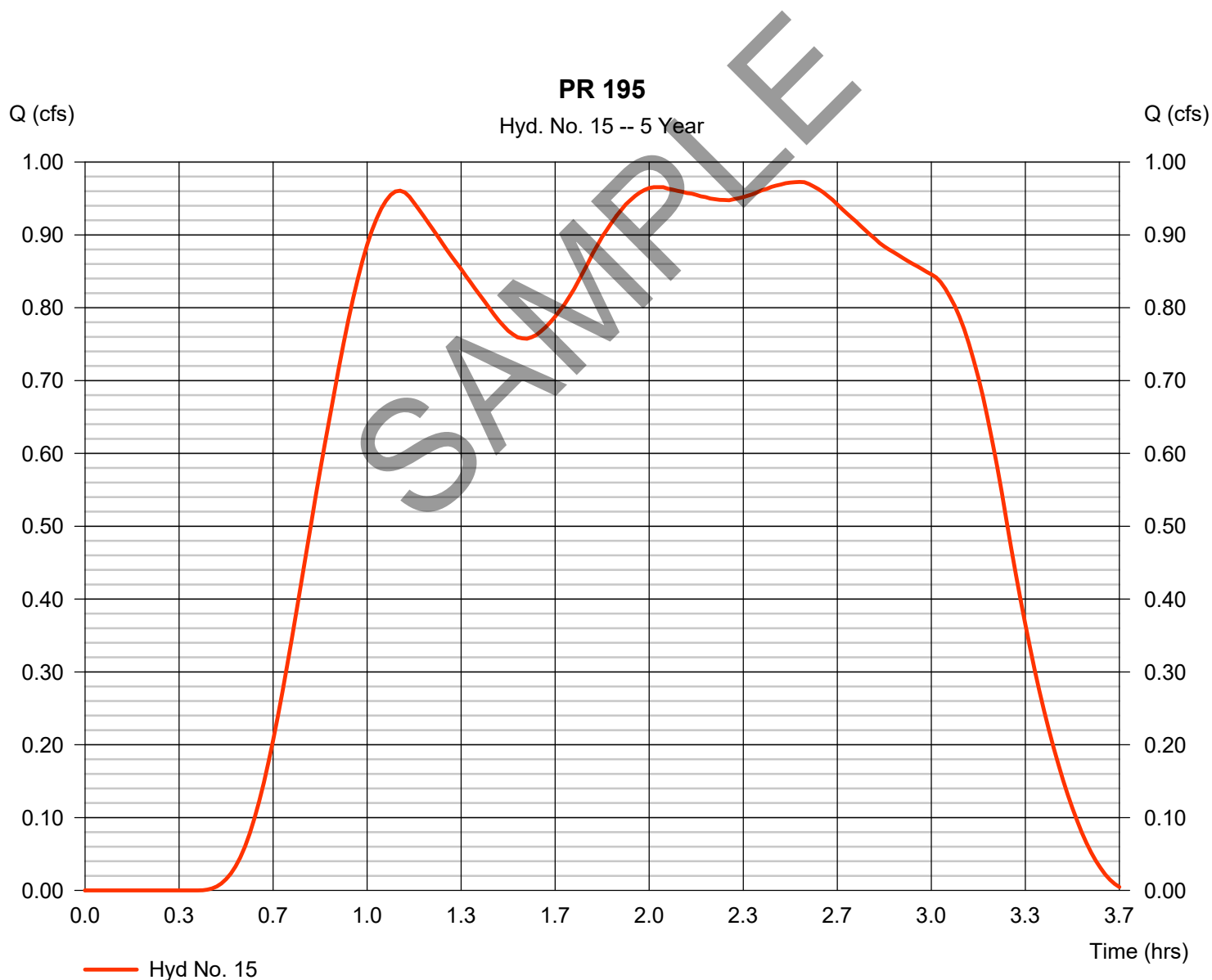
Tuesday, 03 / 19 / 2019

Hyd. No. 15

PR 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.973 cfs
Time to peak = 2.53 hrs
Hyd. volume = 8,183 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

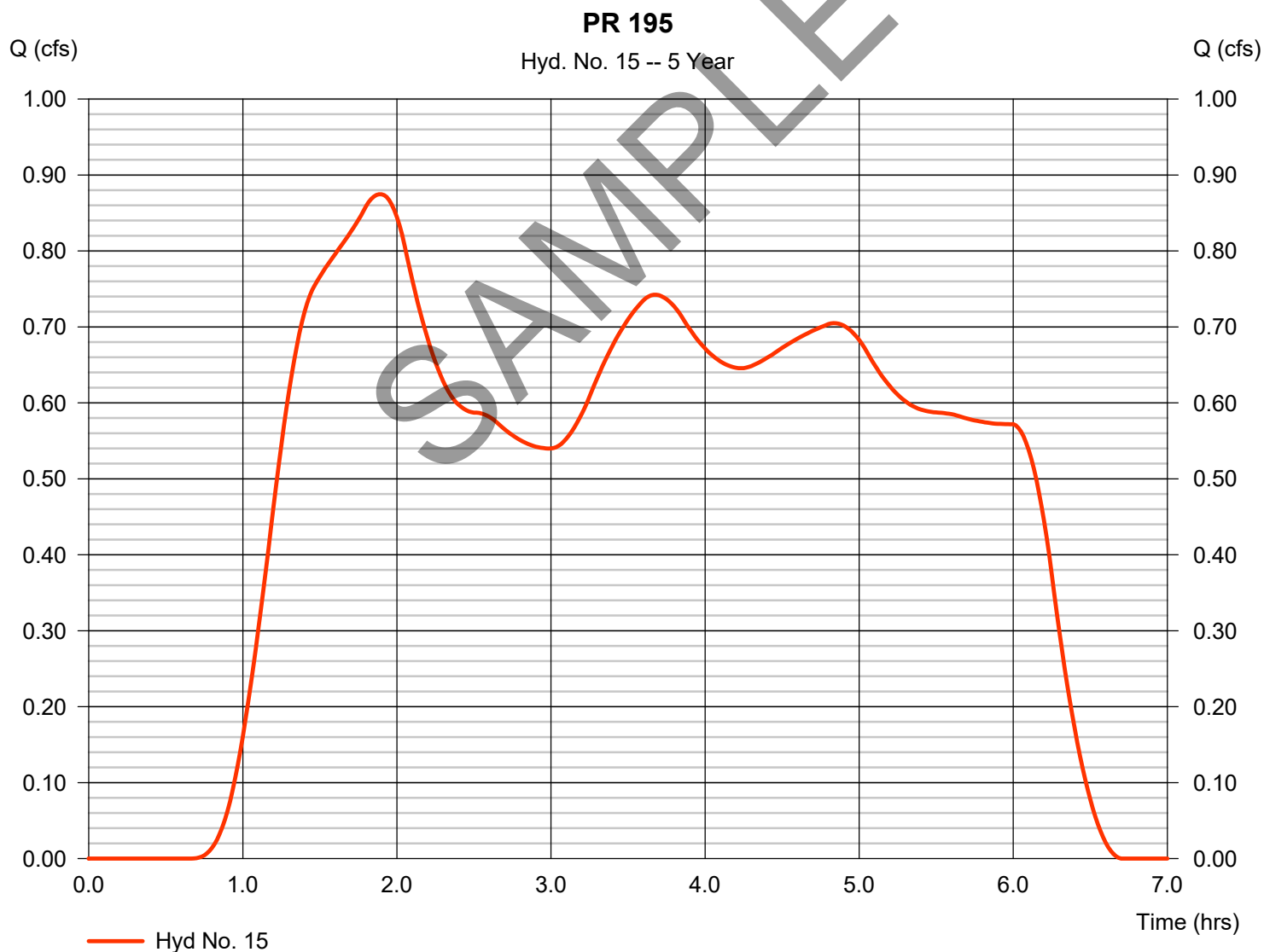
Tuesday, 03 / 19 / 2019

Hyd. No. 15

PR 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.875 cfs
Time to peak = 1.88 hrs
Hyd. volume = 12,349 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

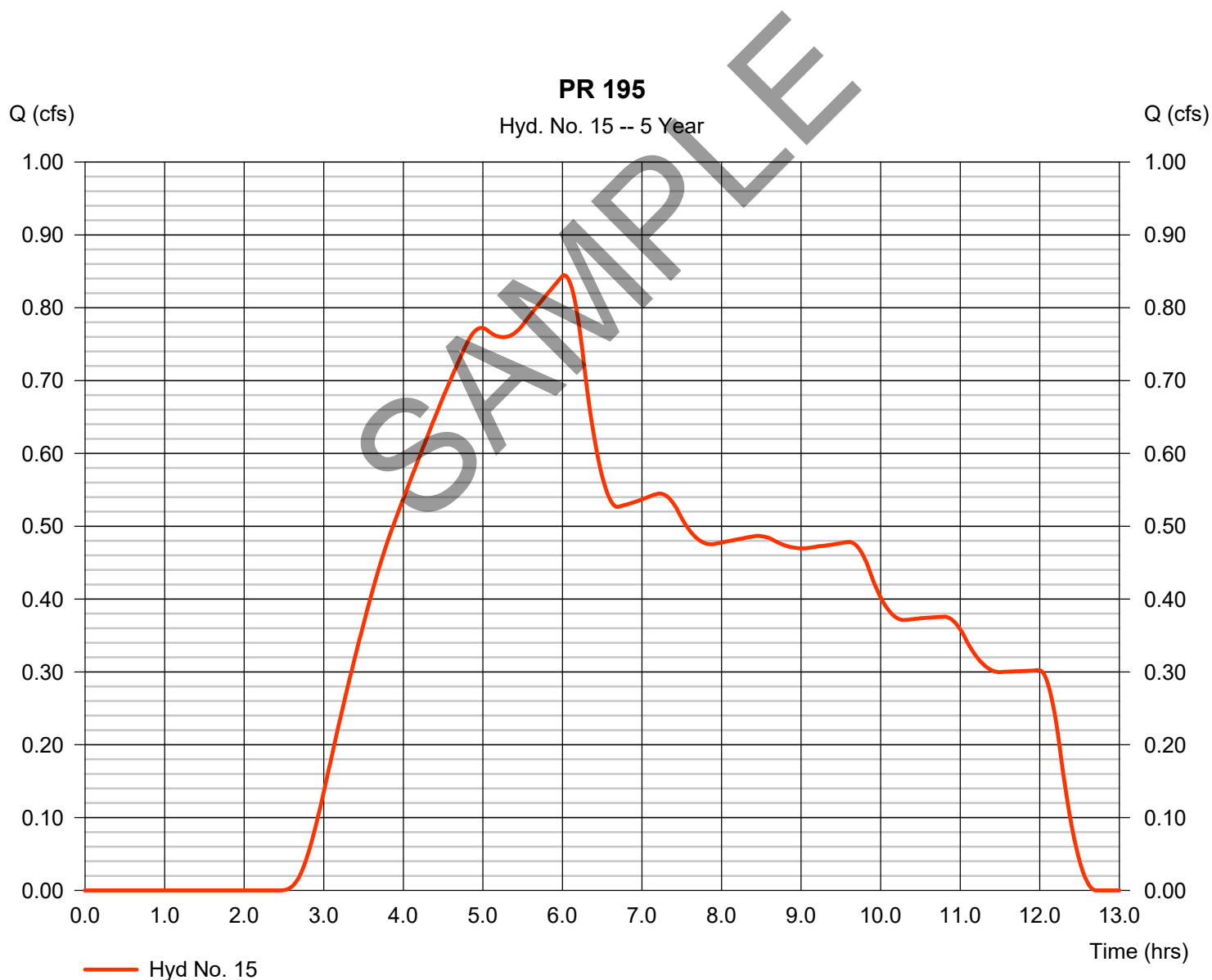
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

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Hyd. No. 15

PR 195

Hydrograph type	= SCS Runoff	Peak discharge	= 0.845 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.02 hrs
Time interval	= 1 min	Hyd. volume	= 16,946 cuft
Drainage area	= 3.800 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.50 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

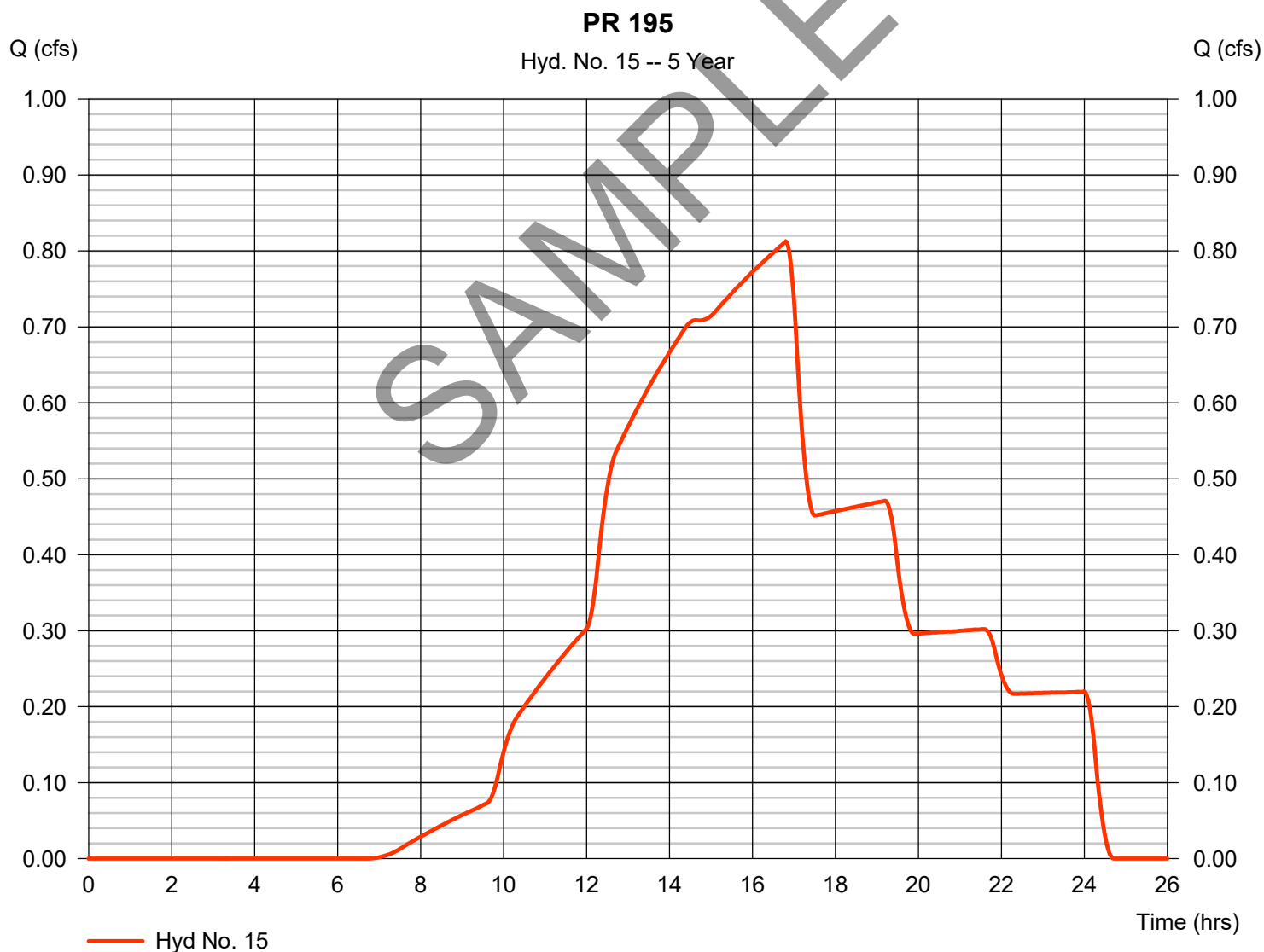
Tuesday, 03 / 19 / 2019

Hyd. No. 15

PR 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.812 cfs
Time to peak = 16.80 hrs
Hyd. volume = 22,930 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

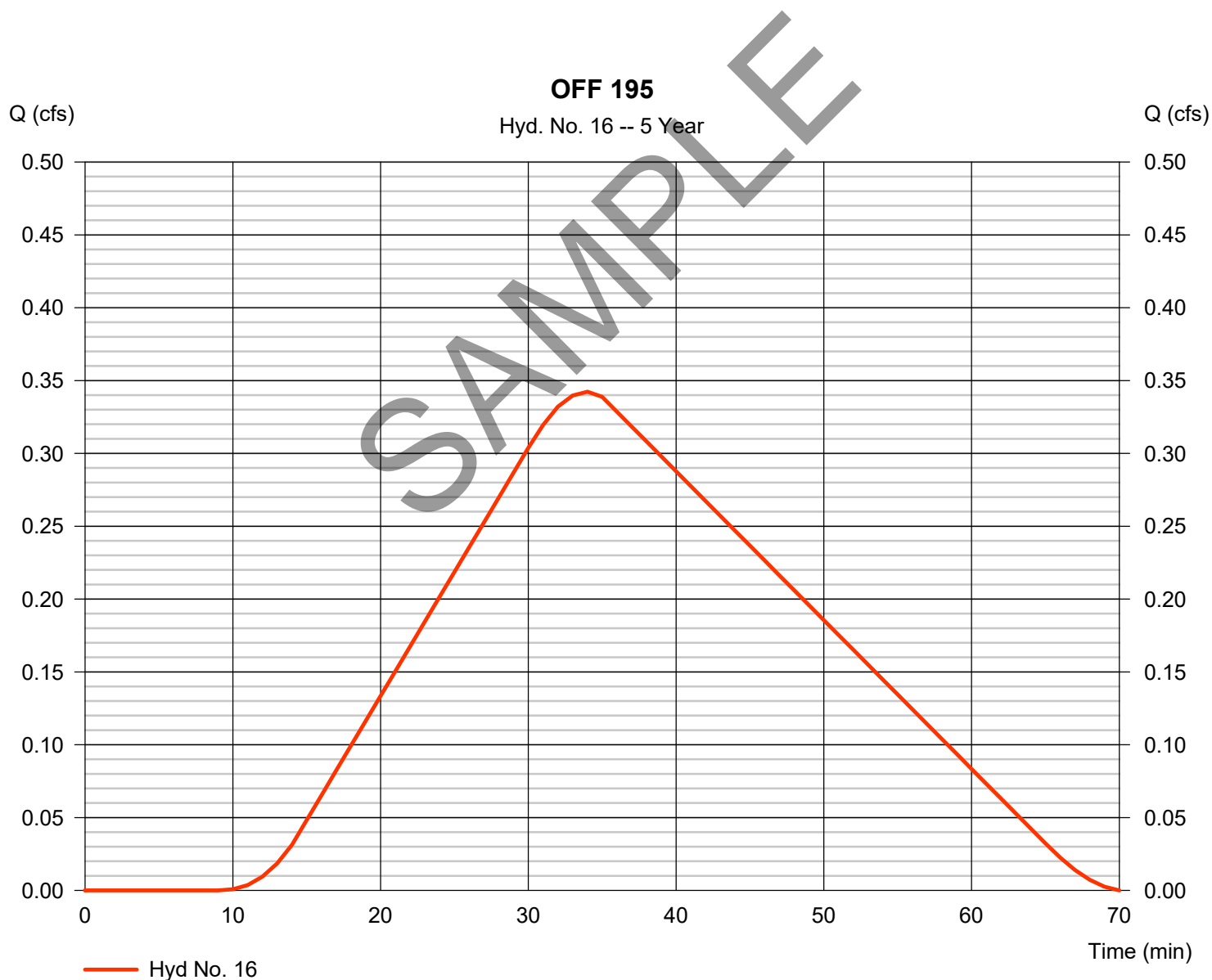
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

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Hyd. No. 16

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 0.342 cfs
Storm frequency	= 5 yrs	Time to peak	= 34 min
Time interval	= 1 min	Hyd. volume	= 601 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

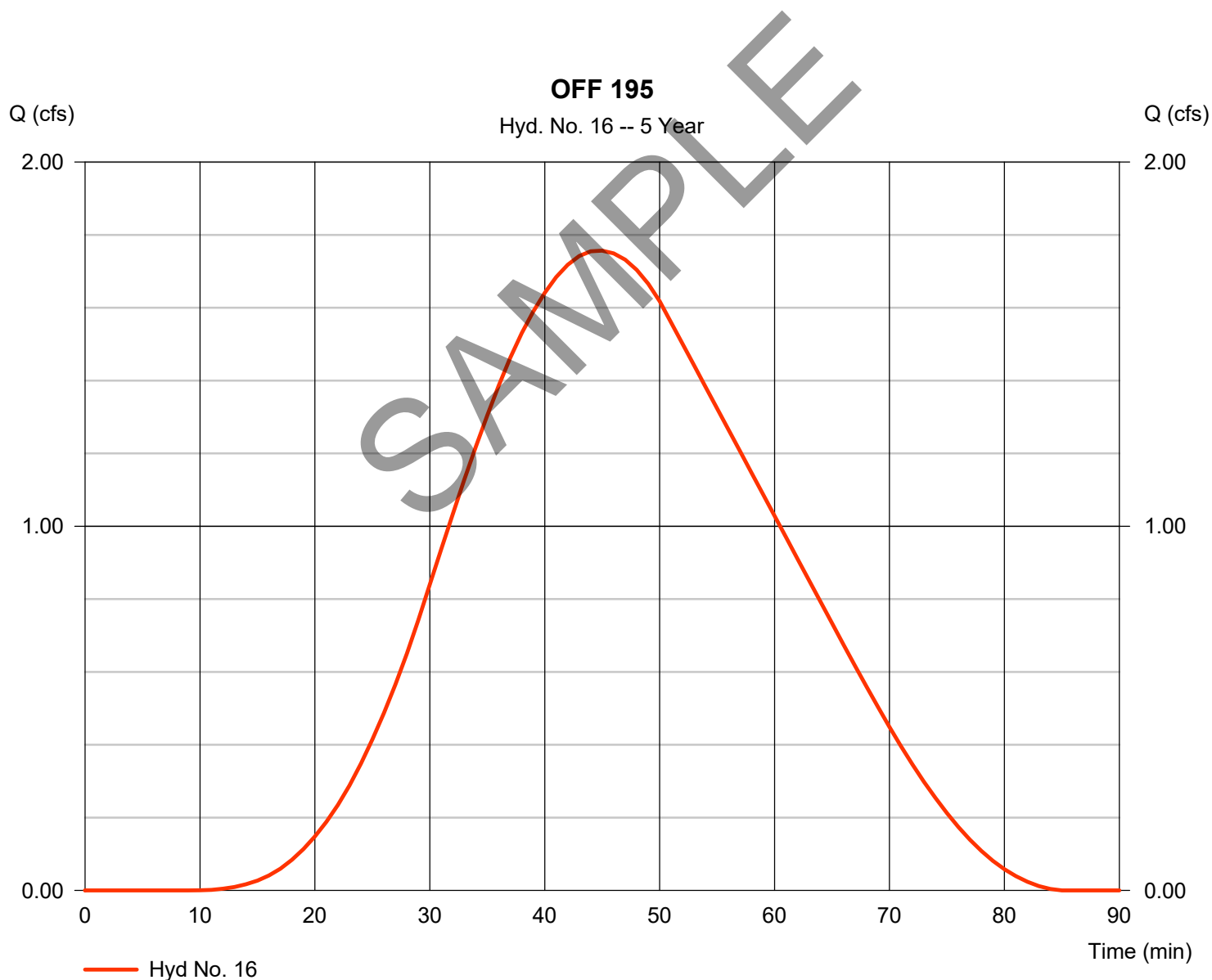
Tuesday, 03 / 19 / 2019

Hyd. No. 16

OFF 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 10.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 1.757 cfs
Time to peak = 45 min
Hyd. volume = 3,466 cuft
Curve number = 72
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.00 min
Distribution = Custom
Shape factor = 484

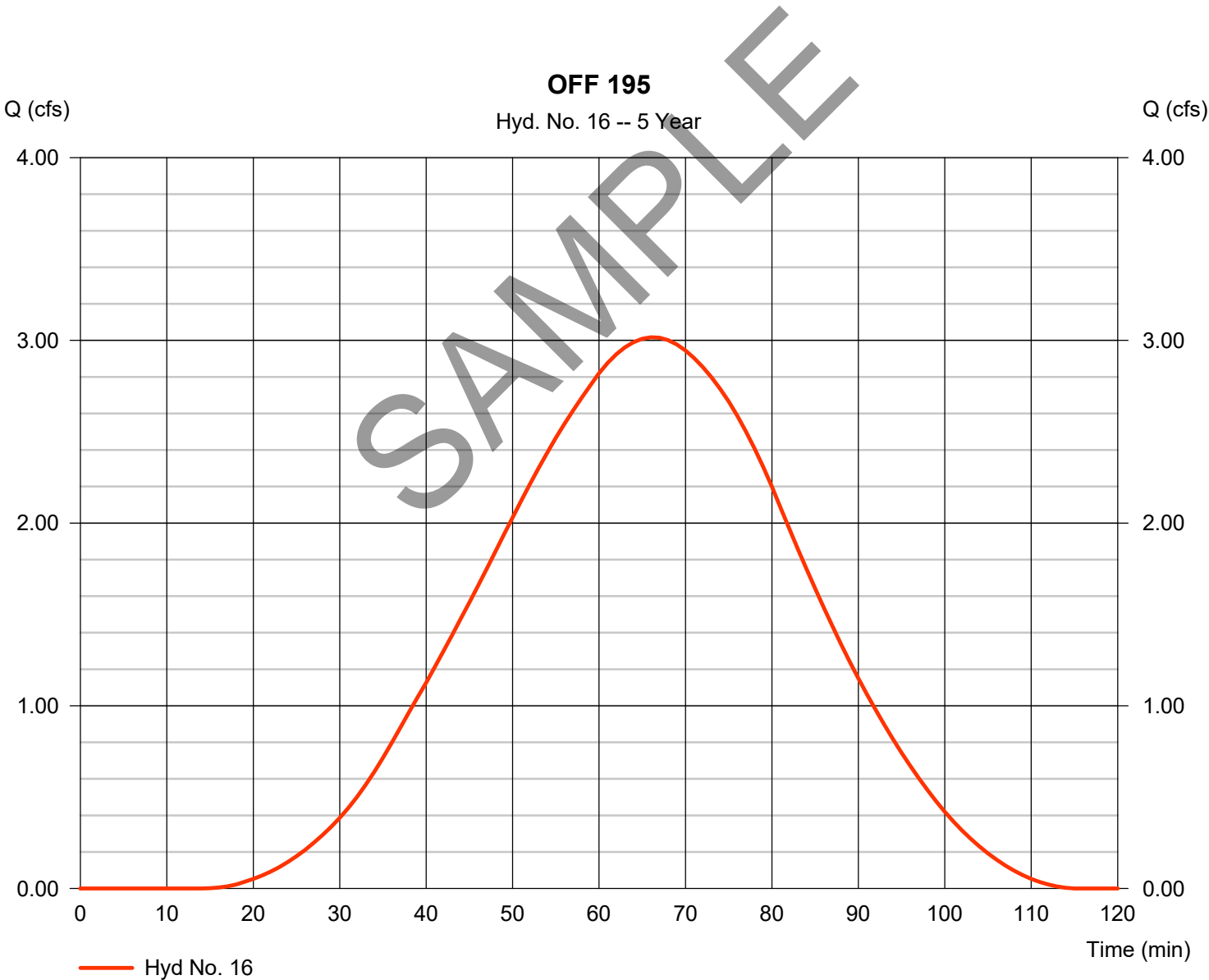


Hydrograph Report

Hyd. No. 16

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 3.017 cfs
Storm frequency	= 5 yrs	Time to peak	= 66 min
Time interval	= 1 min	Hyd. volume	= 7,907 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

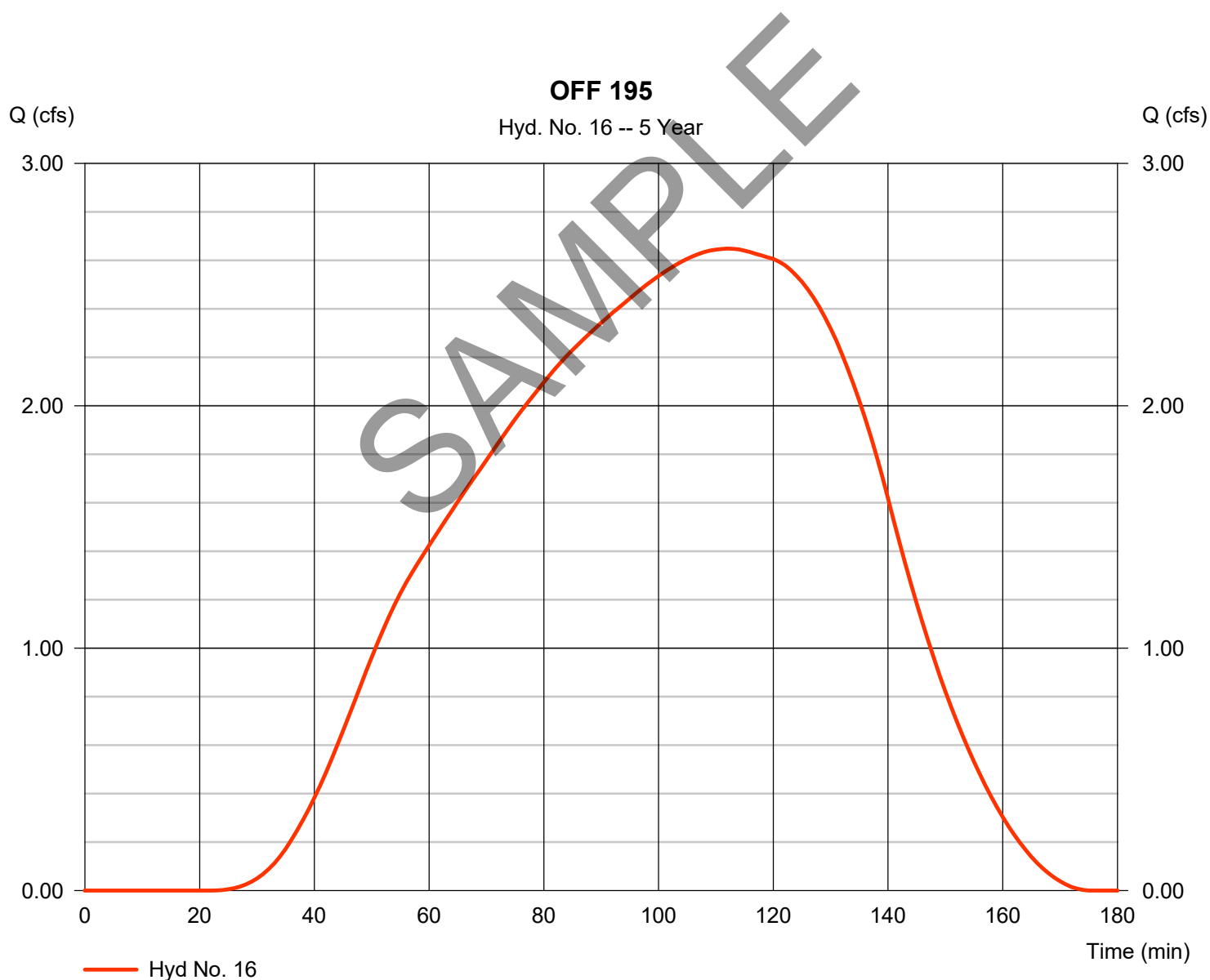
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 16

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 2.649 cfs
Storm frequency	= 5 yrs	Time to peak	= 112 min
Time interval	= 1 min	Hyd. volume	= 13,152 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

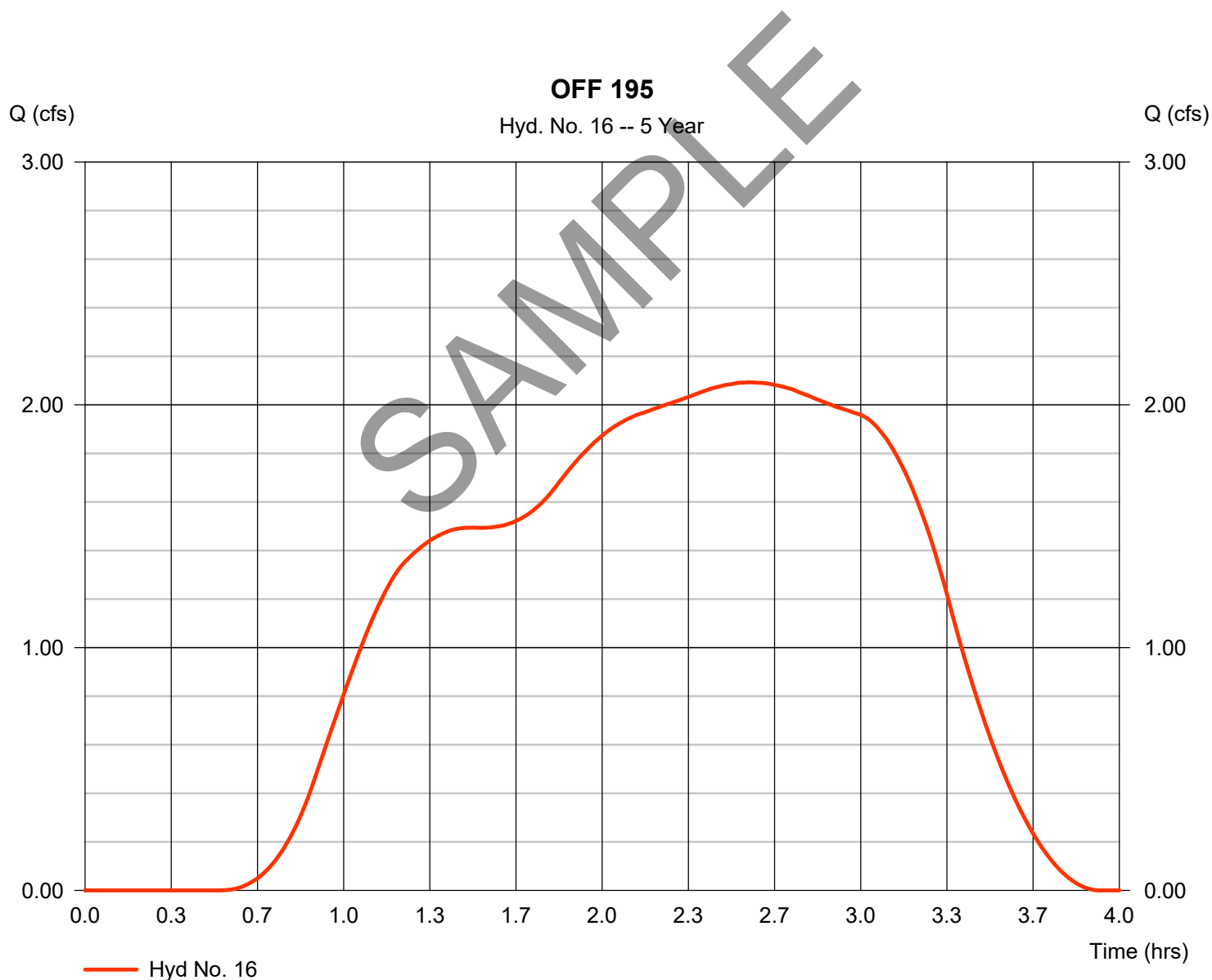
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 16

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 2.093 cfs
Storm frequency	= 5 yrs	Time to peak	= 2.57 hrs
Time interval	= 1 min	Hyd. volume	= 15,849 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484

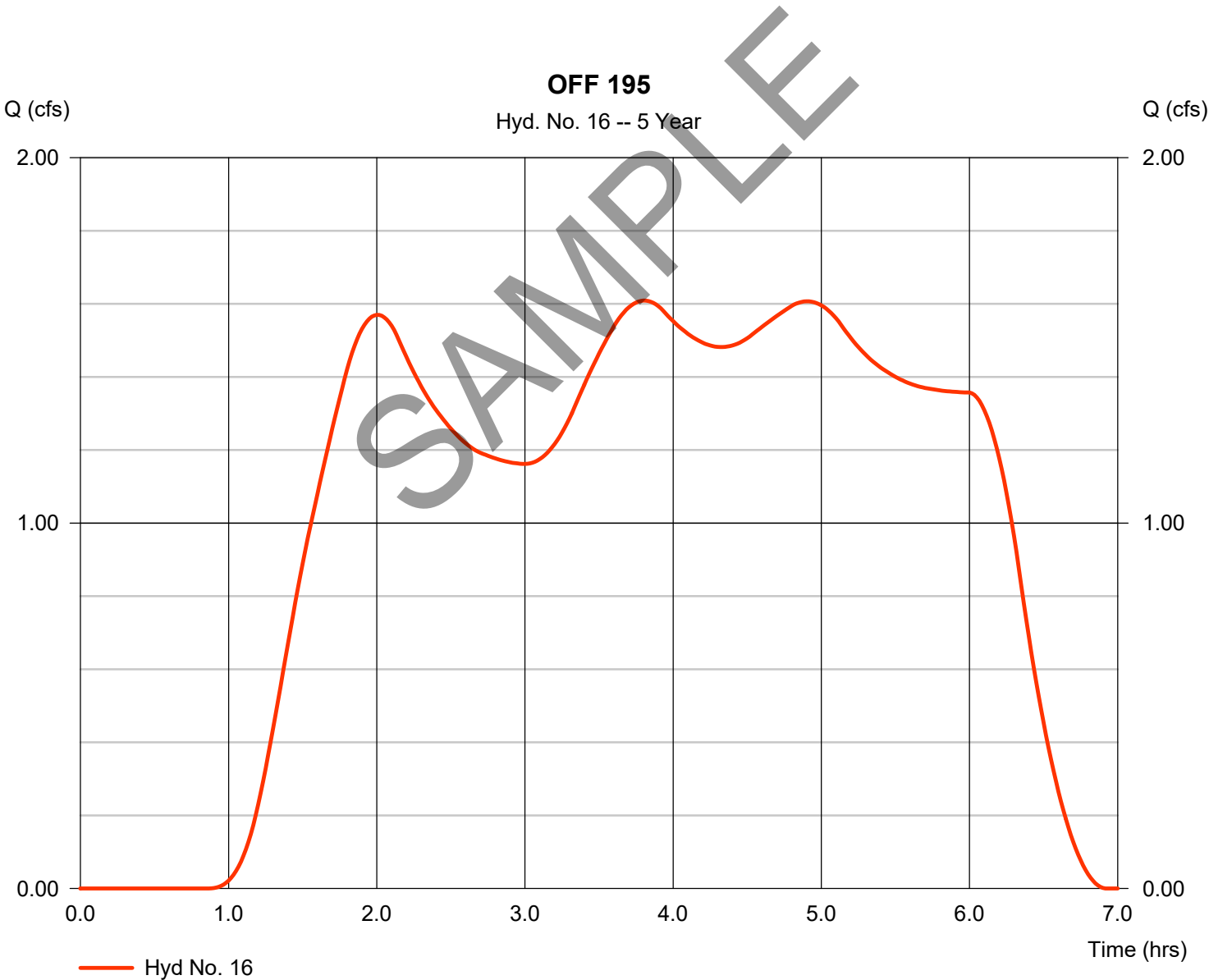


Hydrograph Report

Hyd. No. 16

OFF 195

Hydrograph type	= SCS Runoff	Peak discharge	= 1.609 cfs
Storm frequency	= 5 yrs	Time to peak	= 3.80 hrs
Time interval	= 1 min	Hyd. volume	= 25,579 cuft
Drainage area	= 10.800 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.00 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

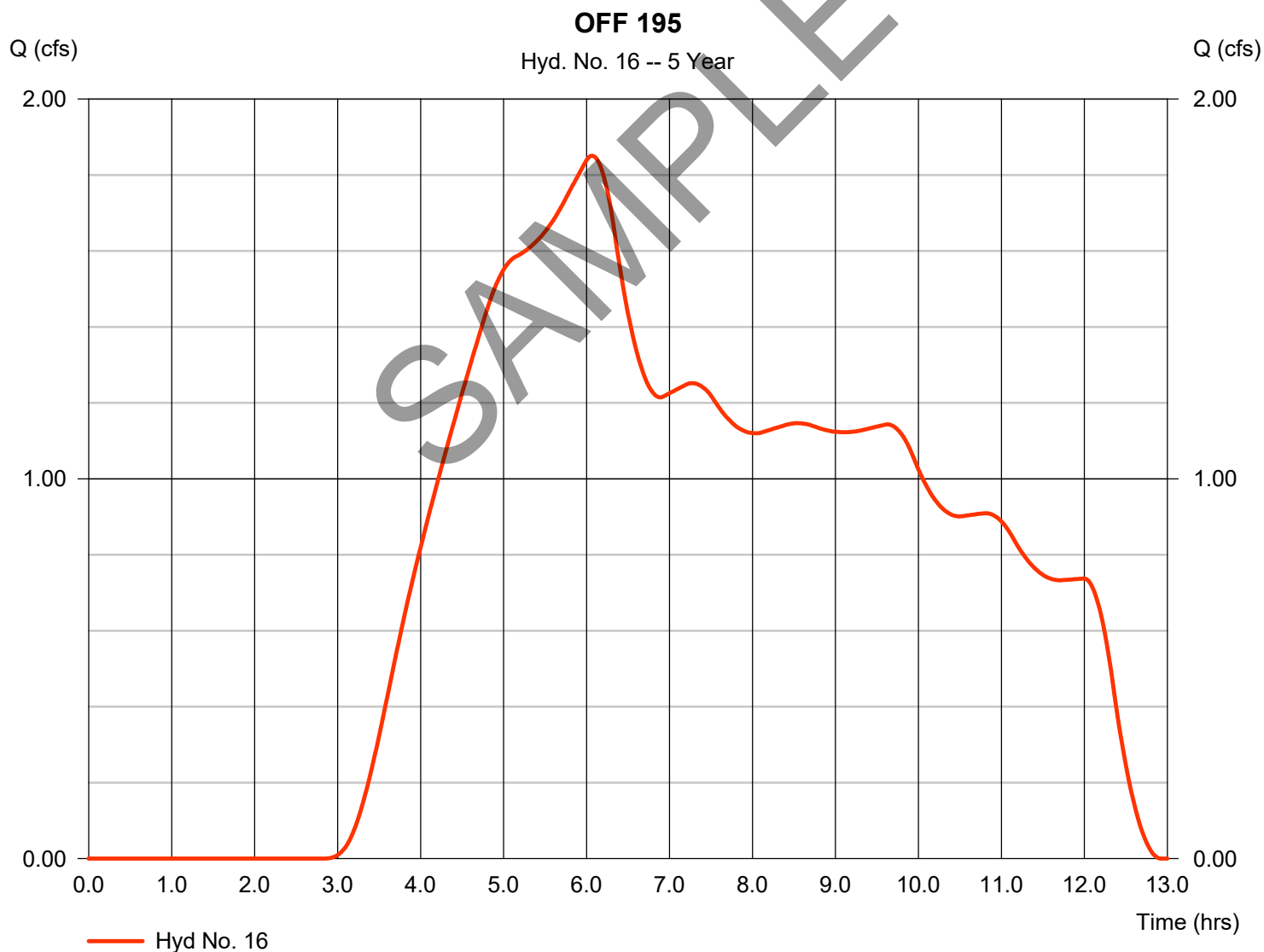
Tuesday, 03 / 19 / 2019

Hyd. No. 16

OFF 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 10.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 1.851 cfs
Time to peak = 6.07 hrs
Hyd. volume = 36,690 cuft
Curve number = 72
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

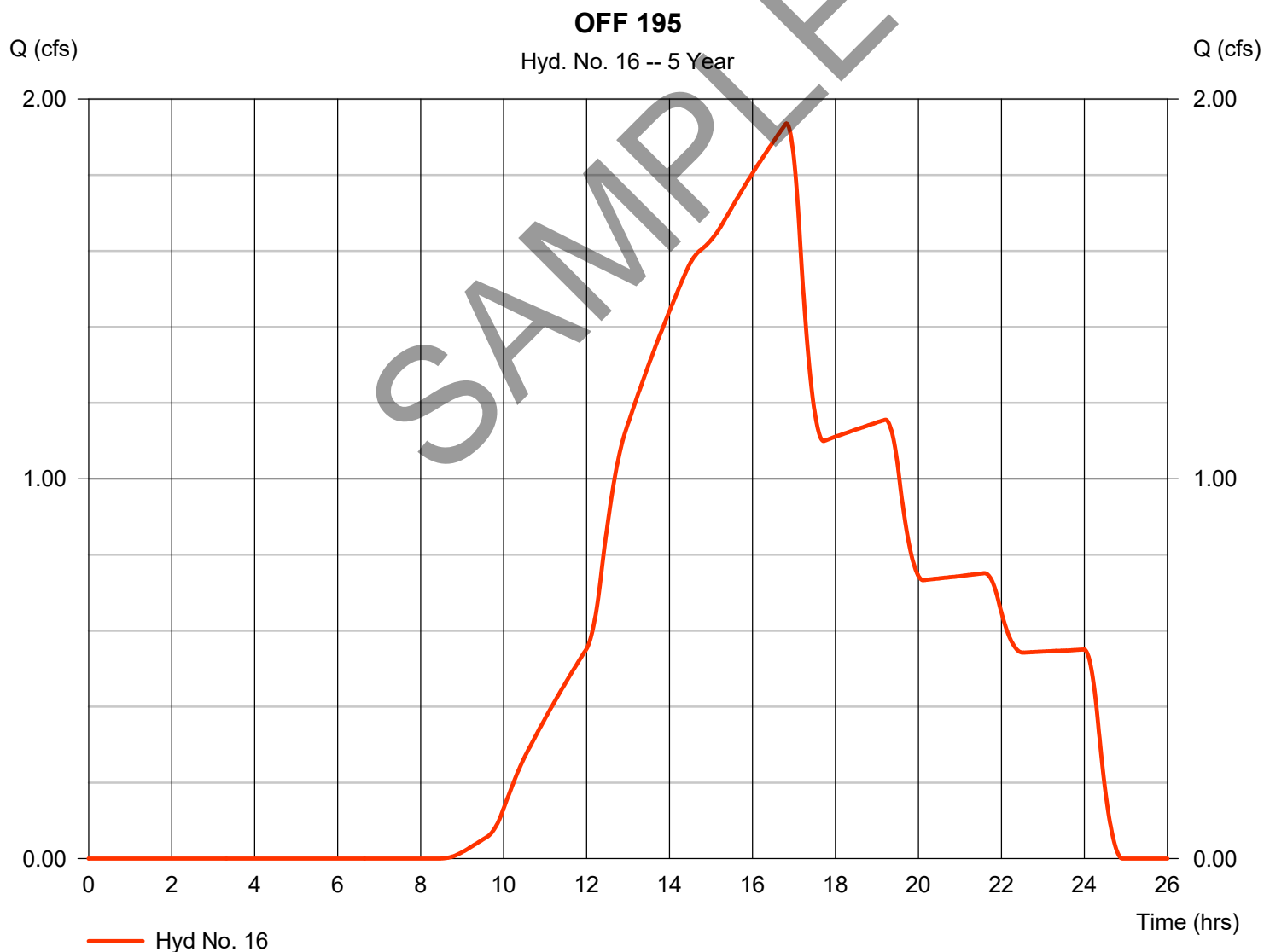
Tuesday, 03 / 19 / 2019

Hyd. No. 16

OFF 195

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 10.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.936 cfs
Time to peak = 16.82 hrs
Hyd. volume = 51,545 cuft
Curve number = 72
Hydraulic length = 0 ft
Time of conc. (Tc) = 35.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

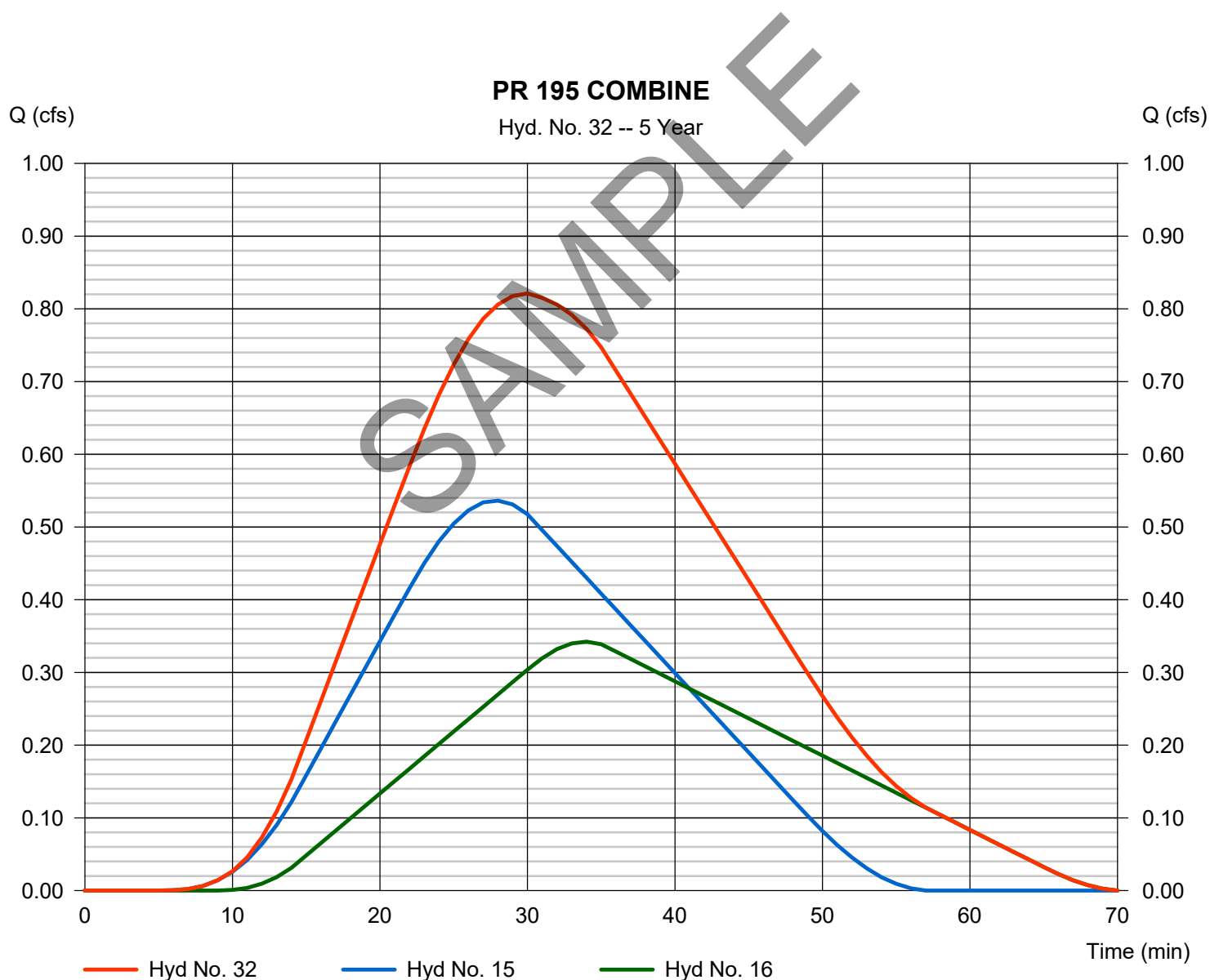
Tuesday, 03 / 19 / 2019

Hyd. No. 32

PR 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 15, 16

Peak discharge = 0.821 cfs
Time to peak = 30 min
Hyd. volume = 1,361 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

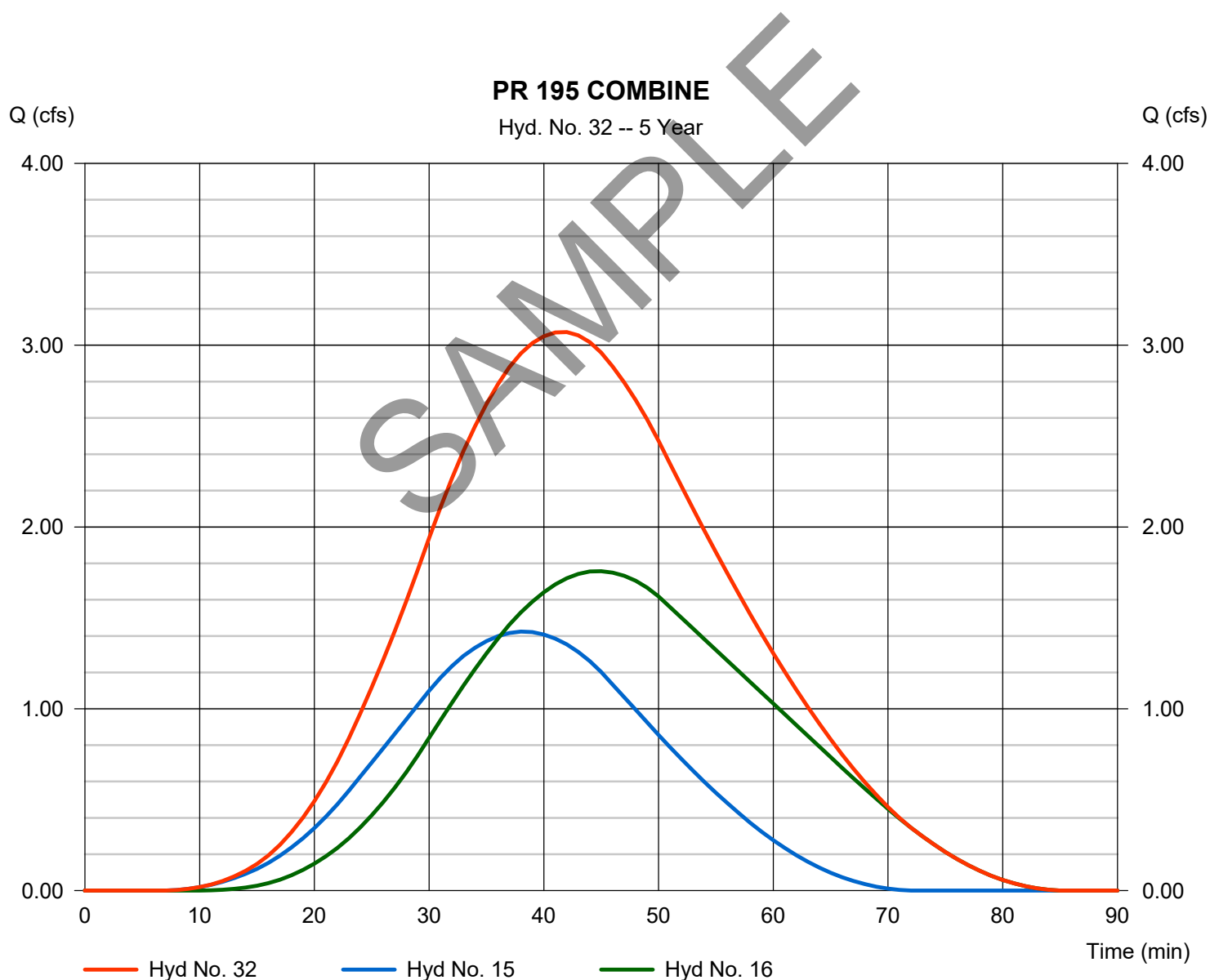
Tuesday, 03 / 19 / 2019

Hyd. No. 32

PR 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 15, 16

Peak discharge = 3.072 cfs
Time to peak = 42 min
Hyd. volume = 5,880 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

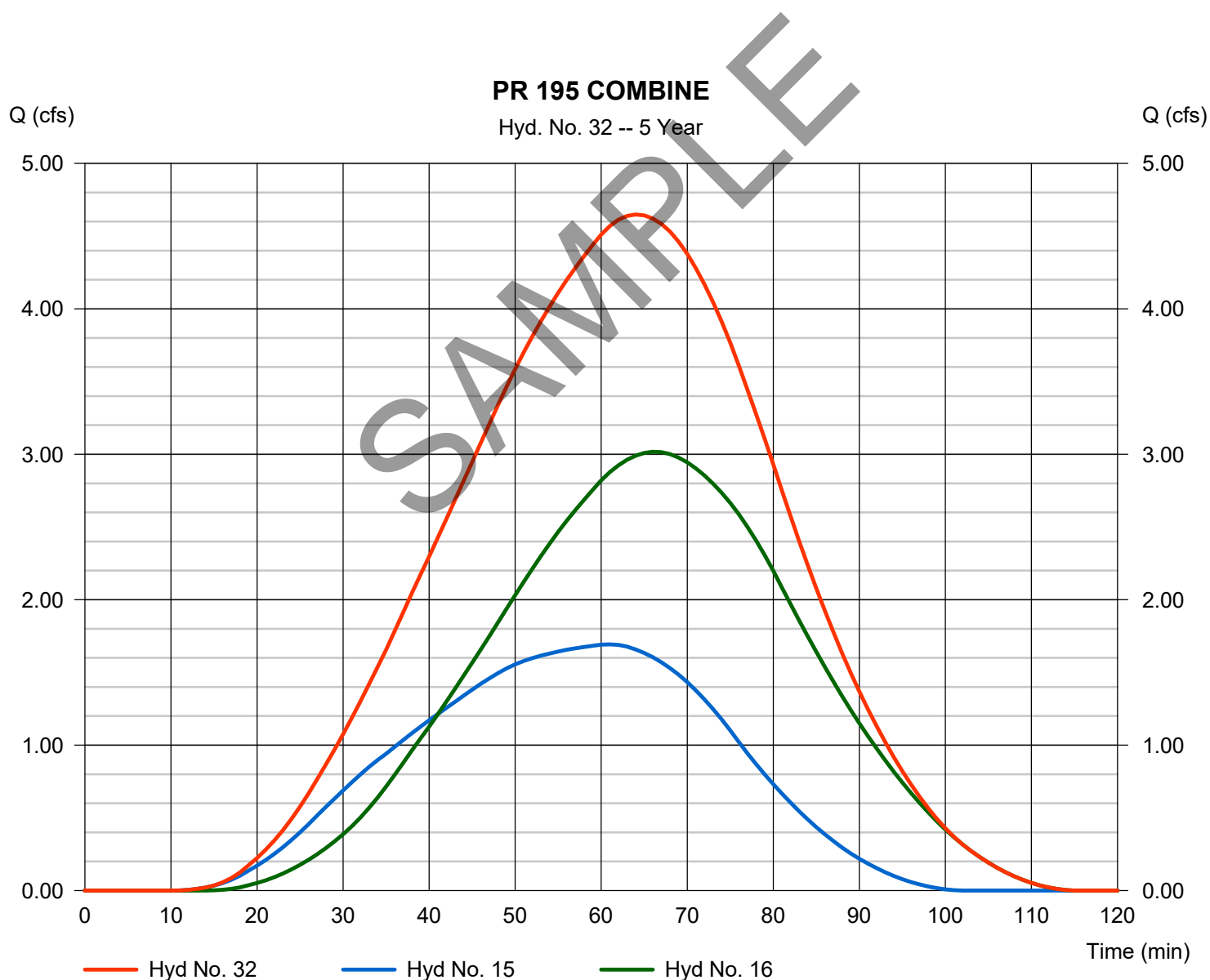
Tuesday, 03 / 19 / 2019

Hyd. No. 32

PR 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 15, 16

Peak discharge = 4.648 cfs
Time to peak = 64 min
Hyd. volume = 12,502 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

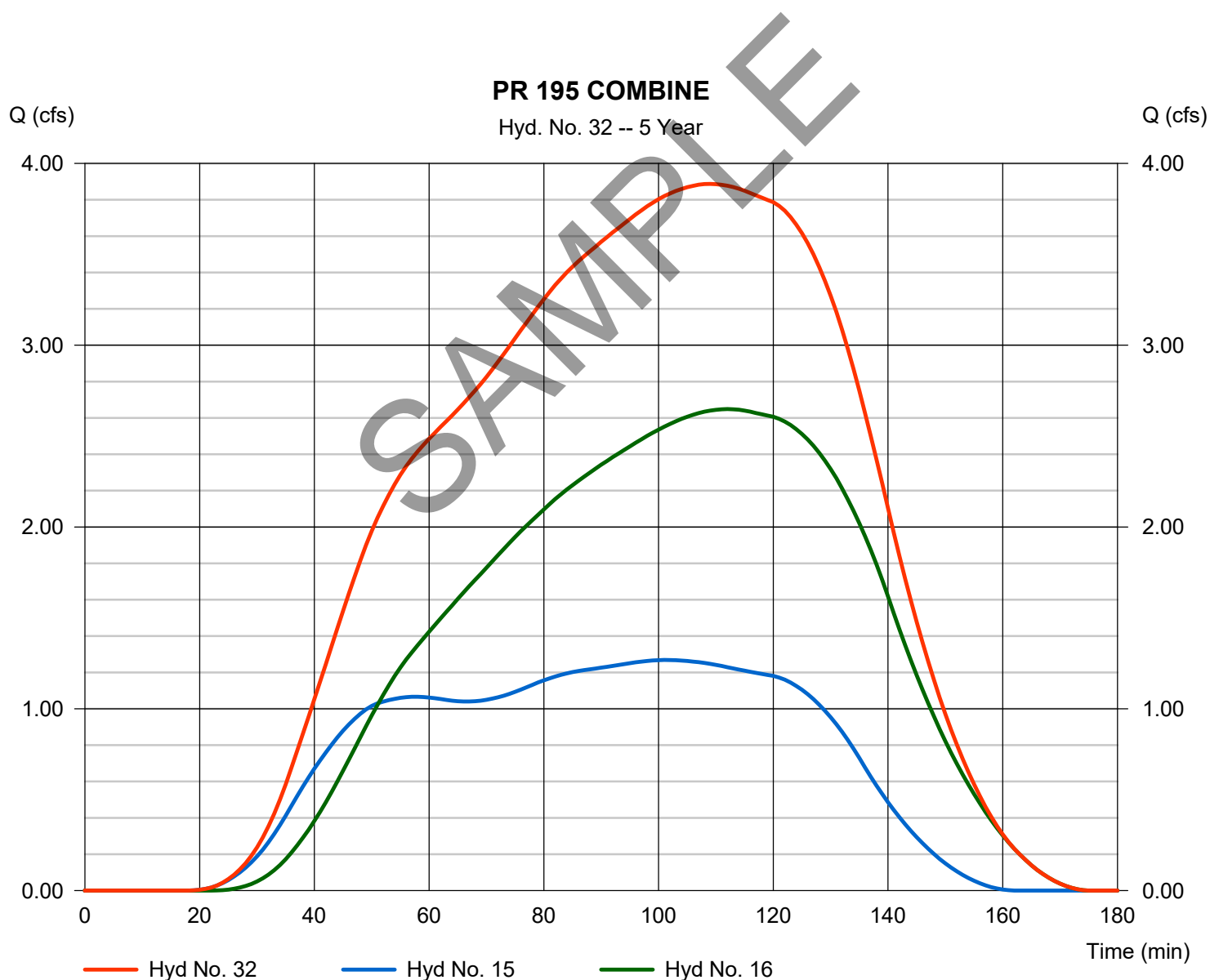
Tuesday, 03 / 19 / 2019

Hyd. No. 32

PR 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 15, 16

Peak discharge = 3.887 cfs
Time to peak = 109 min
Hyd. volume = 20,143 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

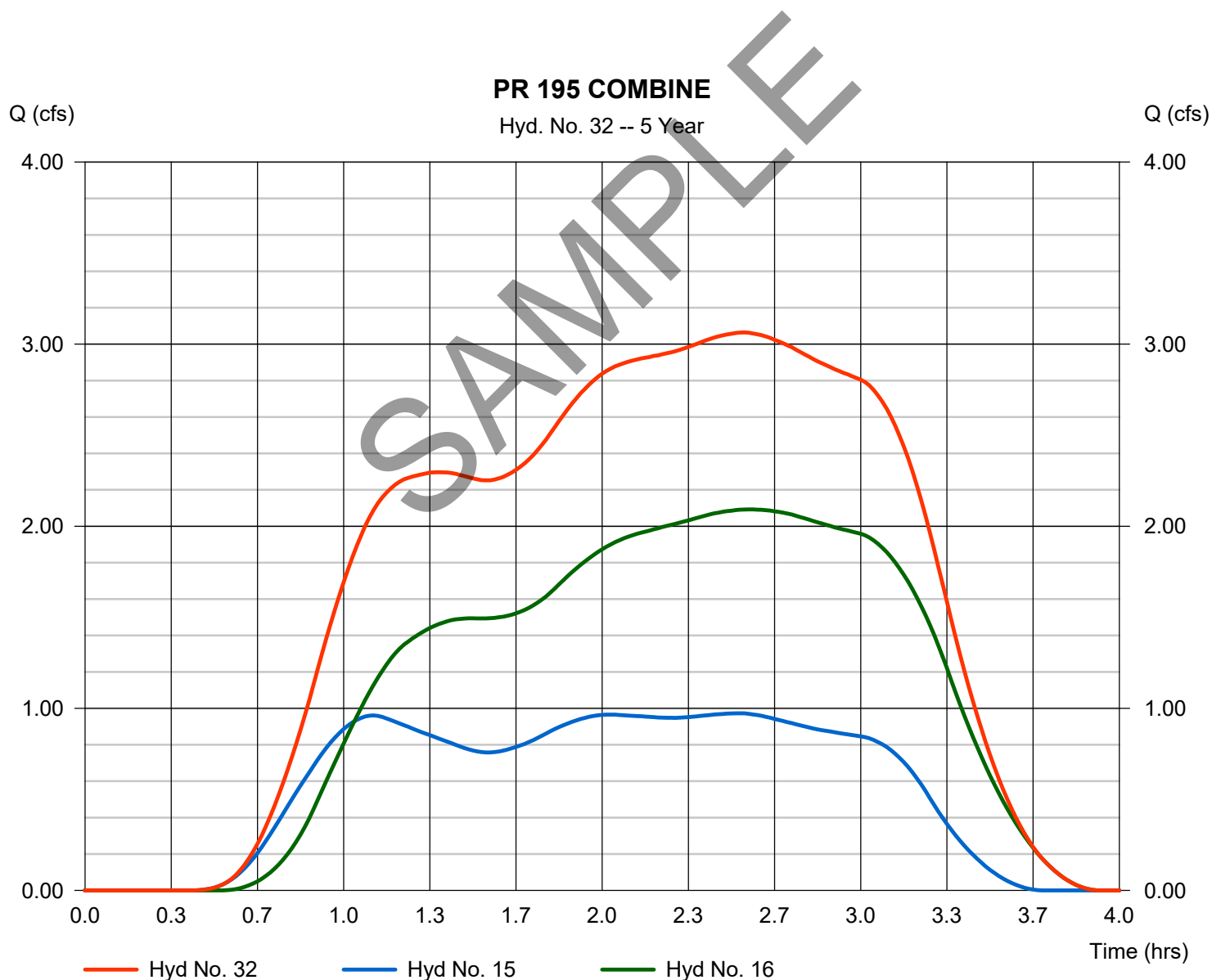
Tuesday, 03 / 19 / 2019

Hyd. No. 32

PR 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 3 hr
Time interval = 1 min
Inflow hyds. = 15, 16

Peak discharge = 3.064 cfs
Time to peak = 2.55 hrs
Hyd. volume = 24,032 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

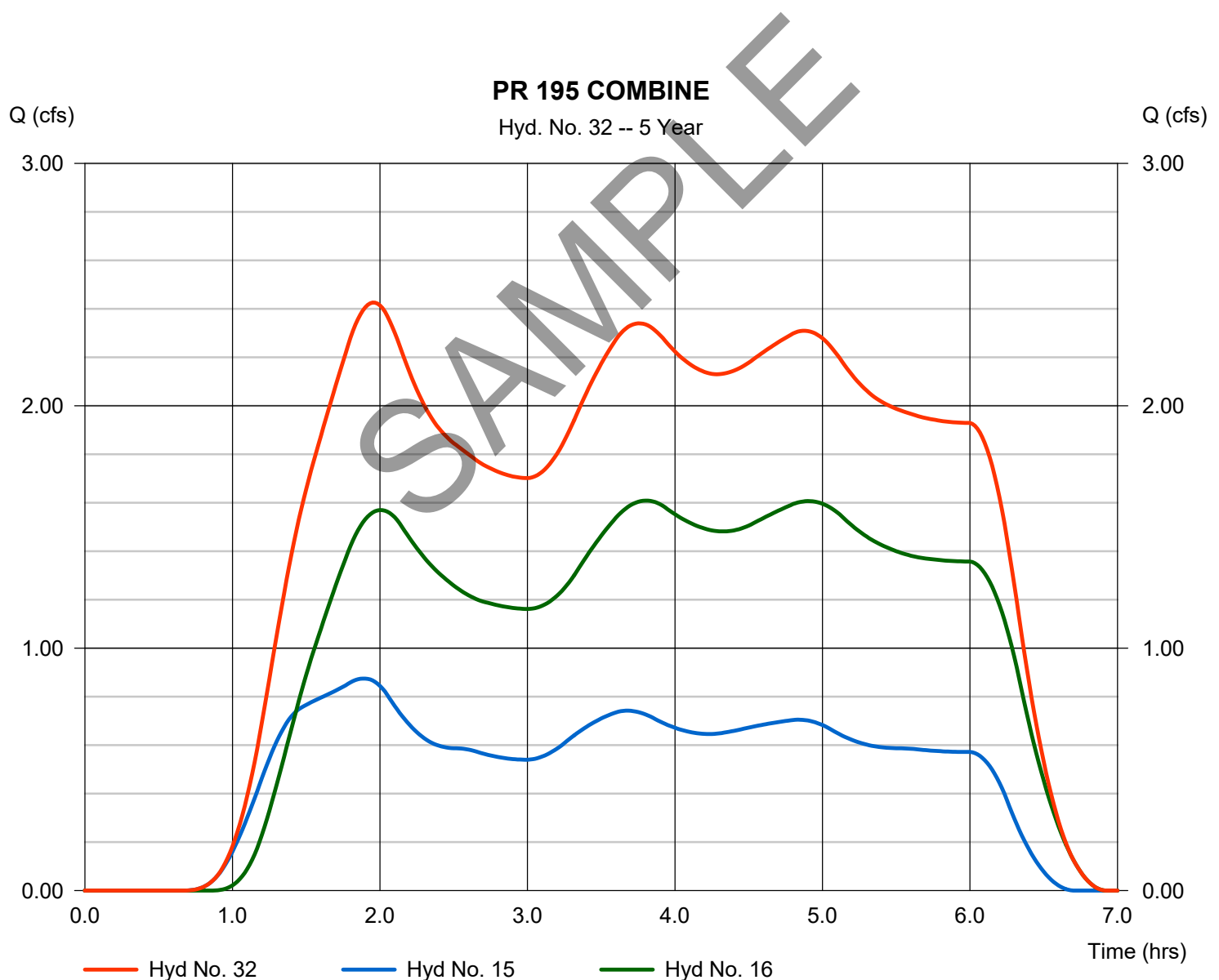
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Hyd. No. 32

PR 195 COMBINE

Hydrograph type	= Combine	Peak discharge	= 2.426 cfs
Storm frequency	= 5 yrs, 6 hr	Time to peak	= 1.95 hrs
Time interval	= 1 min	Hyd. volume	= 37,929 cuft
Inflow hyds.	= 15, 16	Contrib. drain. area	= 14.600 ac



Hydrograph Report

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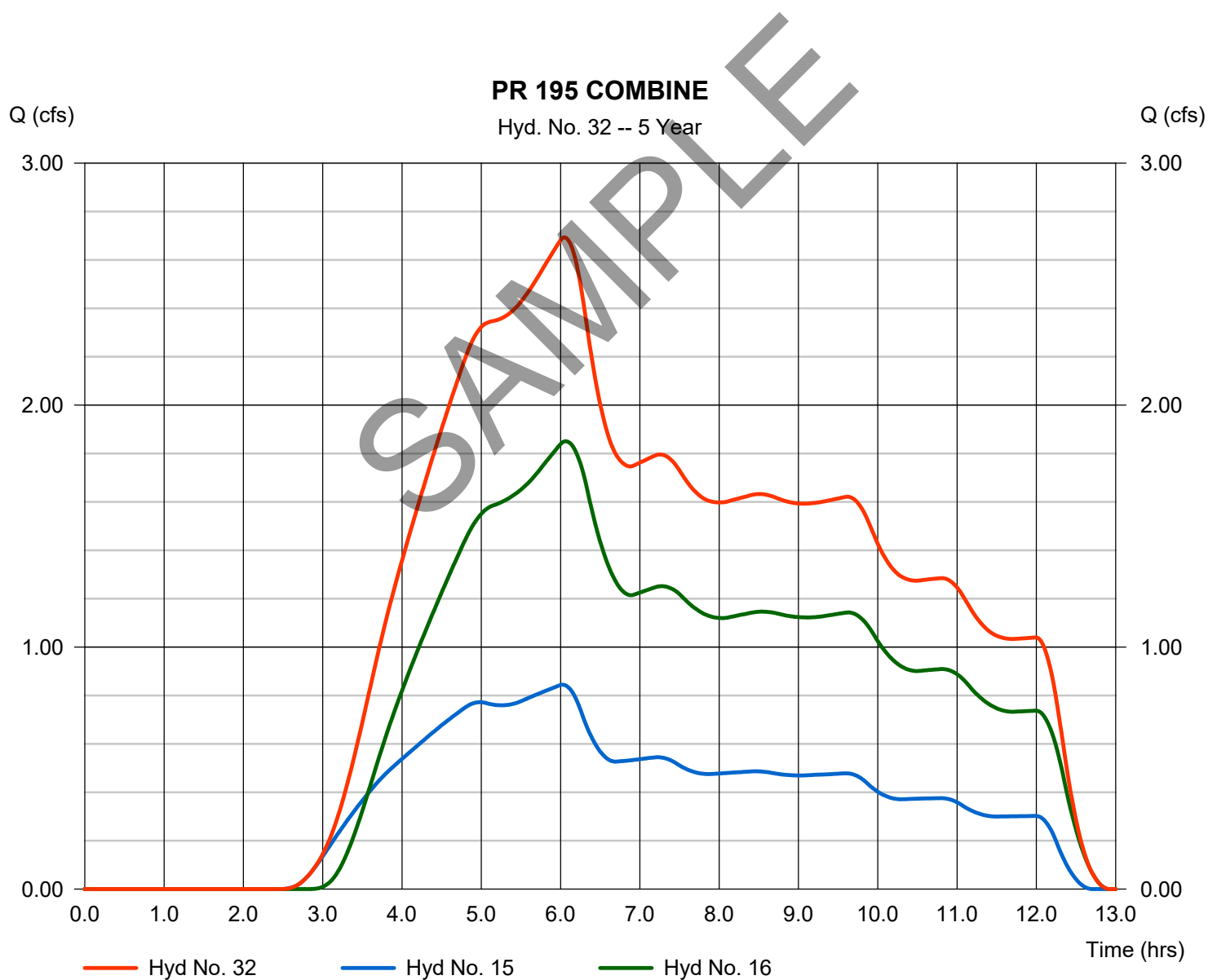
Tuesday, 03 / 19 / 2019

Hyd. No. 32

PR 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 12 hr
Time interval = 1 min
Inflow hyds. = 15, 16

Peak discharge = 2.693 cfs
Time to peak = 6.05 hrs
Hyd. volume = 53,635 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

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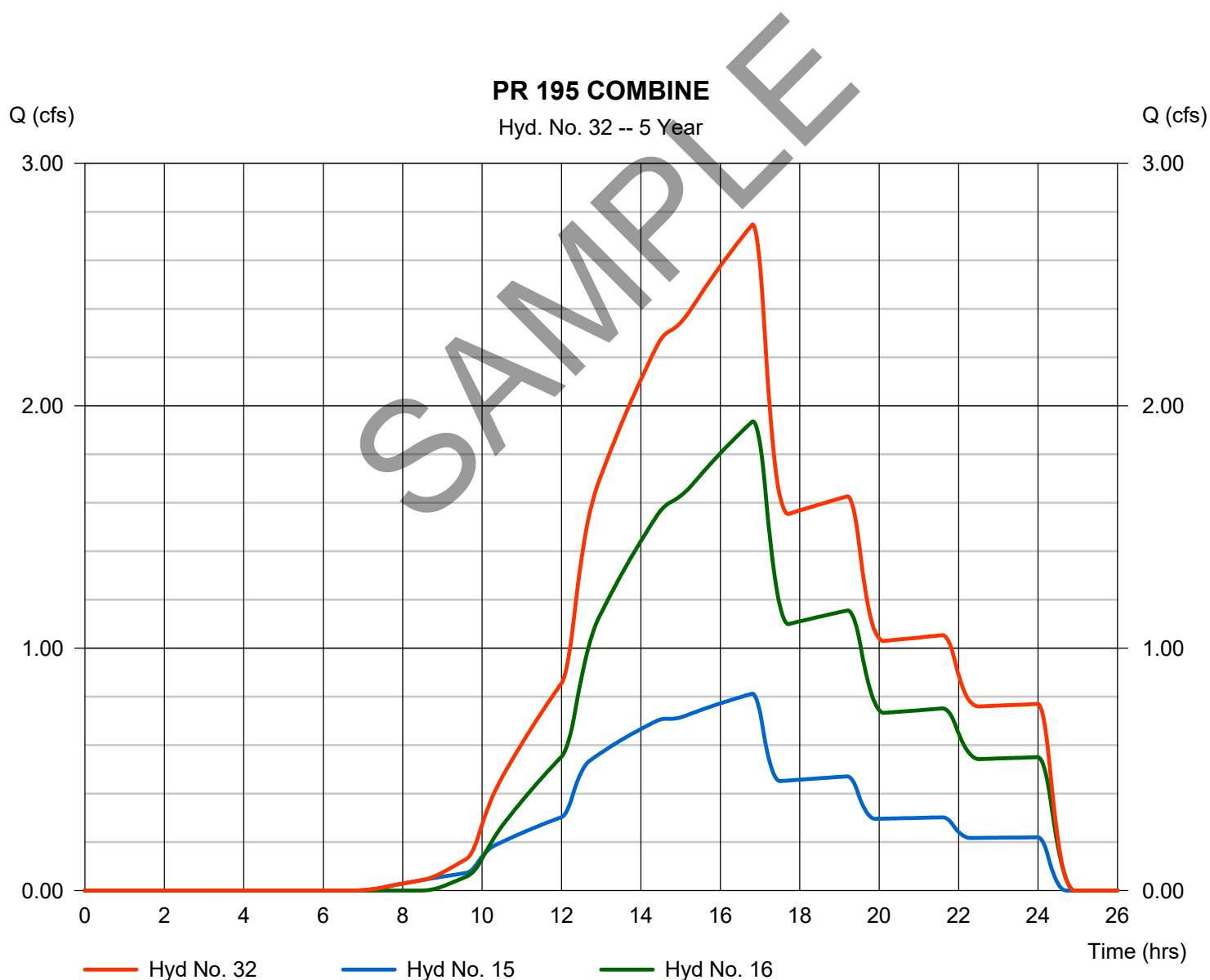
Tuesday, 03 / 19 / 2019

Hyd. No. 32

PR 195 COMBINE

Hydrograph type = Combine
Storm frequency = 5 yrs, 24 hr
Time interval = 1 min
Inflow hyds. = 15, 16

Peak discharge = 2.747 cfs
Time to peak = 16.82 hrs
Hyd. volume = 74,474 cuft
Contrib. drain. area = 14.600 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

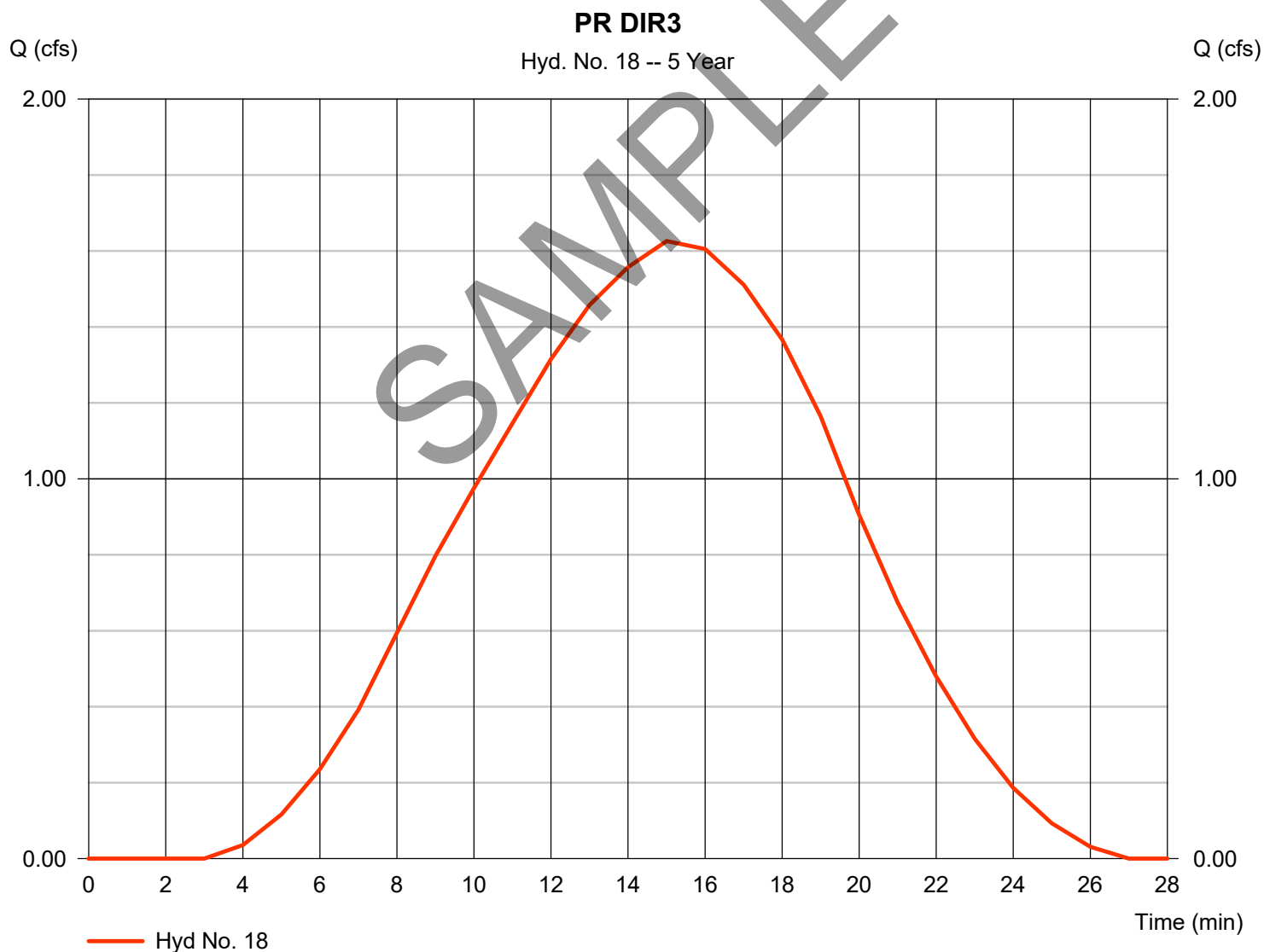
Tuesday, 03 / 19 / 2019

Hyd. No. 18

PR DIR3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 1.626 cfs
Time to peak = 15 min
Hyd. volume = 1,115 cuft
Curve number = 85
Hydraulic length = 0 ft
Time of conc. (Tc) = 8.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

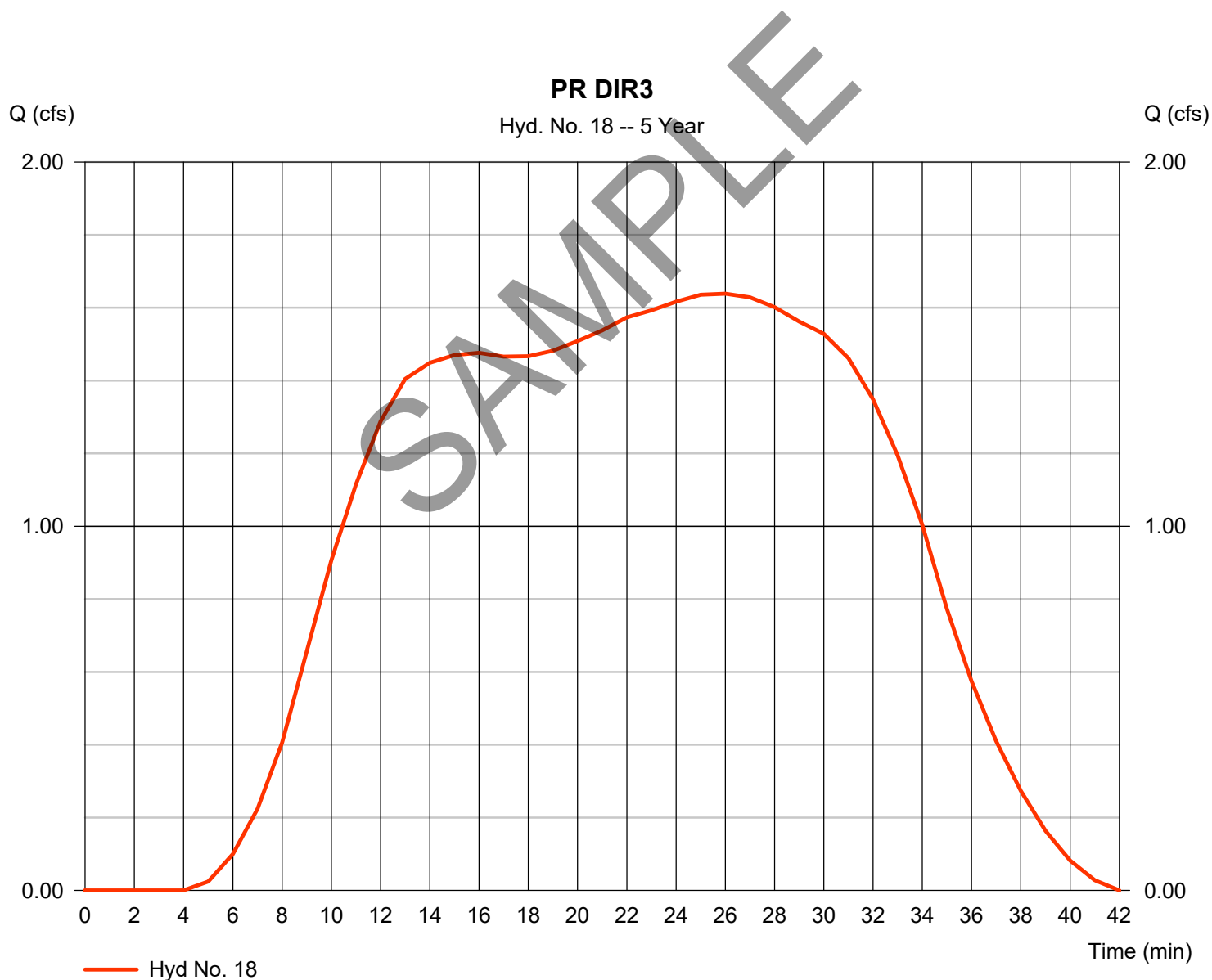
Tuesday, 03 / 19 / 2019

Hyd. No. 18

PR DIR3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 1.639 cfs
Time to peak = 26 min
Hyd. volume = 2,380 cuft
Curve number = 85
Hydraulic length = 0 ft
Time of conc. (Tc) = 8.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

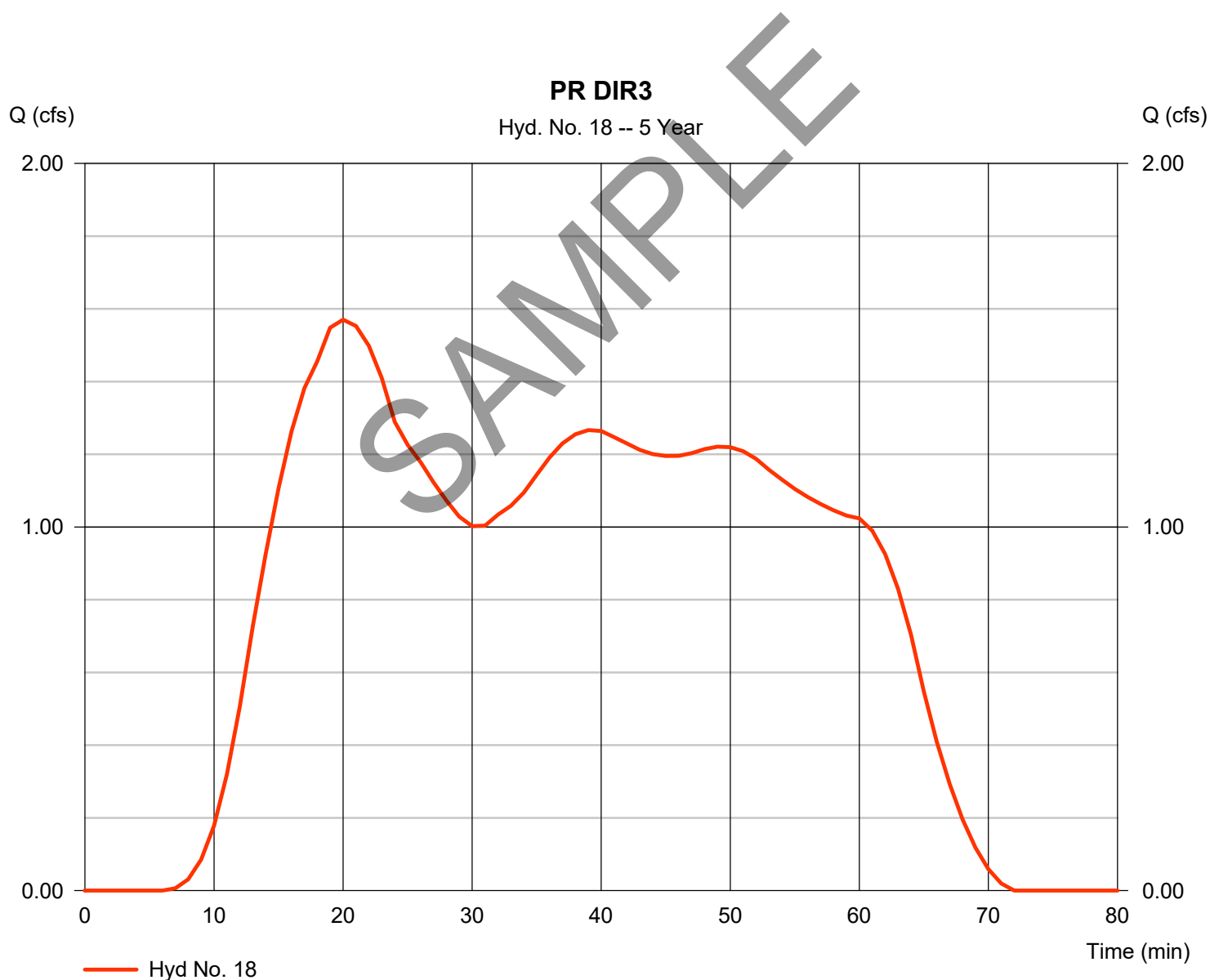
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 18

PR DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.570 cfs
Storm frequency	= 5 yrs	Time to peak	= 20 min
Time interval	= 1 min	Hyd. volume	= 3,797 cuft
Drainage area	= 1.700 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 8.30 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

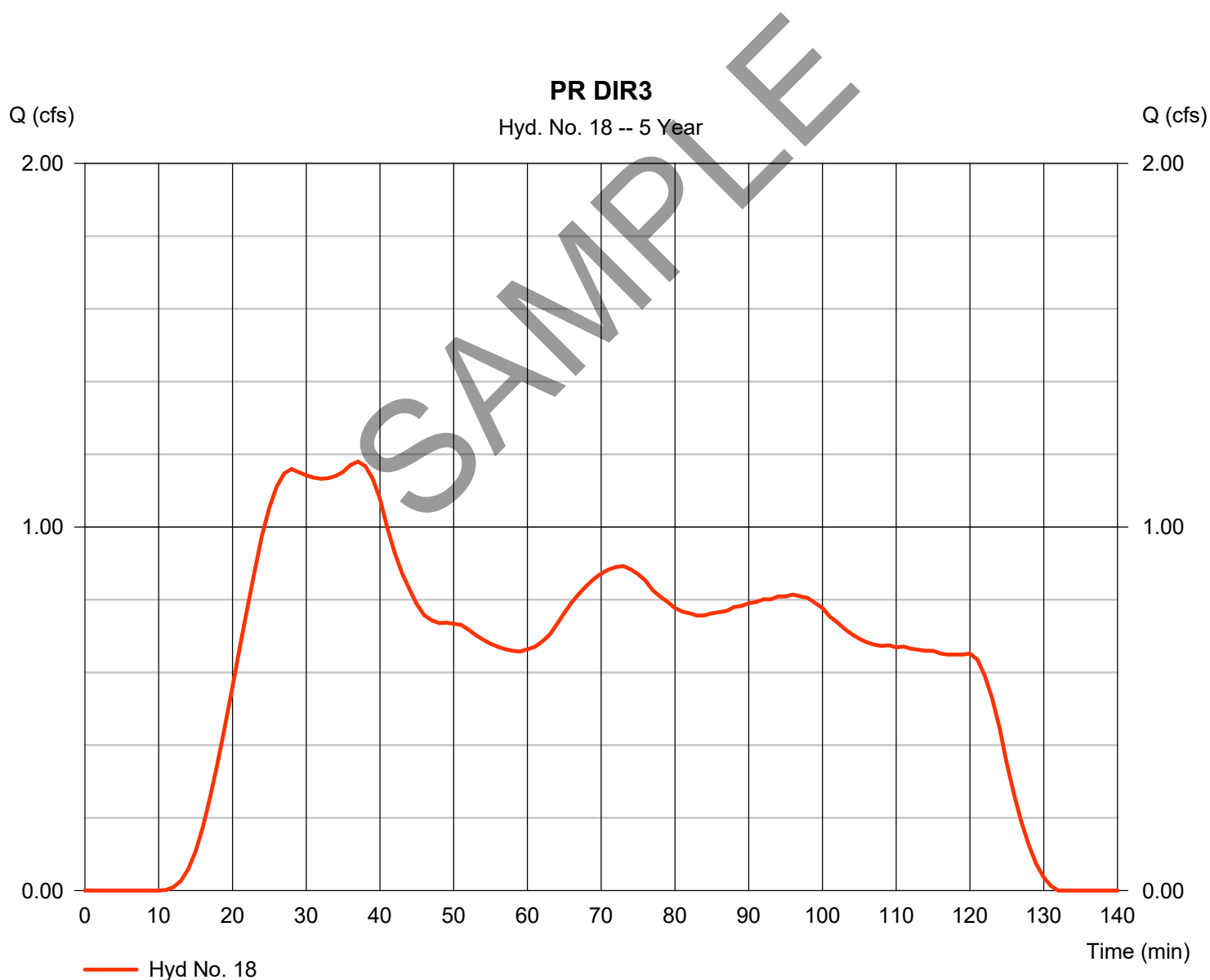
Tuesday, 03 / 19 / 2019

Hyd. No. 18

PR DIR3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 1.180 cfs
Time to peak = 37 min
Hyd. volume = 5,229 cuft
Curve number = 85
Hydraulic length = 0 ft
Time of conc. (Tc) = 8.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

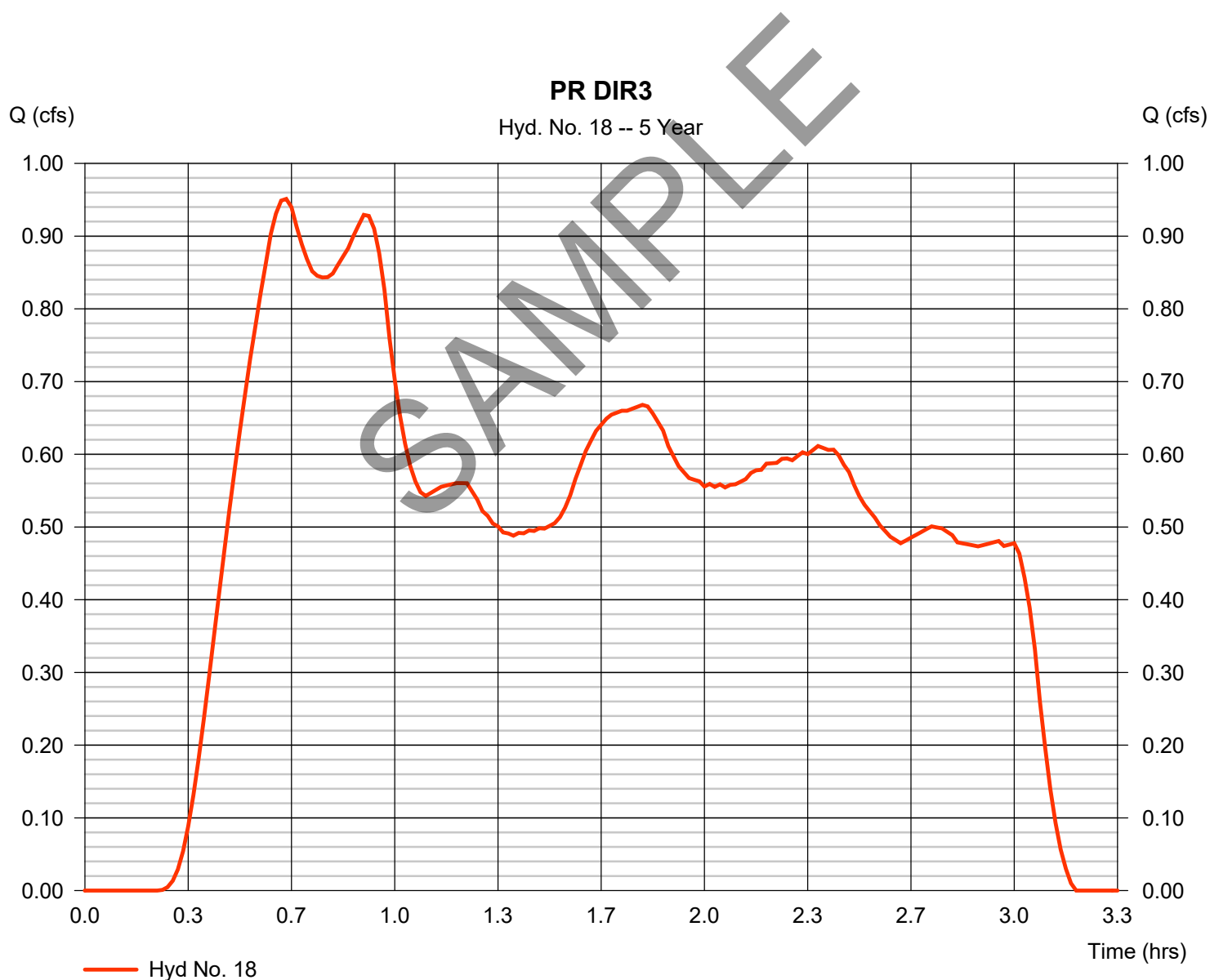
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 18

PR DIR3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.951 cfs
Storm frequency	= 5 yrs	Time to peak	= 0.65 hrs
Time interval	= 1 min	Hyd. volume	= 5,913 cuft
Drainage area	= 1.700 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 8.30 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

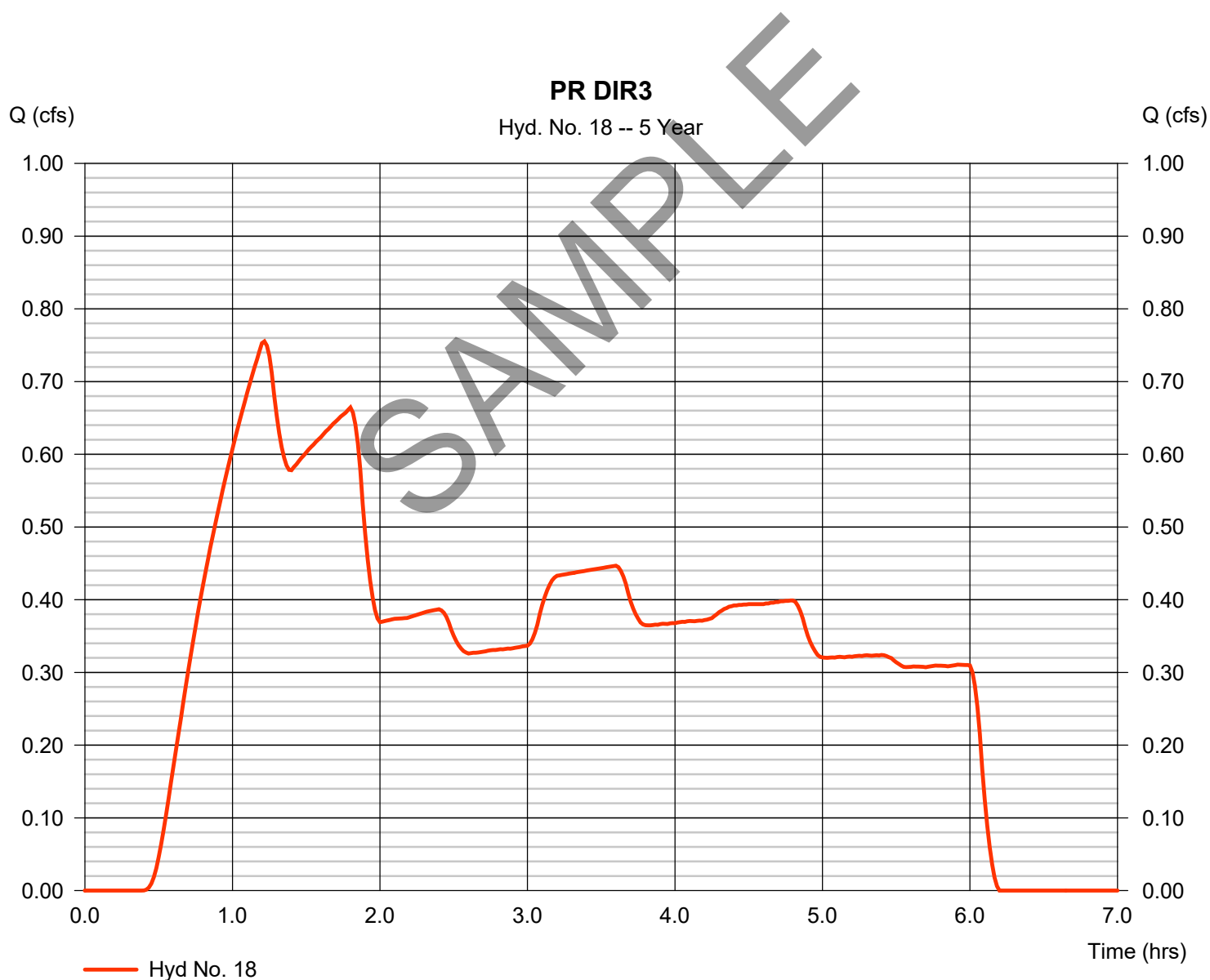
Tuesday, 03 / 19 / 2019

Hyd. No. 18

PR DIR3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.755 cfs
Time to peak = 1.22 hrs
Hyd. volume = 8,208 cuft
Curve number = 85
Hydraulic length = 0 ft
Time of conc. (Tc) = 8.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

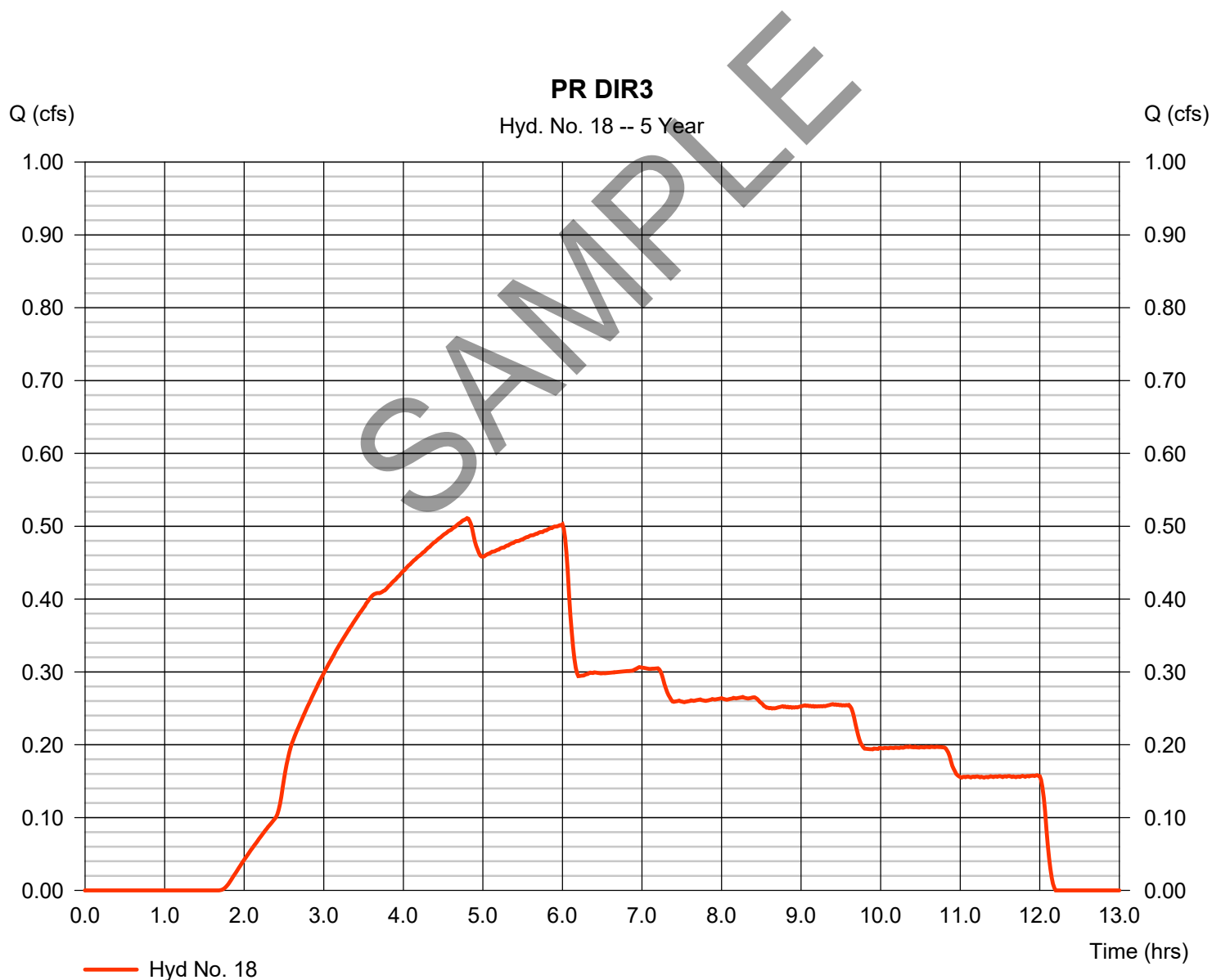
Tuesday, 03 / 19 / 2019

Hyd. No. 18

PR DIR3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.511 cfs
Time to peak = 4.80 hrs
Hyd. volume = 10,627 cuft
Curve number = 85
Hydraulic length = 0 ft
Time of conc. (Tc) = 8.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

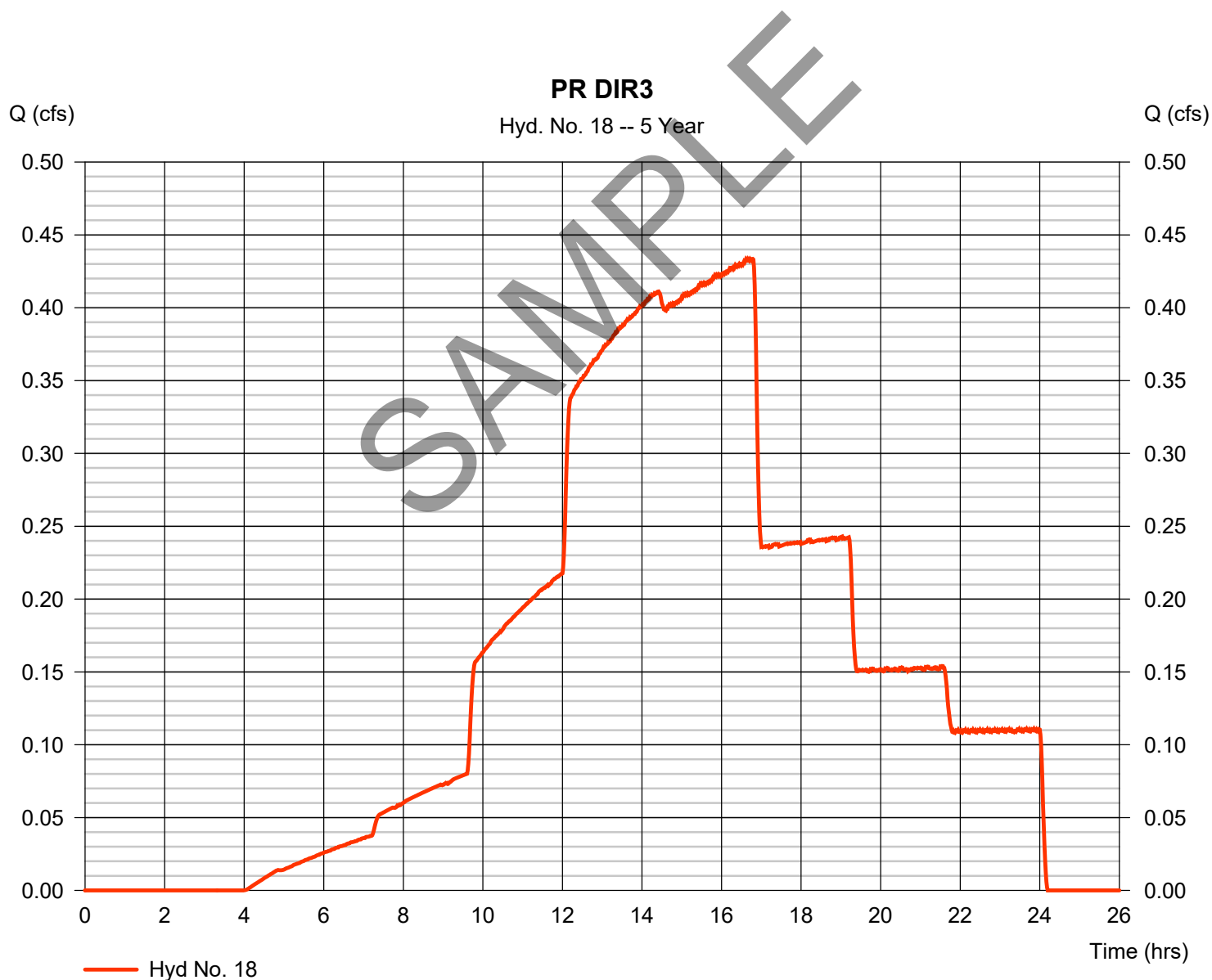
Tuesday, 03 / 19 / 2019

Hyd. No. 18

PR DIR3

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.434 cfs
Time to peak = 16.78 hrs
Hyd. volume = 13,664 cuft
Curve number = 85
Hydraulic length = 0 ft
Time of conc. (Tc) = 8.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

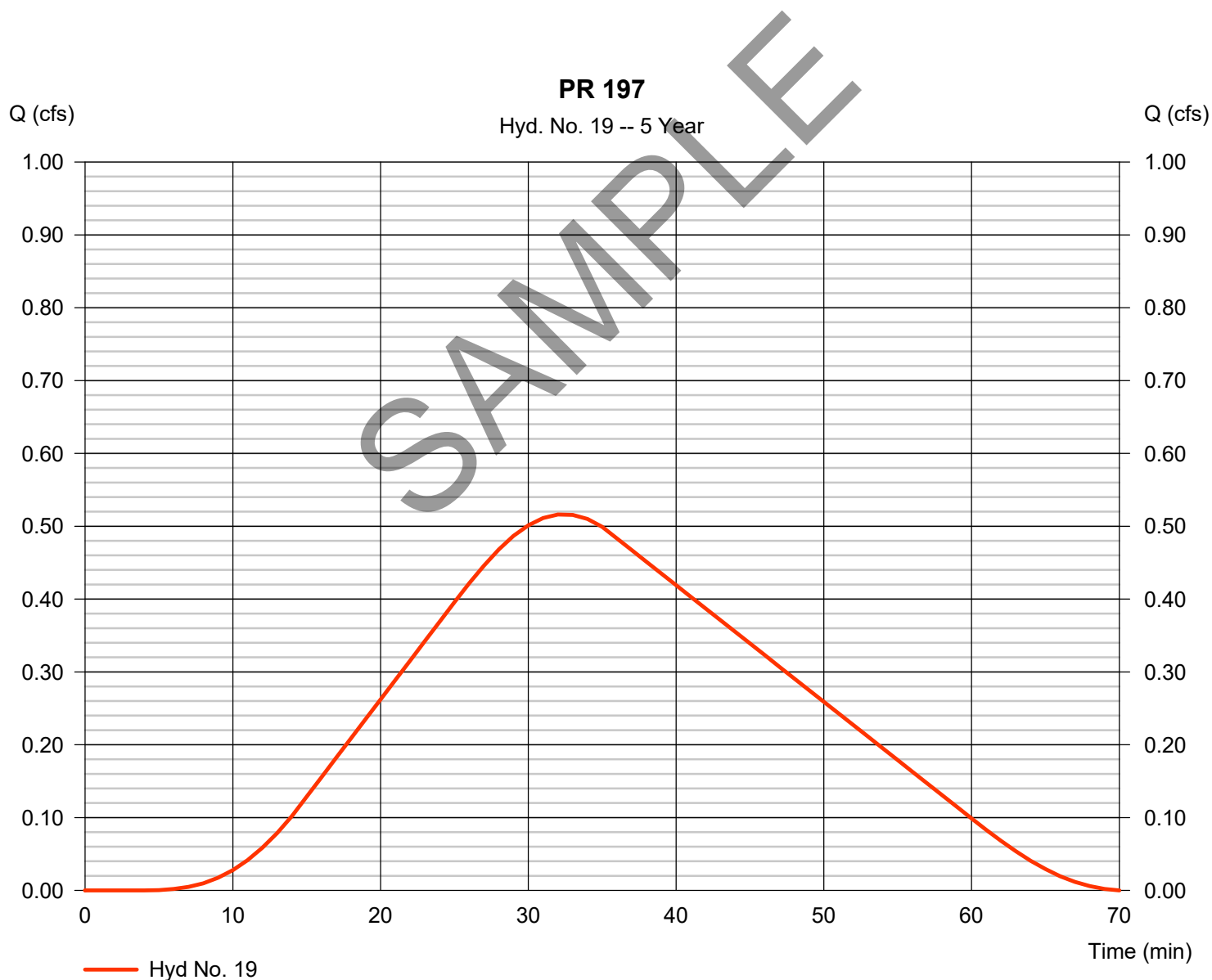
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 19

PR 197

Hydrograph type	= SCS Runoff	Peak discharge	= 0.516 cfs
Storm frequency	= 5 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 942 cuft
Drainage area	= 3.300 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.90 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

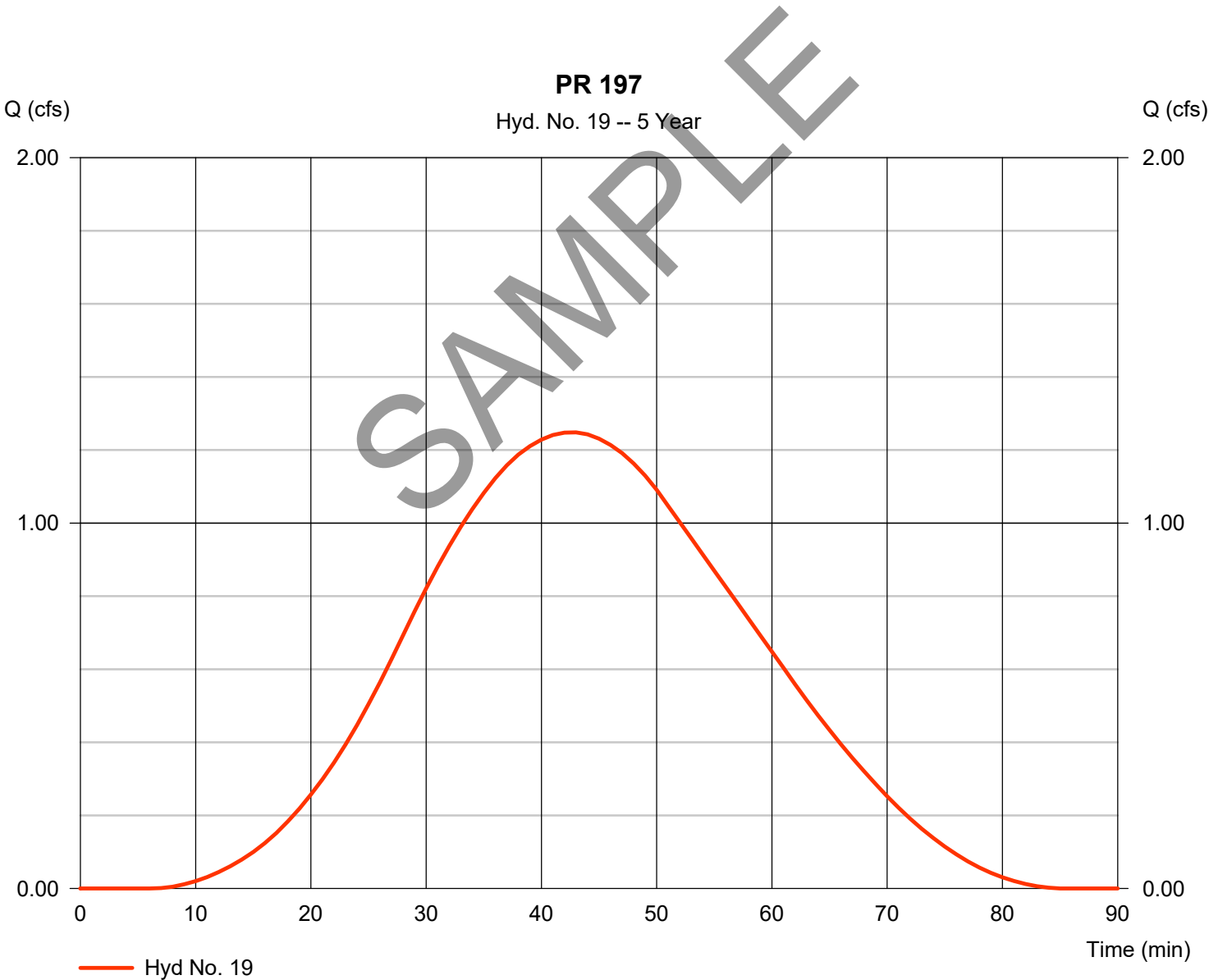


Hydrograph Report

Hyd. No. 19

PR 197

Hydrograph type	= SCS Runoff	Peak discharge	= 1.248 cfs
Storm frequency	= 5 yrs	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 2,605 cuft
Drainage area	= 3.300 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.90 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484

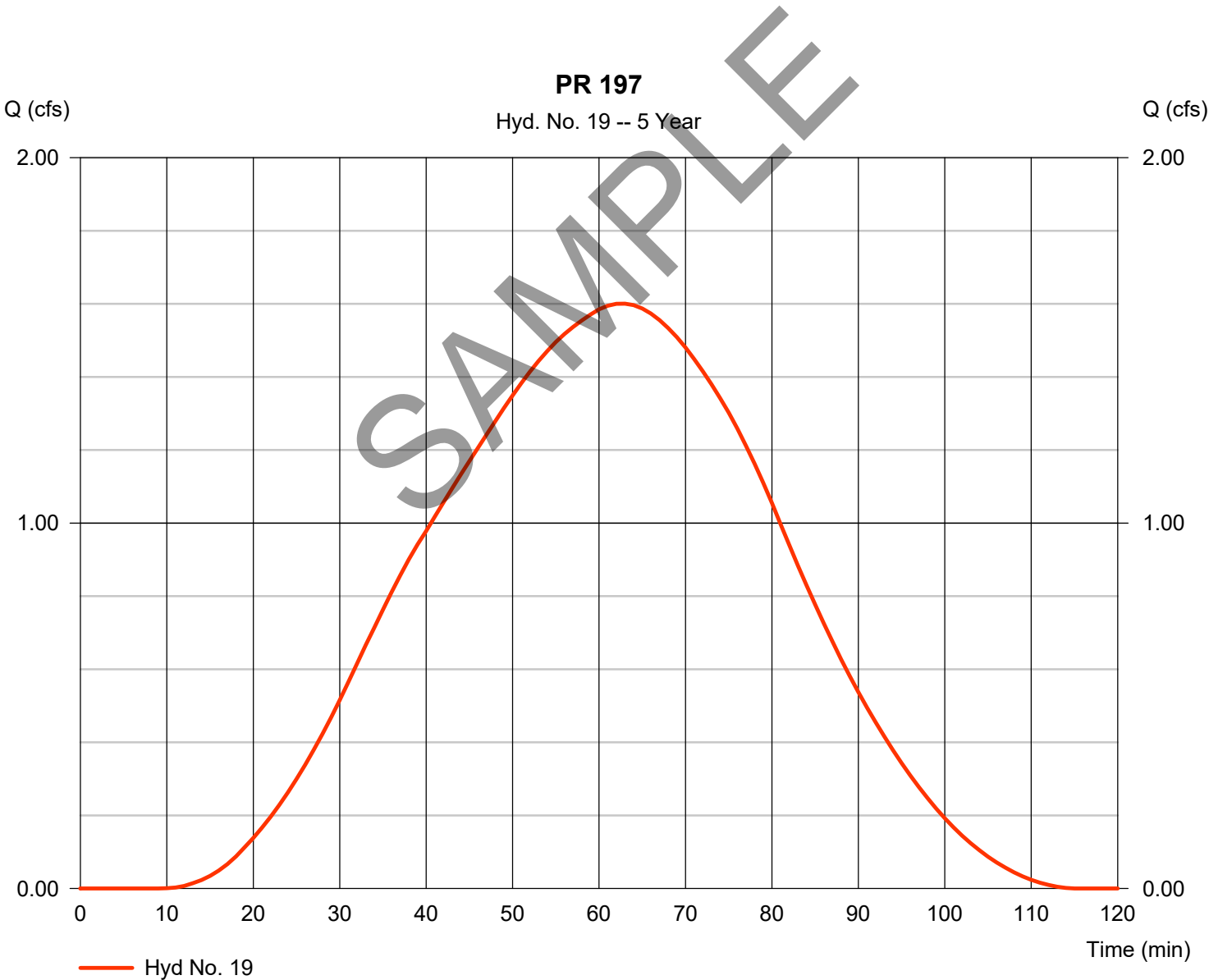


Hydrograph Report

Hyd. No. 19

PR 197

Hydrograph type	= SCS Runoff	Peak discharge	= 1.601 cfs
Storm frequency	= 5 yrs	Time to peak	= 63 min
Time interval	= 1 min	Hyd. volume	= 4,714 cuft
Drainage area	= 3.300 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.90 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

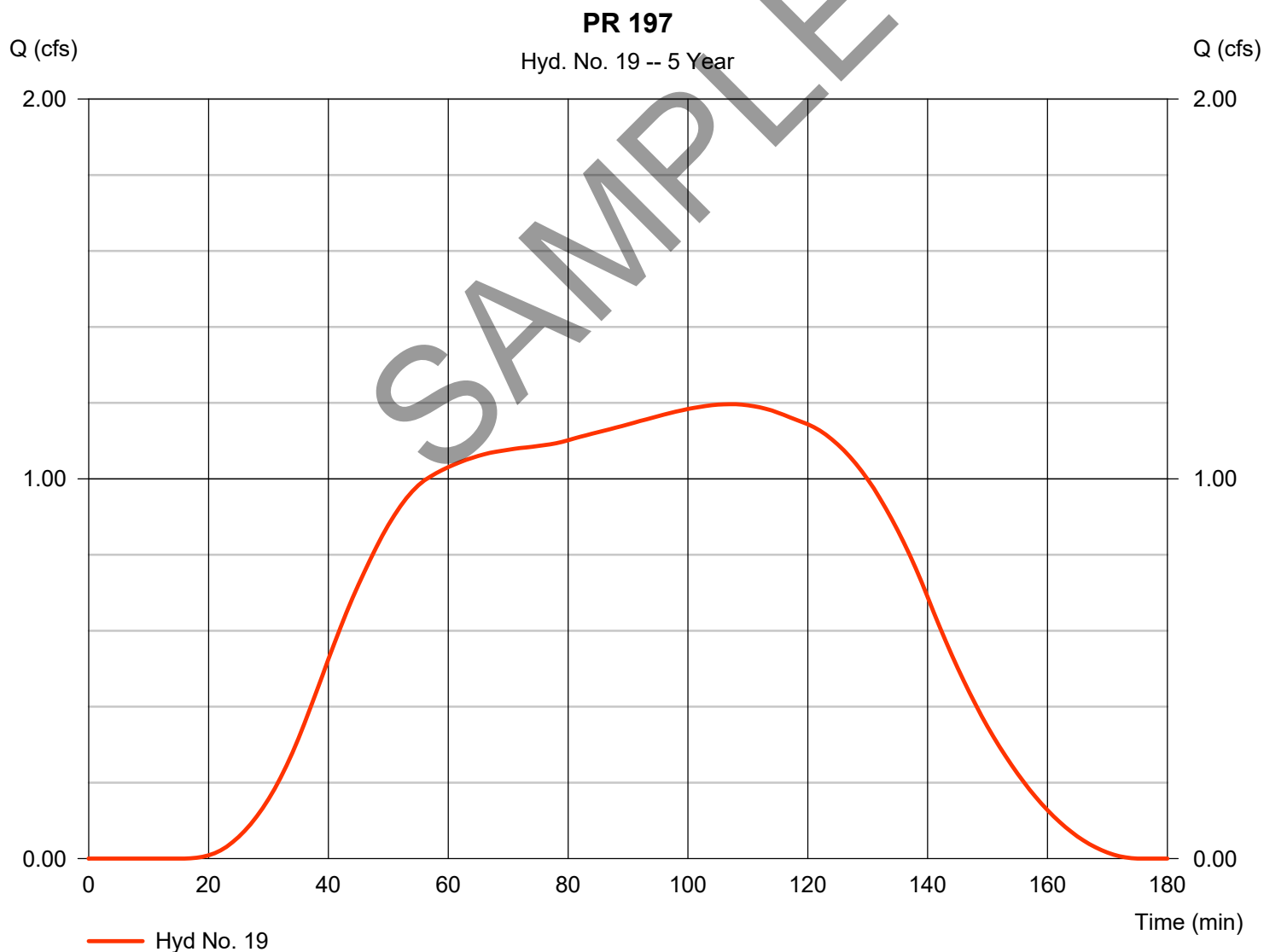
Tuesday, 03 / 19 / 2019

Hyd. No. 19

PR 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 1.197 cfs
Time to peak = 107 min
Hyd. volume = 6,971 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

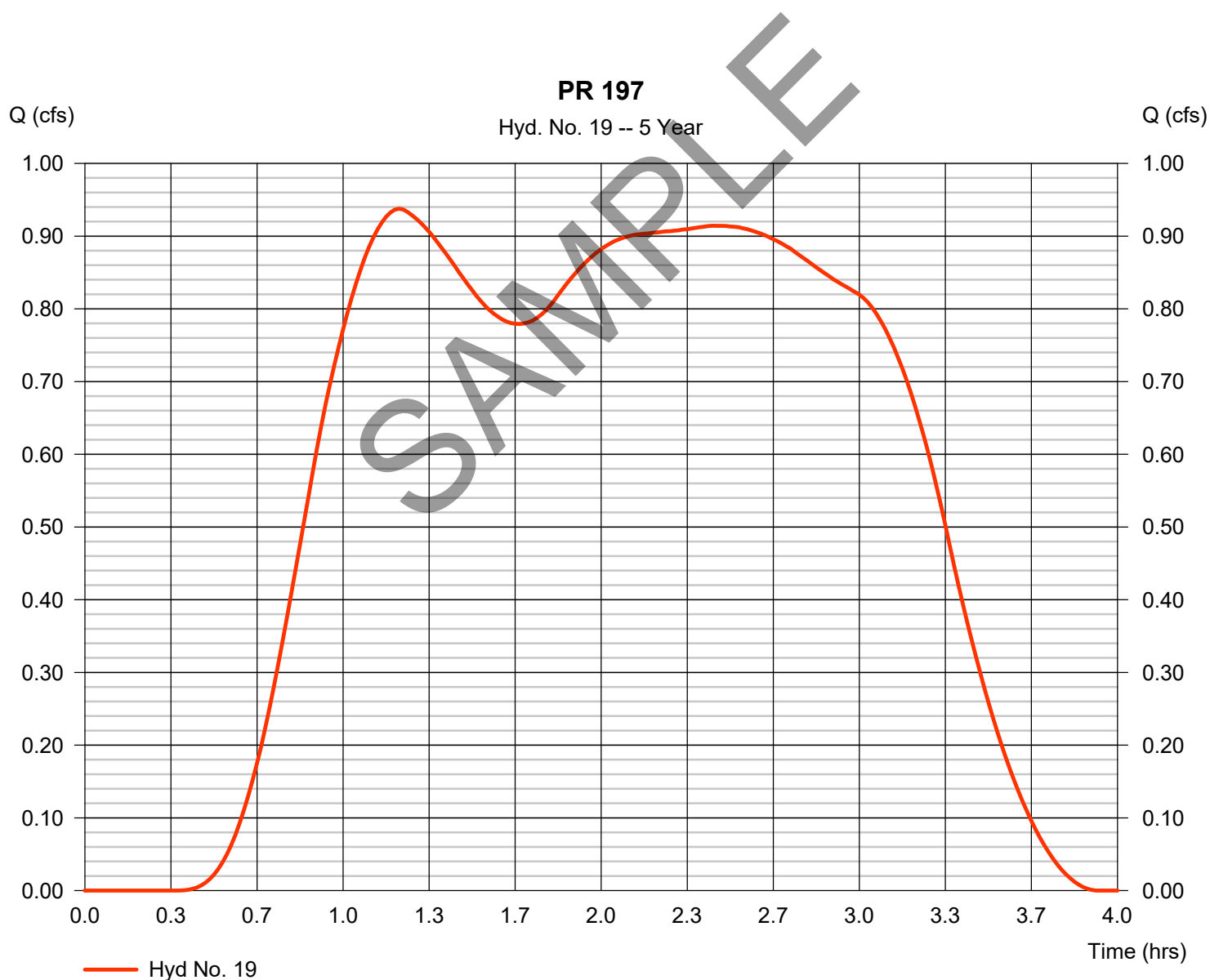
Tuesday, 03 / 19 / 2019

Hyd. No. 19

PR 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.938 cfs
Time to peak = 1.22 hrs
Hyd. volume = 8,082 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

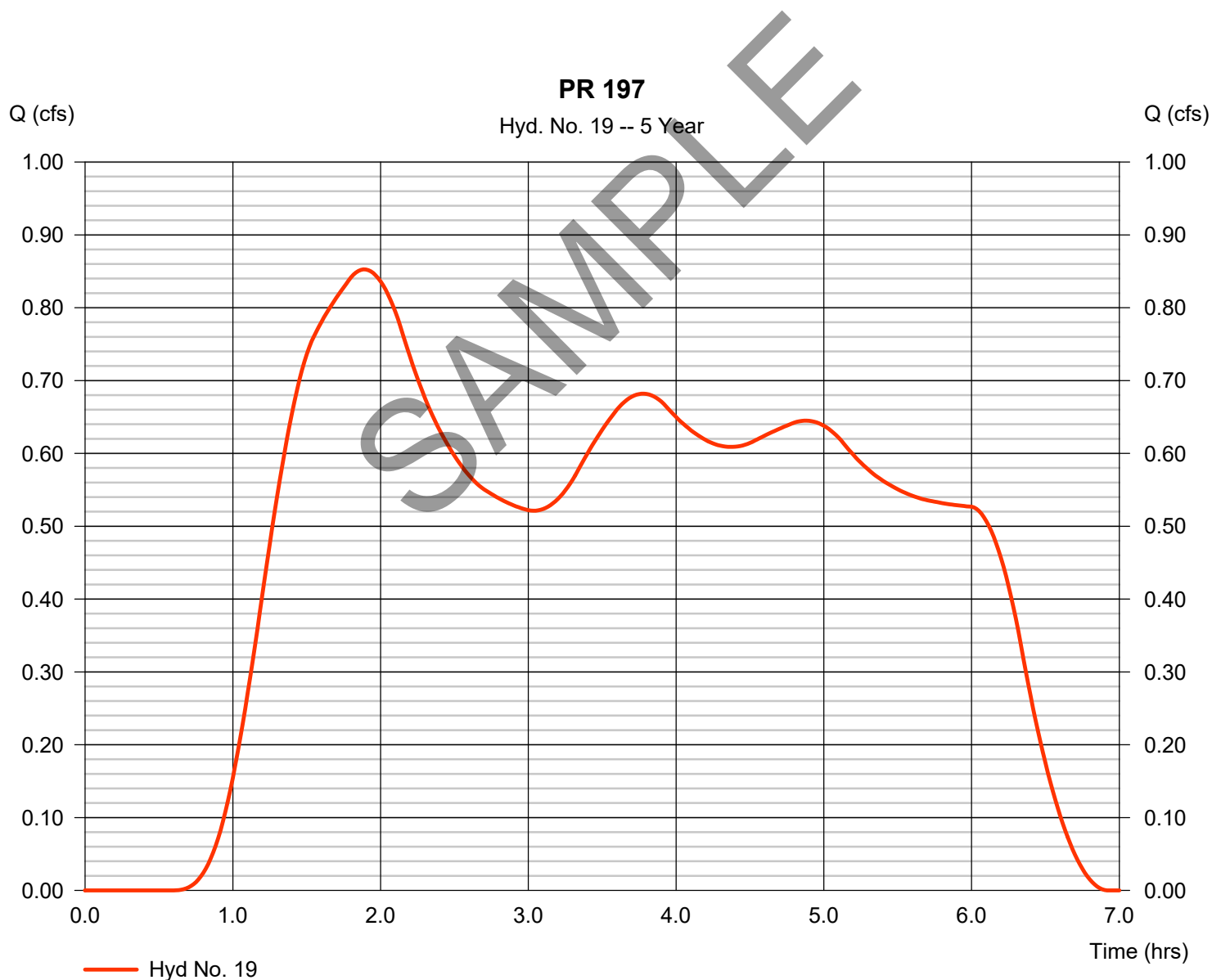
Tuesday, 03 / 19 / 2019

Hyd. No. 19

PR 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.853 cfs
Time to peak = 1.88 hrs
Hyd. volume = 11,920 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

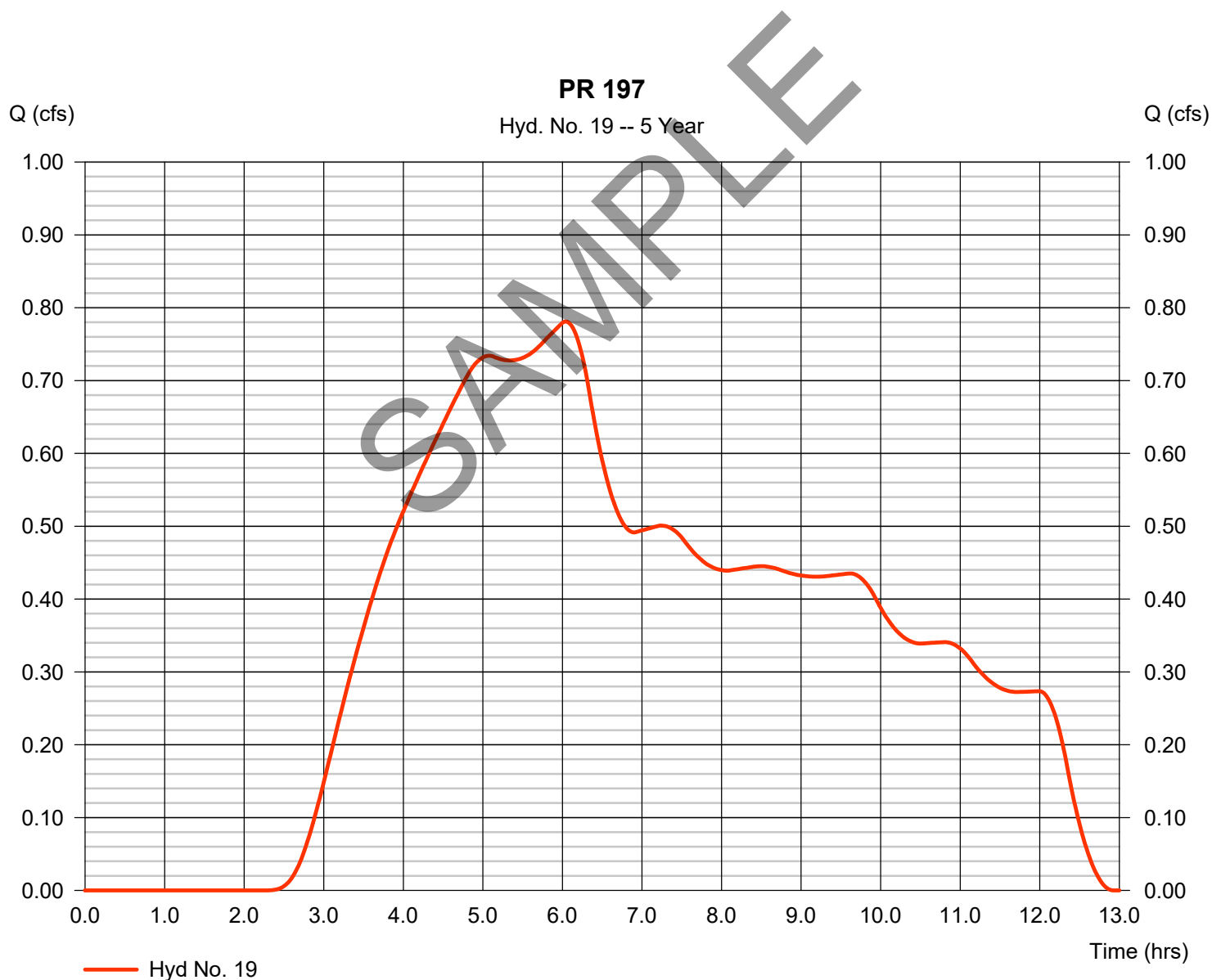
Tuesday, 03 / 19 / 2019

Hyd. No. 19

PR 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.781 cfs
Time to peak = 6.03 hrs
Hyd. volume = 16,103 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 19

PR 197

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.737 cfs
Time to peak = 16.82 hrs
Hyd. volume = 21,495 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

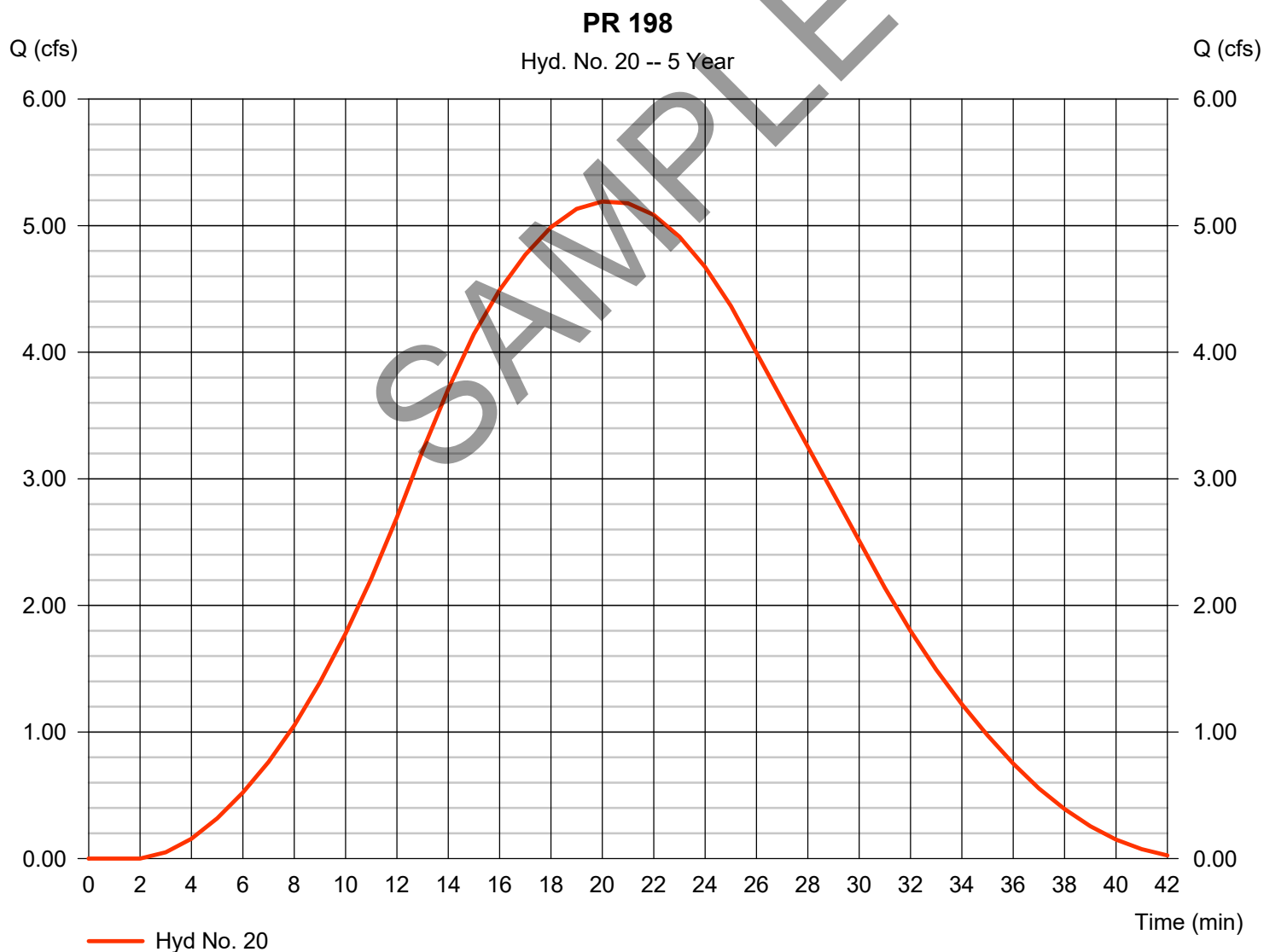
Tuesday, 03 / 19 / 2019

Hyd. No. 20

PR 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 5.190 cfs
Time to peak = 20 min
Hyd. volume = 5,813 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.20 min
Distribution = Custom
Shape factor = 484

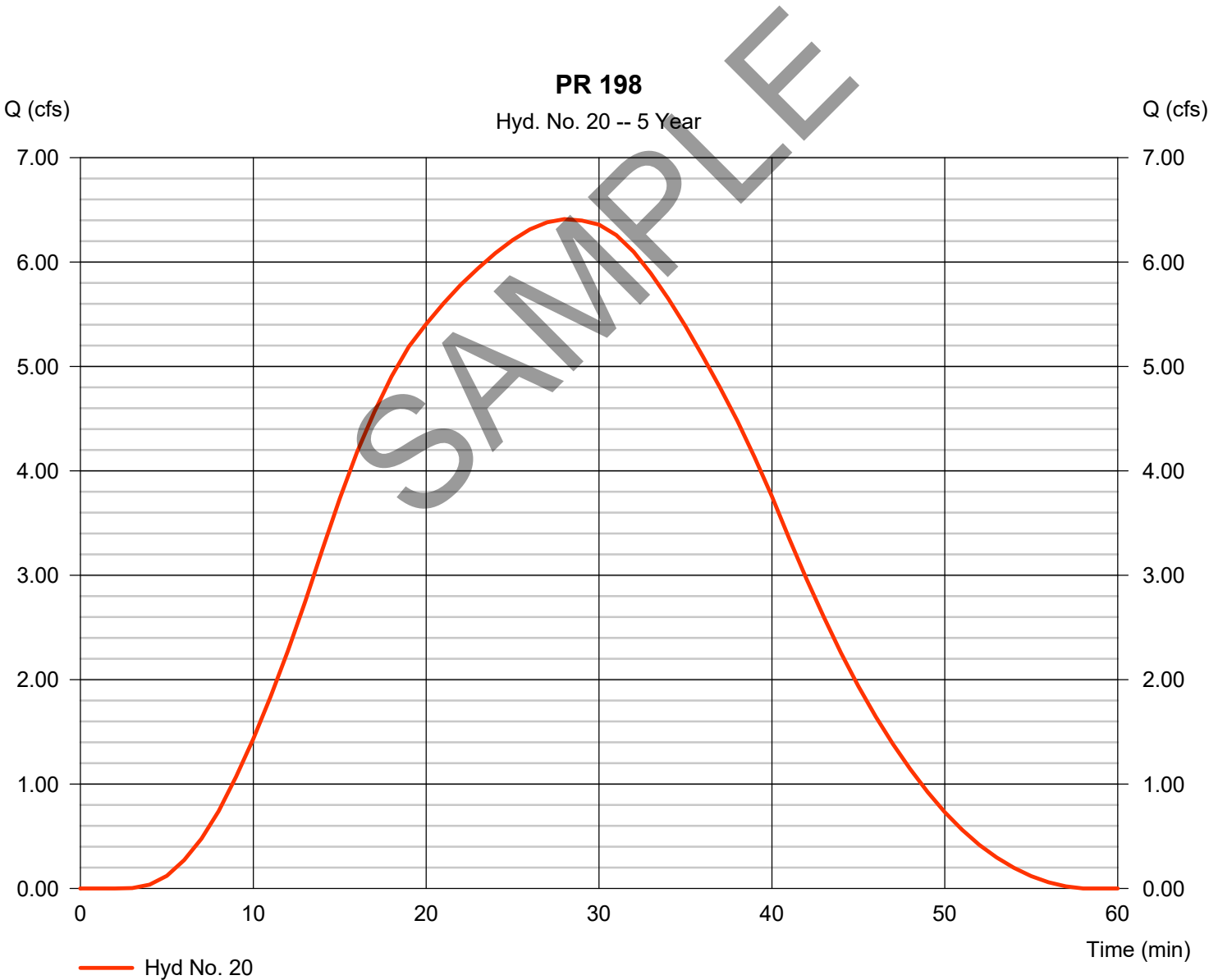


Hydrograph Report

Hyd. No. 20

PR 198

Hydrograph type	= SCS Runoff	Peak discharge	= 6.411 cfs
Storm frequency	= 5 yrs	Time to peak	= 28 min
Time interval	= 1 min	Hyd. volume	= 10,552 cuft
Drainage area	= 4.800 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 17.20 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

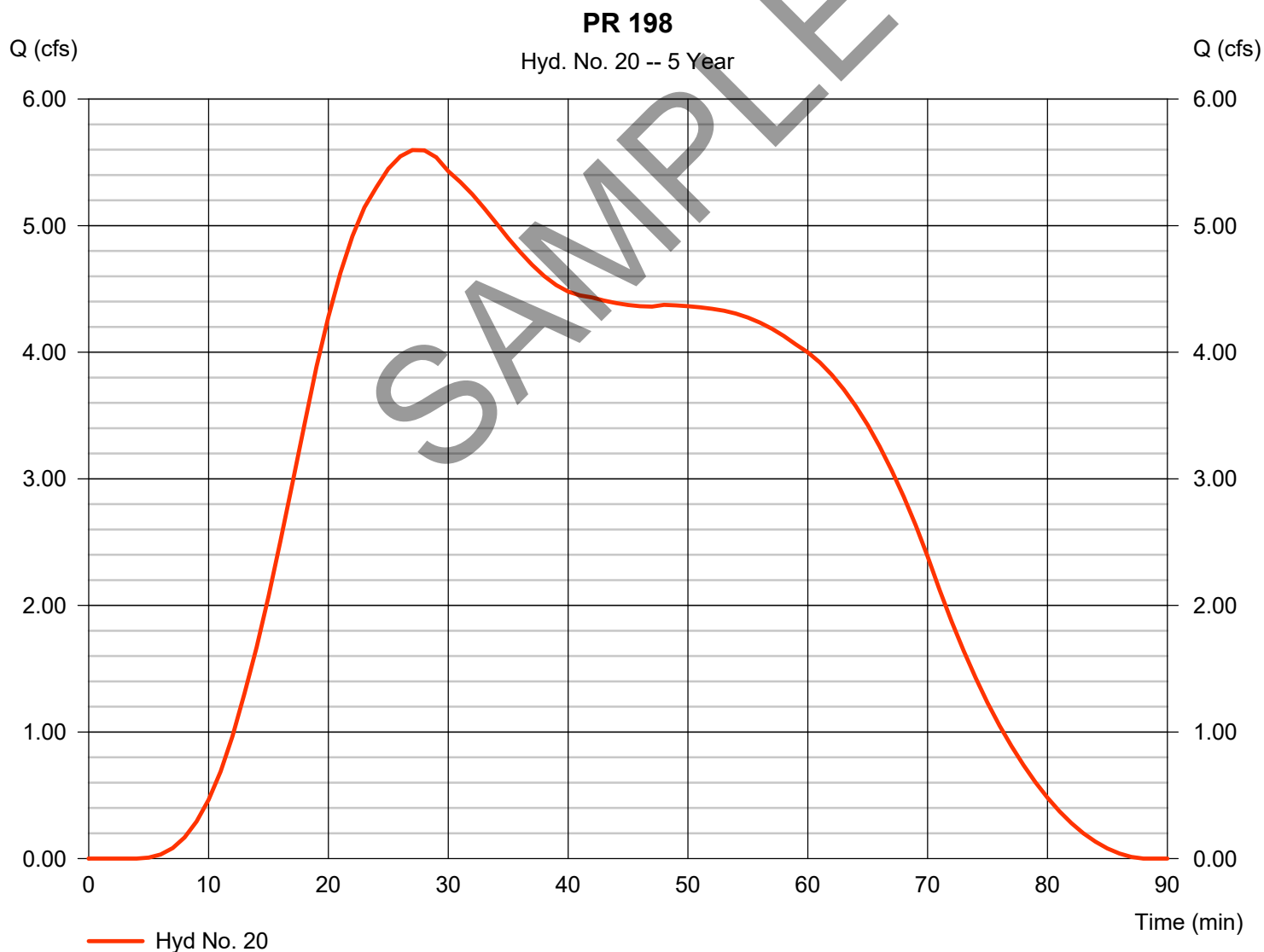
Tuesday, 03 / 19 / 2019

Hyd. No. 20

PR 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 5.597 cfs
Time to peak = 27 min
Hyd. volume = 15,517 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

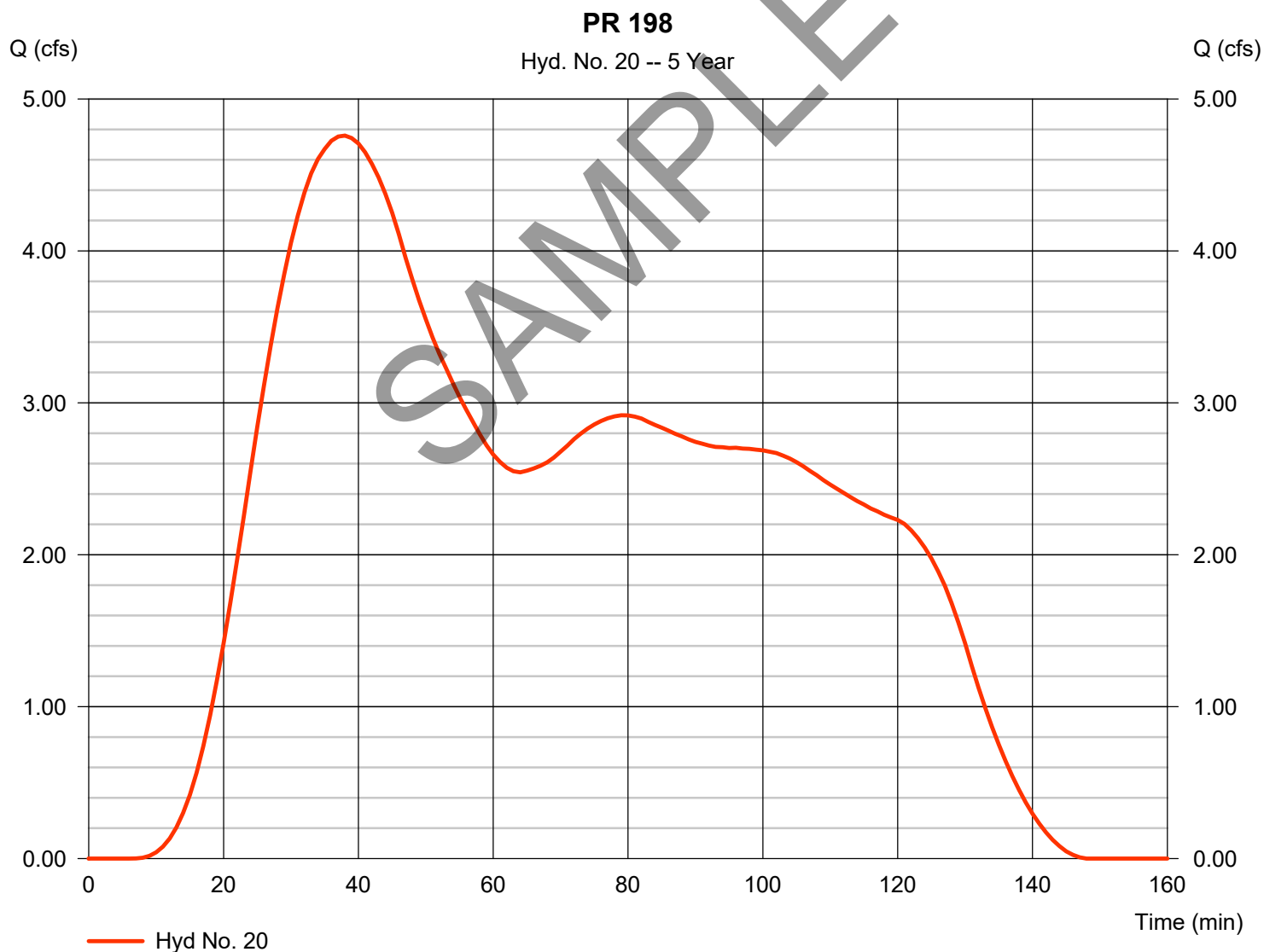
Tuesday, 03 / 19 / 2019

Hyd. No. 20

PR 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 4.760 cfs
Time to peak = 38 min
Hyd. volume = 20,320 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

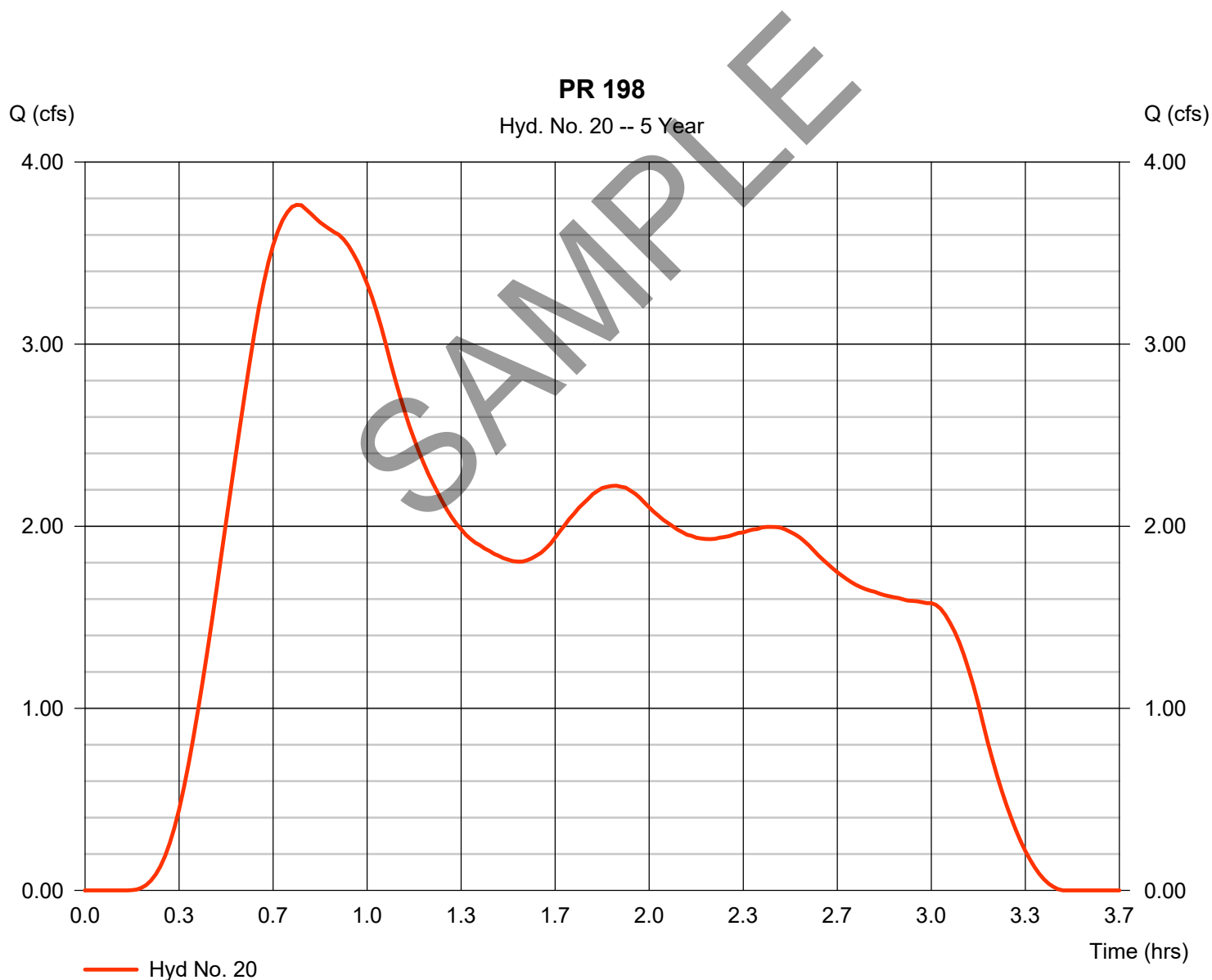
Tuesday, 03 / 19 / 2019

Hyd. No. 20

PR 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 3.765 cfs
Time to peak = 0.75 hrs
Hyd. volume = 22,566 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

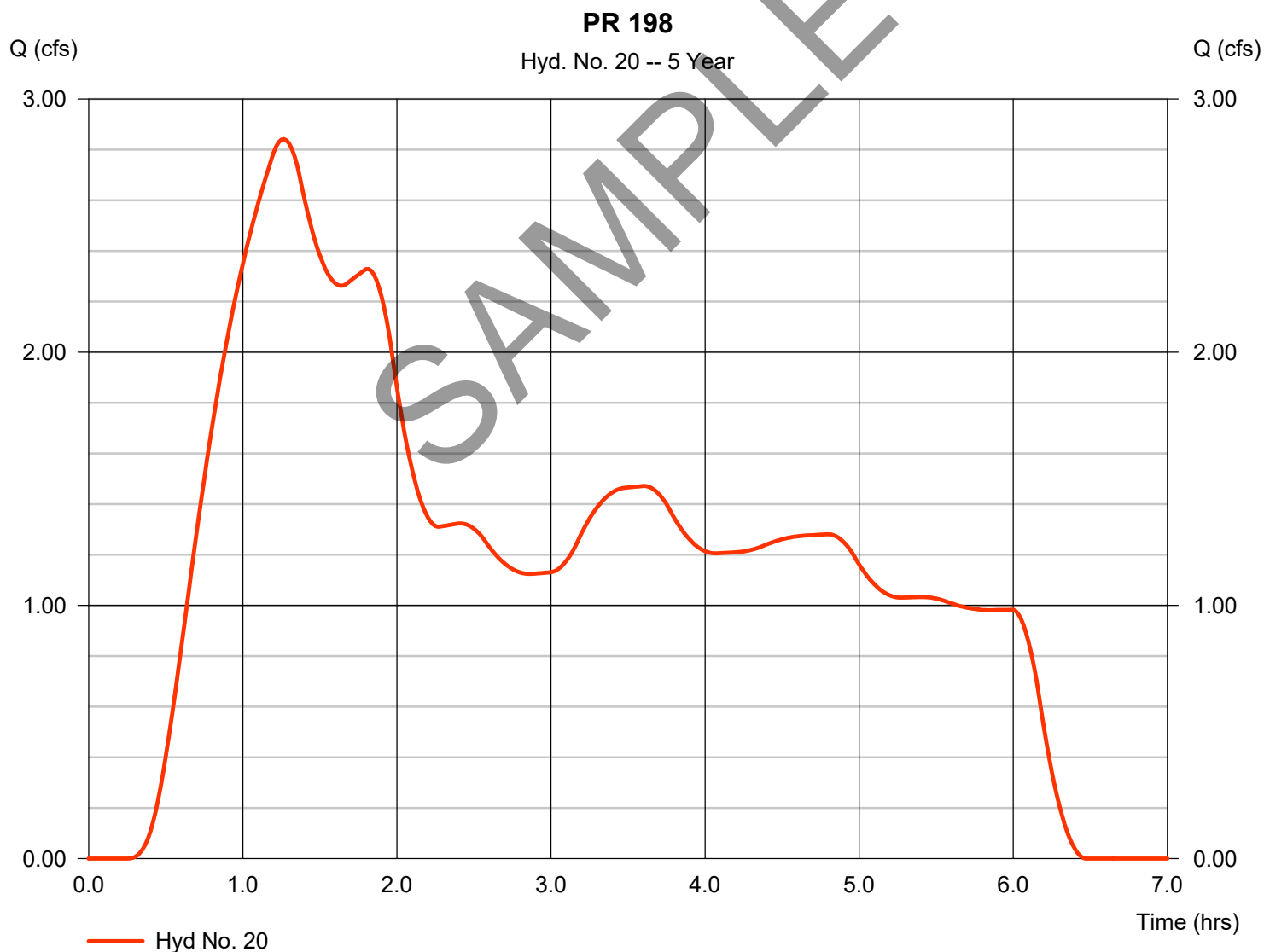
Tuesday, 03 / 19 / 2019

Hyd. No. 20

PR 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 2.842 cfs
Time to peak = 1.27 hrs
Hyd. volume = 29,935 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 20

PR 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 1.752 cfs
Time to peak = 4.82 hrs
Hyd. volume = 37,516 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

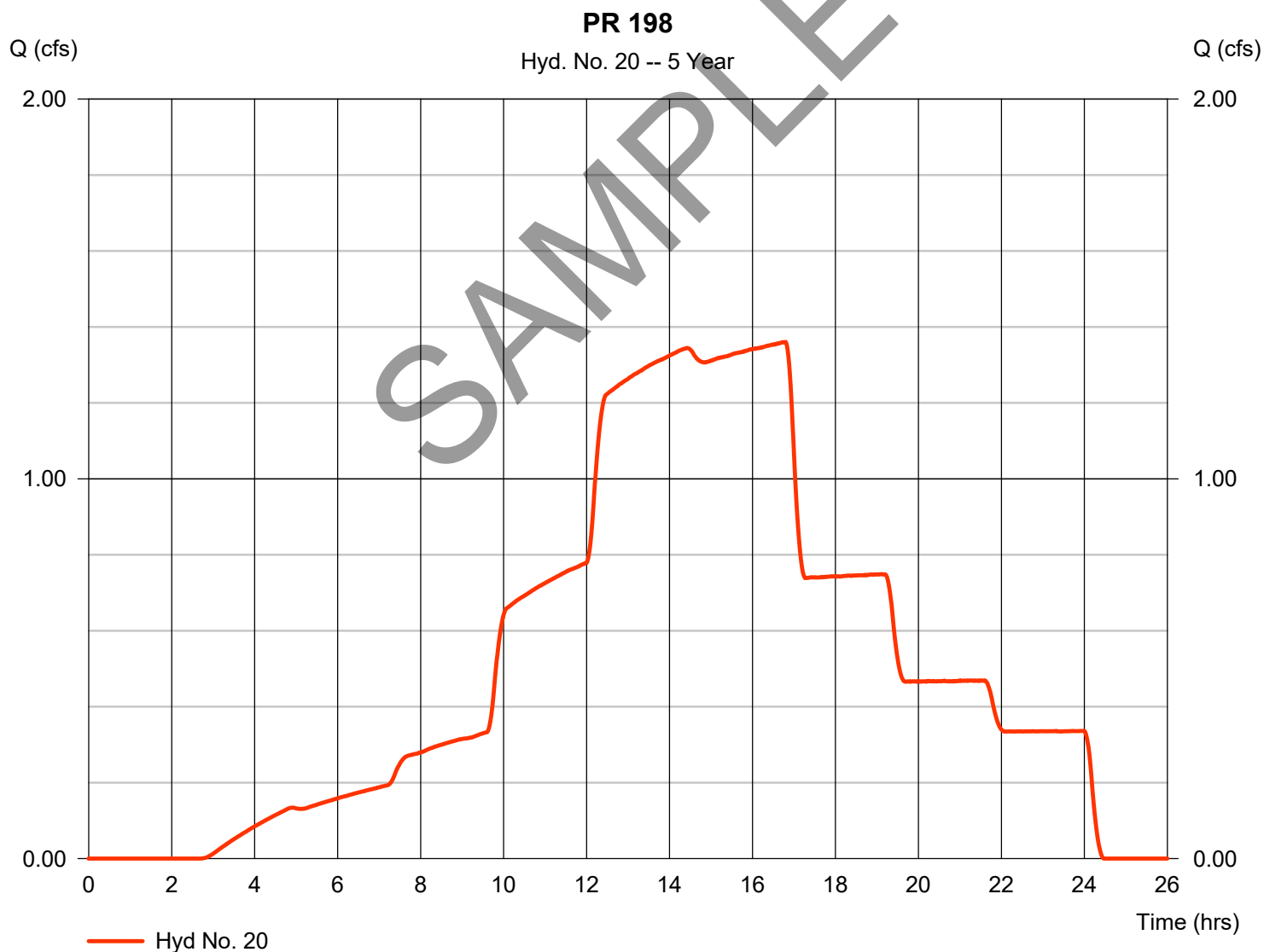
Tuesday, 03 / 19 / 2019

Hyd. No. 20

PR 198

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.800 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.360 cfs
Time to peak = 16.78 hrs
Hyd. volume = 46,864 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

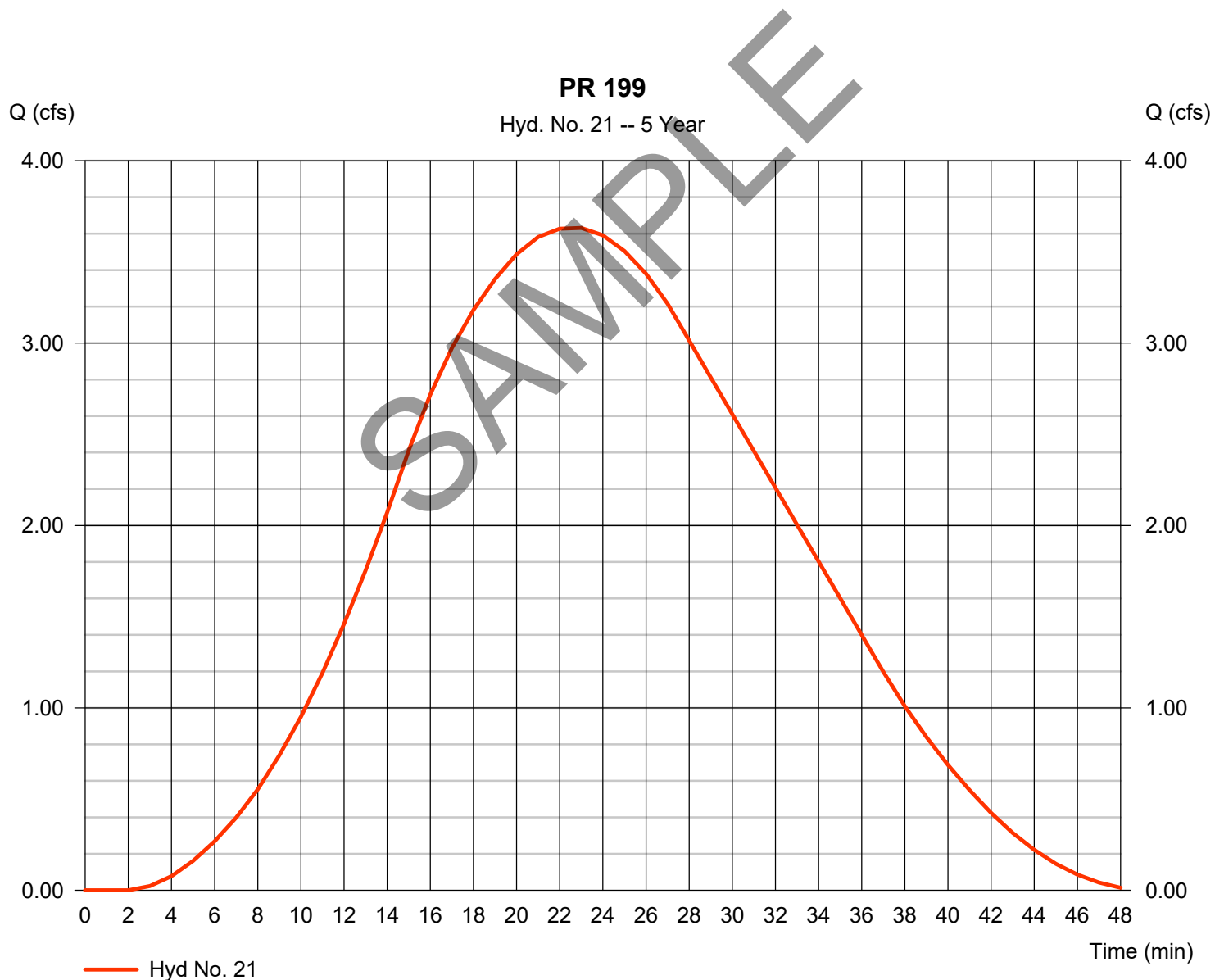
Wednesday, 03 / 20 / 2019

Hyd. No. 21

PR 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 3.632 cfs
Time to peak = 23 min
Hyd. volume = 4,662 cuft
Curve number = 89
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484

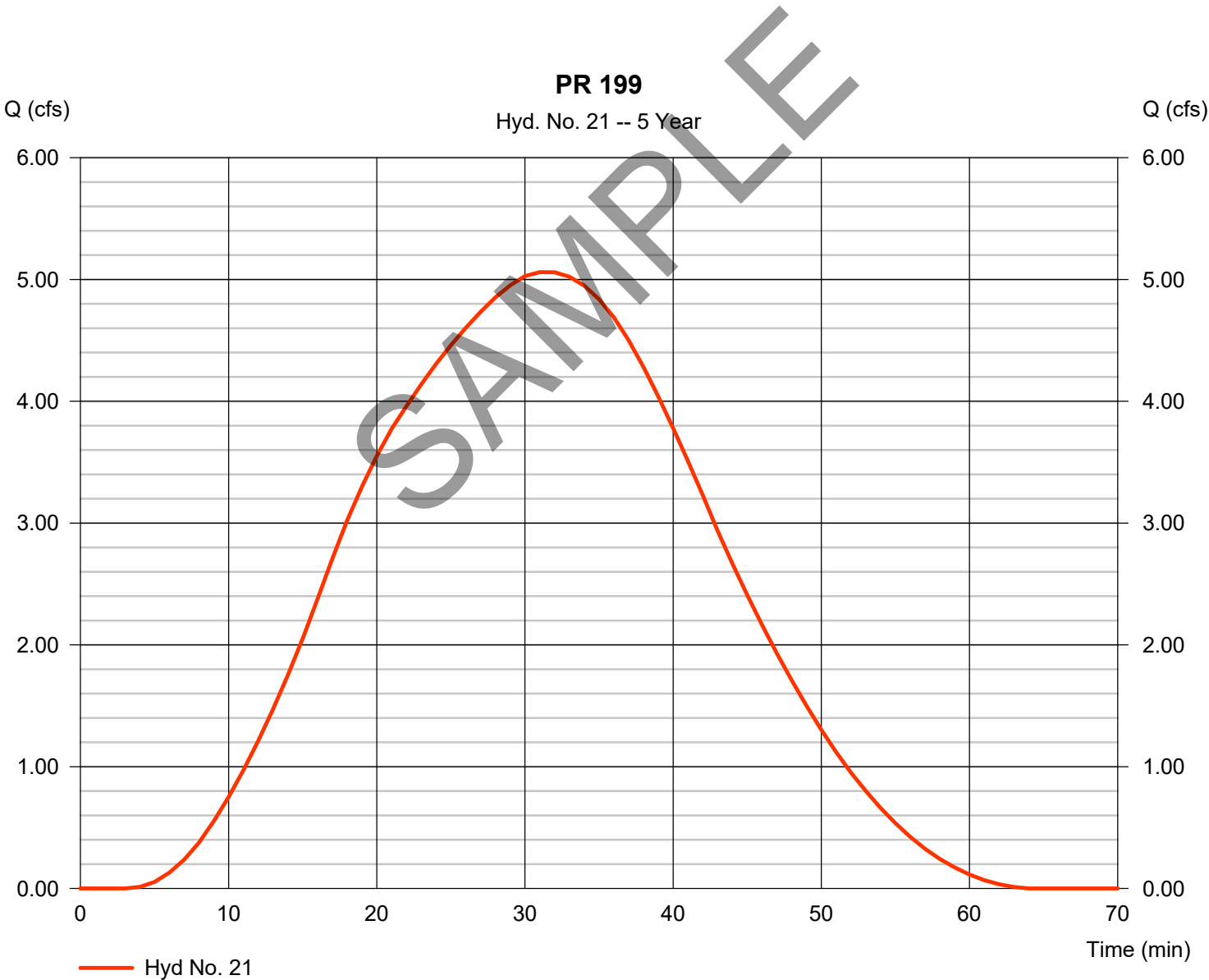


Hydrograph Report

Hyd. No. 21

PR 199

Hydrograph type	= SCS Runoff	Peak discharge	= 5.060 cfs
Storm frequency	= 5 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 8,662 cuft
Drainage area	= 4.200 ac	Curve number	= 89
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.40 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 21

PR 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 4.197 cfs
Time to peak = 31 min
Hyd. volume = 12,937 cuft
Curve number = 89
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

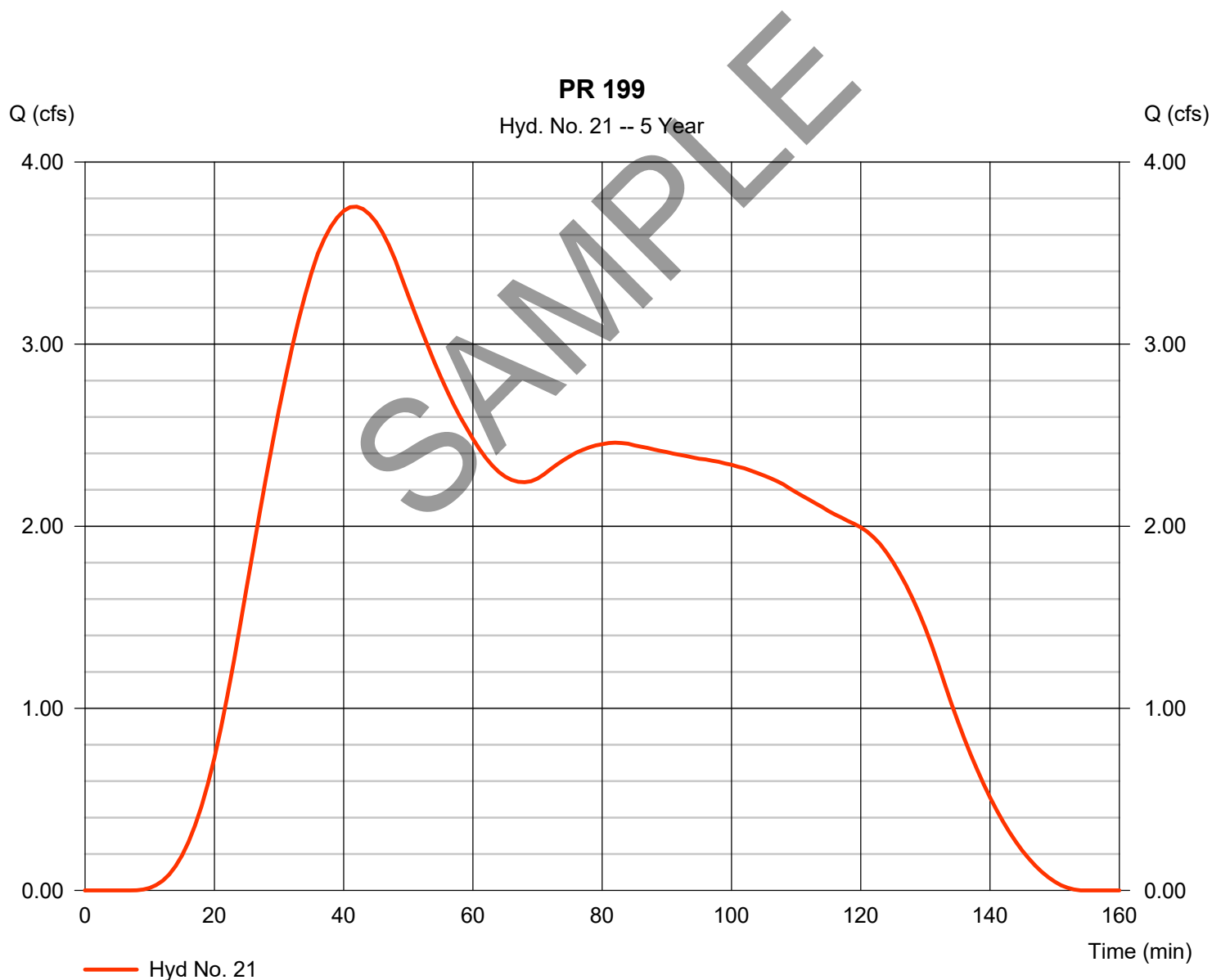
Wednesday, 03 / 20 / 2019

Hyd. No. 21

PR 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 3.755 cfs
Time to peak = 42 min
Hyd. volume = 17,108 cuft
Curve number = 89
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

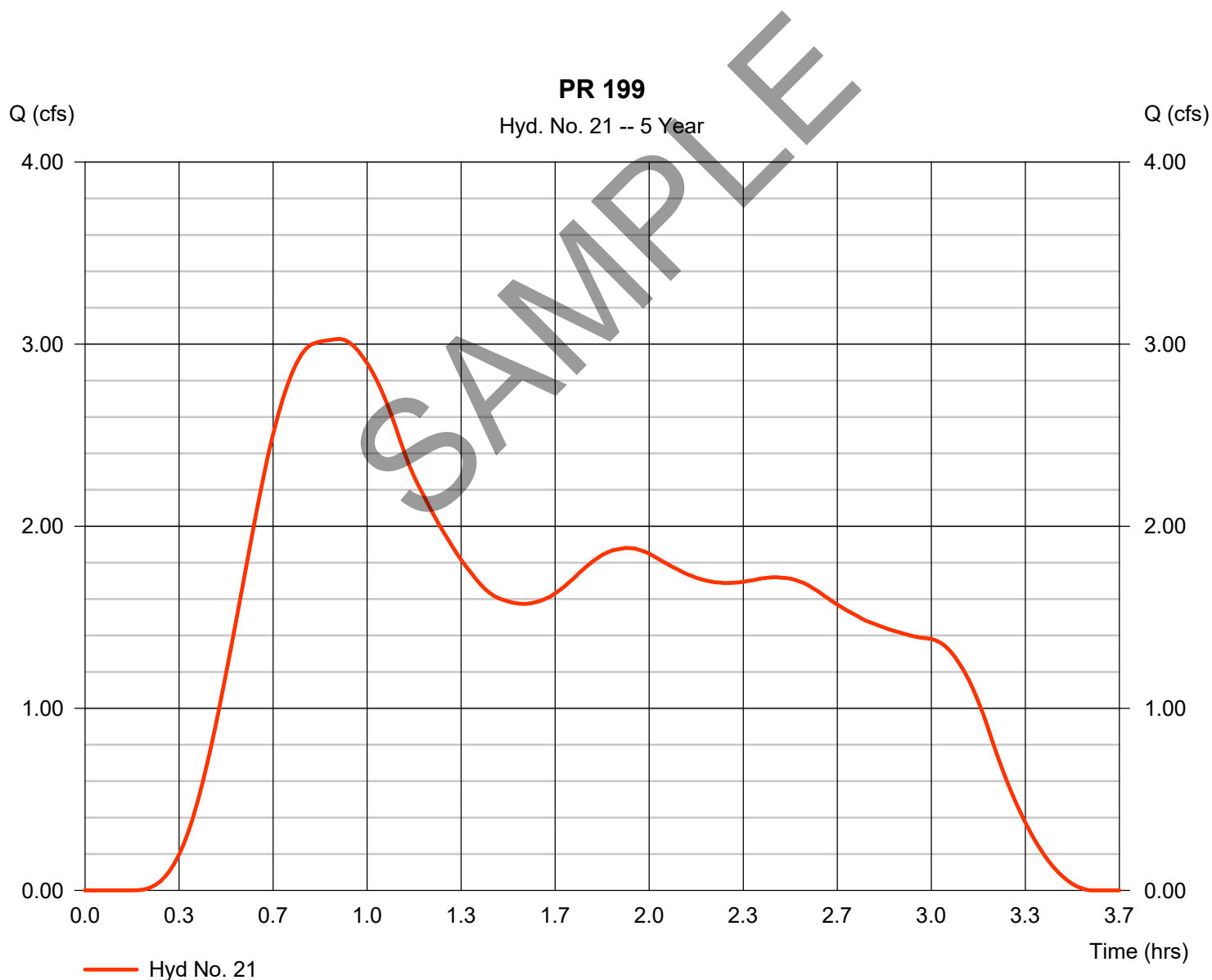
Wednesday, 03 / 20 / 2019

Hyd. No. 21

PR 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 3.029 cfs
Time to peak = 0.90 hrs
Hyd. volume = 19,064 cuft
Curve number = 89
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

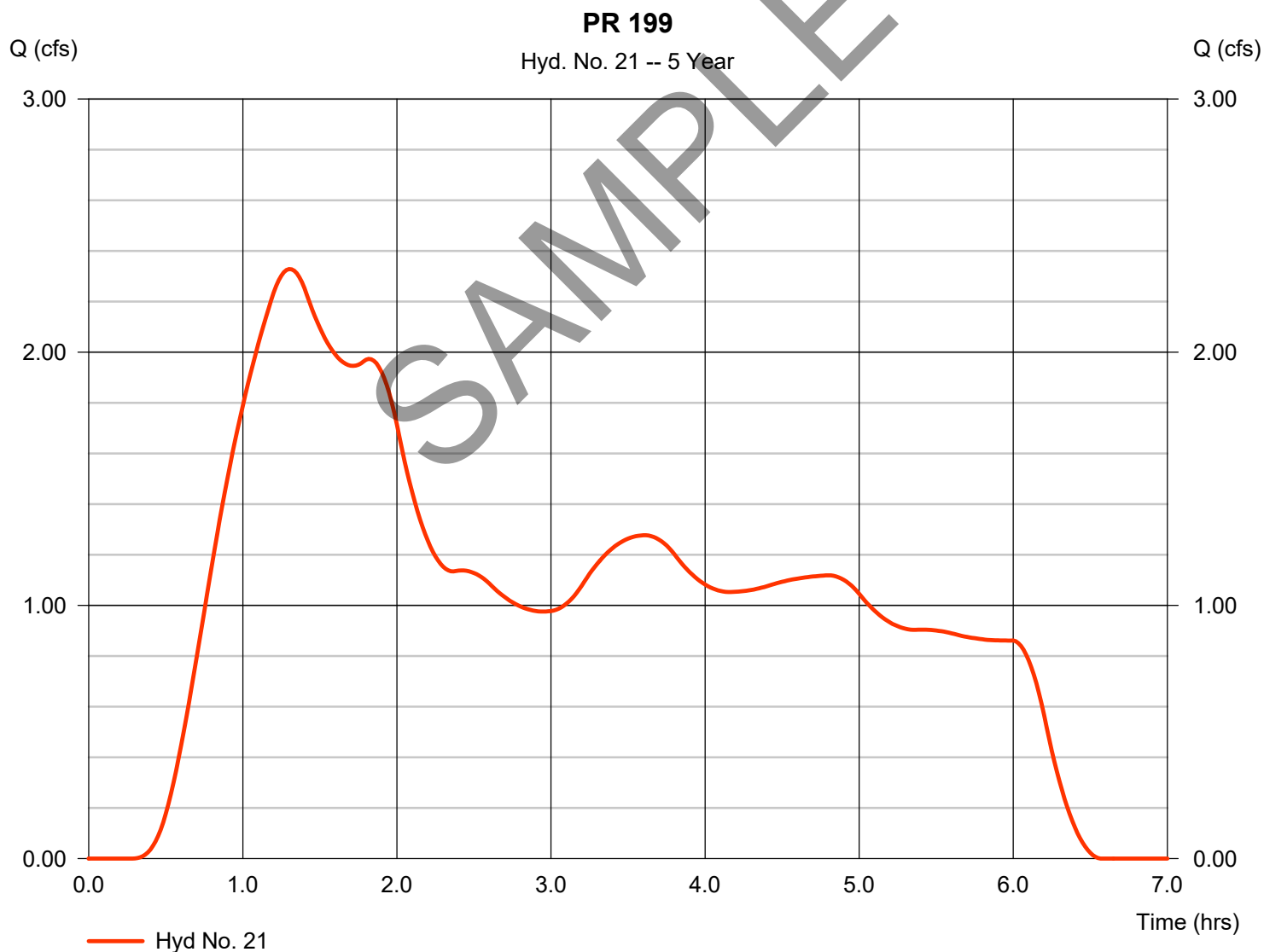
Wednesday, 03 / 20 / 2019

Hyd. No. 21

PR 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 2.328 cfs
Time to peak = 1.30 hrs
Hyd. volume = 25,515 cuft
Curve number = 89
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

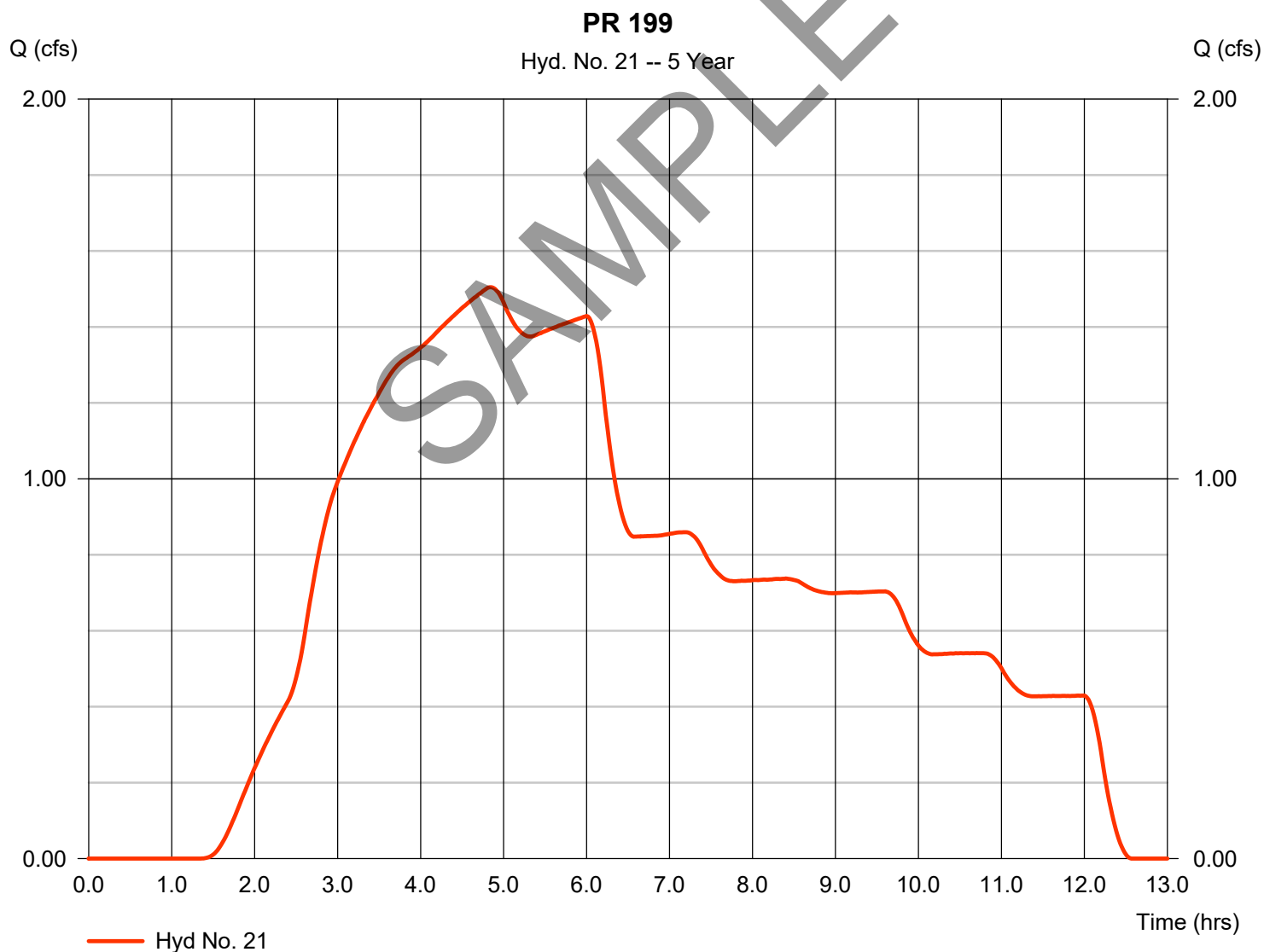
Wednesday, 03 / 20 / 2019

Hyd. No. 21

PR 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 1.505 cfs
Time to peak = 4.83 hrs
Hyd. volume = 32,181 cuft
Curve number = 89
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

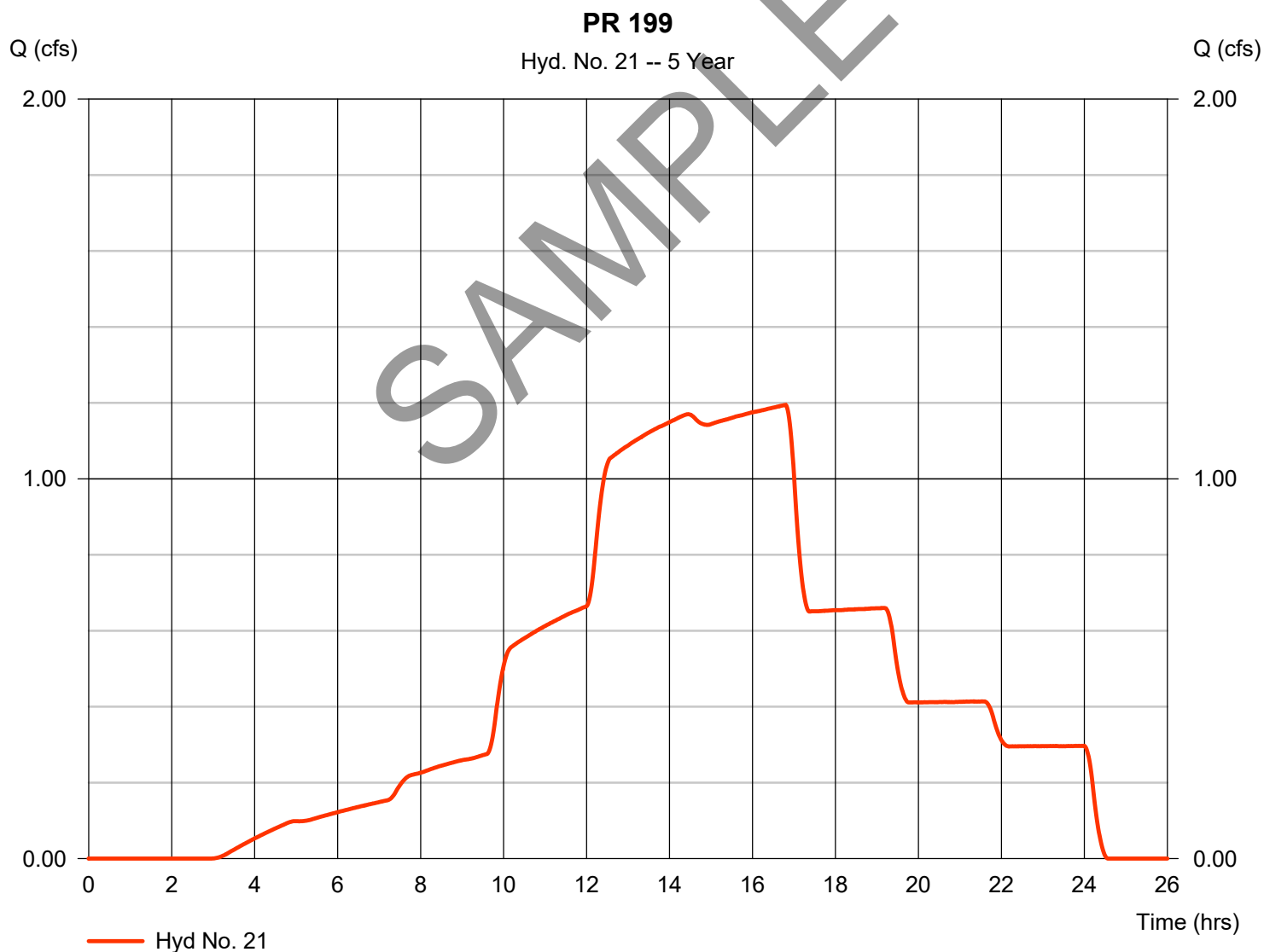
Wednesday, 03 / 20 / 2019

Hyd. No. 21

PR 199

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 4.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.195 cfs
Time to peak = 16.80 hrs
Hyd. volume = 40,429 cuft
Curve number = 89
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.40 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

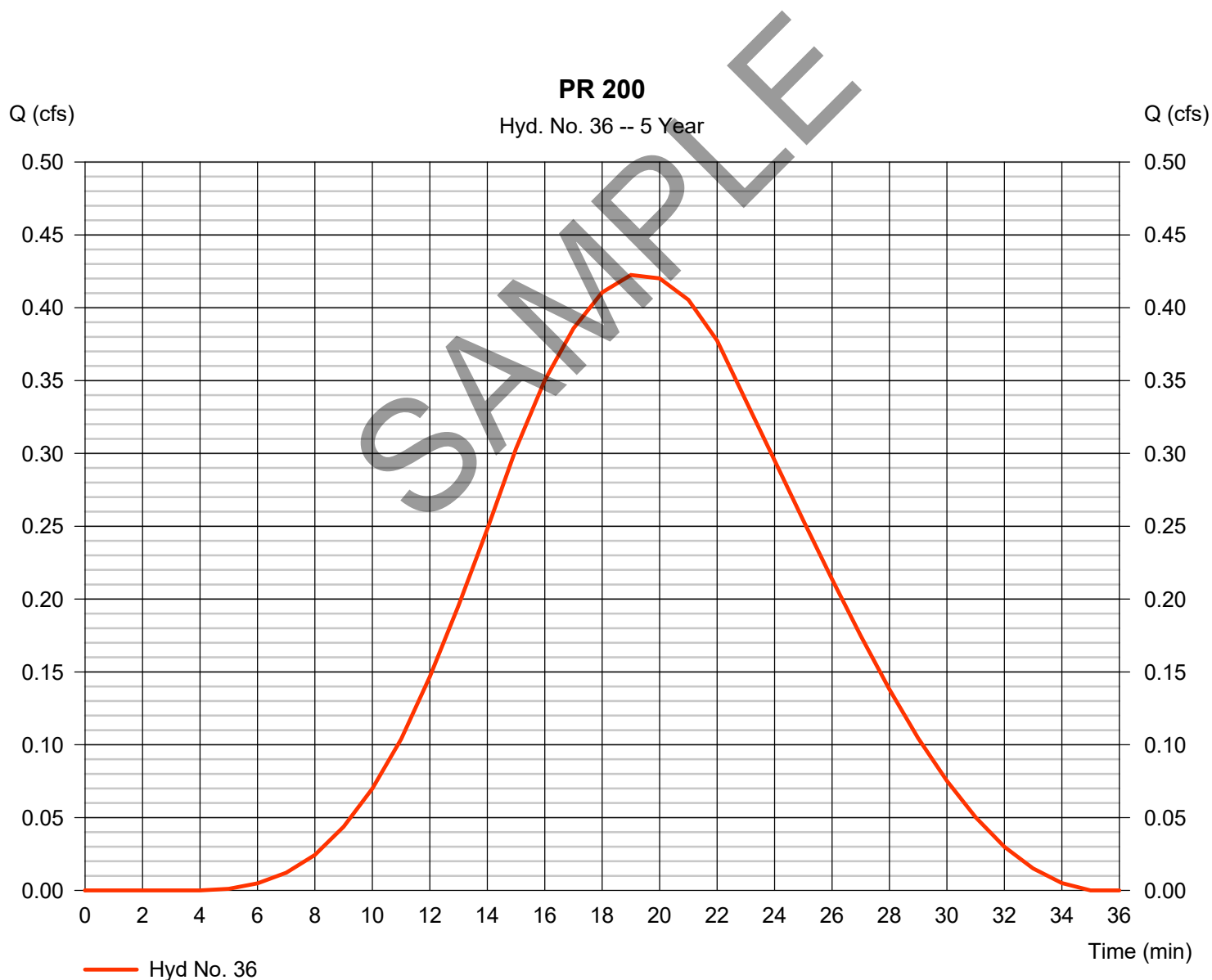
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 36

PR 200

Hydrograph type	= SCS Runoff	Peak discharge	= 0.422 cfs
Storm frequency	= 5 yrs	Time to peak	= 19 min
Time interval	= 1 min	Hyd. volume	= 337 cuft
Drainage area	= 1.200 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.10 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

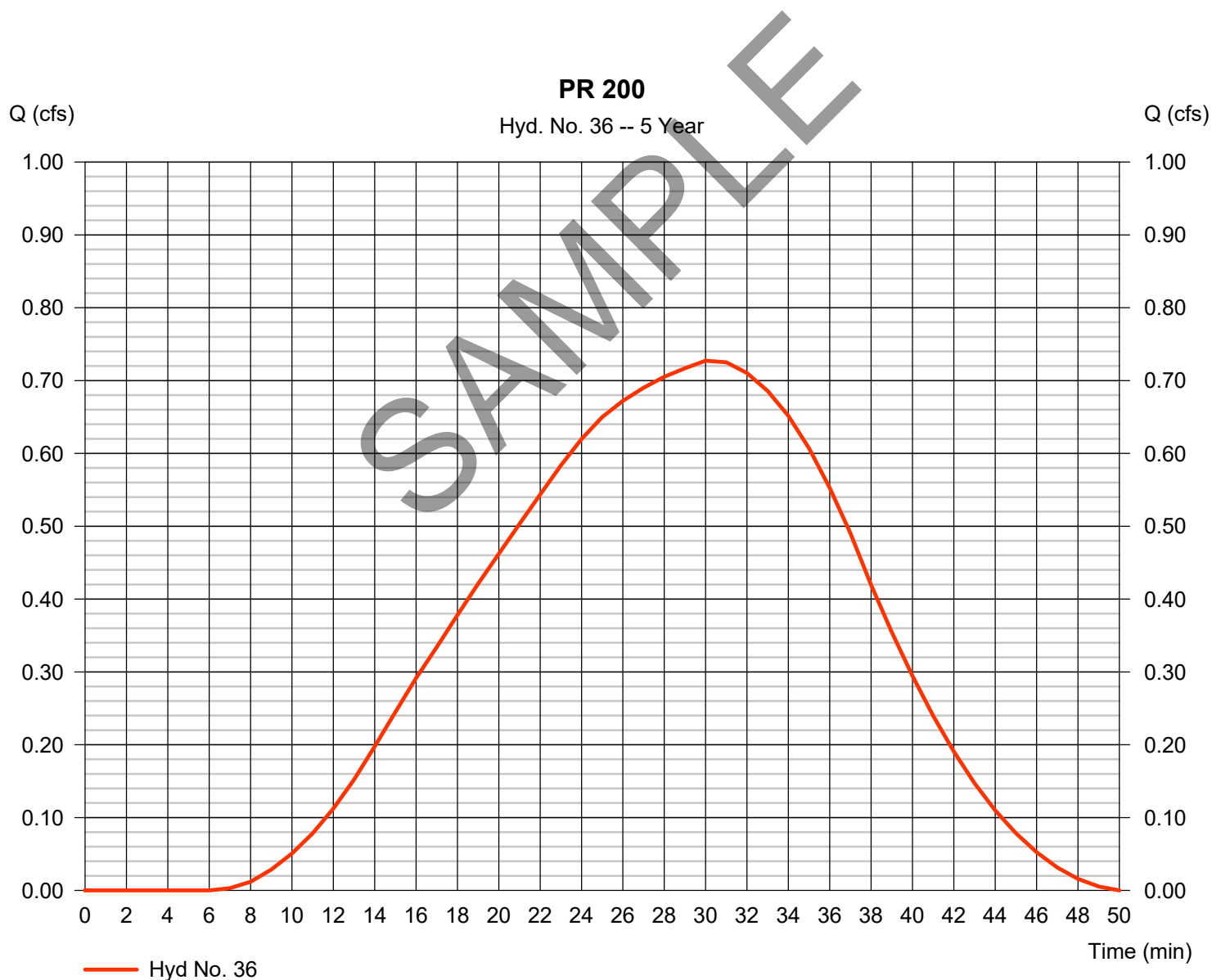
Wednesday, 03 / 20 / 2019

Hyd. No. 36

PR 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 0.727 cfs
Time to peak = 30 min
Hyd. volume = 932 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

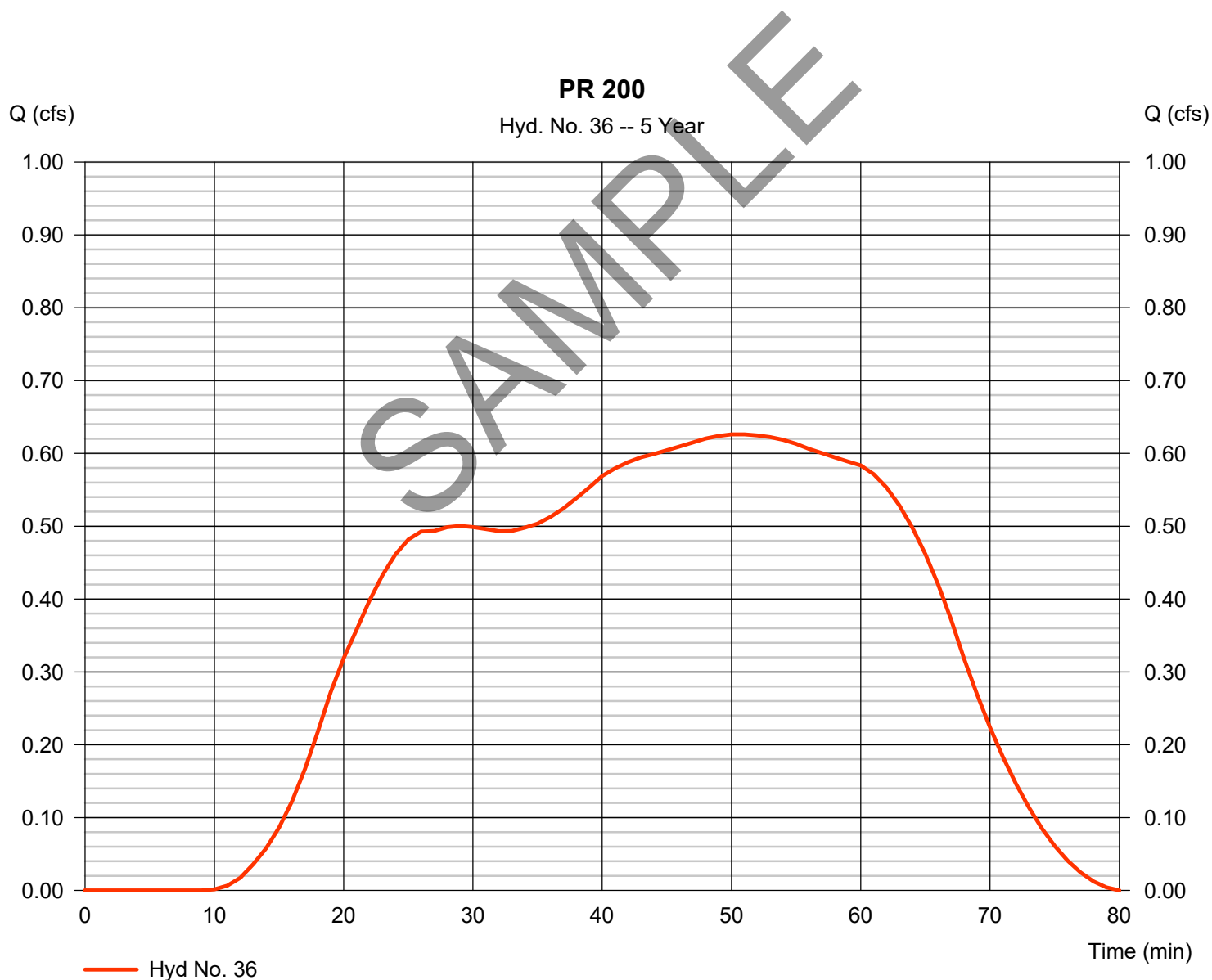
Wednesday, 03 / 20 / 2019

Hyd. No. 36

PR 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.626 cfs
Time to peak = 50 min
Hyd. volume = 1,687 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

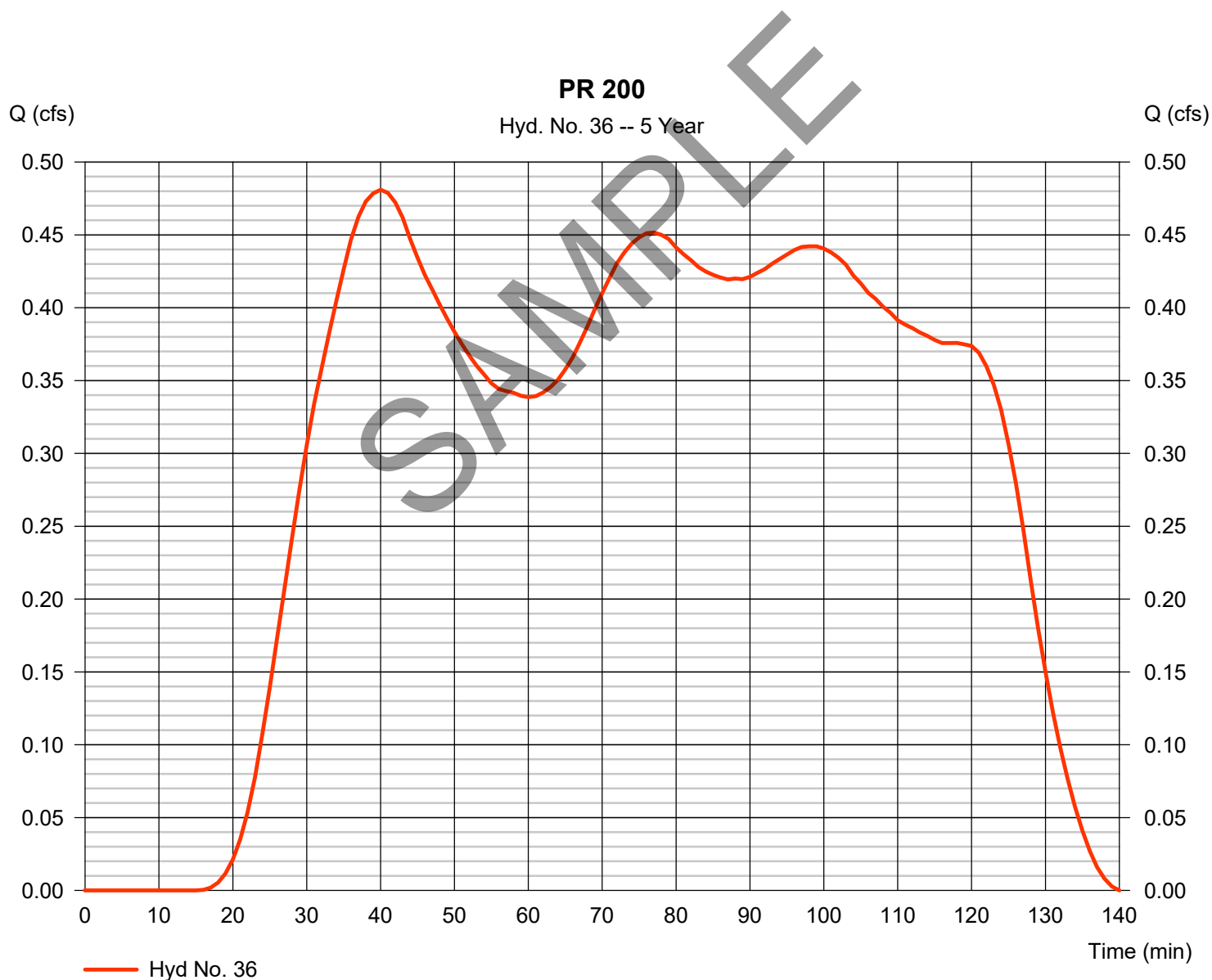
Wednesday, 03 / 20 / 2019

Hyd. No. 36

PR 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.481 cfs
Time to peak = 40 min
Hyd. volume = 2,495 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

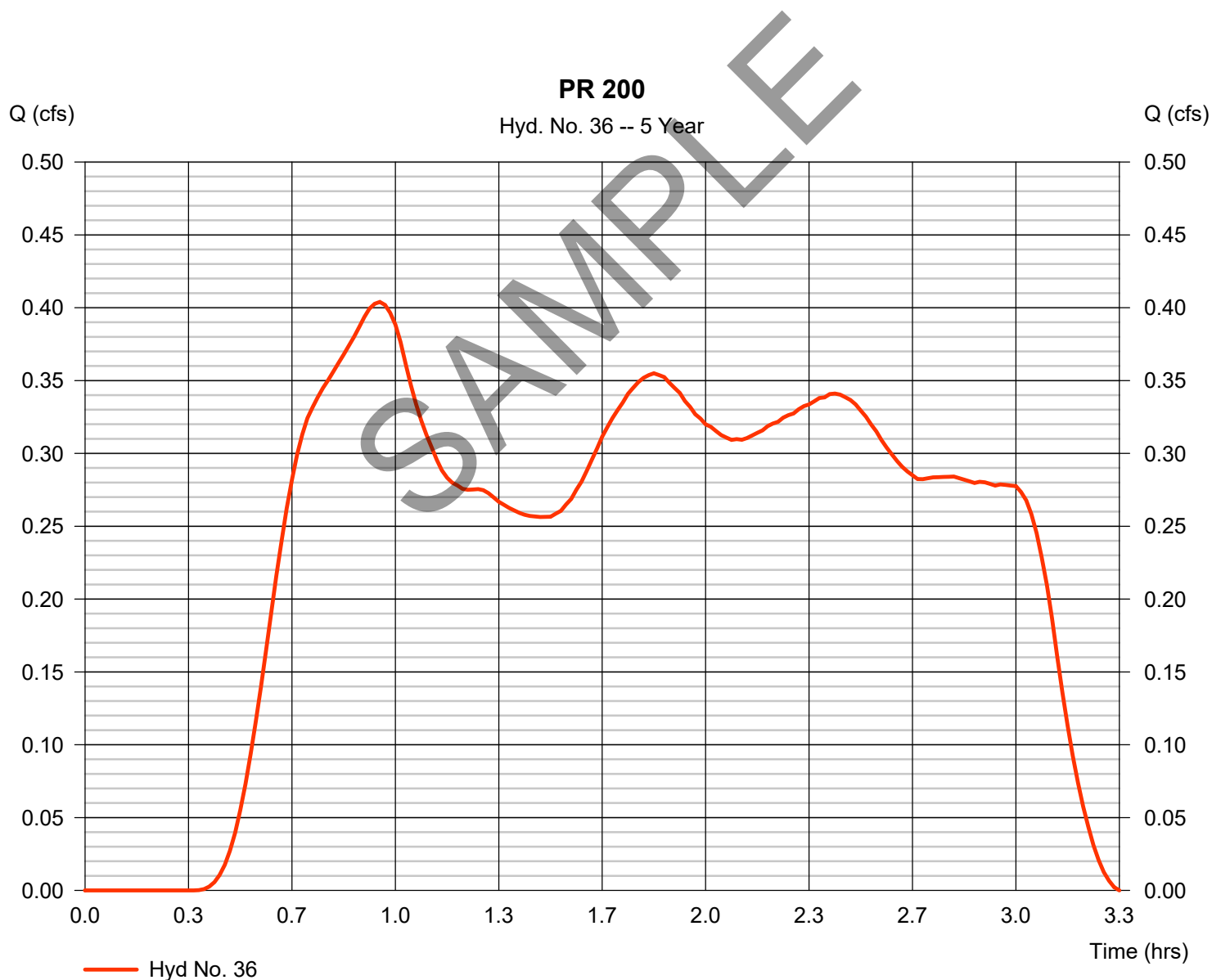
Wednesday, 03 / 20 / 2019

Hyd. No. 36

PR 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.404 cfs
Time to peak = 0.95 hrs
Hyd. volume = 2,893 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

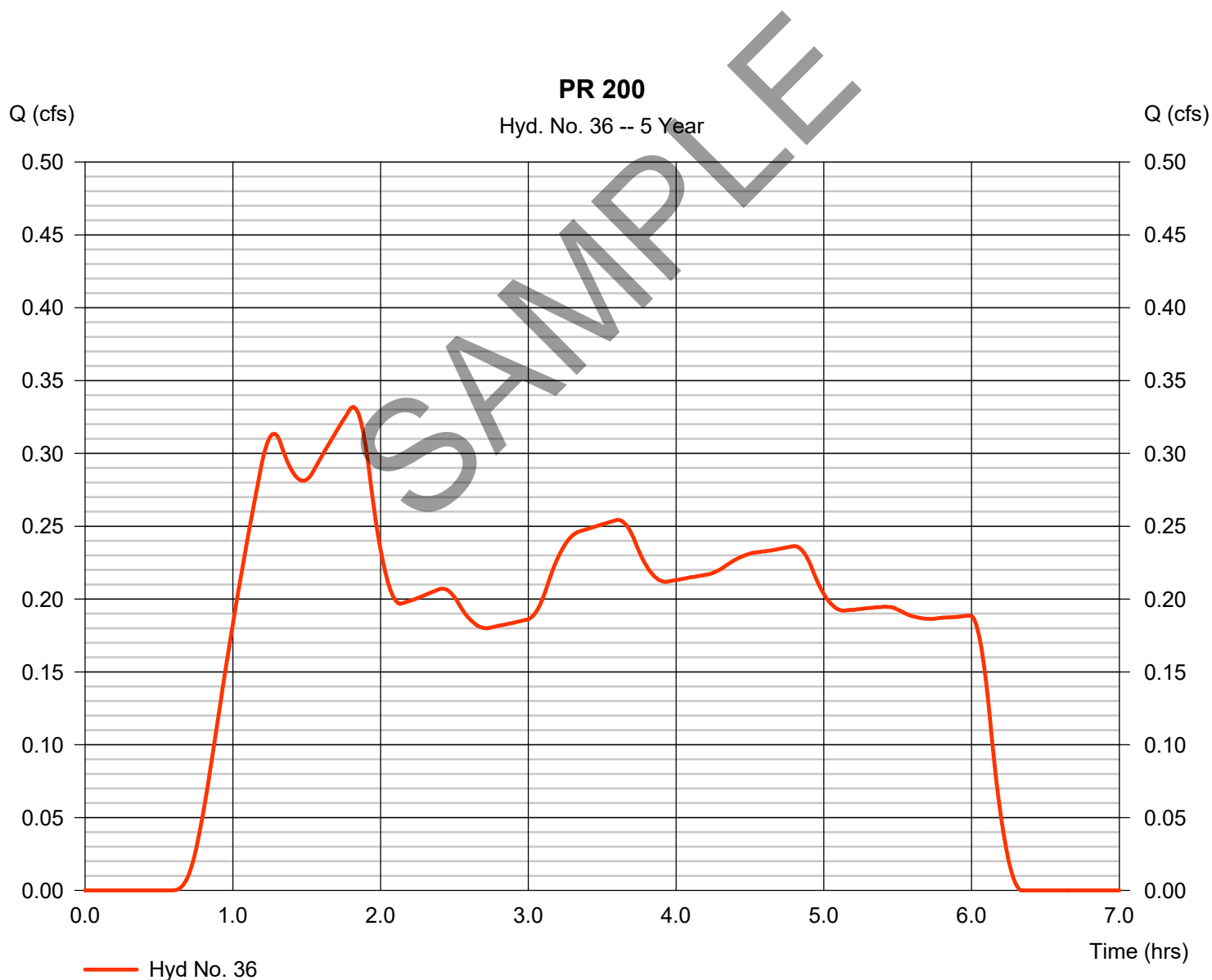
Wednesday, 03 / 20 / 2019

Hyd. No. 36

PR 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 3.00 hrs

Peak discharge = 0.332 cfs
Time to peak = 1.82 hrs
Hyd. volume = 4,267 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

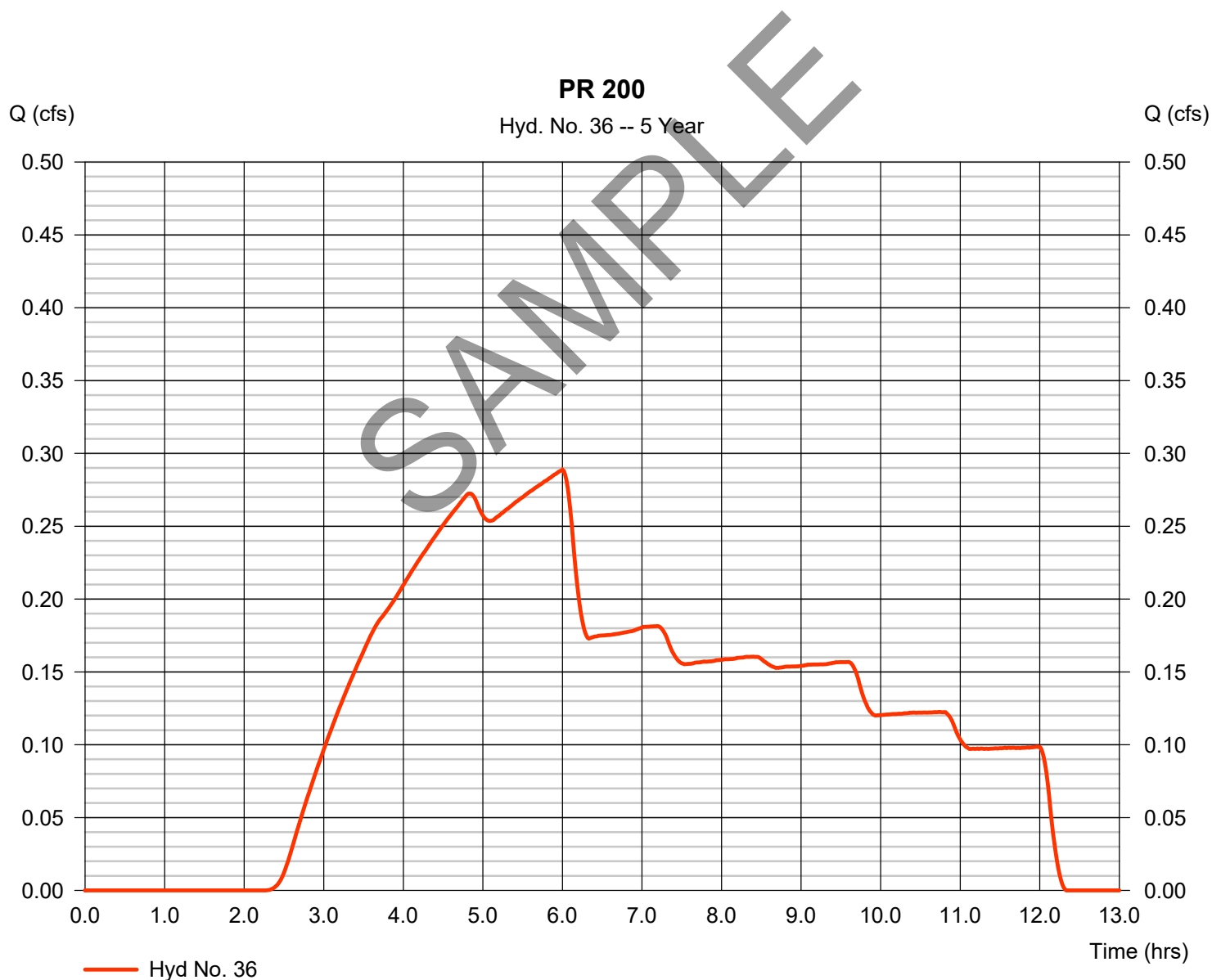
Wednesday, 03 / 20 / 2019

Hyd. No. 36

PR 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.289 cfs
Time to peak = 6.00 hrs
Hyd. volume = 5,764 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

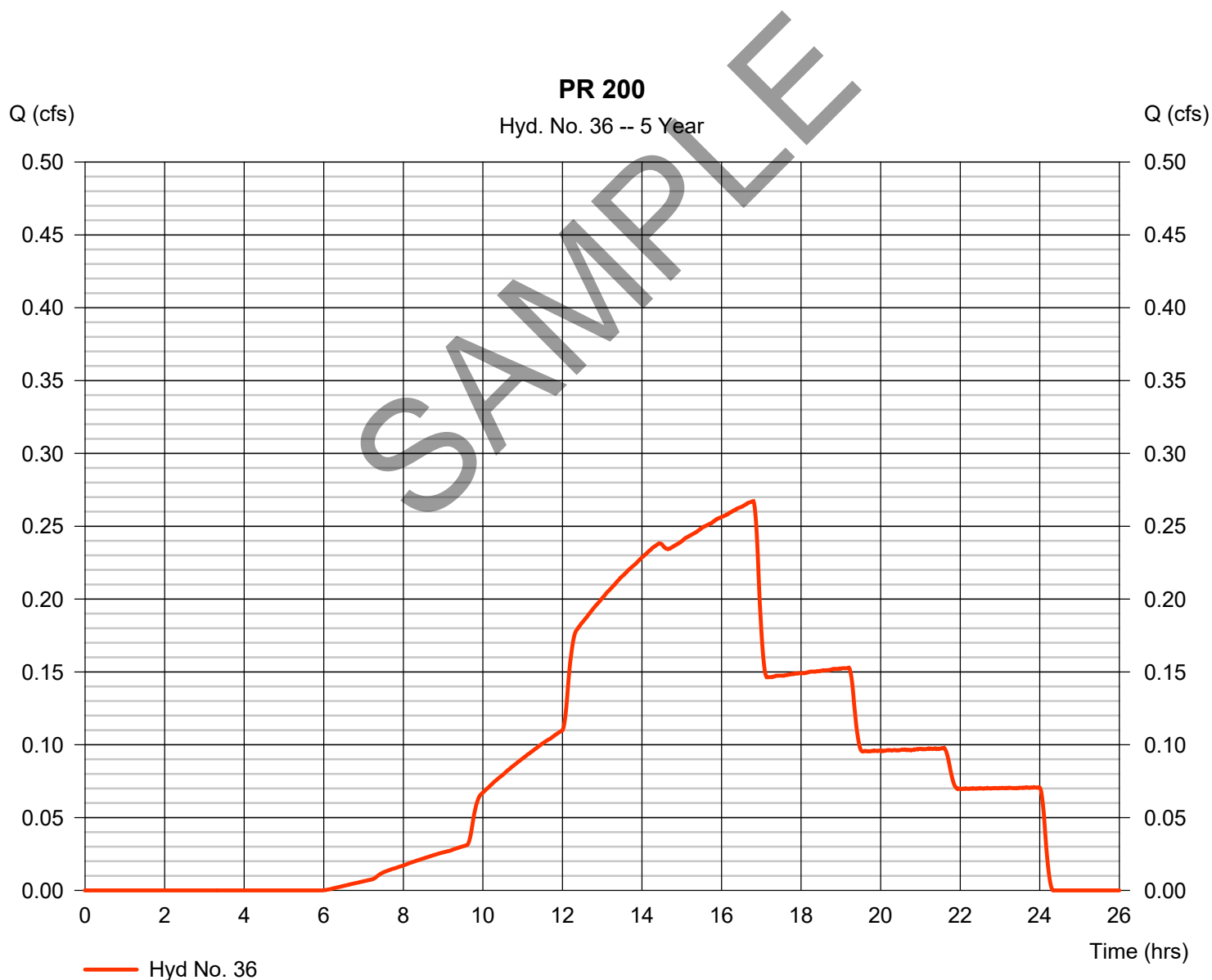
Wednesday, 03 / 20 / 2019

Hyd. No. 36

PR 200

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.267 cfs
Time to peak = 16.80 hrs
Hyd. volume = 7,694 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

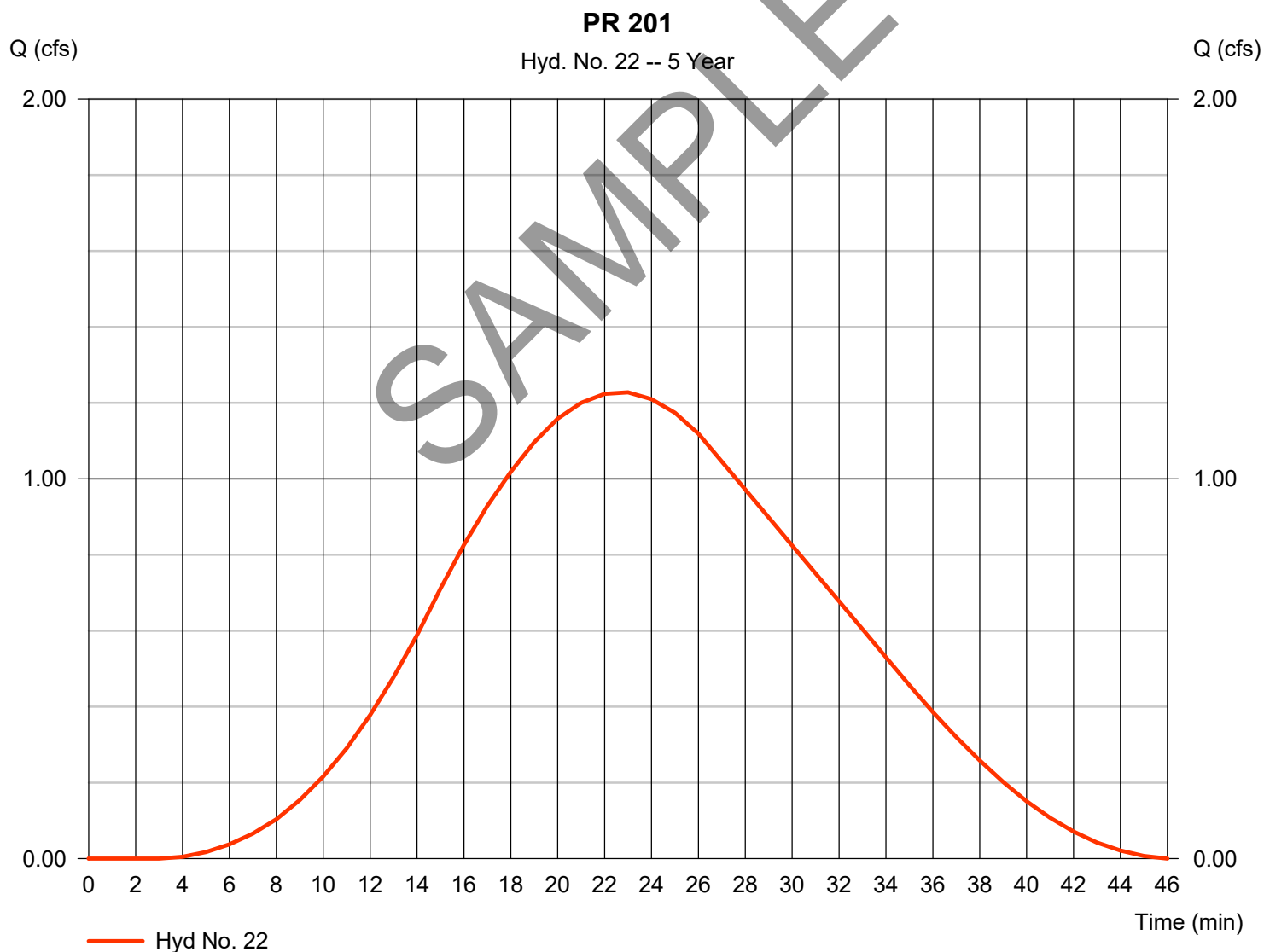
Wednesday, 03 / 20 / 2019

Hyd. No. 22

PR 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 1.228 cfs
Time to peak = 23 min
Hyd. volume = 1,413 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

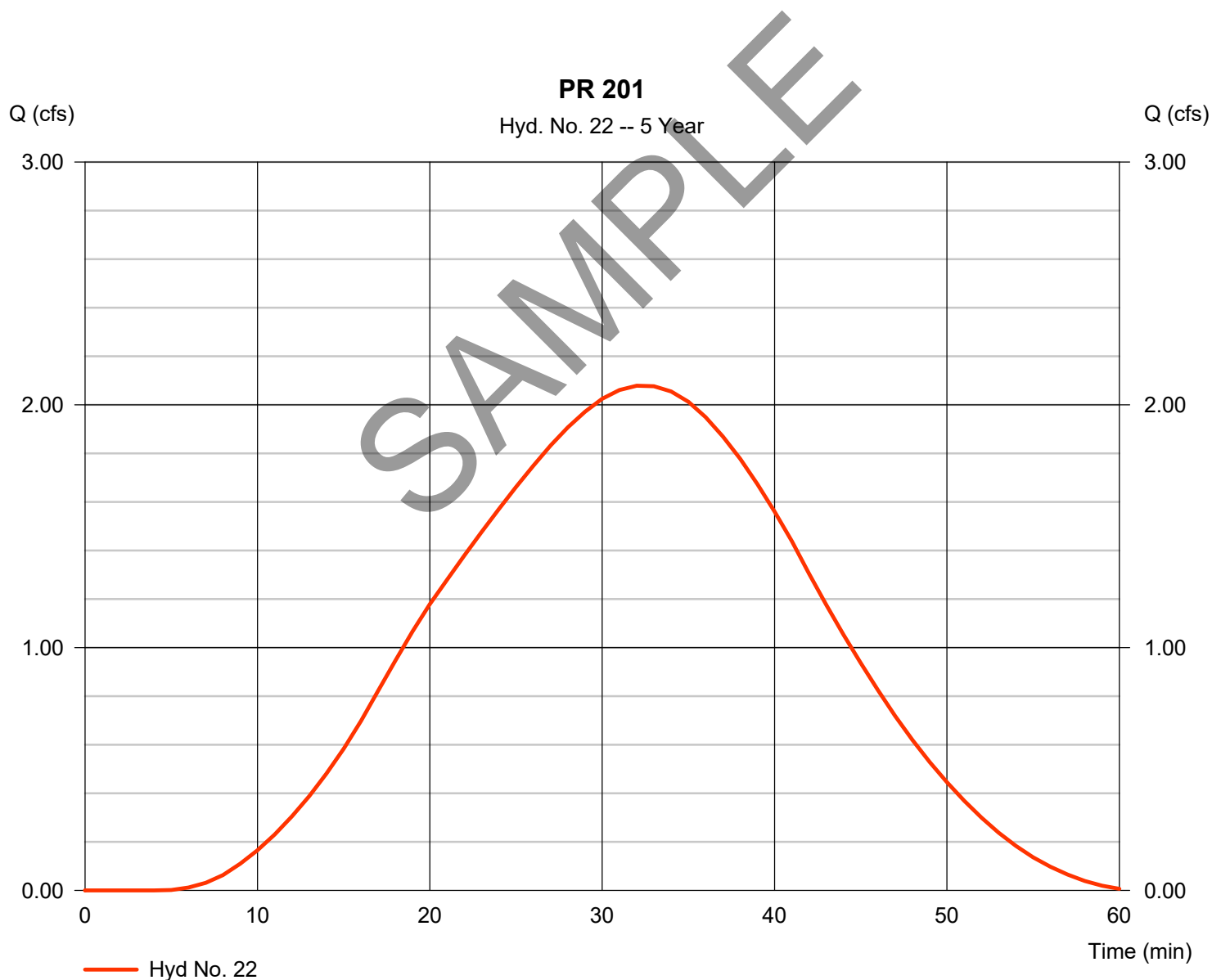
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 22

PR 201

Hydrograph type	= SCS Runoff	Peak discharge	= 2.079 cfs
Storm frequency	= 5 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 3,213 cuft
Drainage area	= 2.700 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.80 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

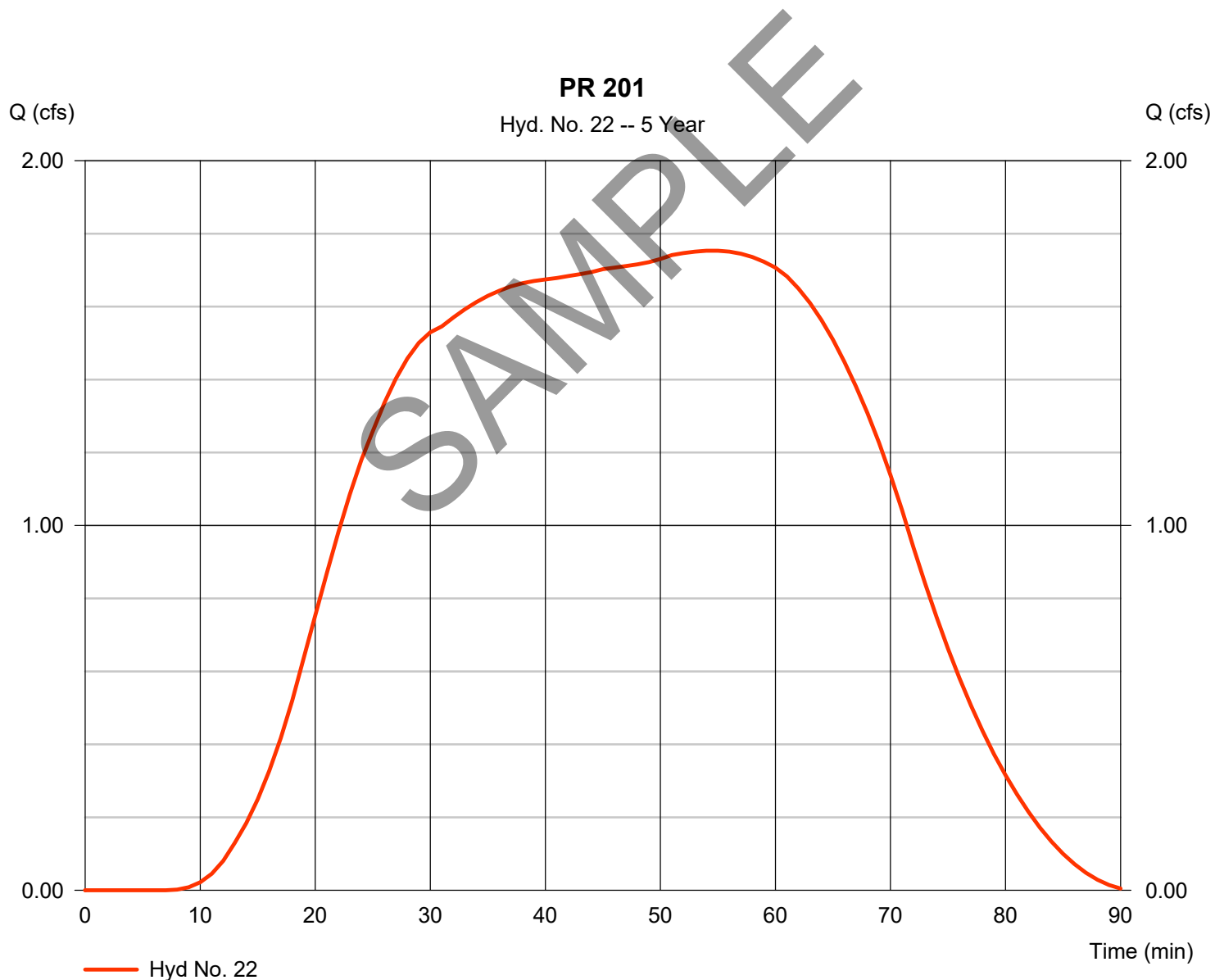
Wednesday, 03 / 20 / 2019

Hyd. No. 22

PR 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 1.753 cfs
Time to peak = 54 min
Hyd. volume = 5,321 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

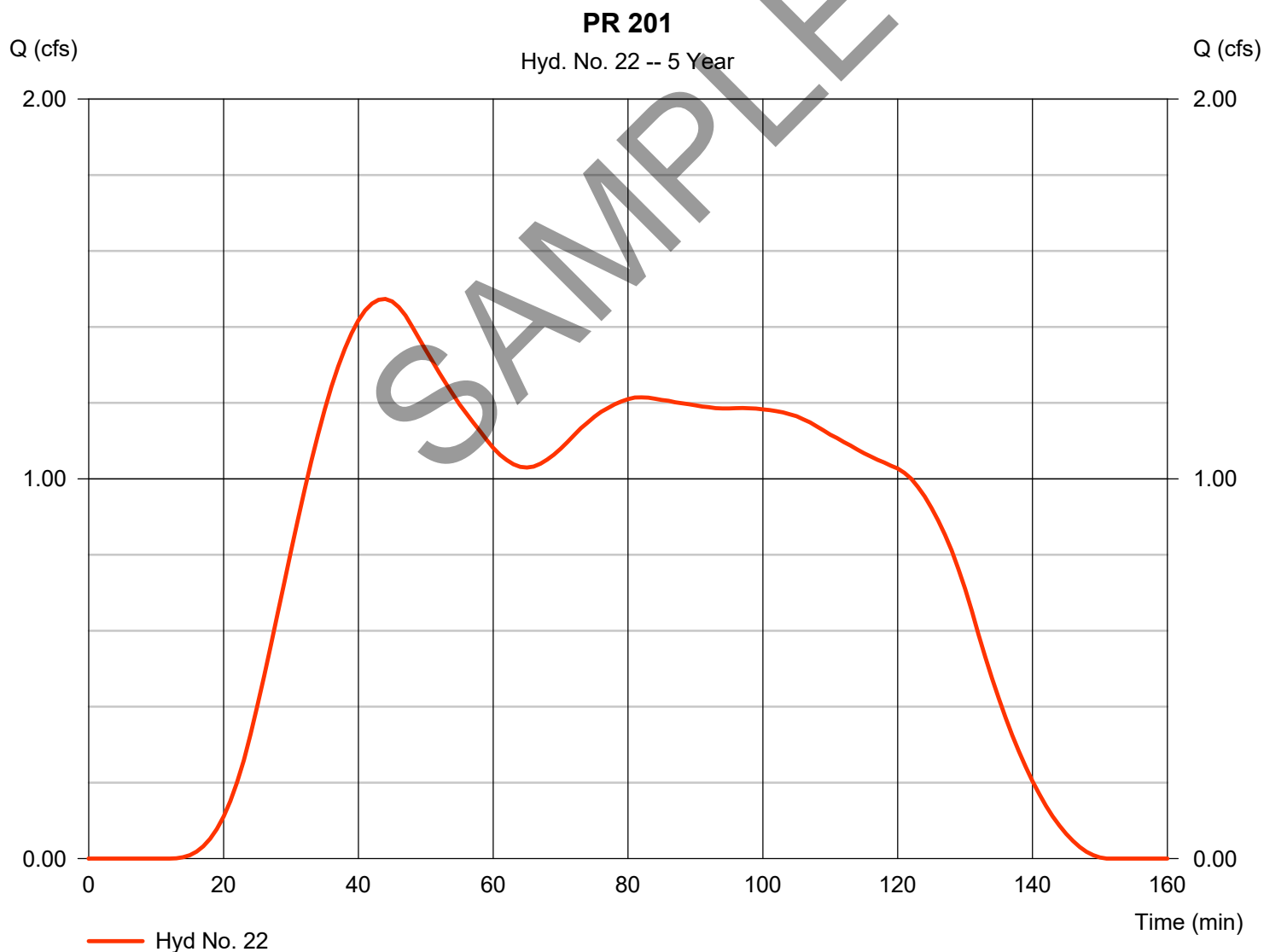
Wednesday, 03 / 20 / 2019

Hyd. No. 22

PR 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 1.473 cfs
Time to peak = 44 min
Hyd. volume = 7,490 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

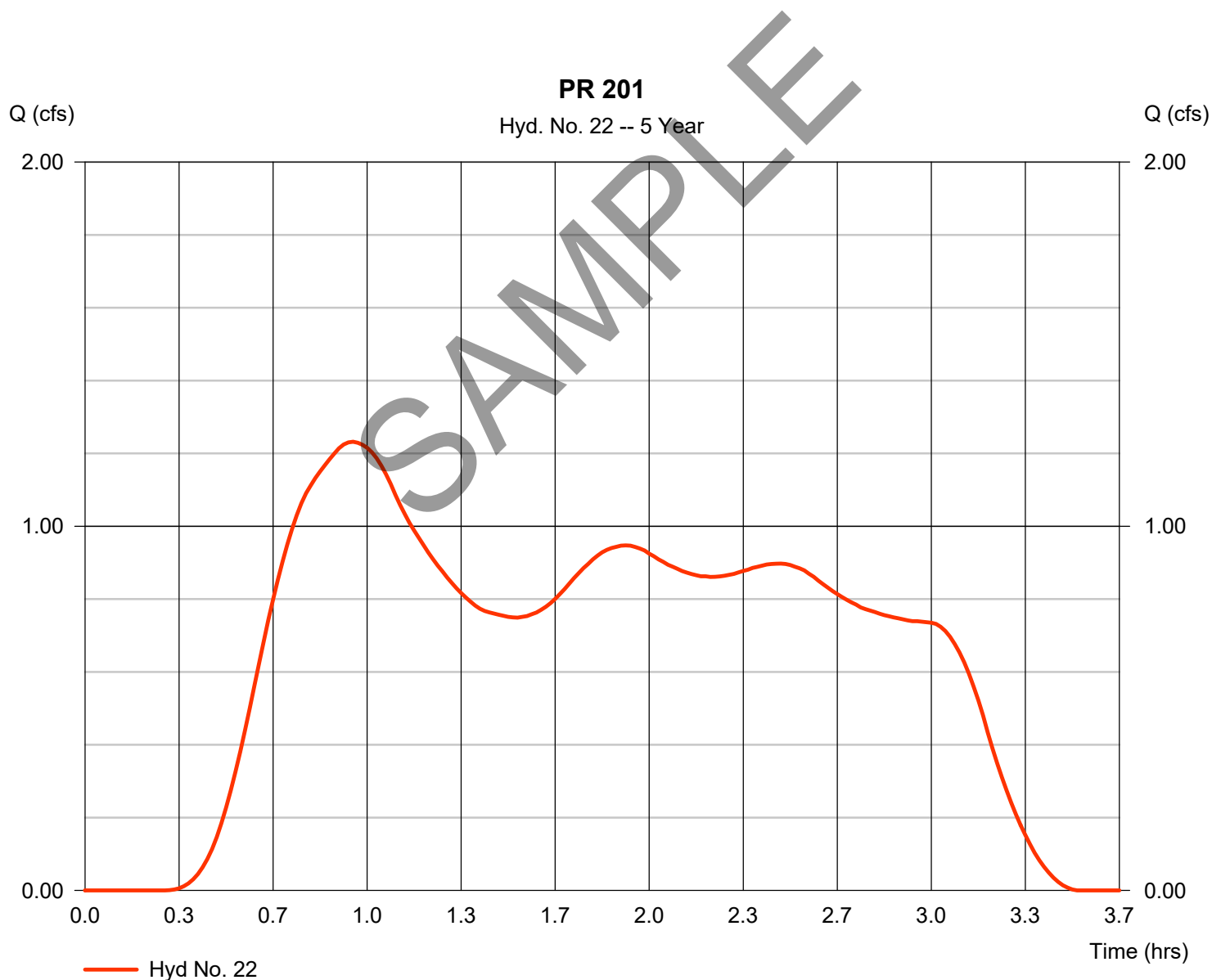
Wednesday, 03 / 20 / 2019

Hyd. No. 22

PR 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 1.232 cfs
Time to peak = 0.95 hrs
Hyd. volume = 8,536 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

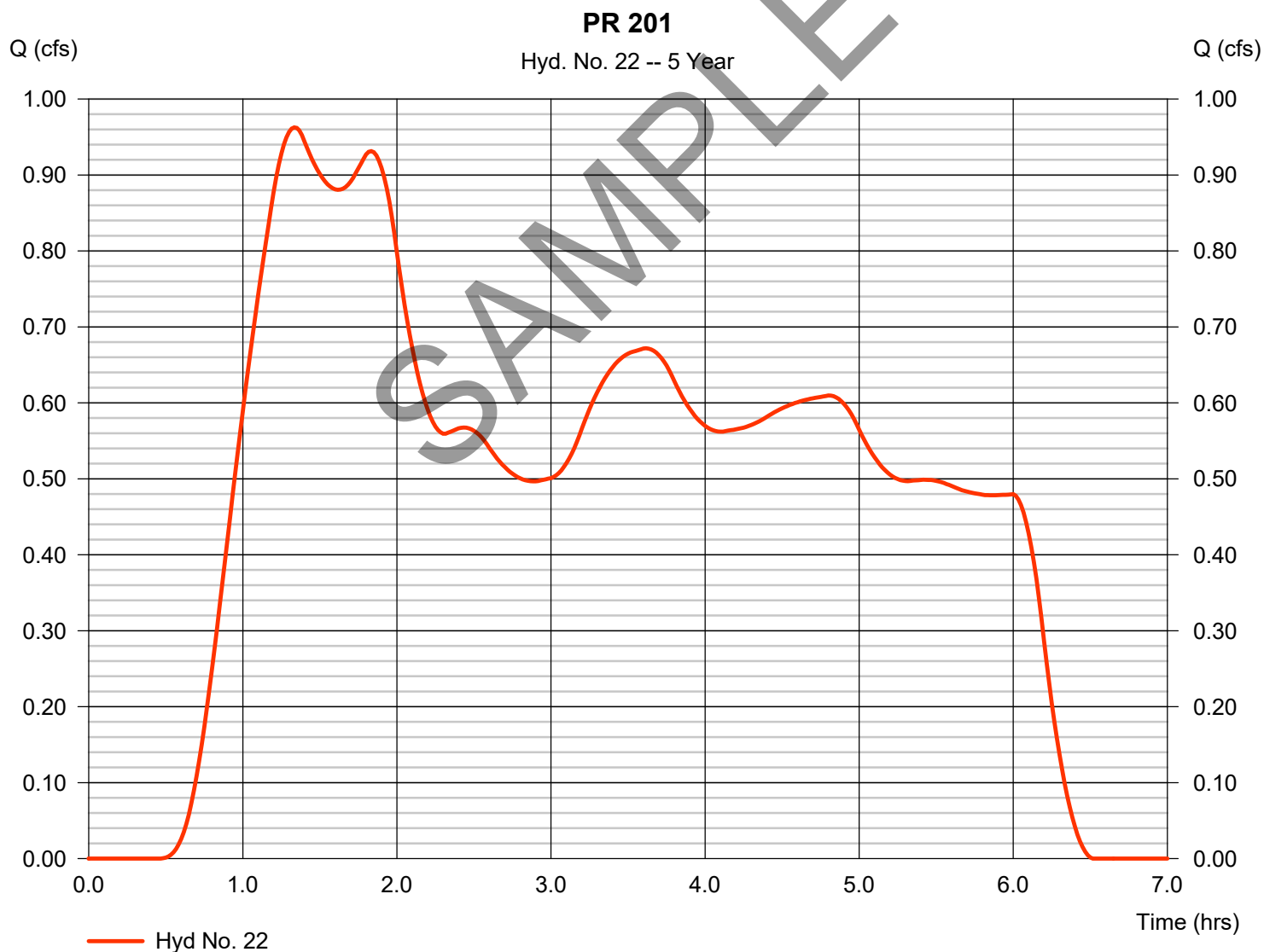
Wednesday, 03 / 20 / 2019

Hyd. No. 22

PR 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.963 cfs
Time to peak = 1.33 hrs
Hyd. volume = 12,079 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

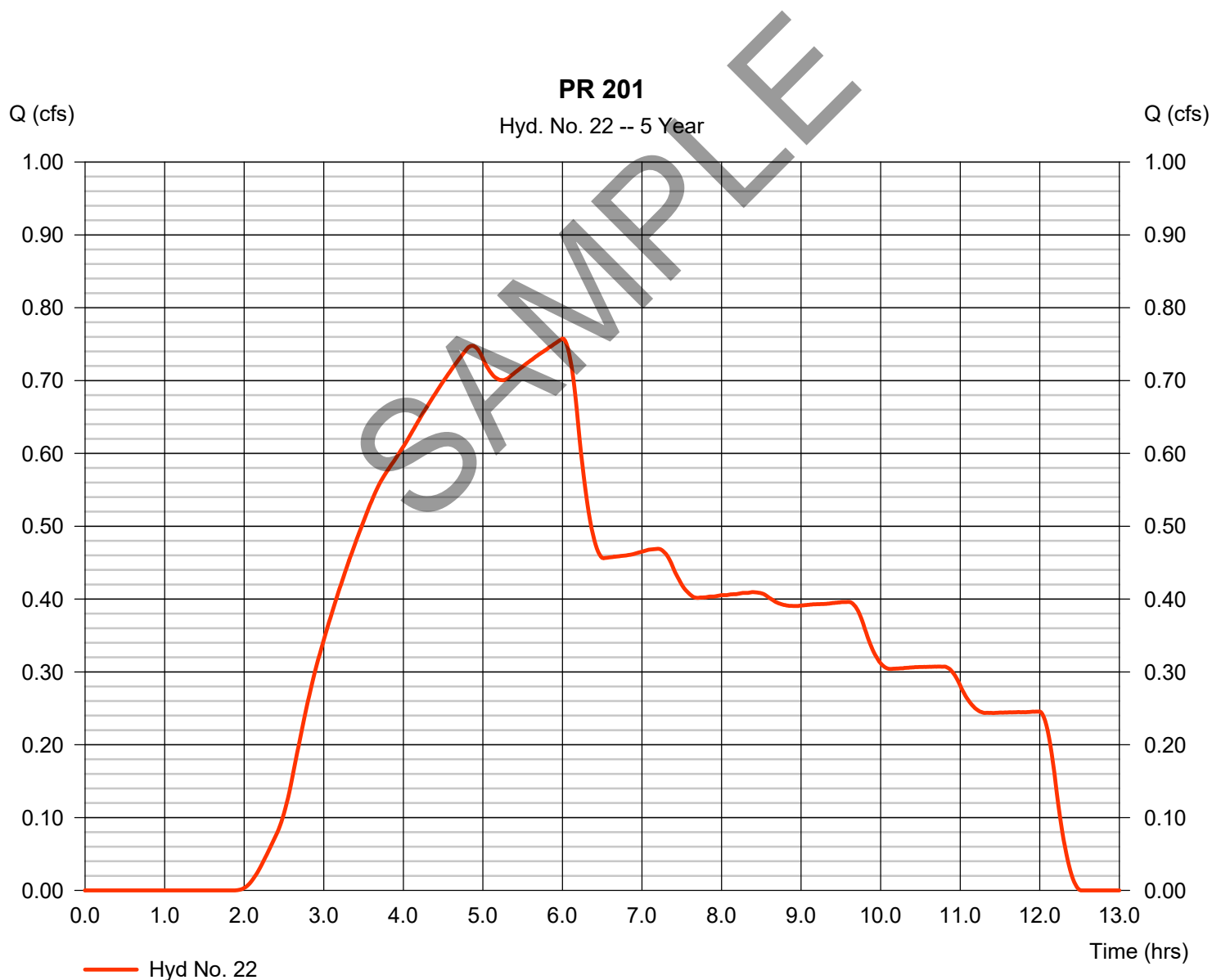
Wednesday, 03 / 20 / 2019

Hyd. No. 22

PR 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.758 cfs
Time to peak = 6.00 hrs
Hyd. volume = 15,852 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

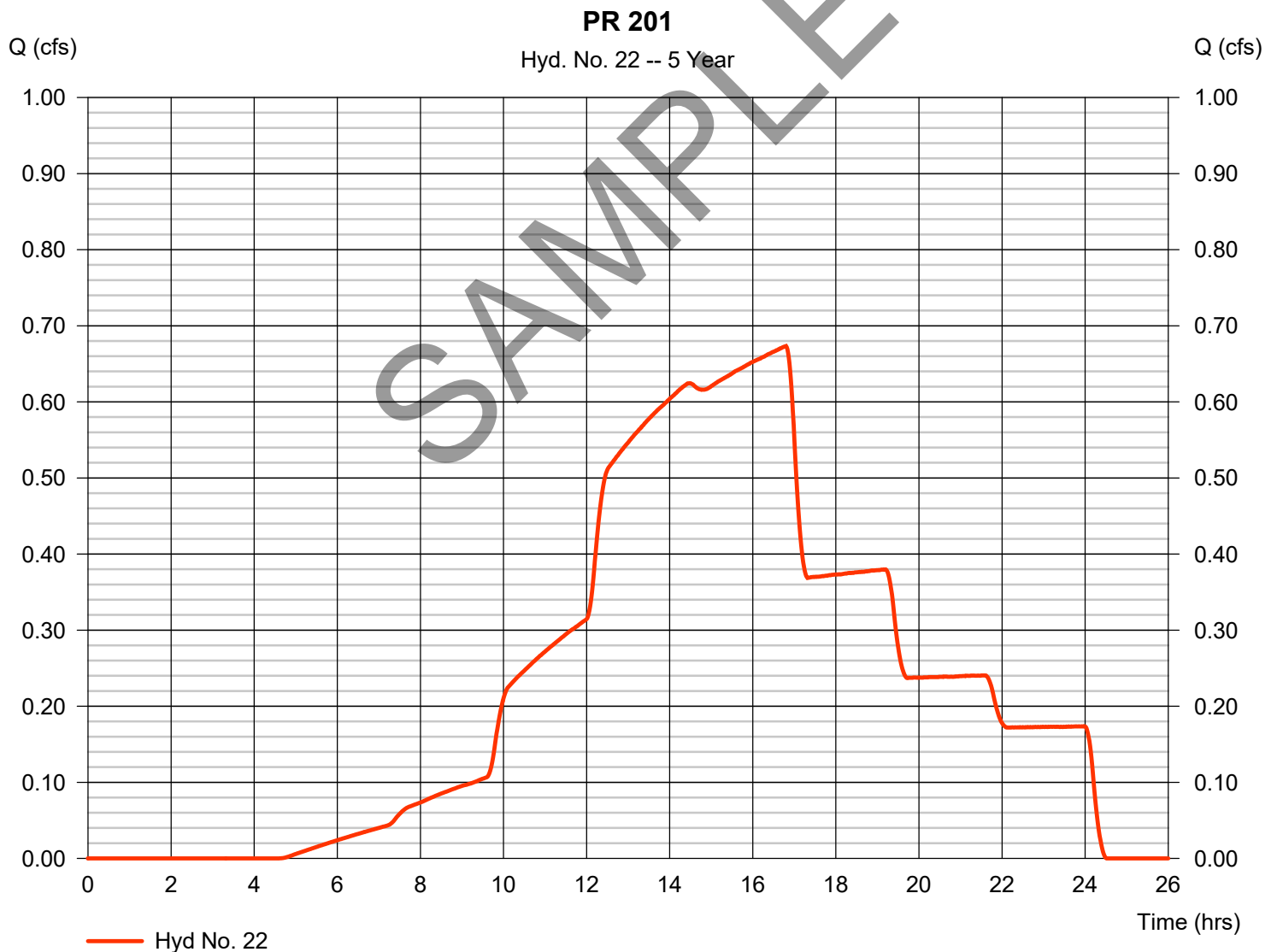
Wednesday, 03 / 20 / 2019

Hyd. No. 22

PR 201

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.673 cfs
Time to peak = 16.80 hrs
Hyd. volume = 20,631 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.80 min
Distribution = Custom
Shape factor = 484

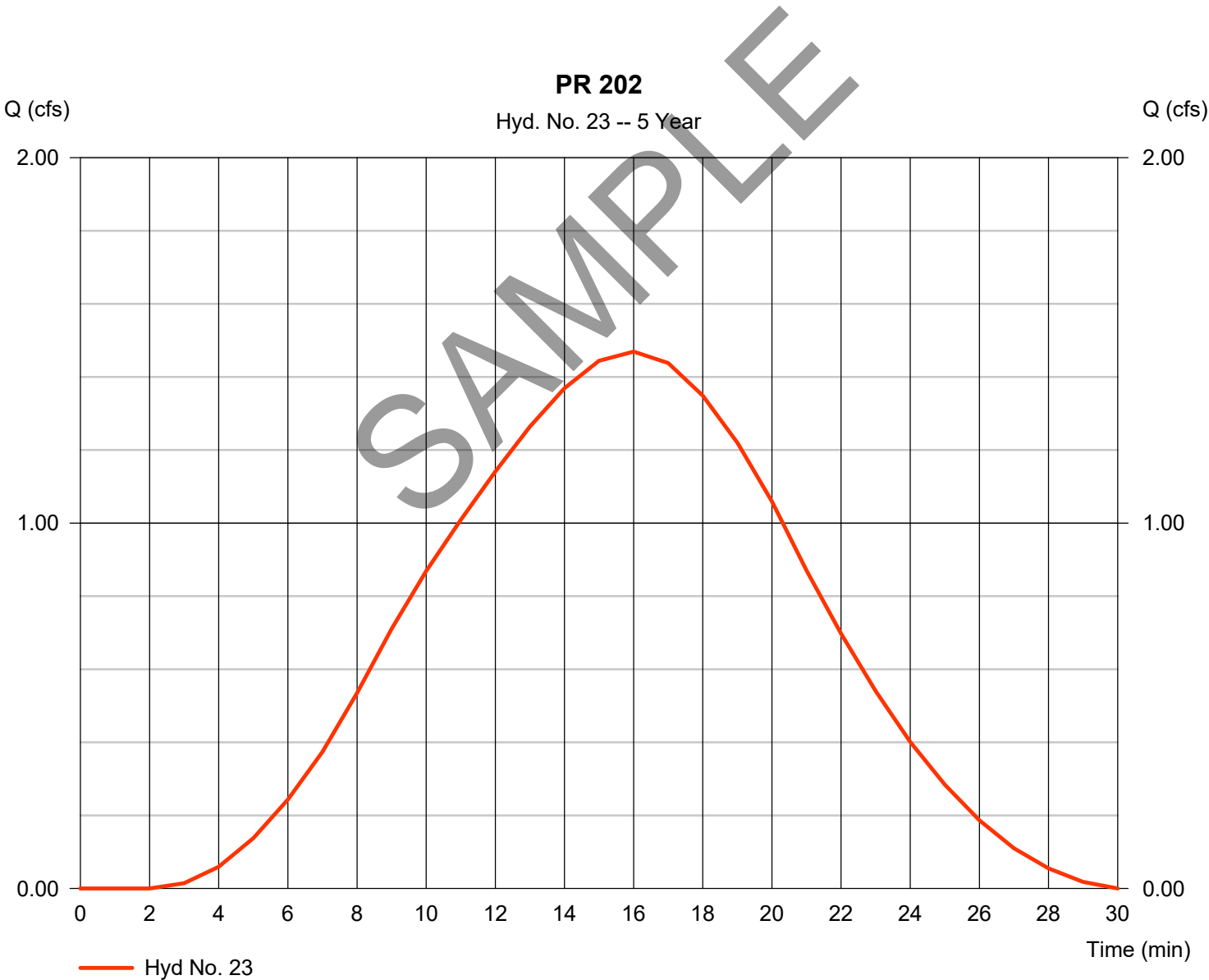


Hydrograph Report

Hyd. No. 23

PR 202

Hydrograph type	= SCS Runoff	Peak discharge	= 1.469 cfs
Storm frequency	= 5 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 1,132 cuft
Drainage area	= 1.300 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.80 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

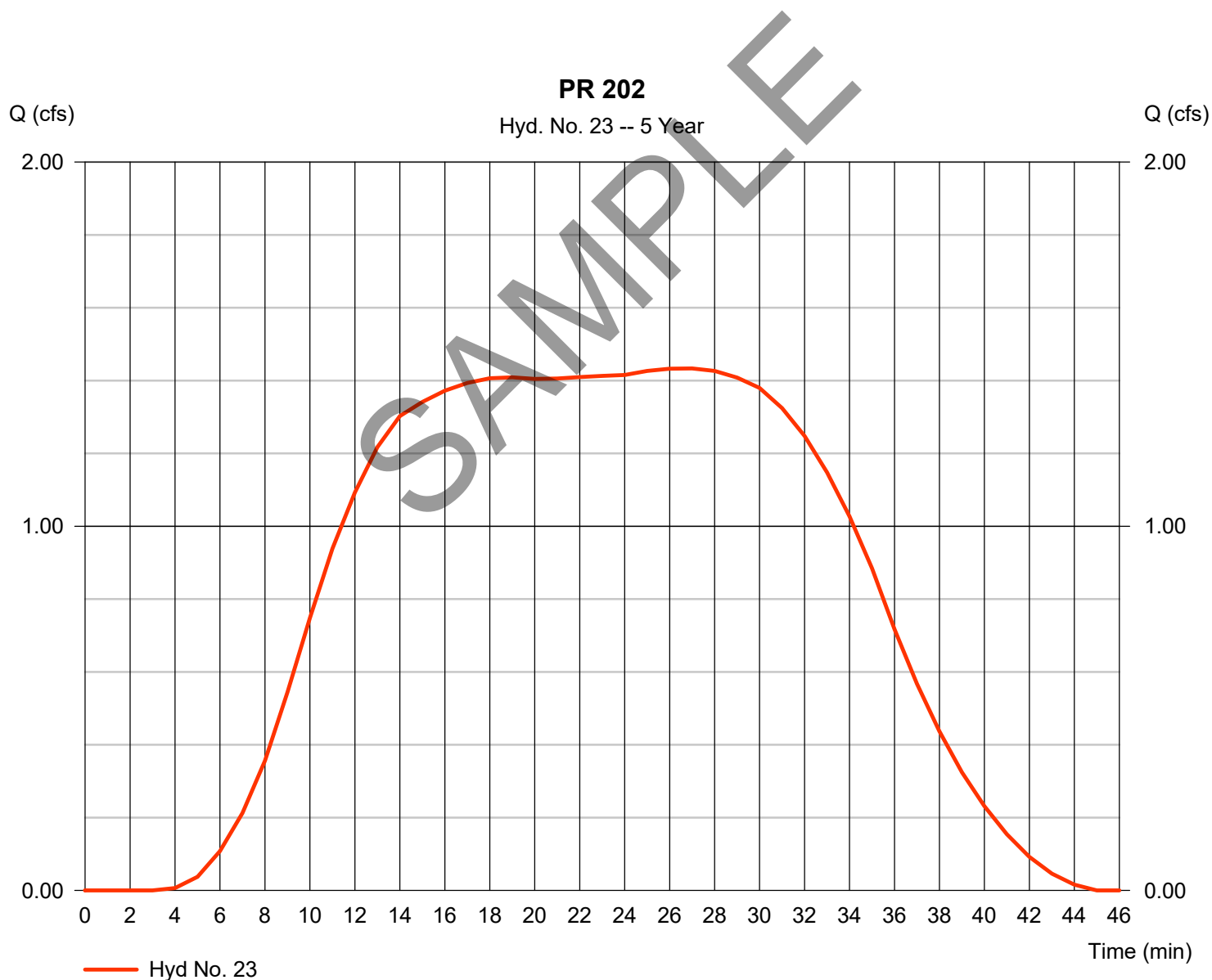
Wednesday, 03 / 20 / 2019

Hyd. No. 23

PR 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 1.433 cfs
Time to peak = 27 min
Hyd. volume = 2,235 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

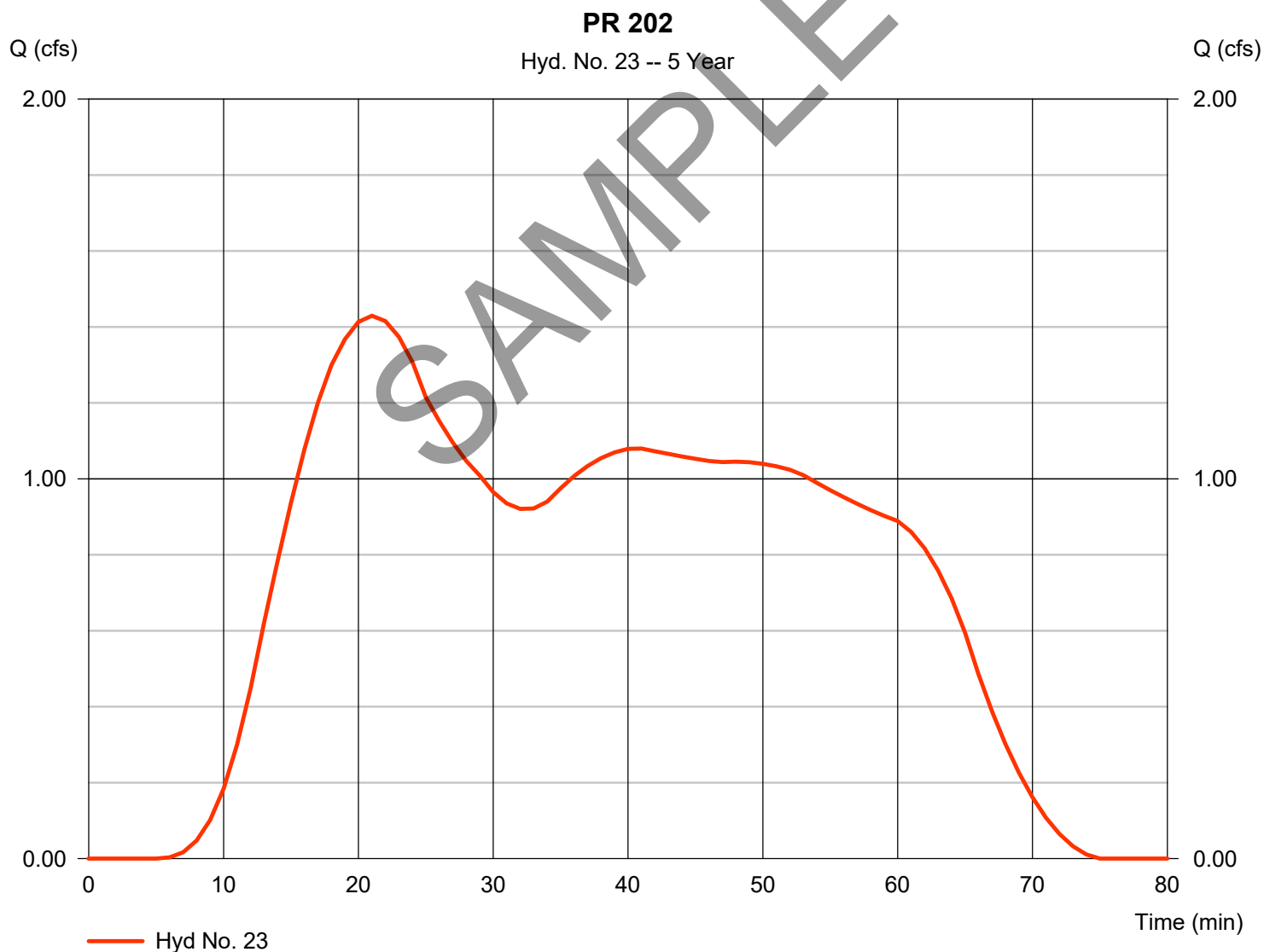
Wednesday, 03 / 20 / 2019

Hyd. No. 23

PR 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 1.429 cfs
Time to peak = 21 min
Hyd. volume = 3,444 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.80 min
Distribution = Custom
Shape factor = 484

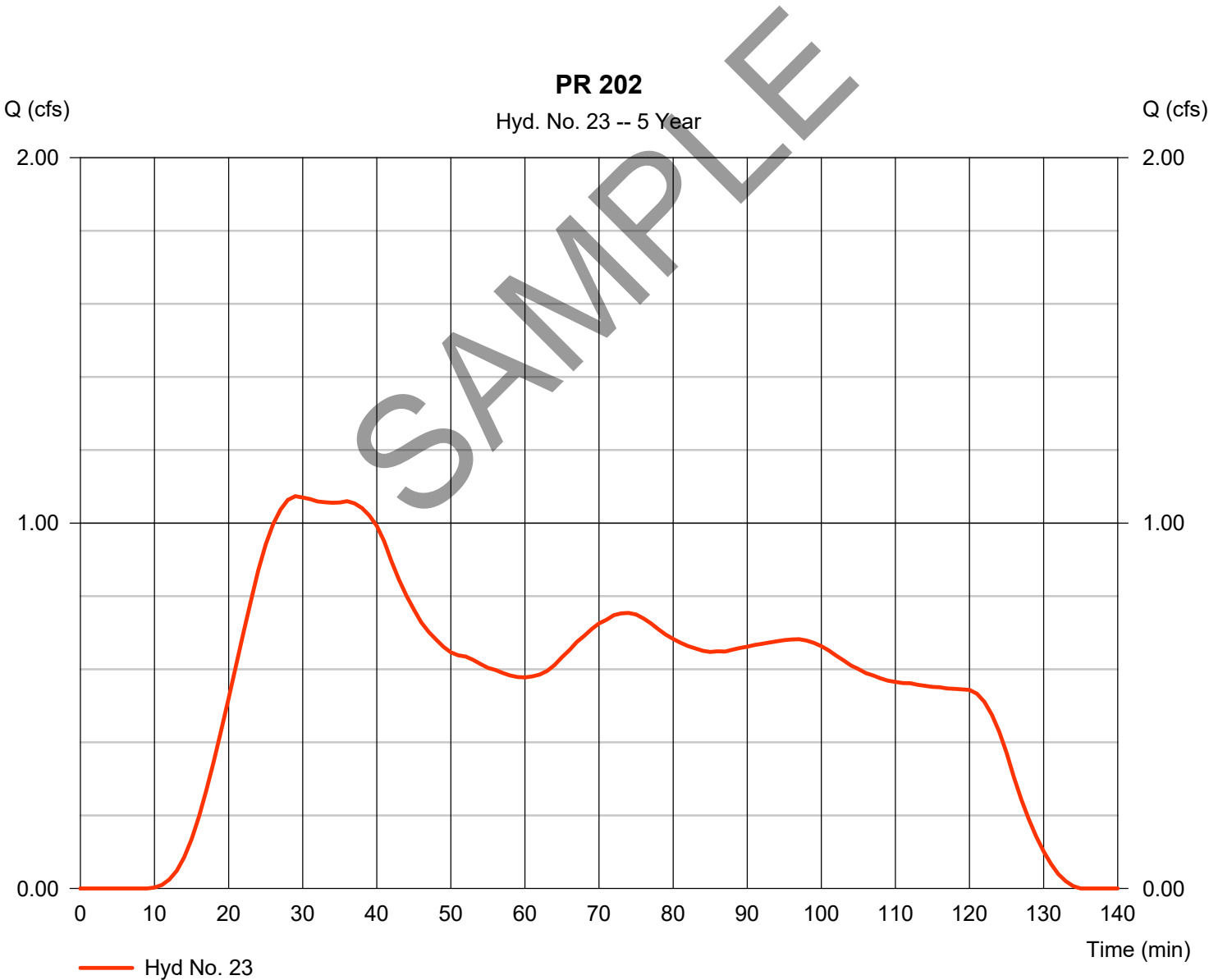


Hydrograph Report

Hyd. No. 23

PR 202

Hydrograph type	= SCS Runoff	Peak discharge	= 1.073 cfs
Storm frequency	= 5 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 4,645 cuft
Drainage area	= 1.300 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.80 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

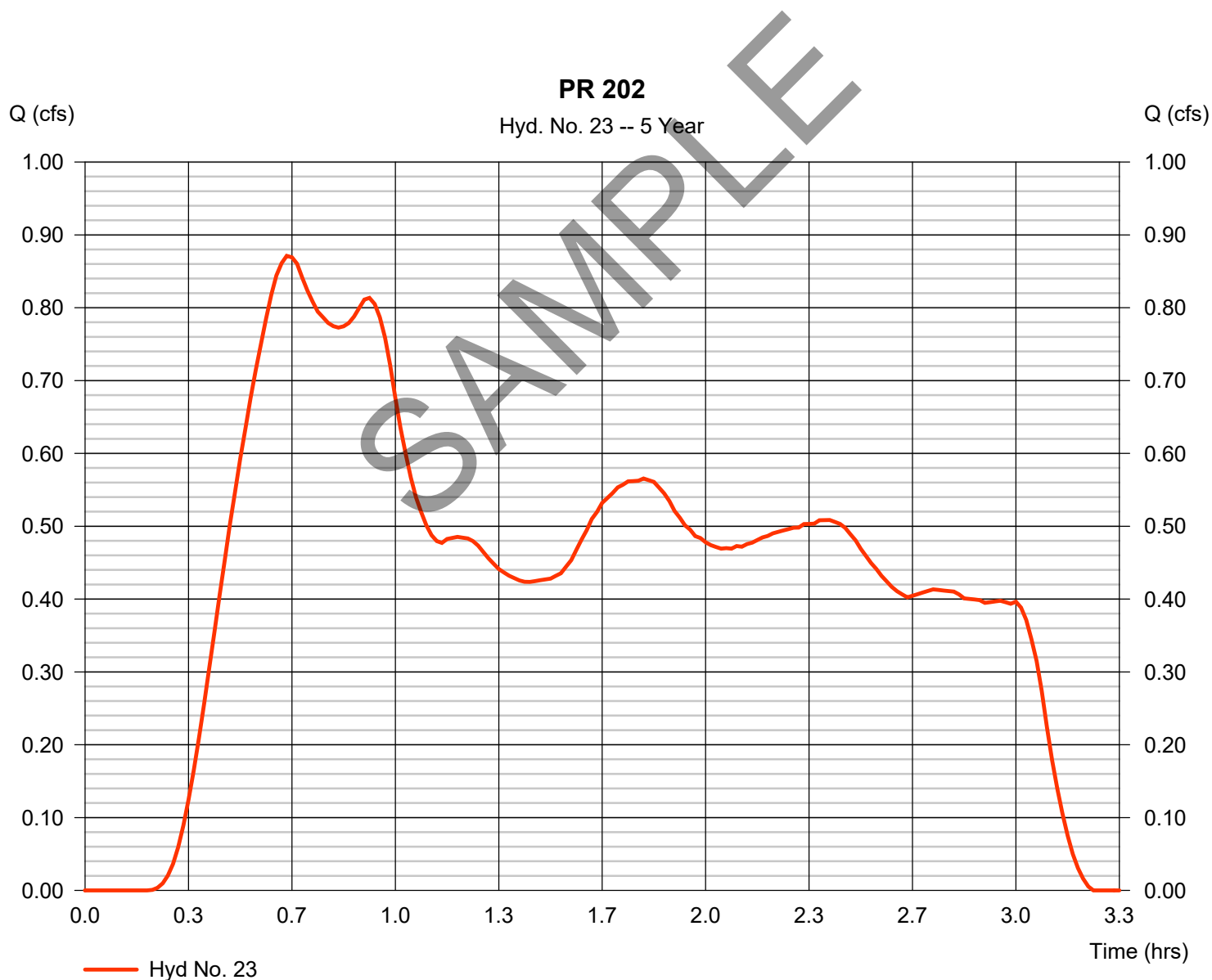
Wednesday, 03 / 20 / 2019

Hyd. No. 23

PR 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.871 cfs
Time to peak = 0.65 hrs
Hyd. volume = 5,214 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

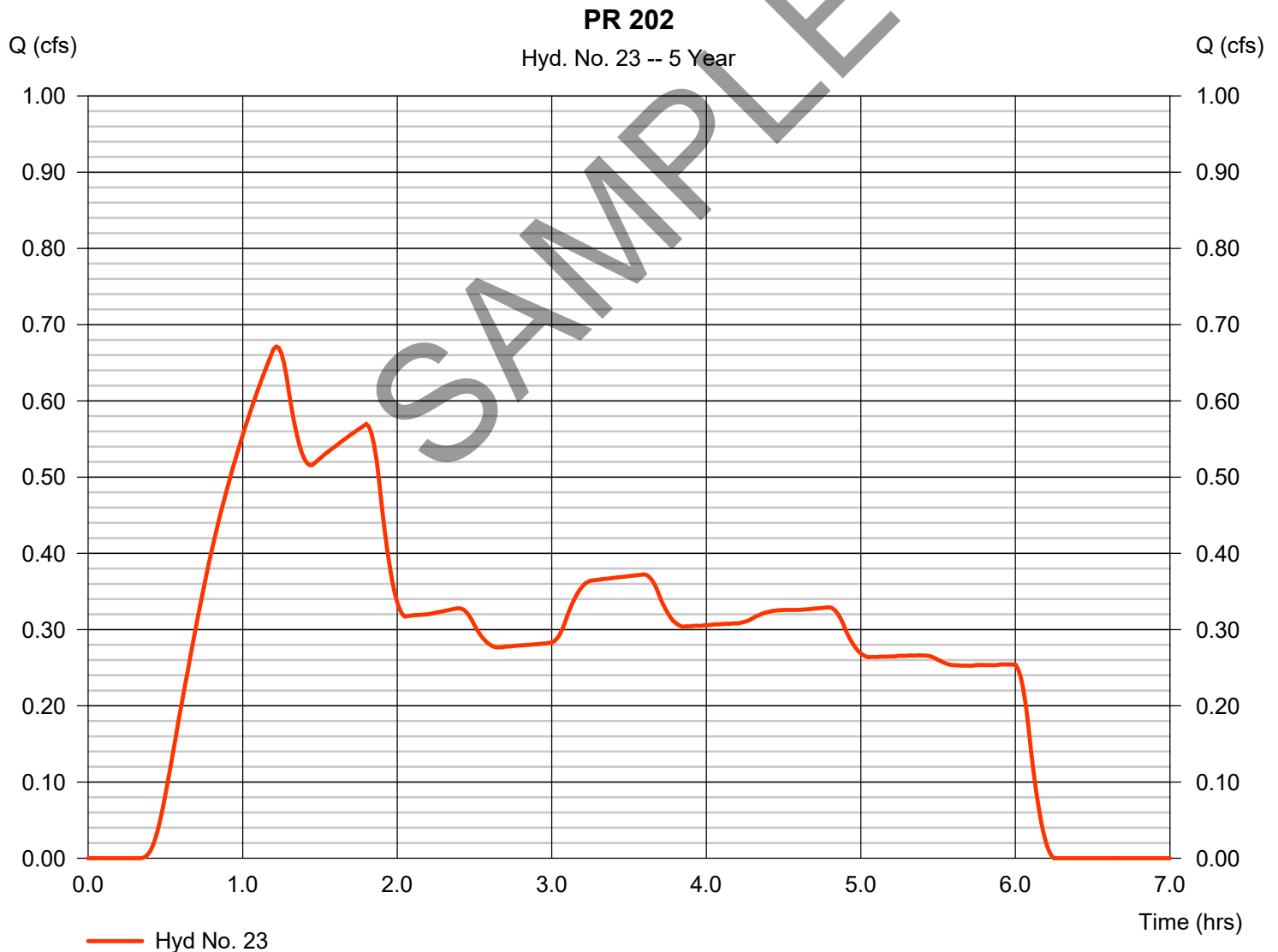
Wednesday, 03 / 20 / 2019

Hyd. No. 23

PR 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.671 cfs
Time to peak = 1.22 hrs
Hyd. volume = 7,105 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

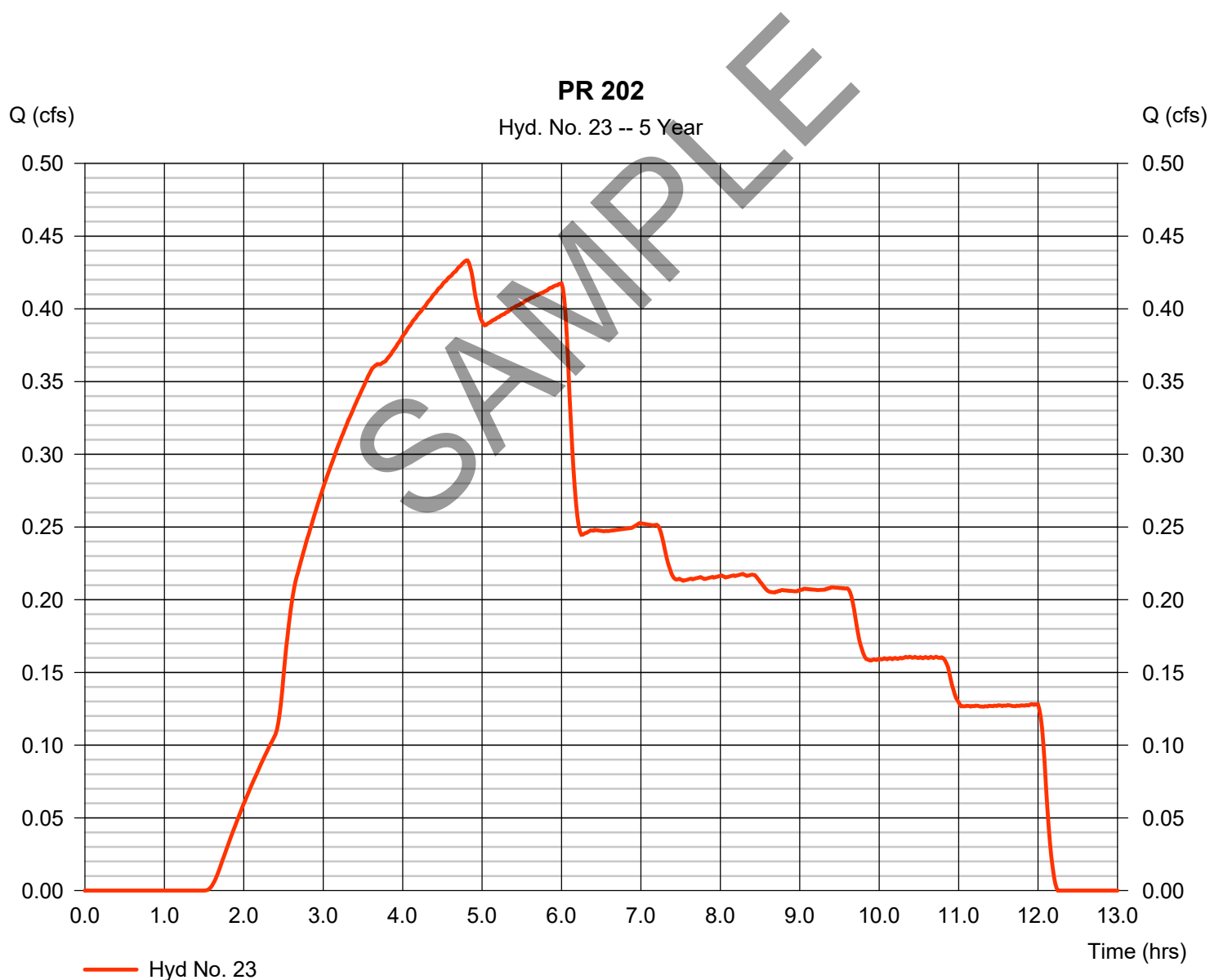
Wednesday, 03 / 20 / 2019

Hyd. No. 23

PR 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.433 cfs
Time to peak = 4.82 hrs
Hyd. volume = 9,078 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

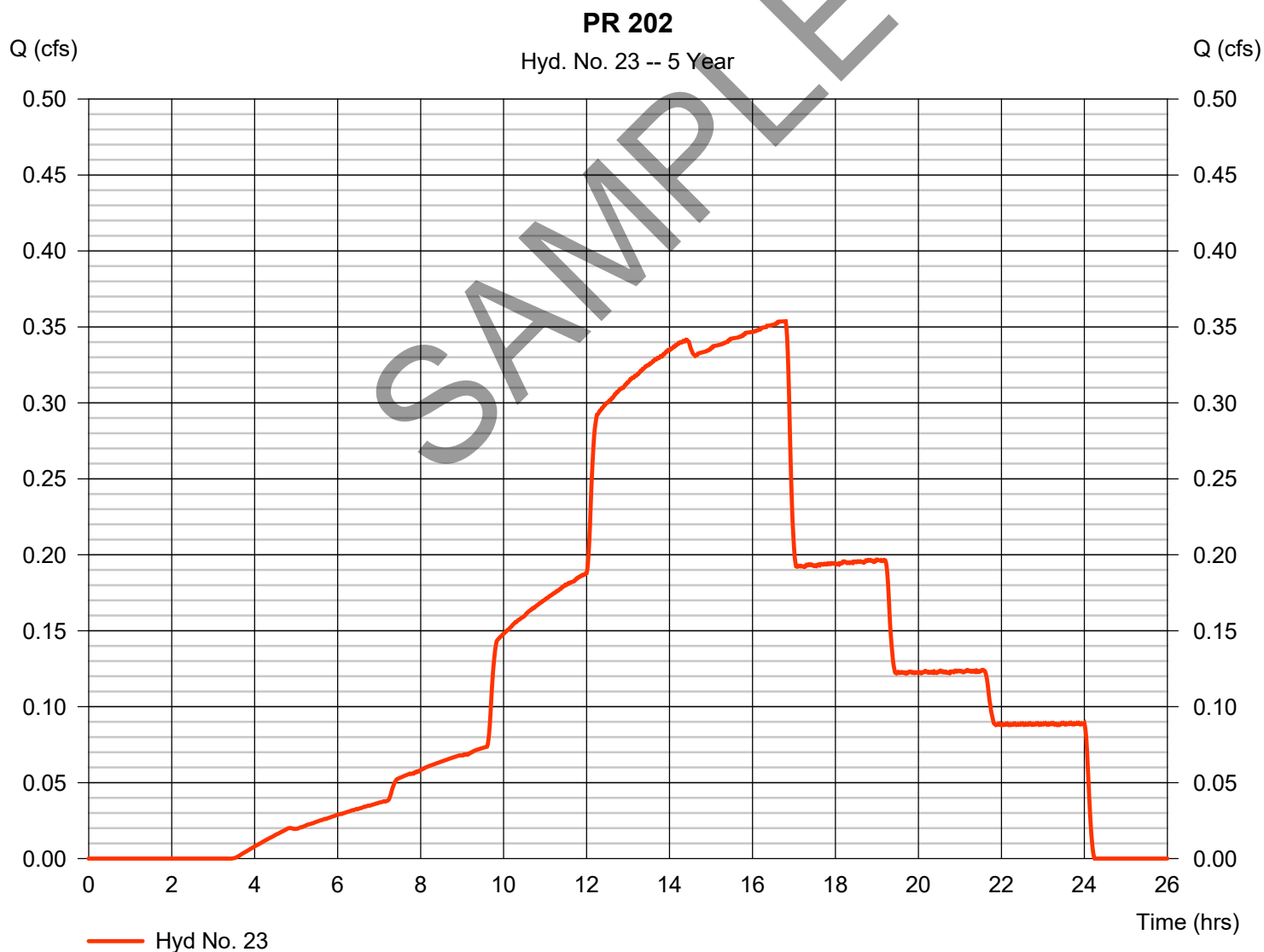
Wednesday, 03 / 20 / 2019

Hyd. No. 23

PR 202

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.354 cfs
Time to peak = 16.80 hrs
Hyd. volume = 11,537 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.80 min
Distribution = Custom
Shape factor = 484

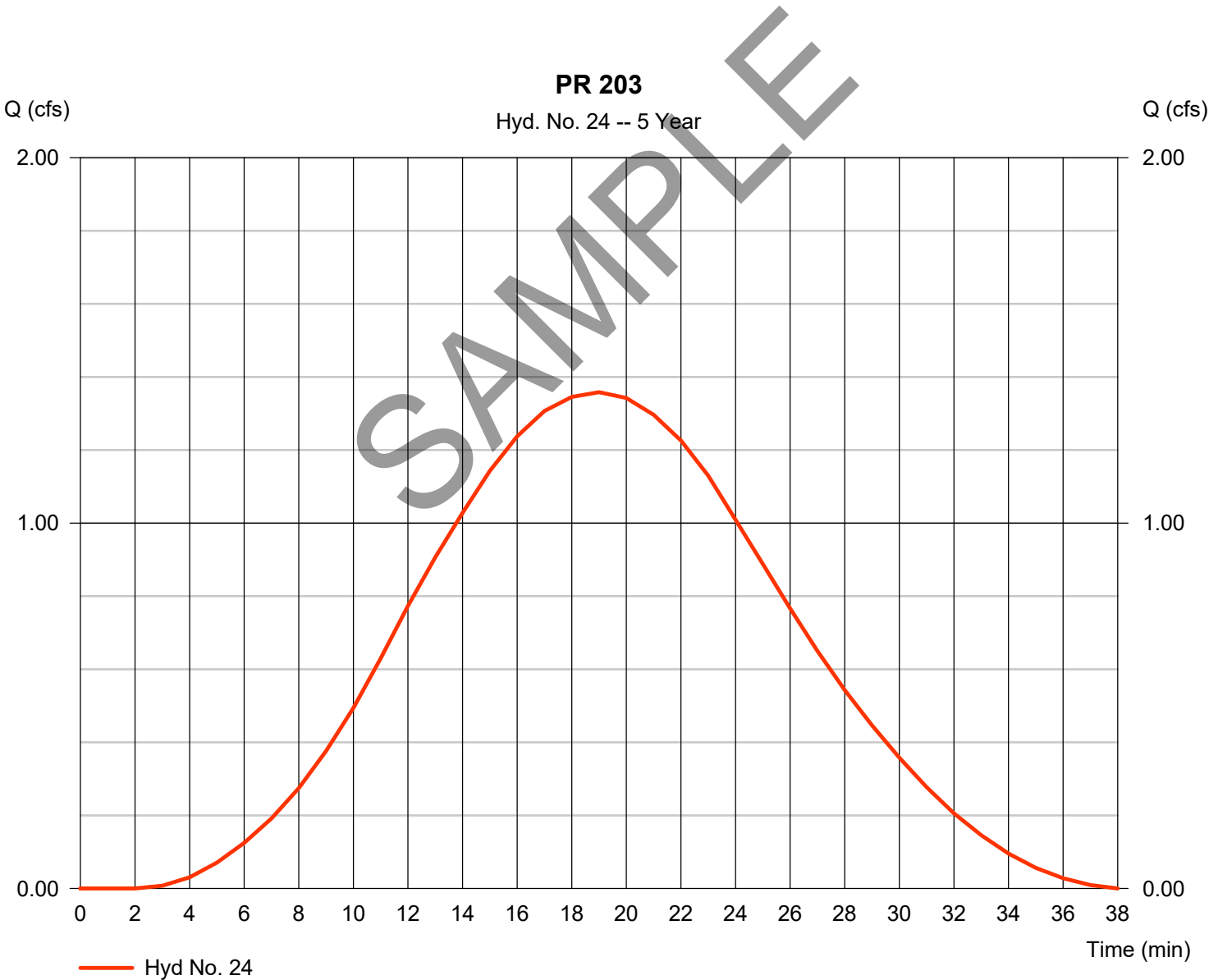


Hydrograph Report

Hyd. No. 24

PR 203

Hydrograph type	= SCS Runoff	Peak discharge	= 1.358 cfs
Storm frequency	= 5 yrs	Time to peak	= 19 min
Time interval	= 1 min	Hyd. volume	= 1,306 cuft
Drainage area	= 1.500 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.00 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

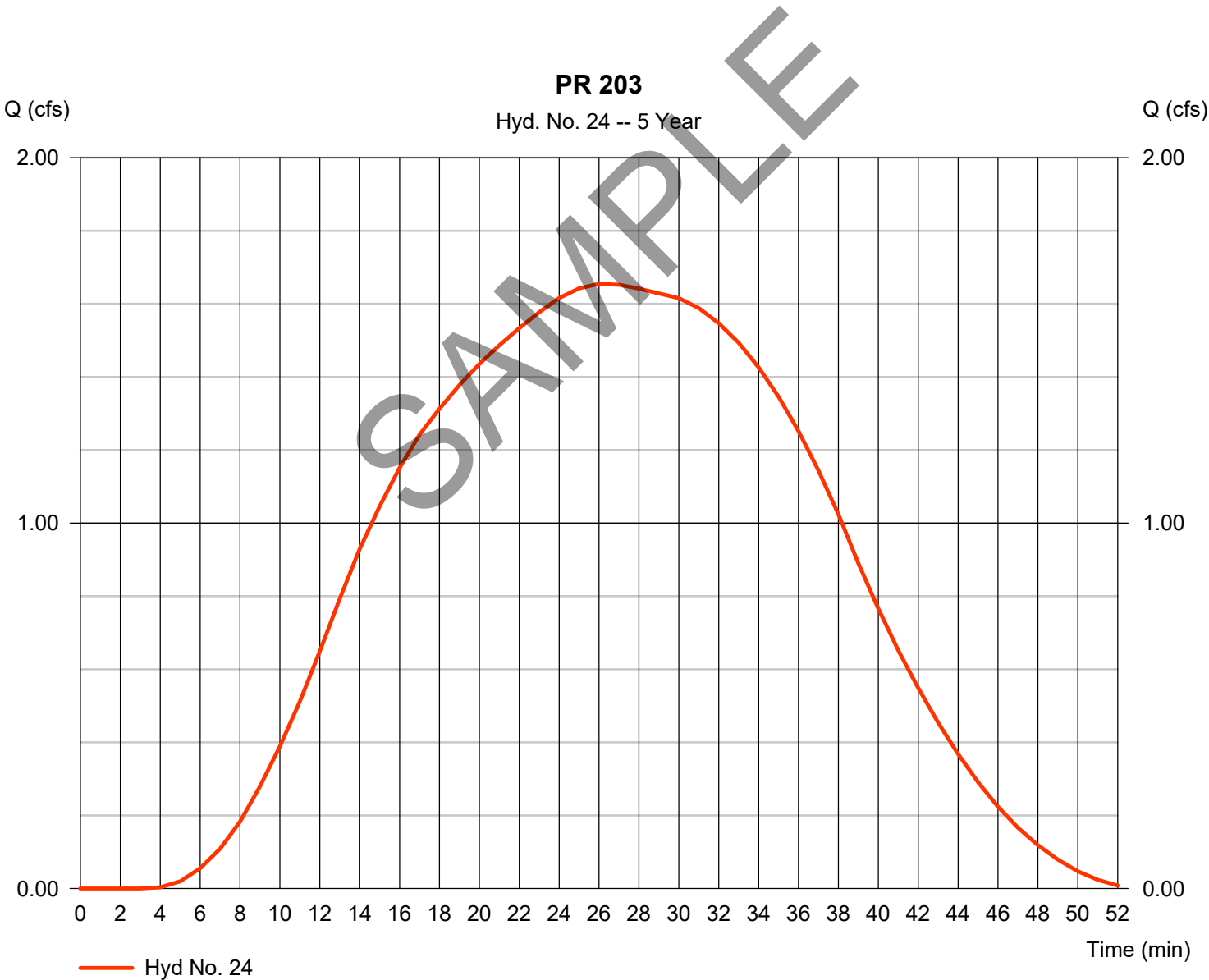


Hydrograph Report

Hyd. No. 24

PR 203

Hydrograph type	= SCS Runoff	Peak discharge	= 1.655 cfs
Storm frequency	= 5 yrs	Time to peak	= 26 min
Time interval	= 1 min	Hyd. volume	= 2,579 cuft
Drainage area	= 1.500 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.00 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484

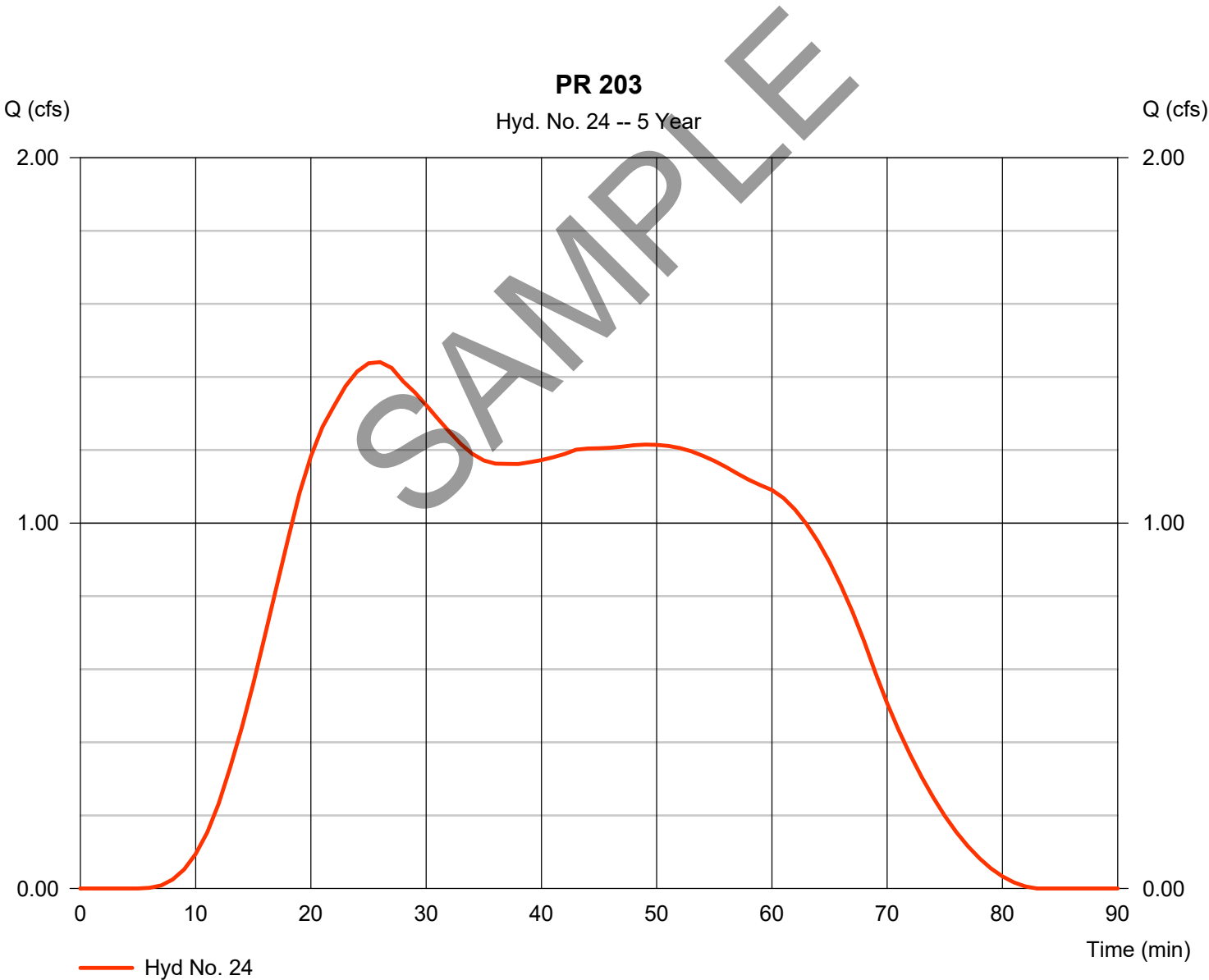


Hydrograph Report

Hyd. No. 24

PR 203

Hydrograph type	= SCS Runoff	Peak discharge	= 1.441 cfs
Storm frequency	= 5 yrs	Time to peak	= 26 min
Time interval	= 1 min	Hyd. volume	= 3,974 cuft
Drainage area	= 1.500 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.00 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484

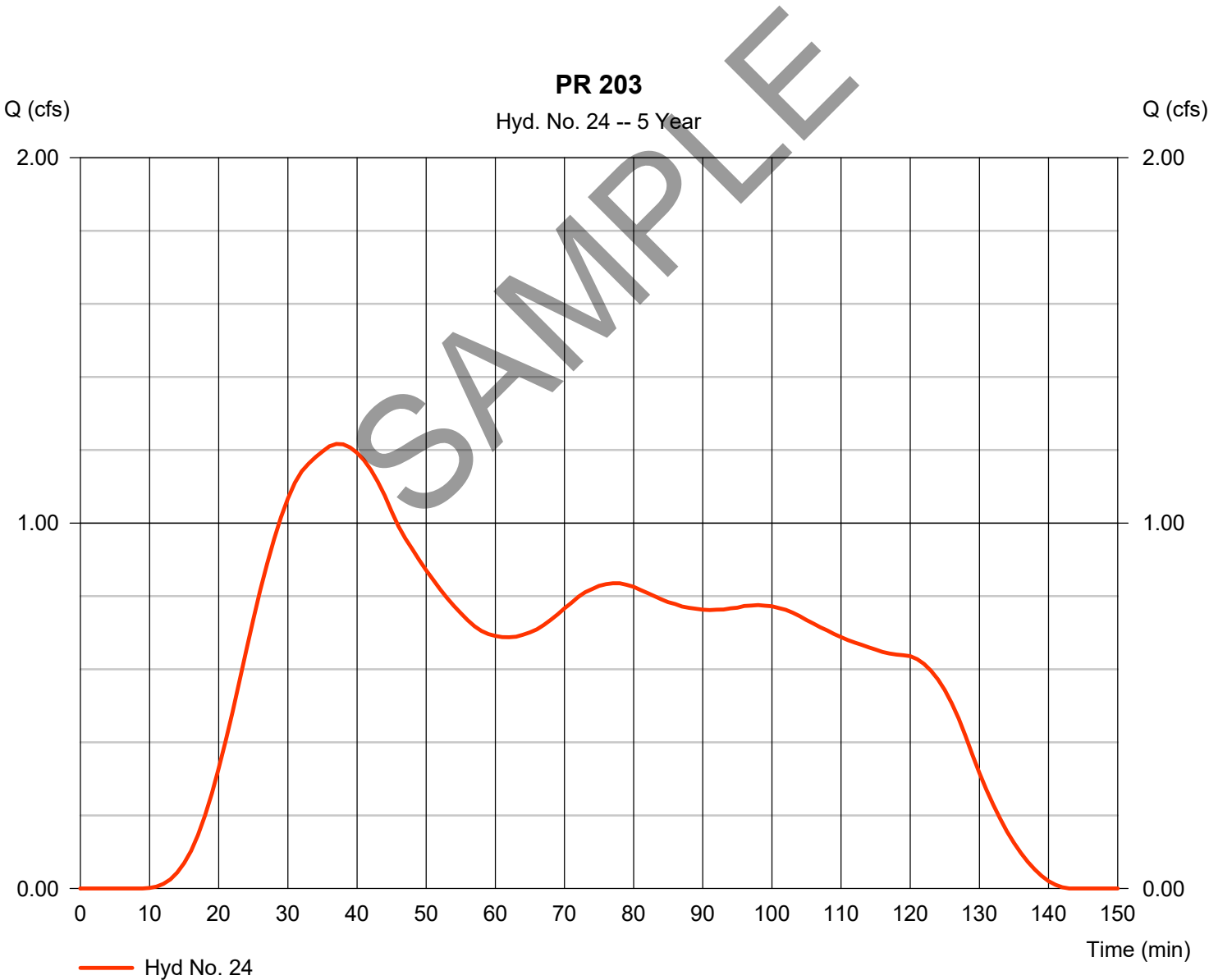


Hydrograph Report

Hyd. No. 24

PR 203

Hydrograph type	= SCS Runoff	Peak discharge	= 1.217 cfs
Storm frequency	= 5 yrs	Time to peak	= 37 min
Time interval	= 1 min	Hyd. volume	= 5,359 cuft
Drainage area	= 1.500 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.00 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

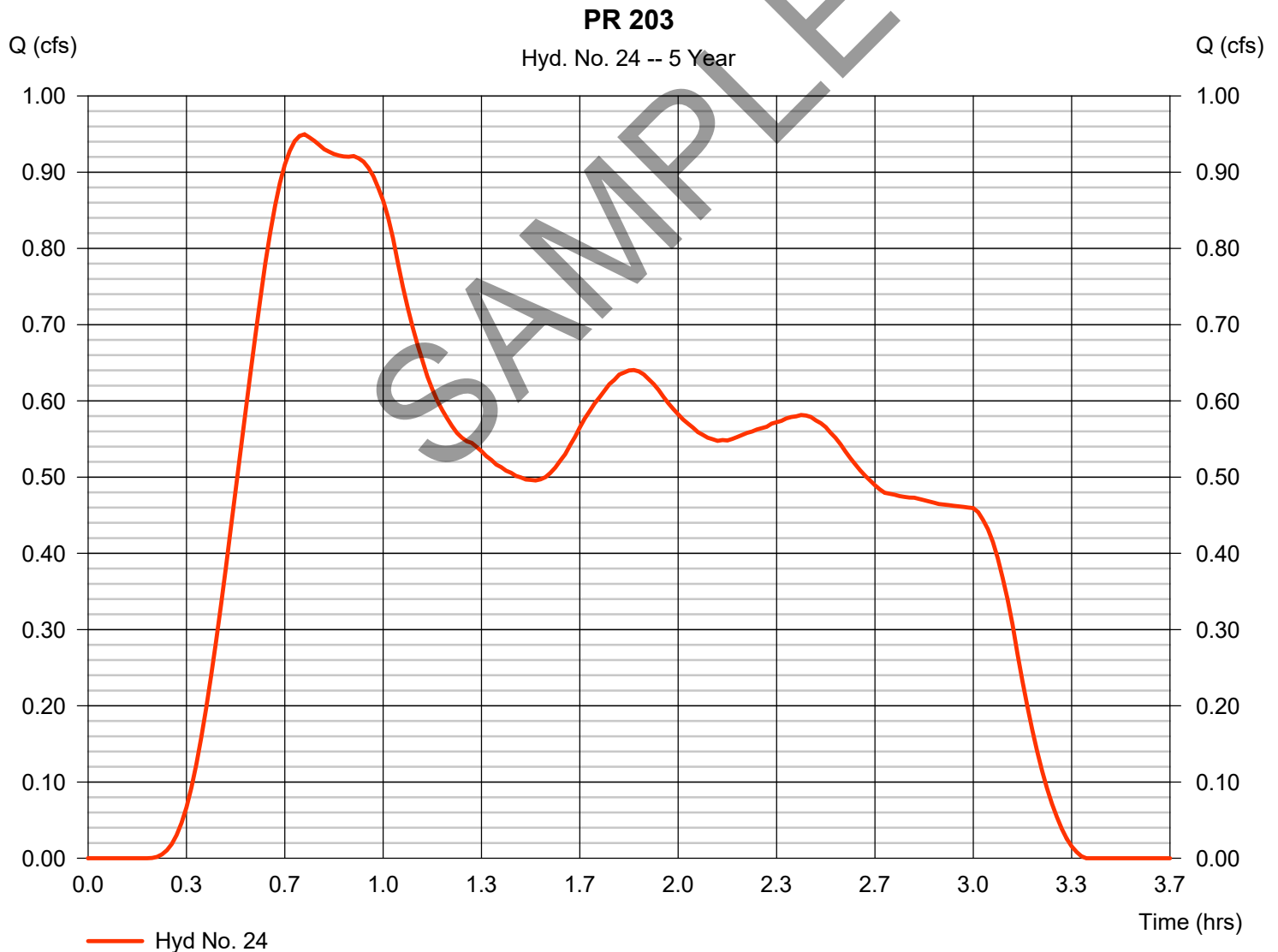
Wednesday, 03 / 20 / 2019

Hyd. No. 24

PR 203

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.950 cfs
Time to peak = 0.73 hrs
Hyd. volume = 6,016 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

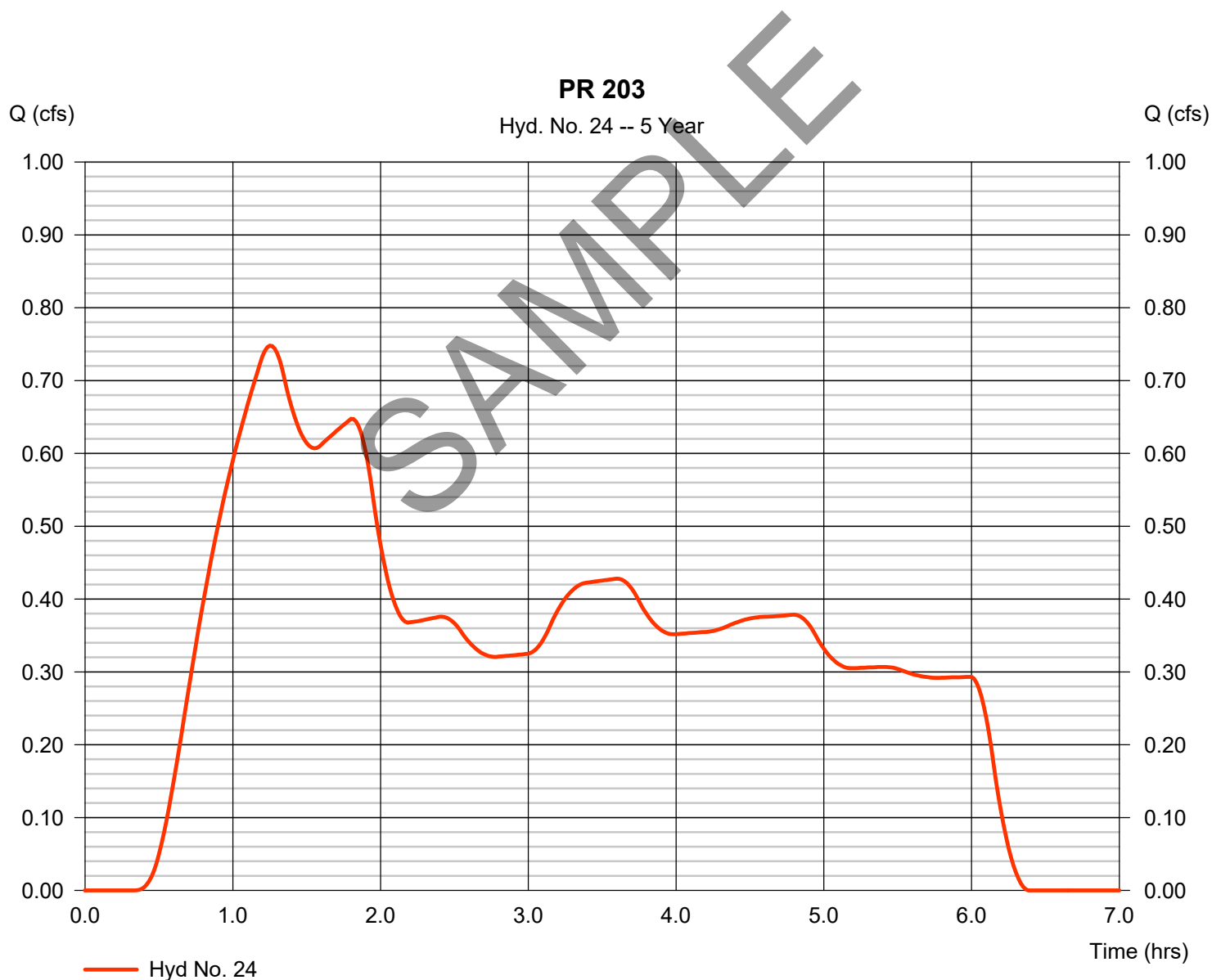
Wednesday, 03 / 20 / 2019

Hyd. No. 24

PR 203

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.748 cfs
Time to peak = 1.25 hrs
Hyd. volume = 8,198 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

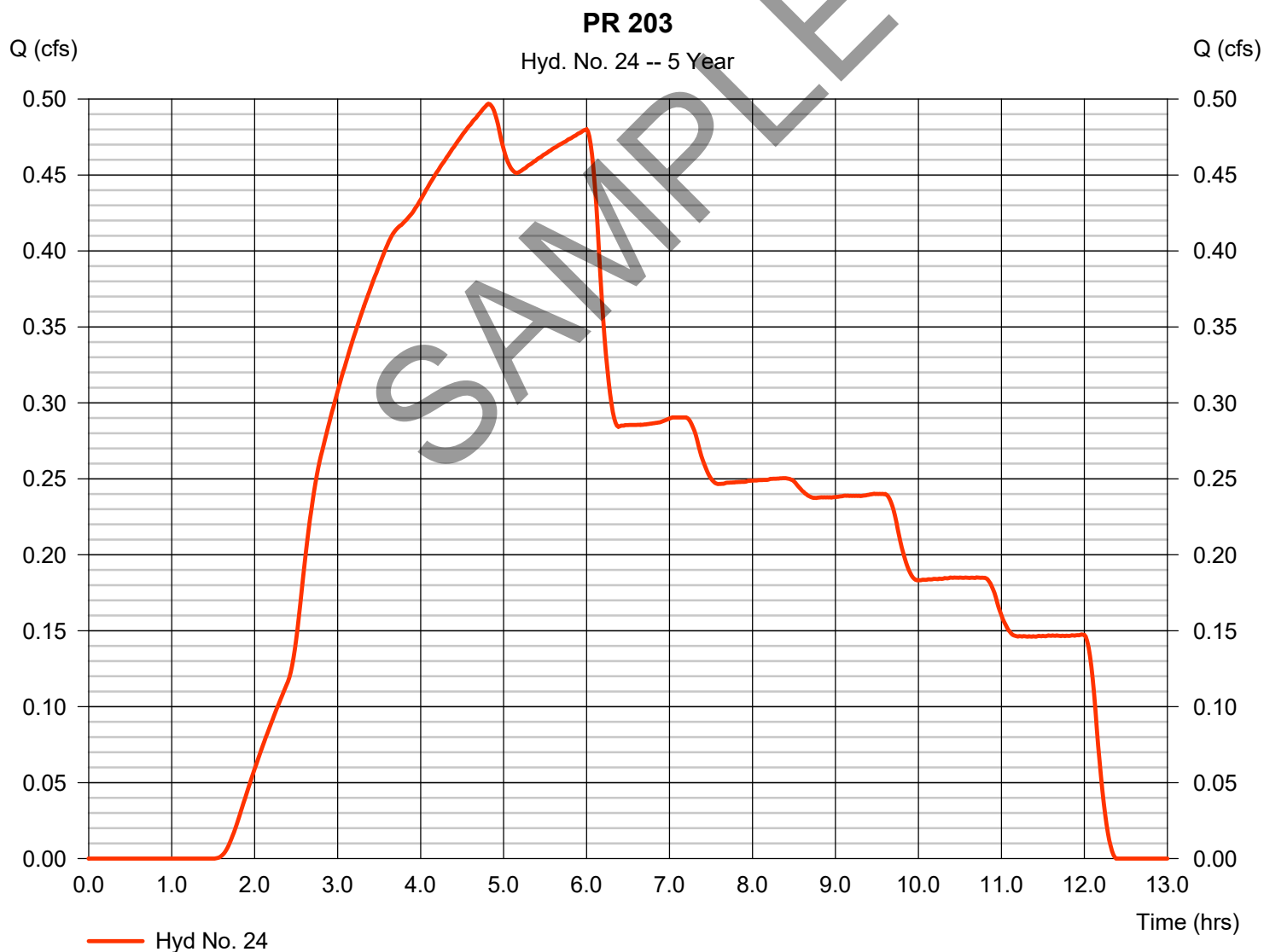
Wednesday, 03 / 20 / 2019

Hyd. No. 24

PR 203

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.497 cfs
Time to peak = 4.82 hrs
Hyd. volume = 10,475 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

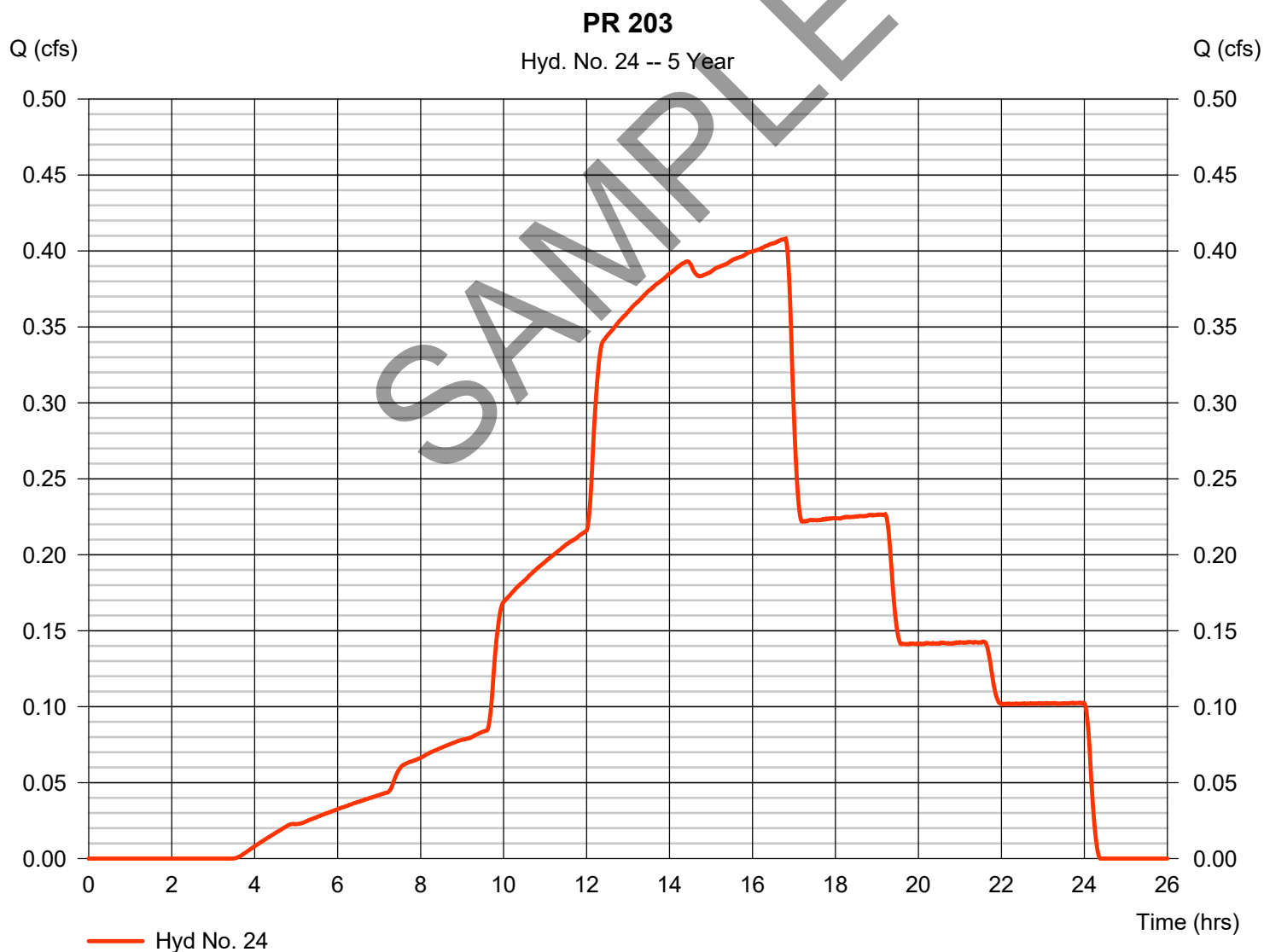
Wednesday, 03 / 20 / 2019

Hyd. No. 24

PR 203

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.408 cfs
Time to peak = 16.80 hrs
Hyd. volume = 13,312 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

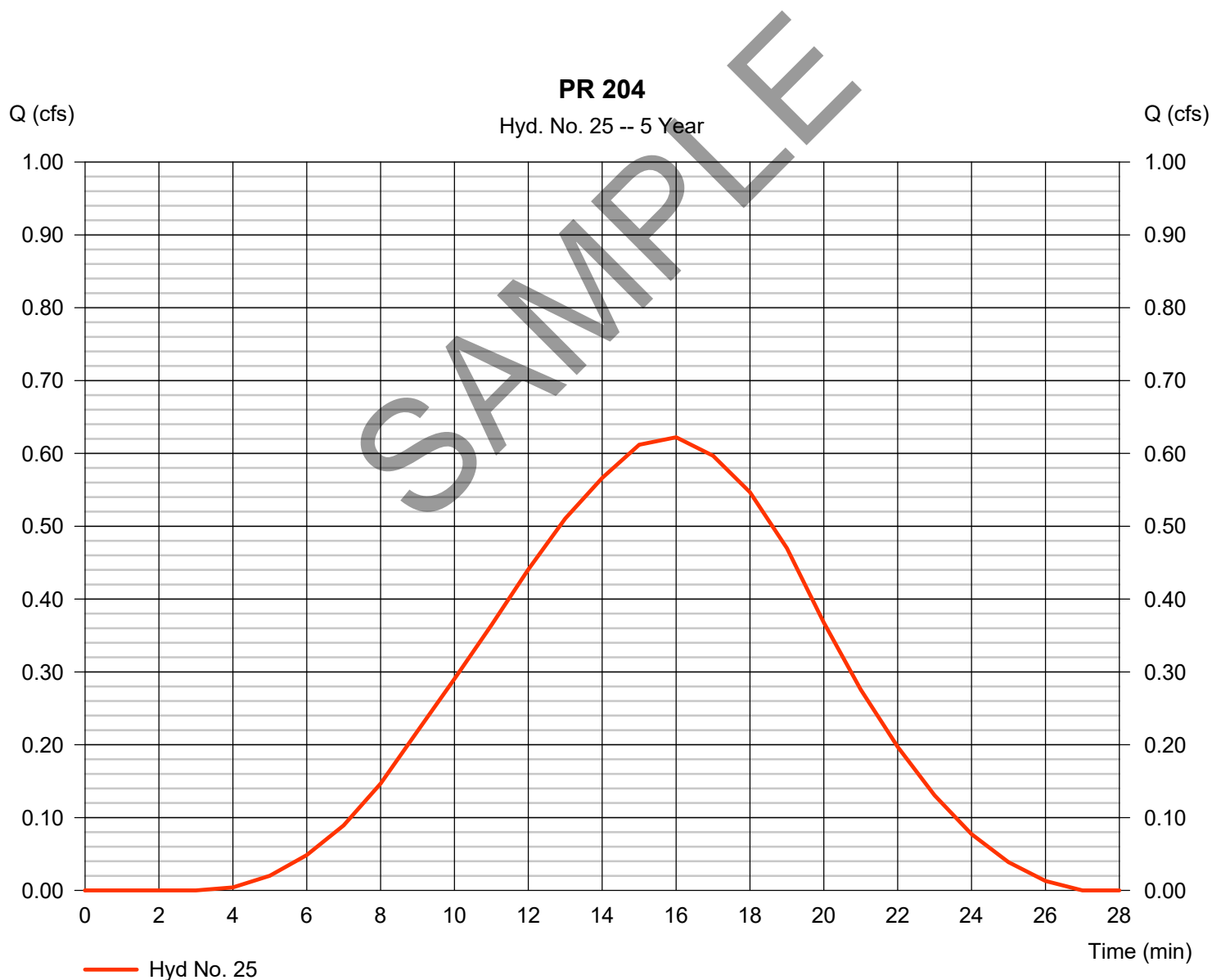
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 25

PR 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.622 cfs
Storm frequency	= 5 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 399 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

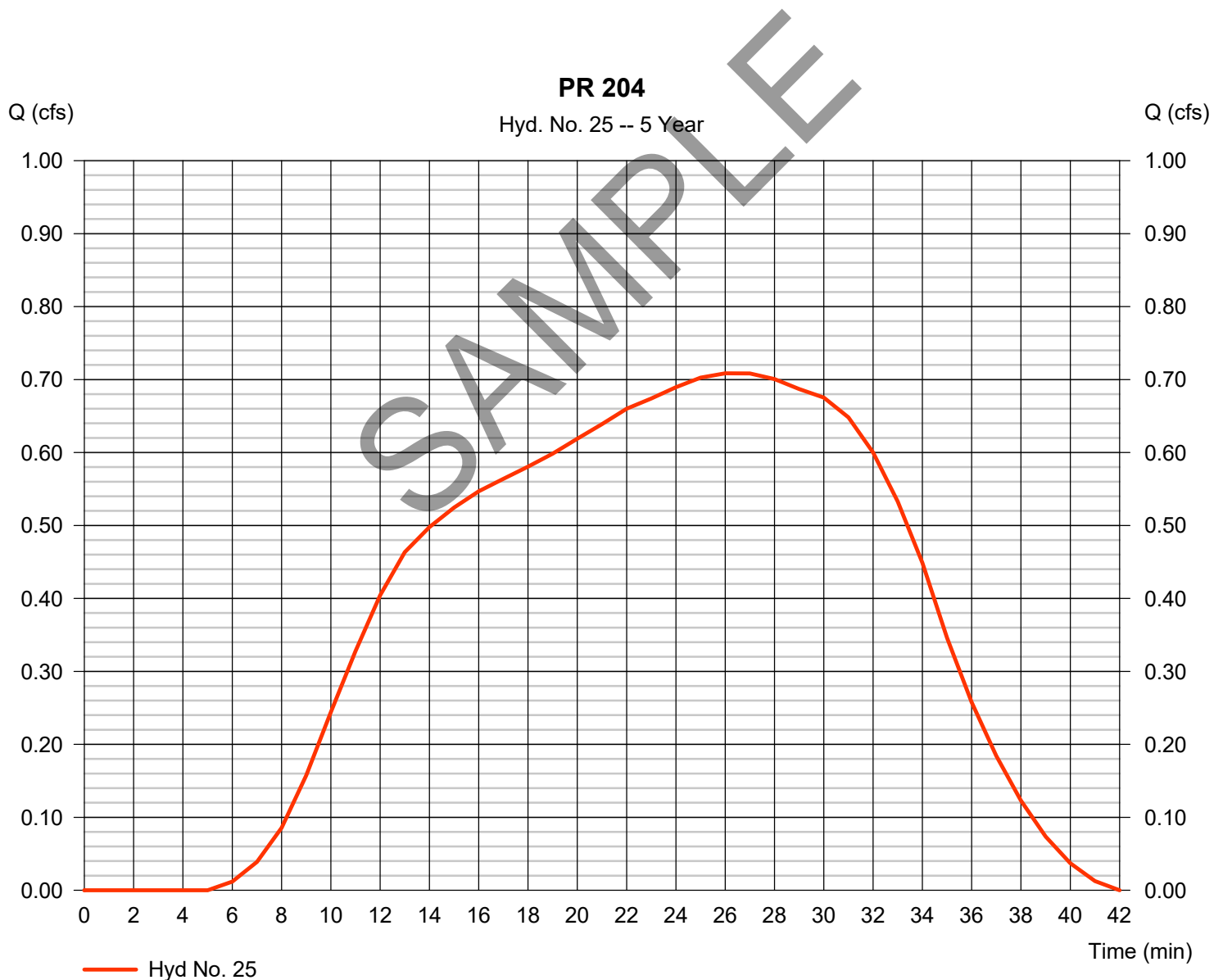
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 25

PR 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.709 cfs
Storm frequency	= 5 yrs	Time to peak	= 26 min
Time interval	= 1 min	Hyd. volume	= 946 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

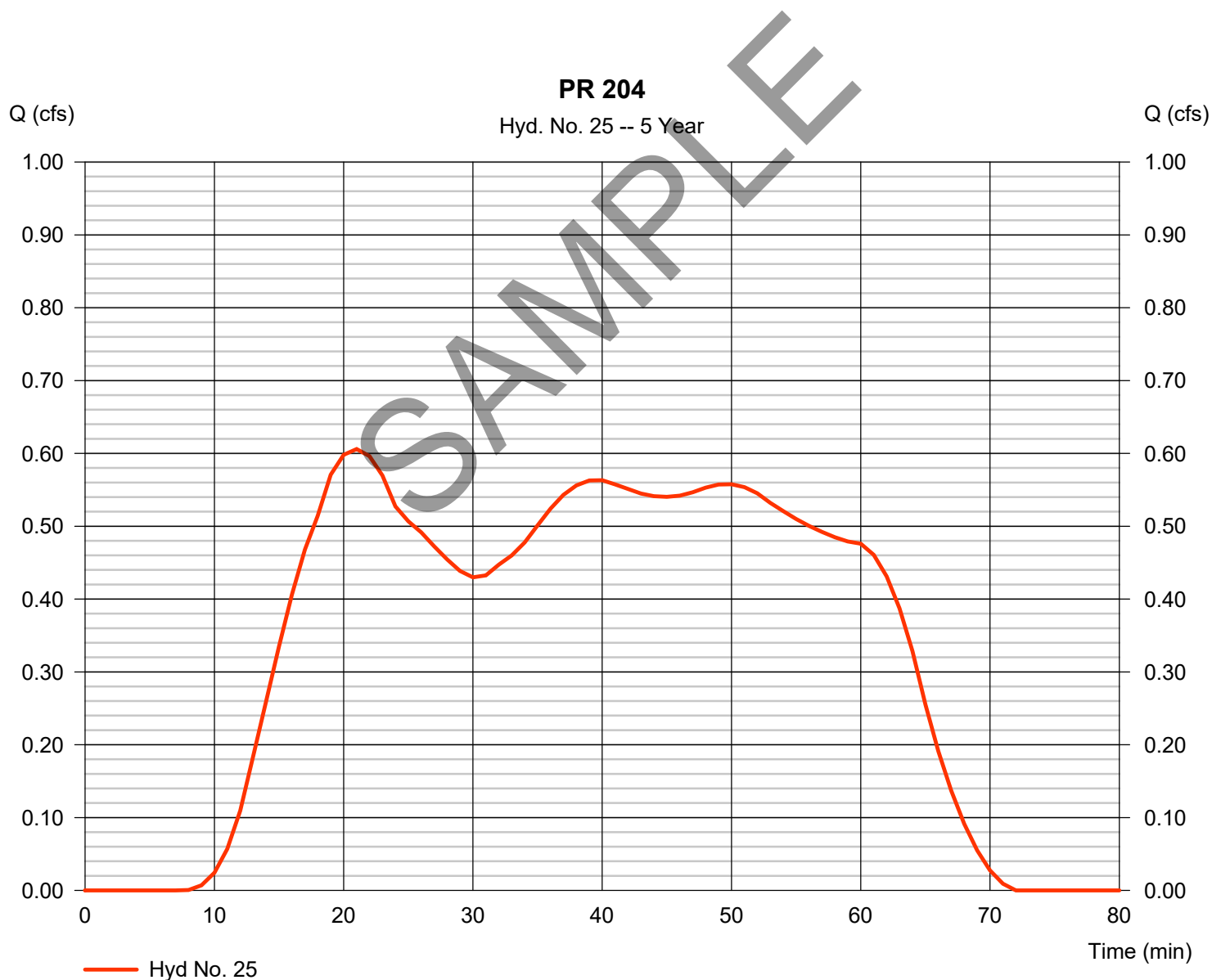
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 25

PR 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.606 cfs
Storm frequency	= 5 yrs	Time to peak	= 21 min
Time interval	= 1 min	Hyd. volume	= 1,599 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

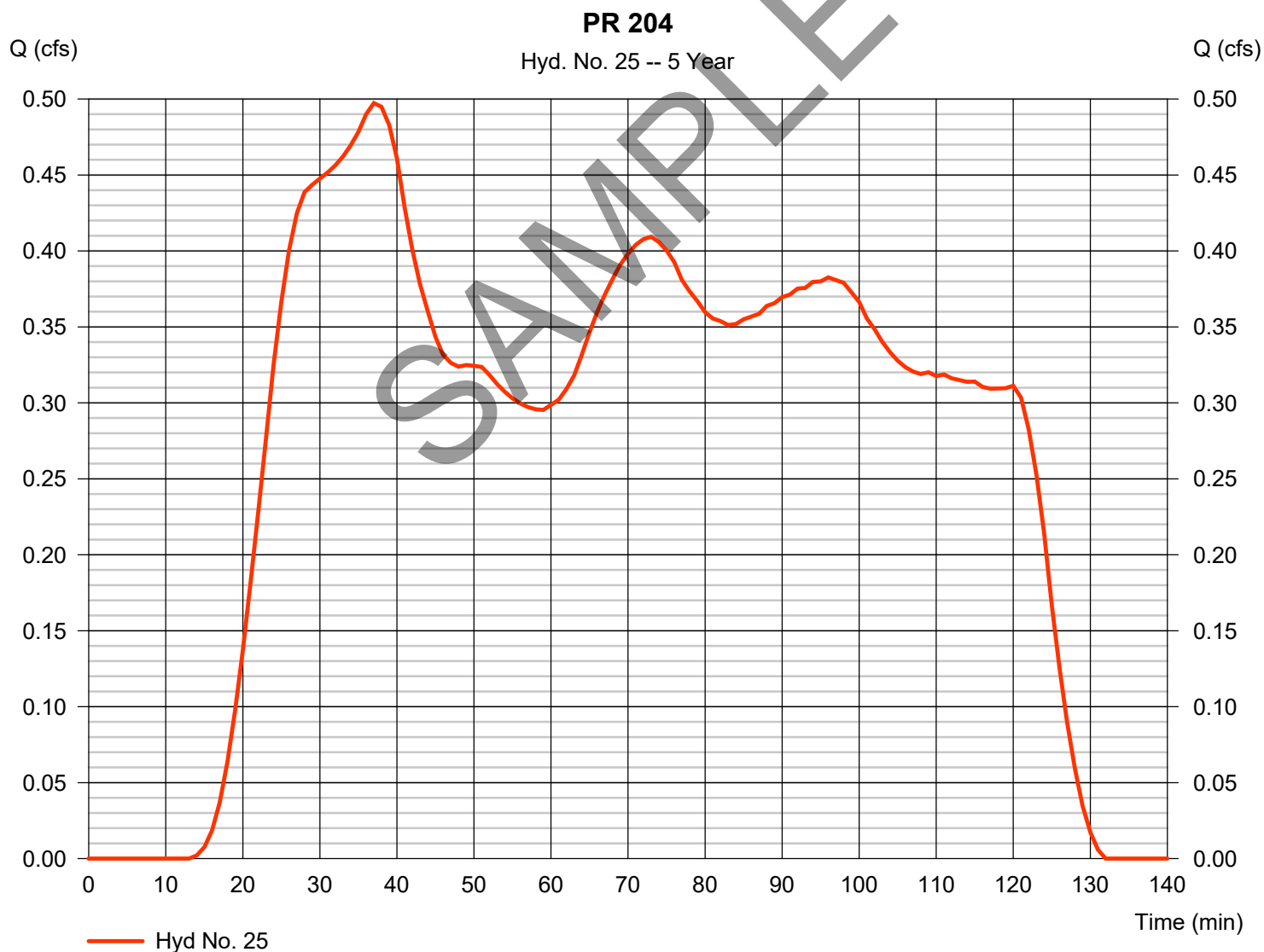
Wednesday, 03 / 20 / 2019

Hyd. No. 25

PR 204

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.497 cfs
Time to peak = 37 min
Hyd. volume = 2,279 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

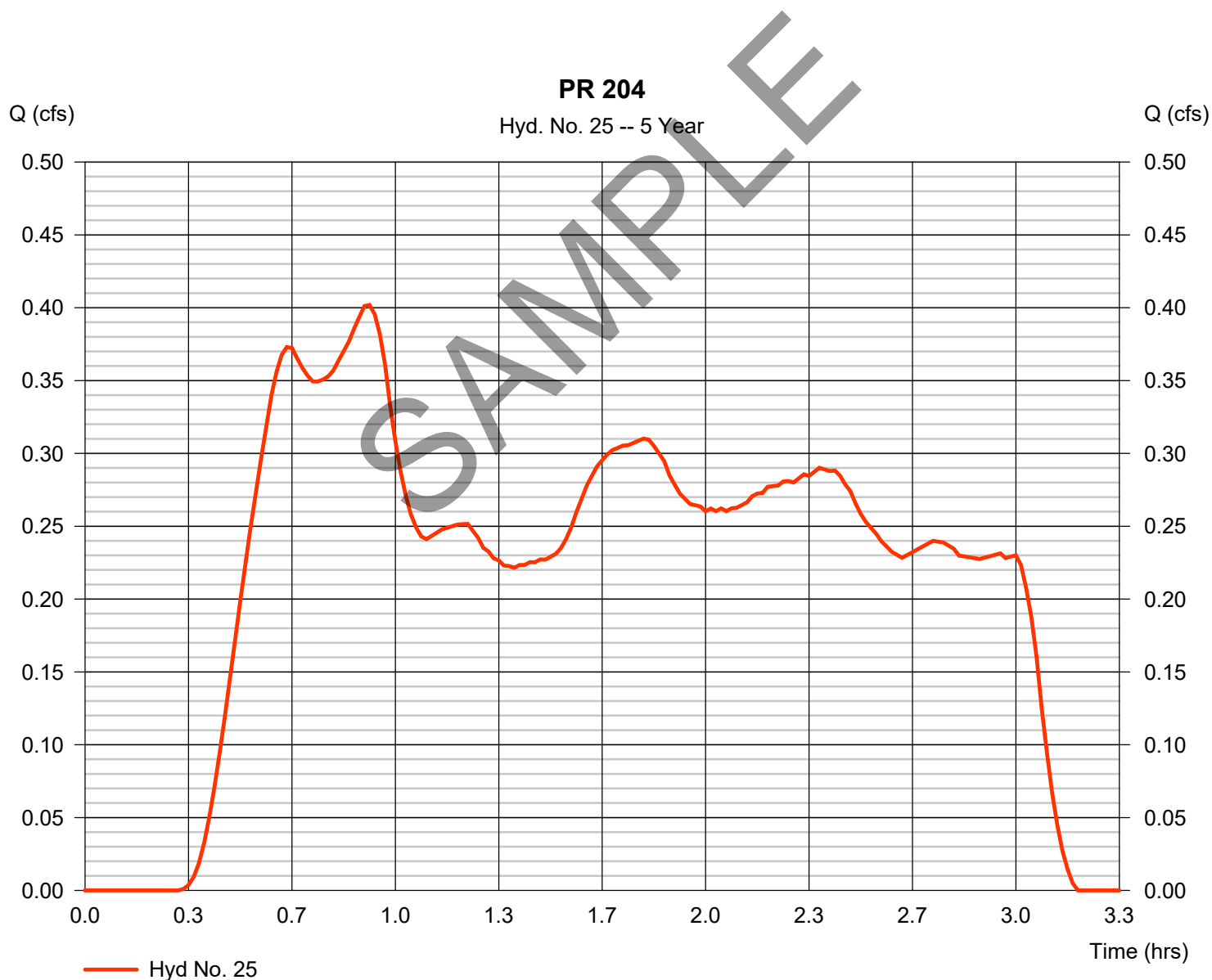
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 25

PR 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.402 cfs
Storm frequency	= 5 yrs	Time to peak	= 0.92 hrs
Time interval	= 1 min	Hyd. volume	= 2,608 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

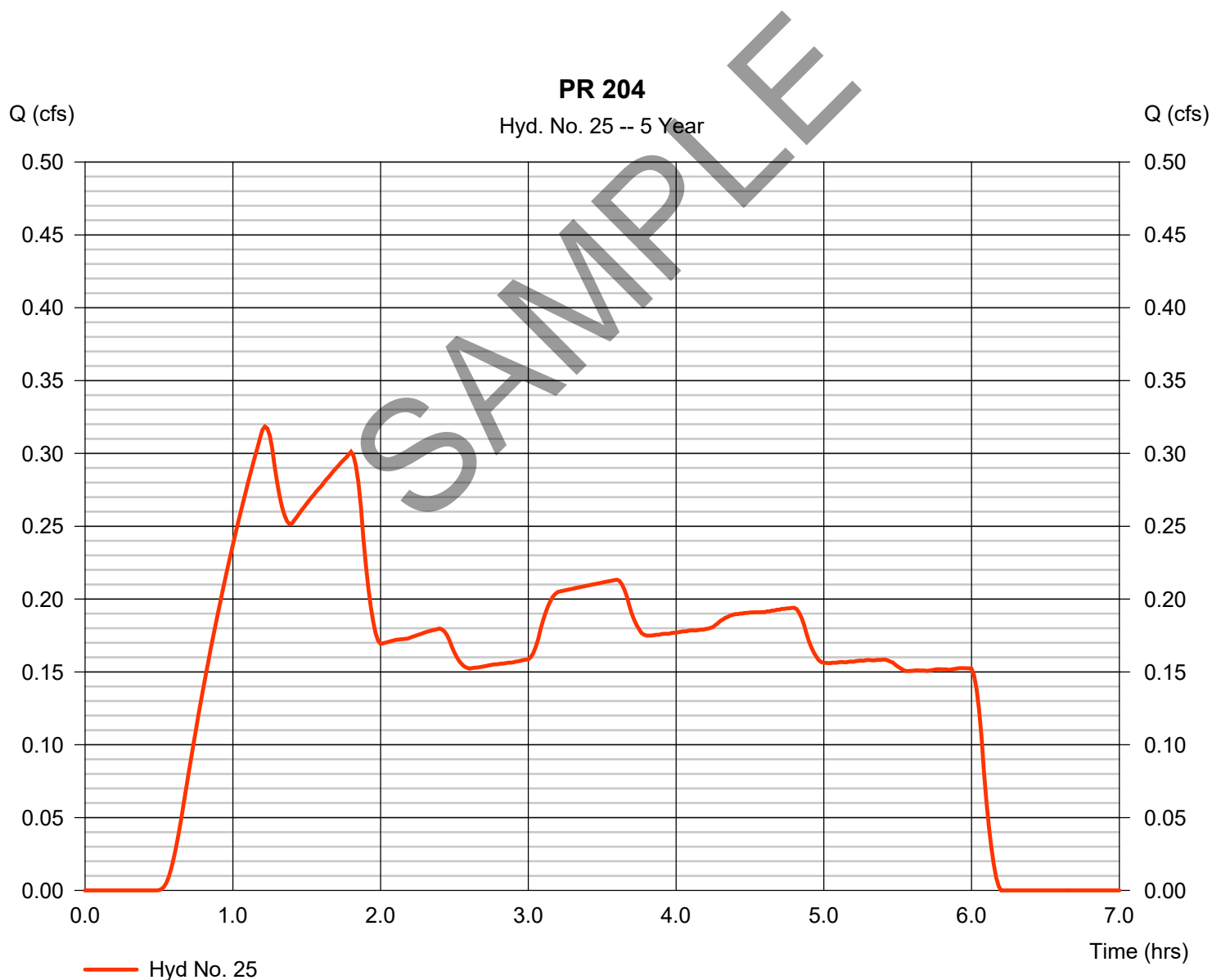
Wednesday, 03 / 20 / 2019

Hyd. No. 25

PR 204

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.318 cfs
Time to peak = 1.22 hrs
Hyd. volume = 3,727 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

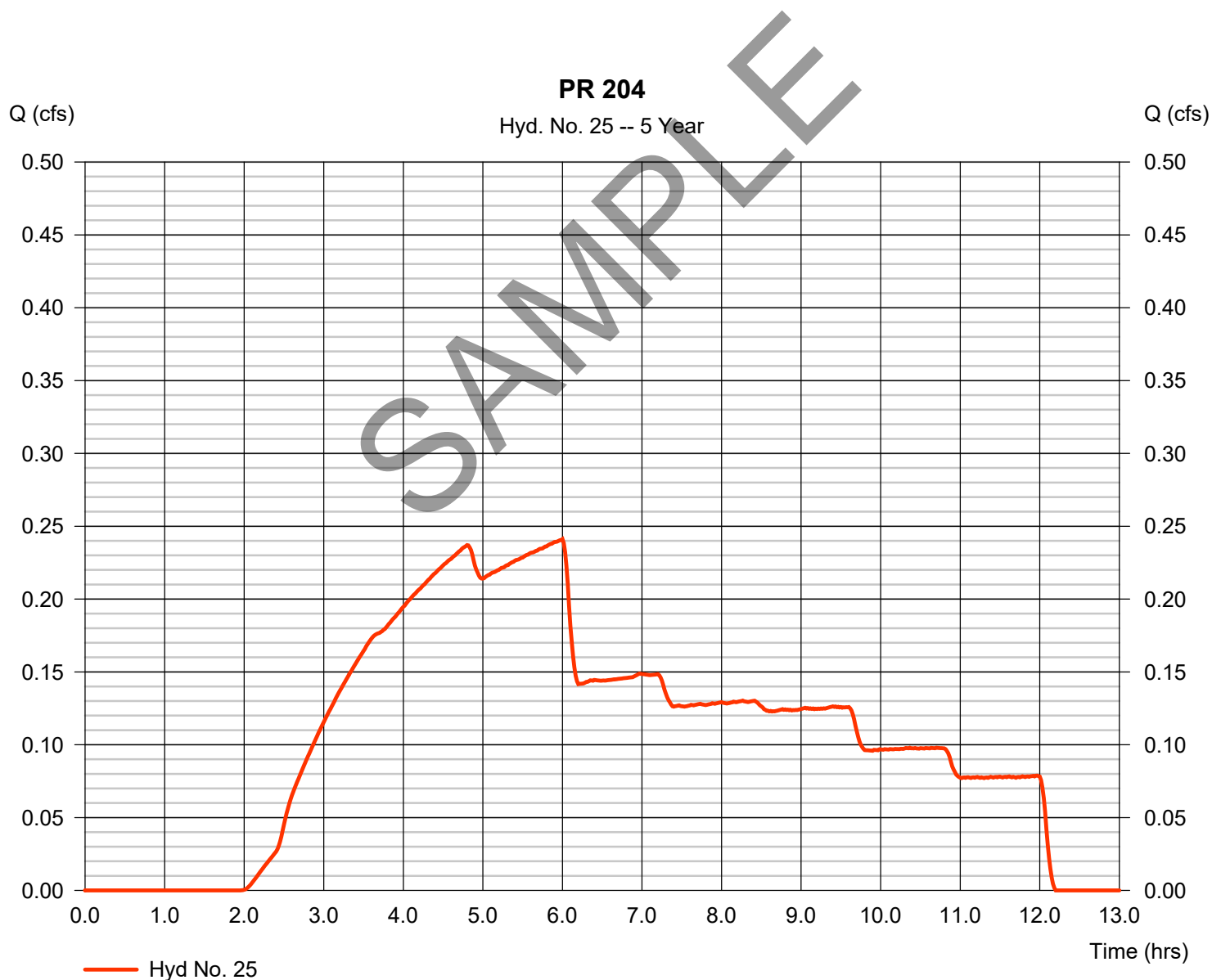
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 25

PR 204

Hydrograph type	= SCS Runoff	Peak discharge	= 0.241 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 4,925 cuft
Drainage area	= 0.900 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

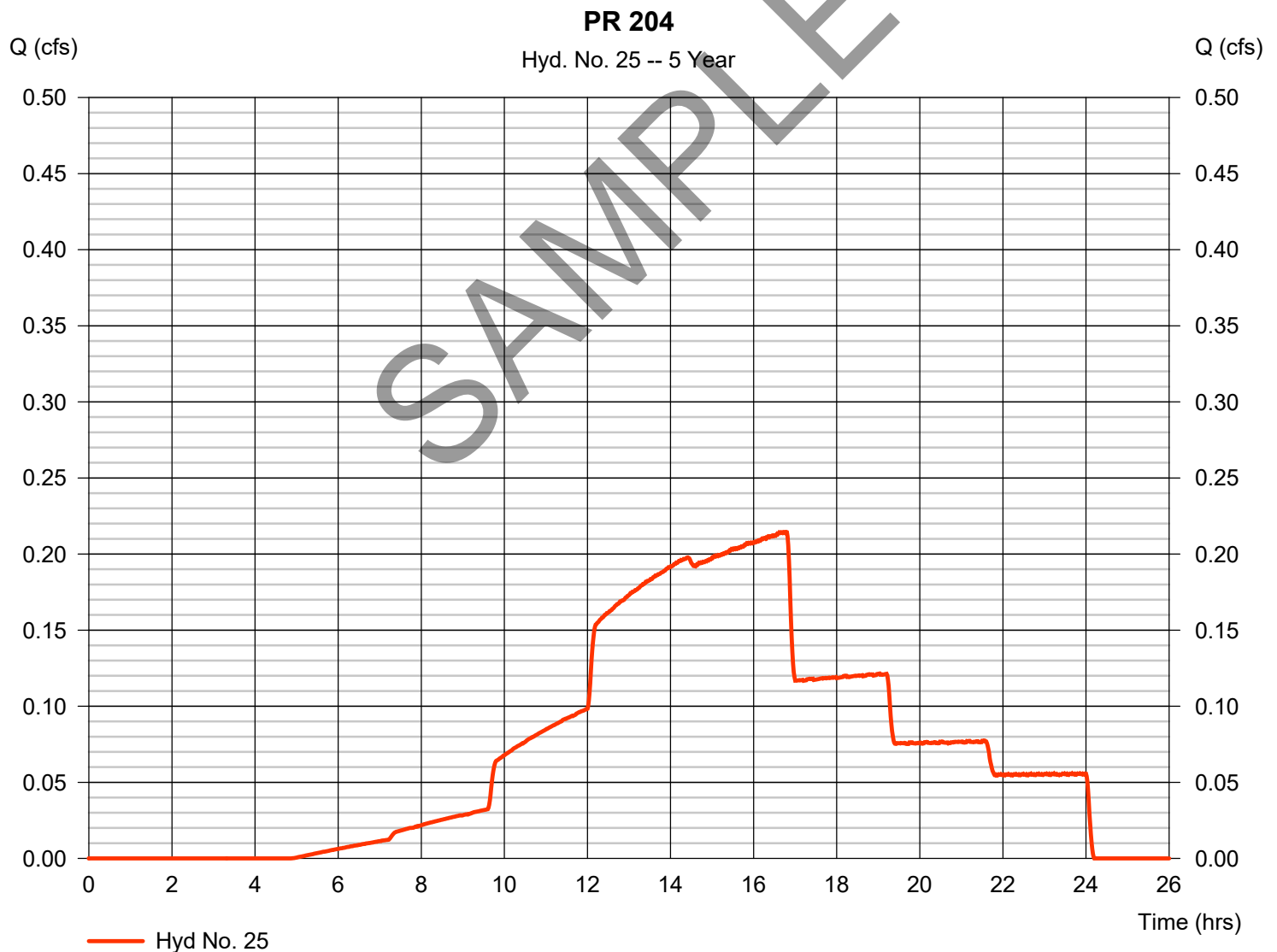
Wednesday, 03 / 20 / 2019

Hyd. No. 25

PR 204

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.215 cfs
Time to peak = 16.78 hrs
Hyd. volume = 6,449 cuft
Curve number = 82
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.30 min
Distribution = Custom
Shape factor = 484

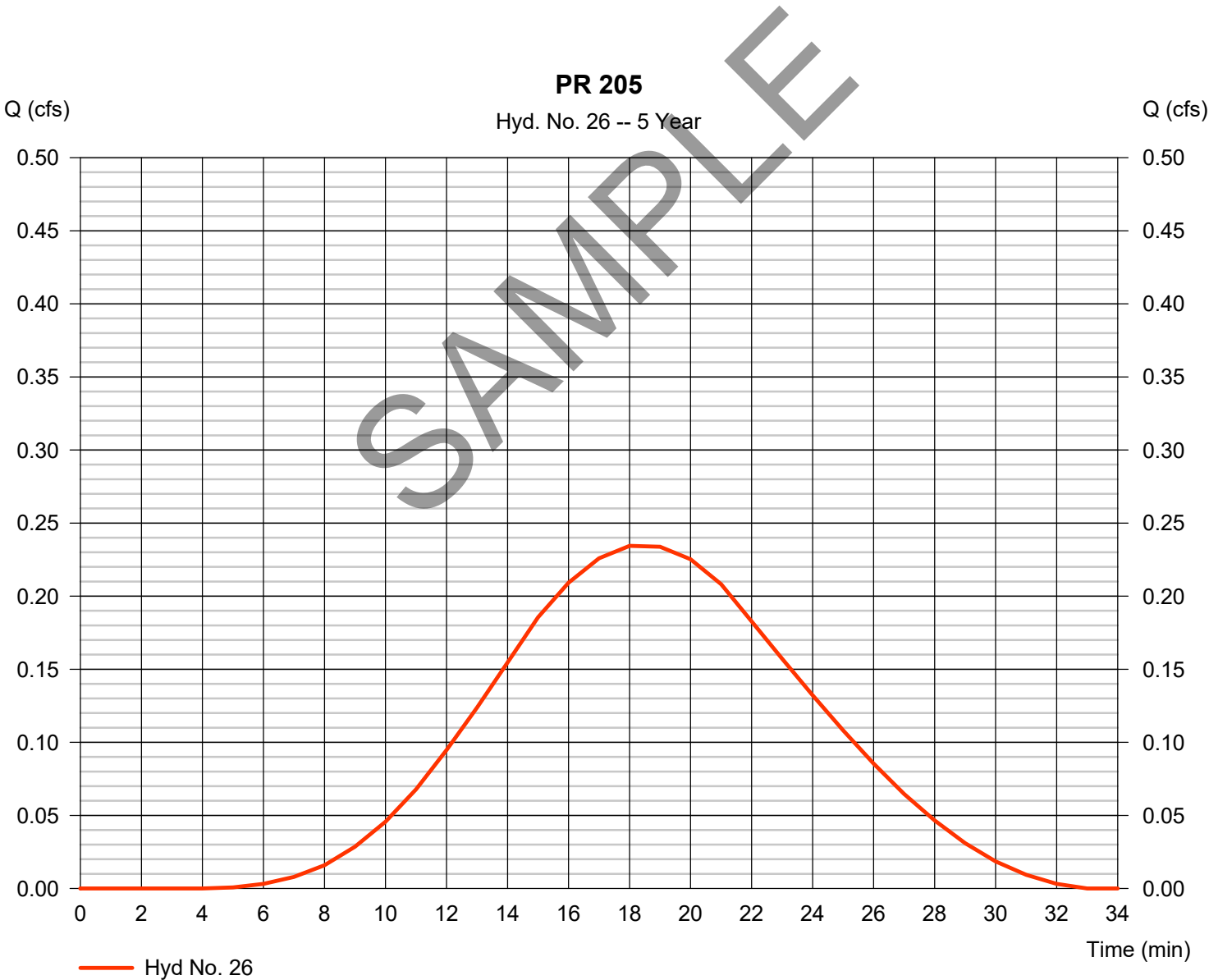


Hydrograph Report

Hyd. No. 26

PR 205

Hydrograph type	= SCS Runoff	Peak discharge	= 0.234 cfs
Storm frequency	= 5 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 174 cuft
Drainage area	= 0.600 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

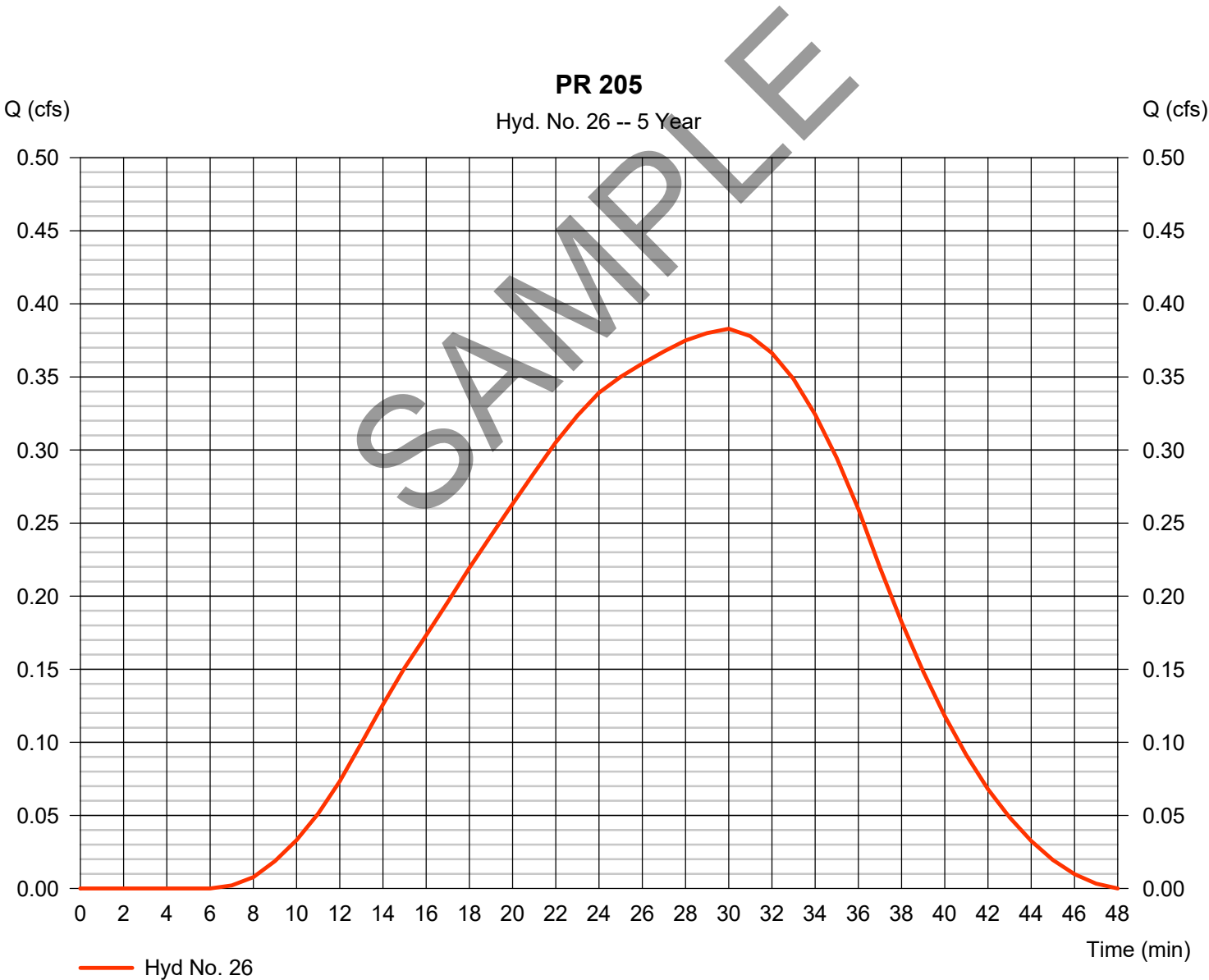


Hydrograph Report

Hyd. No. 26

PR 205

Hydrograph type	= SCS Runoff	Peak discharge	= 0.383 cfs
Storm frequency	= 5 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 482 cuft
Drainage area	= 0.600 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

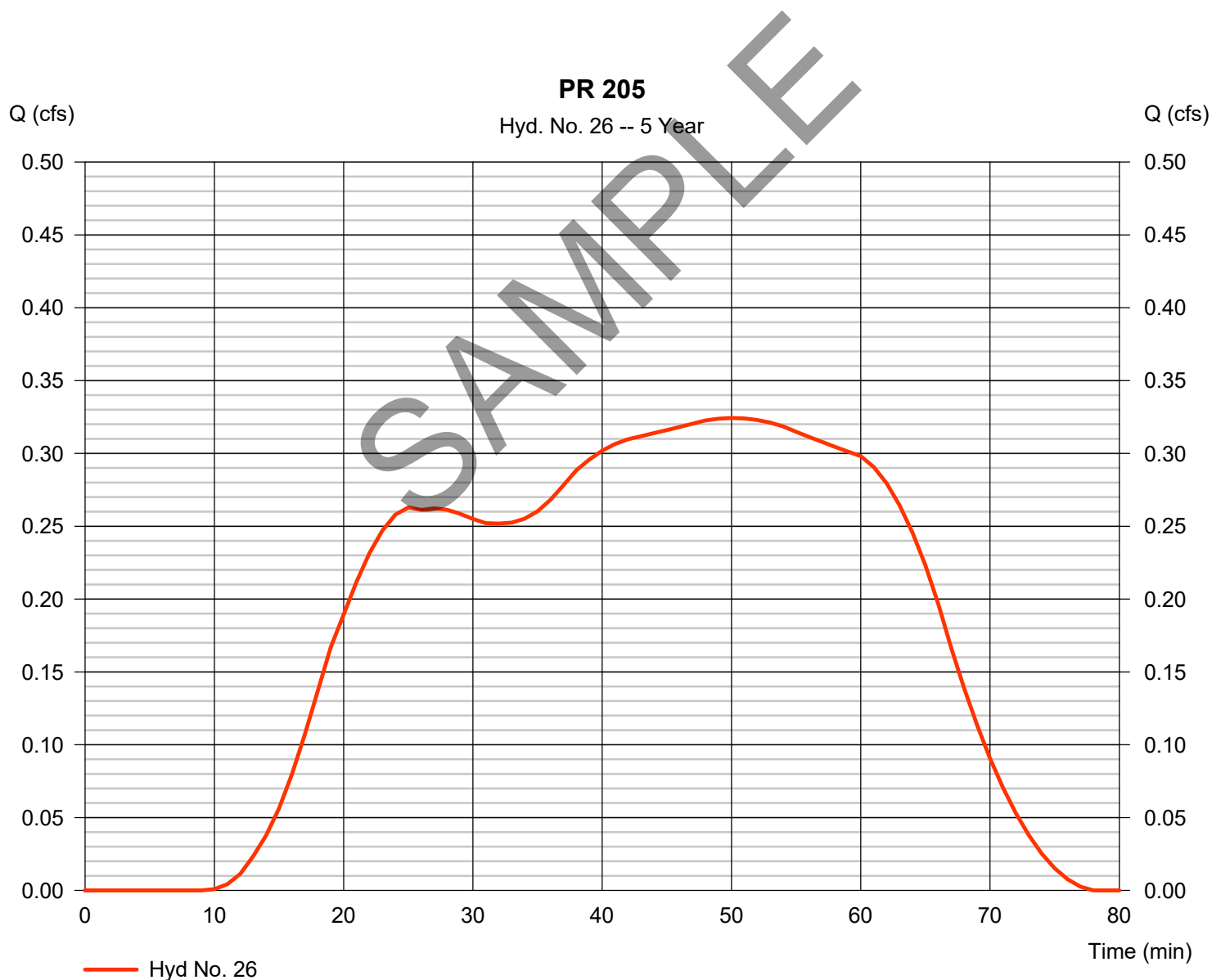
Tuesday, 03 / 19 / 2019

Hyd. No. 26

PR 205

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.324 cfs
Time to peak = 50 min
Hyd. volume = 872 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

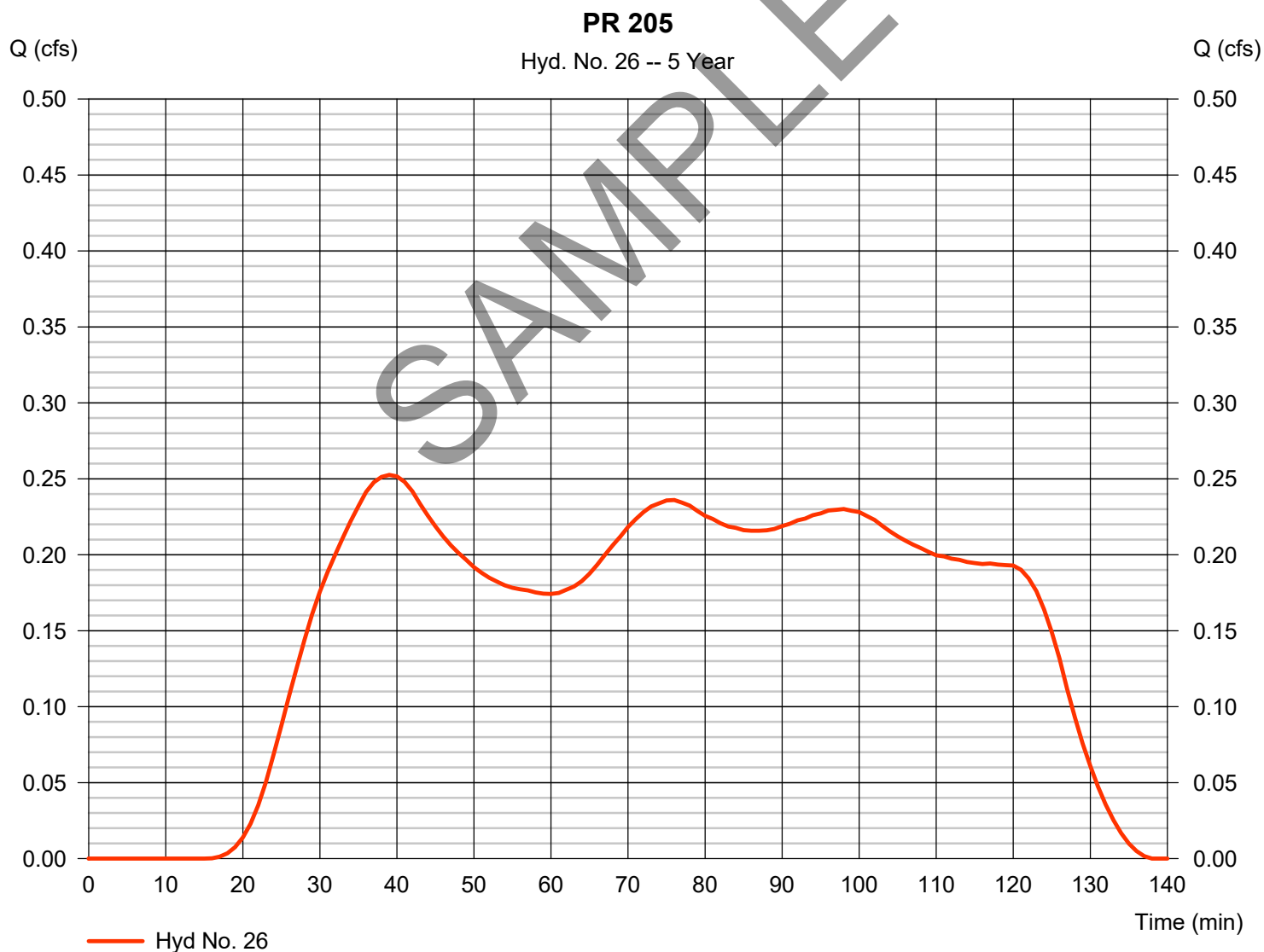
Tuesday, 03 / 19 / 2019

Hyd. No. 26

PR 205

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 0.253 cfs
Time to peak = 39 min
Hyd. volume = 1,290 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

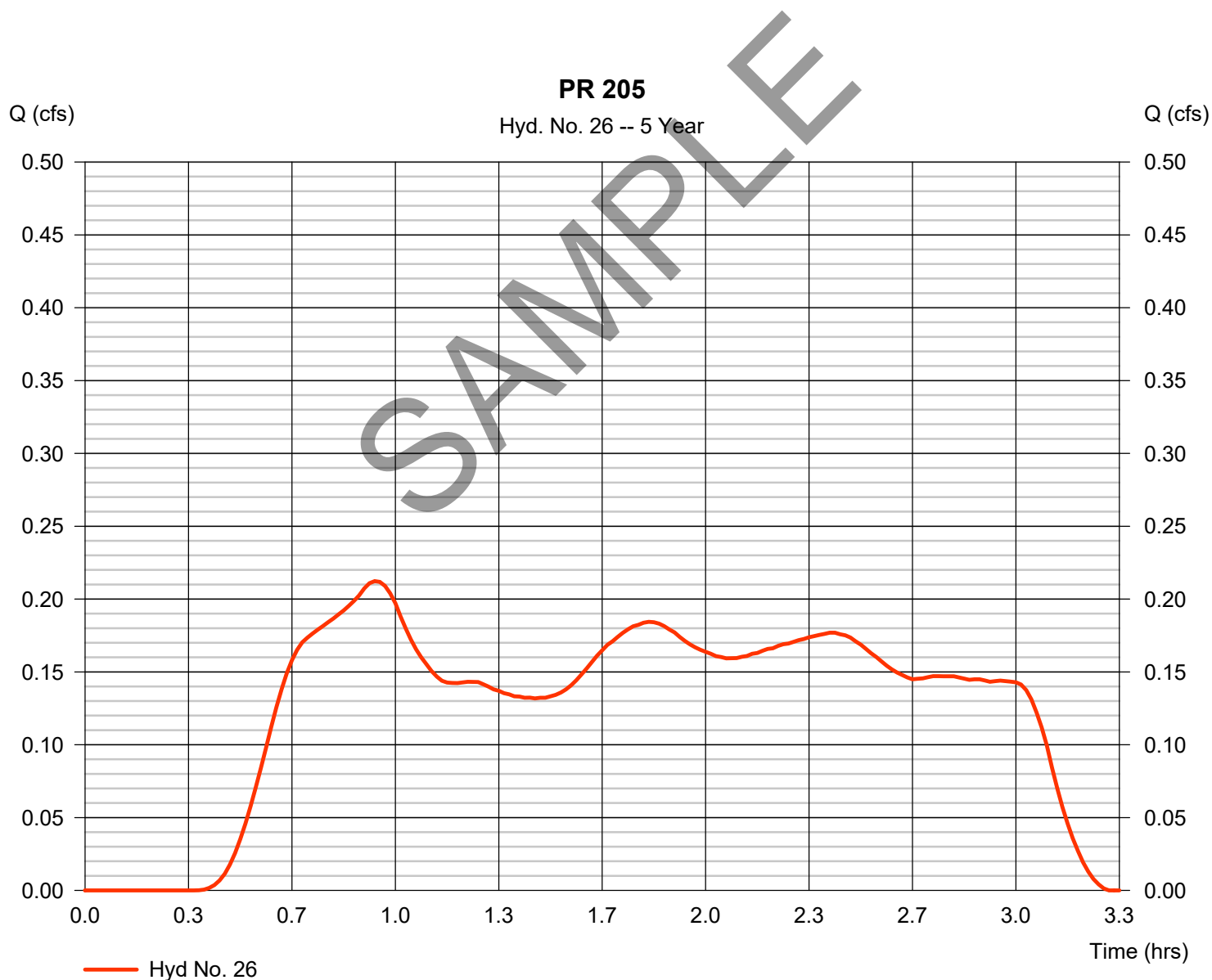
Tuesday, 03 / 19 / 2019

Hyd. No. 26

PR 205

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 0.212 cfs
Time to peak = 0.93 hrs
Hyd. volume = 1,496 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

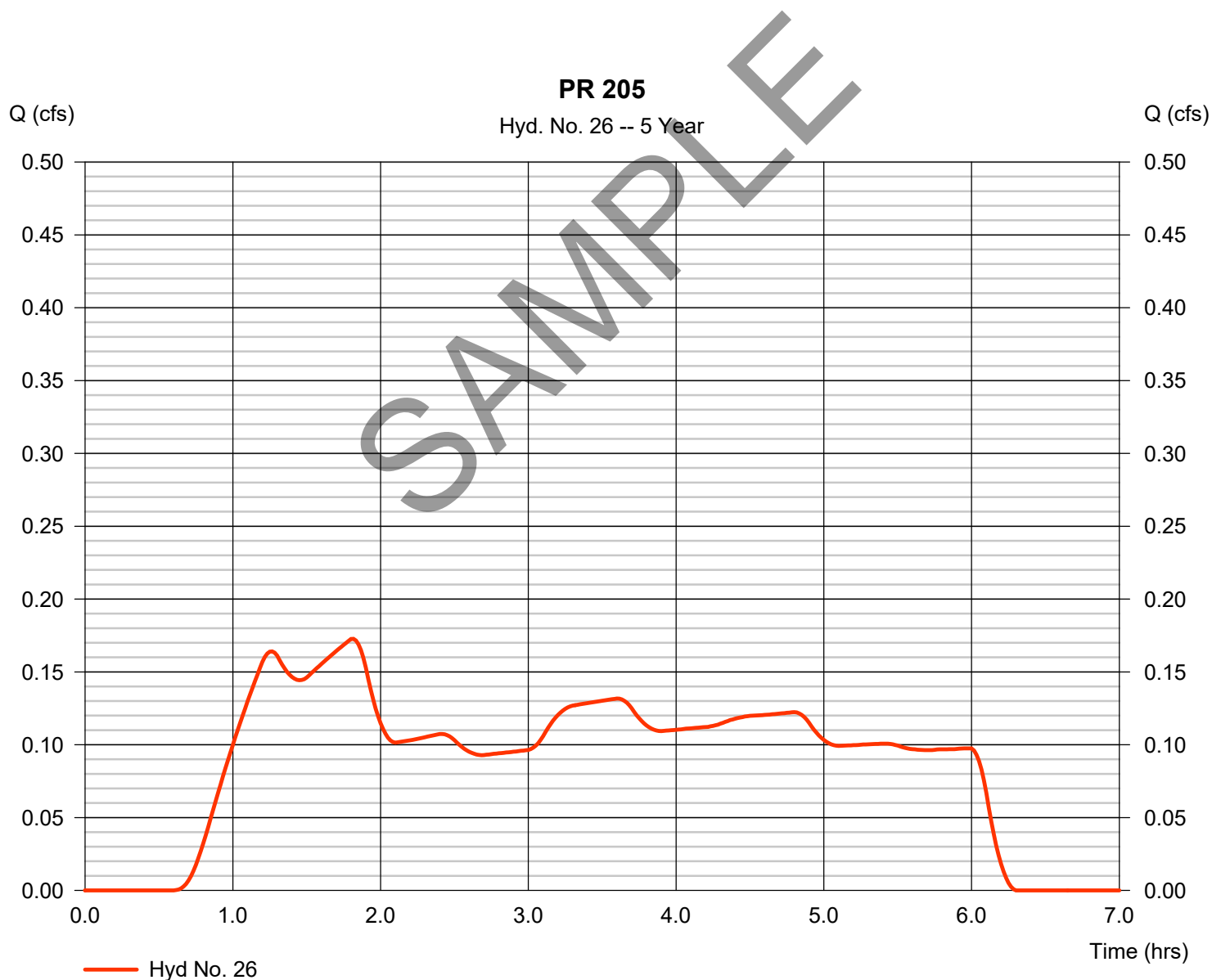
Tuesday, 03 / 19 / 2019

Hyd. No. 26

PR 205

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.173 cfs
Time to peak = 1.82 hrs
Hyd. volume = 2,206 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

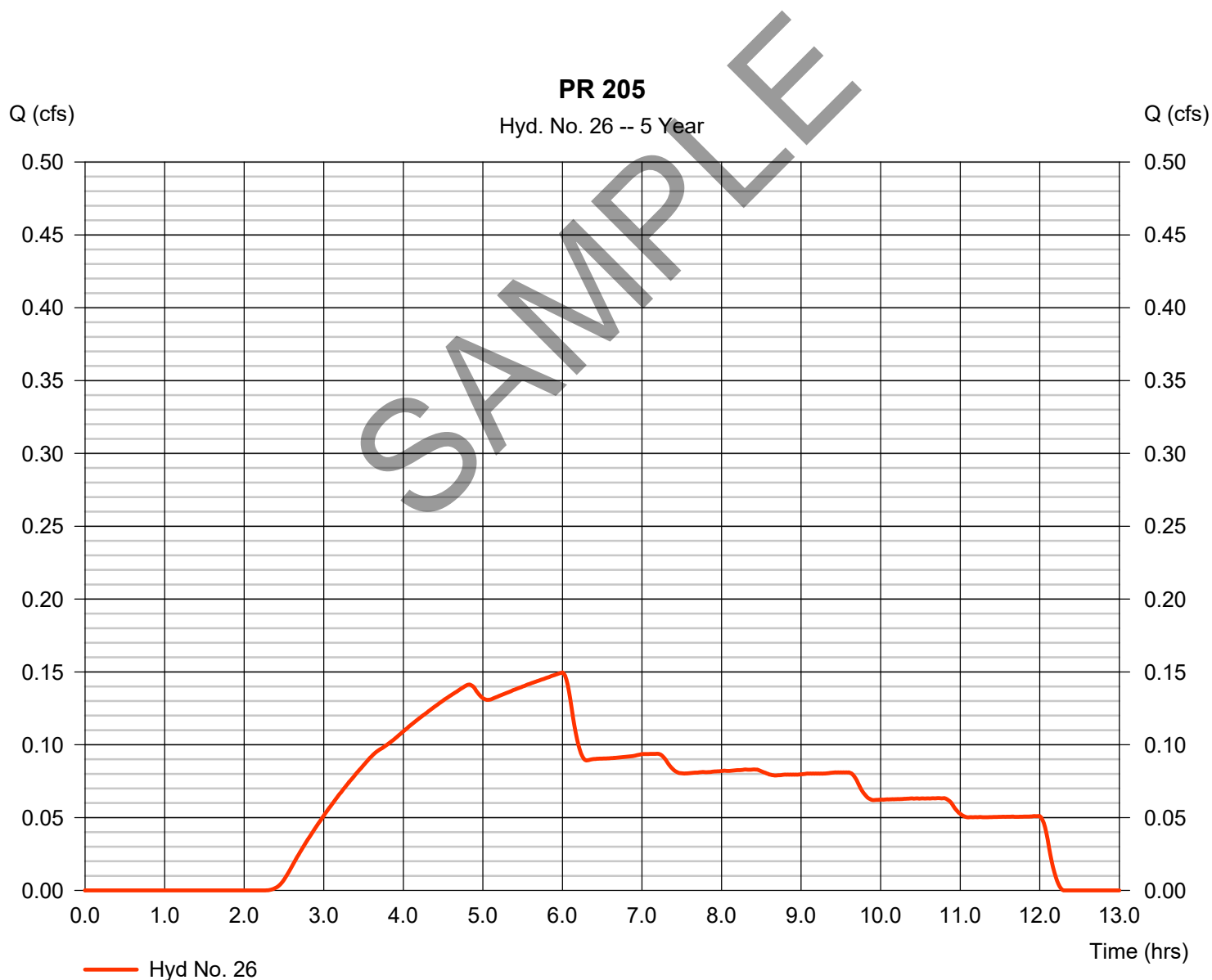
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 26

PR 205

Hydrograph type	= SCS Runoff	Peak discharge	= 0.150 cfs
Storm frequency	= 5 yrs	Time to peak	= 6.00 hrs
Time interval	= 1 min	Hyd. volume	= 2,980 cuft
Drainage area	= 0.600 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.70 min
Total precip.	= 3.21 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

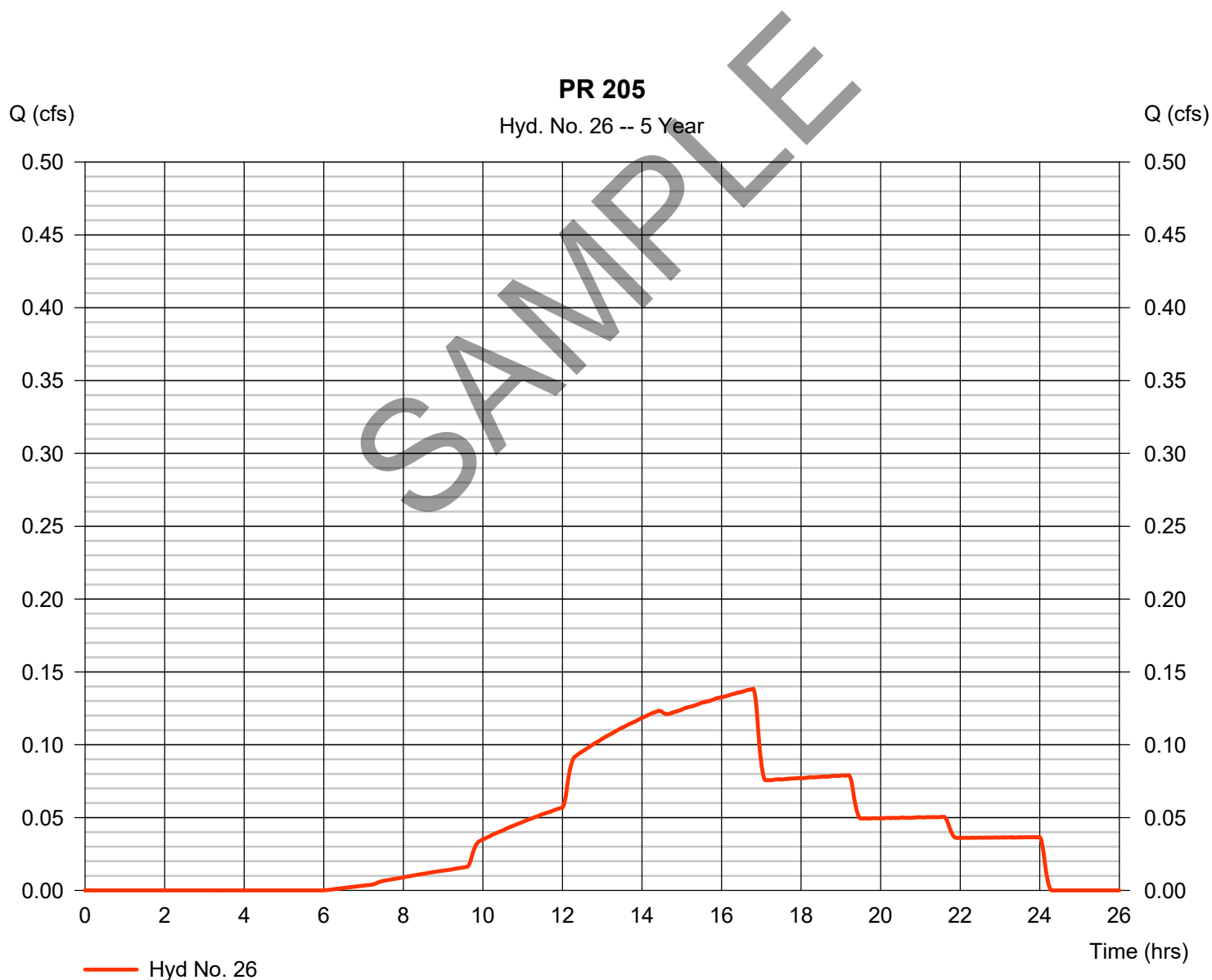
Tuesday, 03 / 19 / 2019

Hyd. No. 26

PR 205

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.138 cfs
Time to peak = 16.80 hrs
Hyd. volume = 3,978 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

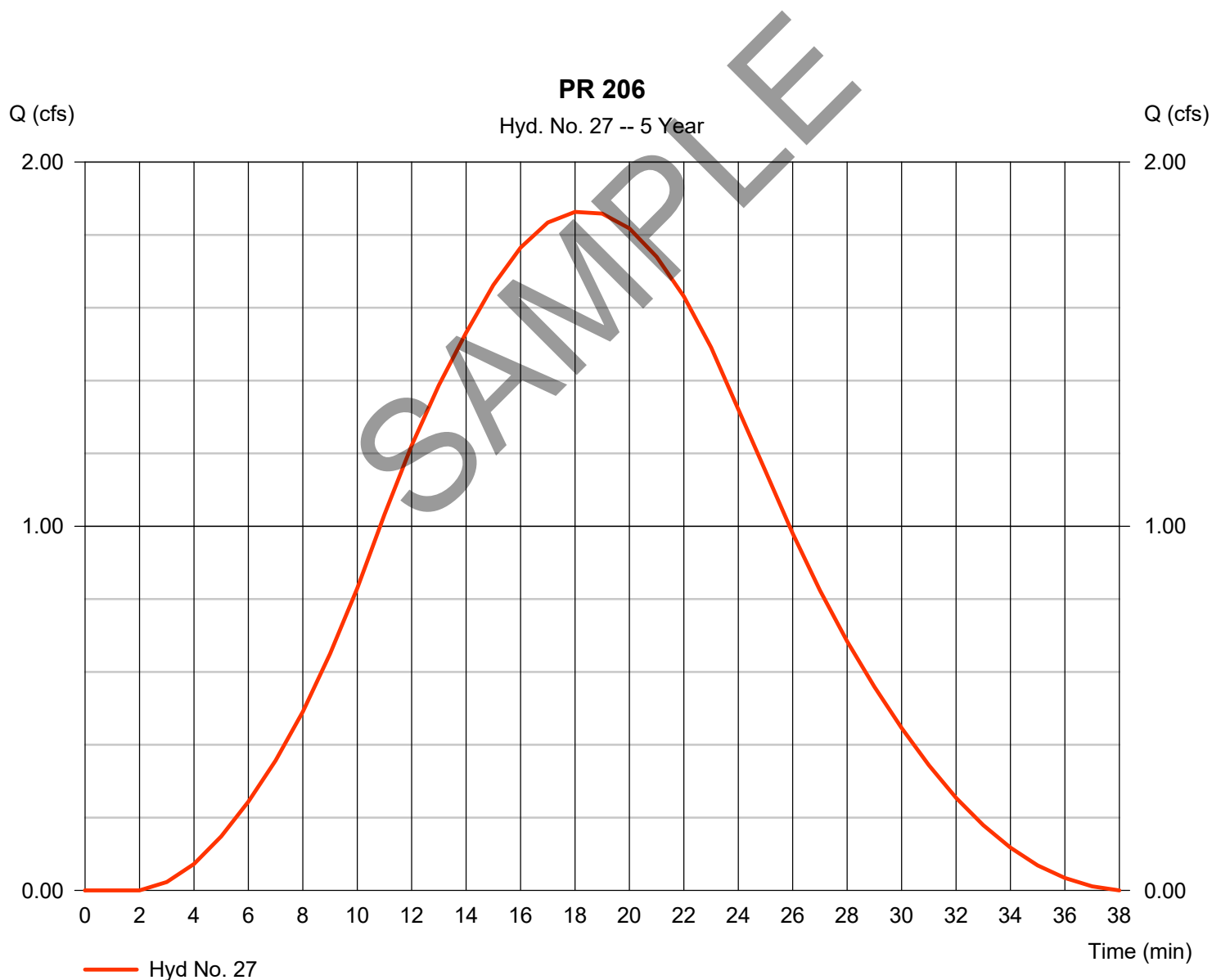
Tuesday, 03 / 19 / 2019

Hyd. No. 27

PR 206

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 1.863 cfs
Time to peak = 18 min
Hyd. volume = 1,837 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.70 min
Distribution = Custom
Shape factor = 484

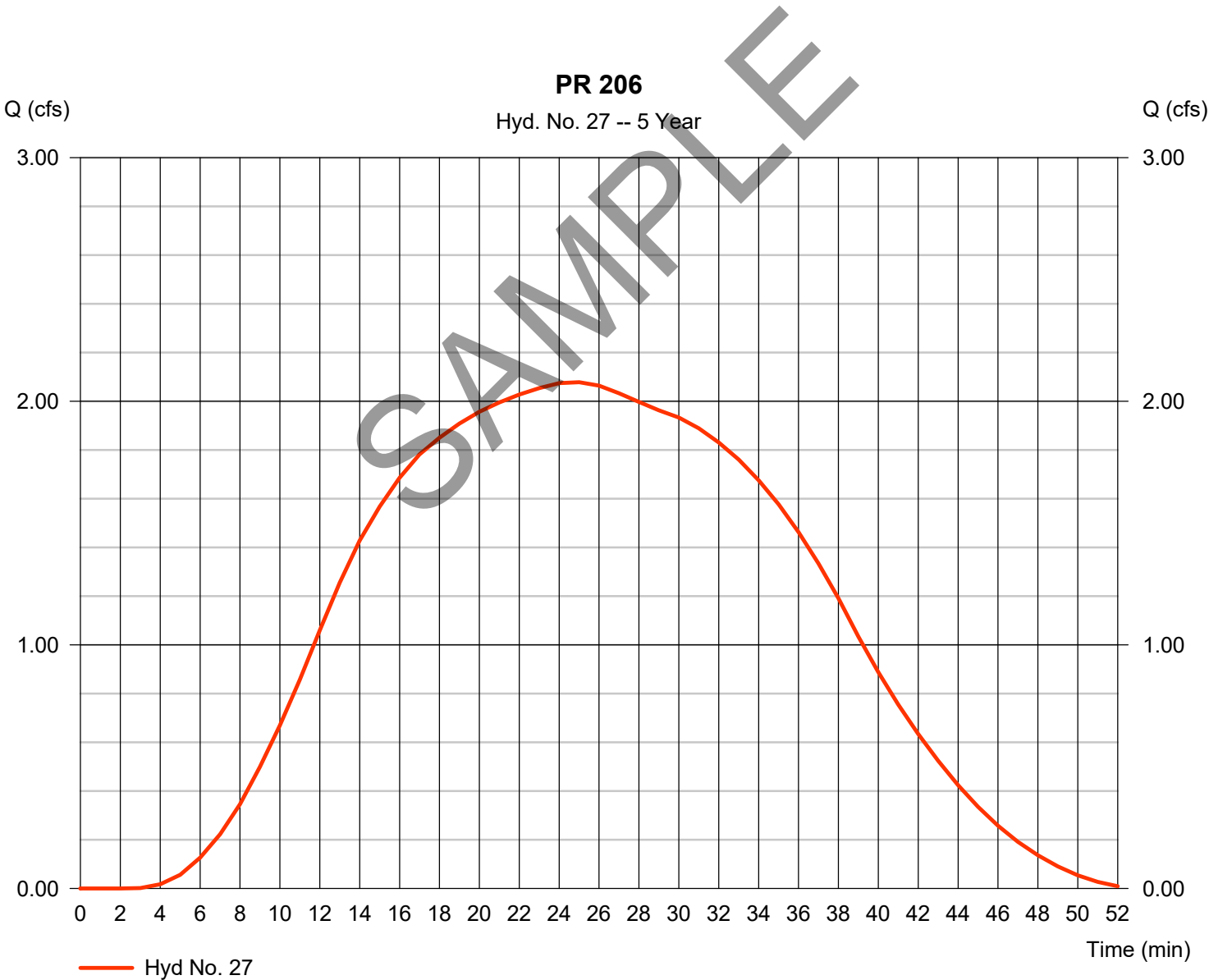


Hydrograph Report

Hyd. No. 27

PR 206

Hydrograph type	= SCS Runoff	Peak discharge	= 2.078 cfs
Storm frequency	= 5 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 3,335 cuft
Drainage area	= 1.500 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.70 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

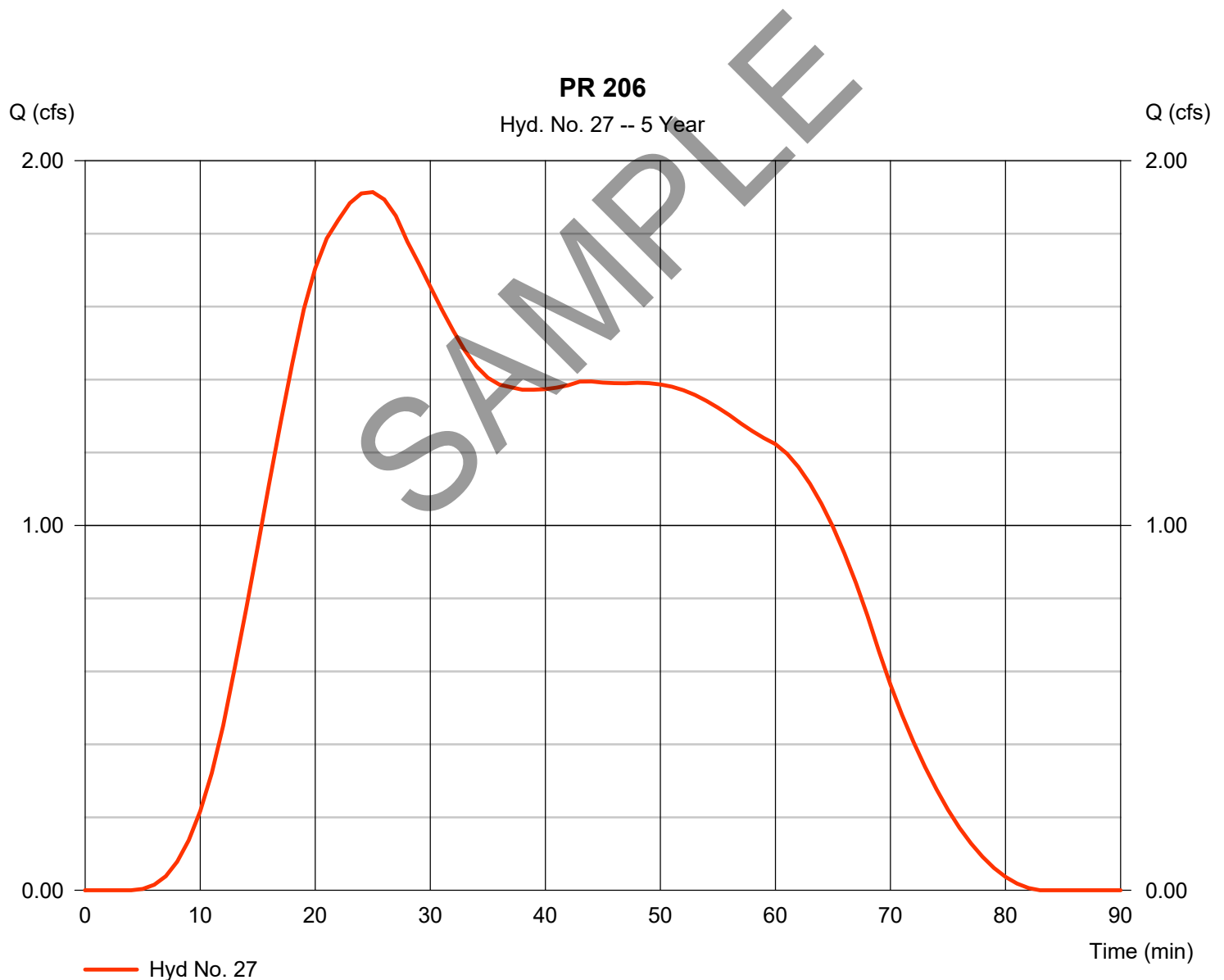
Tuesday, 03 / 19 / 2019

Hyd. No. 27

PR 206

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 1.914 cfs
Time to peak = 25 min
Hyd. volume = 4,905 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

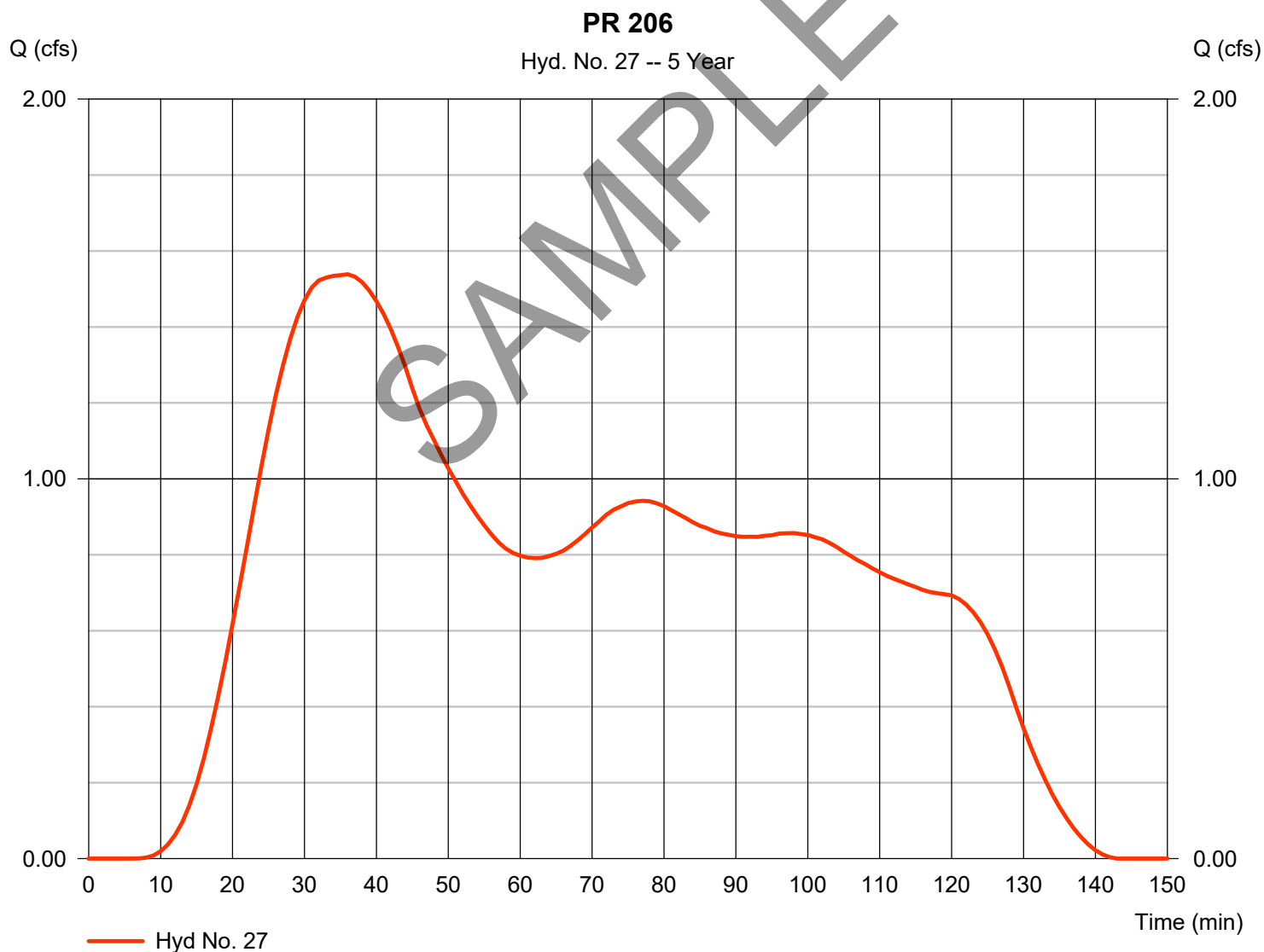
Tuesday, 03 / 19 / 2019

Hyd. No. 27

PR 206

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 1.538 cfs
Time to peak = 36 min
Hyd. volume = 6,423 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

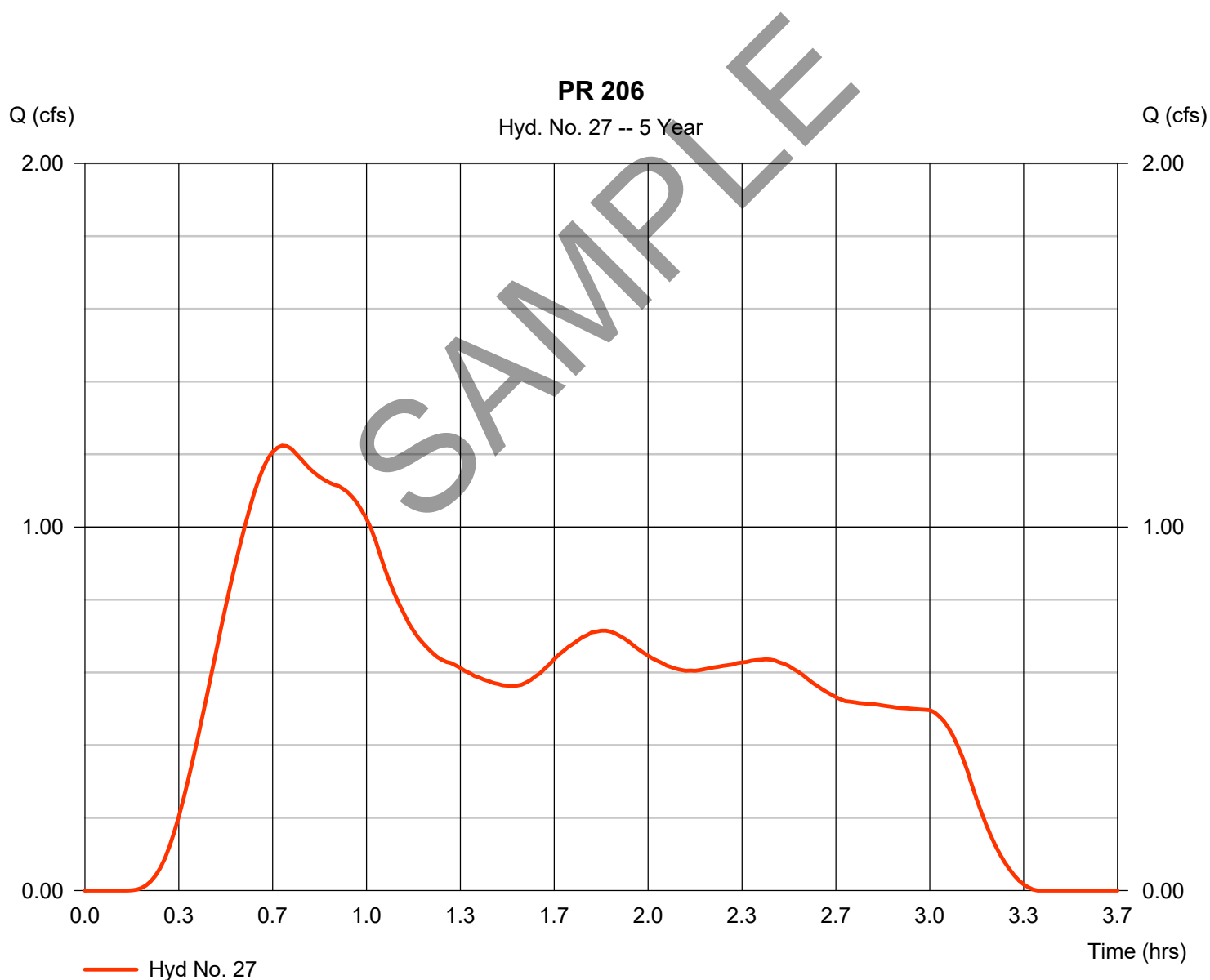
Tuesday, 03 / 19 / 2019

Hyd. No. 27

PR 206

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 1.224 cfs
Time to peak = 0.70 hrs
Hyd. volume = 7,133 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

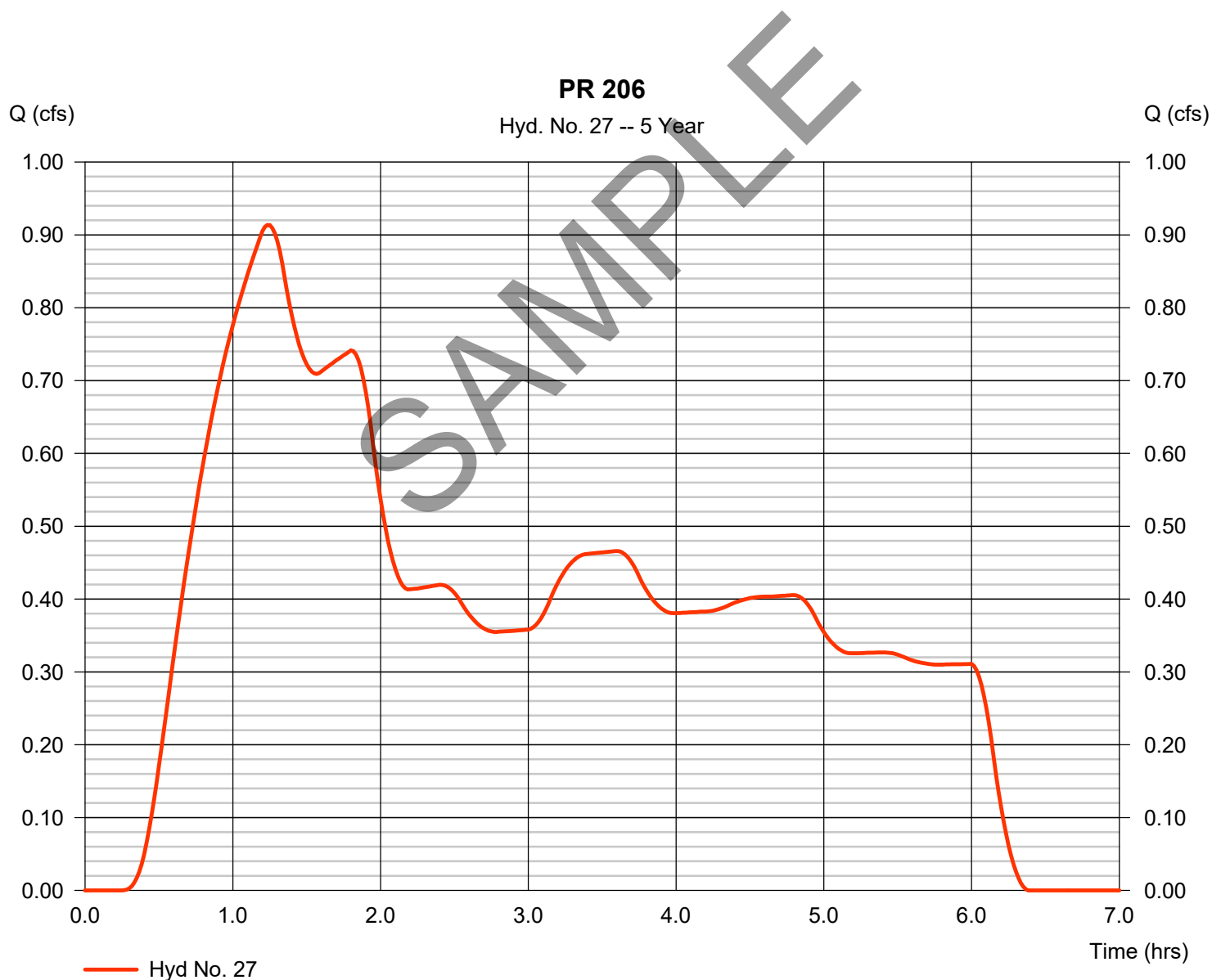
Tuesday, 03 / 19 / 2019

Hyd. No. 27

PR 206

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.914 cfs
Time to peak = 1.23 hrs
Hyd. volume = 9,462 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

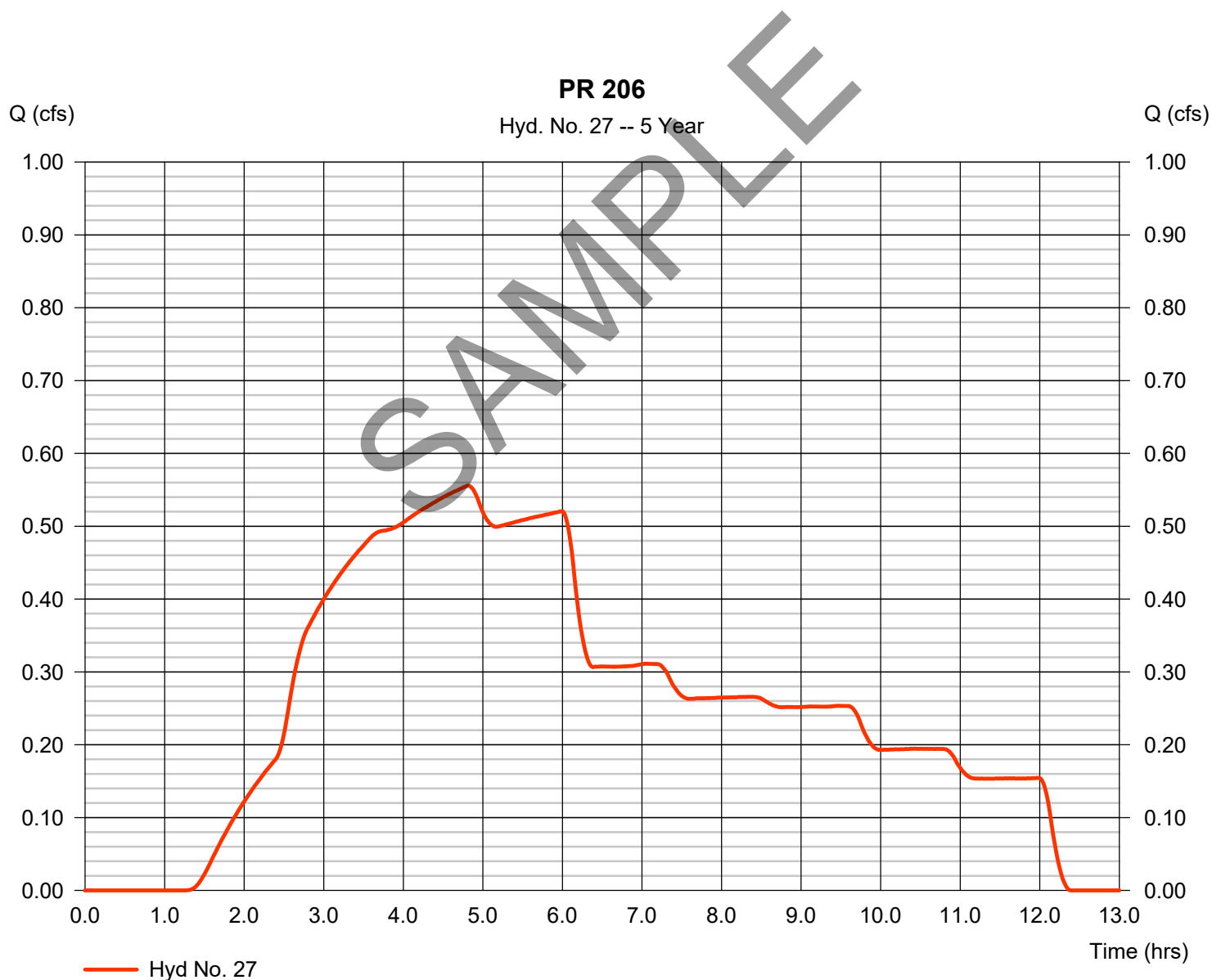
Tuesday, 03 / 19 / 2019

Hyd. No. 27

PR 206

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.556 cfs
Time to peak = 4.82 hrs
Hyd. volume = 11,858 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

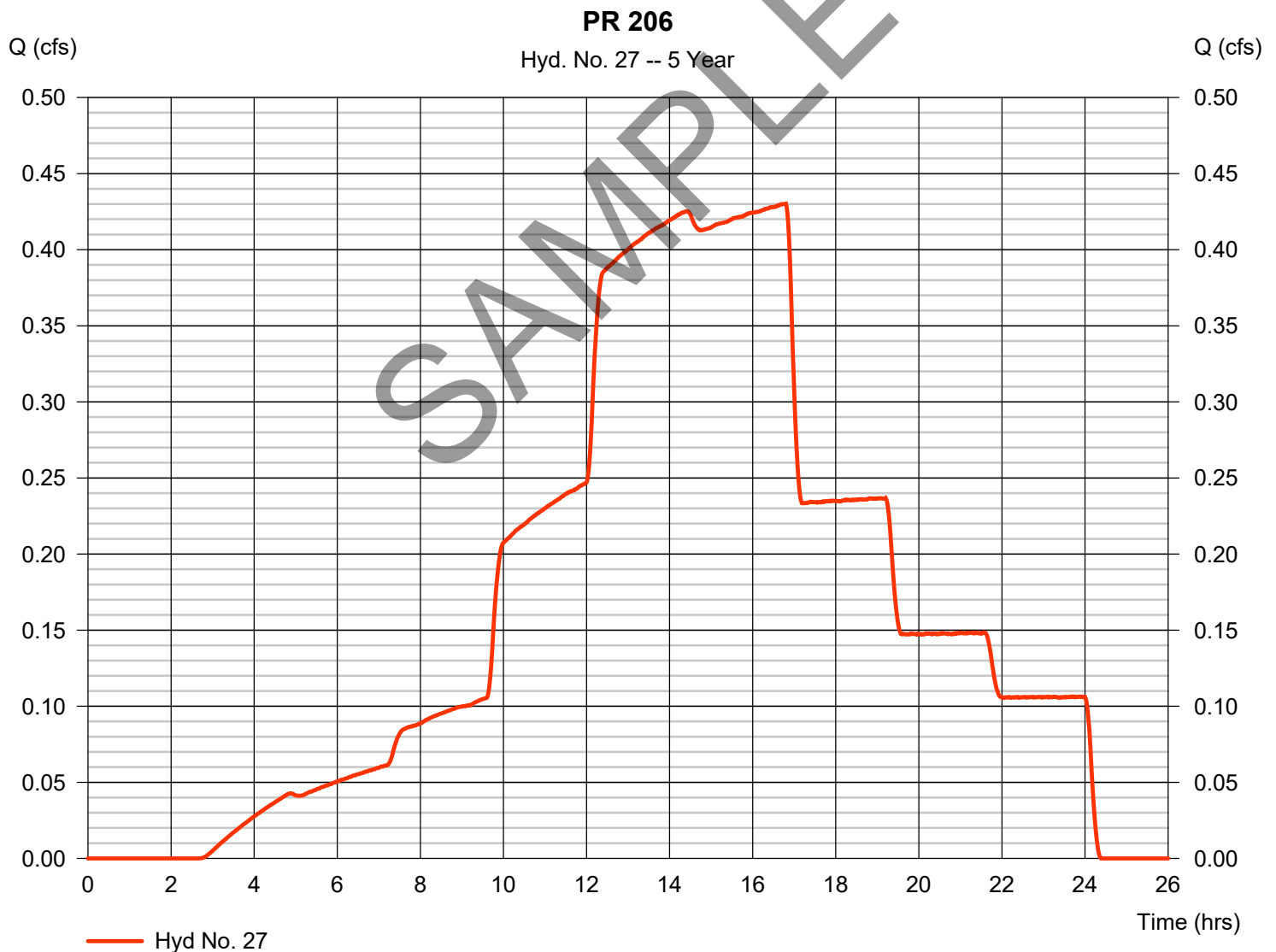
Tuesday, 03 / 19 / 2019

Hyd. No. 27

PR 206

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 1.500 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.430 cfs
Time to peak = 16.80 hrs
Hyd. volume = 14,813 cuft
Curve number = 90
Hydraulic length = 0 ft
Time of conc. (Tc) = 14.70 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

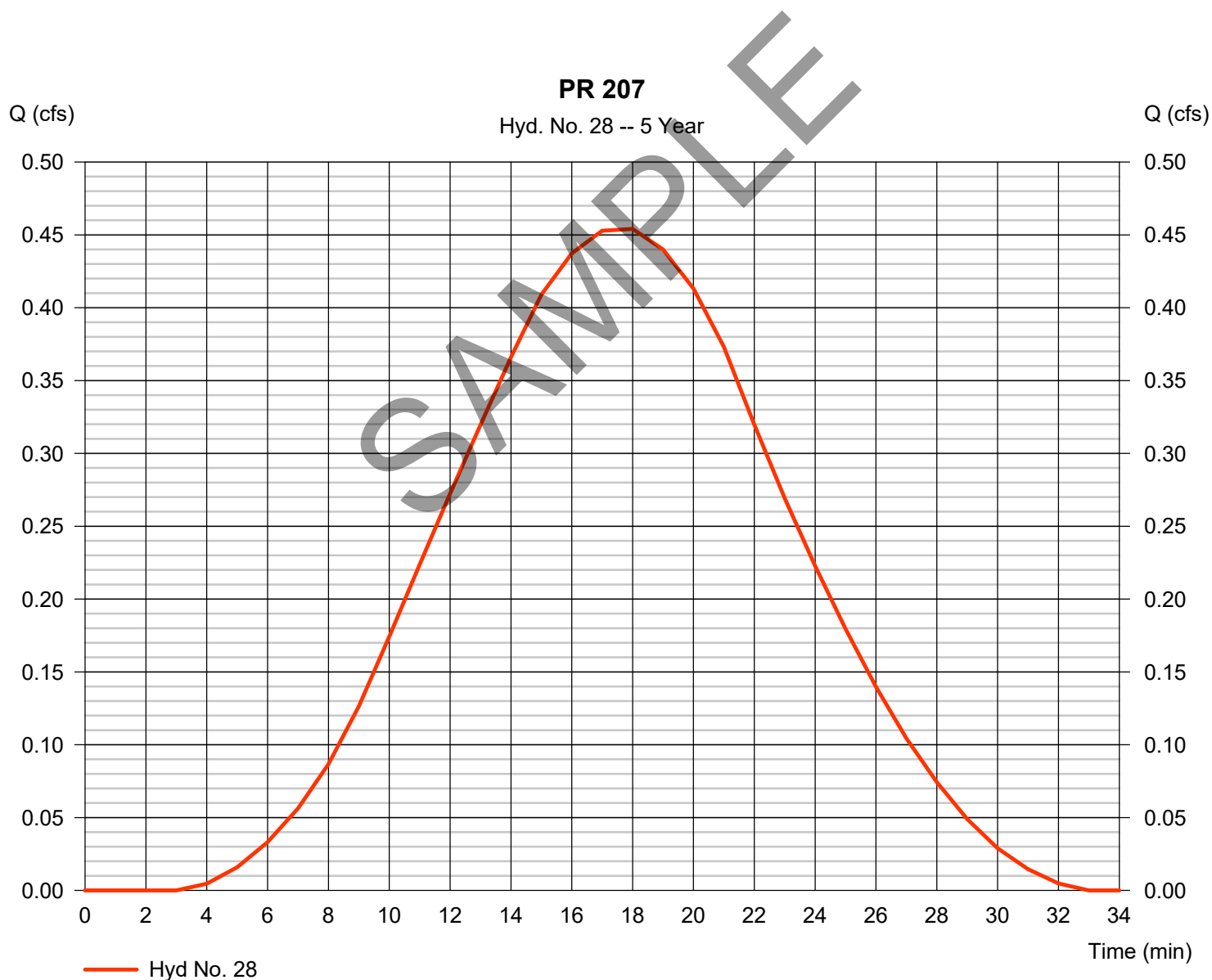
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 28

PR 207

Hydrograph type	= SCS Runoff	Peak discharge	= 0.454 cfs
Storm frequency	= 5 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 364 cuft
Drainage area	= 0.600 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

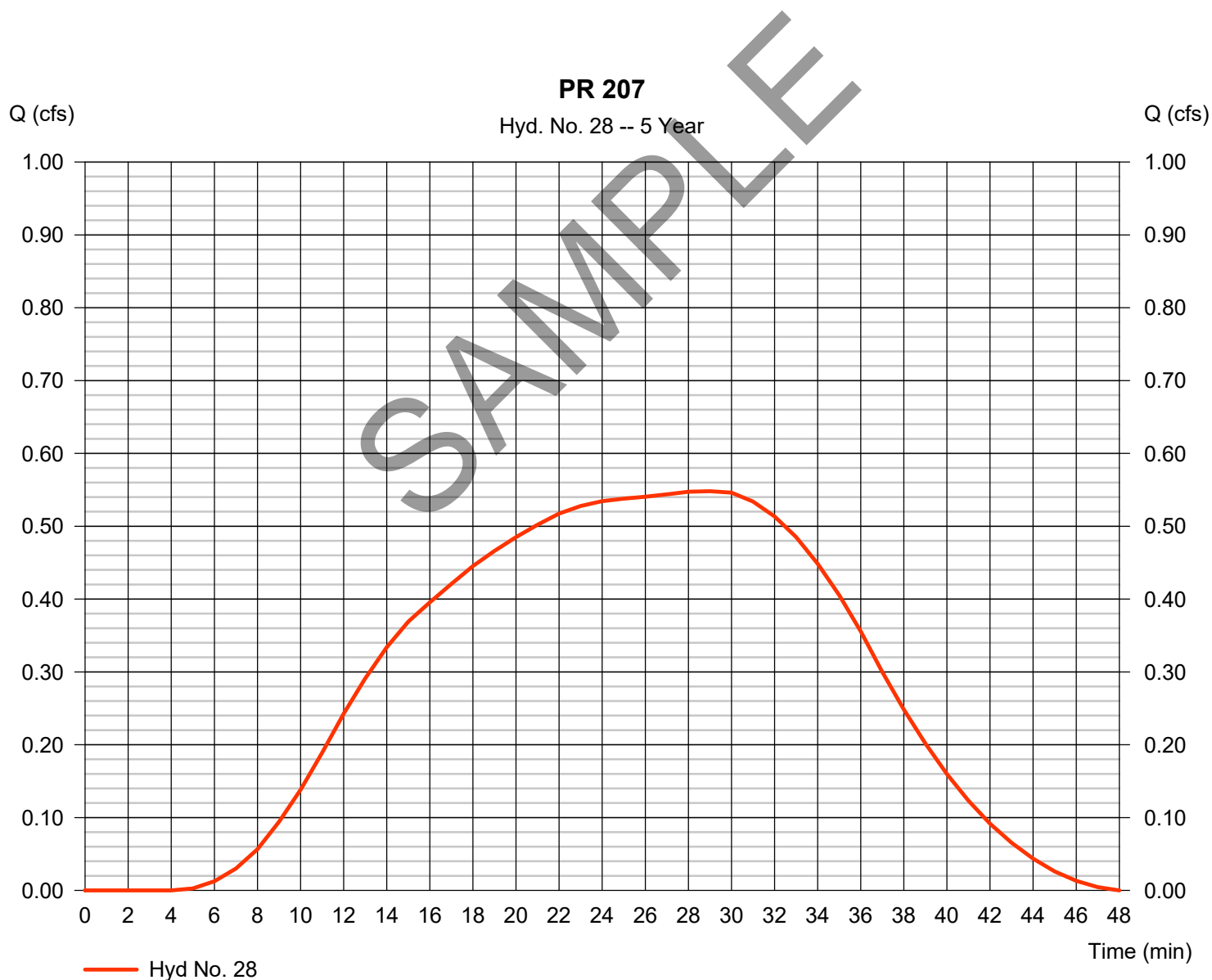
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 28

PR 207

Hydrograph type	= SCS Runoff	Peak discharge	= 0.548 cfs
Storm frequency	= 5 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 800 cuft
Drainage area	= 0.600 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

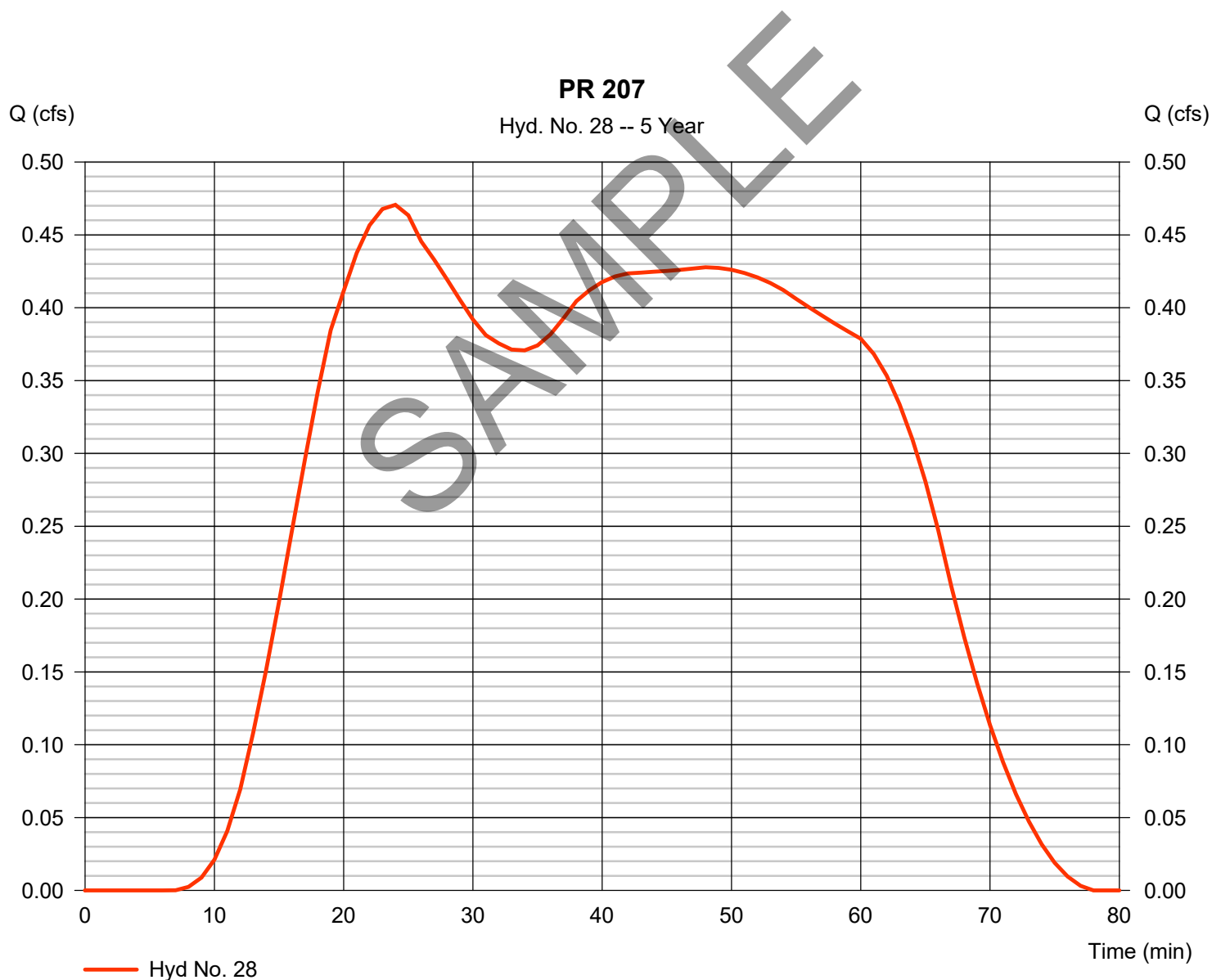
Tuesday, 03 / 19 / 2019

Hyd. No. 28

PR 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 0.471 cfs
Time to peak = 24 min
Hyd. volume = 1,298 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

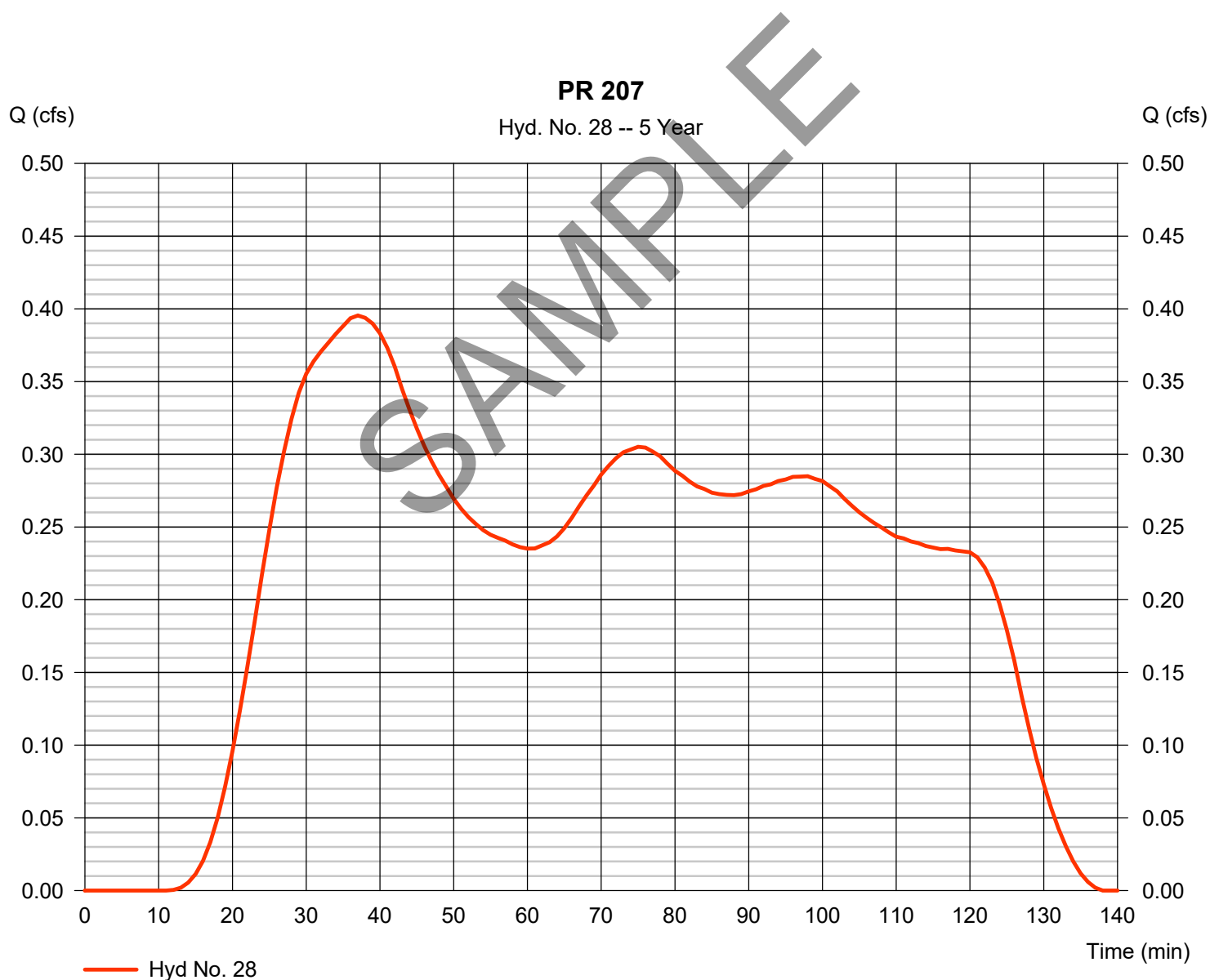
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 28

PR 207

Hydrograph type	= SCS Runoff	Peak discharge	= 0.395 cfs
Storm frequency	= 5 yrs	Time to peak	= 37 min
Time interval	= 1 min	Hyd. volume	= 1,808 cuft
Drainage area	= 0.600 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

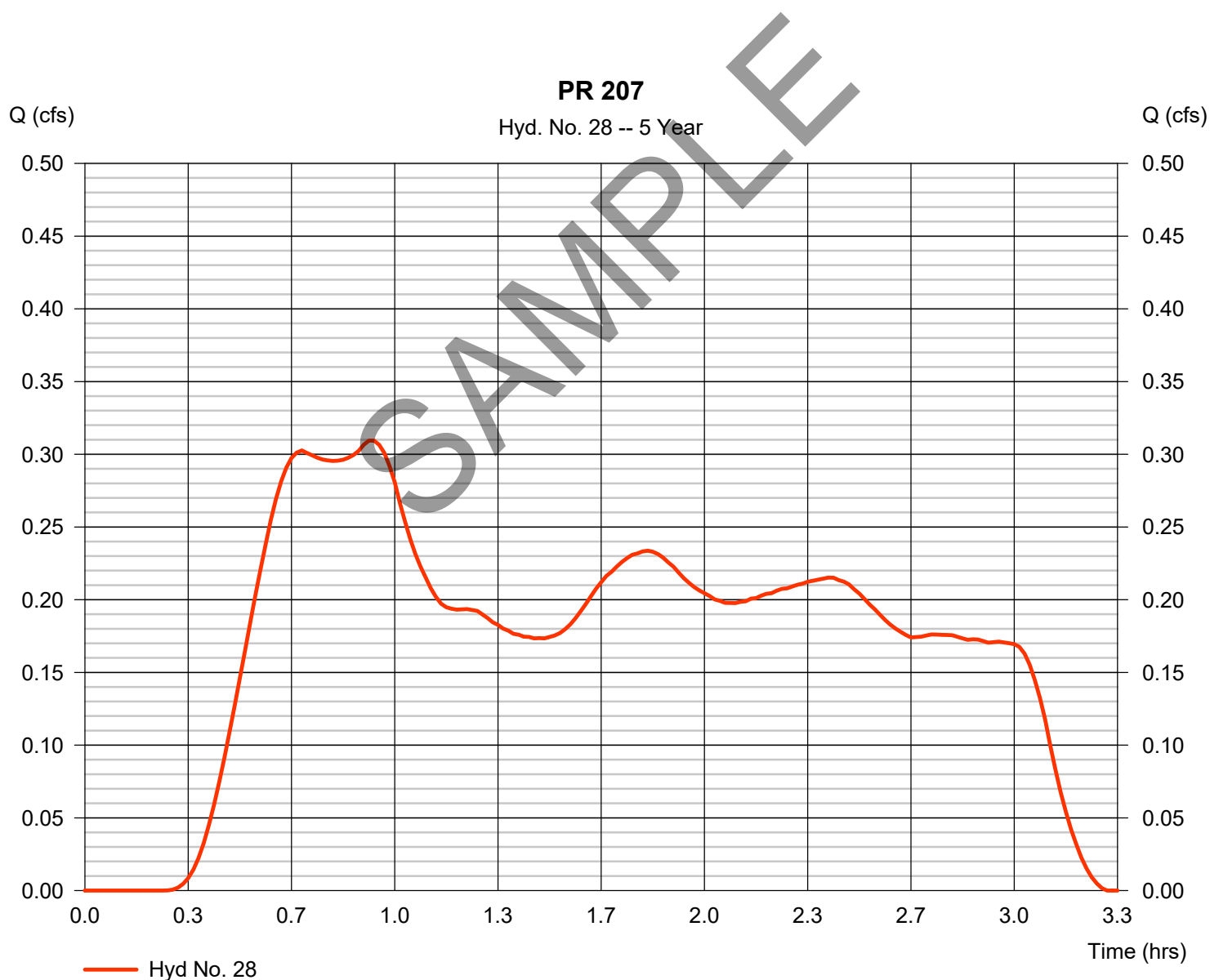
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 19 / 2019

Hyd. No. 28

PR 207

Hydrograph type	= SCS Runoff	Peak discharge	= 0.309 cfs
Storm frequency	= 5 yrs	Time to peak	= 0.92 hrs
Time interval	= 1 min	Hyd. volume	= 2,052 cuft
Drainage area	= 0.600 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 2.25 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

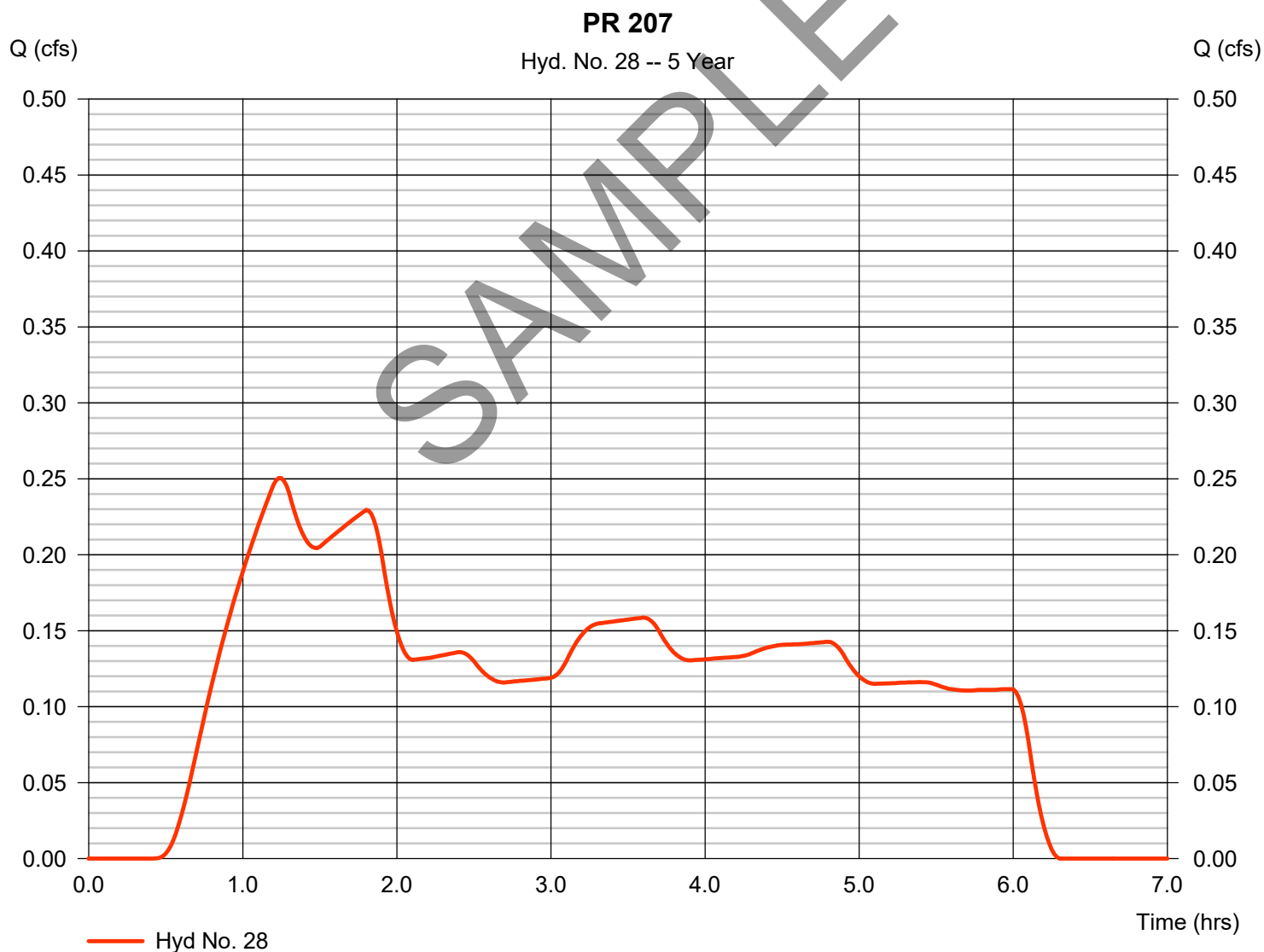
Tuesday, 03 / 19 / 2019

Hyd. No. 28

PR 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.250 cfs
Time to peak = 1.23 hrs
Hyd. volume = 2,876 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

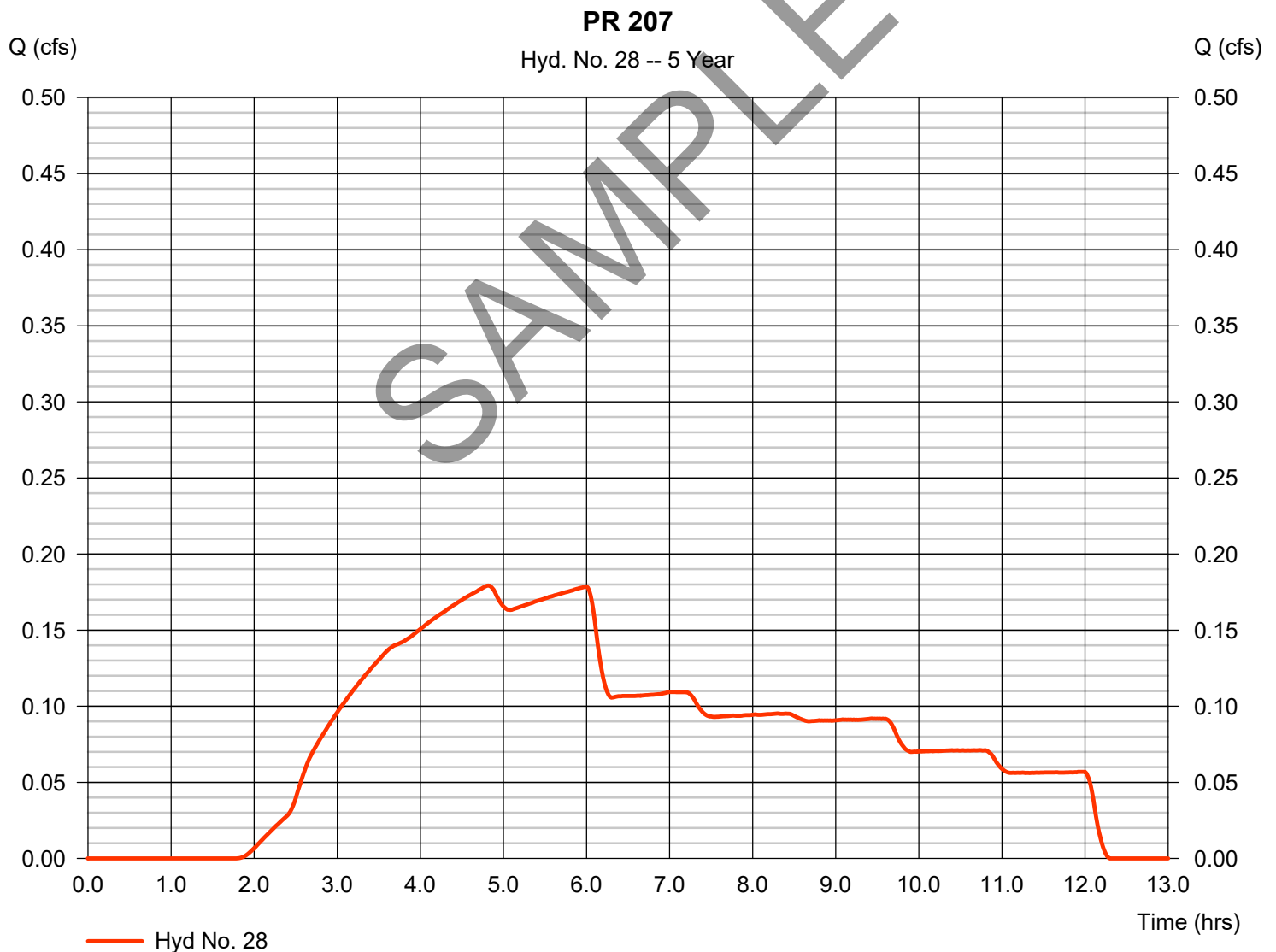
Tuesday, 03 / 19 / 2019

Hyd. No. 28

PR 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.179 cfs
Time to peak = 4.82 hrs
Hyd. volume = 3,748 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

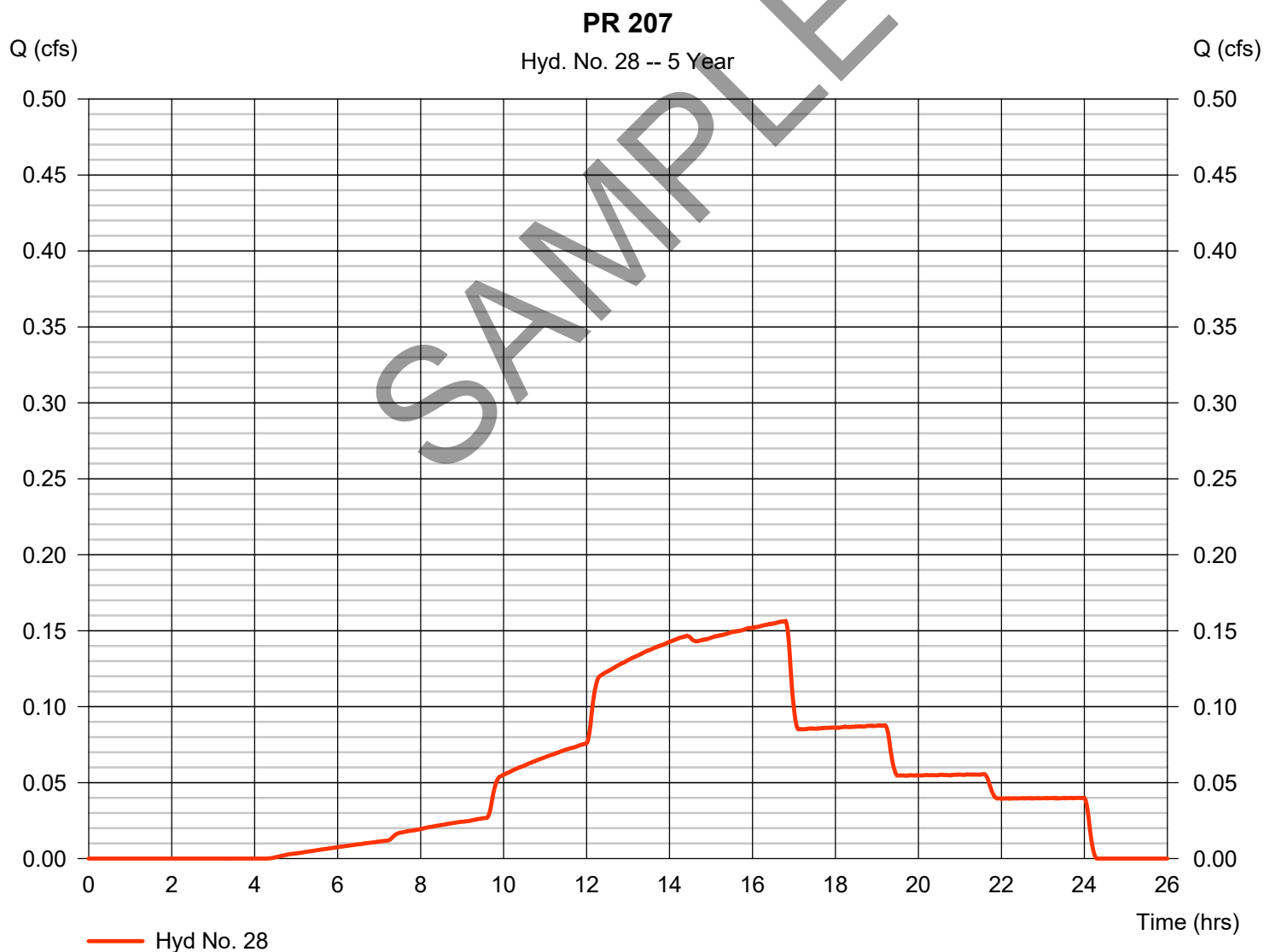
Tuesday, 03 / 19 / 2019

Hyd. No. 28

PR 207

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 0.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.156 cfs
Time to peak = 16.80 hrs
Hyd. volume = 4,848 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.50 min
Distribution = Custom
Shape factor = 484

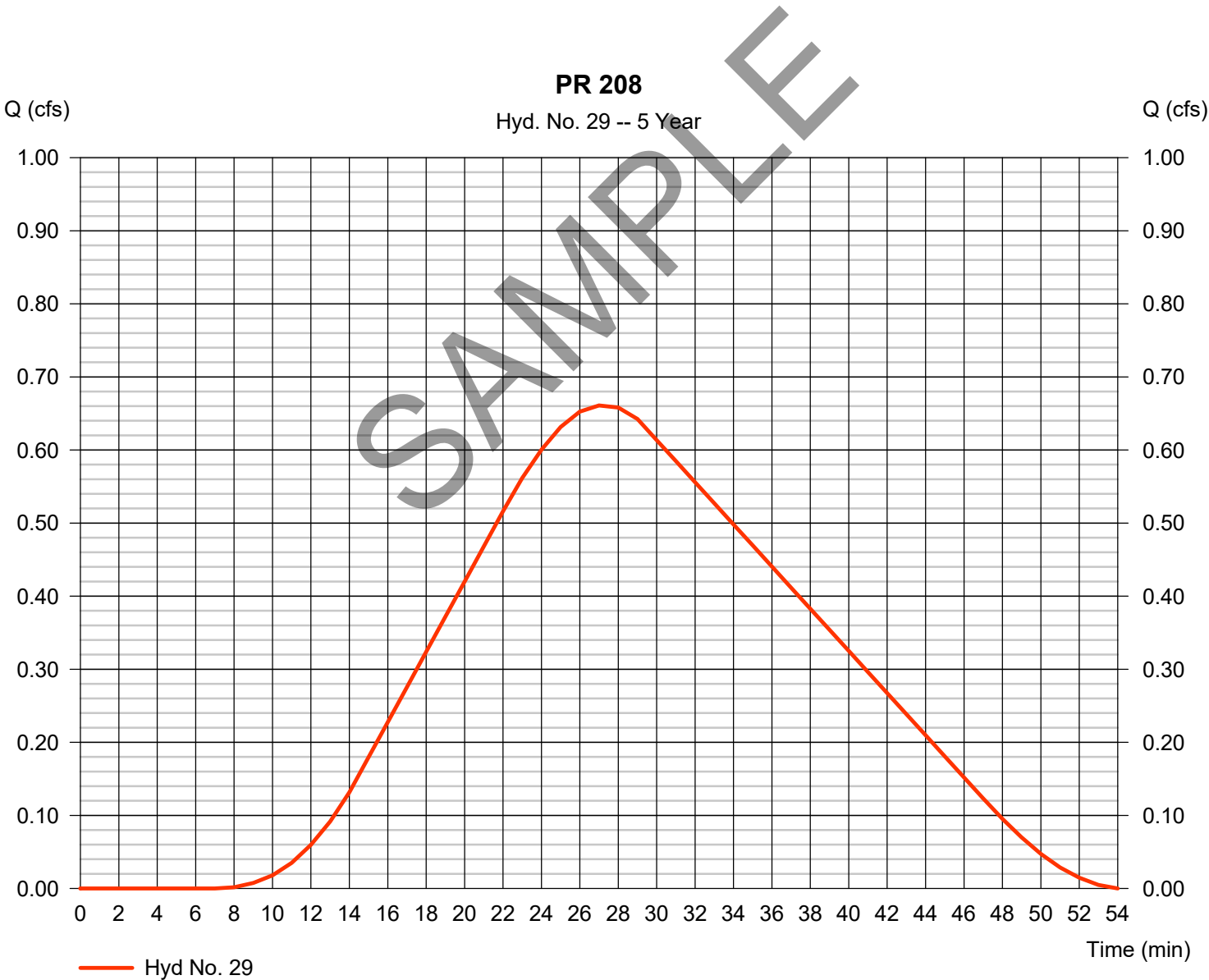


Hydrograph Report

Hyd. No. 29

PR 208

Hydrograph type	= SCS Runoff	Peak discharge	= 0.661 cfs
Storm frequency	= 5 yrs	Time to peak	= 27 min
Time interval	= 1 min	Hyd. volume	= 866 cuft
Drainage area	= 6.700 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 25.10 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

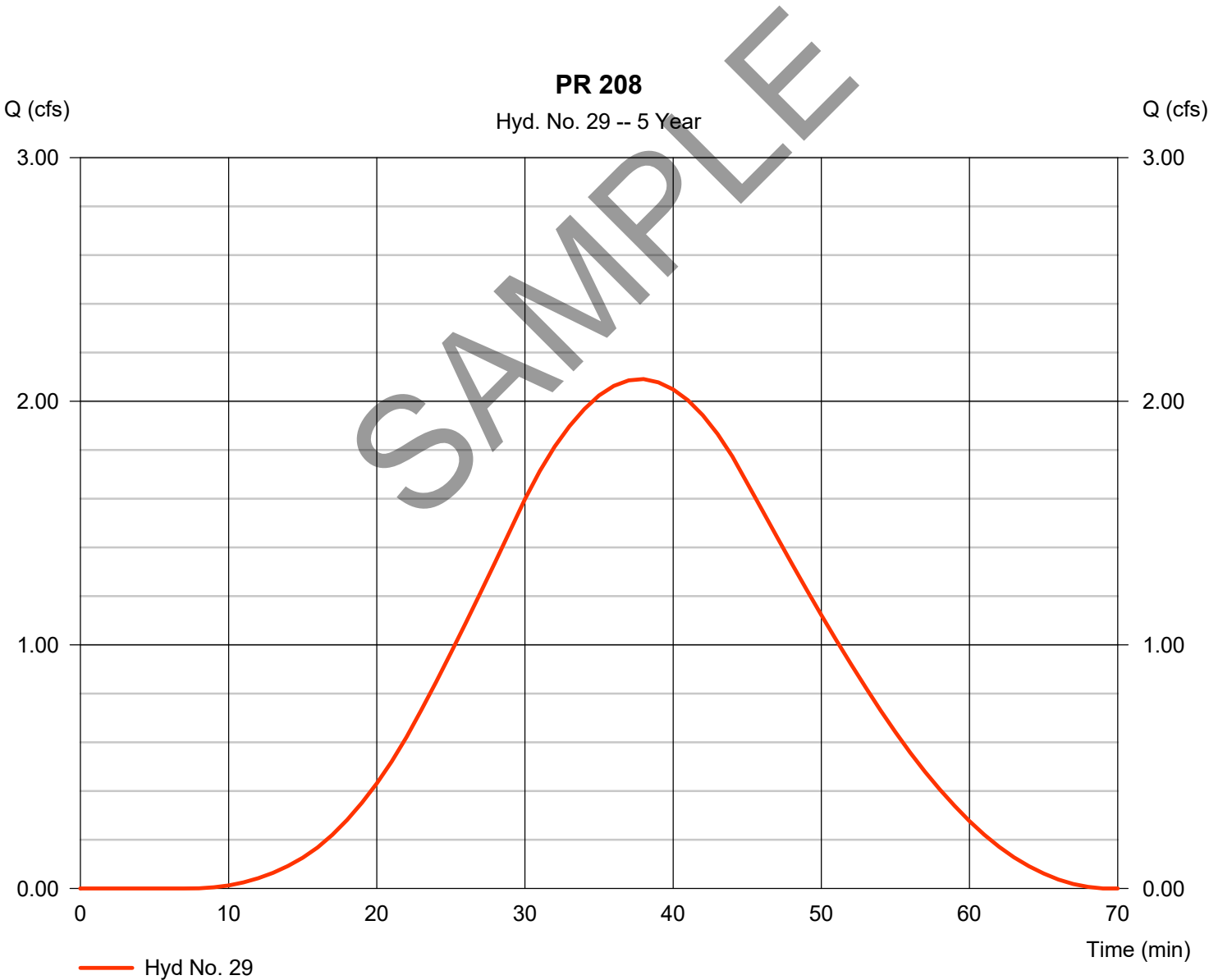


Hydrograph Report

Hyd. No. 29

PR 208

Hydrograph type	= SCS Runoff	Peak discharge	= 2.091 cfs
Storm frequency	= 5 yrs	Time to peak	= 38 min
Time interval	= 1 min	Hyd. volume	= 3,292 cuft
Drainage area	= 6.700 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 25.10 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

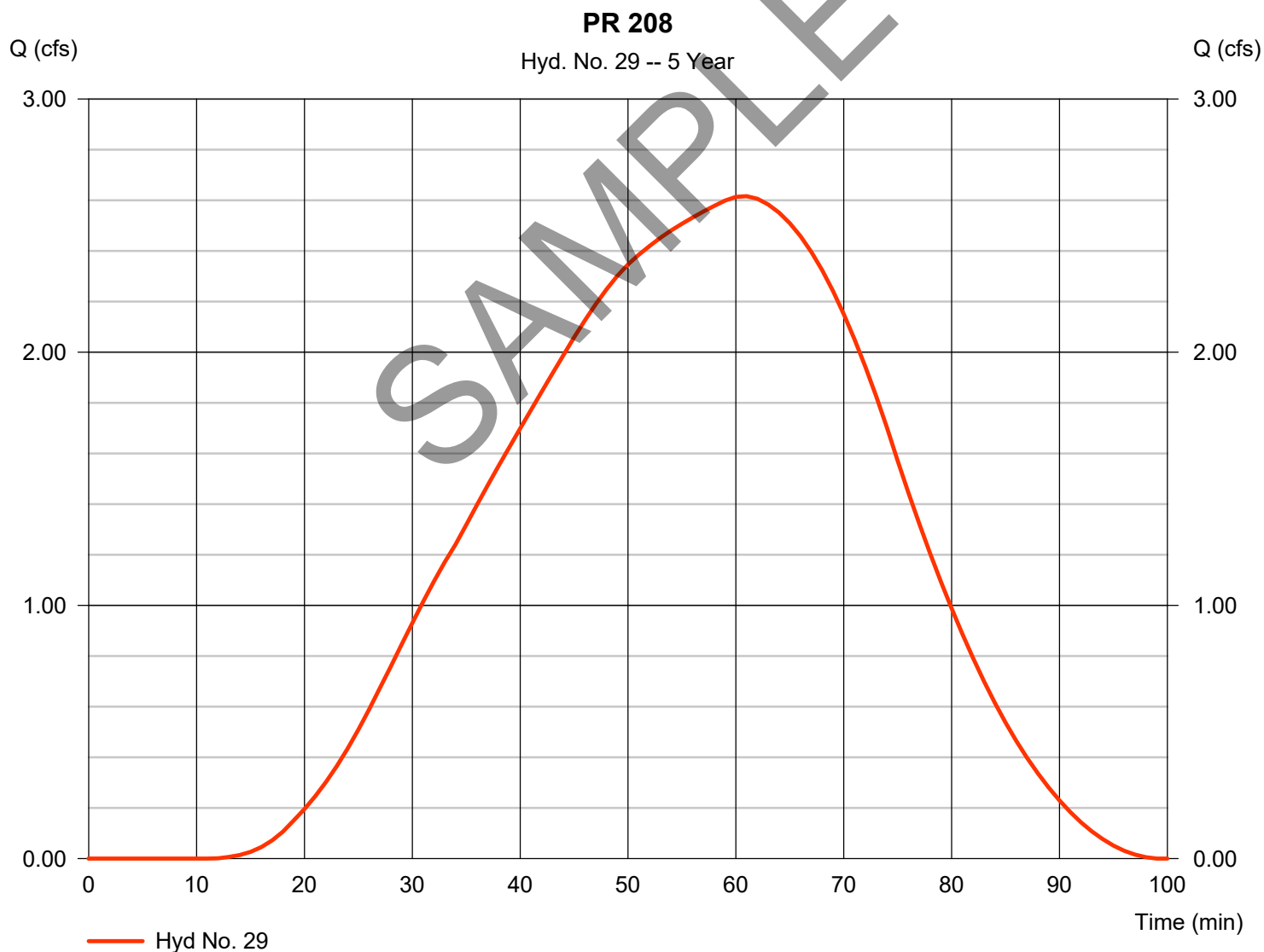
Monday, 04 / 1 / 2019

Hyd. No. 29

PR 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.77 in
Storm duration = 1.00 hrs

Peak discharge = 2.616 cfs
Time to peak = 61 min
Hyd. volume = 6,673 cuft
Curve number = 75
Hydraulic length = 0 ft
Time of conc. (Tc) = 25.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

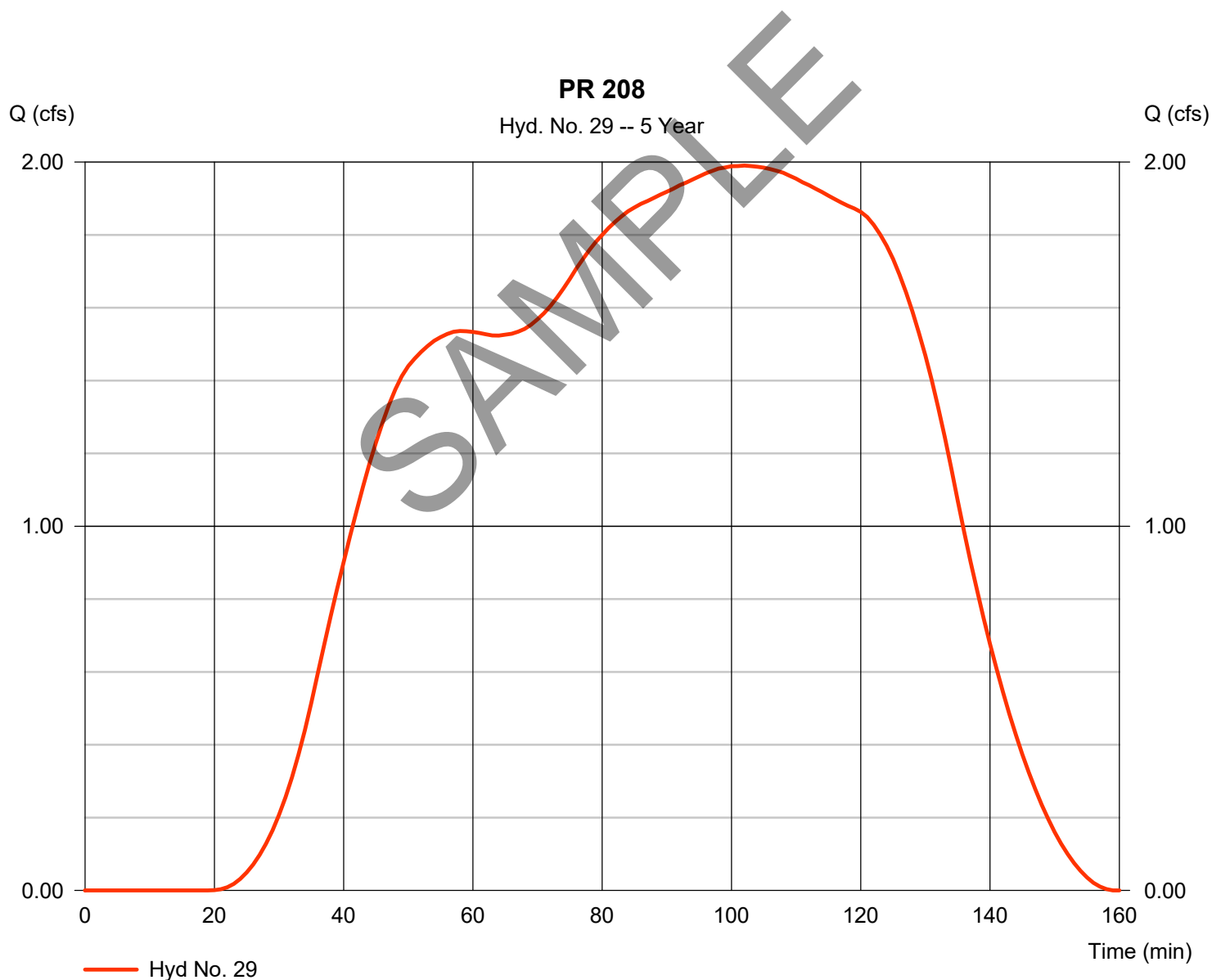
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 29

PR 208

Hydrograph type	= SCS Runoff	Peak discharge	= 1.990 cfs
Storm frequency	= 5 yrs	Time to peak	= 102 min
Time interval	= 1 min	Hyd. volume	= 10,482 cuft
Drainage area	= 6.700 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 25.10 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

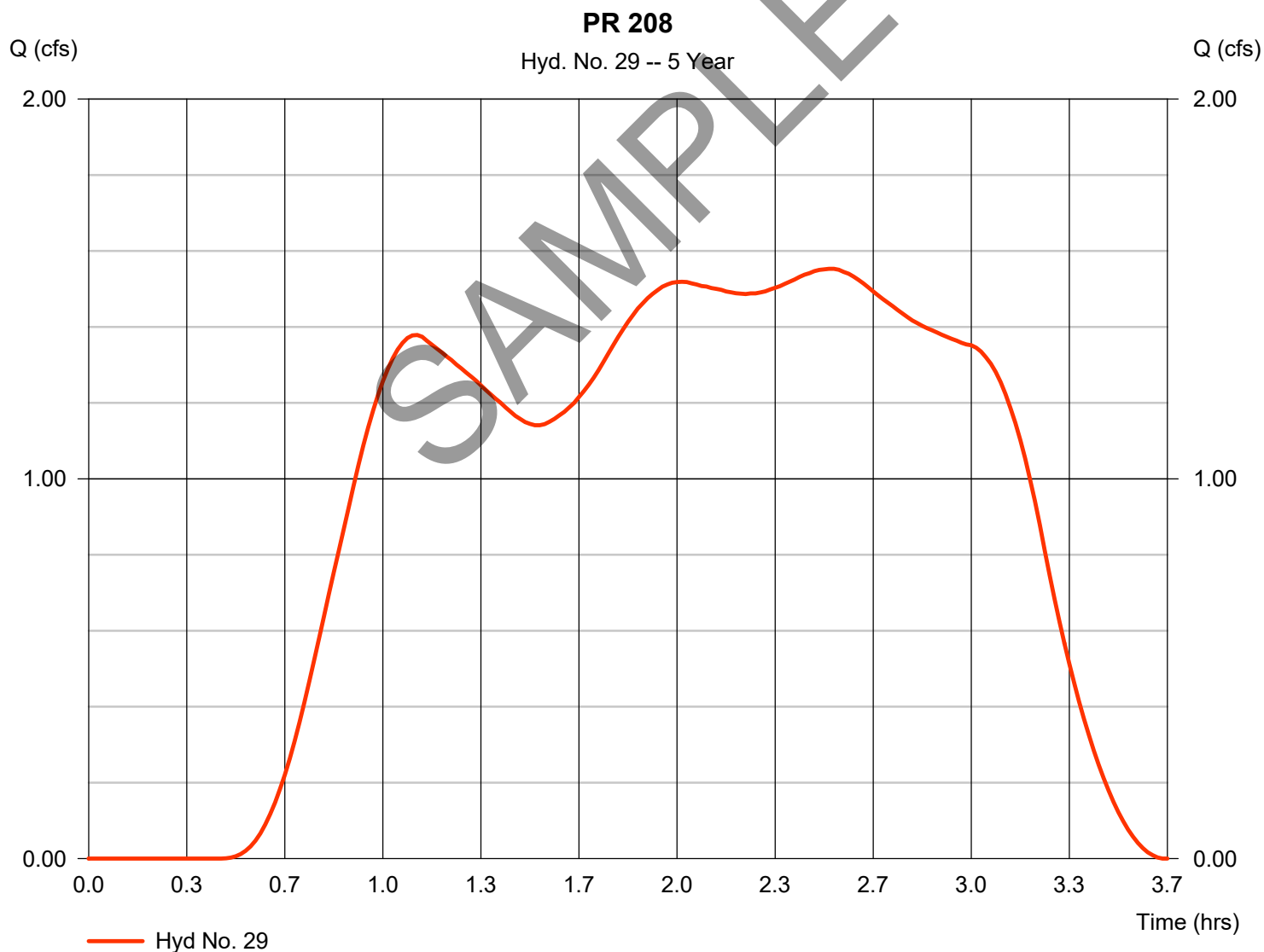
Monday, 04 / 1 / 2019

Hyd. No. 29

PR 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 1.553 cfs
Time to peak = 2.52 hrs
Hyd. volume = 12,400 cuft
Curve number = 75
Hydraulic length = 0 ft
Time of conc. (Tc) = 25.10 min
Distribution = Custom
Shape factor = 484

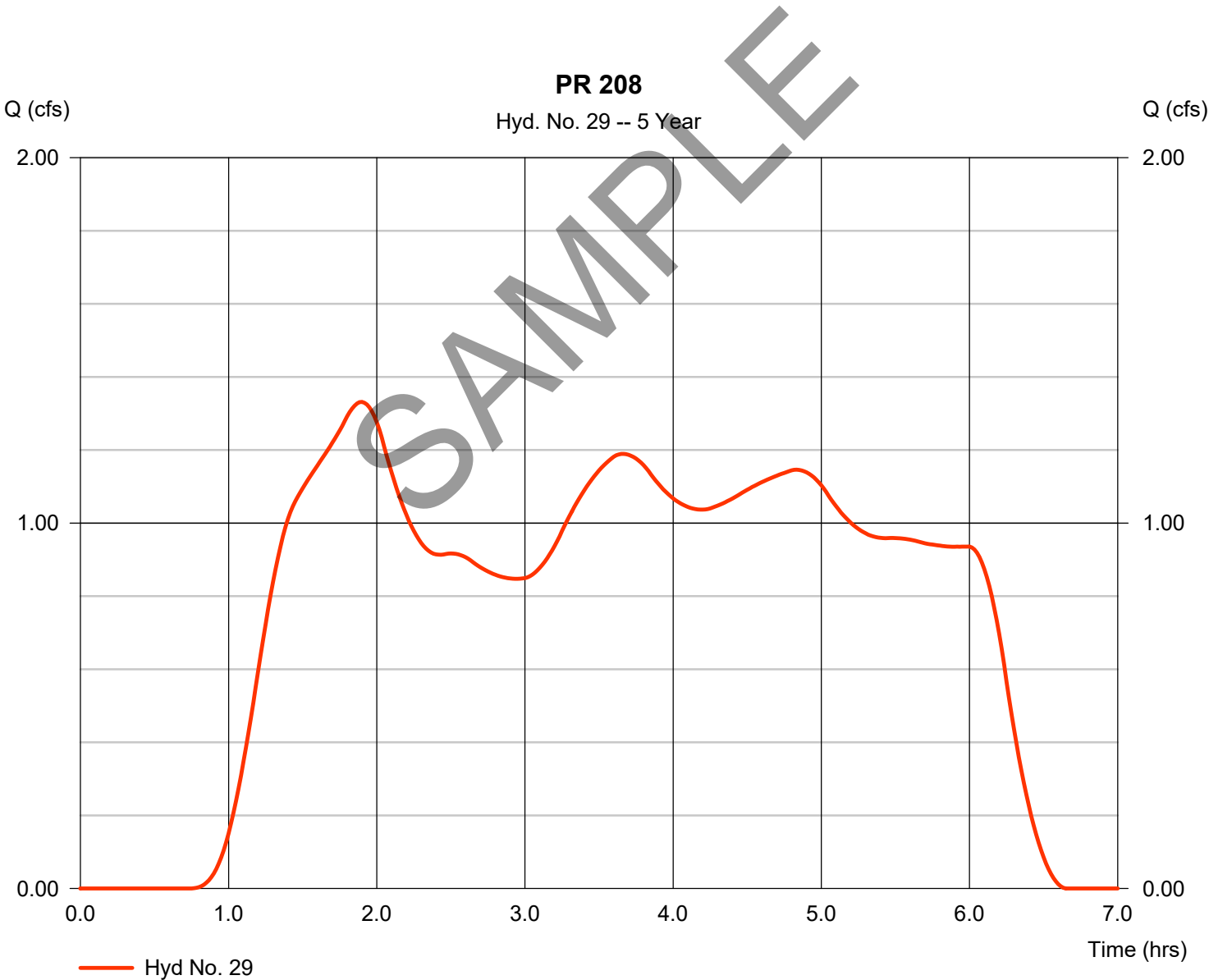


Hydrograph Report

Hyd. No. 29

PR 208

Hydrograph type	= SCS Runoff	Peak discharge	= 1.331 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.90 hrs
Time interval	= 1 min	Hyd. volume	= 19,186 cuft
Drainage area	= 6.700 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 25.10 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

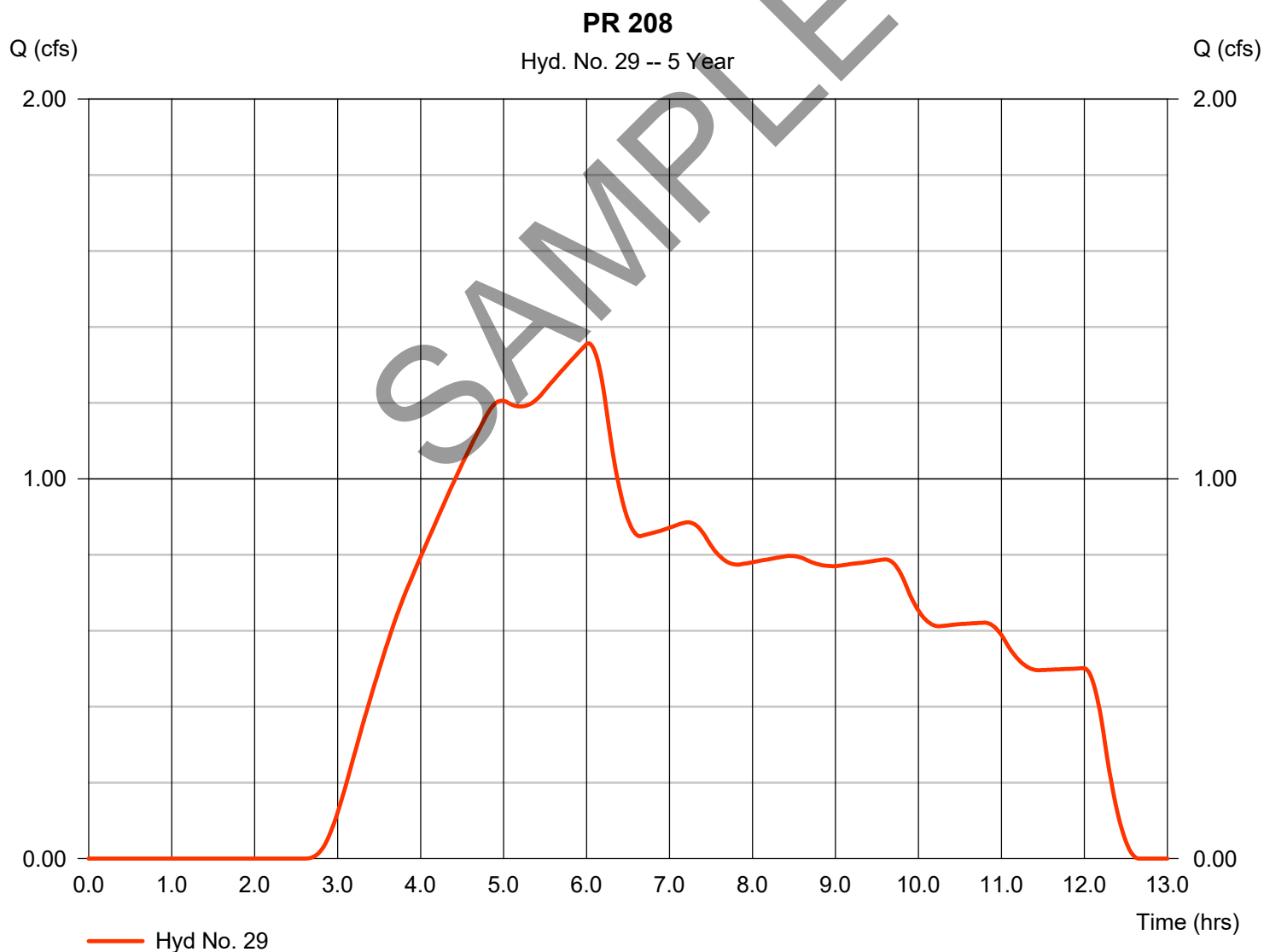
Monday, 04 / 1 / 2019

Hyd. No. 29

PR 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 1.357 cfs
Time to peak = 6.02 hrs
Hyd. volume = 26,770 cuft
Curve number = 75
Hydraulic length = 0 ft
Time of conc. (Tc) = 25.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

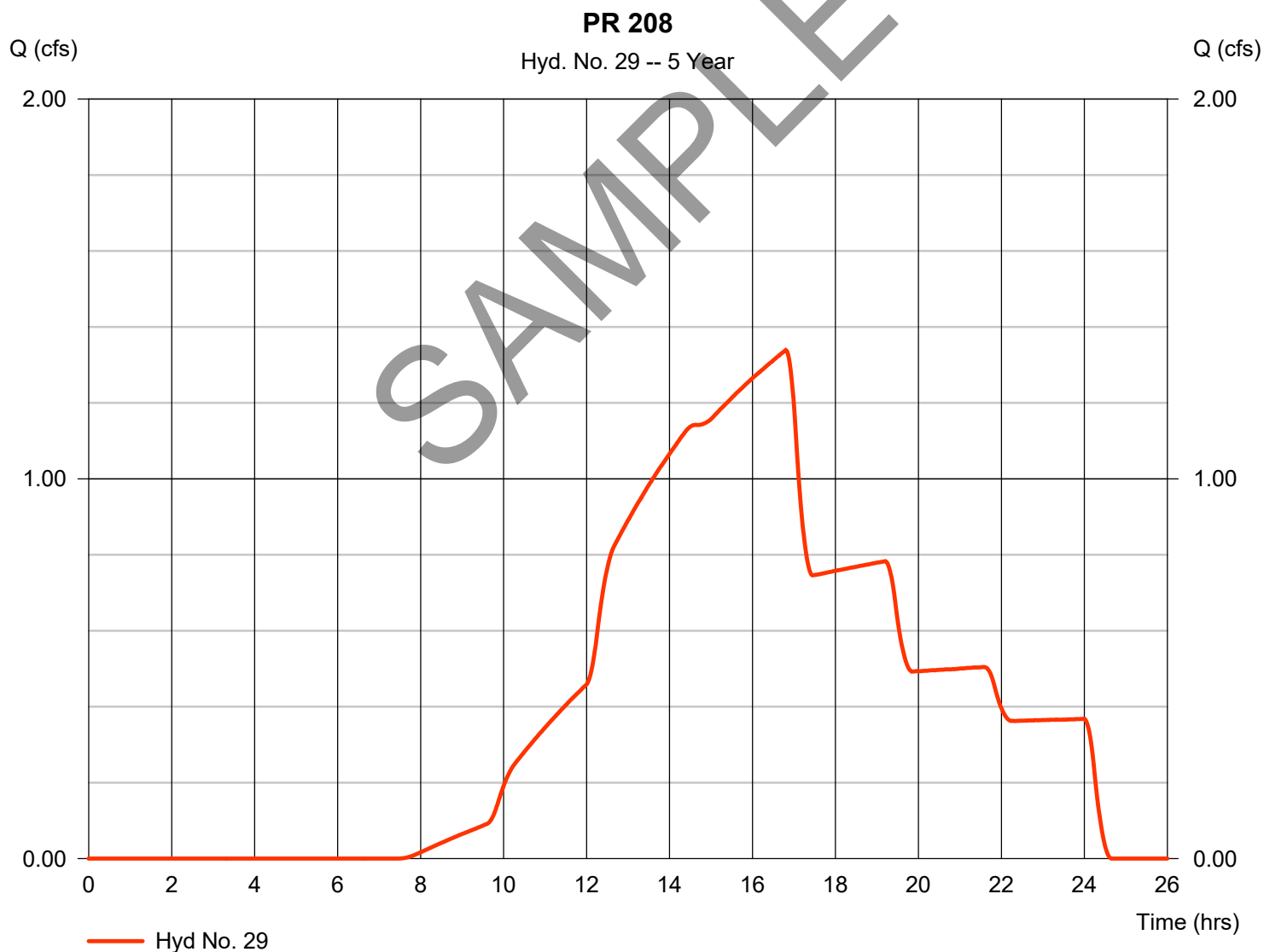
Monday, 04 / 1 / 2019

Hyd. No. 29

PR 208

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 6.700 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 1.339 cfs
Time to peak = 16.80 hrs
Hyd. volume = 36,746 cuft
Curve number = 75
Hydraulic length = 0 ft
Time of conc. (Tc) = 25.10 min
Distribution = Custom
Shape factor = 484

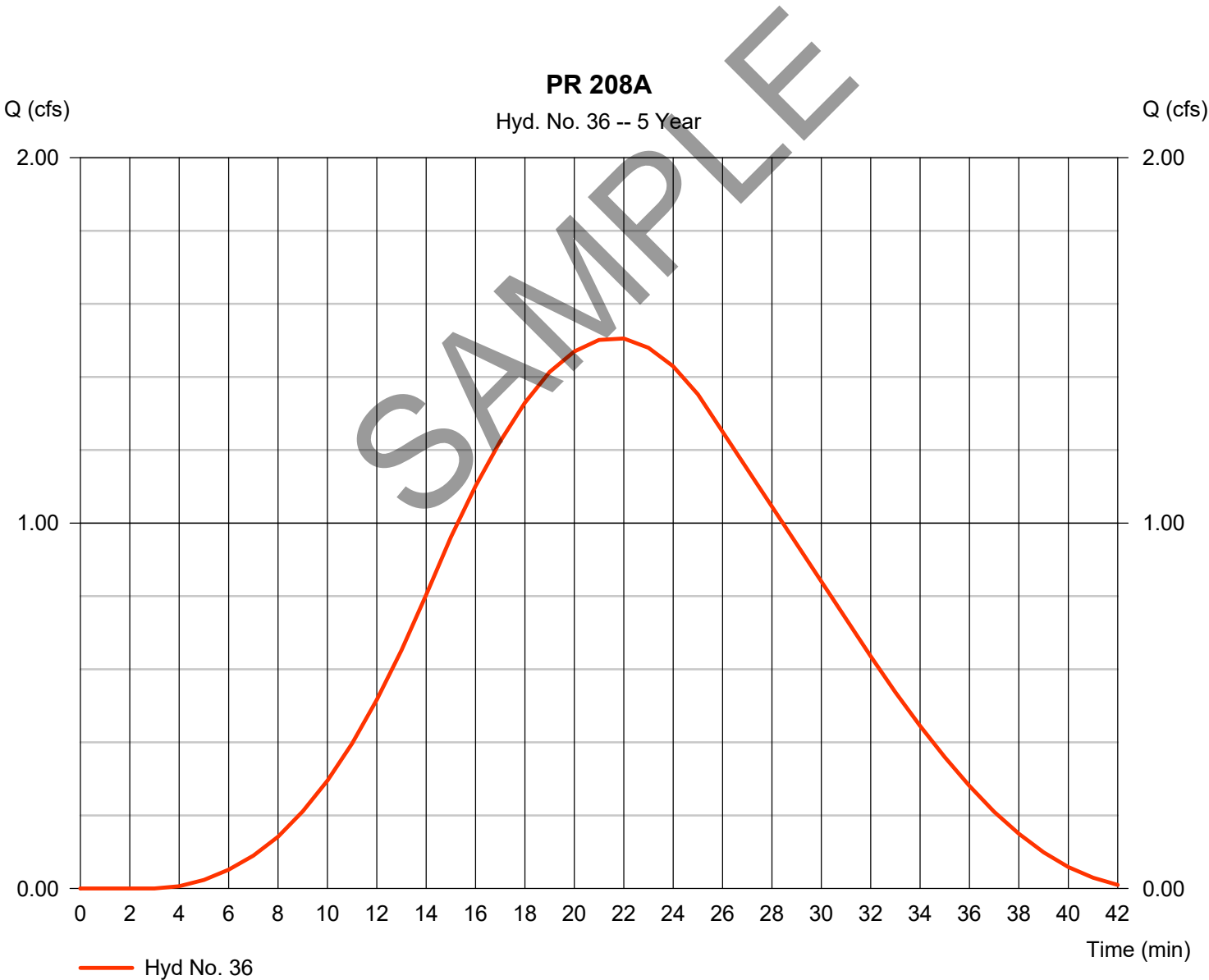


Hydrograph Report

Hyd. No. 36

PR 208A

Hydrograph type	= SCS Runoff	Peak discharge	= 1.505 cfs
Storm frequency	= 5 yrs	Time to peak	= 22 min
Time interval	= 1 min	Hyd. volume	= 1,604 cuft
Drainage area	= 3.100 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.50 min
Total precip.	= 1.03 in	Distribution	= Custom
Storm duration	= 42 min	Shape factor	= 1.484

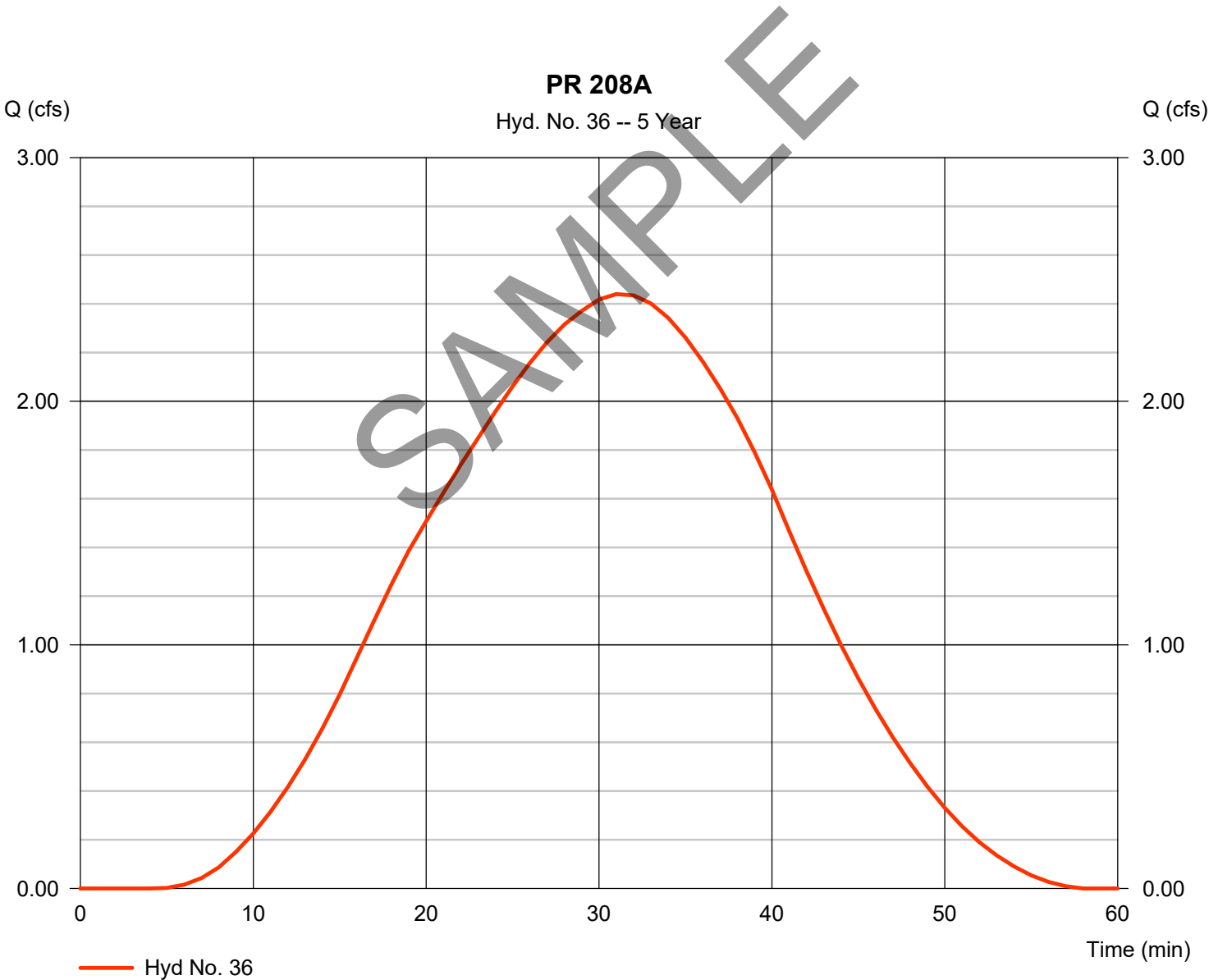


Hydrograph Report

Hyd. No. 36

PR 208A

Hydrograph type	= SCS Runoff	Peak discharge	= 2.440 cfs
Storm frequency	= 5 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 3,647 cuft
Drainage area	= 3.100 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.50 min
Total precip.	= 1.41 in	Distribution	= Custom
Storm duration	= 60 min	Shape factor	= 484

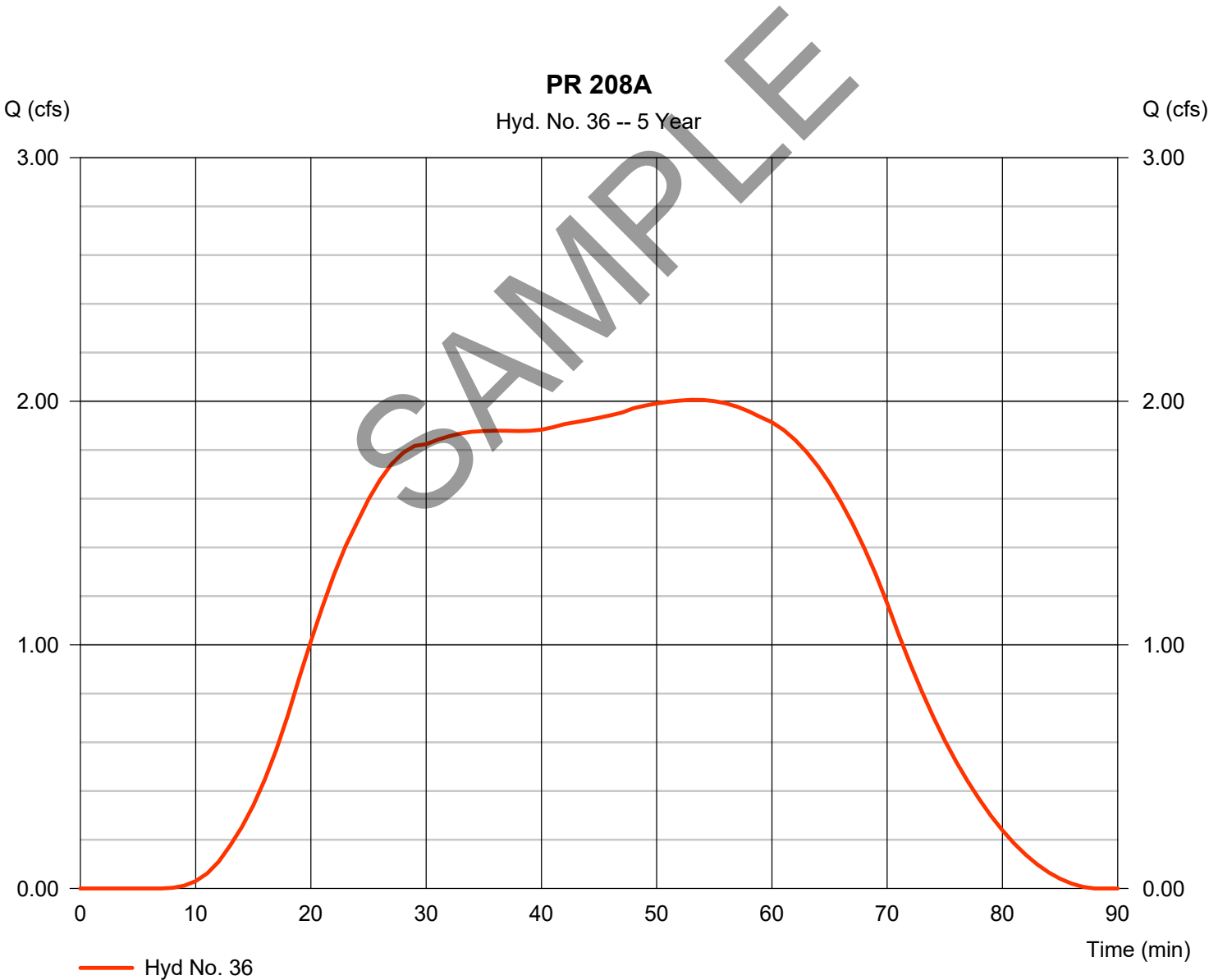


Hydrograph Report

Hyd. No. 36

PR 208A

Hydrograph type	= SCS Runoff	Peak discharge	= 2.006 cfs
Storm frequency	= 5 yrs	Time to peak	= 53 min
Time interval	= 1 min	Hyd. volume	= 6,040 cuft
Drainage area	= 3.100 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.50 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 180 min	Ushape factor	= 484

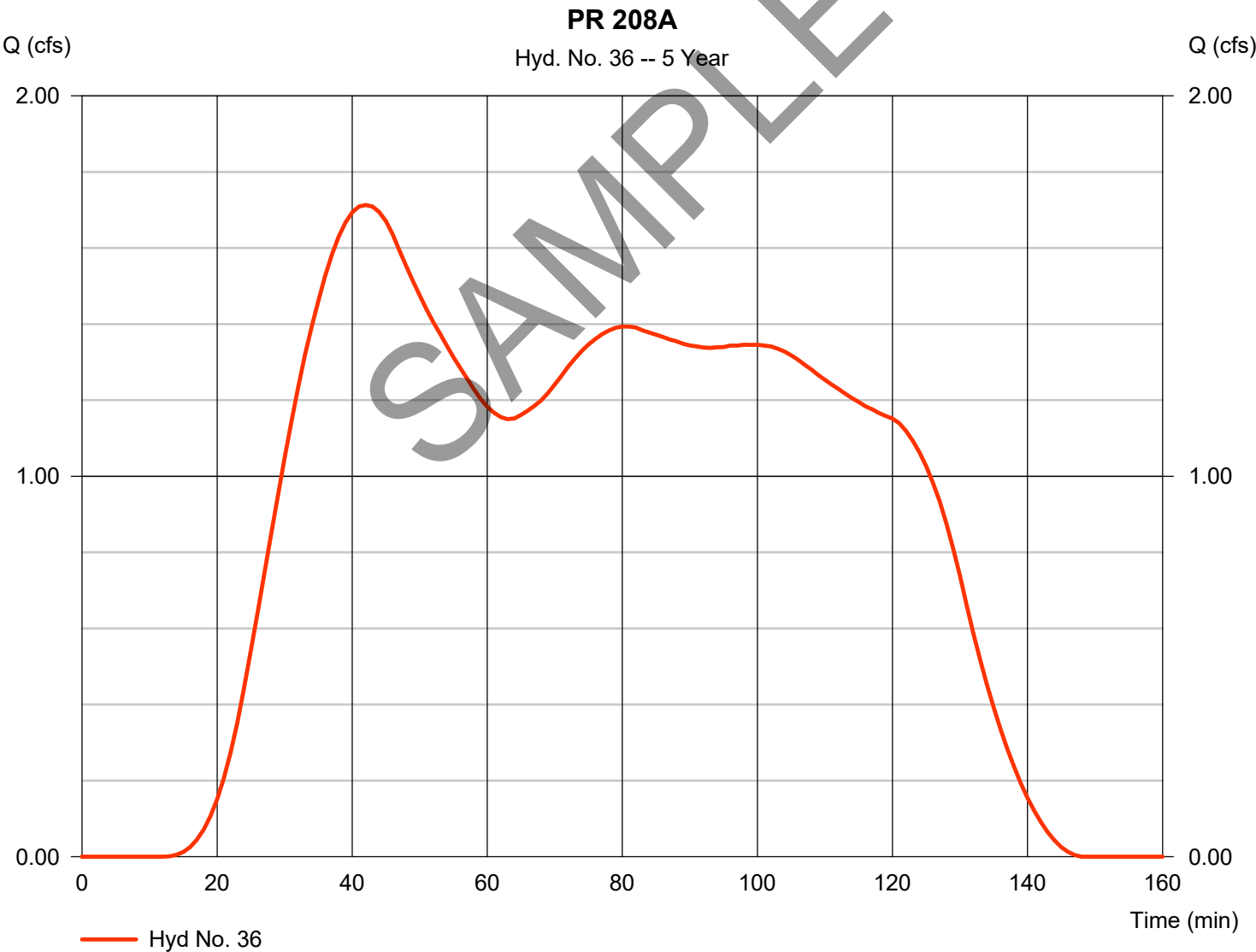


Hydrograph Report

Hyd. No. 36

PR 208A

Hydrograph type	= SCS Runoff	Peak discharge	= 1.713 cfs
Storm frequency	= 5 yrs	Time to peak	= 42 min
Time interval	= 1 min	Hyd. volume	= 8,502 cuft
Drainage area	= 3.100 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.50 min
Total precip.	= 2.10 in	Distribution	= Custom
Storm duration	= 60 min	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

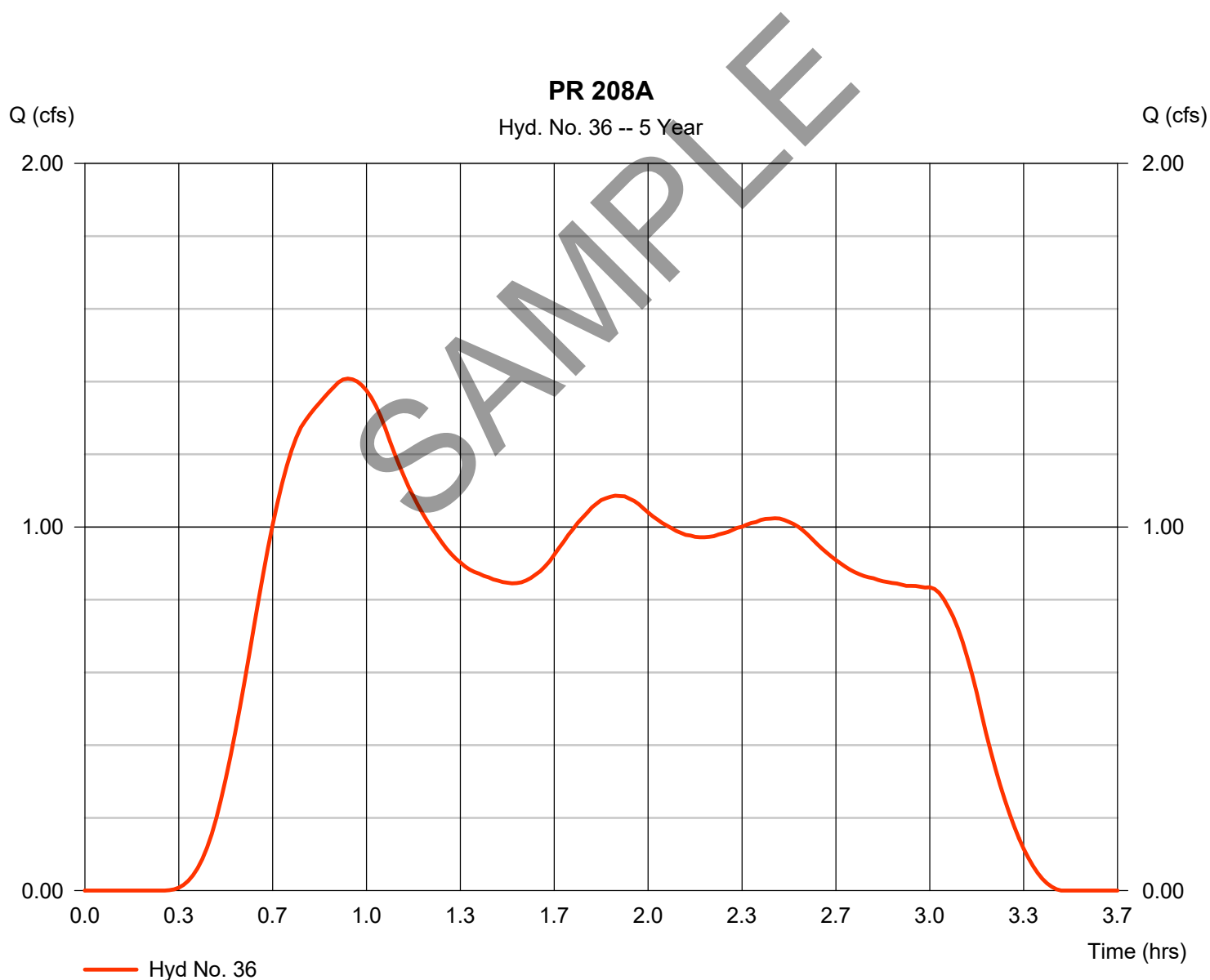
Monday, 04 / 1 / 2019

Hyd. No. 36

PR 208A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 1.408 cfs
Time to peak = 0.93 hrs
Hyd. volume = 9,690 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

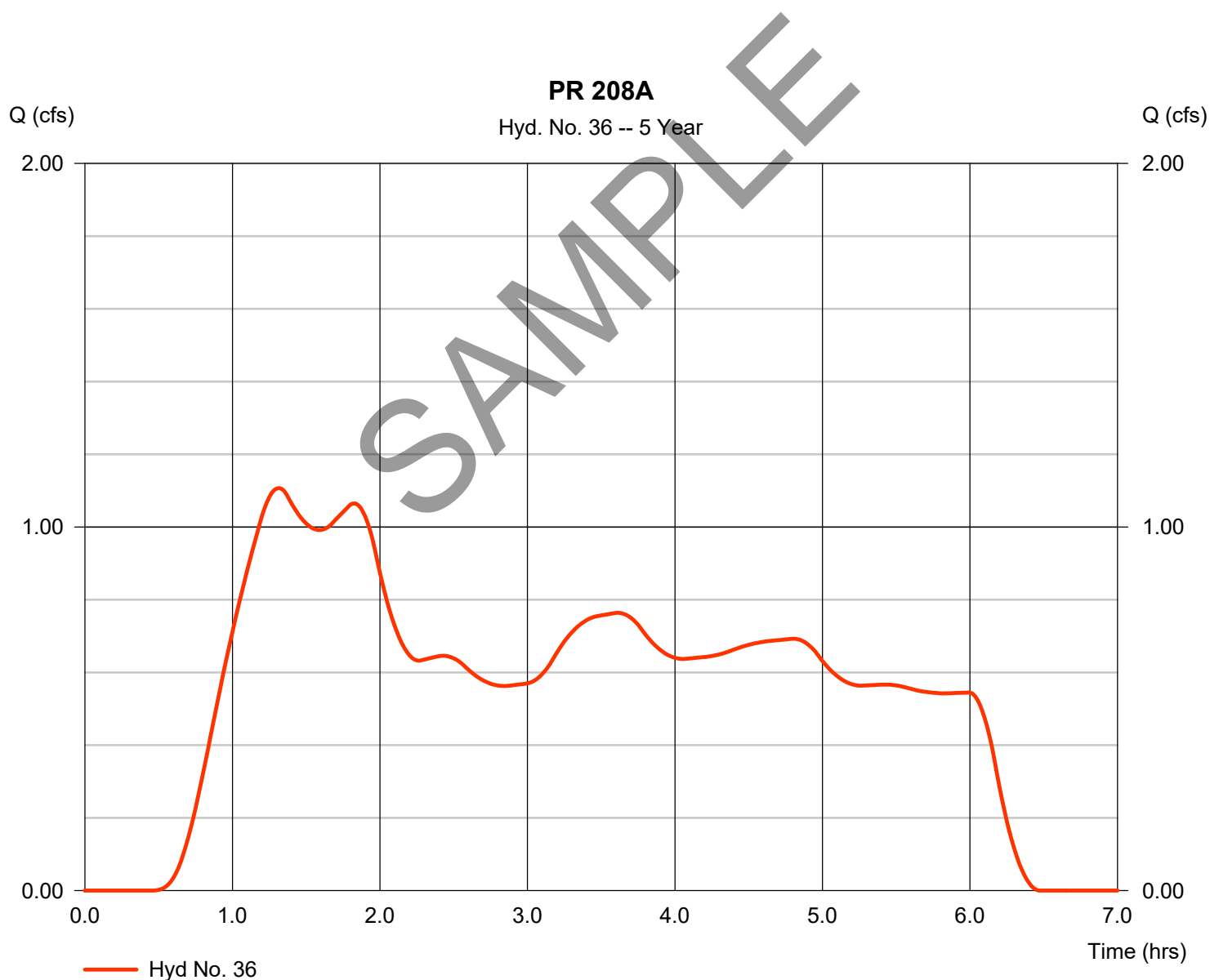
Monday, 04 / 1 / 2019

Hyd. No. 36

PR 208A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 1.107 cfs
Time to peak = 1.32 hrs
Hyd. volume = 13,711 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

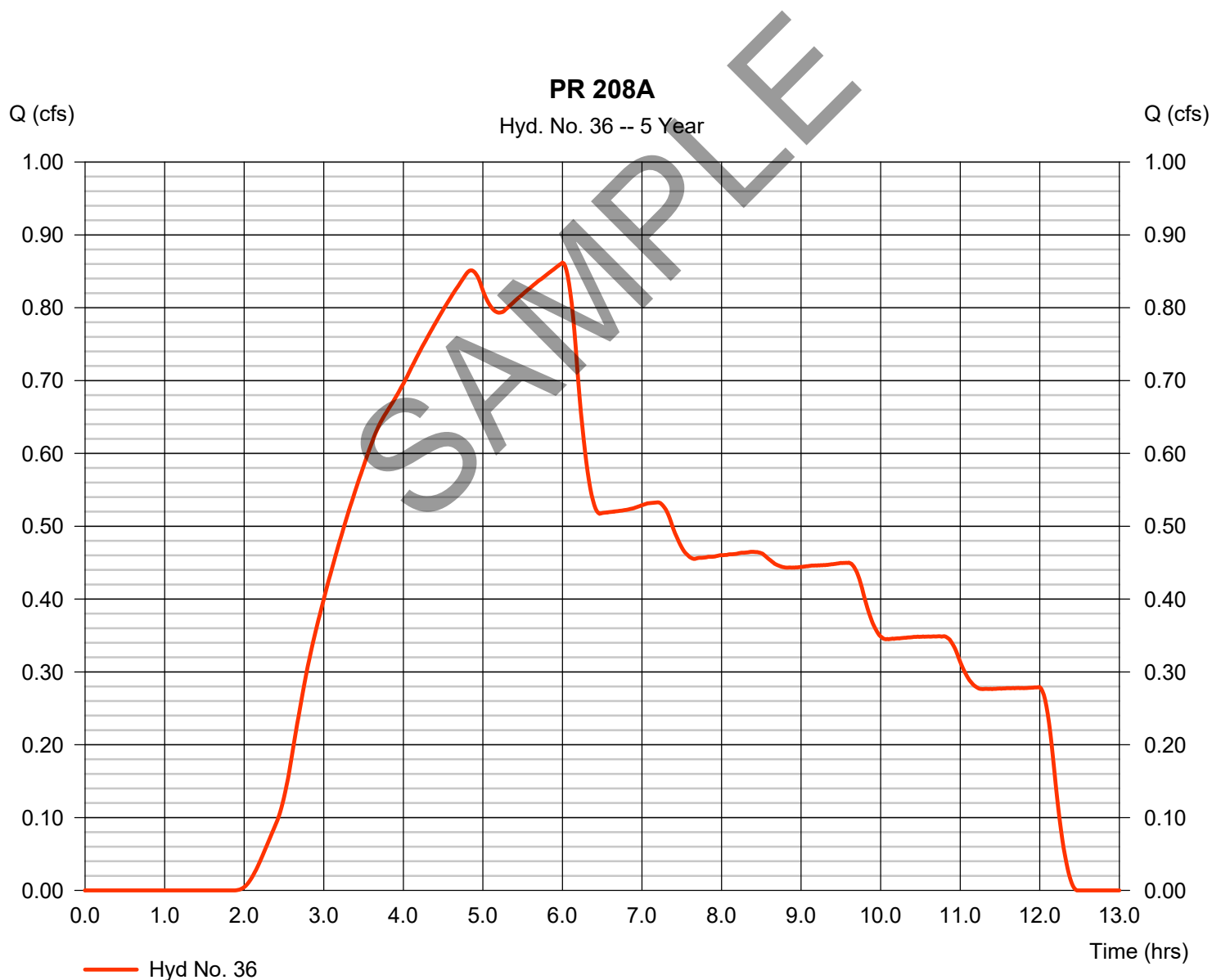
Monday, 04 / 1 / 2019

Hyd. No. 36

PR 208A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.862 cfs
Time to peak = 6.00 hrs
Hyd. volume = 17,994 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

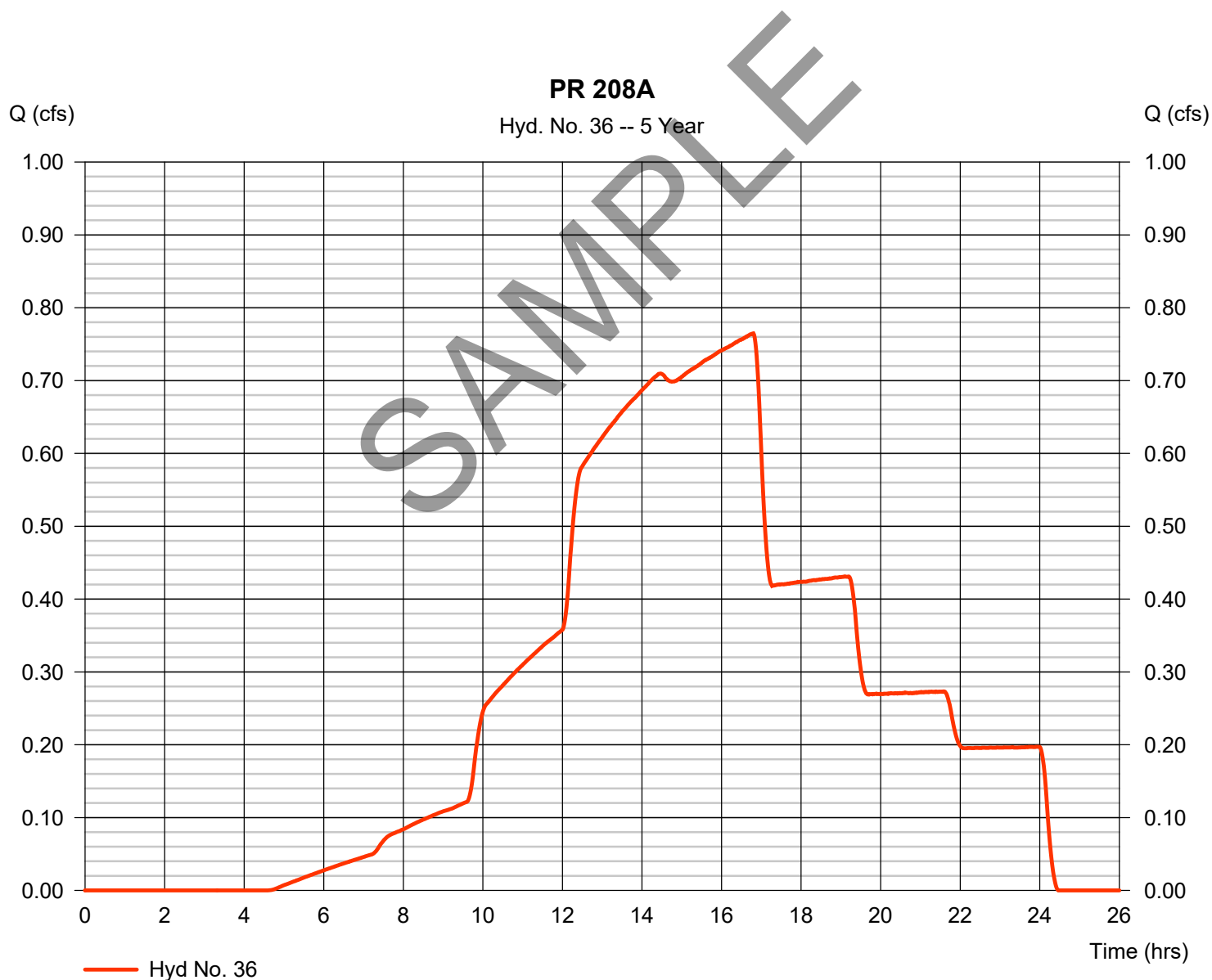
Monday, 04 / 1 / 2019

Hyd. No. 36

PR 208A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 3.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.765 cfs
Time to peak = 16.80 hrs
Hyd. volume = 23,418 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 18.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

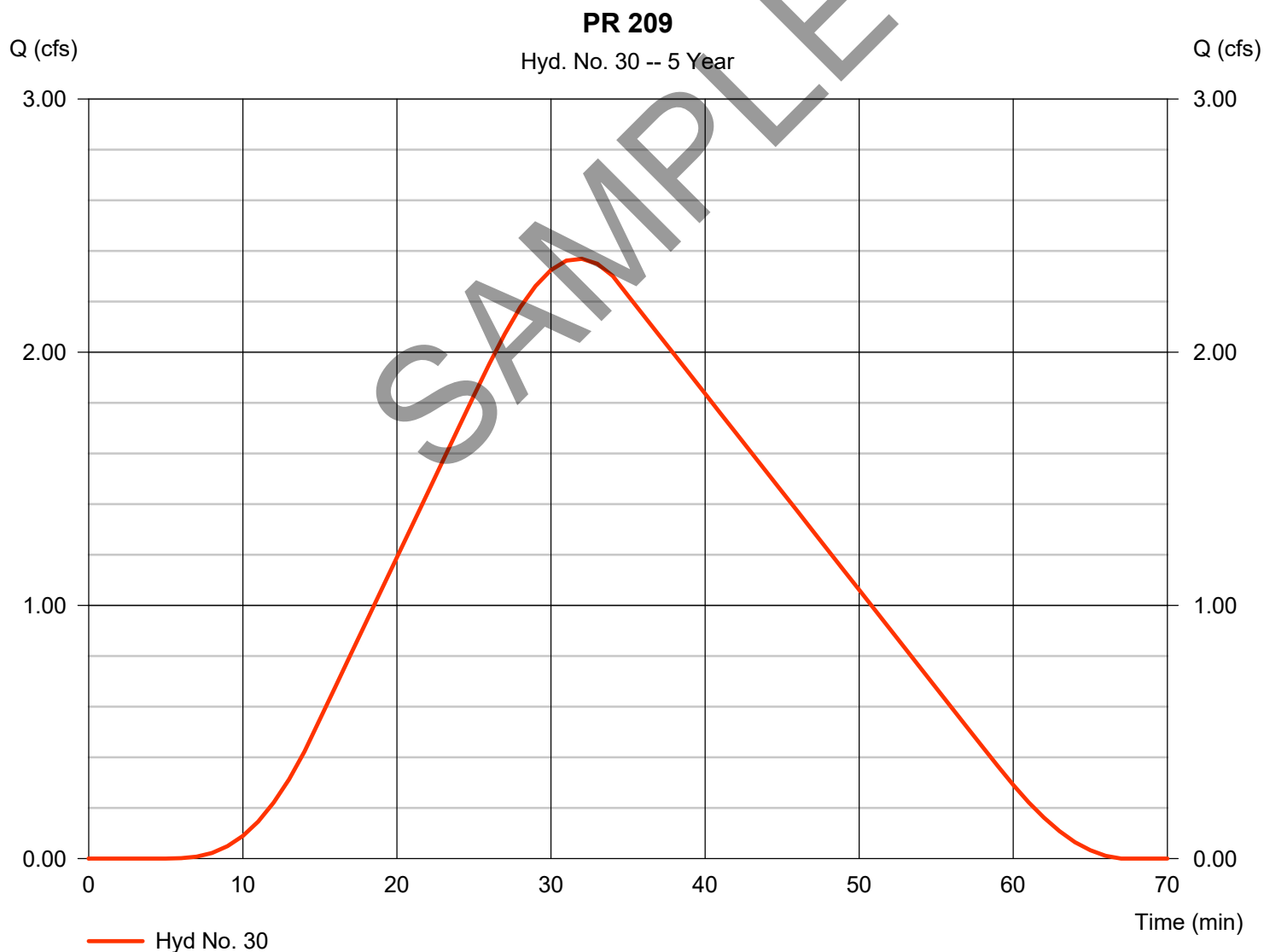
Monday, 04 / 1 / 2019

Hyd. No. 30

PR 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 20.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 2.369 cfs
Time to peak = 32 min
Hyd. volume = 4,066 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 33.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

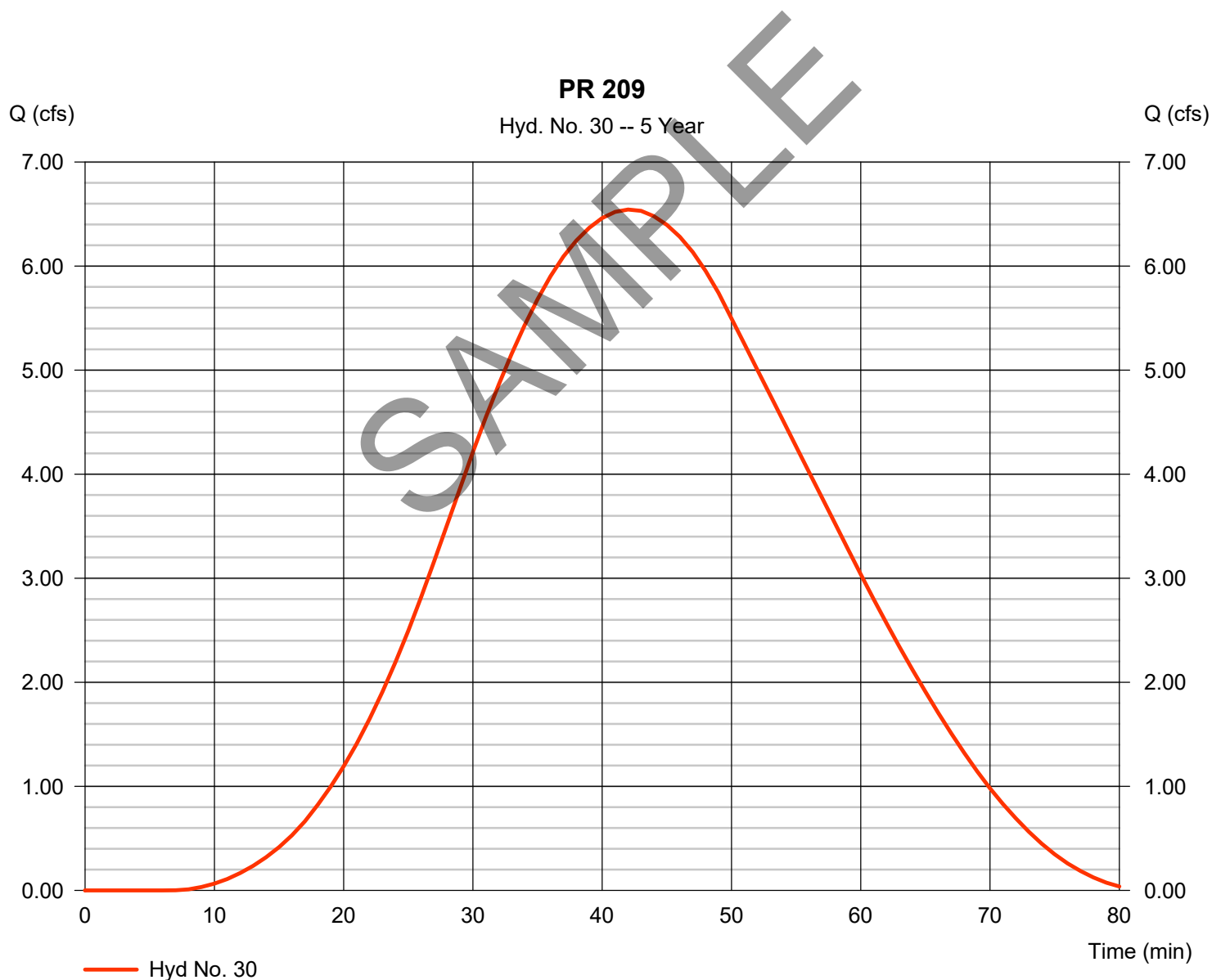
Monday, 04 / 1 / 2019

Hyd. No. 30

PR 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 20.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 6.544 cfs
Time to peak = 42 min
Hyd. volume = 12,902 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 33.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

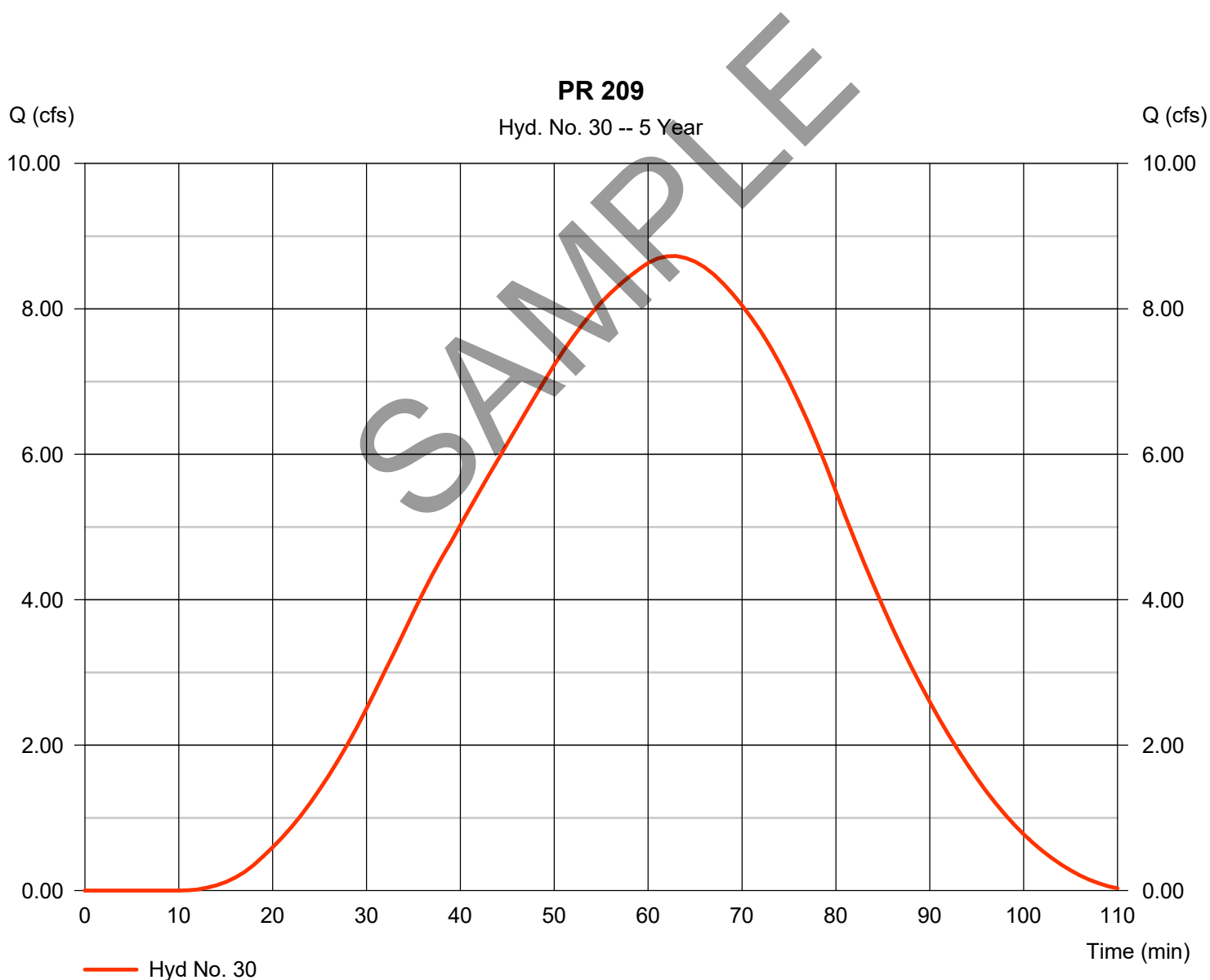
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 30

PR 209

Hydrograph type	= SCS Runoff	Peak discharge	= 8.725 cfs
Storm frequency	= 5 yrs	Time to peak	= 63 min
Time interval	= 1 min	Hyd. volume	= 24,564 cuft
Drainage area	= 20.600 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 33.20 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

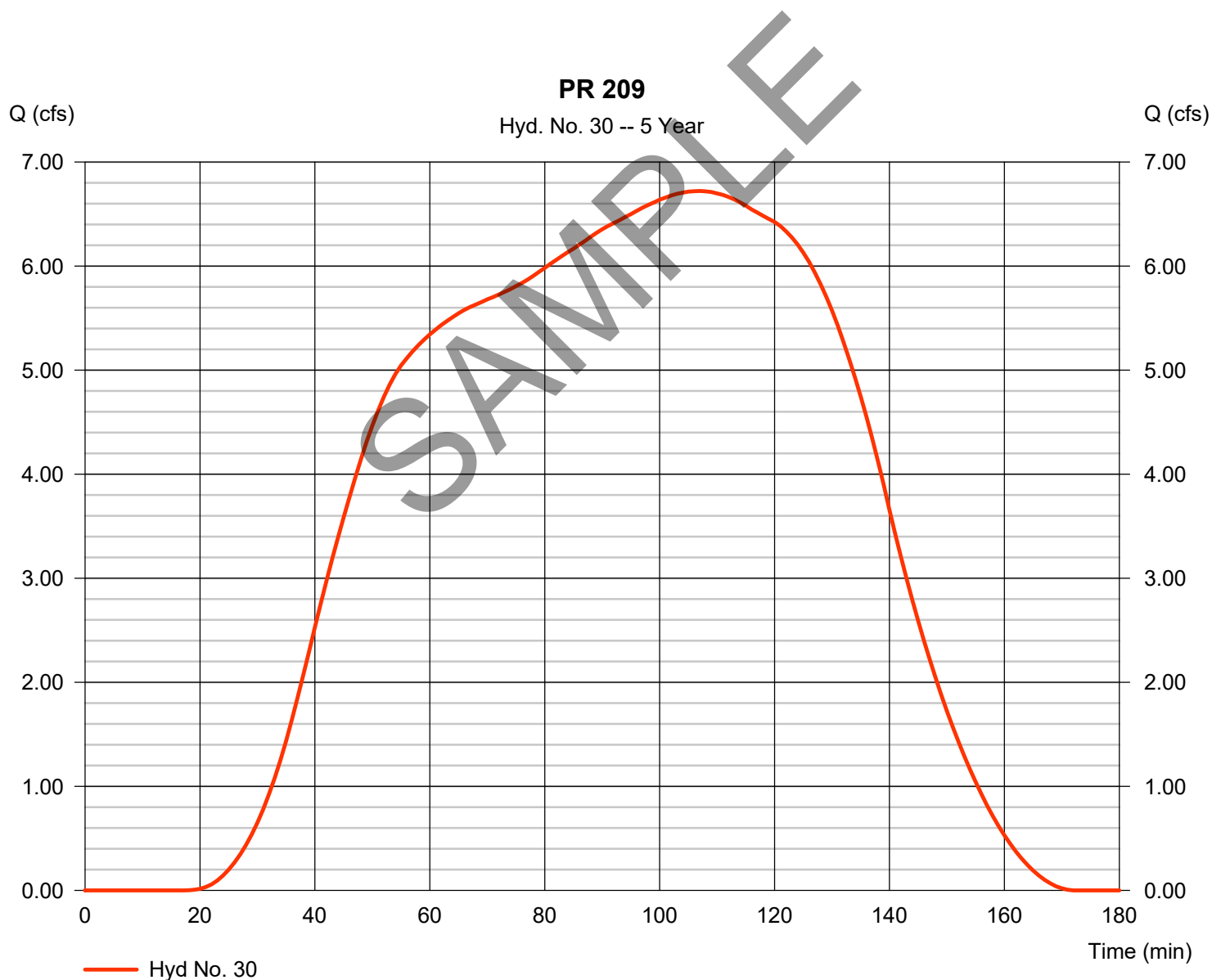
Monday, 04 / 1 / 2019

Hyd. No. 30

PR 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 20.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 6.722 cfs
Time to peak = 107 min
Hyd. volume = 37,370 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 33.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

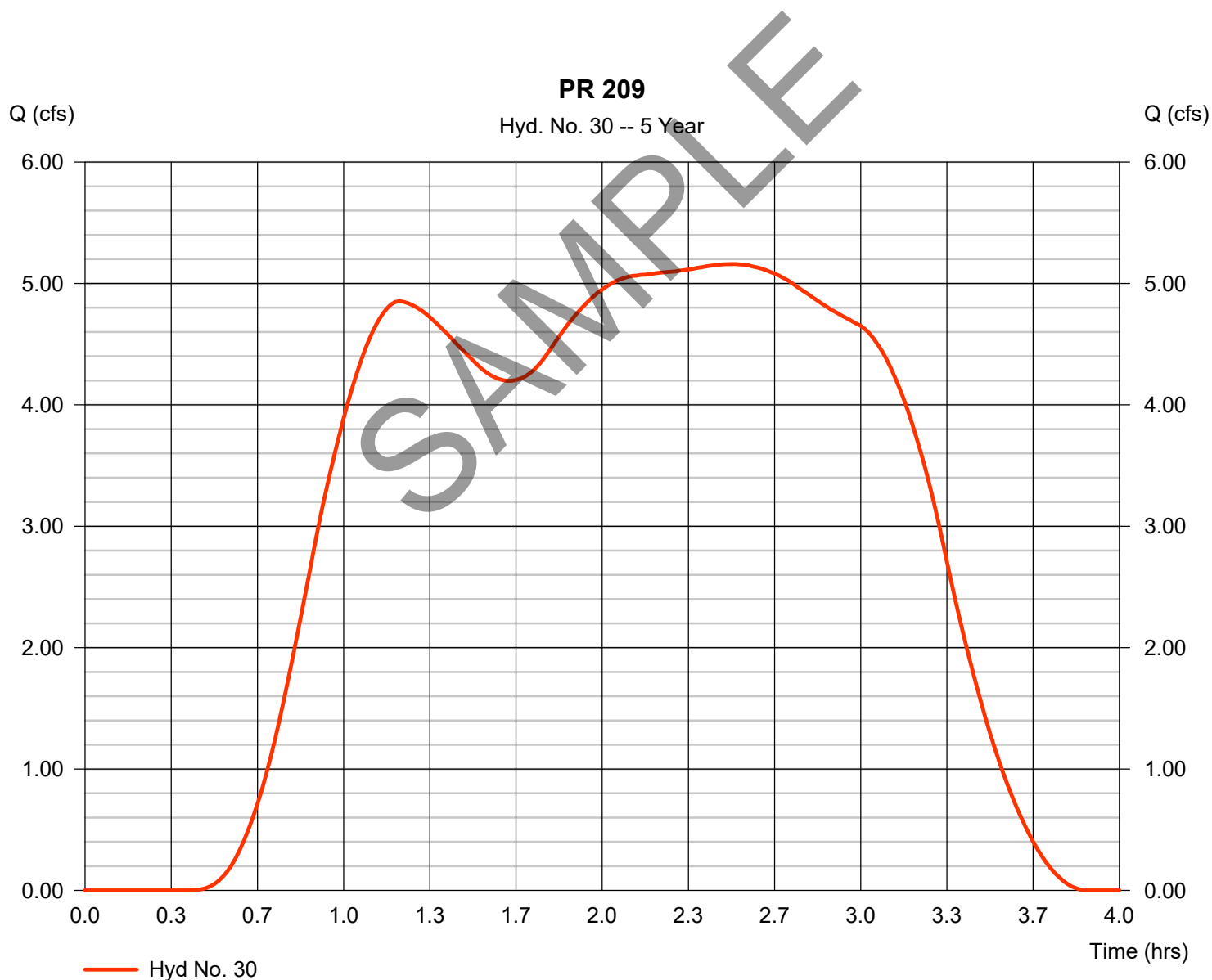
Monday, 04 / 1 / 2019

Hyd. No. 30

PR 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 20.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 5.159 cfs
Time to peak = 2.50 hrs
Hyd. volume = 43,741 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 33.20 min
Distribution = Custom
Shape factor = 484

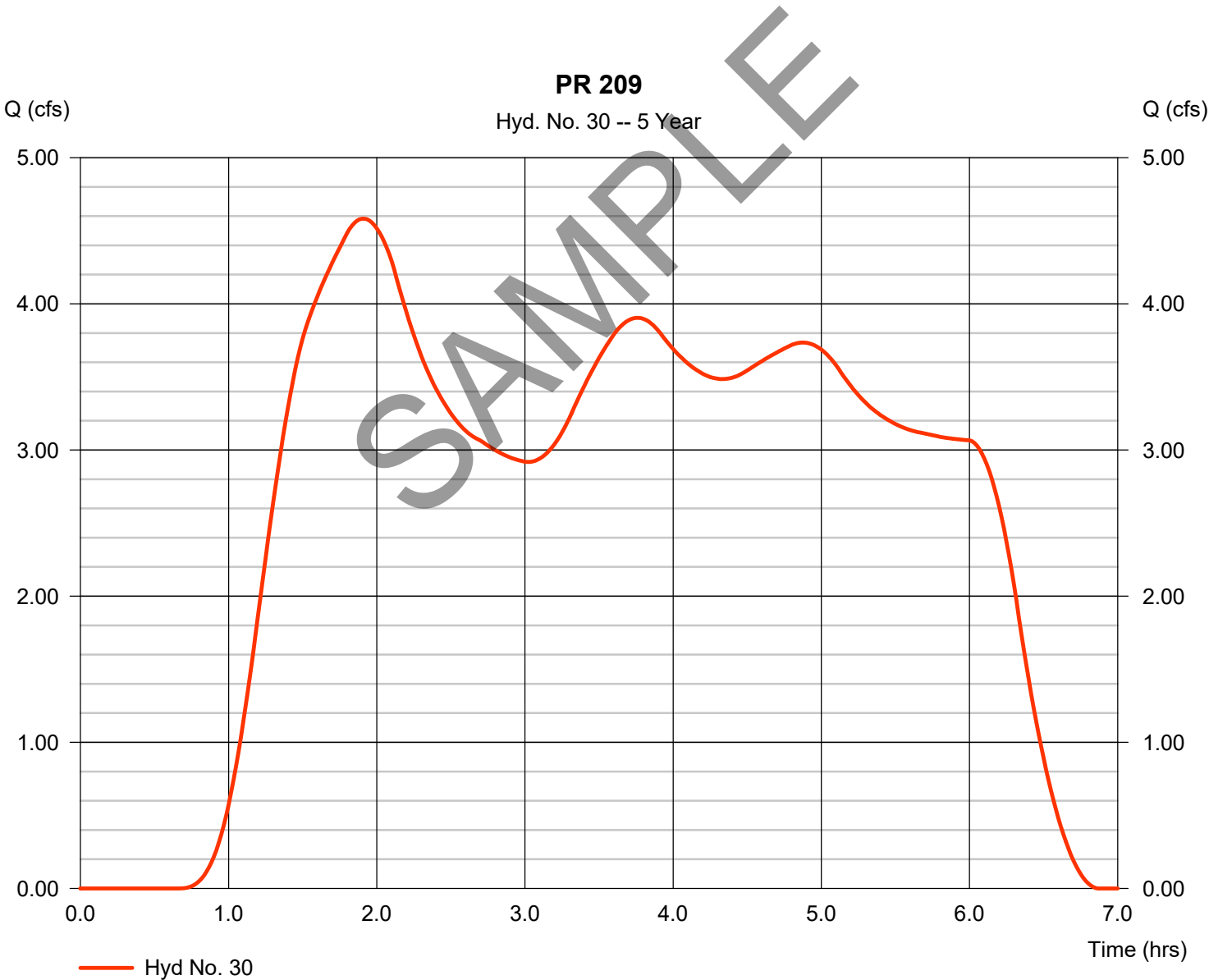


Hydrograph Report

Hyd. No. 30

PR 209

Hydrograph type	= SCS Runoff	Peak discharge	= 4.583 cfs
Storm frequency	= 5 yrs	Time to peak	= 1.92 hrs
Time interval	= 1 min	Hyd. volume	= 66,013 cuft
Drainage area	= 20.600 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 33.20 min
Total precip.	= 2.73 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 30

PR 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 20.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 4.466 cfs
Time to peak = 6.03 hrs
Hyd. volume = 90,581 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 33.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 30

PR 209

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 20.600 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 4.322 cfs
Time to peak = 16.82 hrs
Hyd. volume = 122,568 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 33.20 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

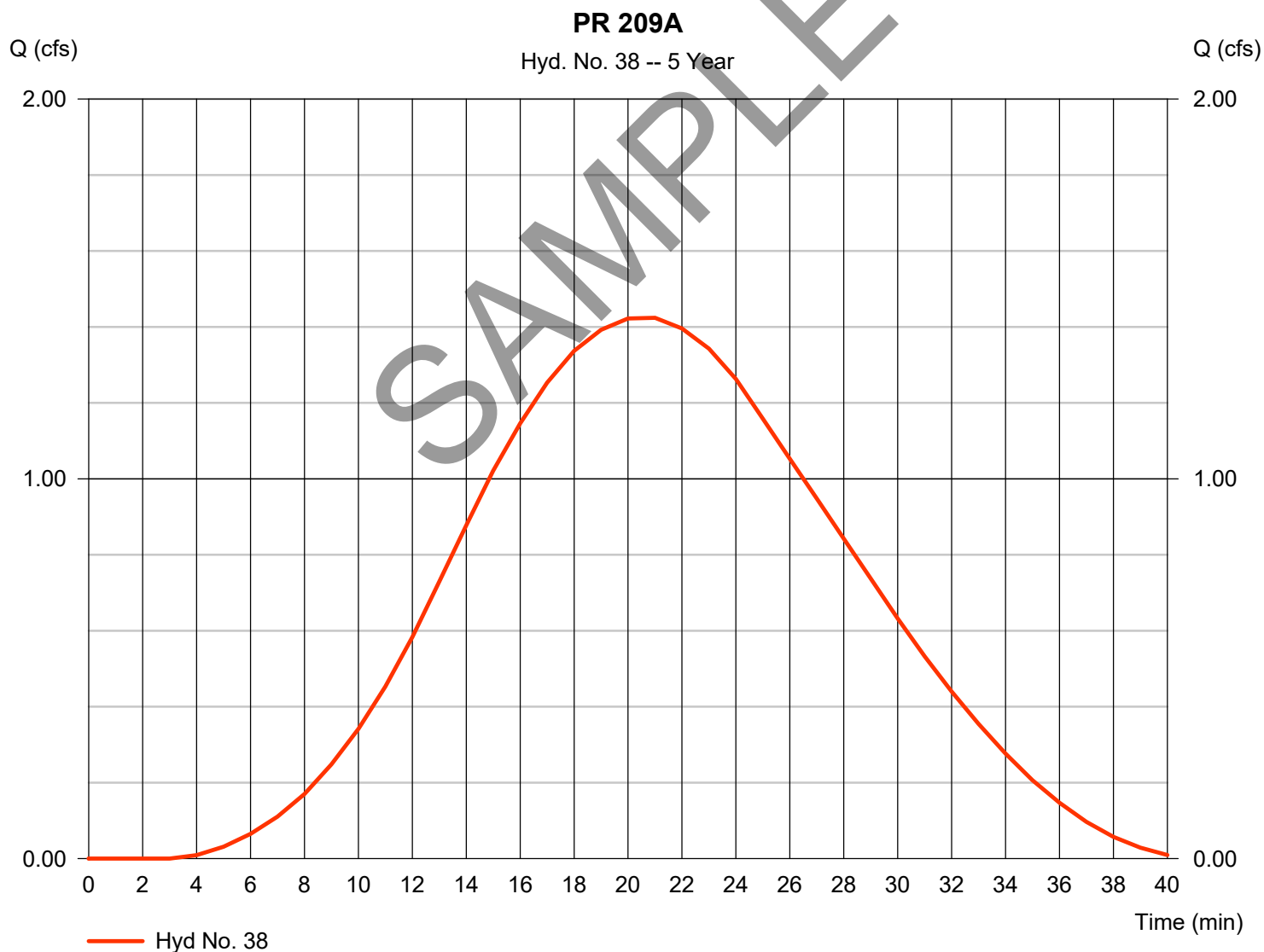
Monday, 04 / 1 / 2019

Hyd. No. 38

PR 209A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.03 in
Storm duration = 0.25 hrs

Peak discharge = 1.424 cfs
Time to peak = 21 min
Hyd. volume = 1,448 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 15.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

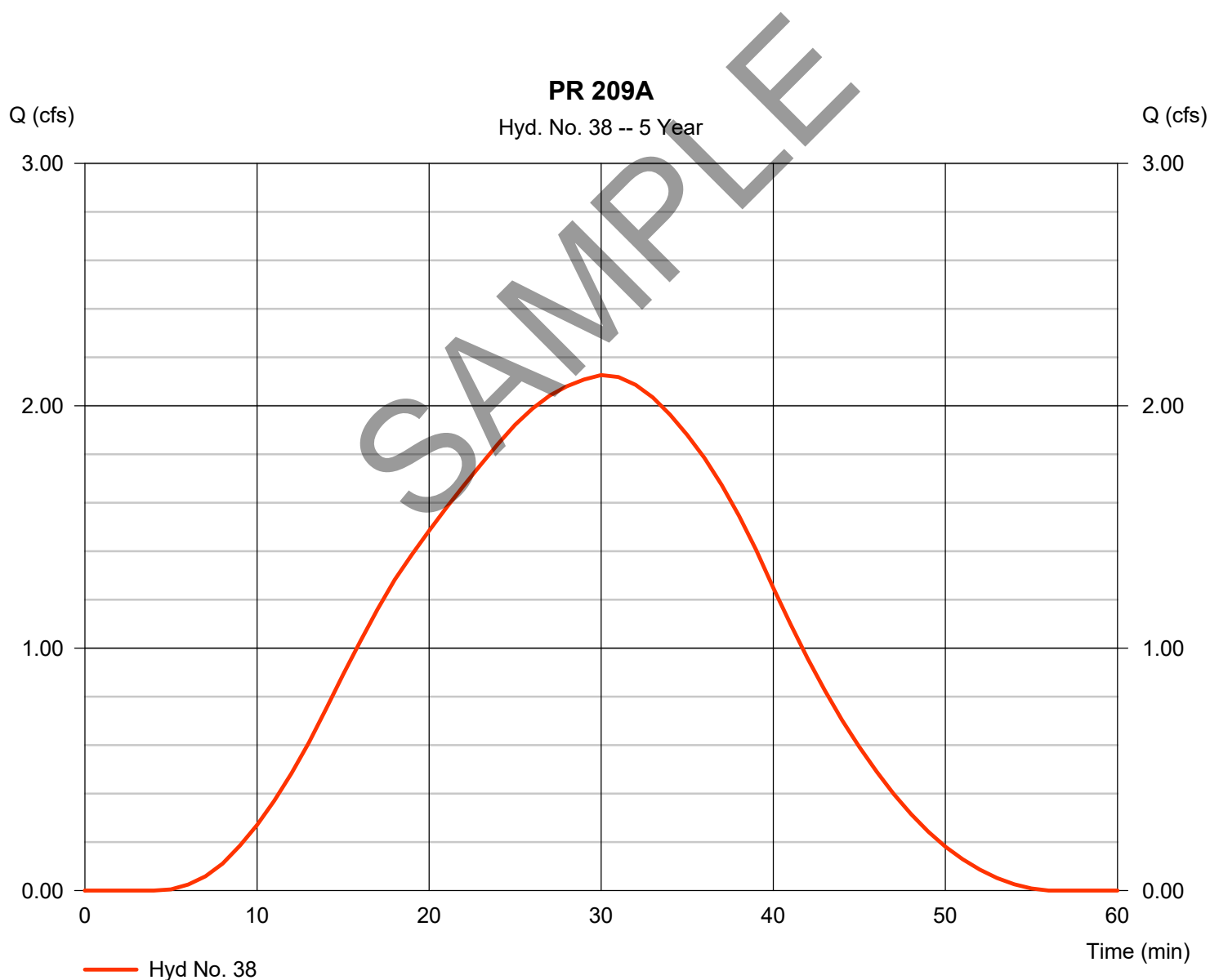
Monday, 04 / 1 / 2019

Hyd. No. 38

PR 209A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.41 in
Storm duration = 0.50 hrs

Peak discharge = 2.127 cfs
Time to peak = 30 min
Hyd. volume = 3,184 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 15.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

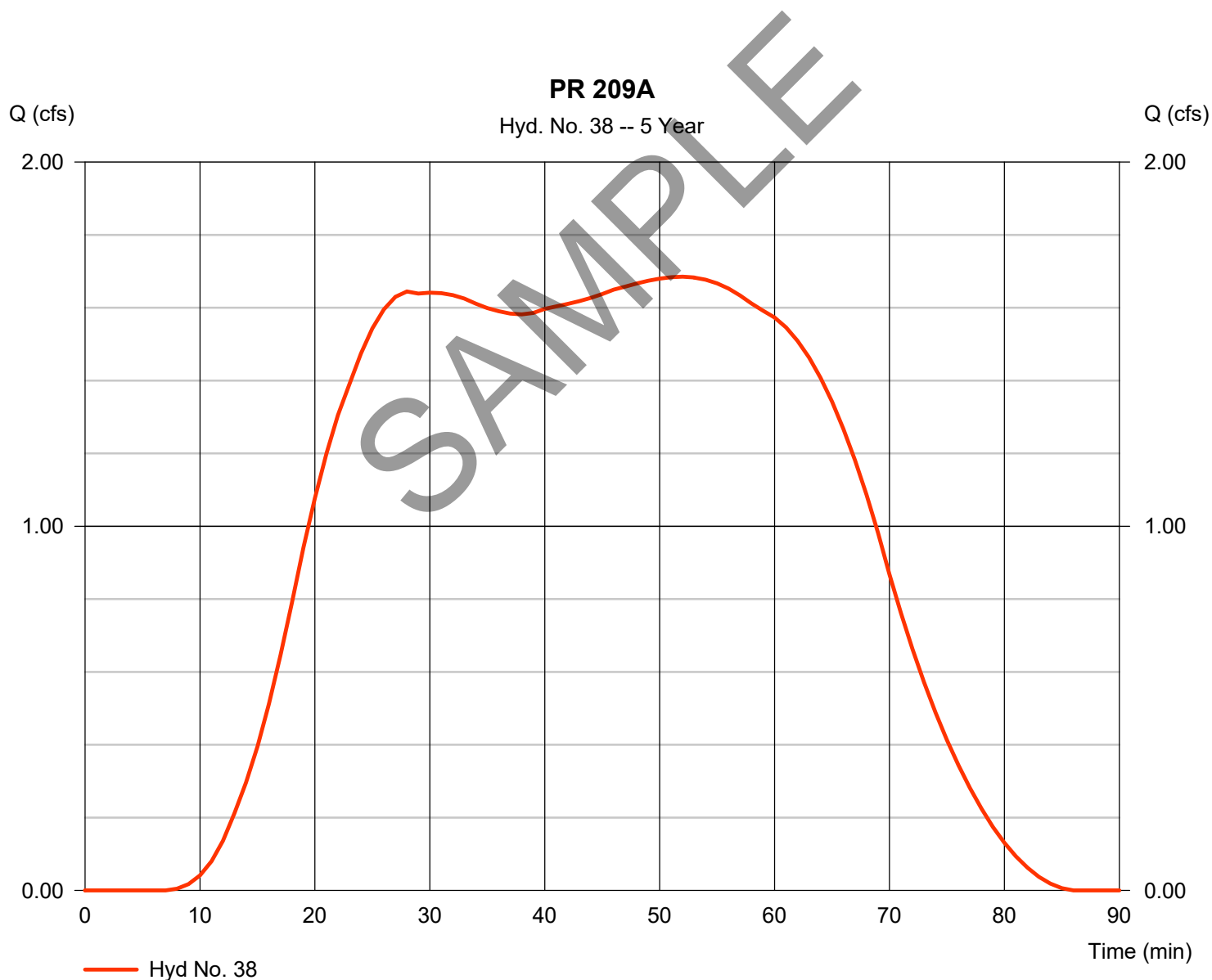
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 38

PR 209A

Hydrograph type	= SCS Runoff	Peak discharge	= 1.685 cfs
Storm frequency	= 5 yrs	Time to peak	= 52 min
Time interval	= 1 min	Hyd. volume	= 5,164 cuft
Drainage area	= 2.400 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 15.80 min
Total precip.	= 1.77 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

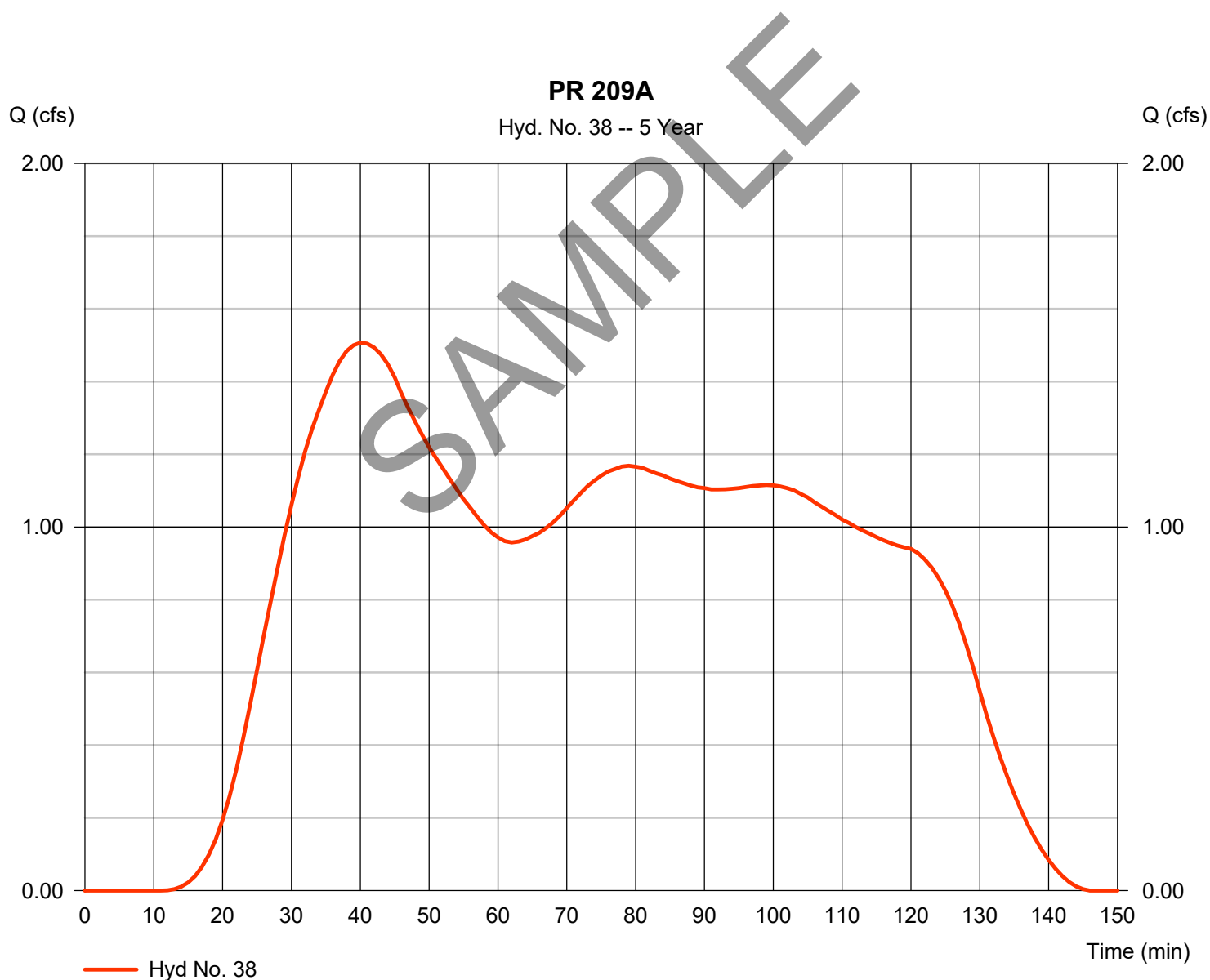
Monday, 04 / 1 / 2019

Hyd. No. 38

PR 209A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.10 in
Storm duration = 2.00 hrs

Peak discharge = 1.507 cfs
Time to peak = 40 min
Hyd. volume = 7,193 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 15.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

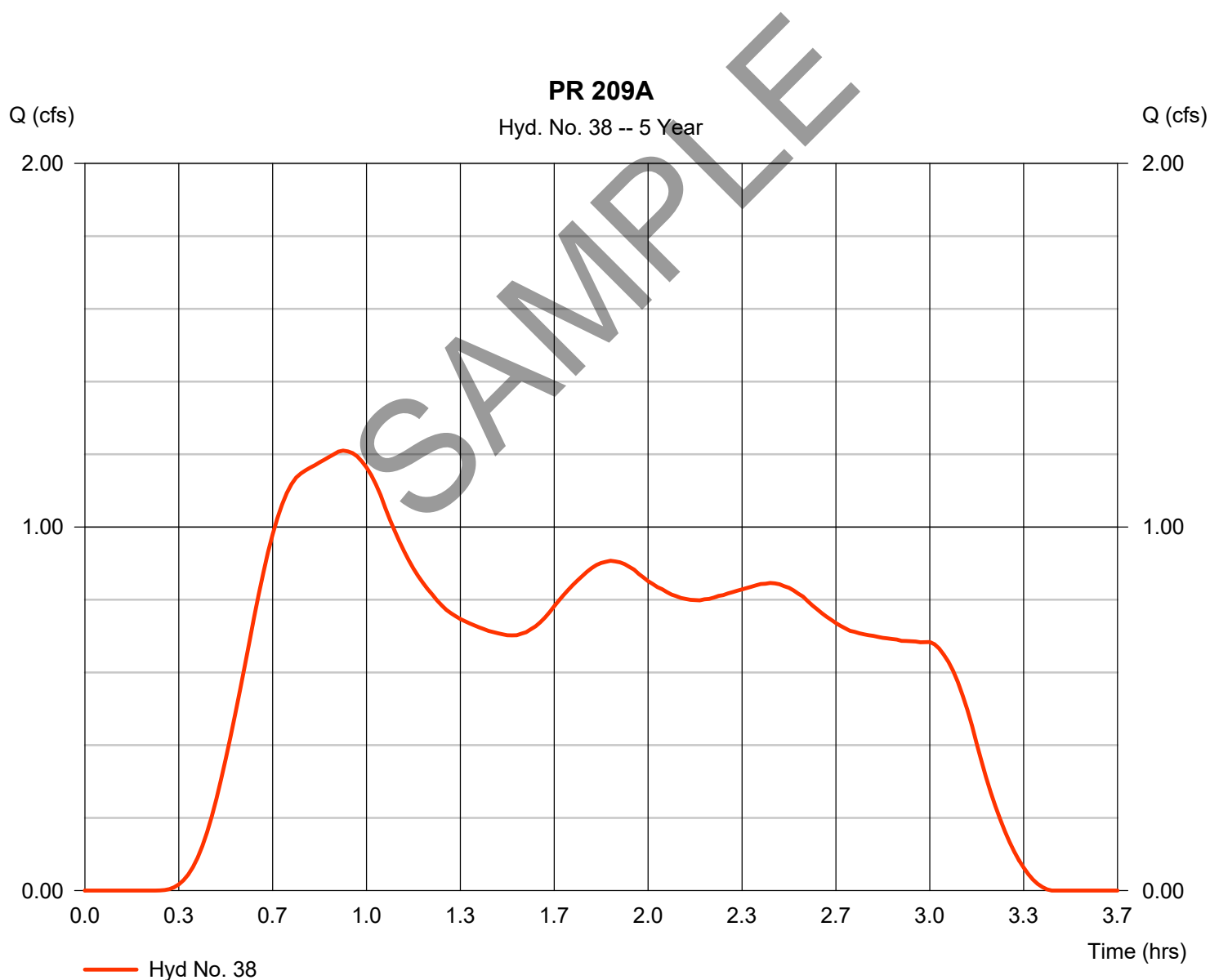
Monday, 04 / 1 / 2019

Hyd. No. 38

PR 209A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.25 in
Storm duration = 3.00 hrs

Peak discharge = 1.210 cfs
Time to peak = 0.92 hrs
Hyd. volume = 8,165 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 15.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

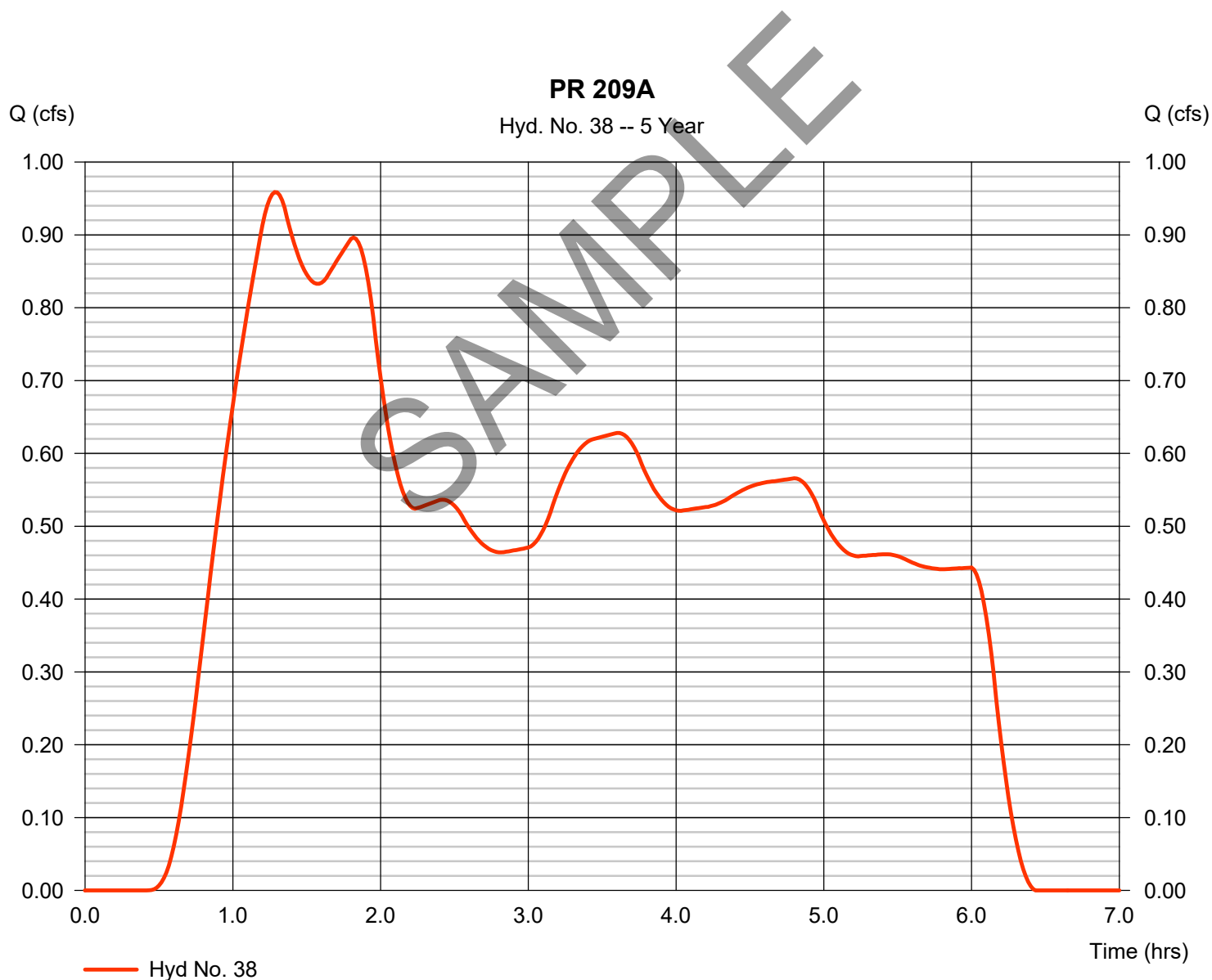
Monday, 04 / 1 / 2019

Hyd. No. 38

PR 209A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.73 in
Storm duration = 6.00 hrs

Peak discharge = 0.959 cfs
Time to peak = 1.28 hrs
Hyd. volume = 11,442 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 15.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

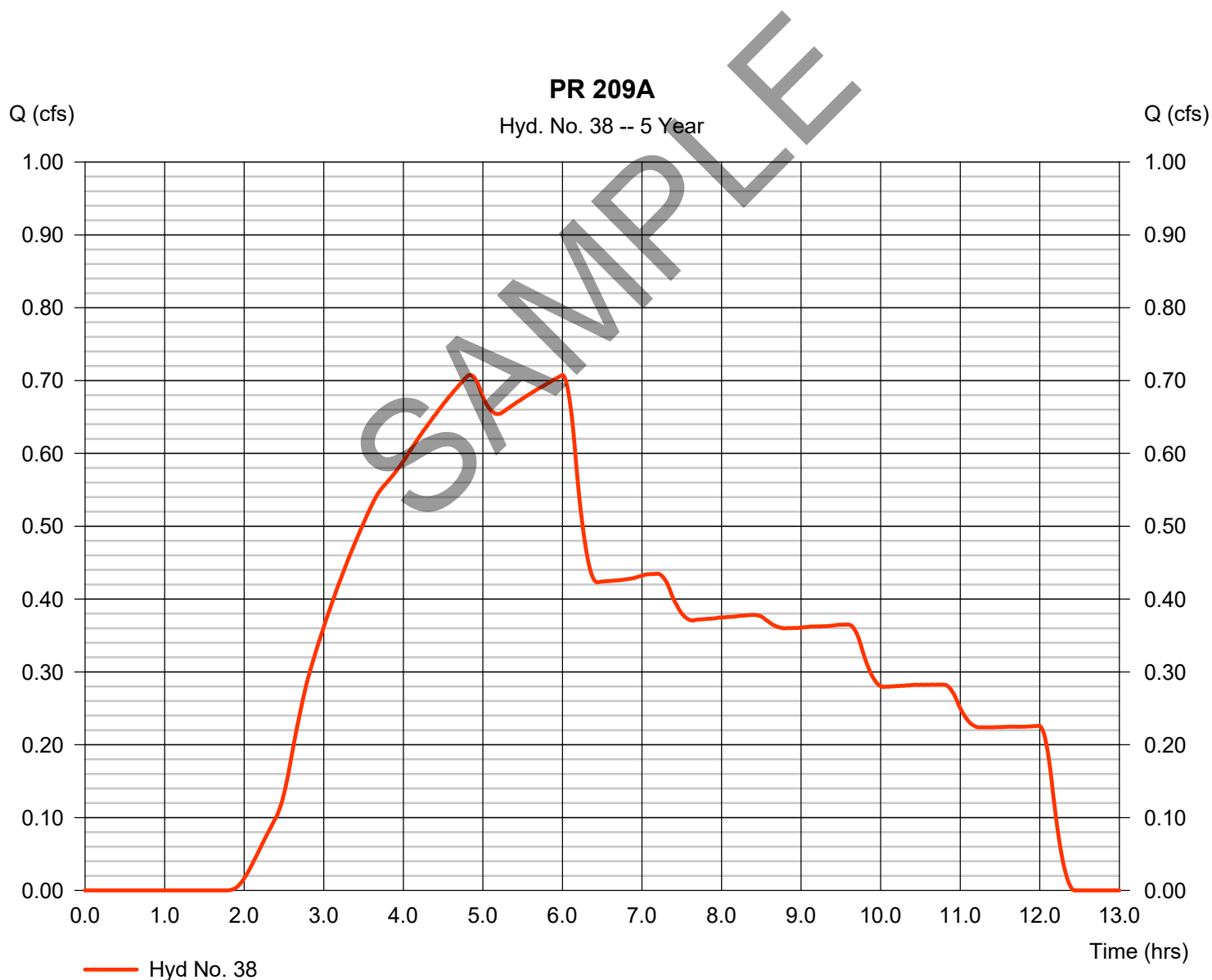
Monday, 04 / 1 / 2019

Hyd. No. 38

PR 209A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.21 in
Storm duration = 12.00 hrs

Peak discharge = 0.708 cfs
Time to peak = 6.00 hrs
Hyd. volume = 14,914 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 15.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

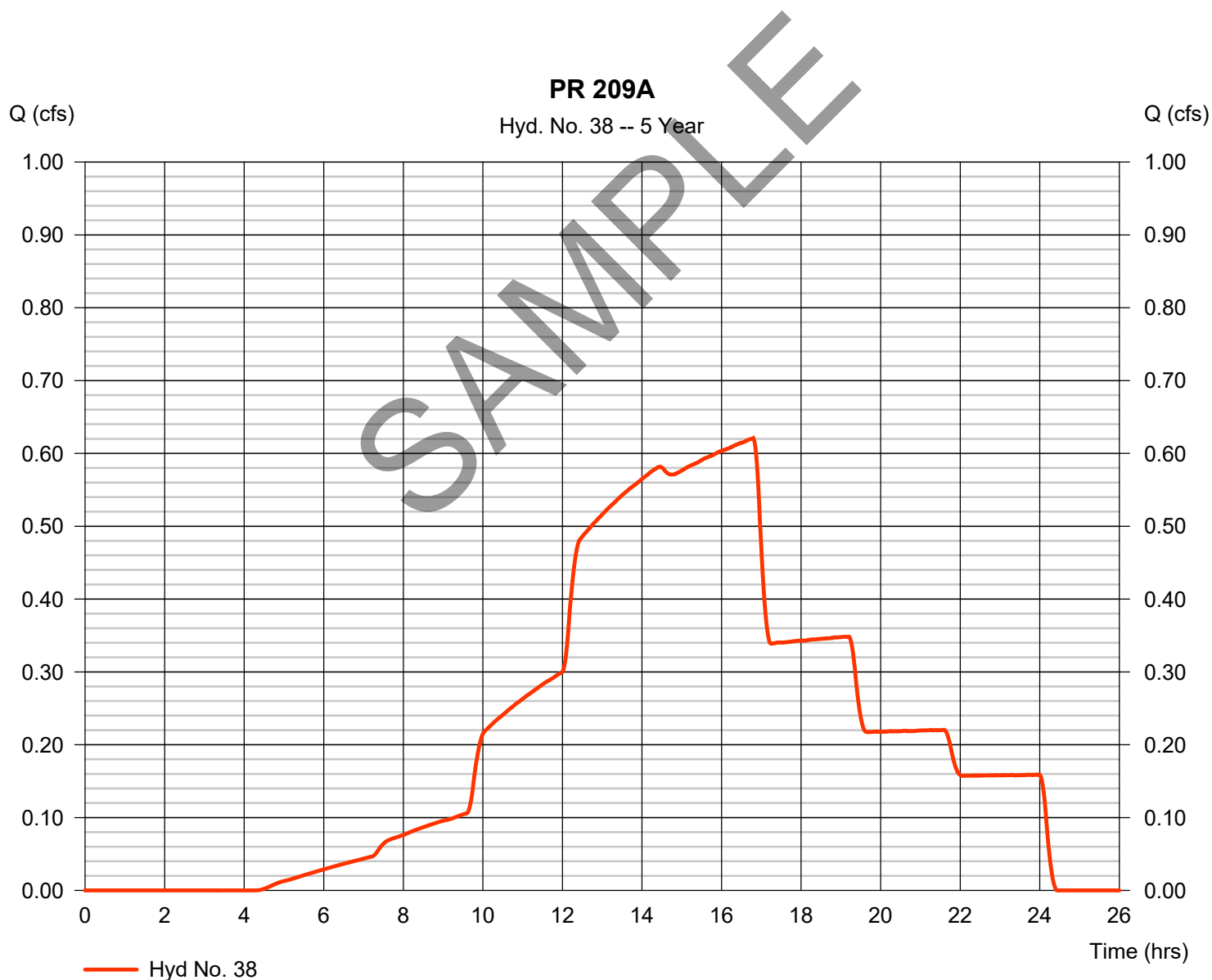
Monday, 04 / 1 / 2019

Hyd. No. 38

PR 209A

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.79 in
Storm duration = 24.00 hrs

Peak discharge = 0.621 cfs
Time to peak = 16.80 hrs
Hyd. volume = 19,292 cuft
Curve number = 84
Hydraulic length = 0 ft
Time of conc. (Tc) = 15.80 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

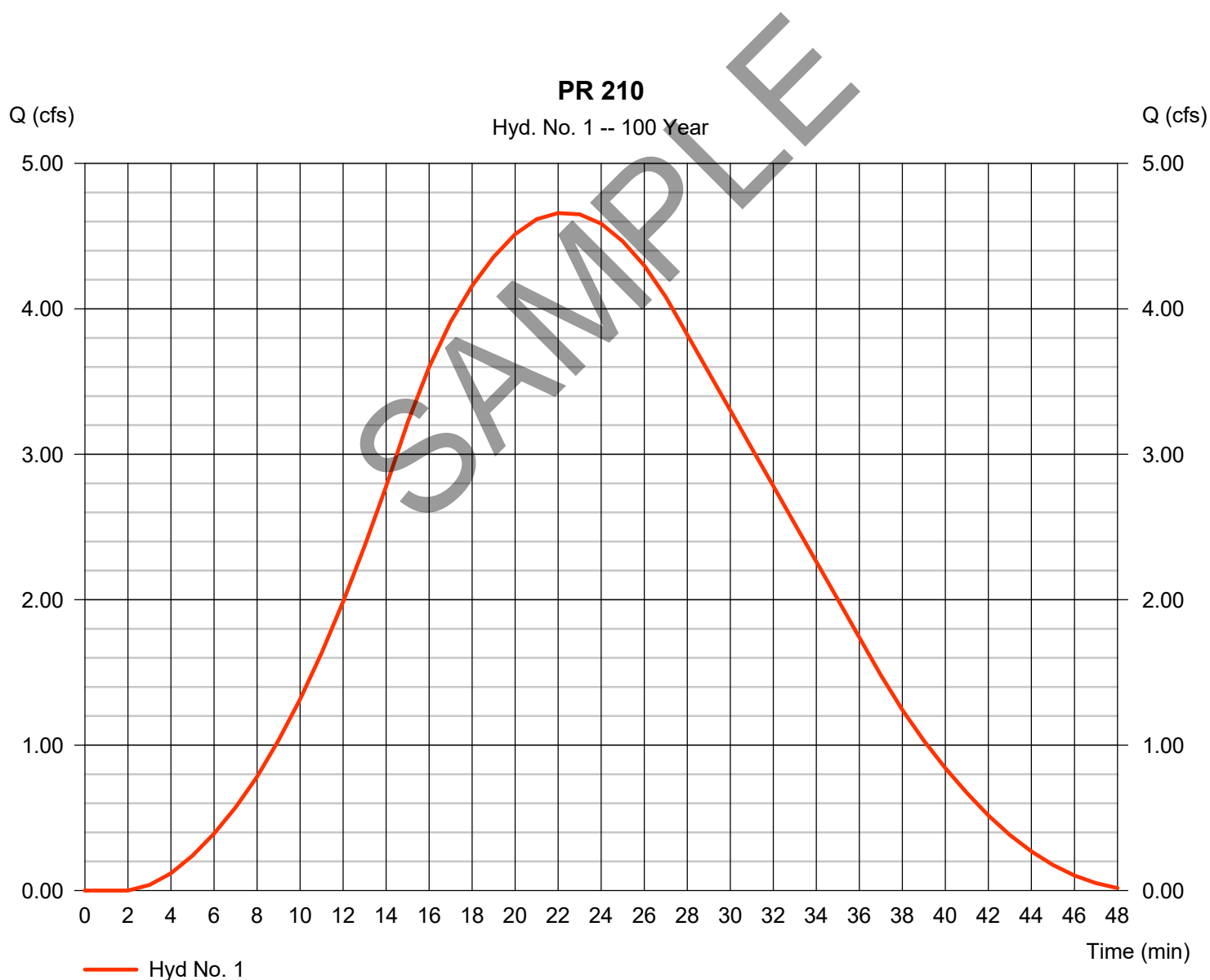
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 1

PR 210

Hydrograph type	= SCS Runoff	Peak discharge	= 4.658 cfs
Storm frequency	= 100 yrs	Time to peak	= 22 min
Time interval	= 1 min	Hyd. volume	= 6,011 cuft
Drainage area	= 3.000 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.50 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

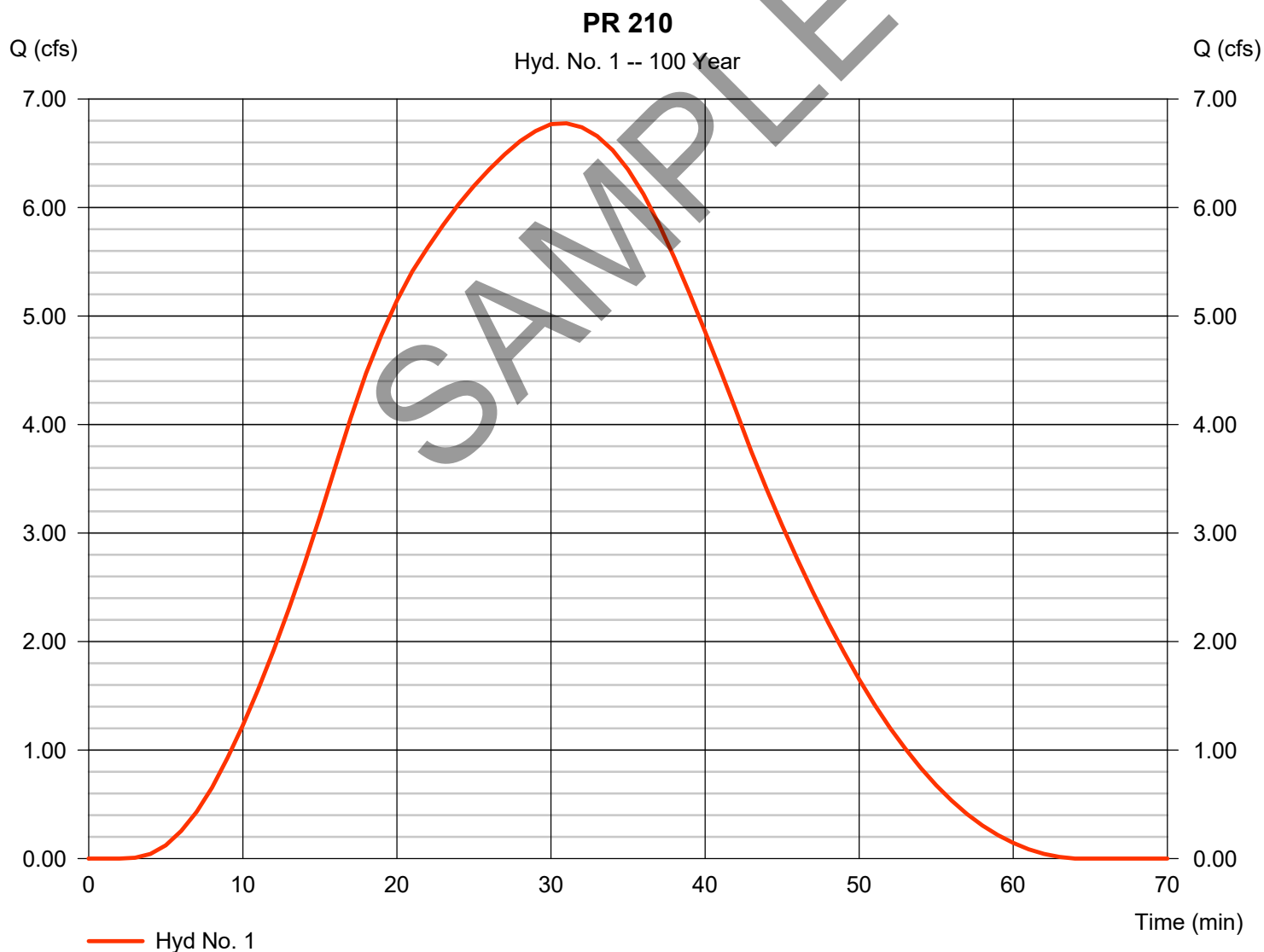
Tuesday, 03 / 12 / 2019

Hyd. No. 1

PR 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 6.776 cfs
Time to peak = 31 min
Hyd. volume = 11,808 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

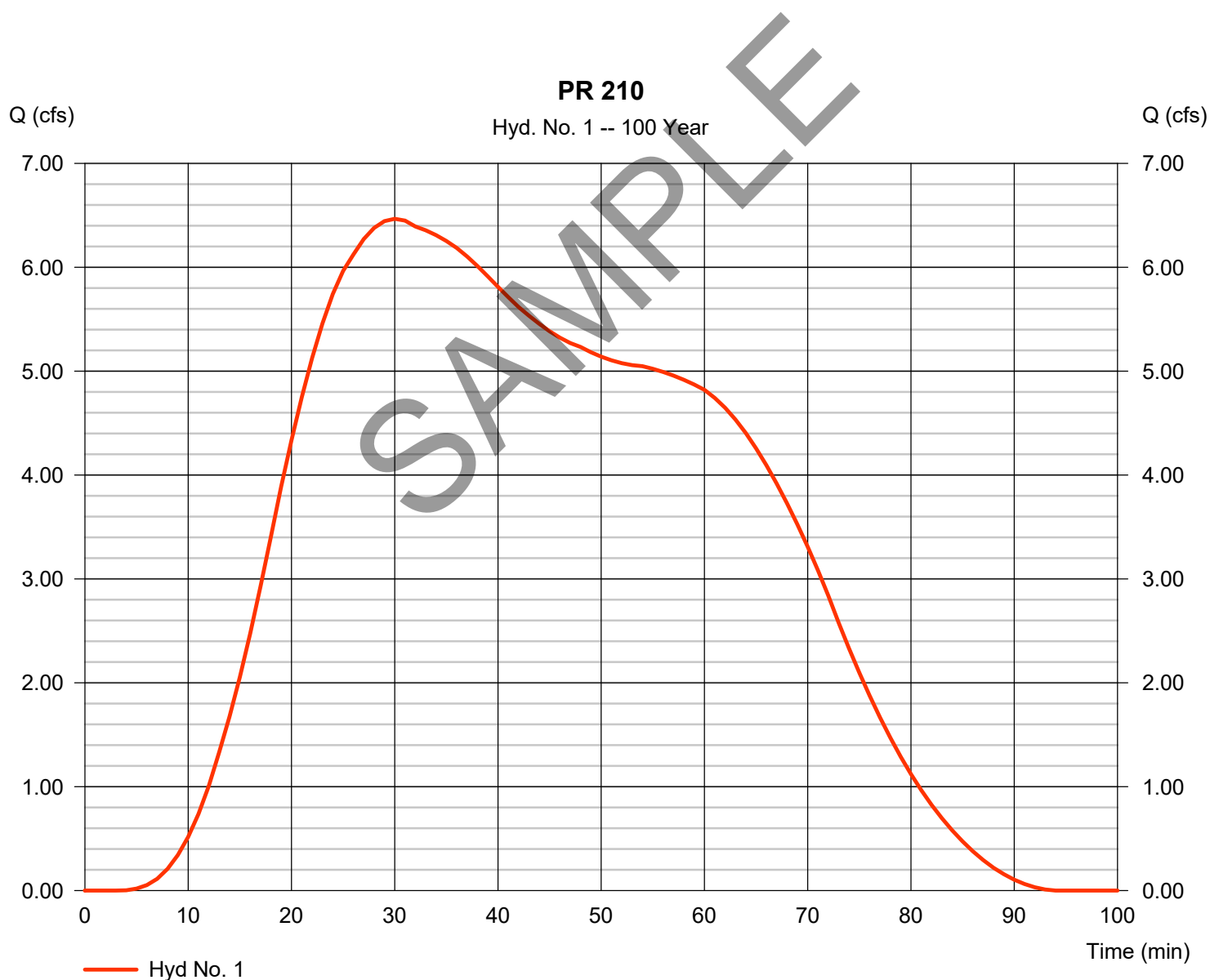
Tuesday, 03 / 12 / 2019

Hyd. No. 1

PR 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 6.467 cfs
Time to peak = 30 min
Hyd. volume = 18,937 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

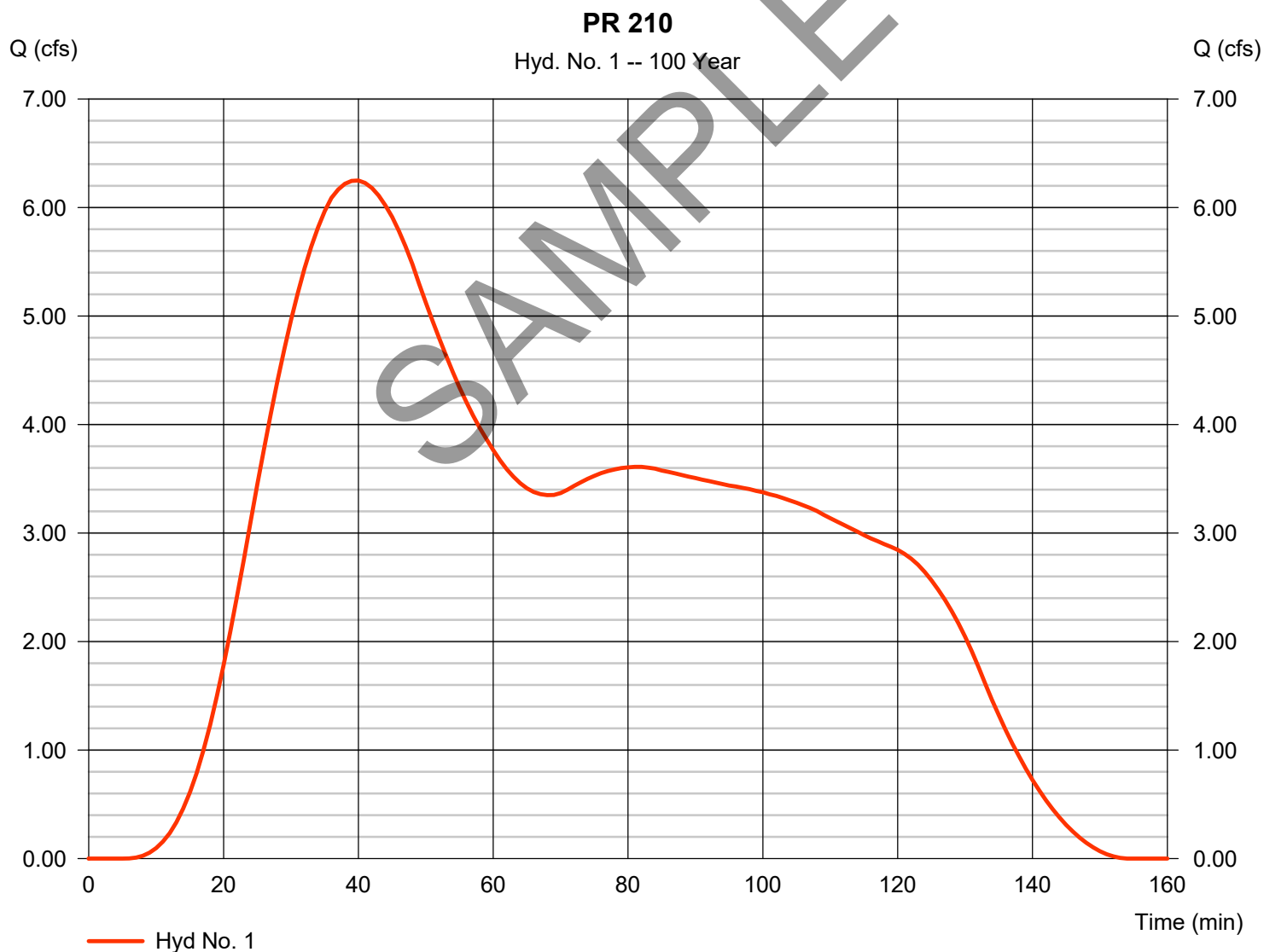
Tuesday, 03 / 12 / 2019

Hyd. No. 1

PR 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 6.249 cfs
Time to peak = 40 min
Hyd. volume = 26,804 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

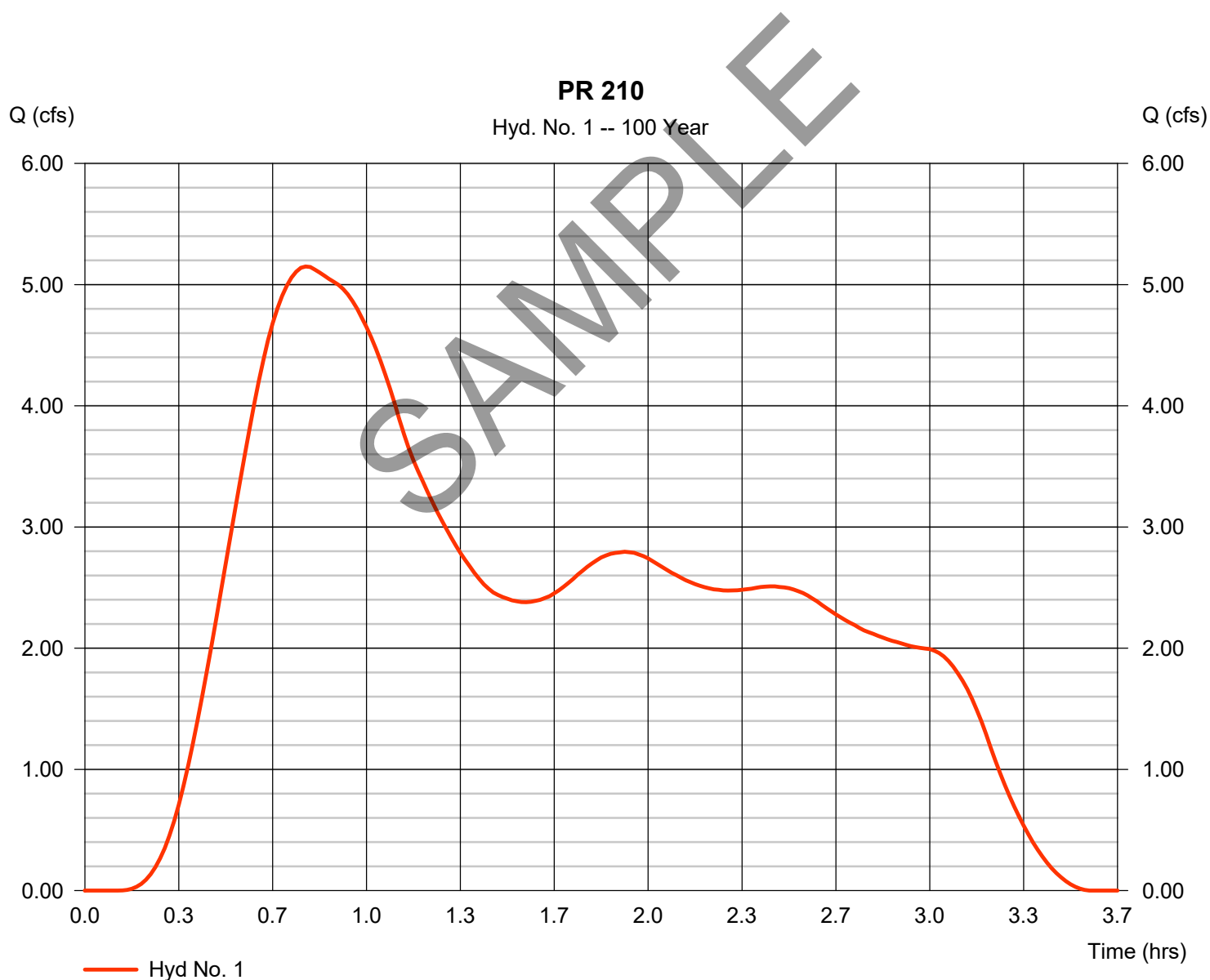
Tuesday, 03 / 12 / 2019

Hyd. No. 1

PR 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 5.149 cfs
Time to peak = 0.78 hrs
Hyd. volume = 30,296 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

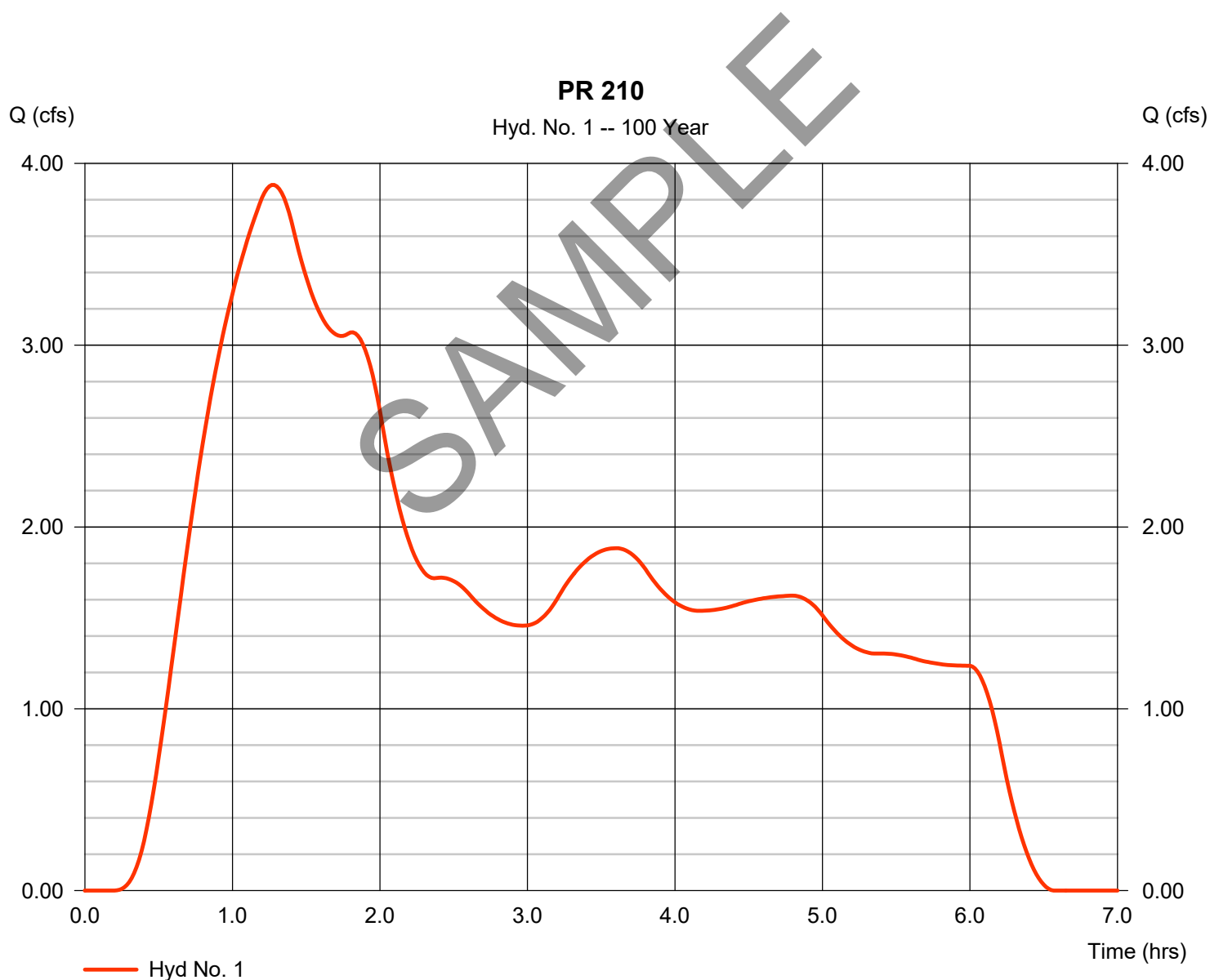
Tuesday, 03 / 12 / 2019

Hyd. No. 1

PR 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 3.881 cfs
Time to peak = 1.28 hrs
Hyd. volume = 40,175 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

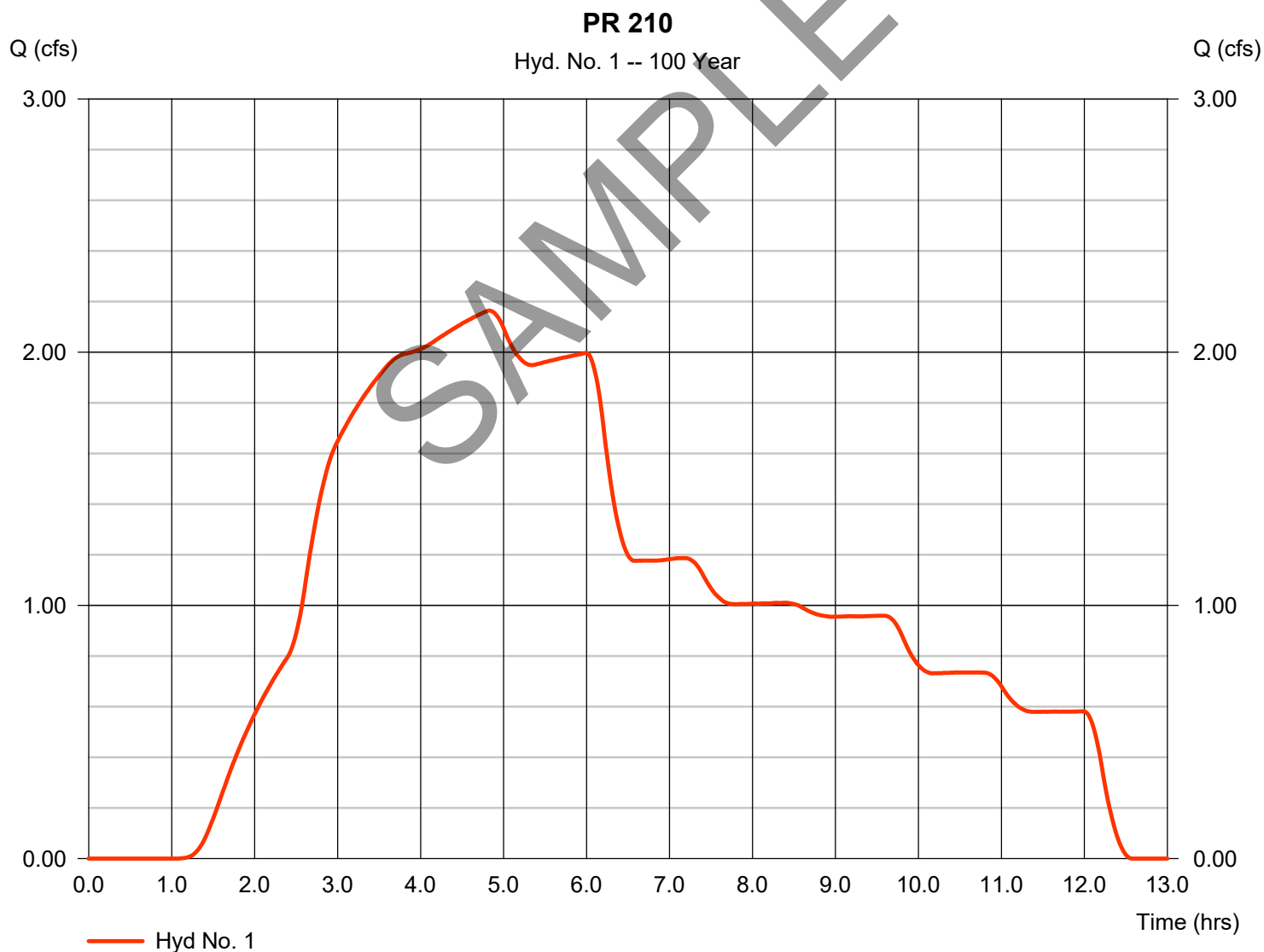
Tuesday, 03 / 12 / 2019

Hyd. No. 1

PR 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 2.164 cfs
Time to peak = 4.82 hrs
Hyd. volume = 47,019 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

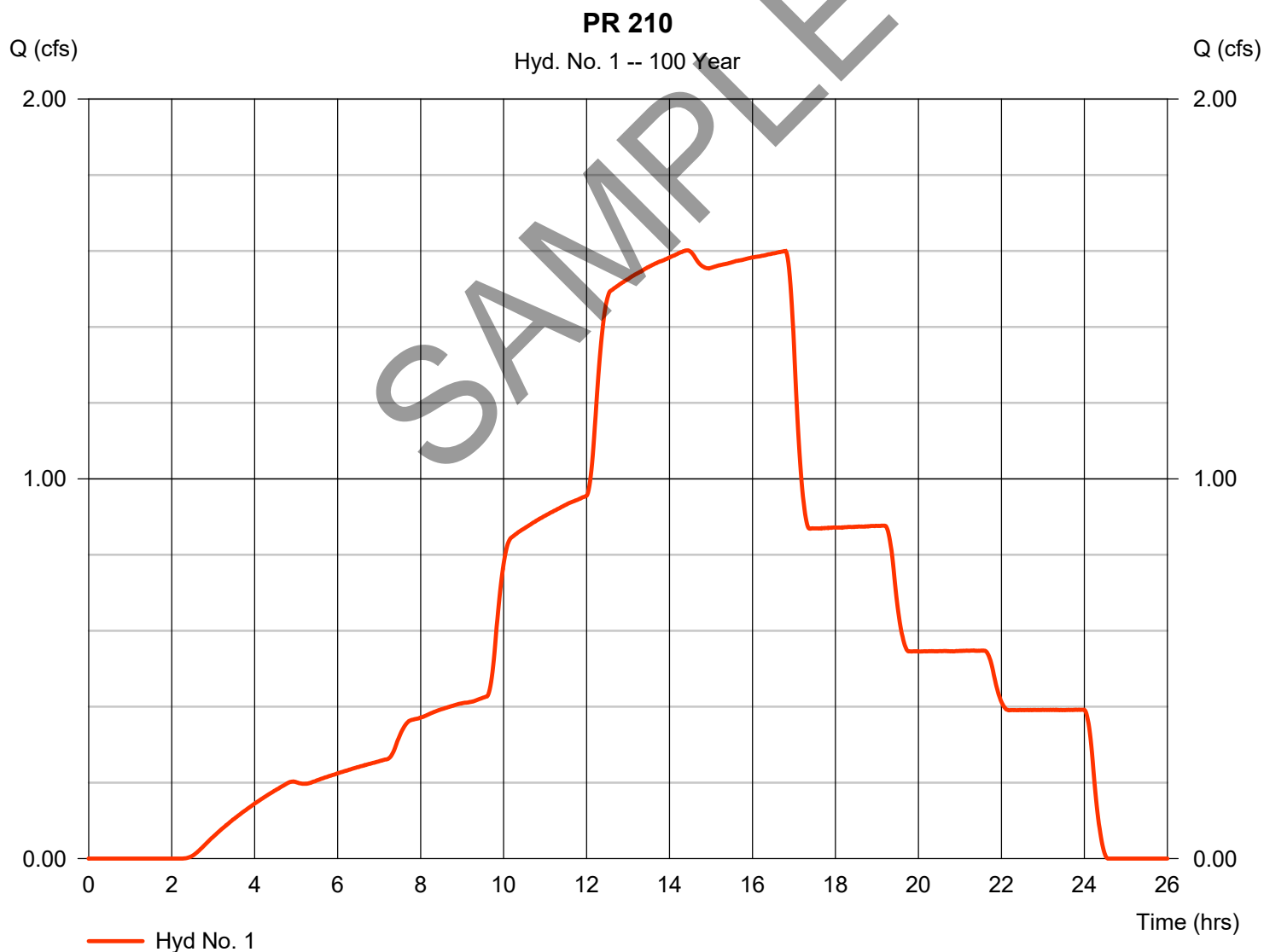
Tuesday, 03 / 12 / 2019

Hyd. No. 1

PR 210

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 1.601 cfs
Time to peak = 14.42 hrs
Hyd. volume = 56,988 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.50 min
Distribution = Custom
Shape factor = 484

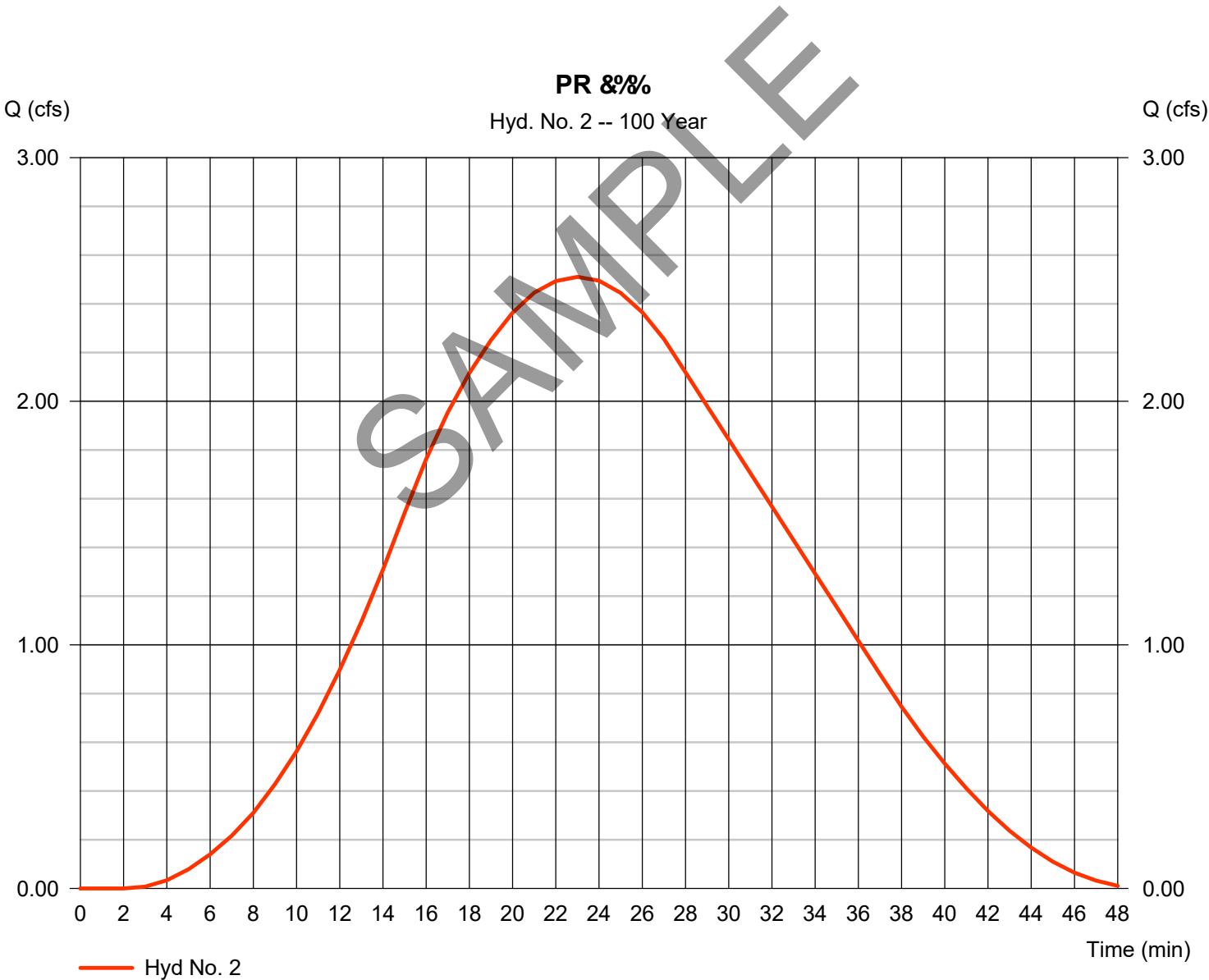


Hydrograph Report

Hyd. No. 2

PR GFF

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.511 cfs
Storm frequency	=	100 yrs	Time to peak	=	23 min
Time interval	=	1 min	Hyd. volume	=	3,181 cuft
Drainage area	=	2.400 ac	Curve number	=	81
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	21.30 min
Total precip.	=	1.59 in	Distribution	=	Custom
Storm duration	=	0.25 hrs	Shape factor	=	484

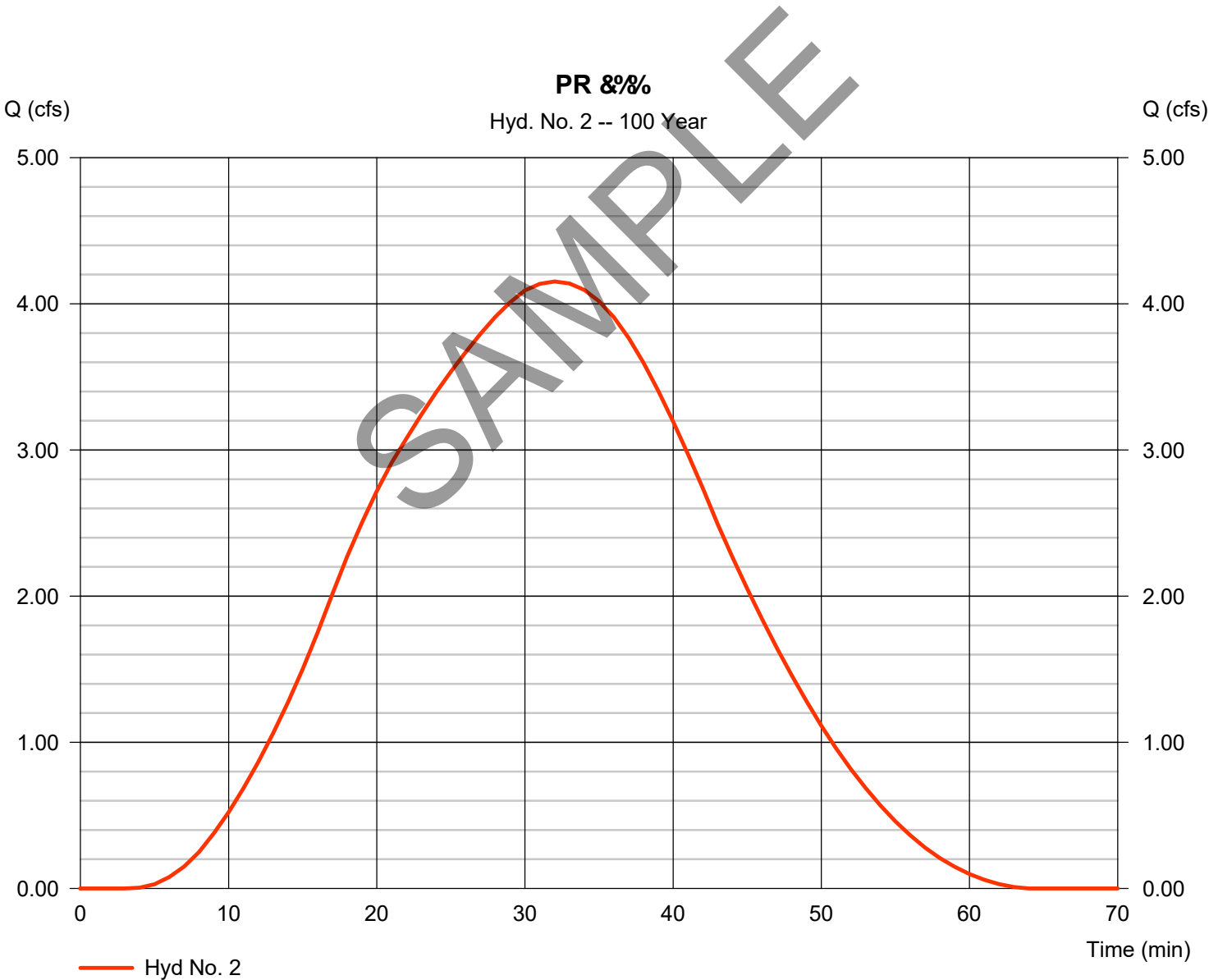


Hydrograph Report

Hyd. No. 2

PR GFF

Hydrograph type	= SCS Runoff	Peak discharge	= 4.153 cfs
Storm frequency	= 100 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 6,999 cuft
Drainage area	= 2.400 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.30 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484

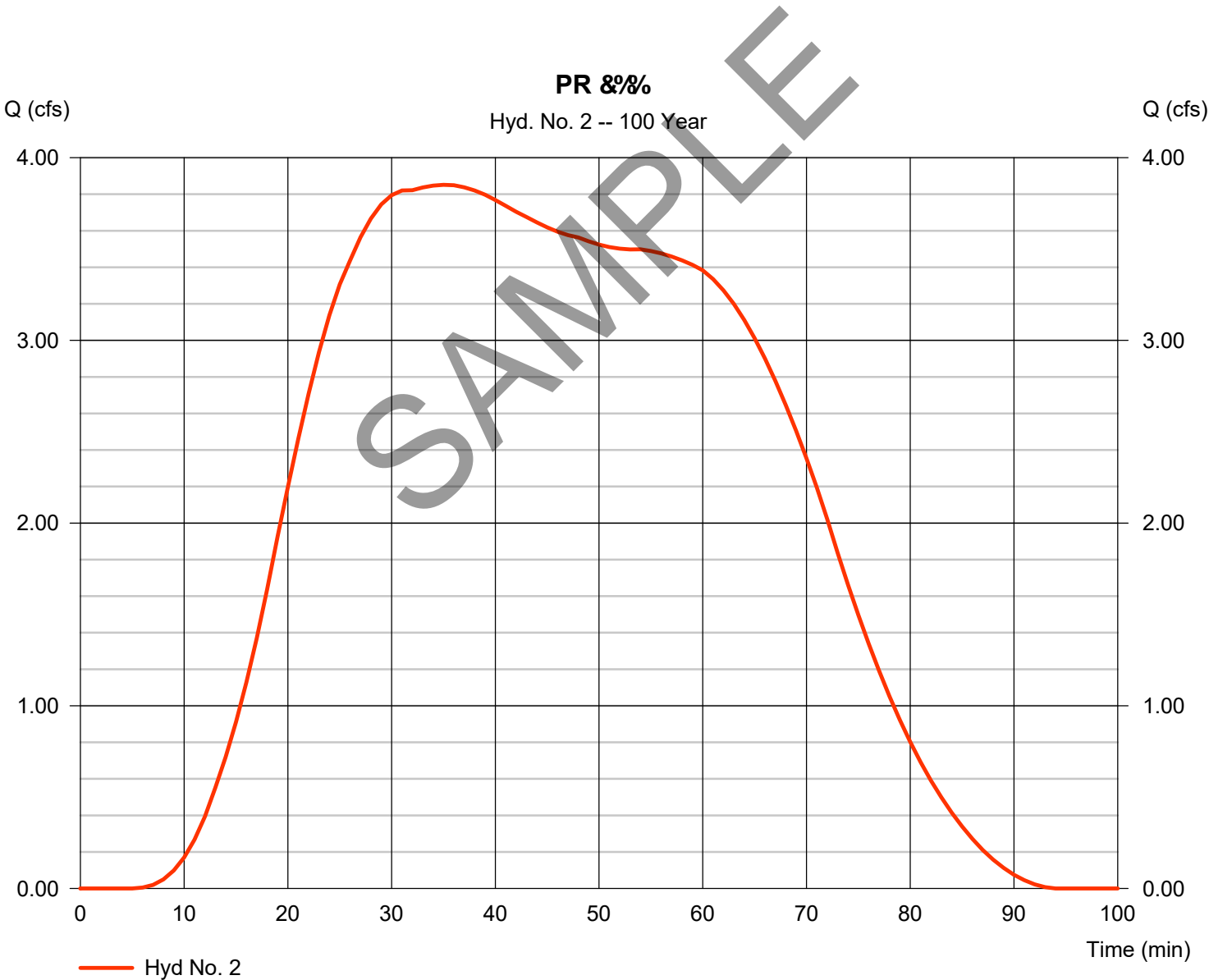


Hydrograph Report

Hyd. No. 2

PR GFF

Hydrograph type	= SCS Runoff	Peak discharge	= 3.851 cfs
Storm frequency	= 100 yrs	Time to peak	= 35 min
Time interval	= 1 min	Hyd. volume	= 12,022 cuft
Drainage area	= 2.400 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.30 min
Total precip.	= 3.07 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484

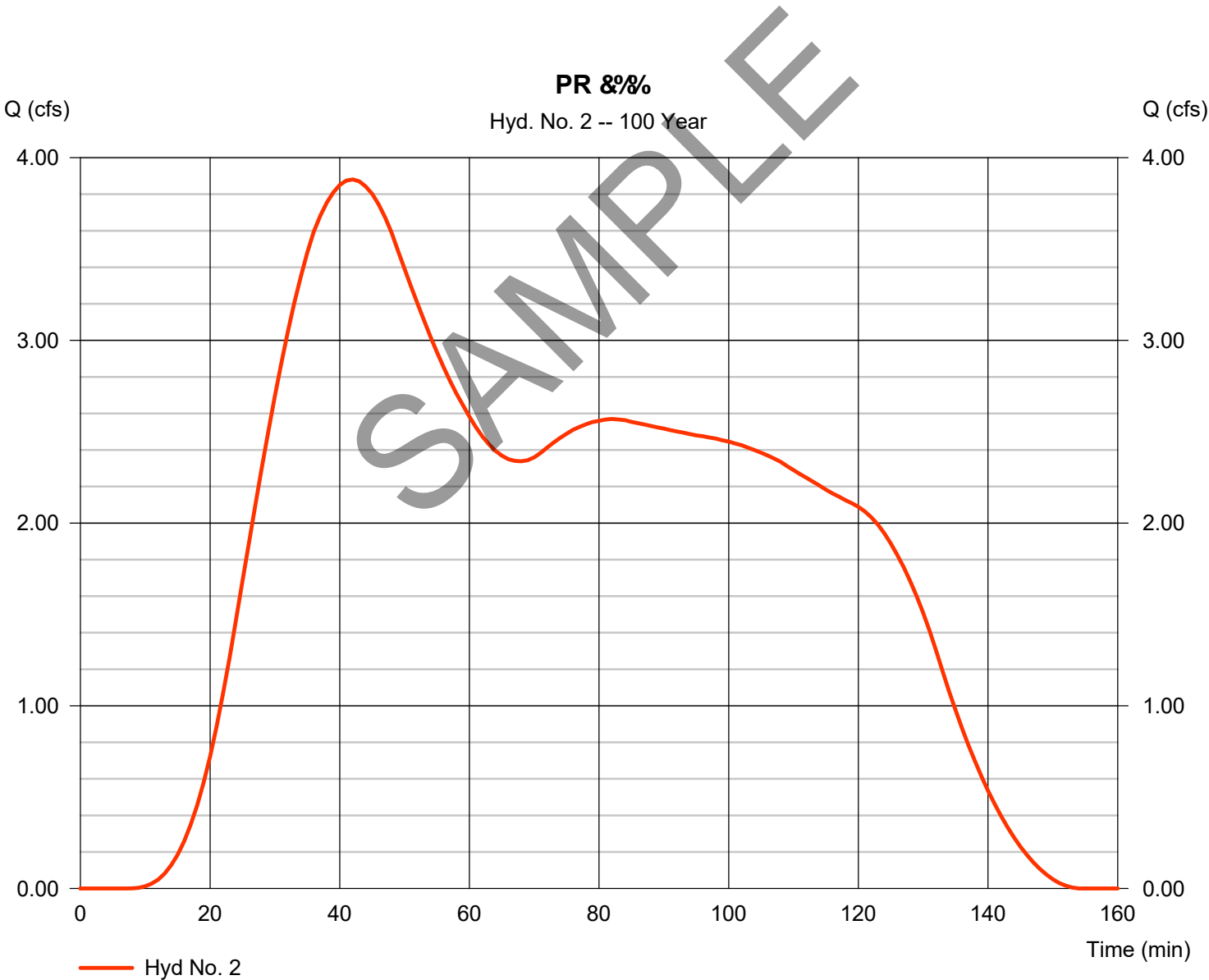


Hydrograph Report

Hyd. No. 2

PR GFF

Hydrograph type	= SCS Runoff	Peak discharge	= 3.881 cfs
Storm frequency	= 100 yrs	Time to peak	= 42 min
Time interval	= 1 min	Hyd. volume	= 17,775 cuft
Drainage area	= 2.400 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.30 min
Total precip.	= 3.88 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

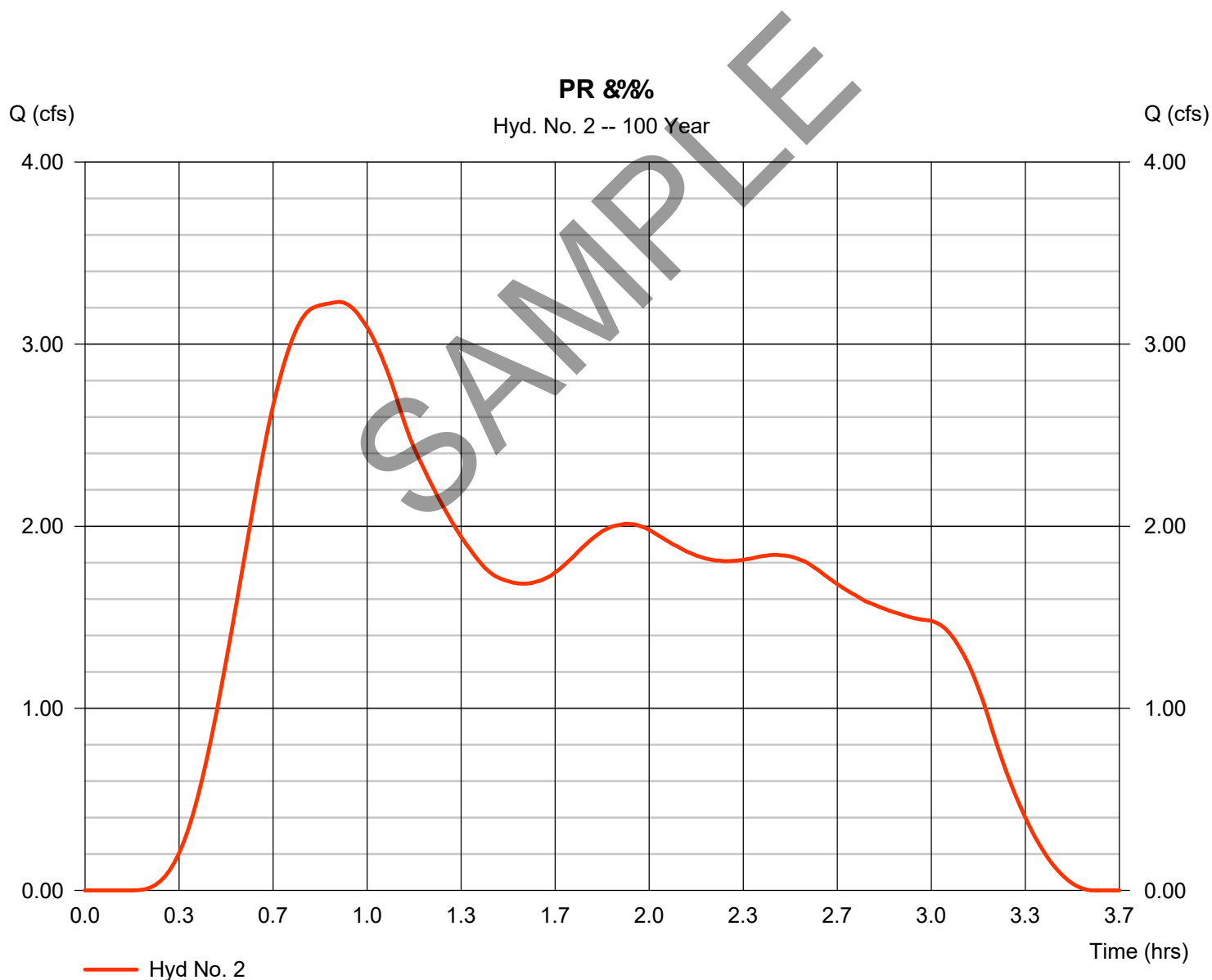
Tuesday, 03 / 12 / 2019

Hyd. No. 2

PR GFF

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 3.232 cfs
Time to peak = 0.90 hrs
Hyd. volume = 20,373 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484

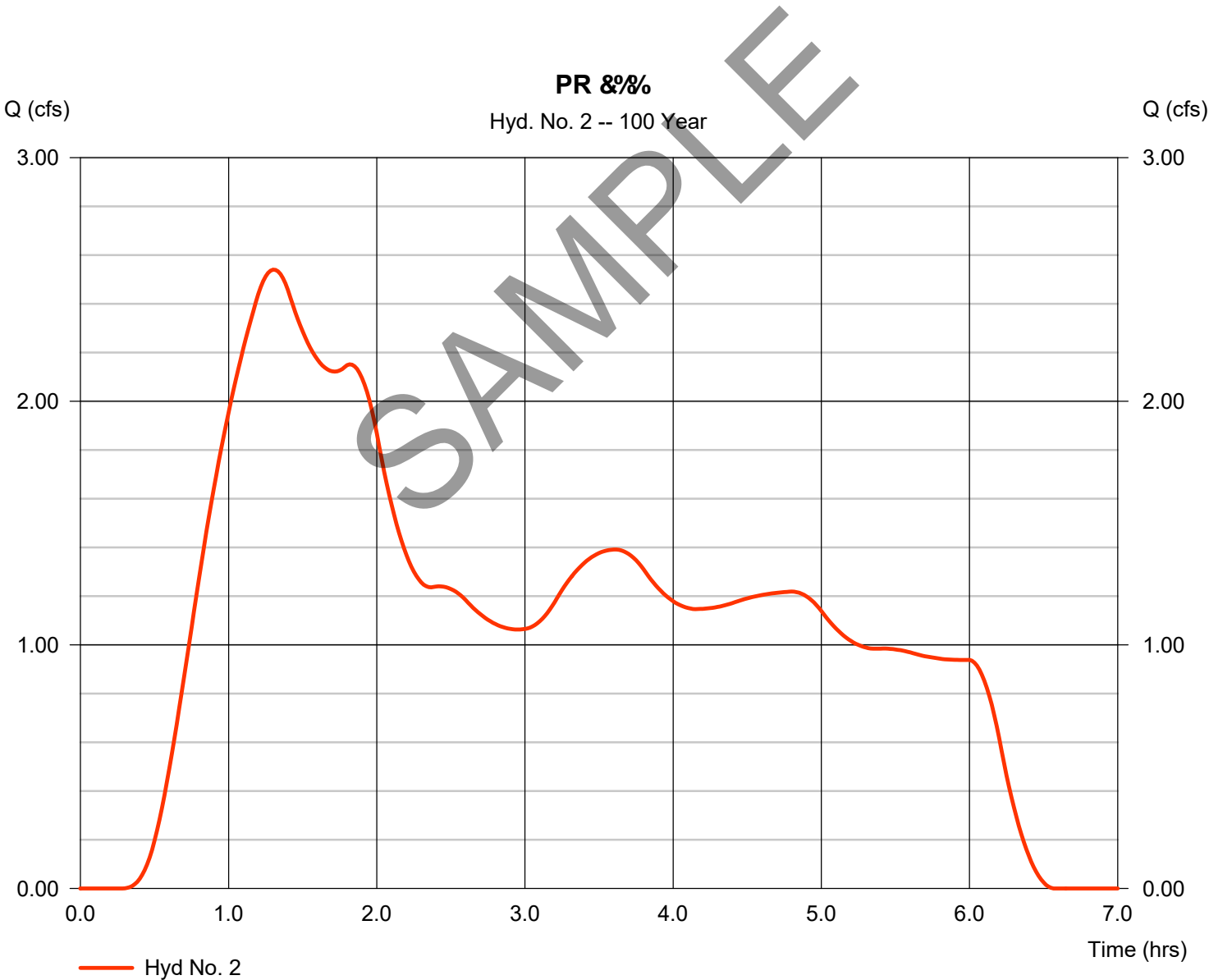


Hydrograph Report

Hyd. No. 2

PR GFF

Hydrograph type	= SCS Runoff	Peak discharge	= 2.540 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.30 hrs
Time interval	= 1 min	Hyd. volume	= 27,818 cuft
Drainage area	= 2.400 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.30 min
Total precip.	= 5.20 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

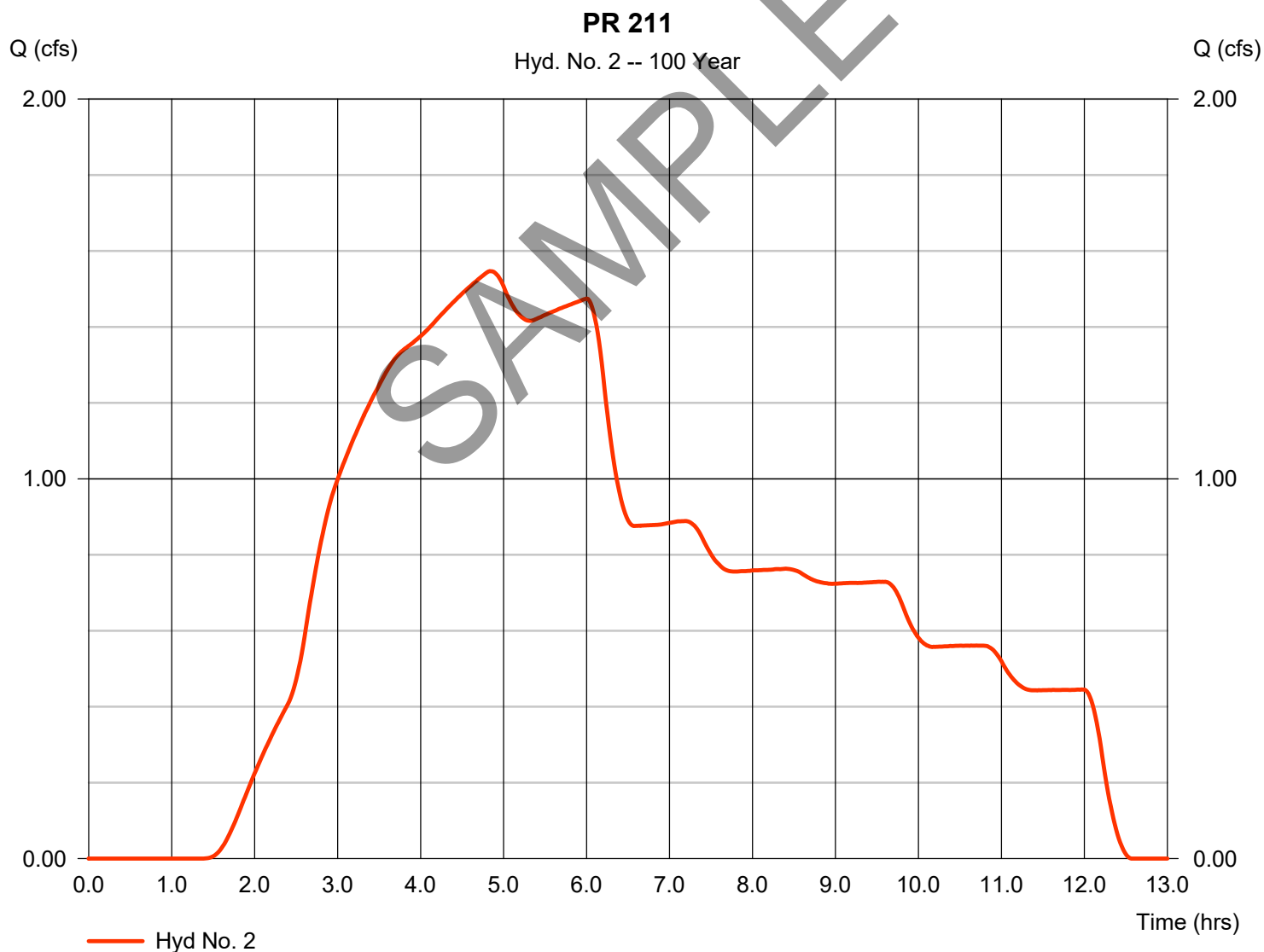
Tuesday, 03 / 12 / 2019

Hyd. No. 2

PR 211

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 1.547 cfs
Time to peak = 4.83 hrs
Hyd. volume = 33,040 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

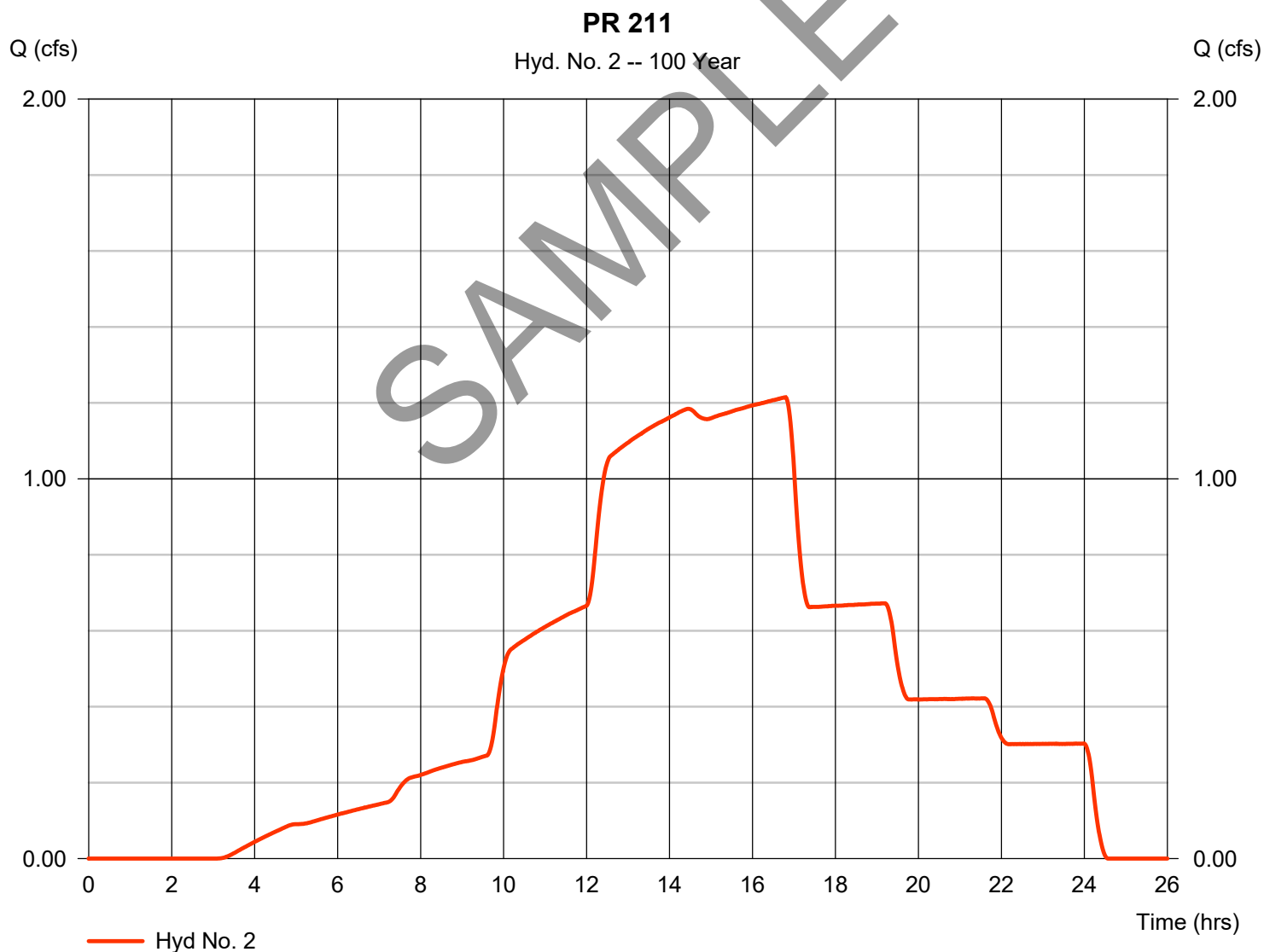
Tuesday, 03 / 12 / 2019

Hyd. No. 2

PR 211

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.400 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 1.215 cfs
Time to peak = 16.80 hrs
Hyd. volume = 40,712 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

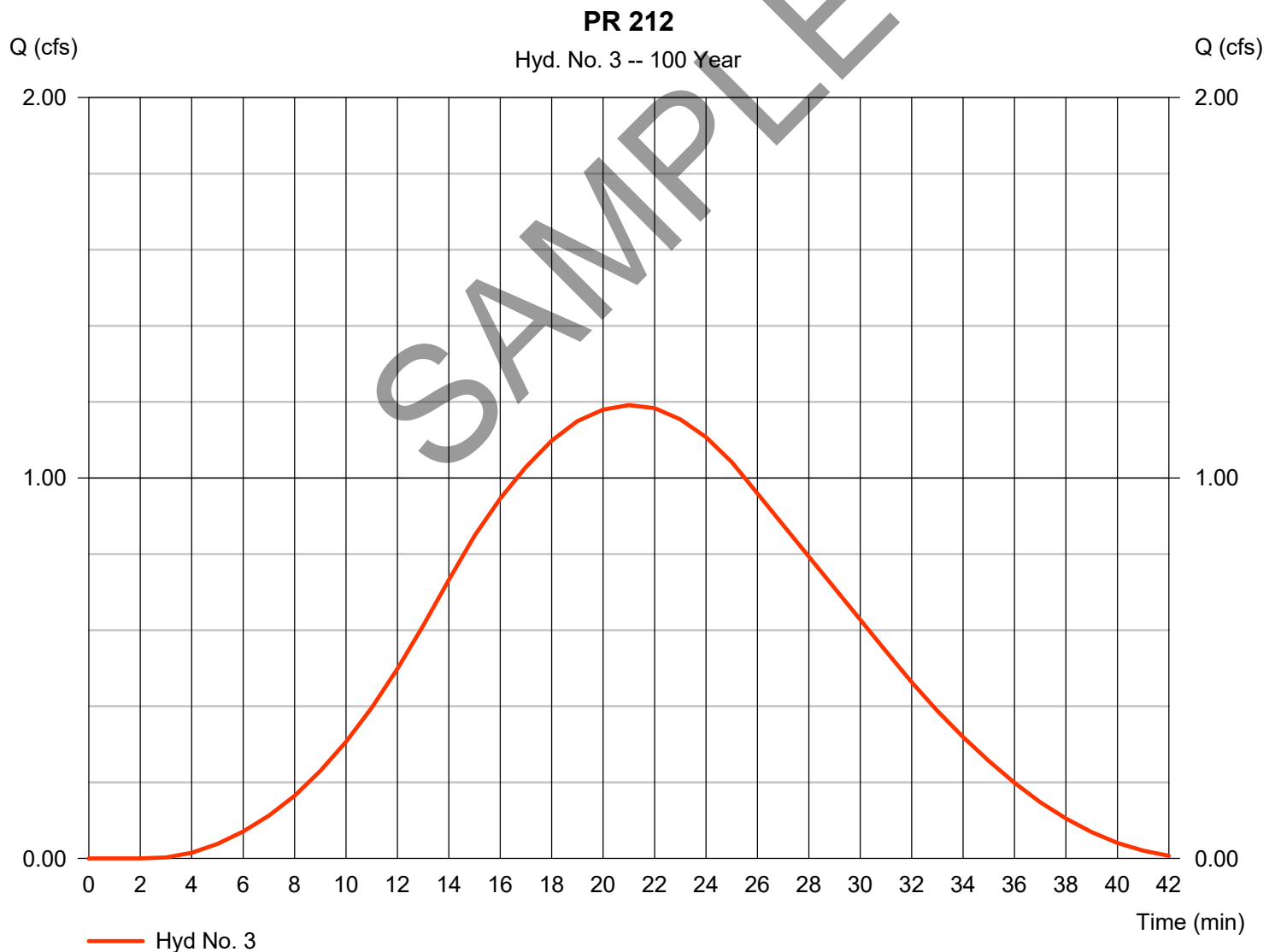
Tuesday, 03 / 12 / 2019

Hyd. No. 3

PR 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.59 in
Storm duration = 0.25 hrs

Peak discharge = 1.192 cfs
Time to peak = 21 min
Hyd. volume = 1,298 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484

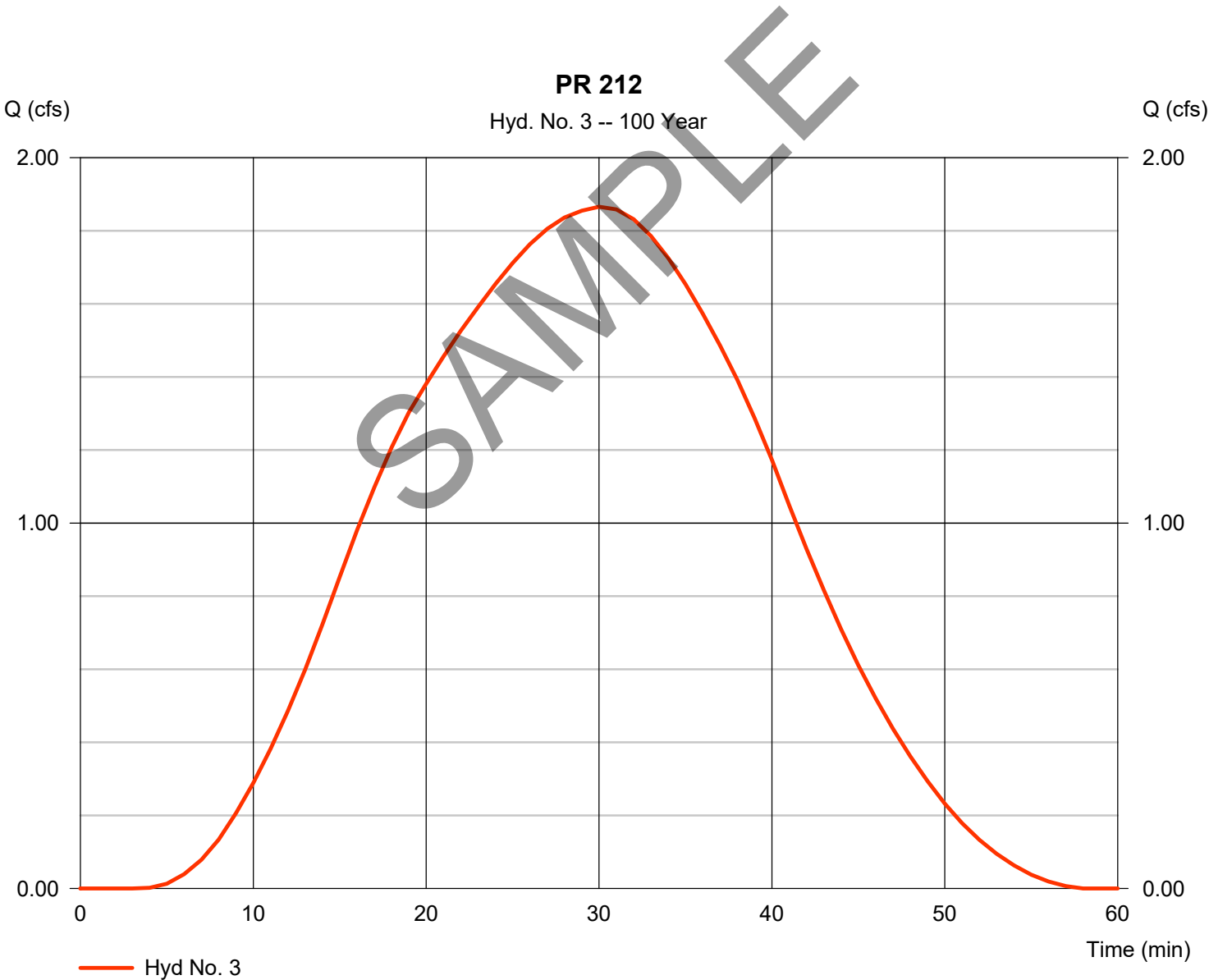


Hydrograph Report

Hyd. No. 3

PR 212

Hydrograph type	= SCS Runoff	Peak discharge	= 1.866 cfs
Storm frequency	= 100 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 2,946 cuft
Drainage area	= 1.100 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 17.50 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

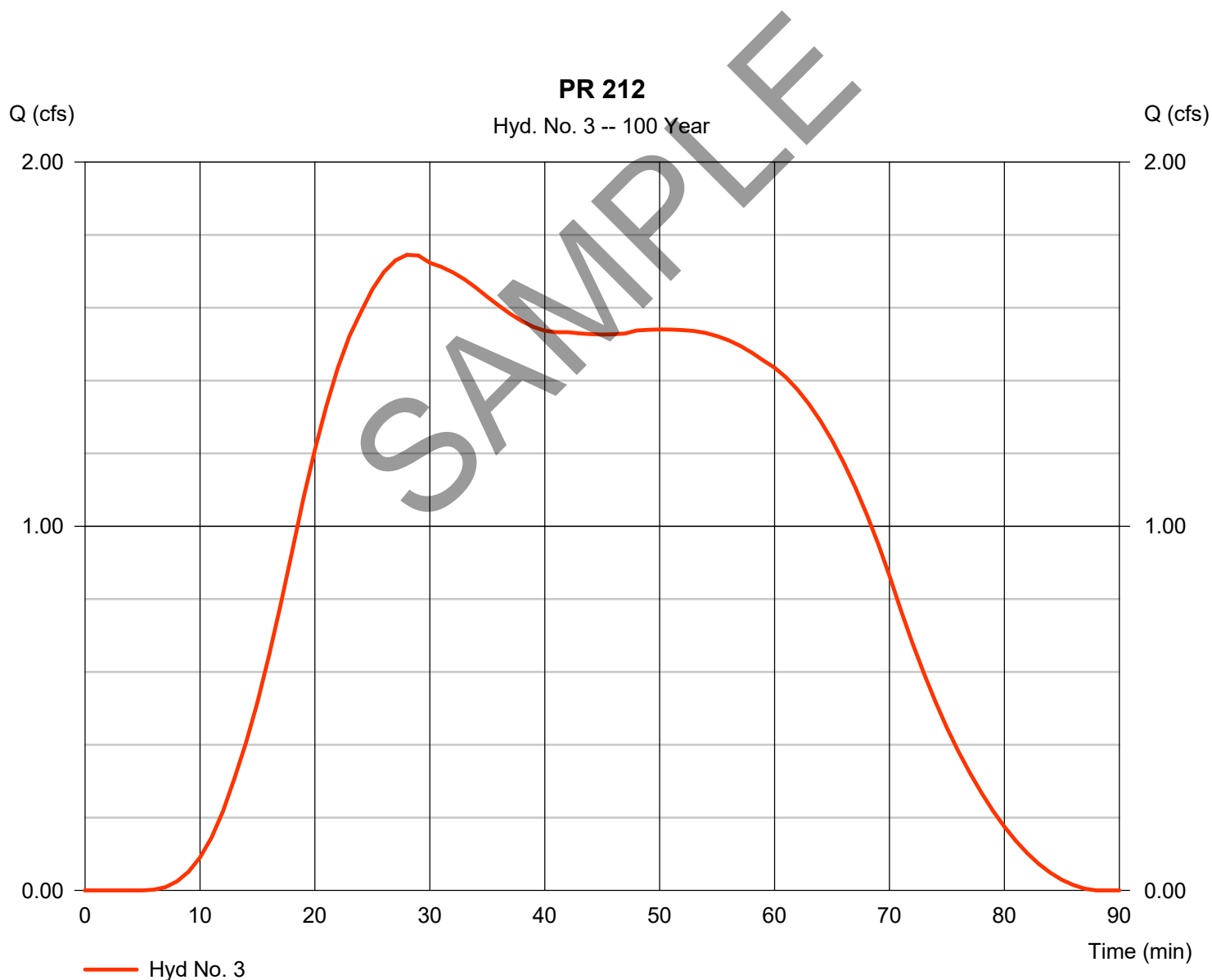
Tuesday, 03 / 12 / 2019

Hyd. No. 3

PR 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 1.745 cfs
Time to peak = 28 min
Hyd. volume = 5,143 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

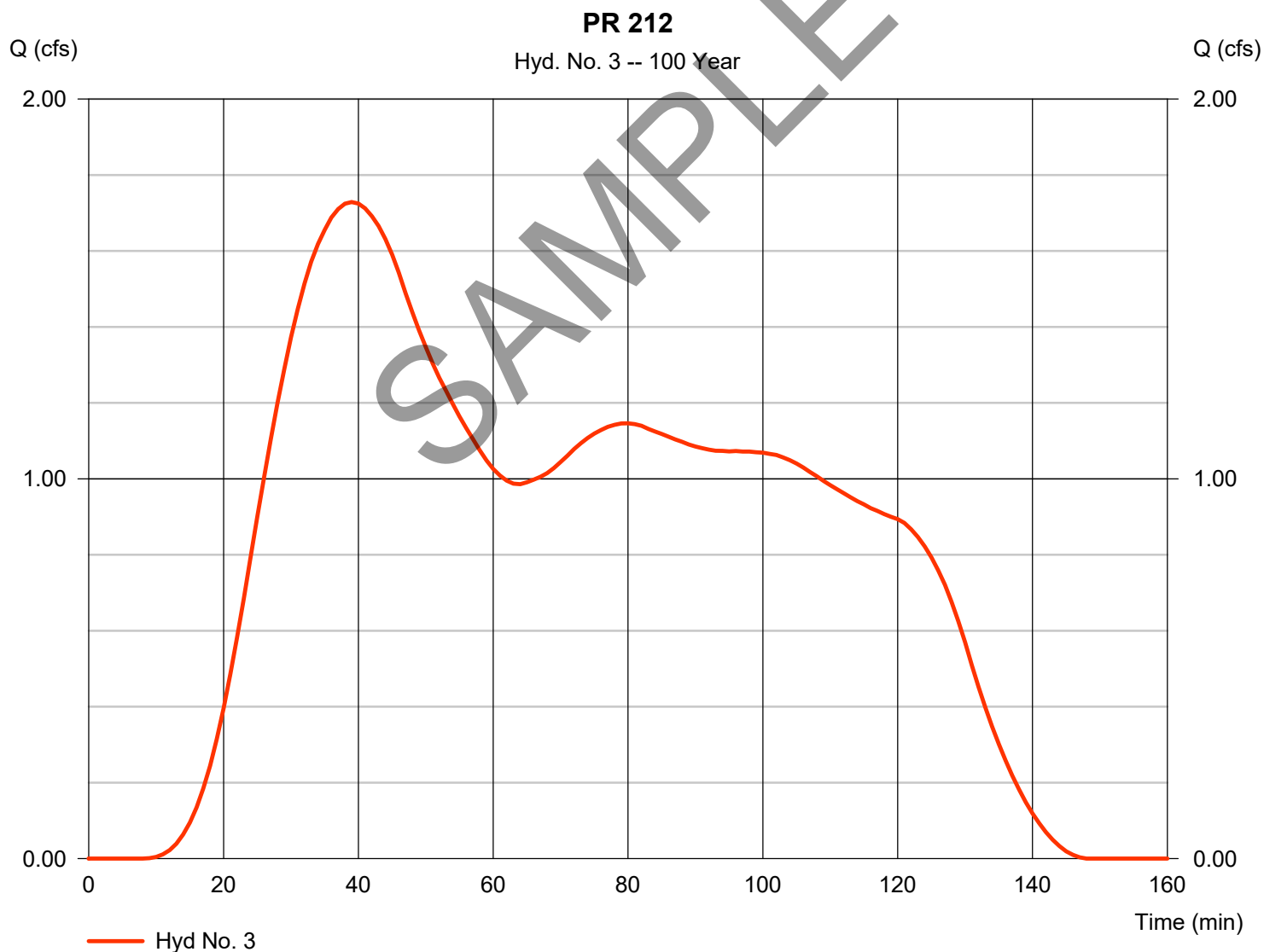
Tuesday, 03 / 12 / 2019

Hyd. No. 3

PR 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 1.729 cfs
Time to peak = 39 min
Hyd. volume = 7,670 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

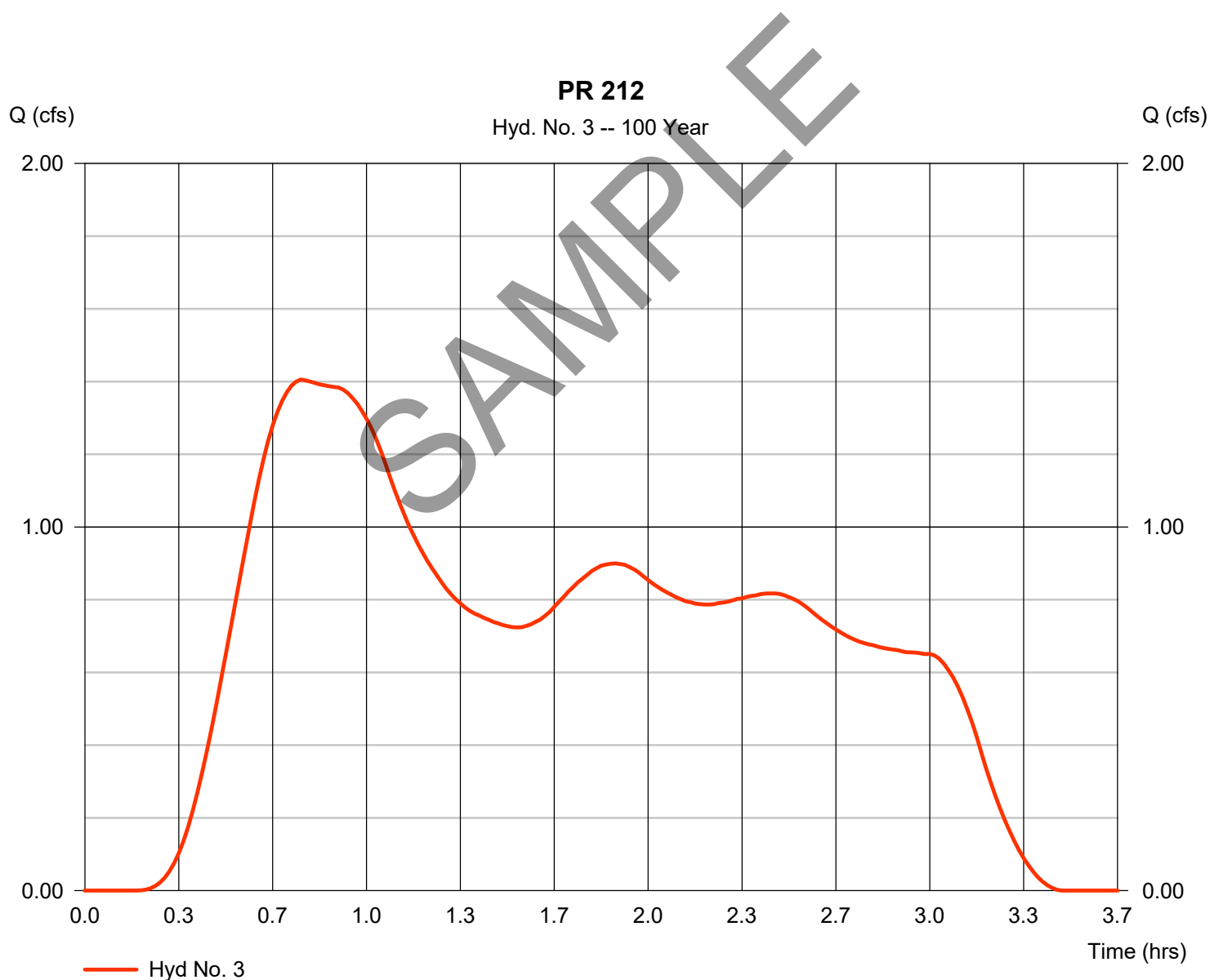
Tuesday, 03 / 12 / 2019

Hyd. No. 3

PR 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 1.406 cfs
Time to peak = 0.77 hrs
Hyd. volume = 8,815 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484

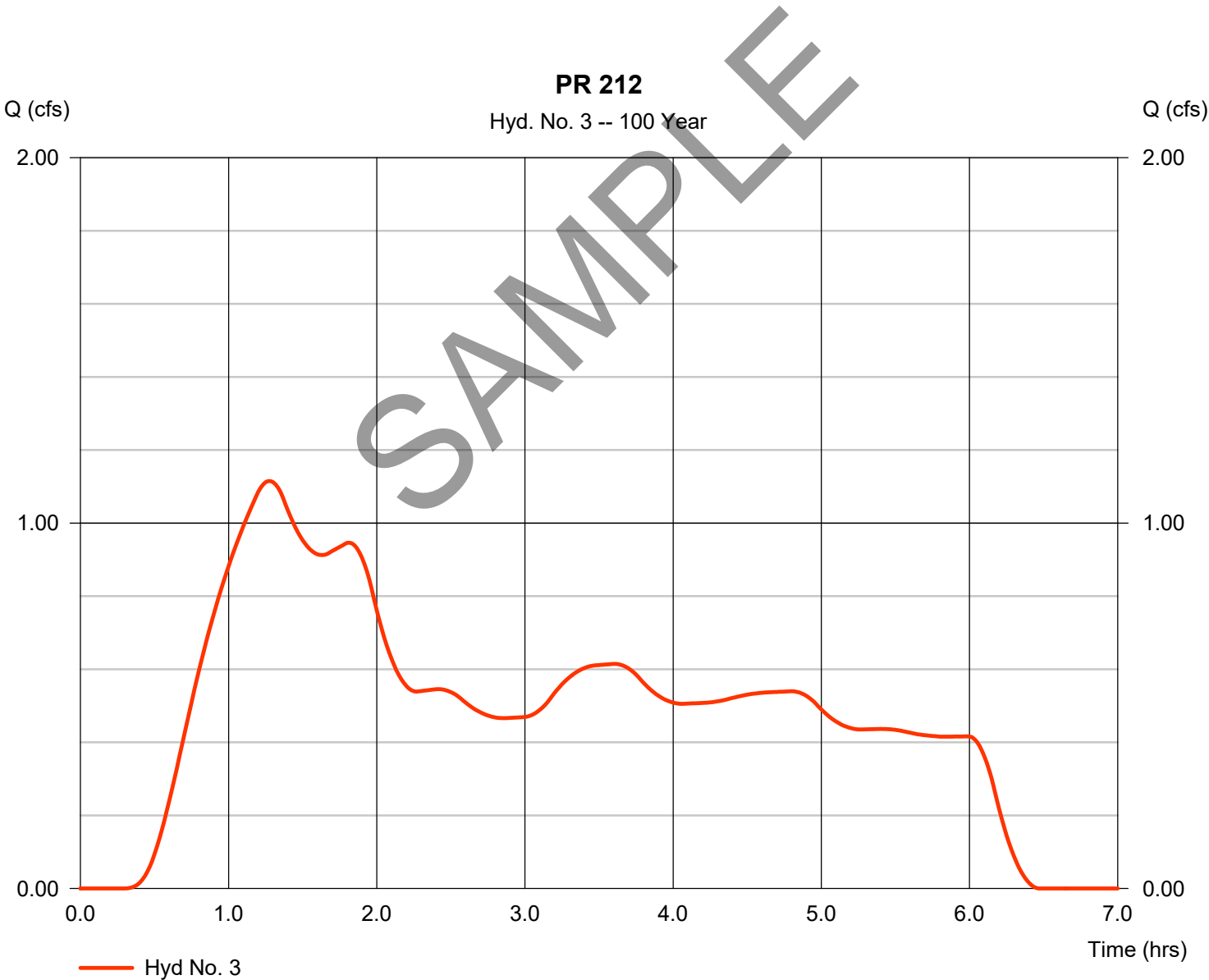


Hydrograph Report

Hyd. No. 3

PR 212

Hydrograph type	= SCS Runoff	Peak discharge	= 1.115 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.28 hrs
Time interval	= 1 min	Hyd. volume	= 12,111 cuft
Drainage area	= 1.100 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 17.50 min
Total precip.	= 5.20 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

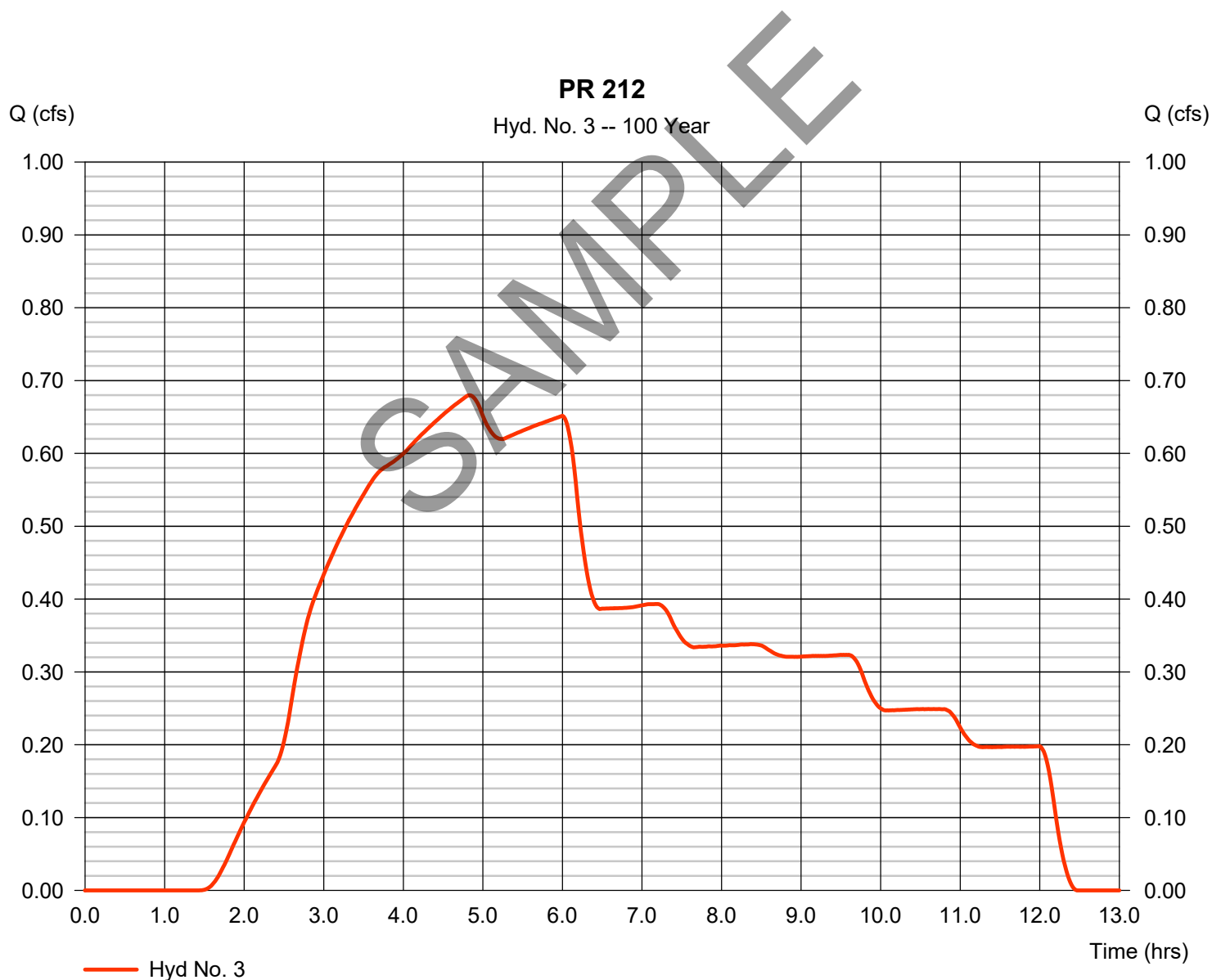
Tuesday, 03 / 12 / 2019

Hyd. No. 3

PR 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 0.680 cfs
Time to peak = 4.83 hrs
Hyd. volume = 14,429 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

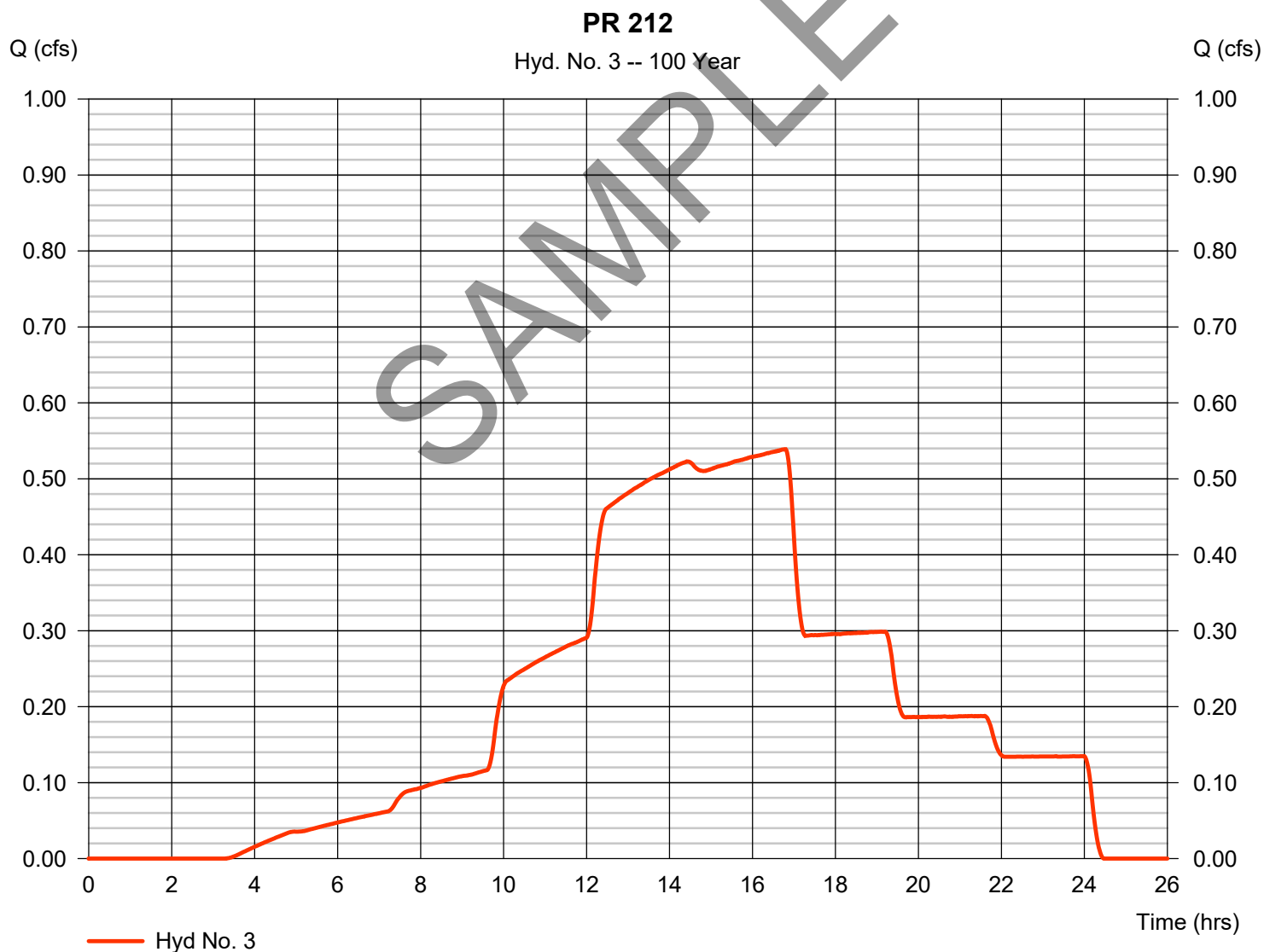
Tuesday, 03 / 12 / 2019

Hyd. No. 3

PR 212

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 1.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 0.539 cfs
Time to peak = 16.78 hrs
Hyd. volume = 17,841 cuft
Curve number = 80
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.50 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

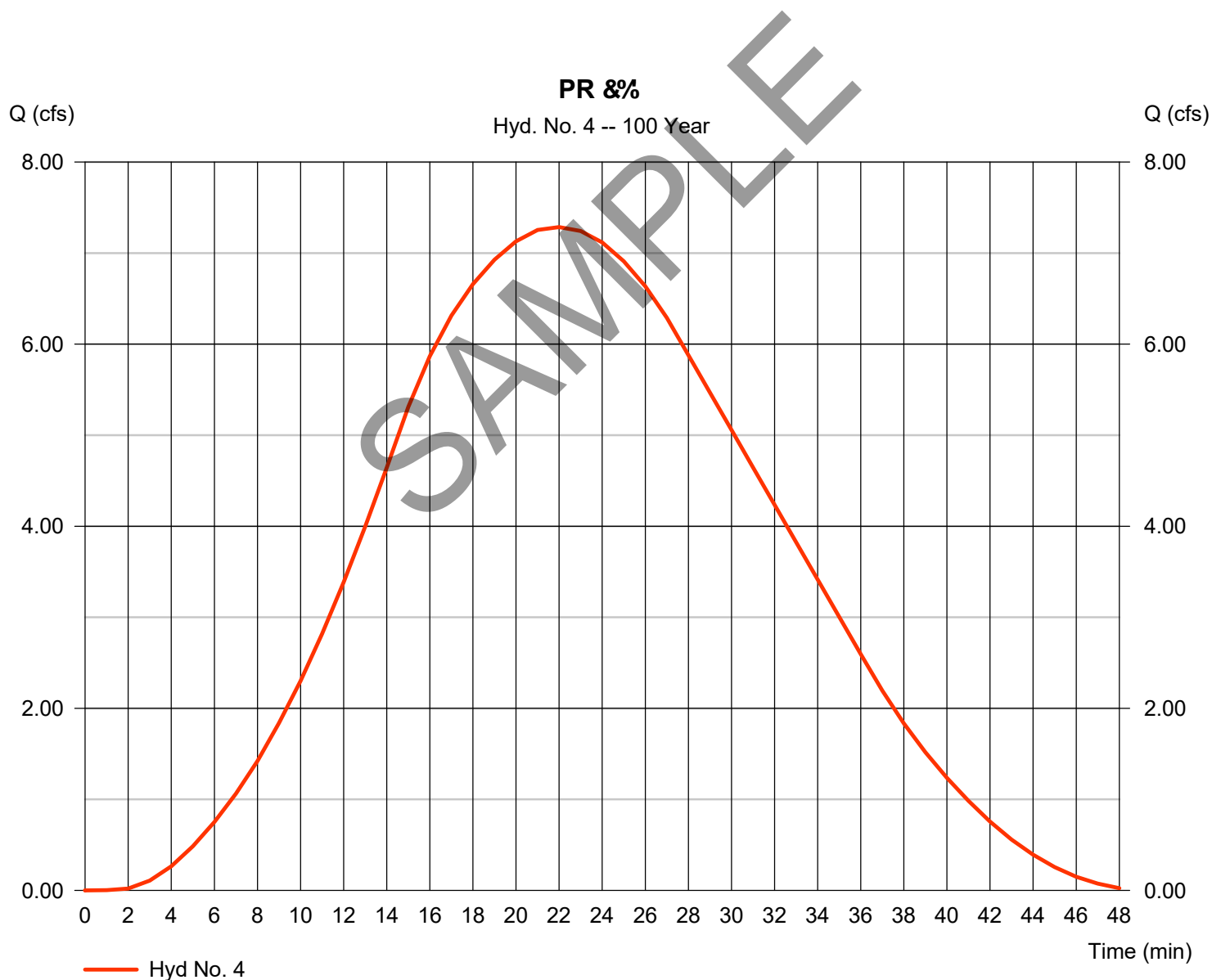
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 4

PR GFH

Hydrograph type	= SCS Runoff	Peak discharge	= 7.286 cfs
Storm frequency	= 100 yrs	Time to peak	= 22 min
Time interval	= 1 min	Hyd. volume	= 9,488 cuft
Drainage area	= 4.000 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.90 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

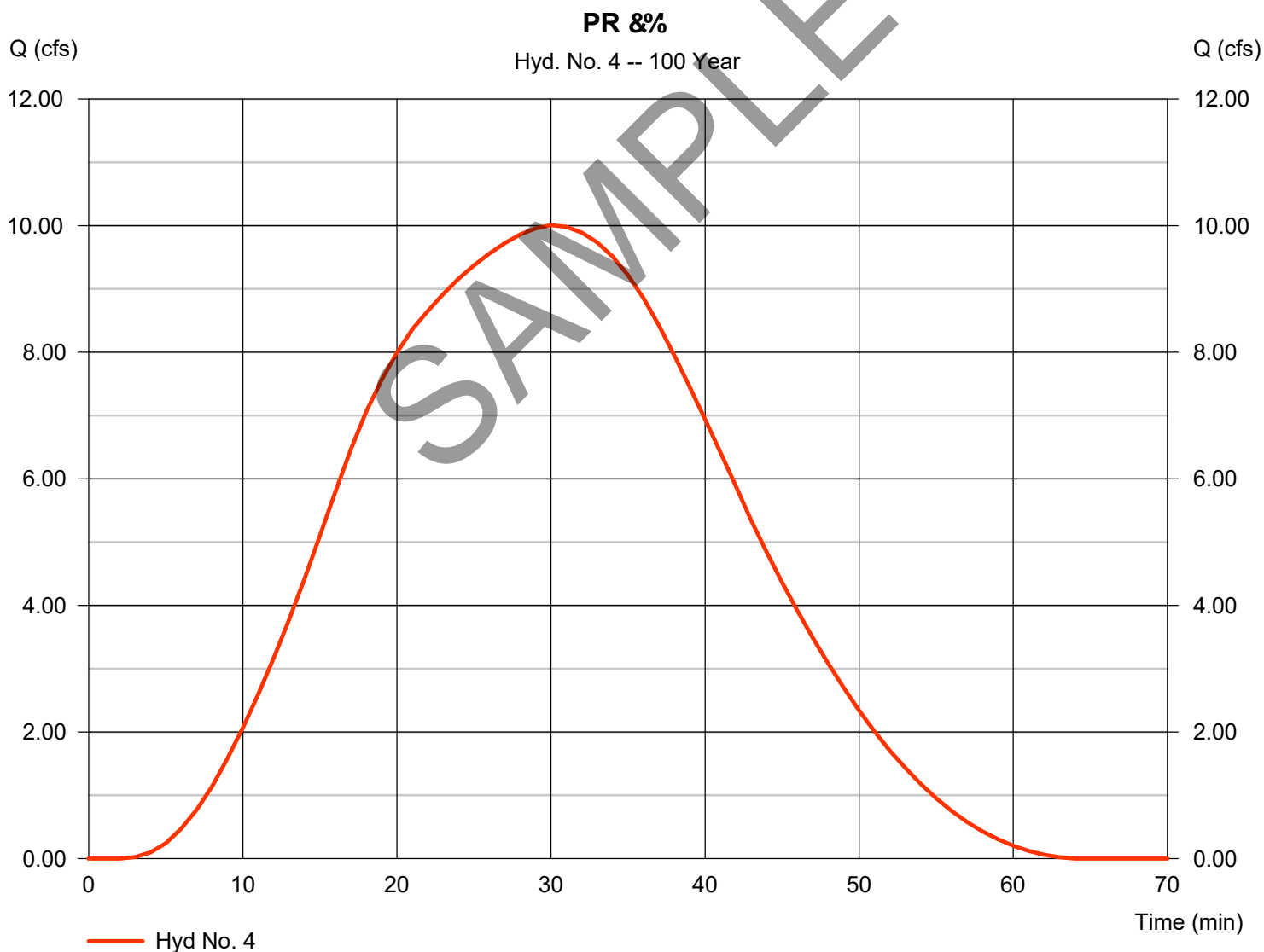
Tuesday, 03 / 12 / 2019

Hyd. No. 4

PR GFH

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 10.01 cfs
Time to peak = 30 min
Hyd. volume = 17,634 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

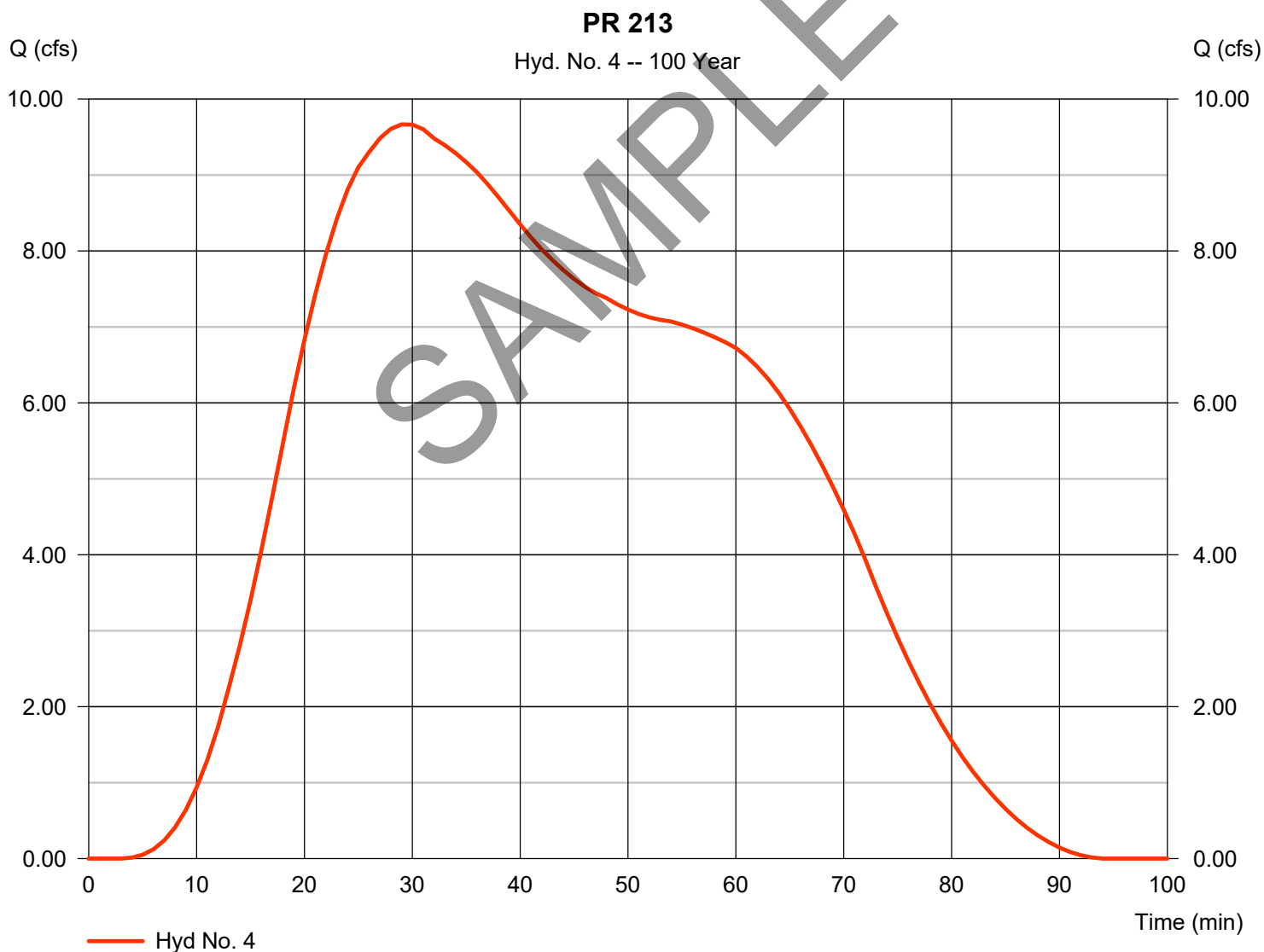
Tuesday, 03 / 12 / 2019

Hyd. No. 4

PR GFH

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 9.667 cfs
Time to peak = 29 min
Hyd. volume = 27,556 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

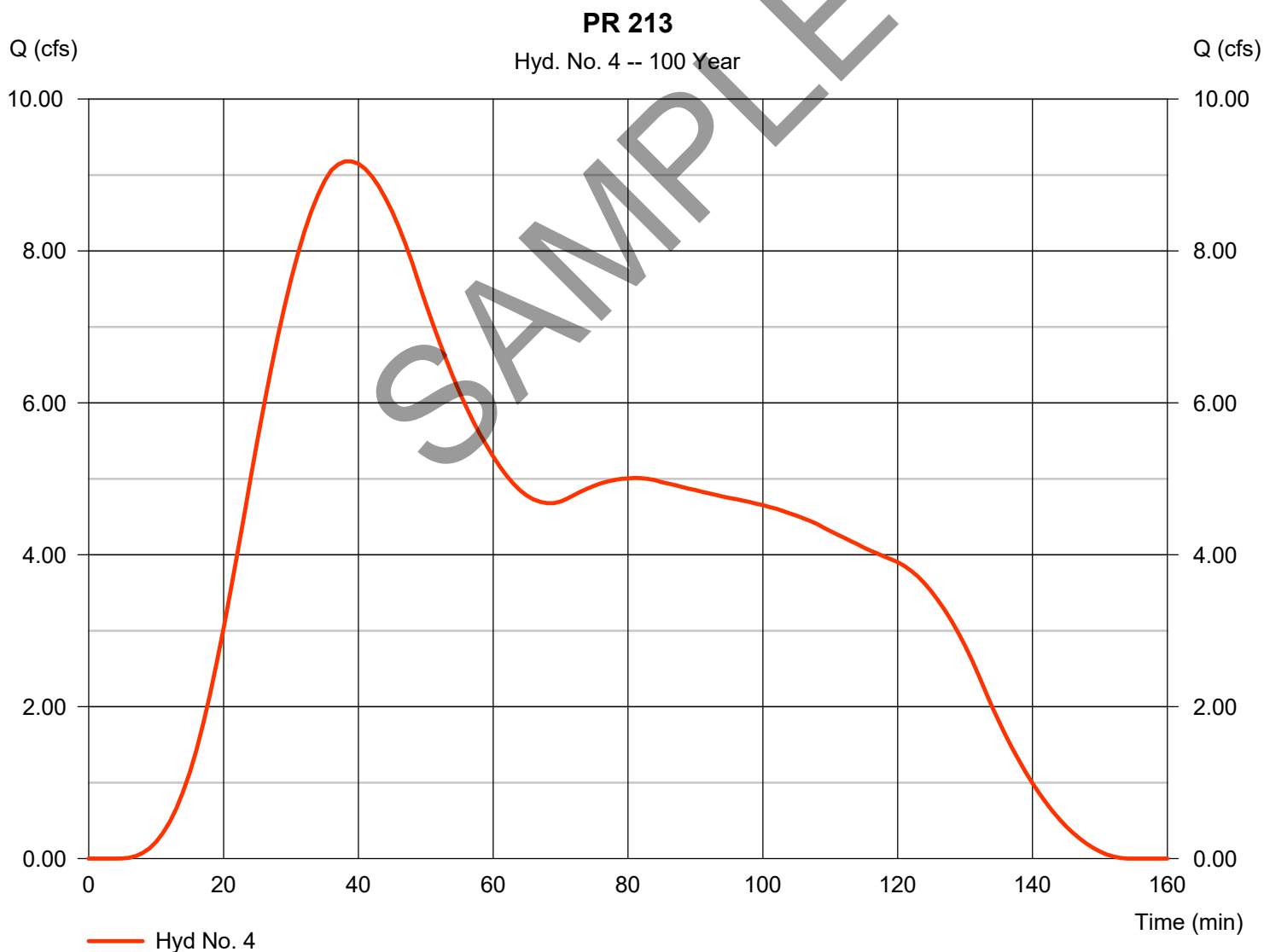
Tuesday, 03 / 12 / 2019

Hyd. No. 4

PR 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 9.179 cfs
Time to peak = 38 min
Hyd. volume = 38,373 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

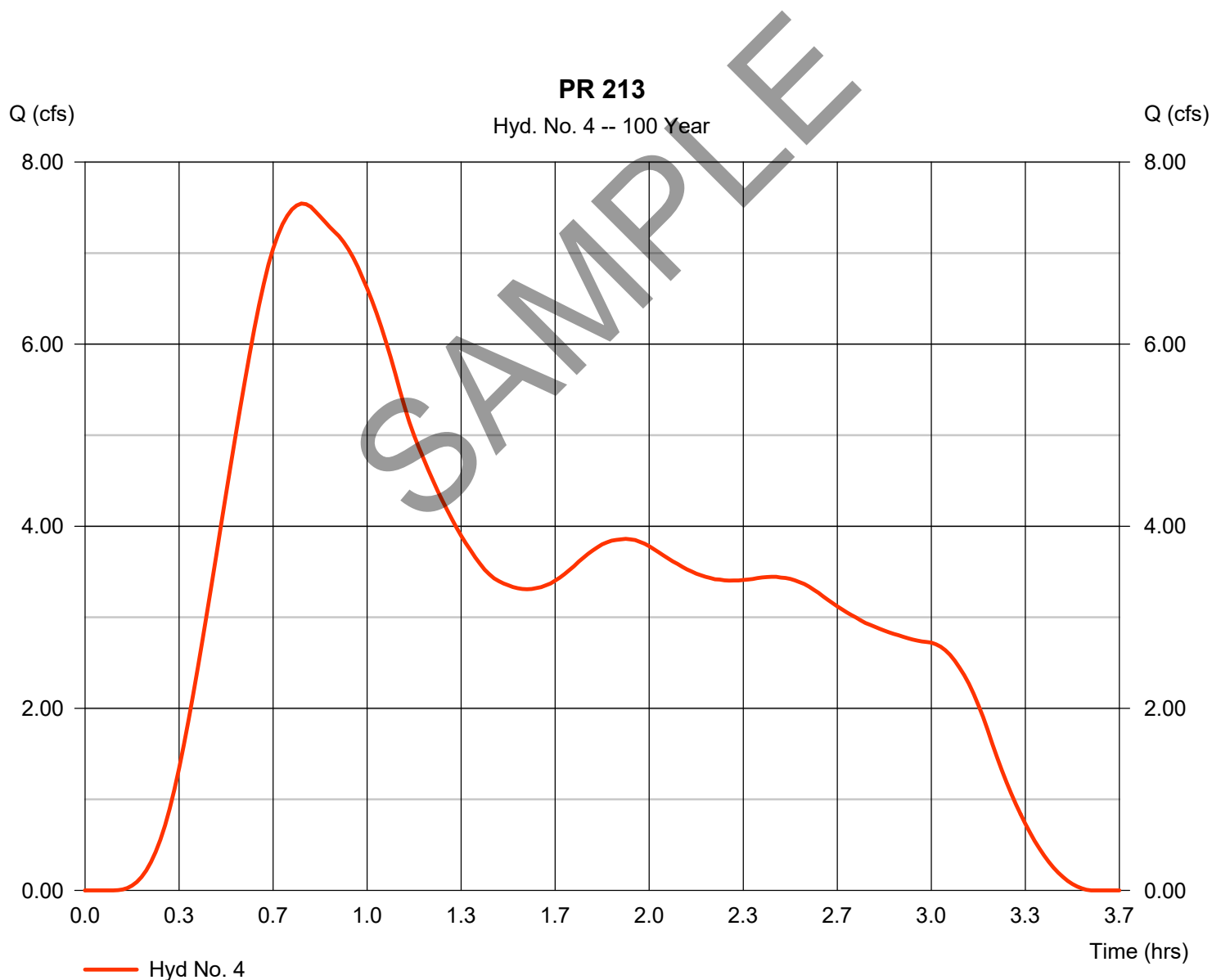
Tuesday, 03 / 12 / 2019

Hyd. No. 4

PR 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 7.545 cfs
Time to peak = 0.77 hrs
Hyd. volume = 43,144 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

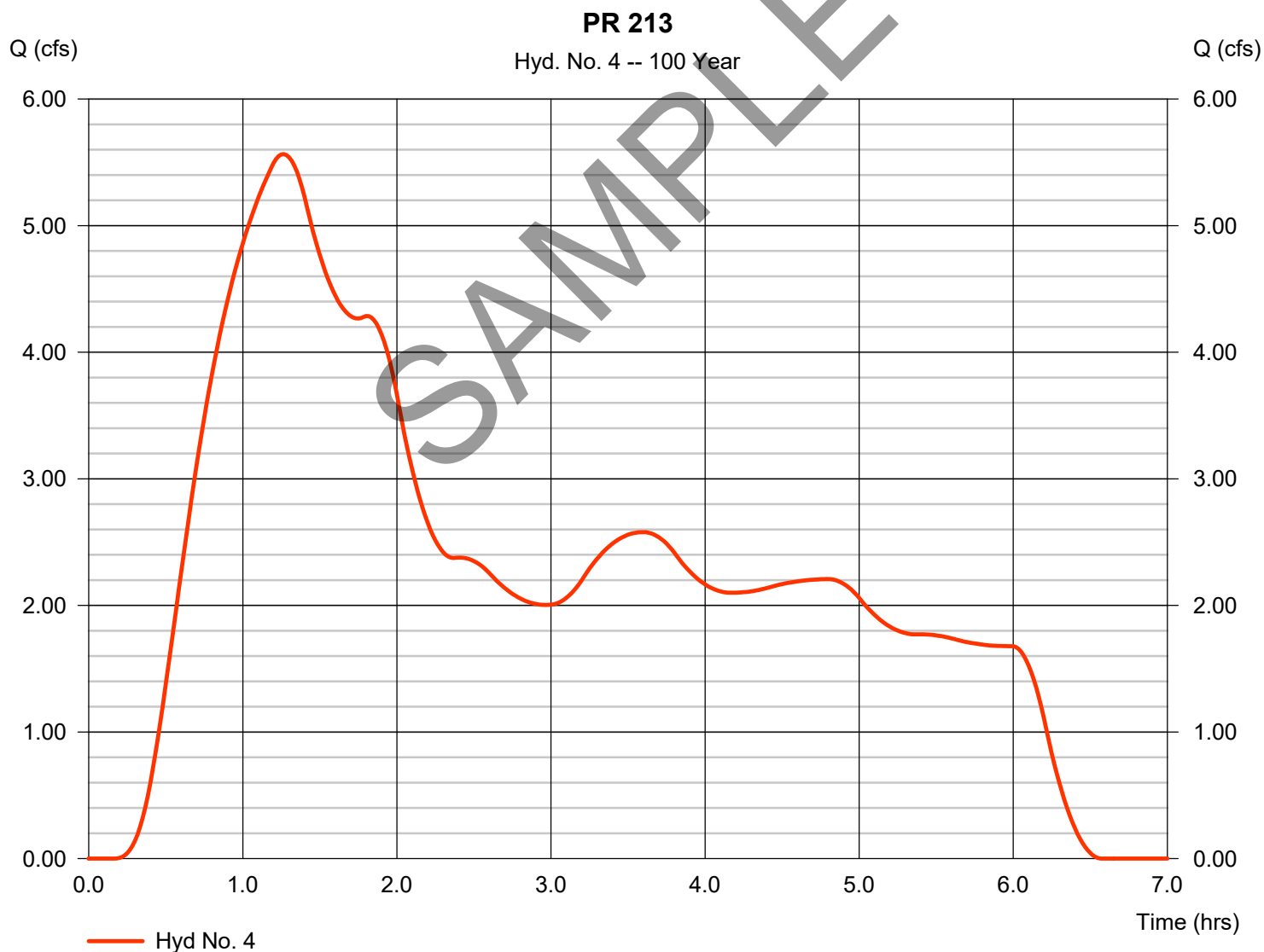
Tuesday, 03 / 12 / 2019

Hyd. No. 4

PR 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 5.565 cfs
Time to peak = 1.27 hrs
Hyd. volume = 56,573 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 4

PR 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 2.999 cfs
Time to peak = 4.82 hrs
Hyd. volume = 65,839 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

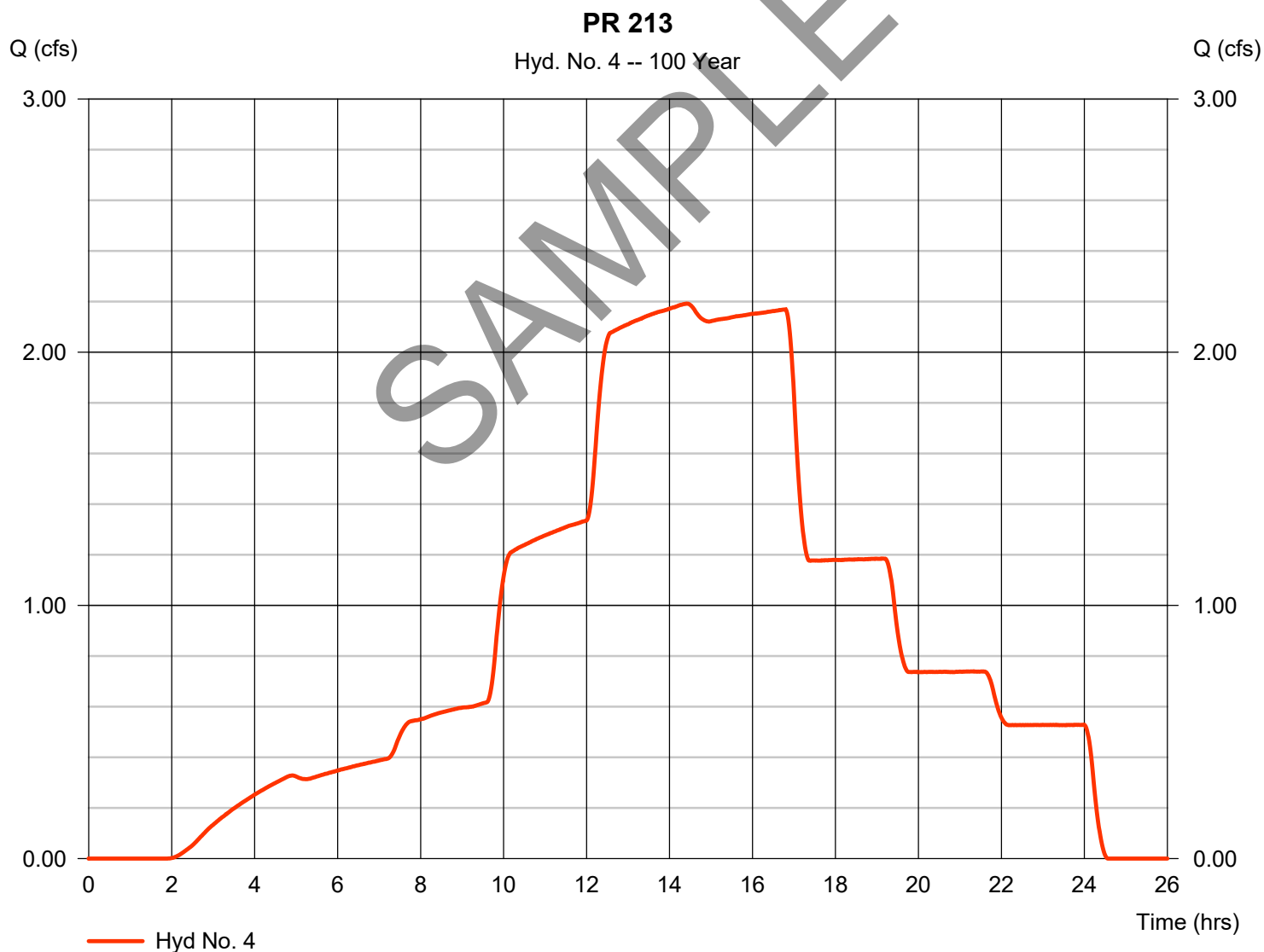
Tuesday, 03 / 12 / 2019

Hyd. No. 4

PR 213

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 4.000 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 2.192 cfs
Time to peak = 14.42 hrs
Hyd. volume = 79,294 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 20.90 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

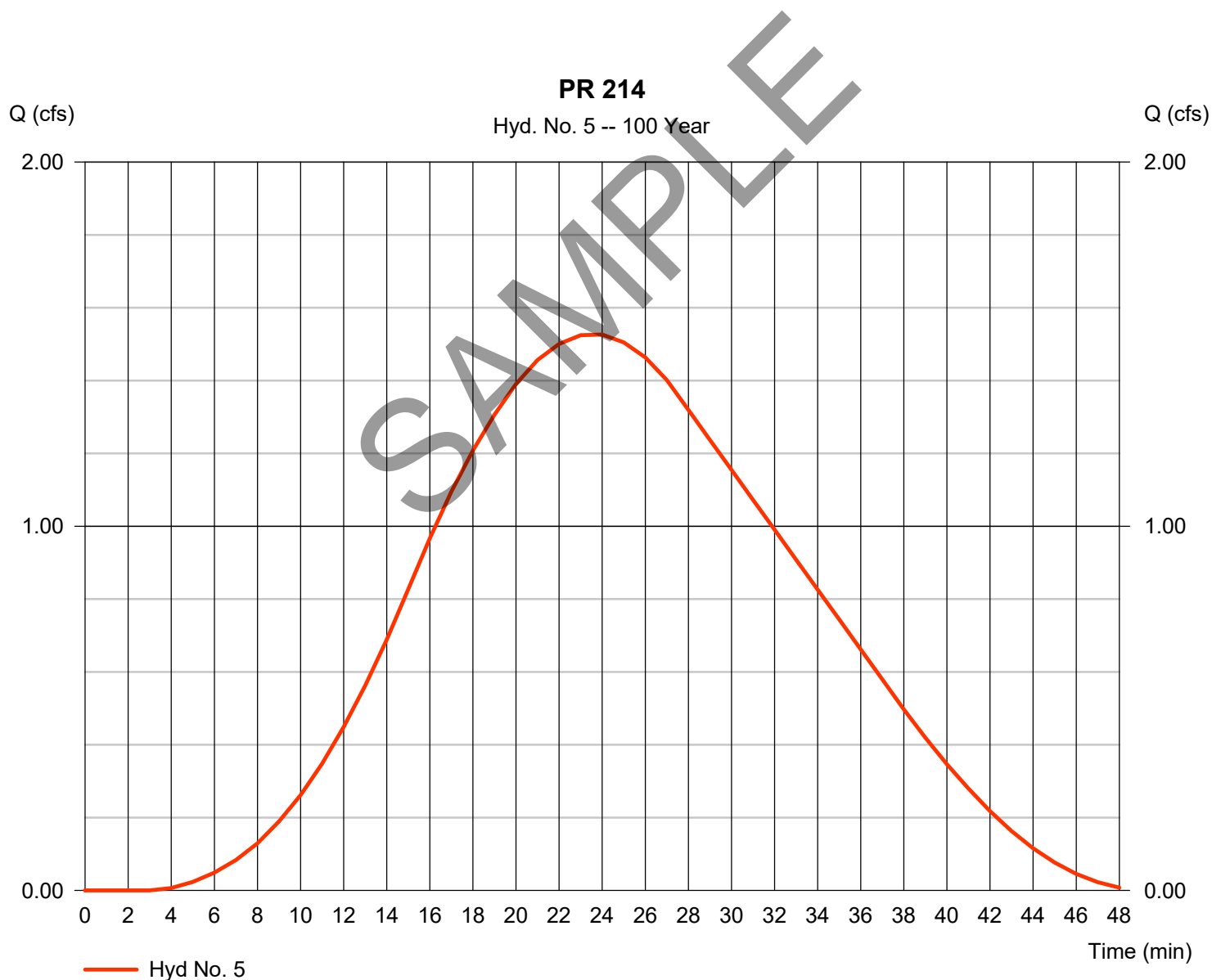
Tuesday, 03 / 12 / 2019

Hyd. No. 5

PR 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.59 in
Storm duration = 0.25 hrs

Peak discharge = 1.526 cfs
Time to peak = 24 min
Hyd. volume = 1,899 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

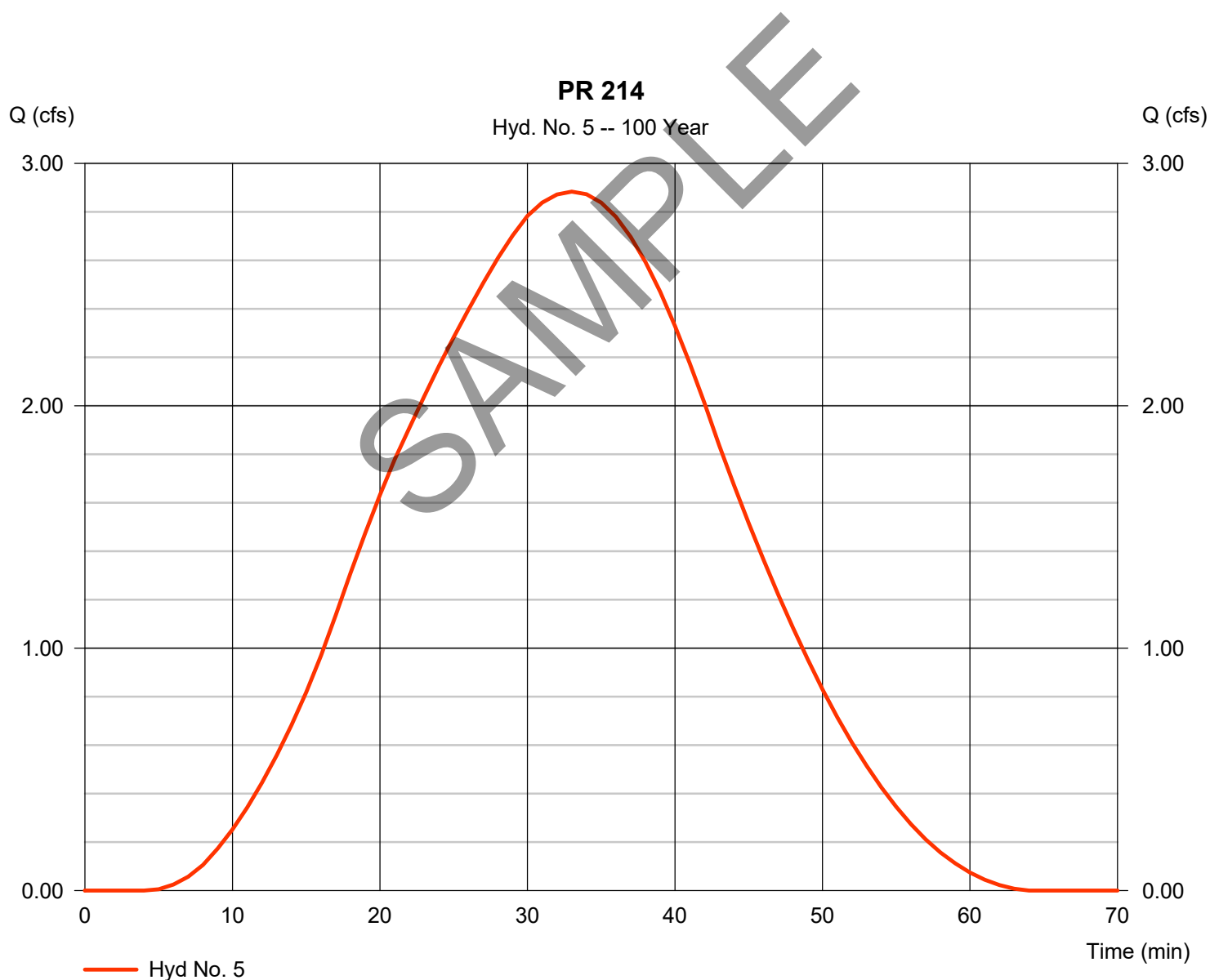
Tuesday, 03 / 12 / 2019

Hyd. No. 5

PR 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 2.884 cfs
Time to peak = 33 min
Hyd. volume = 4,711 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

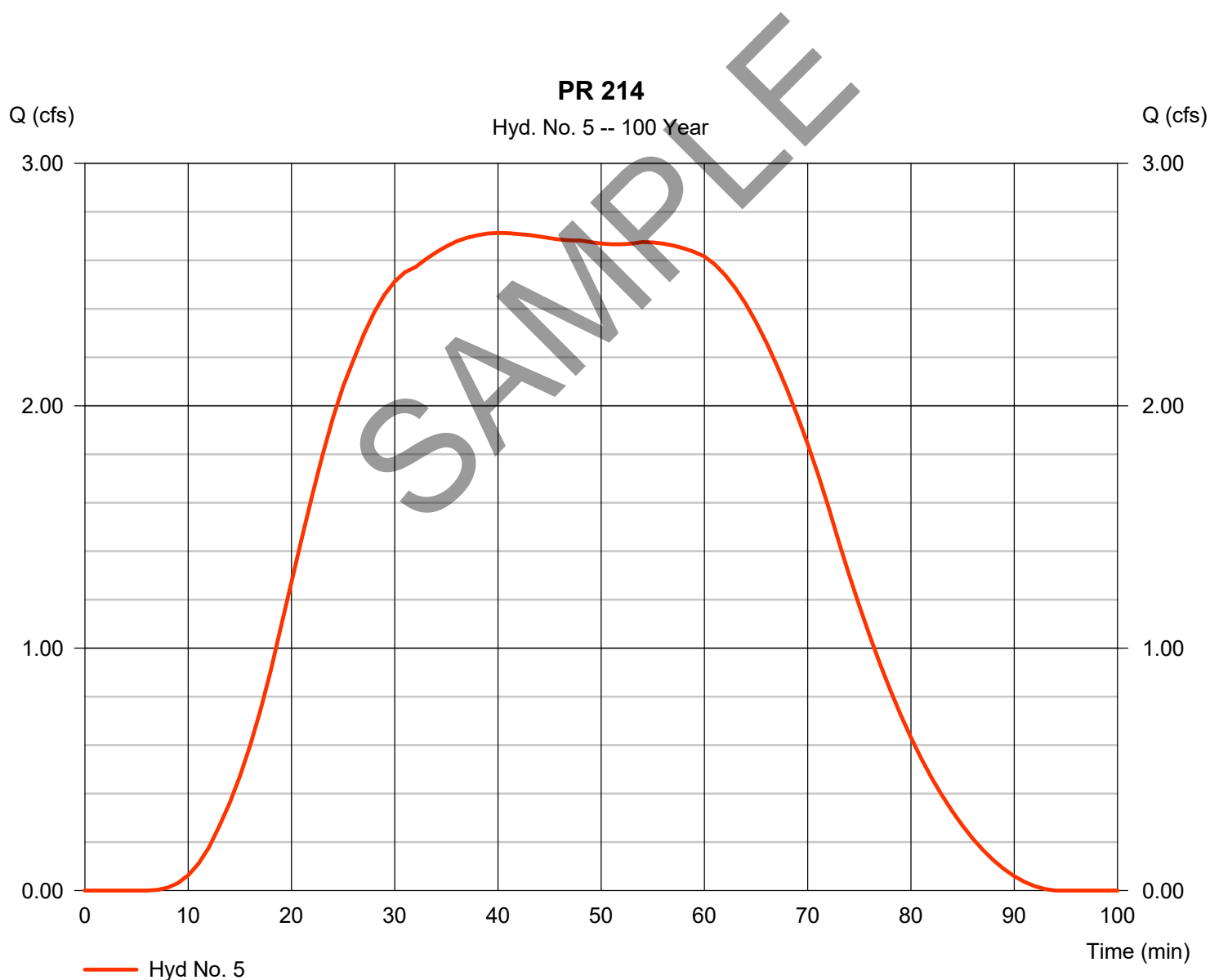
Tuesday, 03 / 12 / 2019

Hyd. No. 5

PR 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 2.713 cfs
Time to peak = 40 min
Hyd. volume = 8,618 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

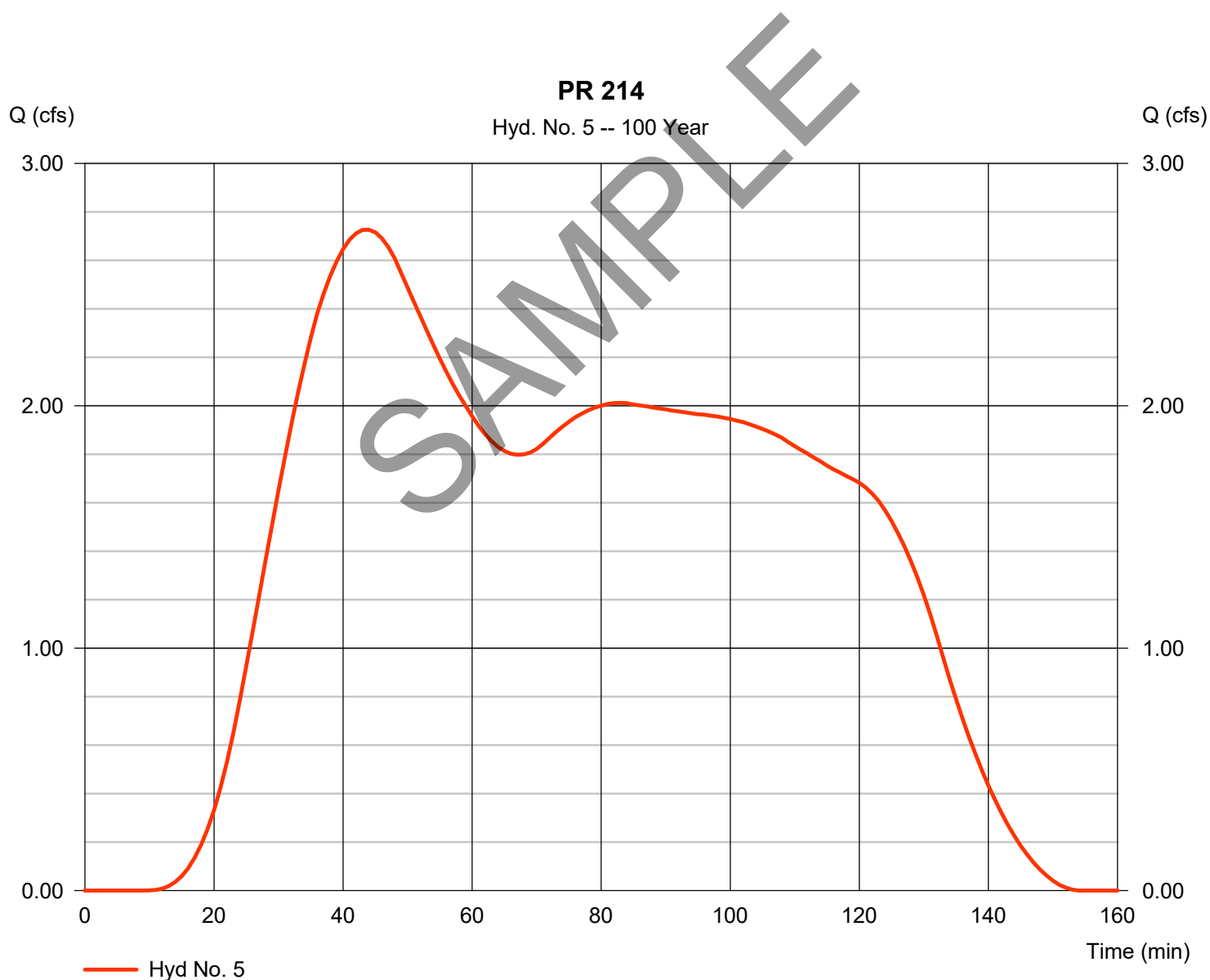
Tuesday, 03 / 12 / 2019

Hyd. No. 5

PR 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 2.726 cfs
Time to peak = 44 min
Hyd. volume = 13,227 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

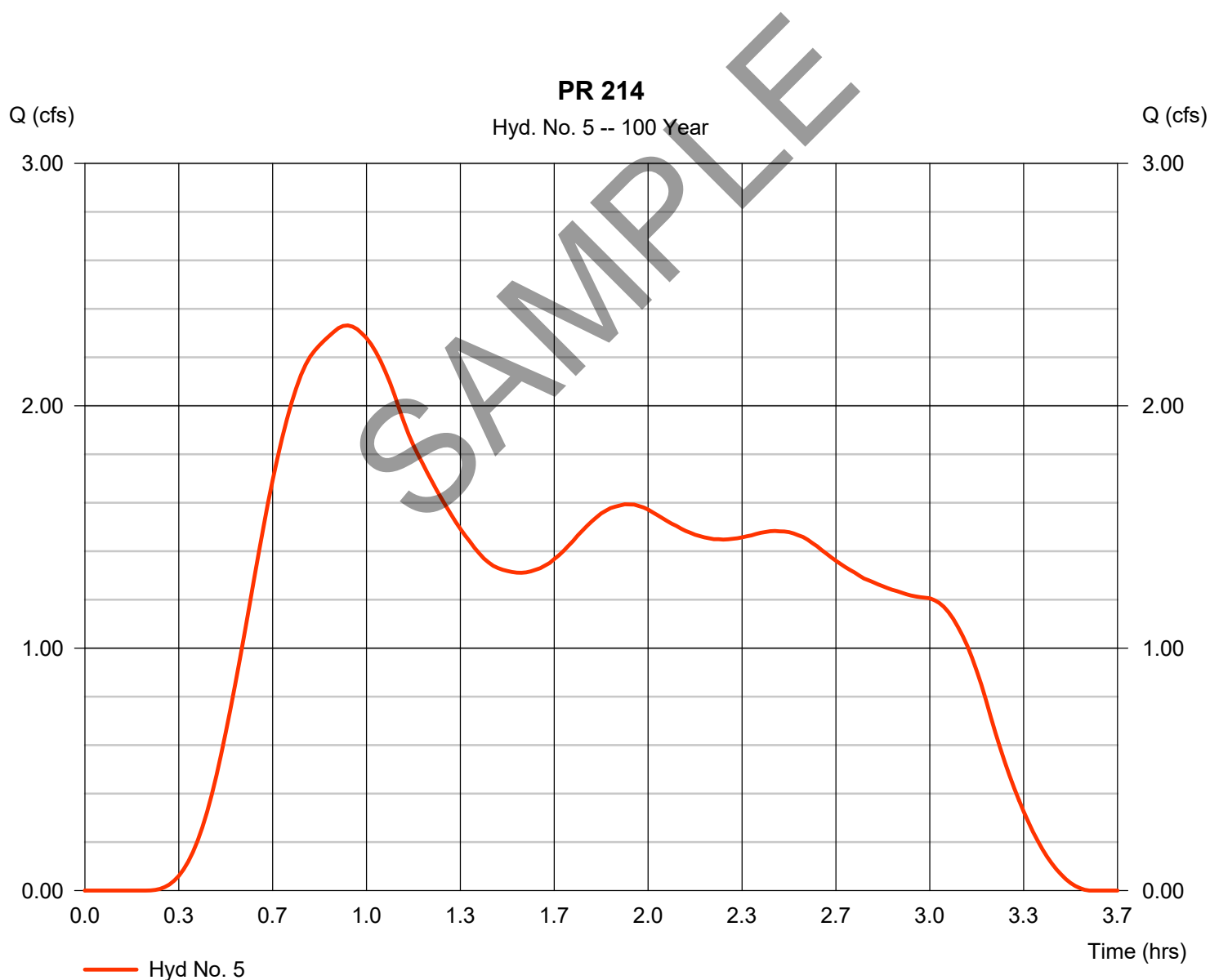
Tuesday, 03 / 12 / 2019

Hyd. No. 5

PR 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 2.331 cfs
Time to peak = 0.93 hrs
Hyd. volume = 15,342 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484

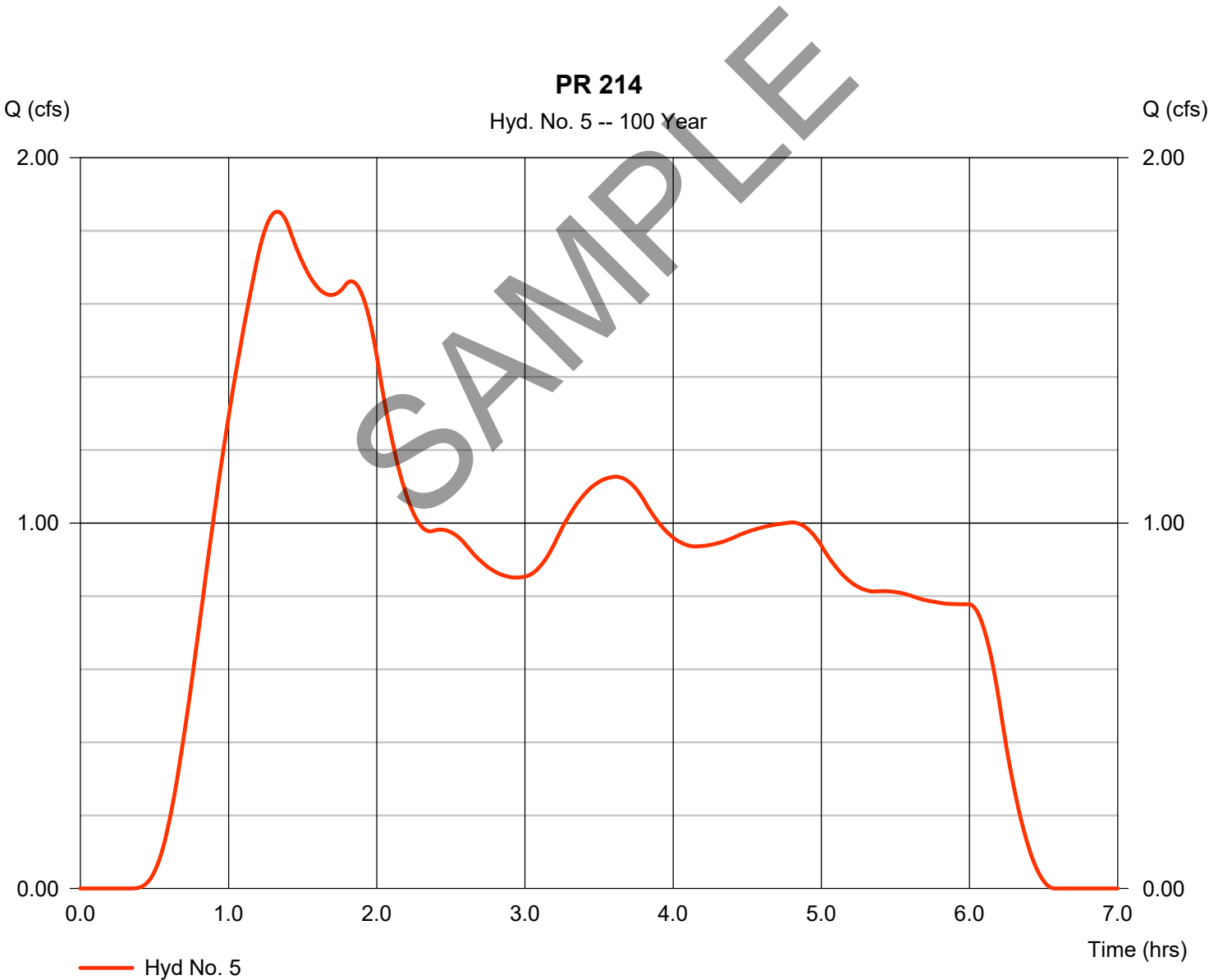


Hydrograph Report

Hyd. No. 5

PR 214

Hydrograph type	= SCS Runoff	Peak discharge	= 1.852 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.33 hrs
Time interval	= 1 min	Hyd. volume	= 21,481 cuft
Drainage area	= 2.100 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 21.10 min
Total precip.	= 5.20 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

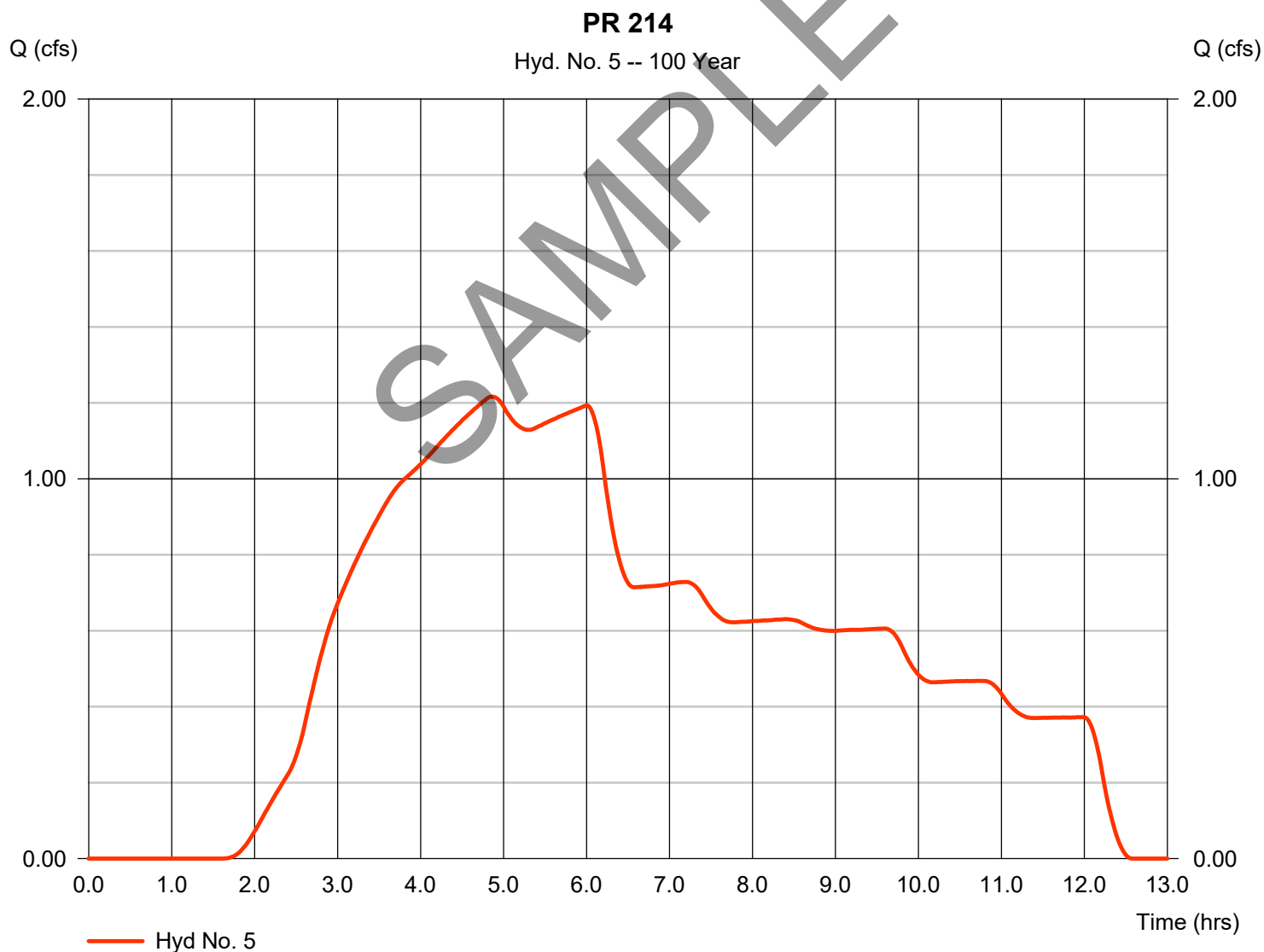
Tuesday, 03 / 12 / 2019

Hyd. No. 5

PR 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 1.216 cfs
Time to peak = 4.87 hrs
Hyd. volume = 25,837 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

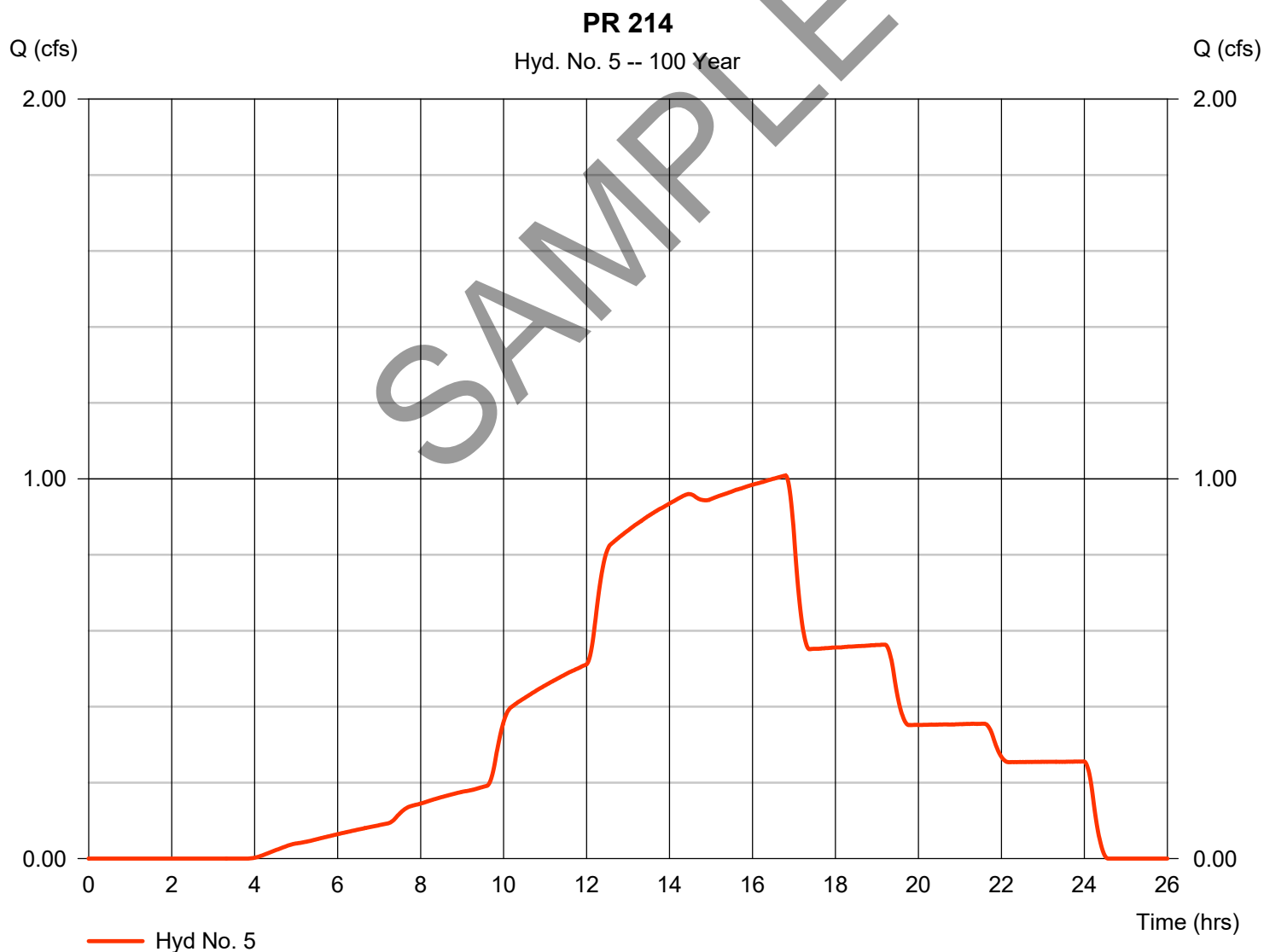
Tuesday, 03 / 12 / 2019

Hyd. No. 5

PR 214

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 2.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 1.009 cfs
Time to peak = 16.80 hrs
Hyd. volume = 32,289 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 21.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

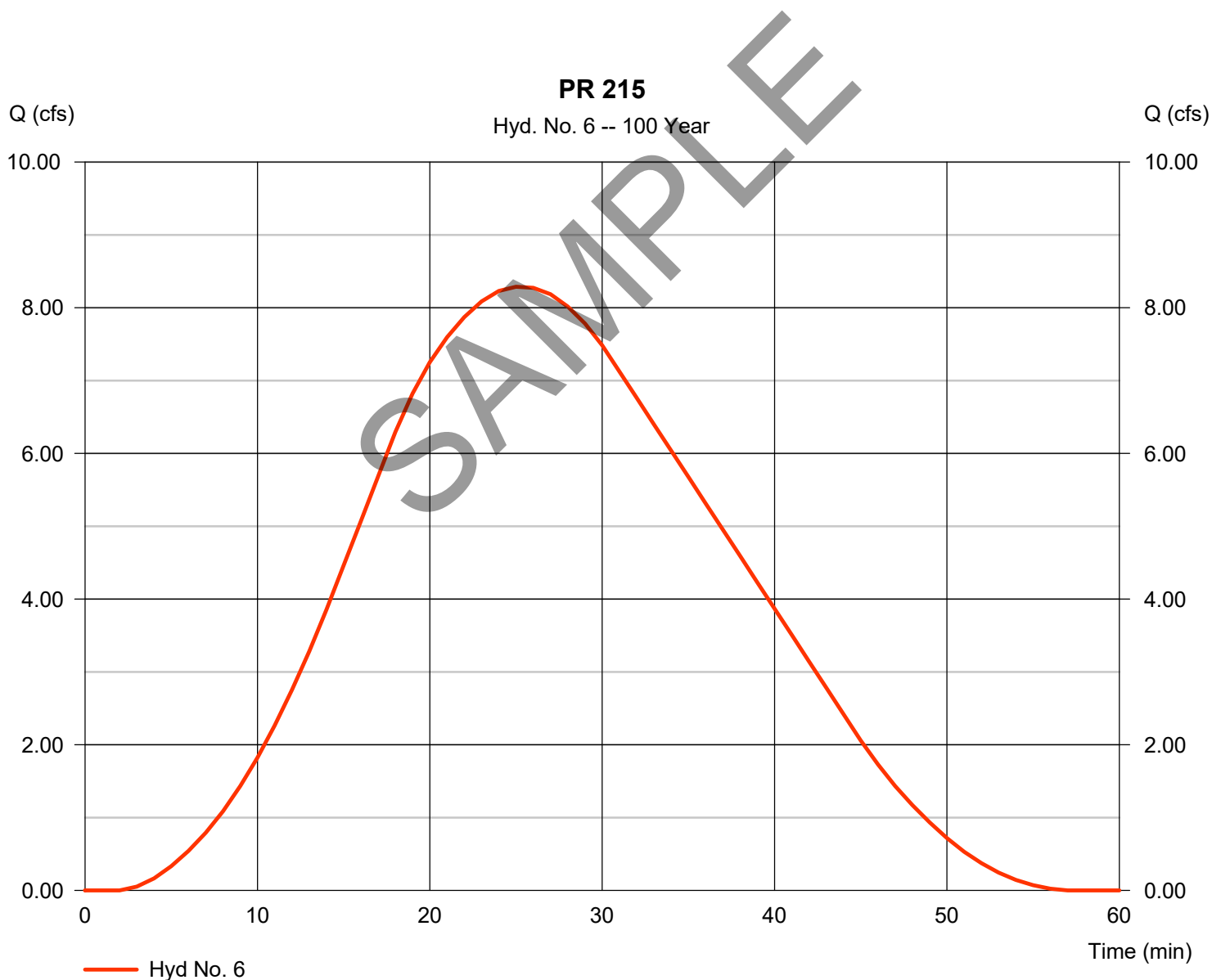
Tuesday, 03 / 12 / 2019

Hyd. No. 6

PR 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 6.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.59 in
Storm duration = 0.25 hrs

Peak discharge = 8.287 cfs
Time to peak = 25 min
Hyd. volume = 12,601 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

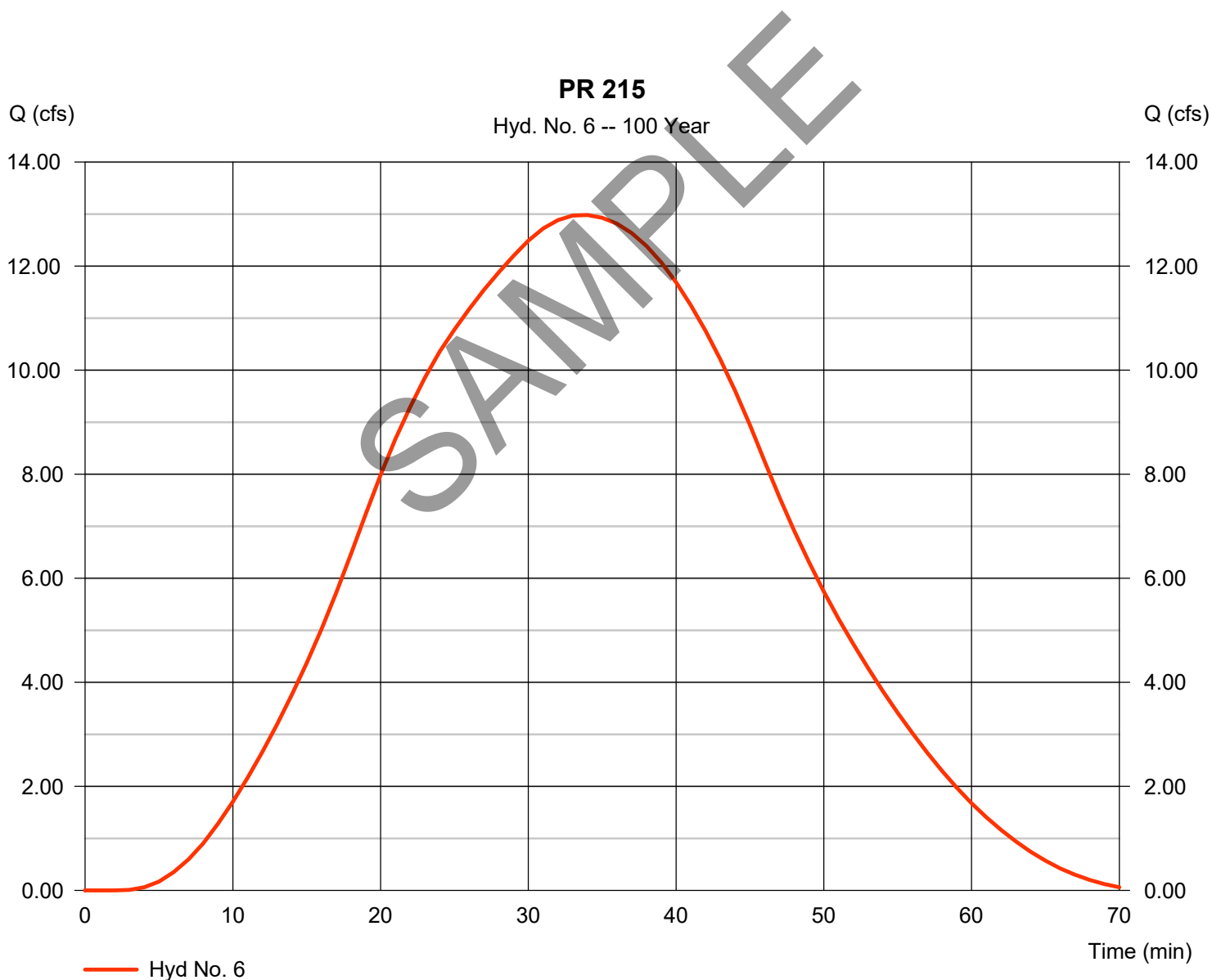
Tuesday, 03 / 12 / 2019

Hyd. No. 6

PR 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 6.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 12.98 cfs
Time to peak = 34 min
Hyd. volume = 24,752 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

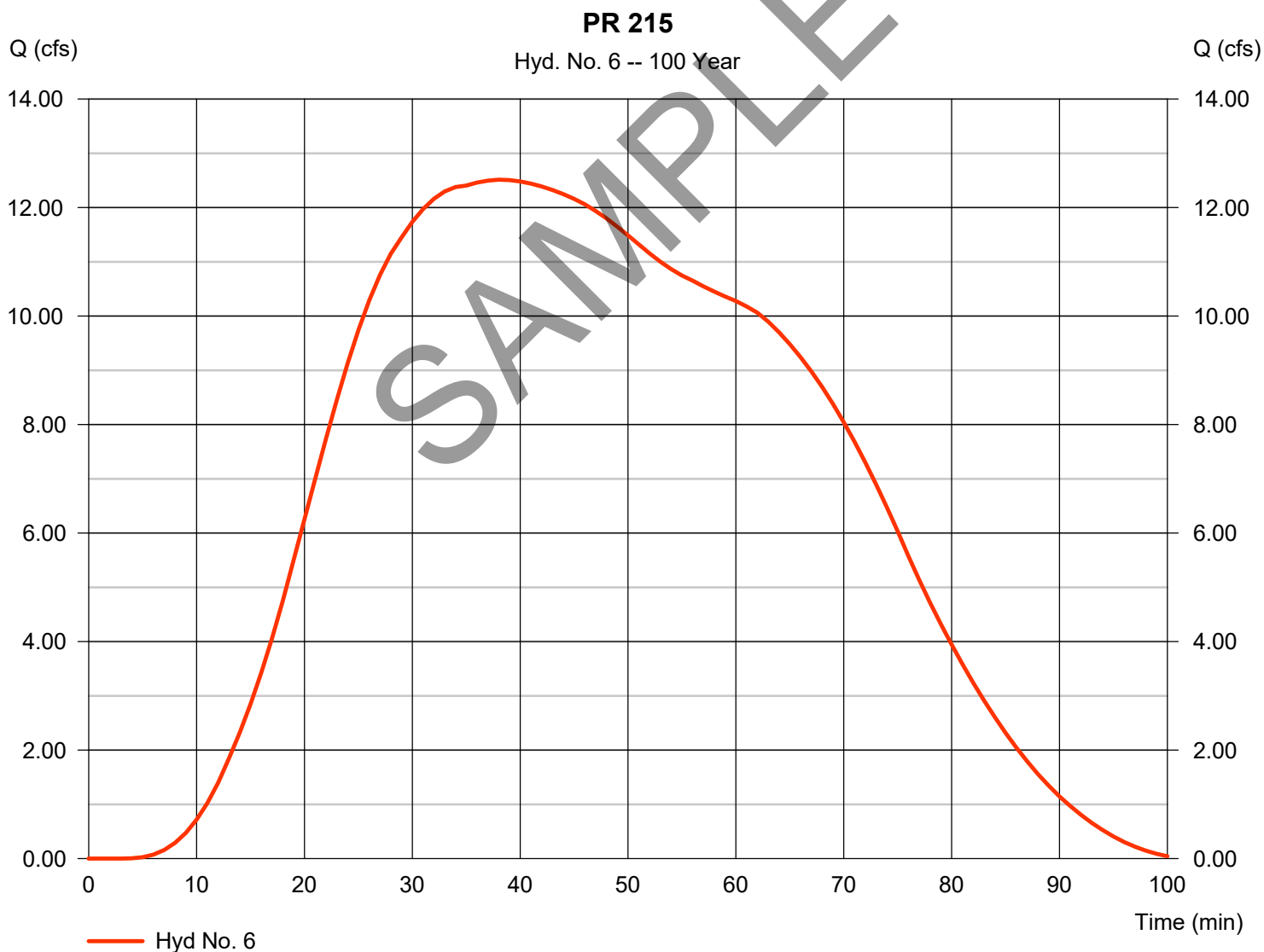
Tuesday, 03 / 12 / 2019

Hyd. No. 6

PR 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 6.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 12.51 cfs
Time to peak = 38 min
Hyd. volume = 39,697 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

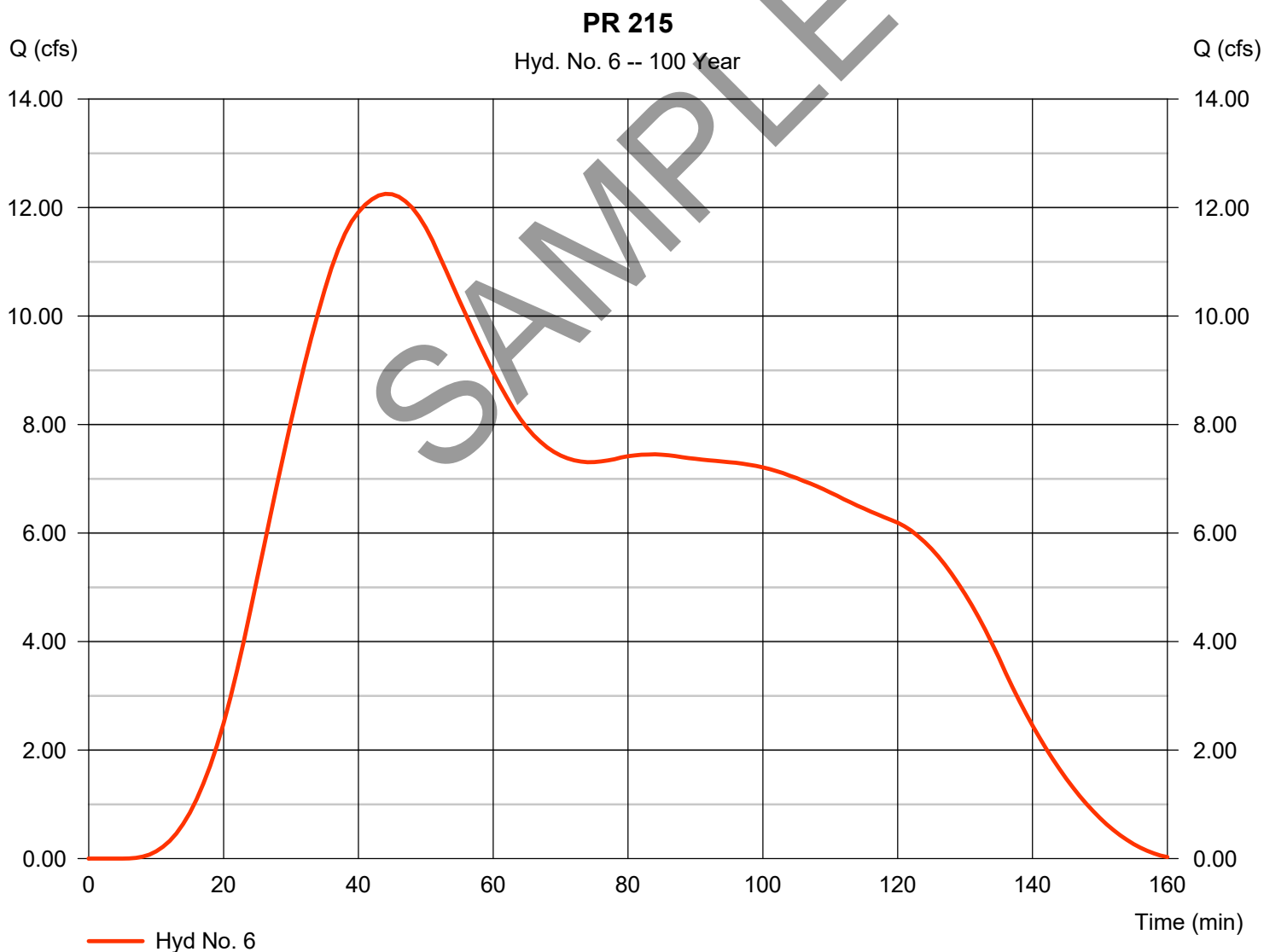
Tuesday, 03 / 12 / 2019

Hyd. No. 6

PR 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 6.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 12.25 cfs
Time to peak = 44 min
Hyd. volume = 56,187 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

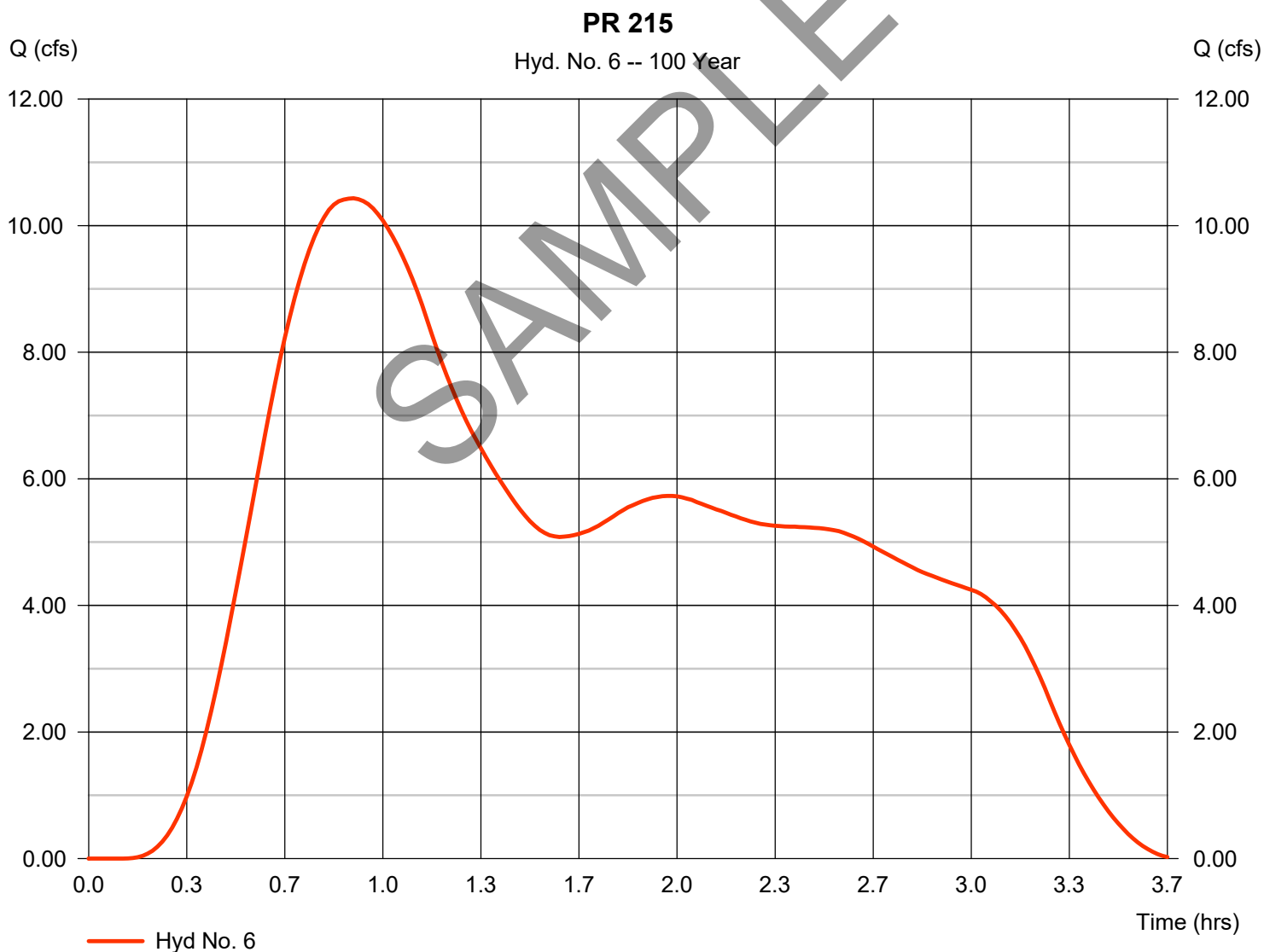
Tuesday, 03 / 12 / 2019

Hyd. No. 6

PR 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 6.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 10.43 cfs
Time to peak = 0.90 hrs
Hyd. volume = 63,508 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.00 min
Distribution = Custom
Shape factor = 484

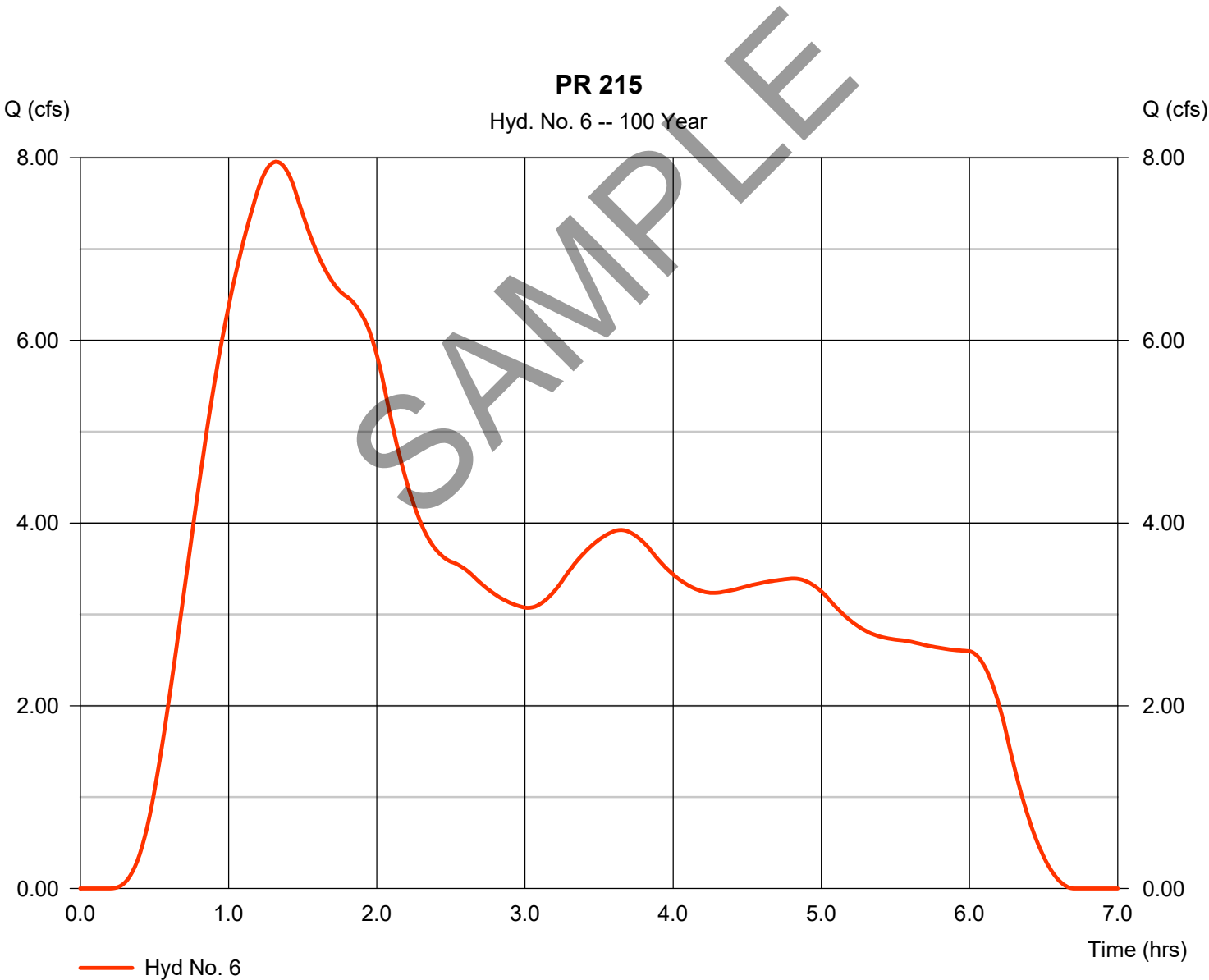


Hydrograph Report

Hyd. No. 6

PR 215

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.955 cfs
Storm frequency	=	100 yrs	Time to peak	=	1.32 hrs
Time interval	=	1 min	Hyd. volume	=	84,217 cuft
Drainage area	=	6.300 ac	Curve number	=	86
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	26.00 min
Total precip.	=	5.20 in	Distribution	=	Custom
Storm duration	=	6.00 hrs	Shape factor	=	484



Hydrograph Report

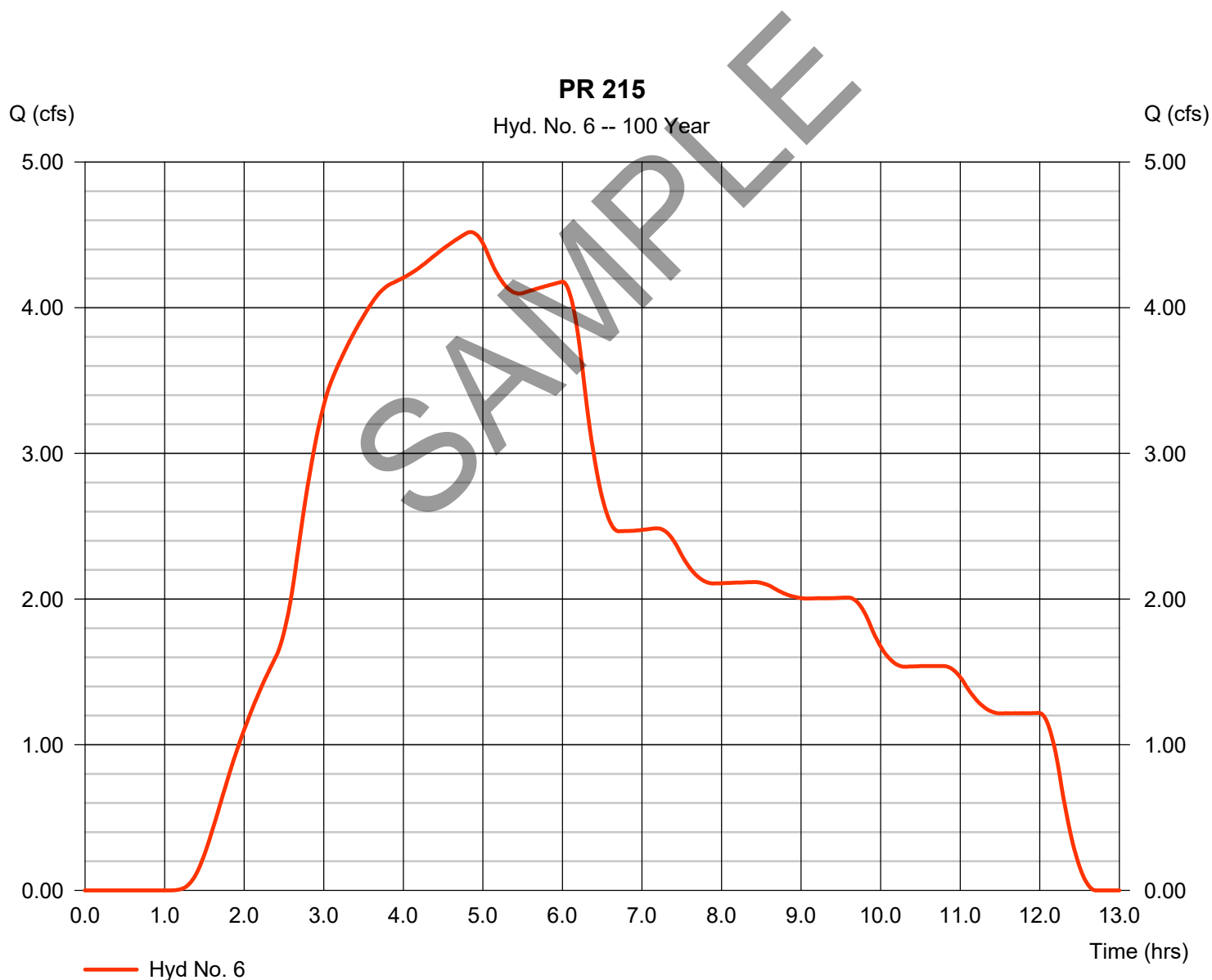
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 6

PR 215

Hydrograph type	= SCS Runoff	Peak discharge	= 4.520 cfs
Storm frequency	= 100 yrs	Time to peak	= 4.85 hrs
Time interval	= 1 min	Hyd. volume	= 98,564 cuft
Drainage area	= 6.300 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.00 min
Total precip.	= 5.86 in	Distribution	= Custom
Storm duration	= 12.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

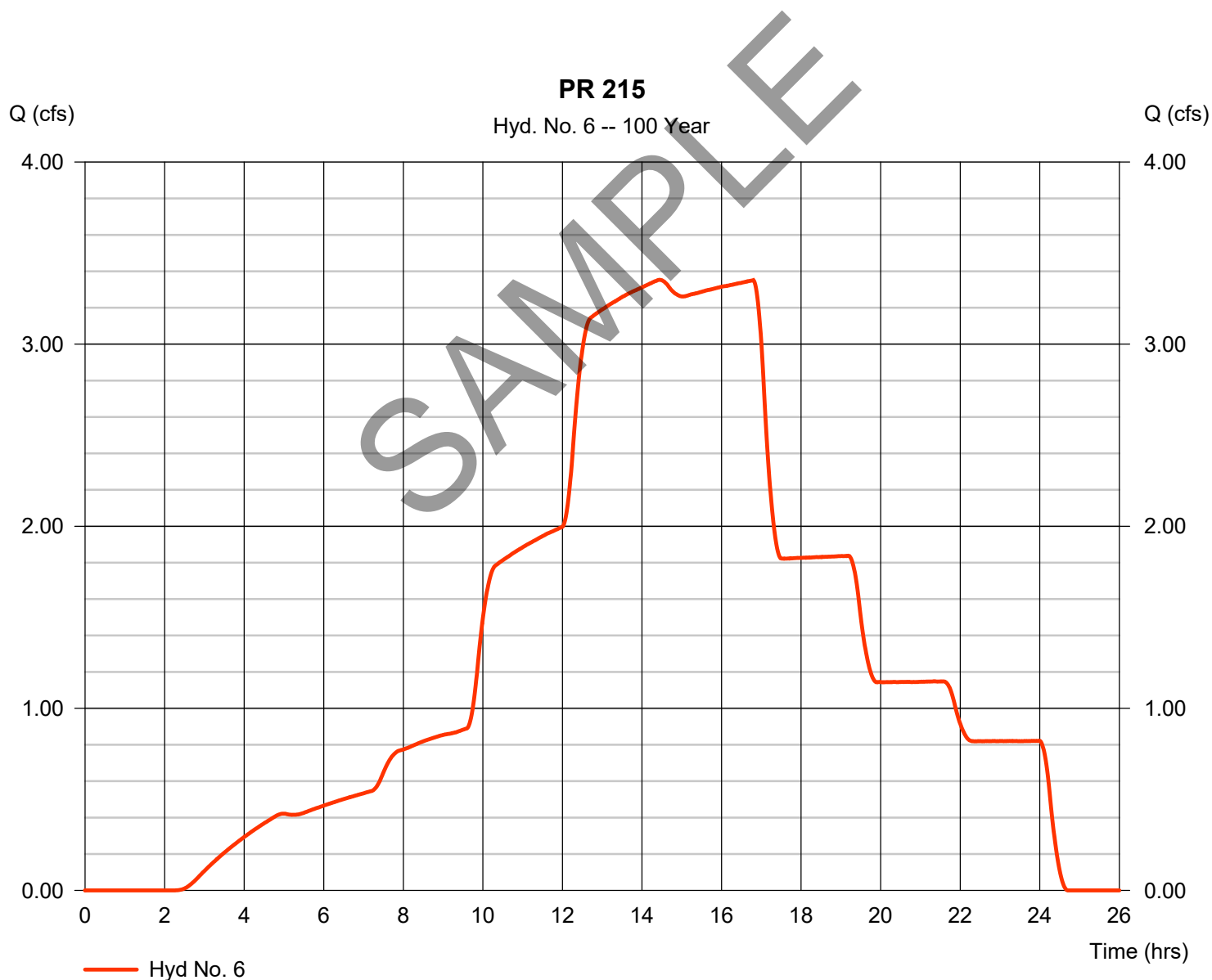
Tuesday, 03 / 12 / 2019

Hyd. No. 6

PR 215

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 6.300 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 3.353 cfs
Time to peak = 14.43 hrs
Hyd. volume = 119,460 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 26.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

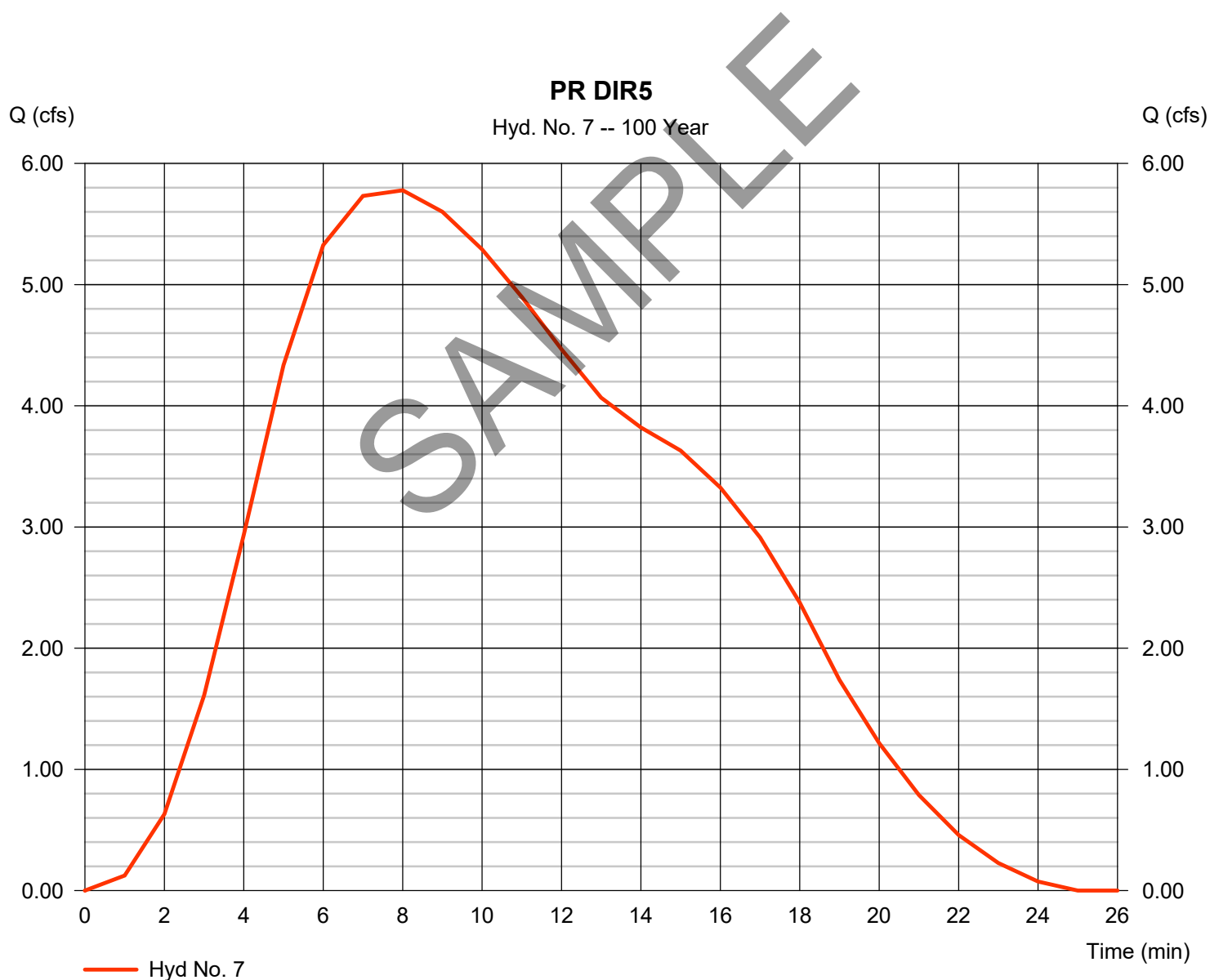
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 7

PR DIR5

Hydrograph type	= SCS Runoff	Peak discharge	= 5.778 cfs
Storm frequency	= 100 yrs	Time to peak	= 8 min
Time interval	= 1 min	Hyd. volume	= 4,282 cuft
Drainage area	= 0.900 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

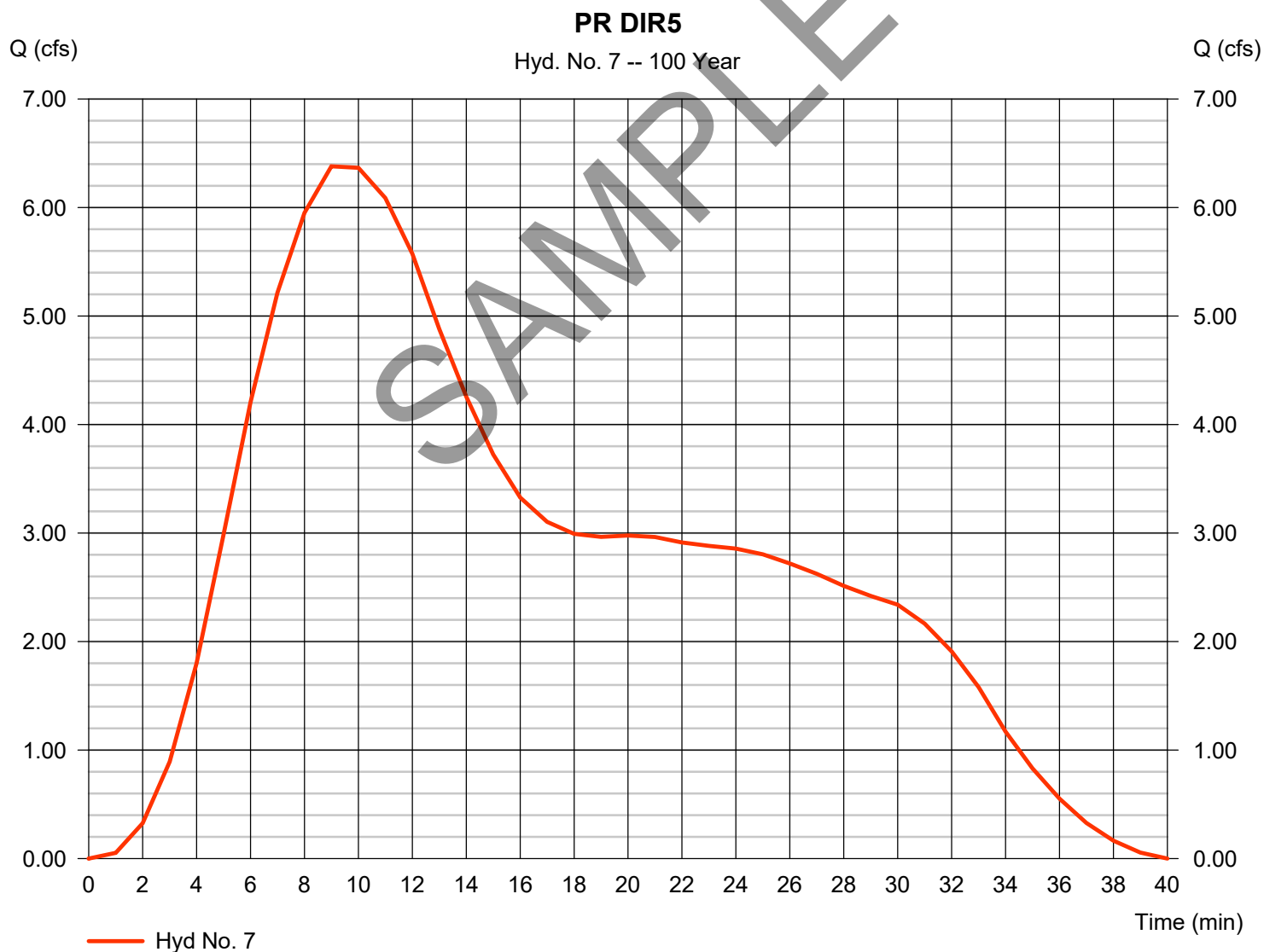
Tuesday, 03 / 12 / 2019

Hyd. No. 7

PR DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 6.380 cfs
Time to peak = 9 min
Hyd. volume = 6,592 cuft
Curve number = 97
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

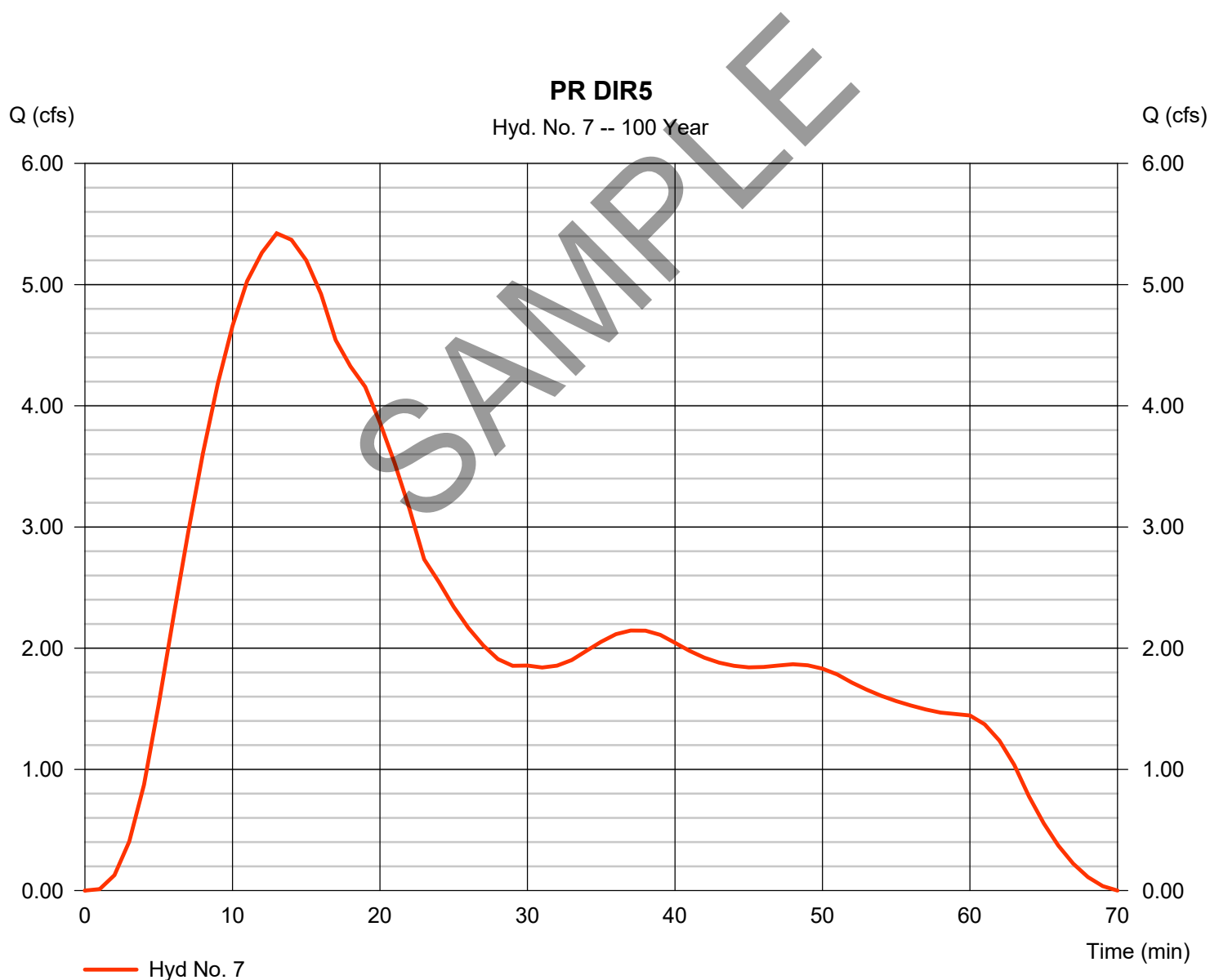
Tuesday, 03 / 12 / 2019

Hyd. No. 7

PR DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 5.424 cfs
Time to peak = 13 min
Hyd. volume = 9,190 cuft
Curve number = 97
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

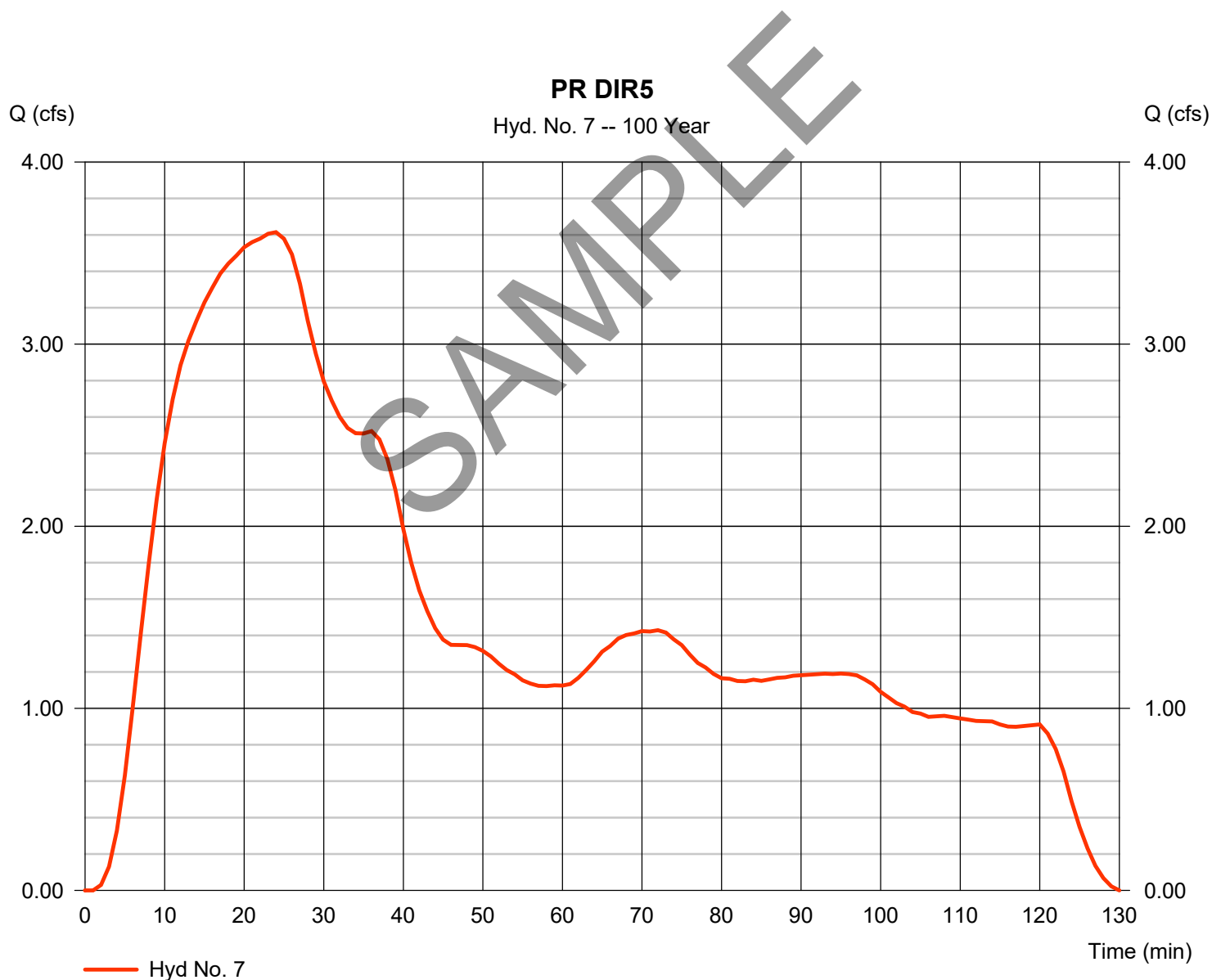
Tuesday, 03 / 12 / 2019

Hyd. No. 7

PR DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 3.615 cfs
Time to peak = 24 min
Hyd. volume = 11,900 cuft
Curve number = 97
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

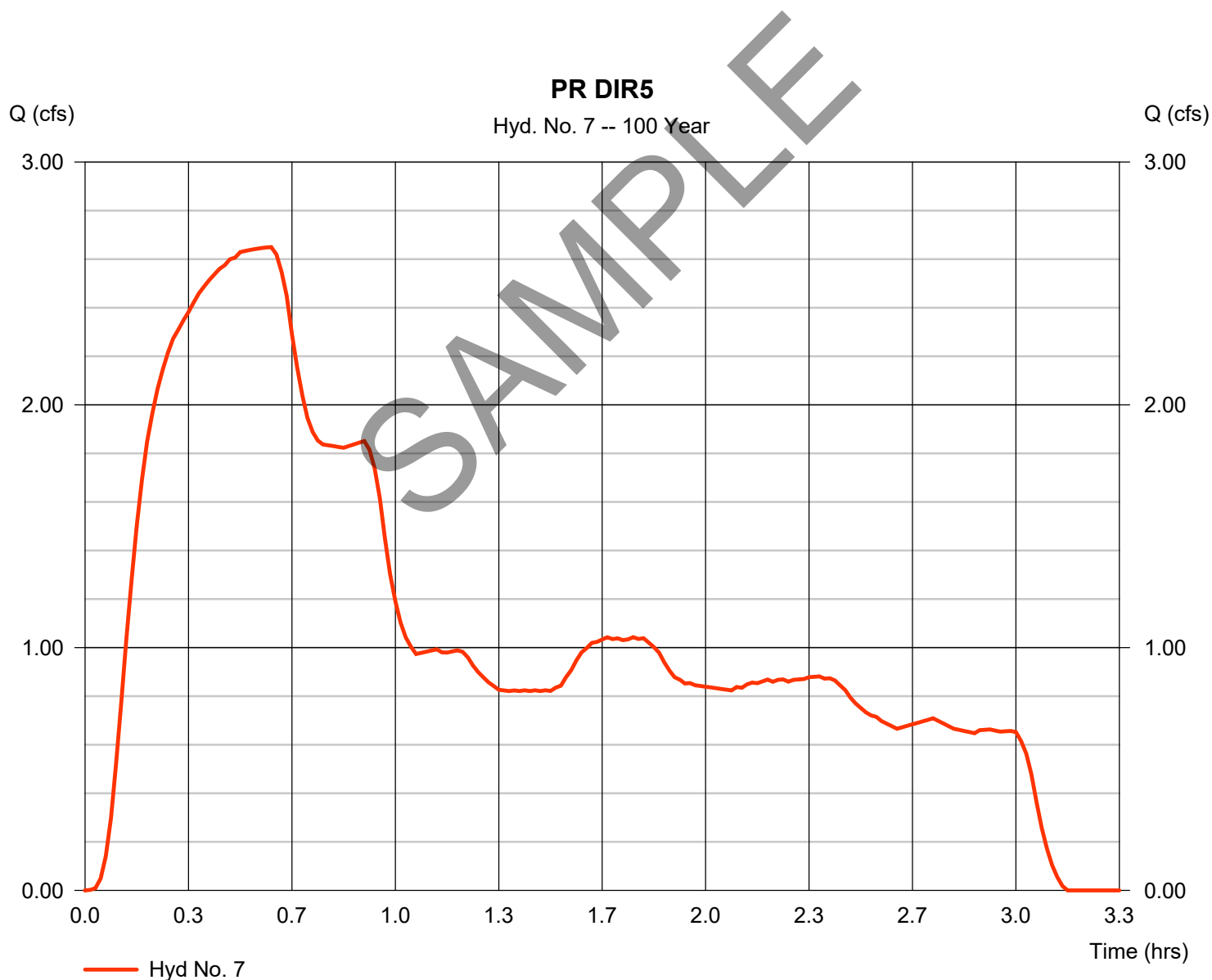
Tuesday, 03 / 12 / 2019

Hyd. No. 7

PR DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 2.650 cfs
Time to peak = 0.60 hrs
Hyd. volume = 13,073 cuft
Curve number = 97
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

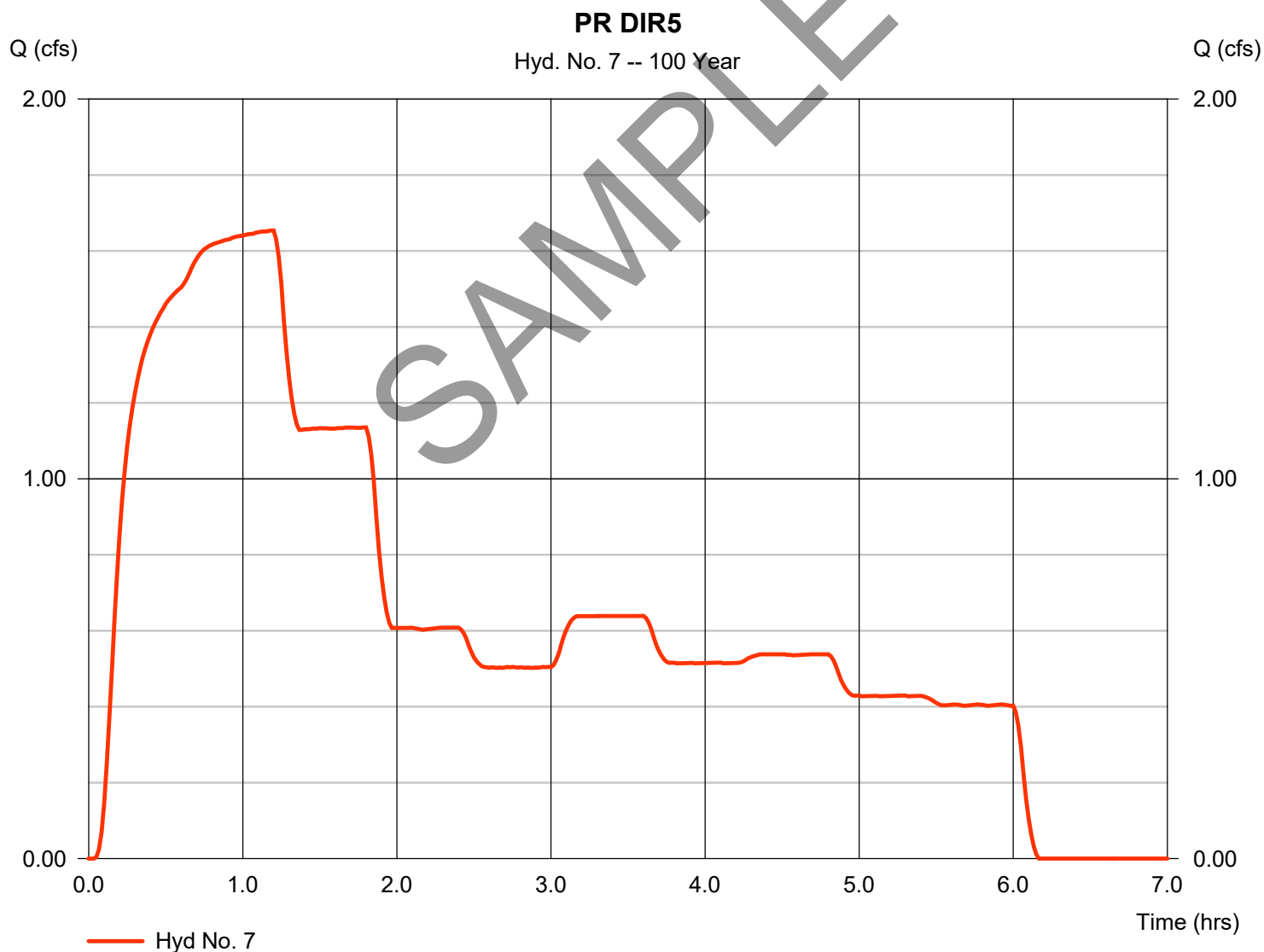
Tuesday, 03 / 12 / 2019

Hyd. No. 7

PR DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 1.654 cfs
Time to peak = 1.20 hrs
Hyd. volume = 16,328 cuft
Curve number = 97
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

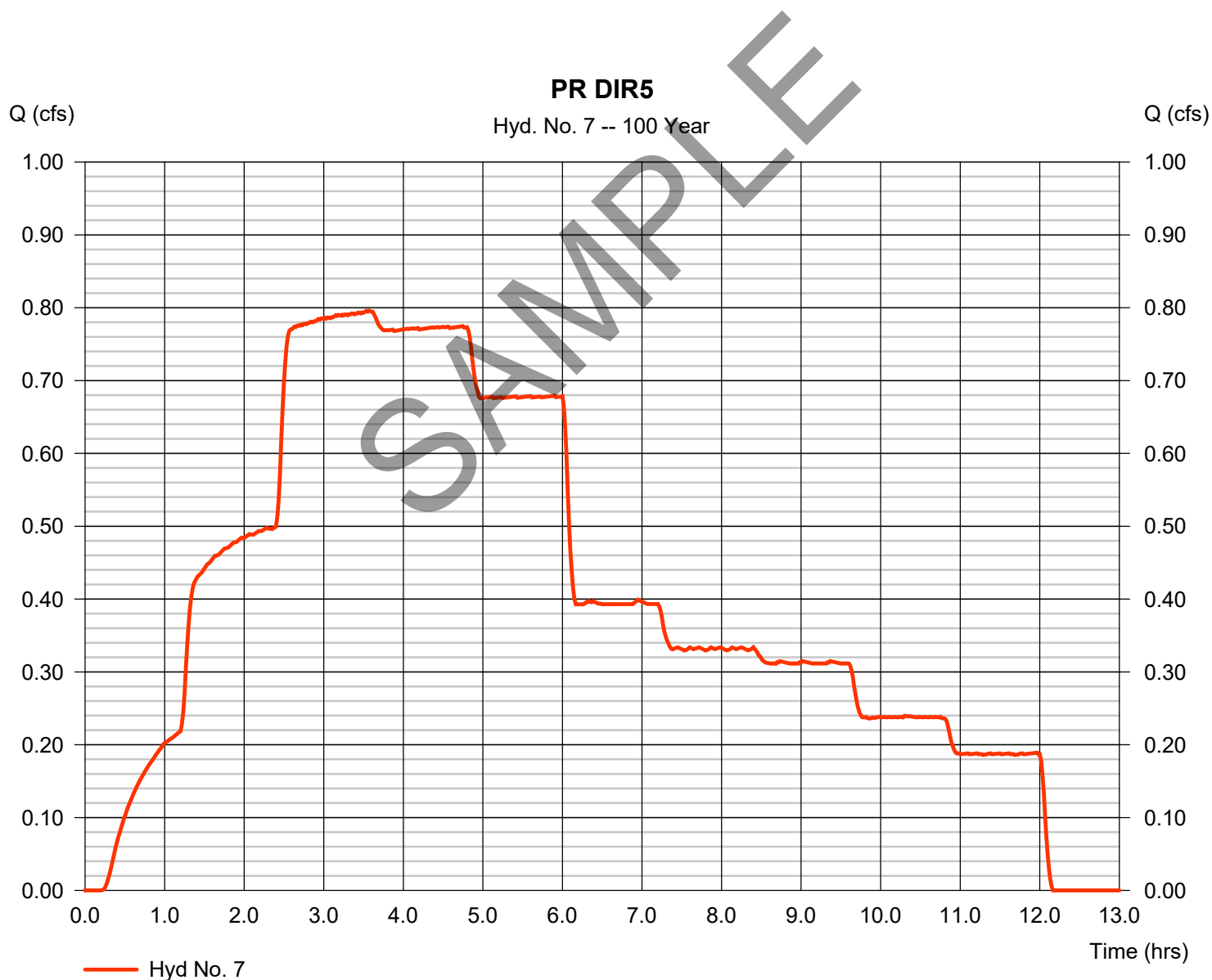
Tuesday, 03 / 12 / 2019

Hyd. No. 7

PR DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 0.796 cfs
Time to peak = 3.57 hrs
Hyd. volume = 18,545 cuft
Curve number = 97
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

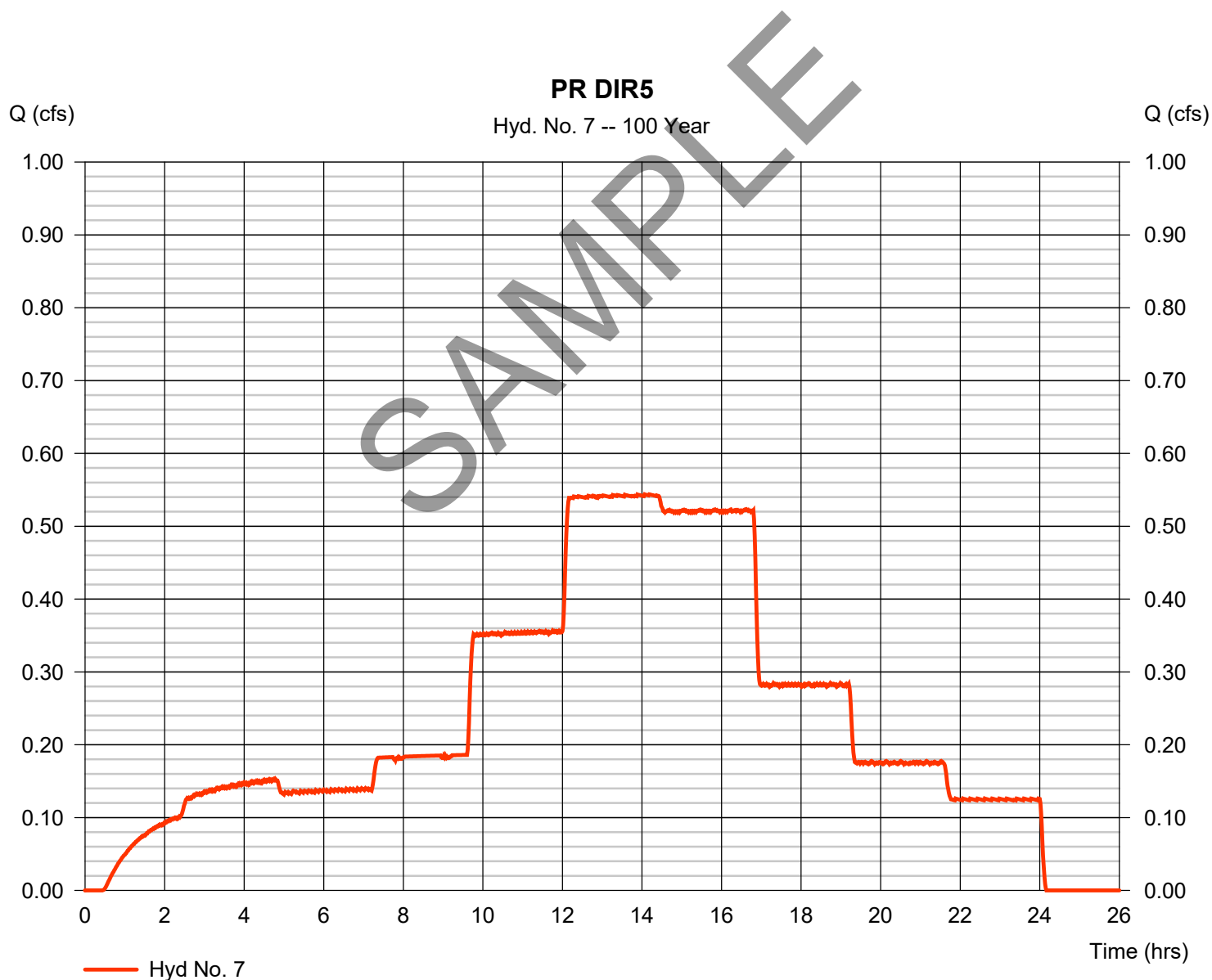
Tuesday, 03 / 12 / 2019

Hyd. No. 7

PR DIR5

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 0.544 cfs
Time to peak = 14.18 hrs
Hyd. volume = 21,739 cuft
Curve number = 97
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

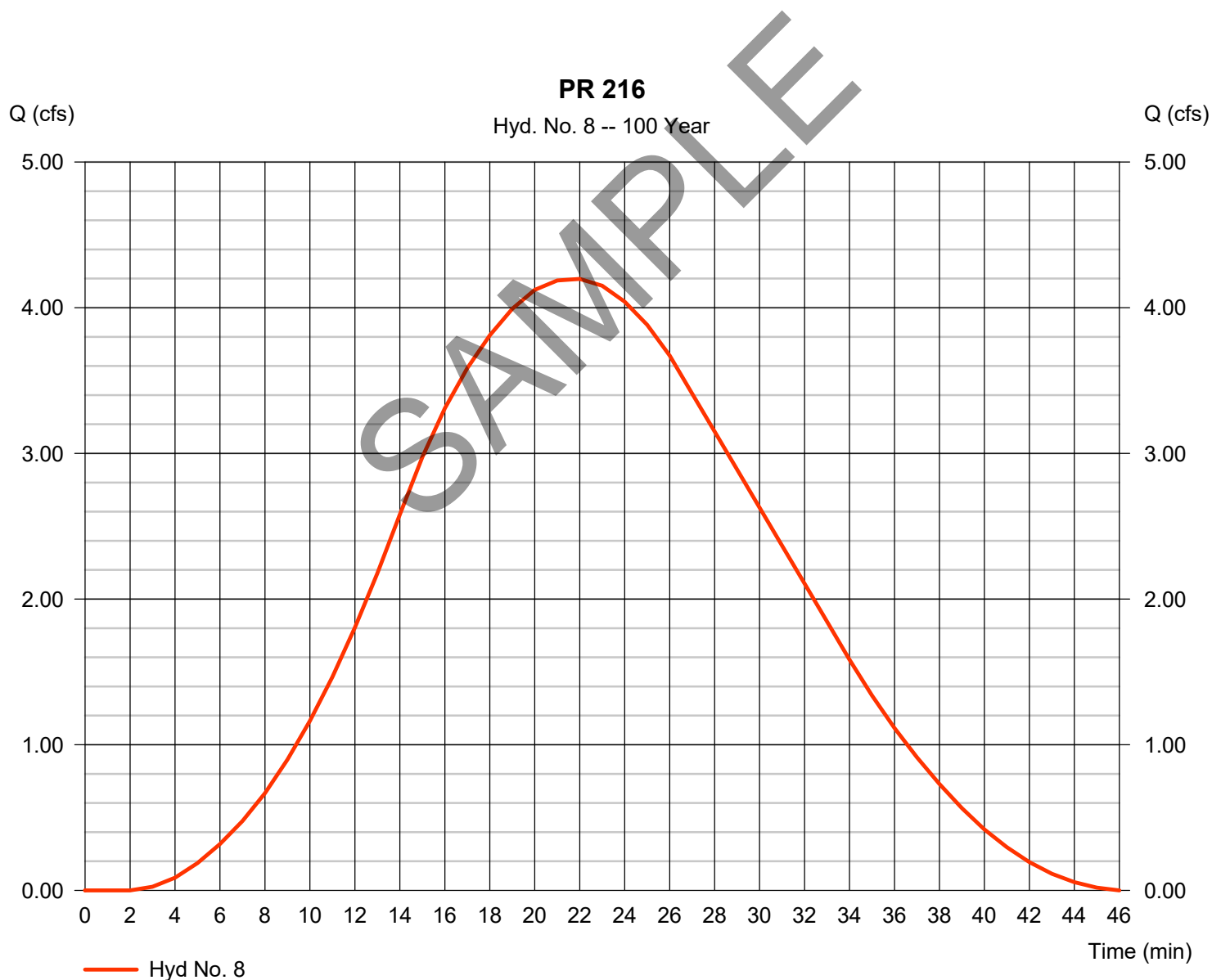
Tuesday, 03 / 12 / 2019

Hyd. No. 8

PR 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 1.59 in
Storm duration = 0.25 hrs

Peak discharge = 4.198 cfs
Time to peak = 22 min
Hyd. volume = 5,011 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.10 min
Distribution = Custom
Shape factor = 484

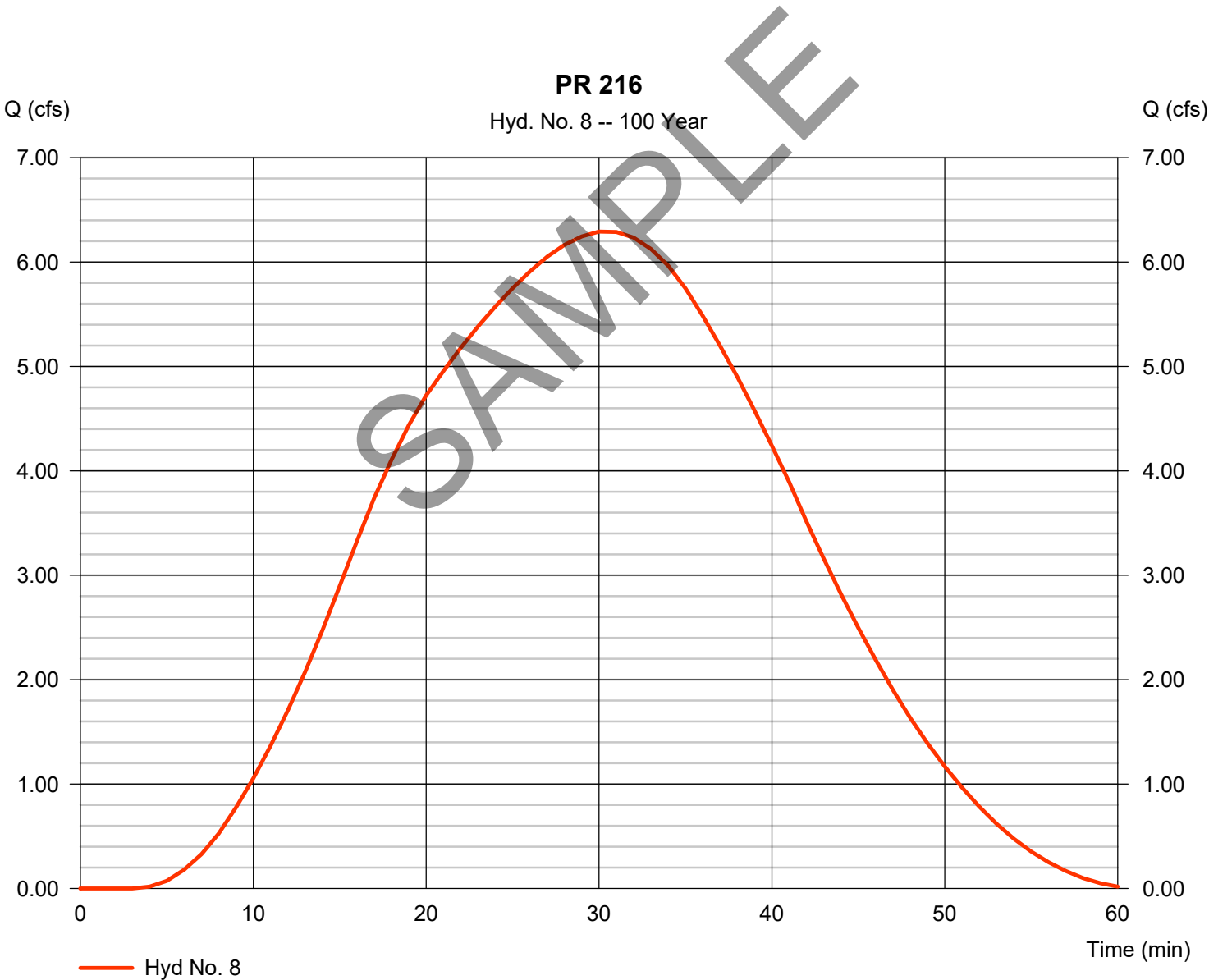


Hydrograph Report

Hyd. No. 8

PR 216

Hydrograph type	= SCS Runoff	Peak discharge	= 6.292 cfs
Storm frequency	= 100 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 10,442 cuft
Drainage area	= 3.200 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.10 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

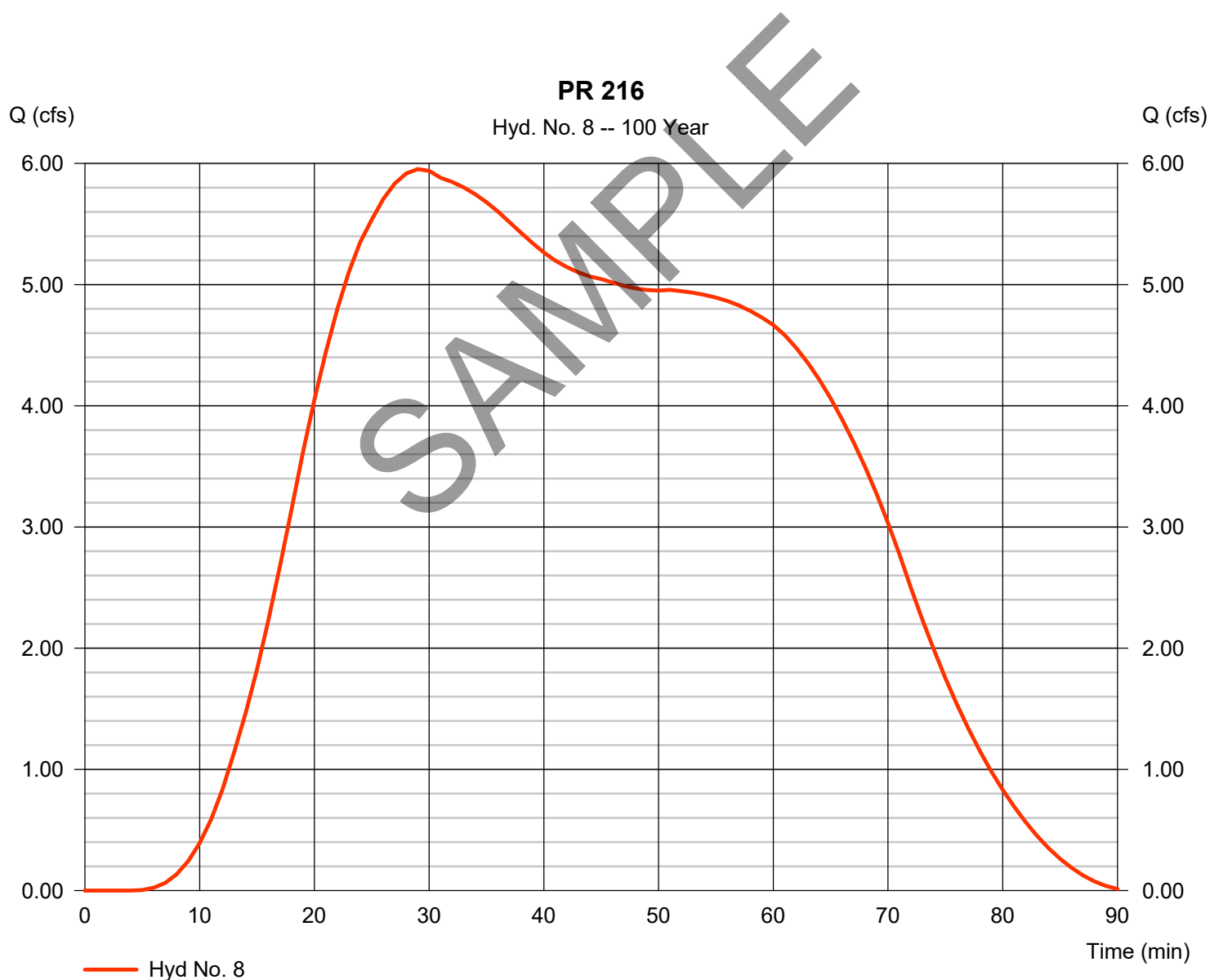
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 8

PR 216

Hydrograph type	= SCS Runoff	Peak discharge	= 5.952 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 17,460 cuft
Drainage area	= 3.200 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.10 min
Total precip.	= 3.07 in	Distribution	= Custom
Storm duration	= 1.00 hrs	Shape factor	= 484

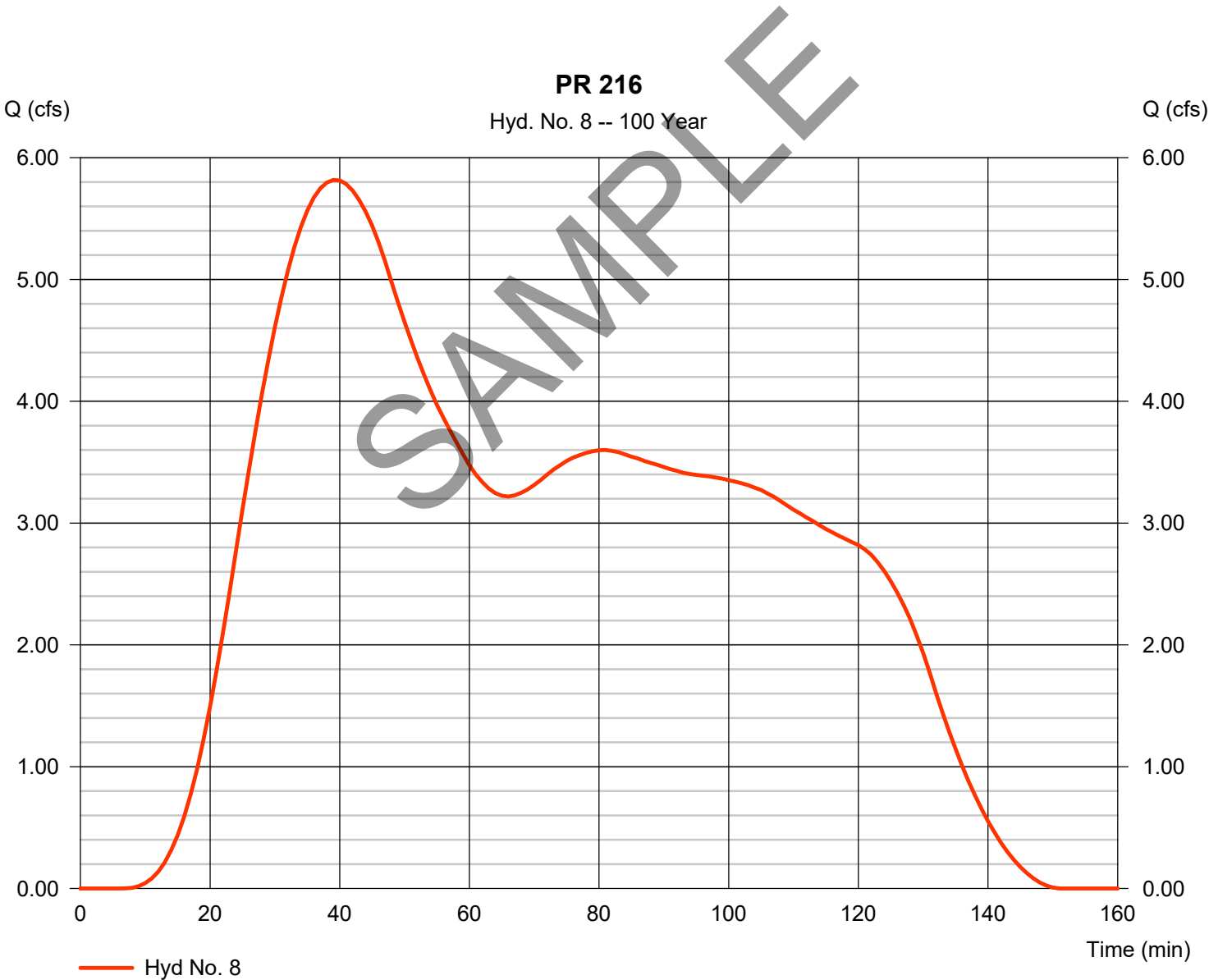


Hydrograph Report

Hyd. No. 8

PR 216

Hydrograph type	= SCS Runoff	Peak discharge	= 5.817 cfs
Storm frequency	= 100 yrs	Time to peak	= 39 min
Time interval	= 1 min	Hyd. volume	= 25,347 cuft
Drainage area	= 3.200 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.10 min
Total precip.	= 3.88 in	Distribution	= Custom
Storm duration	= 2.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

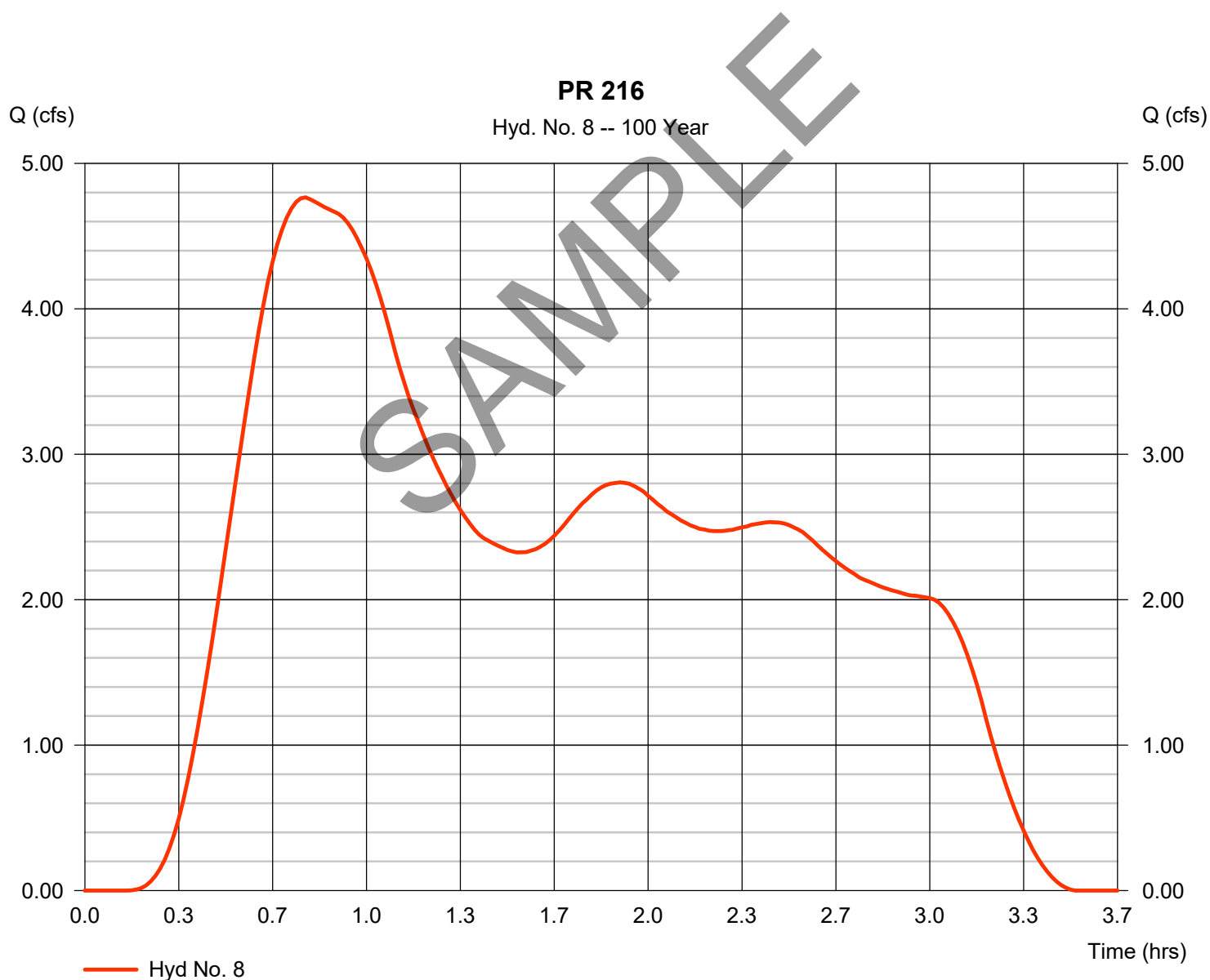
Tuesday, 03 / 12 / 2019

Hyd. No. 8

PR 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 4.767 cfs
Time to peak = 0.78 hrs
Hyd. volume = 28,888 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

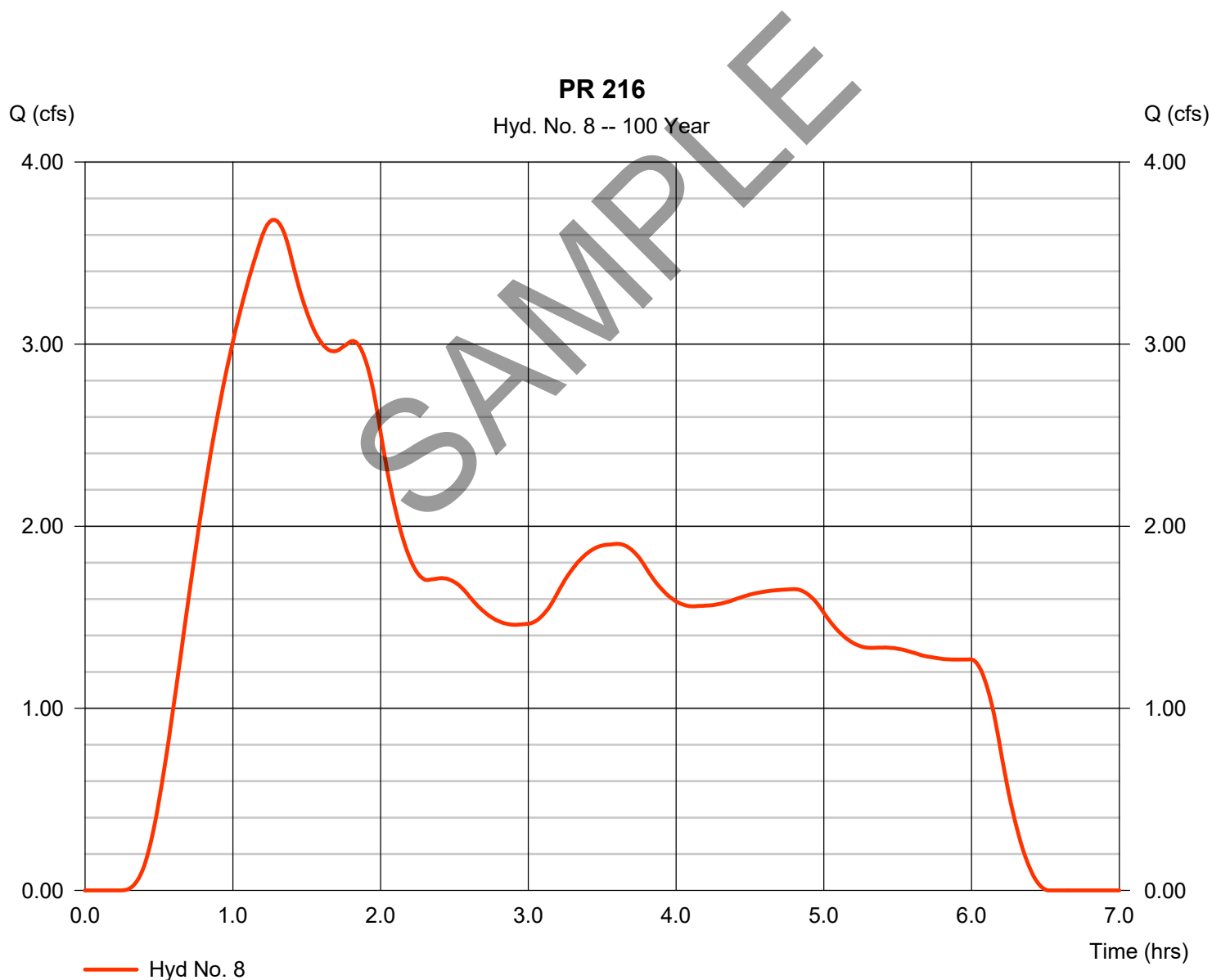
Tuesday, 03 / 12 / 2019

Hyd. No. 8

PR 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 3.683 cfs
Time to peak = 1.28 hrs
Hyd. volume = 38,979 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

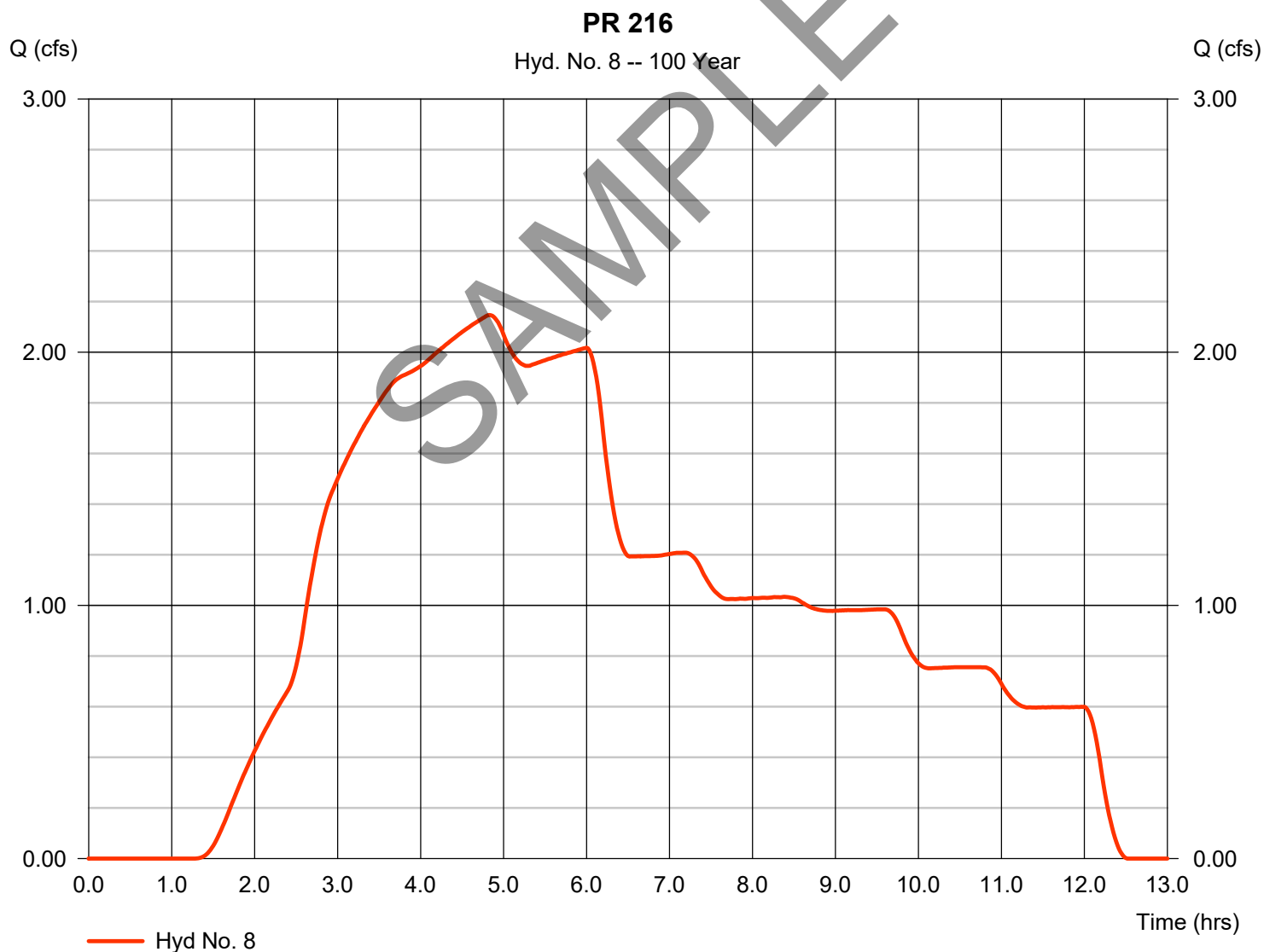
Tuesday, 03 / 12 / 2019

Hyd. No. 8

PR 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 2.147 cfs
Time to peak = 4.82 hrs
Hyd. volume = 46,018 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.10 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

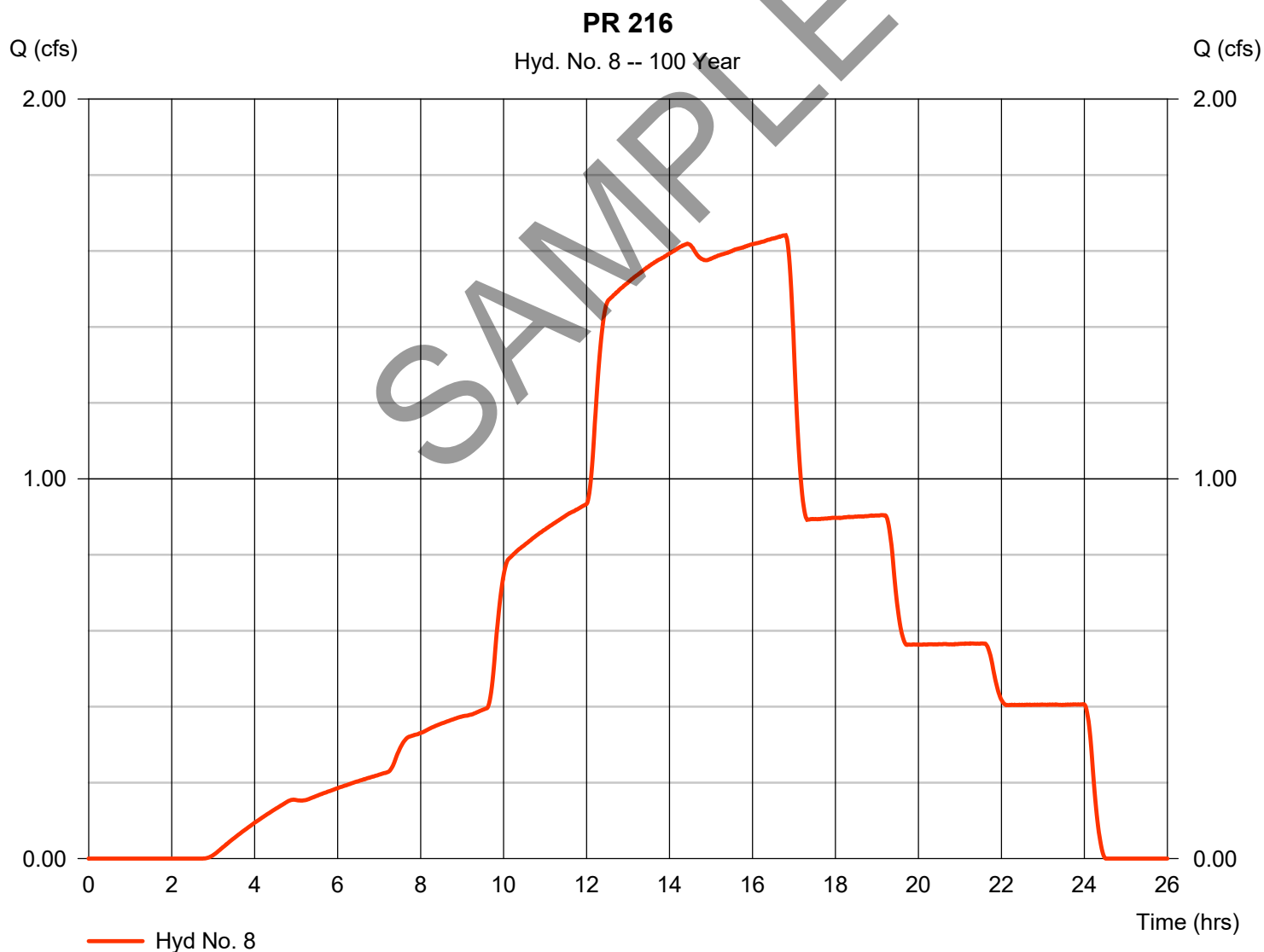
Tuesday, 03 / 12 / 2019

Hyd. No. 8

PR 216

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 3.200 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 1.641 cfs
Time to peak = 16.80 hrs
Hyd. volume = 56,323 cuft
Curve number = 83
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.10 min
Distribution = Custom
Shape factor = 484

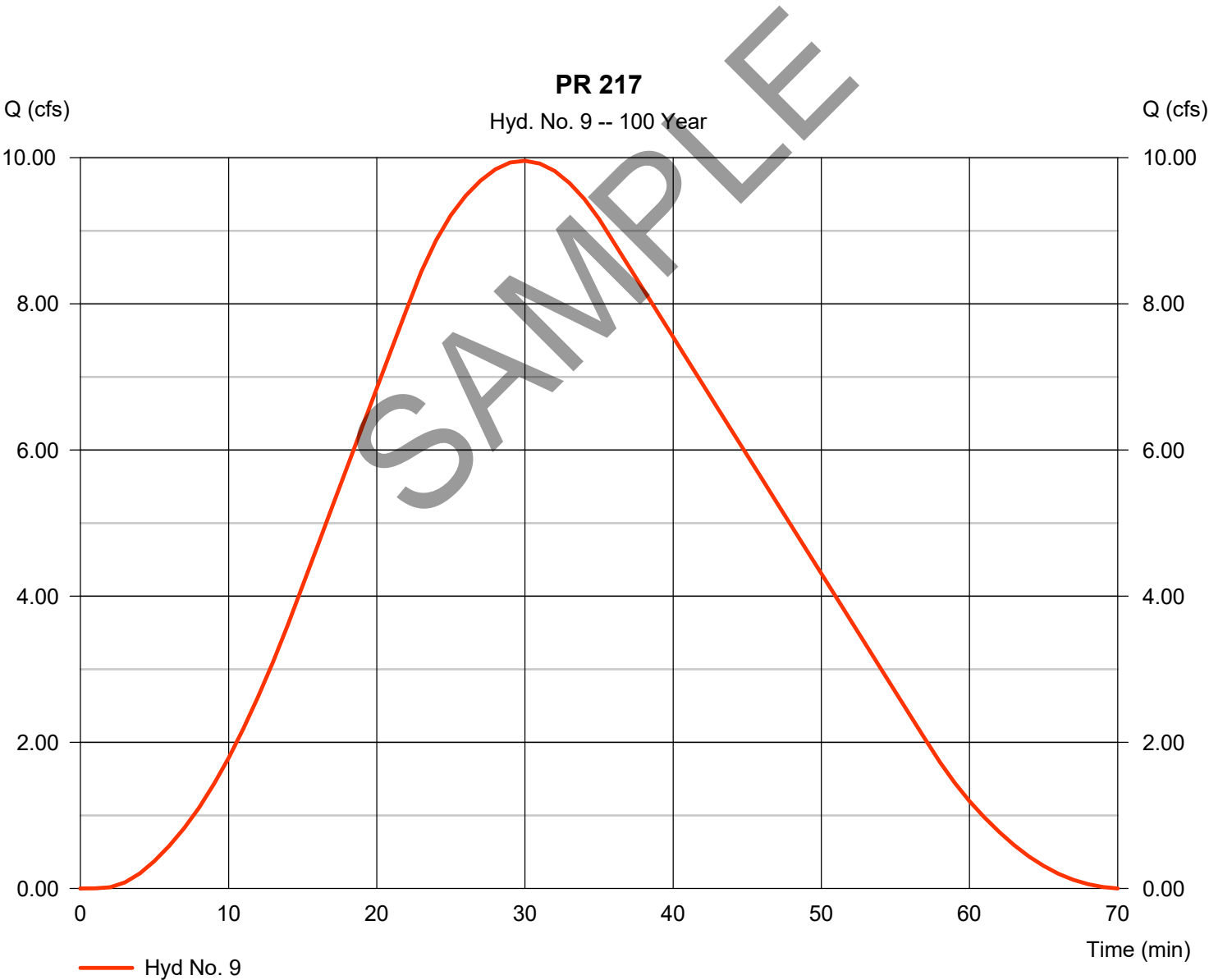


Hydrograph Report

Hyd. No. 9

PR 217

Hydrograph type	= SCS Runoff	Peak discharge	= 9.956 cfs
Storm frequency	= 100 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 19,031 cuft
Drainage area	= 8.100 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.30 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

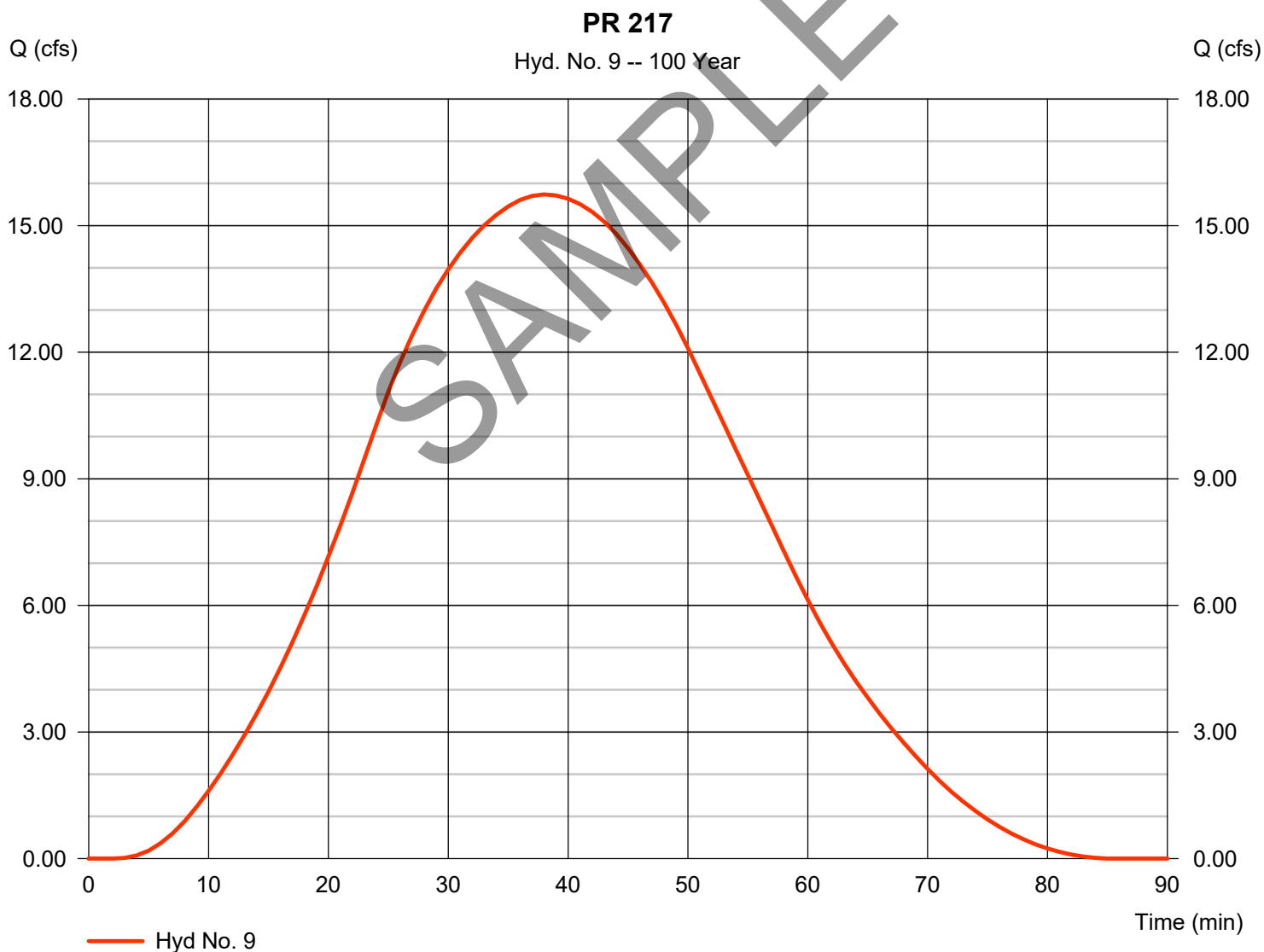
Tuesday, 03 / 12 / 2019

Hyd. No. 9

PR 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 8.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.29 in
Storm duration = 0.50 hrs

Peak discharge = 15.74 cfs
Time to peak = 38 min
Hyd. volume = 35,369 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

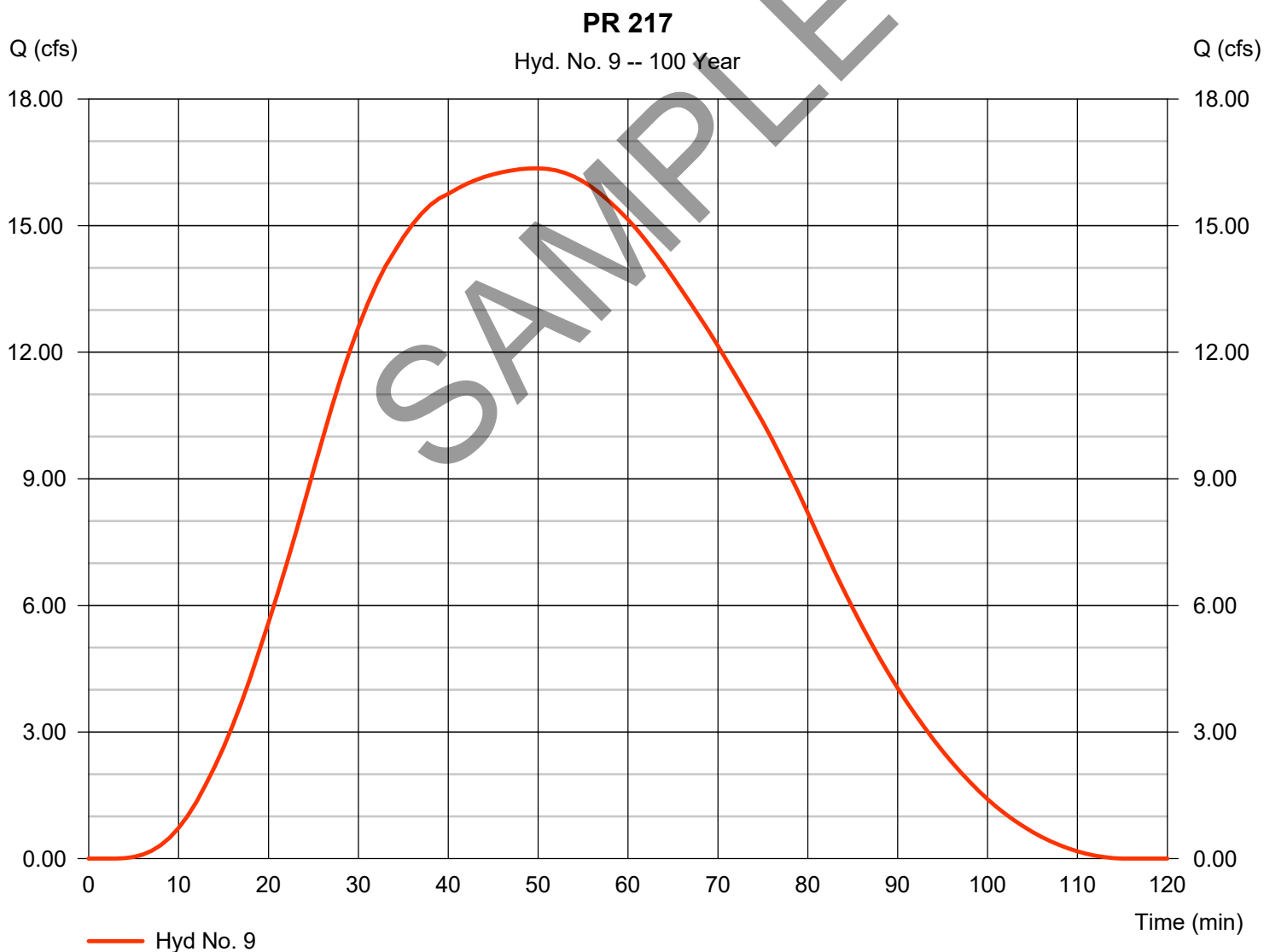
Tuesday, 03 / 12 / 2019

Hyd. No. 9

PR 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 8.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 16.36 cfs
Time to peak = 50 min
Hyd. volume = 55,269 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

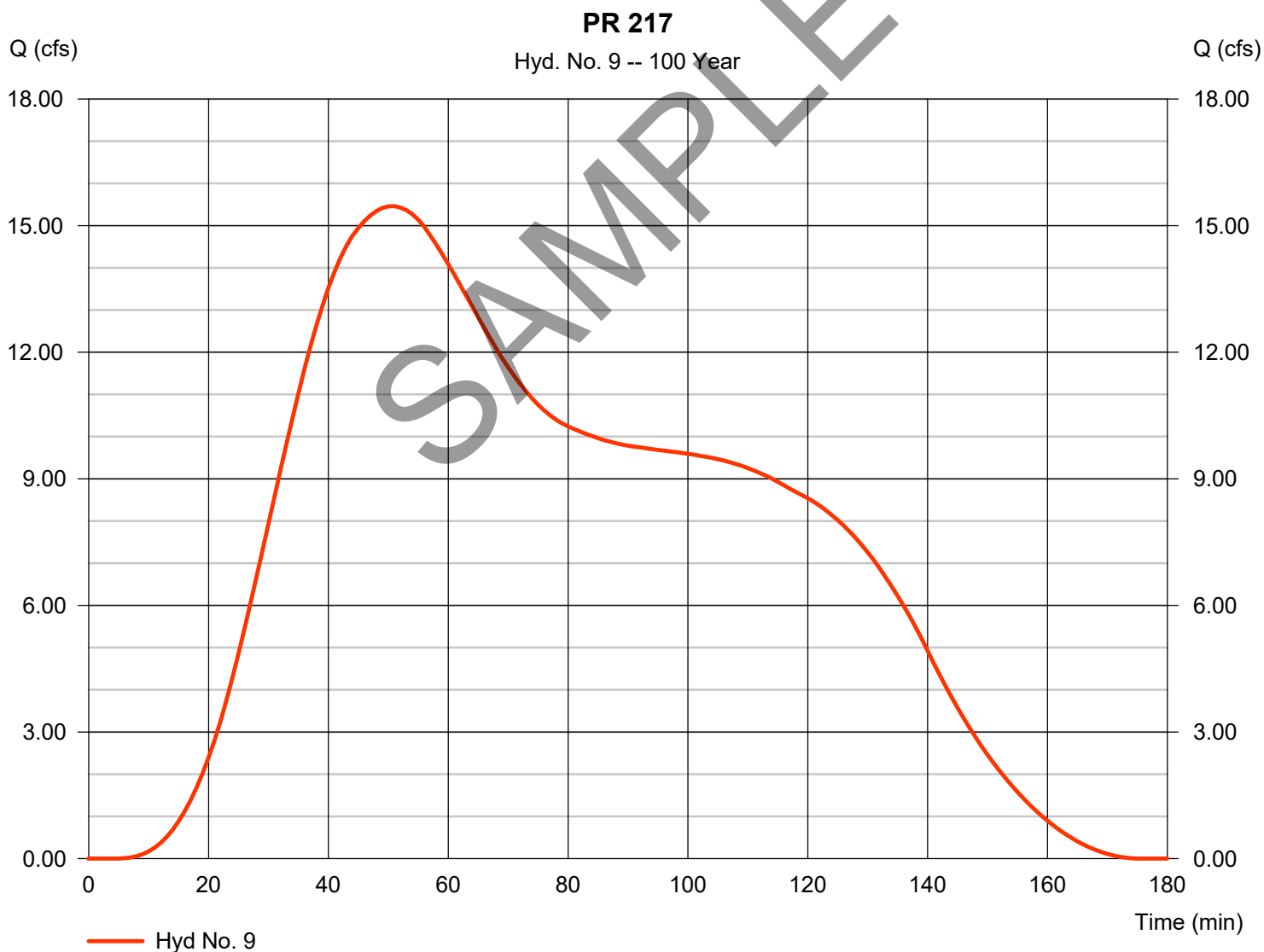
Tuesday, 03 / 12 / 2019

Hyd. No. 9

PR 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 8.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 15.46 cfs
Time to peak = 51 min
Hyd. volume = 76,965 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

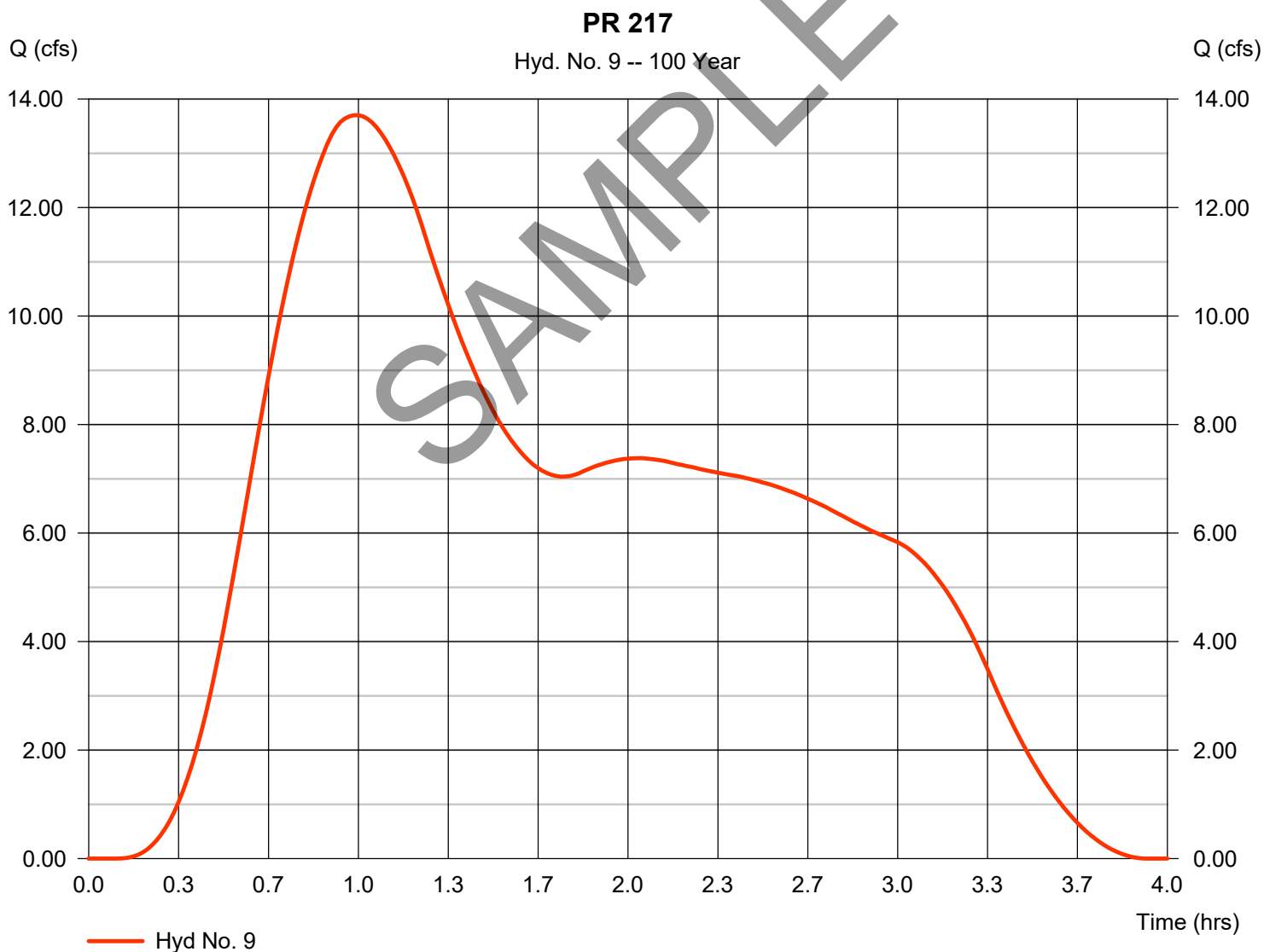
Tuesday, 03 / 12 / 2019

Hyd. No. 9

PR 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 8.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.23 in
Storm duration = 3.00 hrs

Peak discharge = 13.70 cfs
Time to peak = 0.98 hrs
Hyd. volume = 86,534 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.30 min
Distribution = Custom
Shape factor = 484

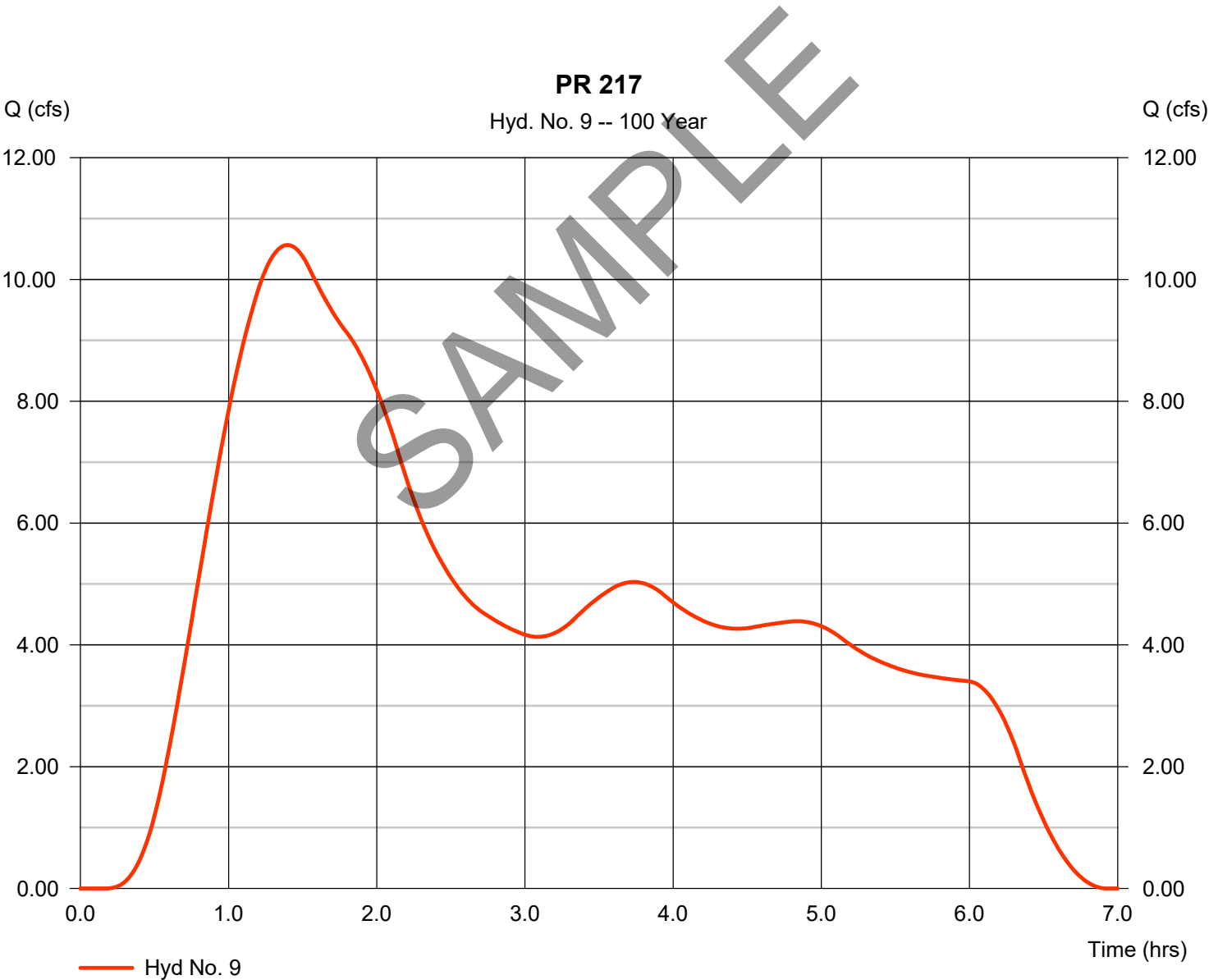


Hydrograph Report

Hyd. No. 9

PR 217

Hydrograph type	= SCS Runoff	Peak discharge	= 10.57 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.40 hrs
Time interval	= 1 min	Hyd. volume	= 113,469 cuft
Drainage area	= 8.100 ac	Curve number	= 88
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.30 min
Total precip.	= 5.20 in	Distribution	= Custom
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 9

PR 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 8.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 5.964 cfs
Time to peak = 4.87 hrs
Hyd. volume = 132,053 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

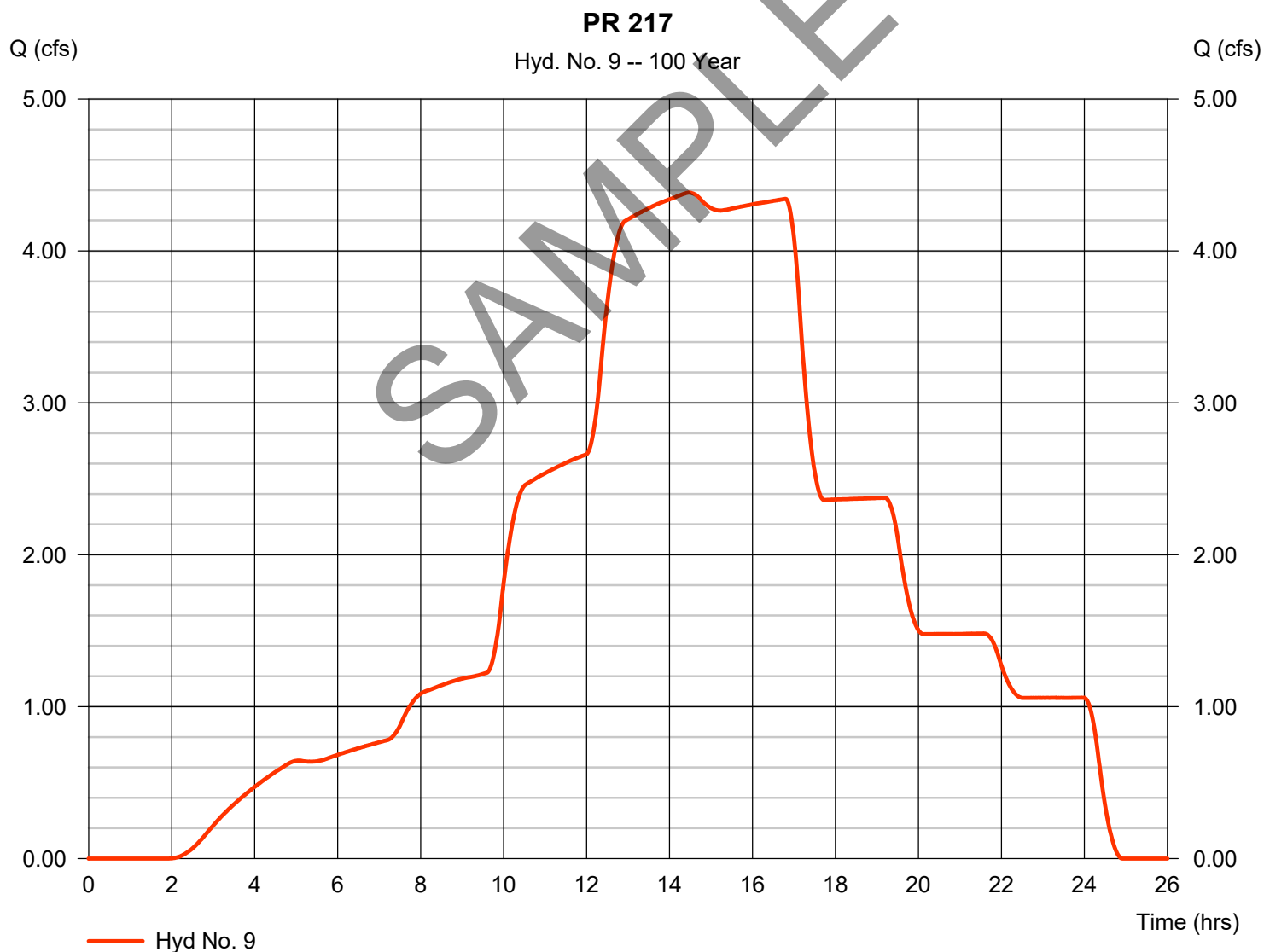
Tuesday, 03 / 12 / 2019

Hyd. No. 9

PR 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 8.100 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 4.384 cfs
Time to peak = 14.47 hrs
Hyd. volume = 159,040 cuft
Curve number = 88
Hydraulic length = 0 ft
Time of conc. (Tc) = 34.30 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

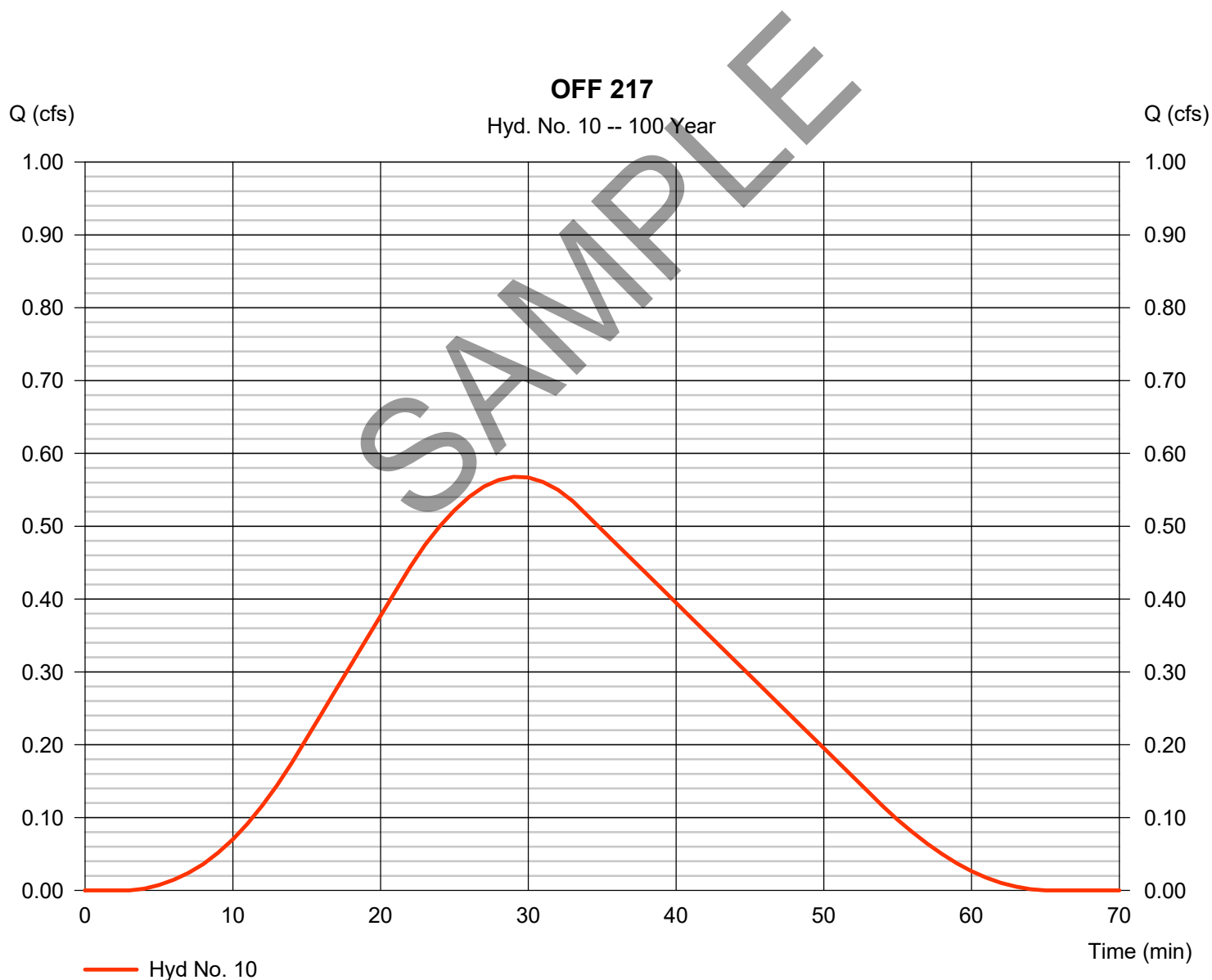
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type	= SCS Runoff	Peak discharge	= 0.568 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 977 cuft
Drainage area	= 0.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.00 min
Total precip.	= 1.59 in	Distribution	= Custom
Storm duration	= 0.25 hrs	Shape factor	= 484

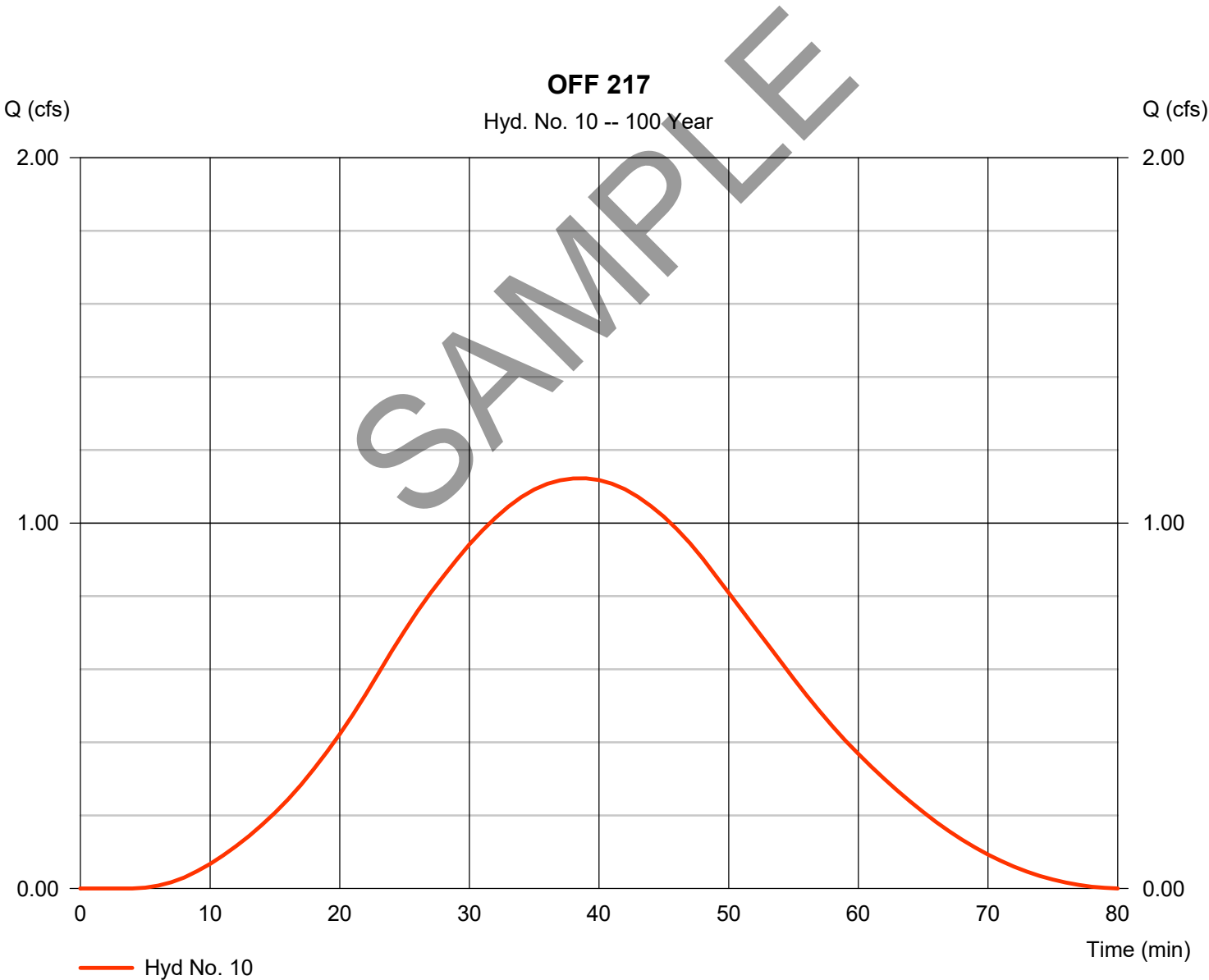


Hydrograph Report

Hyd. No. 10

OFF 217

Hydrograph type	= SCS Runoff	Peak discharge	= 1.122 cfs
Storm frequency	= 100 yrs	Time to peak	= 39 min
Time interval	= 1 min	Hyd. volume	= 2,295 cuft
Drainage area	= 0.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.00 min
Total precip.	= 2.29 in	Distribution	= Custom
Storm duration	= 0.50 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

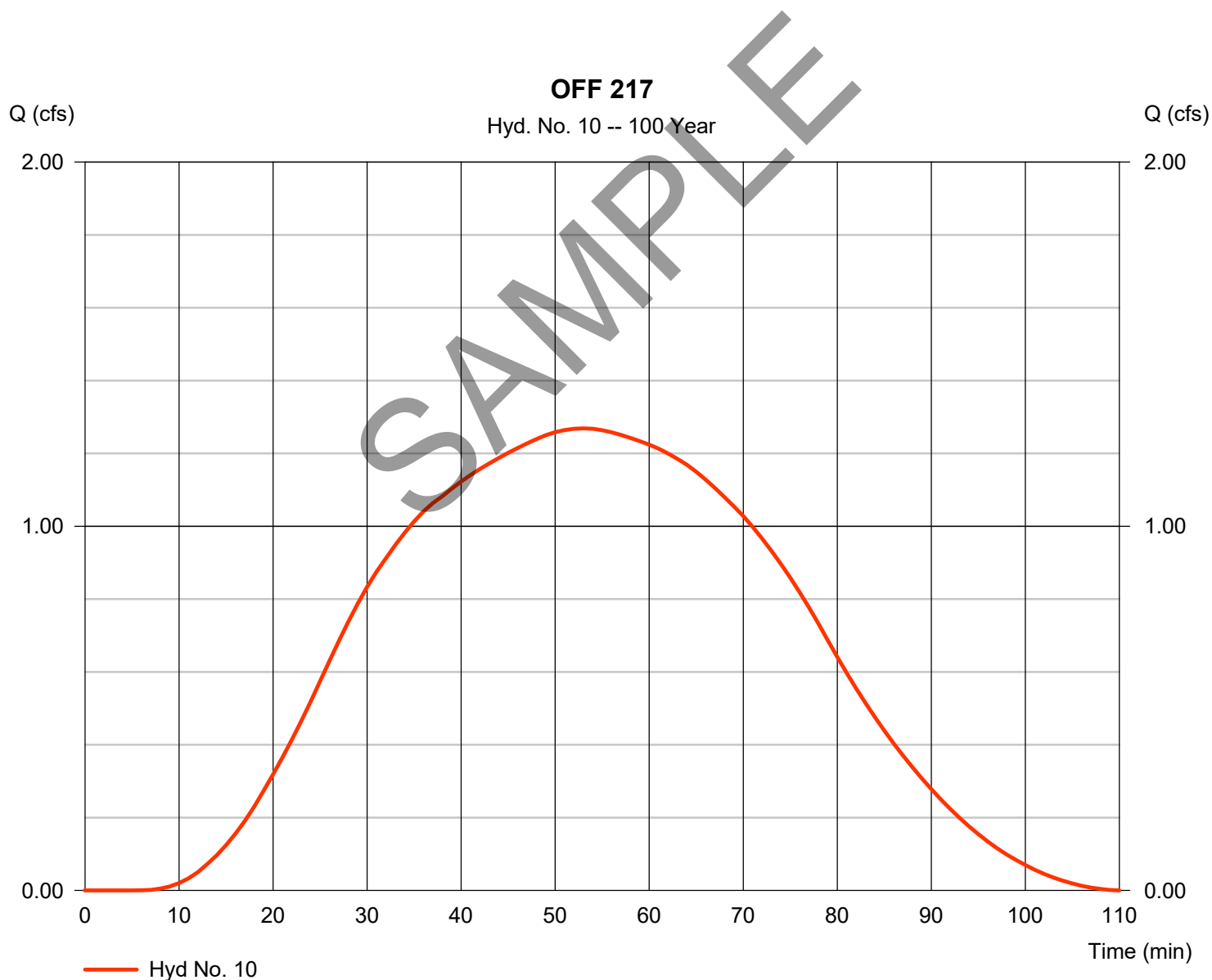
Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.07 in
Storm duration = 1.00 hrs

Peak discharge = 1.269 cfs
Time to peak = 53 min
Hyd. volume = 4,077 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

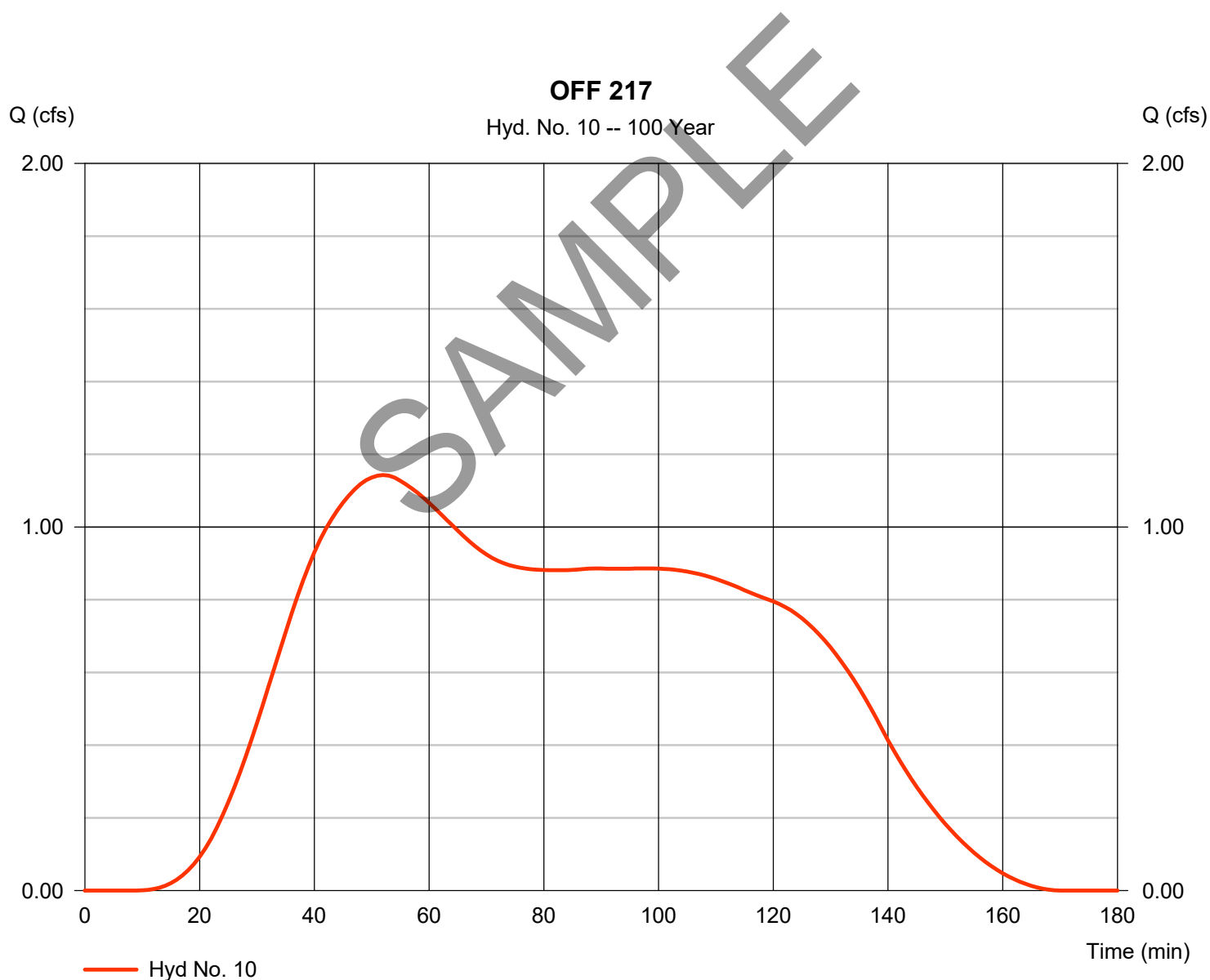
Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 3.88 in
Storm duration = 2.00 hrs

Peak discharge = 1.143 cfs
Time to peak = 52 min
Hyd. volume = 6,138 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

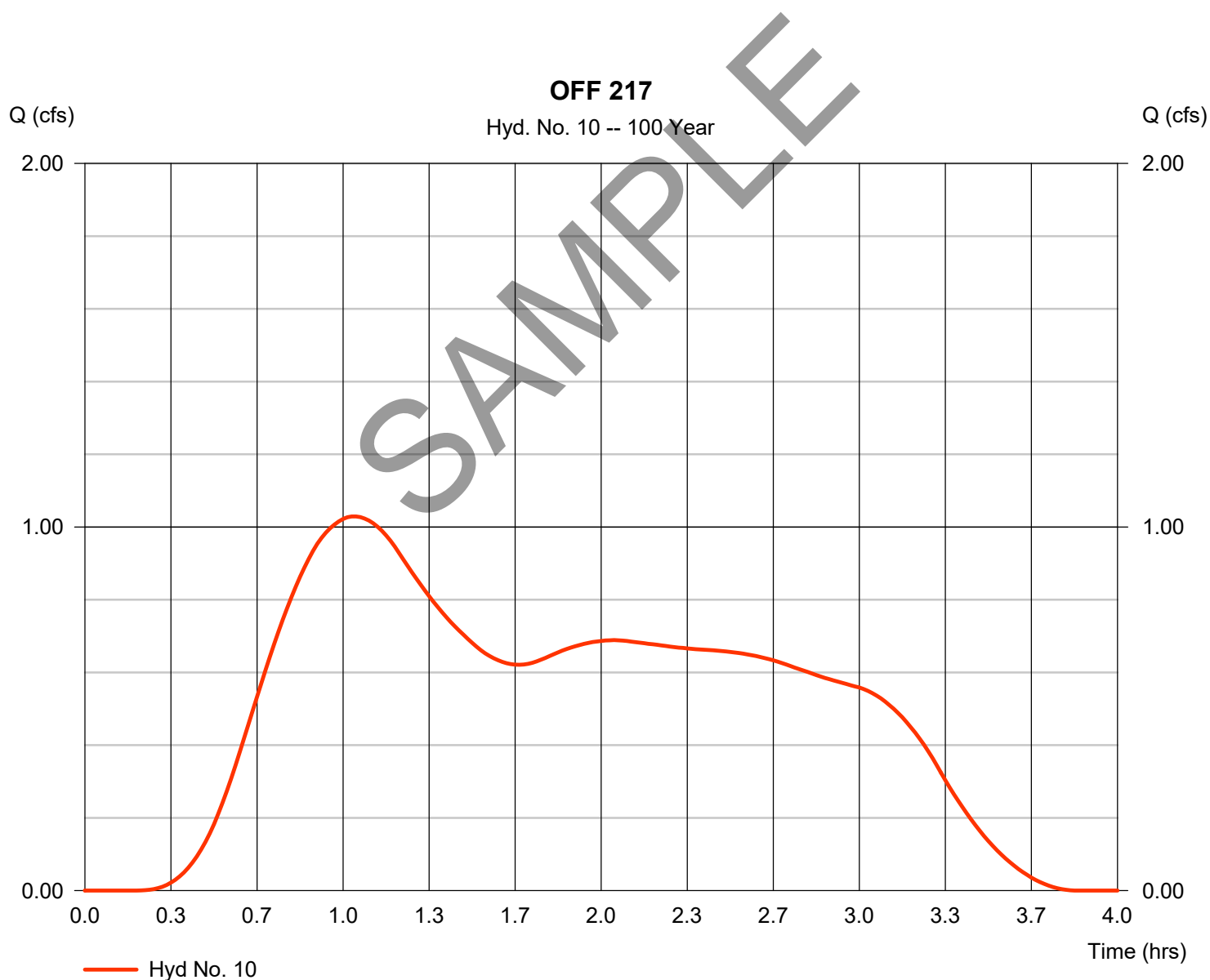
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type	= SCS Runoff	Peak discharge	= 1.029 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.05 hrs
Time interval	= 1 min	Hyd. volume	= 7,076 cuft
Drainage area	= 0.900 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.00 min
Total precip.	= 4.23 in	Distribution	= Custom
Storm duration	= 3.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

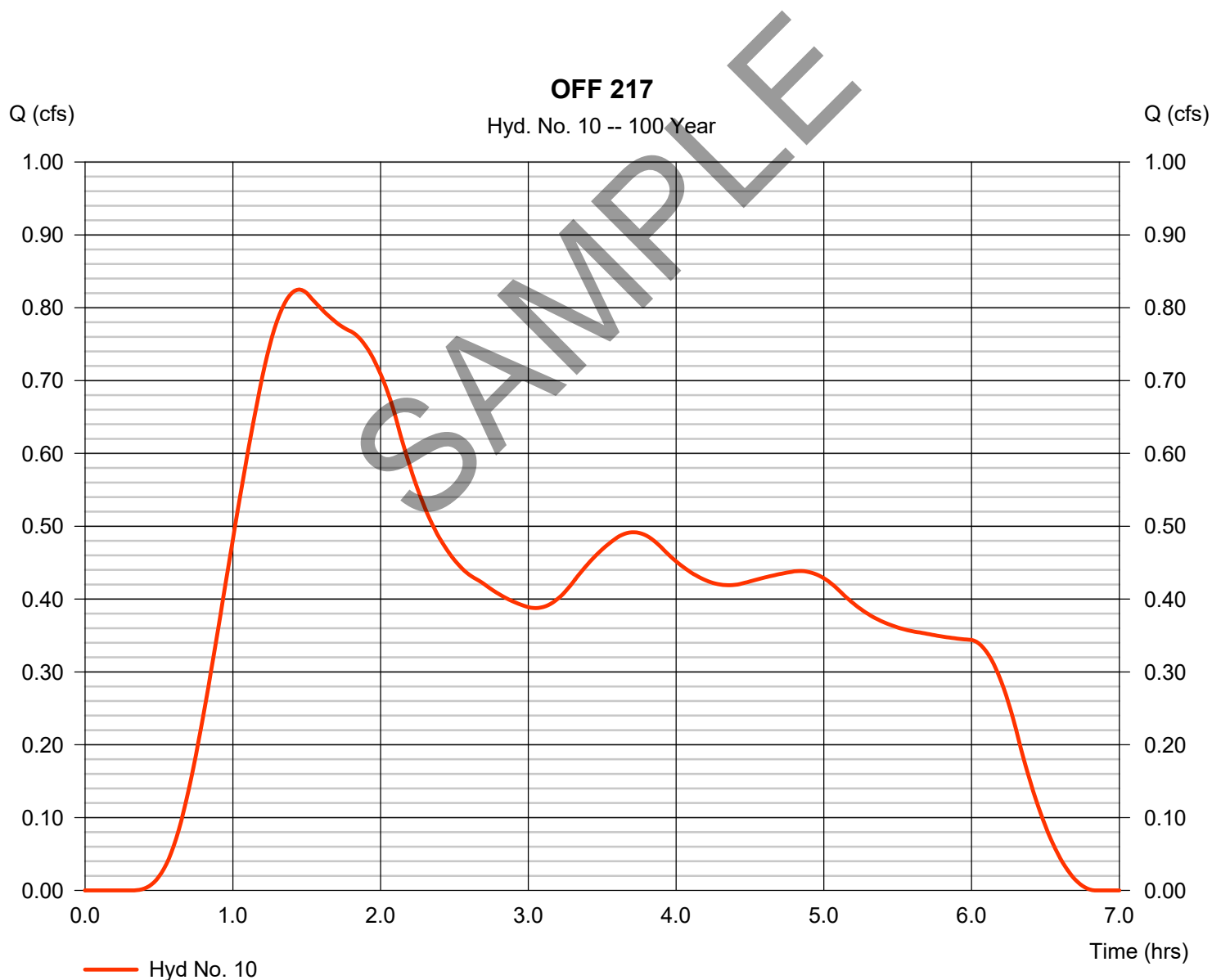
Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.20 in
Storm duration = 6.00 hrs

Peak discharge = 0.825 cfs
Time to peak = 1.45 hrs
Hyd. volume = 9,782 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

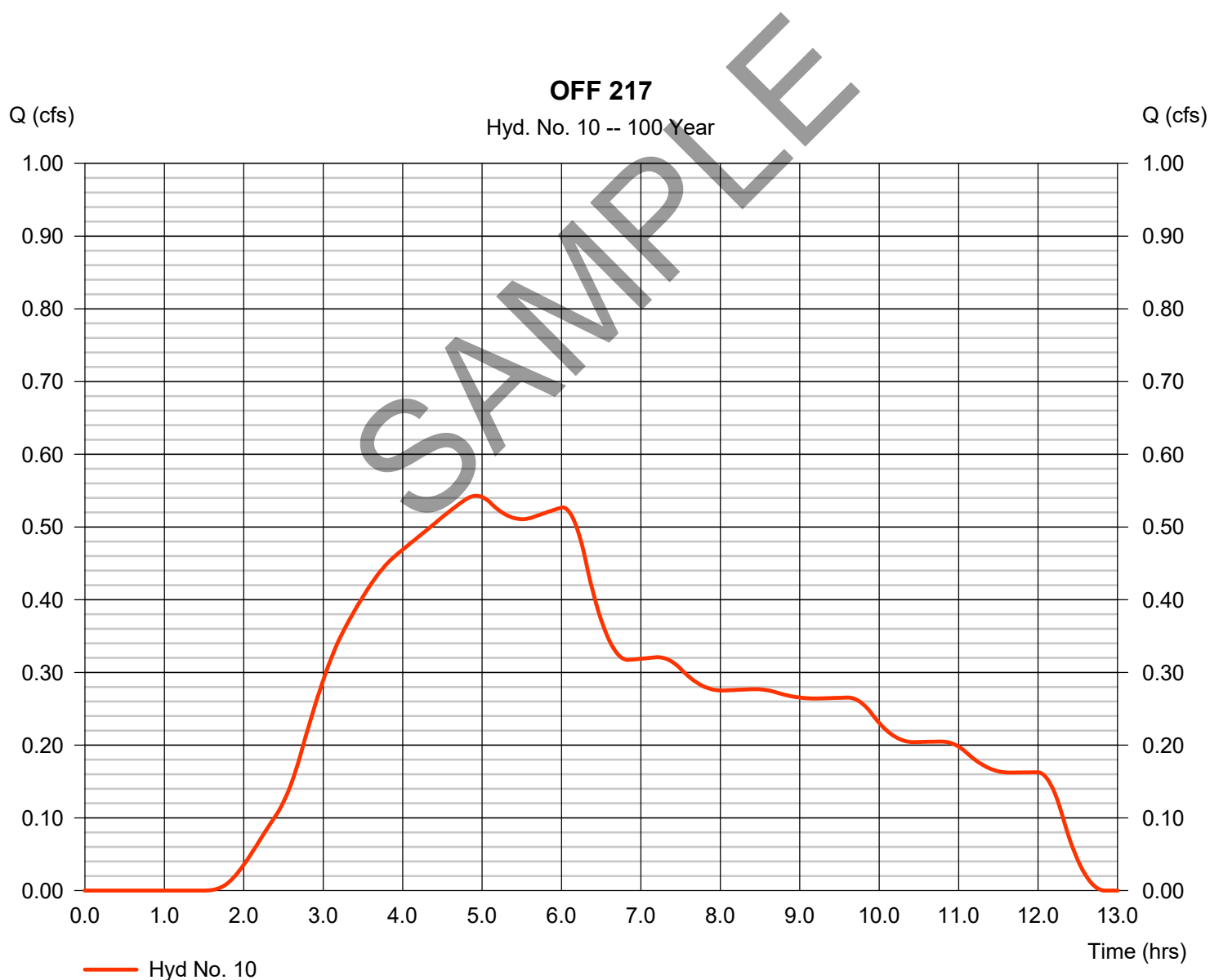
Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.86 in
Storm duration = 12.00 hrs

Peak discharge = 0.543 cfs
Time to peak = 4.92 hrs
Hyd. volume = 11,690 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

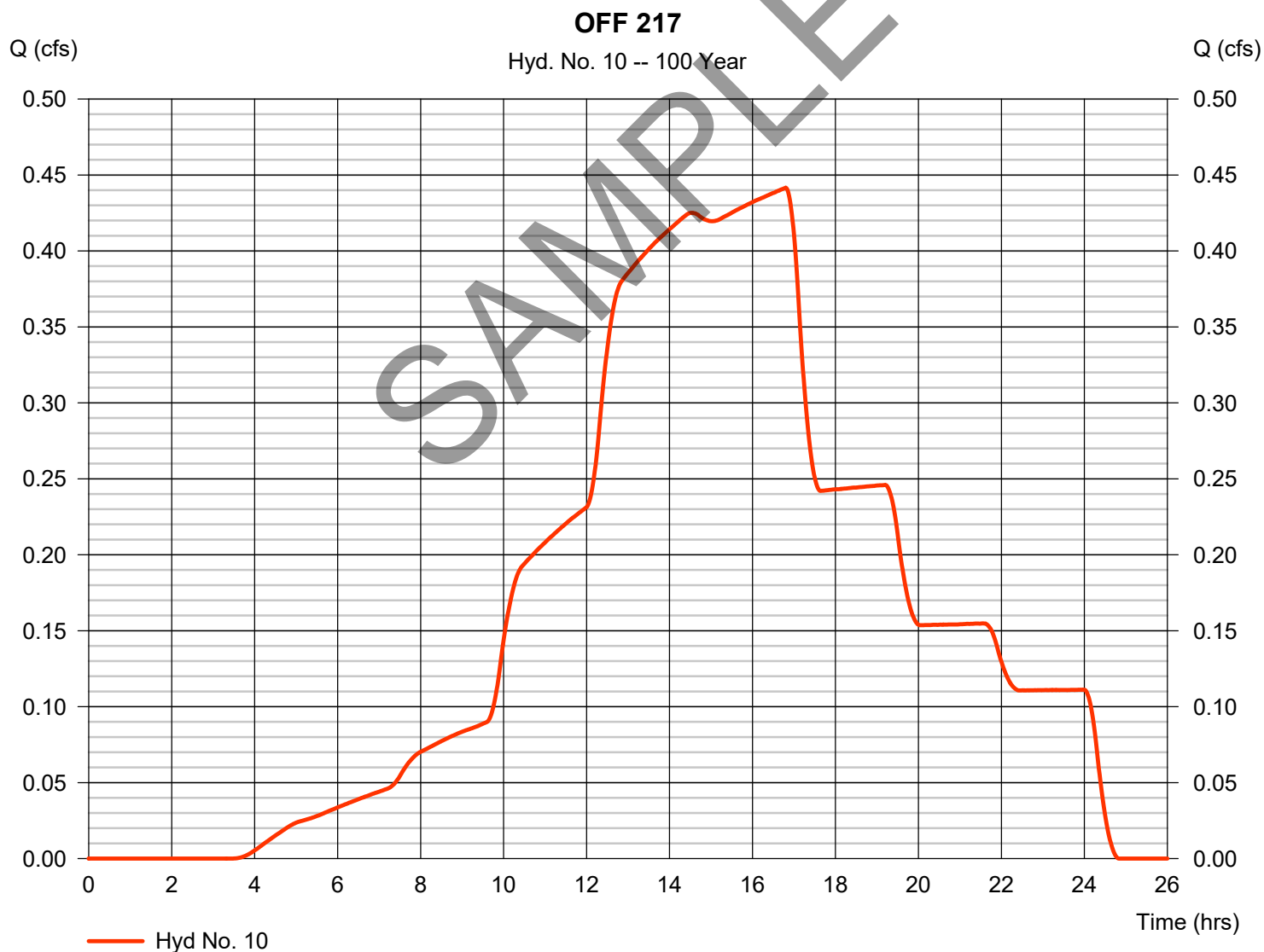
Tuesday, 03 / 12 / 2019

Hyd. No. 10

OFF 217

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 0.900 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24.00 hrs

Peak discharge = 0.442 cfs
Time to peak = 16.80 hrs
Hyd. volume = 14,505 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.00 min
Distribution = Custom
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

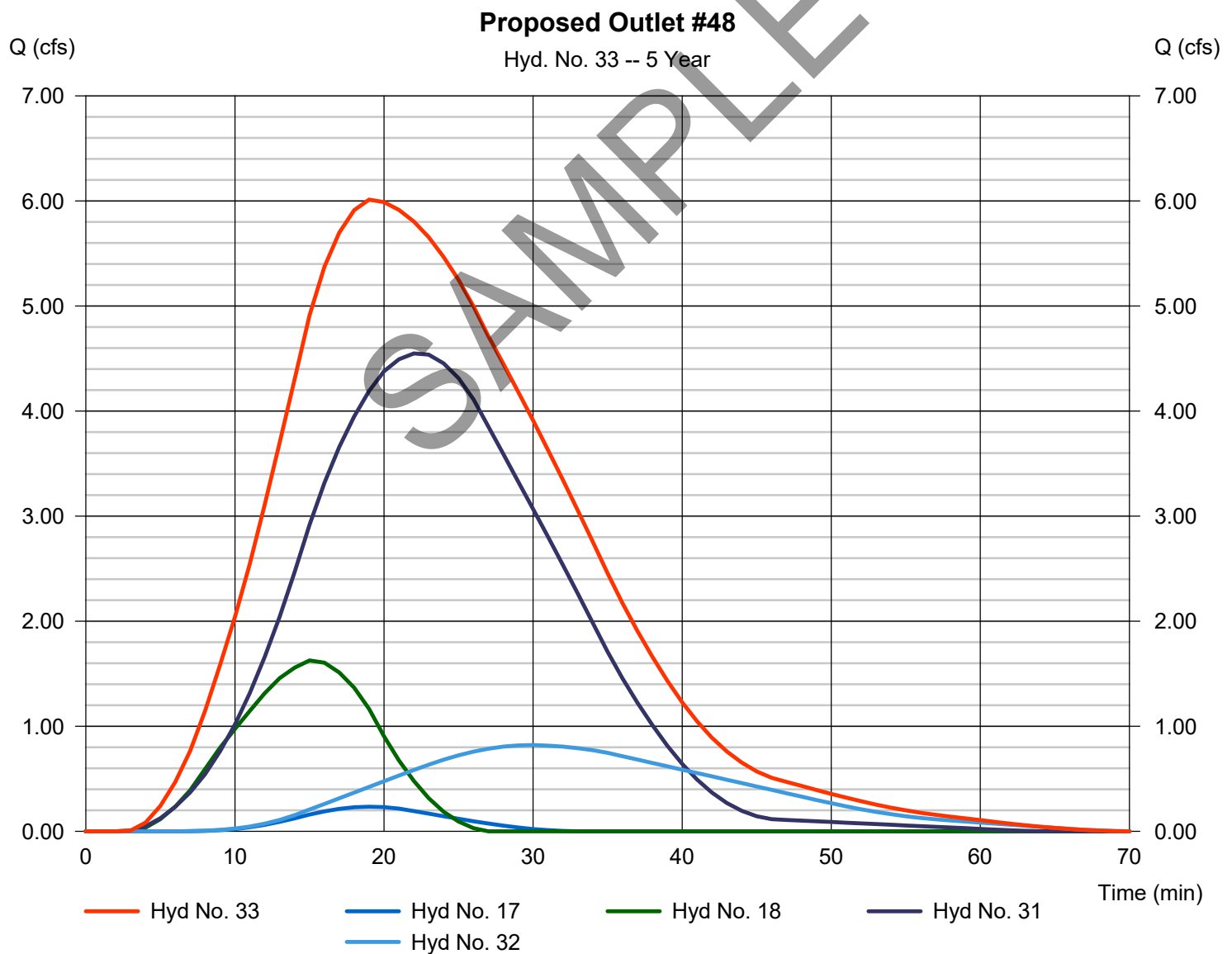
Tuesday, 03 / 19 / 2019

Hyd. No. 33

Proposed Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 17, 18, 31, 32

Peak discharge = 6.013 cfs
Time to peak = 19 min
Hyd. volume = 8,178 cuft
Contrib. drain. area = 2.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

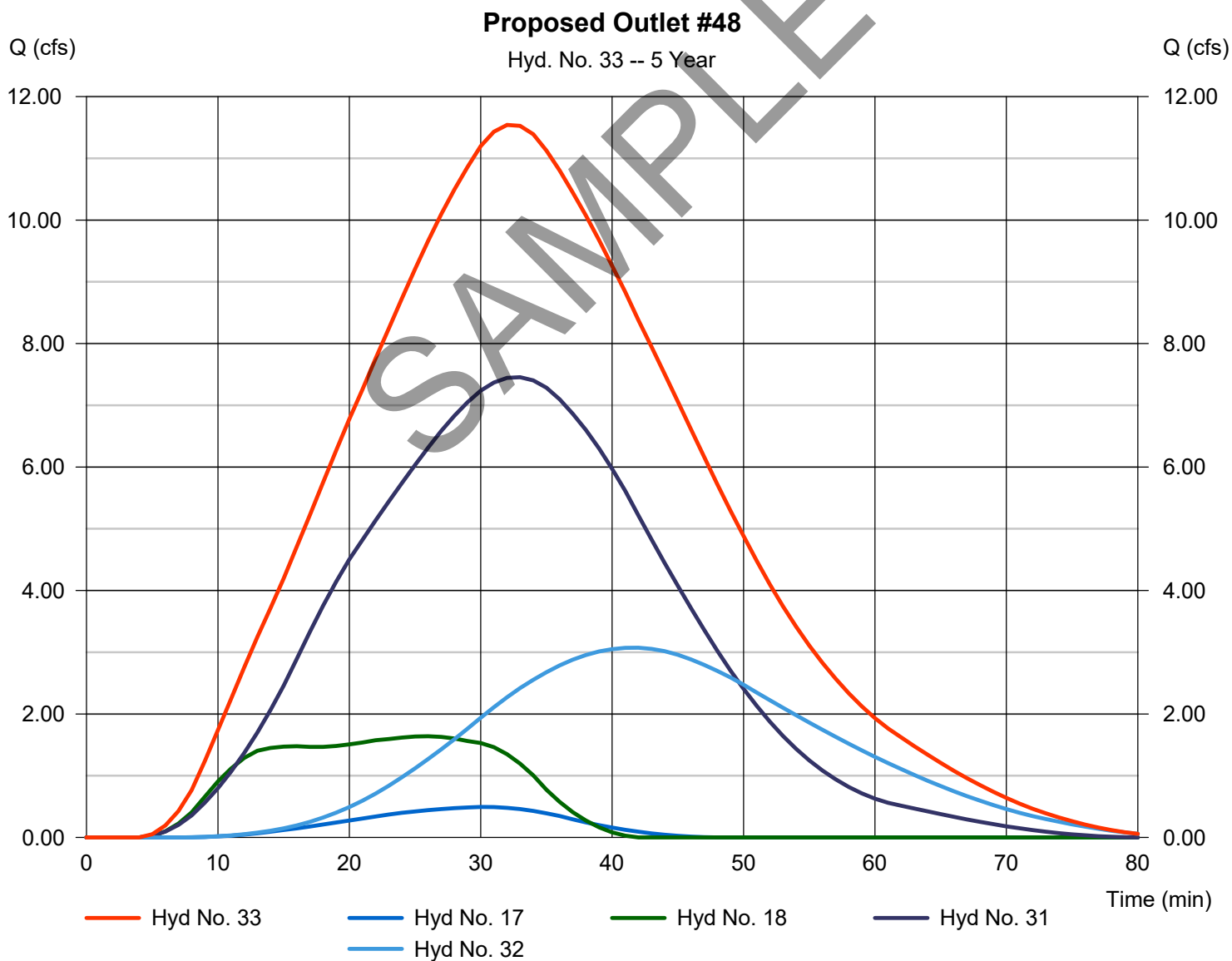
Tuesday, 03 / 19 / 2019

Hyd. No. 33

Proposed Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 17, 18, 31, 32

Peak discharge = 11.54 cfs
Time to peak = 32 min
Hyd. volume = 21,809 cuft
Contrib. drain. area = 2.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

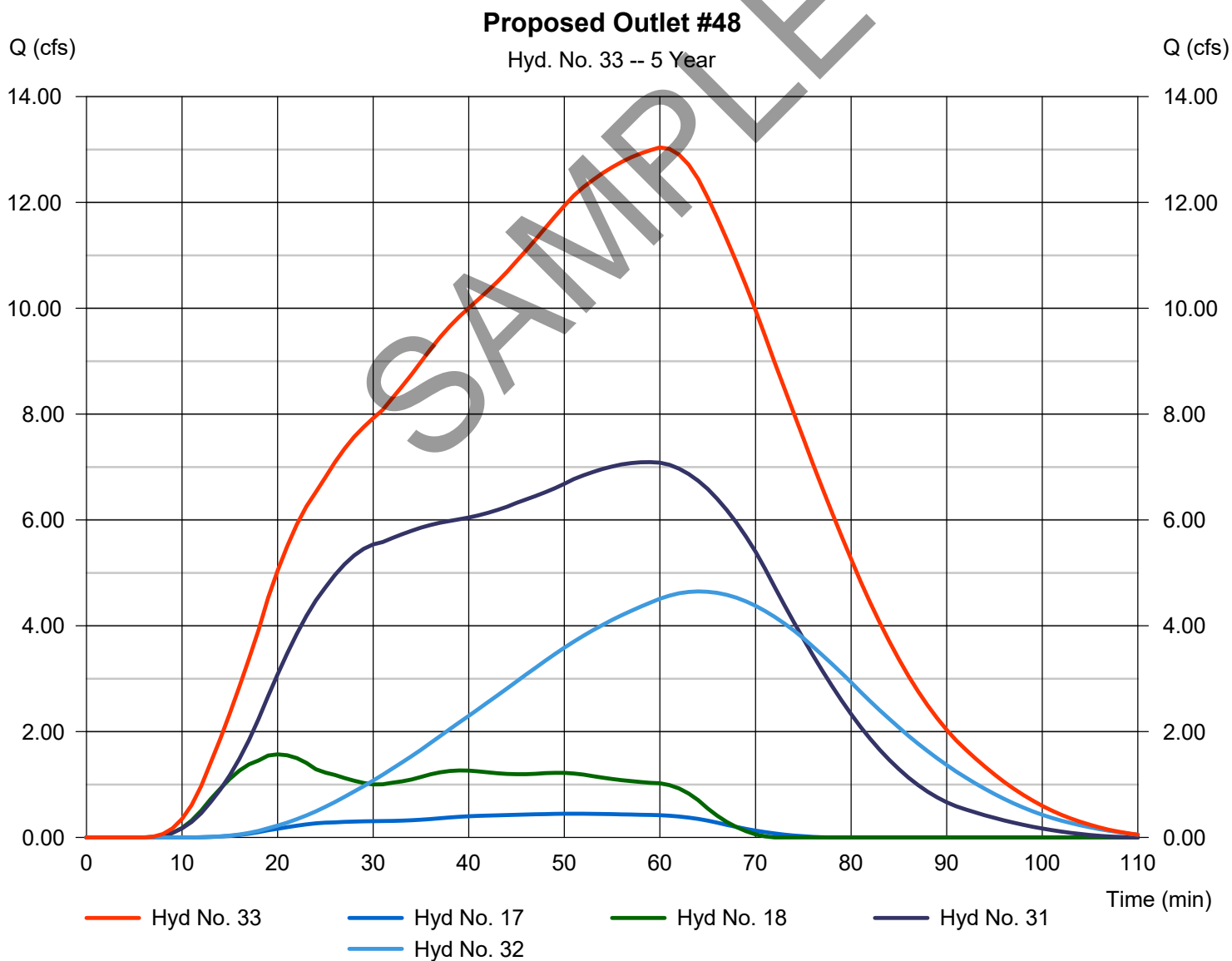
Tuesday, 03 / 19 / 2019

Hyd. No. 33

Proposed Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 17, 18, 31, 32

Peak discharge = 13.04 cfs
Time to peak = 60 min
Hyd. volume = 39,697 cuft
Contrib. drain. area = 2.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

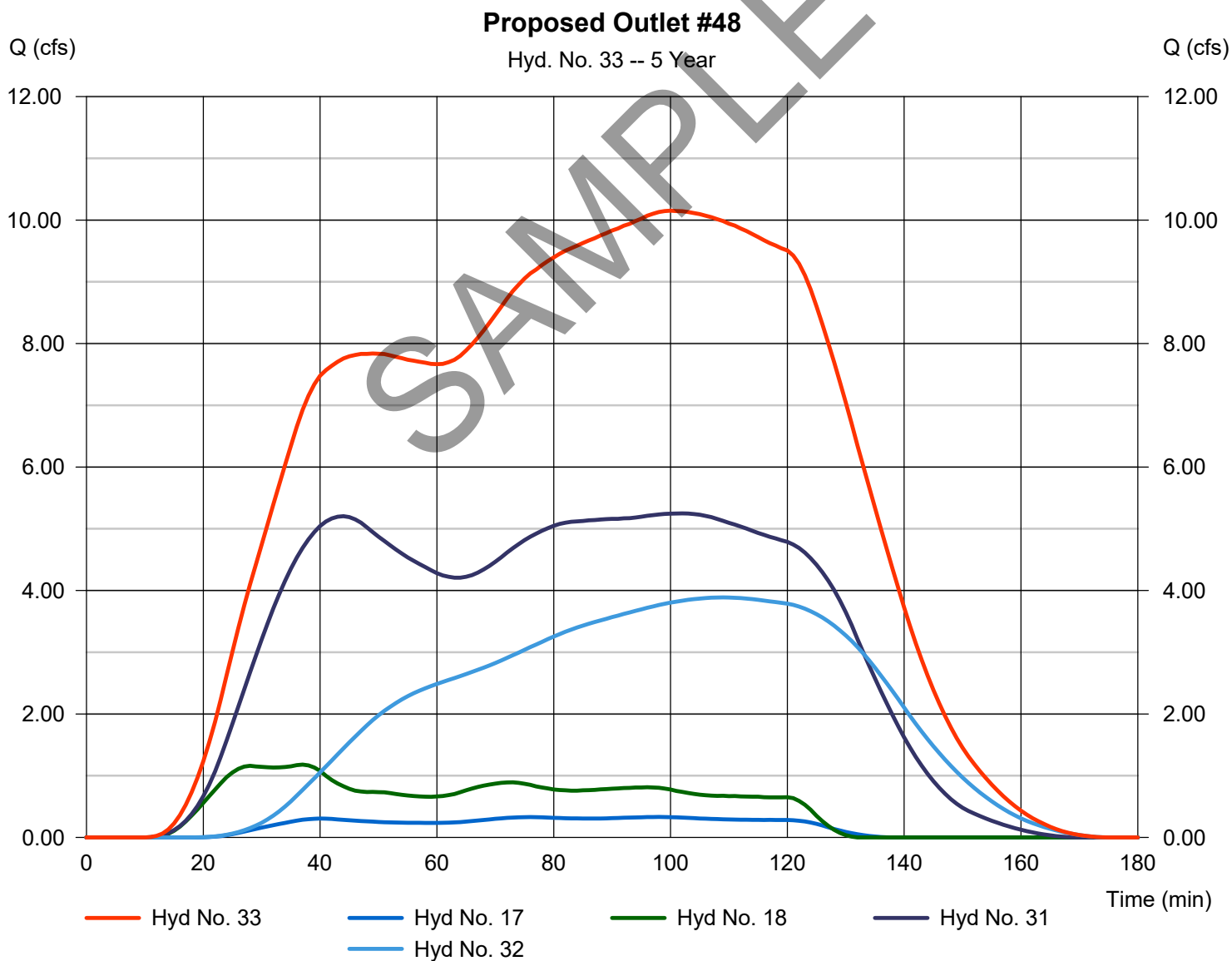
Tuesday, 03 / 19 / 2019

Hyd. No. 33

Proposed Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 17, 18, 31, 32

Peak discharge = 10.15 cfs
Time to peak = 100 min
Hyd. volume = 59,350 cuft
Contrib. drain. area = 2.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

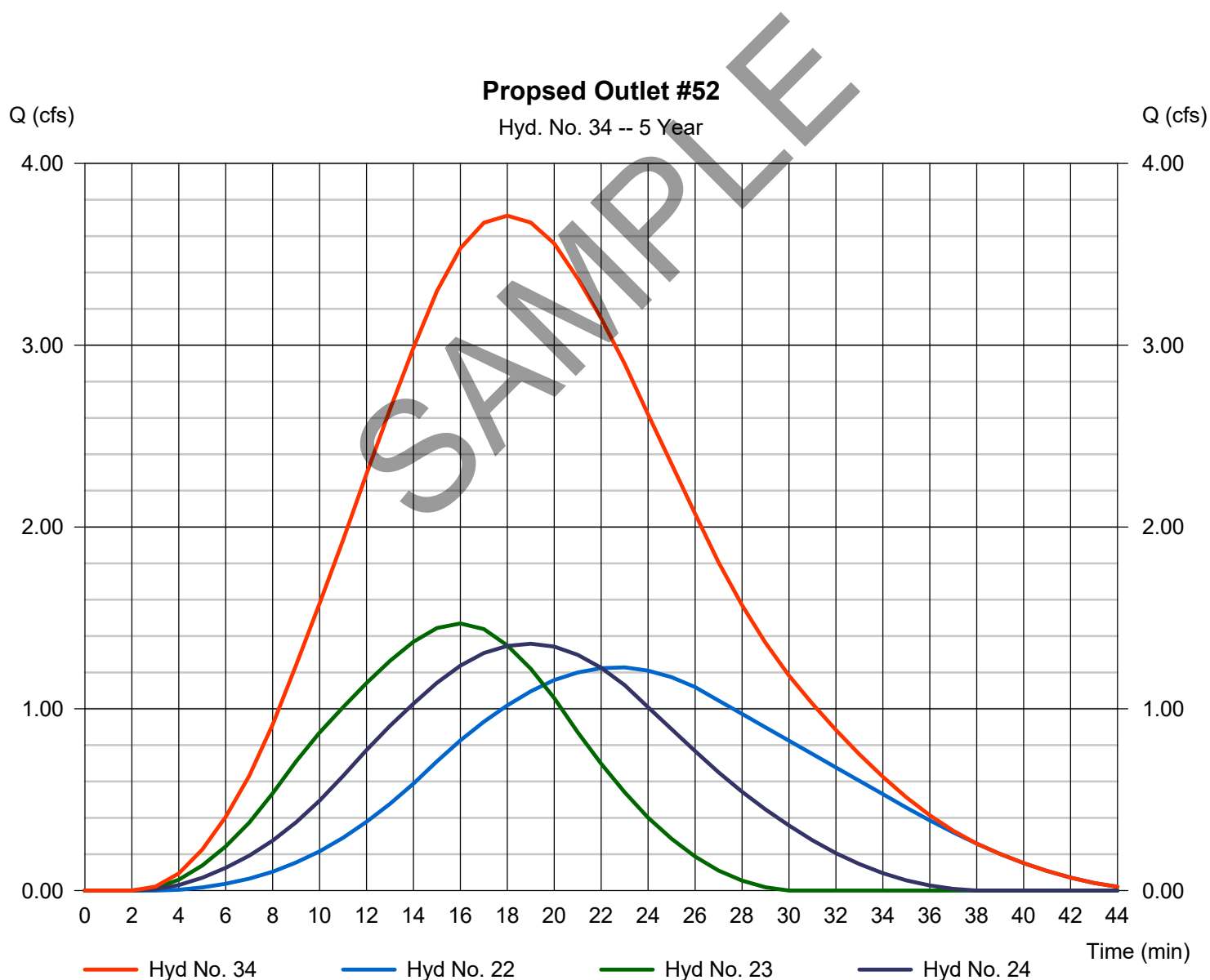
Wednesday, 03 / 20 / 2019

Hyd. No. 34

Proposed Outlet #52

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 22, 23, 24

Peak discharge = 3.713 cfs
Time to peak = 18 min
Hyd. volume = 3,851 cuft
Contrib. drain. area = 5.500 ac



Hydrograph Report

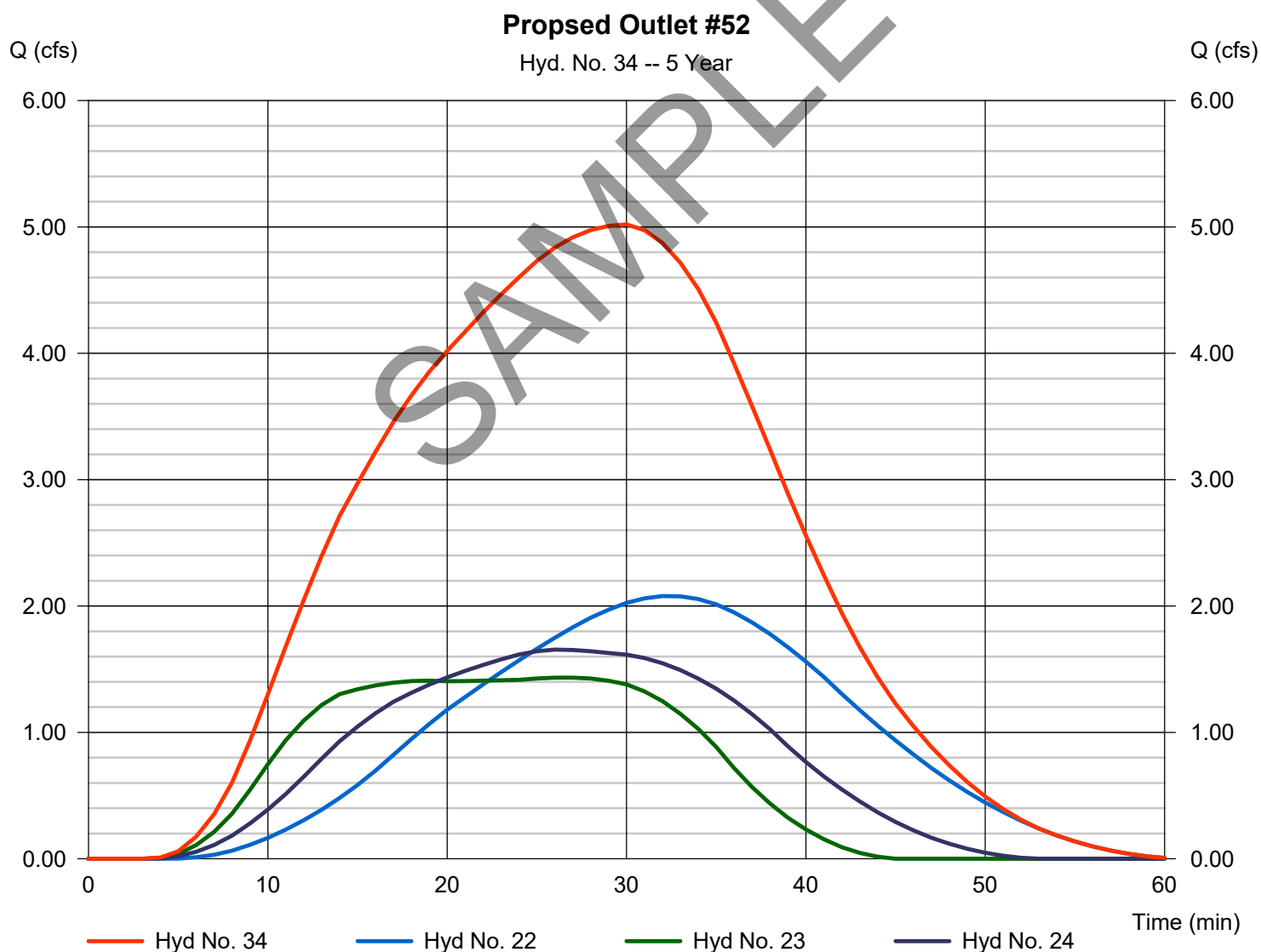
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 34

Proposed Outlet #52

Hydrograph type	= Combine	Peak discharge	= 5.020 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 8,027 cuft
Inflow hyds.	= 22, 23, 24	Contrib. drain. area	= 5.500 ac



Hydrograph Report

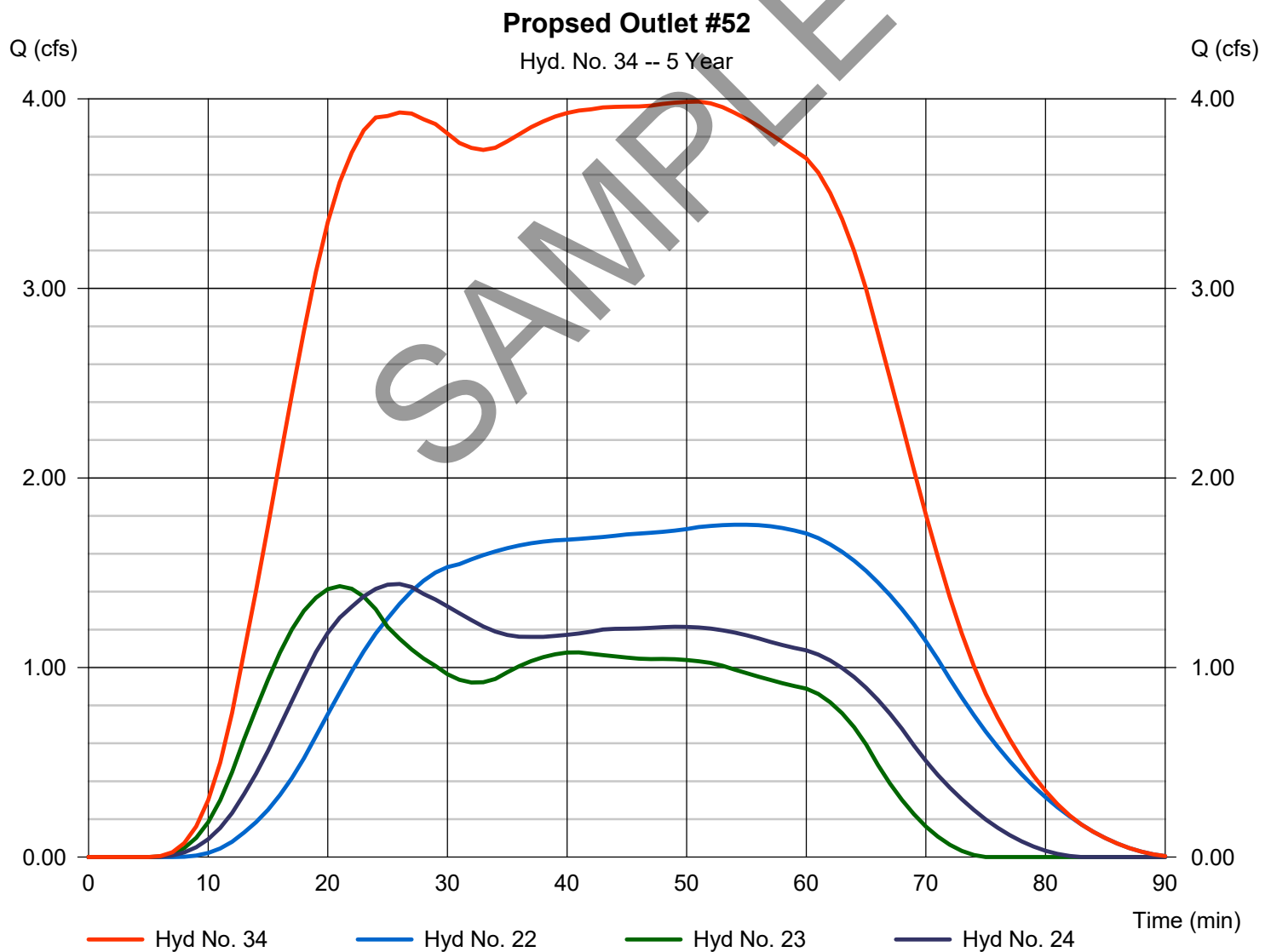
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 34

Proposed Outlet #52

Hydrograph type	= Combine	Peak discharge	= 3.986 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 51 min
Time interval	= 1 min	Hyd. volume	= 12,739 cuft
Inflow hyds.	= 22, 23, 24	Contrib. drain. area	= 5.500 ac



Hydrograph Report

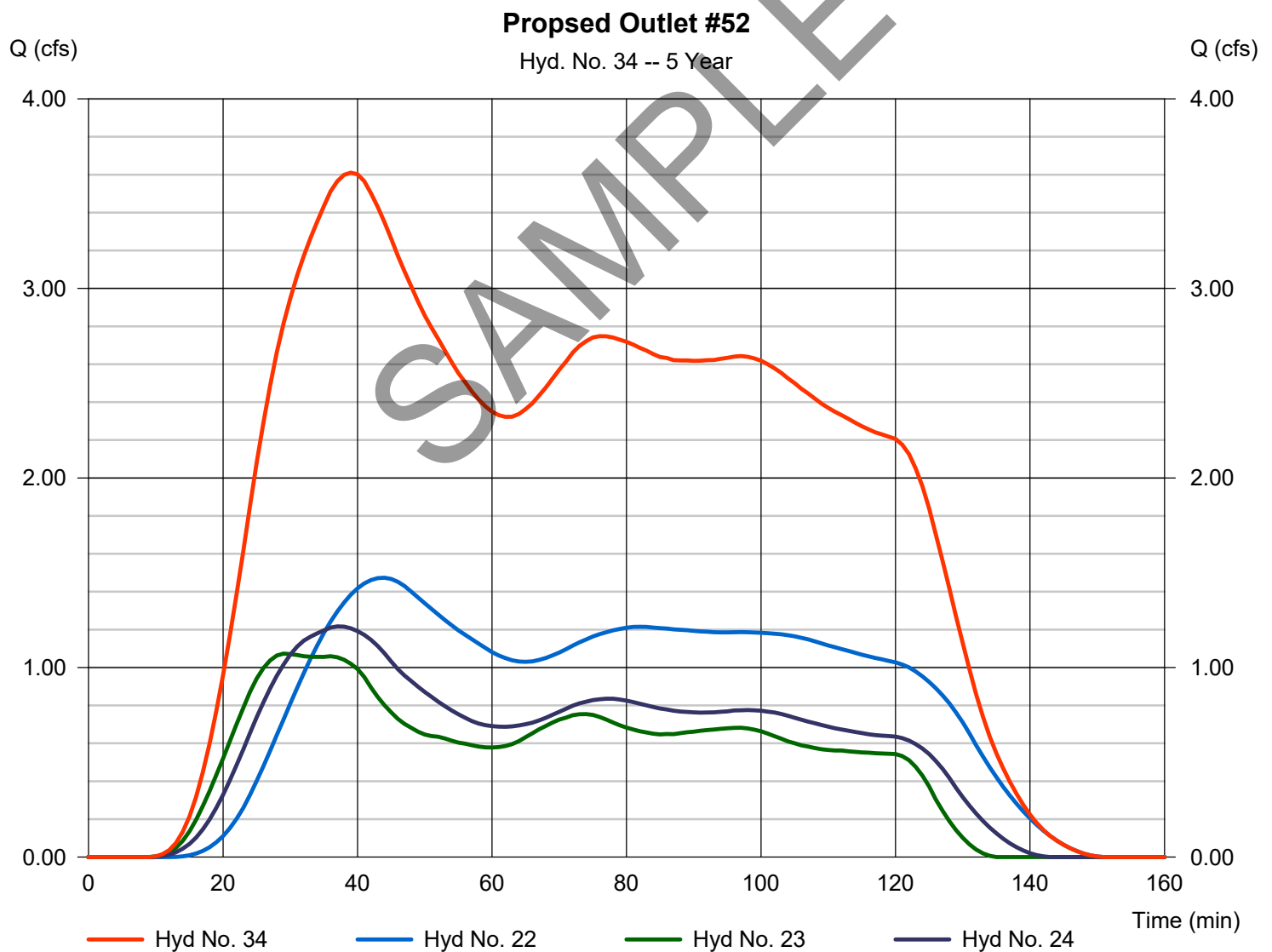
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Wednesday, 03 / 20 / 2019

Hyd. No. 34

Proposed Outlet #52

Hydrograph type	= Combine	Peak discharge	= 3.610 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 39 min
Time interval	= 1 min	Hyd. volume	= 17,494 cuft
Inflow hyds.	= 22, 23, 24	Contrib. drain. area	= 5.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

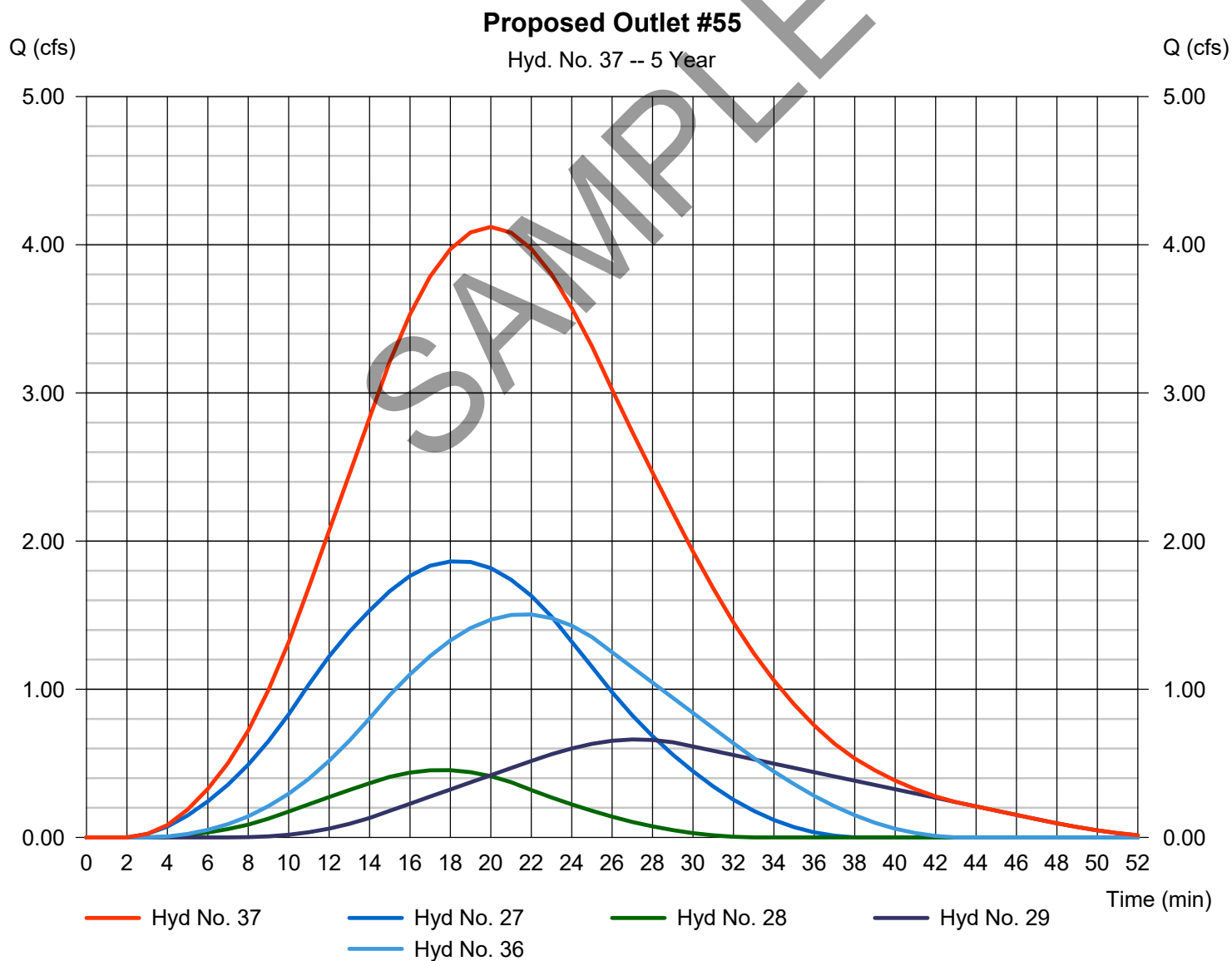
Monday, 04 / 1 / 2019

Hyd. No. 37

Proposed Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 27, 28, 29, 36

Peak discharge = 4.121 cfs
Time to peak = 20 min
Hyd. volume = 4,671 cuft
Contrib. drain. area = 11.900 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

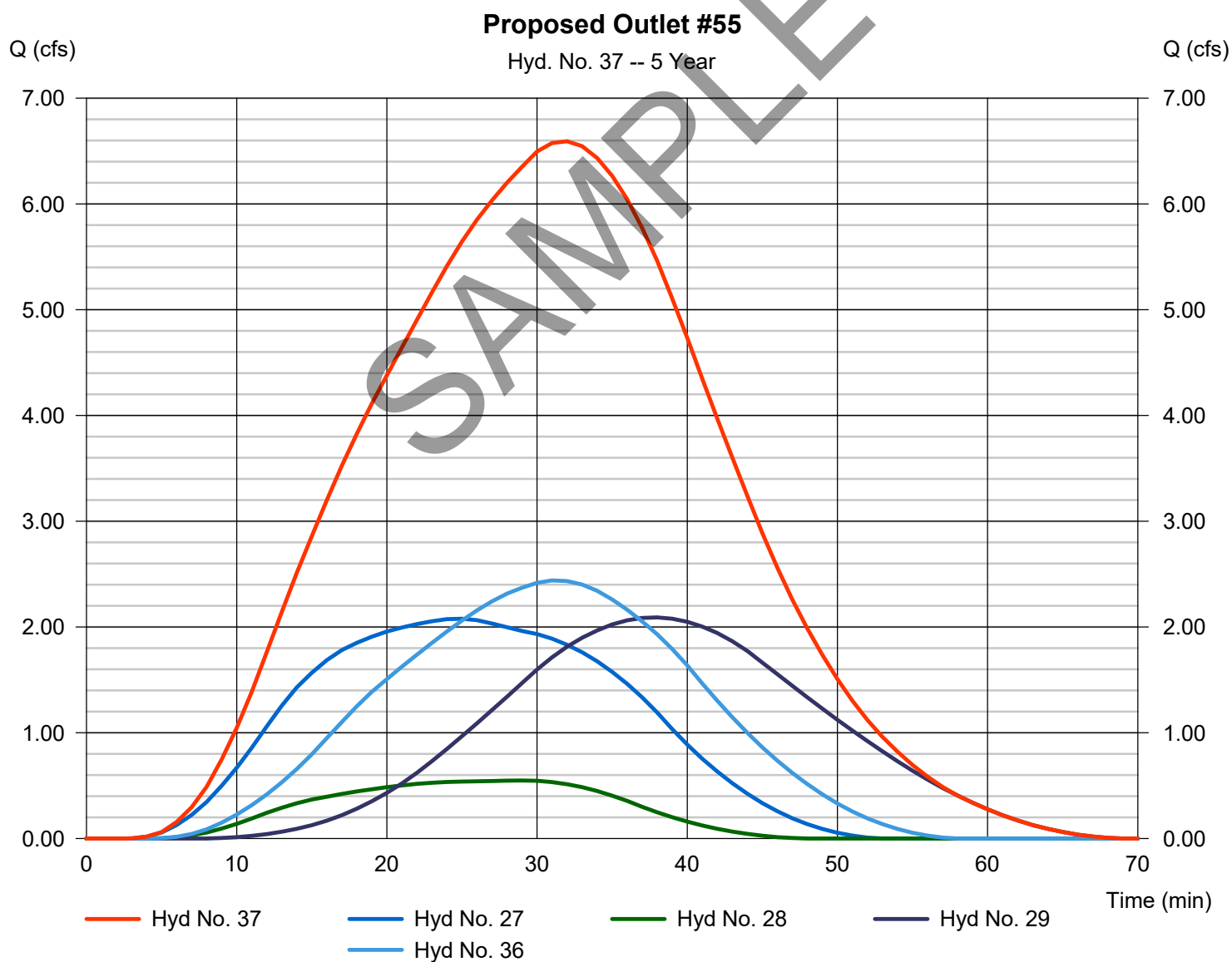
Monday, 04 / 1 / 2019

Hyd. No. 37

Proposed Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 27, 28, 29, 36

Peak discharge = 6.593 cfs
Time to peak = 32 min
Hyd. volume = 11,074 cuft
Contrib. drain. area = 11.900 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

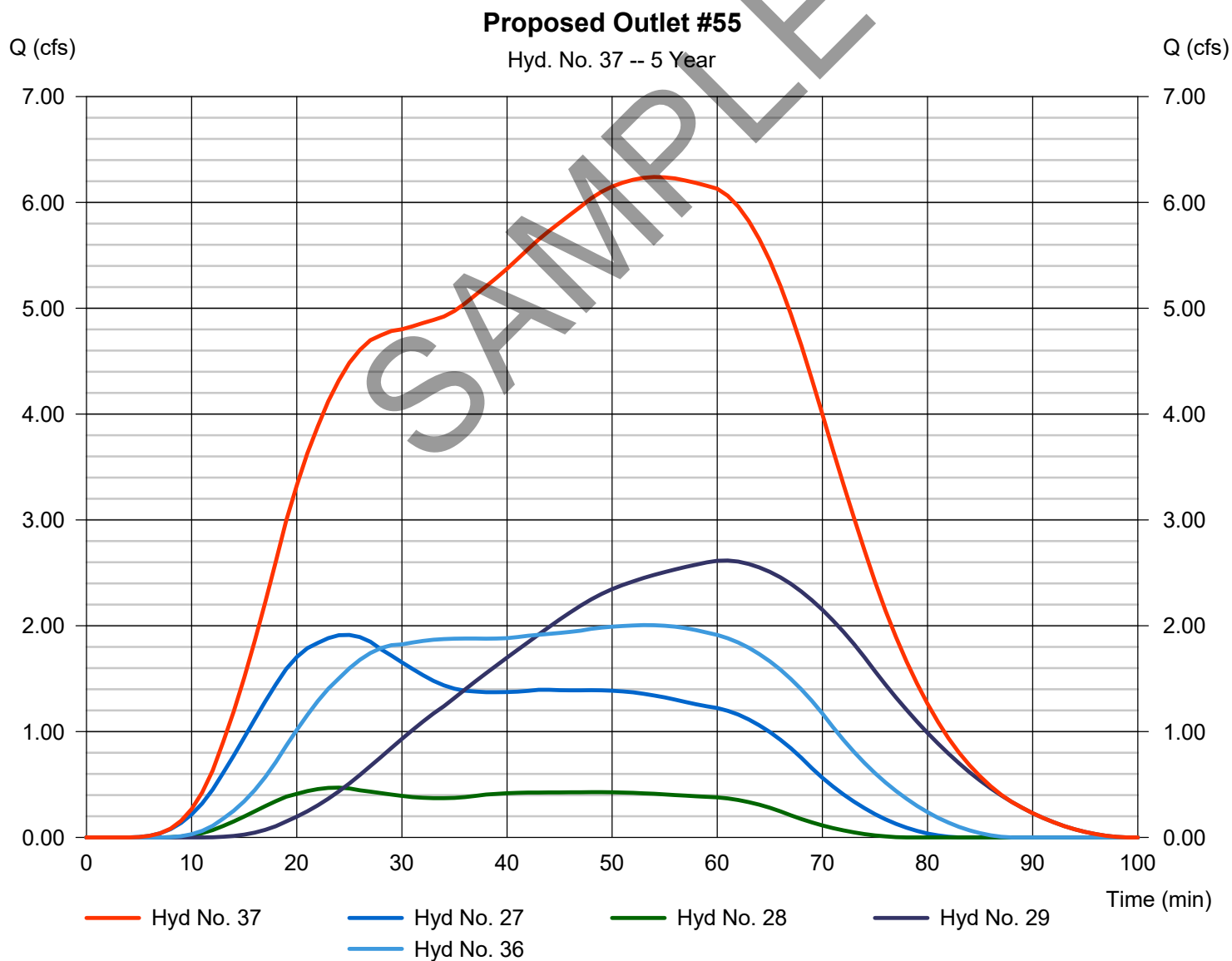
Monday, 04 / 1 / 2019

Hyd. No. 37

Proposed Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 27, 28, 29, 36

Peak discharge = 6.240 cfs
Time to peak = 54 min
Hyd. volume = 18,916 cuft
Contrib. drain. area = 11.900 ac



Hydrograph Report

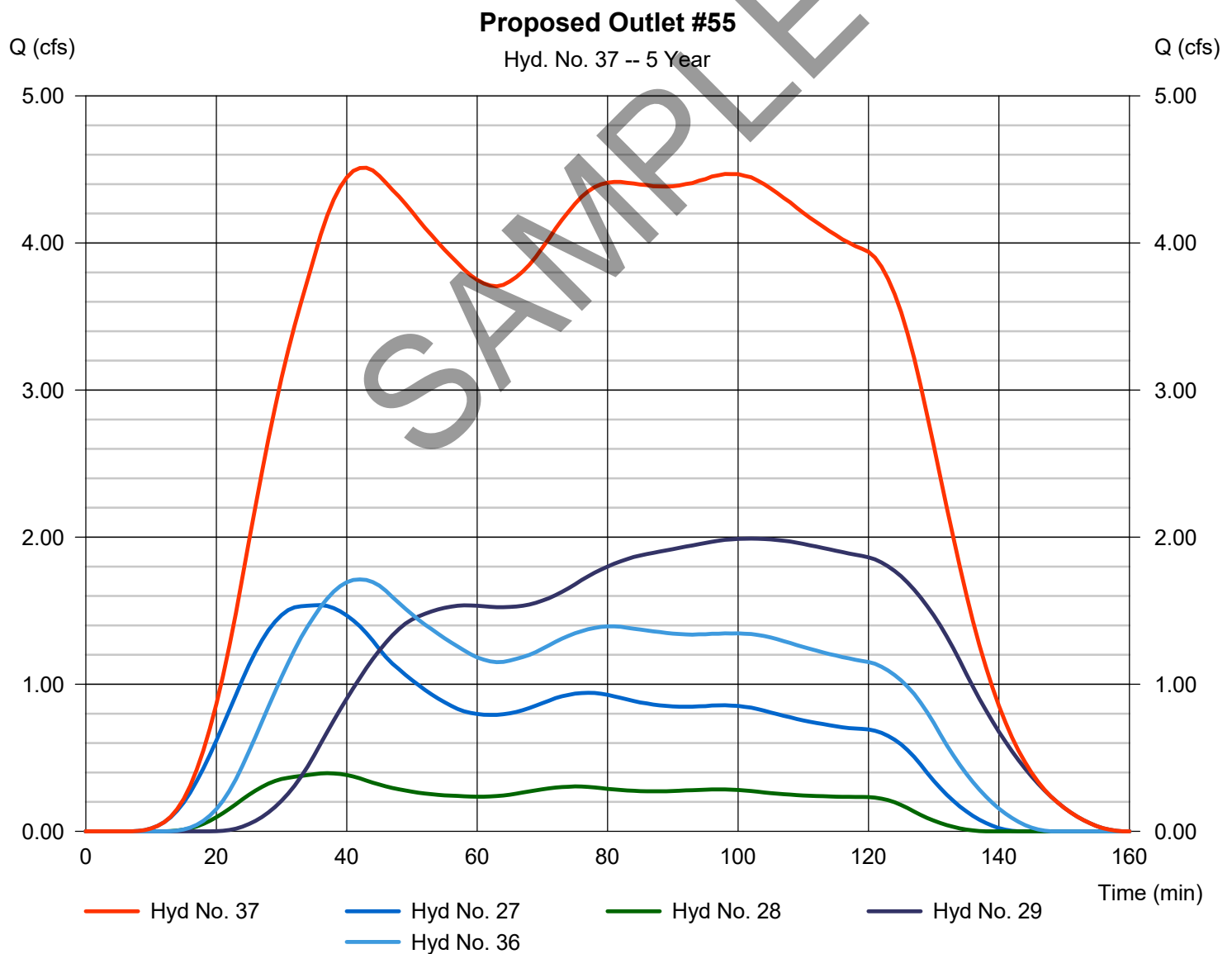
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 37

Proposed Outlet #55

Hydrograph type	= Combine	Peak discharge	= 4.511 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 27,215 cuft
Inflow hyds.	= 27, 28, 29, 36	Contrib. drain. area	= 11.900 ac



Hydrograph Report

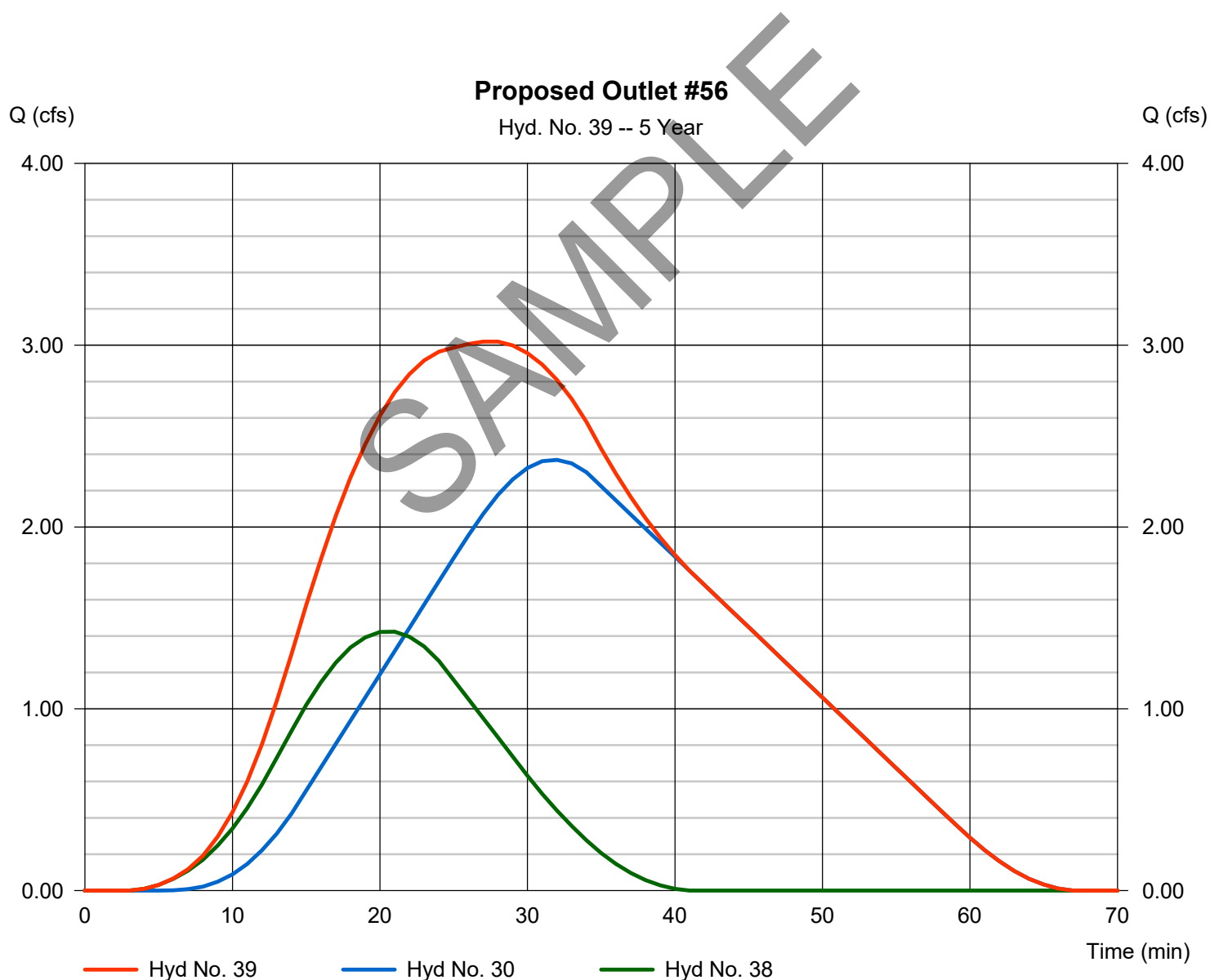
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 39

Proposed Outlet #56

Hydrograph type	= Combine	Peak discharge	= 3.020 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 27 min
Time interval	= 1 min	Hyd. volume	= 5,514 cuft
Inflow hyds.	= 30, 38	Contrib. drain. area	= 23.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

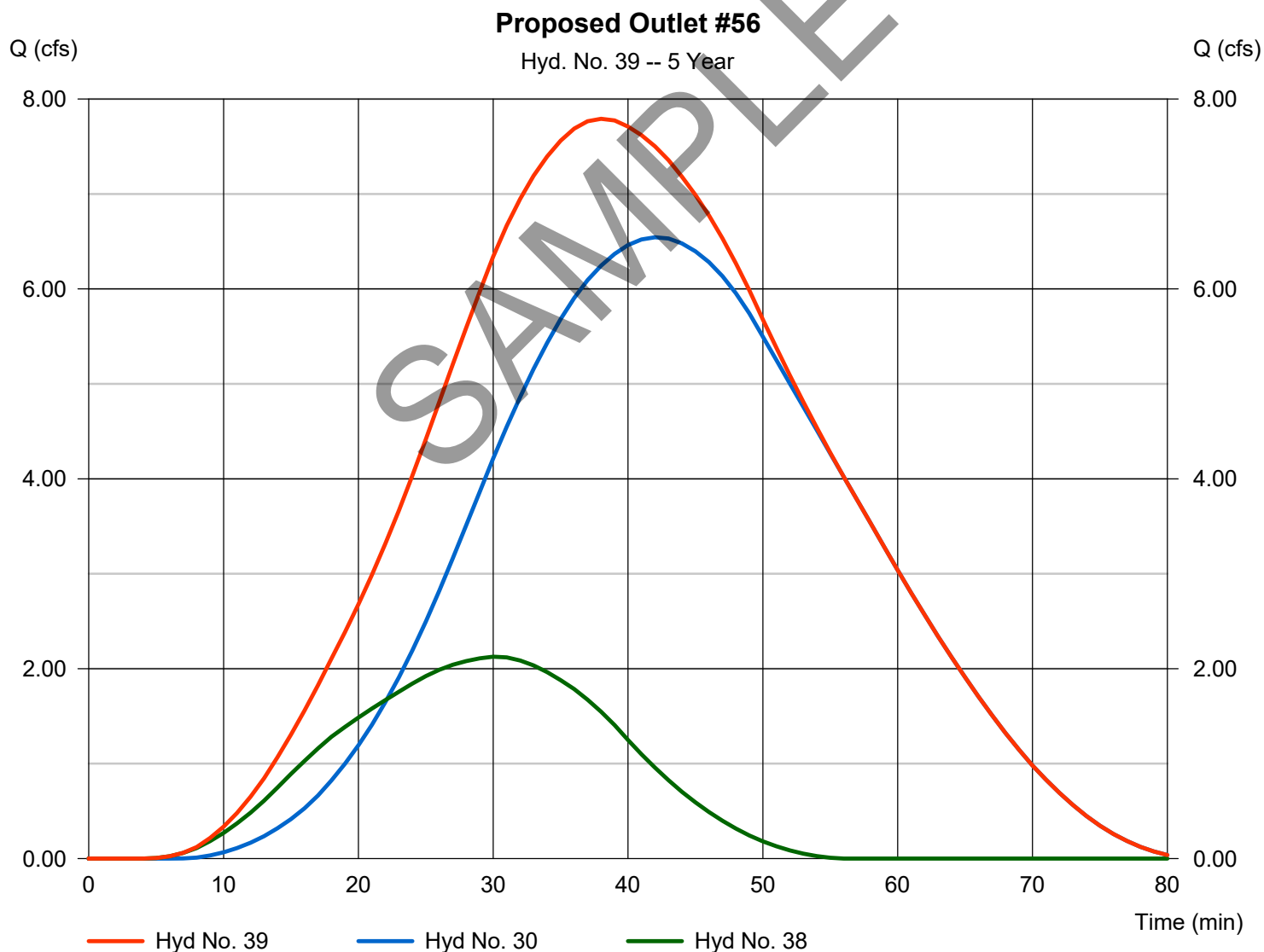
Monday, 04 / 1 / 2019

Hyd. No. 39

Proposed Outlet #56

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 30, 38

Peak discharge = 7.792 cfs
Time to peak = 38 min
Hyd. volume = 16,086 cuft
Contrib. drain. area = 23.000 ac



Hydrograph Report

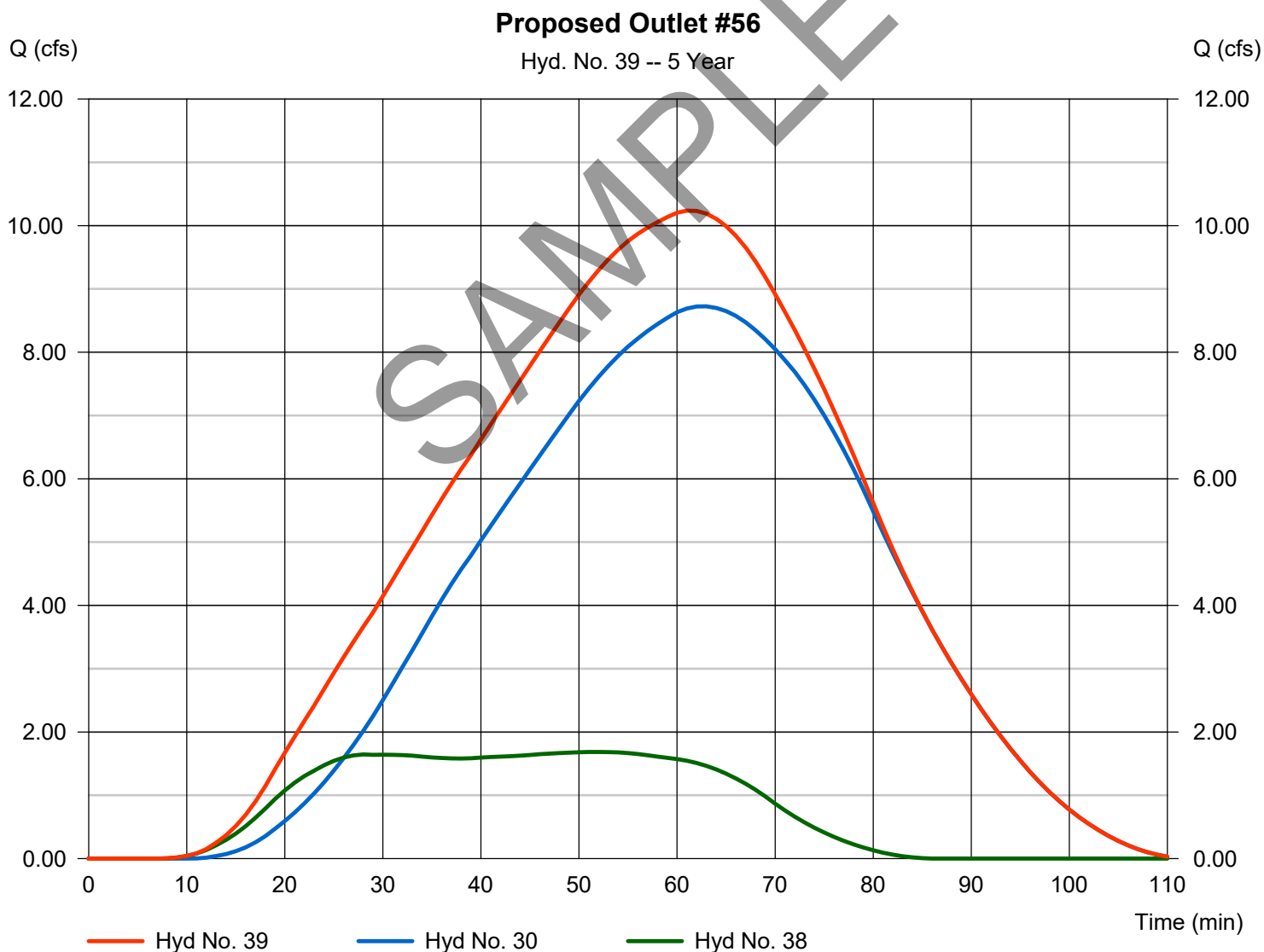
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 39

Proposed Outlet #56

Hydrograph type	= Combine	Peak discharge	= 10.24 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 61 min
Time interval	= 1 min	Hyd. volume	= 29,727 cuft
Inflow hyds.	= 30, 38	Contrib. drain. area	= 23.000 ac



Hydrograph Report

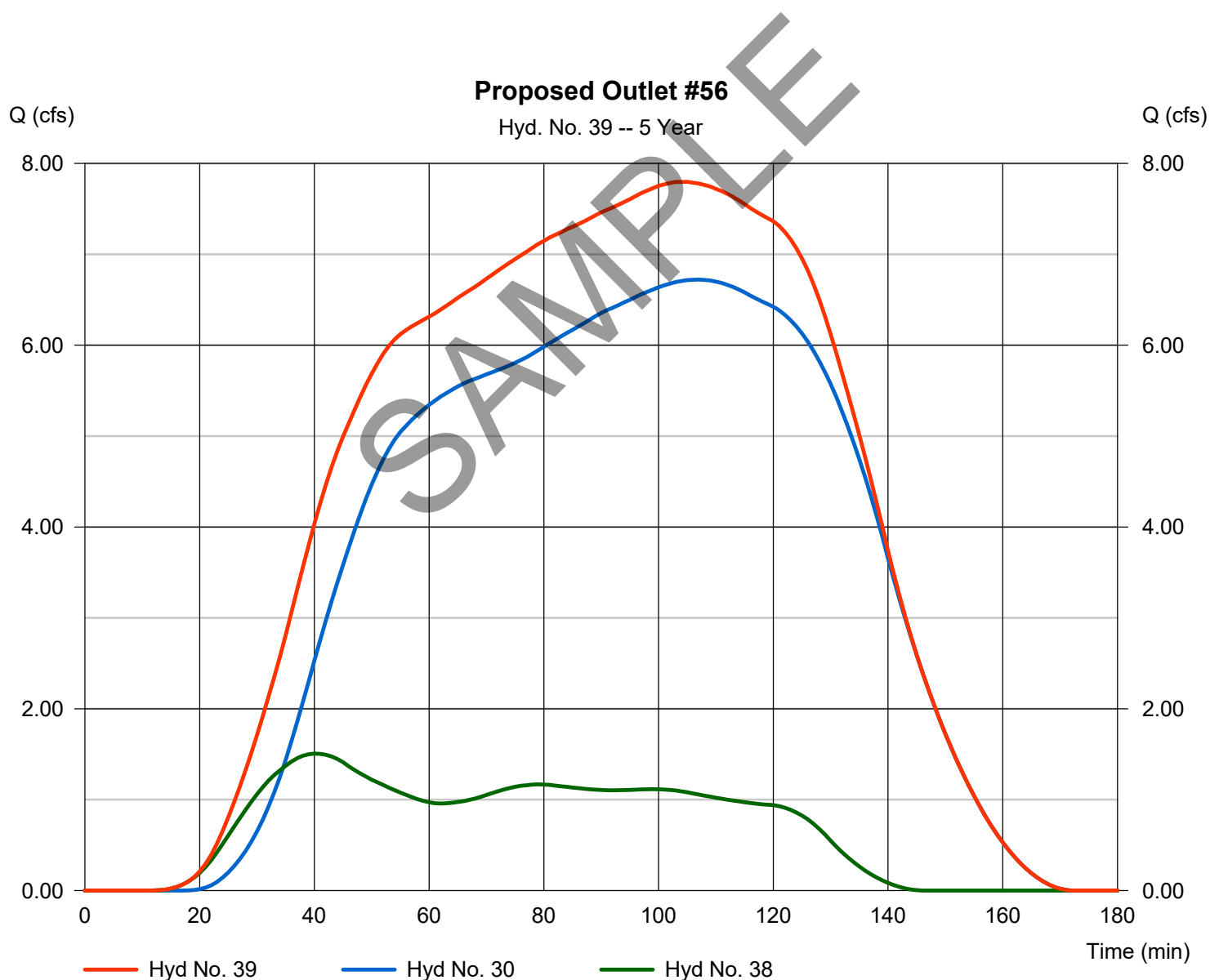
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Monday, 04 / 1 / 2019

Hyd. No. 39

Proposed Outlet #56

Hydrograph type	= Combine	Peak discharge	= 7.797 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 105 min
Time interval	= 1 min	Hyd. volume	= 44,563 cuft
Inflow hyds.	= 30, 38	Contrib. drain. area	= 23.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

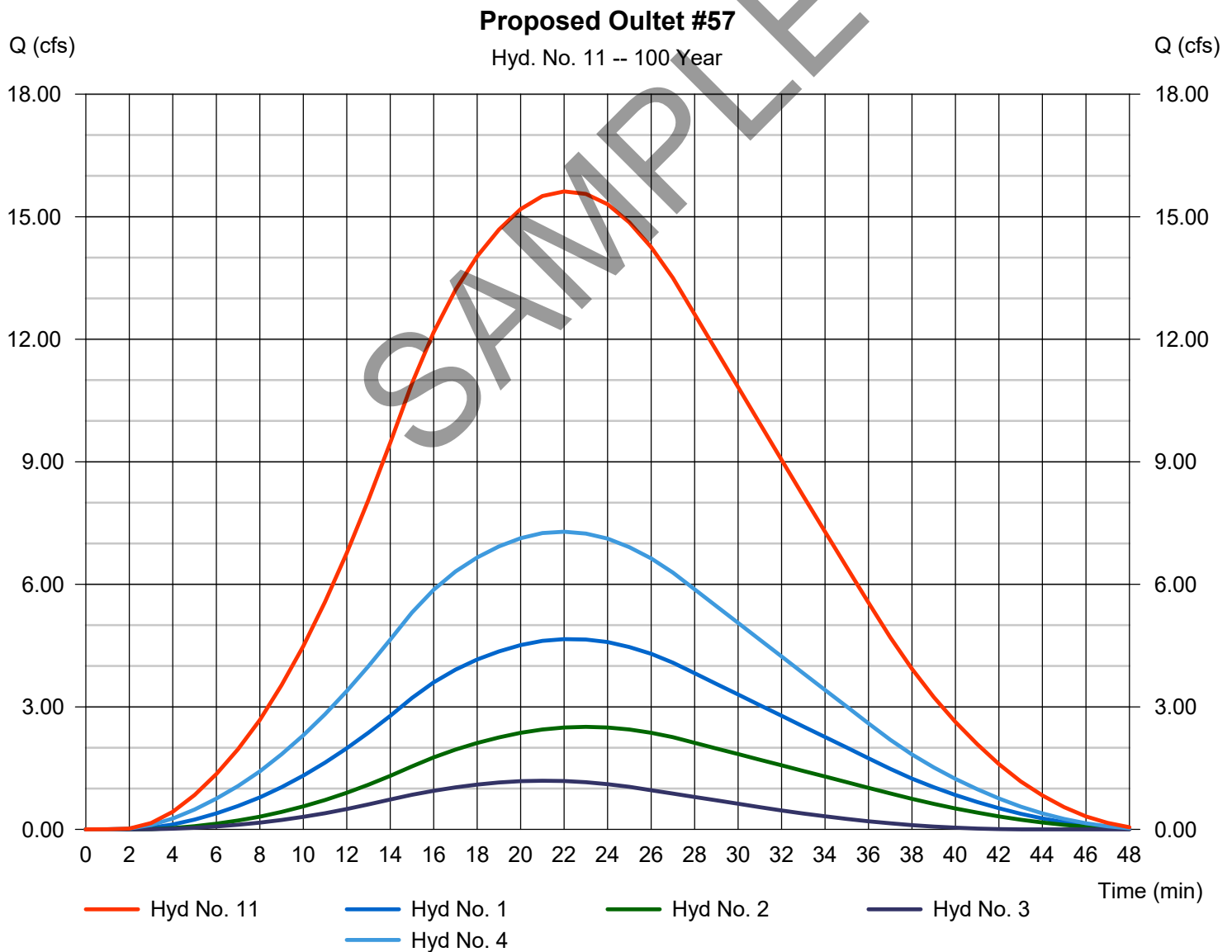
Tuesday, 03 / 12 / 2019

Hyd. No. 11

Proposed Outlet #57

Hydrograph type = Combine
Storm frequency = 100 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 1, 2, 3, 4

Peak discharge = 15.62 cfs
Time to peak = 22 min
Hyd. volume = 19,979 cuft
Contrib. drain. area = 10.500 ac



Hydrograph Report

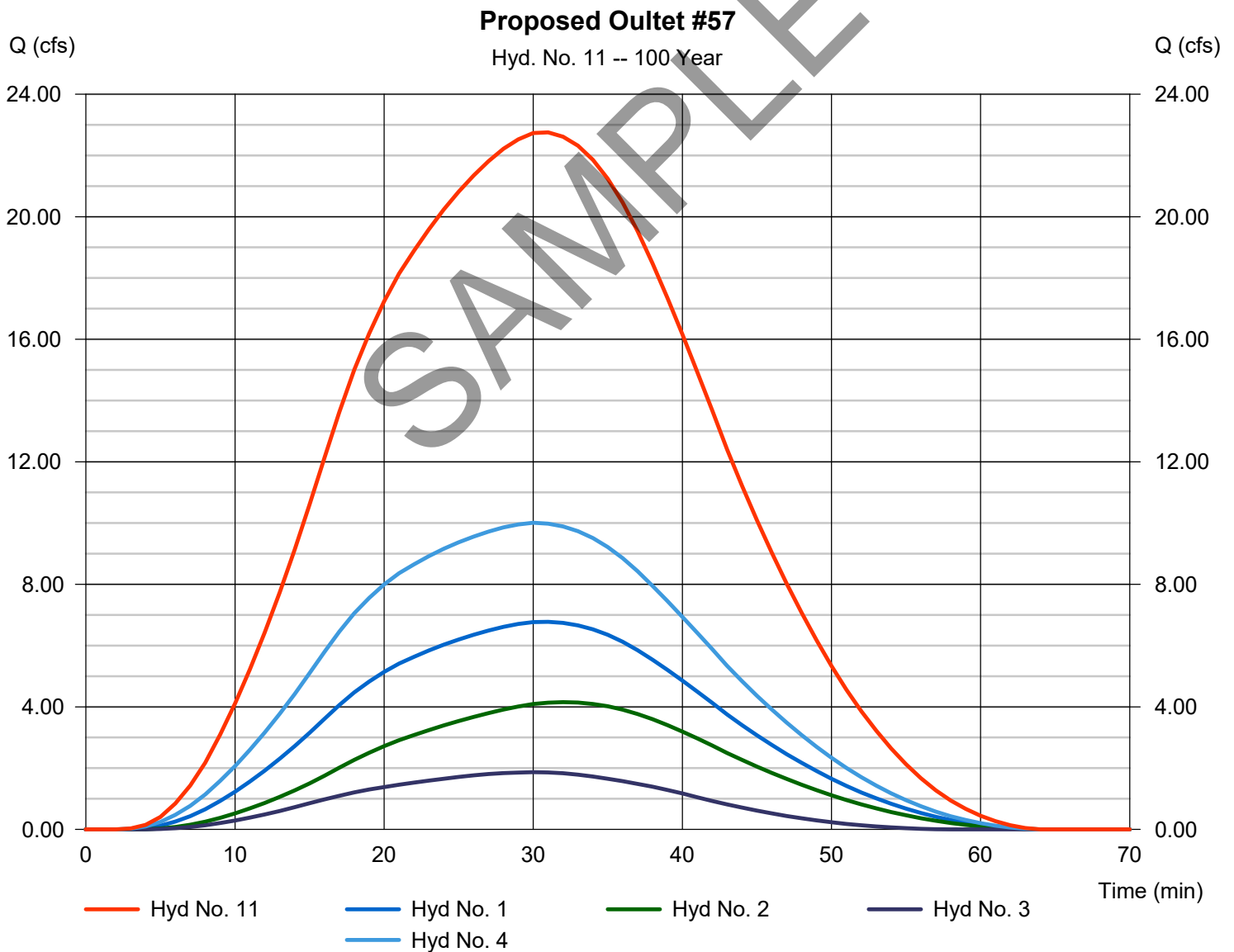
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 11

Proposed Outlet #57

Hydrograph type	= Combine	Peak discharge	= 22.75 cfs
Storm frequency	= 100 yrs, 30 min	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 39,386 cuft
Inflow hyds.	= 1, 2, 3, 4	Contrib. drain. area	= 10.500 ac



Hydrograph Report

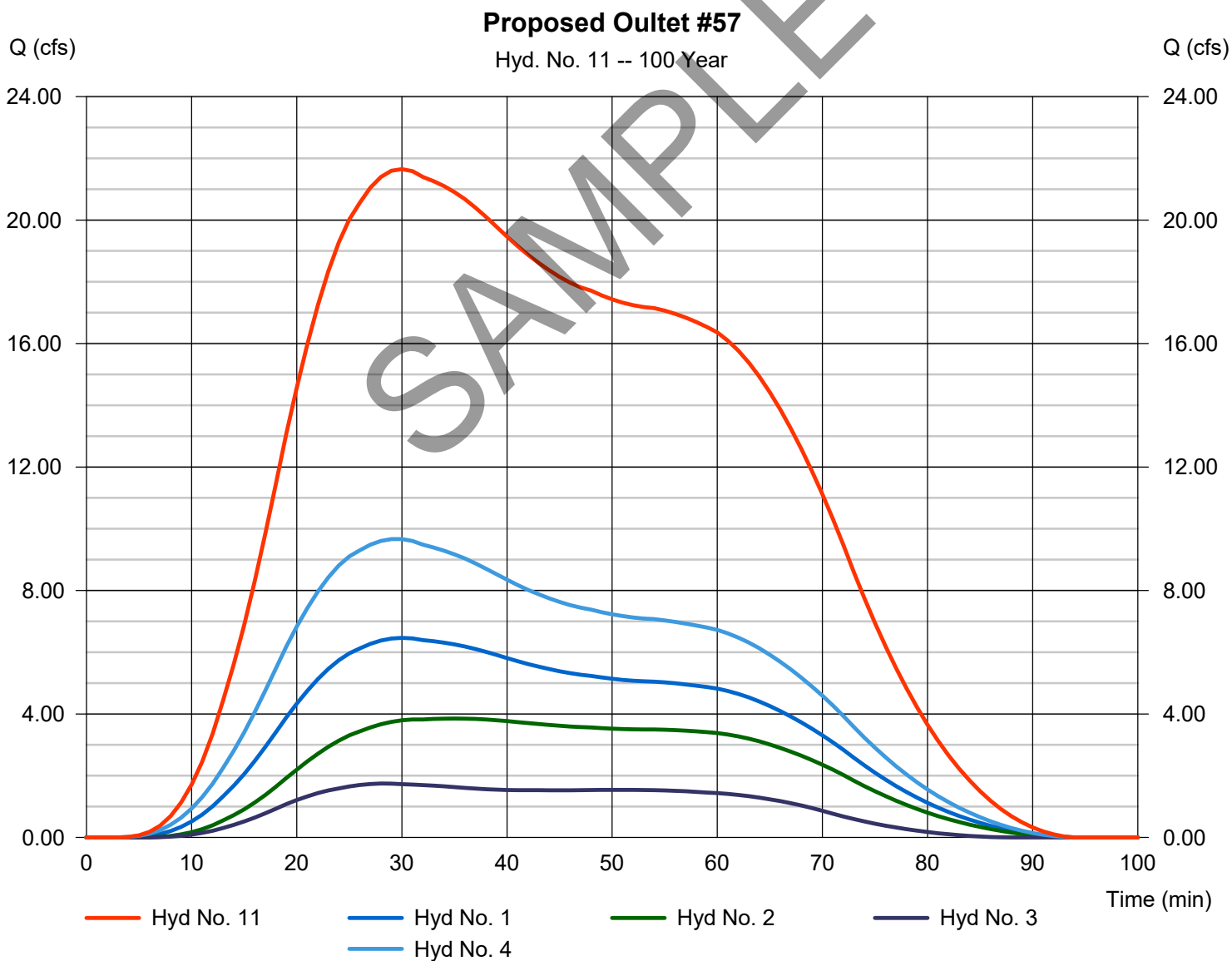
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 11

Proposed Outlet #57

Hydrograph type	= Combine	Peak discharge	= 21.65 cfs
Storm frequency	= 100 yrs, 1 hr	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 63,657 cuft
Inflow hyds.	= 1, 2, 3, 4	Contrib. drain. area	= 10.500 ac



Hydrograph Report

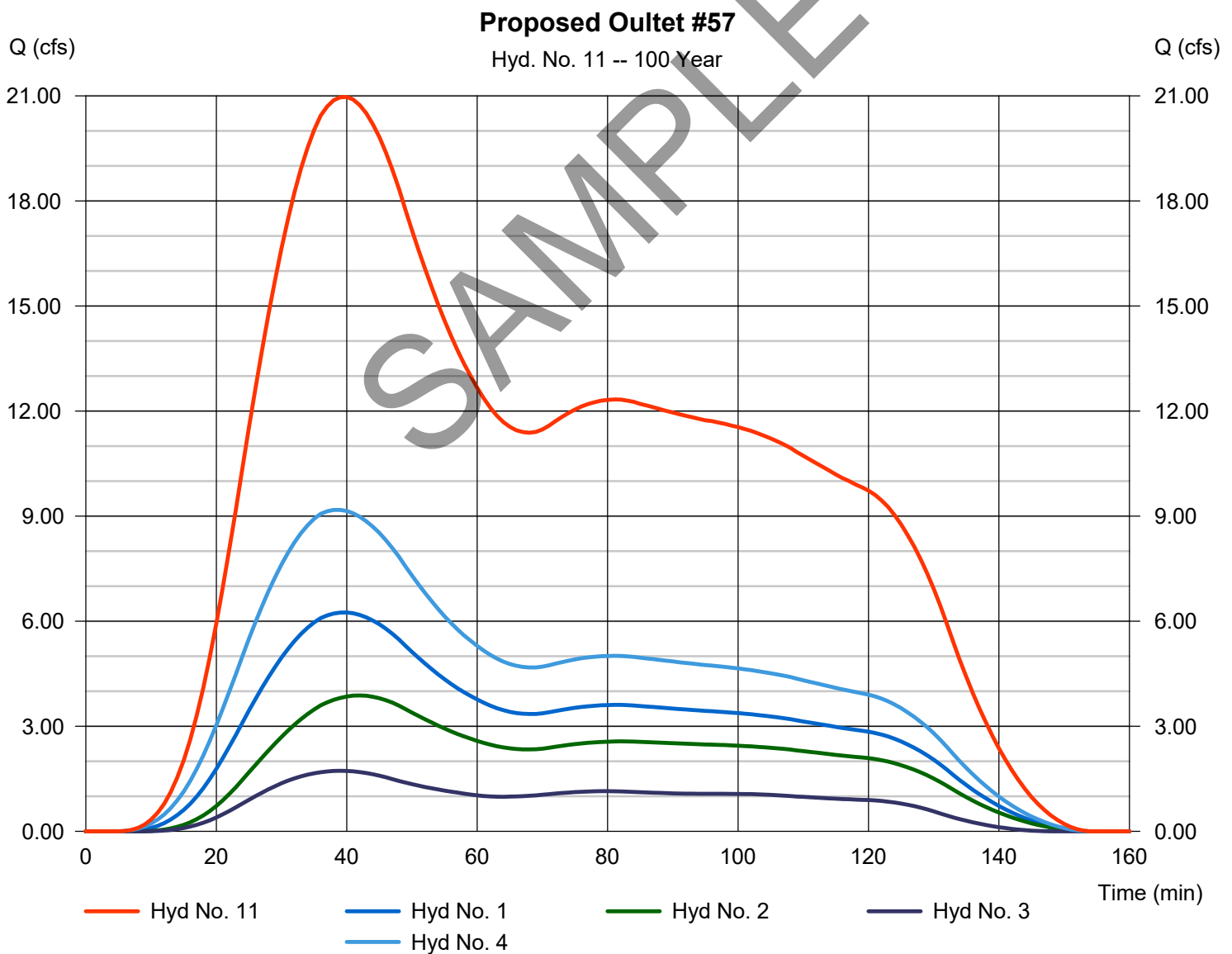
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 03 / 12 / 2019

Hyd. No. 11

Proposed Outlet #57

Hydrograph type	= Combine	Peak discharge	= 20.97 cfs
Storm frequency	= 100 yrs, 2 hr	Time to peak	= 40 min
Time interval	= 1 min	Hyd. volume	= 90,622 cuft
Inflow hyds.	= 1, 2, 3, 4	Contrib. drain. area	= 10.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

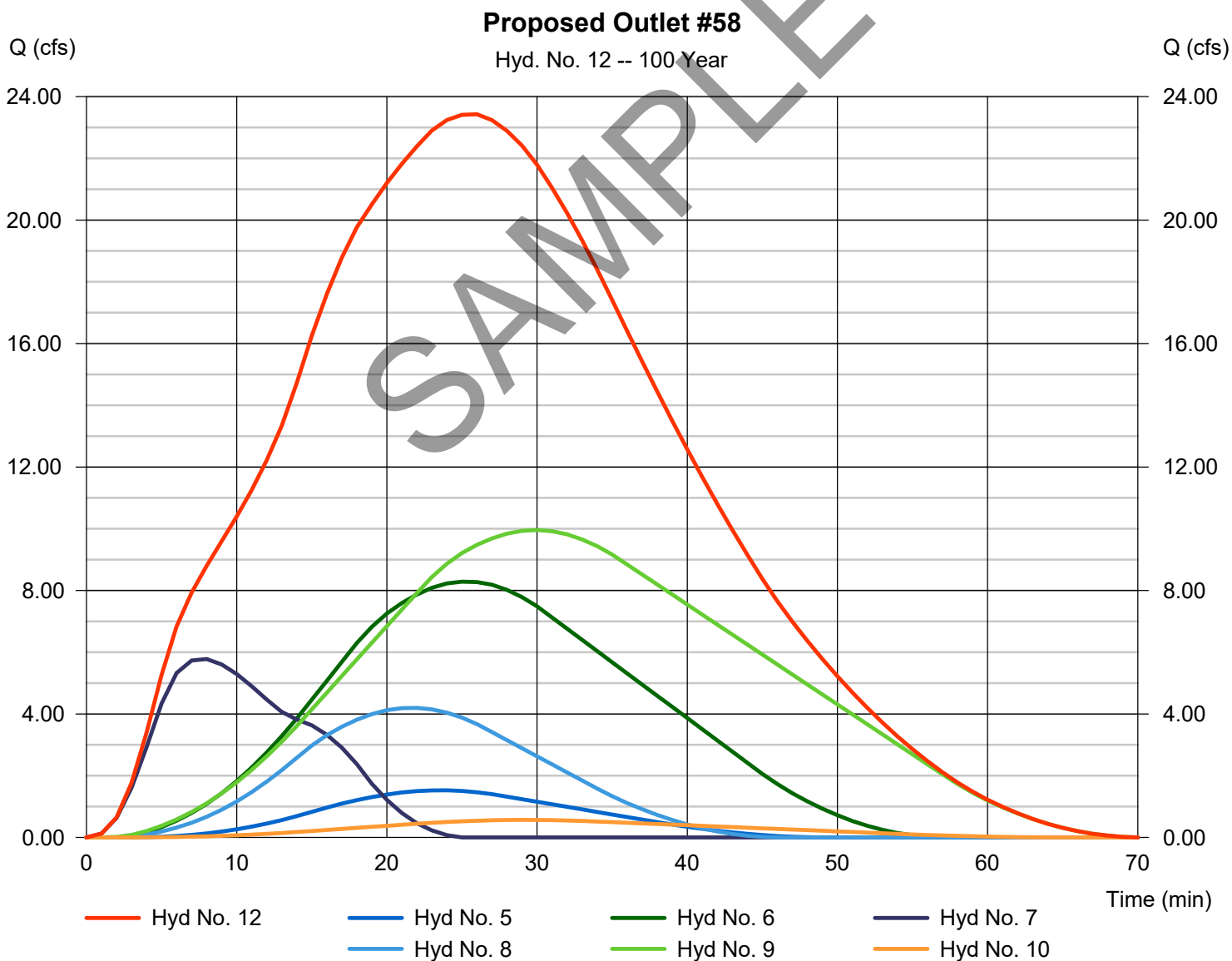
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Proposed Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

Peak discharge = 23.43 cfs
Time to peak = 26 min
Hyd. volume = 43,801 cuft
Contrib. drain. area = 21.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

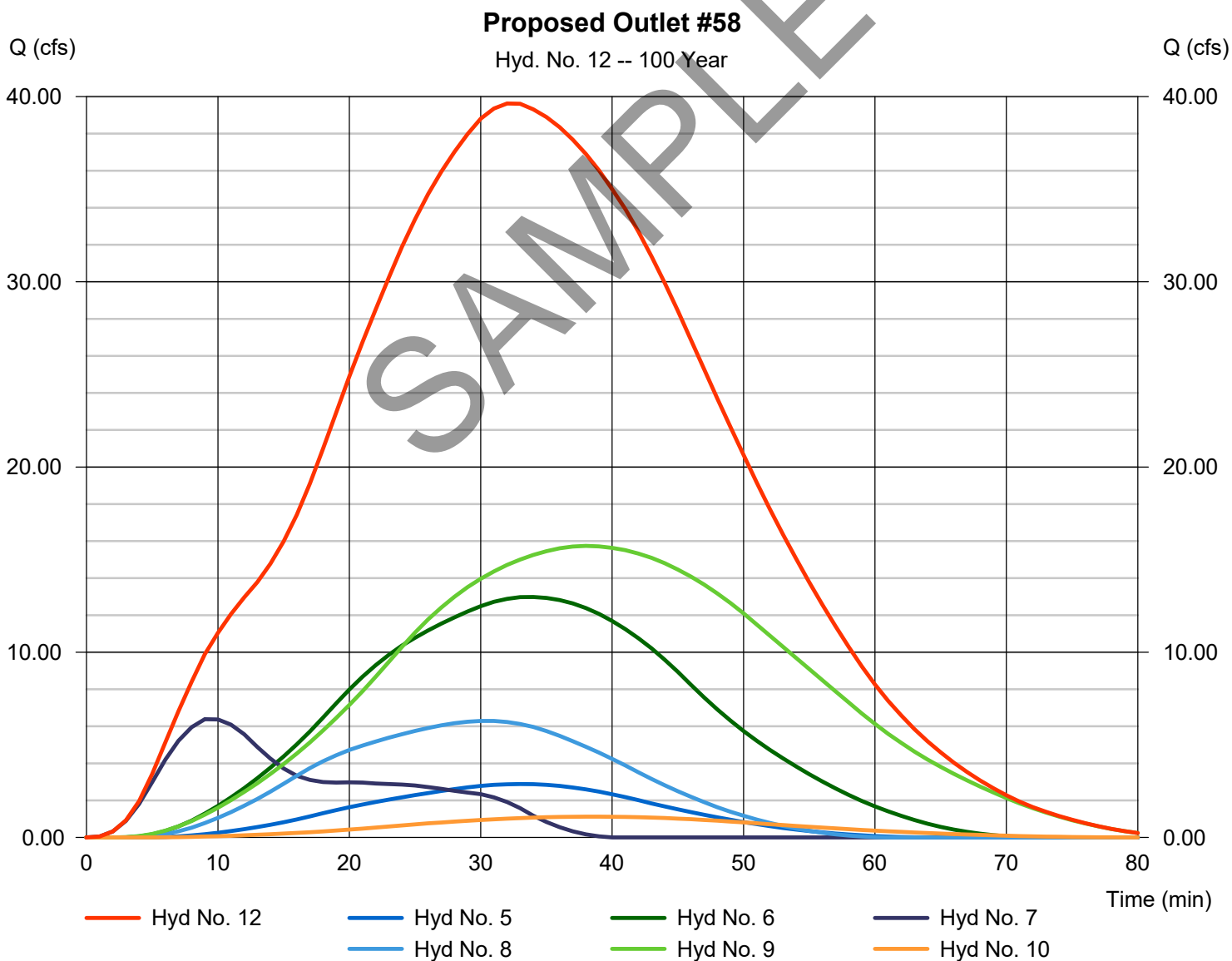
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Proposed Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

Peak discharge = 39.62 cfs
Time to peak = 32 min
Hyd. volume = 84,161 cuft
Contrib. drain. area = 21.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

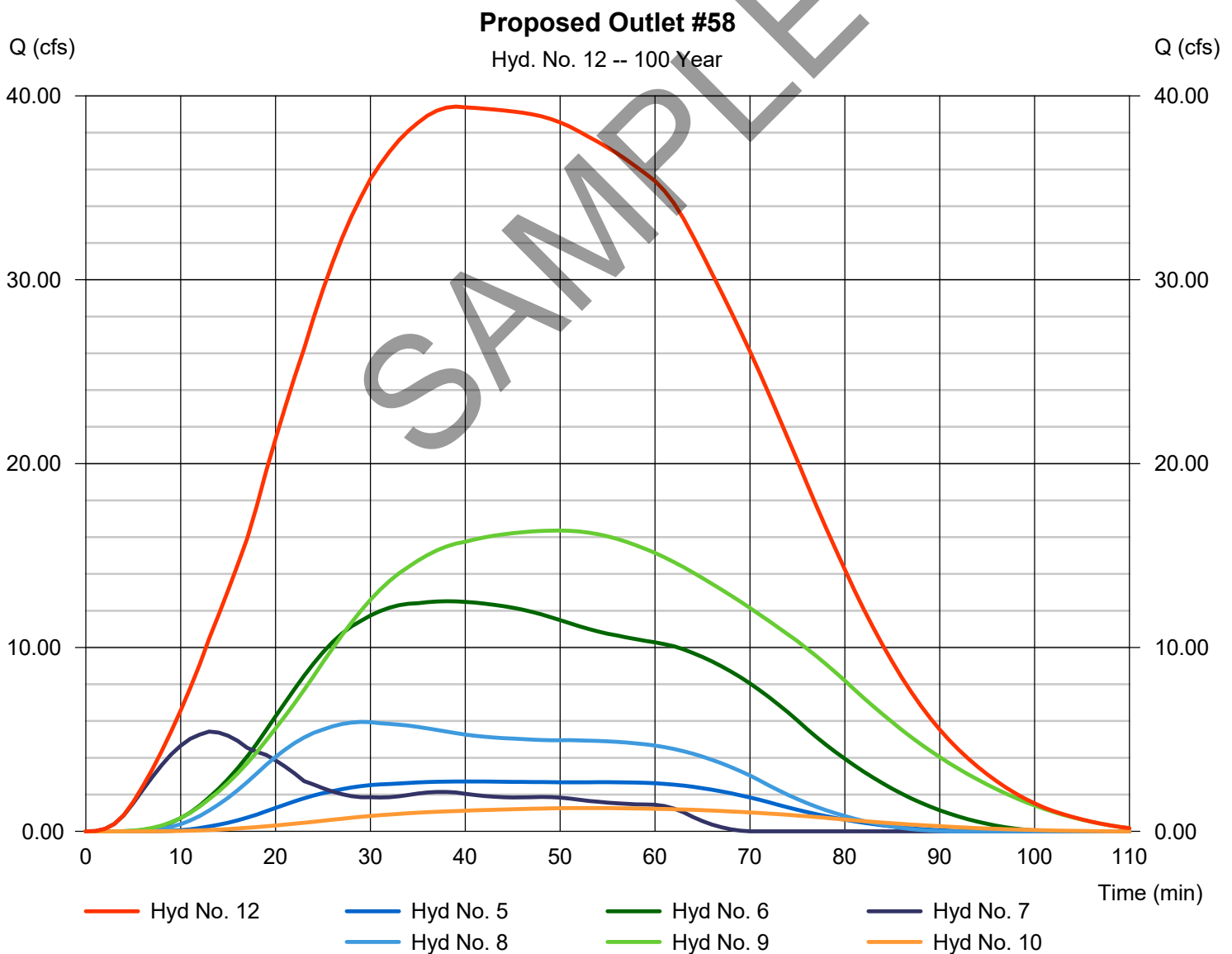
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Proposed Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

Peak discharge = 39.42 cfs
Time to peak = 39 min
Hyd. volume = 134,311 cuft
Contrib. drain. area = 21.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

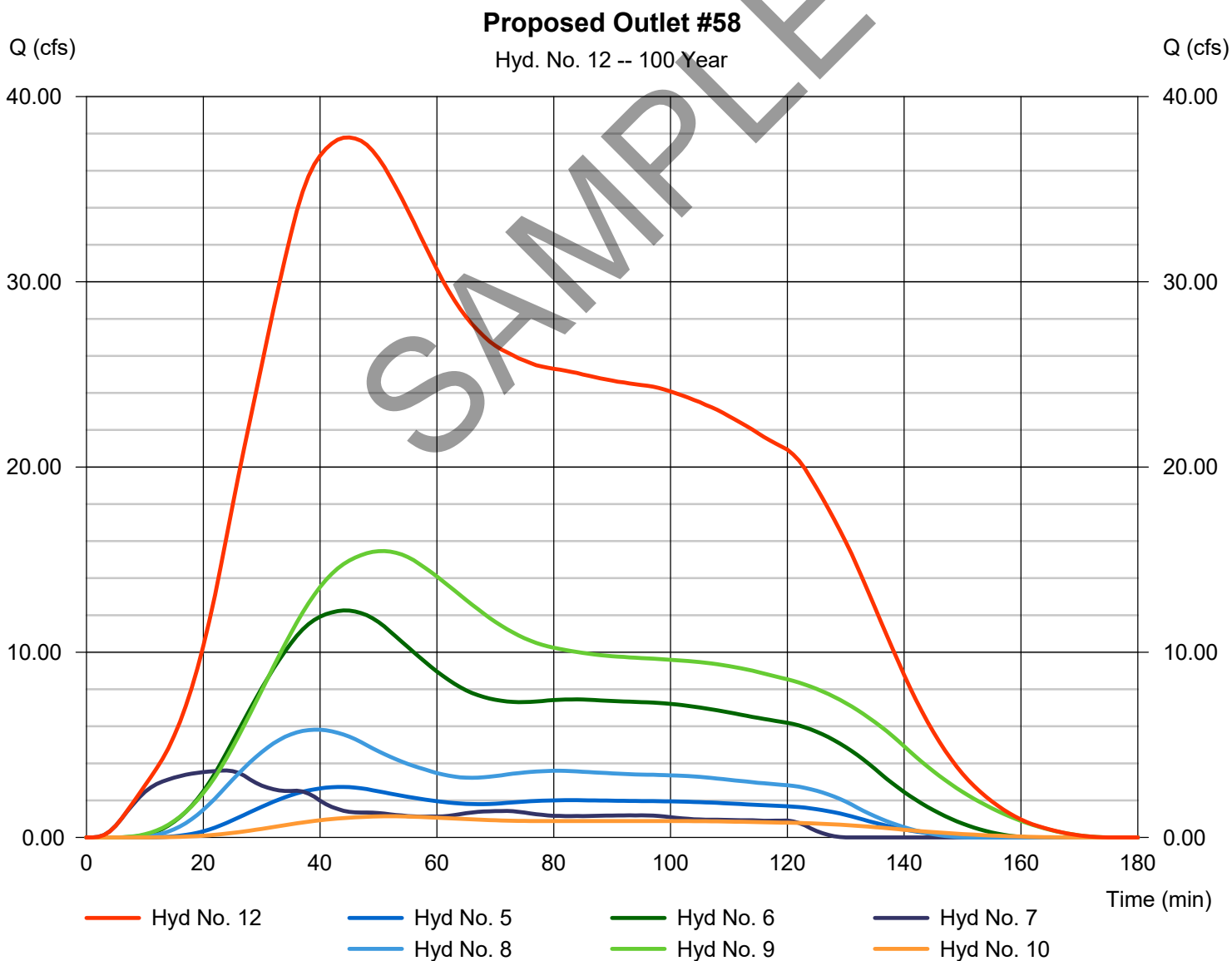
Tuesday, 03 / 12 / 2019

Hyd. No. 12

Proposed Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 9, 10

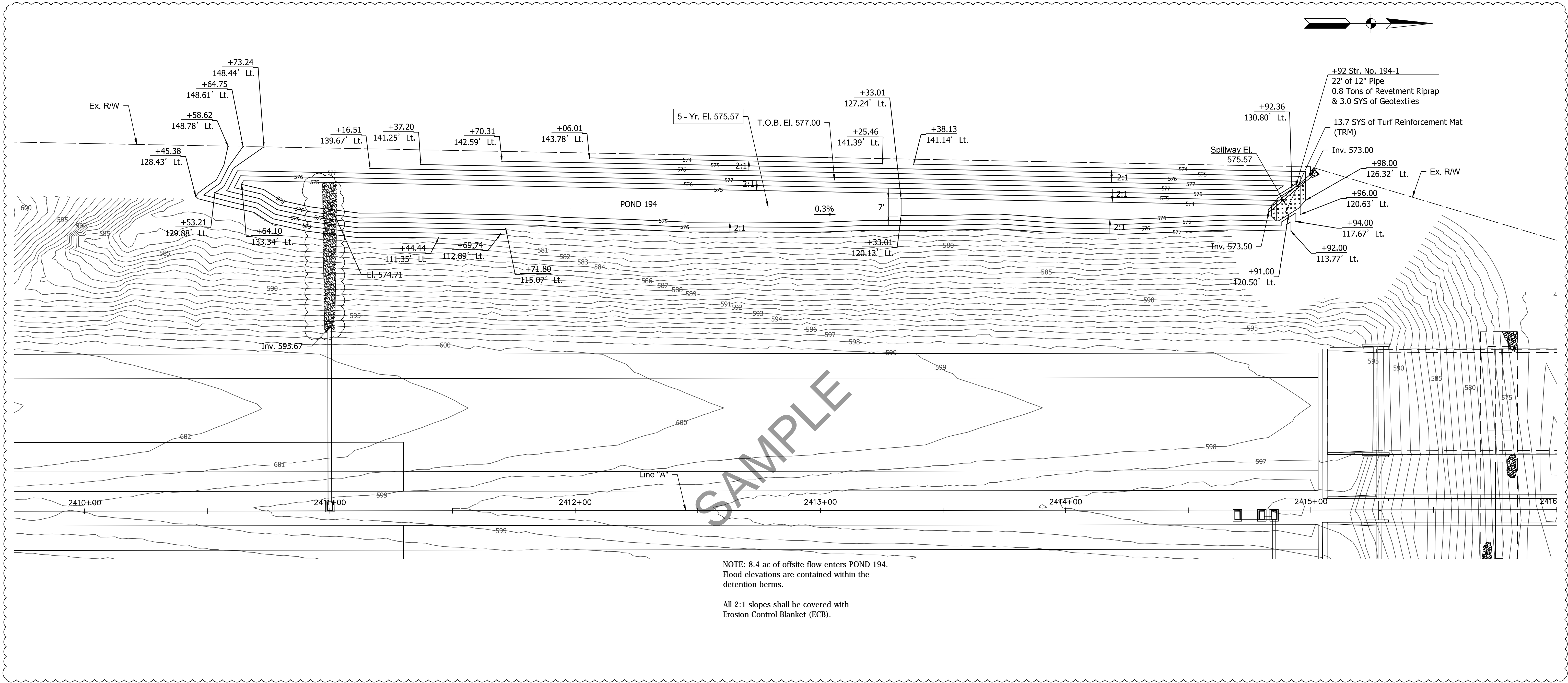
Peak discharge = 37.79 cfs
Time to peak = 45 min
Hyd. volume = 189,764 cuft
Contrib. drain. area = 21.500 ac



Appendix B

Hydraulics Calculations and Documentation

SAMPLE



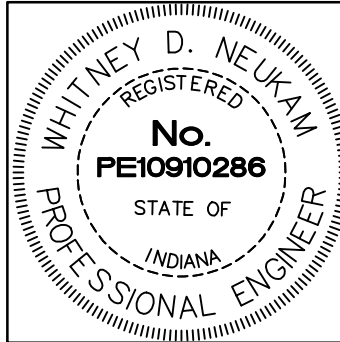
NOTE: 8.4 ac of offsite flow enters POND 194.
Flood elevations are contained within the detention berms.

All 2:1 slopes shall be covered with Erosion Control Blanket (ECB).

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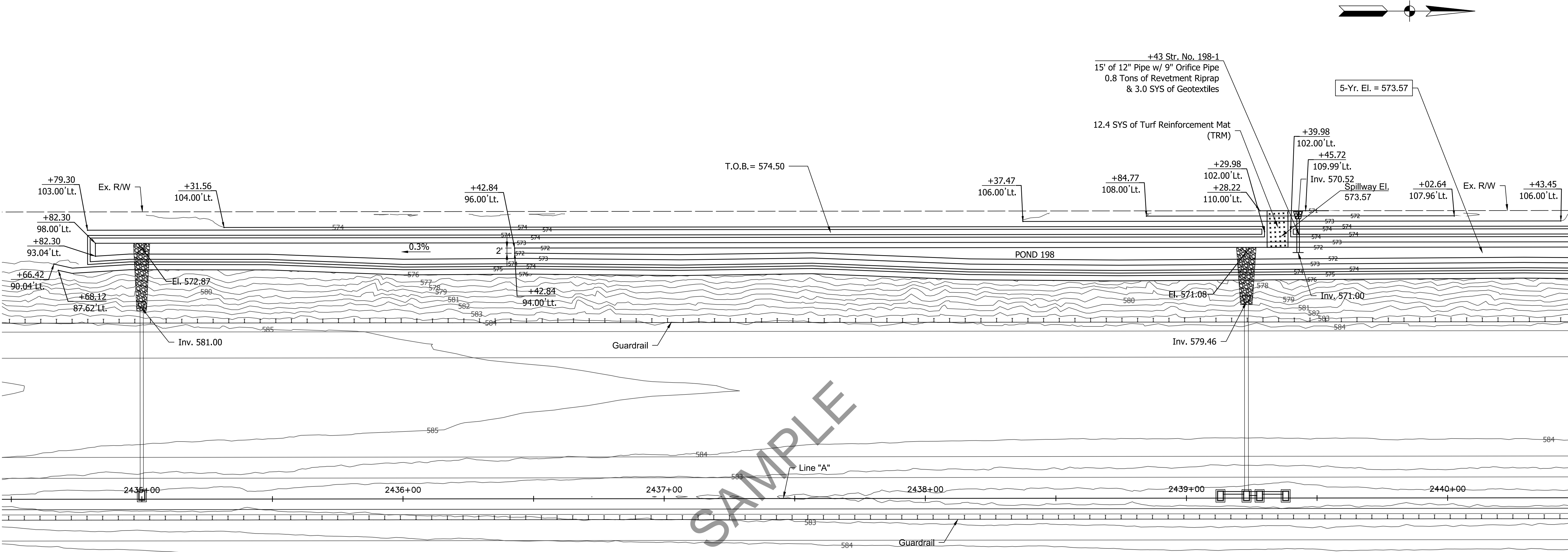
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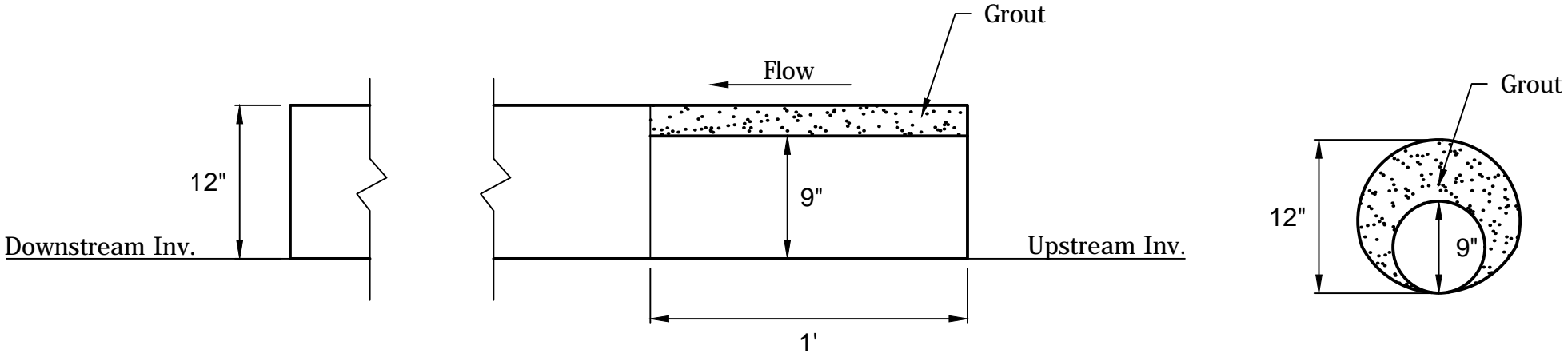
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DETENTION POND DETAILS POND 194	

HORIZONTAL SCALE	BRIDGE FILE
1"=20'	DESIGNATION
VERTICAL SCALE	0501212
SURVEY BOOK	SHEETS
CONTRACT	140-A of 194
R-28940	PROJECT
	0501212



NOTE: No Offsite flow enters POND 198.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).



Str. No. 198-1 Detail
NTS



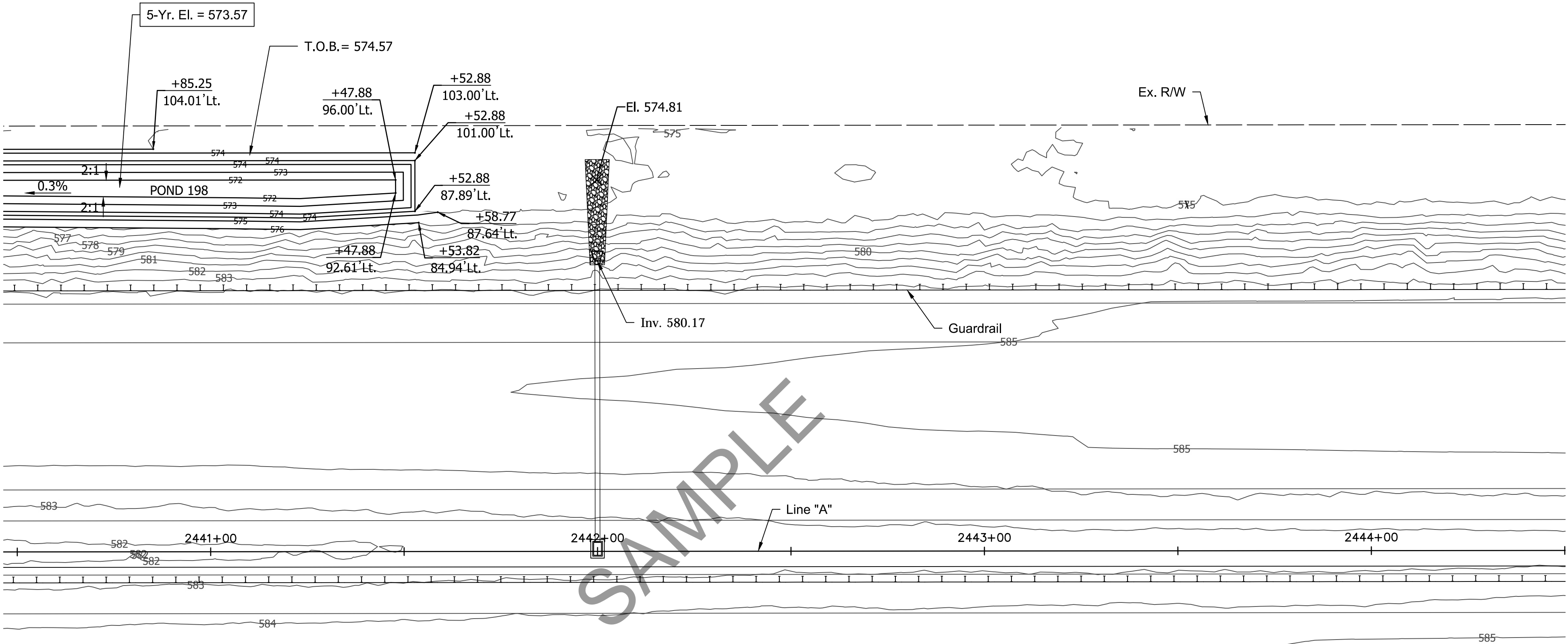
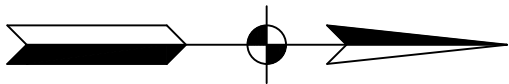
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DETENTION POND DETAILS
POND 198

HORIZONTAL SCALE		BRIDGE FILE	
1"=20'		DESIGNATION	
VERTICAL SCALE		0501212	
N/A			
SURVEY BOOK		SHEETS	
		X1 of	
CONTRACT		PROJECT	
R-28940		0501212	



NOTE: No Offsite flow enters POND 198.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).



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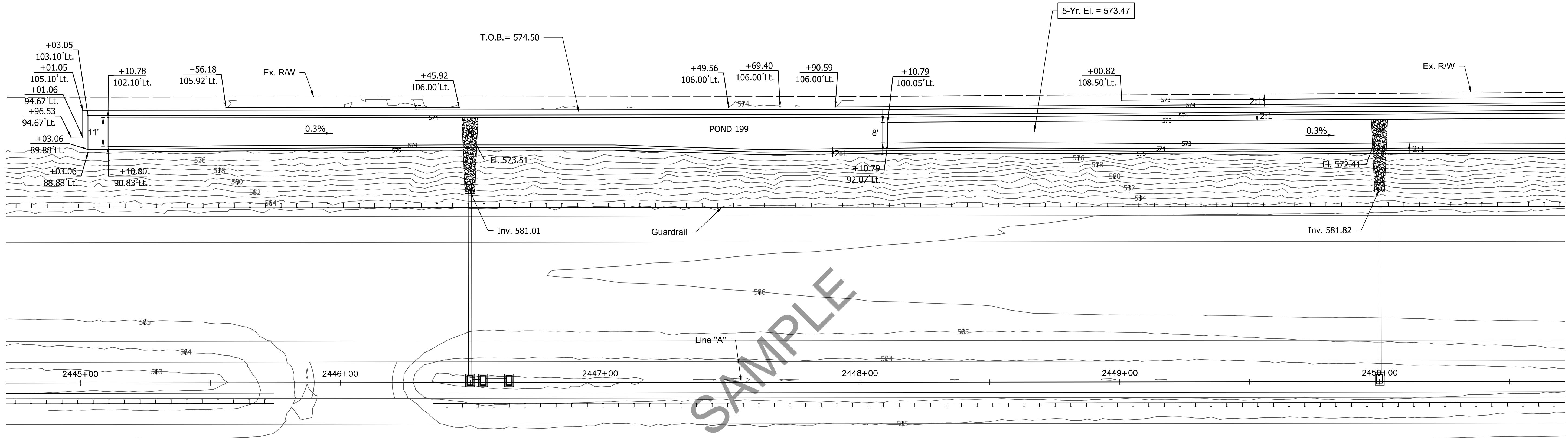
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CHECKED: WDN	CHECKED: WDN		

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DETENTION POND DETAILS
POND 198

HORIZONTAL SCALE		BRIDGE FILE	
1"=20'		DESIGNATION	
VERTICAL SCALE		0501212	
N/A			
SURVEY BOOK		SHEETS	
		X2	of
CONTRACT		PROJECT	
R-28940		0501212	

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NOTE: No Offsite flow enters POND 199.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).

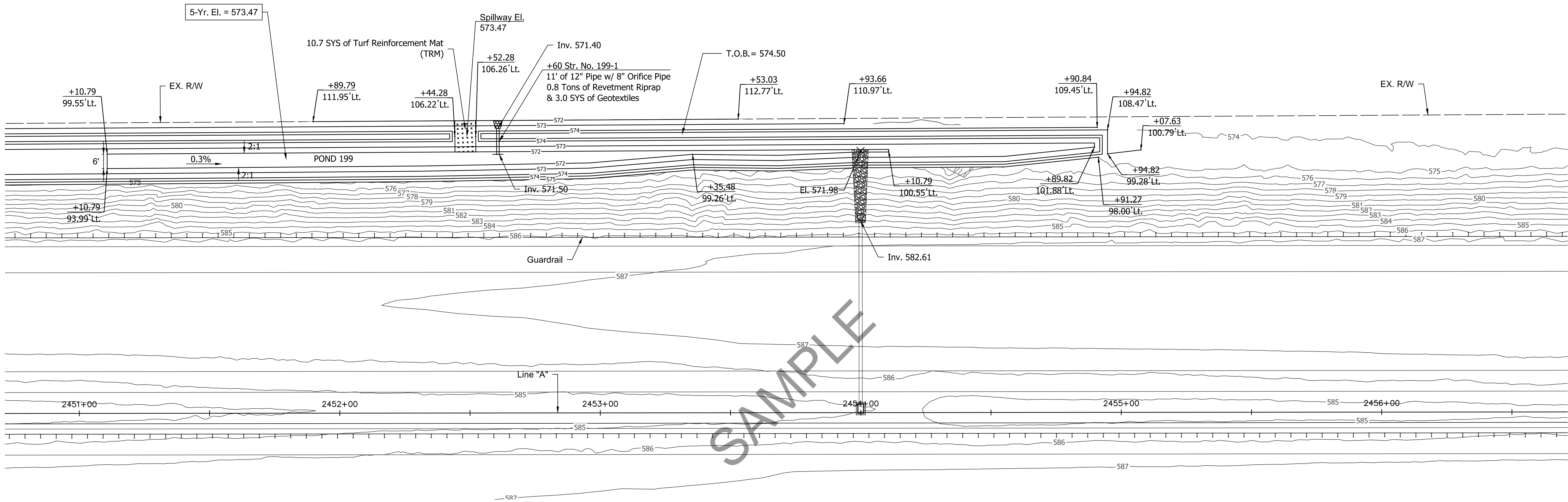
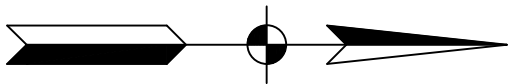


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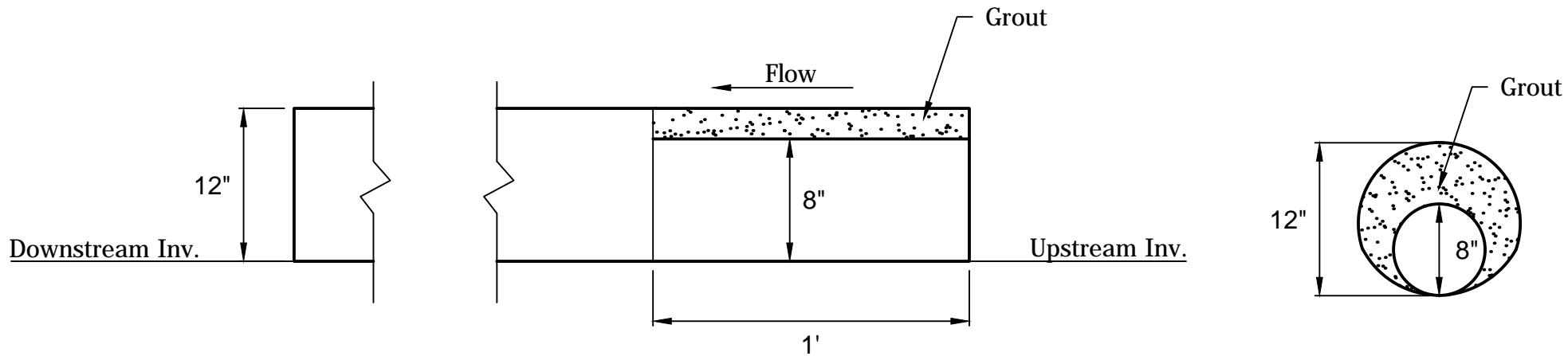
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DETENTION POND DETAILS POND 199	

HORIZONTAL SCALE 1"=20'	BRIDGE FILE
VERTICAL SCALE	DESIGNATION 0501212
SURVEY BOOK	SHEETS X3 of
CONTRACT R-28940	PROJECT 0501212



NOTE: No Offsite flow enters POND 199.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
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Str. No. 199-1 Detail
NTS



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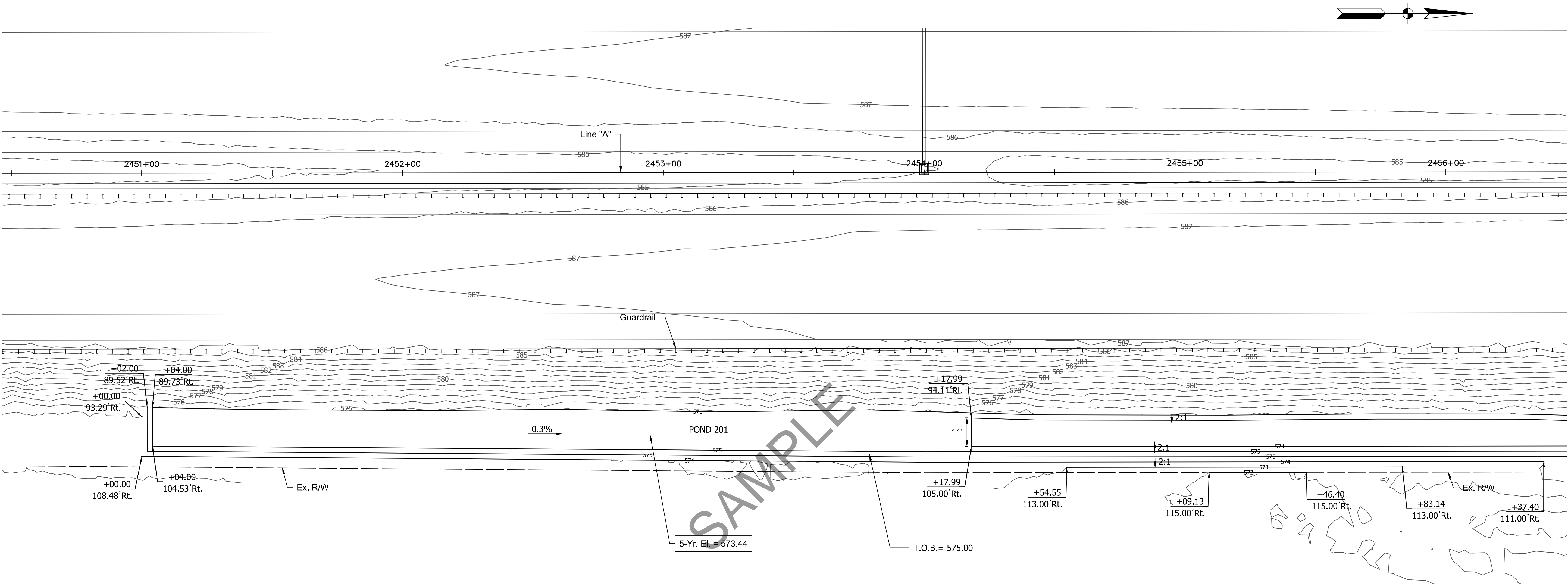
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DETENTION POND DETAILS
POND 199

HORIZONTAL SCALE	BRIDGE FILE
1"=20'	DESIGNATION
VERTICAL SCALE	0501212
SURVEY BOOK	SHEETS
CONTRACT	X4 of ----
R-28940	PROJECT
	0501212



NOTE: No Offsite flow enters POND 201.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
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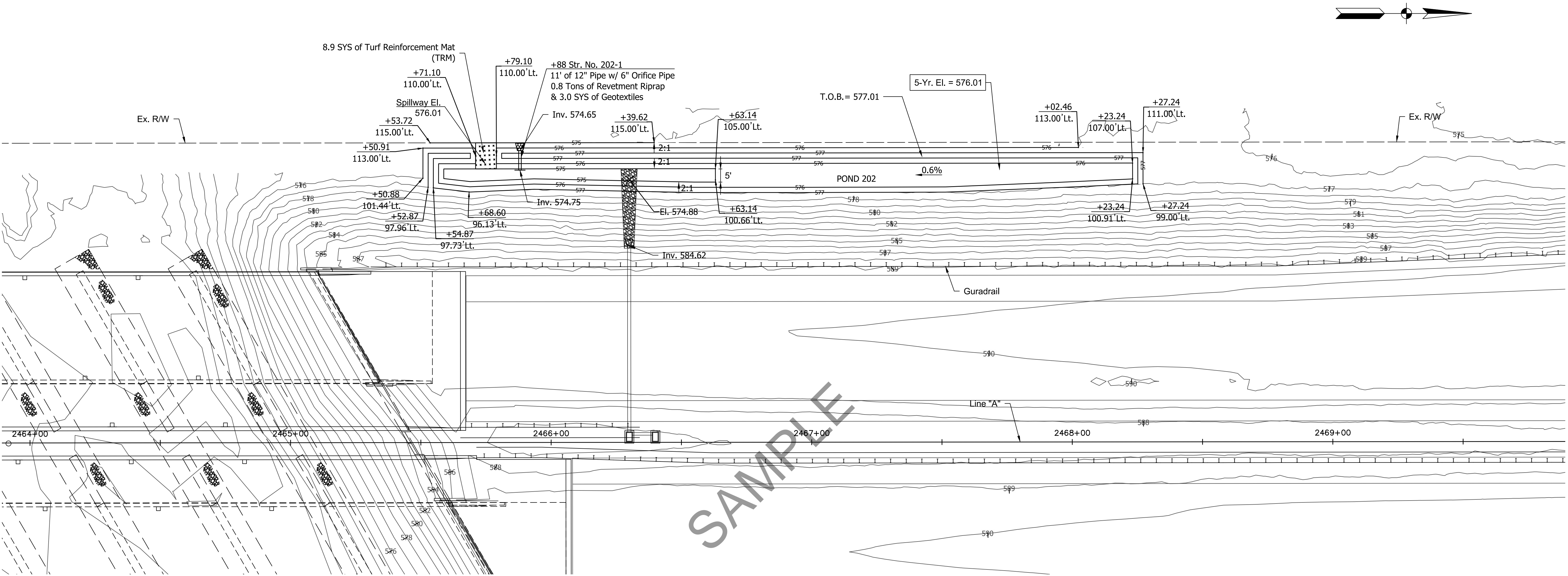
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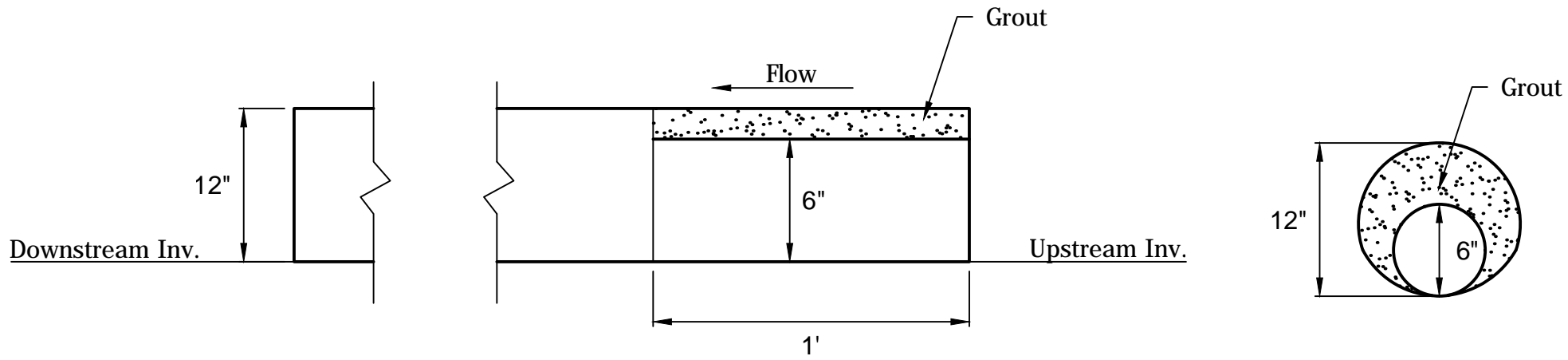
DETENTION POND DETAILS
POND 201

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1"=20'	DESIGNATION
VERTICAL SCALE	0501212
SURVEY BOOK	SHEETS
	X5 of
CONTRACT	PROJECT
R-28940	0501212



NOTE: No Offsite flow enters POND 202.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).



Str. No. 202-1 Detail
NTS

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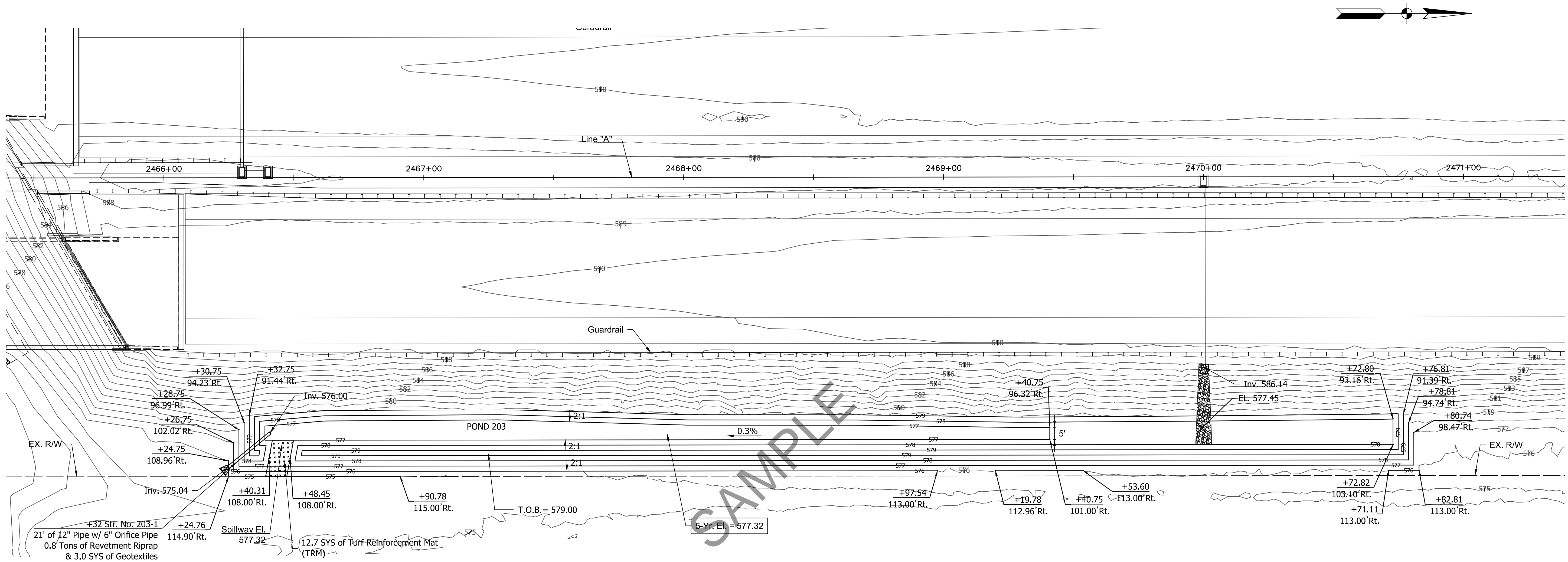


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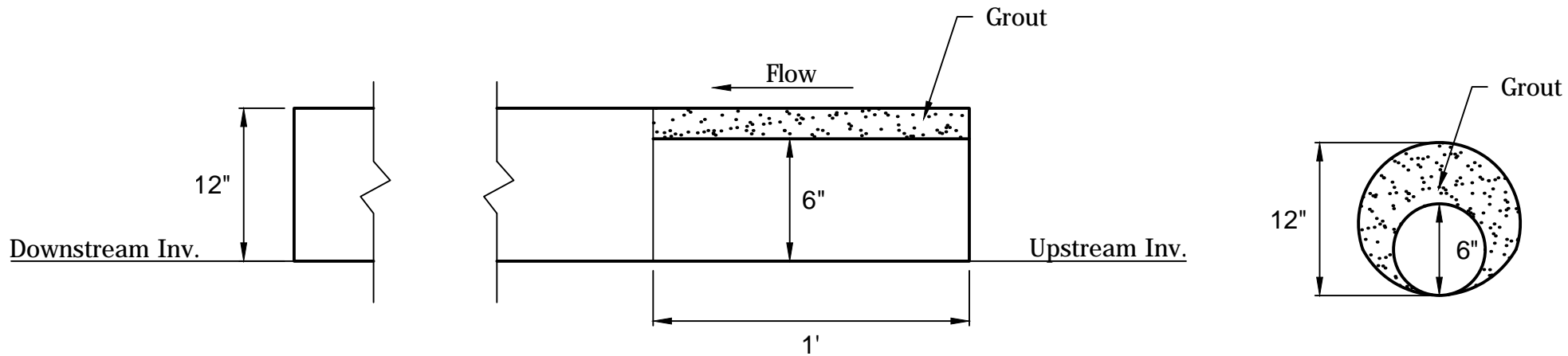
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DETENTION POND DETAILS POND 202	

HORIZONTAL SCALE 1"=20'	BRIDGE FILE
VERTICAL SCALE	DESIGNATION 0501212
SURVEY BOOK	SHEETS X7 of
CONTRACT R-28940	PROJECT 0501212



NOTE: No Offsite flow enters POND 203.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).



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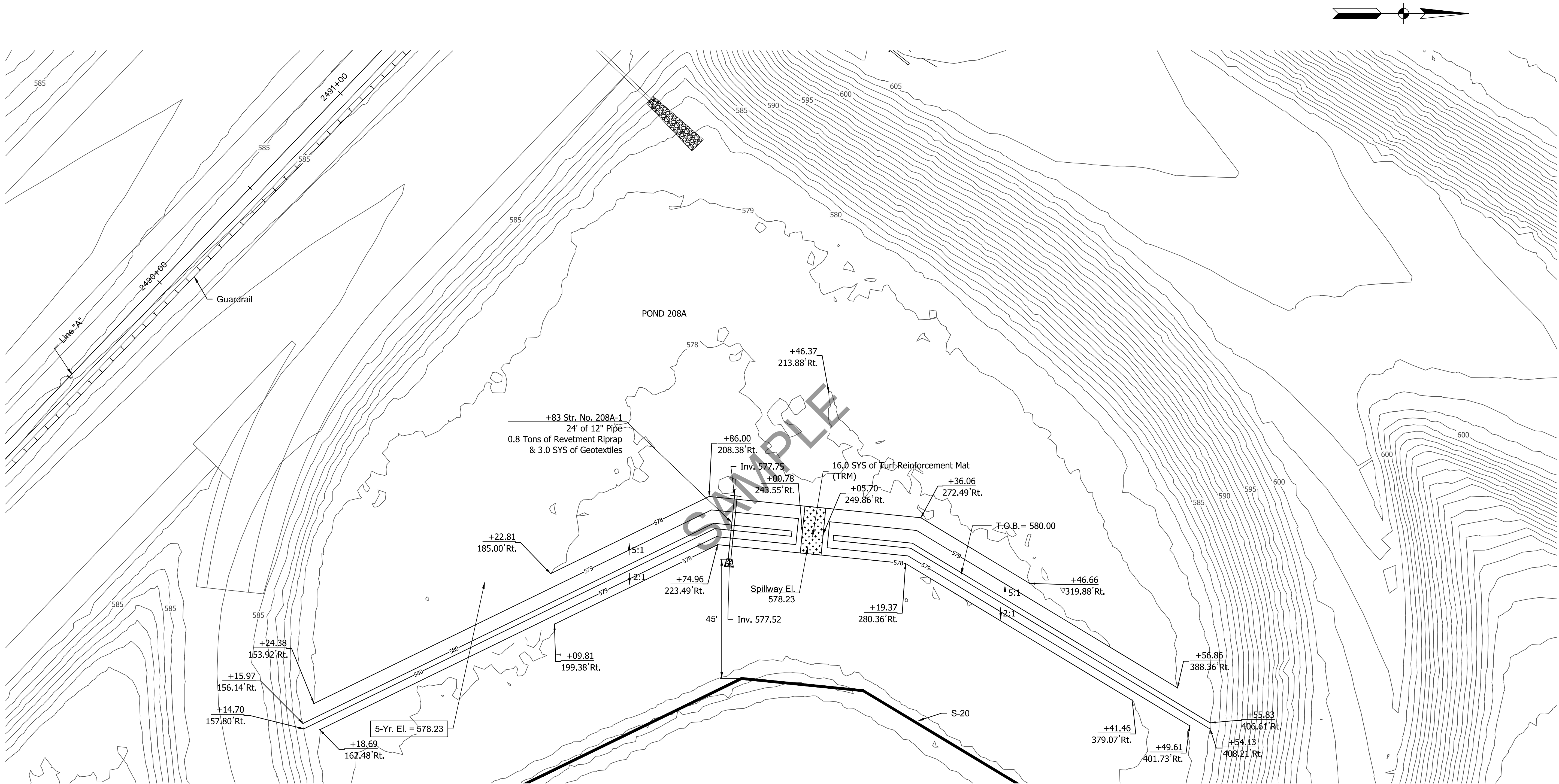
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DETENTION POND DETAILS
POND 203

HORIZONTAL SCALE	BRIDGE FILE
1"=20'	DESIGNATION
VERTICAL SCALE	0501212
SURVEY BOOK	SHEETS
CONTRACT	X8 of
R-28940	PROJECT
	0501212

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NOTE: No Offsite flow enters POND 208A.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
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DETENTION POND DETAILS
POND 208A

HORIZONTAL SCALE

1"=20'

VERTICAL SCALE

BRIDGE FILE

DESIGNATION

0501212

SURVEY BOOK

SHEETS

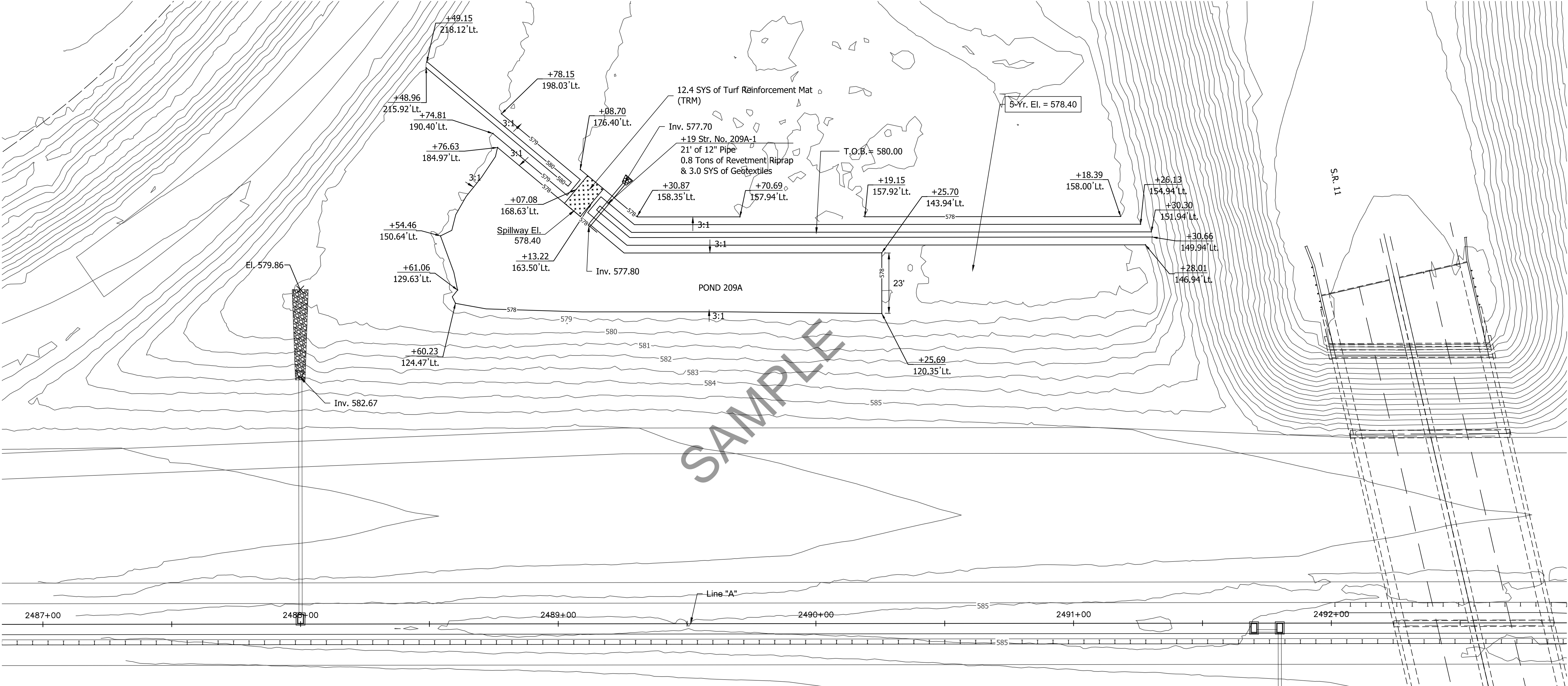
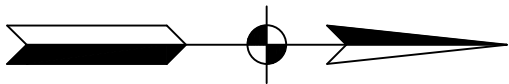
X9 of ----

CONTRACT

PROJECT

R-28940

0501212



NOTE: No Offsite flow enters POND 209A.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
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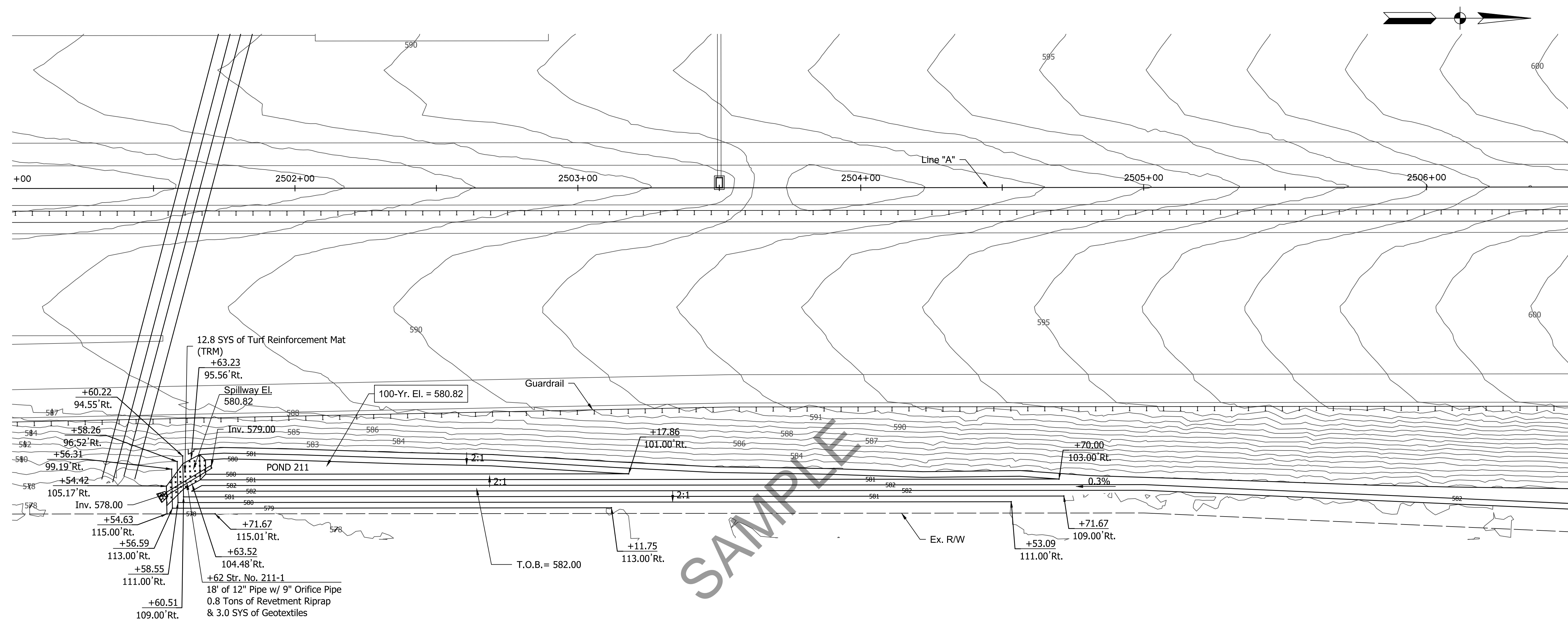
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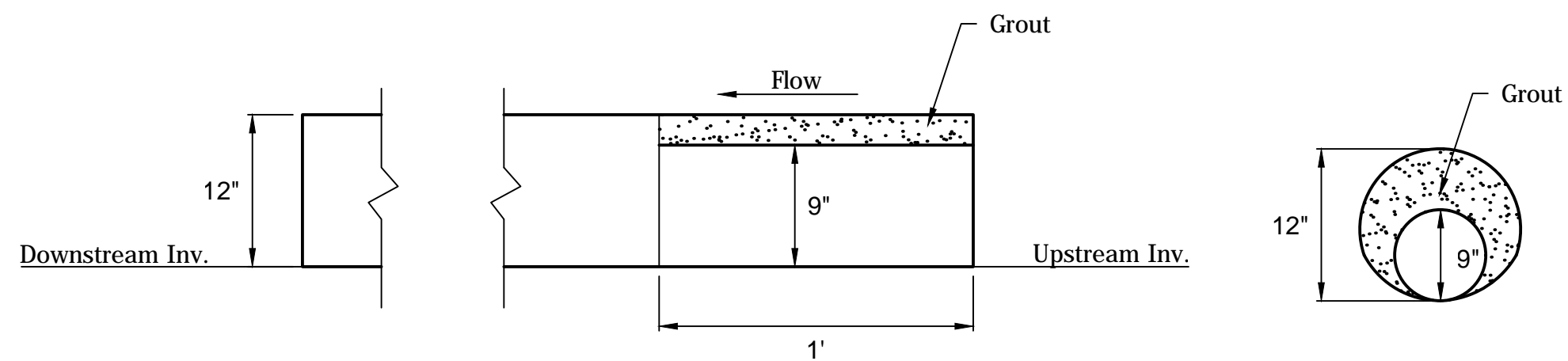
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POND 209A

HORIZONTAL SCALE	BRIDGE FILE
1"=20'	DESIGNATION
VERTICAL SCALE	0501212
SURVEY BOOK	SHEETS
	X10 of ----
CONTRACT	PROJECT
R-28940	0501212



NOTE: No Offsite flow enters POND 211.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).



Str. No. 211-1 Detail
NTS



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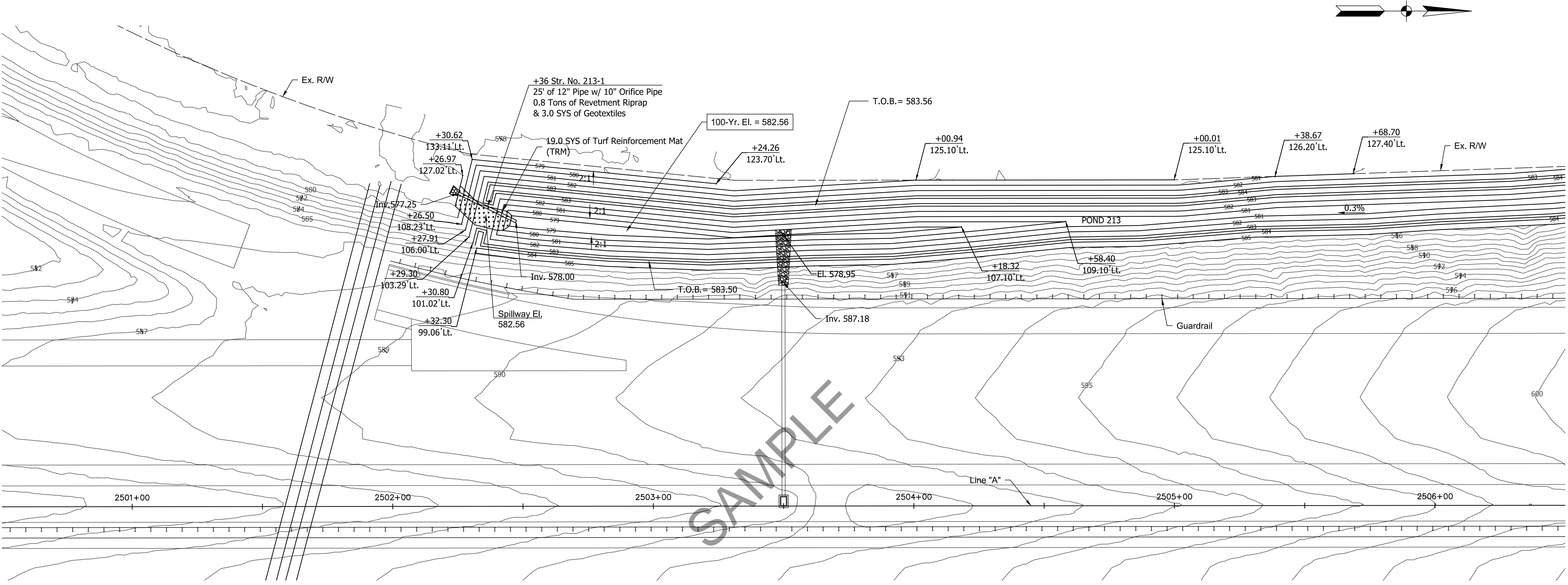
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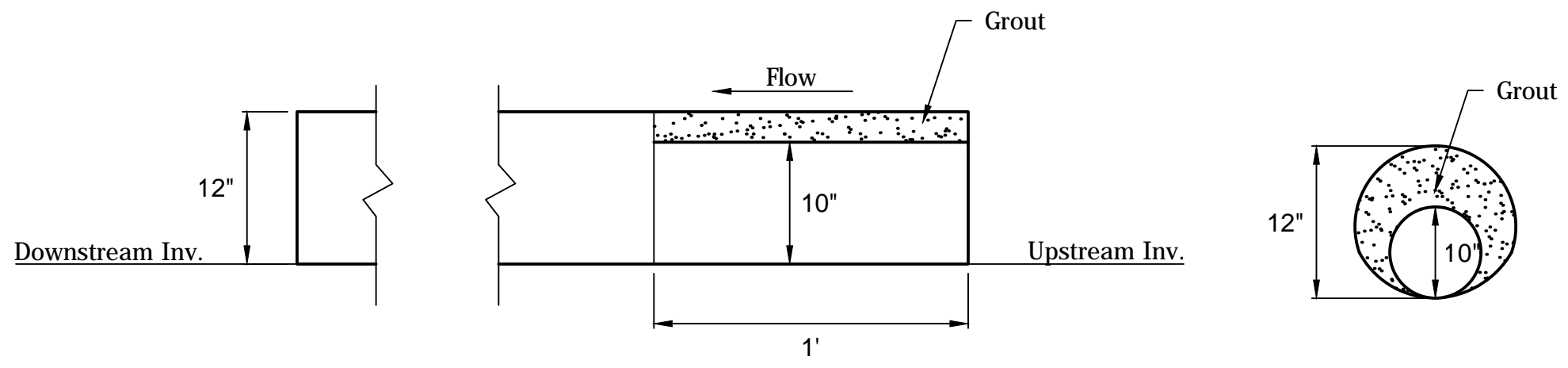
DETENTION POND DETAILS
POND 211

HORIZONTAL SCALE		BRIDGE FILE	
1"=20'		DESIGNATION	
VERTICAL SCALE		0501212	
SURVEY BOOK		SHEETS	
CONTRACT		PROJECT	
R-28940		0501212	



NOTE: No Offsite flow enters POND 213.
Any flow that crosses R/W is diverted by
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).



Str. No. 213-1 Detail
NTS



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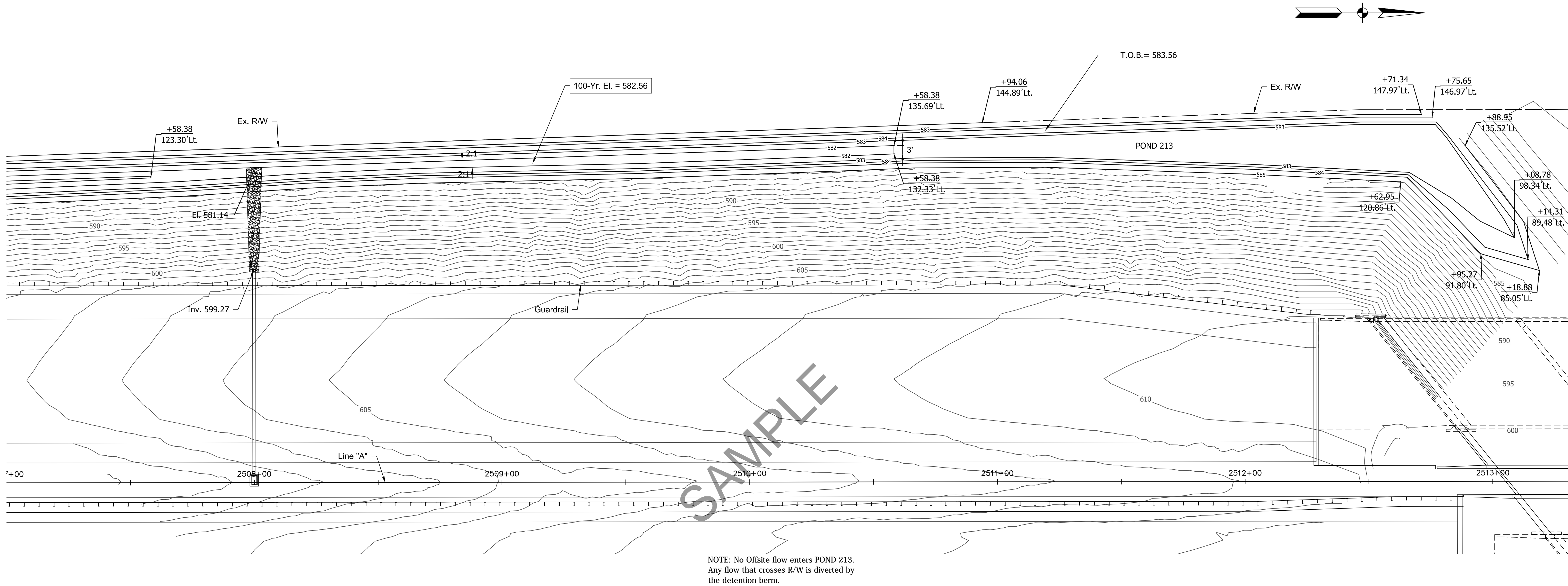
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CHECKED: WDN		CHECKED: WDN			

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DETENTION POND DETAILS
POND 213

HORIZONTAL SCALE		BRIDGE FILE	
1"=20'		DESIGNATION	
VERTICAL SCALE		0501212	
SURVEY BOOK		SHEETS	
CONTRACT		X13 of	
R-28940		PROJECT	
		0501212	

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DETENTION POND DETAILS
POND 213

HORIZONTAL SCALE

1"=20'

VERTICAL SCALE

BRIDGE FILE

DESIGNATION

0501212

SURVEY BOOK

SHEETS

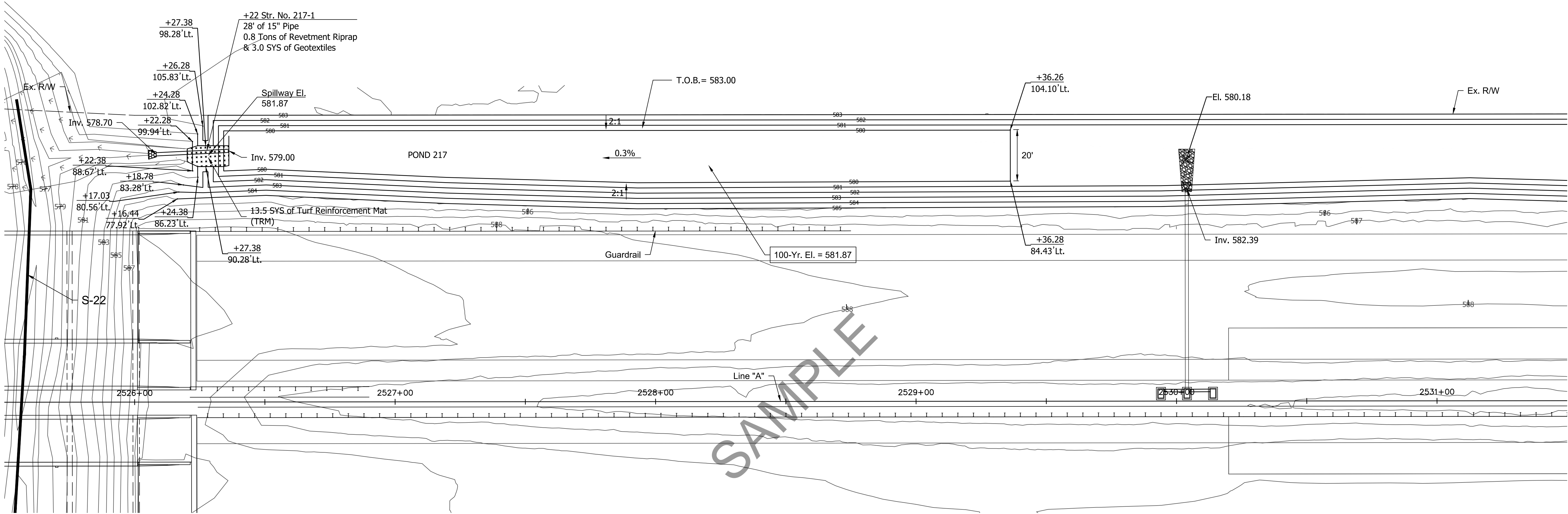
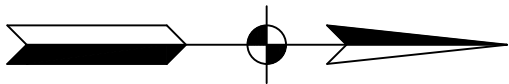
X14 of ----

CONTRACT

PROJECT

R-28940

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NOTE: 0.9 ac of offsite flow enters
POND 217.
Flood elevations are contained within
the detention berm.

All 2:1 slopes shall be covered with
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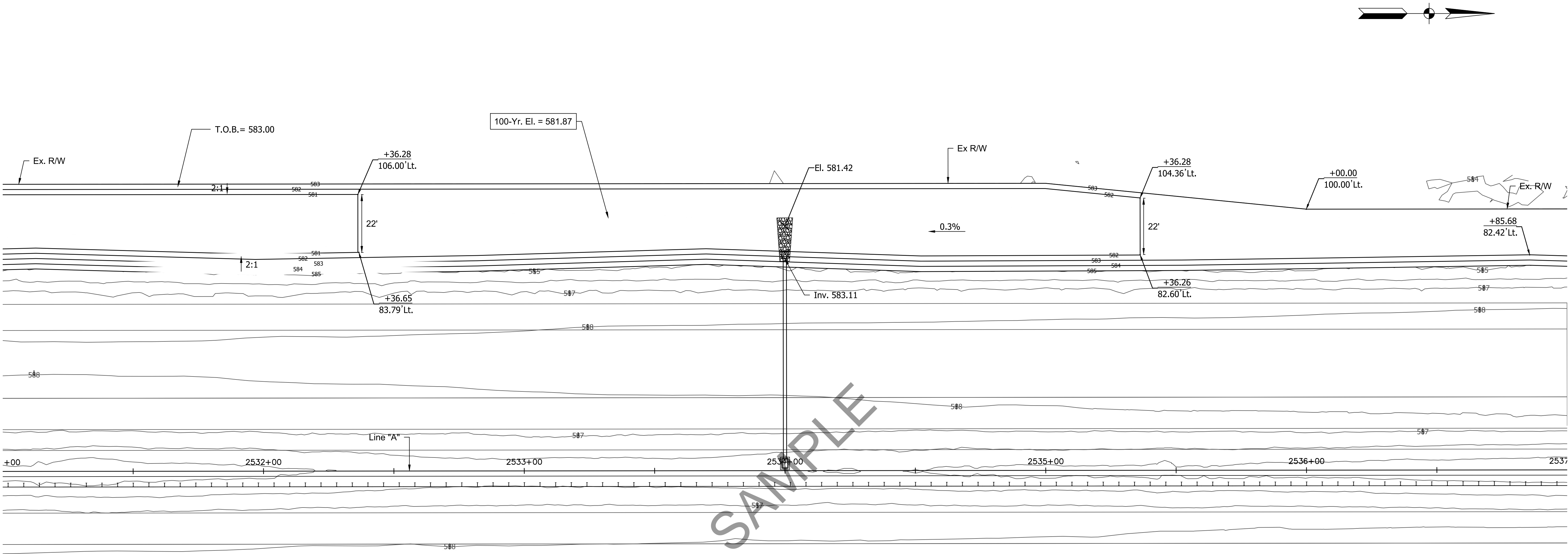
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CHECKED: WDN	CHECKED: WDN		

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DETENTION POND DETAILS
POND 217

HORIZONTAL SCALE	BRIDGE FILE		
1"=20'			
VERTICAL SCALE	DESIGNATION		
	0501212		
SURVEY BOOK	SHEETS		
	X15	of	----
CONTRACT	PROJECT		
R-28940	0501212		

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NOTE: 0.9 ac of offsite flow enters
POND 217.
Flood elevations are contained within
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).



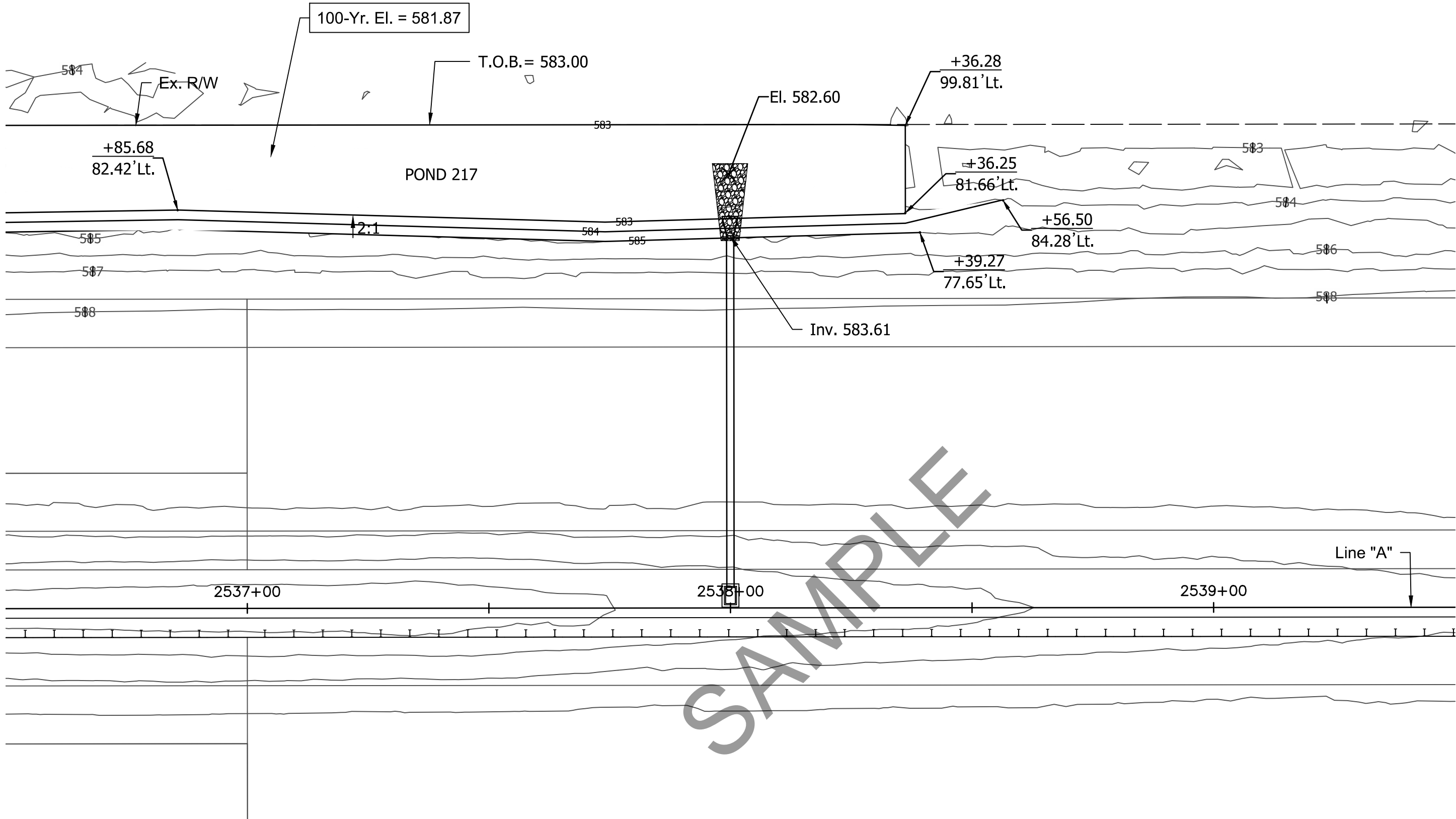
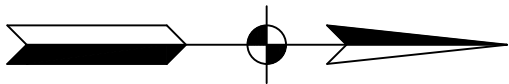
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DETENTION POND DETAILS
POND 217

HORIZONTAL SCALE		BRIDGE FILE	
1"=20'		DESIGNATION	
VERTICAL SCALE		0501212	
SURVEY BOOK		SHEETS	
		X16 of	
CONTRACT		PROJECT	
R-28940		0501212	



NOTE: 0.9 ac of offsite flow enters
POND 217.
Flood elevations are contained within
the detention berm.

All 2:1 slopes shall be covered with
Erosion Control Blanket (ECB).



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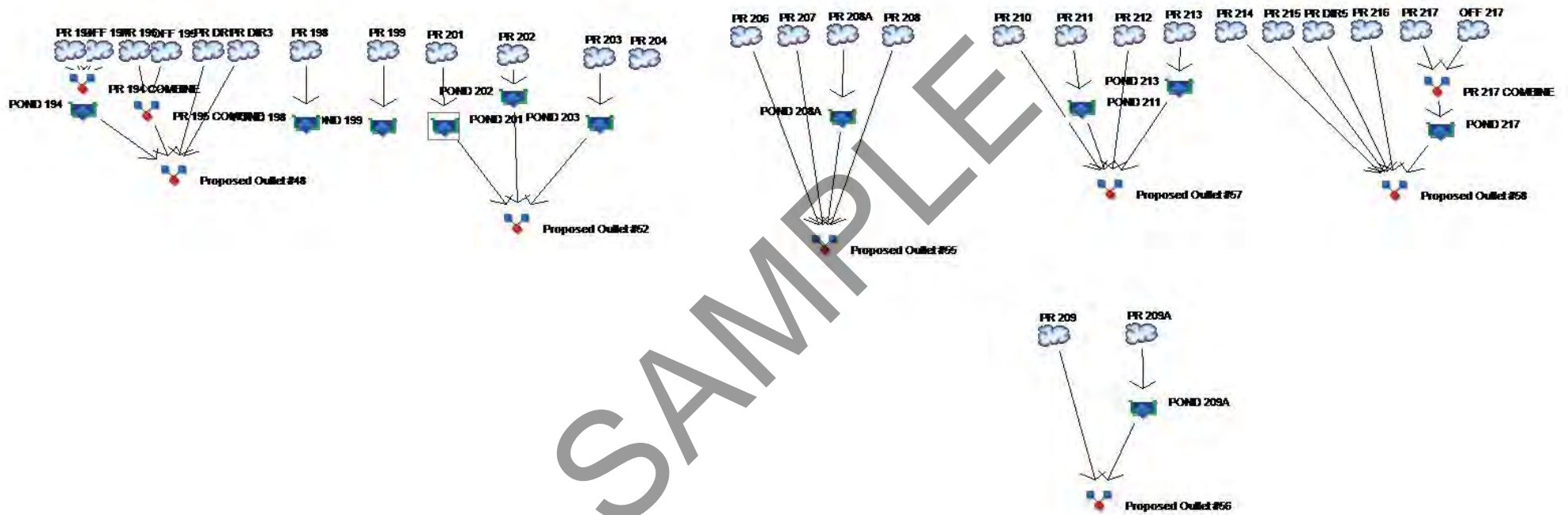
RECOMMENDED FOR APPROVAL		ENGINEER	DATE
DESIGNED: MA	DRAWN: JCH		
CHECKED: WDN	CHECKED: WDN		

INDIANA
DEPARTMENT OF TRANSPORTATION

DETENTION POND DETAILS
POND 217

HORIZONTAL SCALE		BRIDGE FILE	
1"=20'			
VERTICAL SCALE		DESIGNATION	
		0501212	
SURVEY BOOK		SHEETS	
		X17 of	
CONTRACT		PROJECT	
R-28940		0501212	

Proposed Conditions - Hydraflow Hydrographs Schematic (With Detention)



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 4 - POND 194

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 573.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	573.50	00	0	0
0.50	574.00	917	153	153
1.50	575.00	4,655	2,546	2,699
2.50	576.00	6,382	5,495	8,194
3.50	577.00	8,141	7,243	15,437

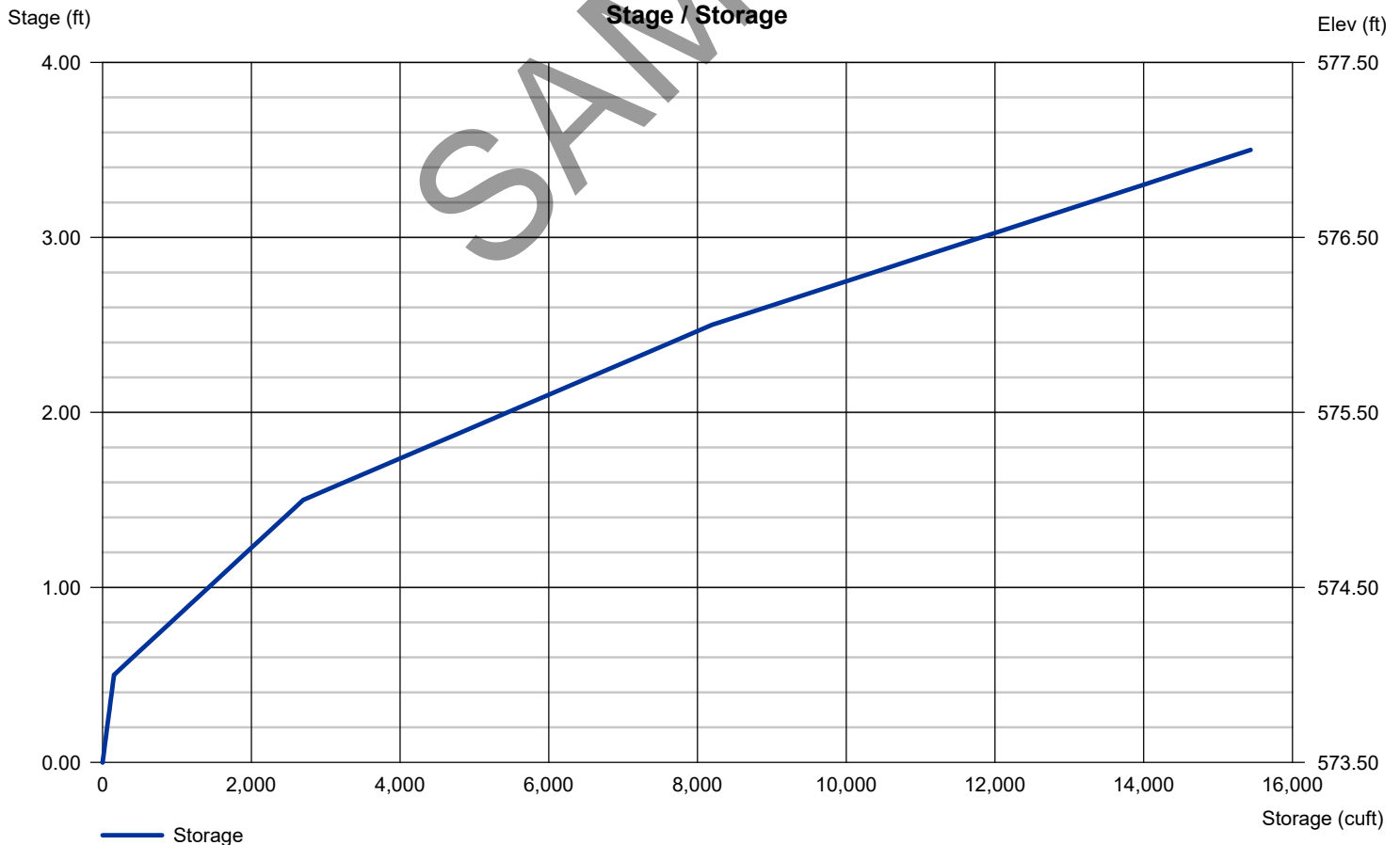
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 573.50	0.00	0.00	0.00
Length (ft)	= 22.00	0.00	0.00	0.00
Slope (%)	= 2.27	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.90	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 5 - POND 198

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 571.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	571.00	00	0	0
1.00	572.00	1,885	628	628
2.00	573.00	4,737	3,203	3,831
3.00	574.00	7,448	6,041	9,872
3.50	574.50	8,816	4,061	13,933

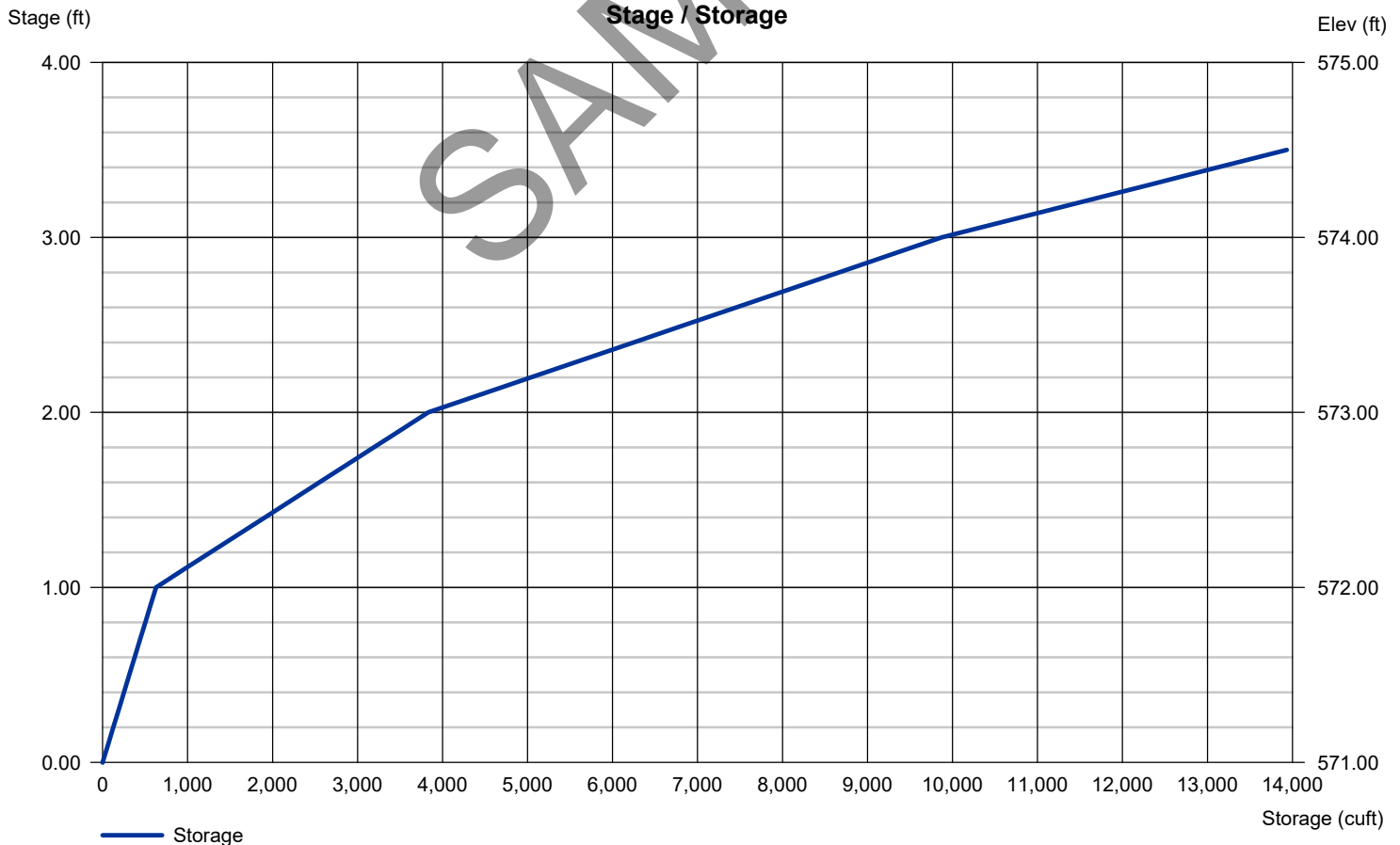
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 9.00	0.00	0.00	0.00
Span (in)	= 9.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 571.00	0.00	0.00	0.00
Length (ft)	= 15.00	0.00	0.00	0.00
Slope (%)	= 3.20	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.50	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 6 - POND 199

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 571.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	571.50	00	0	0
0.50	572.00	1,203	200	200
1.50	573.00	5,410	3,054	3,255
2.50	574.00	11,455	8,245	11,500
3.00	574.50	13,526	6,237	17,737

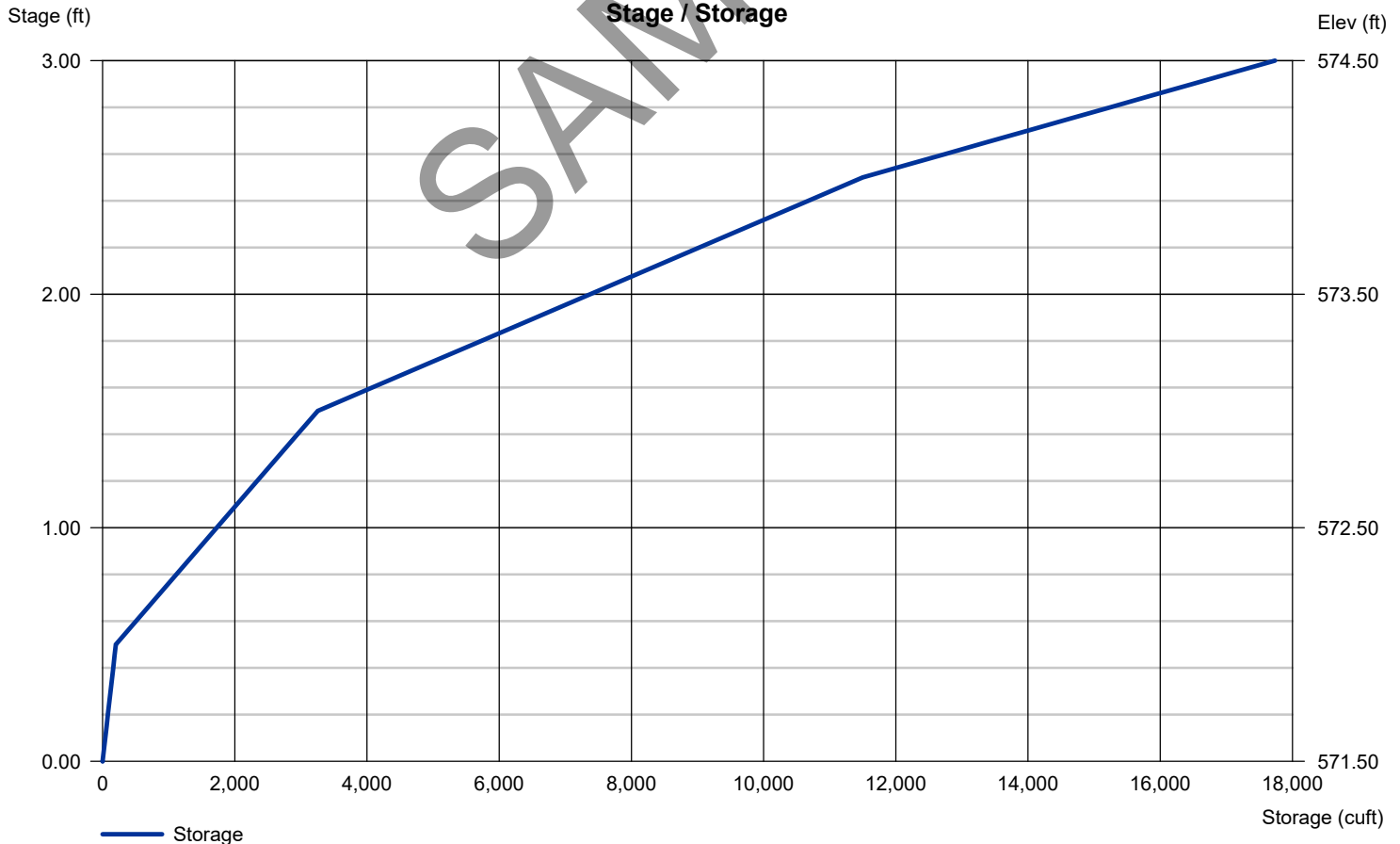
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 8.00	0.00	0.00	0.00
Span (in)	= 8.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 571.50	0.00	0.00	0.00
Length (ft)	= 11.00	0.00	0.00	0.00
Slope (%)	= 0.90	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.50	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 8 - POND 201

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 572.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	572.00	00	0	0
1.00	573.00	2,273	758	758
2.00	574.00	7,278	4,539	5,297
3.00	575.00	15,190	10,993	16,290

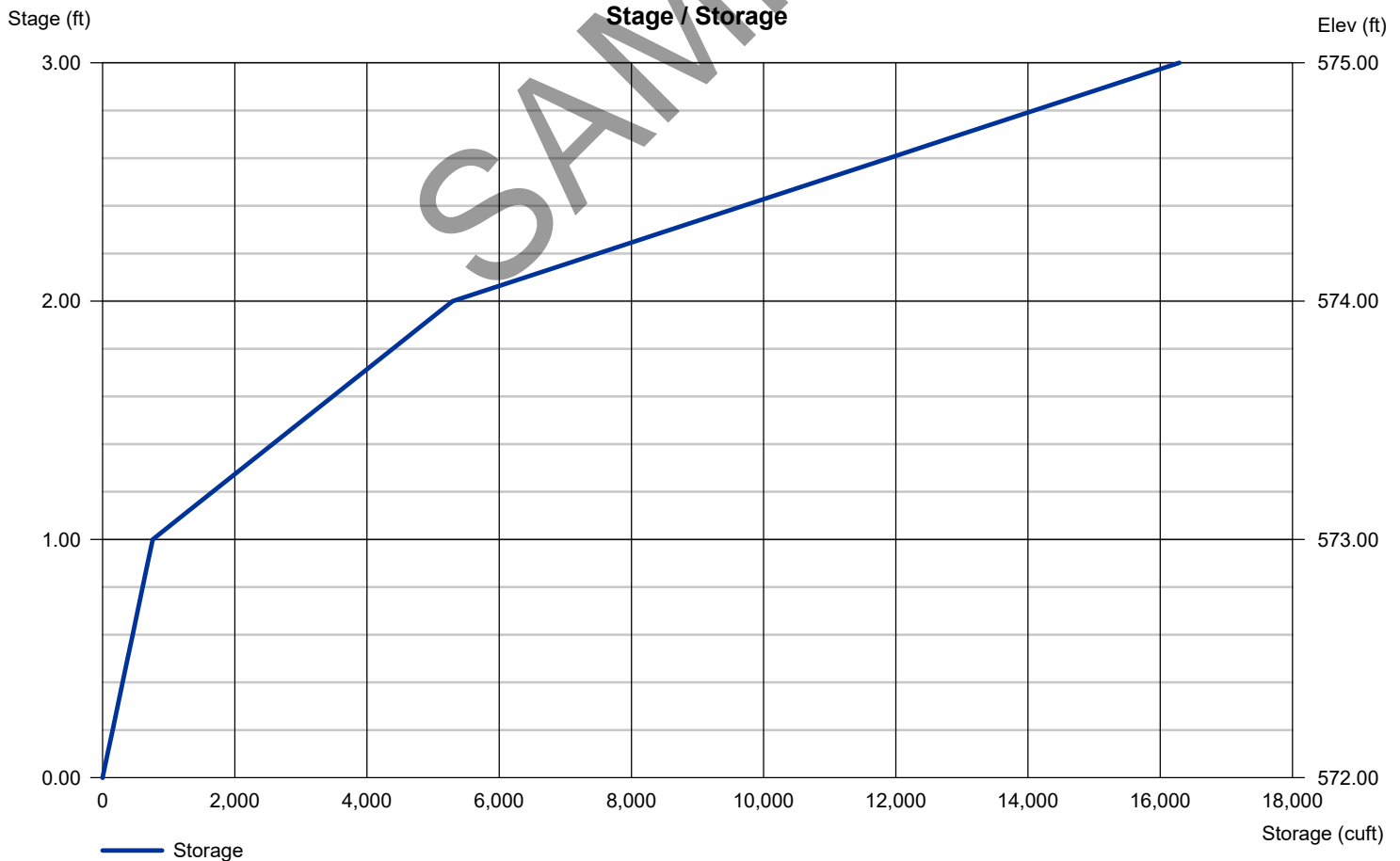
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 572.00	0.00	0.00	0.00
Length (ft)	= 14.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.50	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 7 - POND 202

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 574.75 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	574.75	00	0	0
0.25	575.00	468	39	39
1.25	576.00	2,257	1,251	1,290
2.25	577.00	3,366	2,793	4,083

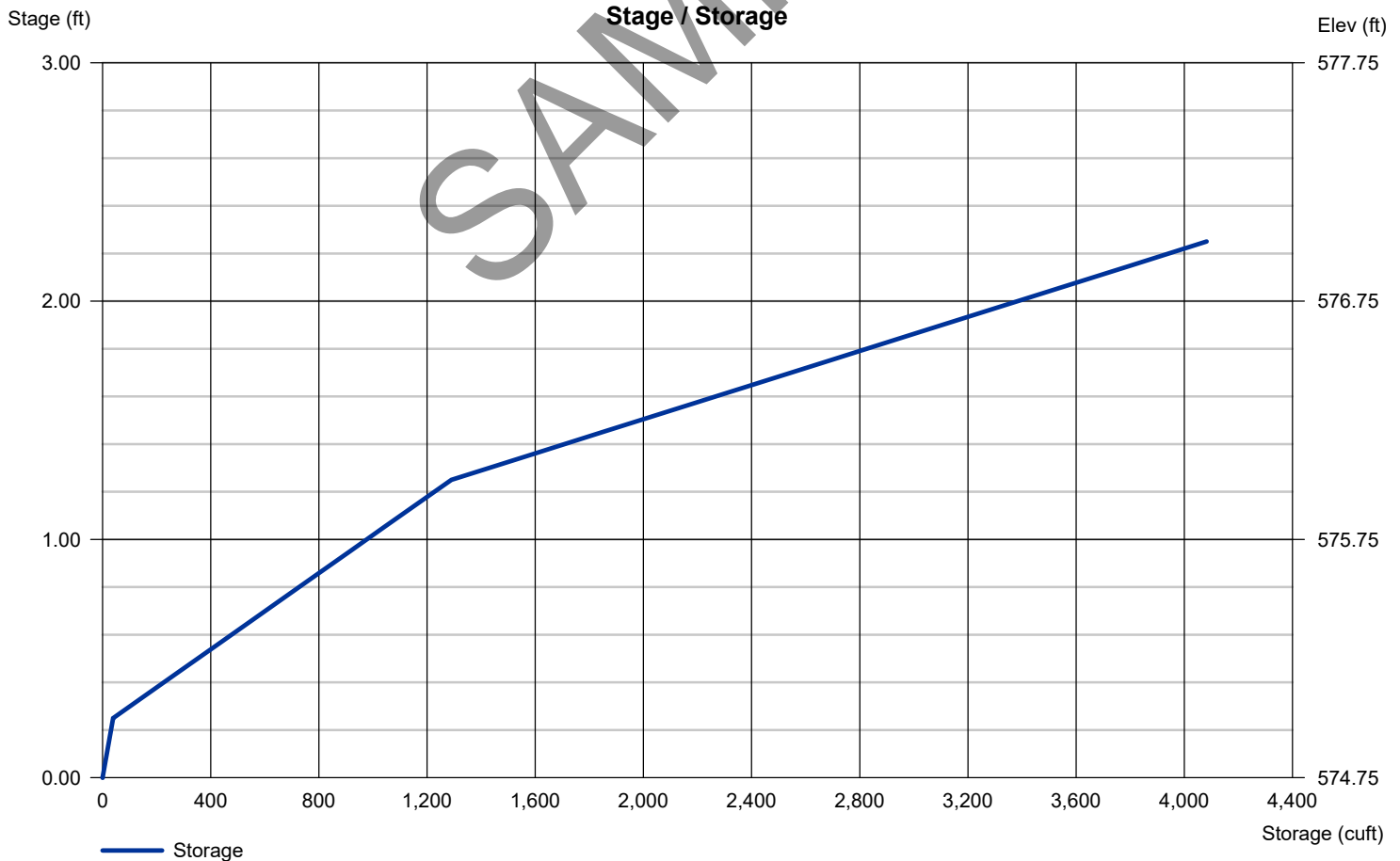
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 574.75	0.00	0.00	0.00
Length (ft)	= 11.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.50	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 10 - POND 203

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 576.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	576.00	00	0	0
1.00	577.00	1,879	626	626
2.00	578.00	4,311	3,012	3,638
3.00	579.00	6,109	5,183	8,821

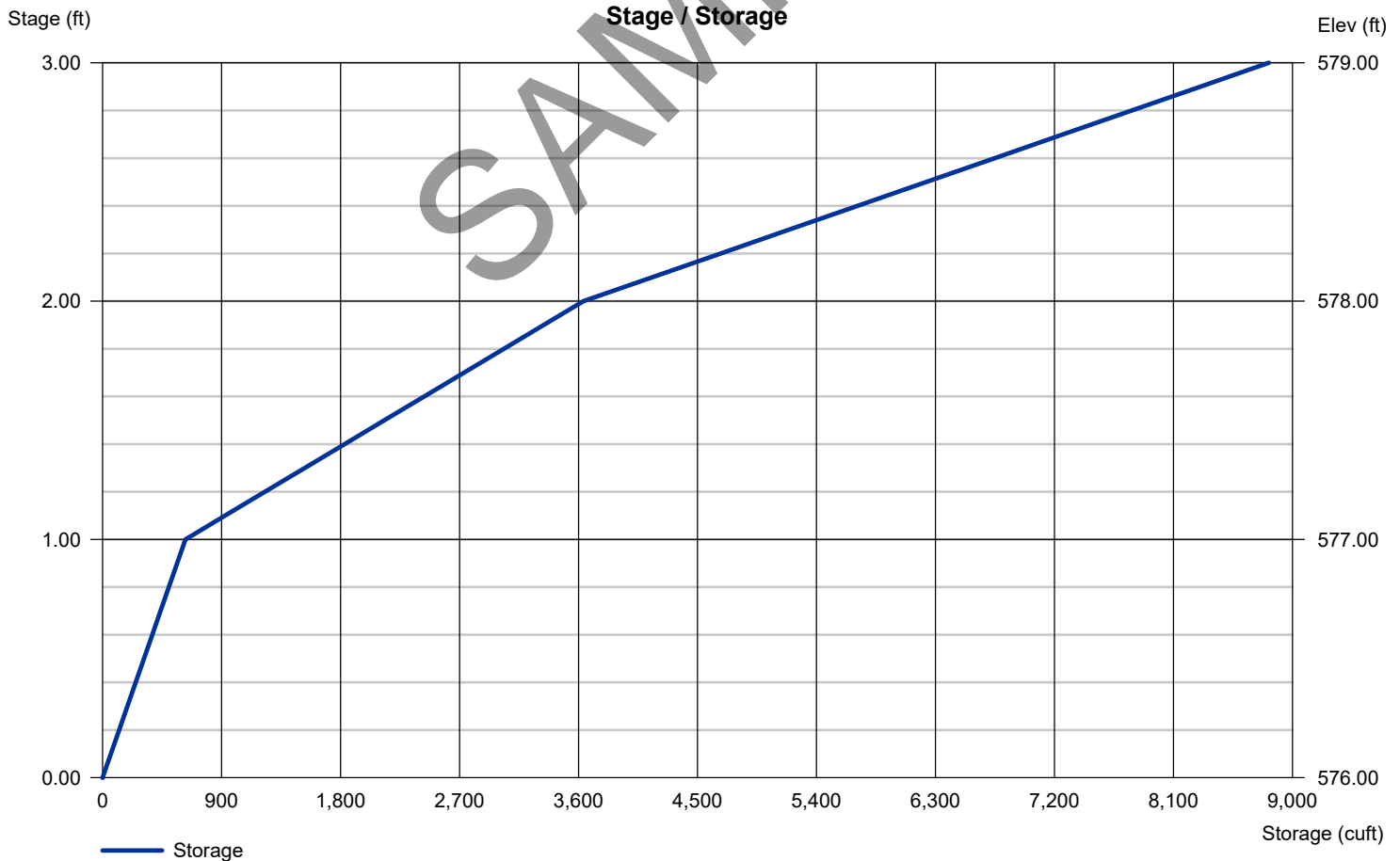
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 576.00	0.00	0.00	0.00
Length (ft)	= 21.00	0.00	0.00	0.00
Slope (%)	= 4.58	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.50	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 9 - POND 208A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 577.75 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	577.75	00	0	0
0.25	578.00	4,741	395	395
1.25	579.00	29,446	15,333	15,728
2.25	580.00	39,067	34,140	49,868

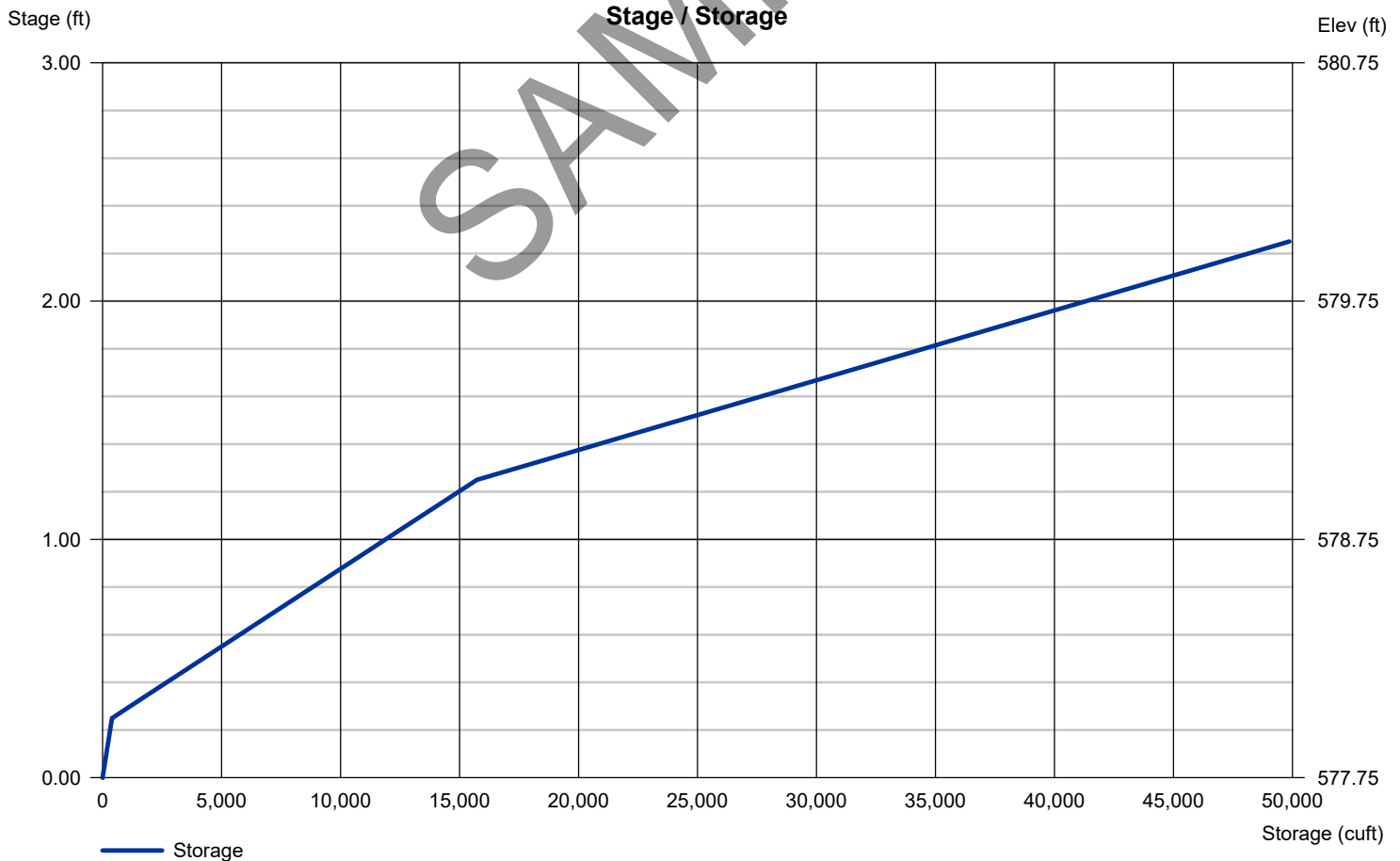
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 577.75	0.00	0.00	0.00
Length (ft)	= 24.00	0.00	0.00	0.00
Slope (%)	= 0.96	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.90	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 11 - POND 209A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 577.80 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	577.80	00	0	0
0.20	578.00	5,262	351	351
1.20	579.00	9,474	7,265	7,616
2.20	580.00	16,532	12,839	20,455

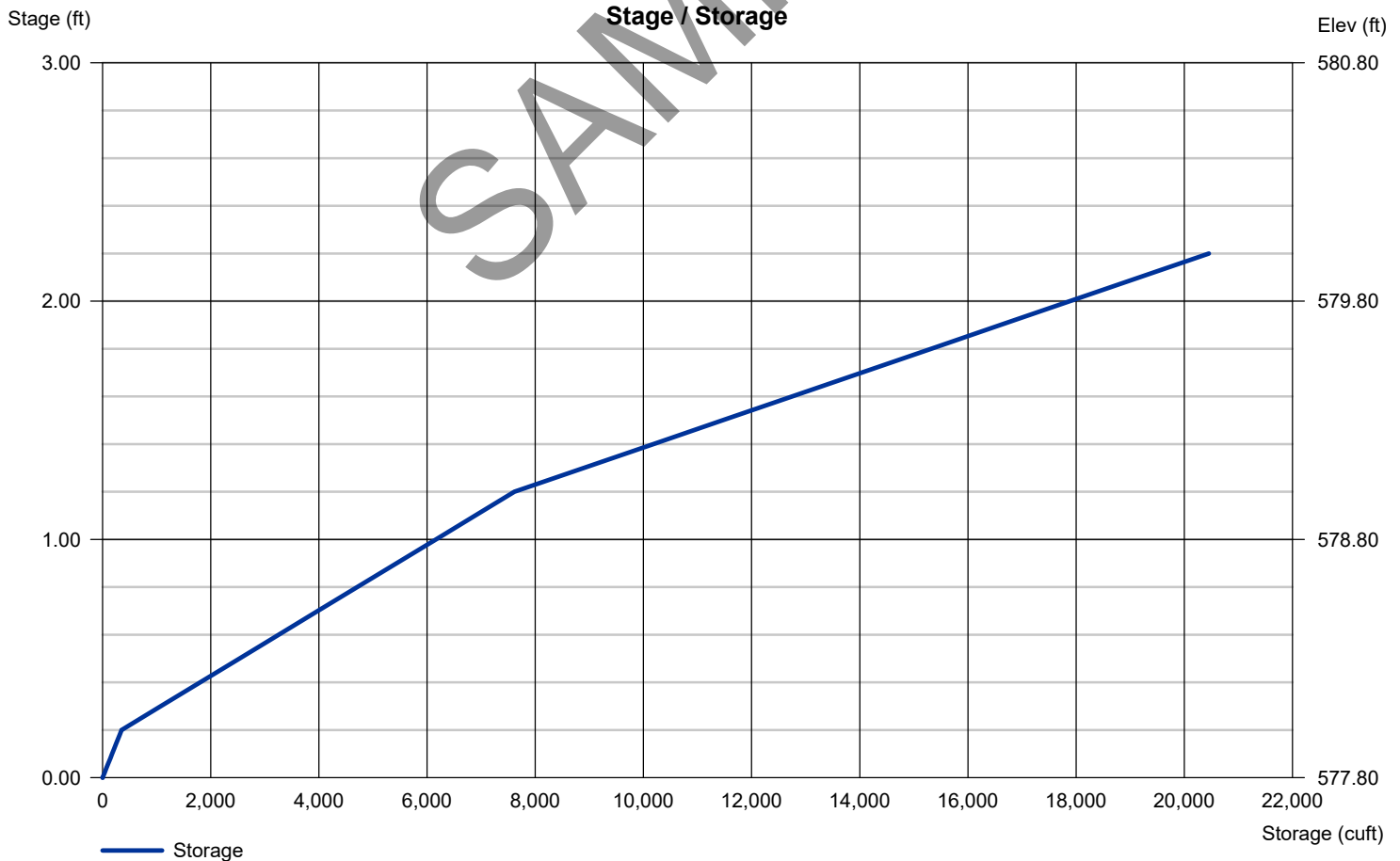
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 577.80	0.00	0.00	0.00
Length (ft)	= 21.00	0.00	0.00	0.00
Slope (%)	= 0.47	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.90	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 2 - POND 211

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 579.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	579.00	00	0	0
1.00	580.00	495	165	165
2.00	581.00	1,375	898	1,063
3.00	582.00	3,960	2,556	3,619

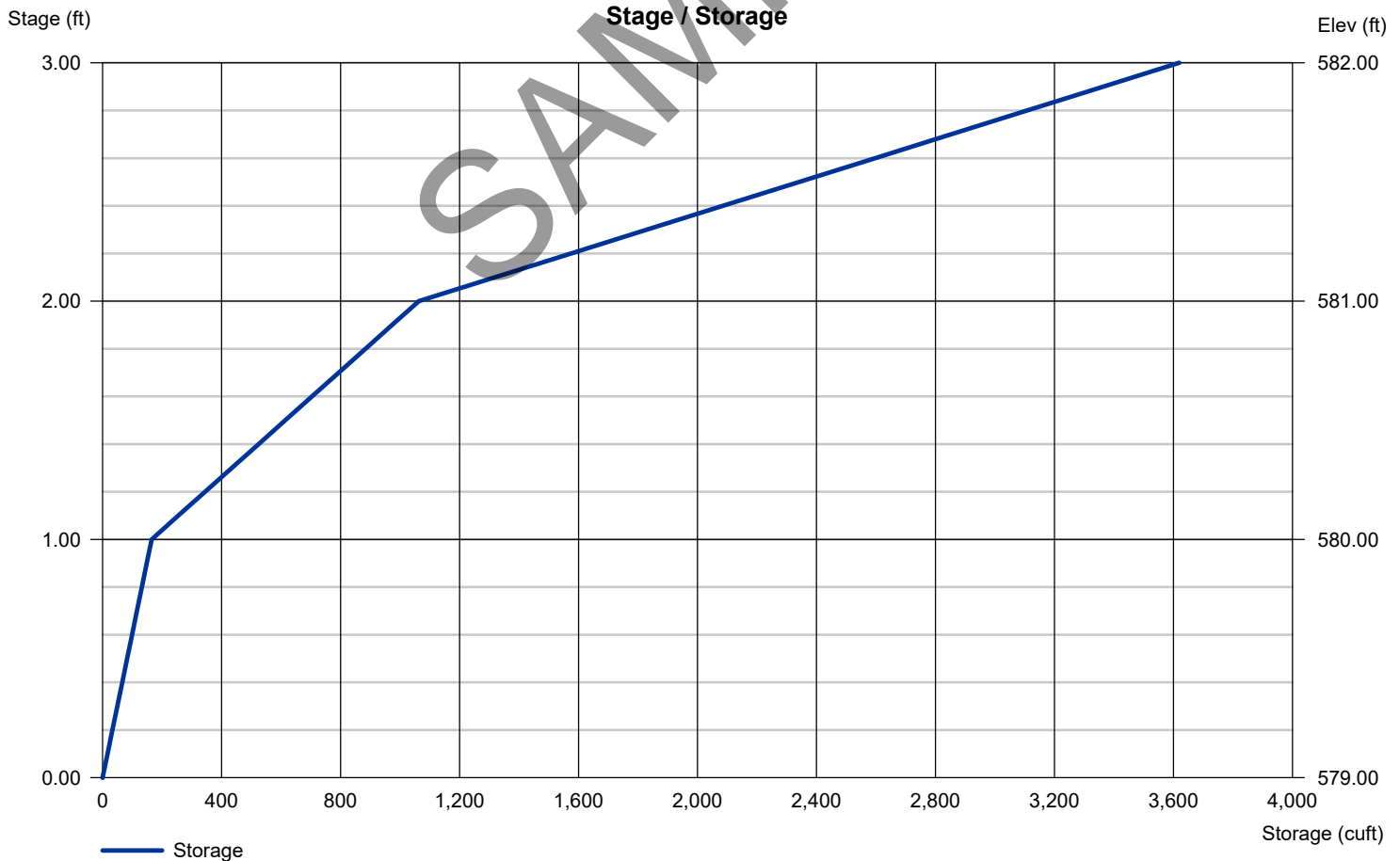
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 9.00	0.00	0.00	0.00
Span (in)	= 9.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 579.00	0.00	0.00	0.00
Length (ft)	= 18.00	0.00	0.00	0.00
Slope (%)	= 5.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.50	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 1 - POND 213

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 578.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	578.00	00	0	0
1.00	579.00	330	110	110
2.00	580.00	1,125	688	798
3.00	581.00	2,725	1,867	2,665
4.00	582.00	5,855	4,191	6,856
5.00	583.00	12,434	8,940	15,795
5.50	583.50	14,930	6,831	22,626

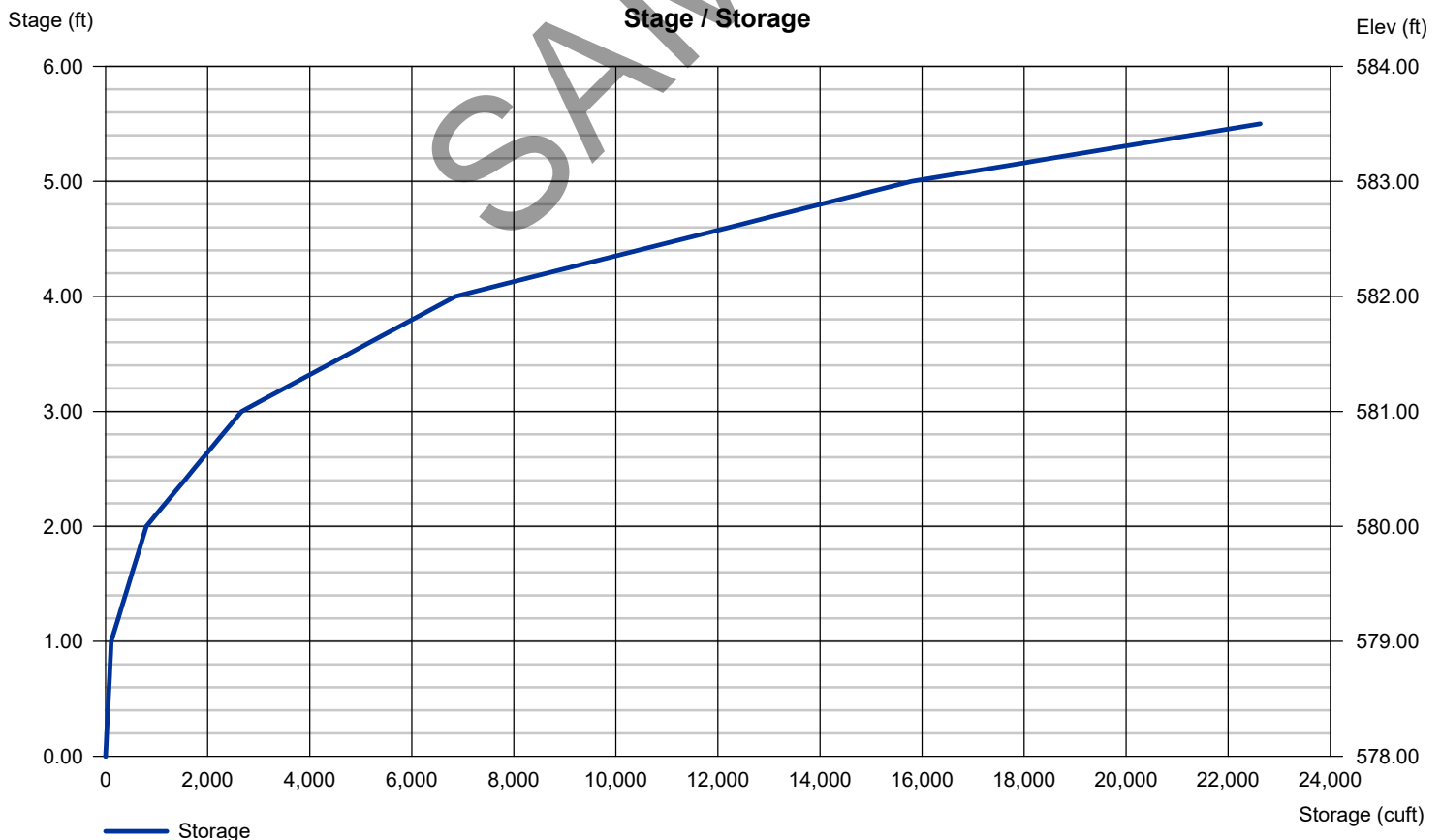
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 10.00	0.00	0.00	0.00
Span (in)	= 10.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 578.00	0.00	0.00	0.00
Length (ft)	= 25.00	0.00	0.00	0.00
Slope (%)	= 3.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.50	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Pond No. 3 - POND 217

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 579.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	579.00	00	0	0
1.00	580.00	5,604	1,868	1,868
2.00	581.00	13,516	9,273	11,141
3.00	582.00	23,381	18,223	29,364
4.00	583.00	32,913	28,009	57,373

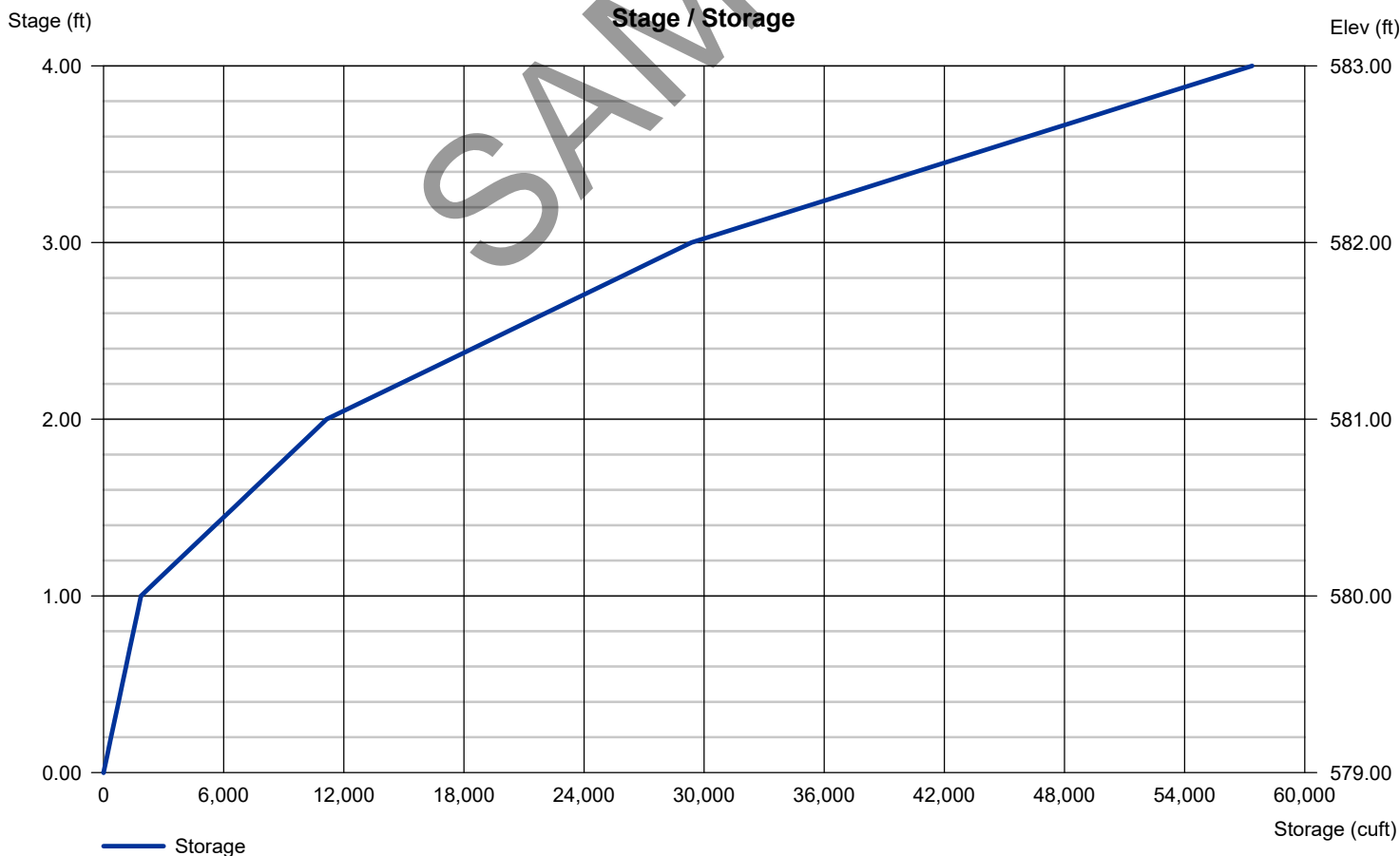
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 579.00	0.00	0.00	0.00
Length (ft)	= 28.00	0.00	0.00	0.00
Slope (%)	= 1.07	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.90	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).





HYDRAULIC GRADE LINE (HGL) CALCULATIONS
DESIGN STORM = 50-YR

PROJECT: I-65 Southeast Project (SR-28940)
LOCATION: Package C
COUNTY: Jackson

DONE BY: MA
DATE: 2/13/19
CHECKED BY: WN
DATE: 2/21/09

STATION	LOCATION	STR. NO.		PIPE LENGTH (ft)	PIPE INFO								Tailwater Elev.	Flowline Elev.	Q DESIGN (cfs)	Hydraulic Grade Line		Rim Elev.	Edge of Travel Lane Elev.	HGL < ETL Y/N	Outlet Velocity (fps)
					DIAMETER		SLOPE (%)	n	INVERT		CROWN					Elev.					
					(in)	(ft)			Up	Down	Up	Down				Up HGL _i	Down HGL _o				
		Up	Down																		
Median Outlets																					
2503+50	Med. Lt.	479	OUT	82	15	1.25	1.71	0.012	588.58	587.18	589.83	588.43	588.43	578.95	6.80	590.62	588.43	591.09	592.08	Y	8.17
2508+00	Med. Lt.	480	OUT	83	15	1.25	1.64	0.012	600.63	599.27	601.88	600.52	600.52	581.14	6.47	602.56	600.52	603.12	604.02	Y	6.02
2530+04	Med. Lt.	485	OUT	77	15	1.25	1.75	0.012	583.74	582.39	584.99	583.64	583.64	580.18	8.68	586.55	583.64	586.52	587.42	Y	8.58
2534+00	Med. Lt.	303	OUT	77	15	1.25	0.77	0.012	583.70	583.11	584.95	584.36	584.36	581.42	5.98	585.47	584.36	586.80	587.74	Y	5.61
2538+00	Med. Lt.	304	OUT	73	18	1.50	0.56	0.012	584.02	583.61	585.52	585.11	585.11	582.60	8.27	586.00	585.11	587.10	588.05	Y	4.68
2411+00	Med. Lt.	452	OUT	71	18	1.50	2.46	0.012	597.42	595.67	598.92	597.17	597.17	574.71	10.57	599.82	597.17	599.88	600.87	Y	6.74
2435+00	Med. Lt.	456	OUT	70	15	1.25	0.94	0.012	581.66	581.00	582.91	582.25	582.25	572.87	6.72	583.67	582.25	584.15	585.10	Y	6.30
2439+23	Med. Lt.	458	OUT	73	18	1.50	1.85	0.012	580.81	579.46	582.31	580.96	580.96	571.08	10.57	583.21	580.96	583.23	584.12	Y	9.43
2442+00	Med. Lt.	461	OUT	73	15	1.25	1.55	0.012	581.30	580.17	582.55	581.42	581.42	574.81	5.98	583.07	581.42	583.79	584.46	Y	5.76
2446+50	Med. Lt.	462	OUT	71	15	1.25	1.66	0.012	582.19	581.01	583.44	582.26	582.26	573.51	5.98	583.96	582.26	584.68	585.37	Y	5.76
2450+00	Med. Lt.	463	OUT	71	15	1.25	1.52	0.012	582.90	581.82	584.15	583.07	583.07	572.41	5.98	584.67	583.07	585.39	586.11	Y	5.76
2454+00	Med. Lt.	464	OUT	71	15	1.25	1.51	0.012	583.68	582.61	584.93	583.86	583.86	571.98	5.98	585.45	583.86	586.18	586.99	Y	5.76
2458+00	Med. Rt.	465	OUT	69	15	1.25	1.51	0.012	584.47	583.43	585.72	584.68	584.68	572.64	6.47	586.40	584.68	586.96	587.84	Y	7.70
2466+30	Med. Lt.	466	OUT	72	15	1.25	1.88	0.012	585.97	584.62	587.22	585.87	585.87	574.88	5.90	587.71	585.87	588.47	589.45	Y	5.72
2470+00	Med. Rt.	468	OUT	70	15	1.25	0.79	0.012	586.69	586.14	587.94	587.39	587.39	577.45	5.24	588.25	587.39	589.20	590.18	Y	5.67
2488+00	Med. Lt.	471	OUT	92	15	1.25	1.71	0.012	584.24	582.67	585.49	583.92	583.92	579.86	6.39	586.14	583.92	586.75	587.74	Y	5.98

NOTE:
Please refer to the Median Outlet HGL.hy8 file for hydraulic modeling details pertaining to this summary spreadsheet

Rim Elevation is the bottom of grate (low side) of the P inlet located at the median ditch flowline.

If pond spillway elevation is greater than pipe outlet crown, the spillway elevation will be the new tailwater elevation

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

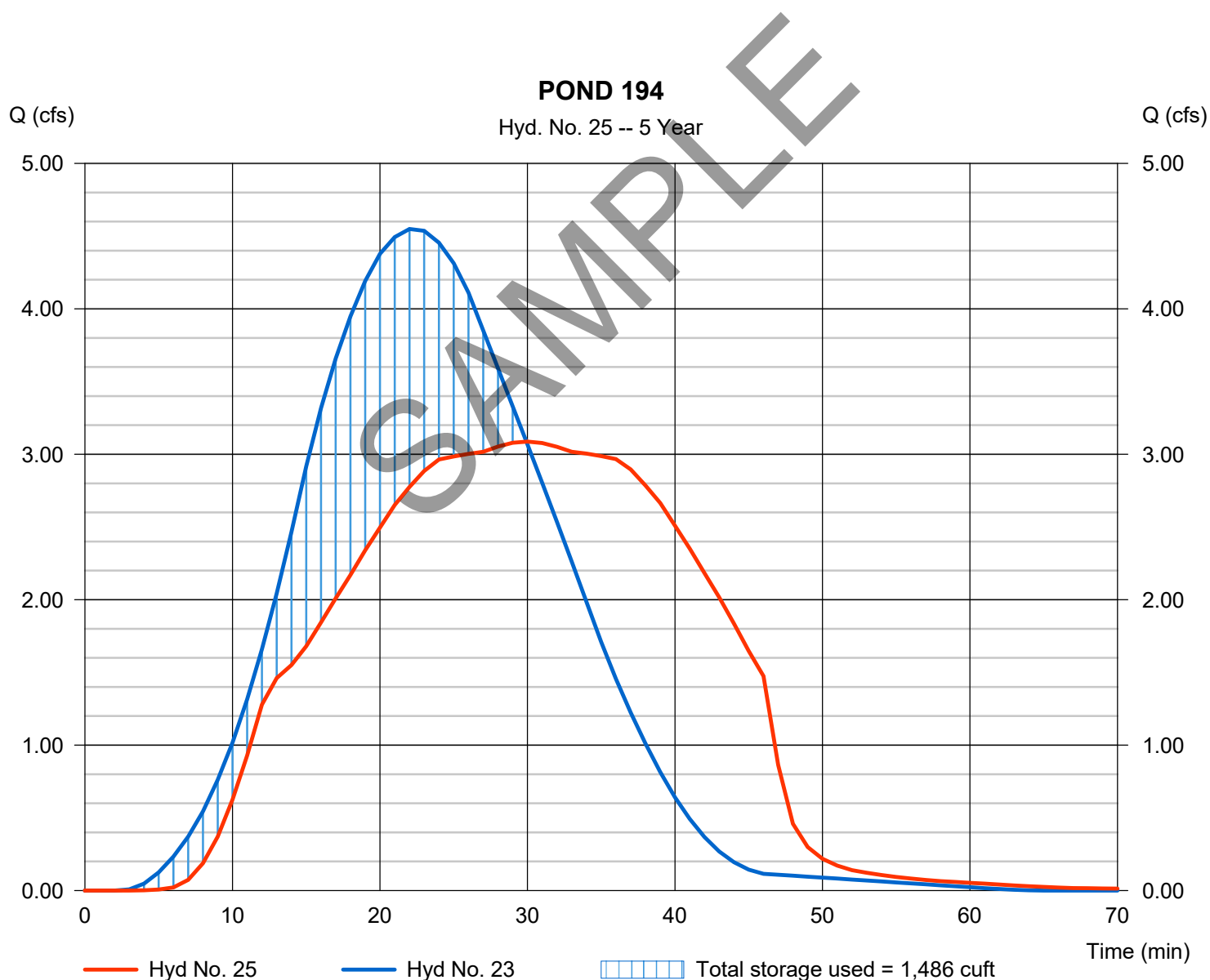
Tuesday, 04 / 2 / 2019

Hyd. No. 25

POND 194

Hydrograph type	= Reservoir	Peak discharge	= 3.087 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 5,536 cuft
Inflow hyd. No.	= 23 - PR 194 COMBINE	Max. Elevation	= 574.52 ft
Reservoir name	= POND 194	Max. Storage	= 1,486 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

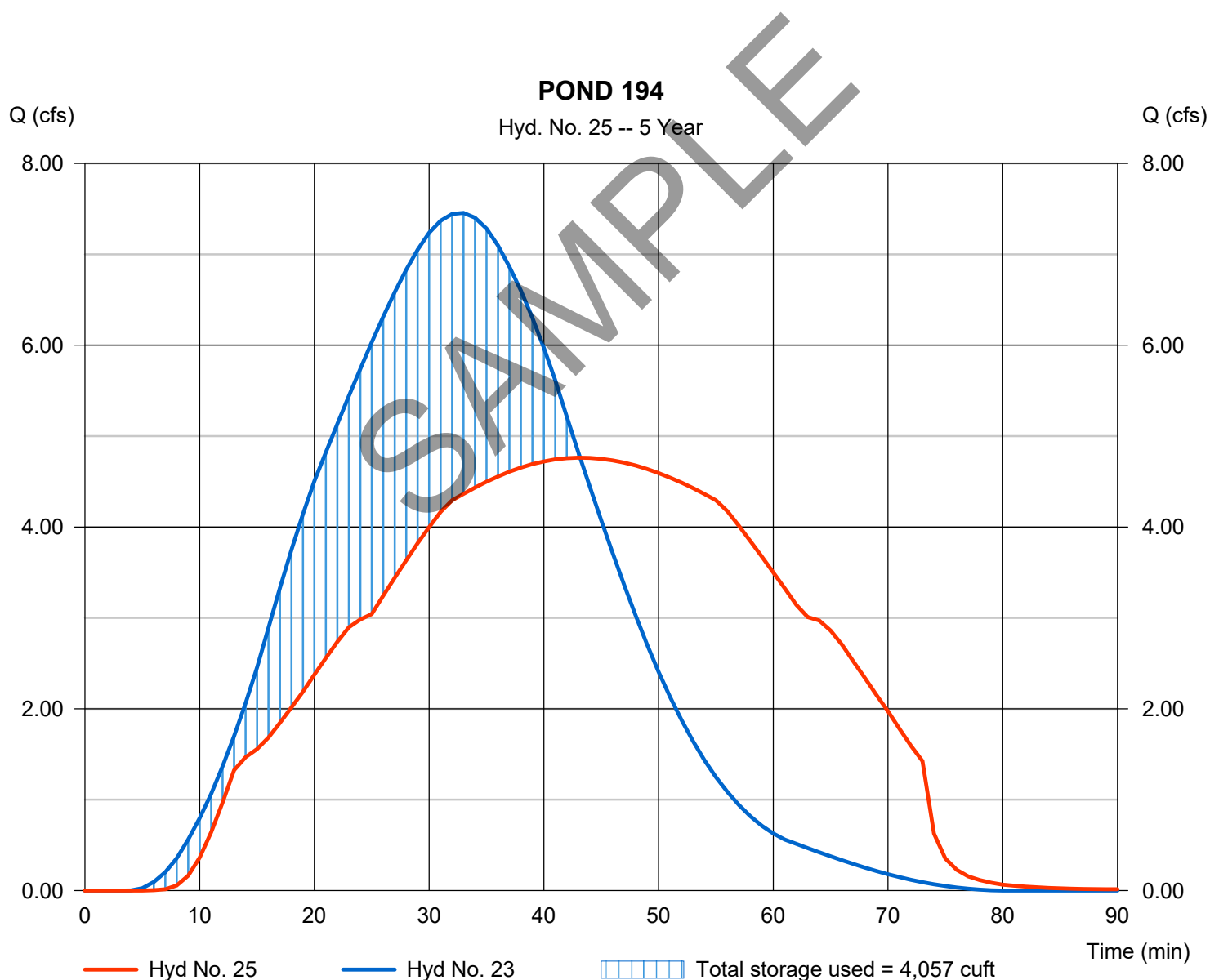
Tuesday, 04 / 2 / 2019

Hyd. No. 25

POND 194

Hydrograph type	= Reservoir	Peak discharge	= 4.763 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 12,979 cuft
Inflow hyd. No.	= 23 - PR 194 COMBINE	Max. Elevation	= 575.25 ft
Reservoir name	= POND 194	Max. Storage	= 4,057 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

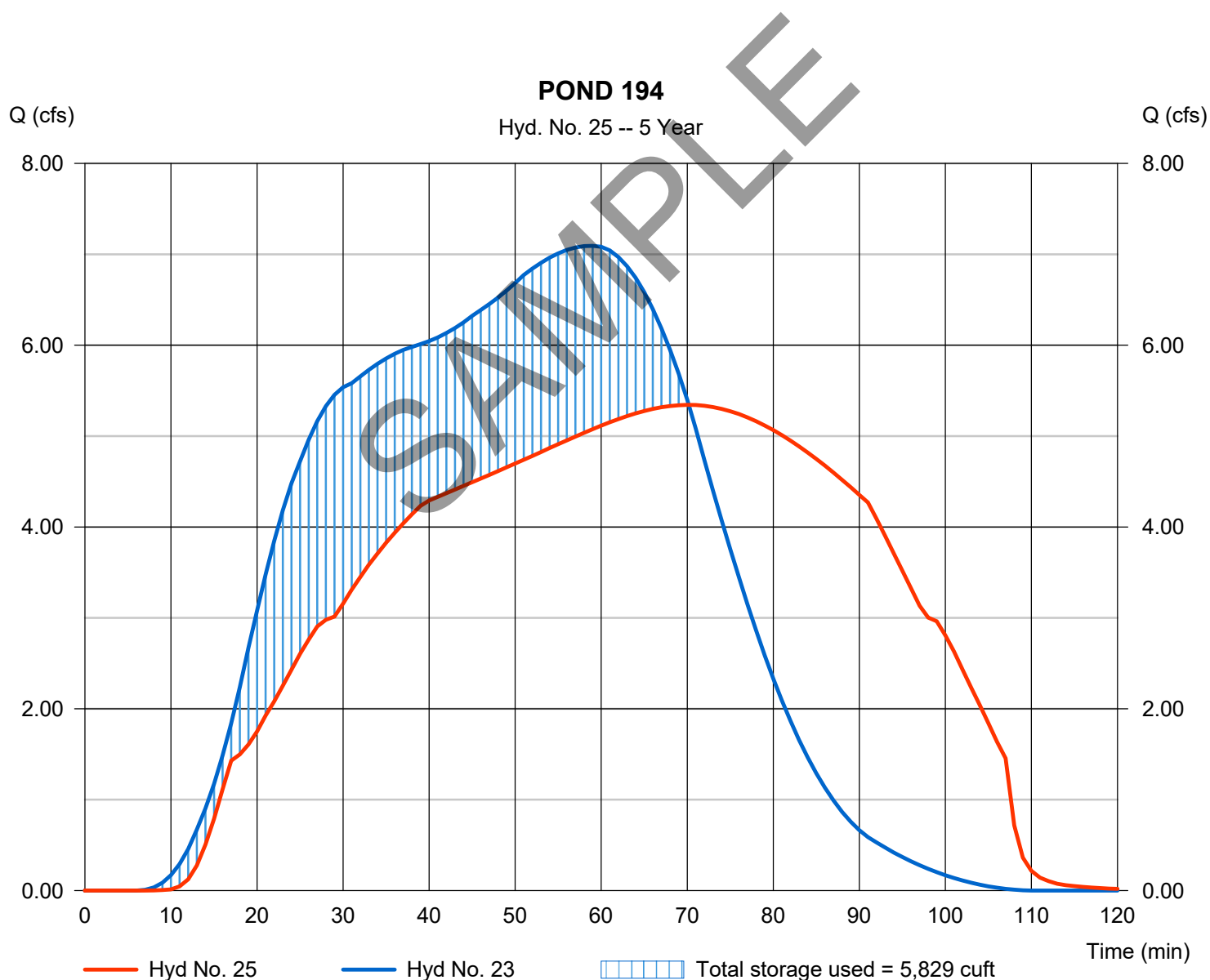
Tuesday, 04 / 2 / 2019

Hyd. No. 25

POND 194

Hydrograph type	= Reservoir	Peak discharge	= 5.344 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 70 min
Time interval	= 1 min	Hyd. volume	= 22,283 cuft
Inflow hyd. No.	= 23 - PR 194 COMBINE	Max. Elevation	= 575.57 ft
Reservoir name	= POND 194	Max. Storage	= 5,829 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

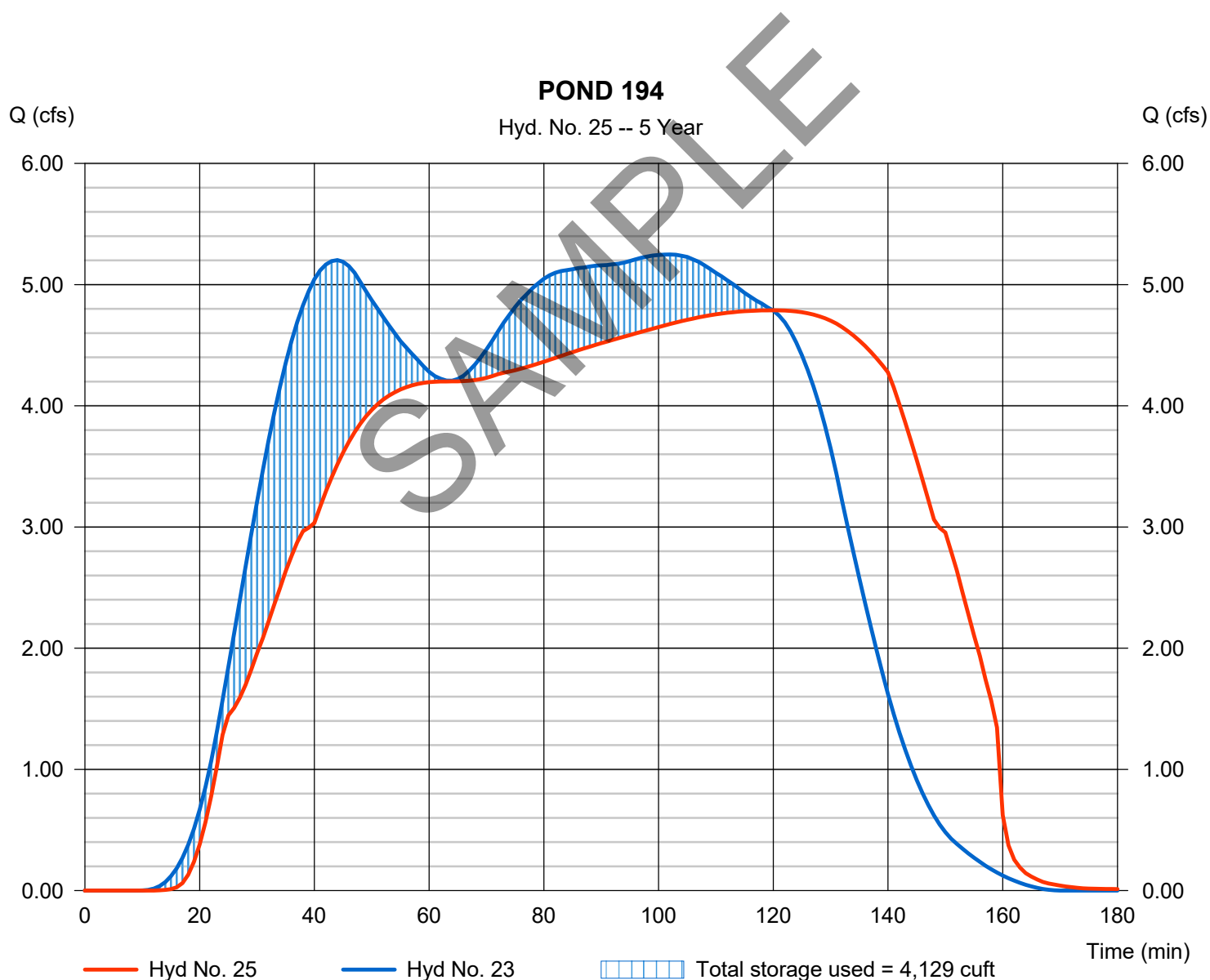
Tuesday, 04 / 2 / 2019

Hyd. No. 25

POND 194

Hydrograph type	= Reservoir	Peak discharge	= 4.788 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 120 min
Time interval	= 1 min	Hyd. volume	= 32,254 cuft
Inflow hyd. No.	= 23 - PR 194 COMBINE	Max. Elevation	= 575.26 ft
Reservoir name	= POND 194	Max. Storage	= 4,129 cuft

Storage Indication method used.



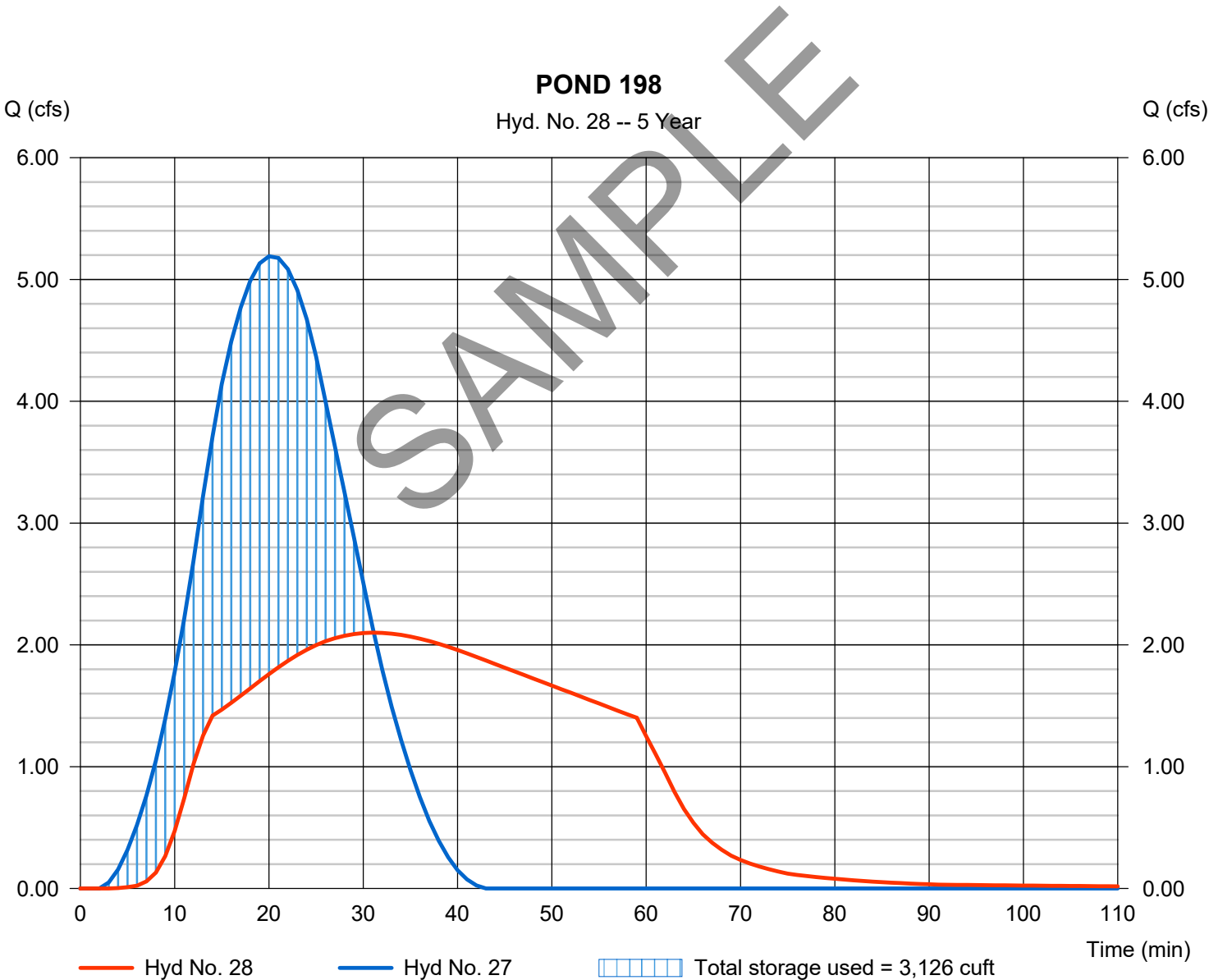
Hydrograph Report

Hyd. No. 28

POND 198

Hydrograph type	= Reservoir	Peak discharge	= 2.100 cfs
Storm frequency	= 5 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 5,811 cuft
Inflow hyd. No.	= 27 - PR 198	Max. Elevation	= 572.78 ft
Reservoir name	= POND 198	Max. Storage	= 3,126 cuft

Storage Indication method used.



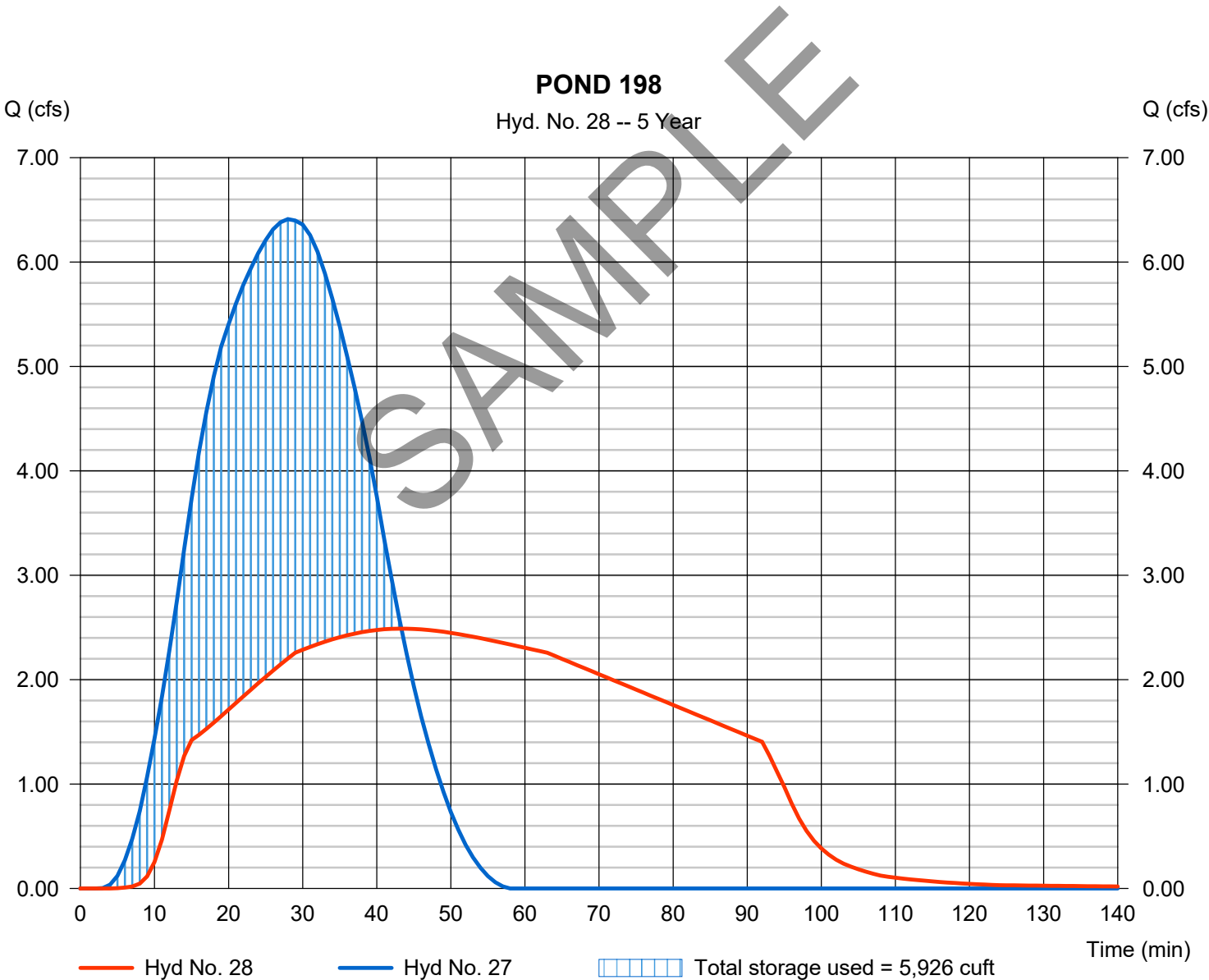
Hydrograph Report

Hyd. No. 28

POND 198

Hydrograph type	= Reservoir	Peak discharge	= 2.489 cfs
Storm frequency	= 5 yrs	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 10,550 cuft
Inflow hyd. No.	= 27 - PR 198	Max. Elevation	= 573.35 ft
Reservoir name	= POND 198	Max. Storage	= 5,926 cuft

Storage Indication method used.



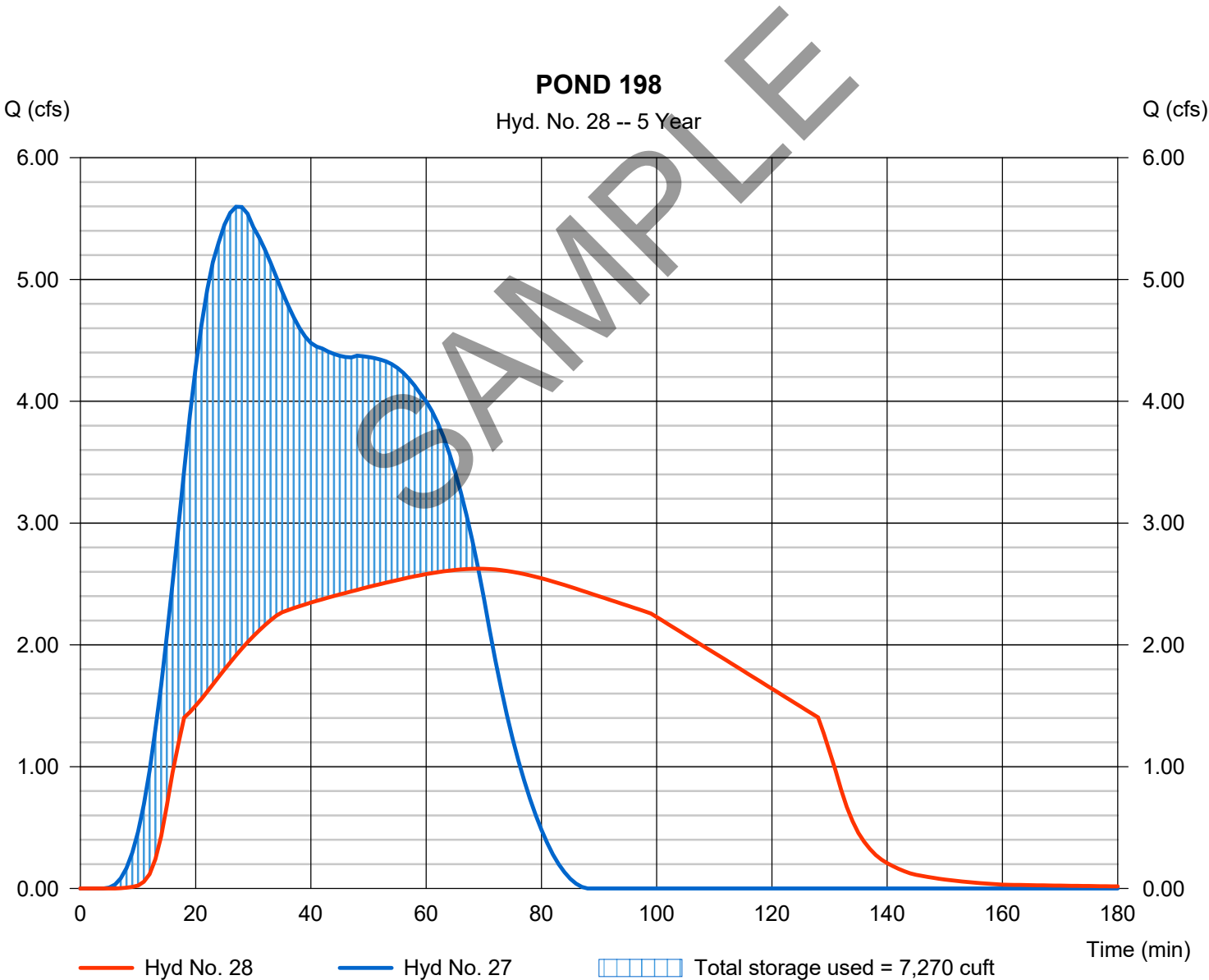
Hydrograph Report

Hyd. No. 28

POND 198

Hydrograph type	= Reservoir	Peak discharge	= 2.625 cfs
Storm frequency	= 5 yrs FFA	Time to peak	= 69 min
Time interval	= 1 min	Hyd. volume	= 15,515 cuft
Inflow hyd. No.	= 27 - PR 198	Max. Elevation	= 573.57 ft
Reservoir name	= POND 198	Max. Storage	= 7,270 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

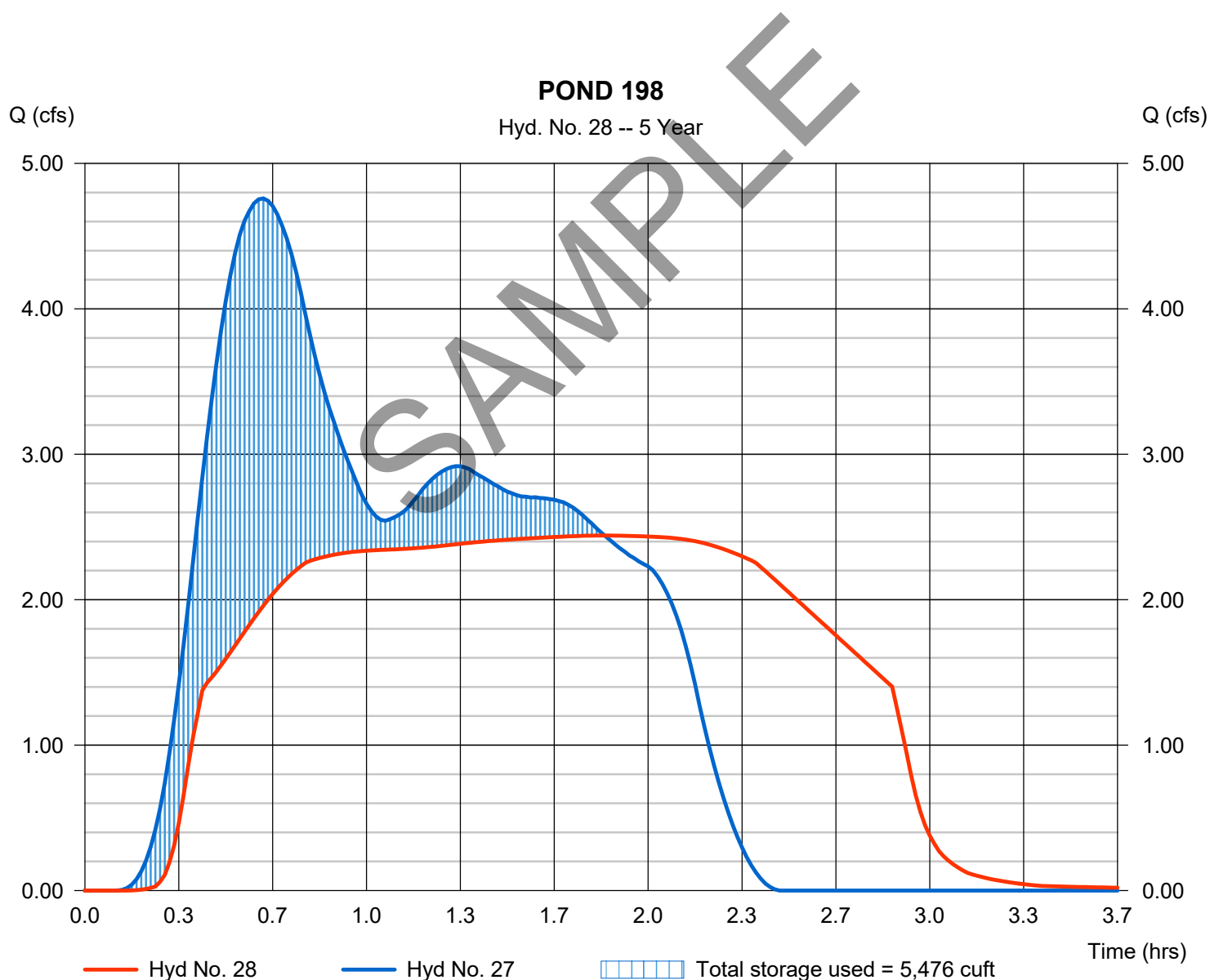
Hyd. No. 28

POND 198

Hydrograph type = Reservoir
Storm frequency = 5 yrs FCA
Time interval = 1 min
Inflow hyd. No. = 27 - PR 198
Reservoir name = POND 198

Peak discharge = 2.441 cfs
Time to peak = 1.85 hrs
Hyd. volume = 20,317 cuft
Max. Elevation = 573.27 ft
Max. Storage = 5,476 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

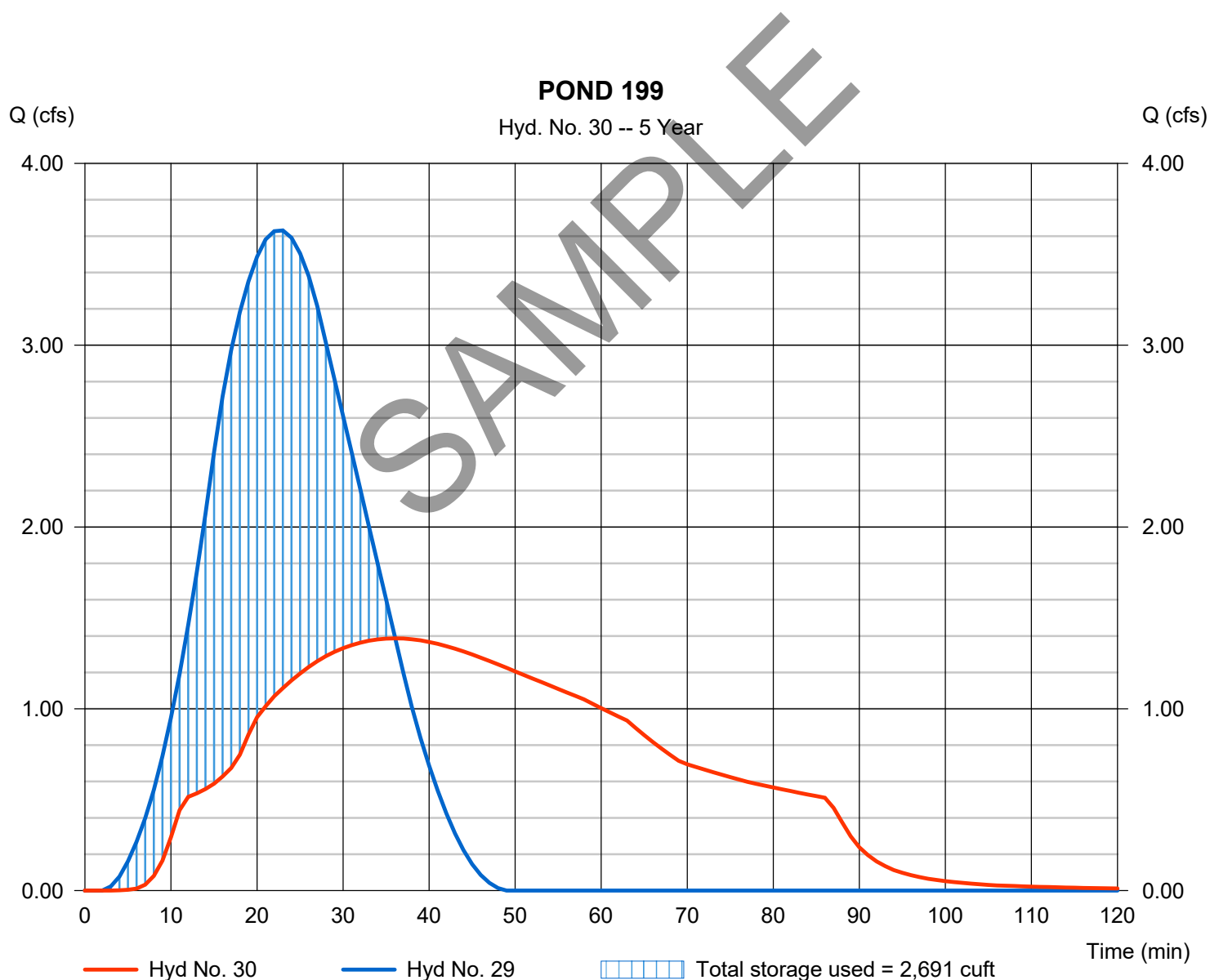
Tuesday, 04 / 2 / 2019

Hyd. No. 30

POND 199

Hydrograph type	= Reservoir	Peak discharge	= 1.388 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 36 min
Time interval	= 1 min	Hyd. volume	= 4,659 cuft
Inflow hyd. No.	= 29 - PR 199	Max. Elevation	= 572.82 ft
Reservoir name	= POND 199	Max. Storage	= 2,691 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

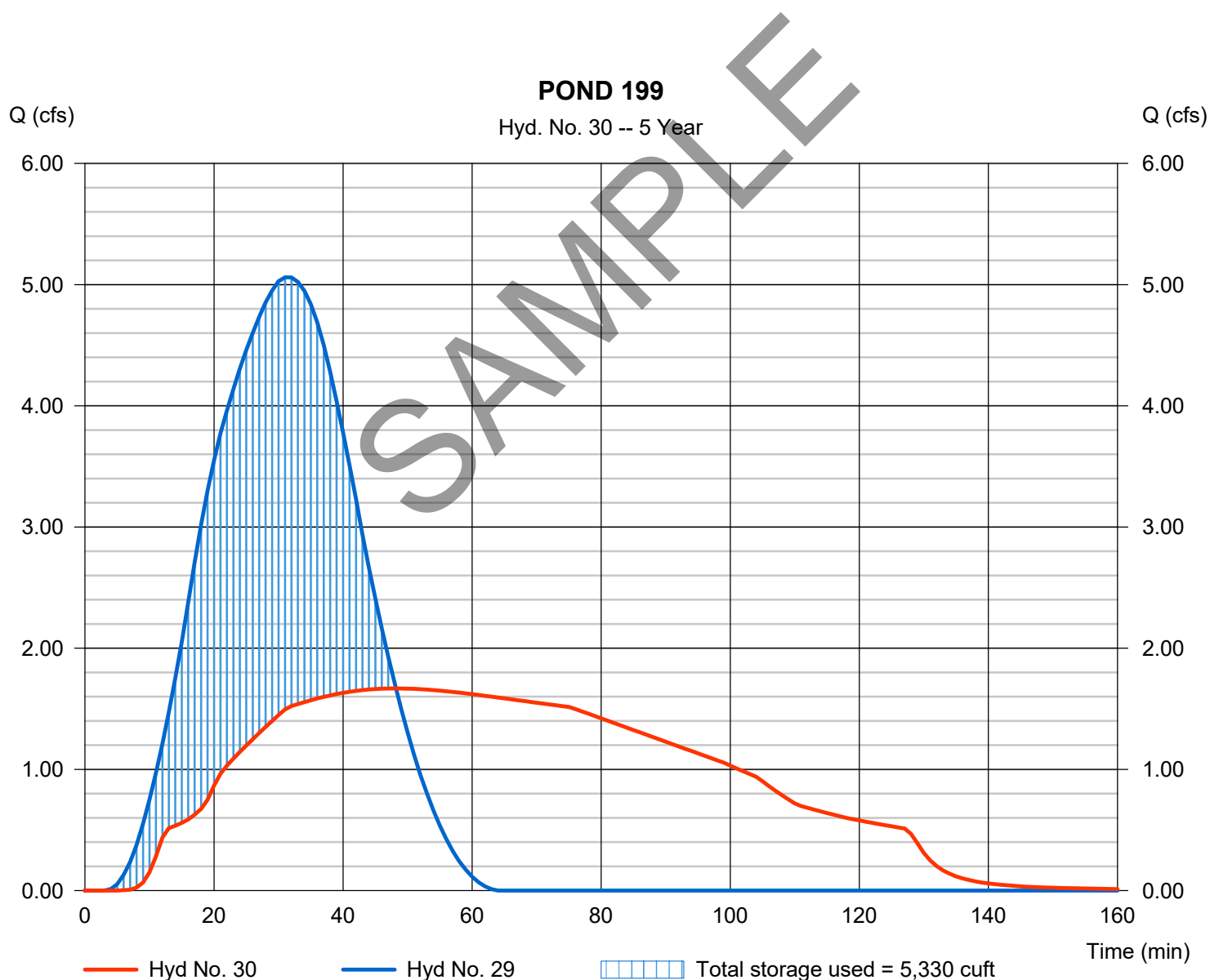
Tuesday, 04 / 2 / 2019

Hyd. No. 30

POND 199

Hydrograph type	= Reservoir	Peak discharge	= 1.668 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 48 min
Time interval	= 1 min	Hyd. volume	= 8,659 cuft
Inflow hyd. No.	= 29 - PR 199	Max. Elevation	= 573.25 ft
Reservoir name	= POND 199	Max. Storage	= 5,330 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

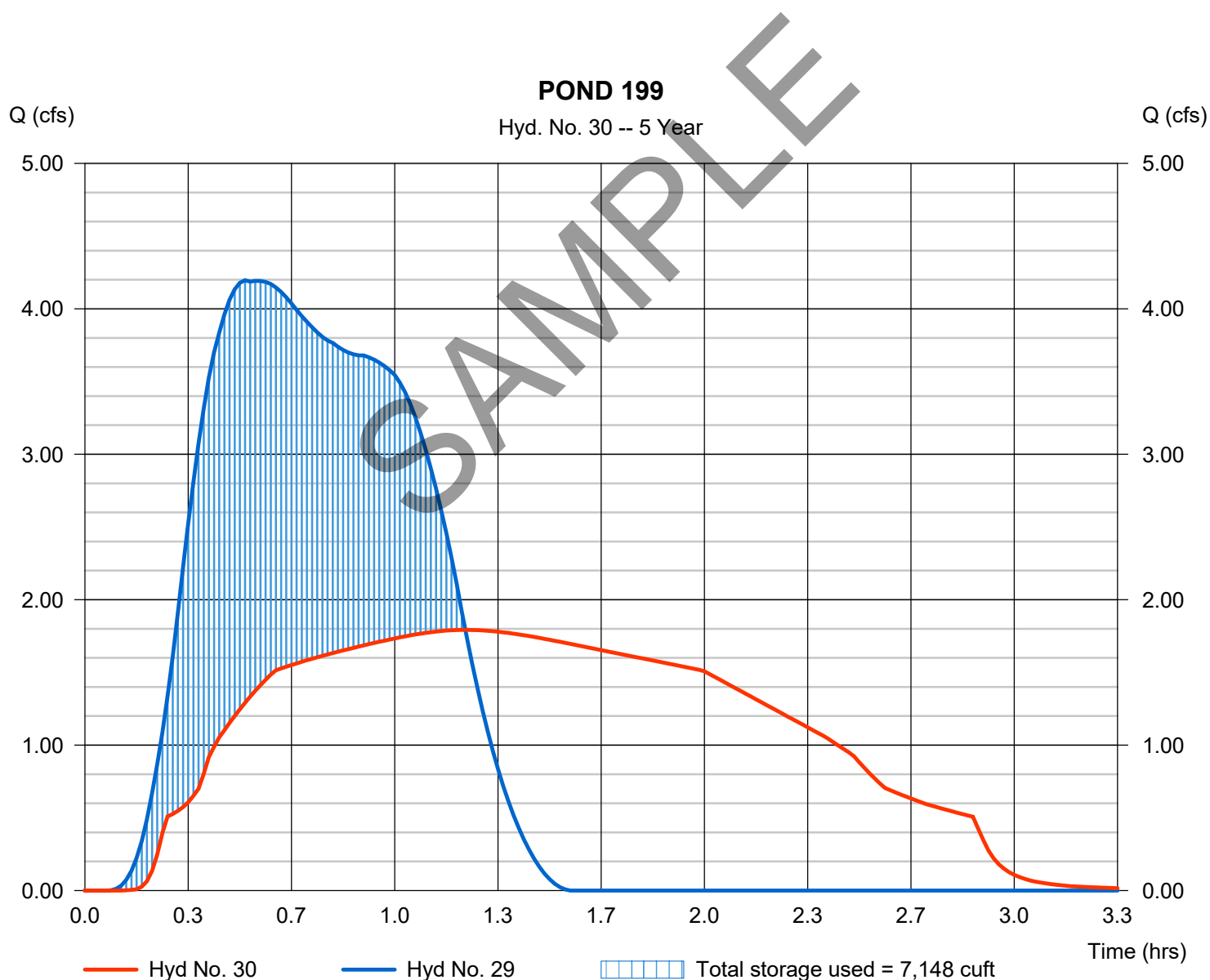
Tuesday, 04 / 2 / 2019

Hyd. No. 30

POND 199

Hydrograph type	= Reservoir	Peak discharge	= 1.793 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 1.23 hrs
Time interval	= 1 min	Hyd. volume	= 12,934 cuft
Inflow hyd. No.	= 29 - PR 199	Max. Elevation	= 573.47 ft
Reservoir name	= POND 199	Max. Storage	= 7,148 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

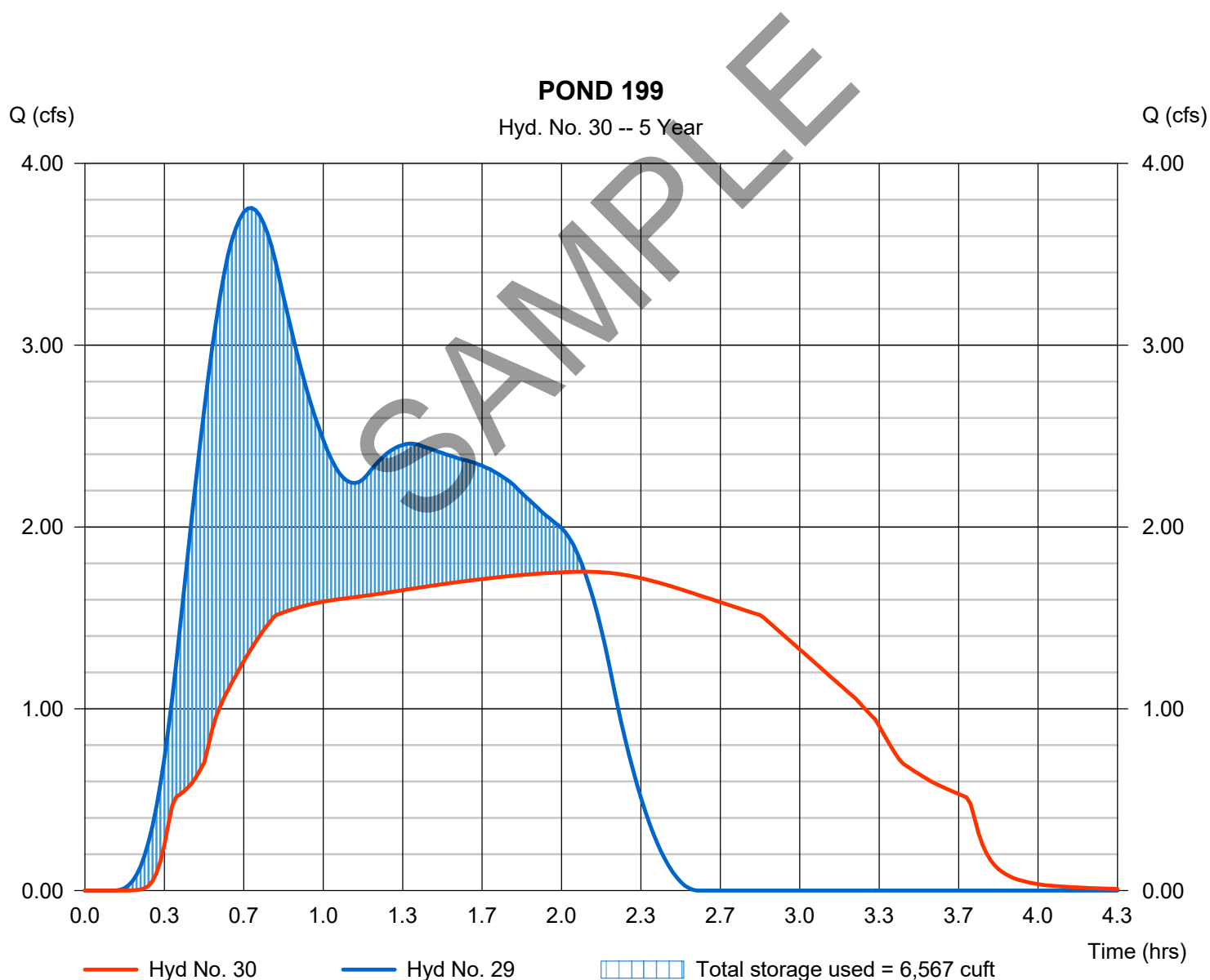
Tuesday, 04 / 2 / 2019

Hyd. No. 30

POND 199

Hydrograph type	= Reservoir	Peak discharge	= 1.754 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 2.10 hrs
Time interval	= 1 min	Hyd. volume	= 17,105 cuft
Inflow hyd. No.	= 29 - PR 199	Max. Elevation	= 573.40 ft
Reservoir name	= POND 199	Max. Storage	= 6,567 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

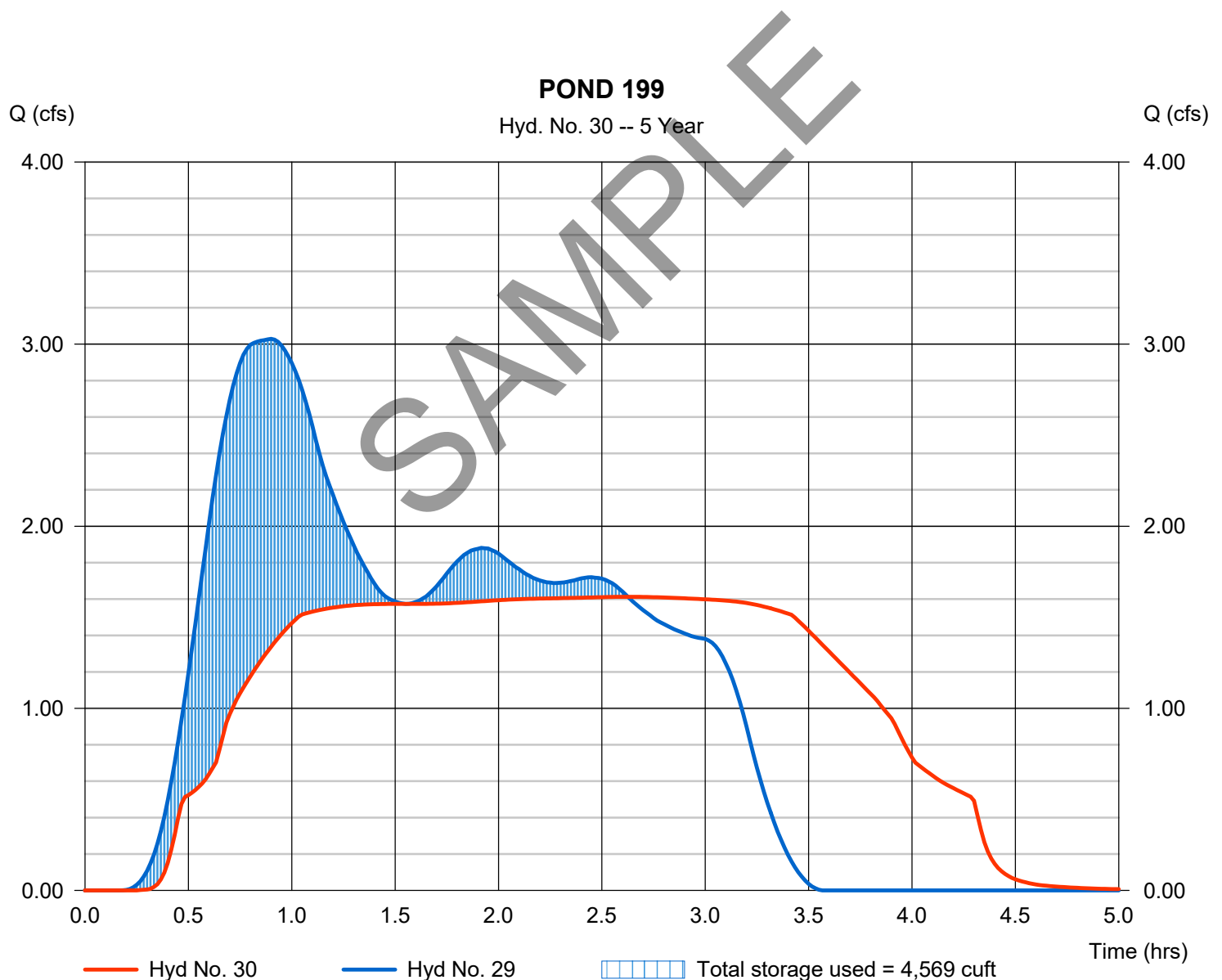
Tuesday, 04 / 2 / 2019

Hyd. No. 30

POND 199

Hydrograph type	= Reservoir	Peak discharge	= 1.612 cfs
Storm frequency	= 5 yrs, 3 hr	Time to peak	= 2.63 hrs
Time interval	= 1 min	Hyd. volume	= 19,061 cuft
Inflow hyd. No.	= 29 - PR 199	Max. Elevation	= 573.16 ft
Reservoir name	= POND 199	Max. Storage	= 4,569 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

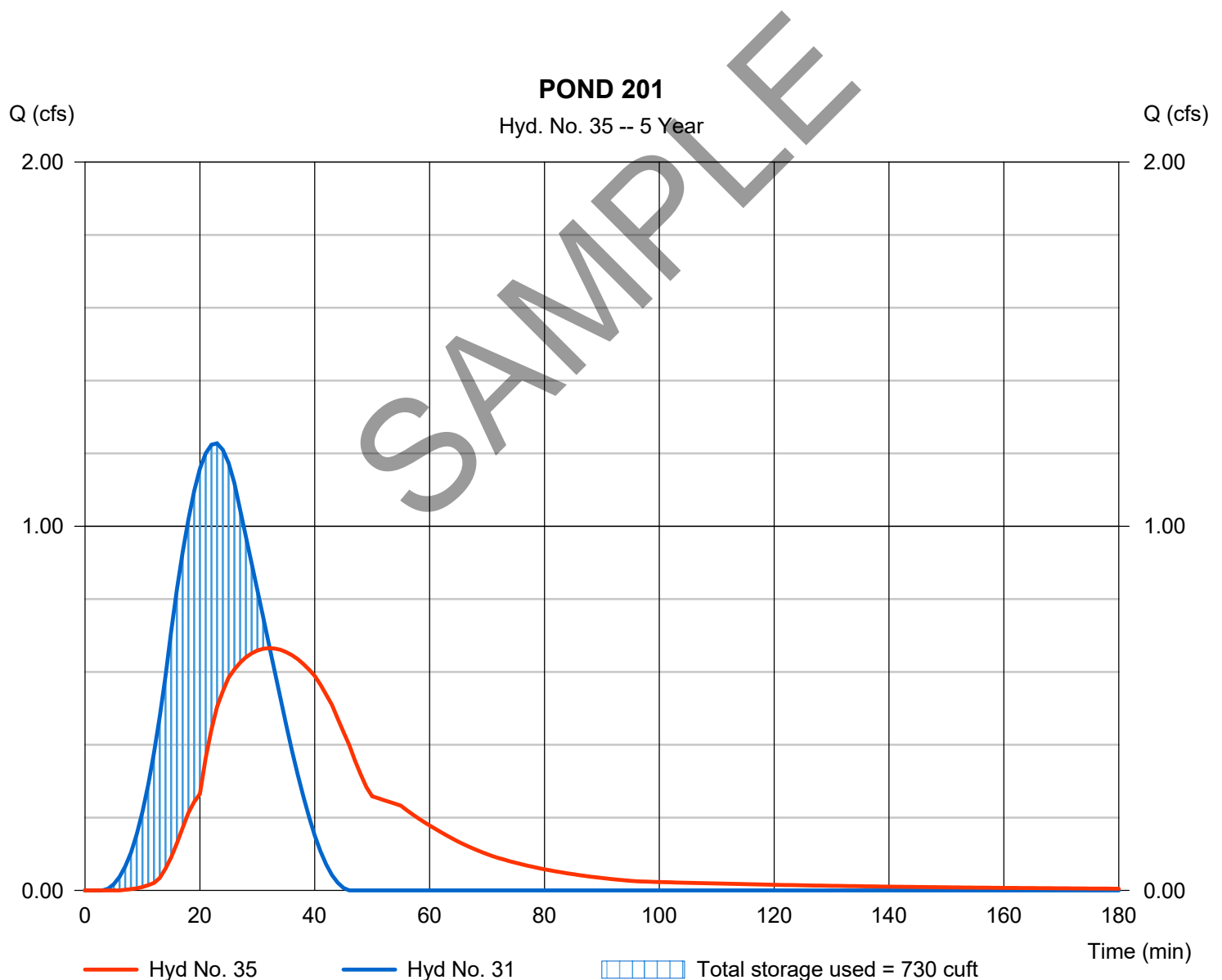
Tuesday, 04 / 2 / 2019

Hyd. No. 35

POND 201

Hydrograph type	= Reservoir	Peak discharge	= 0.665 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 1,410 cuft
Inflow hyd. No.	= 31 - PR 201	Max. Elevation	= 572.96 ft
Reservoir name	= POND 201	Max. Storage	= 730 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

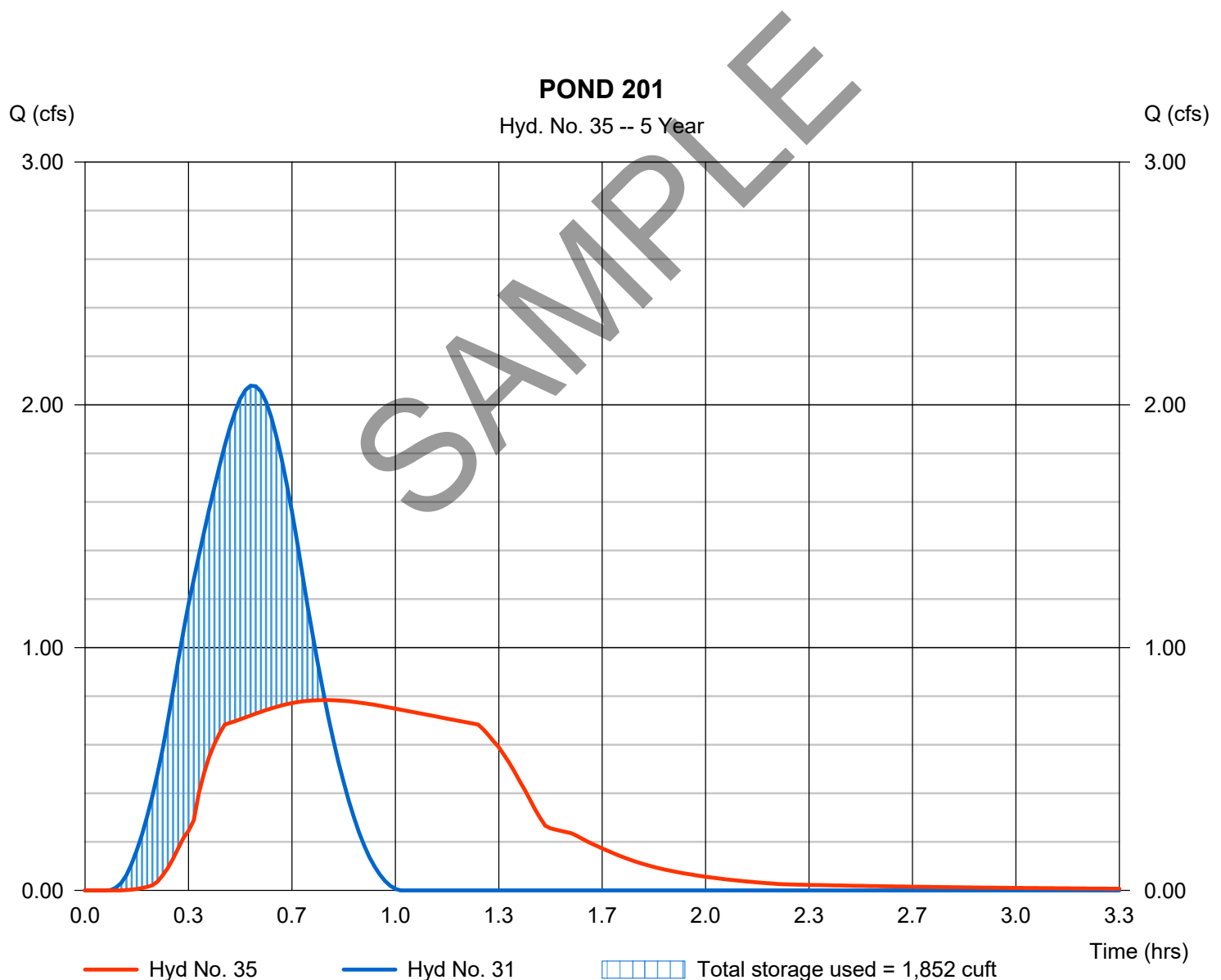
Tuesday, 04 / 2 / 2019

Hyd. No. 35

POND 201

Hydrograph type	= Reservoir	Peak discharge	= 0.784 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 0.77 hrs
Time interval	= 1 min	Hyd. volume	= 3,210 cuft
Inflow hyd. No.	= 31 - PR 201	Max. Elevation	= 573.24 ft
Reservoir name	= POND 201	Max. Storage	= 1,852 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

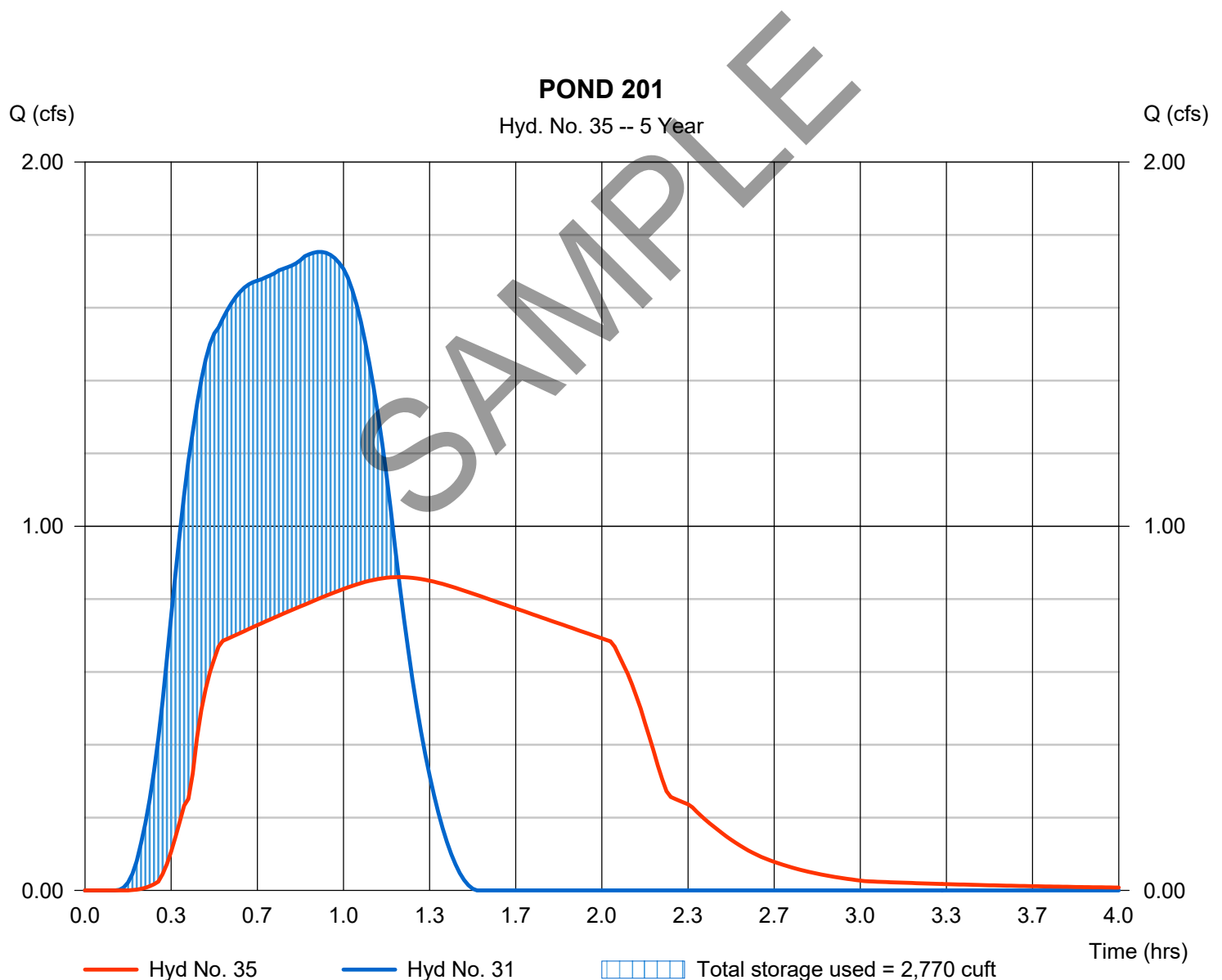
Tuesday, 04 / 2 / 2019

Hyd. No. 35

POND 201

Hydrograph type	= Reservoir	Peak discharge	= 0.860 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 1.22 hrs
Time interval	= 1 min	Hyd. volume	= 5,318 cuft
Inflow hyd. No.	= 31 - PR 201	Max. Elevation	= 573.44 ft
Reservoir name	= POND 201	Max. Storage	= 2,770 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

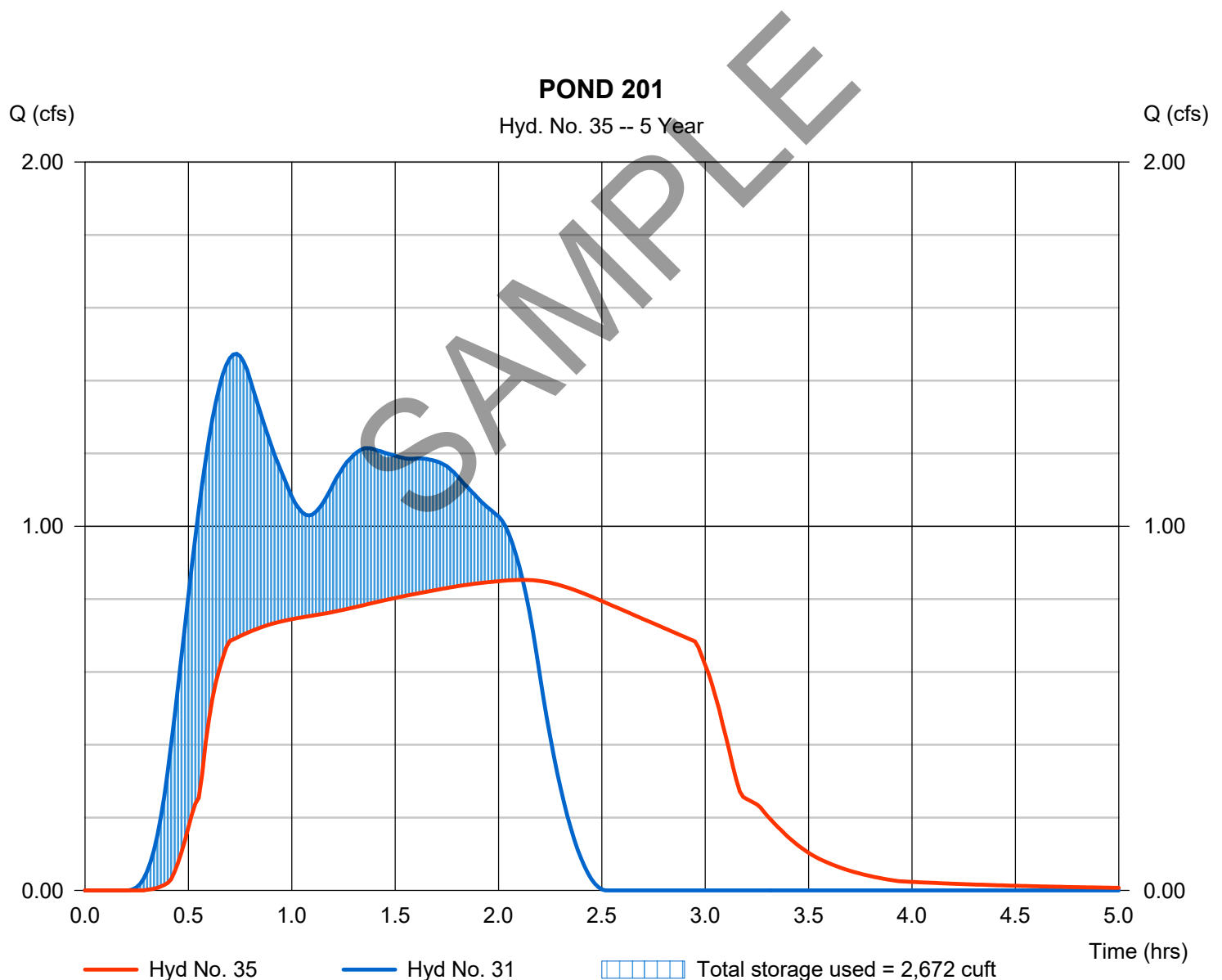
Tuesday, 04 / 2 / 2019

Hyd. No. 35

POND 201

Hydrograph type	= Reservoir	Peak discharge	= 0.853 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 2.12 hrs
Time interval	= 1 min	Hyd. volume	= 7,487 cuft
Inflow hyd. No.	= 31 - PR 201	Max. Elevation	= 573.42 ft
Reservoir name	= POND 201	Max. Storage	= 2,672 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

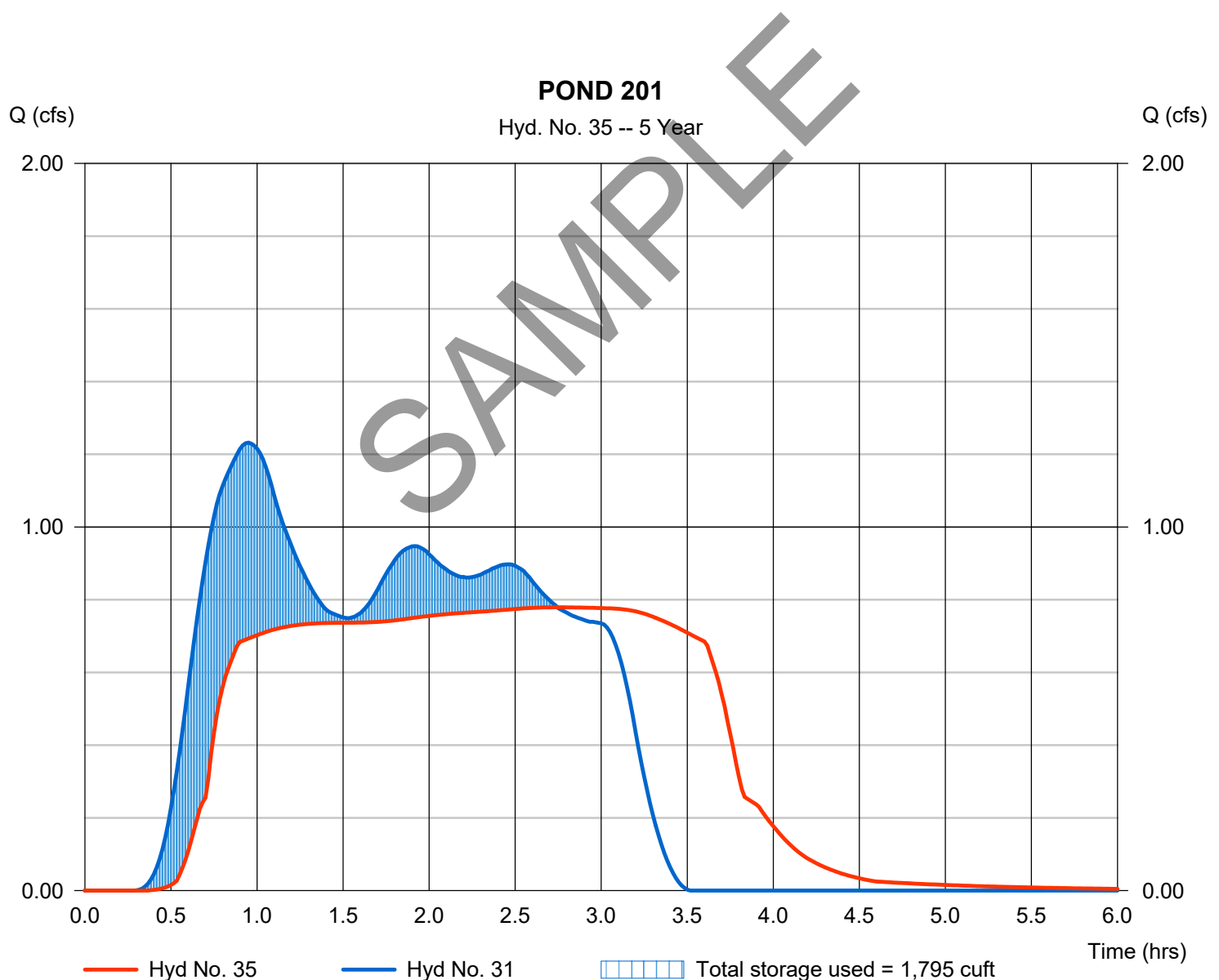
Tuesday, 04 / 2 / 2019

Hyd. No. 35

POND 201

Hydrograph type	= Reservoir	Peak discharge	= 0.779 cfs
Storm frequency	= 5 yrs, 3 hr	Time to peak	= 2.75 hrs
Time interval	= 1 min	Hyd. volume	= 8,533 cuft
Inflow hyd. No.	= 31 - PR 201	Max. Elevation	= 573.23 ft
Reservoir name	= POND 201	Max. Storage	= 1,795 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

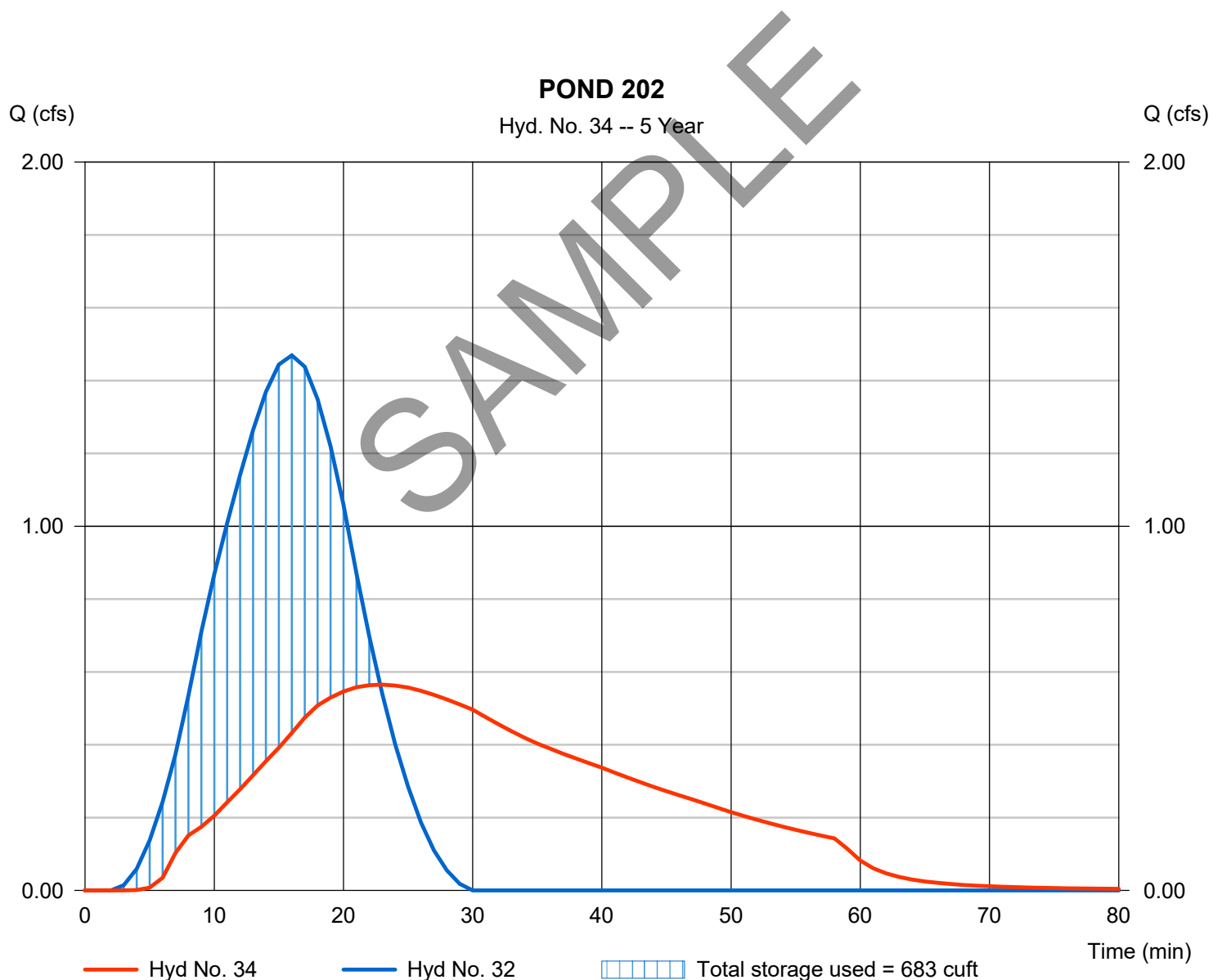
Tuesday, 04 / 2 / 2019

Hyd. No. 34

POND 202

Hydrograph type	= Reservoir	Peak discharge	= 0.565 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 1,130 cuft
Inflow hyd. No.	= 32 - PR 202	Max. Elevation	= 575.52 ft
Reservoir name	= POND 202	Max. Storage	= 683 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

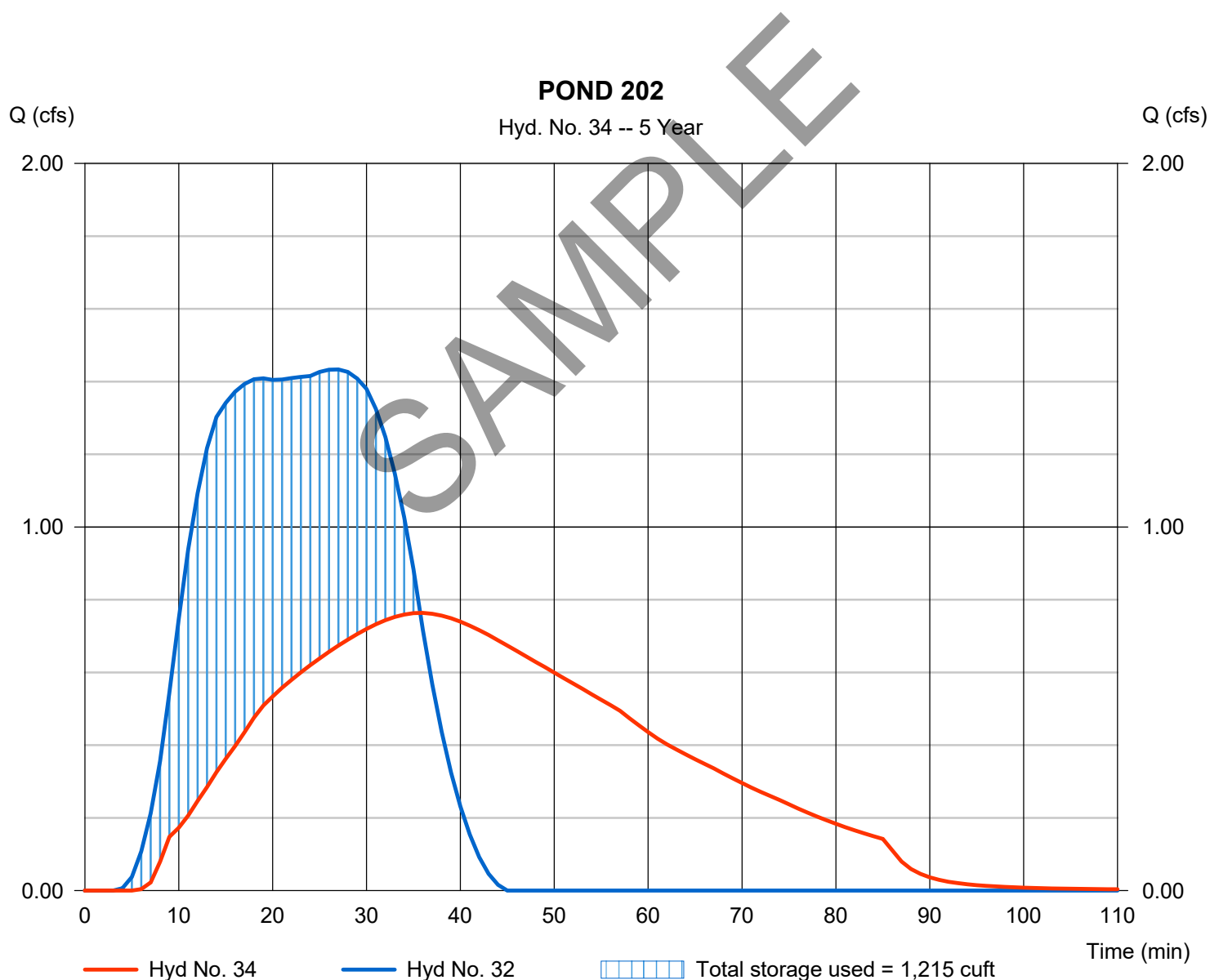
Tuesday, 04 / 2 / 2019

Hyd. No. 34

POND 202

Hydrograph type	= Reservoir	Peak discharge	= 0.764 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 36 min
Time interval	= 1 min	Hyd. volume	= 2,233 cuft
Inflow hyd. No.	= 32 - PR 202	Max. Elevation	= 575.94 ft
Reservoir name	= POND 202	Max. Storage	= 1,215 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

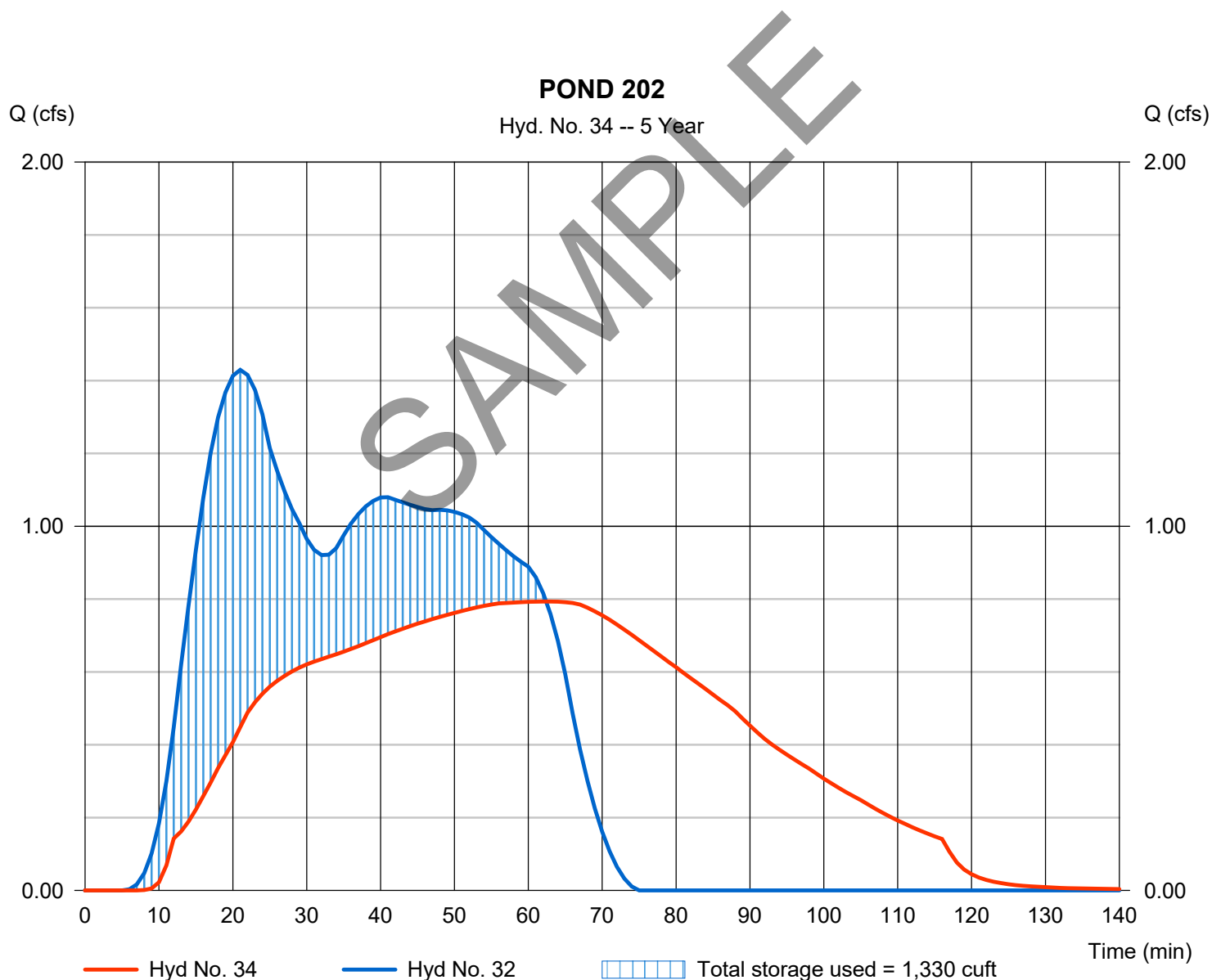
Tuesday, 04 / 2 / 2019

Hyd. No. 34

POND 202

Hydrograph type	= Reservoir	Peak discharge	= 0.793 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 62 min
Time interval	= 1 min	Hyd. volume	= 3,442 cuft
Inflow hyd. No.	= 32 - PR 202	Max. Elevation	= 576.01 ft
Reservoir name	= POND 202	Max. Storage	= 1,330 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

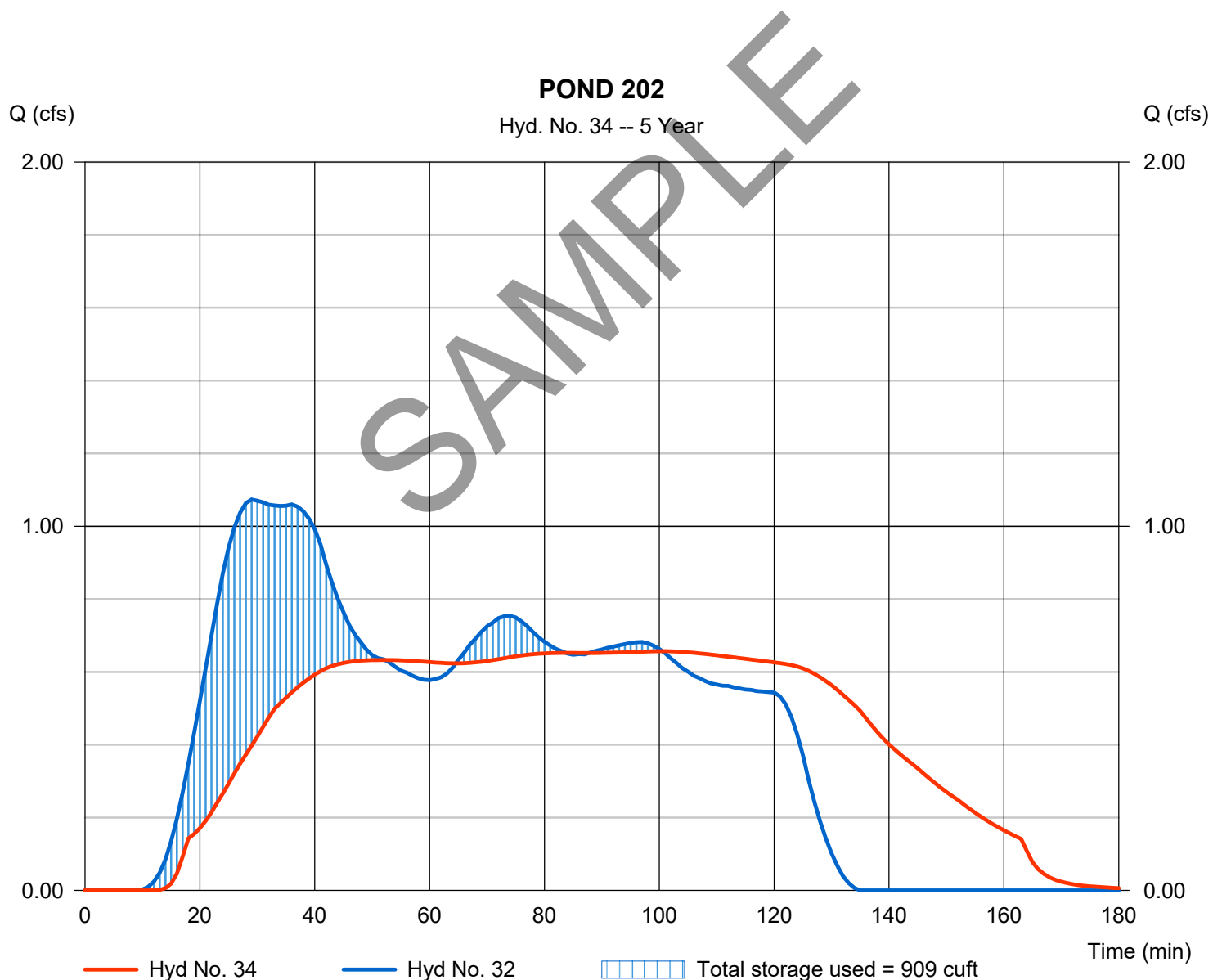
Tuesday, 04 / 2 / 2019

Hyd. No. 34

POND 202

Hydrograph type	= Reservoir	Peak discharge	= 0.657 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 101 min
Time interval	= 1 min	Hyd. volume	= 4,642 cuft
Inflow hyd. No.	= 32 - PR 202	Max. Elevation	= 575.70 ft
Reservoir name	= POND 202	Max. Storage	= 909 cuft

Storage Indication method used.



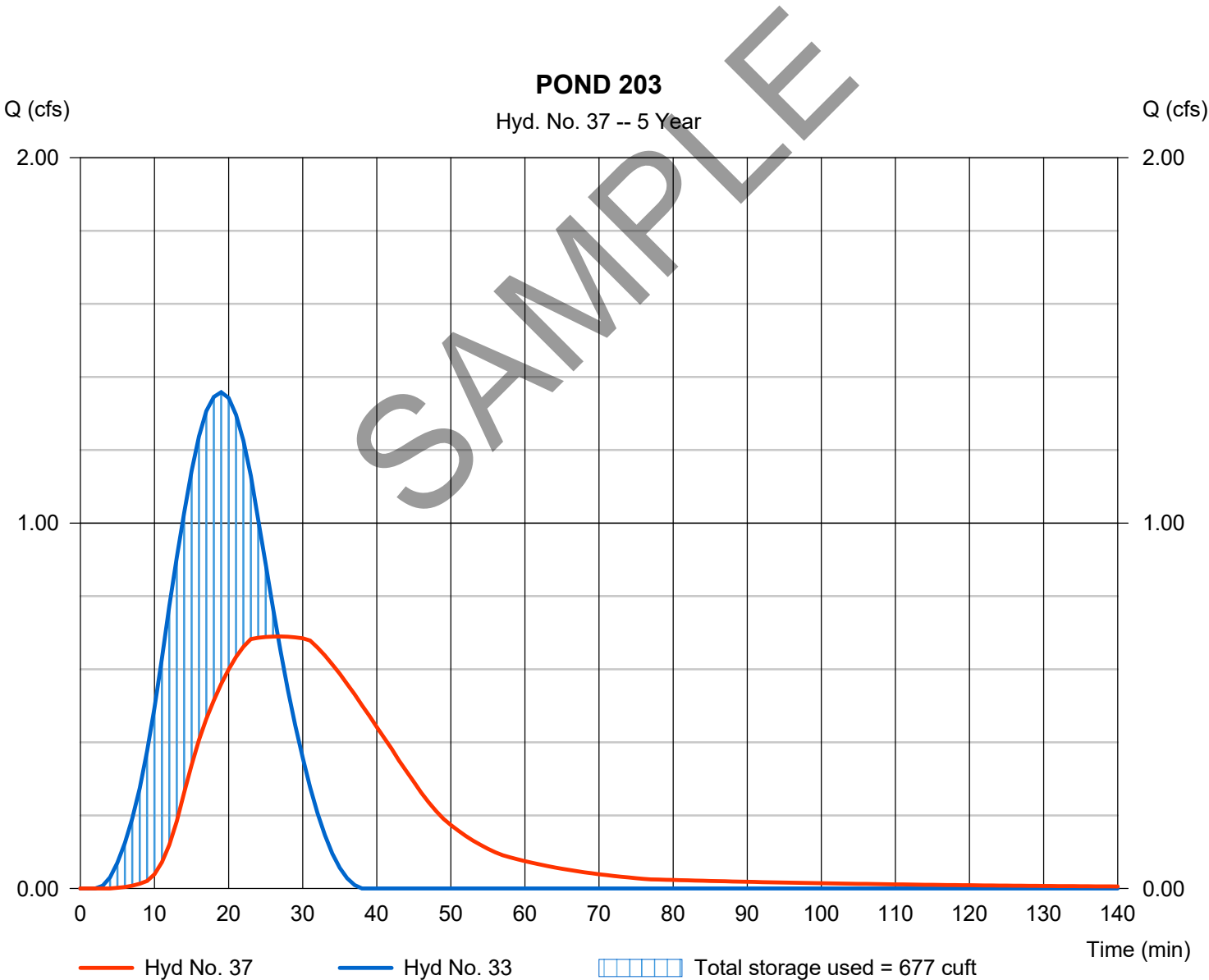
Hydrograph Report

Hyd. No. 37

POND 203

Hydrograph type	= Reservoir	Peak discharge	= 0.690 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 27 min
Time interval	= 1 min	Hyd. volume	= 1,304 cuft
Inflow hyd. No.	= 33 - PR 203	Max. Elevation	= 577.02 ft
Reservoir name	= POND 203	Max. Storage	= 677 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

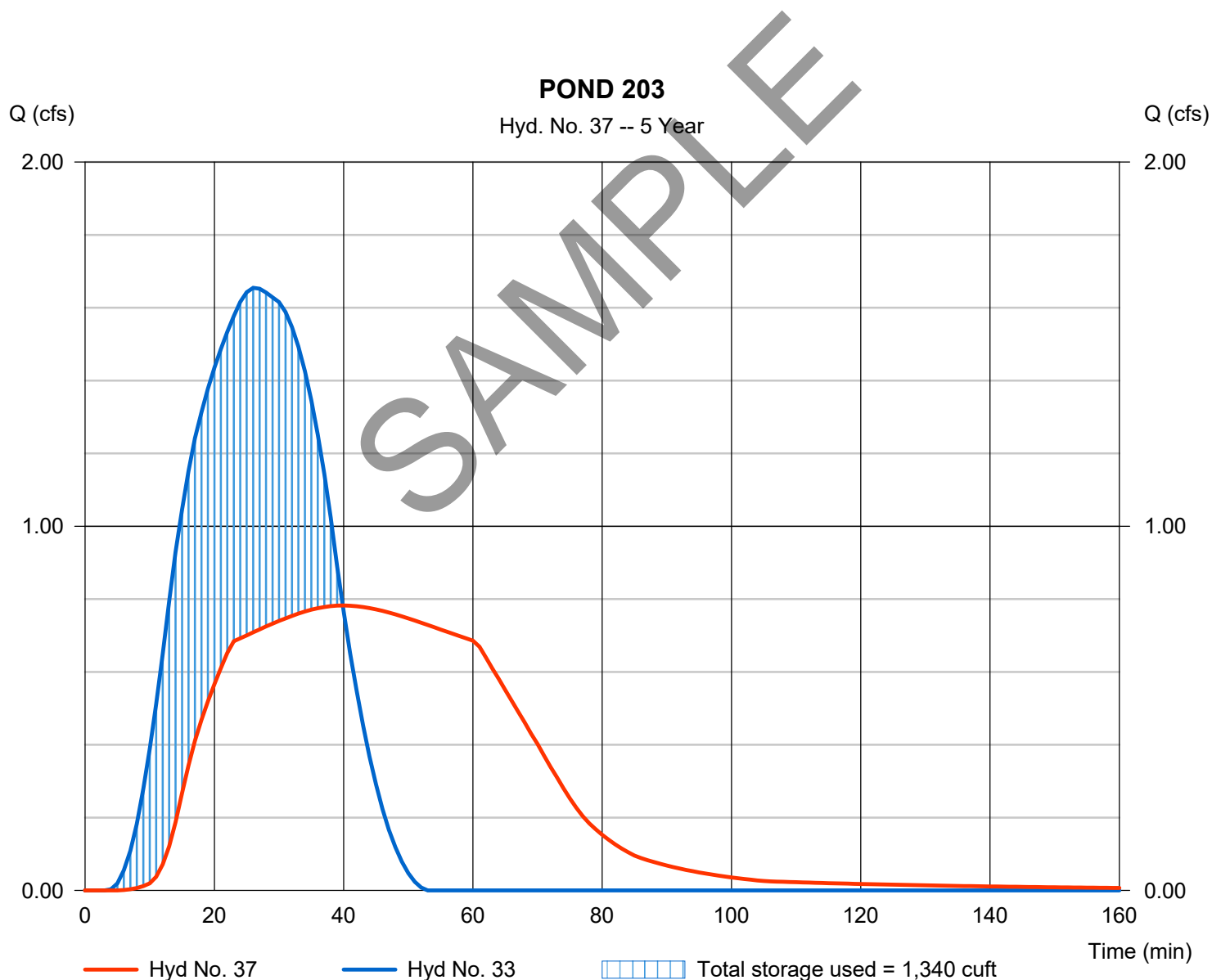
Tuesday, 04 / 2 / 2019

Hyd. No. 37

POND 203

Hydrograph type	= Reservoir	Peak discharge	= 0.782 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 40 min
Time interval	= 1 min	Hyd. volume	= 2,577 cuft
Inflow hyd. No.	= 33 - PR 203	Max. Elevation	= 577.24 ft
Reservoir name	= POND 203	Max. Storage	= 1,340 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

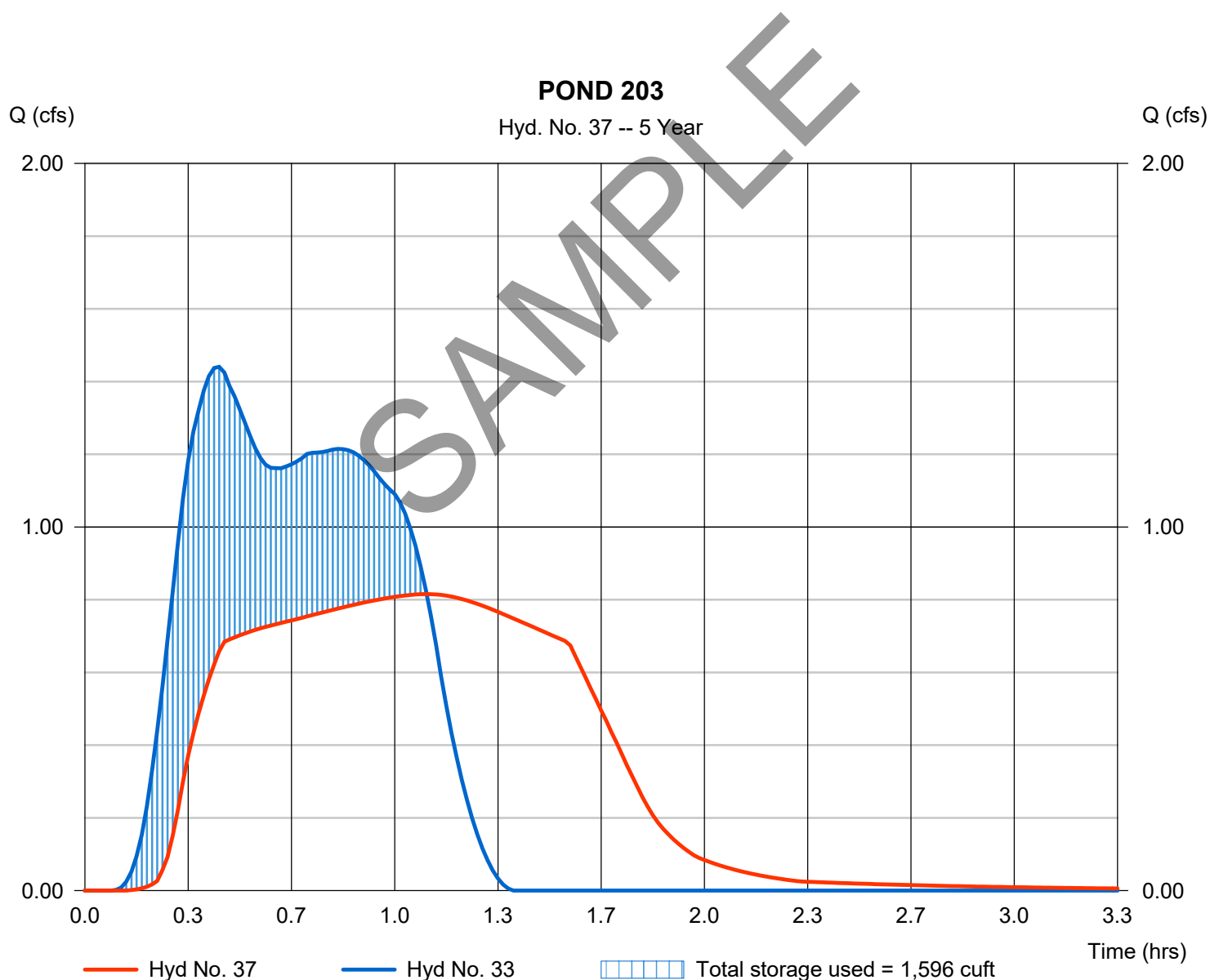
Tuesday, 04 / 2 / 2019

Hyd. No. 37

POND 203

Hydrograph type	= Reservoir	Peak discharge	= 0.815 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 1.10 hrs
Time interval	= 1 min	Hyd. volume	= 3,971 cuft
Inflow hyd. No.	= 33 - PR 203	Max. Elevation	= 577.32 ft
Reservoir name	= POND 203	Max. Storage	= 1,596 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

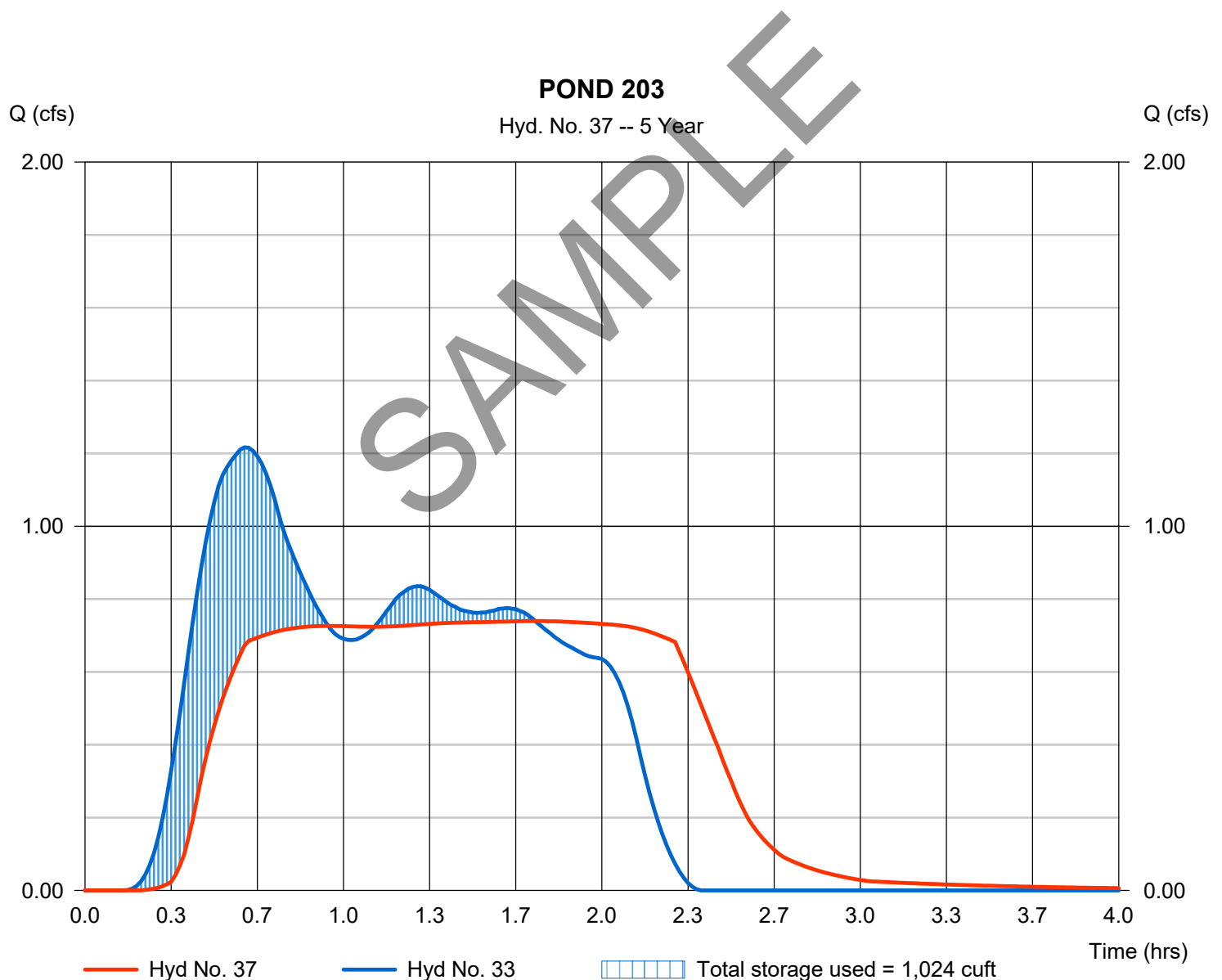
Tuesday, 04 / 2 / 2019

Hyd. No. 37

POND 203

Hydrograph type	= Reservoir	Peak discharge	= 0.740 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 1.75 hrs
Time interval	= 1 min	Hyd. volume	= 5,357 cuft
Inflow hyd. No.	= 33 - PR 203	Max. Elevation	= 577.13 ft
Reservoir name	= POND 203	Max. Storage	= 1,024 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

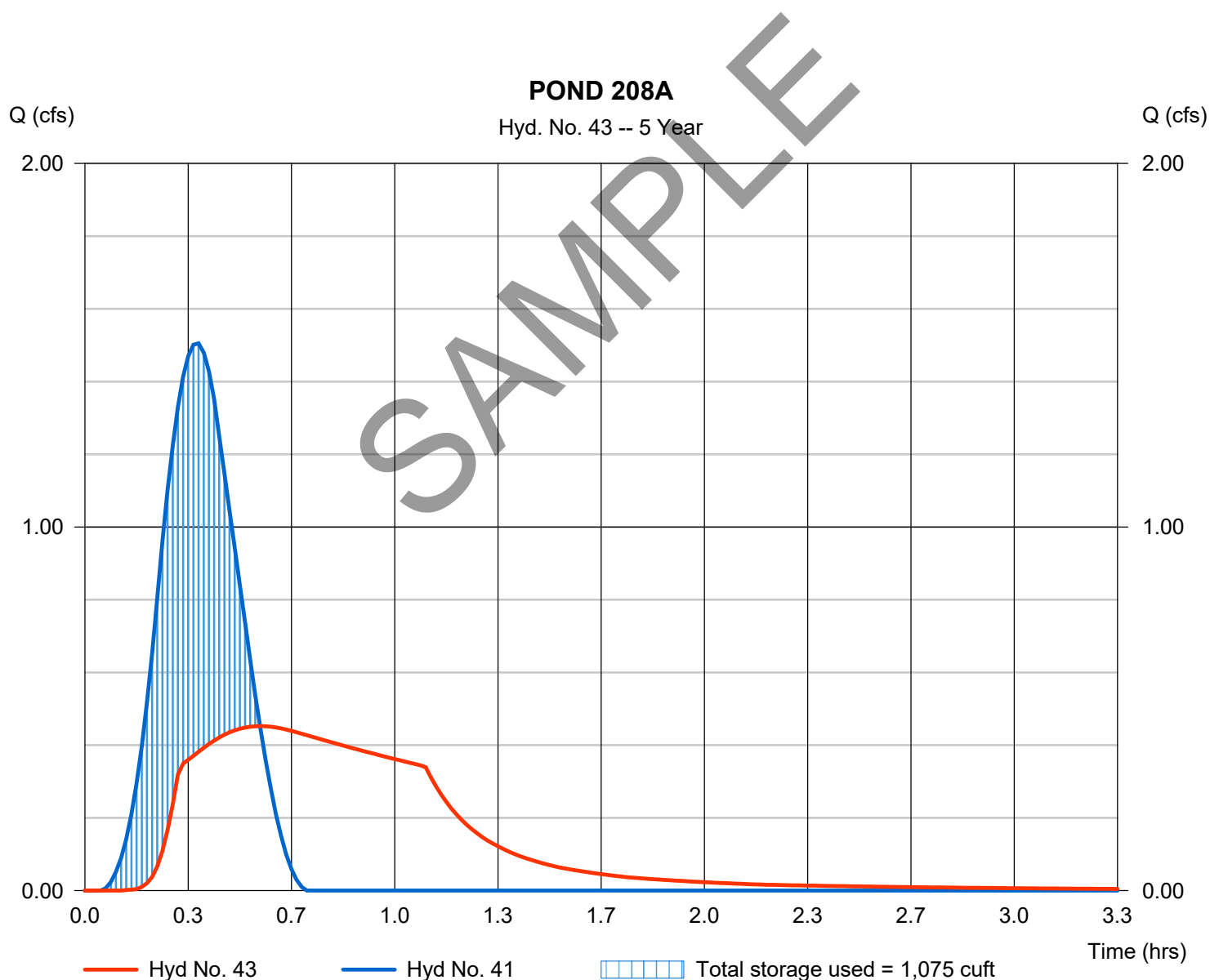
Tuesday, 04 / 2 / 2019

Hyd. No. 43

POND 208A

Hydrograph type	= Reservoir	Peak discharge	= 0.452 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 0.57 hrs
Time interval	= 1 min	Hyd. volume	= 1,593 cuft
Inflow hyd. No.	= 41 - PR 208A	Max. Elevation	= 578.04 ft
Reservoir name	= POND 208A	Max. Storage	= 1,075 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

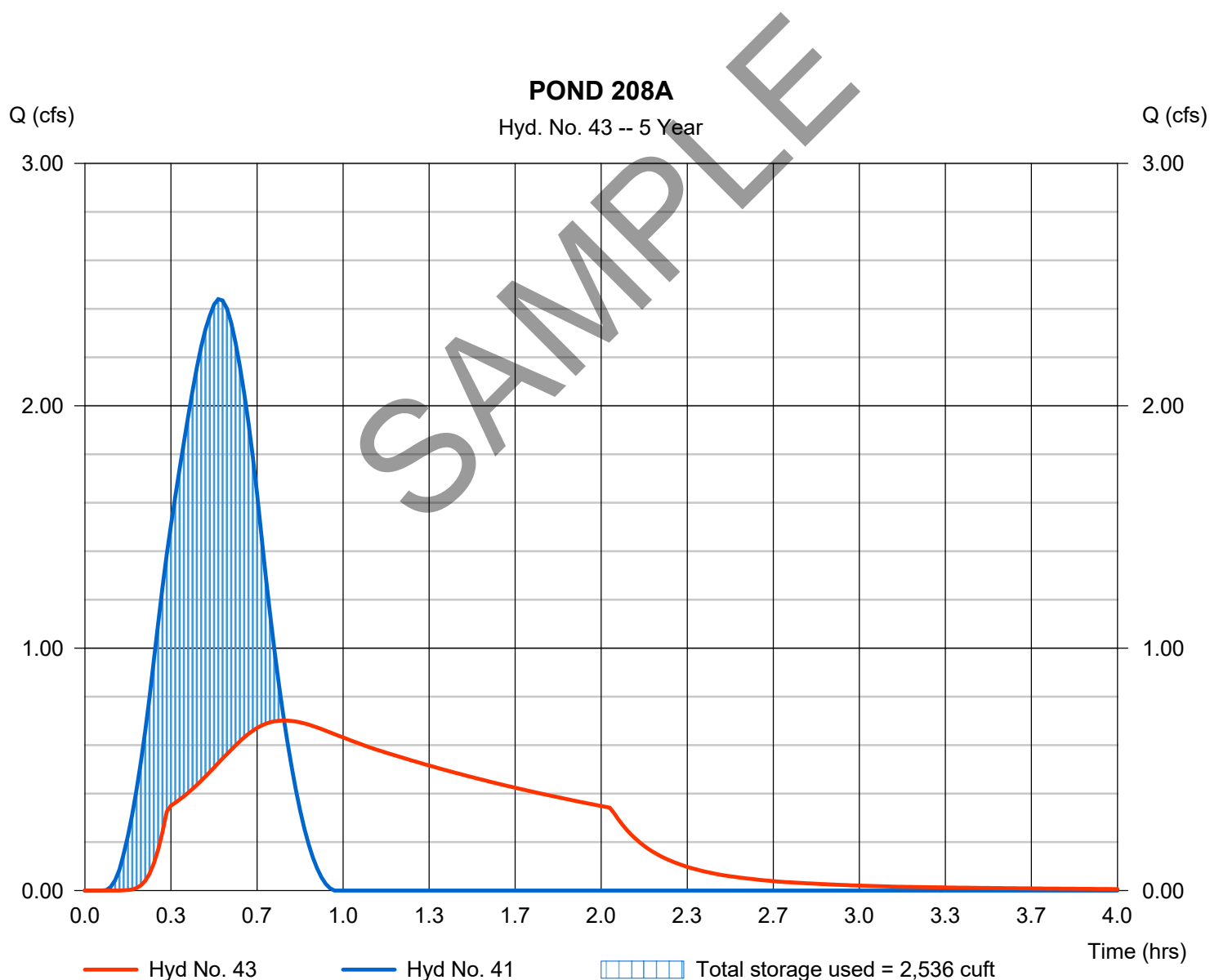
Tuesday, 04 / 2 / 2019

Hyd. No. 43

POND 208A

Hydrograph type	= Reservoir	Peak discharge	= 0.702 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 0.77 hrs
Time interval	= 1 min	Hyd. volume	= 3,636 cuft
Inflow hyd. No.	= 41 - PR 208A	Max. Elevation	= 578.14 ft
Reservoir name	= POND 208A	Max. Storage	= 2,536 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

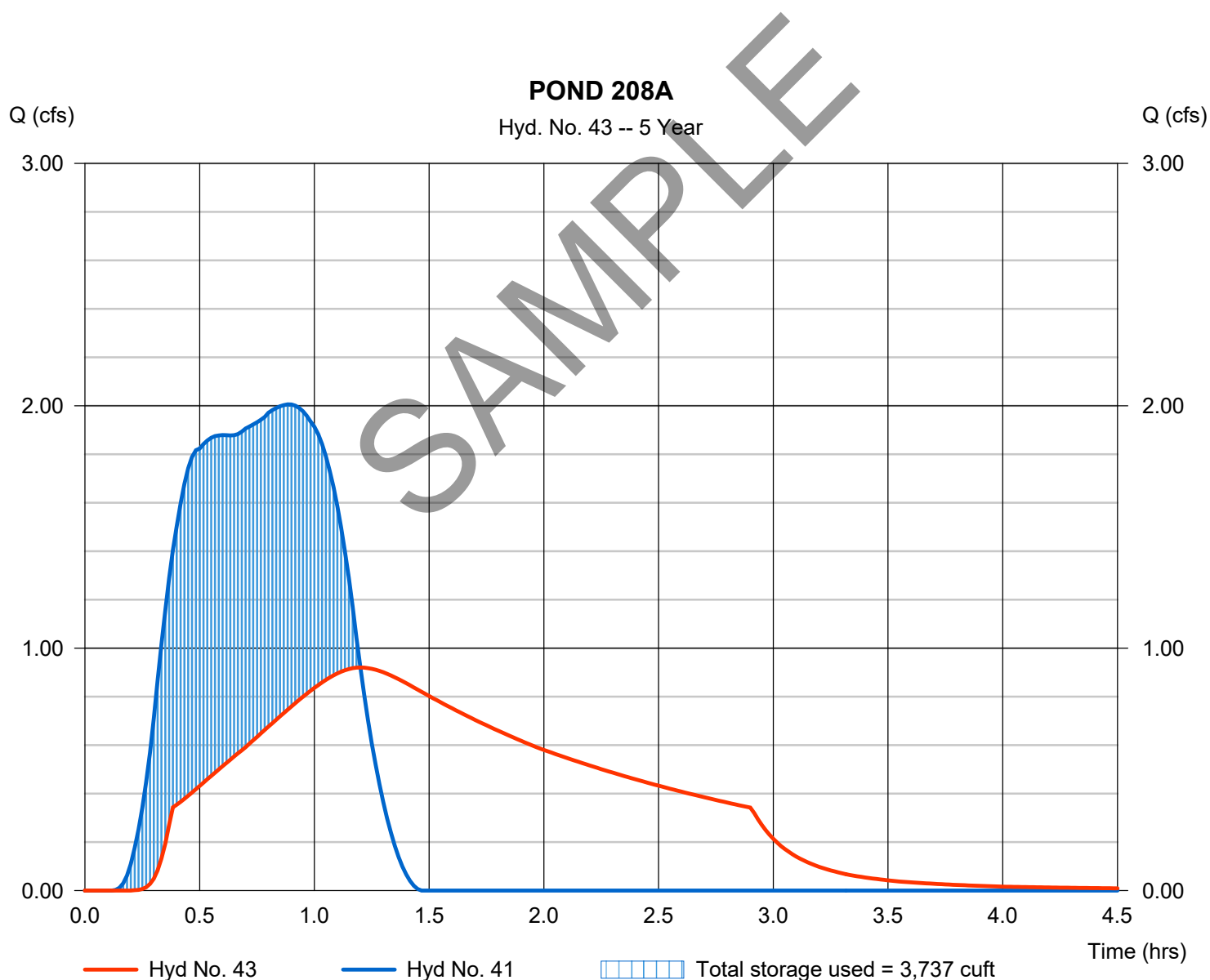
Tuesday, 04 / 2 / 2019

Hyd. No. 43

POND 208A

Hydrograph type	= Reservoir	Peak discharge	= 0.920 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 1.20 hrs
Time interval	= 1 min	Hyd. volume	= 6,030 cuft
Inflow hyd. No.	= 41 - PR 208A	Max. Elevation	= 578.22 ft
Reservoir name	= POND 208A	Max. Storage	= 3,737 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

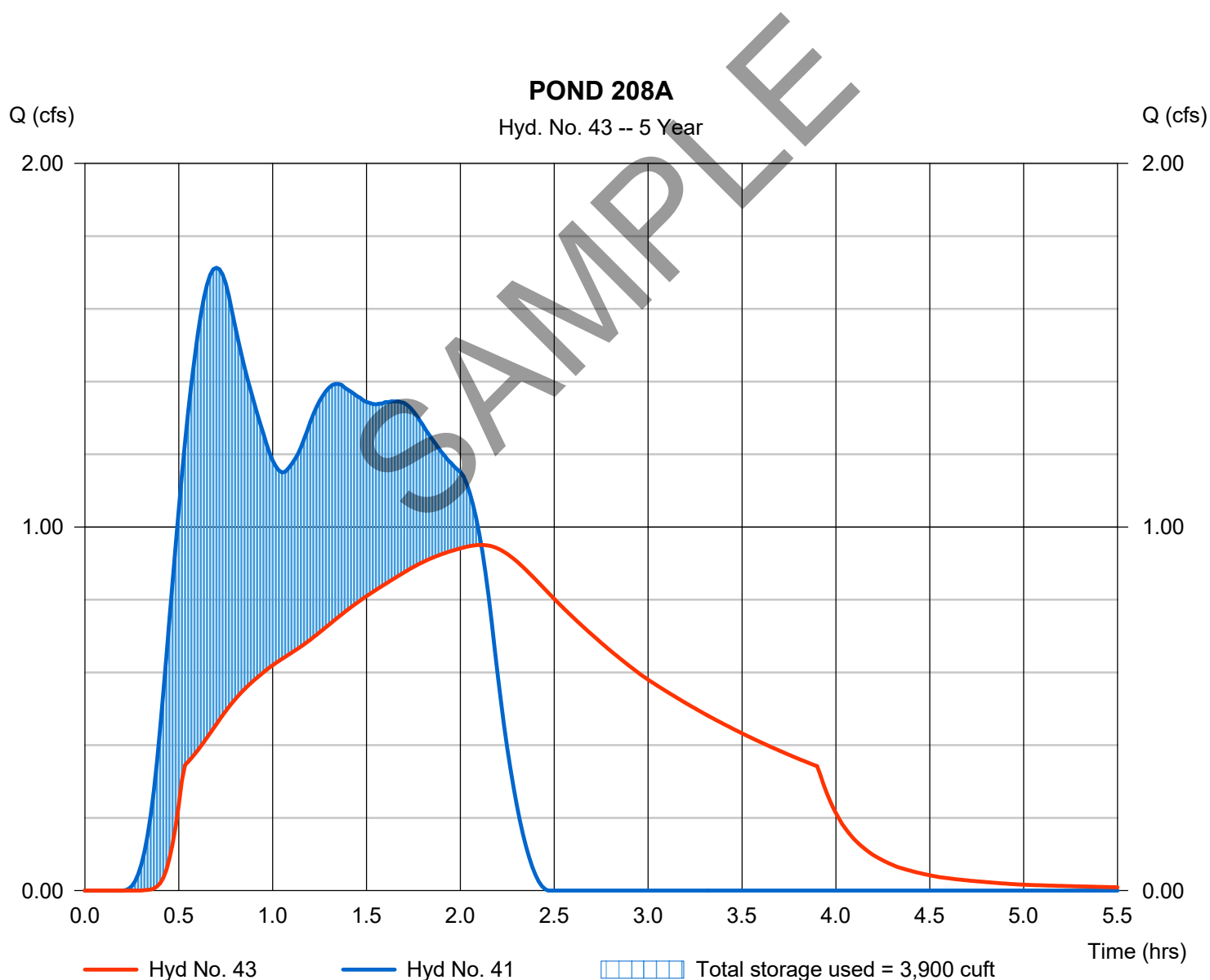
Tuesday, 04 / 2 / 2019

Hyd. No. 43

POND 208A

Hydrograph type	= Reservoir	Peak discharge	= 0.951 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 2.12 hrs
Time interval	= 1 min	Hyd. volume	= 8,492 cuft
Inflow hyd. No.	= 41 - PR 208A	Max. Elevation	= 578.23 ft
Reservoir name	= POND 208A	Max. Storage	= 3,900 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

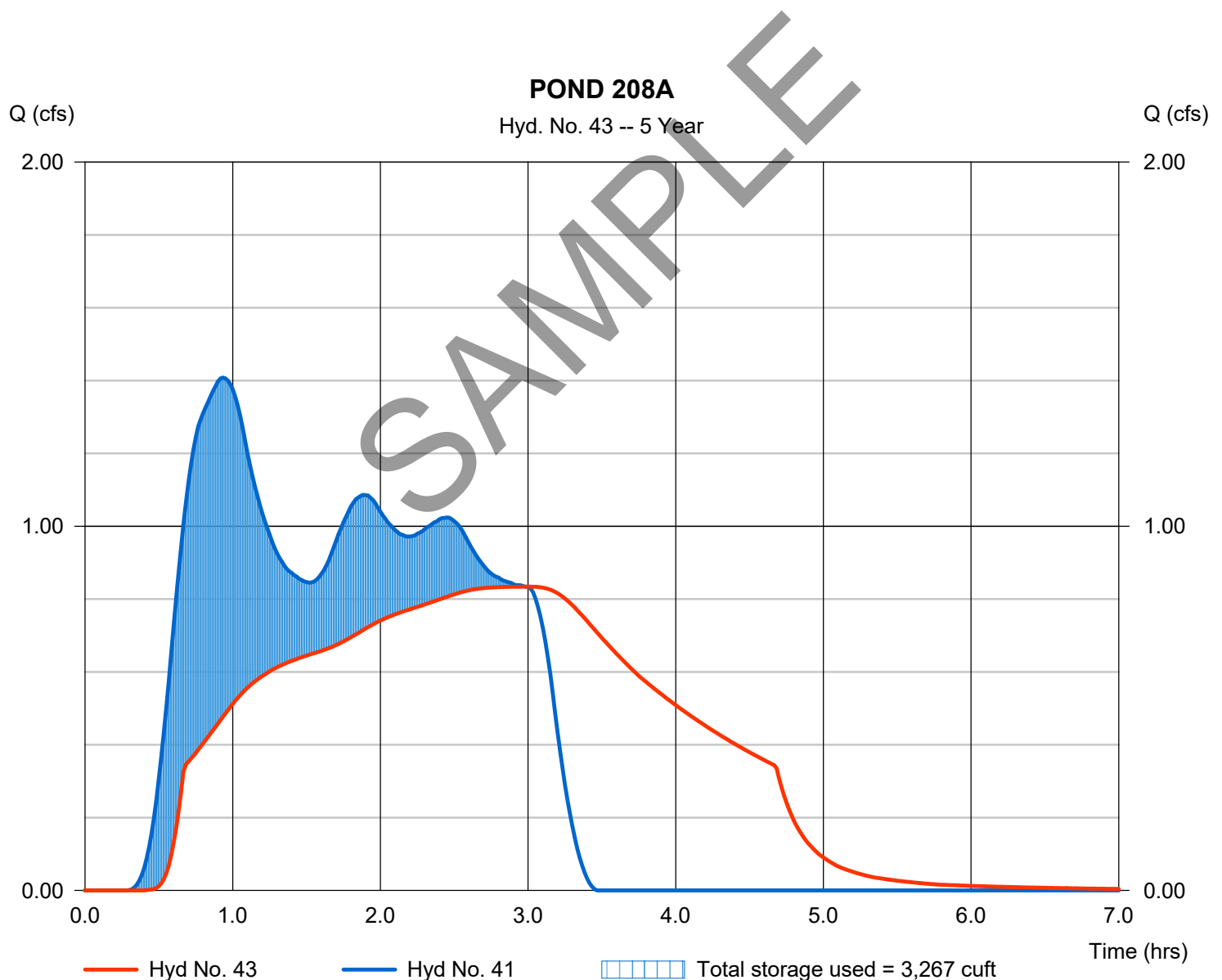
Tuesday, 04 / 2 / 2019

Hyd. No. 43

POND 208A

Hydrograph type	= Reservoir	Peak discharge	= 0.834 cfs
Storm frequency	= 5 yrs, 3 hr	Time to peak	= 2.98 hrs
Time interval	= 1 min	Hyd. volume	= 9,679 cuft
Inflow hyd. No.	= 41 - PR 208A	Max. Elevation	= 578.19 ft
Reservoir name	= POND 208A	Max. Storage	= 3,267 cuft

Storage Indication method used.



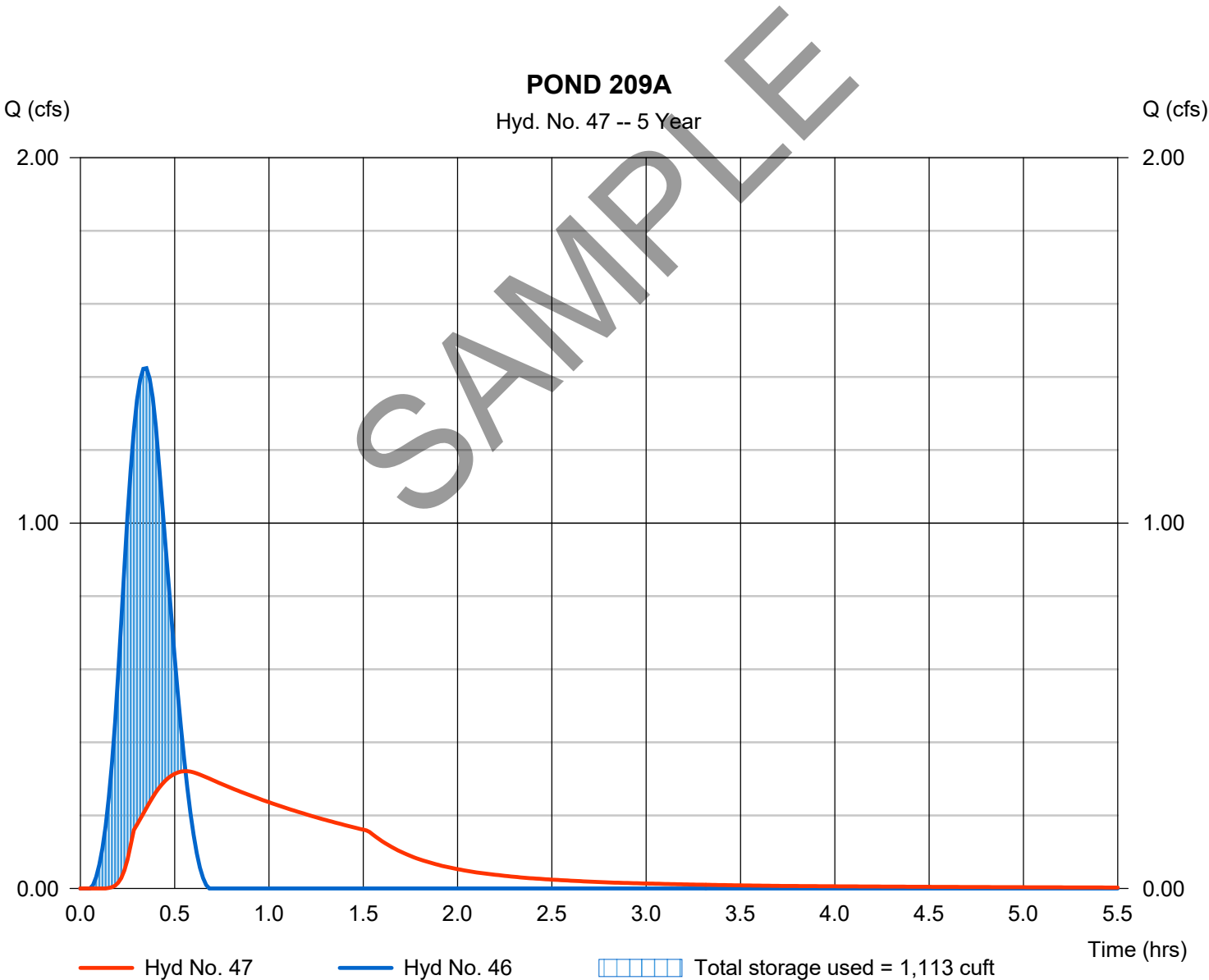
Hydrograph Report

Hyd. No. 47

POND 209A

Hydrograph type	= Reservoir	Peak discharge	= 0.321 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 0.55 hrs
Time interval	= 1 min	Hyd. volume	= 1,427 cuft
Inflow hyd. No.	= 46 - PR 209A	Max. Elevation	= 578.11 ft
Reservoir name	= POND 209A	Max. Storage	= 1,113 cuft

Storage Indication method used.



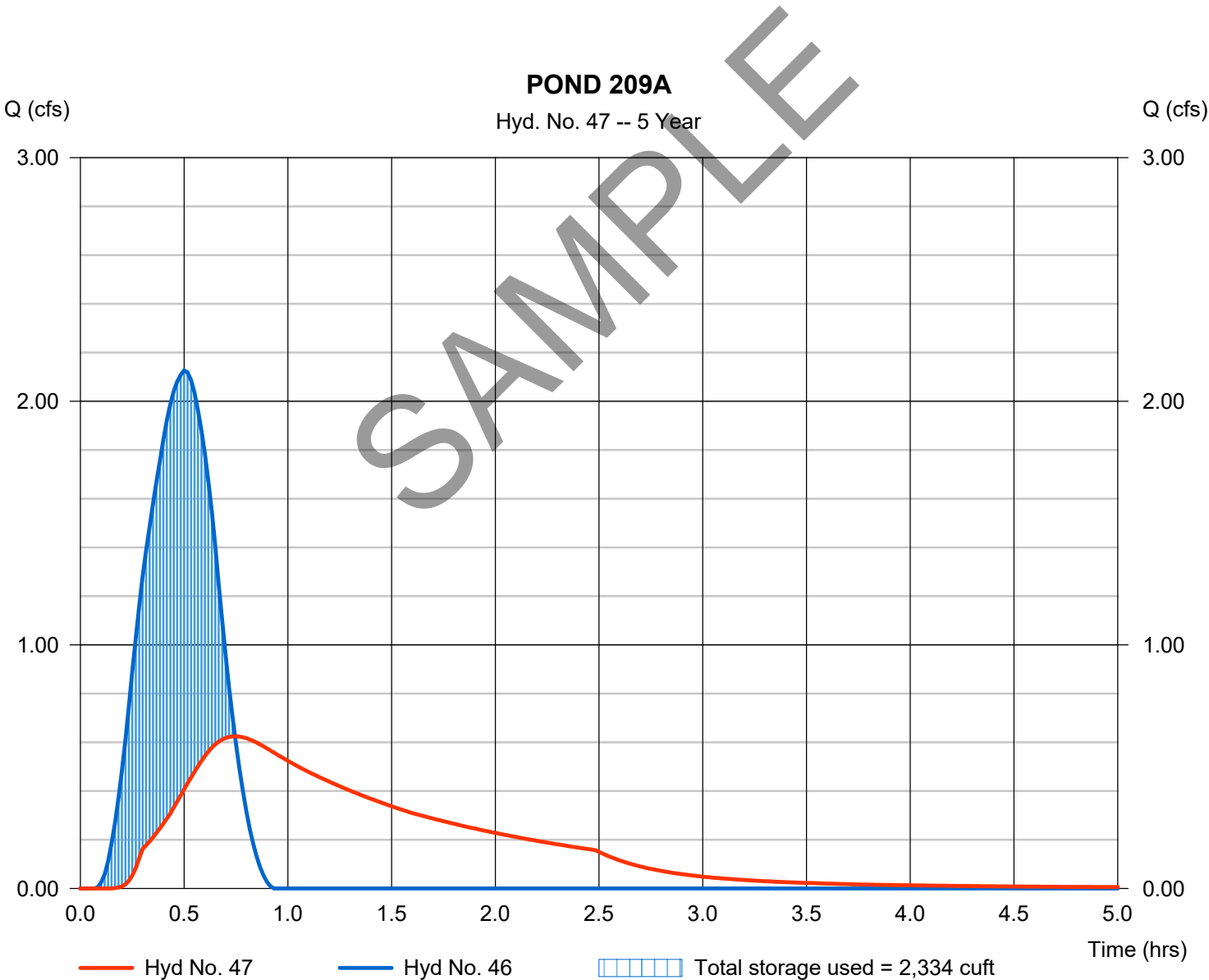
Hydrograph Report

Hyd. No. 47

POND 209A

Hydrograph type	= Reservoir	Peak discharge	= 0.625 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 0.75 hrs
Time interval	= 1 min	Hyd. volume	= 3,162 cuft
Inflow hyd. No.	= 46 - PR 209A	Max. Elevation	= 578.27 ft
Reservoir name	= POND 209A	Max. Storage	= 2,334 cuft

Storage Indication method used.



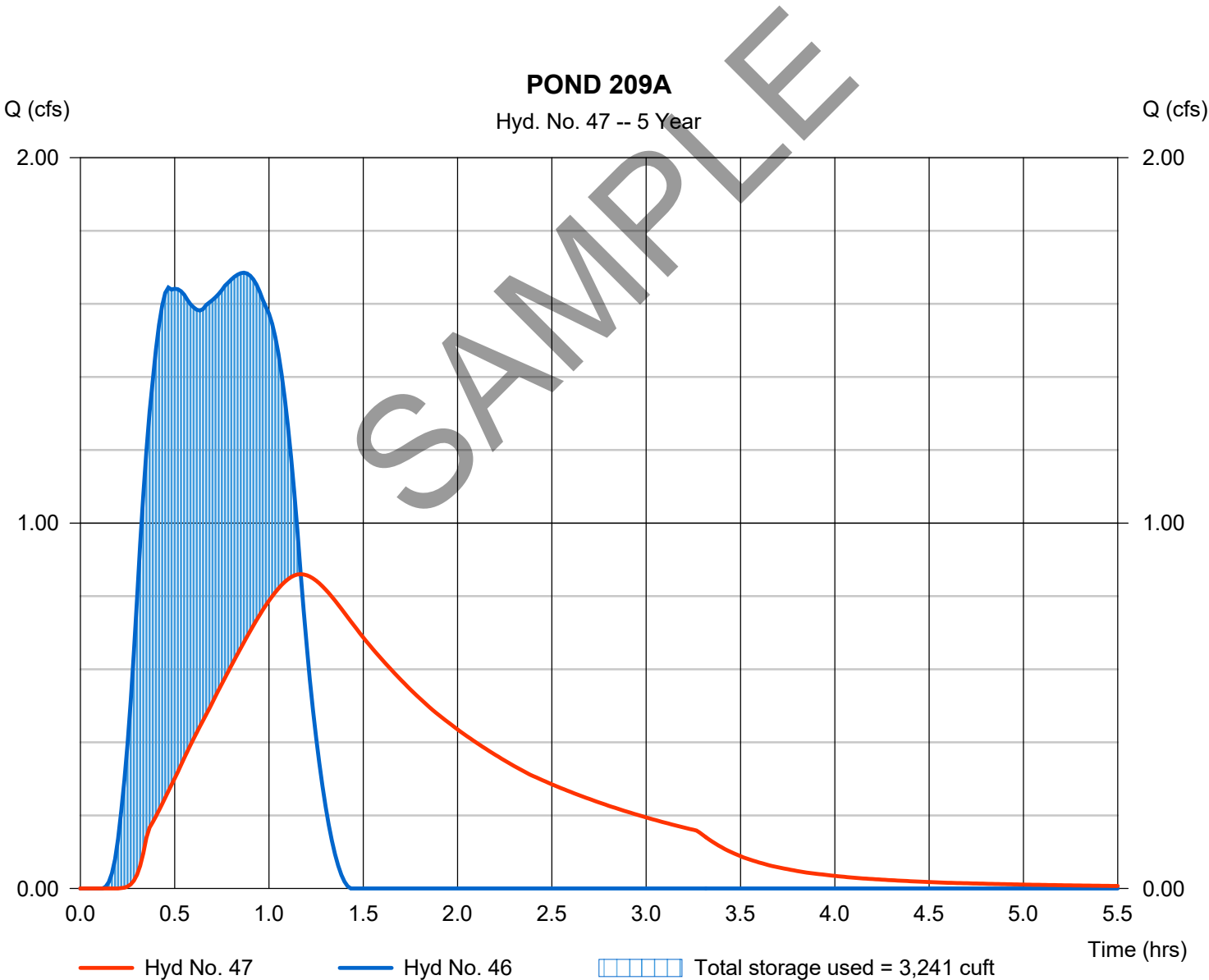
Hydrograph Report

Hyd. No. 47

POND 209A

Hydrograph type	= Reservoir	Peak discharge	= 0.860 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 1.17 hrs
Time interval	= 1 min	Hyd. volume	= 5,142 cuft
Inflow hyd. No.	= 46 - PR 209A	Max. Elevation	= 578.40 ft
Reservoir name	= POND 209A	Max. Storage	= 3,241 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

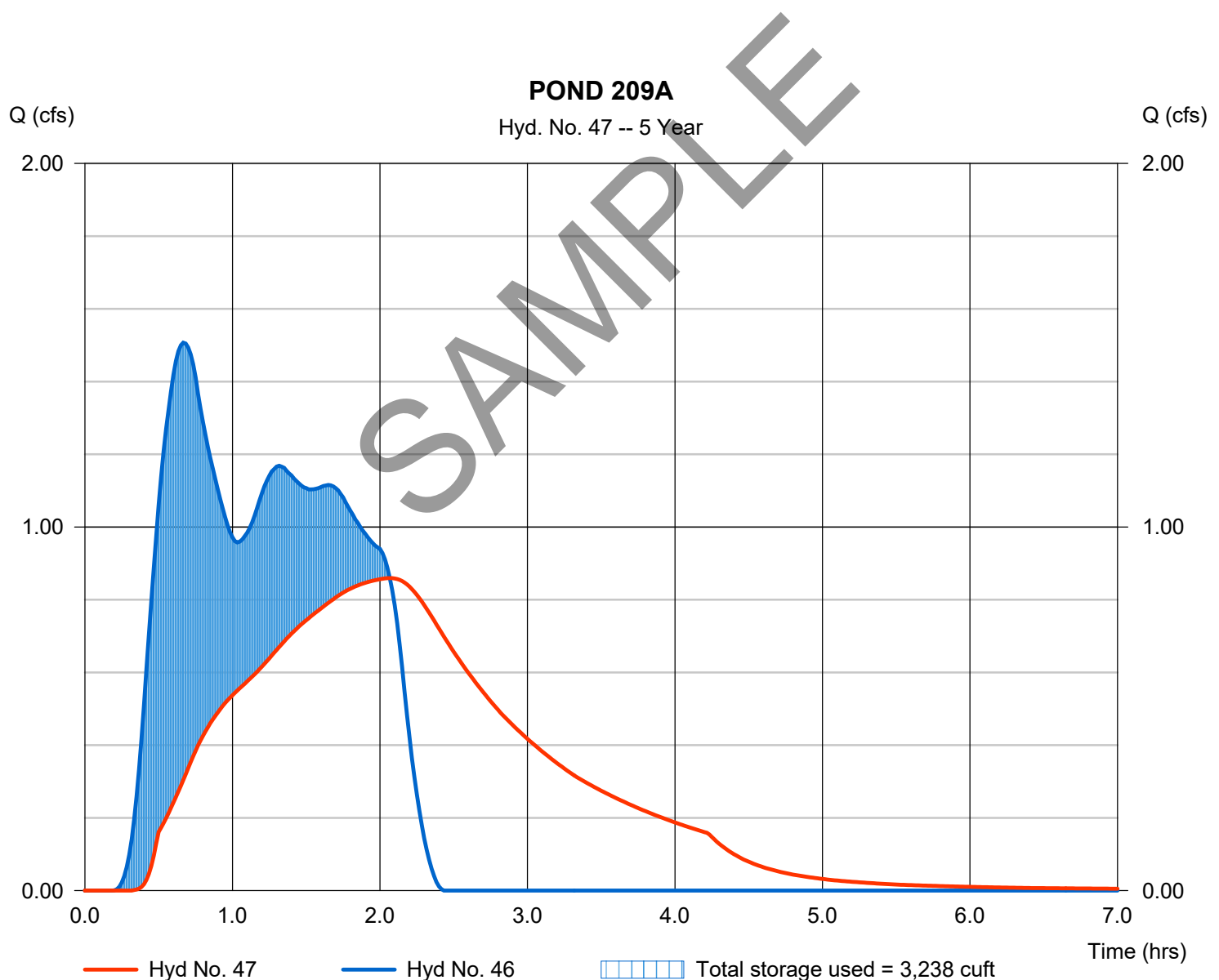
Tuesday, 04 / 2 / 2019

Hyd. No. 47

POND 209A

Hydrograph type	= Reservoir	Peak discharge	= 0.859 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 2.07 hrs
Time interval	= 1 min	Hyd. volume	= 7,172 cuft
Inflow hyd. No.	= 46 - PR 209A	Max. Elevation	= 578.40 ft
Reservoir name	= POND 209A	Max. Storage	= 3,238 cuft

Storage Indication method used.



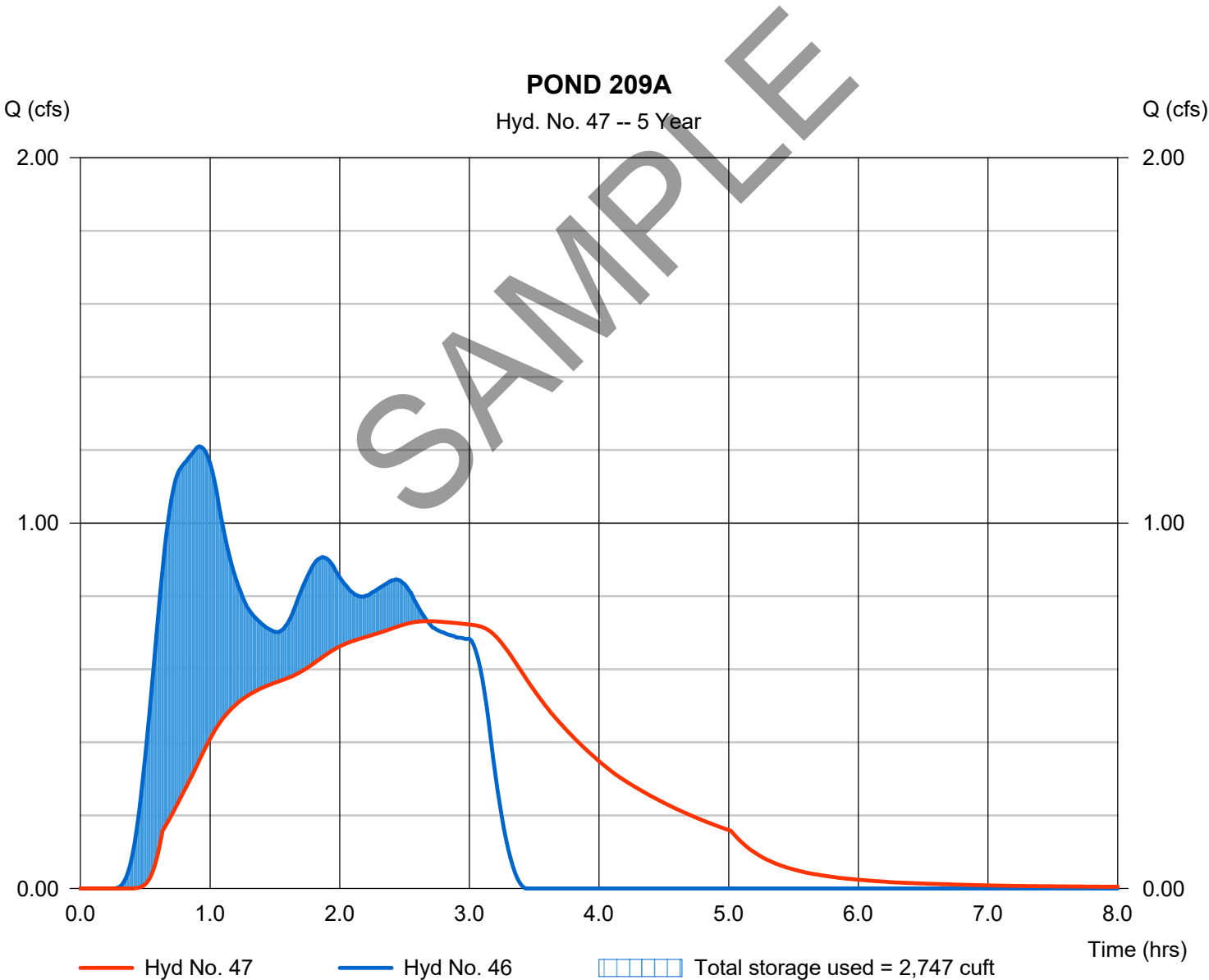
Hydrograph Report

Hyd. No. 47

POND 209A

Hydrograph type	= Reservoir	Peak discharge	= 0.732 cfs
Storm frequency	= 5 yrs, 3 hr	Time to peak	= 2.68 hrs
Time interval	= 1 min	Hyd. volume	= 8,144 cuft
Inflow hyd. No.	= 46 - PR 209A	Max. Elevation	= 578.33 ft
Reservoir name	= POND 209A	Max. Storage	= 2,747 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

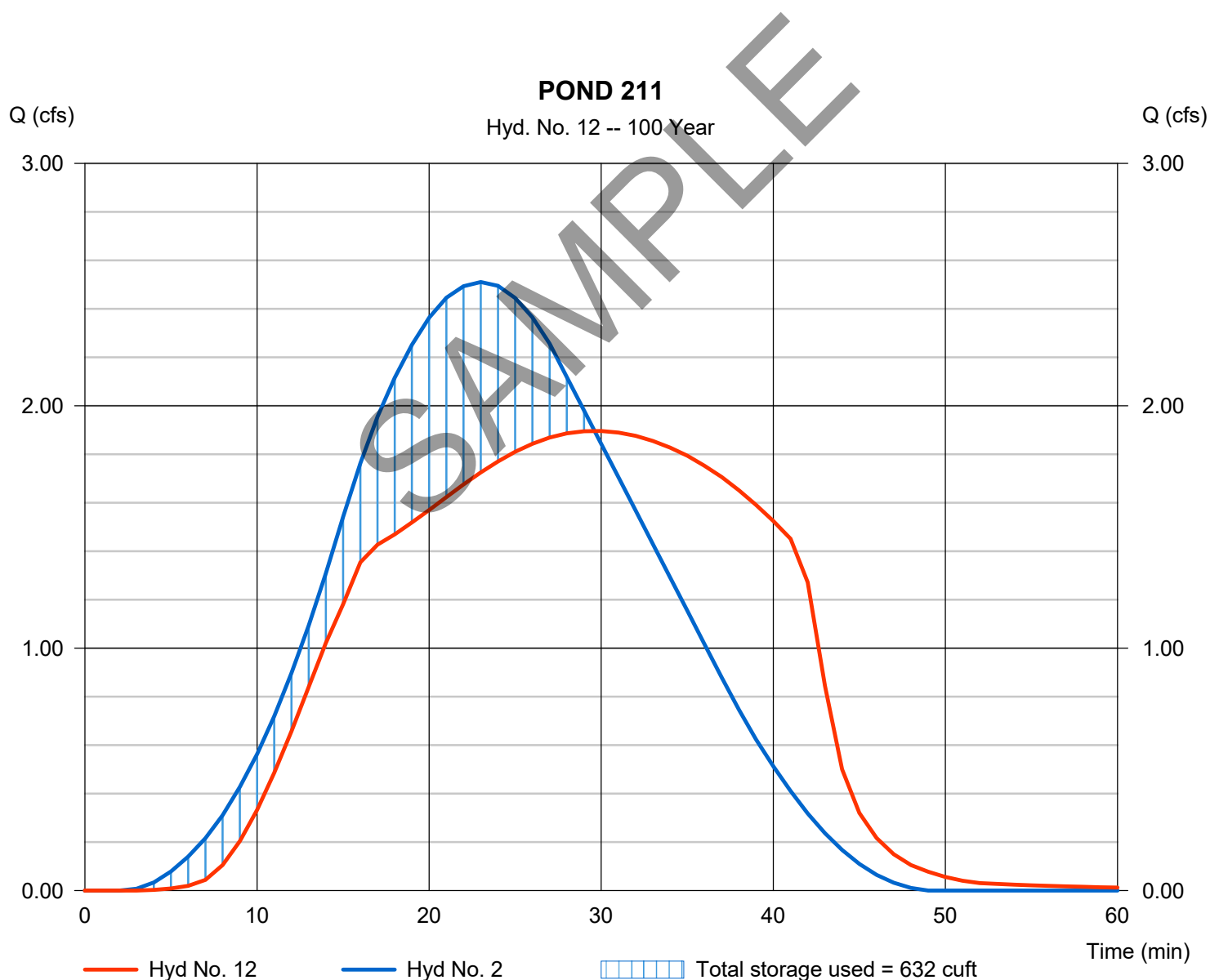
Tuesday, 04 / 2 / 2019

Hyd. No. 12

POND 211

Hydrograph type	= Reservoir	Peak discharge	= 1.896 cfs
Storm frequency	= 100 yrs, 15 min	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 3,181 cuft
Inflow hyd. No.	= 2 - PR 211	Max. Elevation	= 579.52 ft
Reservoir name	= POND 211	Max. Storage	= 632 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

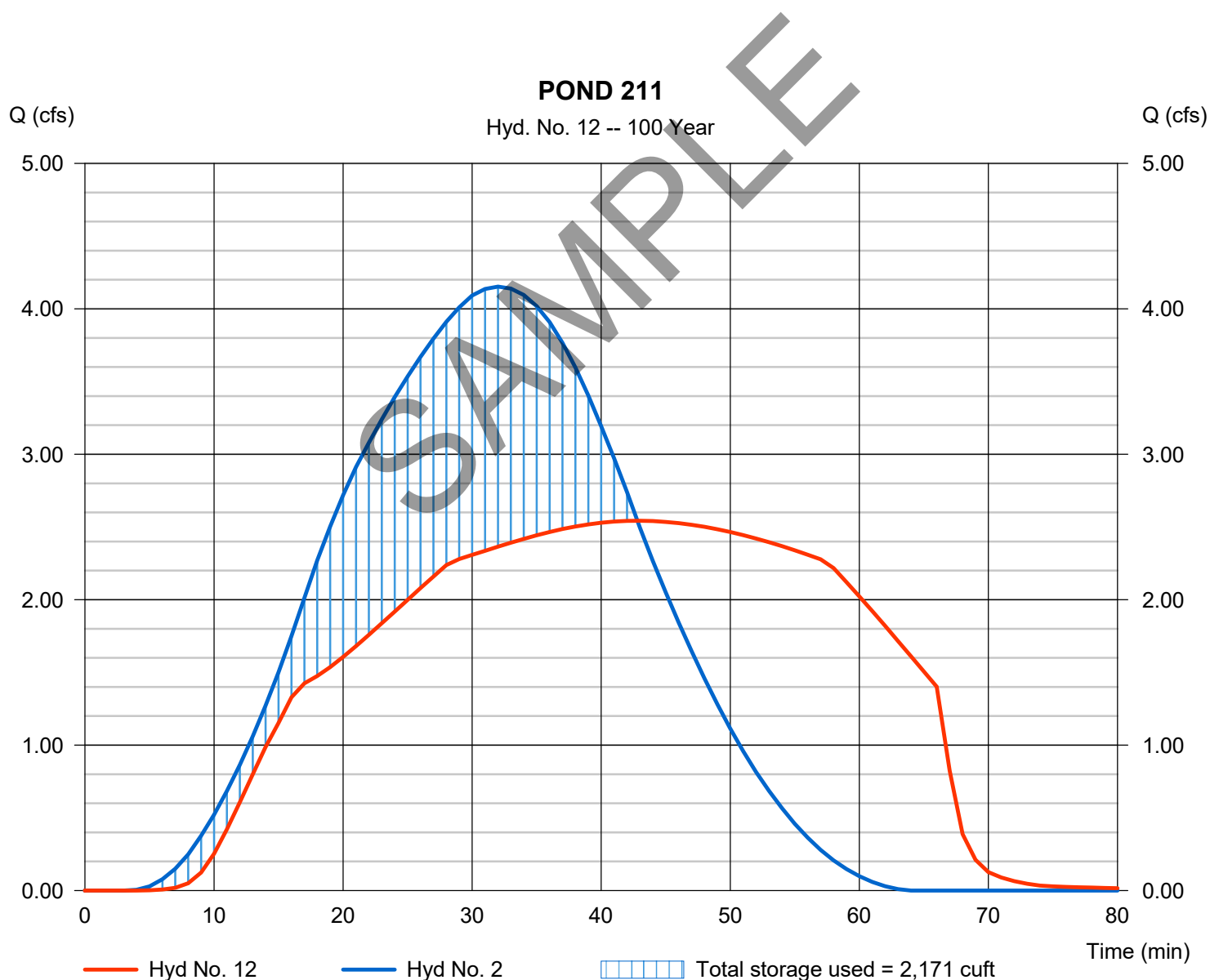
Tuesday, 04 / 2 / 2019

Hyd. No. 12

POND 211

Hydrograph type	= Reservoir	Peak discharge	= 2.543 cfs
Storm frequency	= 100 yrs, 30 min	Time to peak	= 43 min
Time interval	= 1 min	Hyd. volume	= 6,998 cuft
Inflow hyd. No.	= 2 - PR 211	Max. Elevation	= 580.43 ft
Reservoir name	= POND 211	Max. Storage	= 2,171 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

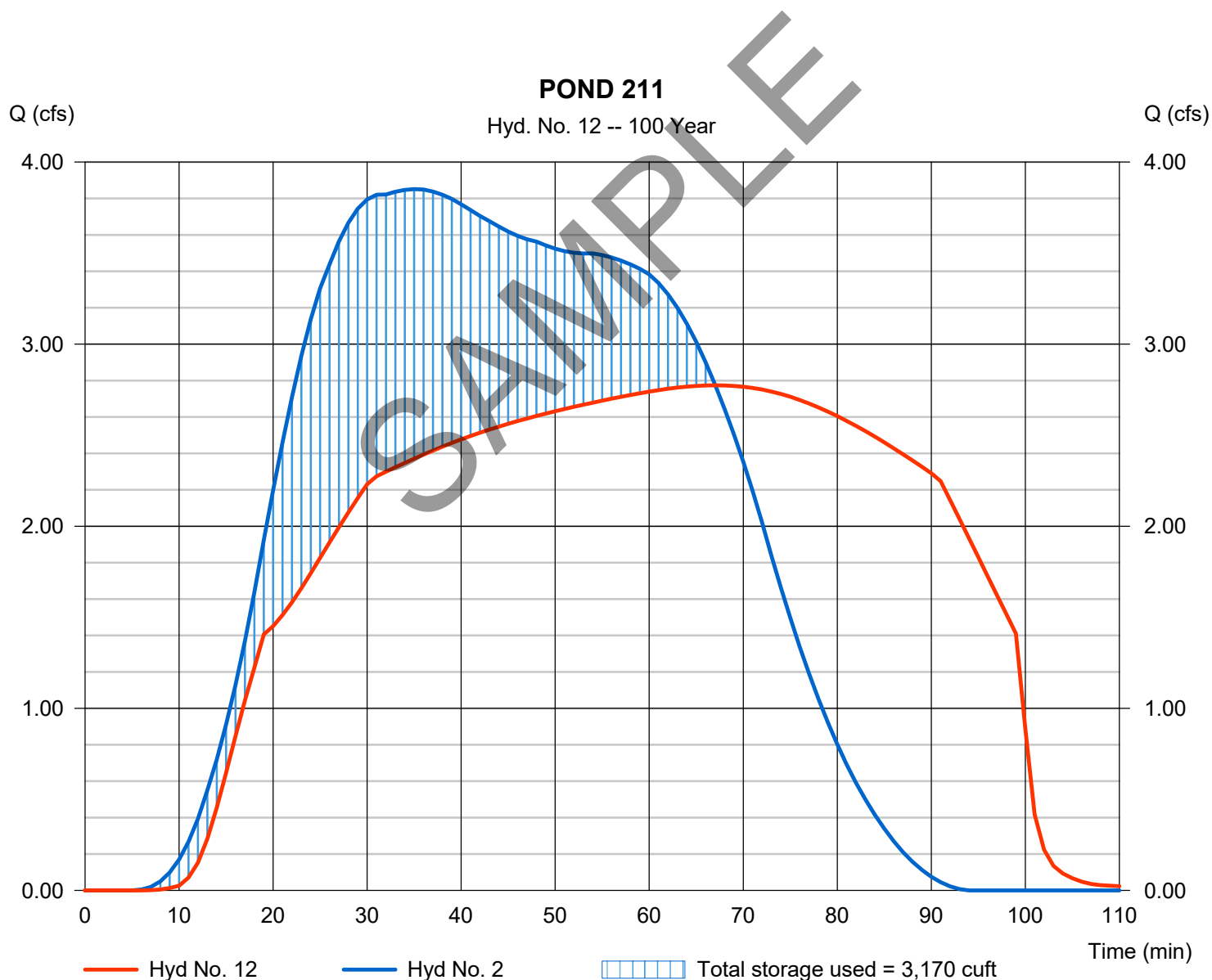
Tuesday, 04 / 2 / 2019

Hyd. No. 12

POND 211

Hydrograph type	= Reservoir	Peak discharge	= 2.774 cfs
Storm frequency	= 100 yrs, 1 hr	Time to peak	= 67 min
Time interval	= 1 min	Hyd. volume	= 12,021 cuft
Inflow hyd. No.	= 2 - PR 211	Max. Elevation	= 580.82 ft
Reservoir name	= POND 211	Max. Storage	= 3,170 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

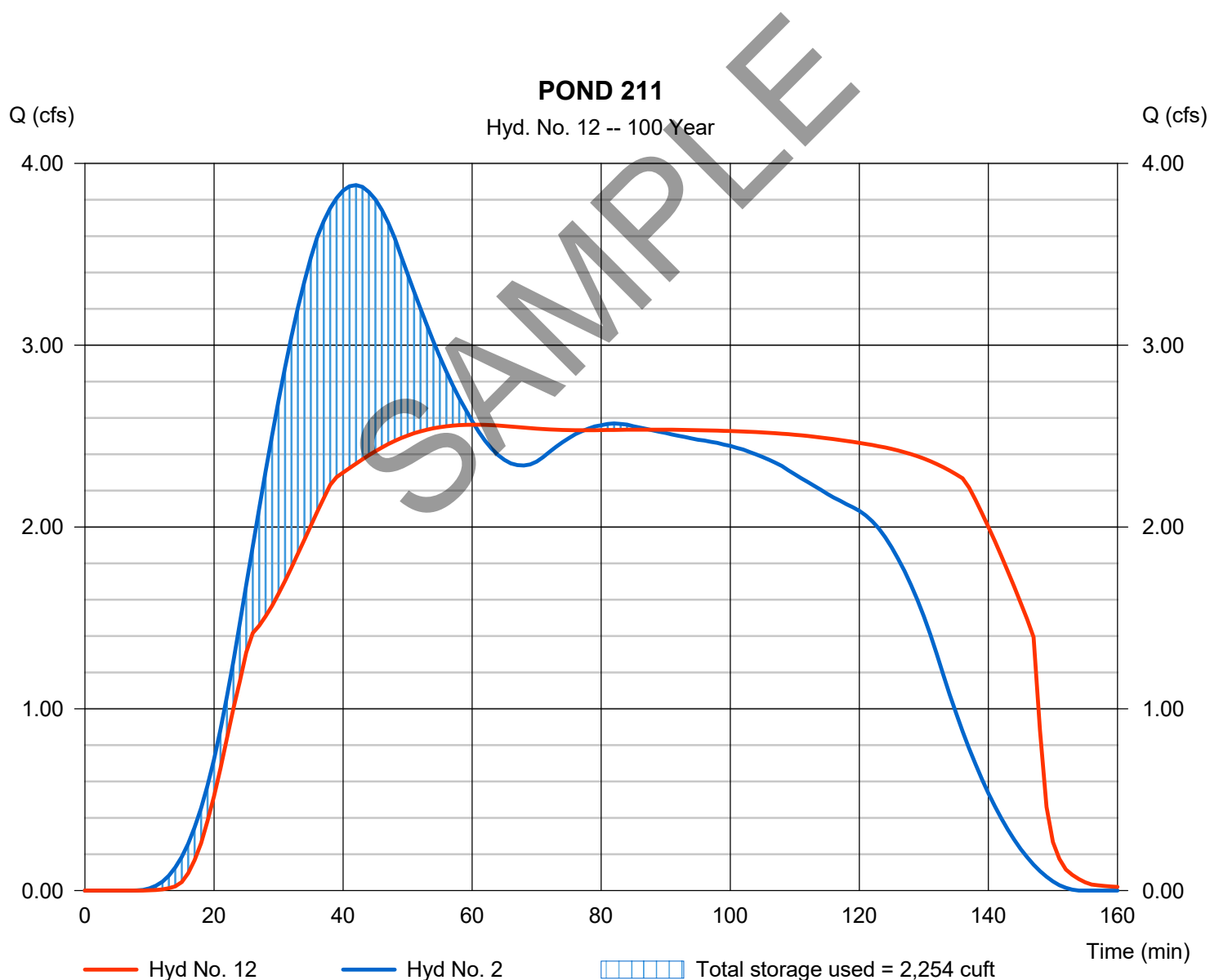
Tuesday, 04 / 2 / 2019

Hyd. No. 12

POND 211

Hydrograph type	= Reservoir	Peak discharge	= 2.563 cfs
Storm frequency	= 100 yrs, 2 hr	Time to peak	= 60 min
Time interval	= 1 min	Hyd. volume	= 17,775 cuft
Inflow hyd. No.	= 2 - PR 211	Max. Elevation	= 580.47 ft
Reservoir name	= POND 211	Max. Storage	= 2,254 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

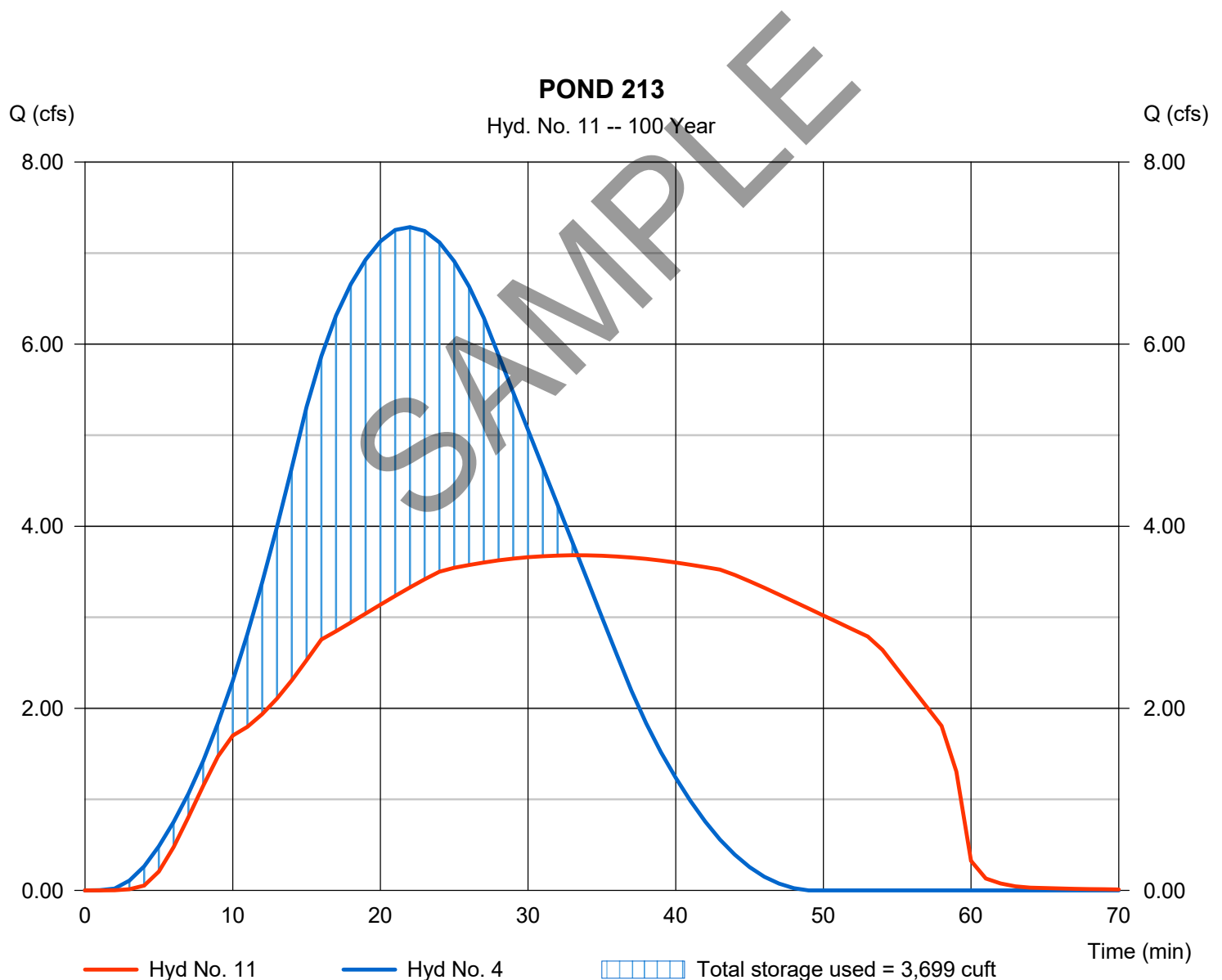
Tuesday, 04 / 2 / 2019

Hyd. No. 11

POND 213

Hydrograph type	= Reservoir	Peak discharge	= 3.681 cfs
Storm frequency	= 100 yrs, 15 min	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 9,488 cuft
Inflow hyd. No.	= 4 - PR 213	Max. Elevation	= 581.25 ft
Reservoir name	= POND 213	Max. Storage	= 3,699 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

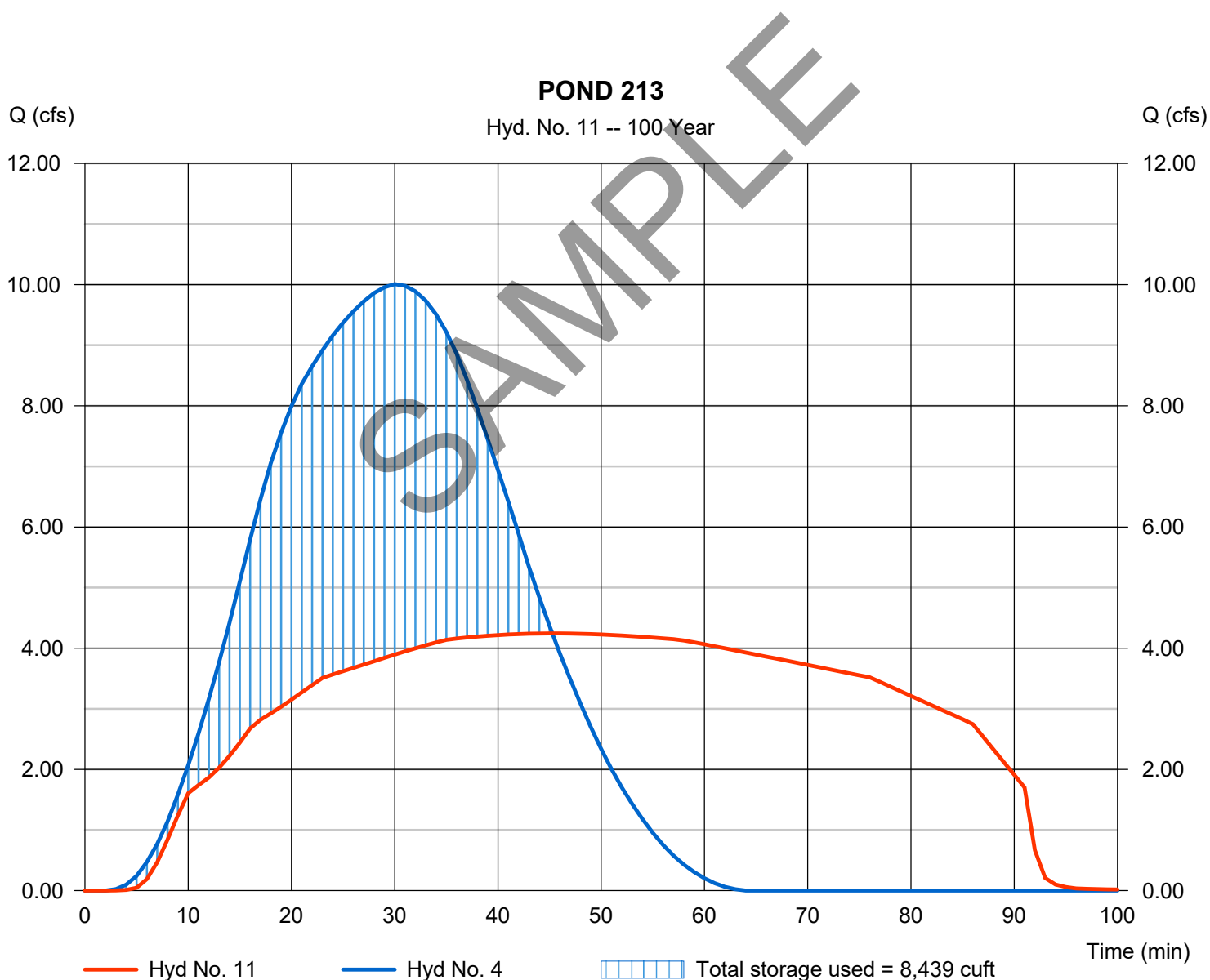
Tuesday, 04 / 2 / 2019

Hyd. No. 11

POND 213

Hydrograph type	= Reservoir	Peak discharge	= 4.243 cfs
Storm frequency	= 100 yrs, 30 min	Time to peak	= 45 min
Time interval	= 1 min	Hyd. volume	= 17,634 cuft
Inflow hyd. No.	= 4 - PR 213	Max. Elevation	= 582.18 ft
Reservoir name	= POND 213	Max. Storage	= 8,439 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

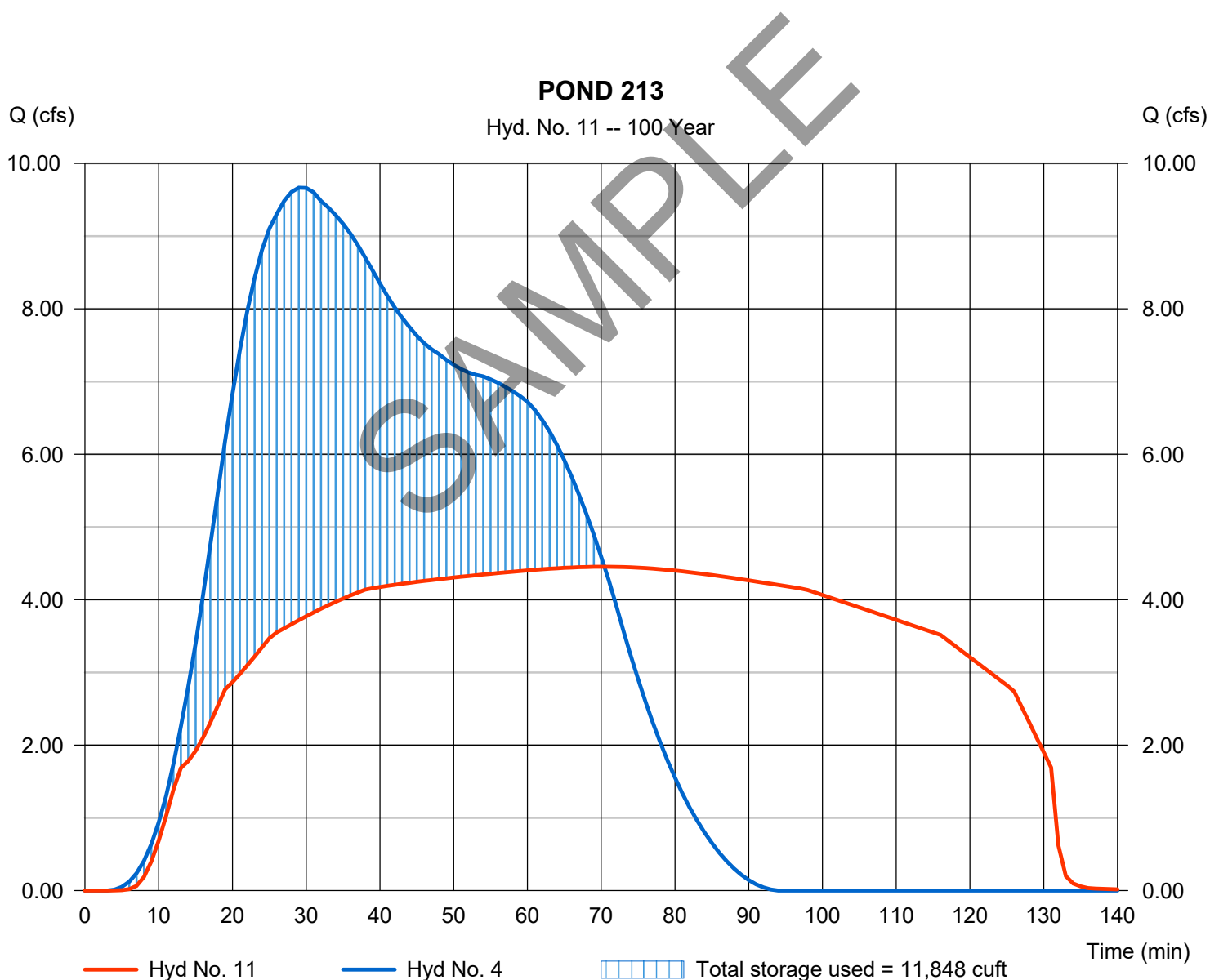
Tuesday, 04 / 2 / 2019

Hyd. No. 11

POND 213

Hydrograph type	= Reservoir	Peak discharge	= 4.453 cfs
Storm frequency	= 100 yrs, 1 hr	Time to peak	= 70 min
Time interval	= 1 min	Hyd. volume	= 27,555 cuft
Inflow hyd. No.	= 4 - PR 213	Max. Elevation	= 582.56 ft
Reservoir name	= POND 213	Max. Storage	= 11,848 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

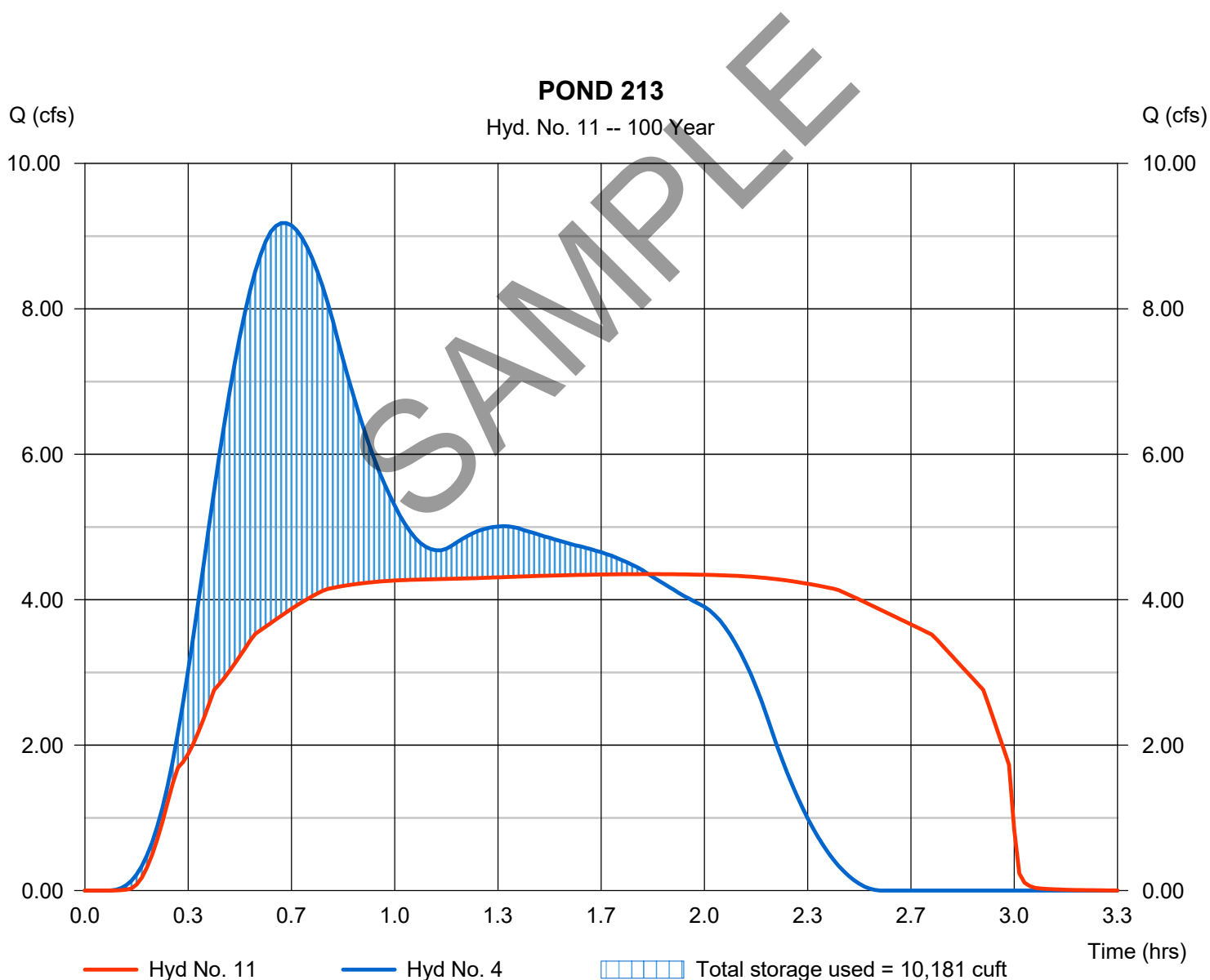
Tuesday, 04 / 2 / 2019

Hyd. No. 11

POND 213

Hydrograph type	= Reservoir	Peak discharge	= 4.352 cfs
Storm frequency	= 100 yrs, 2 hr	Time to peak	= 1.82 hrs
Time interval	= 1 min	Hyd. volume	= 38,373 cuft
Inflow hyd. No.	= 4 - PR 213	Max. Elevation	= 582.37 ft
Reservoir name	= POND 213	Max. Storage	= 10,181 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

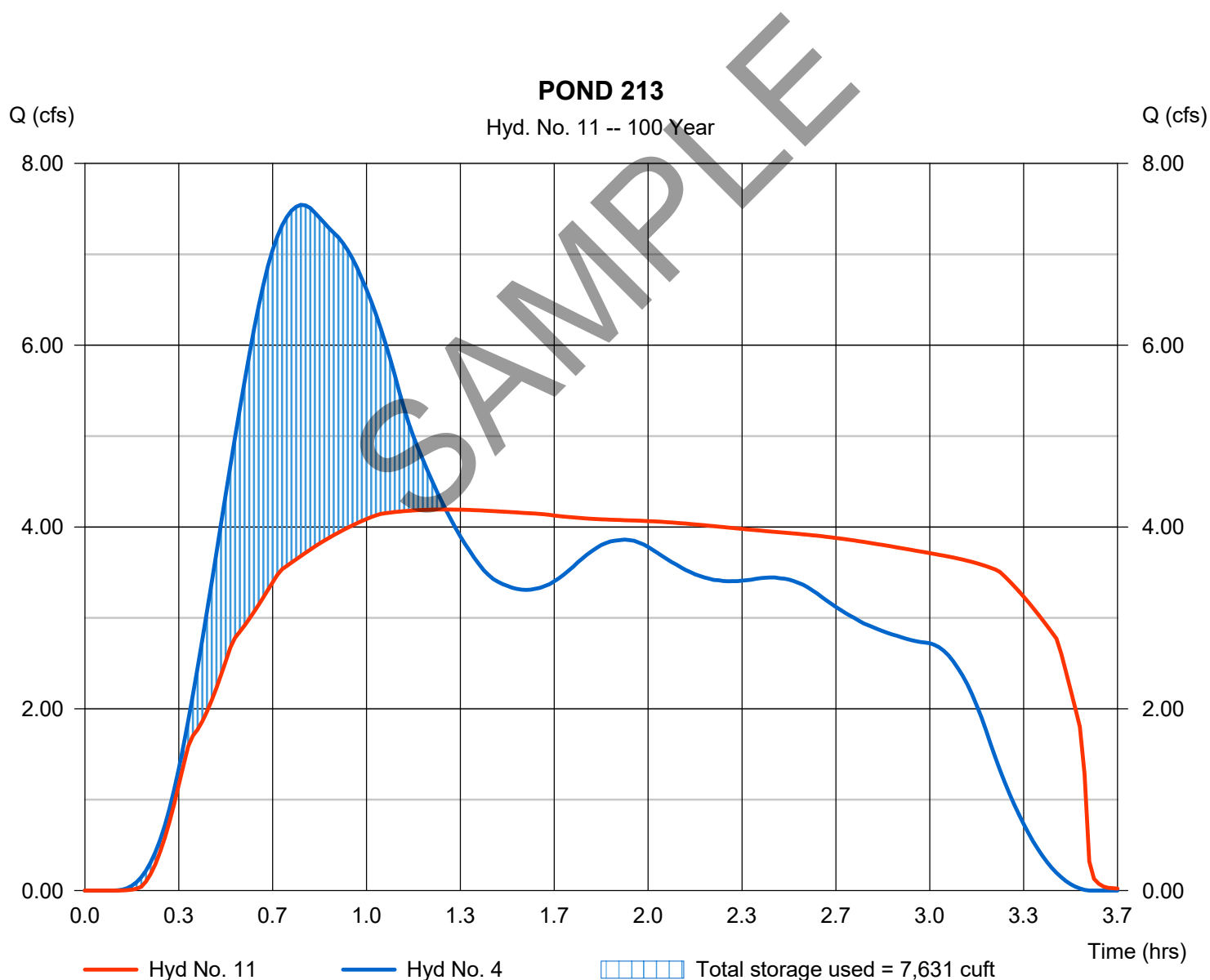
Hyd. No. 11

POND 213

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Time interval = 1 min
Inflow hyd. No. = 4 - PR 213
Reservoir name = POND 213

Peak discharge = 4.192 cfs
Time to peak = 1.28 hrs
Hyd. volume = 43,143 cuft
Max. Elevation = 582.09 ft
Max. Storage = 7,631 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

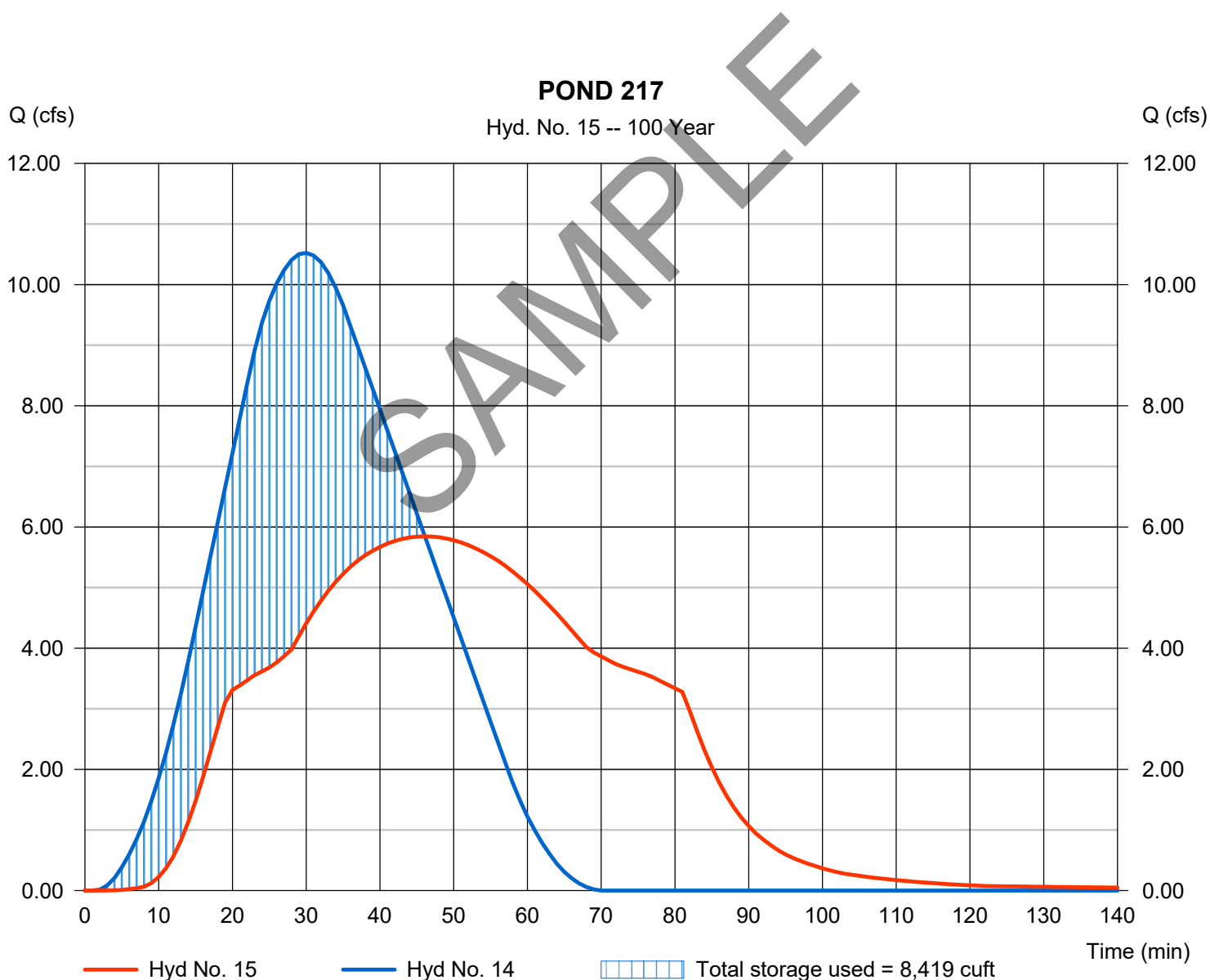
Tuesday, 04 / 2 / 2019

Hyd. No. 15

POND 217

Hydrograph type	= Reservoir	Peak discharge	= 5.845 cfs
Storm frequency	= 100 yrs, 15 min	Time to peak	= 46 min
Time interval	= 1 min	Hyd. volume	= 20,006 cuft
Inflow hyd. No.	= 14 - PR 217 COMBINE	Max. Elevation	= 580.71 ft
Reservoir name	= POND 217	Max. Storage	= 8,419 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

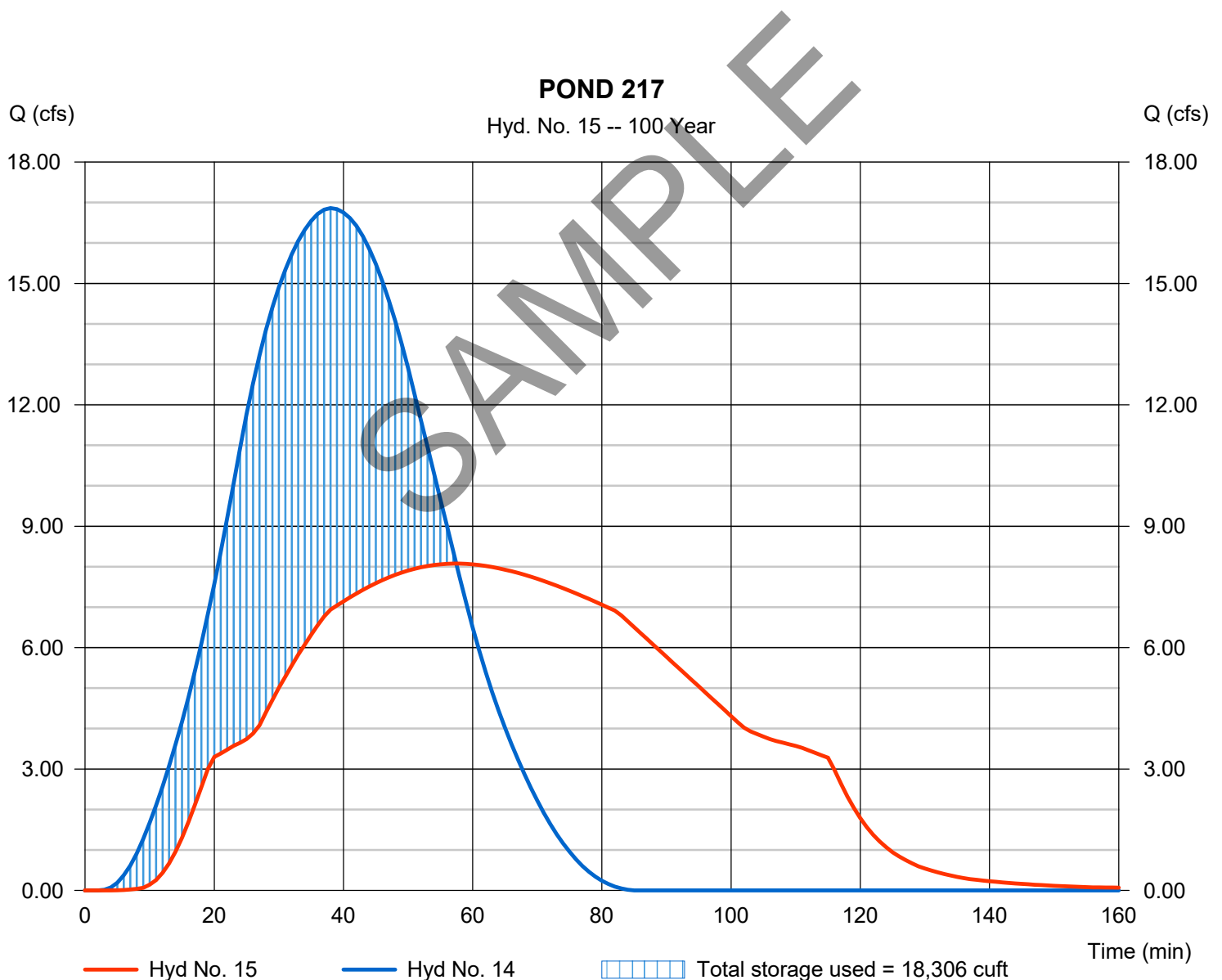
Tuesday, 04 / 2 / 2019

Hyd. No. 15

POND 217

Hydrograph type	= Reservoir	Peak discharge	= 8.076 cfs
Storm frequency	= 100 yrs, 30 min	Time to peak	= 57 min
Time interval	= 1 min	Hyd. volume	= 37,662 cuft
Inflow hyd. No.	= 14 - PR 217 COMBINE	Max. Elevation	= 581.39 ft
Reservoir name	= POND 217	Max. Storage	= 18,306 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

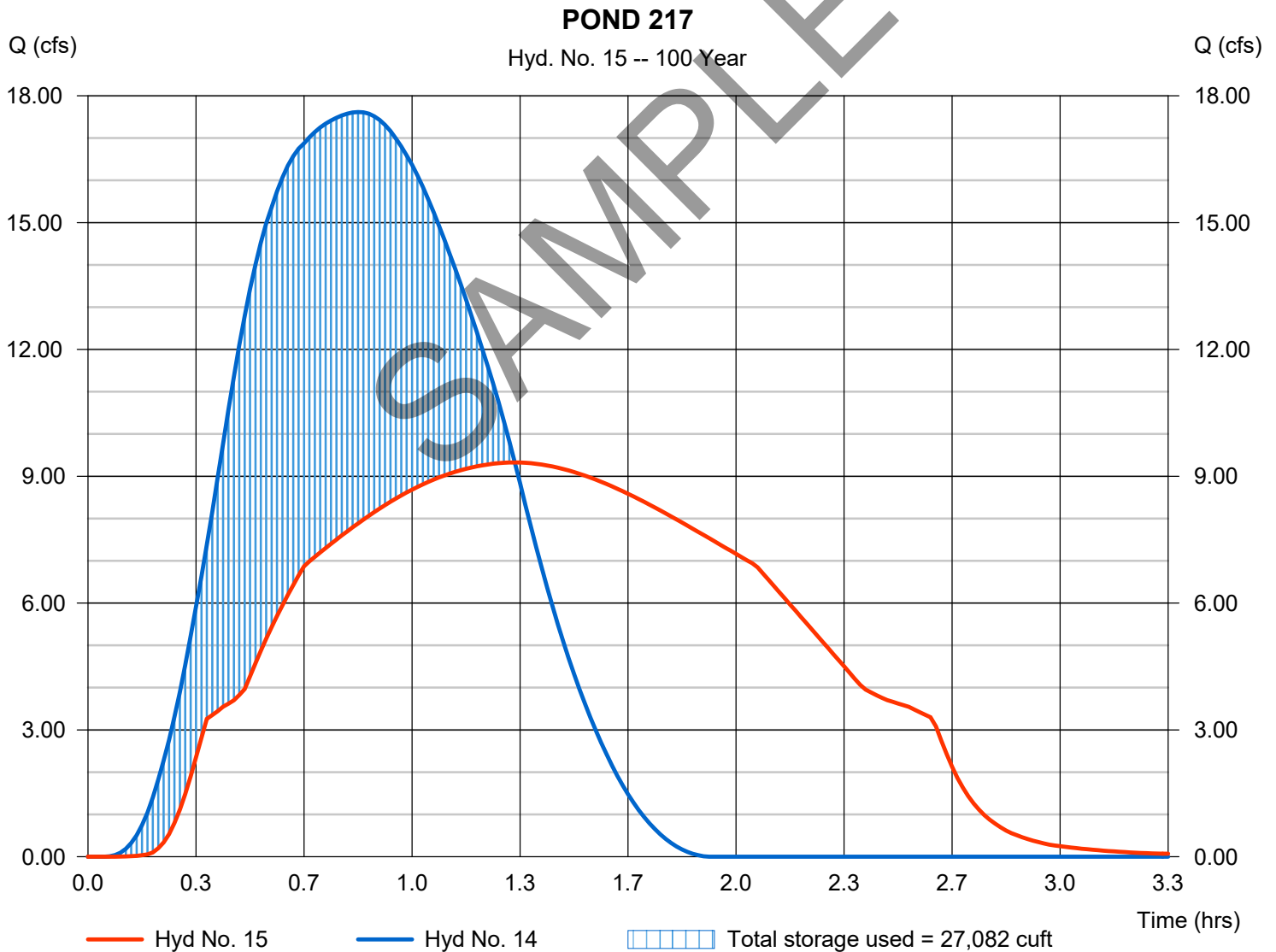
Tuesday, 04 / 2 / 2019

Hyd. No. 15

POND 217

Hydrograph type	= Reservoir	Peak discharge	= 9.326 cfs
Storm frequency	= 100 yrs, 1 hr	Time to peak	= 1.32 hrs
Time interval	= 1 min	Hyd. volume	= 59,343 cuft
Inflow hyd. No.	= 14 - PR 217 COMBINE	Max. Elevation	= 581.87 ft
Reservoir name	= POND 217	Max. Storage	= 27,082 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

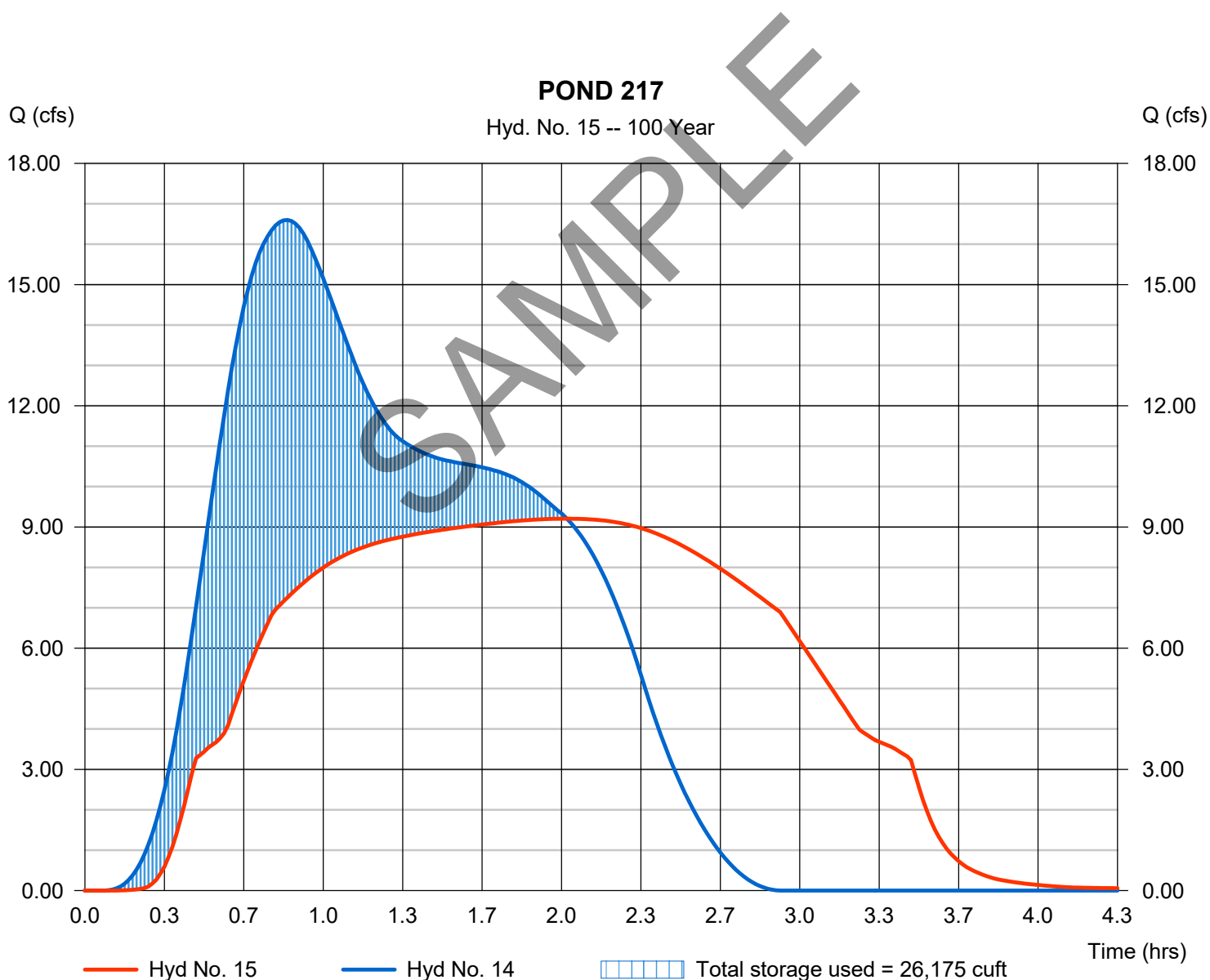
Tuesday, 04 / 2 / 2019

Hyd. No. 15

POND 217

Hydrograph type	= Reservoir	Peak discharge	= 9.205 cfs
Storm frequency	= 100 yrs, 2 hr	Time to peak	= 2.02 hrs
Time interval	= 1 min	Hyd. volume	= 83,100 cuft
Inflow hyd. No.	= 14 - PR 217 COMBINE	Max. Elevation	= 581.82 ft
Reservoir name	= POND 217	Max. Storage	= 26,175 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

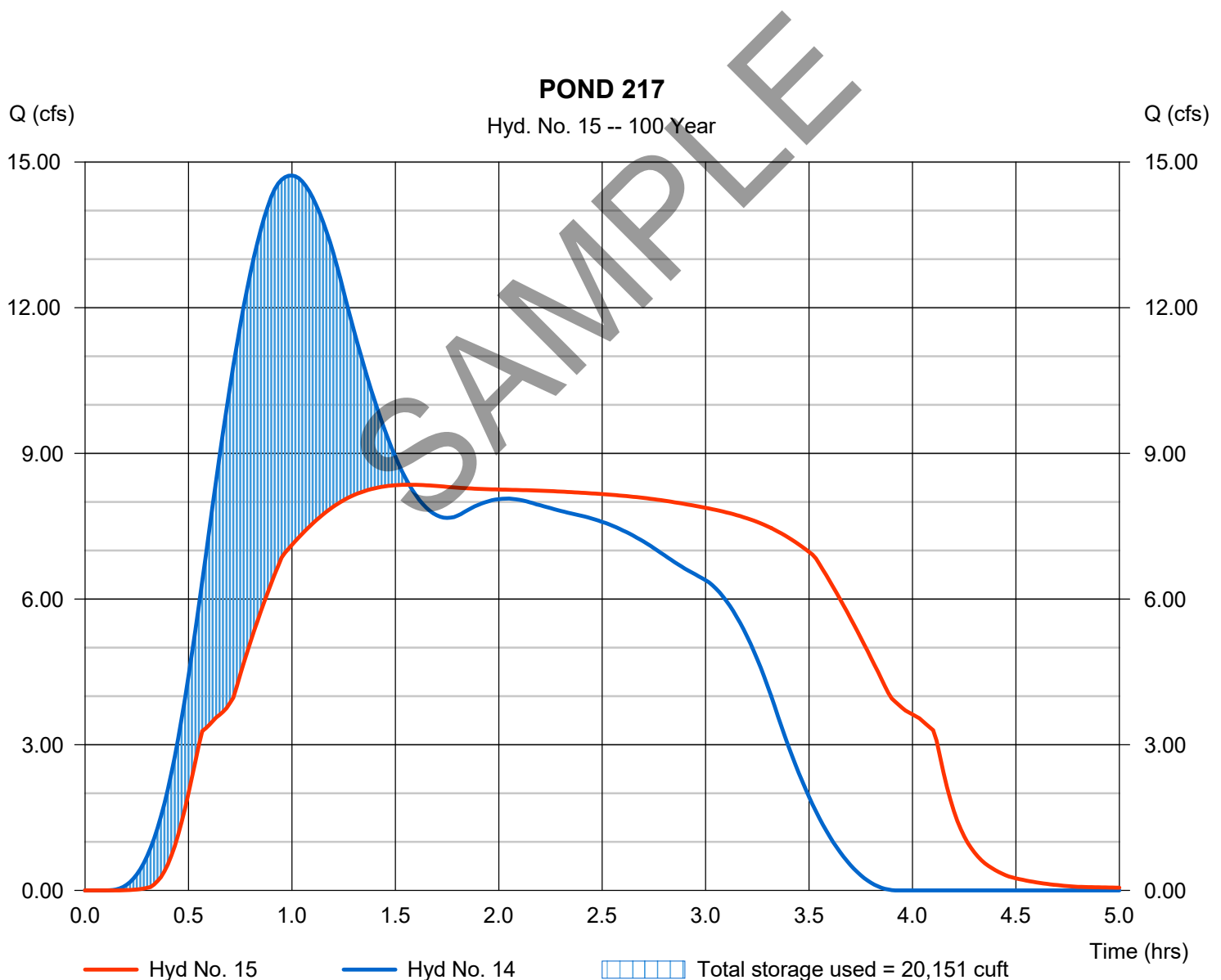
Tuesday, 04 / 2 / 2019

Hyd. No. 15

POND 217

Hydrograph type	= Reservoir	Peak discharge	= 8.354 cfs
Storm frequency	= 100 yrs, 3 hr	Time to peak	= 1.57 hrs
Time interval	= 1 min	Hyd. volume	= 93,607 cuft
Inflow hyd. No.	= 14 - PR 217 COMBINE	Max. Elevation	= 581.49 ft
Reservoir name	= POND 217	Max. Storage	= 20,151 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

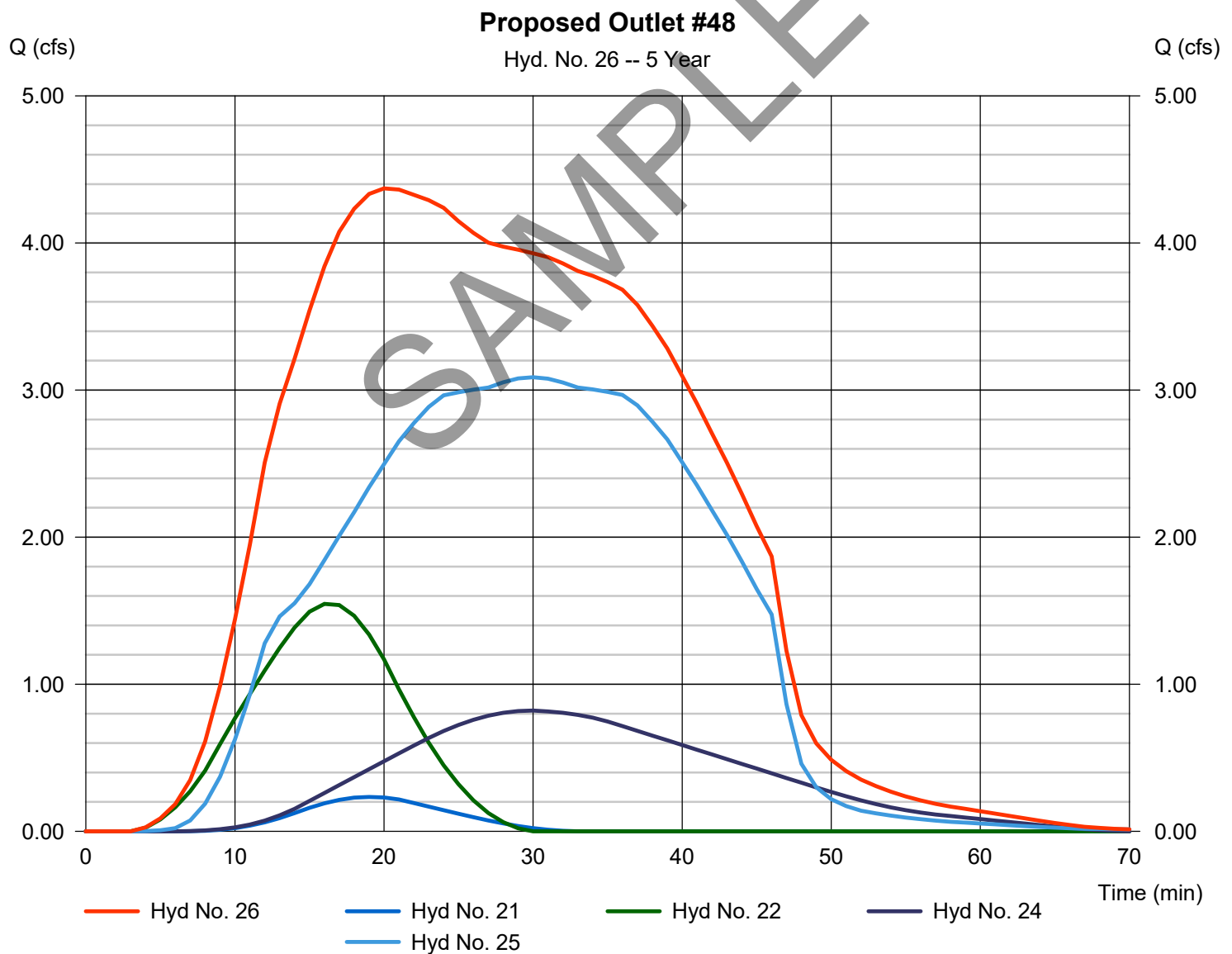
Tuesday, 04 / 2 / 2019

Hyd. No. 26

Proposed Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 21, 22, 24, 25

Peak discharge = 4.372 cfs
Time to peak = 20 min
Hyd. volume = 8,206 cuft
Contrib. drain. area = 2.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

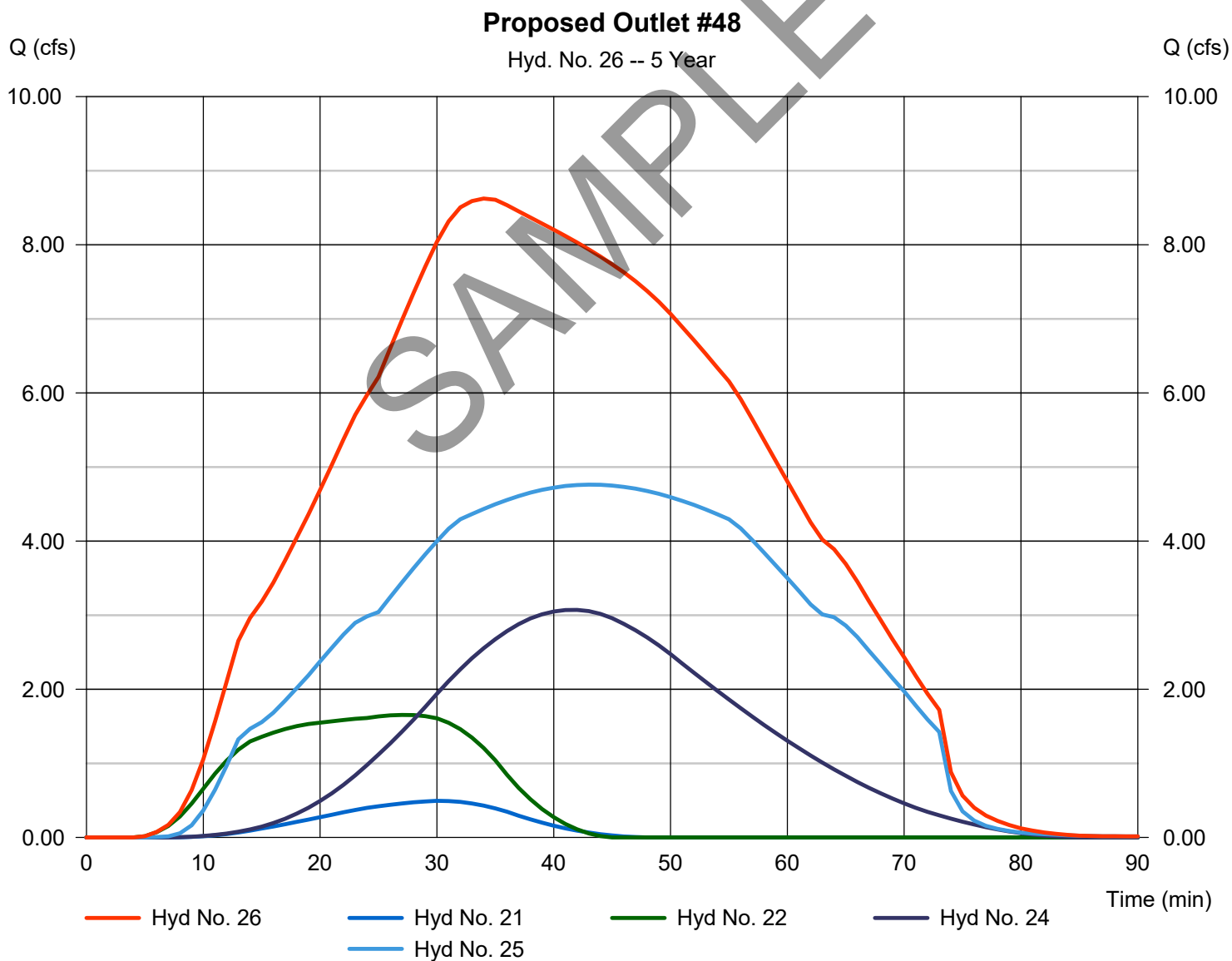
Tuesday, 04 / 2 / 2019

Hyd. No. 26

Proposed Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 21, 22, 24, 25

Peak discharge = 8.624 cfs
Time to peak = 34 min
Hyd. volume = 21,869 cuft
Contrib. drain. area = 2.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

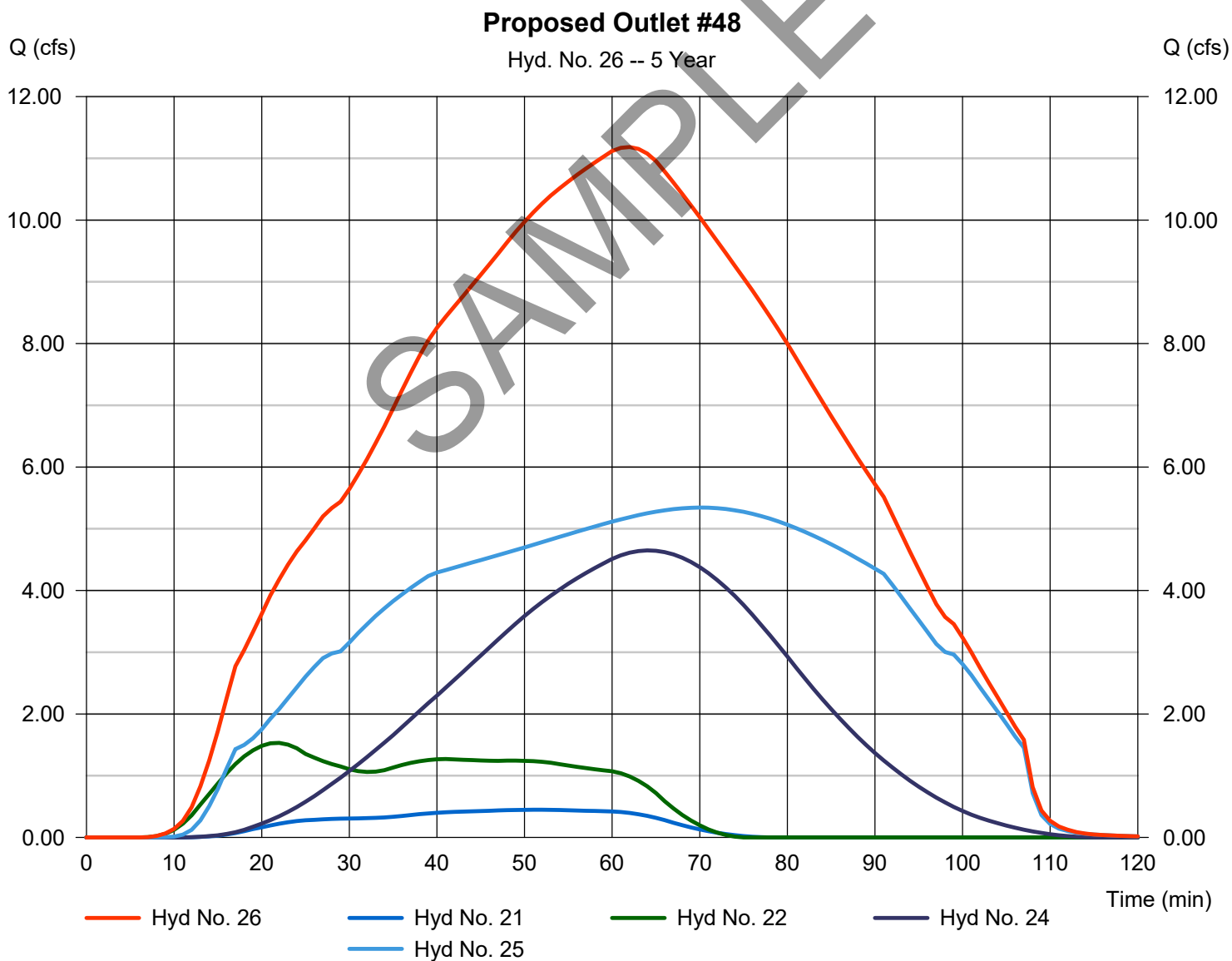
Tuesday, 04 / 2 / 2019

Hyd. No. 26

Proposed Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 21, 22, 24, 25

Peak discharge = 11.18 cfs
Time to peak = 62 min
Hyd. volume = 39,793 cuft
Contrib. drain. area = 2.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

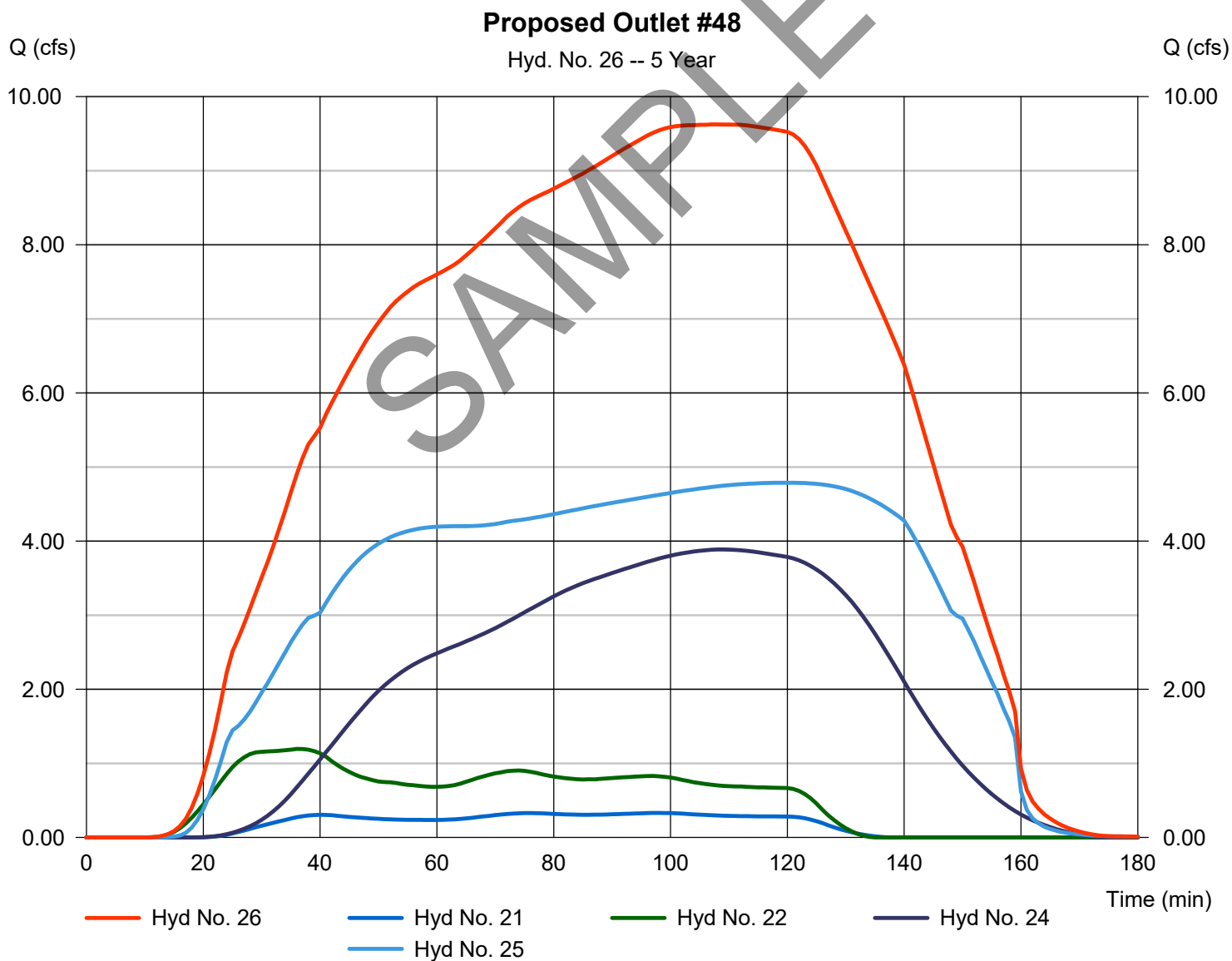
Tuesday, 04 / 2 / 2019

Hyd. No. 26

Proposed Outlet #48

Hydrograph type = Combine
Storm frequency = 5 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 21, 22, 24, 25

Peak discharge = 9.625 cfs
Time to peak = 108 min
Hyd. volume = 59,483 cuft
Contrib. drain. area = 2.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

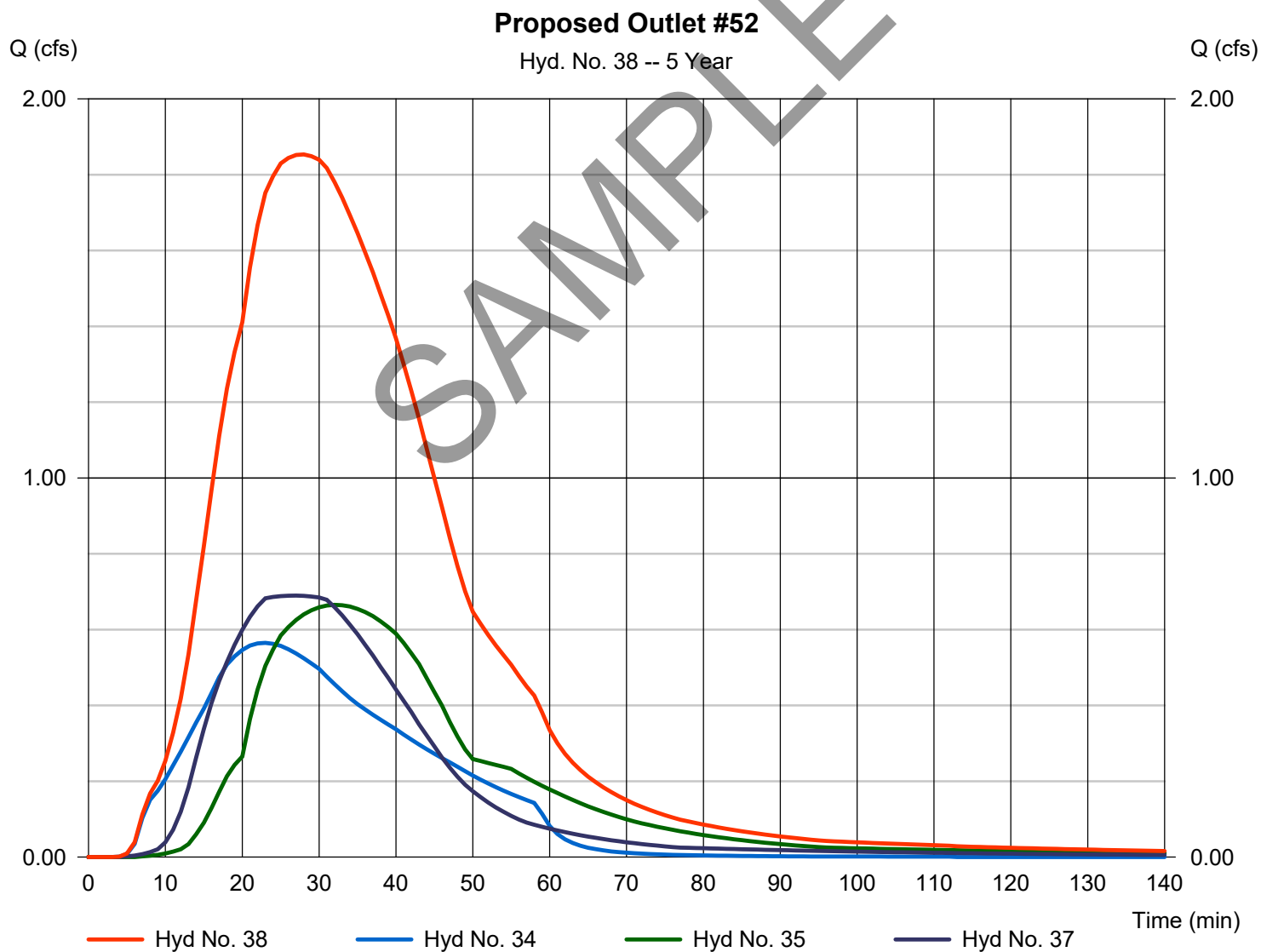
Tuesday, 04 / 2 / 2019

Hyd. No. 38

Proposed Outlet #52

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 34, 35, 37

Peak discharge = 1.853 cfs
Time to peak = 28 min
Hyd. volume = 3,843 cuft
Contrib. drain. area = 0.000 ac



Hydrograph Report

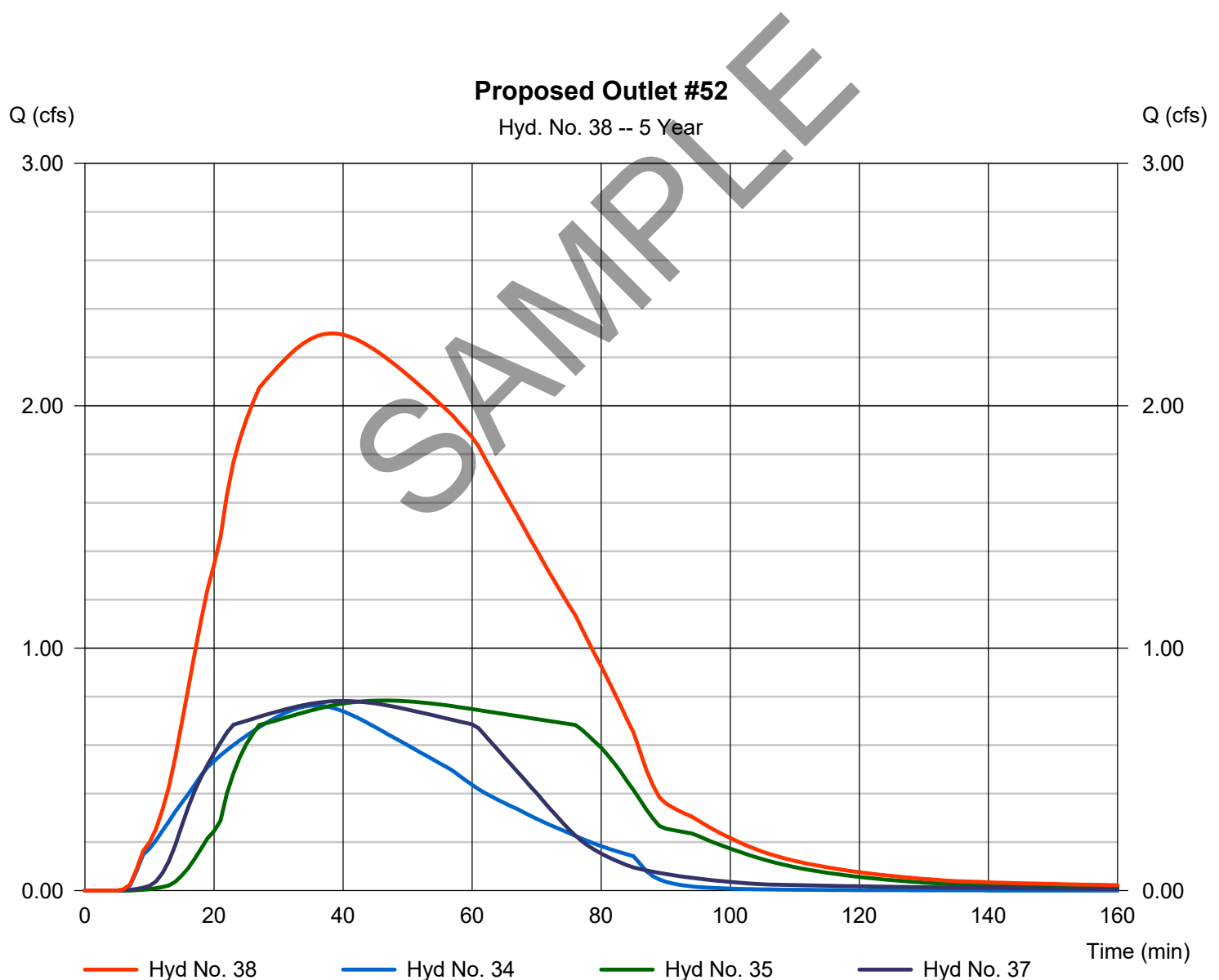
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 38

Proposed Outlet #52

Hydrograph type	= Combine	Peak discharge	= 2.298 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 38 min
Time interval	= 1 min	Hyd. volume	= 8,020 cuft
Inflow hyds.	= 34, 35, 37	Contrib. drain. area	= 0.000 ac



Hydrograph Report

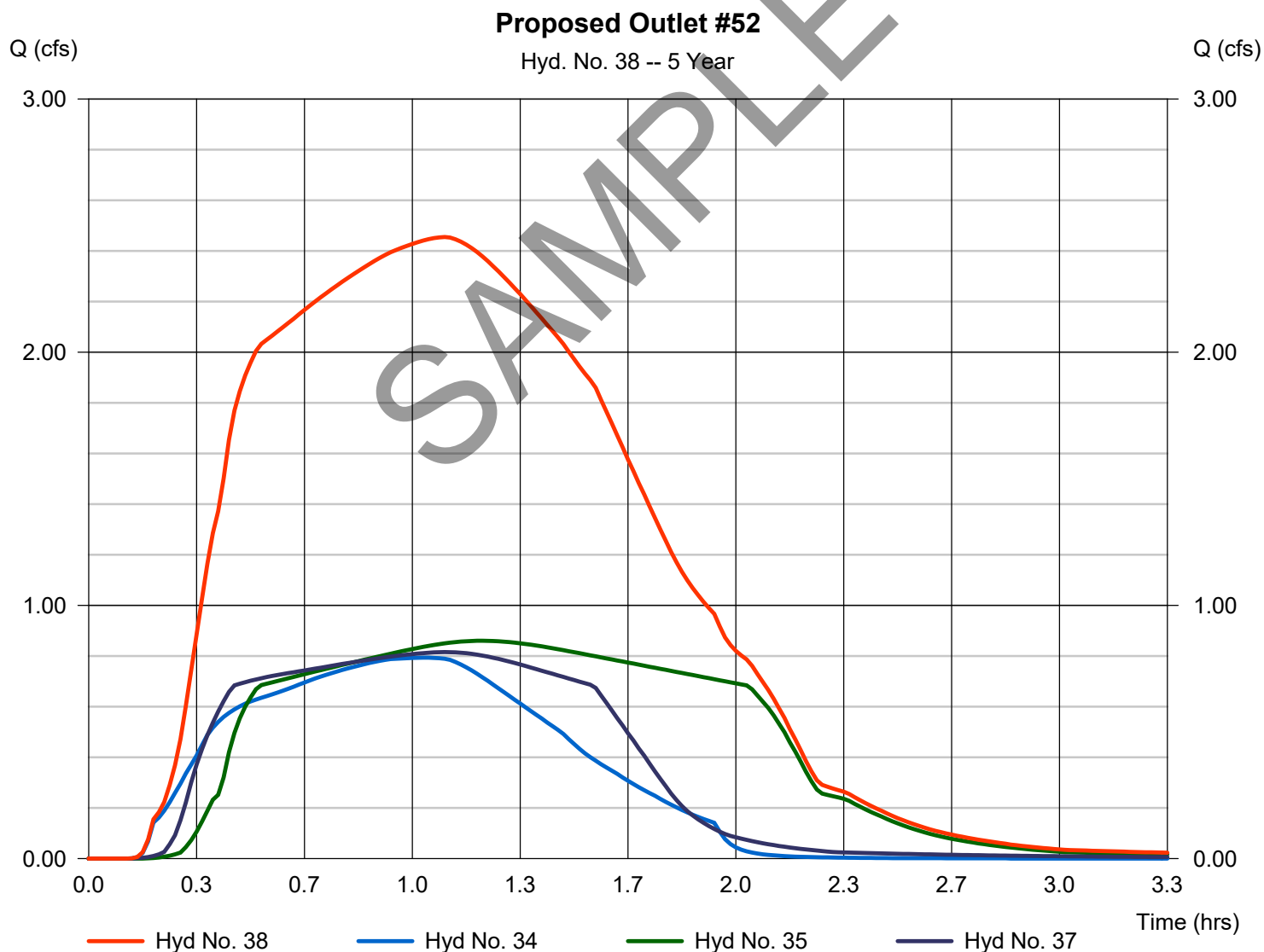
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 38

Proposed Outlet #52

Hydrograph type	= Combine	Peak discharge	= 2.455 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 1.10 hrs
Time interval	= 1 min	Hyd. volume	= 12,731 cuft
Inflow hyds.	= 34, 35, 37	Contrib. drain. area	= 0.000 ac



Hydrograph Report

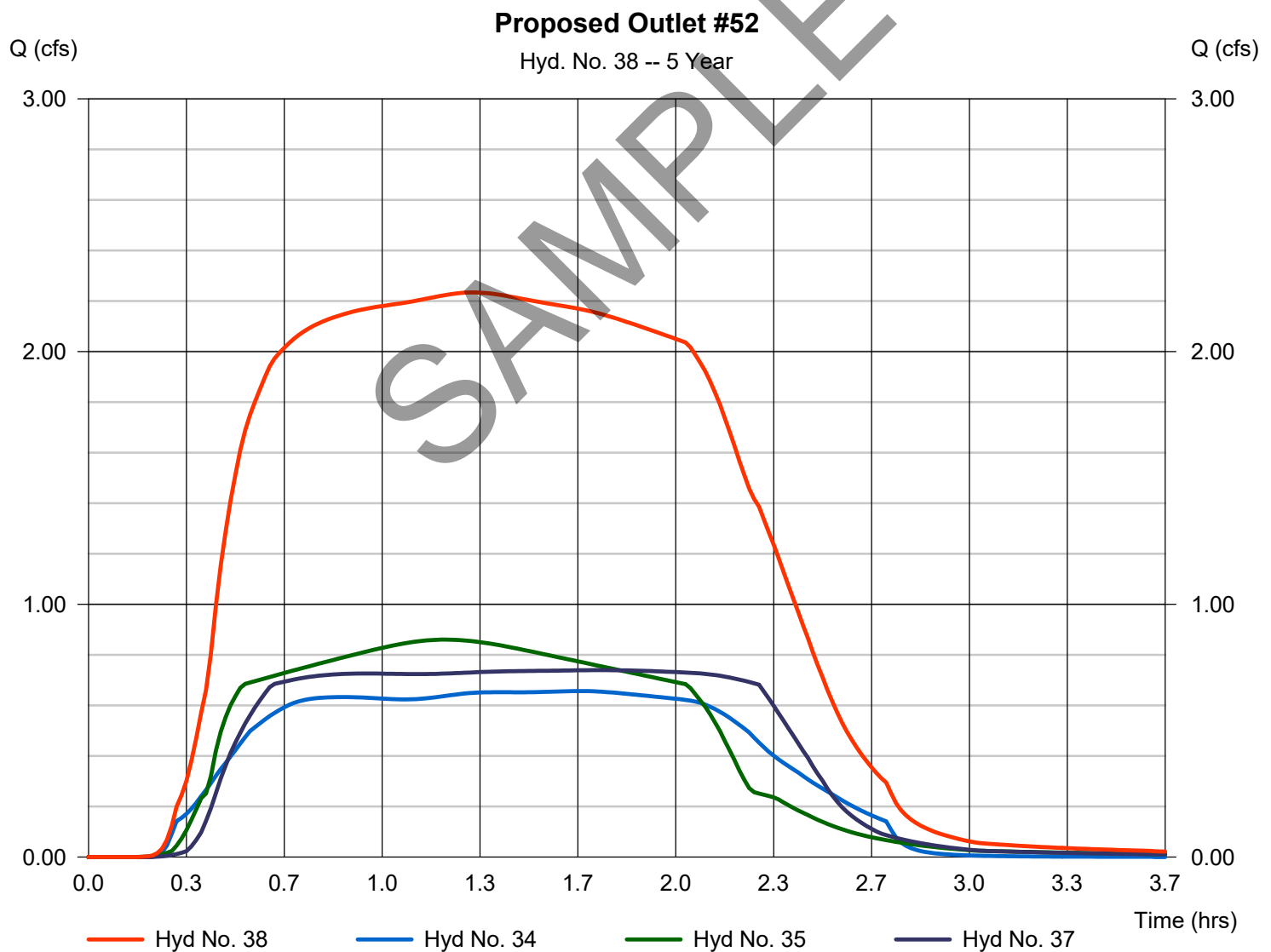
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 38

Proposed Outlet #52

Hydrograph type	= Combine	Peak discharge	= 2.234 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 1.30 hrs
Time interval	= 1 min	Hyd. volume	= 15,317 cuft
Inflow hyds.	= 34, 35, 37	Contrib. drain. area	= 0.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

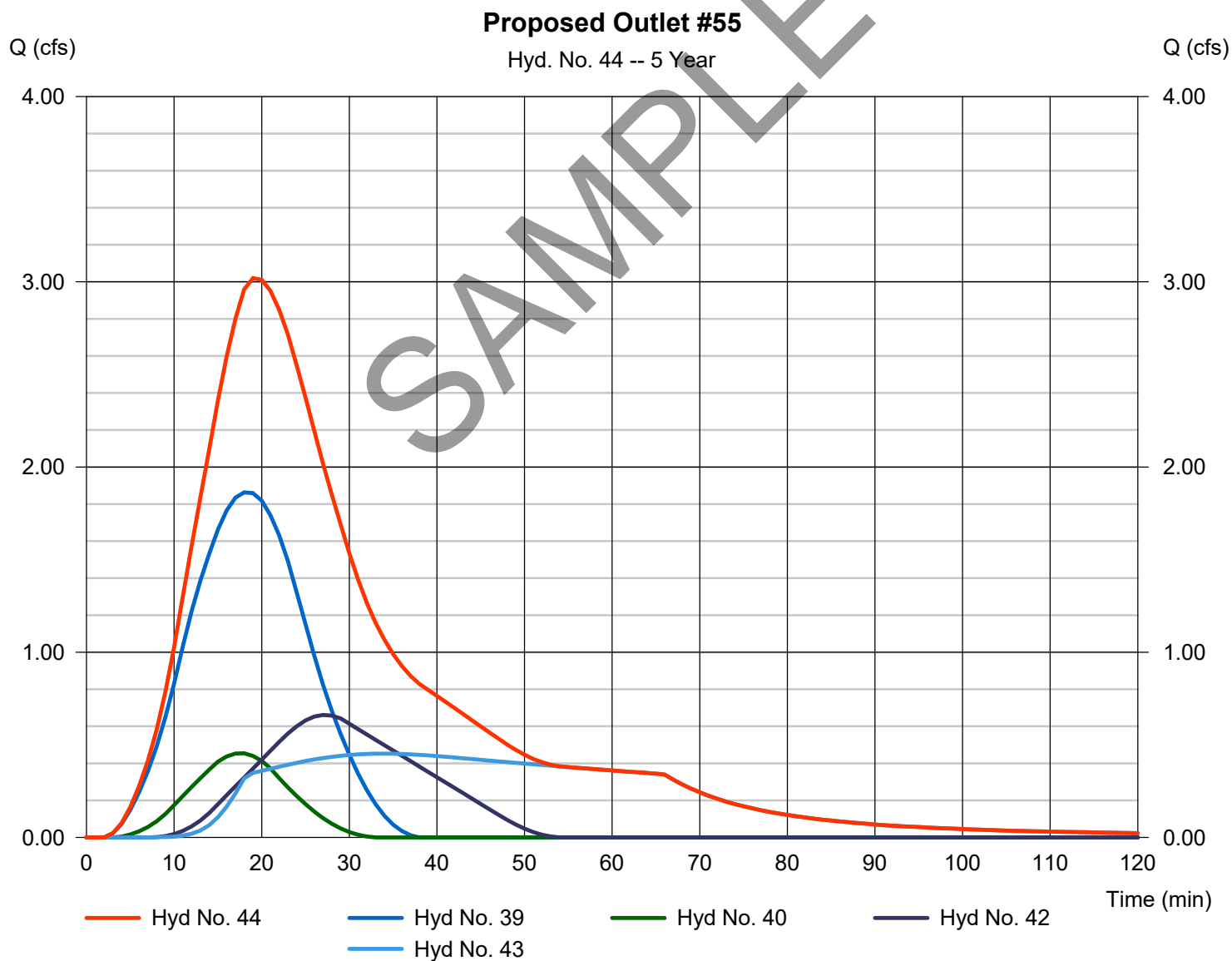
Tuesday, 04 / 2 / 2019

Hyd. No. 44

Proposed Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 39, 40, 42, 43

Peak discharge = 3.019 cfs
Time to peak = 19 min
Hyd. volume = 4,660 cuft
Contrib. drain. area = 8.800 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

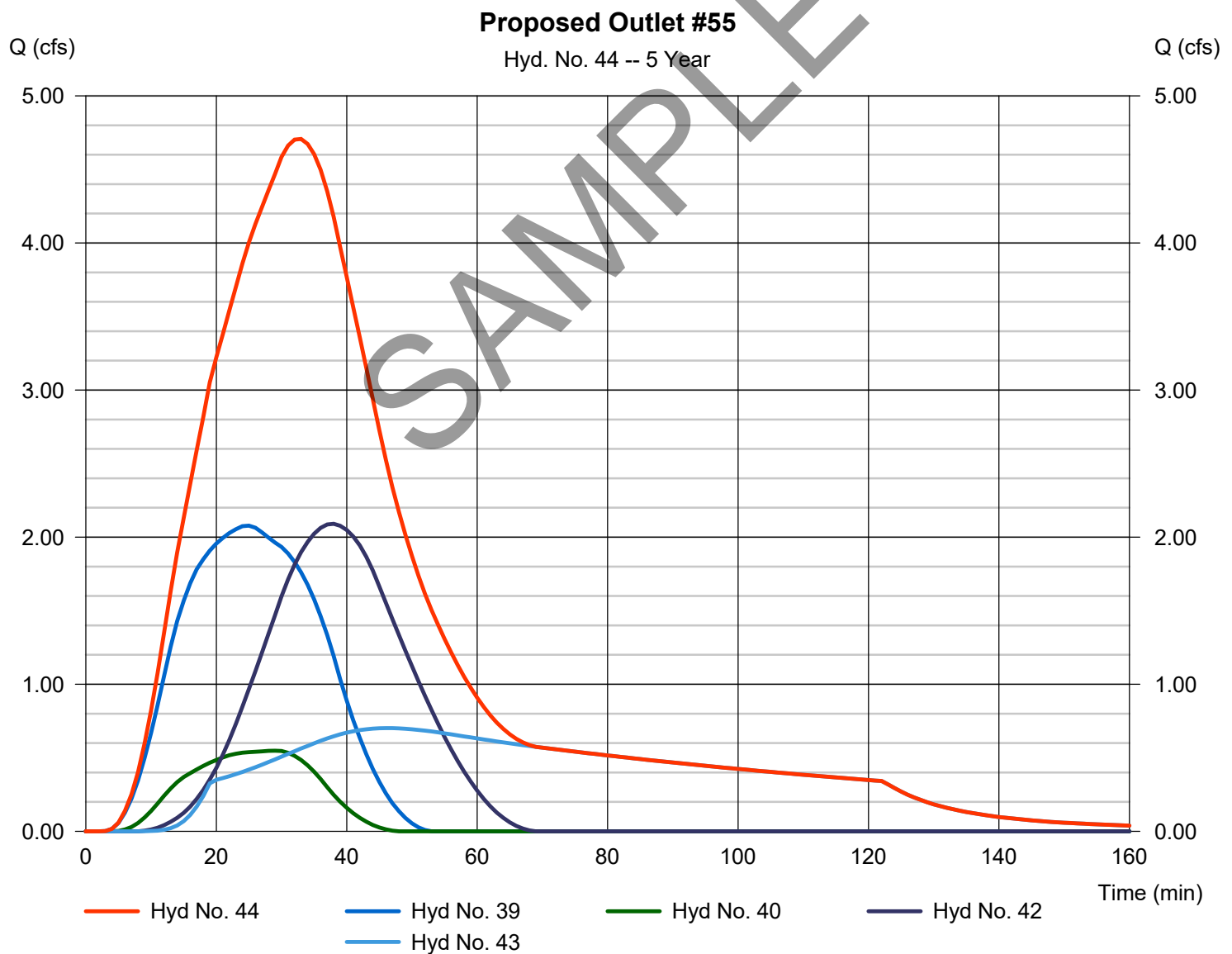
Tuesday, 04 / 2 / 2019

Hyd. No. 44

Proposed Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs, 30 min
Time interval = 1 min
Inflow hyds. = 39, 40, 42, 43

Peak discharge = 4.707 cfs
Time to peak = 33 min
Hyd. volume = 11,064 cuft
Contrib. drain. area = 8.800 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

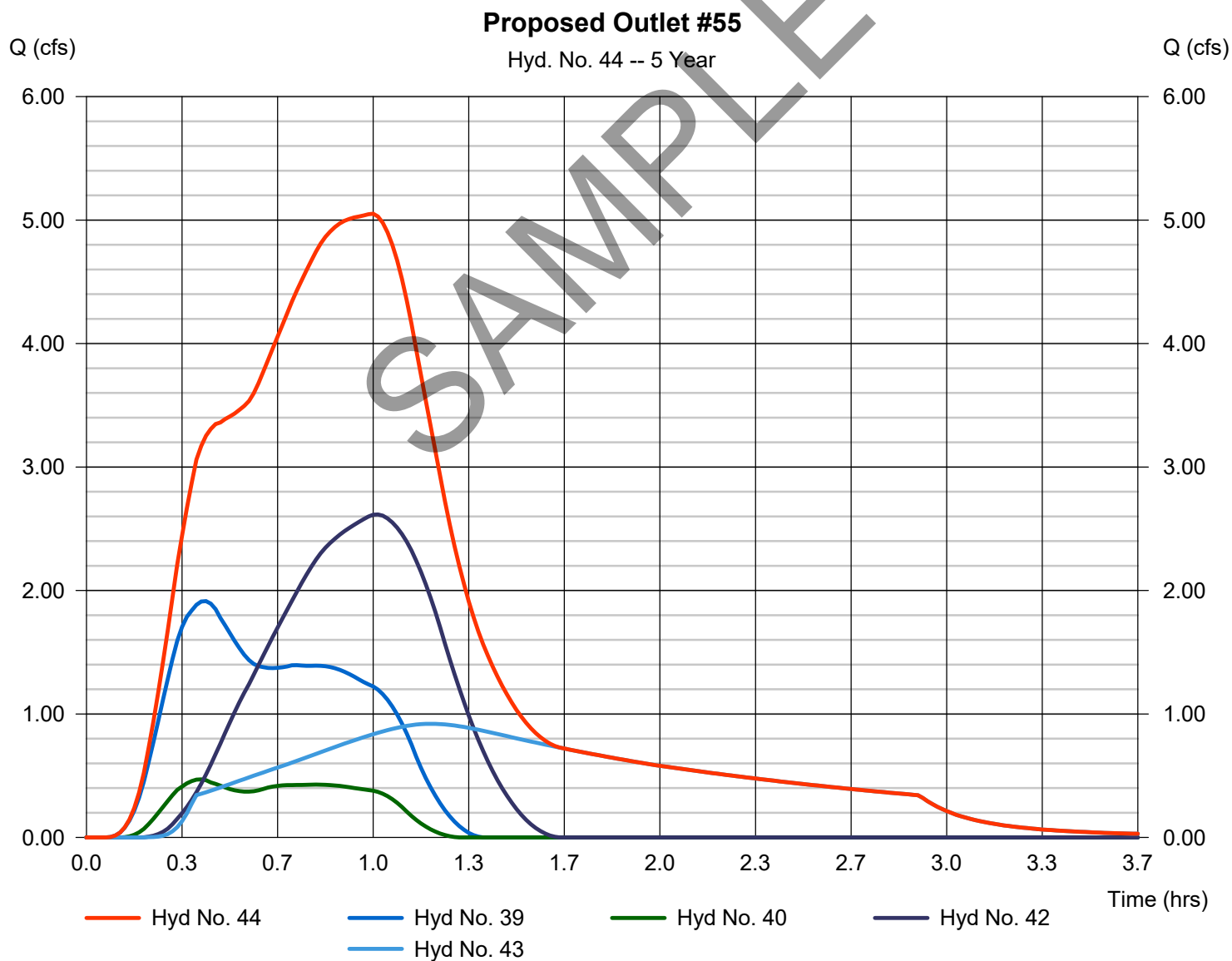
Tuesday, 04 / 2 / 2019

Hyd. No. 44

Proposed Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 39, 40, 42, 43

Peak discharge = 5.052 cfs
Time to peak = 1.00 hrs
Hyd. volume = 18,905 cuft
Contrib. drain. area = 8.800 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

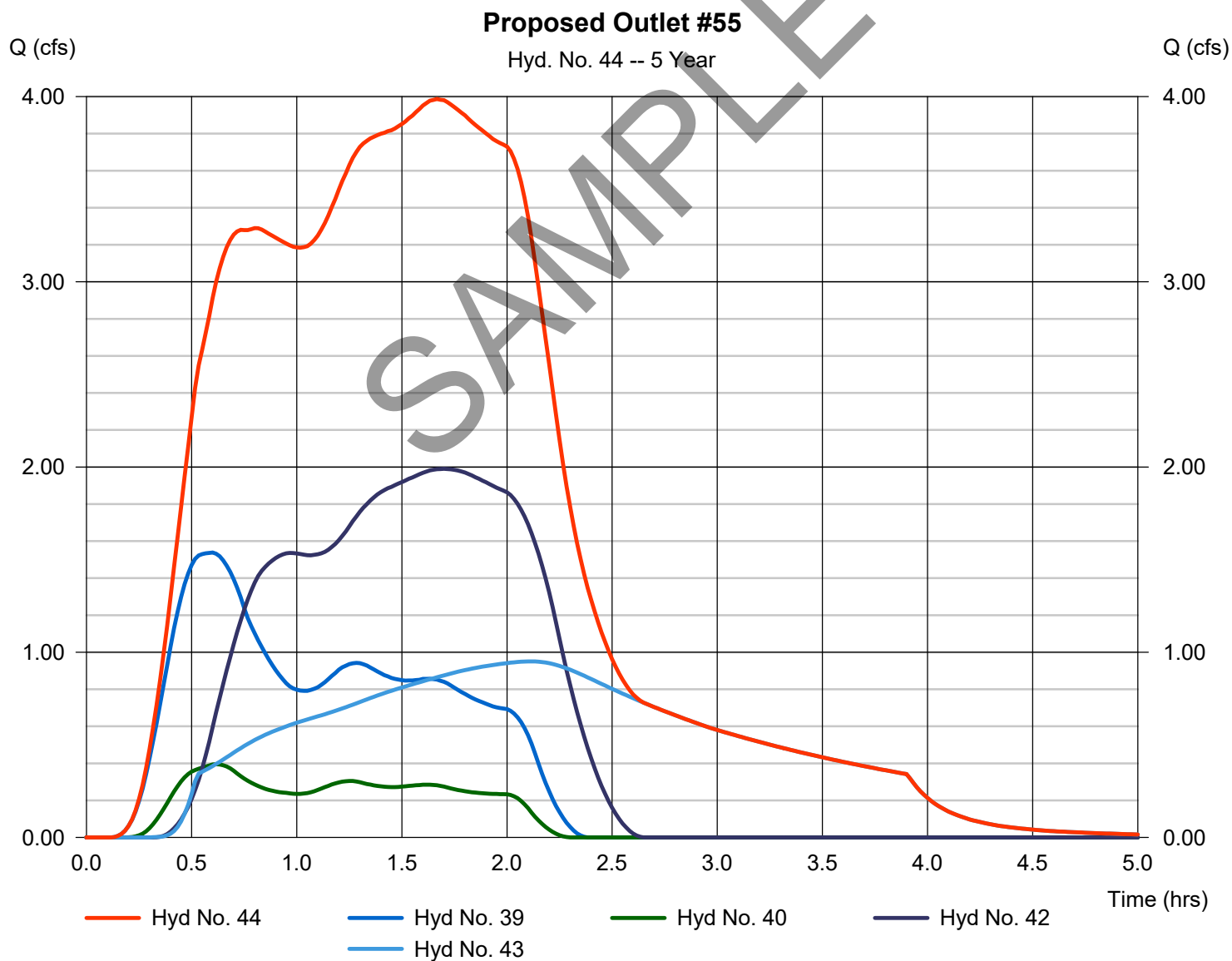
Tuesday, 04 / 2 / 2019

Hyd. No. 44

Proposed Outlet #55

Hydrograph type = Combine
Storm frequency = 5 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 39, 40, 42, 43

Peak discharge = 3.987 cfs
Time to peak = 1.67 hrs
Hyd. volume = 27,204 cuft
Contrib. drain. area = 8.800 ac



Hydrograph Report

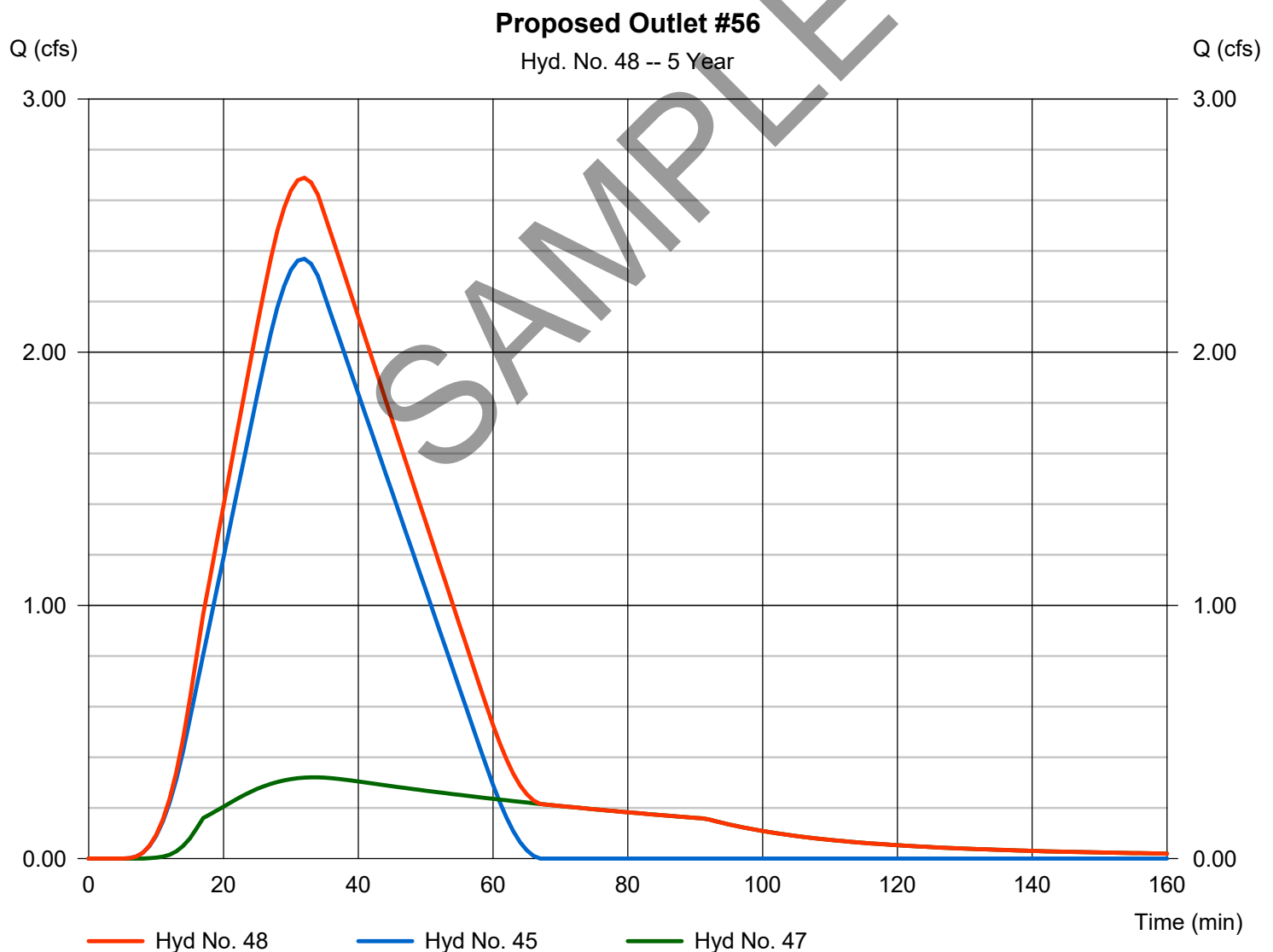
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Tuesday, 04 / 2 / 2019

Hyd. No. 48

Proposed Outlet #56

Hydrograph type	= Combine	Peak discharge	= 2.689 cfs
Storm frequency	= 5 yrs, 15 min	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 5,493 cuft
Inflow hyds.	= 45, 47	Contrib. drain. area	= 20.600 ac



Hydrograph Report

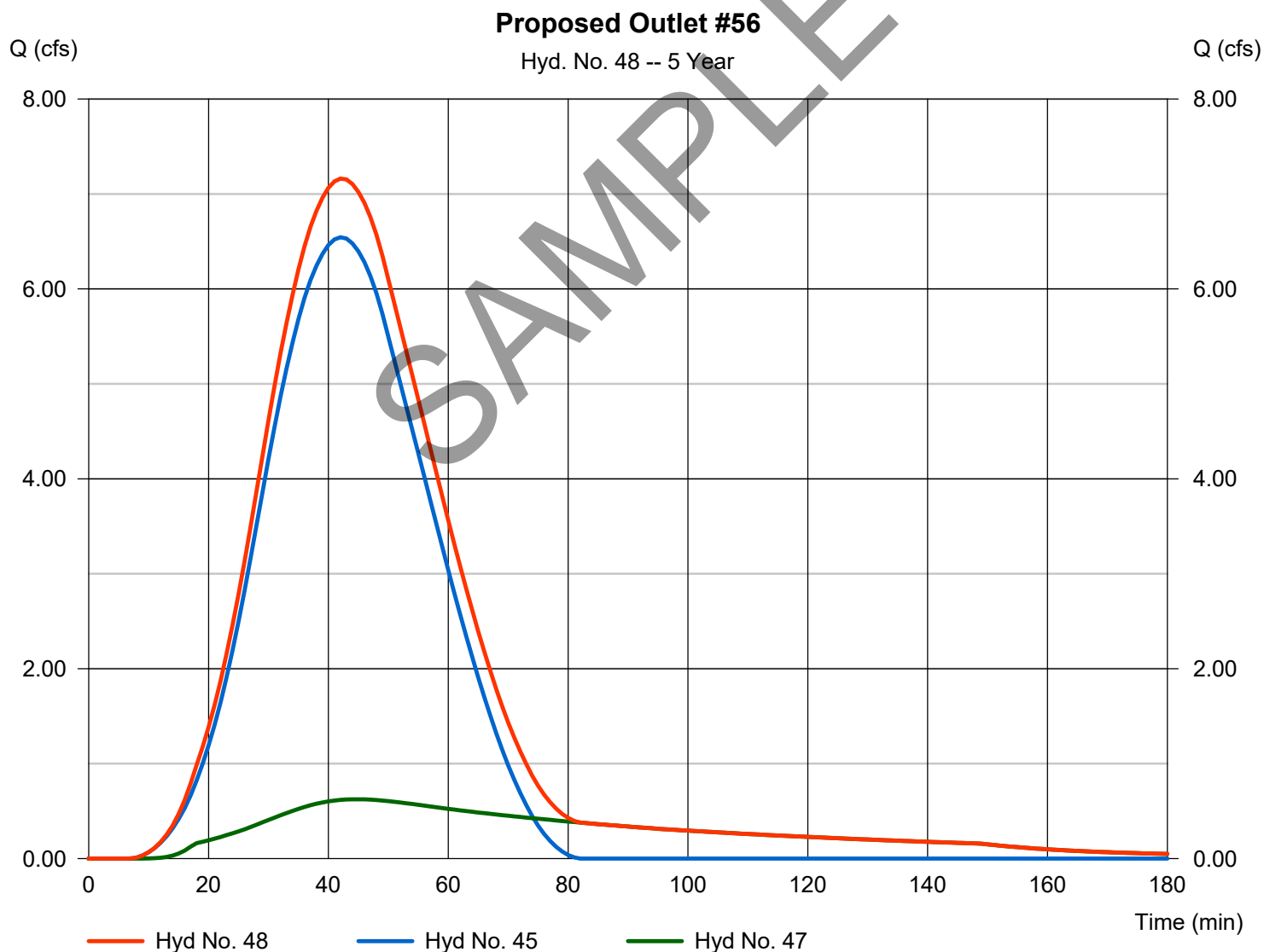
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 48

Proposed Outlet #56

Hydrograph type	= Combine	Peak discharge	= 7.162 cfs
Storm frequency	= 5 yrs, 30 min	Time to peak	= 42 min
Time interval	= 1 min	Hyd. volume	= 16,064 cuft
Inflow hyds.	= 45, 47	Contrib. drain. area	= 20.600 ac



Hydrograph Report

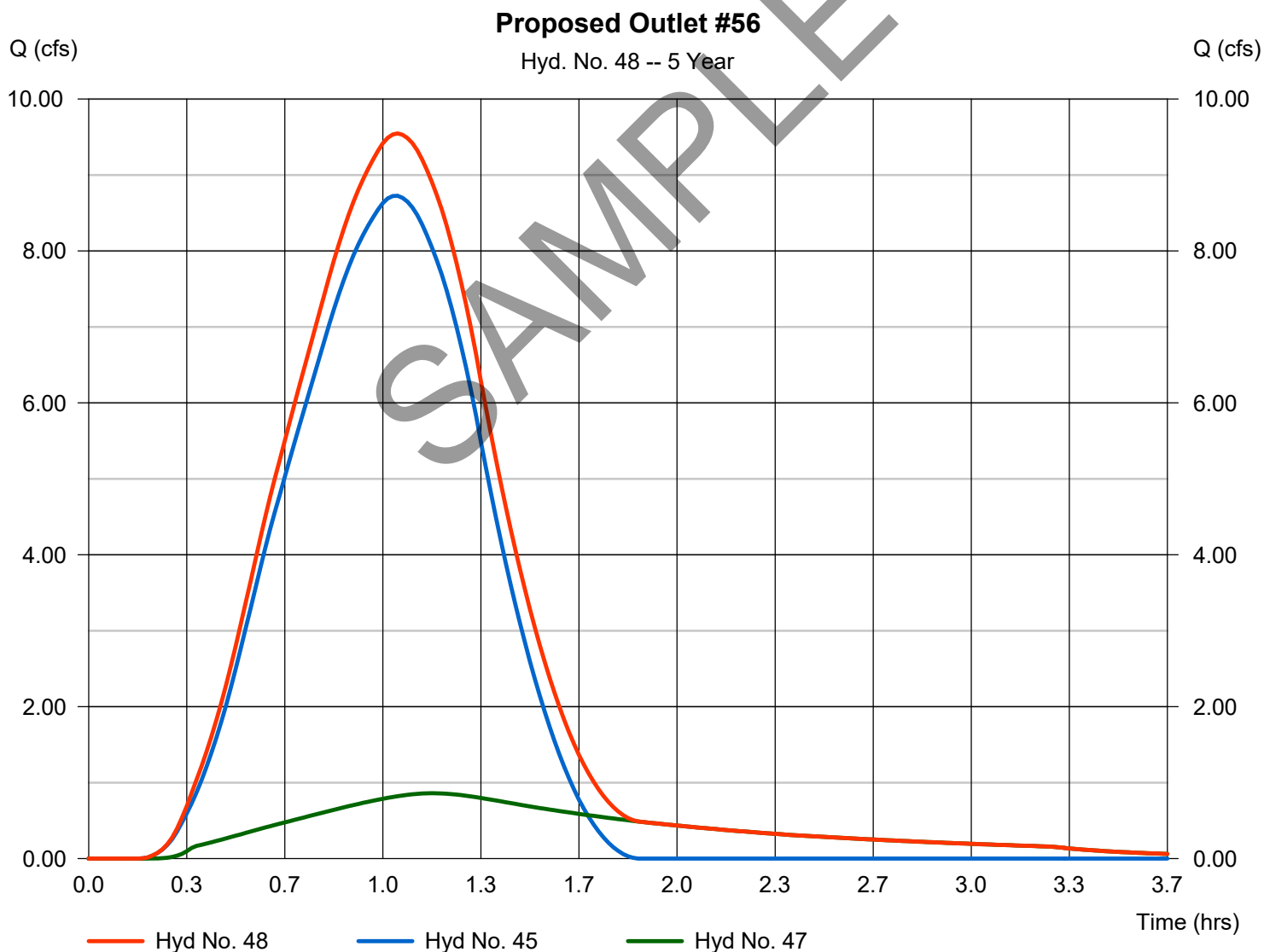
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 48

Proposed Outlet #56

Hydrograph type	= Combine	Peak discharge	= 9.547 cfs
Storm frequency	= 5 yrs, 1 hr	Time to peak	= 1.05 hrs
Time interval	= 1 min	Hyd. volume	= 29,706 cuft
Inflow hyds.	= 45, 47	Contrib. drain. area	= 20.600 ac



Hydrograph Report

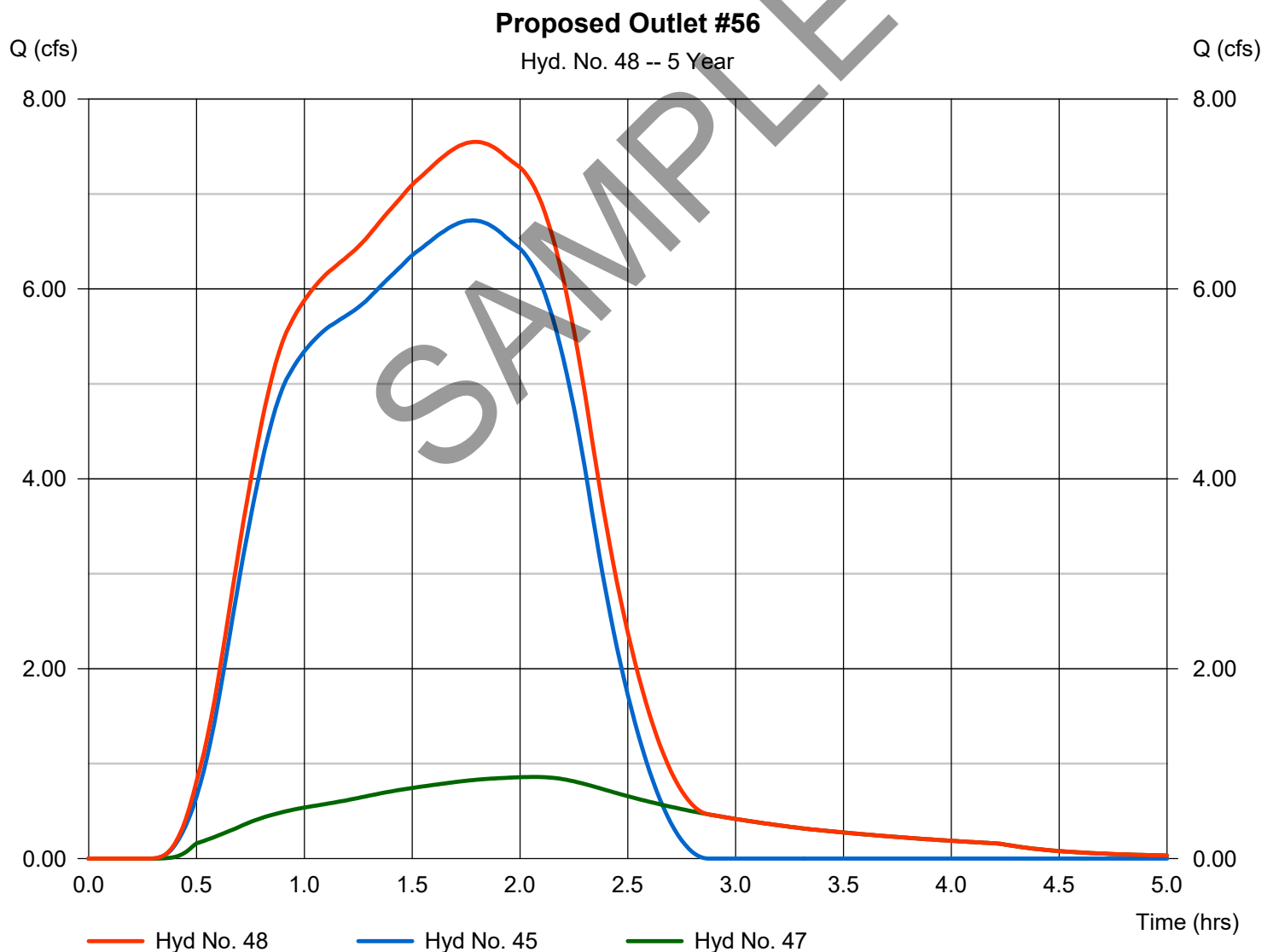
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 48

Proposed Outlet #56

Hydrograph type	= Combine	Peak discharge	= 7.549 cfs
Storm frequency	= 5 yrs, 2 hr	Time to peak	= 1.78 hrs
Time interval	= 1 min	Hyd. volume	= 44,541 cuft
Inflow hyds.	= 45, 47	Contrib. drain. area	= 20.600 ac



Hydrograph Report

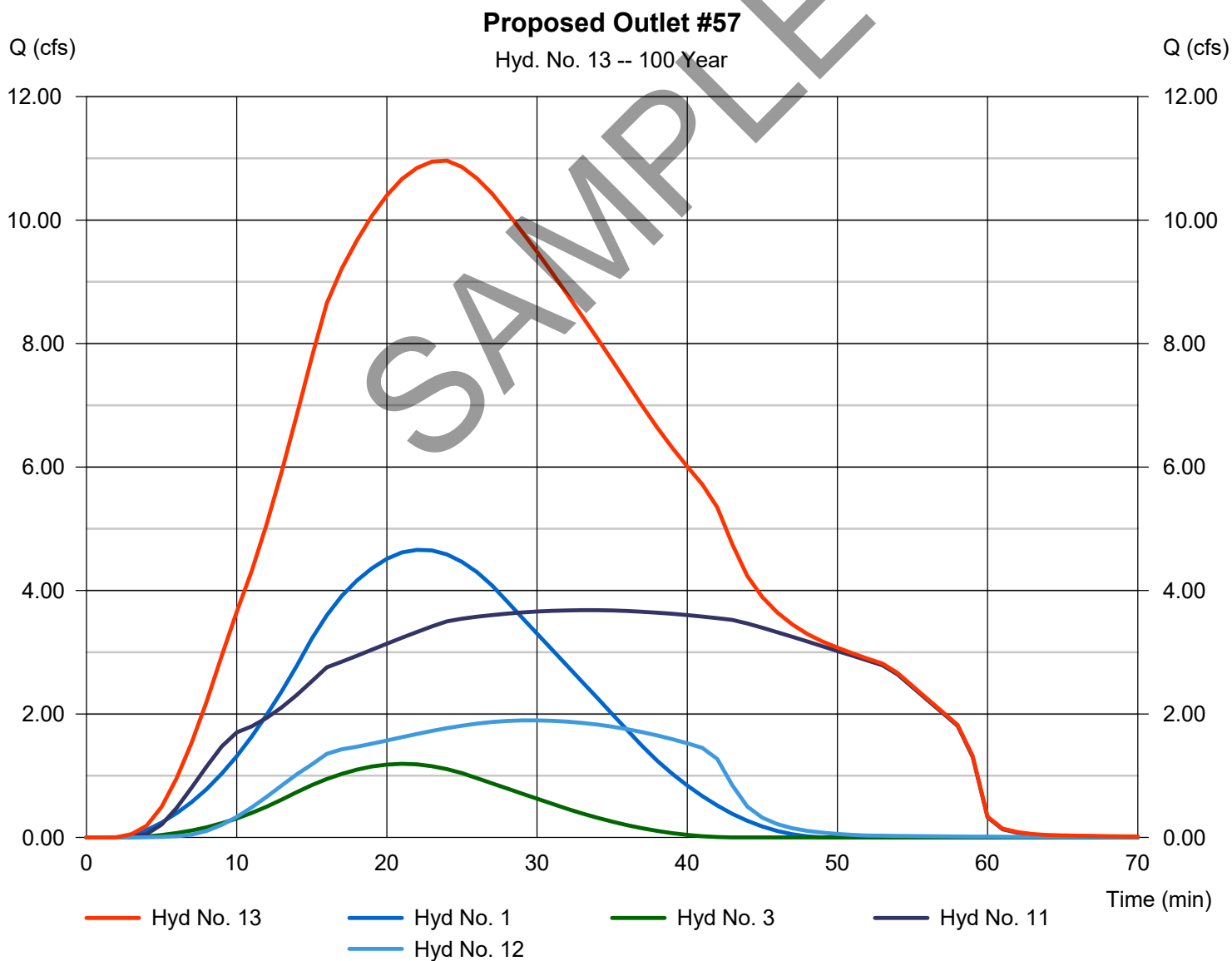
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Tuesday, 04 / 2 / 2019

Hyd. No. 13

Proposed Outlet #57

Hydrograph type	= Combine	Peak discharge	= 10.96 cfs
Storm frequency	= 100 yrs, 15 min	Time to peak	= 24 min
Time interval	= 1 min	Hyd. volume	= 19,978 cuft
Inflow hyds.	= 1, 3, 11, 12	Contrib. drain. area	= 4.100 ac



Hydrograph Report

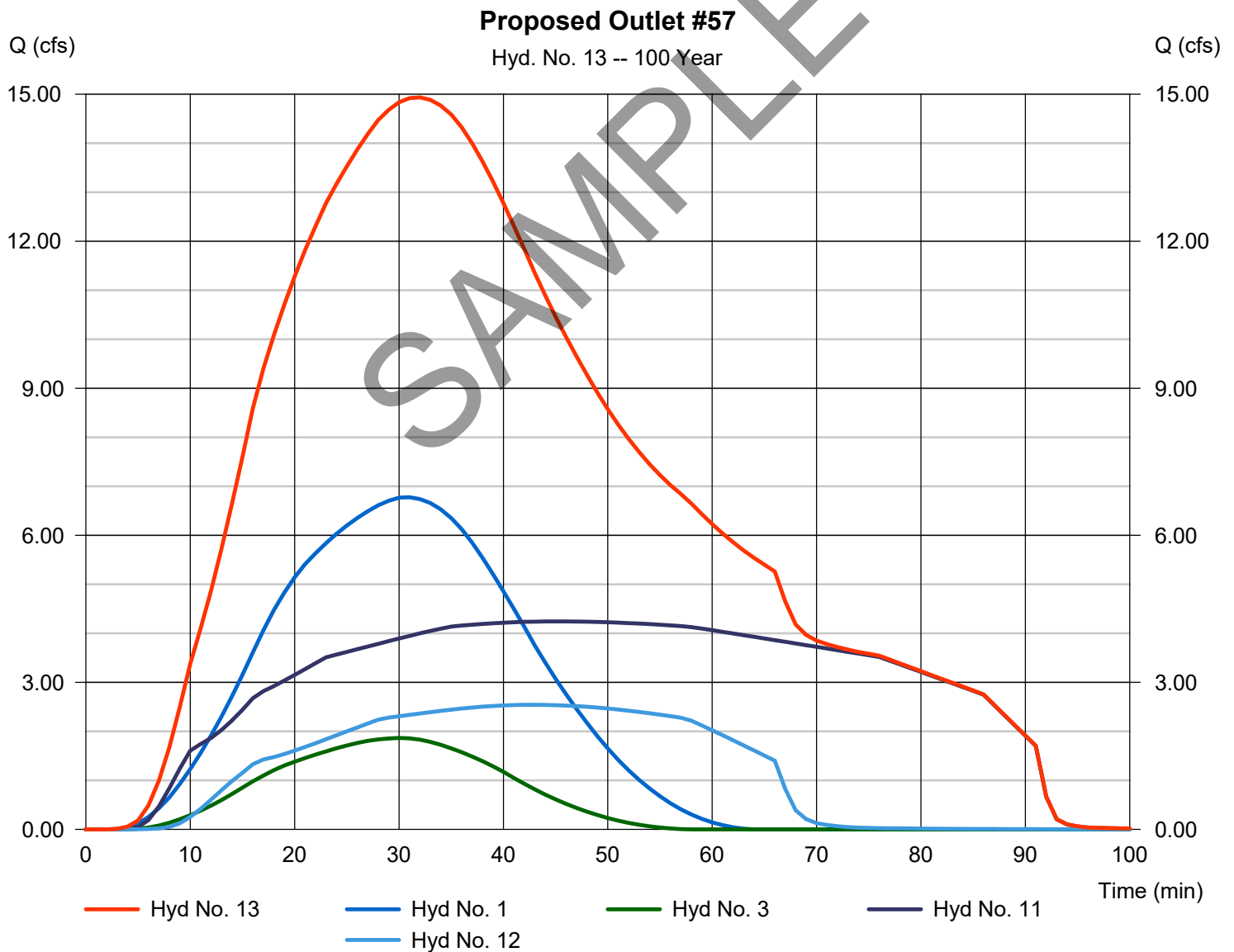
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 13

Proposed Outlet #57

Hydrograph type	= Combine	Peak discharge	= 14.93 cfs
Storm frequency	= 100 yrs, 30 min	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 39,385 cuft
Inflow hyds.	= 1, 3, 11, 12	Contrib. drain. area	= 4.100 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

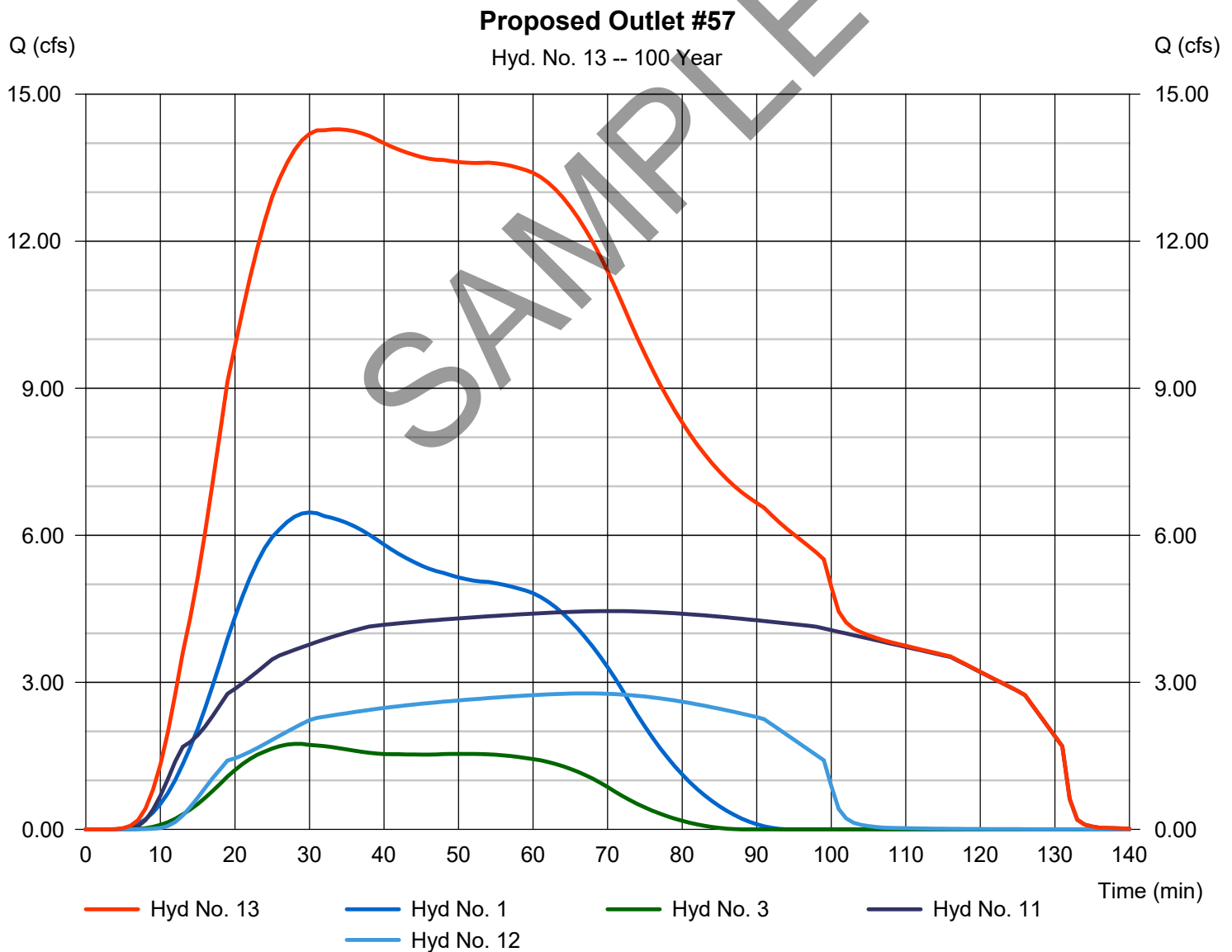
Tuesday, 04 / 2 / 2019

Hyd. No. 13

Proposed Outlet #57

Hydrograph type = Combine
Storm frequency = 100 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 1, 3, 11, 12

Peak discharge = 14.28 cfs
Time to peak = 34 min
Hyd. volume = 63,656 cuft
Contrib. drain. area = 4.100 ac



Hydrograph Report

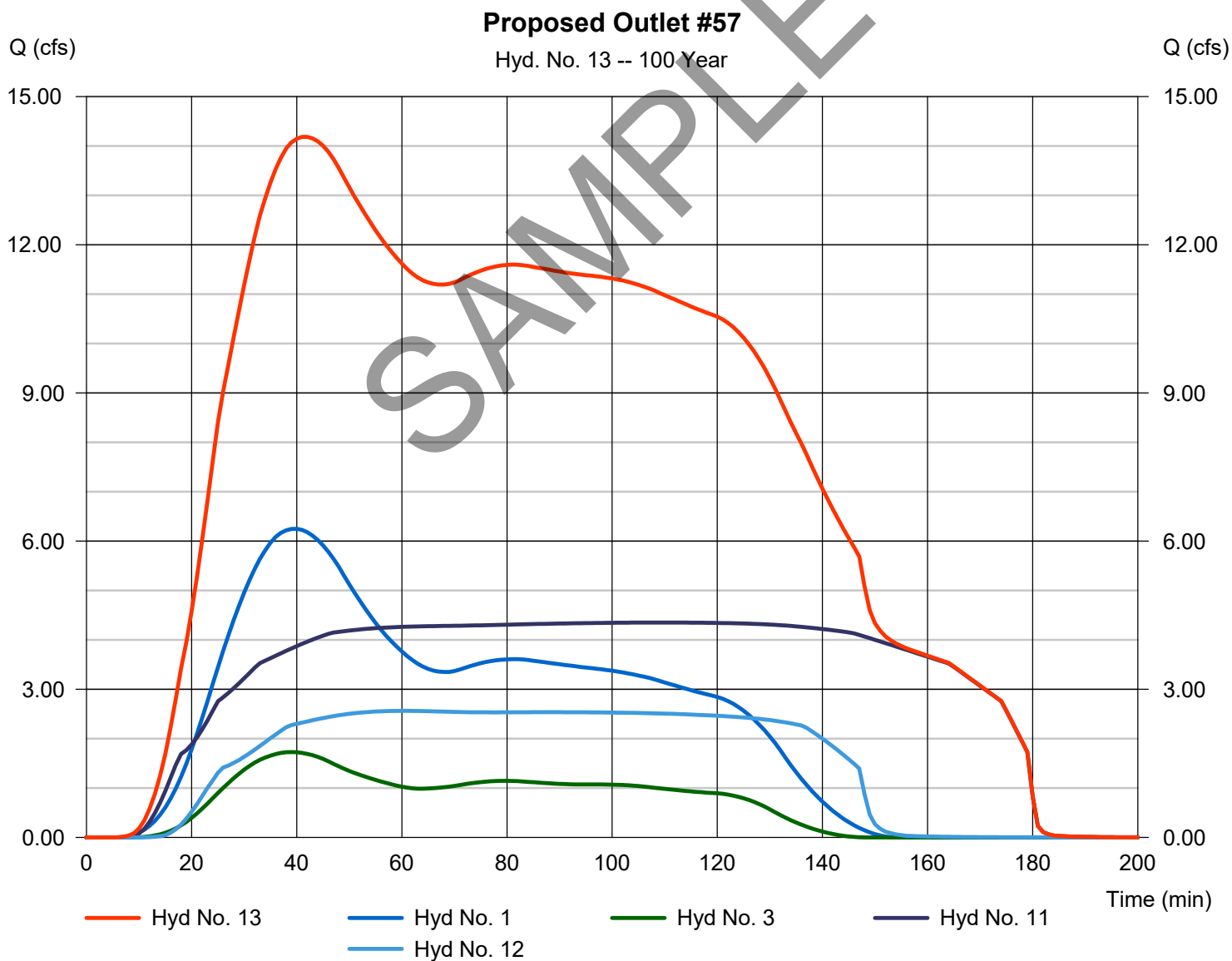
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 13

Proposed Outlet #57

Hydrograph type	= Combine	Peak discharge	= 14.18 cfs
Storm frequency	= 100 yrs, 2 hr	Time to peak	= 42 min
Time interval	= 1 min	Hyd. volume	= 90,621 cuft
Inflow hyds.	= 1, 3, 11, 12	Contrib. drain. area	= 4.100 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

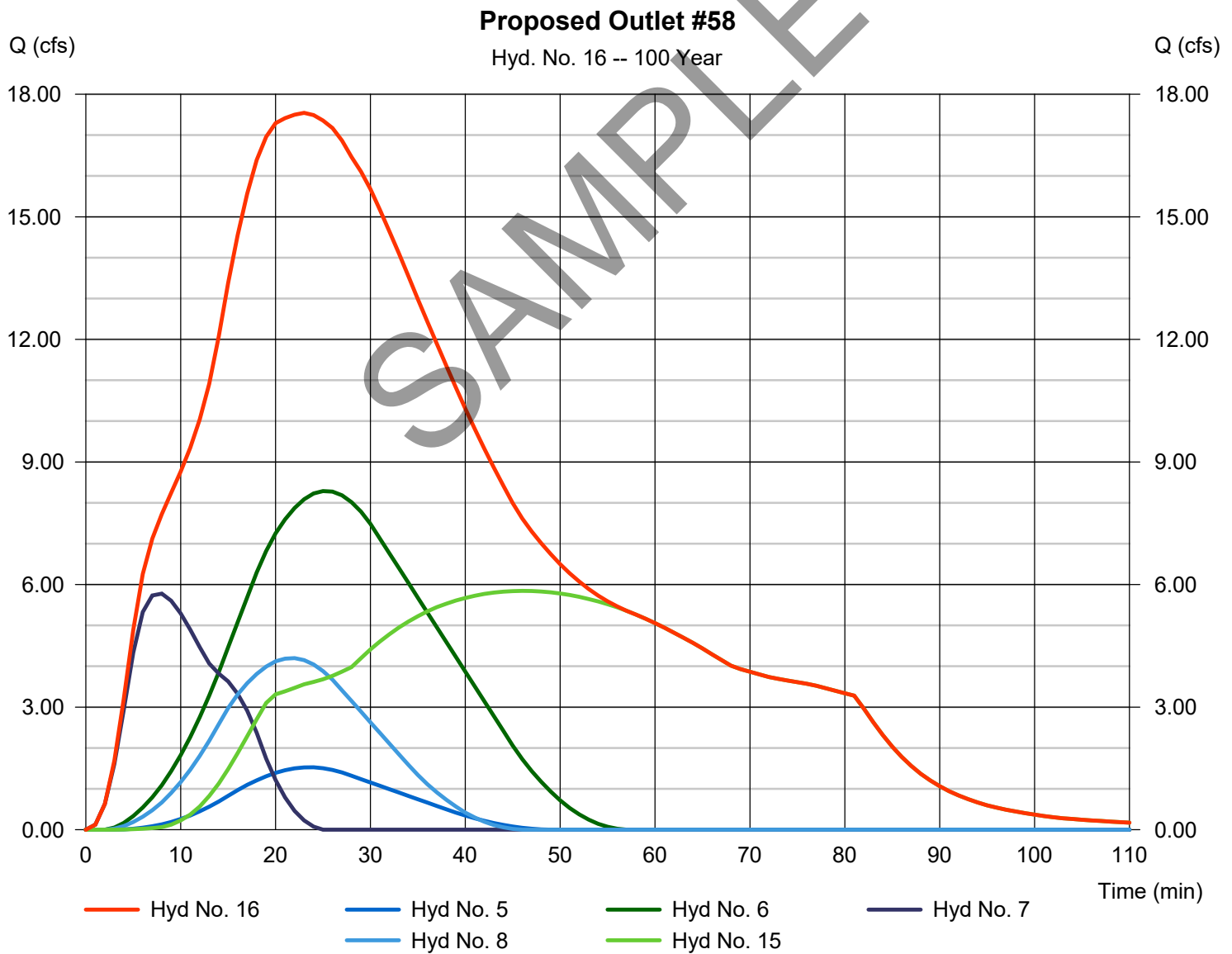
Tuesday, 04 / 2 / 2019

Hyd. No. 16

Proposed Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 15 min
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 15

Peak discharge = 17.55 cfs
Time to peak = 23 min
Hyd. volume = 43,798 cuft
Contrib. drain. area = 12.500 ac



Hydrograph Report

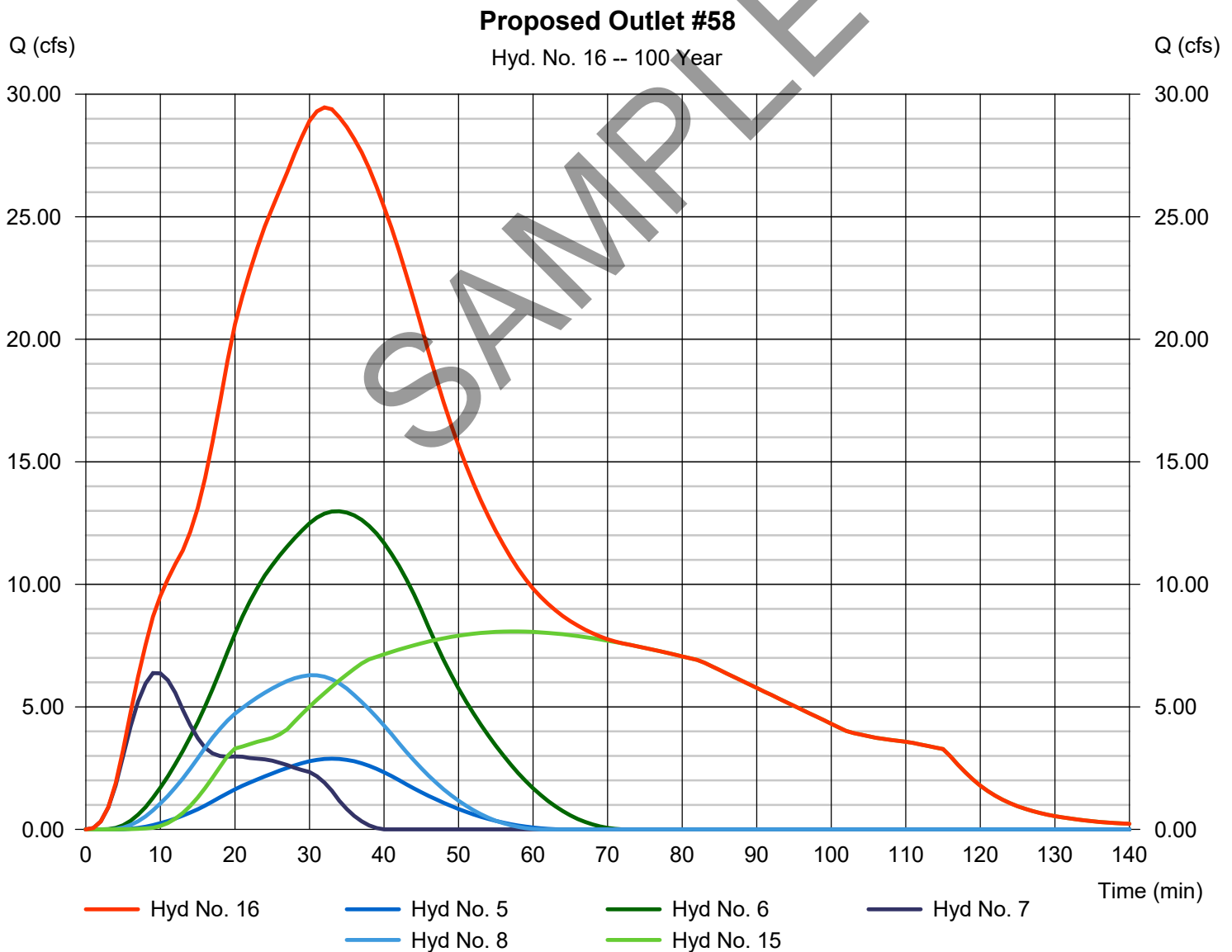
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 16

Proposed Outlet #58

Hydrograph type	= Combine	Peak discharge	= 29.46 cfs
Storm frequency	= 100 yrs, 30 min	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 84,158 cuft
Inflow hyds.	= 5, 6, 7, 8, 15	Contrib. drain. area	= 12.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

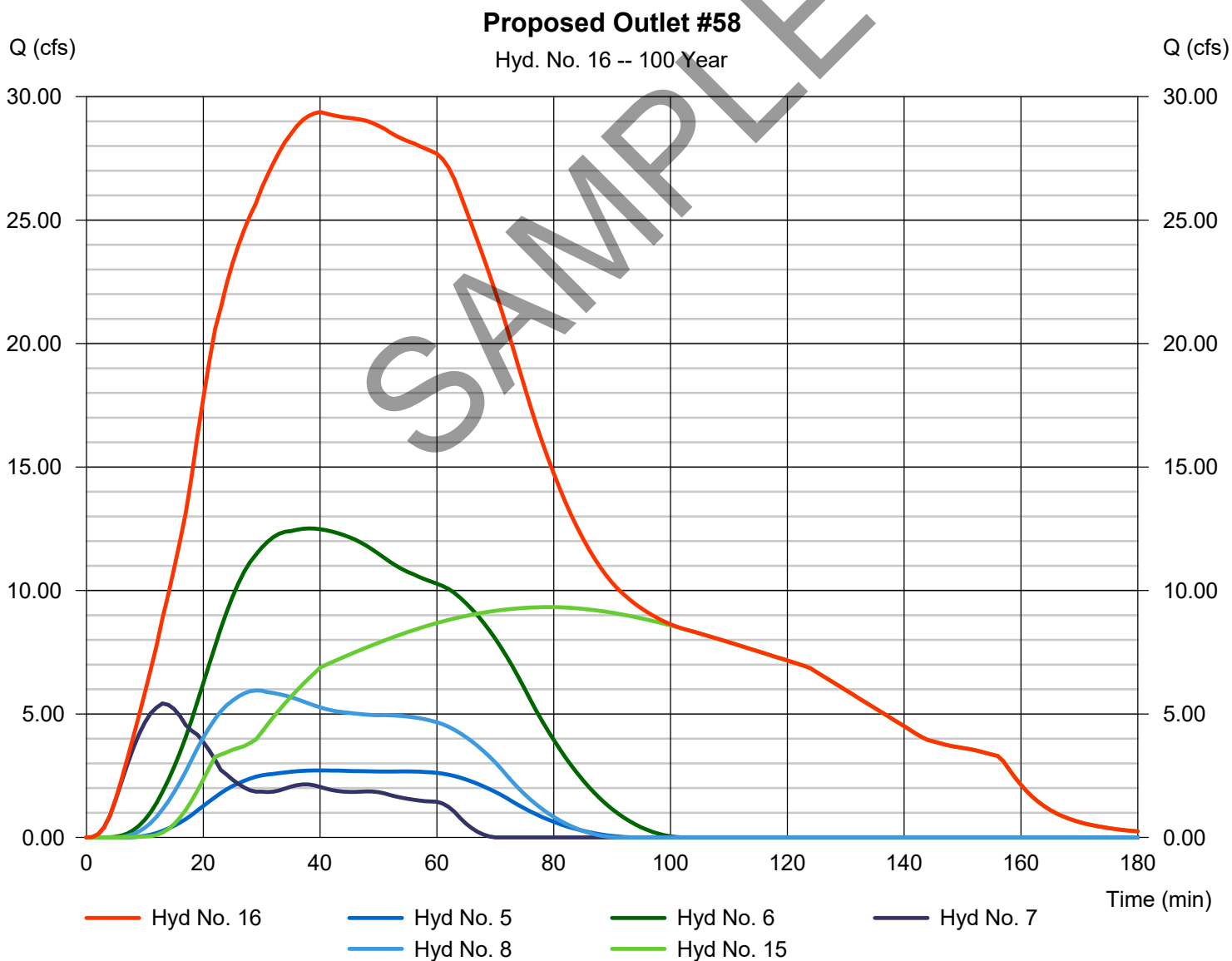
Tuesday, 04 / 2 / 2019

Hyd. No. 16

Proposed Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 1 hr
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 15

Peak discharge = 29.37 cfs
Time to peak = 40 min
Hyd. volume = 134,308 cuft
Contrib. drain. area = 12.500 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 04 / 2 / 2019

Hyd. No. 16

Proposed Outlet #58

Hydrograph type = Combine
Storm frequency = 100 yrs, 2 hr
Time interval = 1 min
Inflow hyds. = 5, 6, 7, 8, 15

Peak discharge = 28.17 cfs
Time to peak = 0.75 hrs
Hyd. volume = 189,762 cuft
Contrib. drain. area = 12.500 ac

