Mike Barbieri

From: Mark Miller <mmiller@eastgoshen.org>
Sent: Saturday, April 29, 2023 12:45 AM
To: Mike Barbieri
Subject: Re: Yerkes - 14 Reservoir Rd planning module - W2100

Mike
Yes I'm the one who signs planning module. I will advise Mike Moffa of the project as well.
Mark

Mark S. Miller
Director of Public Works
East Goshen Township
(610) 692-7171 x3402
mmiller@eastgoshen.org

On Apr 28, 2023, at 1:41 PM, Mike Barbieri <mbarbieri@yerkes-assoc.com> wrote:

Hi Mark,

I hope things with you have been well.

Attached is the Planning Module for the site. Are you the one who needs to sign and provide capacity documentation?

Thank you for your help
Mike

Michael Barbieri
<image001.jpg>
Work Cell: 484-614-2384
Desk: 484-318-8891
Office: 610-644-4254 x 241
Fax: 610-640-0771
www.yerkes-assoc.com

From: Mark Miller <mmiller@eastgoshen.org>
Sent: Thursday, November 17, 2022 1:01 PM
To: Mike Barbieri <mbarbieri@yerkes-assoc.com>
Cc: Duane Brady <dbrady@eastgoshen.org>
Subject: RE: Yerkes - 14 Reservoir Road Sanitary - W2100

Mike
All is good. That properties sewage will go to West Goshen, the Municipal Authority approved the connection on Monday night. Unfortunately you will need to make the tie in o Reservoir road as there is not a stub.

Mark

Mark S. Miller
Director of Public Works
<image002.png>
East Goshen Township
(610) 692-7171 x3402
mmiller@eastgoshen.org

From: Mike Barbieri <mbarbieri@yerkes-assoc.com>
Sent: Thursday, November 17, 2022 8:21 AM
To: Mark Miller <mmiller@eastgoshen.org>
Subject: Yerkes - 14 Reservoir Road Sanitary - W2100

Hi Mark,

I hope you have been well. I would have called but working thru a bout of flu. We a working on a 2 lot subdivision at 14 Reservoir Road, Glosson Residence, and filling a Planning Module. When you have a chance would you please reply with the Interceptor and Treatment Facility servicing the property.

Thank you for your assistance.
Sincerely
Mike

Michael Barbieri
Project and Surveying Director
<image003.jpg>
1444 Phoenixville Pike
West Chester, PA 19380
Work Cell: 484-614-2384
Desk: 484-318-8891
Office: 610-644-4254 x 241
Fax: 610-640-0771
www.yerkes-assoc.com

New Address effective Dec. 1, 2022
Yerkes Associates, Inc.
1450 E. Boot Road
Suite 600 A & B
P.O. Box 1568
West Chester, PA 19380

<Glosson Planning Module - W2100 .doc>

Mike Barbieri

From: Mike Barbieri
Sent: Thursday, May 11, 2023 12:52 PM
To: Ciotti, Deanna L
Subject: RE: [EXTERNAL] Yerkes - Will Serve Letter 14 Reservoir Rd - W2100
Attachments: 14 Resivoir Rd Water Service Plan - W2100.pdf

Hi Deanna,

Attached is the title plan for the subdivision. At some time a single family residence will be built on Lot 2 which we are requesting the will serve letter. The existing residence on Lot 1 has a well. An easement is proposed for the future connection to public water and will need to apply for a connection at that time. Please contact me with any questions or for additional information.

Thank you
Mike

Michael Barbieri
Yerkes
Associates, Inc.
Work Cell: 484-614-2384
Desk: 484-318-8891
Office: 610-644-4254 x 241
Fax: 610-640-0771
www.yerkes-assoc.com

From: Ciotti, Deanna L <DLCiotti@aquaamerica.com>
Sent: Thursday, May 11, 2023 10:31 AM
To: Mike Barbieri <mbarbieri@yerkes-assoc.com>
Subject: RE: [EXTERNAL] Yerkes - Will Serve Letter 14 Reservoir Rd - W2100

Hi Mike,

Could you please send a plan showing the subdivide?

AQUA
An Essential Utilities Company

Deanna L. Ciotti
New Business Coordinator
Aqua Pennsylvania
*Note change of address
762 W Lancaster Ave, Bryn Mawr PA 19010
Ext 54160
O: 610.541.4160

From: Mike Barbieri <mbarbieri@yerkes-assoc.com>
Sent: Wednesday, May 10, 2023 11:25 AM
To: Ciotti, Deanna L <DLCiotti@aquaamerica.com>
Subject: [EXTERNAL] Yerkes - Will Serve Letter 14 Reservoir Rd - W2100

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Deanna,

I hope you have been well since you helped me with a "will serve" letter last year. We are now working on a two lot subdivision in Chester County, East Goshen Township at 14 Reservoir Road. The mailing address is West Chester, Pa, 19380. The existing residence is serviced by a well. The proposed residence is to be serviced by public water. Our Pa One call request returned GIS Great Valley Plans xx-27 and 28 showing a 6" AC main along the rear of the lot being subdivided. I hope this information is helpful. Please contact me with any questions or for additional information.

Thank you for your assistance with our project.
Mike

Michael Barbieri
Project and Surveying Director

Yerkes Associates, Inc.
a cirilli company

New Address
Yerkes Associates, Inc
1450 E. Boot Road, Suite 600 A
West Chester, PA 19380
Work Cell: 484-614-2384 (Tuesday – Friday)
Desk: 484-318-8891 (Mondays)
Office: 610-644-4254 x 241
Fax: 610-640-0771
www.yerkes-assoc.com

Stormwater Management Plan Report

For

Jeff Glosson
14 Reservoir Road
West Chester, PA 19380

Grading Permit Plan

East Goshen Township, Chester County, Pennsylvania

W-16-2100
Rev. May 22, 2023

Prepared For:
Jeff Glosson
14 Reservoir Road
West Chester, PA 19380

Prepared By:
Yerkes Associates, Inc.
a cirilli company
1450 E. Boot Road
West Chester, PA 19380
(610) 644-4254

Stormwater Management Plan

Jeff Glosson, 14 Reservoir Road, West Chester, PA 19380

Table of Contents

I. Introduction 1

II. Soils 1

III. Stormwater Management Requirements 1

Groundwater Recharge 2

Water Quality 2

Release Rate 2

IV. During Construction Stormwater Management 2

V. Proposed Post Construction Stormwater Management Facilities 3

VI. Stormwater Management Maintenance Plan 2

VII. Erosion and Sediment Control Plan 3

VIII. Erosion and Sediment Control Maintenance Plan 3

Appendices

A – Soils Report

B – Percolation Test Results

C - Rainfall Table / Watershed Model

D – Hydrograph Summary and Compliance Summary Tables

E – Pre-Construction, During Construction and Post-Construction Hydrologic and Hydraulic Report

F – Worksheet 4, Groundwater recharge

G – Pre-Construction, During Construction and Post Construction Drainage Area Maps

I. Introduction

This project is located at 14 Reservoir Road in East Goshen Township, Chester County, Pennsylvania. The property consists of a developed lot in Zoning District R-3 Medium Density Residential District with a total net area of 1.9345 acres. The applicant proposes to construct a Single – Family dwelling and driveway from Reservoir Road. The proposed project will not affect adjacent residential dwellings.

The total impervious coverage on the site, after construction, is 7,513 square feet.

II. Soils

According to the USDA Natural Resources Conservation Service (NRCS), the property (Proposed Lot 1) is comprised of Urban Land – Hatboro Silt Loam and Urban Land-Gladstone complex. A soils map and report are provided as part of Appendix A.

III. Stormwater Management Requirements

The property is within the 100% Chester Creek Watershed District.

The East Goshen Township Stormwater management ordinance requires projects creating new or reconstructed impervious surfaces meet groundwater recharge, water quality, stream bank erosion and release rate criteria. The project is located in the 100% Chester Creek Watershed District, allowing post development peak discharge for all design storms to not be greater than predevelopment peak discharges.

A geotechnical analysis was performed by Environmental Management and Consulting, Inc., on March 4, 2022 for percolation test. The hydrological soil group falls within the "B/D" categories. Refer to results in Appendix B.

The Soil Conservation Service Technical Release 55 (SCS, 1986) was used to calculate the pre- and post-developed hydrographs. Hydraflow Hydrographs (Intelisolve, 2007) was used to aid in the calculations, and all of the results are attached to this report. Rainfall depths are consistent with those provided in Chapter 121-4D(4) of the Township stormwater management ordinance.

Infiltration Requirements

Chapter 195-19 & 195-20 of the East Goshen Township Stormwater Management ordinance states that, "for regulated activities involving new development, the volume of a minimum of 1 inch of runoff from all proposed impervious surfaces shall be infiltrated." The postconstruction total runoff volume shall not exceed the predevelopment total runoff

volume for all storms equal to or less than the two-year, twenty-four-hour-duration precipitation (design storm). The water quality and runoff volume to be managed shall consist of any runoff volume generated by the proposed regulated activity over and above the predevelopment total runoff volume and shall be captured and permanently retained or infiltrated on the site. Permanent retention options may include, but are not limited to, reuse, evaporation, transpiration, and infiltration. The percolation report can be viewed in Appendix B. Infiltration seepage beds in series, have been provided under the proposed driveway. The seepage beds are located in the areas identified as "Basins 2, 3, 4, and 5" and are proposed at shallow depths to respect the 2-foot limiting zone clearance. As the drainage discharges from Basin 1, the flow will be retained, in a cascading fashion, in Basins 2, 3, 4, and 5, to provide the required infiltration volumes. The proposed seepage beds have been designed to contain the 2-year storm event storage volume to be utilized for groundwater recharge.

V. Proposed Post Construction Stormwater Management Facilities

Release Rate

In accordance to the rate control requirements (100% Chester Creek Watershed), the Release Rate for the post development peak discharge may not be greater than the predevelopment peak discharge for each respective storm. Runoff from the site will be captured by Basin 1 and discharged with controls to comply with the required discharge rates. The discharge from Basin 1 will then flow, in a cascade manner, through Basins 2, 3, 4, and 5, and discharge at the proposed level spreader. Drainage flow beyond the 2 year storm event will be conveyed through the system discharge and exit the site through the level spreader structure.

VI. Stormwater Management Maintenance Plan

Stormwater control systems, as with all BMP's, requires routine inspection and maintenance throughout the life of the system. The principle maintenance objective is to prevent clogging of the system, which may lead to system failure.

Routine maintenance shall be performed once a year, as well as after each runoff producing event. This maintenance includes:

- Inlet sumps and the stormtank inlet and outlet structures shall be inspected and any accumulated debris such as leaves and sticks shall be removed.

A more-thorough inspection shall be performed annually. This inspection shall include monitoring of the basin risers after a storm event to confirm that the system is draining within the specified time. This shall be documented each year so that an indication of system clogging may be observed.

The property owner shall be responsible for the maintenance of the stormwater management BMP's as noted in this section.

VII. Erosion and Sediment Control Plan

Stormwater management is managed during construction through the use of erosion and sediment control devices and proper construction sequencing. Silt Socks will be used to prevent sediment laden runoff from leaving the property. The construction sequence, which is shown on During Construction with E&S Controls Plan, Sheet 3, minimizes impacts to the environment and, if followed, will limit the impact to the area shown on the plans.

VIII. Erosion and Sediment Control Maintenance Plan

It is important to properly maintain the erosion and sediment control devices so that they perform as intended throughout the duration of the project. The following maintenance shall be required throughout the project.

- All temporary erosion and sediment control measures are to be inspected, repaired and replaced as necessary on a weekly basis and after each rainfall event. The Contractor is responsible for implementation of these measures.
- Sediment is to be removed from silt barriers when depths reach a maximum of 9 inches. Silt contaminated materials shall be replaced within 7 days.

- All areas left exposed are to be temporarily seeded and mulched immediately. All stockpiles are to be temporarily seeded immediately upon completion. In the event that stockpiling of soil materials is to be phased over an extended period of time, temporary seeding is to occur at the end of each stockpiling phase.
- Replace failed sections of silt barrier fence with rock filter outlets as shown on the Rock Filter Outlet detail.

The Contractor is responsible for the installation, maintenance, repair, and removal of all temporary erosion and sediment control devices during construction activities and close-out of project.

Appendix A: Soils Report

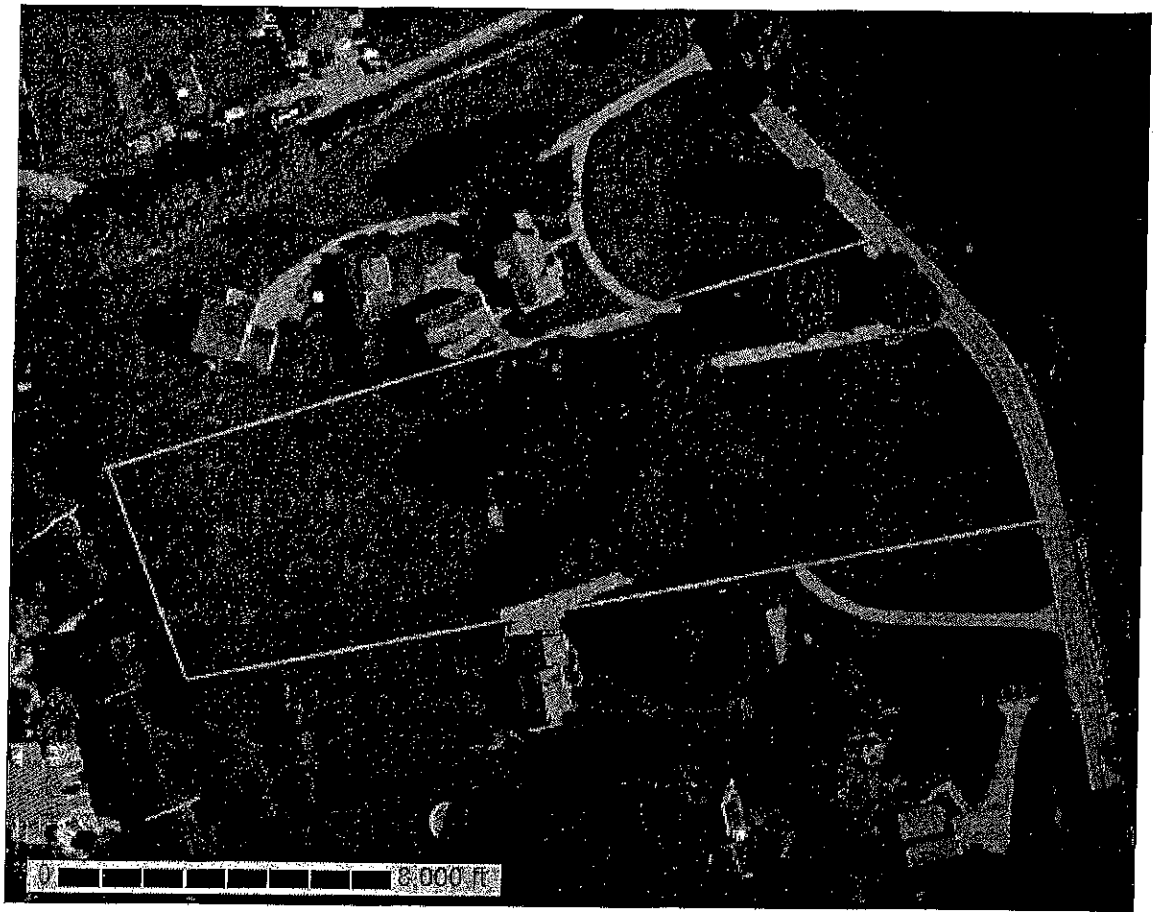
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Chester County, Pennsylvania



July 12, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface..... 2
How Soil Surveys Are Made..... 5
Soil Map..... 8
Soil Map..... 9
Legend..... 10
Map Unit Legend..... 11
Map Unit Descriptions..... 11
Chester County, Pennsylvania..... 13
Ha—Hatboro silt loam..... 13
UrlB—Urban land-Gladstone complex, 0 to 8 percent slopes..... 14
References..... 16

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Chester County, Pennsylvania
Survey Area Data: Version 8, Sep 19, 2016

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

Date(s) aerial images were photographed: Jul 25, 2014—Aug 11, 2014

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.

Map Unit Legend

Chester County, Pennsylvania (PA029)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ha	Hatboro silt loam	2.6	91.6%
UrlB	Urban land-Gladstone complex, 0 to 8 percent slopes	0.2	8.4%
Totals for Area of Interest		2.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Chester County, Pennsylvania

Ha—Hatboro silt loam

Map Unit Setting

National map unit symbol: 1lwqq
Elevation: 200 to 800 feet
Mean annual precipitation: 36 to 50 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 140 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Hatboro and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hatboro

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Alluvium derived from metamorphic and sedimentary rock

Typical profile

Ap - 0 to 9 inches: silt loam
Bg - 9 to 44 inches: silt loam
Cg - 44 to 56 inches: sandy clay loam
C - 56 to 70 inches: stratified gravelly sand to clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 60 to 99 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Glenville

Percent of map unit: 5 percent
Landform: Hillslopes

Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope, head slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

UrlB—Urban land-Gladstone complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 1r3cq
Elevation: 200 to 1,200 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 44 to 57 degrees F
Frost-free period: 130 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 65 percent
Gladstone and similar soils: 25 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Pavement, buildings and other artifically covered areas

Typical profile

C - 0 to 6 inches: variable

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 10 to 100 inches to lithic bedrock
Available water storage in profile: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Description of Gladstone

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex

Parent material: Local colluvium and residuum weathered from granite and gneiss

Typical profile

A - 0 to 10 inches: gravelly loam
C - 10 to 42 inches: gravelly clay loam
2Ap - 42 to 68 inches: gravelly loam
R - 68 to 78 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 60 to 100 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Califon

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Head slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Cokesbury

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

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Appendix B: Percolation Test Report

Environmental Management & Consulting, Inc.

INFILTRATION TEST REPORT FOR ON-LOT DISPOSAL OF STORMWATER

Applicant/Client: **Yerkes**

Date of Test: **3/4/2022**

Site Address/Location.: **14 Reservoir Road**

Municipality: **East GoshenTwp.**

Person Conducting Test: **Mark A. Bryan**

County: **Chester**

Weather Conditions: **Sunny**
32°+
Dry last 24 Hours

Location: **SW1/SW2**

Test Method: Double-Ring Infiltrometer

Profile Descriptions:

Horizon	Depth (in.)	Description
SW1		
A	0-11	Dark brown silt loam, moderate granular, very friable, clear boundary
B	11-36	Brown silt loam loam, strong subangular blocky, friable, gradual
C	36-84	Grey/Brown heavy silt loam, strong subangular blocky, sticky/firm

SHWT Mottling Limiting Zone encountered to @36"

SW2		
A	0-12	Dark brown silt loam, moderate granular, very friable, clear boundary
B	12-28	Brown silt loam loam, strong subangular blocky, friable, gradual
C	28-84	Grey/Brown heavy silt loam, strong subangular blocky, sticky/firm

SHWT Mottling Limiting Zone encountered to @28"

Hole No.	Test Depth (in.)	Start Depth (in.)	Drop (in.) PS1	PS2	1	2	3	4	5	6
SW1A	12	12	1 3/4	1 1/2	1 1/4	1 1/8	1	1		
Time:			:30	:30	:30	:30	:30	:30		
SW1B	12	12	1	3/4	5/8	1/2	1/2	1/2		
Time:			:30	:30	:30	:30	:30	:30		

Calculation of Infiltration Rate:

Hole No.	Drop in Final Per.	Reading Interval	Minutes/ Inch	Inches/ Hour
SW1A	1	30	30.00	2.00
SW1B	1/2	30	60.00	1.00

	Avg. In./Hr.
SW1	1.50

Appendix C: Rainfall Table / Watershed Model

Hydraflow Rainfall Report

Hydraflow Hydrographs by Intellisolve v9.1

Tuesday, Jun 14, 2022

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	56.5167	13.0000	0.8979	--------
2	64.0483	12.9000	0.8816	--------
3	0.0000	0.0000	0.0000	--------
5	68.8510	13.2000	0.8475	--------
10	65.3483	12.5000	0.8070	--------
25	57.0343	11.2000	0.7437	--------
50	50.6893	10.1000	0.6962	--------
100	44.8241	8.9000	0.6493	--------

File name: East Goshen.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	4.22	3.38	2.84	2.45	2.16	1.93	1.75	1.60	1.48	1.37	1.28	1.20
2	5.04	4.05	3.40	2.94	2.60	2.33	2.11	1.94	1.79	1.66	1.55	1.46
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	5.89	4.79	4.06	3.54	3.14	2.83	2.58	2.37	2.20	2.05	1.92	1.81
10	6.49	5.30	4.50	3.94	3.51	3.17	2.90	2.67	2.48	2.32	2.18	2.06
25	7.19	5.88	5.03	4.41	3.95	3.59	3.30	3.05	2.85	2.67	2.52	2.39
50	7.68	6.28	5.38	4.74	4.26	3.88	3.58	3.32	3.11	2.93	2.77	2.63
100	8.12	6.65	5.71	5.05	4.55	4.16	3.85	3.59	3.37	3.18	3.01	2.87

Tc = time in minutes. Values may exceed 60.

Precip. file name: East Goshen Precip.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.71	3.26	0.00	4.09	4.79	5.79	6.64	7.55
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

NOAA Atlas 14, Volume 2, Version 3
Location name: West Chester, Pennsylvania, USA*
Latitude: 39.9685°, Longitude: -75.5466°
Elevation: 356.25 ft**
* source: ESRI Maps
** source: USGS

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_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.22 (3.88-4.62)	5.04 (4.63-5.51)	5.89 (5.40-6.43)	6.49 (5.93-7.08)	7.19 (6.54-7.84)	7.66 (6.92-8.35)	8.12 (7.31-8.87)	8.52 (7.62-9.32)	8.96 (7.94-9.85)	9.29 (8.17-10.2)
10-min	3.38 (3.10-3.69)	4.03 (3.70-4.40)	4.72 (4.32-5.15)	5.19 (4.75-5.66)	5.73 (5.21-6.25)	6.10 (5.51-6.65)	6.45 (5.81-7.05)	6.75 (6.04-7.39)	7.09 (6.28-7.79)	7.31 (6.44-8.07)
15-min	2.82 (2.58-3.08)	3.38 (3.10-3.69)	3.98 (3.64-4.34)	4.38 (4.00-4.78)	4.84 (4.40-5.28)	5.15 (4.66-5.62)	5.44 (4.90-5.94)	5.68 (5.08-6.22)	5.95 (5.27-6.54)	6.12 (5.39-6.76)
30-min	1.93 (1.77-2.11)	2.33 (2.14-2.55)	2.83 (2.59-3.08)	3.17 (2.90-3.46)	3.59 (3.26-3.91)	3.88 (3.51-4.23)	4.16 (3.75-4.55)	4.42 (3.96-4.84)	4.73 (4.20-5.20)	4.95 (4.36-5.47)
60-min	1.20 (1.10-1.31)	1.46 (1.34-1.60)	1.81 (1.66-1.98)	2.06 (1.89-2.25)	2.39 (2.17-2.60)	2.63 (2.38-2.87)	2.87 (2.58-3.13)	3.10 (2.77-3.39)	3.39 (3.01-3.73)	3.62 (3.18-3.99)
2-hr	0.718 (0.652-0.792)	0.873 (0.794-0.962)	1.09 (0.986-1.20)	1.25 (1.13-1.38)	1.46 (1.31-1.61)	1.63 (1.46-1.79)	1.80 (1.60-1.98)	1.97 (1.73-2.17)	2.19 (1.91-2.42)	2.36 (2.04-2.62)
3-hr	0.520 (0.474-0.574)	0.631 (0.574-0.696)	0.787 (0.714-0.868)	0.906 (0.820-0.998)	1.06 (0.957-1.17)	1.19 (1.06-1.31)	1.31 (1.17-1.45)	1.44 (1.27-1.59)	1.61 (1.40-1.78)	1.74 (1.50-1.93)
6-hr	0.322 (0.293-0.356)	0.389 (0.354-0.431)	0.483 (0.439-0.535)	0.560 (0.506-0.618)	0.665 (0.597-0.734)	0.750 (0.668-0.827)	0.840 (0.741-0.926)	0.934 (0.815-1.03)	1.06 (0.912-1.18)	1.17 (0.987-1.30)
12-hr	0.195 (0.177-0.217)	0.235 (0.213-0.262)	0.294 (0.266-0.327)	0.343 (0.309-0.381)	0.413 (0.369-0.458)	0.472 (0.417-0.523)	0.536 (0.468-0.594)	0.605 (0.521-0.671)	0.704 (0.594-0.784)	0.786 (0.652-0.877)
24-hr	0.113 (0.104-0.123)	0.136 (0.125-0.148)	0.170 (0.156-0.186)	0.199 (0.182-0.218)	0.241 (0.220-0.263)	0.277 (0.250-0.301)	0.315 (0.283-0.342)	0.356 (0.318-0.386)	0.416 (0.368-0.451)	0.466 (0.408-0.505)
2-day	0.065 (0.060-0.071)	0.079 (0.072-0.086)	0.099 (0.091-0.108)	0.115 (0.106-0.126)	0.139 (0.126-0.152)	0.158 (0.144-0.173)	0.179 (0.162-0.196)	0.201 (0.180-0.220)	0.233 (0.207-0.254)	0.259 (0.228-0.283)
3-day	0.046 (0.042-0.050)	0.055 (0.051-0.061)	0.069 (0.064-0.076)	0.081 (0.074-0.088)	0.097 (0.088-0.106)	0.110 (0.100-0.121)	0.125 (0.113-0.136)	0.140 (0.126-0.153)	0.162 (0.144-0.177)	0.180 (0.158-0.196)
4-day	0.036 (0.033-0.040)	0.044 (0.040-0.048)	0.054 (0.050-0.060)	0.063 (0.058-0.069)	0.076 (0.069-0.083)	0.086 (0.078-0.094)	0.098 (0.088-0.106)	0.109 (0.098-0.119)	0.126 (0.112-0.138)	0.140 (0.123-0.153)
7-day	0.024 (0.022-0.026)	0.029 (0.027-0.031)	0.036 (0.033-0.039)	0.041 (0.038-0.045)	0.050 (0.046-0.054)	0.056 (0.051-0.061)	0.063 (0.058-0.069)	0.071 (0.064-0.077)	0.082 (0.073-0.089)	0.091 (0.080-0.098)
10-day	0.019 (0.018-0.021)	0.023 (0.021-0.025)	0.028 (0.026-0.030)	0.032 (0.030-0.035)	0.038 (0.035-0.041)	0.042 (0.039-0.046)	0.047 (0.043-0.051)	0.052 (0.048-0.056)	0.059 (0.053-0.064)	0.065 (0.058-0.070)
20-day	0.013 (0.012-0.014)	0.015 (0.014-0.017)	0.018 (0.017-0.020)	0.021 (0.019-0.022)	0.024 (0.022-0.026)	0.026 (0.025-0.028)	0.029 (0.027-0.031)	0.031 (0.029-0.034)	0.035 (0.032-0.037)	0.037 (0.034-0.040)
30-day	0.011 (0.010-0.011)	0.013 (0.012-0.013)	0.015 (0.014-0.016)	0.016 (0.015-0.017)	0.019 (0.017-0.020)	0.020 (0.019-0.022)	0.022 (0.020-0.023)	0.023 (0.022-0.025)	0.026 (0.024-0.027)	0.027 (0.025-0.029)
45-day	0.009 (0.009-0.010)	0.011 (0.010-0.011)	0.012 (0.012-0.013)	0.014 (0.013-0.014)	0.015 (0.014-0.016)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.018 (0.017-0.019)	0.020 (0.018-0.021)	0.021 (0.019-0.022)
60-day	0.008 (0.008-0.009)	0.010 (0.009-0.010)	0.011 (0.010-0.012)	0.012 (0.011-0.013)	0.013 (0.013-0.014)	0.014 (0.013-0.015)	0.015 (0.014-0.016)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.017 (0.016-0.018)

[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.

Back to Top

PF graphical

NOAA Atlas 14, Volume 2, Version 3
Location name: West Chester, Pennsylvania, USA*
Latitude: 39.9685°, Longitude: -75.5466°
Elevation: 356.25 ft**
* source: ESRI Maps
** source: USGS

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_&_aerials

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	0.352 (0.323-0.385)	0.420 (0.386-0.459)	0.491 (0.450-0.536)	0.541 (0.494-0.590)	0.599 (0.545-0.653)	0.638 (0.577-0.696)	0.677 (0.609-0.739)	0.710 (0.635-0.777)	0.747 (0.662-0.821)	0.774 (0.681-0.854)
10-min	0.563 (0.517-0.615)	0.672 (0.617-0.733)	0.786 (0.720-0.858)	0.865 (0.791-0.944)	0.955 (0.868-1.04)	1.02 (0.919-1.11)	1.08 (0.968-1.18)	1.13 (1.01-1.23)	1.18 (1.05-1.30)	1.22 (1.07-1.35)
15-min	0.704 (0.646-0.769)	0.845 (0.775-0.922)	0.995 (0.911-1.09)	1.09 (1.00-1.19)	1.21 (1.10-1.32)	1.29 (1.16-1.40)	1.36 (1.22-1.49)	1.42 (1.27-1.55)	1.49 (1.32-1.63)	1.53 (1.35-1.69)
30-min	0.965 (0.885-1.05)	1.17 (1.07-1.27)	1.41 (1.29-1.54)	1.59 (1.45-1.73)	1.79 (1.63-1.95)	1.94 (1.75-2.11)	2.08 (1.88-2.28)	2.21 (1.98-2.42)	2.37 (2.10-2.60)	2.48 (2.18-2.74)
60-min	1.20 (1.10-1.31)	1.46 (1.34-1.60)	1.81 (1.66-1.98)	2.06 (1.89-2.25)	2.39 (2.17-2.60)	2.63 (2.38-2.87)	2.87 (2.58-3.13)	3.10 (2.77-3.39)	3.39 (3.01-3.73)	3.62 (3.18-3.99)
2-hr	1.44 (1.30-1.58)	1.75 (1.59-1.92)	2.17 (1.97-2.39)	2.50 (2.26-2.75)	2.93 (2.63-3.22)	3.26 (2.91-3.59)	3.59 (3.20-3.96)	3.93 (3.47-4.34)	4.38 (3.82-4.85)	4.73 (4.08-5.24)
3-hr	1.56 (1.42-1.72)	1.89 (1.72-2.09)	2.36 (2.15-2.61)	2.72 (2.46-3.00)	3.20 (2.87-3.52)	3.57 (3.19-3.92)	3.95 (3.50-4.34)	4.33 (3.81-4.77)	4.83 (4.20-5.35)	5.22 (4.50-5.80)
6-hr	1.93 (1.75-2.13)	2.33 (2.12-2.58)	2.90 (2.63-3.20)	3.35 (3.03-3.70)	3.99 (3.58-4.39)	4.49 (4.00-4.95)	5.03 (4.44-5.55)	5.59 (4.88-6.16)	6.37 (5.46-7.05)	6.99 (5.91-7.77)
12-hr	2.34 (2.13-2.62)	2.83 (2.57-3.16)	3.54 (3.21-3.94)	4.13 (3.72-4.59)	4.98 (4.44-5.62)	5.69 (5.03-6.30)	6.46 (5.64-7.16)	7.29 (6.28-8.09)	8.48 (7.16-9.44)	9.48 (7.86-10.6)
24-hr	2.71 (2.49-2.95)	3.26 (3.00-3.56)	4.09 (3.75-4.47)	4.79 (4.38-5.22)	5.79 (5.27-6.31)	6.64 (6.01-7.22)	7.55 (6.80-8.20)	8.54 (7.63-9.26)	9.97 (8.83-10.8)	11.2 (9.79-12.1)
2-day	3.13 (2.87-3.43)	3.78 (3.47-4.14)	4.75 (4.35-5.20)	5.54 (5.07-6.06)	6.67 (6.07-7.29)	7.61 (6.90-8.30)	8.60 (7.76-9.39)	9.67 (8.66-10.5)	11.2 (9.94-12.2)	12.4 (11.0-13.6)
3-day	3.30 (3.03-3.62)	3.98 (3.65-4.36)	4.99 (4.58-5.46)	5.81 (5.32-6.36)	6.99 (6.36-7.63)	7.95 (7.21-8.68)	8.98 (8.10-9.80)	10.1 (9.04-11.0)	11.7 (10.4-12.7)	12.9 (11.4-14.1)
4-day	3.47 (3.19-3.80)	4.18 (3.84-4.58)	5.23 (4.80-5.73)	6.09 (5.57-6.66)	7.30 (6.65-7.98)	8.30 (7.53-9.06)	9.37 (8.45-10.2)	10.5 (9.42-11.4)	12.1 (10.8-13.2)	13.4 (11.8-14.7)
7-day	4.06 (3.76-4.41)	4.86 (4.51-5.29)	6.02 (5.57-6.55)	6.97 (6.44-7.57)	8.33 (7.65-9.03)	9.45 (8.64-10.2)	10.6 (9.68-11.5)	11.9 (10.8-12.9)	13.7 (12.3-14.9)	15.2 (13.5-16.5)
10-day	4.62 (4.30-4.98)	5.51 (5.13-5.95)	6.73 (6.25-7.26)	7.71 (7.15-8.31)	9.07 (8.38-9.77)	10.2 (9.37-10.9)	11.3 (10.4-12.2)	12.5 (11.4-13.5)	14.2 (12.8-15.3)	15.5 (13.9-16.8)
20-day	6.24 (5.84-6.69)	7.40 (6.93-7.93)	8.83 (8.26-9.47)	9.96 (9.30-10.7)	11.5 (10.7-12.3)	12.7 (11.8-13.6)	13.9 (12.8-14.8)	15.1 (13.9-16.2)	16.7 (15.3-17.9)	18.0 (16.4-19.3)
30-day	7.76 (7.32-8.24)	9.15 (8.62-9.71)	10.7 (10.1-11.3)	11.9 (11.2-12.6)	13.4 (12.6-14.2)	14.6 (13.7-15.5)	15.8 (14.7-16.7)	16.9 (15.8-18.0)	18.4 (17.1-19.6)	19.5 (18.0-20.8)
45-day	9.85 (9.34-10.4)	11.6 (11.0-12.2)	13.3 (12.6-14.1)	14.6 (13.8-15.4)	16.3 (15.4-17.2)	17.5 (16.6-18.5)	18.7 (17.6-19.7)	19.8 (18.6-20.9)	21.2 (19.9-22.4)	22.1 (20.7-23.5)
60-day	11.8 (11.2-12.4)	13.8 (13.2-14.6)	15.8 (15.0-16.6)	17.2 (16.4-18.1)	19.1 (18.1-20.1)	20.4 (19.3-21.5)	21.6 (20.5-22.8)	22.8 (21.5-24.0)	24.2 (22.8-25.5)	25.2 (23.7-26.6)

[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.

Back to Top

PF graphical

Appendix D: Hydrograph Summary and Compliance Summary

Post-Construction Compliance Summary

REQUIRED INFILTRATION VOLUME (FOR PROJECT AREA)		
2-yr Post-Develoment	2,505 cf	
2-yr Pre-Development	0,913 cf	
Difference	1,592 cf	
Infiltration Volume Provided	3,503 cf	

WATER QUALITY VOLUME		
Parameter	Value	Unit
A	1.113	ac
I	12	%
WQv	638	cf
Basin	3,503	cf

PROVIDED INFILTRATION VOLUME (2-yr Storm)				
	Basins 2-5			
	Elevation	Storage		
Top of Basin	354.80	3,503 cf		
Lowest Orifice/Max Elevation	354.80	3,503 cf		
Bottom of Basin	348.30	0 cf		

RECHARGE VOLUME		
Parameter	Value	Unit
Rainfall	3.3	in
Impervious	6,149	sf
Rev	1670	cf
Basin	3,503	cf

DEWATERING CALCULATIONS		
	System	
Infiltration Rate (in/hr)	1.5	
Basin Bottom	348.30	
Lowest Orifice	354.80	
Recharge Depth (ft)	1.50	
Dewatering Time (hours)	12.0	

Stormwater peak rate control requirements

Hydrograph Description	Peak Outflow (cfs)							COMMENTS
	1-Yr	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
	PROJECT AREA ANALYSIS							
Pre - Site discharge	0.120	0.312	0.680	1.038	1.602	2.120	2.702	Hydrograph 1
RELEASE REQUIREMENT	0.120	0.312	0.680	1.038	1.602	2.120	2.702	
Post - Site discharge	0.022	0.064	0.269	0.429	1.529	2.087	1.889	Hydrograph 20
PASS/ FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	
RELEASE DISTRICT		100% Chester Creek						

Appendix E: Pre and Post- Construction Hydrologic and Hydraulic Report

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	0.120	0.312	-------	0.680	1.038	1.602	2.120	2.702	Pre-Condition
2	SCS Runoff	-------	0.694	1.023	-------	1.559	2.037	2.765	3.400	4.088	Post-Condition
3	SCS Runoff	-------	0.402	0.621	-------	0.985	1.313	1.807	2.252	2.738	DA to Basin 1
4	SCS Runoff	-------	0.112	0.162	-------	0.245	0.319	0.430	0.526	0.630	DA to Basin 2
5	SCS Runoff	-------	0.056	0.081	-------	0.122	0.159	0.215	0.263	0.315	DA to Basin 3
6	SCS Runoff	-------	0.042	0.061	-------	0.092	0.119	0.161	0.197	0.236	DA to Basin 4
7	SCS Runoff	-------	0.029	0.046	-------	0.074	0.100	0.138	0.173	0.211	DA to Basin 5
8	Reservoir	3	0.053	0.089	-------	0.181	0.243	0.310	0.331	0.352	Route to Basin 1
9	Reservoir	4	0.000	0.000	-------	0.008	0.028	0.323	0.668	0.678	Route to Basin 2
10	Reservoir	5	0.000	0.000	-------	0.003	0.006	0.040	0.170	0.436	Route to Basin 3
11	Reservoir	6	0.000	0.000	-------	0.000	0.002	0.014	0.116	0.283	Route to Basin 4
12	Reservoir	7	0.000	0.000	-------	0.000	0.003	0.006	0.017	0.085	Route to Basin 5
13	Combine	4, 8,	0.138	0.222	-------	0.371	0.509	0.888	0.827	0.944	Route 1 to DA 2
14	Reservoir	13	0.053	0.114	-------	0.226	0.498	0.767	0.826	0.952	Hydro 13 --> Basin 2
15	Combine	5, 14	0.056	0.120	-------	0.244	0.579	0.982	1.085	1.260	14 --> DA 3
16	Reservoir	15	0.043	0.119	-------	0.287	0.388	0.904	1.085	1.271	Hydro 15 --> Basin 3
17	Combine	6, 16	0.044	0.123	-------	0.298	0.389	1.063	1.278	1.503	Hydro 16 --> DA 4
18	Reservoir	17	0.030	0.098	-------	0.286	0.338	1.309	1.295	1.515	Hydro 17 --> Basin 4
19	Combine	7, 18	0.031	0.100	-------	0.294	0.353	1.420	1.468	1.726	Hydro 18 to DA 5
20	Reservoir	19	0.022	0.064	-------	0.269	0.429	1.529	2.087	1.889	Hydro 19 --> Basin 5

Hydrograph Summary Report

Hydraflow Hydrographs by Intellsolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	0.120	2	720	424	----	------	------	Pre-Condition
2	SCS Runoff	0.694	2	718	1,401	----	------	------	Post-Condition
3	SCS Runoff	0.402	2	718	829	----	------	------	DA to Basin 1
4	SCS Runoff	0.112	2	718	225	----	------	------	DA to Basin 2
5	SCS Runoff	0.056	2	718	112	----	------	------	DA to Basin 3
6	SCS Runoff	0.042	2	718	84	----	------	------	DA to Basin 4
7	SCS Runoff	0.029	2	718	61	----	------	------	DA to Basin 5
8	Reservoir	0.053	2	740	822	3	355.69	265	Route to Basin 1
9	Reservoir	0.000	2	n/a	0	4	354.52	225	Route to Basin 2
10	Reservoir	0.000	2	n/a	0	5	352.67	112	Route to Basin 3
11	Reservoir	0.000	2	n/a	0	6	350.90	84.2	Route to Basin 4
12	Reservoir	0.000	2	n/a	0	7	348.81	61.2	Route to Basin 5
13	Combine	0.138	2	718	1,047	4, 8,	------	------	Route 1 to DA 2
14	Reservoir	0.053	2	802	675	13	354.80	374	Hydro 13 --> Basin 2
15	Combine	0.056	2	802	787	5, 14	------	------	14 --> DA 3
16	Reservoir	0.043	2	874	555	15	353.00	232	Hydro 15 --> Basin 3
17	Combine	0.044	2	874	640	6, 16	------	------	Hydro 16 --> DA 4
18	Reservoir	0.030	2	964	441	17	351.30	199	Hydro 17 --> Basin 4
19	Combine	0.031	2	964	502	7, 18	------	------	Hydro 18 to DA 5
20	Reservoir	0.022	2	1092	303	19	349.40	199	Hydro 19 --> Basin 5

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

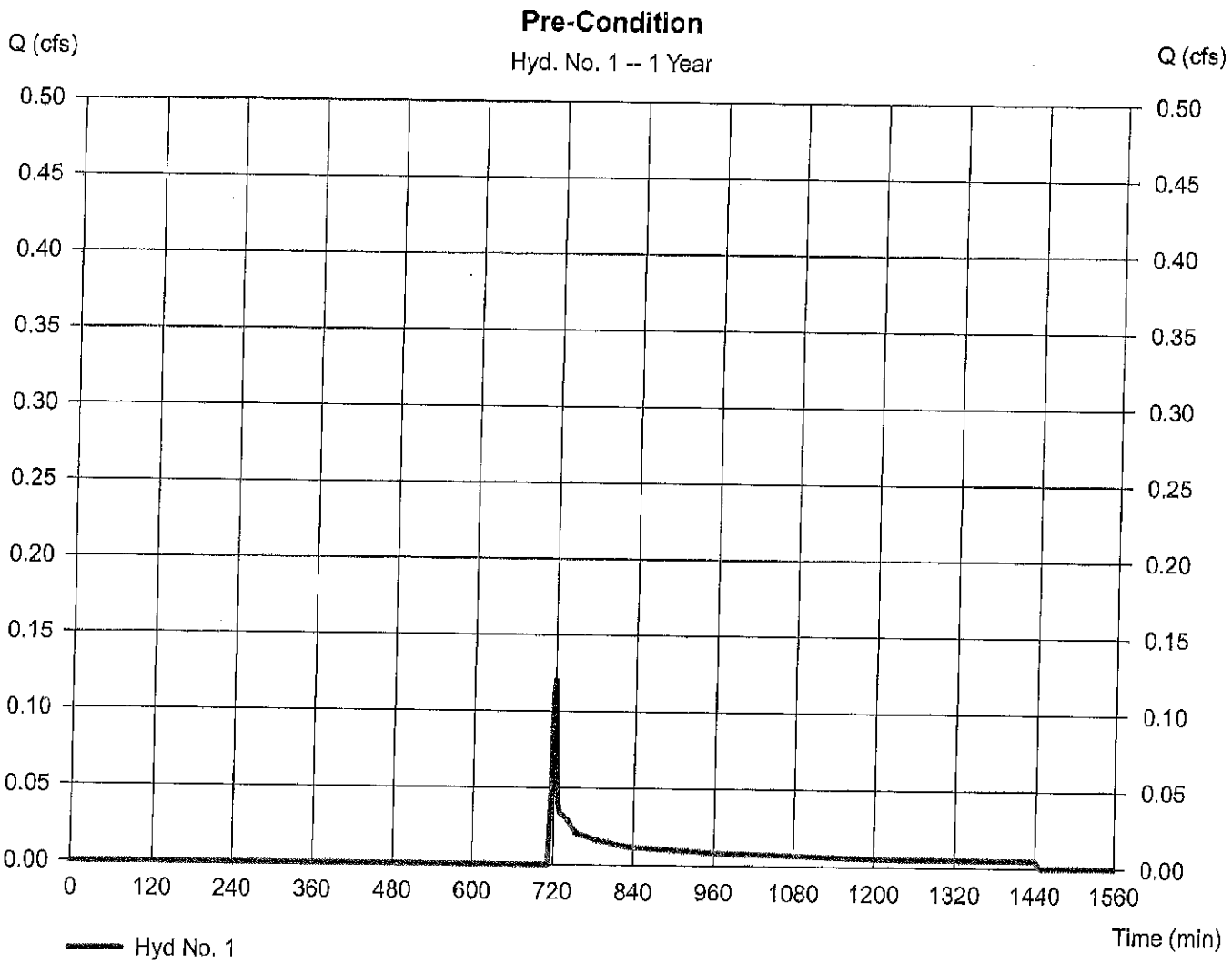
Tuesday, Jun 14, 2022

Hyd. No. 1

Pre-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 0.120 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 424 cuft
Drainage area	= 0.530 ac	Curve number	= 60*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.71 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.509 x 58) + (0.022 x 98)] / 0.530



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

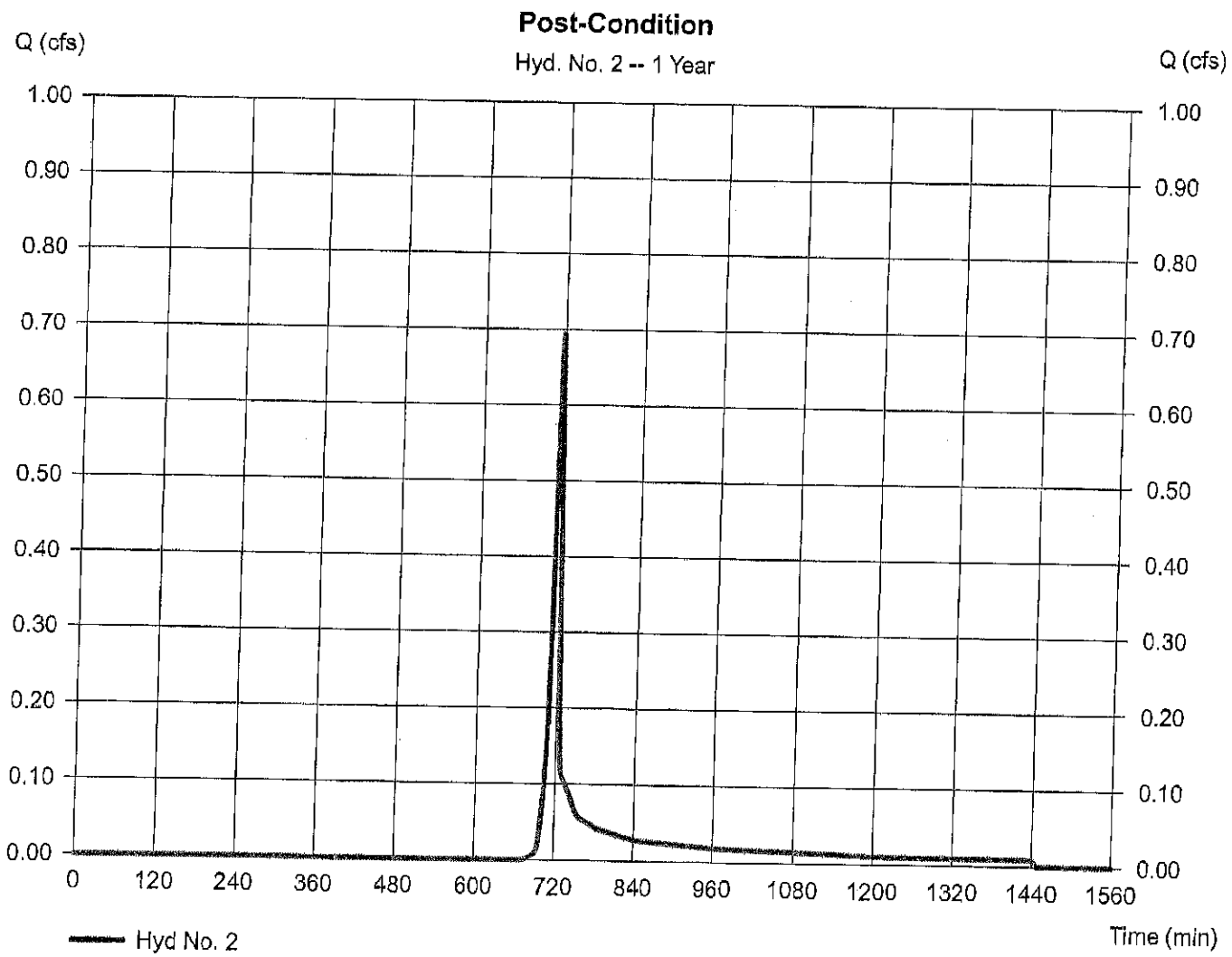
Tuesday, Jun 14, 2022

Hyd. No. 2

Post-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 0.694 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 1,401 cuft
Drainage area	= 0.530 ac	Curve number	= 75*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.71 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.327 x 61) + (0.204 x 98)] / 0.530



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

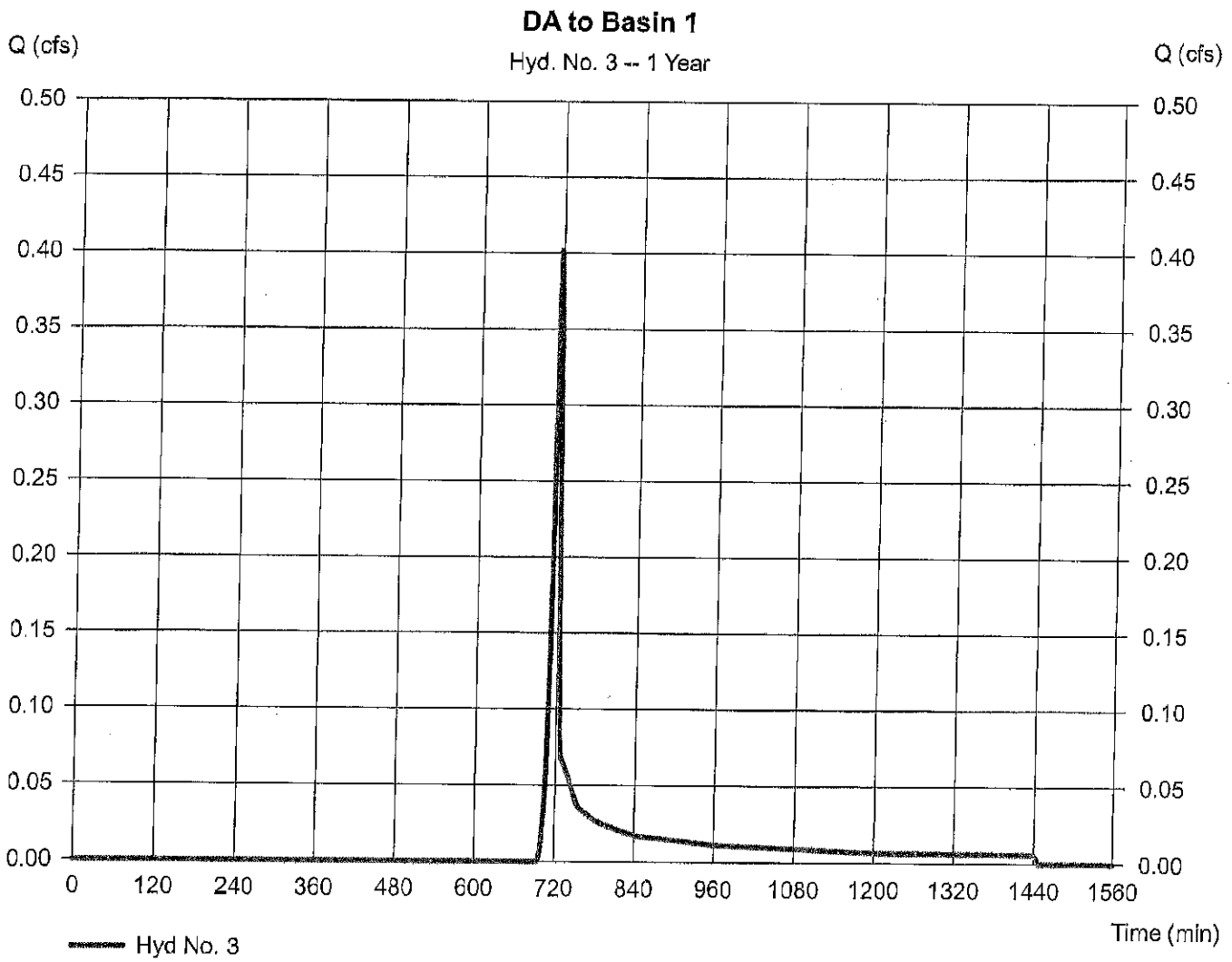
Tuesday, Jun 14, 2022

Hyd. No. 3

DA to Basin 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.402 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 829 cuft
Drainage area	= 0.380 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.71 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.261 x 61) + (0.116 x 98)] / 0.380



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

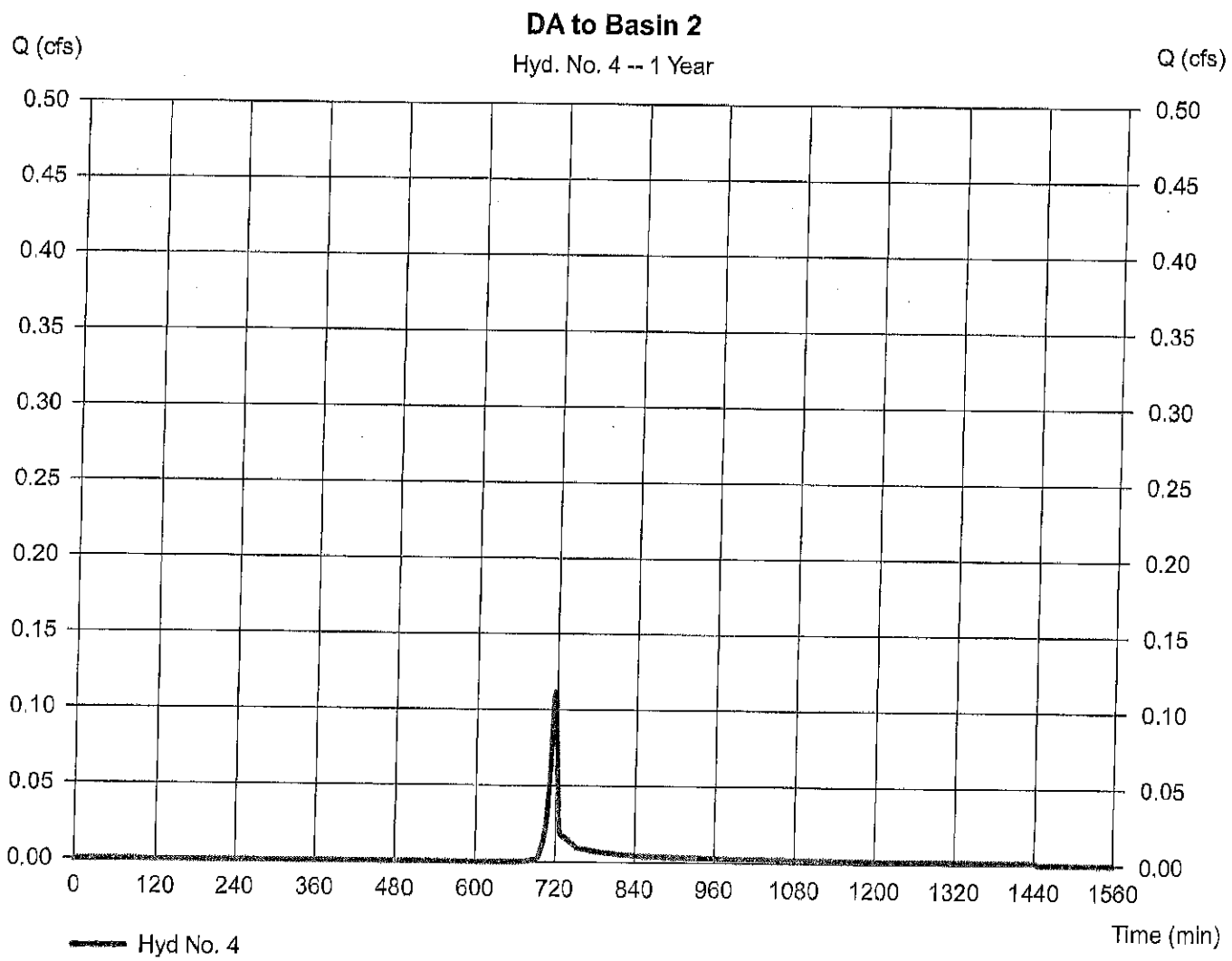
Tuesday, Jun 14, 2022

Hyd. No. 4

DA to Basin 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.112 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 225 cuft
Drainage area	= 0.080 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.71 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.046 x 61) + (0.031 x 98)] / 0.080



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

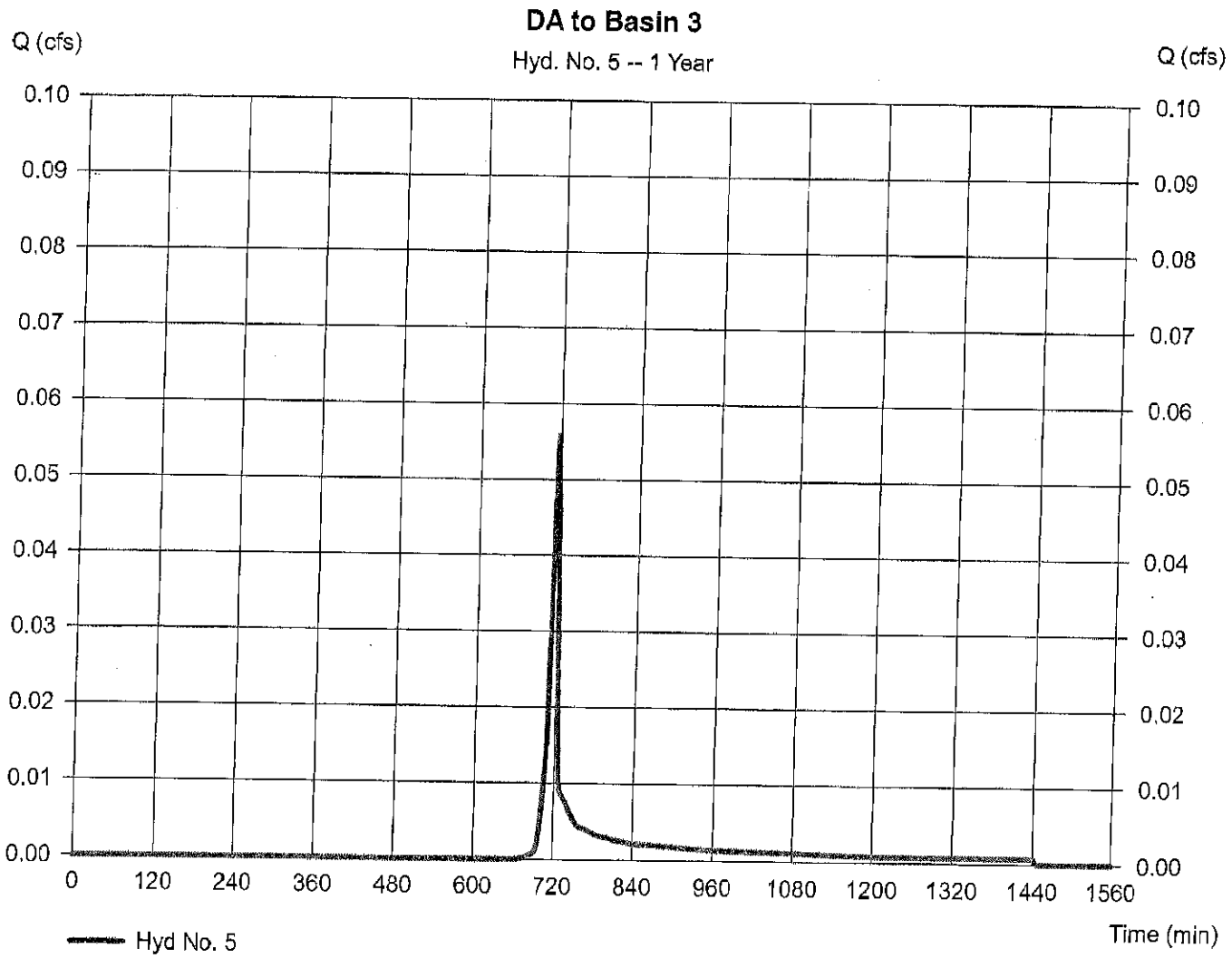
Tuesday, Jun 14, 2022

Hyd. No. 5

DA to Basin 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.056 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 112 cuft
Drainage area	= 0.040 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.71 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.021 x 61) + (0.014 x 98)] / 0.040



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

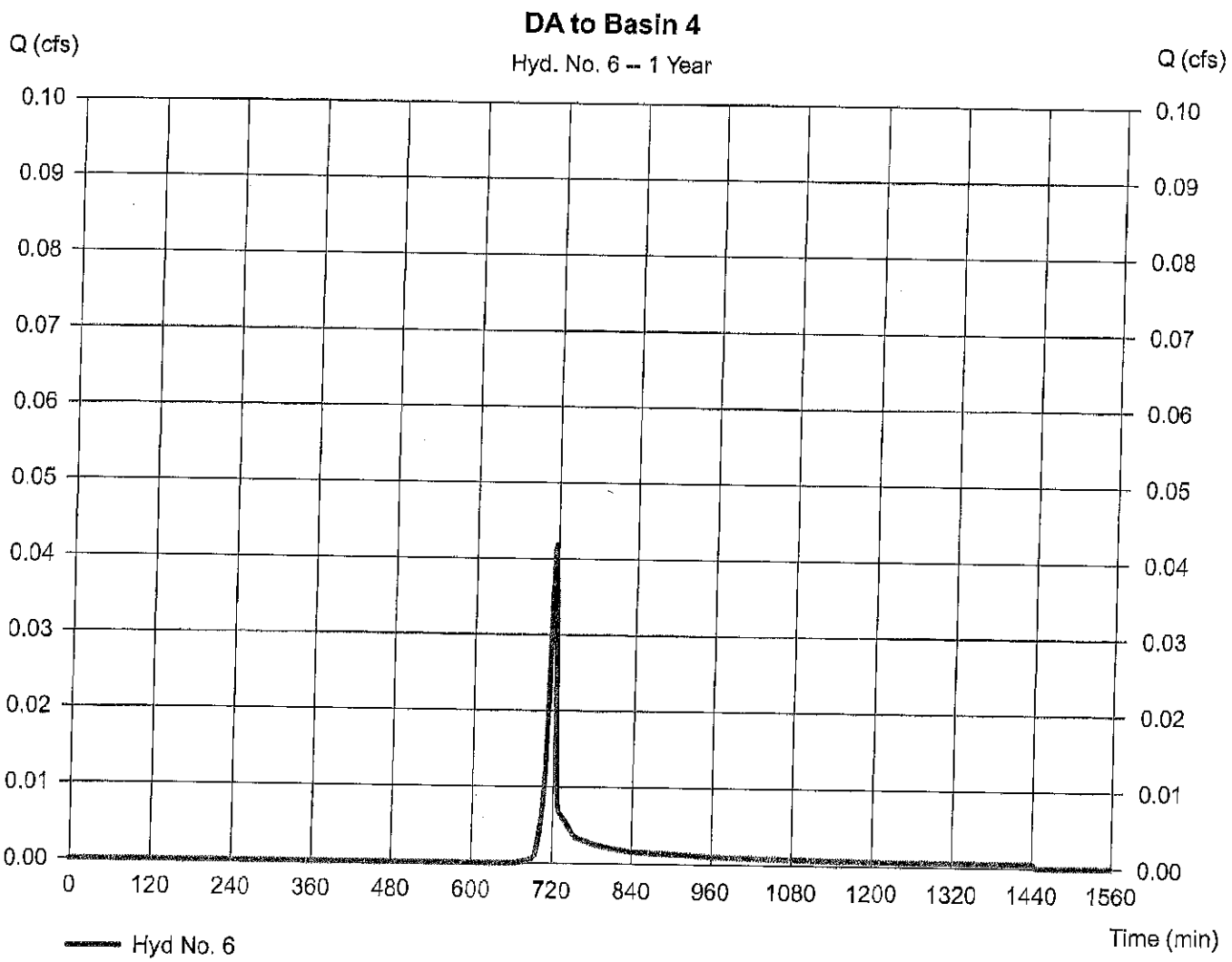
Tuesday, Jun 14, 2022

Hyd. No. 6

DA to Basin 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.042 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 84 cuft
Drainage area	= 0.030 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.71 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.017 x 61) + (0.011 x 98)] / 0.030



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

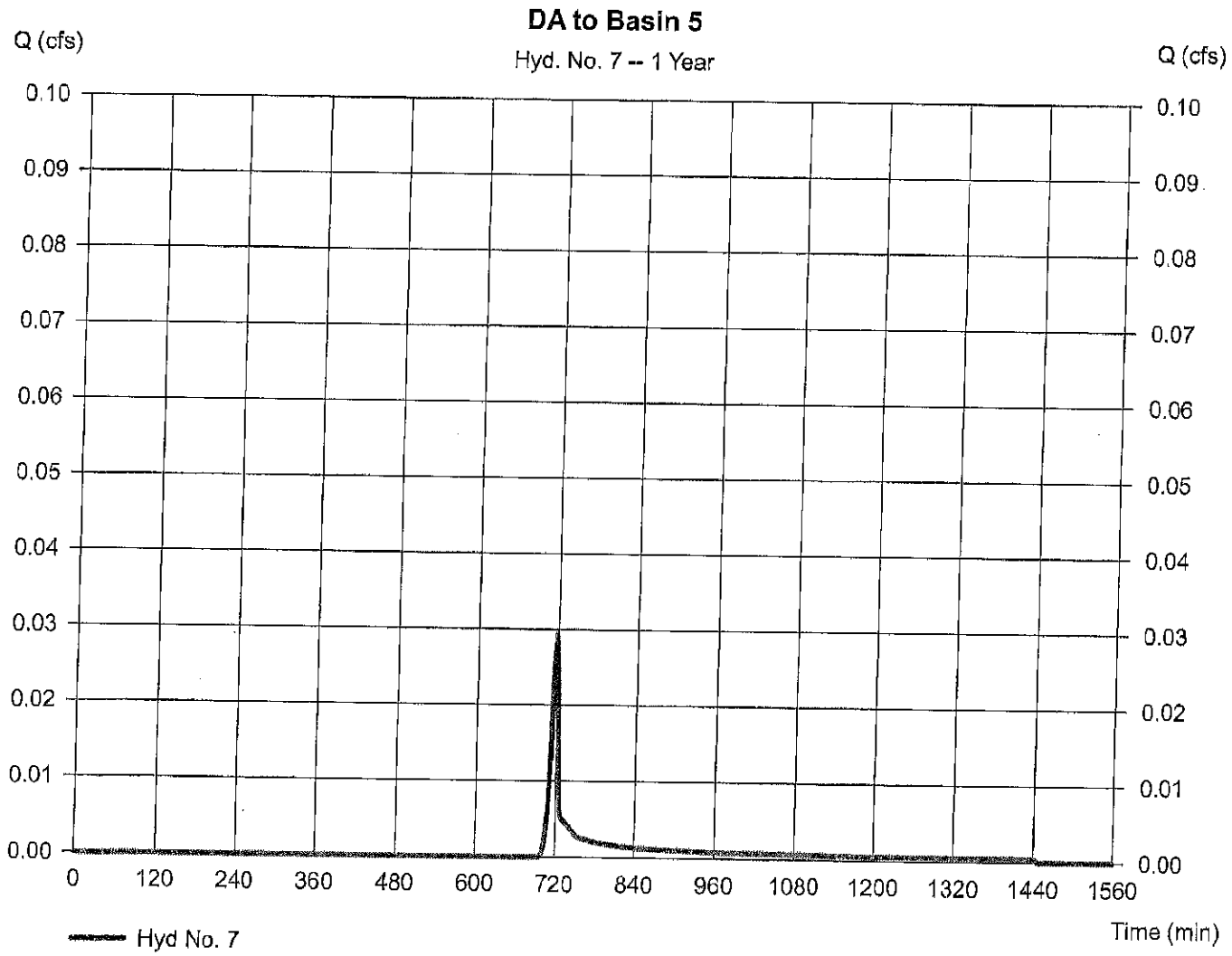
Tuesday, Jun 14, 2022

Hyd. No. 7

DA to Basin 5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.029 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 61 cuft
Drainage area	= 0.030 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.71 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.023 x 61) + (0.009 x 98)] / 0.030



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

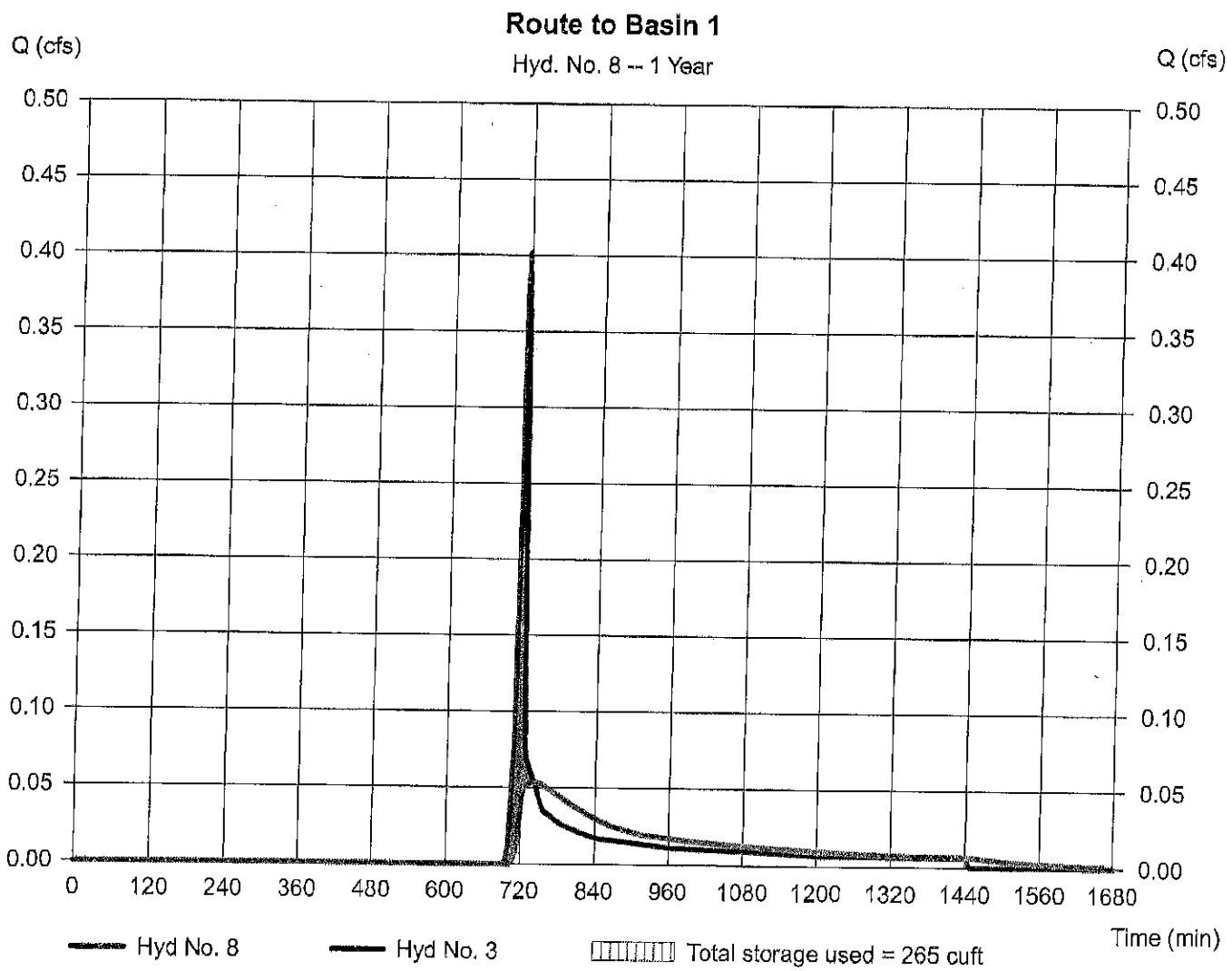
Tuesday, Jun 14, 2022

Hyd. No. 8

Route to Basin 1

Hydrograph type	= Reservoir	Peak discharge	= 0.053 cfs
Storm frequency	= 1 yrs	Time to peak	= 740 min
Time interval	= 2 min	Hyd. volume	= 822 cuft
Inflow hyd. No.	= 3 - DA to Basin 1	Max. Elevation	= 355.69 ft
Reservoir name	= Basin 1	Max. Storage	= 265 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intellisolve v9.1

Tuesday, Jun 14, 2022

Pond No. 1 - Basin 1

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 355.50 ft, Voids = 90.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	355.50	00	0	0
1.00	356.50	4,600	1,380	1,380
2.00	357.50	4,600	4,140	5,519
3.00	358.50	4,600	4,140	9,659

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 3.75	0.00	0.00	0.00
Span (in)	= 3.75	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 355.50	0.00	0.00	0.00
Length (ft)	= 10.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

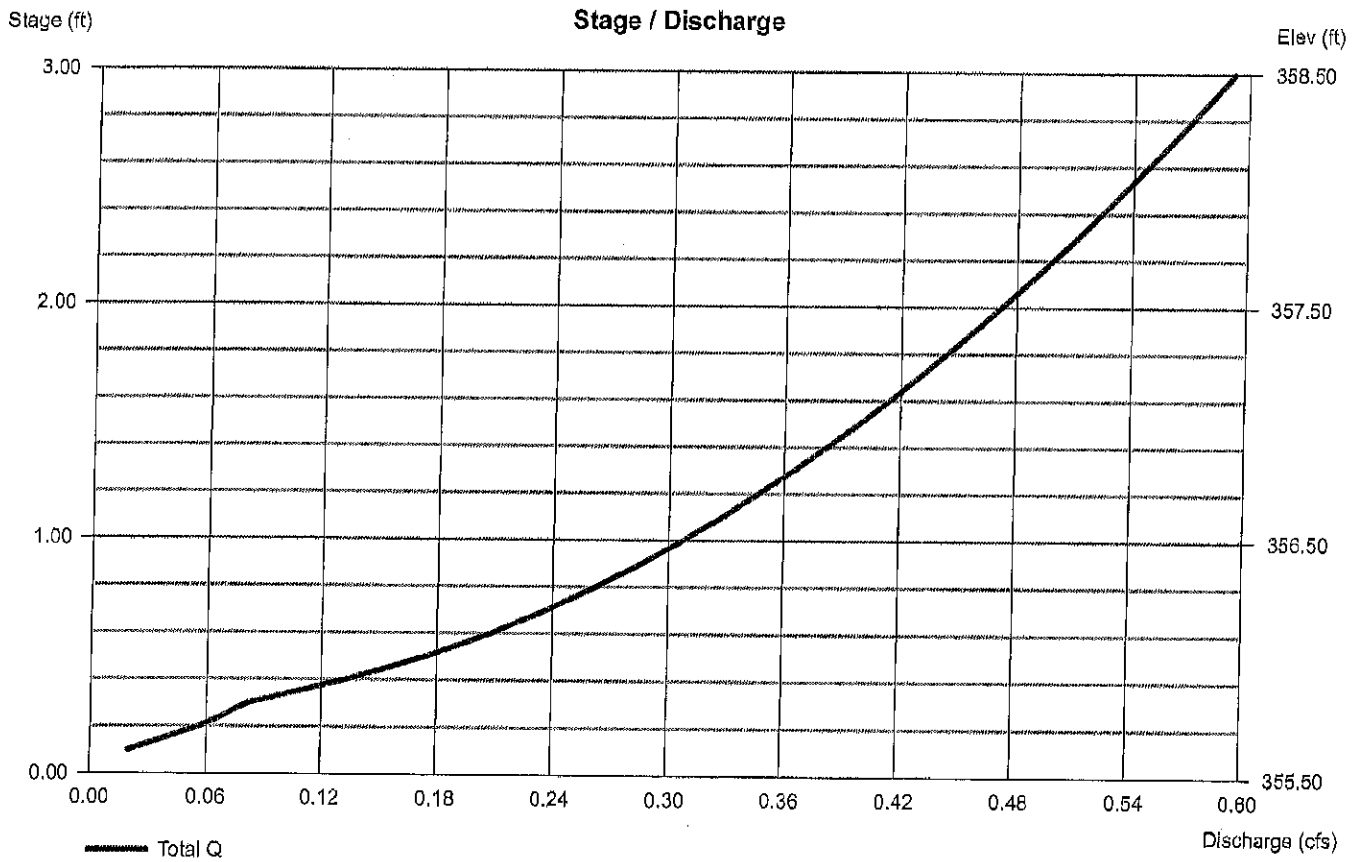
Weir Structures

	[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).



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

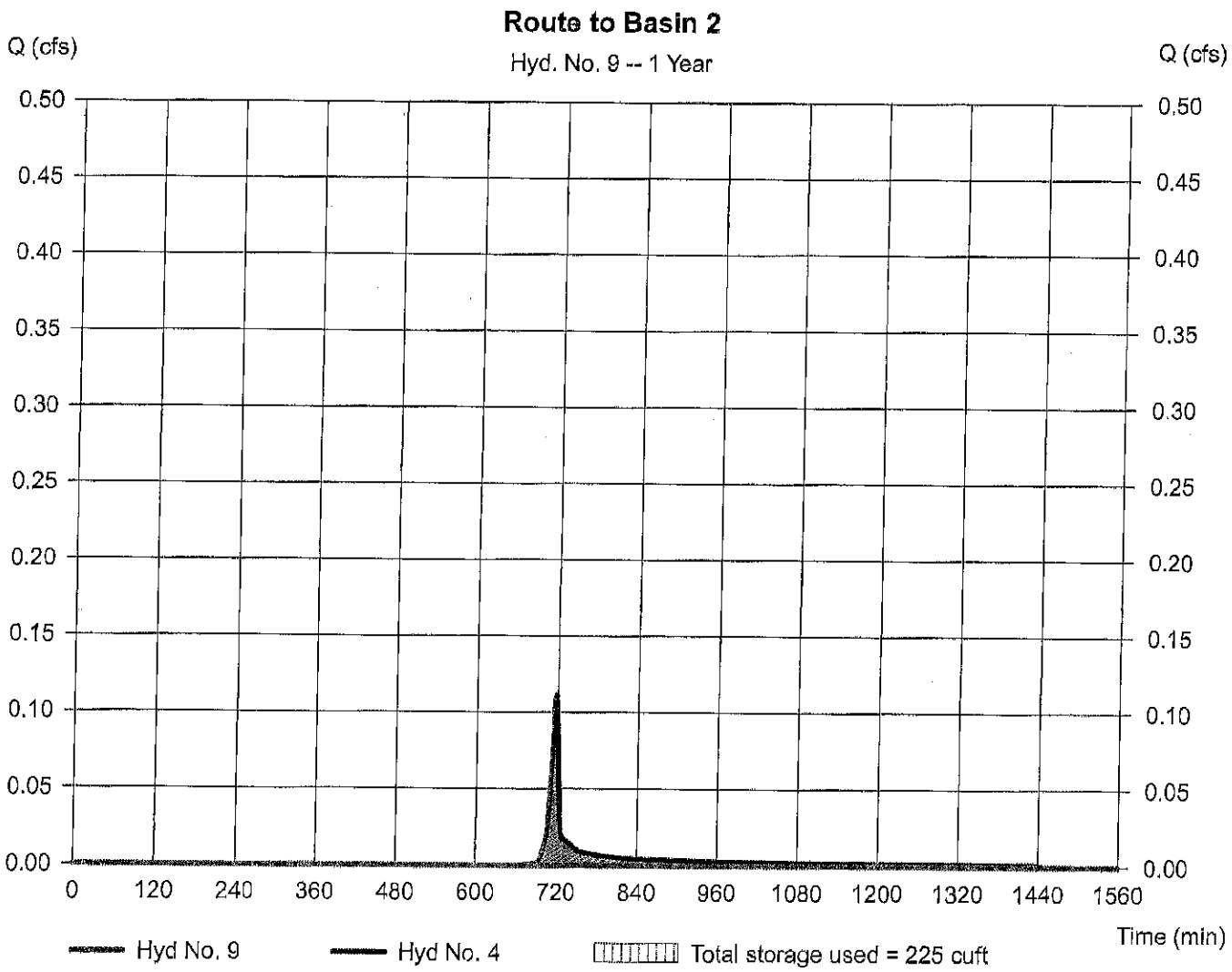
Tuesday, Jun 14, 2022

Hyd. No. 9

Route to Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 4 - DA to Basin 2	Max. Elevation	= 354.52 ft
Reservoir name	= Basin 2	Max. Storage	= 225 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, Jun 14, 2022

Pond No. 2 - Basin 2

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 353.60 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	353.60	30	0	0
0.80	354.40	1,305	163	163
1.20	354.80	1,305	209	372
2.20	355.80	1,305	522	894
3.20	356.80	1,305	522	1,416
4.20	357.80	1,305	522	1,938

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

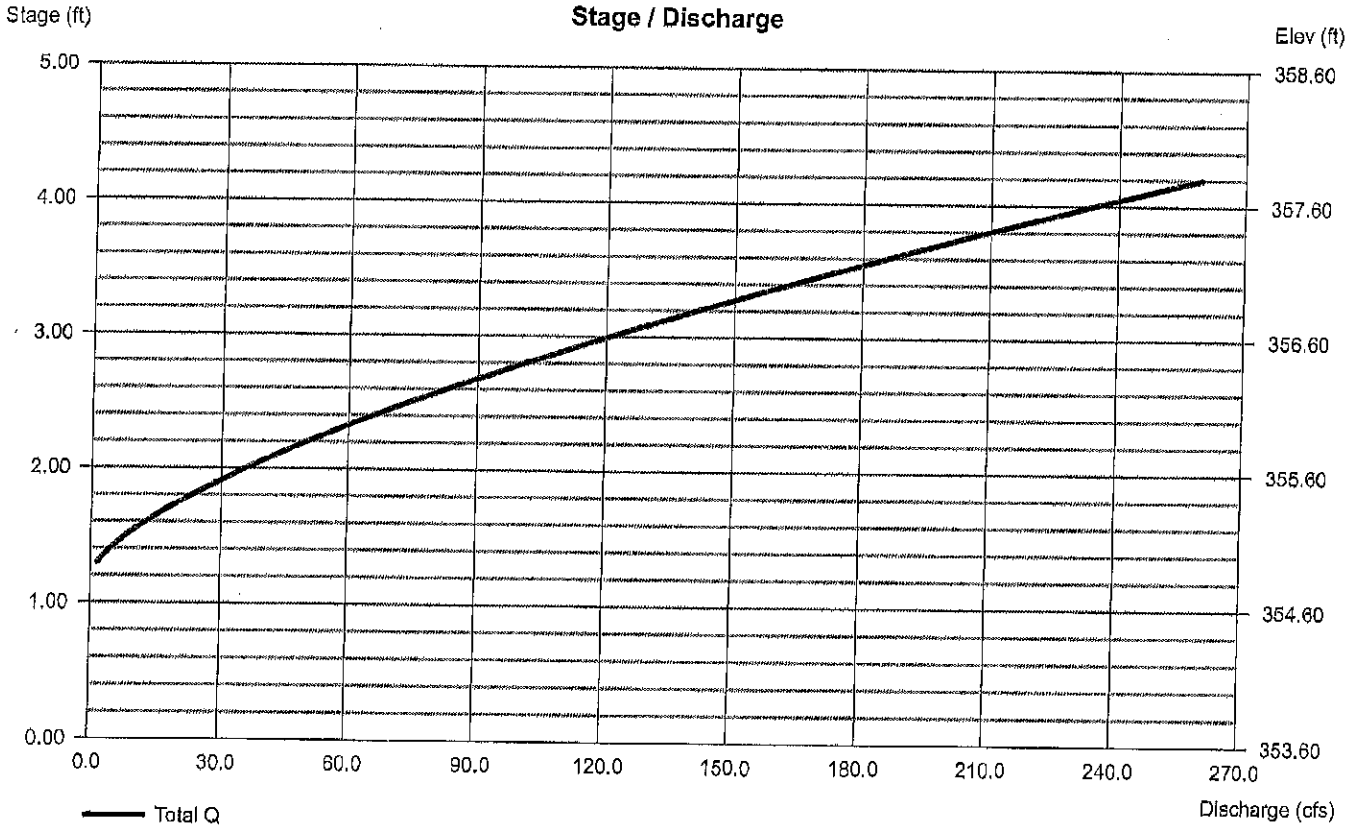
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	0.00	0.00	0.00
Crest El. (ft)	= 354.80	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

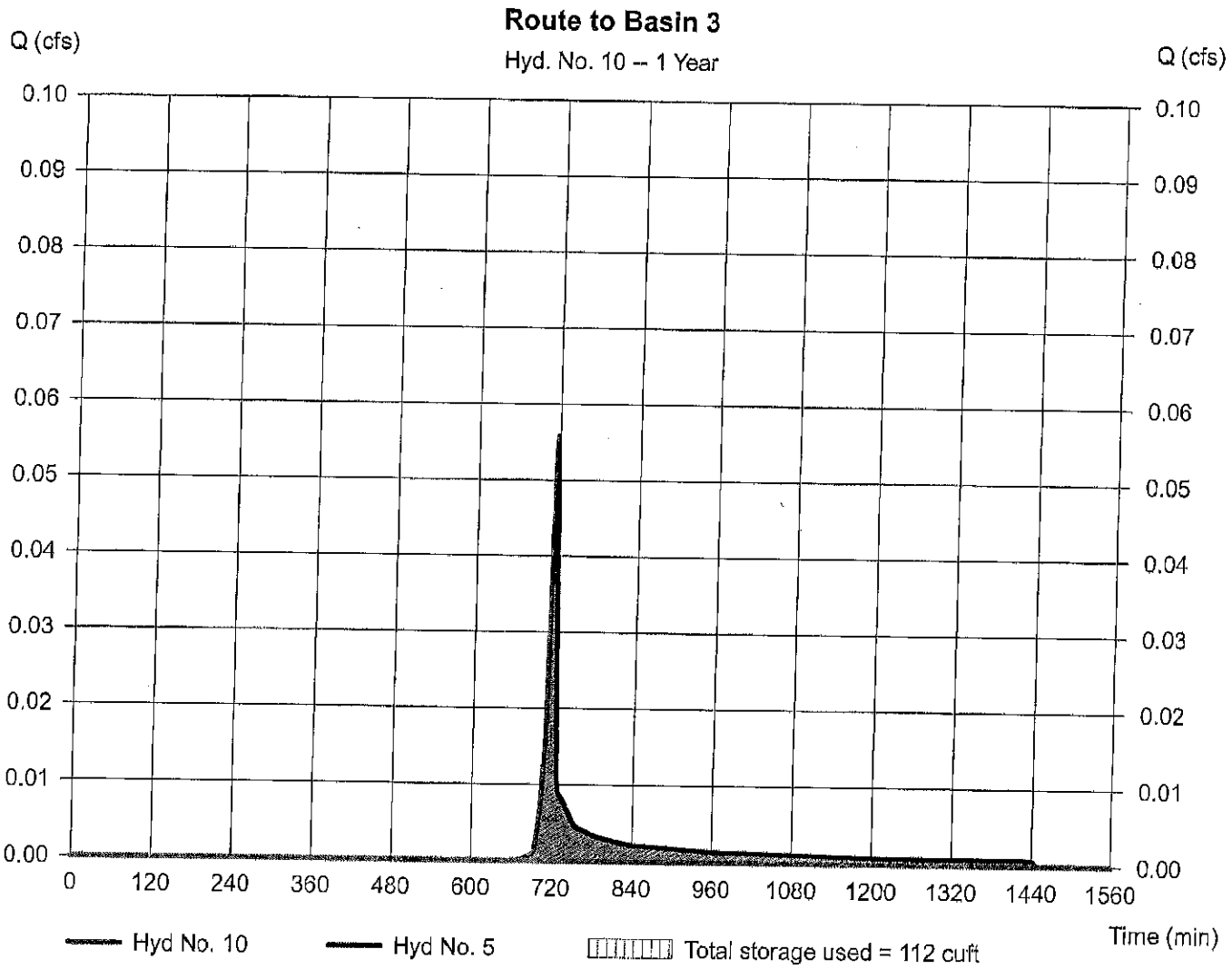
Tuesday, Jun 14, 2022

Hyd. No. 10

Route to Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 5 - DA to Basin 3	Max. Elevation	= 352.67 ft
Reservoir name	= Basin 3	Max. Storage	= 112 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intellisolve v9.1

Tuesday, Jun 14, 2022

Pond No. 3 - Basin 3

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 352.00 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	352.00	30	0	0
0.60	352.60	900	88	88
1.00	353.00	900	144	232
2.00	354.00	900	360	591

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

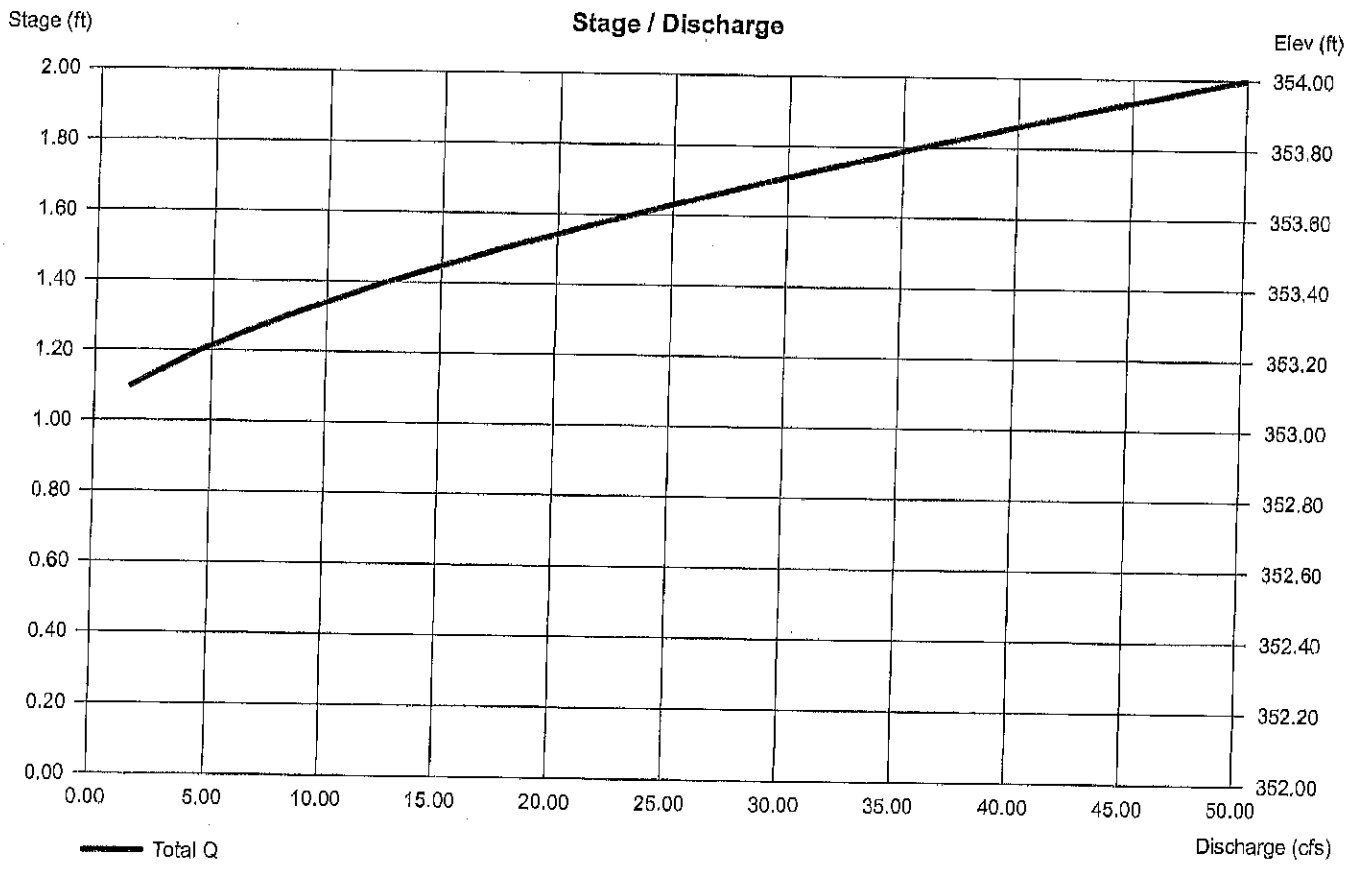
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	0.00	0.00	0.00
Crest El. (ft)	= 353.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

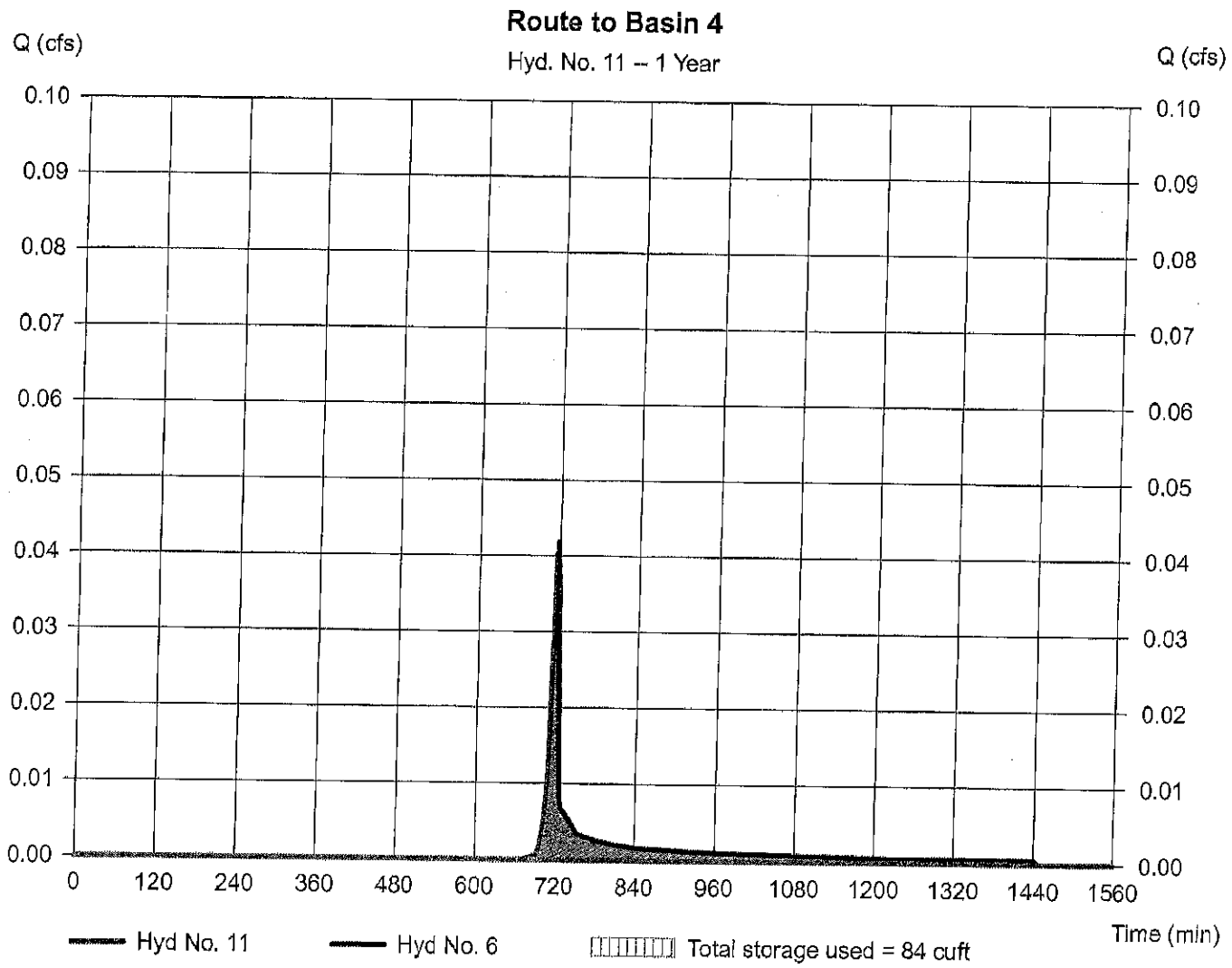
Tuesday, Jun 14, 2022

Hyd. No. 11

Route to Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 6 - DA to Basin 4	Max. Elevation	= 350.90 ft
Reservoir name	= Basin 4	Max. Storage	= 84 cuft

Storage Indication method used.



Pond No. 4 - Basin 4

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 350.20 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	350.20	30	0	0
0.70	350.90	720	84	84
1.10	351.30	720	115	199
2.10	352.30	720	288	487

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

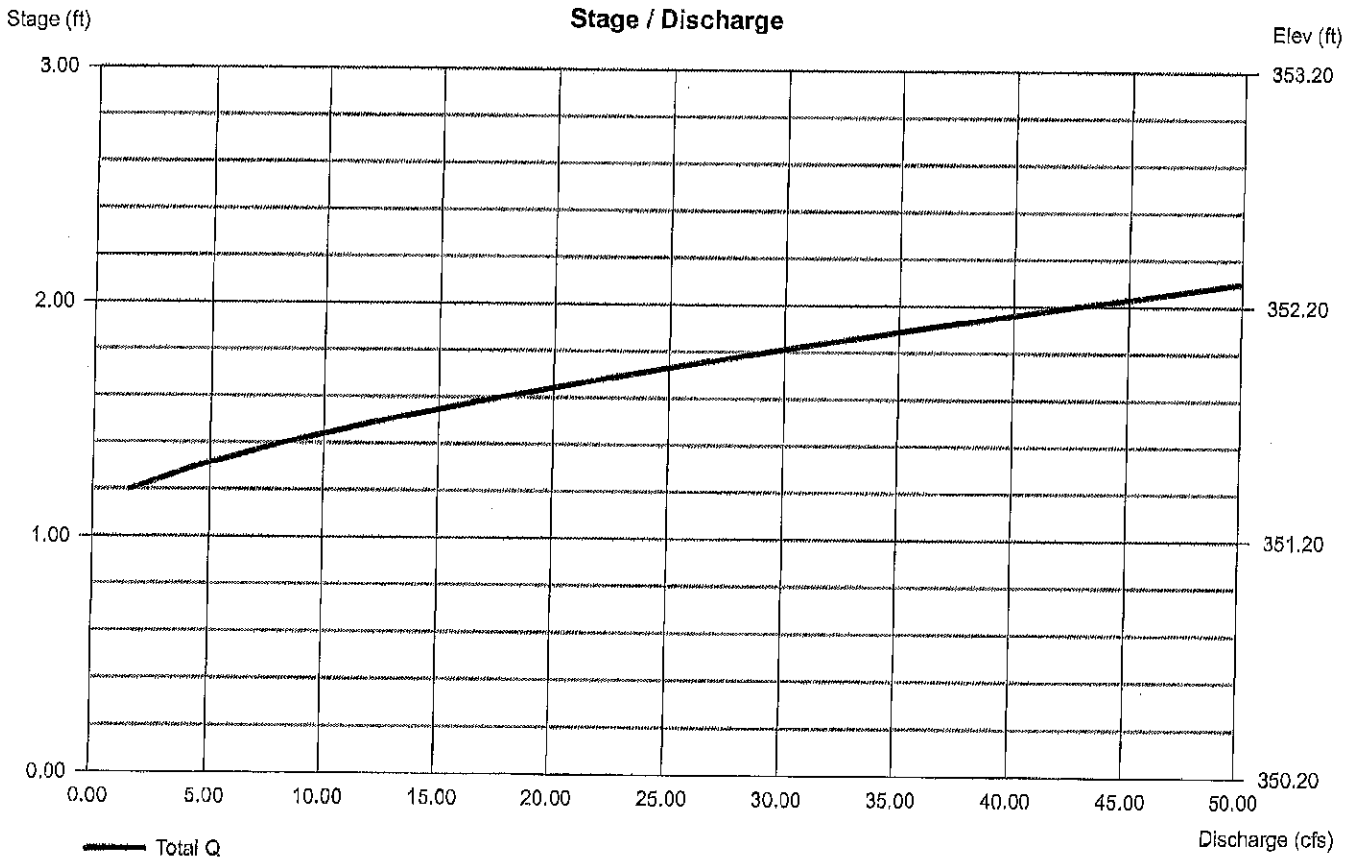
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	0.00	0.00	0.00
Crest El. (ft)	= 351.30	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).



Hydrograph Report

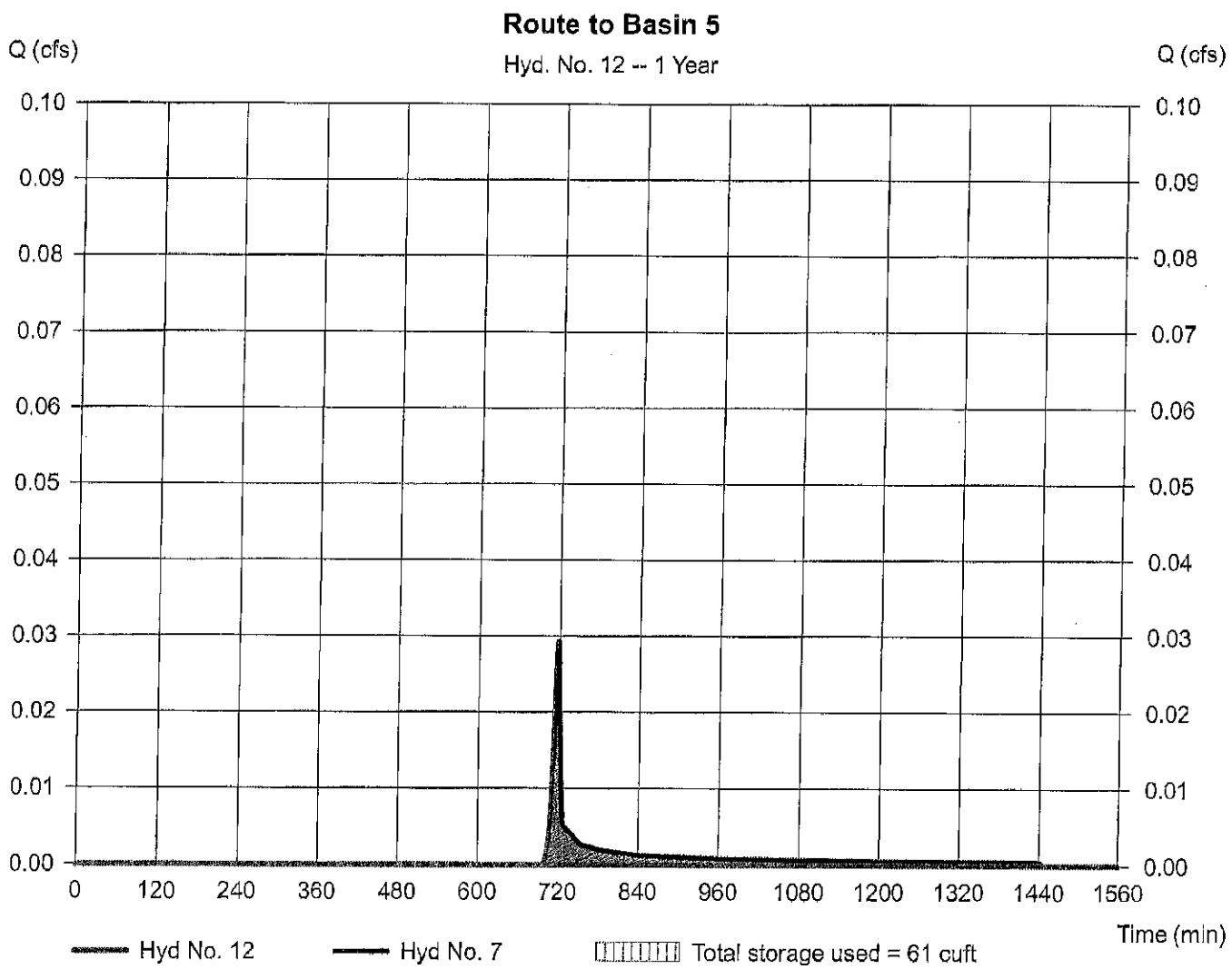
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 12

Route to Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 7 - DA to Basin 5	Max. Elevation	= 348.81 ft
Reservoir name	= Basin 5	Max. Storage	= 61 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Pond No. 5 - Basin 5

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 348.30 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	348.30	30	0	0
0.70	349.00	720	84	84
1.10	349.40	720	115	199
2.10	350.40	720	288	487

Culvert / Orifice Structures

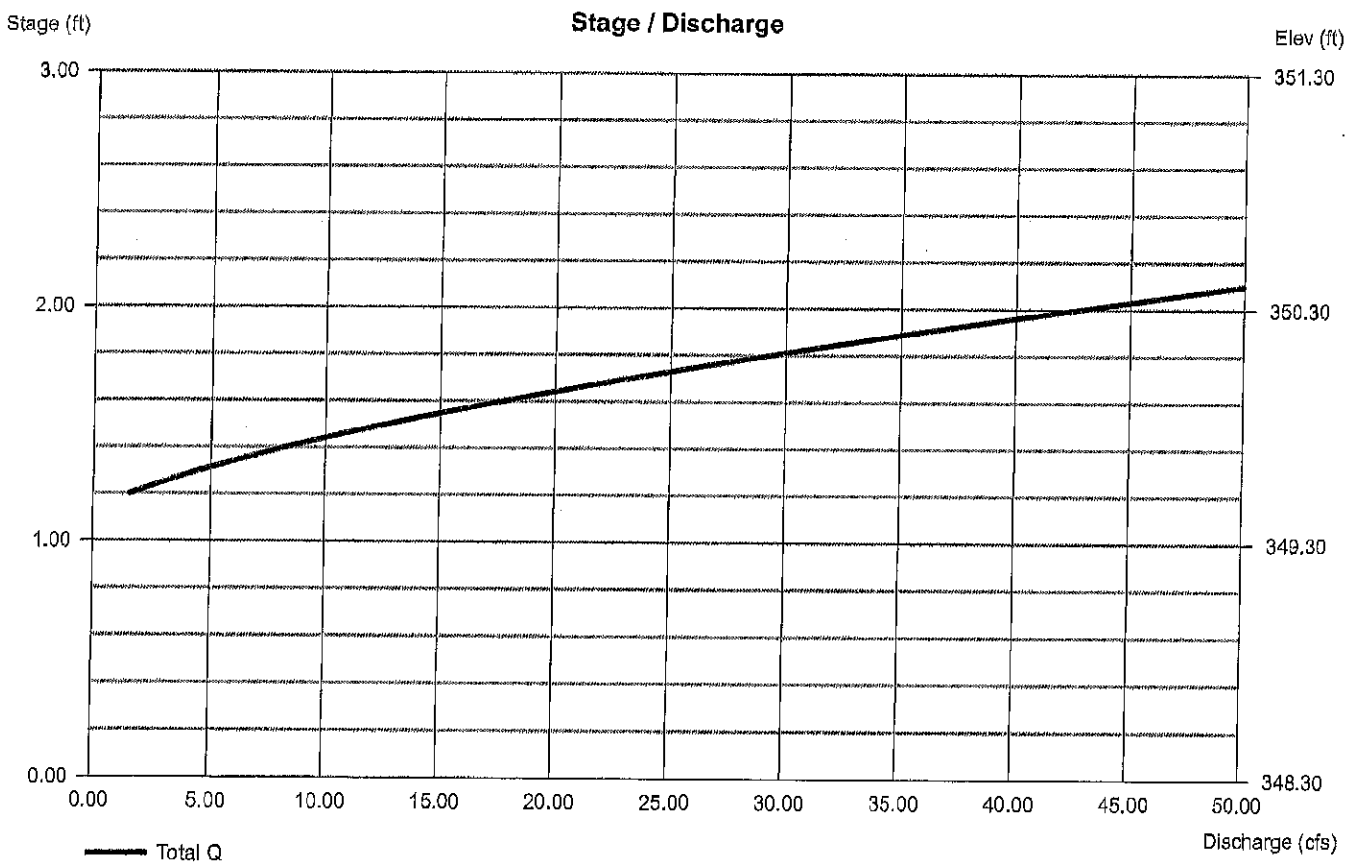
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	0.00	0.00	0.00
Crest El. (ft)	= 349.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).



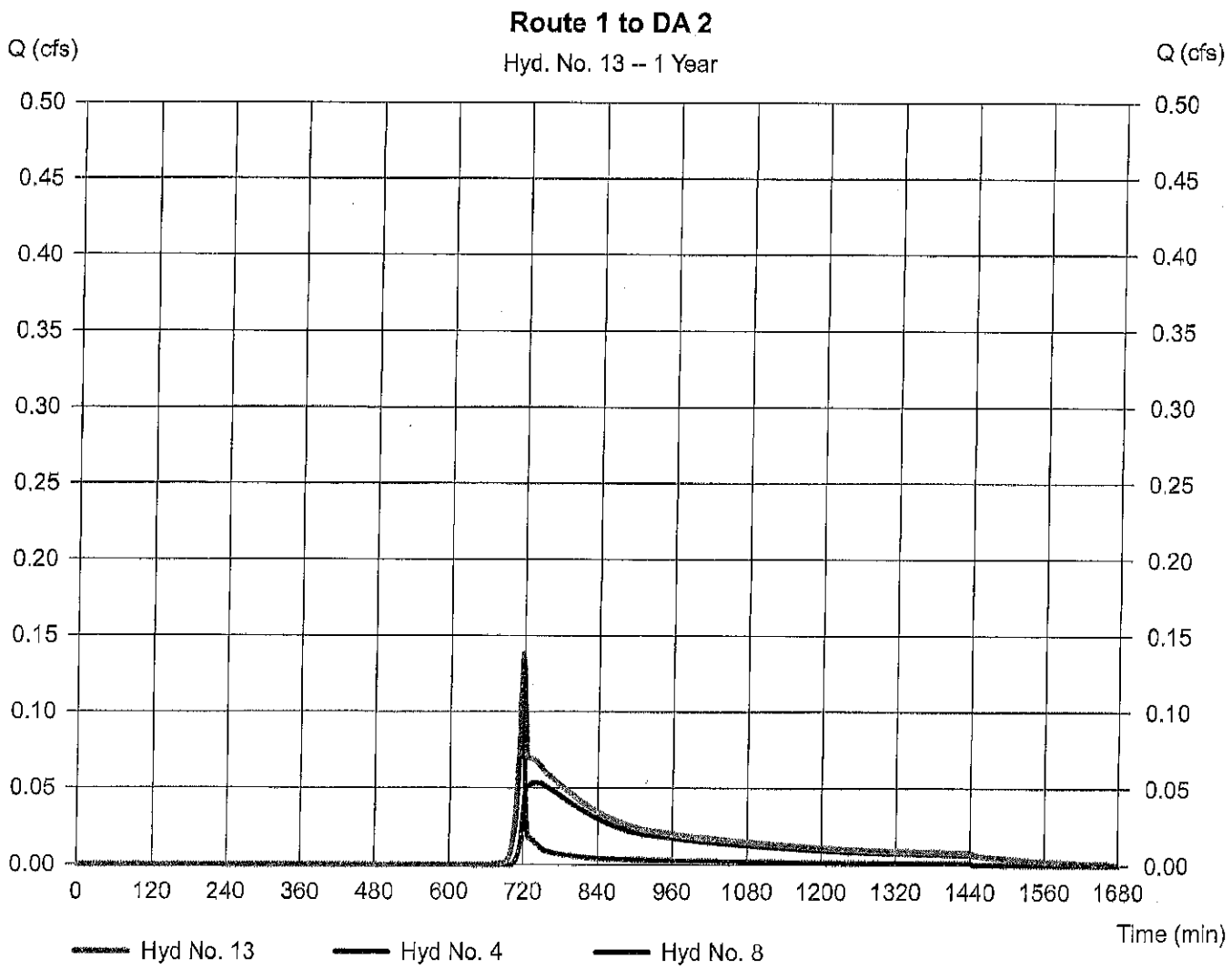
Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 13

Route 1 to DA 2

Hydrograph type	= Combine	Peak discharge	= 0.138 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 1,047 cuft
Inflow hyds.	= 4, 8	Contrib. drain. area	= 0.080 ac



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

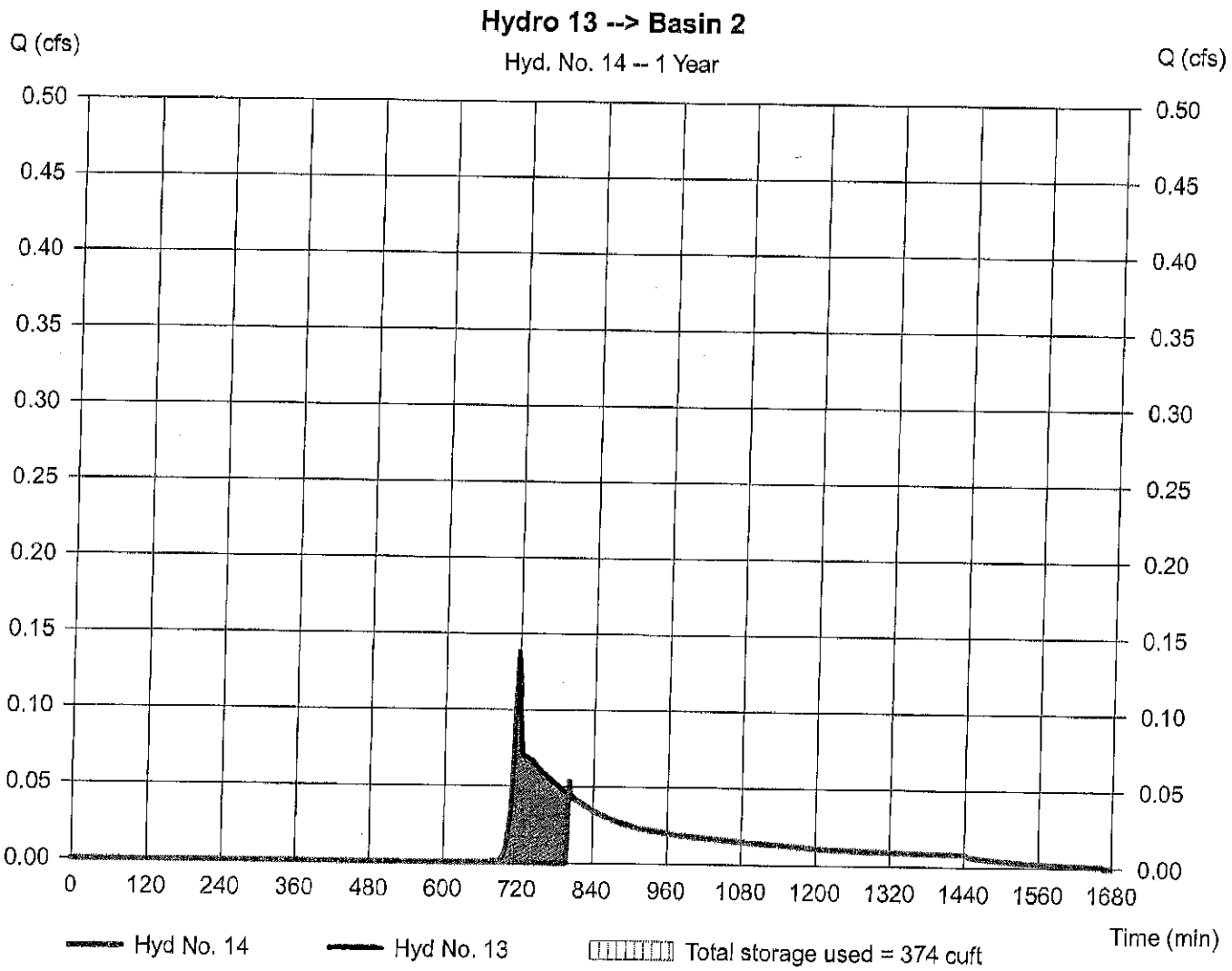
Tuesday, Jun 14, 2022

Hyd. No. 14

Hydro 13 --> Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.053 cfs
Storm frequency	= 1 yrs	Time to peak	= 802 min
Time interval	= 2 min	Hyd. volume	= 675 cuft
Inflow hyd. No.	= 13 - Route 1 to DA 2	Max. Elevation	= 354.80 ft
Reservoir name	= Basin 2	Max. Storage	= 374 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intellsolve v9.1

Tuesday, Jun 14, 2022

Pond No. 2 - Basin 2

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 353.60 ft, Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	353.60	30	0	0
0.80	354.40	1,305	163	163
1.20	354.80	1,305	209	372
2.20	355.80	1,305	522	894
3.20	356.80	1,305	522	1,416
4.20	357.80	1,305	522	1,938

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

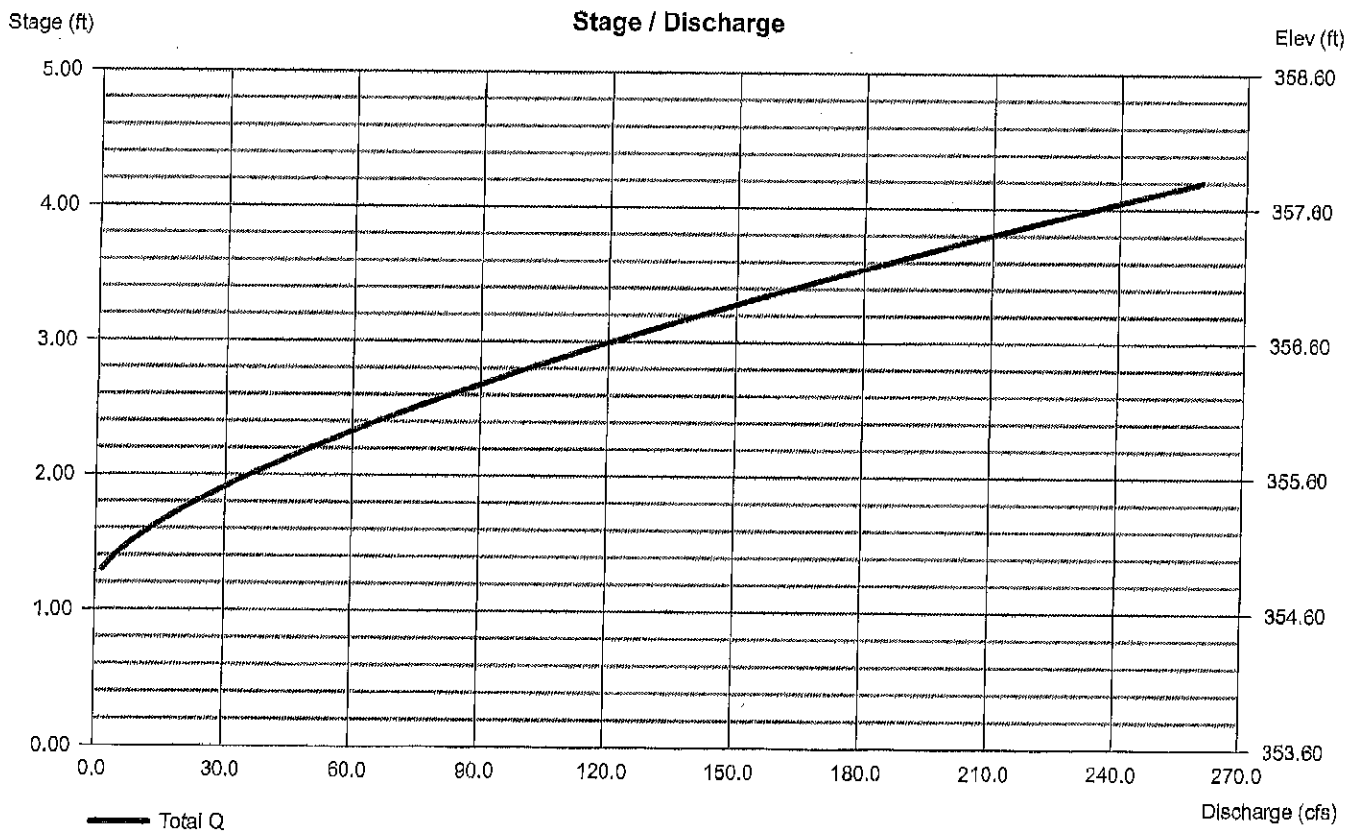
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	0.00	0.00	0.00
Crest El. (ft)	= 354.80	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).



Hydrograph Report

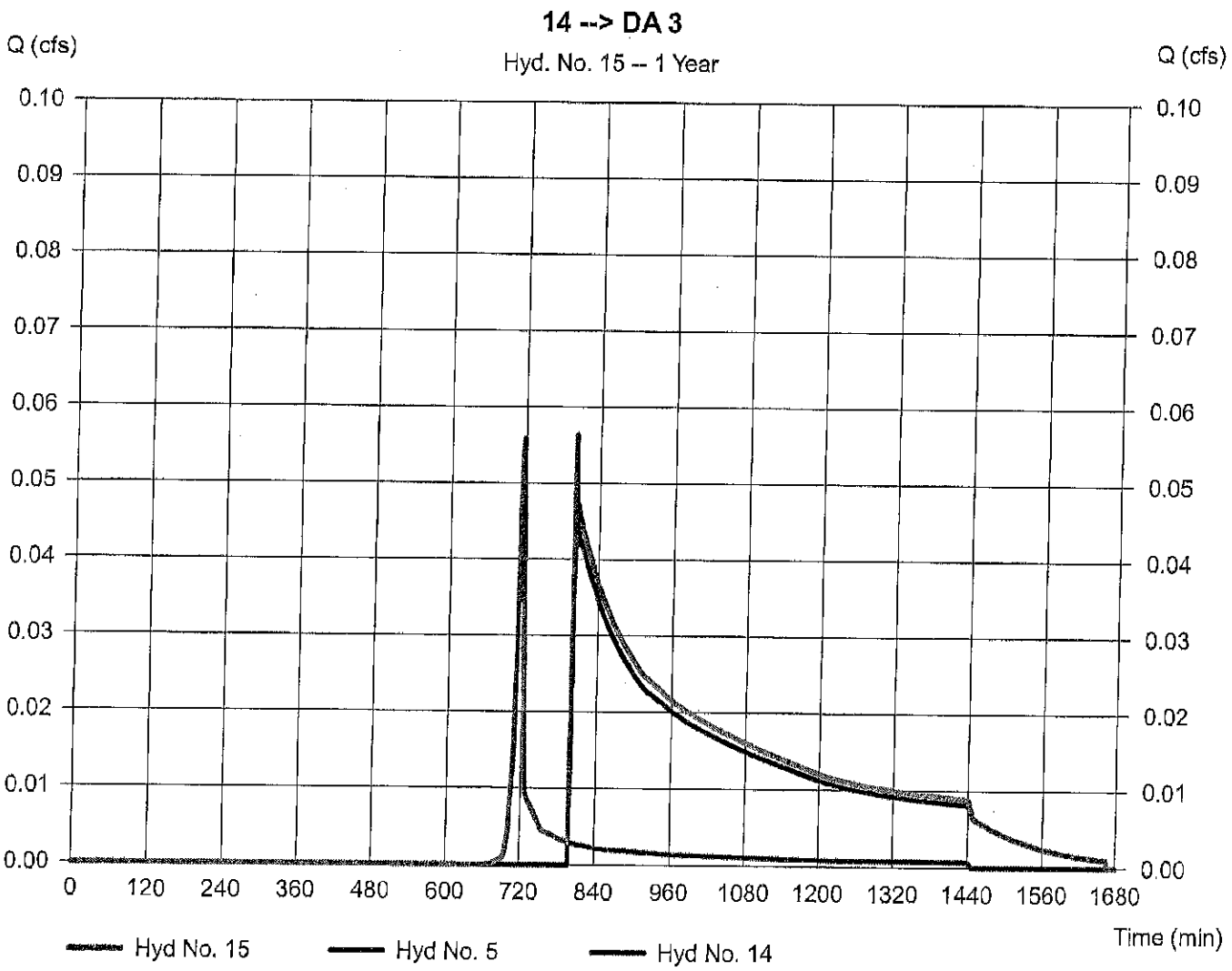
Hydraflow Hydrographs by Intellsolve v9.1

Tuesday, Jun 14, 2022

Hyd. No. 15

14 --> DA 3

Hydrograph type	= Combine	Peak discharge	= 0.056 cfs
Storm frequency	= 1 yrs	Time to peak	= 802 min
Time interval	= 2 min	Hyd. volume	= 787 cuft
Inflow hyds.	= 5, 14	Contrib. drain. area	= 0.040 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

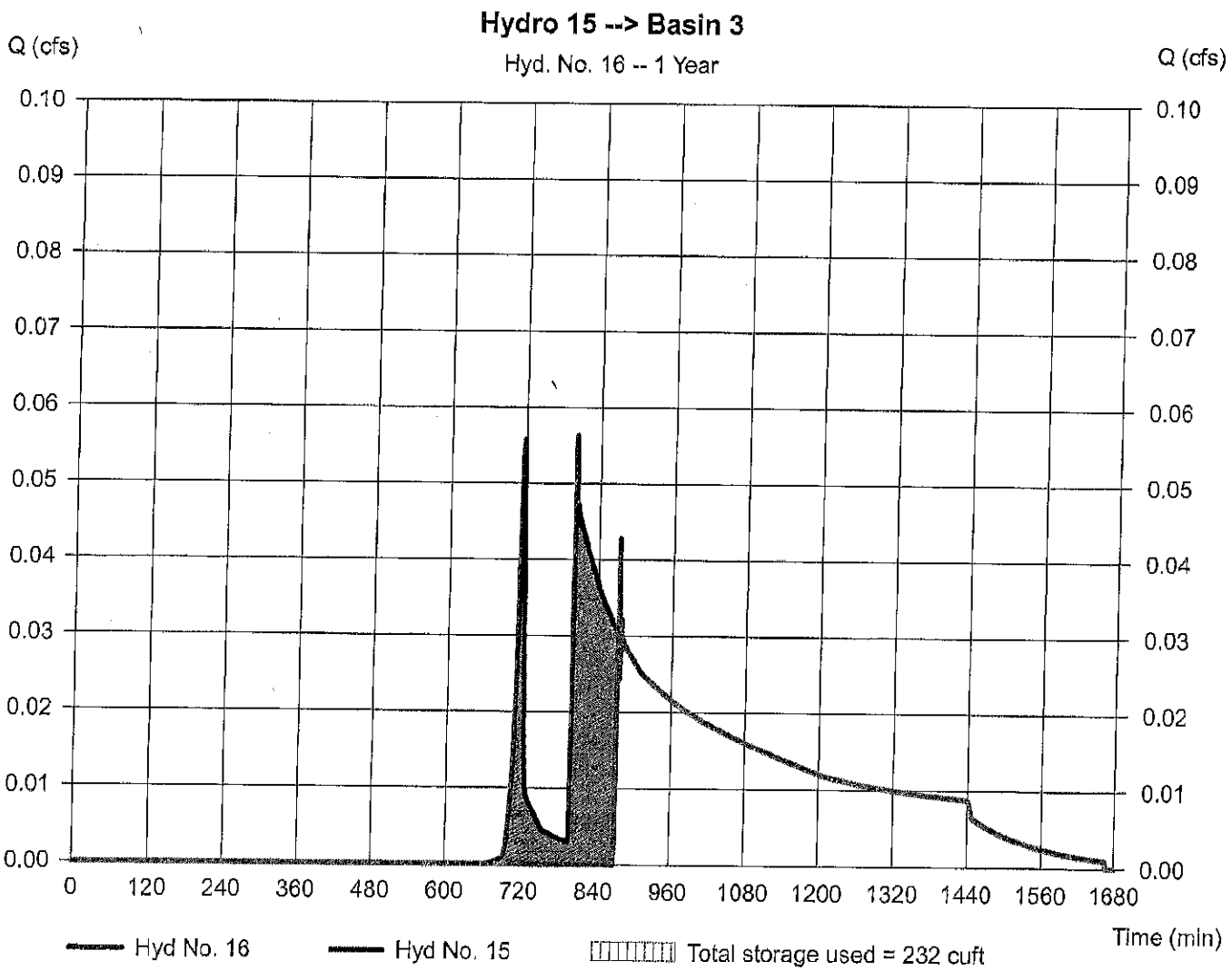
Tuesday, Jun 14, 2022

Hyd. No. 16

Hydro 15 --> Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.043 cfs
Storm frequency	= 1 yrs	Time to peak	= 874 min
Time interval	= 2 min	Hyd. volume	= 555 cuft
Inflow hyd. No.	= 15 - 14 --> DA 3	Max. Elevation	= 353.00 ft
Reservoir name	= Basin 3	Max. Storage	= 232 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Pond No. 3 - Basin 3

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 352.00 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	352.00	30	0	0
0.60	352.60	900	88	88
1.00	353.00	900	144	232
2.00	354.00	900	360	591

Culvert / Orifice Structures

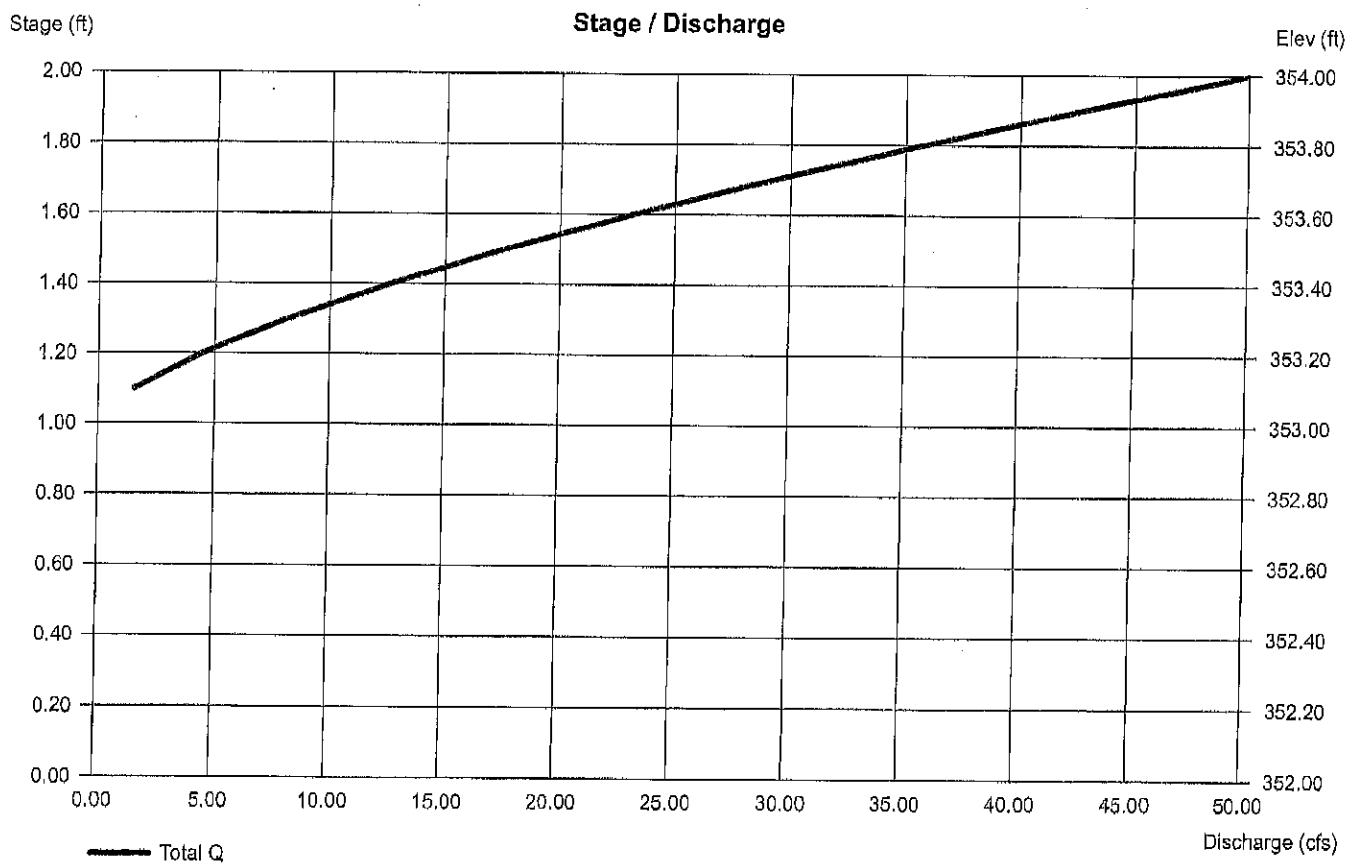
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	0.00	0.00	0.00
Crest El. (ft)	= 353.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).



Hydrograph Report

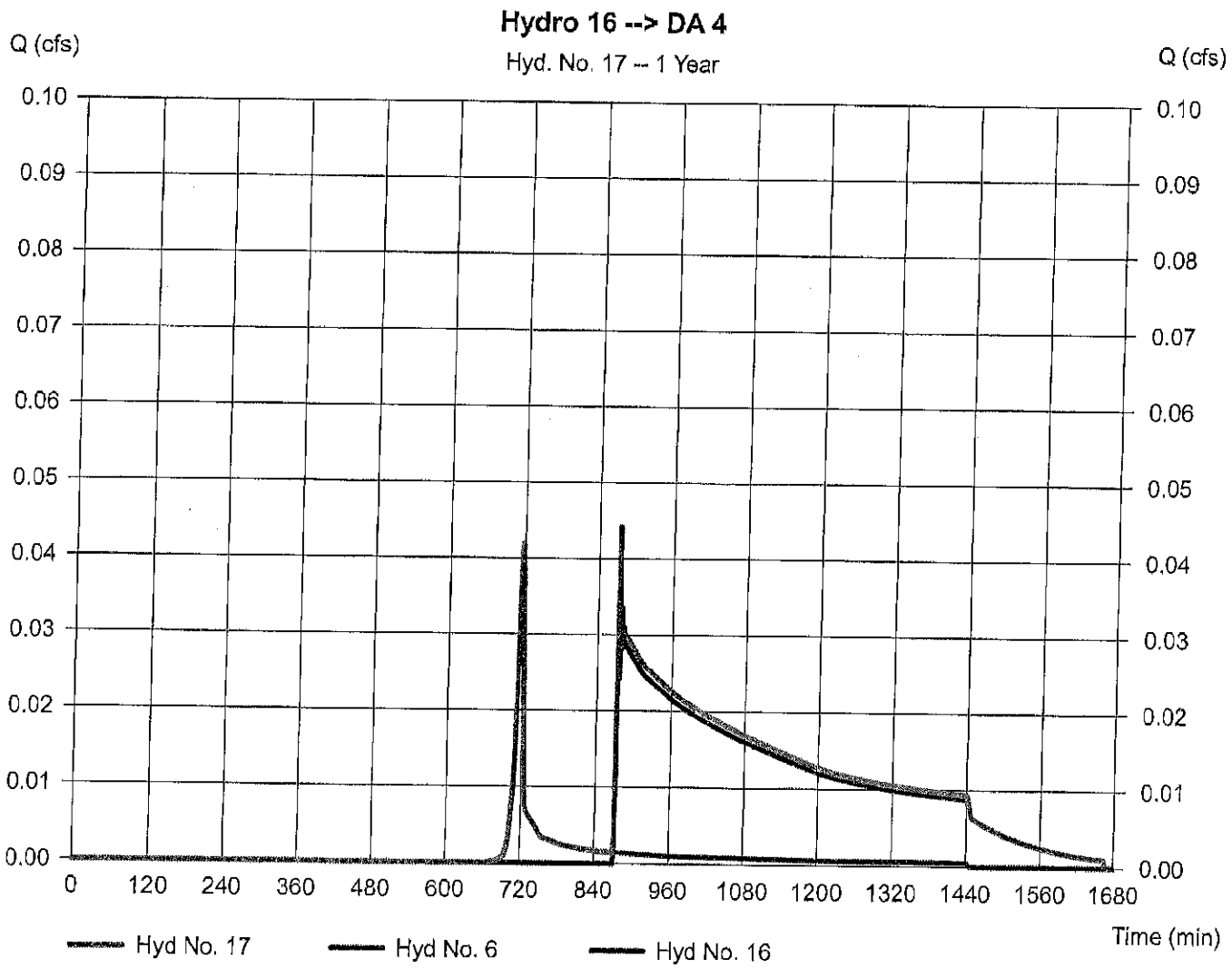
Hydraflow Hydrographs by Intellsolve v9.1

Tuesday, Jun 14, 2022

Hyd. No. 17

Hydro 16 --> DA 4

Hydrograph type	= Combine	Peak discharge	= 0.044 cfs
Storm frequency	= 1 yrs	Time to peak	= 874 min
Time interval	= 2 min	Hyd. volume	= 640 cuft
Inflow hyds.	= 6, 16	Contrib. drain. area	= 0.030 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

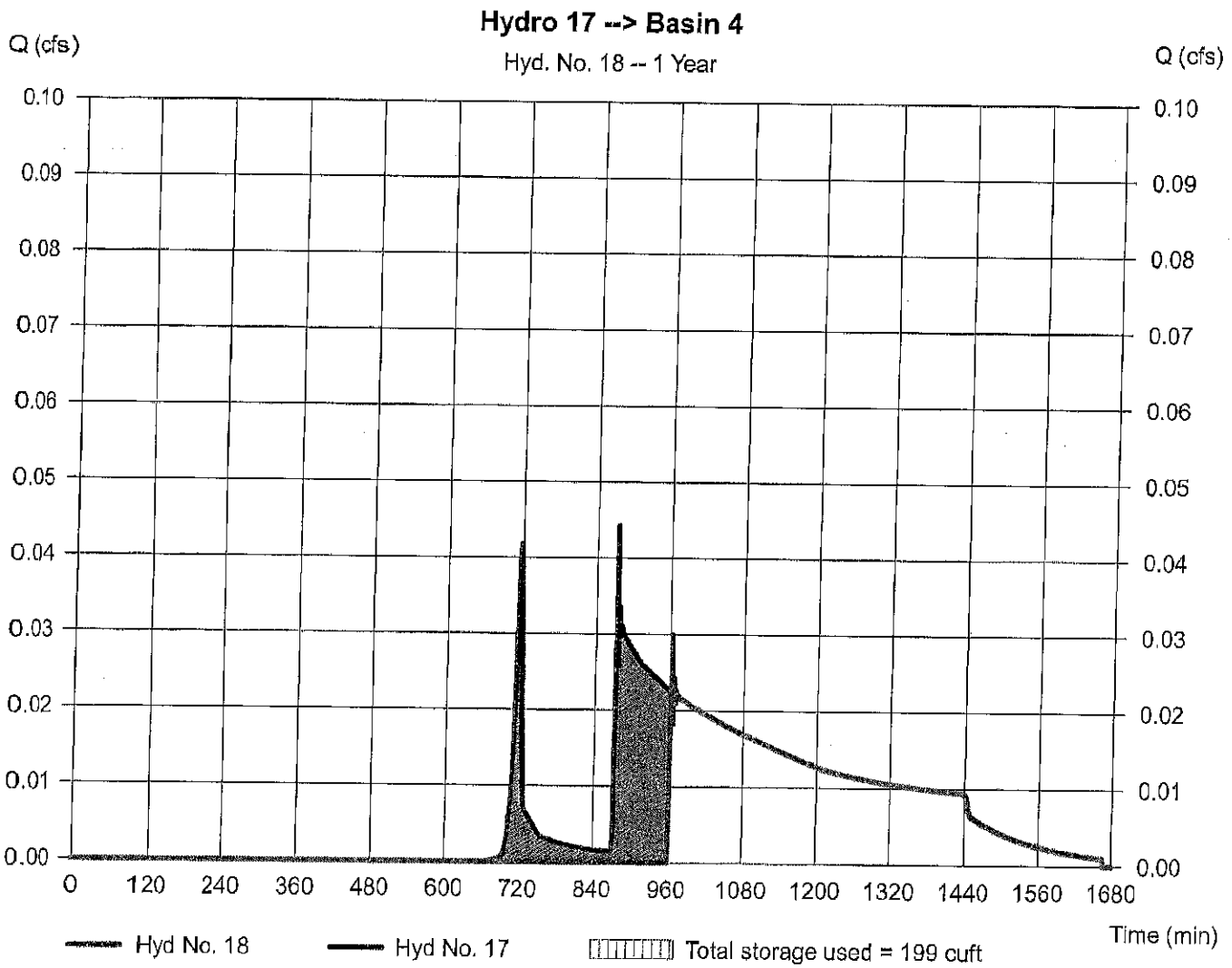
Tuesday, Jun 14, 2022

Hyd. No. 18

Hydro 17 --> Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.030 cfs
Storm frequency	= 1 yrs	Time to peak	= 964 min
Time interval	= 2 min	Hyd. volume	= 441 cuft
Inflow hyd. No.	= 17 - Hydro 16 --> DA 4	Max. Elevation	= 351.30 ft
Reservoir name	= Basin 4	Max. Storage	= 199 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intellsolve v9.1

Tuesday, Jun 14, 2022

Pond No. 4 - Basin 4

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 350.20 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	350.20	30	0	0
0.70	350.90	720	84	84
1.10	351.30	720	115	199
2.10	352.30	720	288	487

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

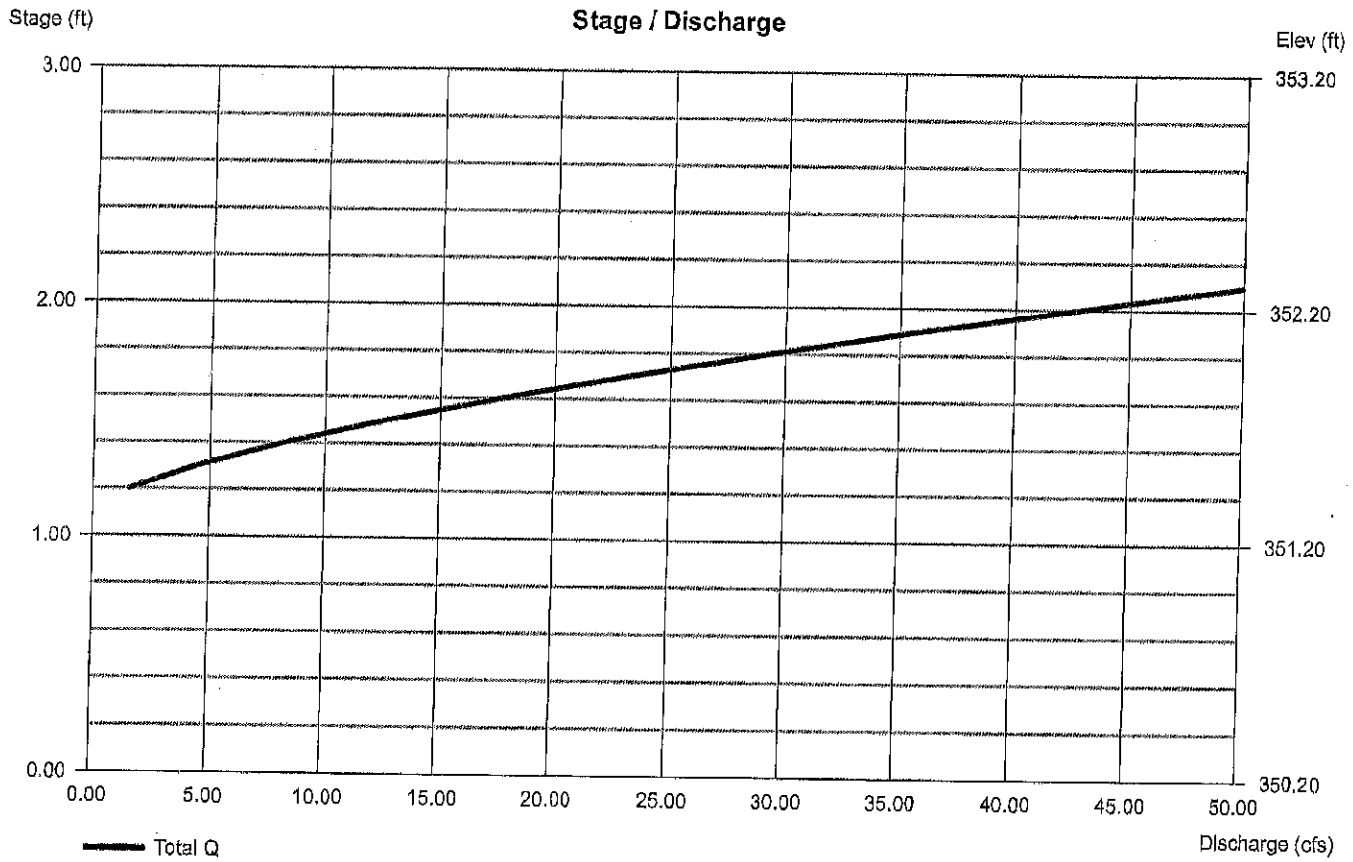
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	0.00	0.00	0.00
Crest El. (ft)	= 351.30	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).



Hydrograph Report

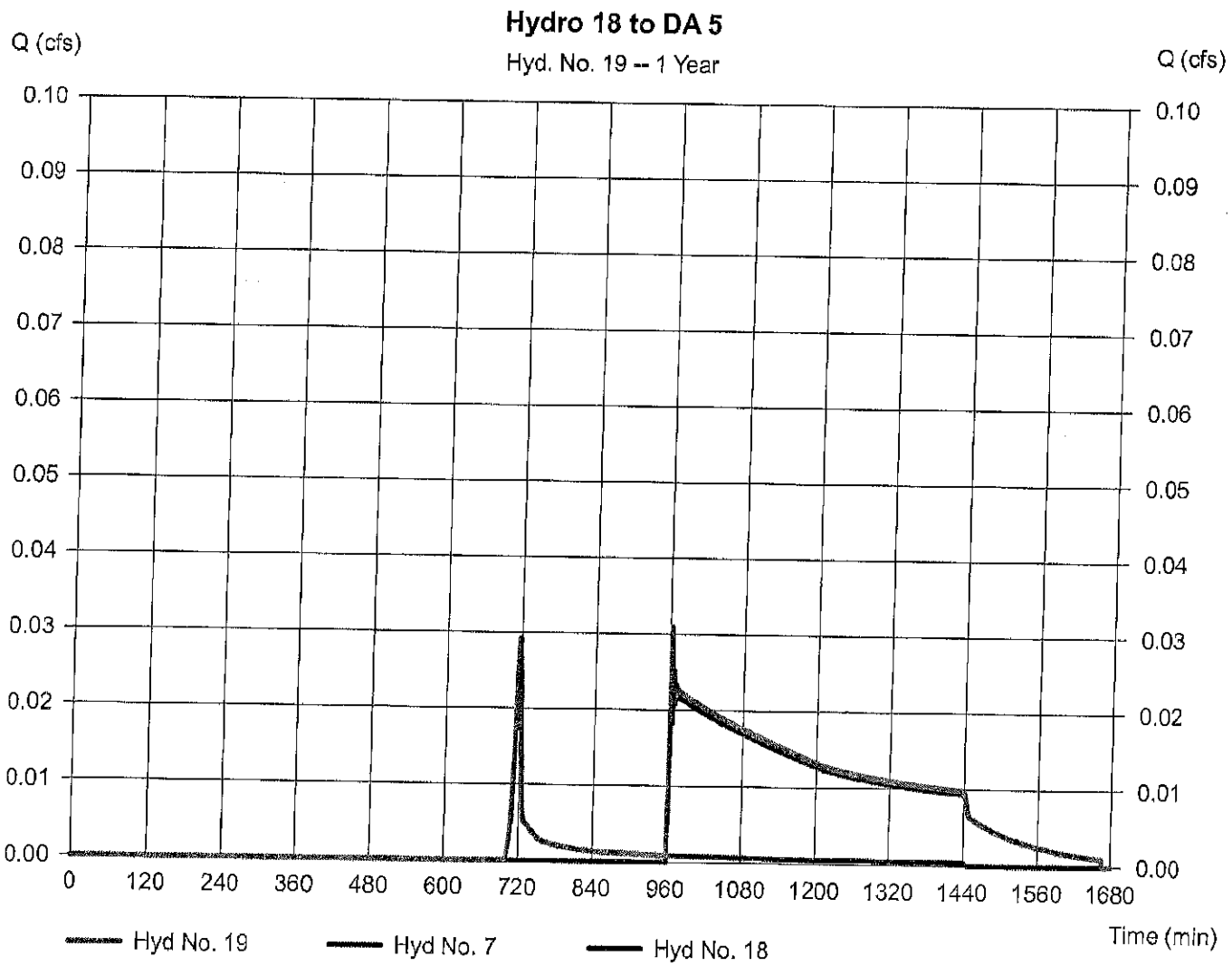
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, Jun 14, 2022

Hyd. No. 19

Hydro 18 to DA 5

Hydrograph type	= Combine	Peak discharge	= 0.031 cfs
Storm frequency	= 1 yrs	Time to peak	= 964 min
Time interval	= 2 min	Hyd. volume	= 502 cuft
Inflow hyds.	= 7, 18	Contrib. drain. area	= 0.030 ac



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

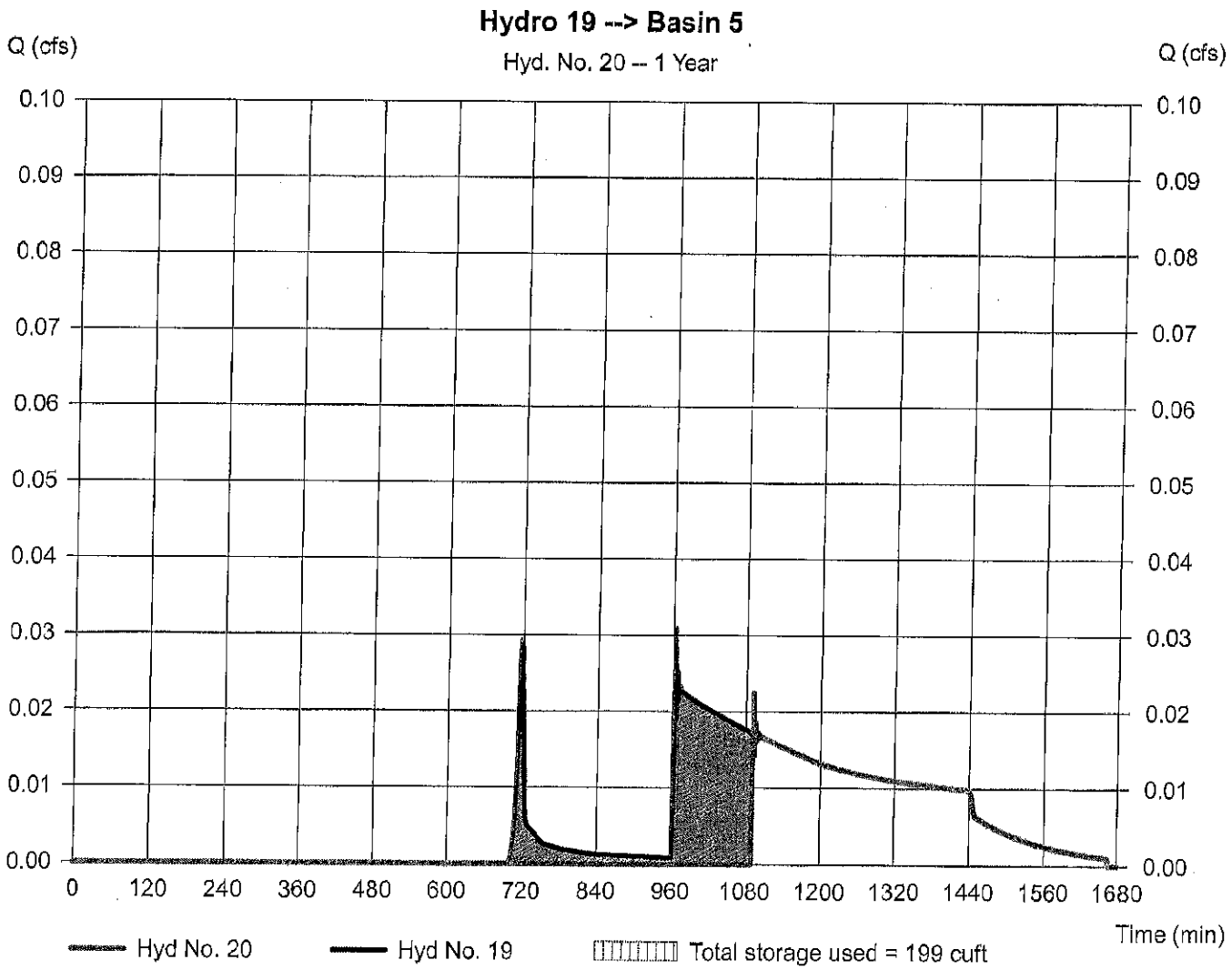
Tuesday, Jun 14, 2022

Hyd. No. 20

Hydro 19 --> Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.022 cfs
Storm frequency	= 1 yrs	Time to peak	= 1092 min
Time interval	= 2 min	Hyd. volume	= 303 cuft
Inflow hyd. No.	= 19 - Hydro 18 to DA 5	Max. Elevation	= 349.40 ft
Reservoir name	= Basin 5	Max. Storage	= 199 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intellsolve v9.1

Tuesday, Jun 14, 2022

Pond No. 5 - Basin 5

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 348.30 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	348.30	30	0	0
0.70	349.00	720	84	84
1.10	349.40	720	115	199
2.10	350.40	720	288	487

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

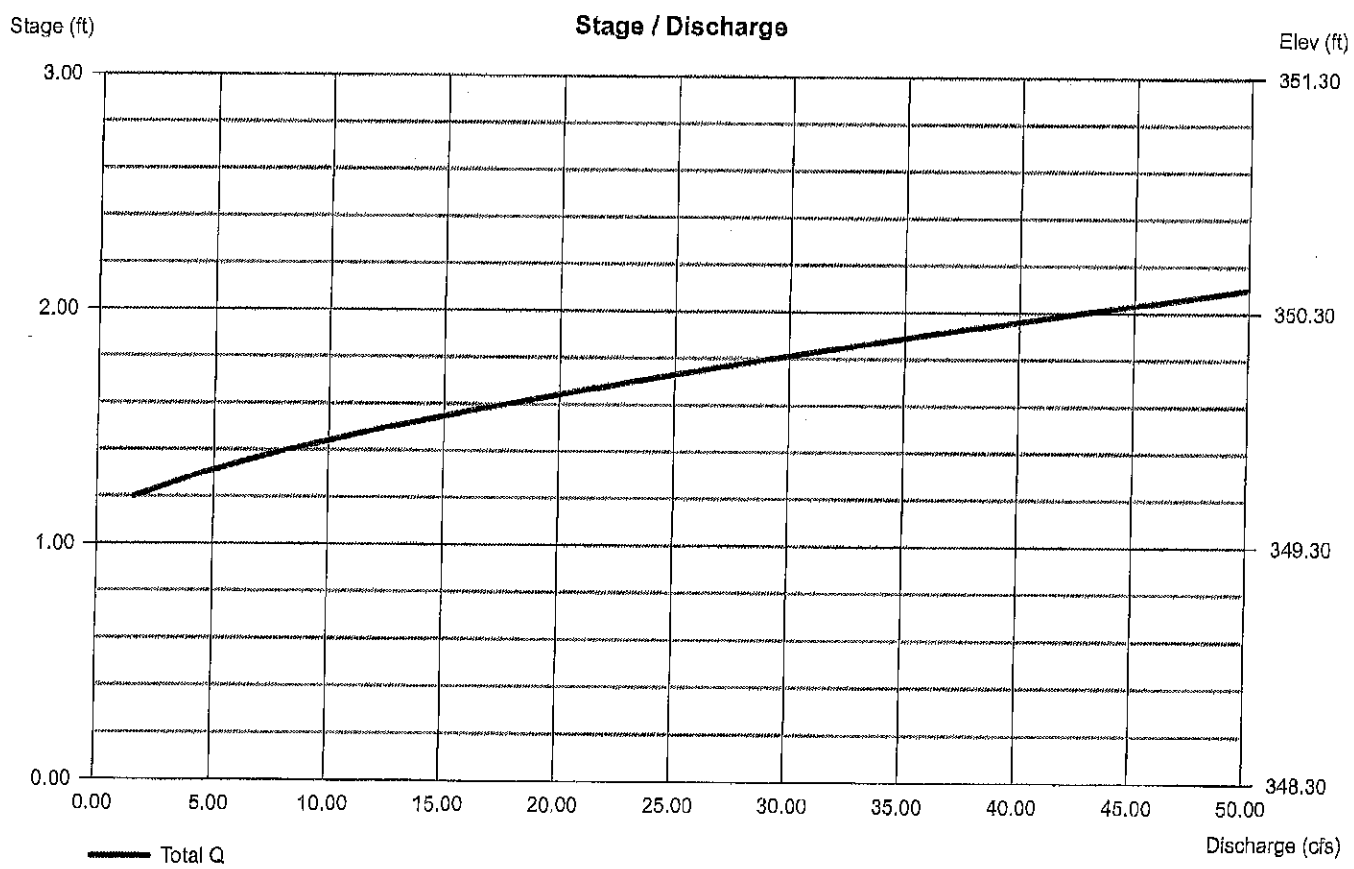
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	0.00	0.00	0.00
Crest El. (ft)	= 349.40	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	0.312	2	718	779	----	------	------	Pre-Condition
2	SCS Runoff	1.023	2	718	2,047	----	------	------	Post-Condition
3	SCS Runoff	0.621	2	718	1,251	----	------	------	DA to Basin 1
4	SCS Runoff	0.162	2	718	325	----	------	------	DA to Basin 2
5	SCS Runoff	0.081	2	718	163	----	------	------	DA to Basin 3
6	SCS Runoff	0.061	2	718	122	----	------	------	DA to Basin 4
7	SCS Runoff	0.046	2	718	93	----	------	------	DA to Basin 5
8	Reservoir	0.089	2	734	1,244	3	355.81	432	Route to Basin 1
9	Reservoir	0.000	2	n/a	0	4	354.71	325	Route to Basin 2
10	Reservoir	0.000	2	n/a	0	5	352.81	163	Route to Basin 3
11	Reservoir	0.000	2	n/a	0	6	351.03	122	Route to Basin 4
12	Reservoir	0.000	2	n/a	0	7	349.03	93.4	Route to Basin 5
13	Combine	0.222	2	718	1,569	4, 8,	------	------	Route 1 to DA 2
14	Reservoir	0.114	2	756	1,196	13	354.81	376	Hydro 13 --> Basin 2
15	Combine	0.120	2	756	1,359	5, 14	------	------	14 --> DA 3
16	Reservoir	0.119	2	782	1,127	15	353.01	234	Hydro 15 --> Basin 3
17	Combine	0.123	2	782	1,249	6, 16	------	------	Hydro 16 --> DA 4
18	Reservoir	0.098	2	808	1,050	17	351.31	201	Hydro 17 --> Basin 4
19	Combine	0.100	2	808	1,144	7, 18	------	------	Hydro 18 to DA 5
20	Reservoir	0.064	2	840	945	19	349.40	200	Hydro 19 --> Basin 5

Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

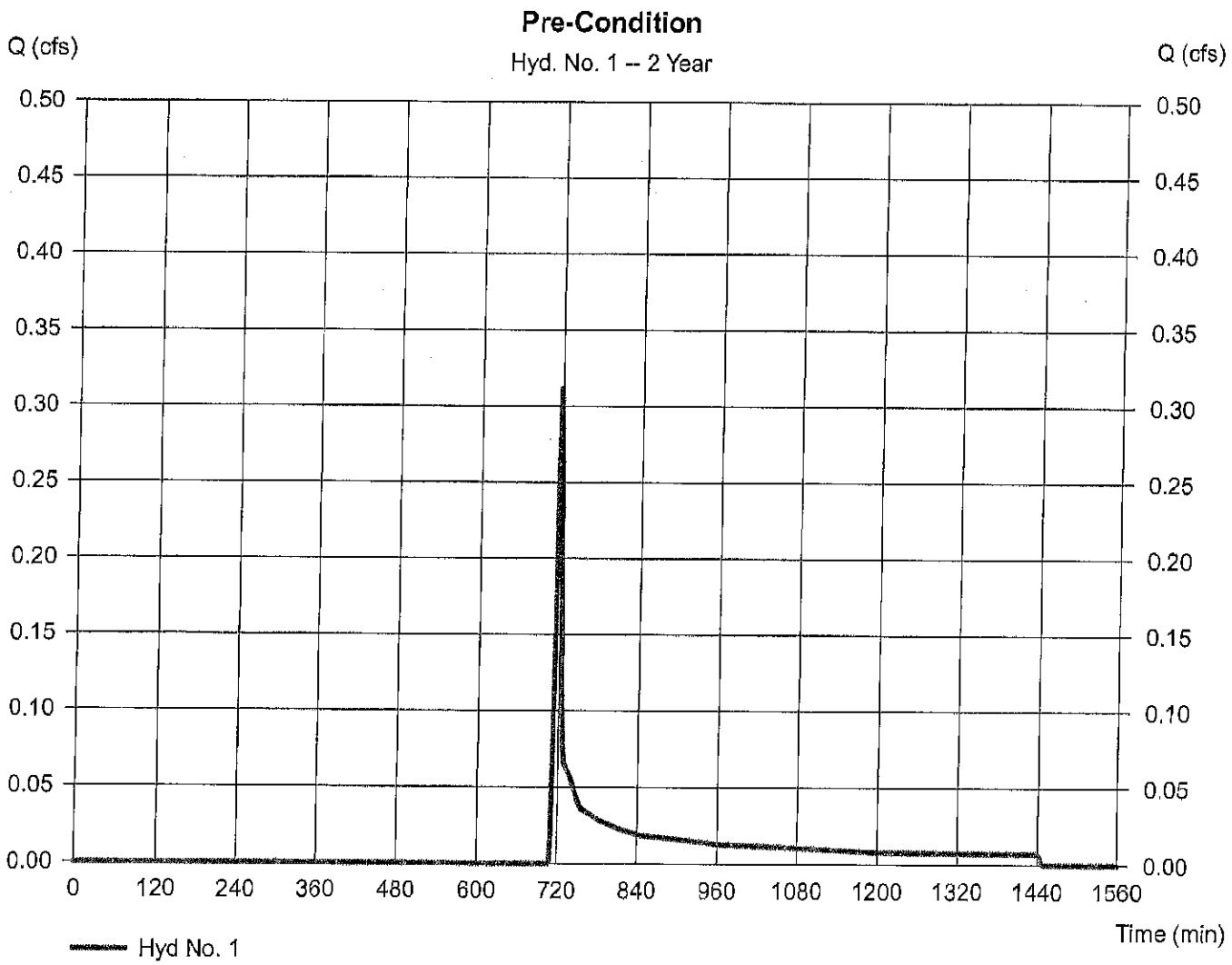
Tuesday, Jun 14, 2022

Hyd. No. 1

Pre-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 0.312 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 779 cuft
Drainage area	= 0.530 ac	Curve number	= 60*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.509 x 58) + (0.022 x 98)] / 0.530



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

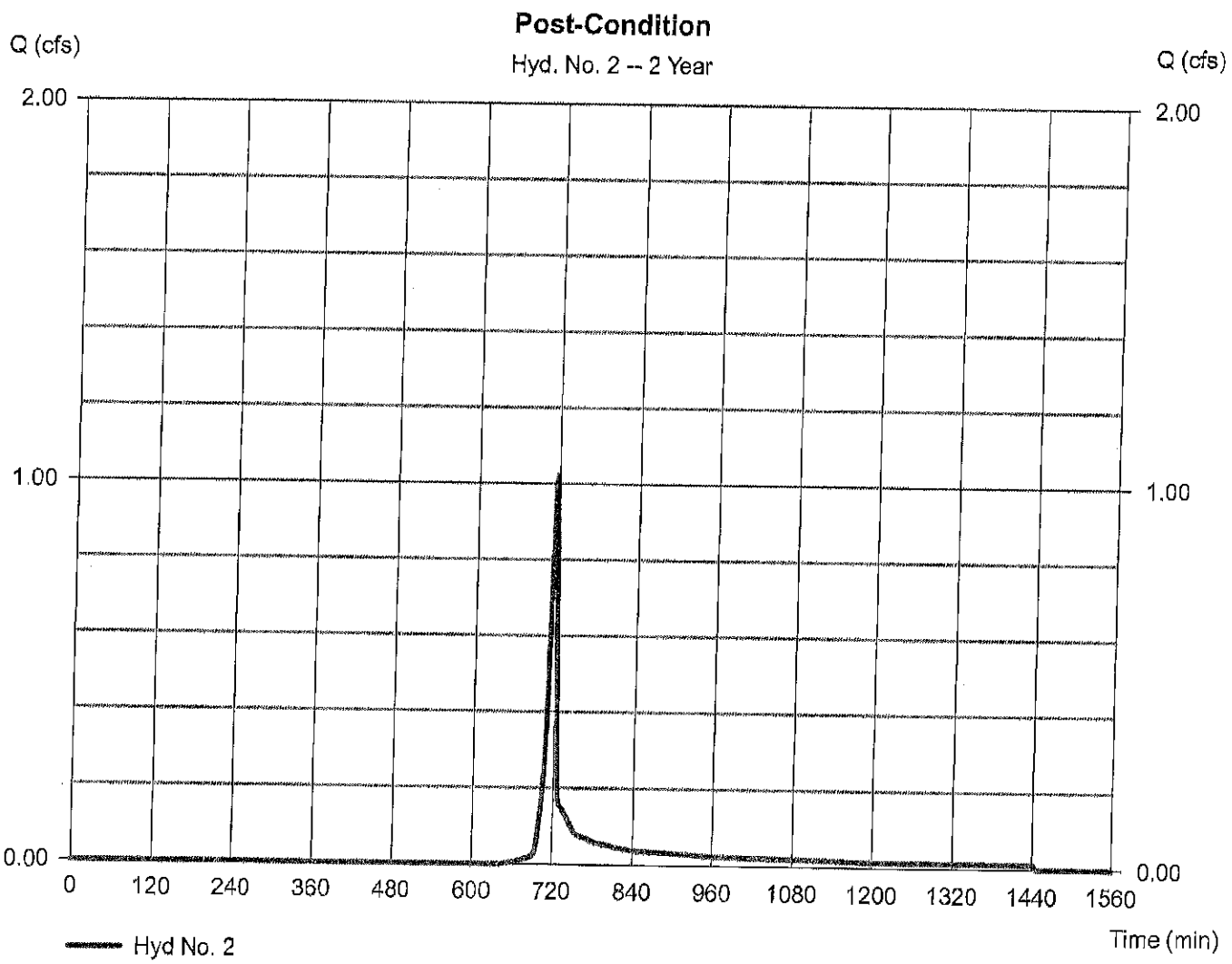
Tuesday, Jun 14, 2022

Hyd. No. 2

Post-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 1.023 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 2,047 cuft
Drainage area	= 0.530 ac	Curve number	= 75*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.327 x 61) + (0.204 x 98)] / 0.530



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

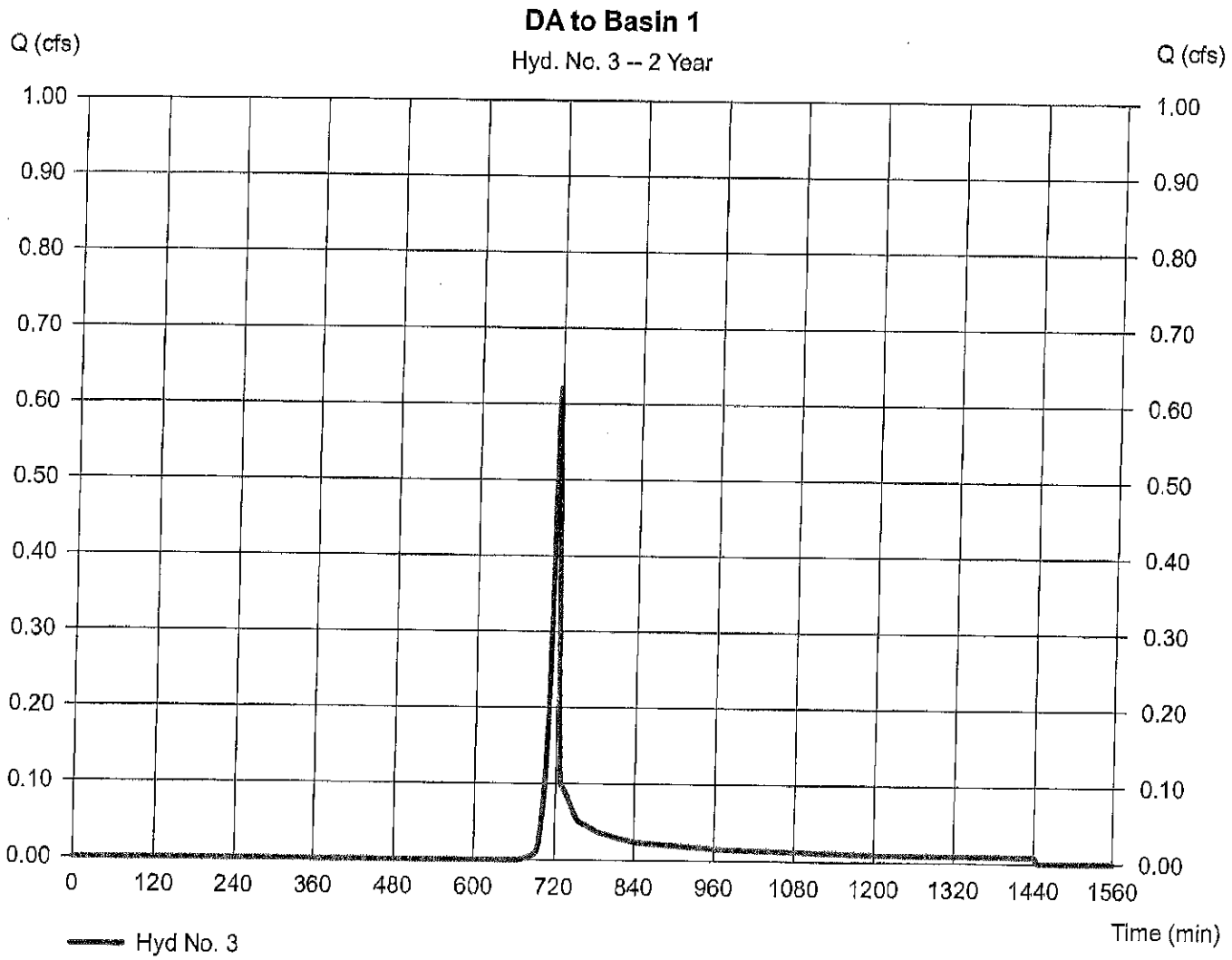
Tuesday, Jun 14, 2022

Hyd. No. 3

DA to Basin 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.621 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 1,251 cuft
Drainage area	= 0.380 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.261 x 61) + (0.116 x 98)] / 0.380



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

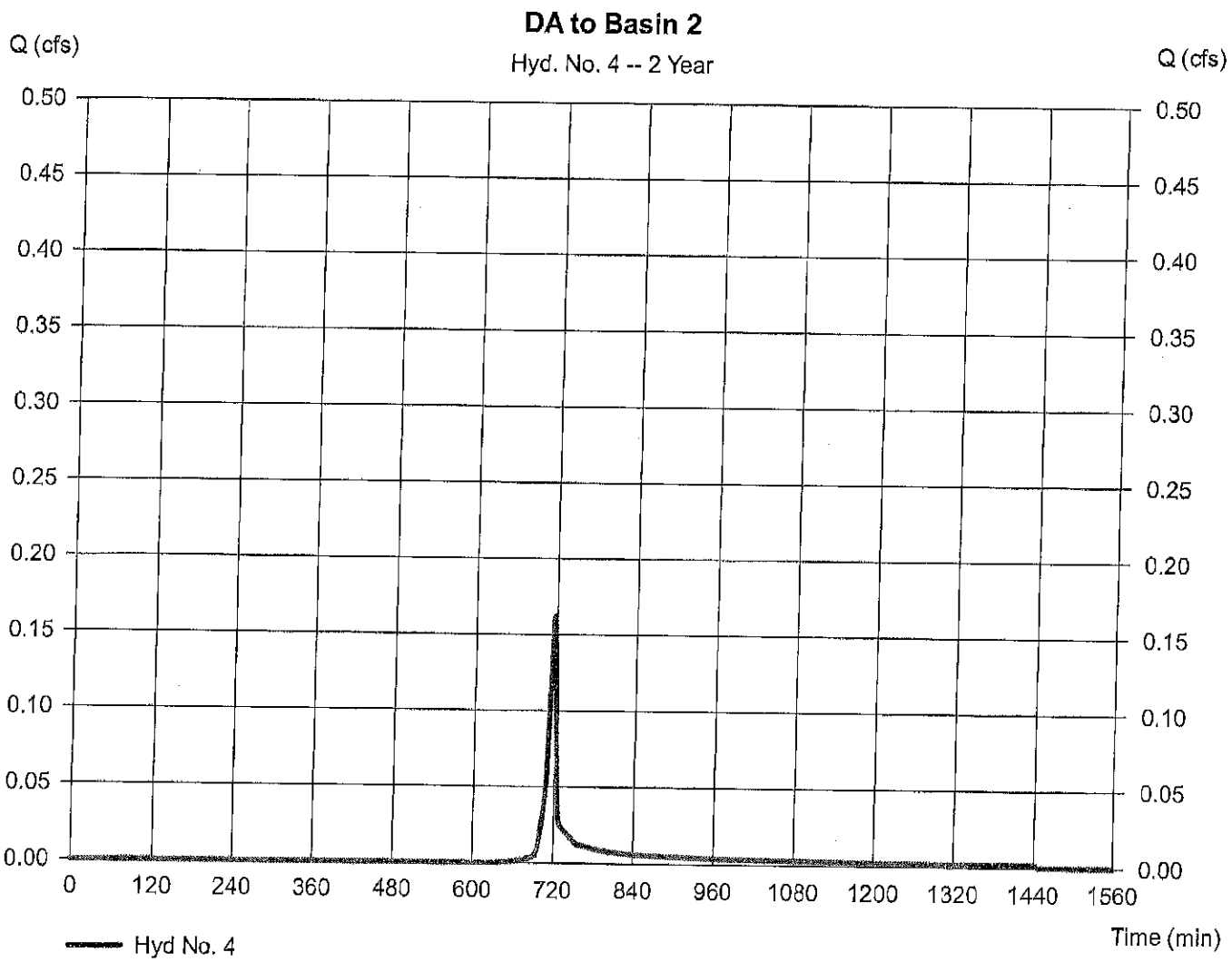
Tuesday, Jun 14, 2022

Hyd. No. 4

DA to Basin 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.162 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 325 cuft
Drainage area	= 0.080 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.046 x 61) + (0.031 x 98)] / 0.080



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

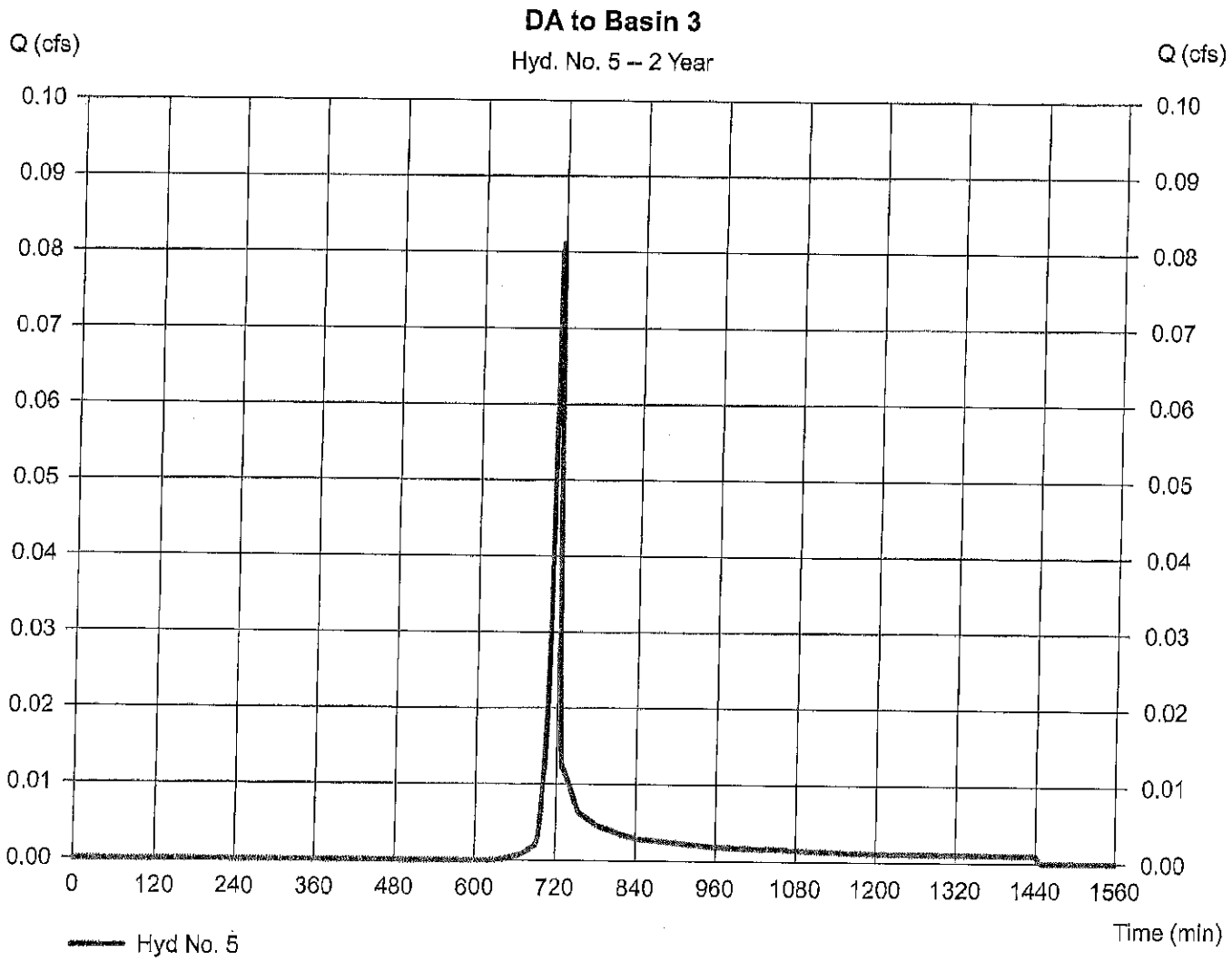
Tuesday, Jun 14, 2022

Hyd. No. 5

DA to Basin 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.081 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 163 cuft
Drainage area	= 0.040 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.021 x 61) + (0.014 x 98)] / 0.040



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

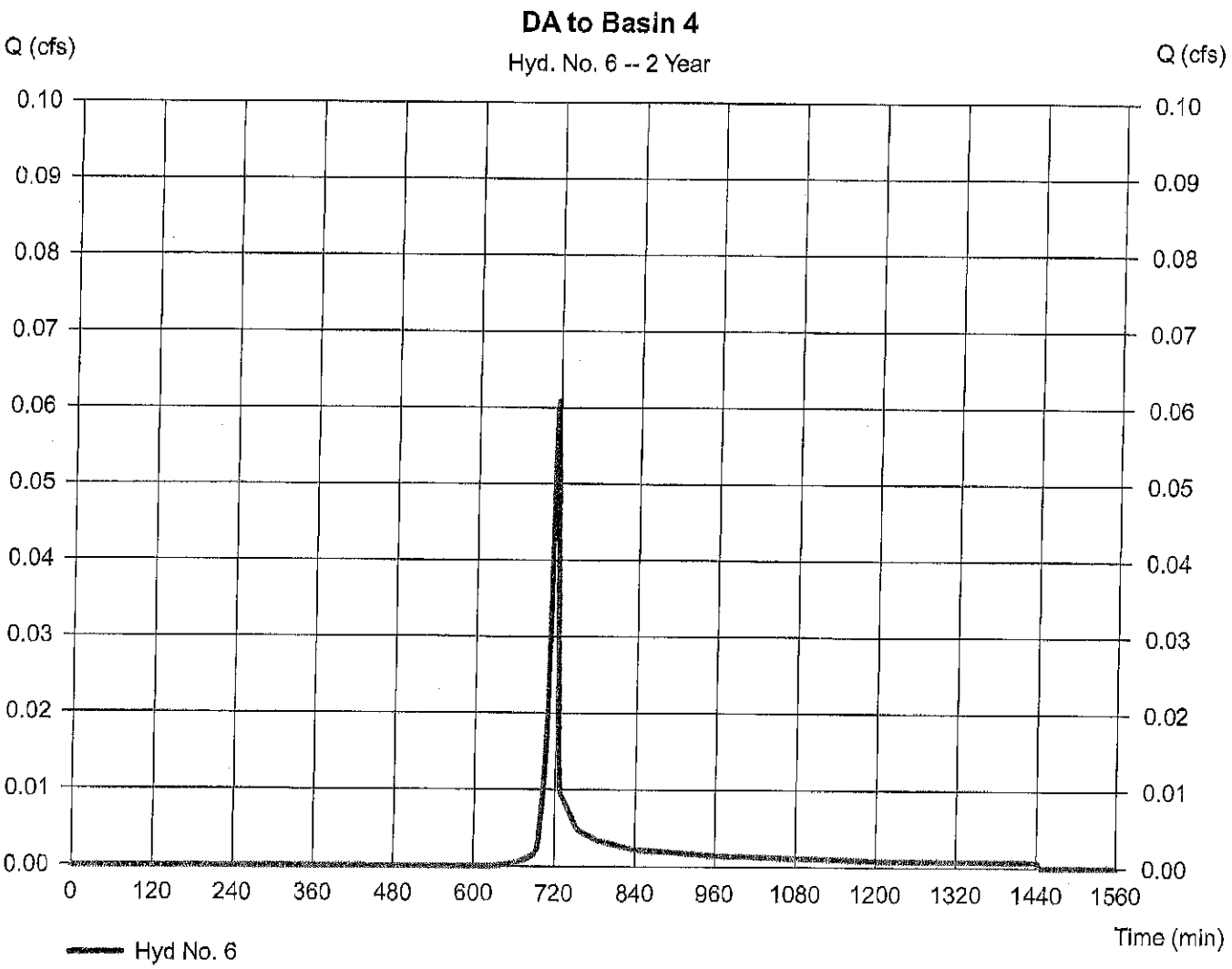
Tuesday, Jun 14, 2022

Hyd. No. 6

DA to Basin 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.061 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 122 cuft
Drainage area	= 0.030 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.017 x 61) + (0.011 x 98)] / 0.030



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

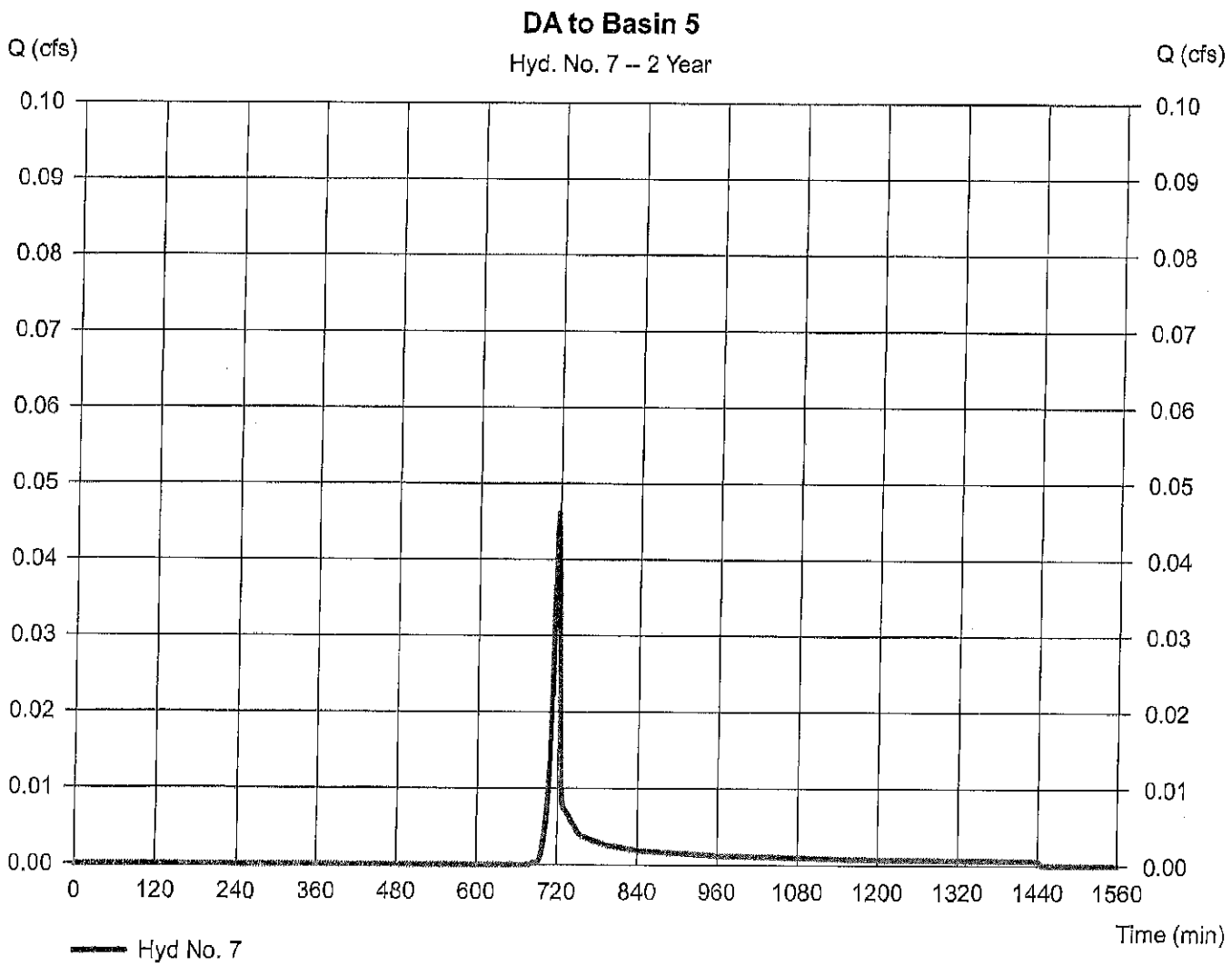
Tuesday, Jun 14, 2022

Hyd. No. 7

DA to Basin 5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.046 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 93 cuft
Drainage area	= 0.030 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.023 x 61) + (0.009 x 98)] / 0.030



Hydrograph Report

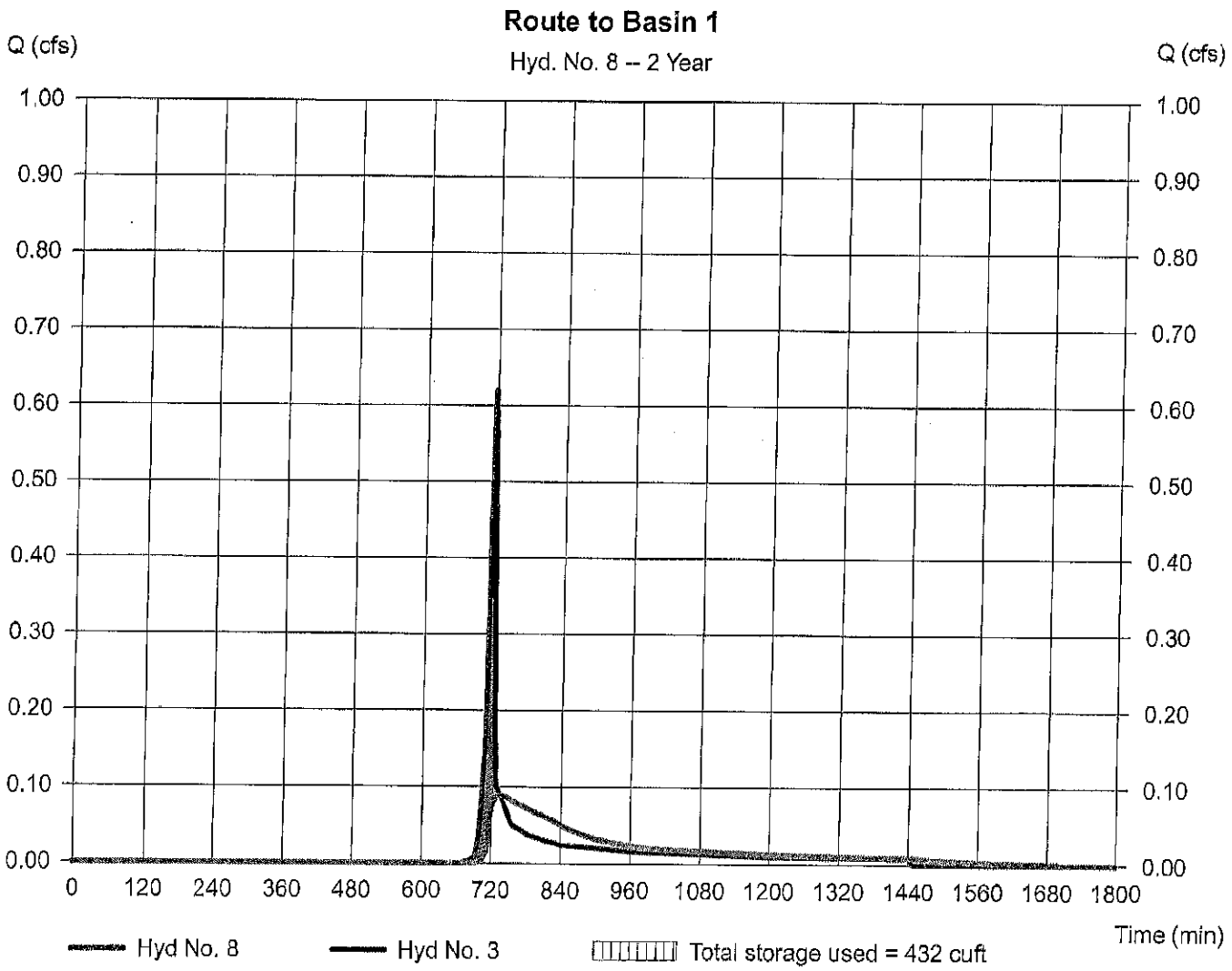
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 8

Route to Basin 1

Hydrograph type	= Reservoir	Peak discharge	= 0.089 cfs
Storm frequency	= 2 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 1,244 cuft
Inflow hyd. No.	= 3 - DA to Basin 1	Max. Elevation	= 355.81 ft
Reservoir name	= Basin 1	Max. Storage	= 432 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

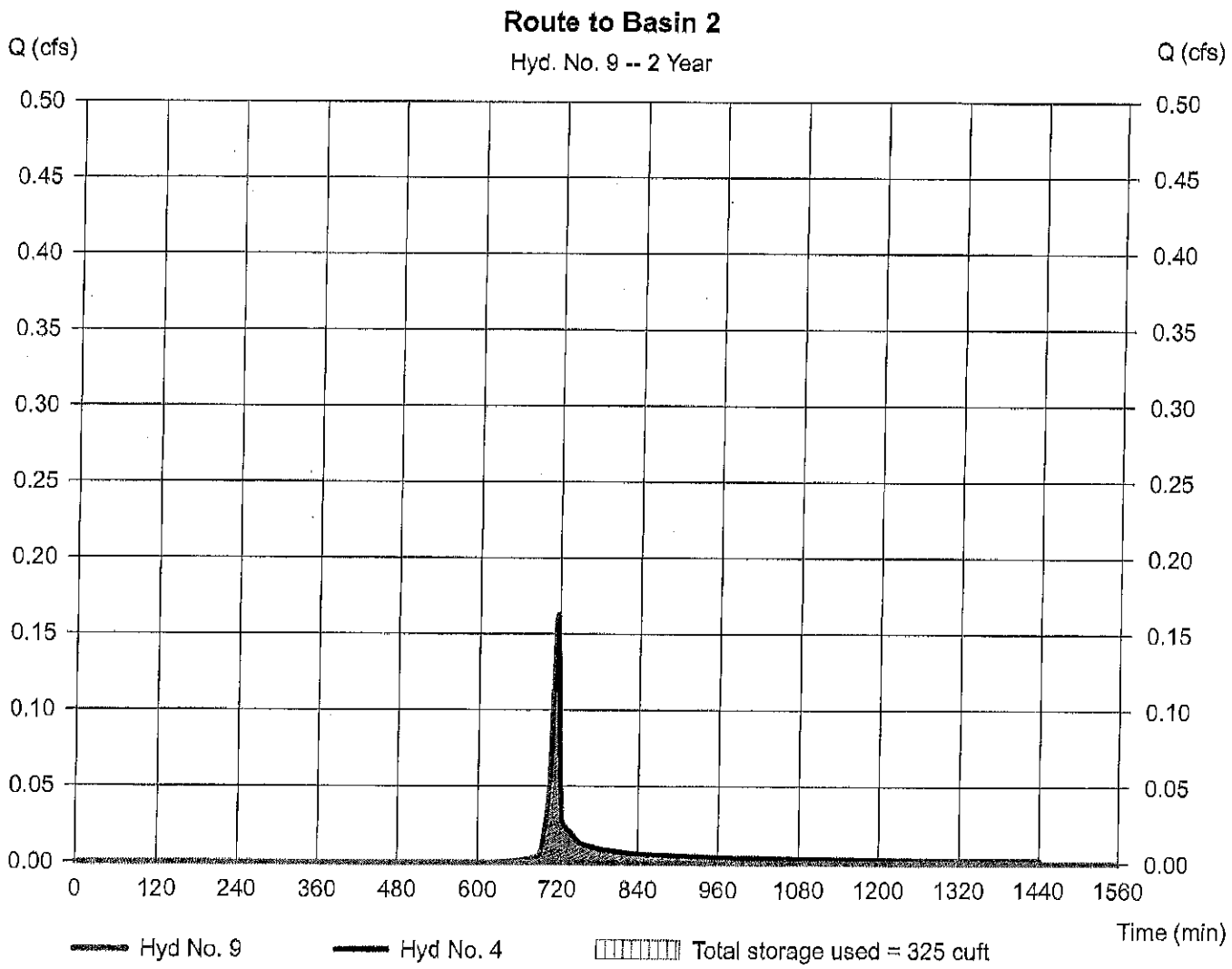
Tuesday, Jun 14, 2022

Hyd. No. 9

Route to Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 4 - DA to Basin 2	Max. Elevation	= 354.71 ft
Reservoir name	= Basin 2	Max. Storage	= 325 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

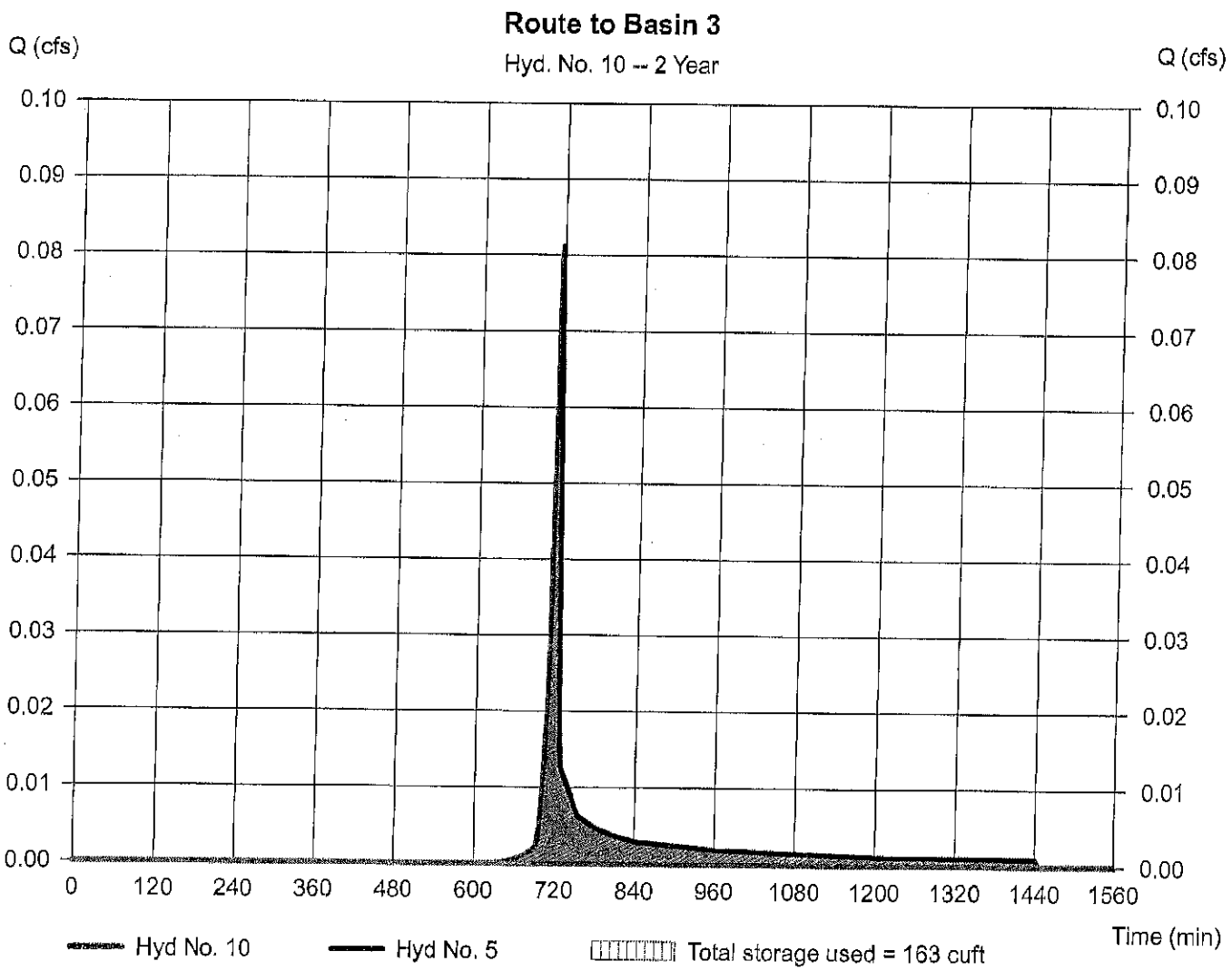
Tuesday, Jun 14, 2022

Hyd. No. 10

Route to Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 5 - DA to Basin 3	Max. Elevation	= 352.81 ft
Reservoir name	= Basin 3	Max. Storage	= 163 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

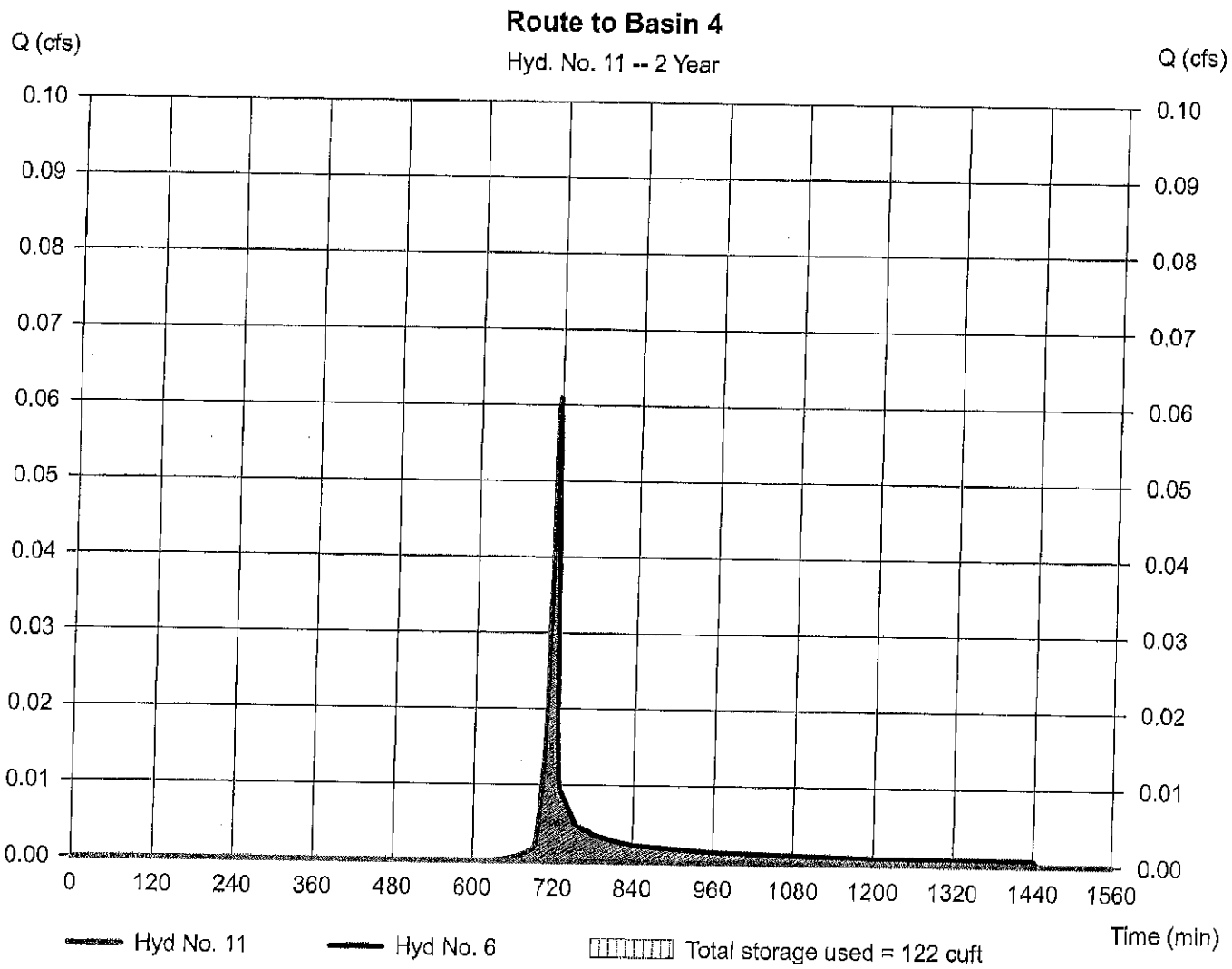
Tuesday, Jun 14, 2022

Hyd. No. 11

Route to Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 6 - DA to Basin 4	Max. Elevation	= 351.03 ft
Reservoir name	= Basin 4	Max. Storage	= 122 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

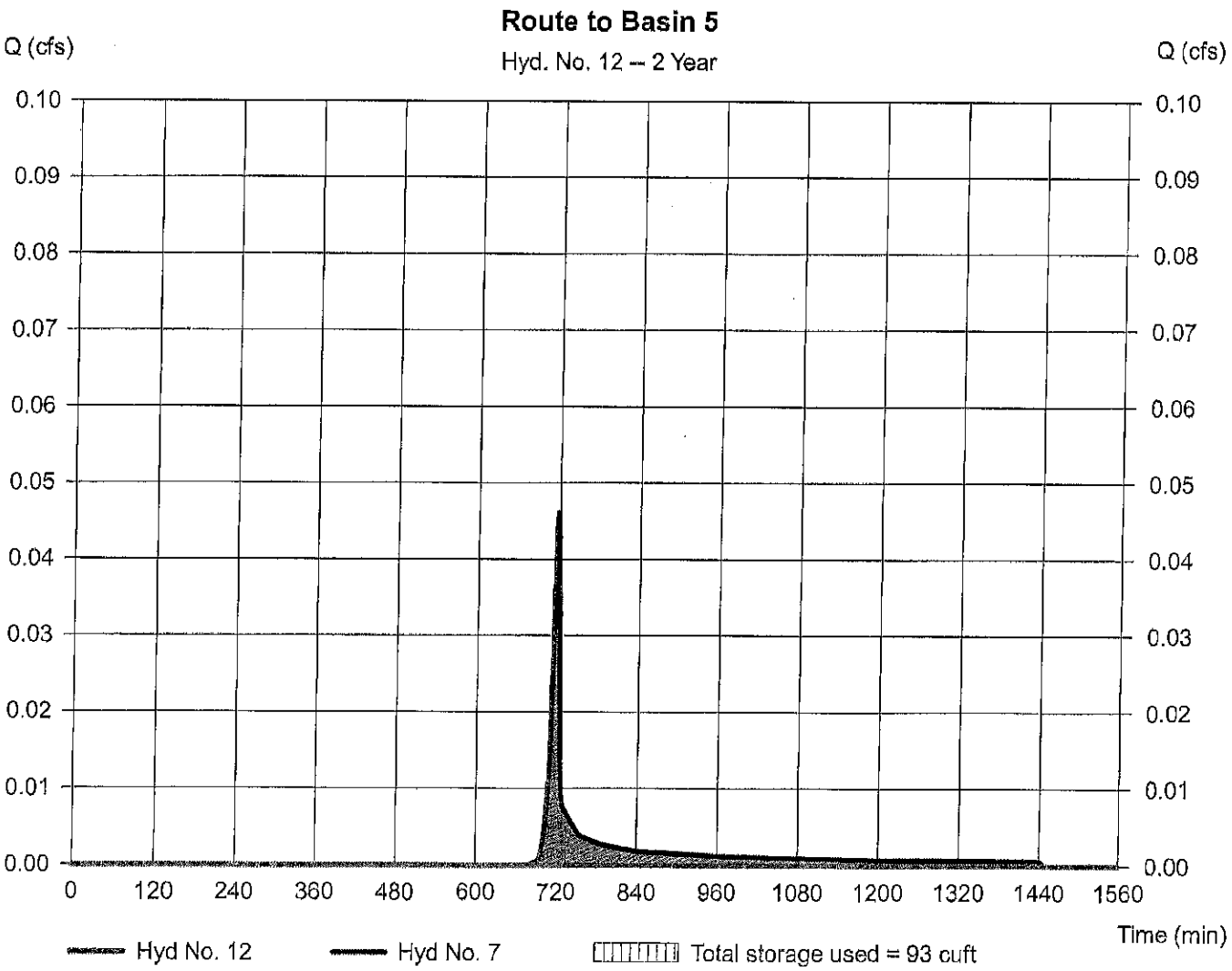
Tuesday, Jun 14, 2022

Hyd. No. 12

Route to Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 7 - DA to Basin 5	Max. Elevation	= 349.03 ft
Reservoir name	= Basin 5	Max. Storage	= 93 cuft

Storage Indication method used.



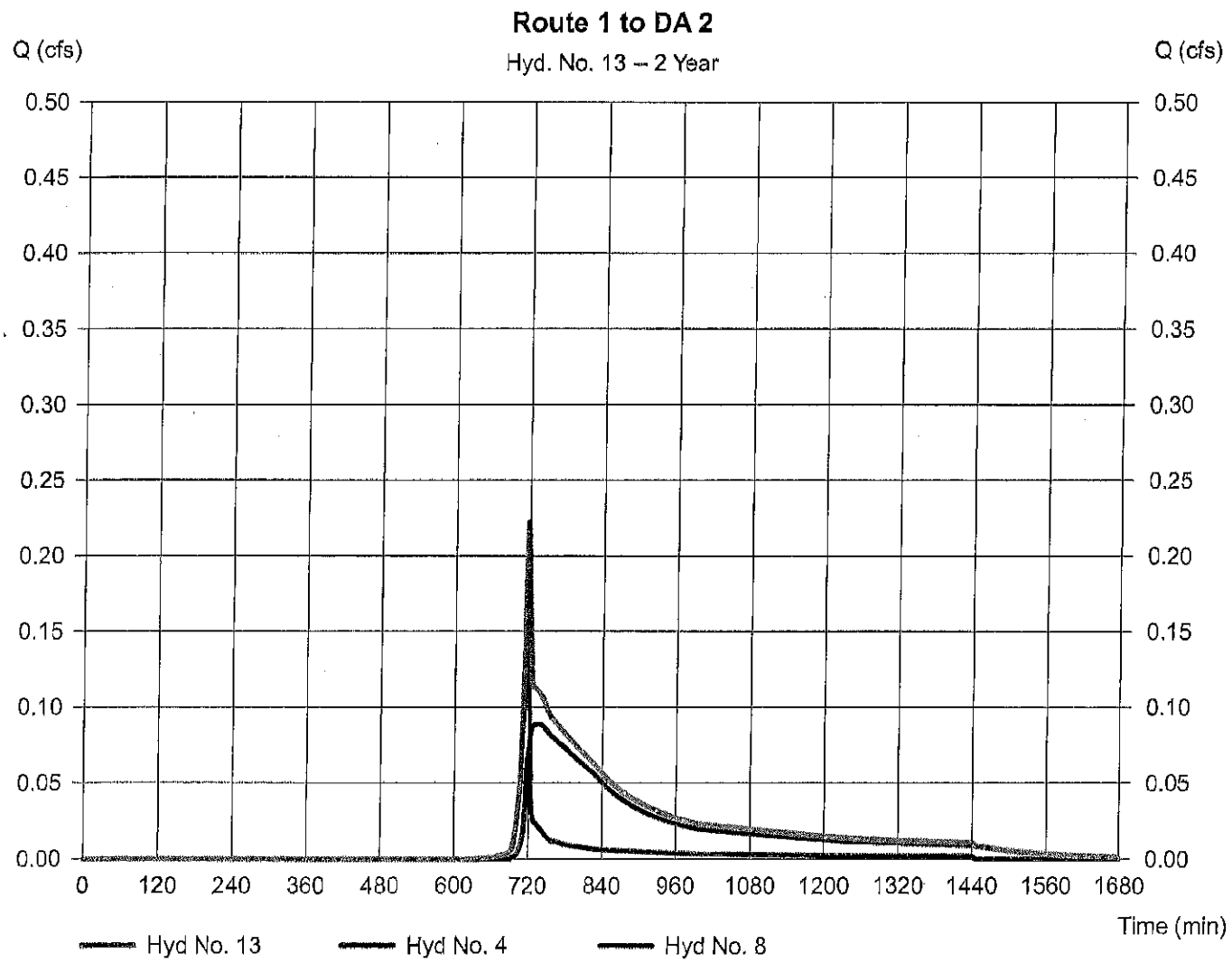
Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 13

Route 1 to DA 2

Hydrograph type	= Combine	Peak discharge	= 0.222 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 1,569 cuft
Inflow hyds.	= 4, 8	Contrib. drain. area	= 0.080 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

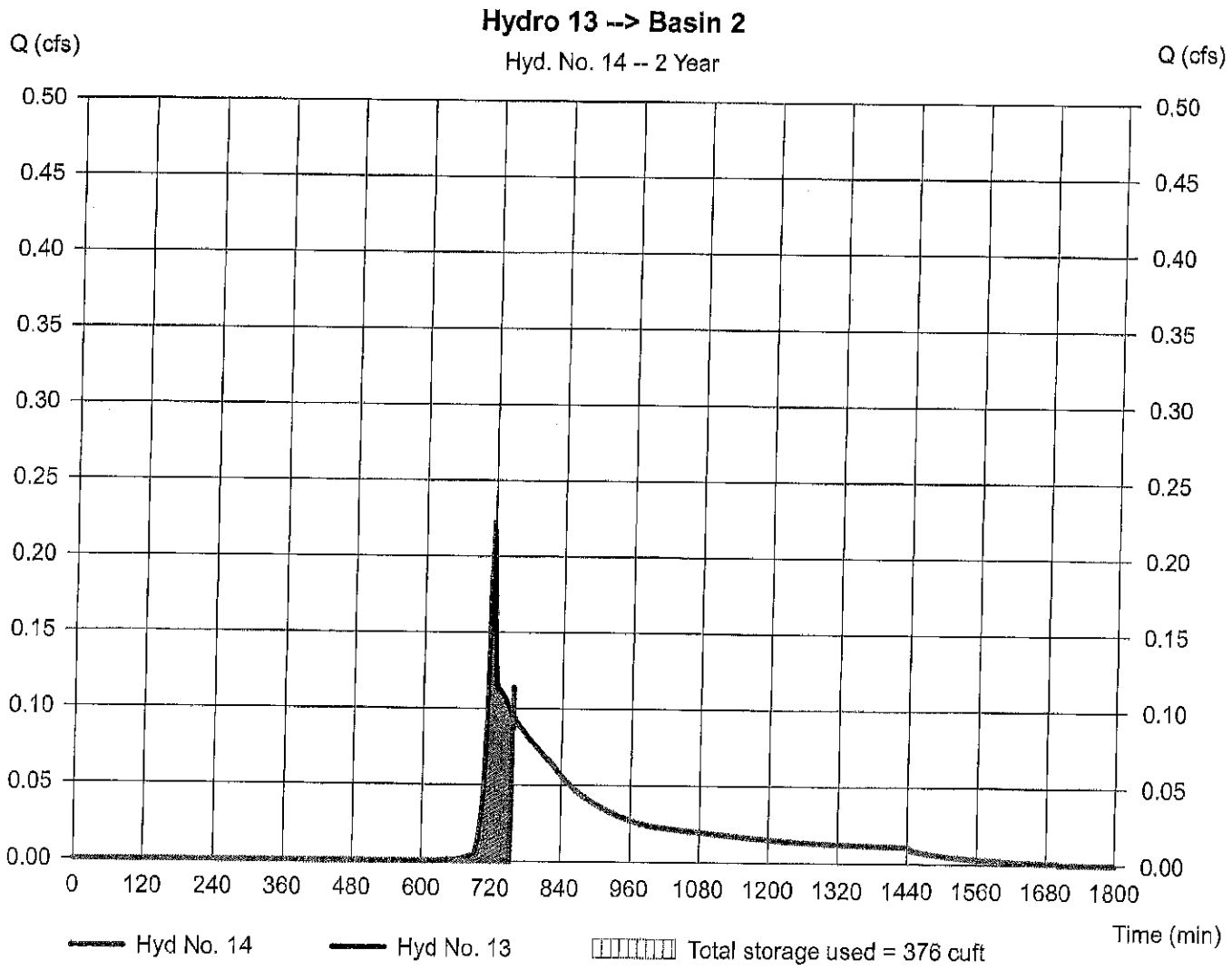
Tuesday, Jun 14, 2022

Hyd. No. 14

Hydro 13 --> Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.114 cfs
Storm frequency	= 2 yrs	Time to peak	= 756 min
Time interval	= 2 min	Hyd. volume	= 1,196 cuft
Inflow hyd. No.	= 13 - Route 1 to DA 2	Max. Elevation	= 354.81 ft
Reservoir name	= Basin 2	Max. Storage	= 376 cuft

Storage indication method used.



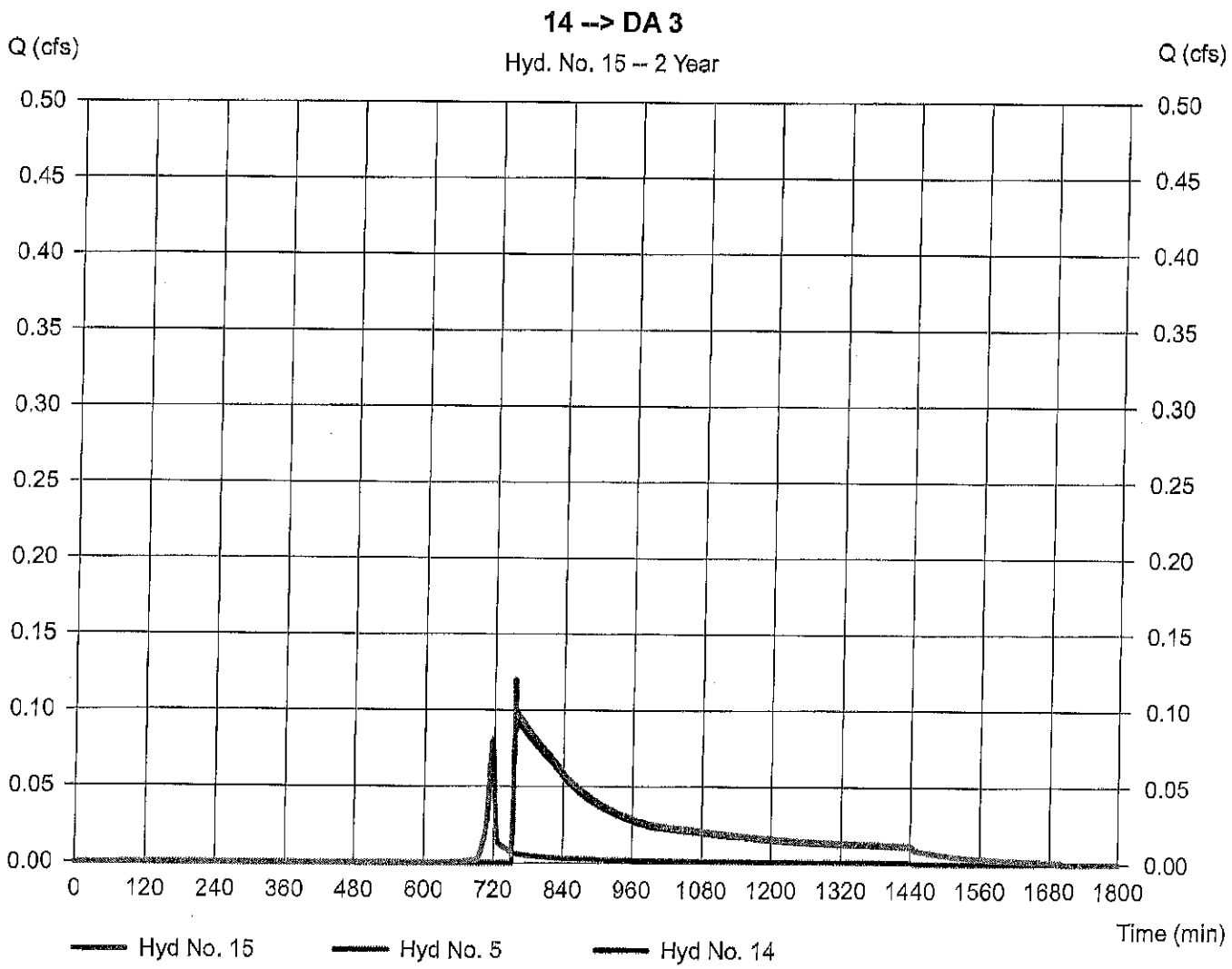
Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 15

14 --> DA 3

Hydrograph type	= Combine	Peak discharge	= 0.120 cfs
Storm frequency	= 2 yrs	Time to peak	= 756 min
Time interval	= 2 min	Hyd. volume	= 1,359 cuft
Inflow hyds.	= 5, 14	Contrib. drain. area	= 0.040 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

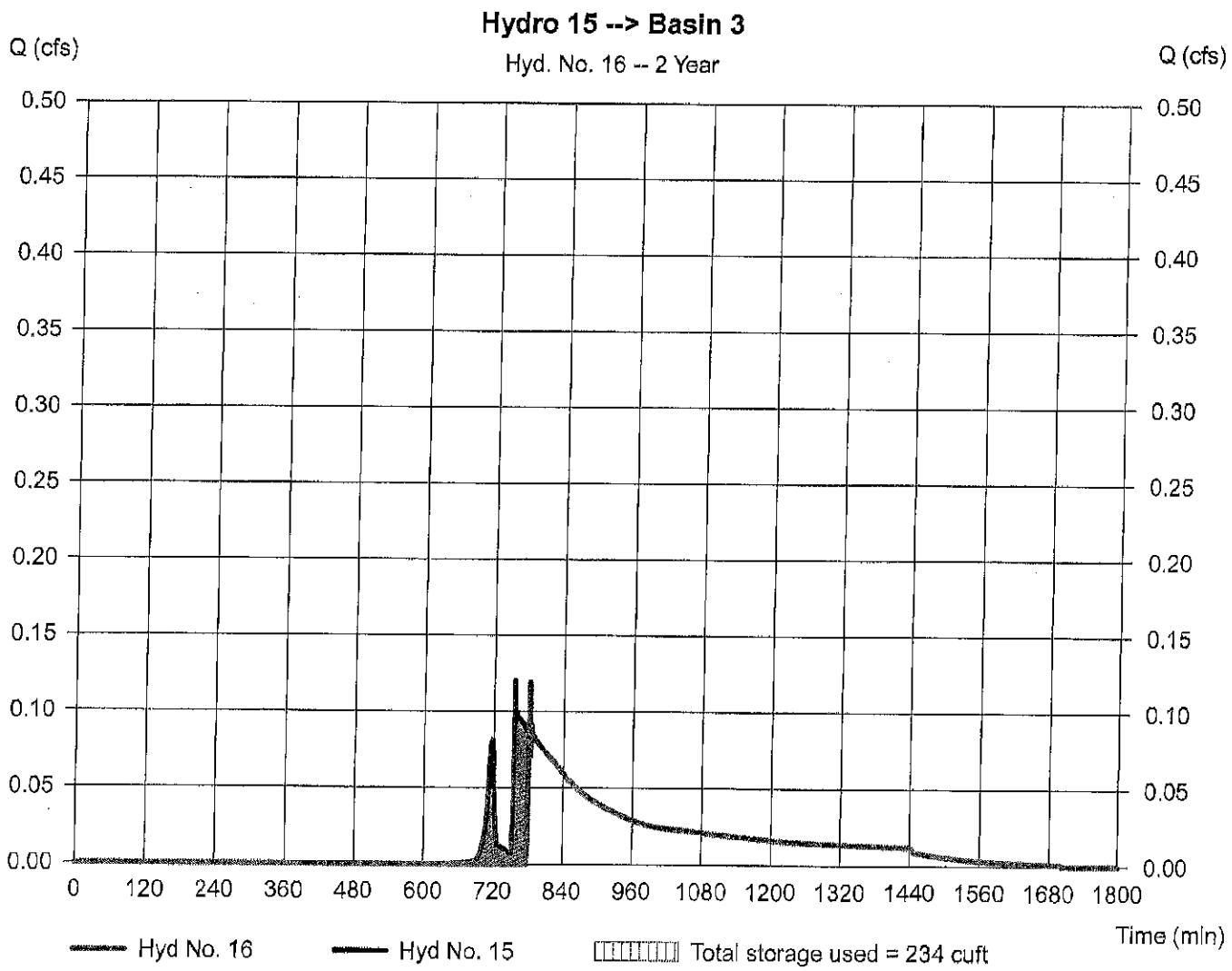
Tuesday, Jun 14, 2022

Hyd. No. 16

Hydro 15 --> Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.119 cfs
Storm frequency	= 2 yrs	Time to peak	= 782 min
Time interval	= 2 min	Hyd. volume	= 1,127 cuft
Inflow hyd. No.	= 15 - 14 --> DA 3	Max. Elevation	= 353.01 ft
Reservoir name	= Basin 3	Max. Storage	= 234 cuft

Storage Indication method used.



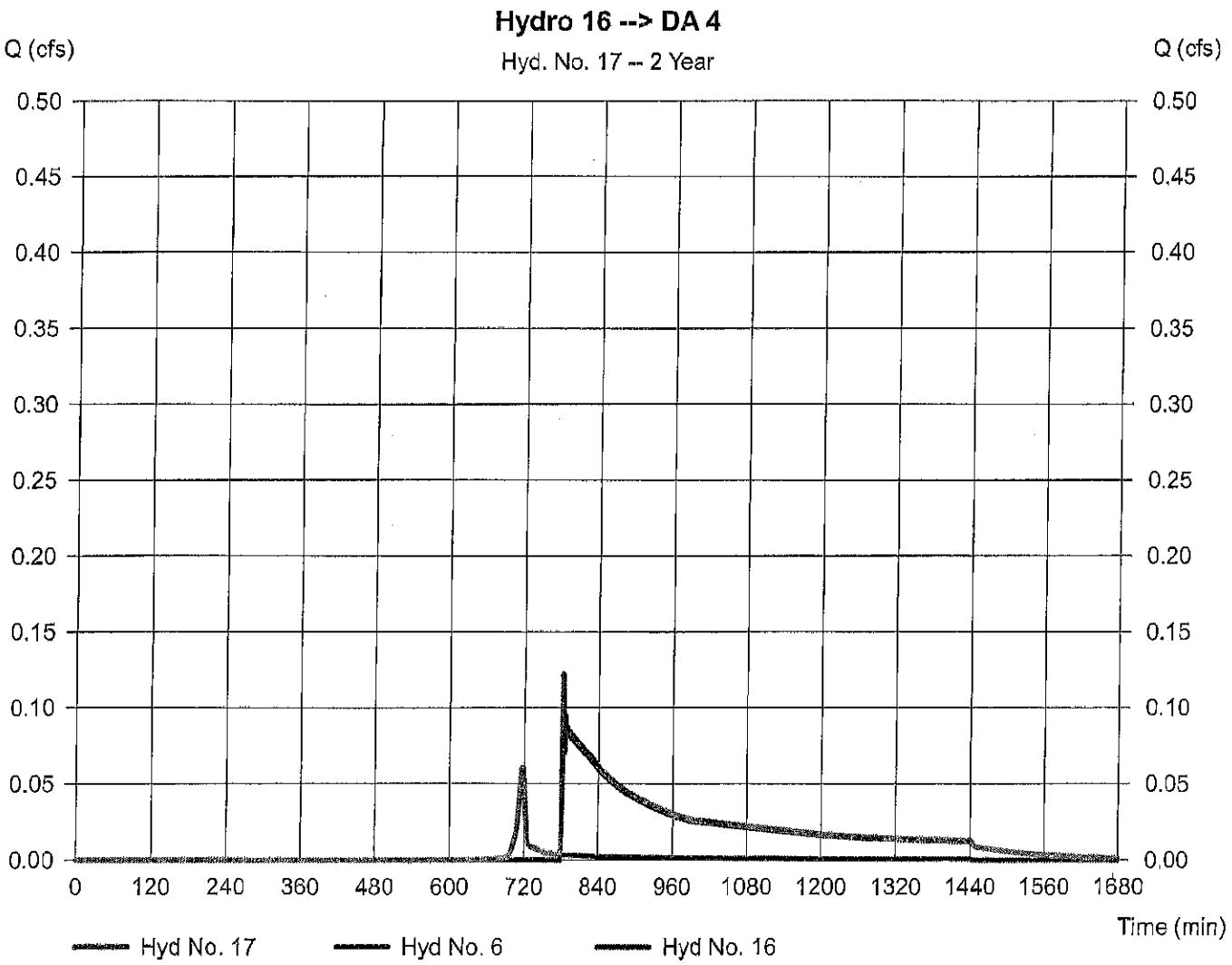
Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 17

Hydro 16 --> DA 4

Hydrograph type	= Combine	Peak discharge	= 0.123 cfs
Storm frequency	= 2 yrs	Time to peak	= 782 min
Time interval	= 2 min	Hyd. volume	= 1,249 cuft
Inflow hyds.	= 6, 16	Contrib. drain. area	= 0.030 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

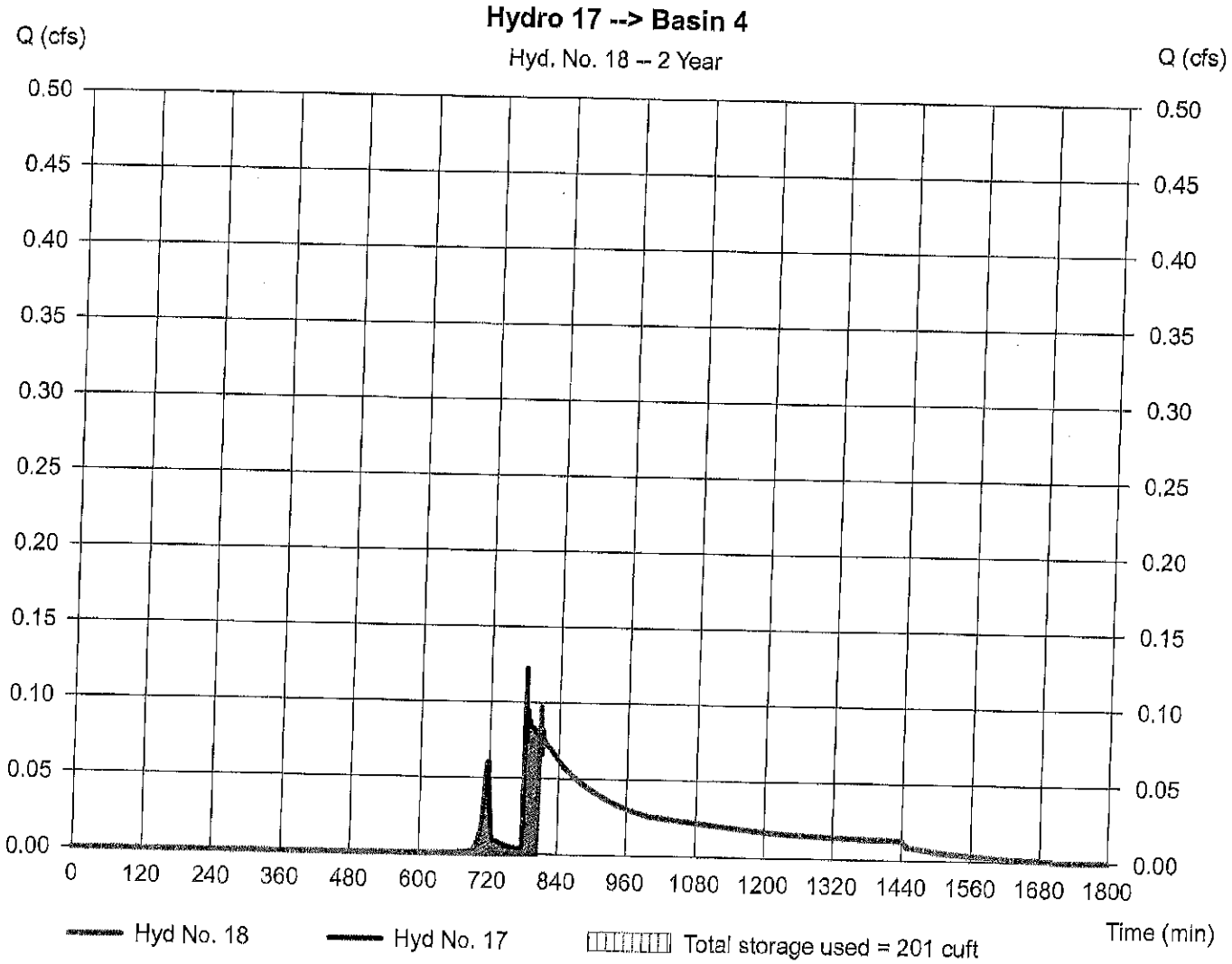
Tuesday, Jun 14, 2022

Hyd. No. 18

Hydro 17 --> Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.098 cfs
Storm frequency	= 2 yrs	Time to peak	= 808 min
Time interval	= 2 min	Hyd. volume	= 1,050 cuft
Inflow hyd. No.	= 17 - Hydro 16 --> DA 4	Max. Elevation	= 351.31 ft
Reservoir name	= Basin 4	Max. Storage	= 201 cuft

Storage Indication method used.



Hydrograph Report

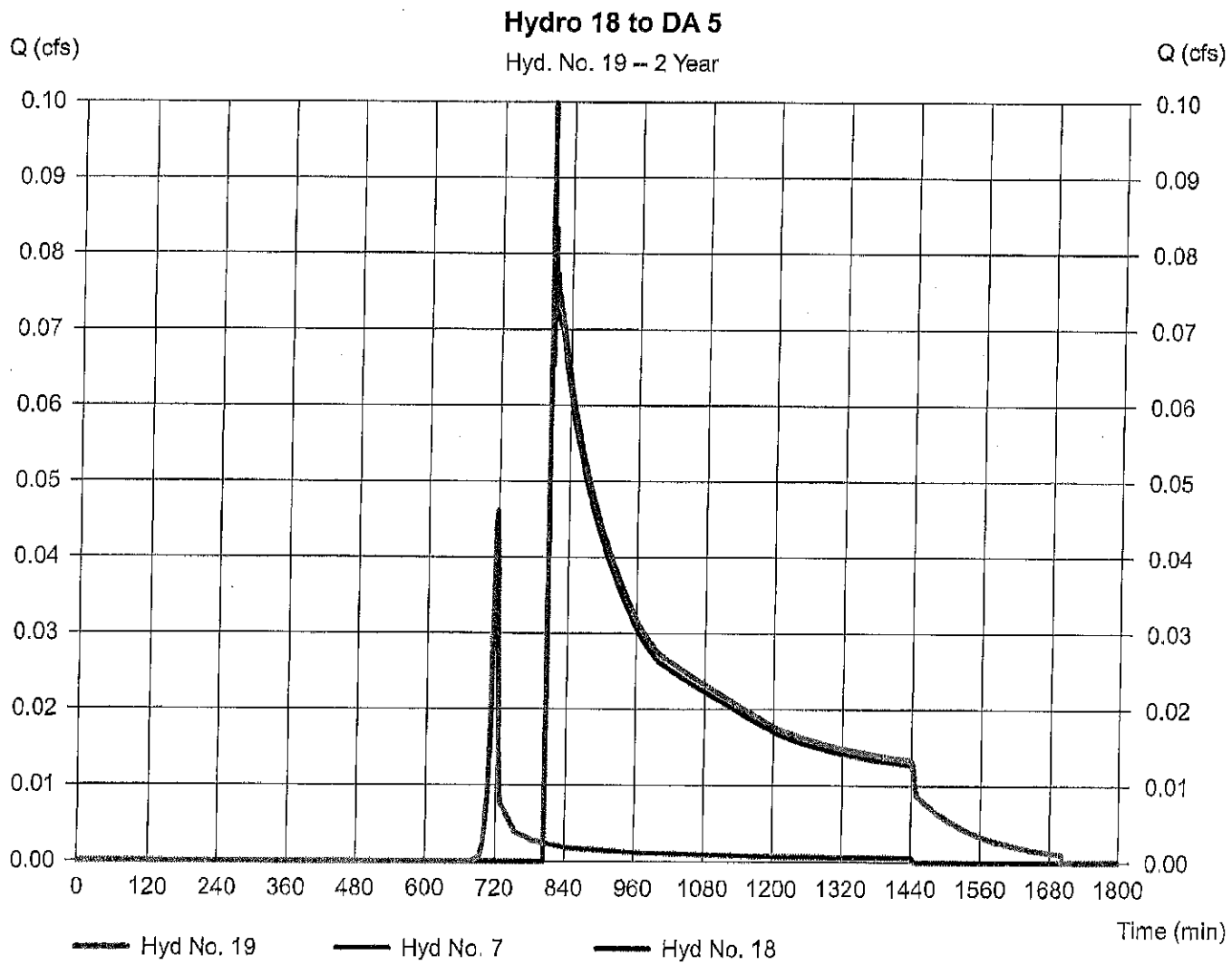
Hydraflow Hydrographs by Intellsolve v9.1

Tuesday, Jun 14, 2022

Hyd. No. 19

Hydro 18 to DA 5

Hydrograph type	= Combine	Peak discharge	= 0.100 cfs
Storm frequency	= 2 yrs	Time to peak	= 808 min
Time interval	= 2 min	Hyd. volume	= 1,144 cuft
Inflow hyds.	= 7, 18	Contrib. drain. area	= 0.030 ac



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

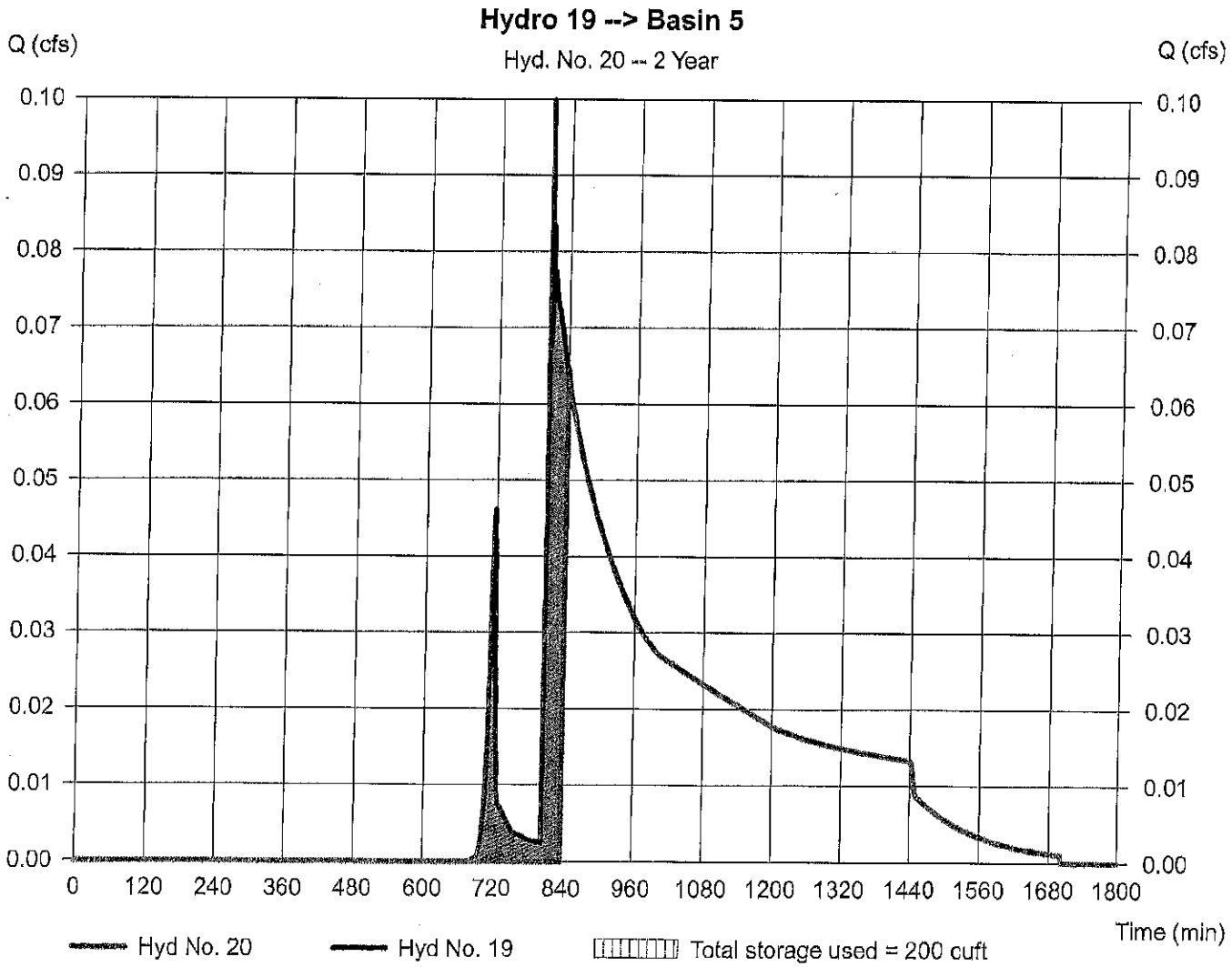
Tuesday, Jun 14, 2022

Hyd. No. 20

Hydro 19 --> Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.064 cfs
Storm frequency	= 2 yrs	Time to peak	= 840 min
Time interval	= 2 min	Hyd. volume	= 945 cuft
Inflow hyd. No.	= 19 - Hydro 18 to DA 5	Max. Elevation	= 349.40 ft
Reservoir name	= Basin 5	Max. Storage	= 200 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs by Intellisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	0.680	2	718	1,454	----	------	------	Pre-Condition
2	SCS Runoff	1.559	2	718	3,128	----	------	------	Post-Condition
3	SCS Runoff	0.985	2	718	1,970	----	------	------	DA to Basin 1
4	SCS Runoff	0.245	2	718	492	----	------	------	DA to Basin 2
5	SCS Runoff	0.122	2	718	246	----	------	------	DA to Basin 3
6	SCS Runoff	0.092	2	718	185	----	------	------	DA to Basin 4
7	SCS Runoff	0.074	2	718	149	----	------	------	DA to Basin 5
8	Reservoir	0.181	2	726	1,963	3	356.02	718	Route to Basin 1
9	Reservoir	0.008	2	912	120	4	354.80	373	Route to Basin 2
10	Reservoir	0.003	2	1276	15	5	353.00	232	Route to Basin 3
11	Reservoir	0.000	2	n/a	0	6	351.25	185	Route to Basin 4
12	Reservoir	0.000	2	n/a	0	7	349.23	149	Route to Basin 5
13	Combine	0.371	2	718	2,455	4, 8,	------	------	Route 1 to DA 2
14	Reservoir	0.226	2	730	2,083	13	354.82	380	Hydro 13 --> Basin 2
15	Combine	0.244	2	730	2,329	5, 14	------	------	14 --> DA 3
16	Reservoir	0.287	2	738	2,098	15	353.03	238	Hydro 15 --> Basin 3
17	Combine	0.298	2	738	2,282	6, 16	------	------	Hydro 16 --> DA 4
18	Reservoir	0.286	2	746	2,083	17	351.33	204	Hydro 17 --> Basin 4
19	Combine	0.294	2	746	2,232	7, 18	------	------	Hydro 18 to DA 5
20	Reservoir	0.269	2	756	2,033	19	349.43	204	Hydro 19 --> Basin 5

Hydrograph Report

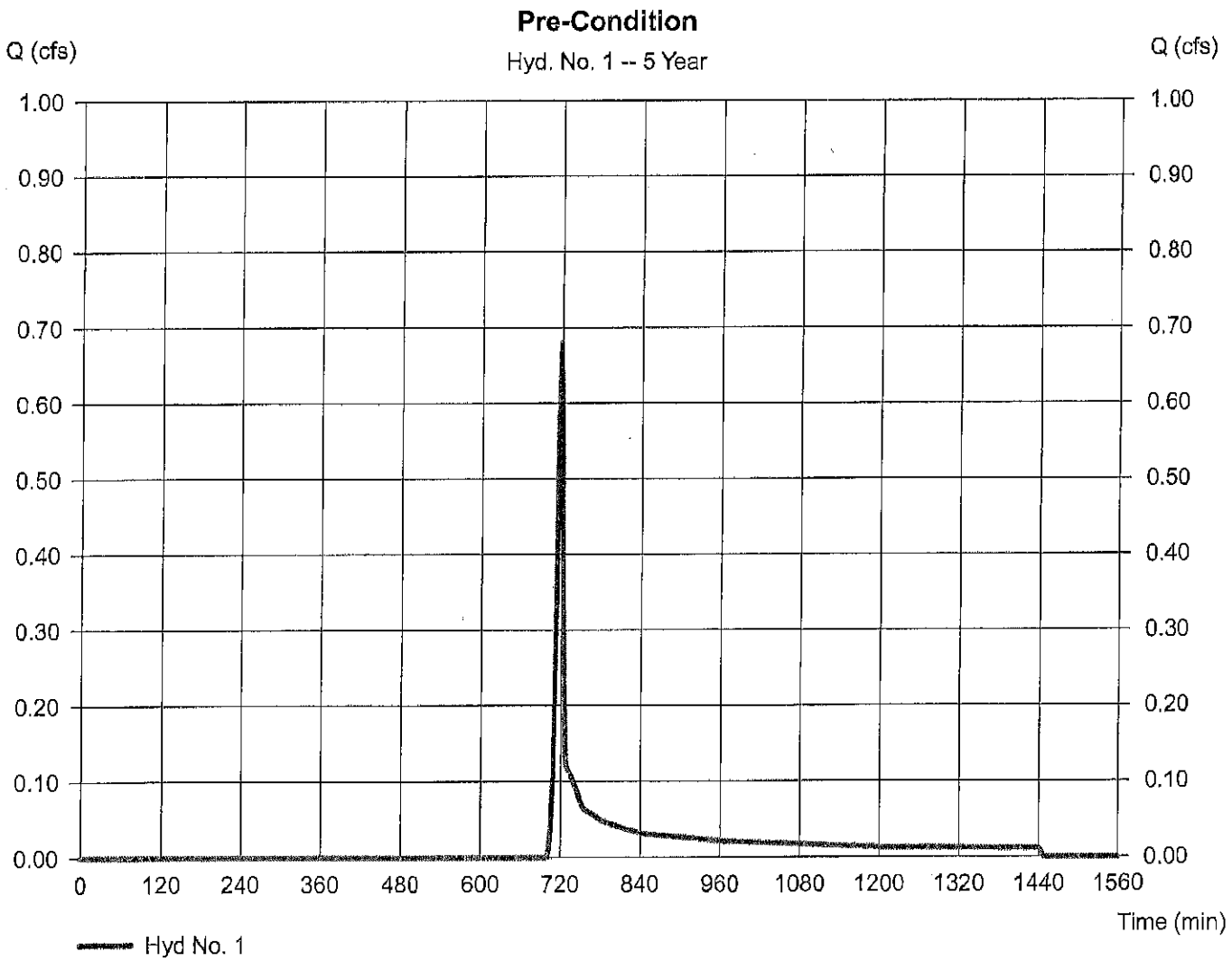
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 1

Pre-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 0.680 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 1,454 cuft
Drainage area	= 0.530 ac	Curve number	= 60*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.09 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.509 x 58) + (0.022 x 98)] / 0.530



Hydrograph Report

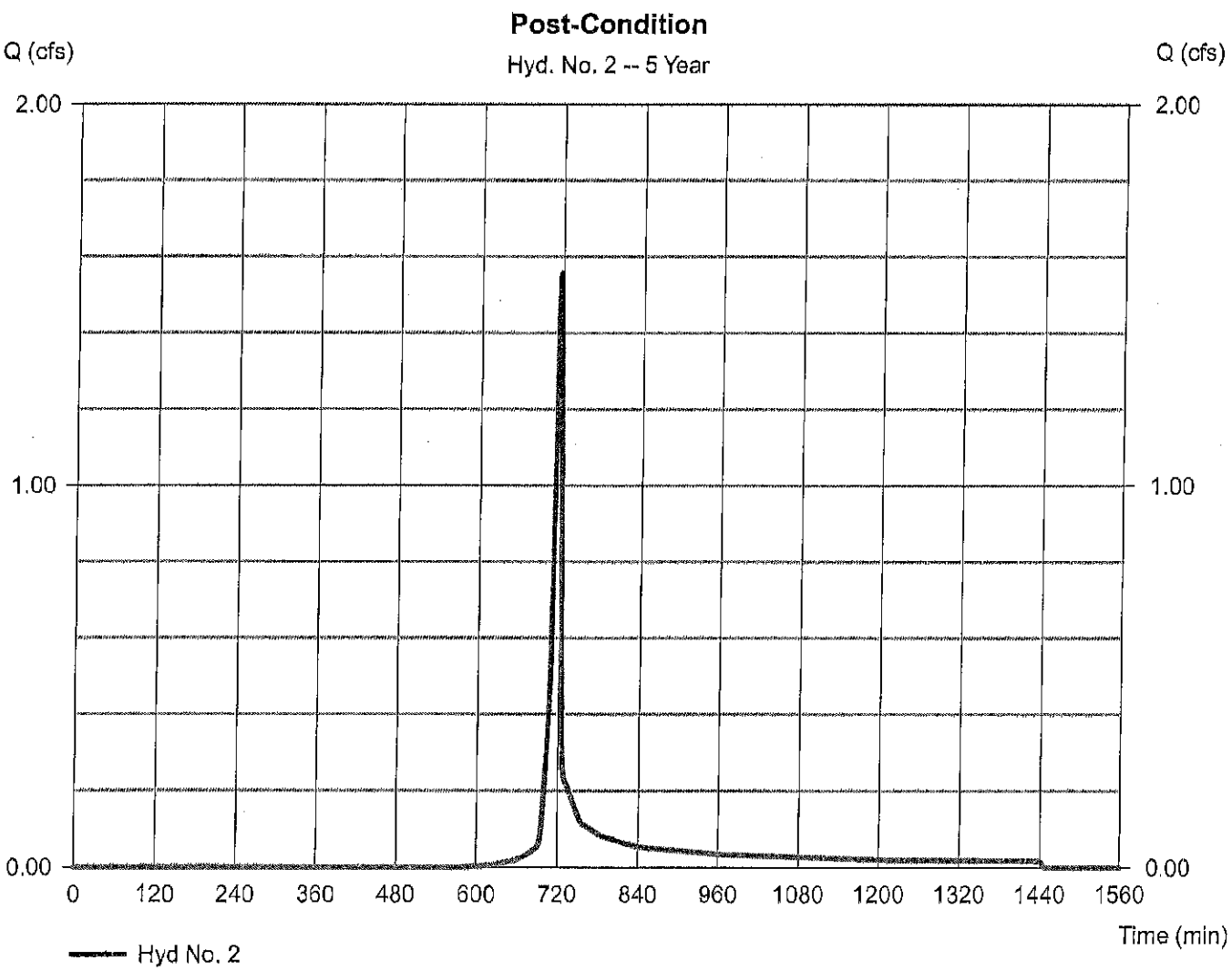
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 2

Post-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 1.559 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 3,128 cuft
Drainage area	= 0.530 ac	Curve number	= 75*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.09 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.327 x 61) + (0.204 x 98)] / 0.530



Hydrograph Report

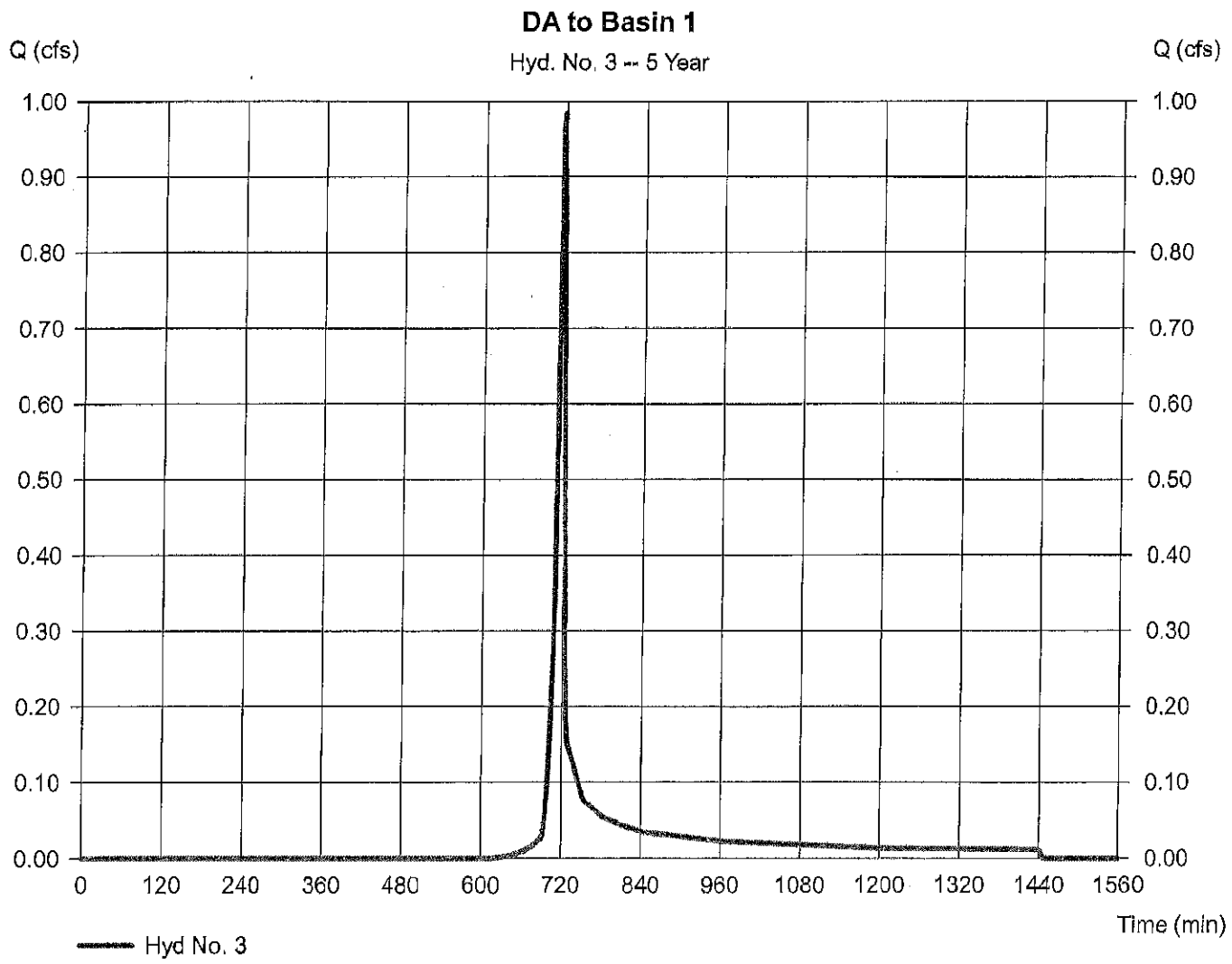
Hydraflow Hydrographs by Intellsolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 3

DA to Basin 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.985 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 1,970 cuft
Drainage area	= 0.380 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.09 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.261 x 61) + (0.116 x 98)] / 0.380



Hydrograph Report

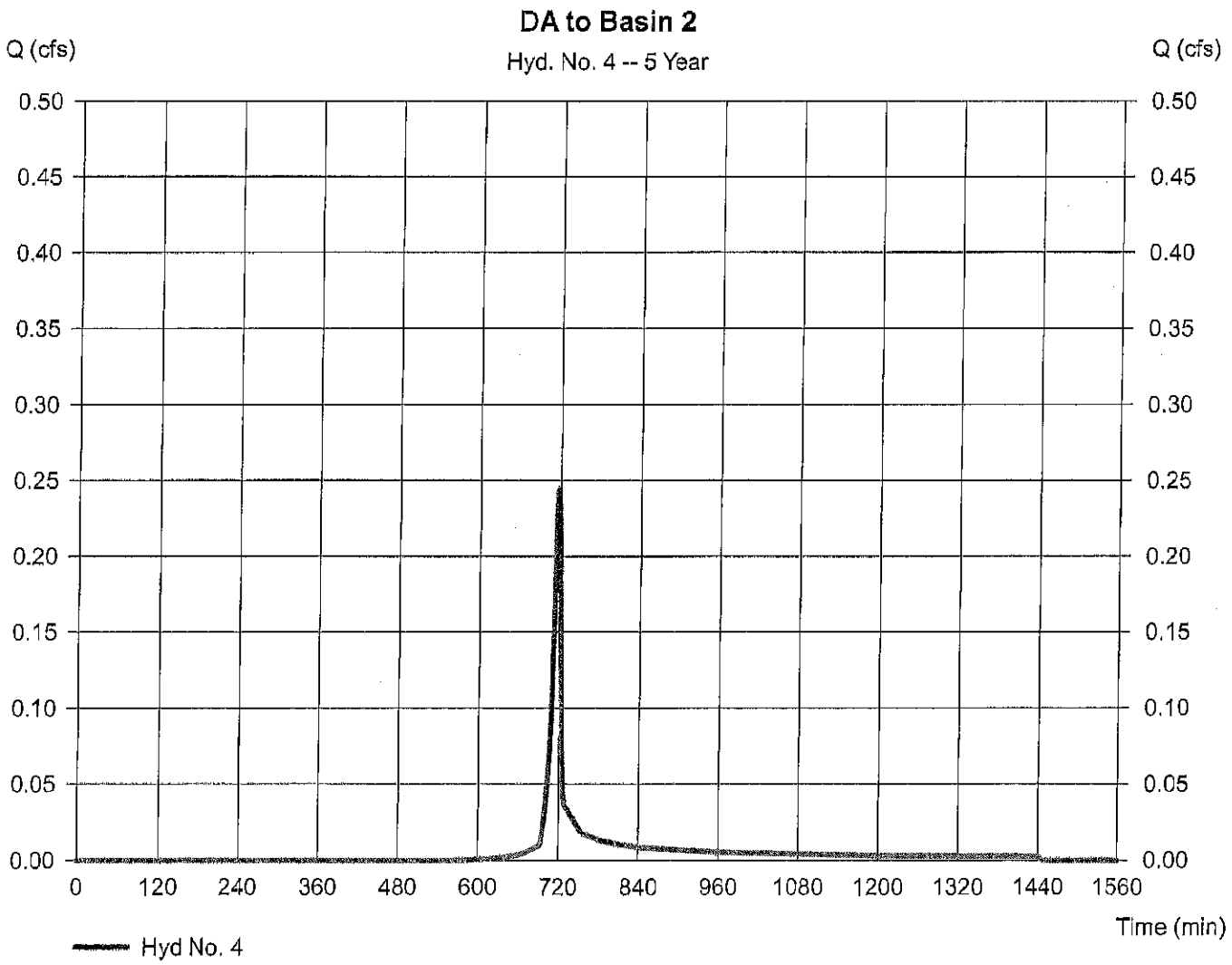
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 4

DA to Basin 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.245 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 492 cuft
Drainage area	= 0.080 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.09 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.046 x 61) + (0.031 x 98)] / 0.080



Hydrograph Report

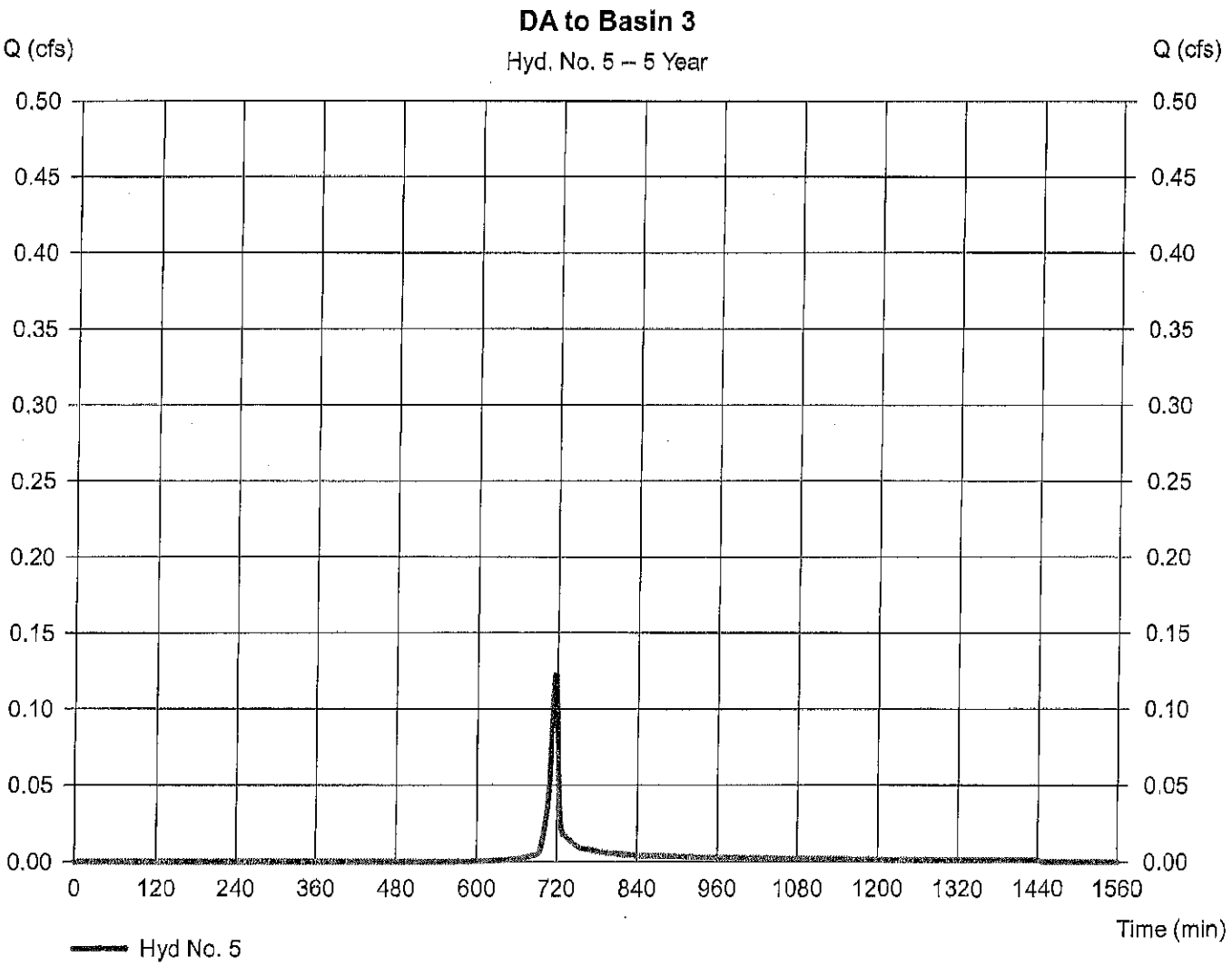
Hydraflow Hydrographs by Intellsolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 5

DA to Basin 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.122 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 246 cuft
Drainage area	= 0.040 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.09 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.021 x 61) + (0.014 x 98)] / 0.040



Hydrograph Report

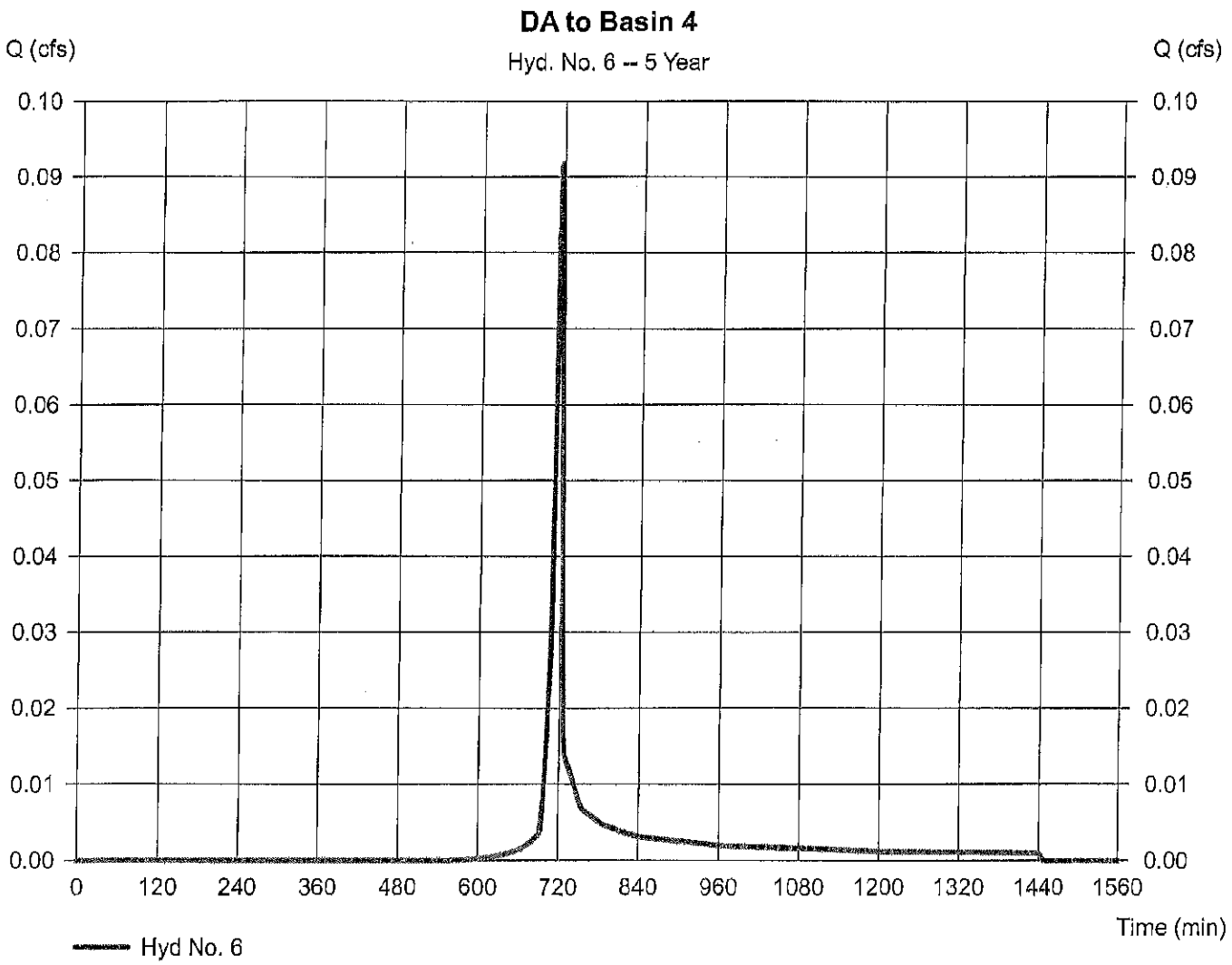
Hydraflow Hydrographs by Intellisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 6

DA to Basin 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.092 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 185 cuft
Drainage area	= 0.030 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.09 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.017 x 61) + (0.011 x 98)] / 0.030



Hydrograph Report

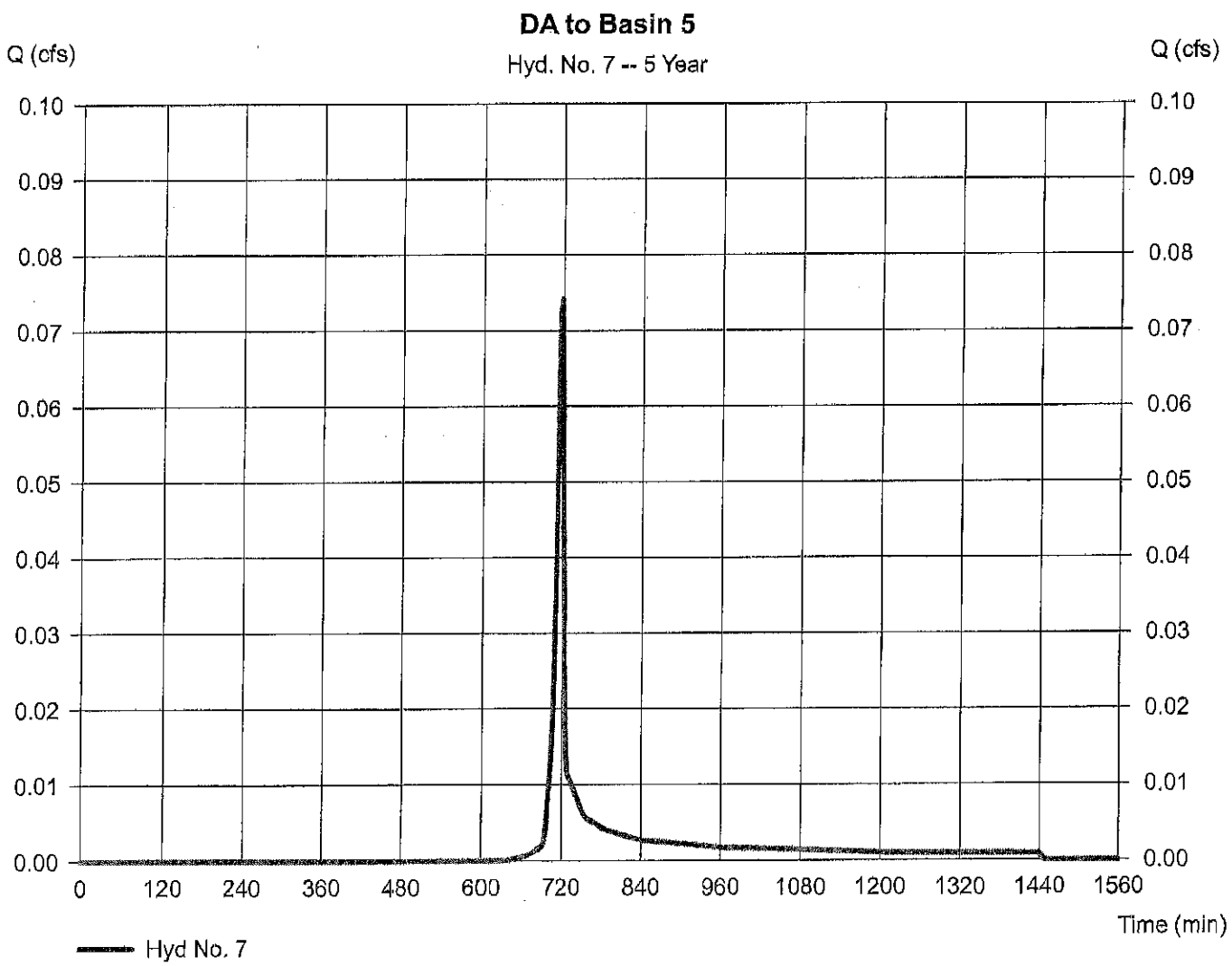
Hydraflow Hydrographs by Intellisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 7

DA to Basin 5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.074 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 149 cuft
Drainage area	= 0.030 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.09 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.023 x 61) + (0.009 x 98)] / 0.030



Hydrograph Report

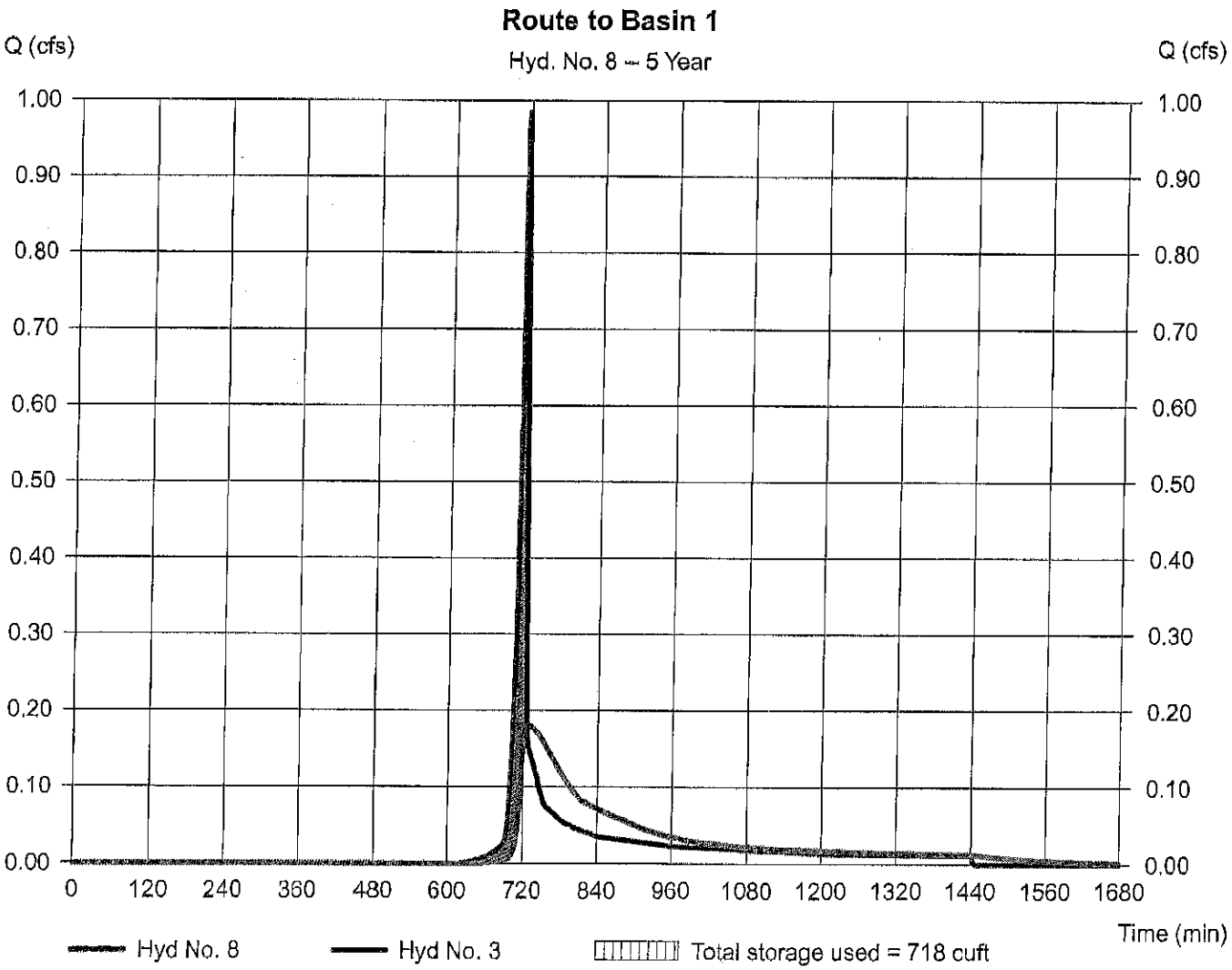
Hydraflow Hydrographs by Intellisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 8

Route to Basin 1

Hydrograph type	= Reservoir	Peak discharge	= 0.181 cfs
Storm frequency	= 5 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 1,963 cuft
Inflow hyd. No.	= 3 - DA to Basin 1	Max. Elevation	= 356.02 ft
Reservoir name	= Basin 1	Max. Storage	= 718 cuft

Storage Indication method used.



Hydrograph Report

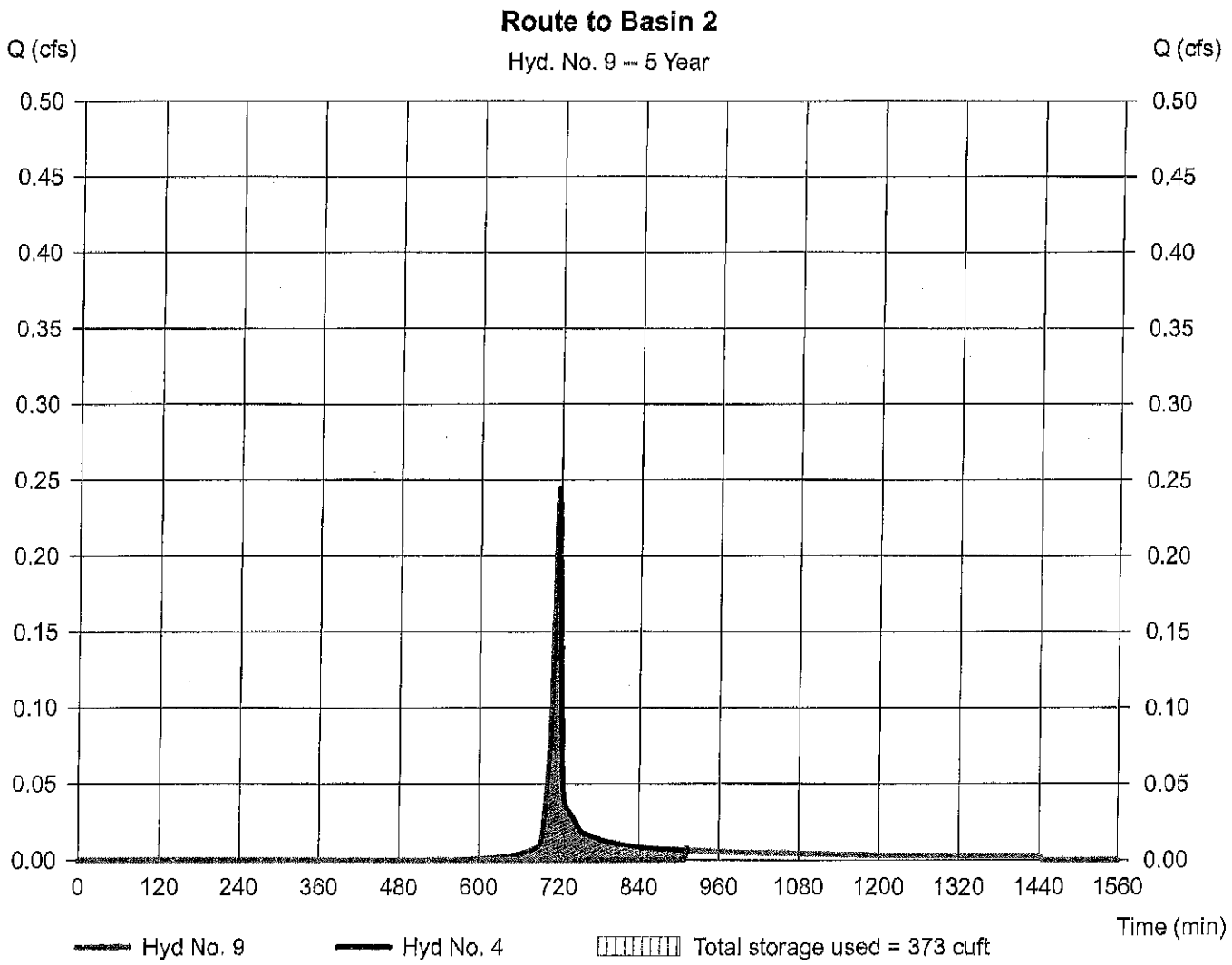
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 9

Route to Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.008 cfs
Storm frequency	= 5 yrs	Time to peak	= 912 min
Time interval	= 2 min	Hyd. volume	= 120 cuft
Inflow hyd. No.	= 4 - DA to Basin 2	Max. Elevation	= 354.80 ft
Reservoir name	= Basin 2	Max. Storage	= 373 cuft

Storage Indication method used.



Hydrograph Report

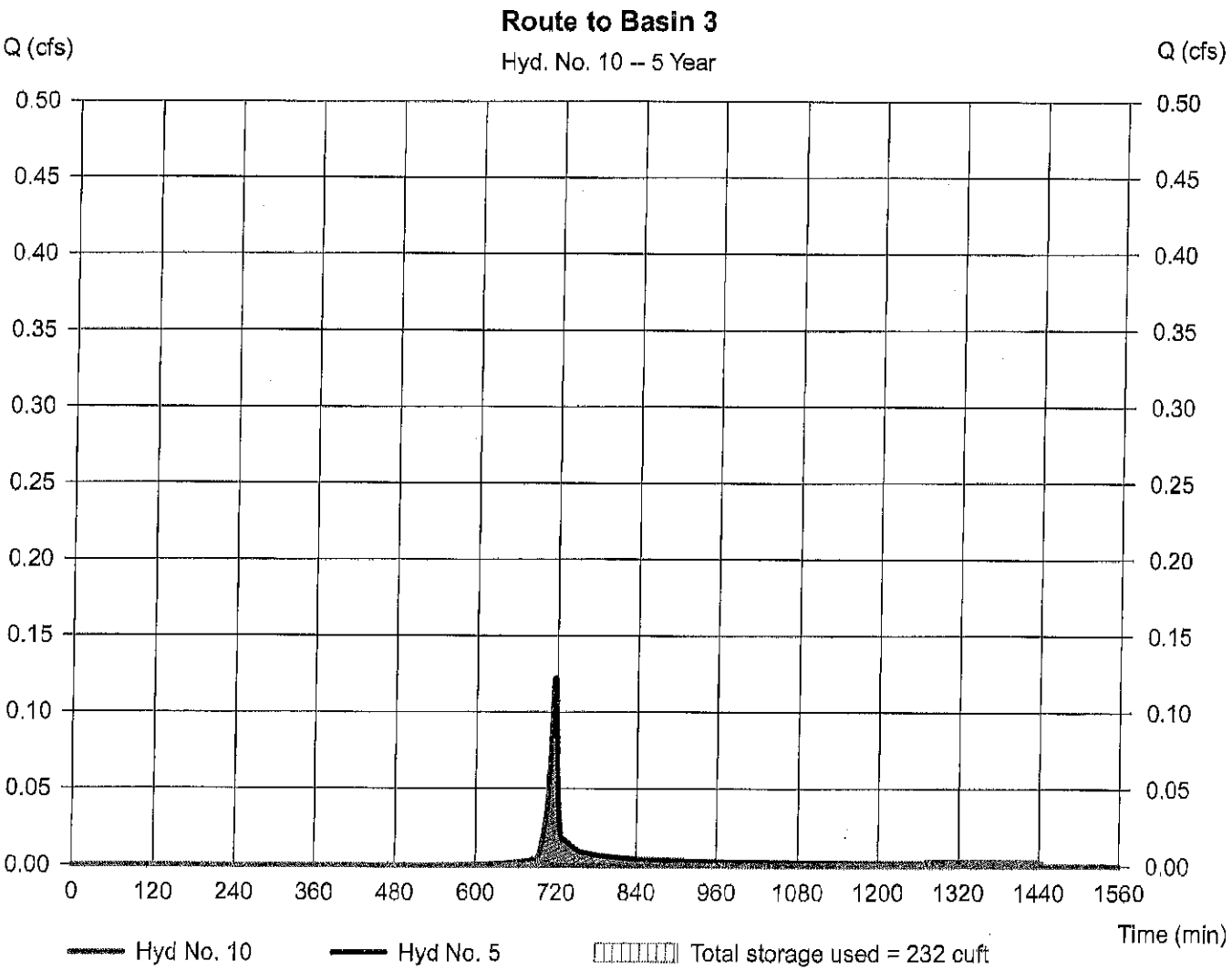
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 10

Route to Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.003 cfs
Storm frequency	= 5 yrs	Time to peak	= 1276 min
Time interval	= 2 min	Hyd. volume	= 15 cuft
Inflow hyd. No.	= 5 - DA to Basin 3	Max. Elevation	= 353.00 ft
Reservoir name	= Basin 3	Max. Storage	= 232 cuft

Storage Indication method used.



Hydrograph Report

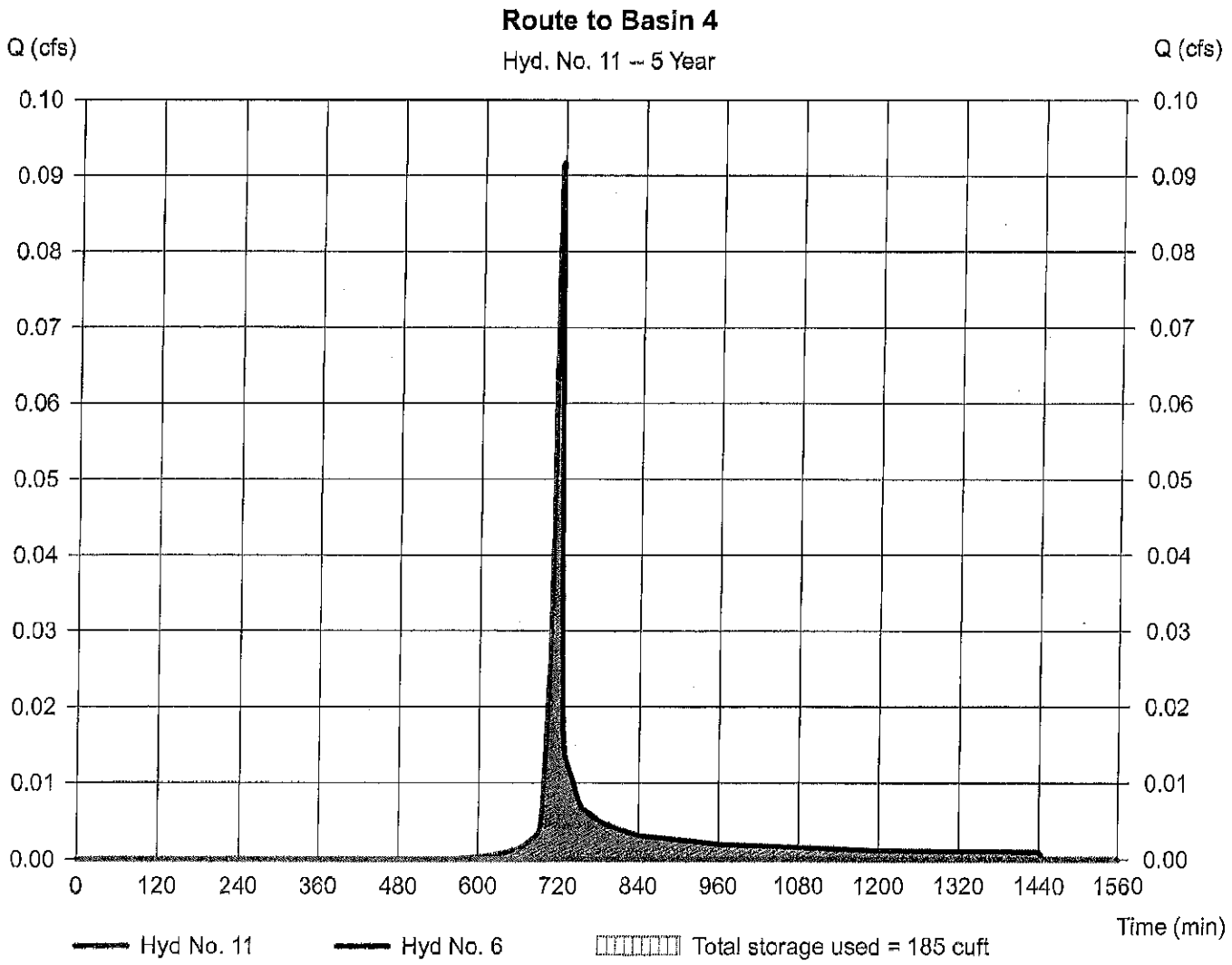
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 11

Route to Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 5 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 6 - DA to Basin 4	Max. Elevation	= 351.25 ft
Reservoir name	= Basin 4	Max. Storage	= 185 cuft

Storage Indication method used.



Hydrograph Report

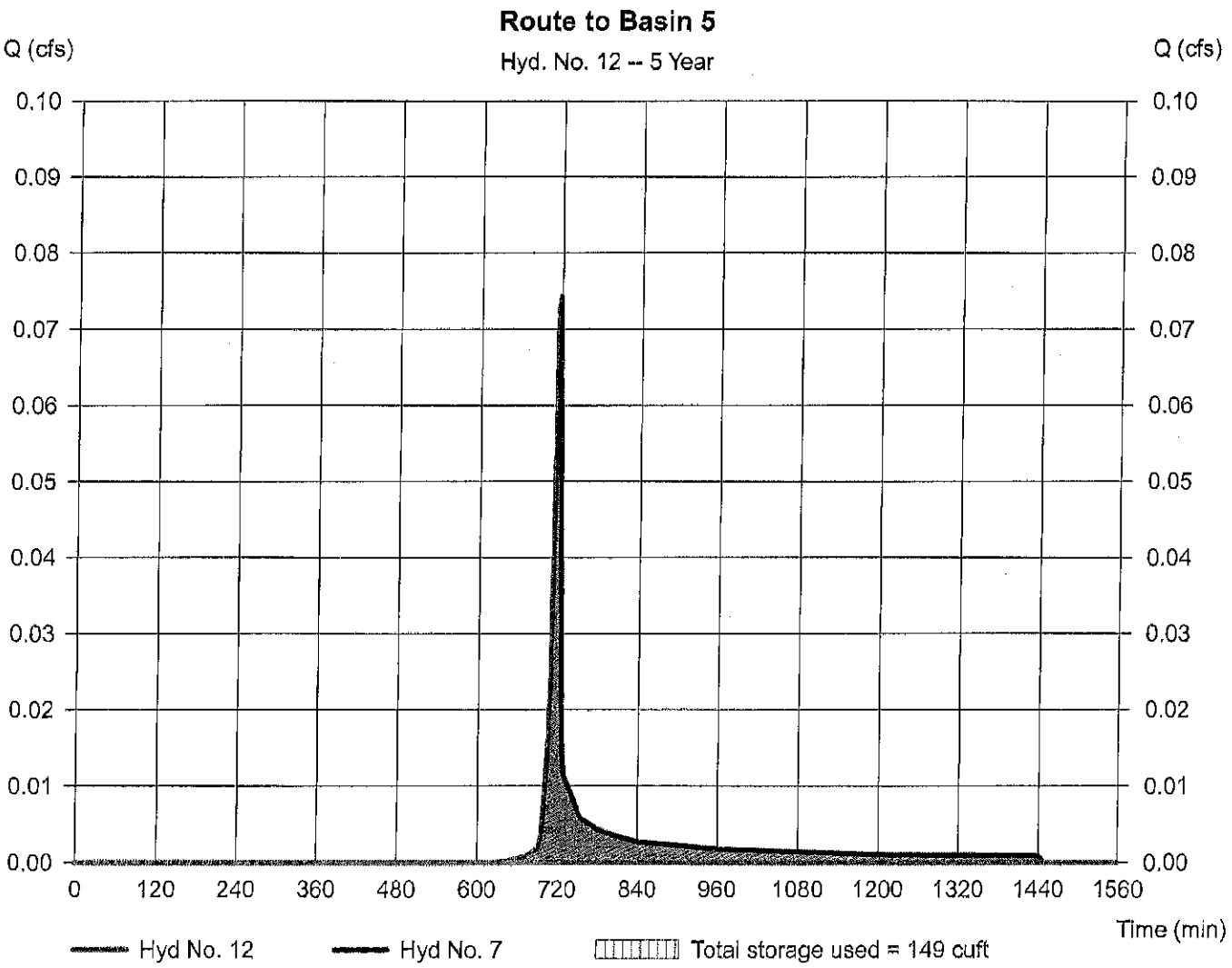
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 12

Route to Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 5 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 7 - DA to Basin 5	Max. Elevation	= 349.23 ft
Reservoir name	= Basin 5	Max. Storage	= 149 cuft

Storage Indication method used.



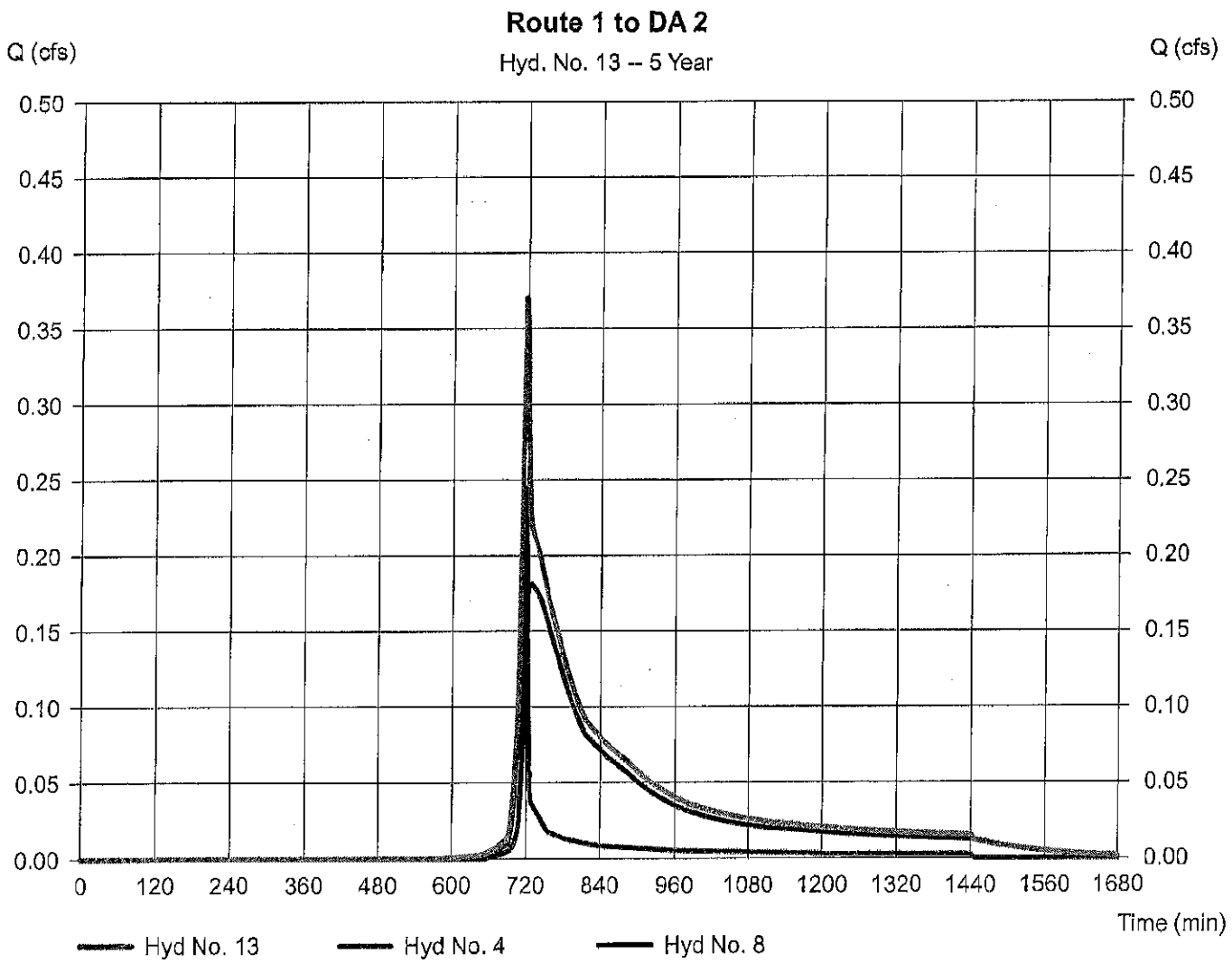
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 13

Route 1 to DA 2

Hydrograph type	= Combine	Peak discharge	= 0.371 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 2,455 cuft
Inflow hyds.	= 4, 8	Contrib. drain. area	= 0.080 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

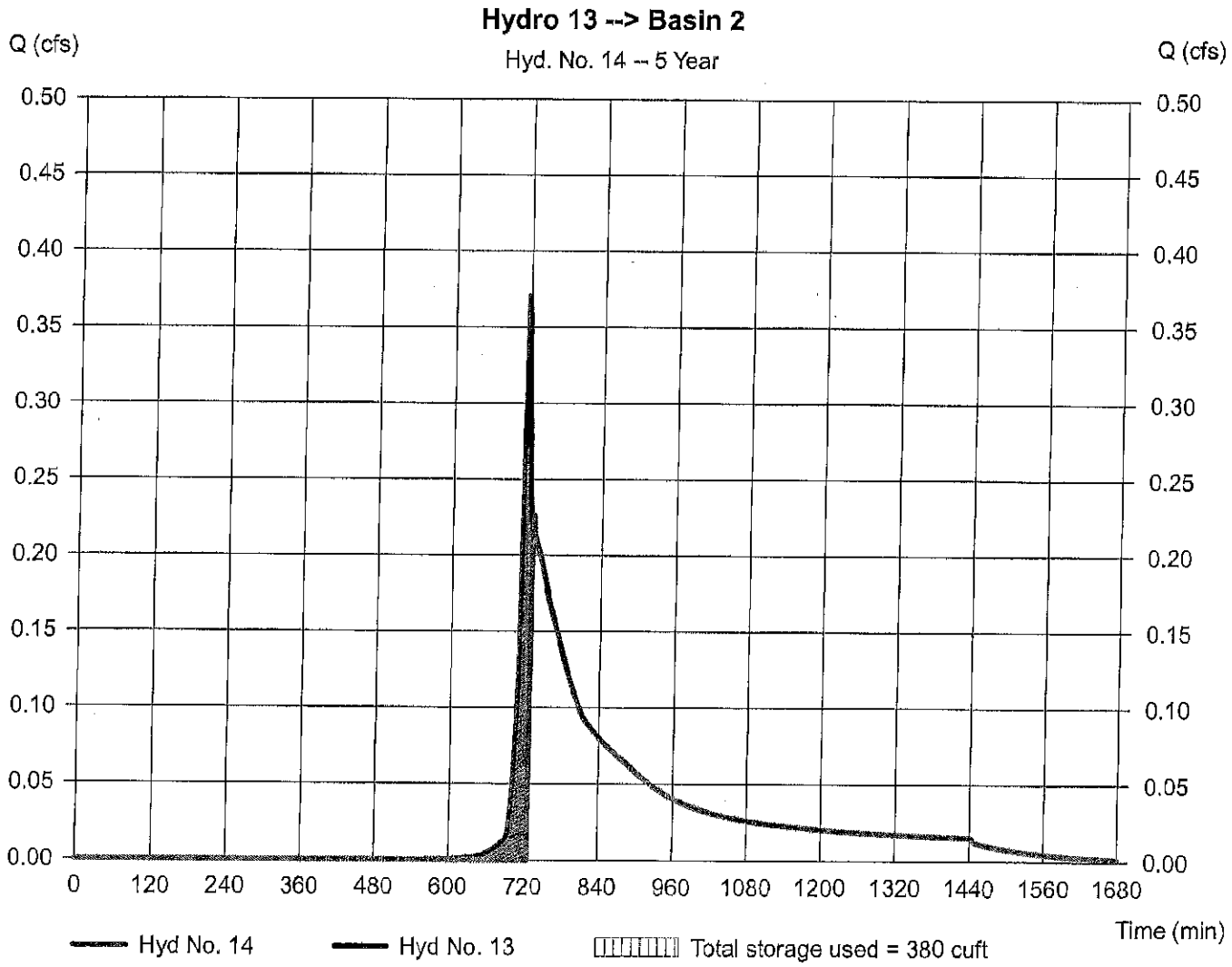
Tuesday, Jun 14, 2022

Hyd. No. 14

Hydro 13 --> Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.226 cfs
Storm frequency	= 5 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 2,083 cuft
Inflow hyd. No.	= 13 - Route 1 to DA 2	Max. Elevation	= 354.82 ft
Reservoir name	= Basin 2	Max. Storage	= 380 cuft

Storage Indication method used.



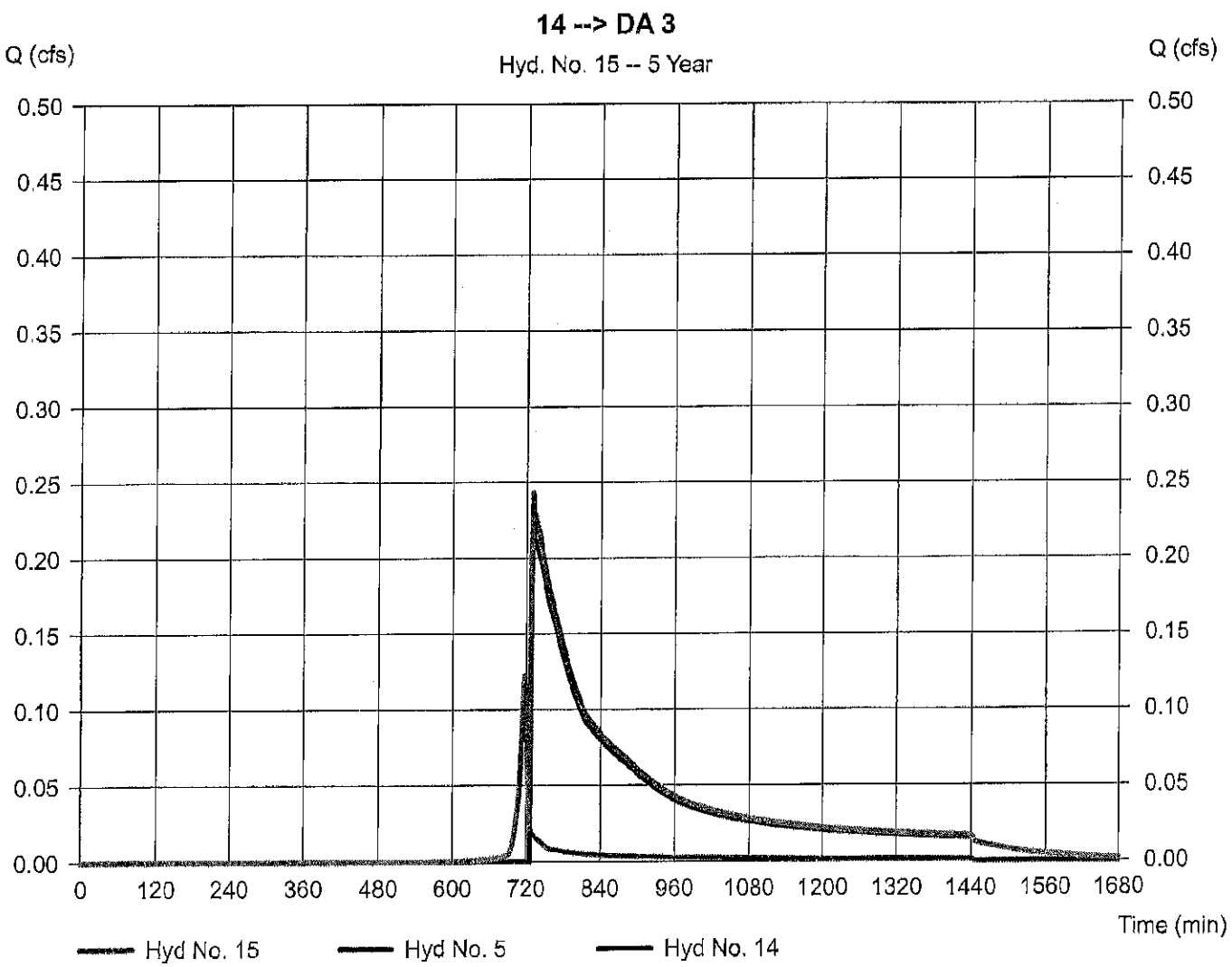
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 15

14 --> DA 3

Hydrograph type	= Combine	Peak discharge	= 0.244 cfs
Storm frequency	= 5 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 2,329 cuft
Inflow hyds.	= 5, 14	Contrib. drain. area	= 0.040 ac



Hydrograph Report

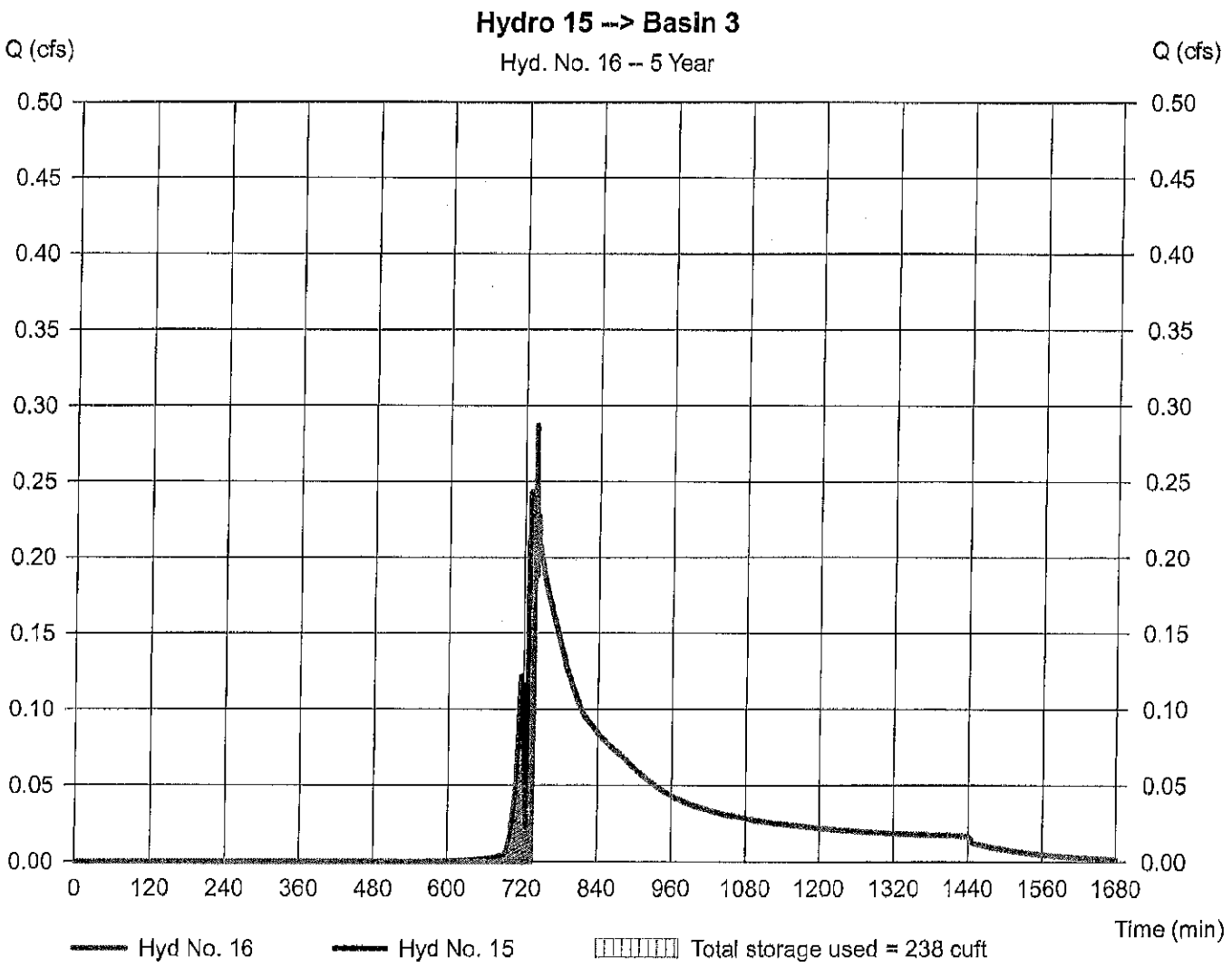
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 16

Hydro 15 --> Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.287 cfs
Storm frequency	= 5 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 2,098 cuft
Inflow hyd. No.	= 15 - 14 --> DA 3	Max. Elevation	= 353.03 ft
Reservoir name	= Basin 3	Max. Storage	= 238 cuft

Storage Indication method used.



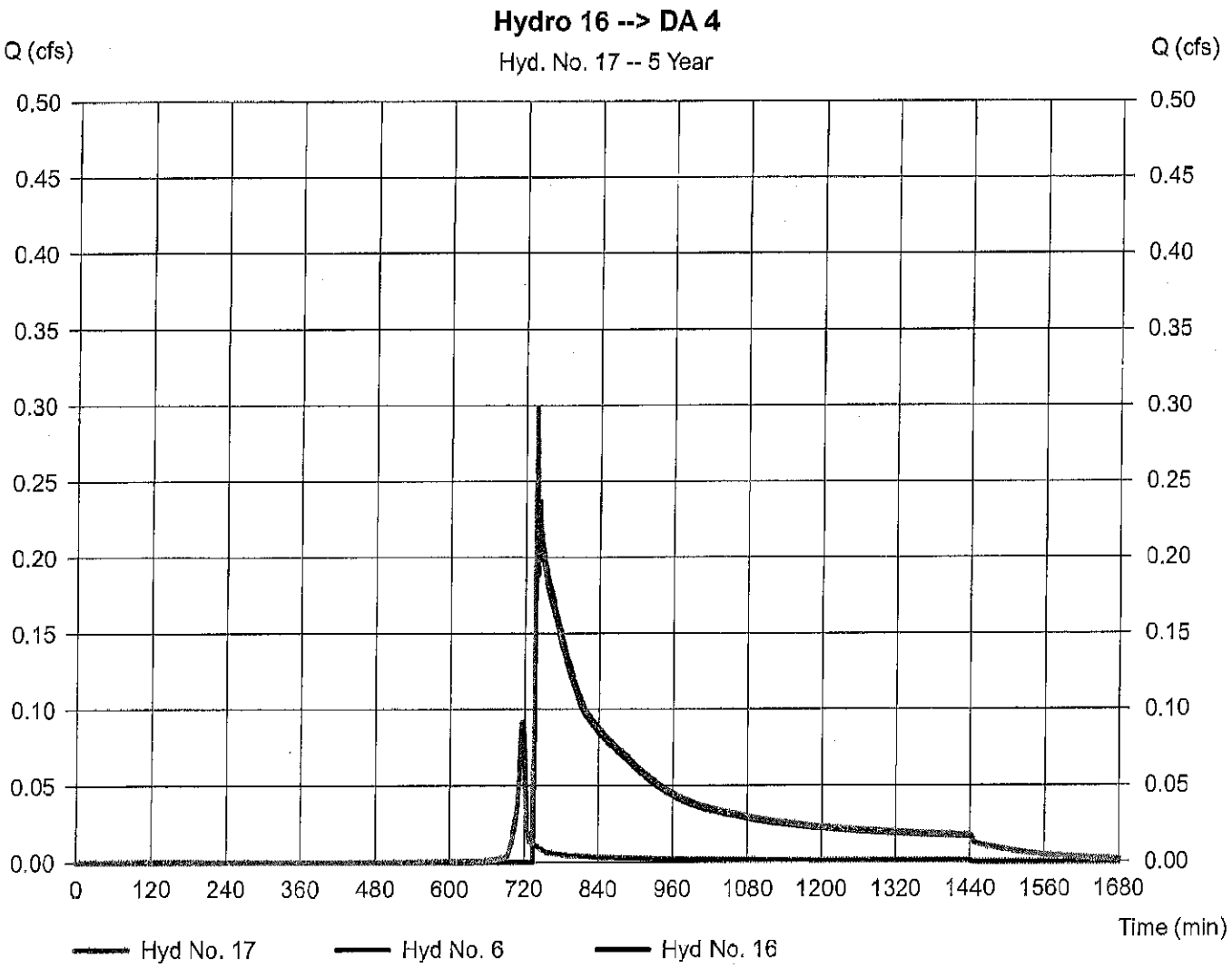
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 17

Hydro 16 --> DA 4

Hydrograph type	= Combine	Peak discharge	= 0.298 cfs
Storm frequency	= 5 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 2,282 cuft
Inflow hyds.	= 6, 16	Contrib. drain. area	= 0.030 ac



Hydrograph Report

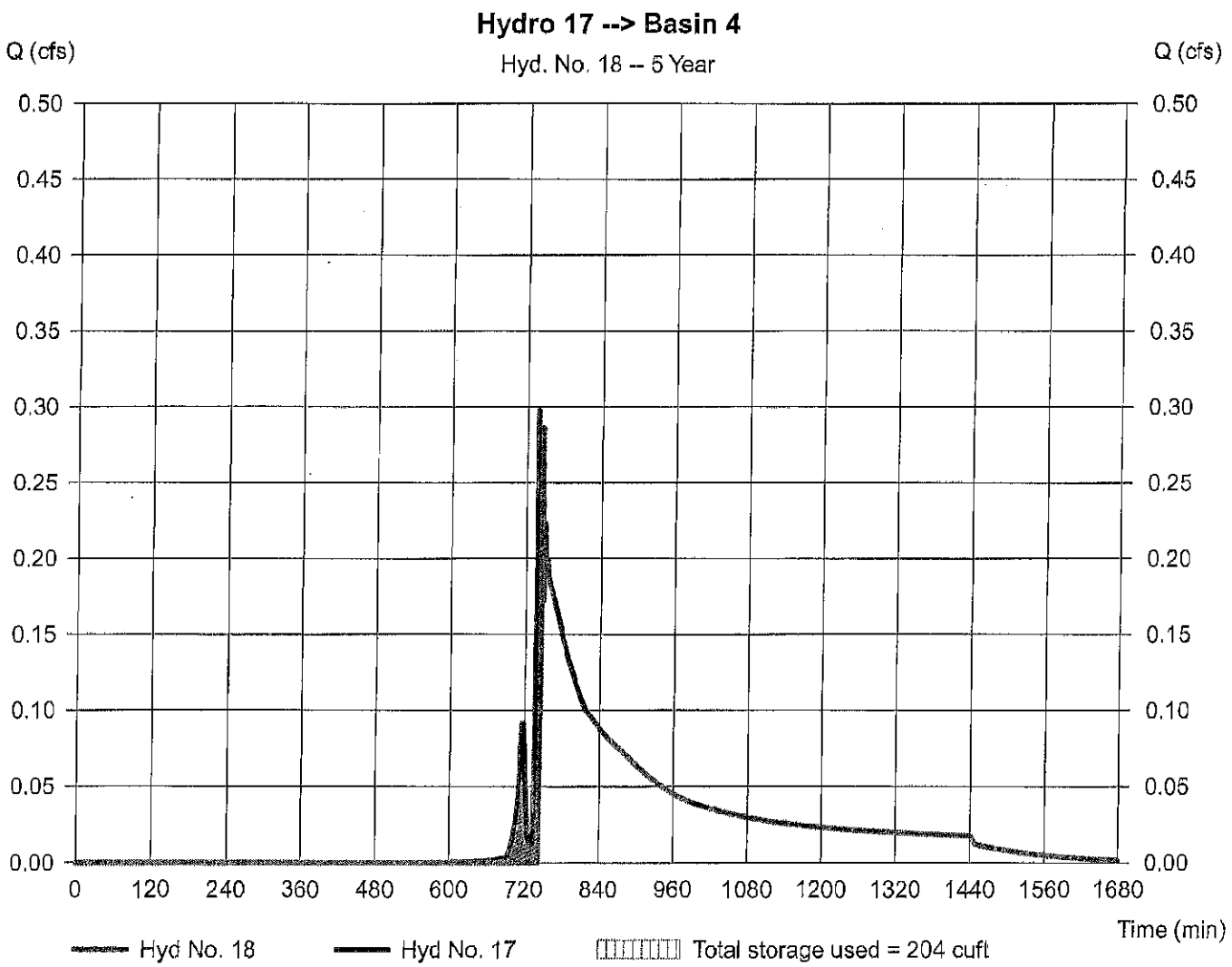
Hydraflow Hydrographs by Intellisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 18

Hydro 17 --> Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.286 cfs
Storm frequency	= 5 yrs	Time to peak	= 746 min
Time interval	= 2 min	Hyd. volume	= 2,083 cuft
Inflow hyd. No.	= 17 - Hydro 16 --> DA 4	Max. Elevation	= 351.33 ft
Reservoir name	= Basin 4	Max. Storage	= 204 cuft

Storage Indication method used.



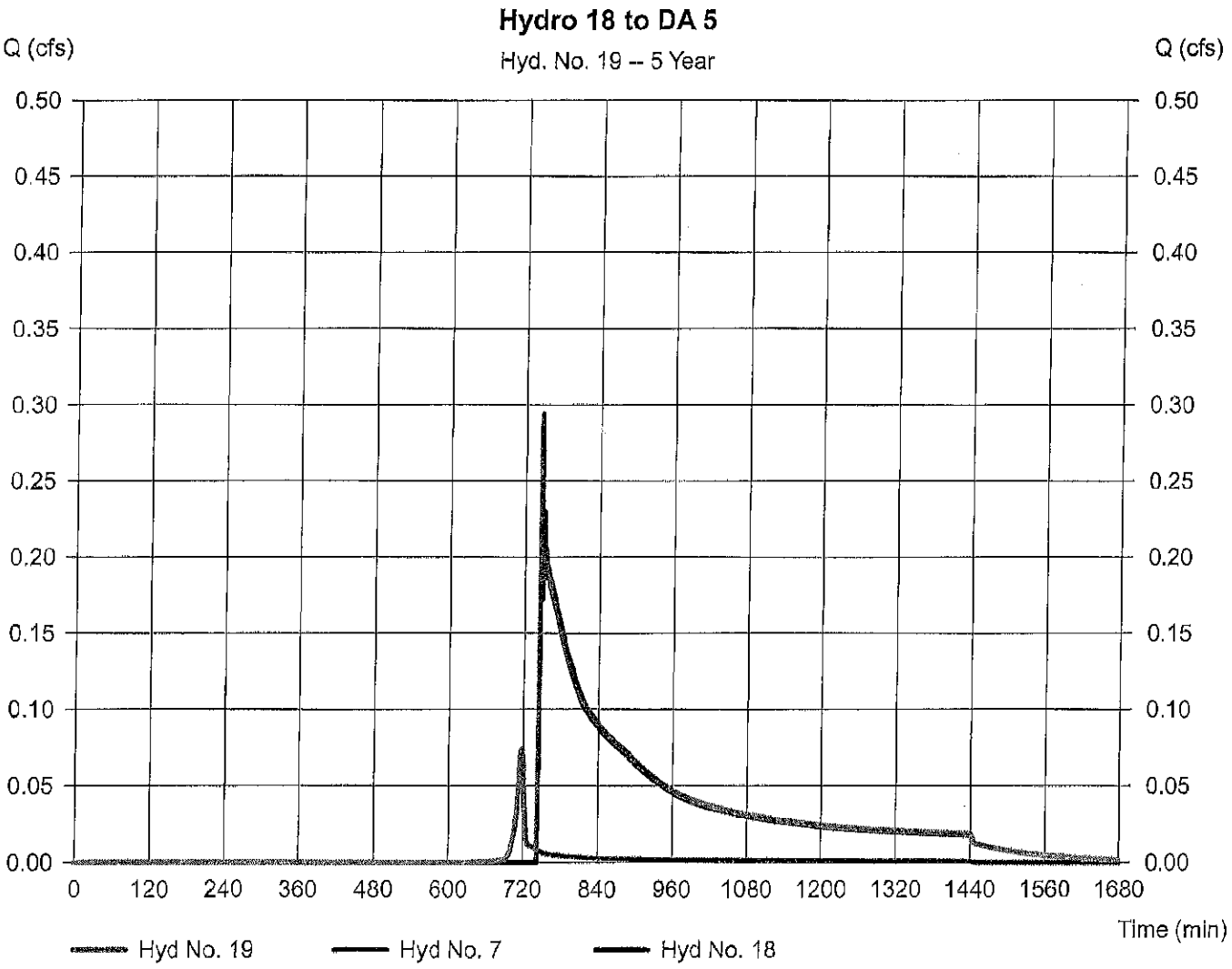
Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 19

Hydro 18 to DA 5

Hydrograph type	= Combine	Peak discharge	= 0.294 cfs
Storm frequency	= 5 yrs	Time to peak	= 746 min
Time interval	= 2 min	Hyd. volume	= 2,232 cuft
Inflow hyds.	= 7, 18	Contrib. drain. area	= 0.030 ac



Hydrograph Report

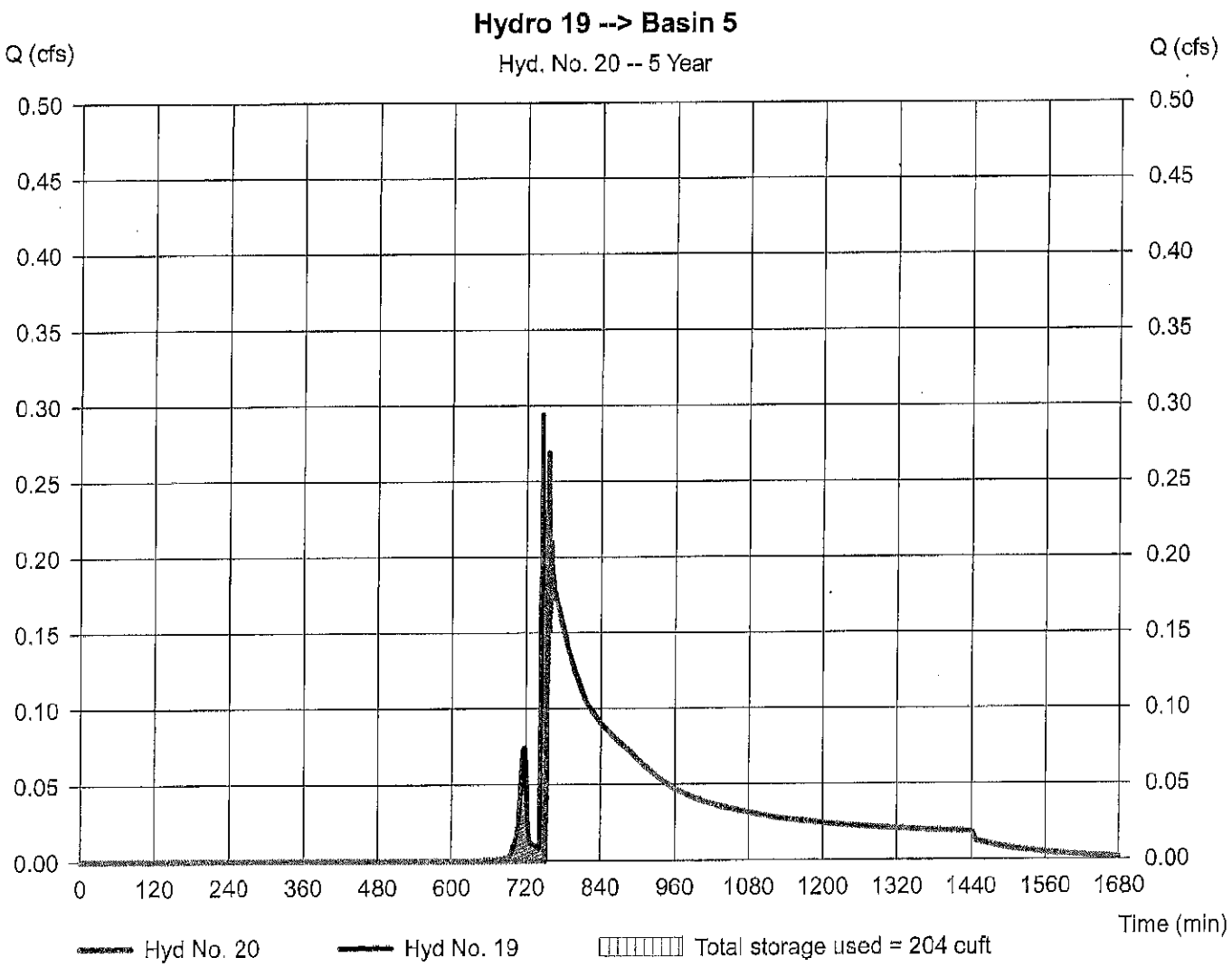
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 20

Hydro 19 --> Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.269 cfs
Storm frequency	= 5 yrs	Time to peak	= 756 min
Time interval	= 2 min	Hyd. volume	= 2,033 cuft
Inflow hyd. No.	= 19 - Hydro 18 to DA 5	Max. Elevation	= 349.43 ft
Reservoir name	= Basin 5	Max. Storage	= 204 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs by Intellisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	1.038	2	718	2,129	----	------	------	Pre-Condition
2	SCS Runoff	2.037	2	716	4,113	----	------	------	Post-Condition
3	SCS Runoff	1.313	2	718	2,635	----	------	------	DA to Basin 1
4	SCS Runoff	0.319	2	716	643	----	------	------	DA to Basin 2
5	SCS Runoff	0.159	2	716	322	----	------	------	DA to Basin 3
6	SCS Runoff	0.119	2	716	241	----	------	------	DA to Basin 4
7	SCS Runoff	0.100	2	718	200	----	------	------	DA to Basin 5
8	Reservoir	0.243	2	726	2,628	3	356.22	998	Route to Basin 1
9	Reservoir	0.028	2	754	271	4	354.80	373	Route to Basin 2
10	Reservoir	0.006	2	854	90	5	353.00	232	Route to Basin 3
11	Reservoir	0.002	2	996	42	6	351.30	199	Route to Basin 4
12	Reservoir	0.003	2	1430	1	7	349.40	199	Route to Basin 5
13	Combine	0.509	2	718	3,271	4, 8,	------	------	Route 1 to DA 2
14	Reservoir	0.498	2	722	2,899	13	354.84	389	Hydro 13 --> Basin 2
15	Combine	0.579	2	722	3,221	5, 14	------	------	14 --> DA 3
16	Reservoir	0.368	2	726	2,989	15	353.03	240	Hydro 15 --> Basin 3
17	Combine	0.389	2	726	3,230	6, 16	------	------	Hydro 16 --> DA 4
18	Reservoir	0.338	2	730	3,032	17	351.32	205	Hydro 17 --> Basin 4
19	Combine	0.353	2	730	3,232	7, 18	------	------	Hydro 18 to DA 5
20	Reservoir	0.429	2	734	3,033	19	349.45	207	Hydro 19 --> Basin 5

Hydrograph Report

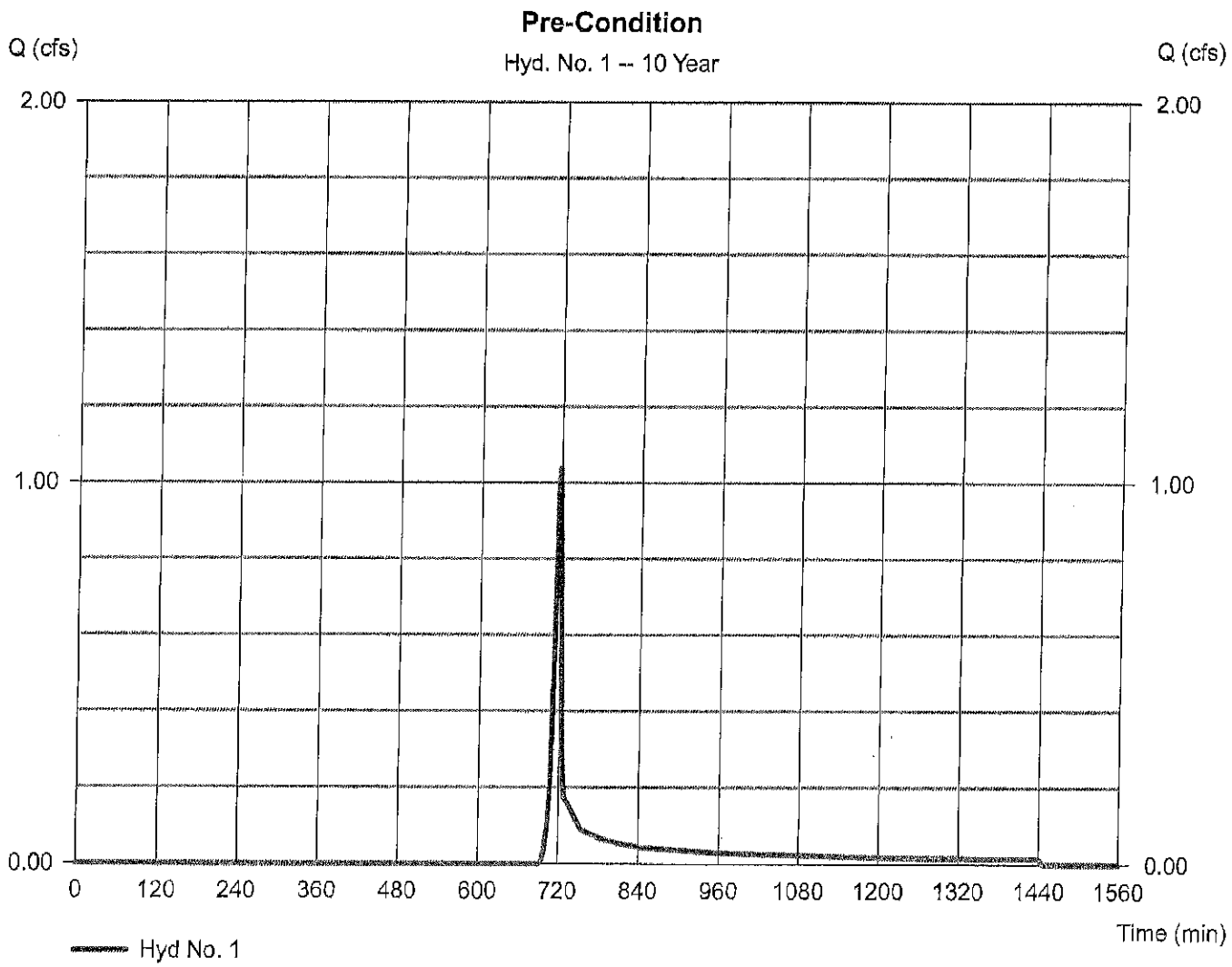
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 1

Pre-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 1.038 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 2,129 cuft
Drainage area	= 0.530 ac	Curve number	= 60*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.509 x 58) + (0.022 x 98)] / 0.530



Hydrograph Report

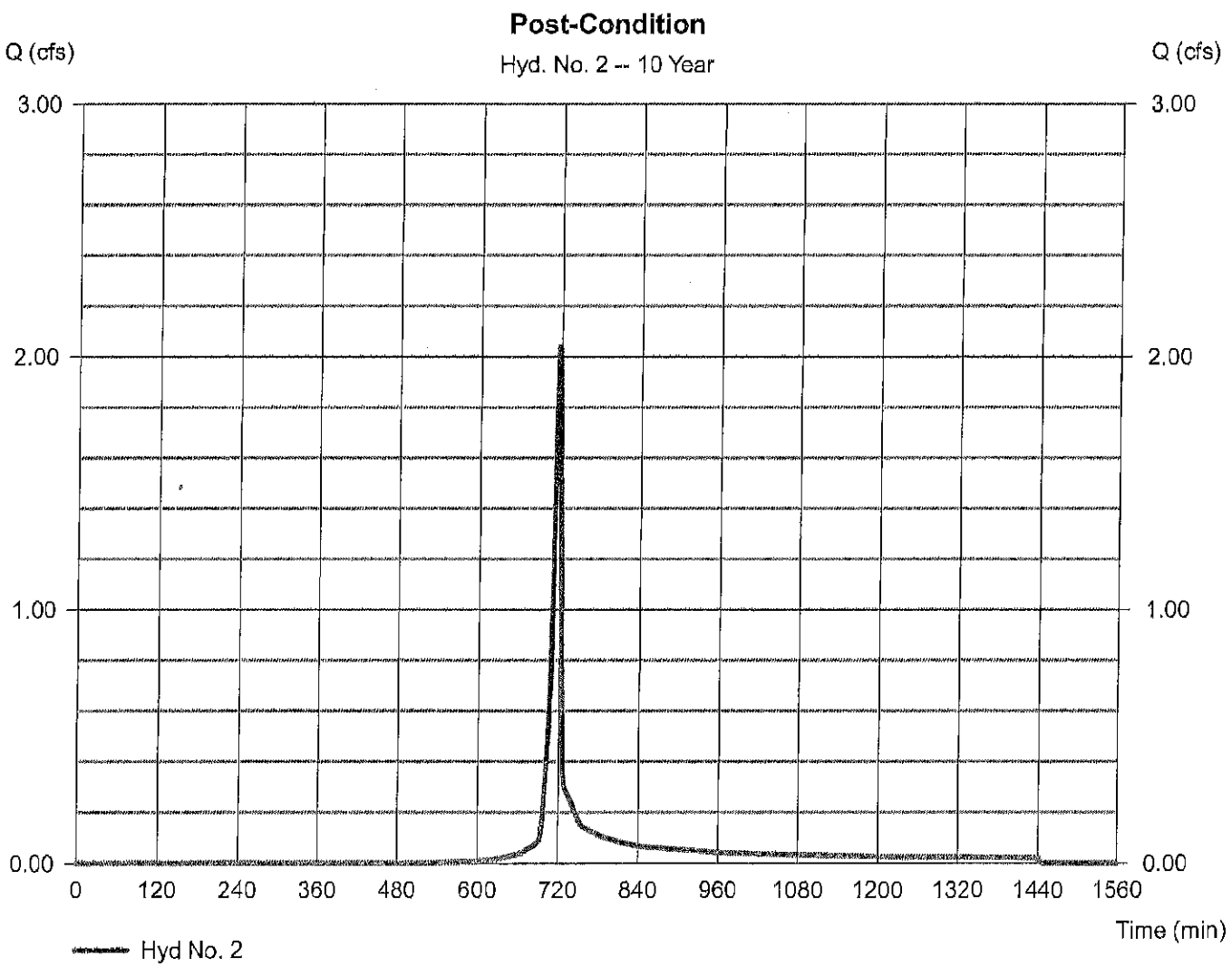
Hydraflow Hydrographs by Intellisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 2

Post-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 2.037 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 4,113 cuft
Drainage area	= 0.530 ac	Curve number	= 75*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.327 x 61) + (0.204 x 98)] / 0.530



Hydrograph Report

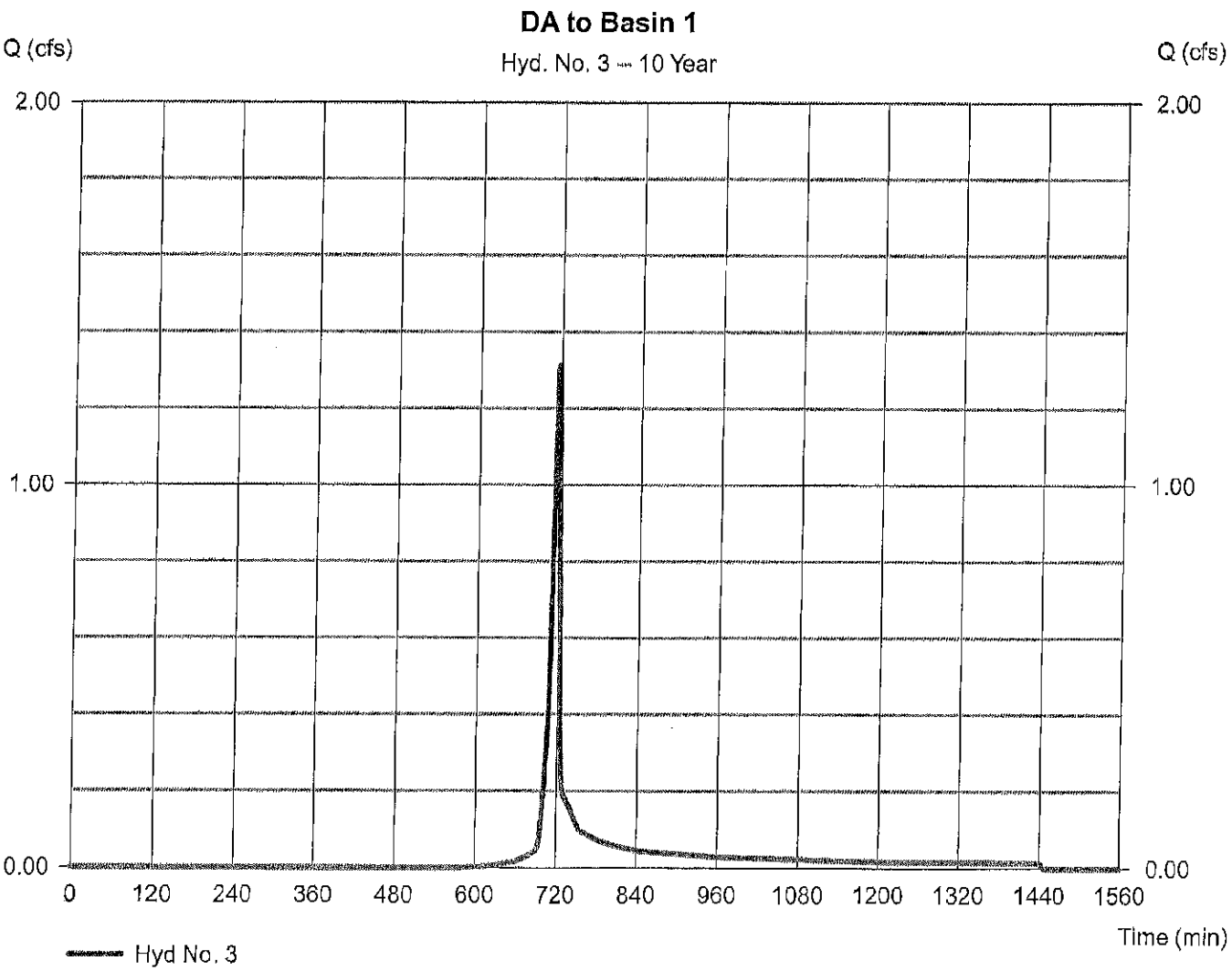
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 3

DA to Basin 1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.313 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 2,635 cuft
Drainage area	= 0.380 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.261 x 61) + (0.116 x 98)] / 0.380



Hydrograph Report

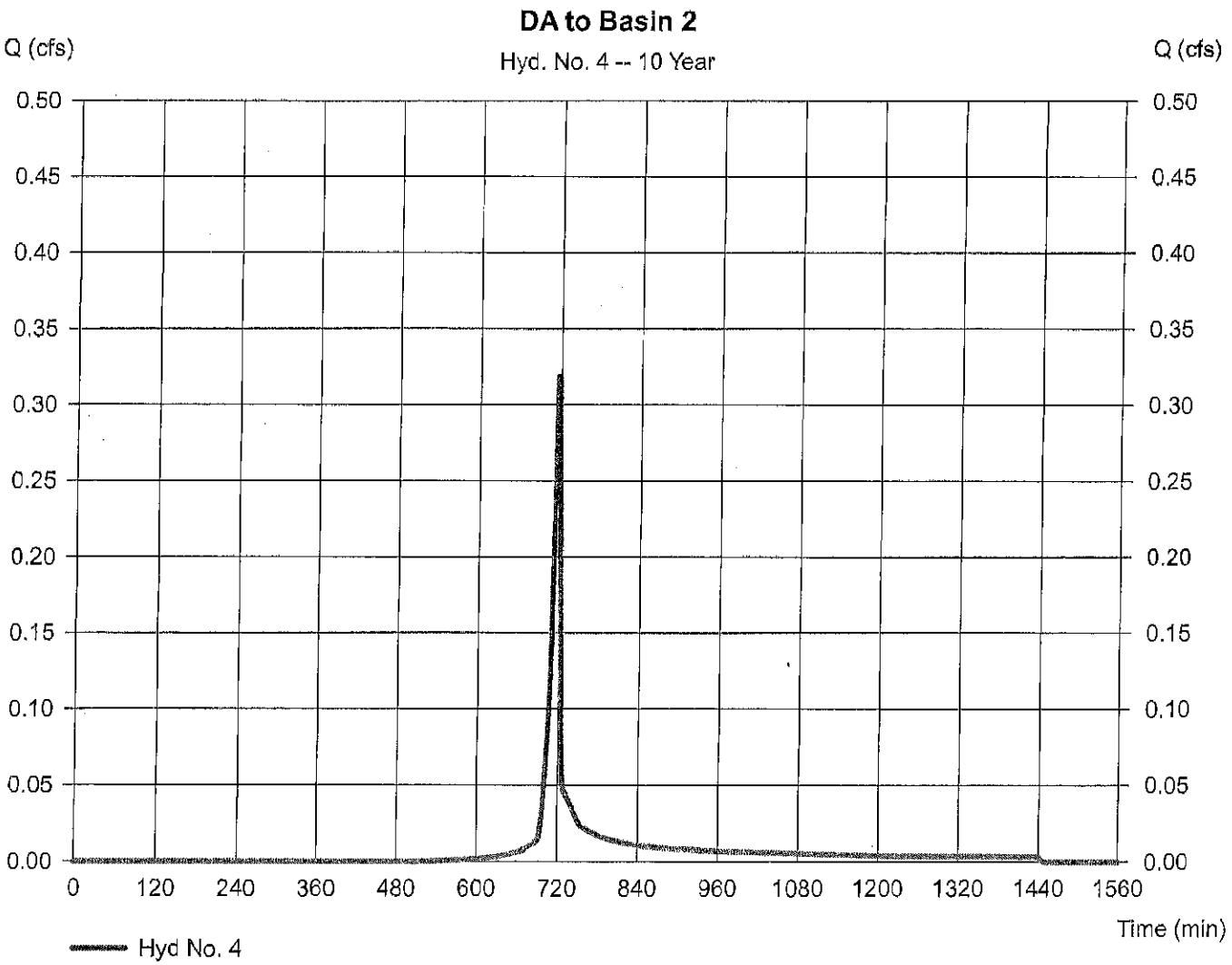
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 4

DA to Basin 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.319 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 643 cuft
Drainage area	= 0.080 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.046 x 61) + (0.031 x 98)] / 0.080



Hydrograph Report

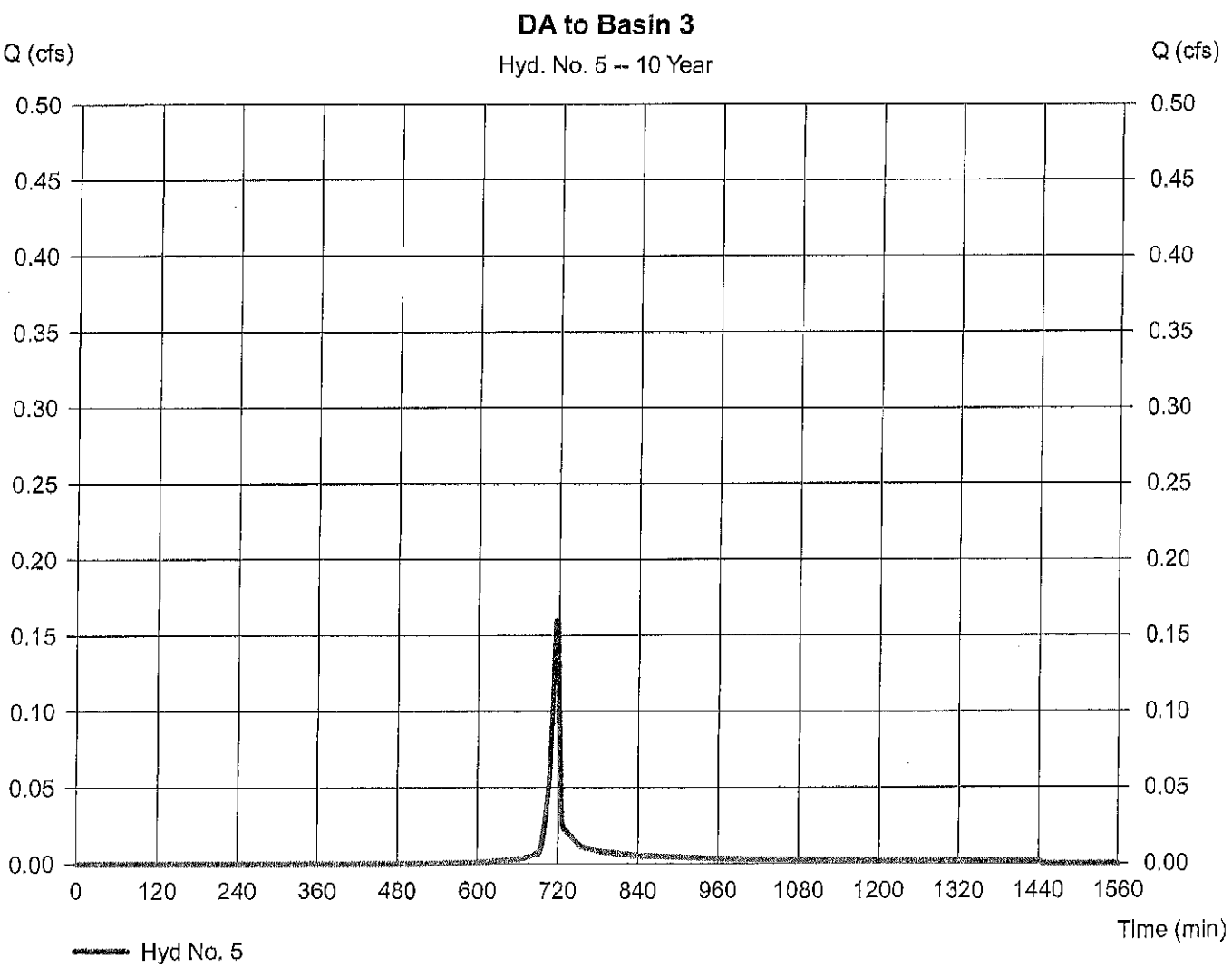
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 5

DA to Basin 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.159 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 322 cuft
Drainage area	= 0.040 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.021 x 61) + (0.014 x 98)] / 0.040



Hydrograph Report

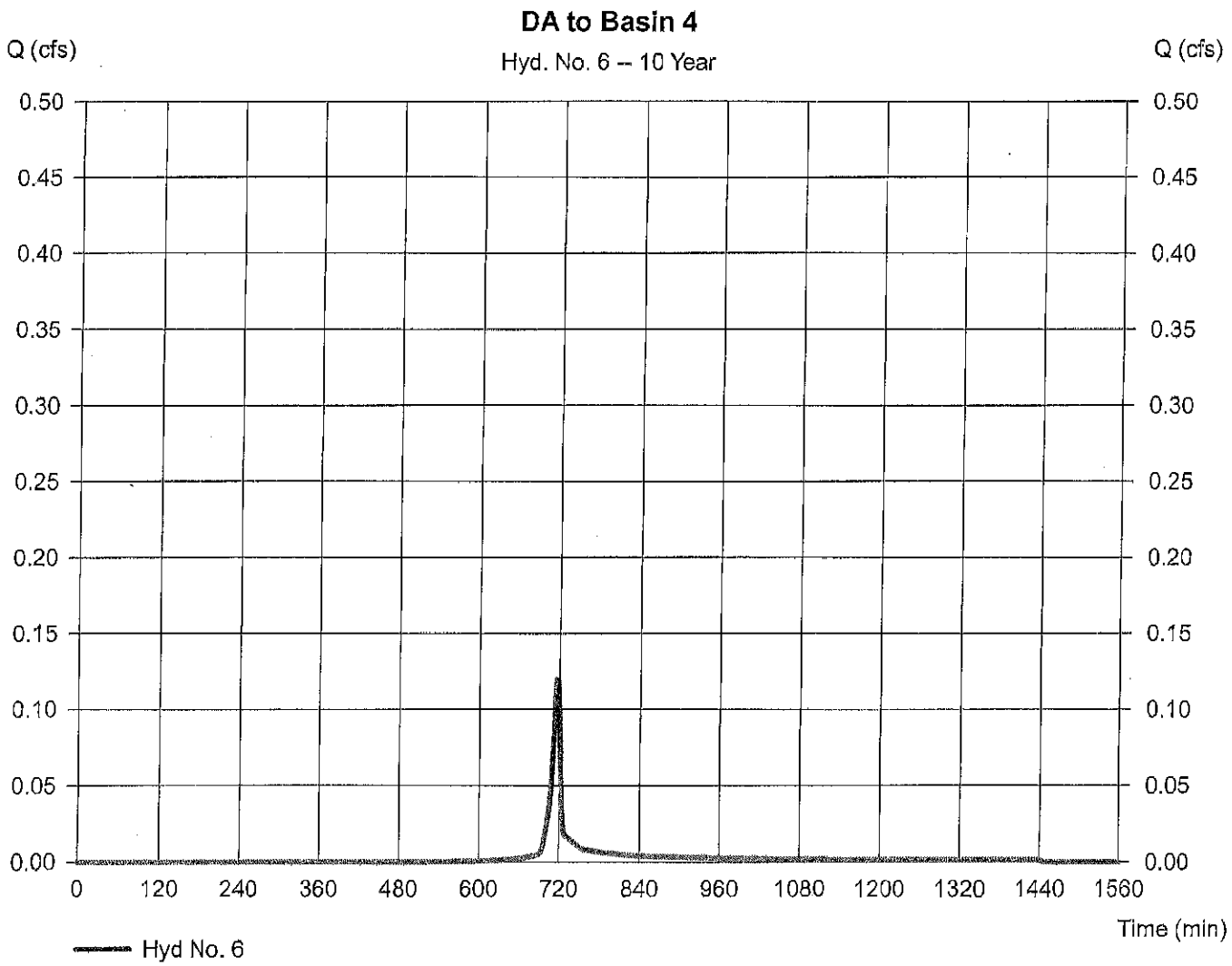
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 6

DA to Basin 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.119 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 241 cuft
Drainage area	= 0.030 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.017 x 61) + (0.011 x 98)] / 0.030



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

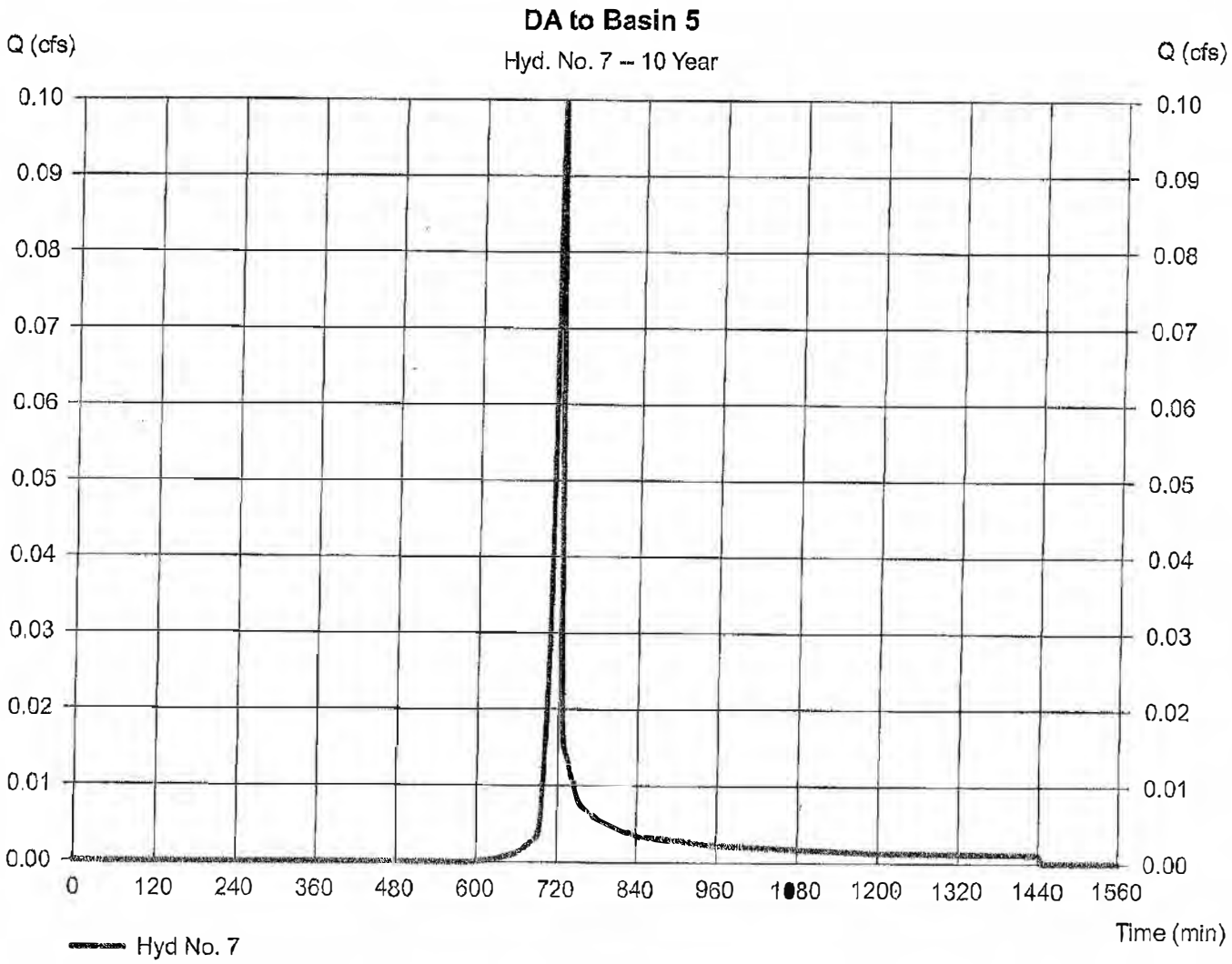
Tuesday, Jun 14, 2022

Hyd. No. 7

DA to Basin 5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.100 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 200 cuft
Drainage area	= 0.030 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.023 x 61) + (0.009 x 98)] / 0.030



Hydrograph Report

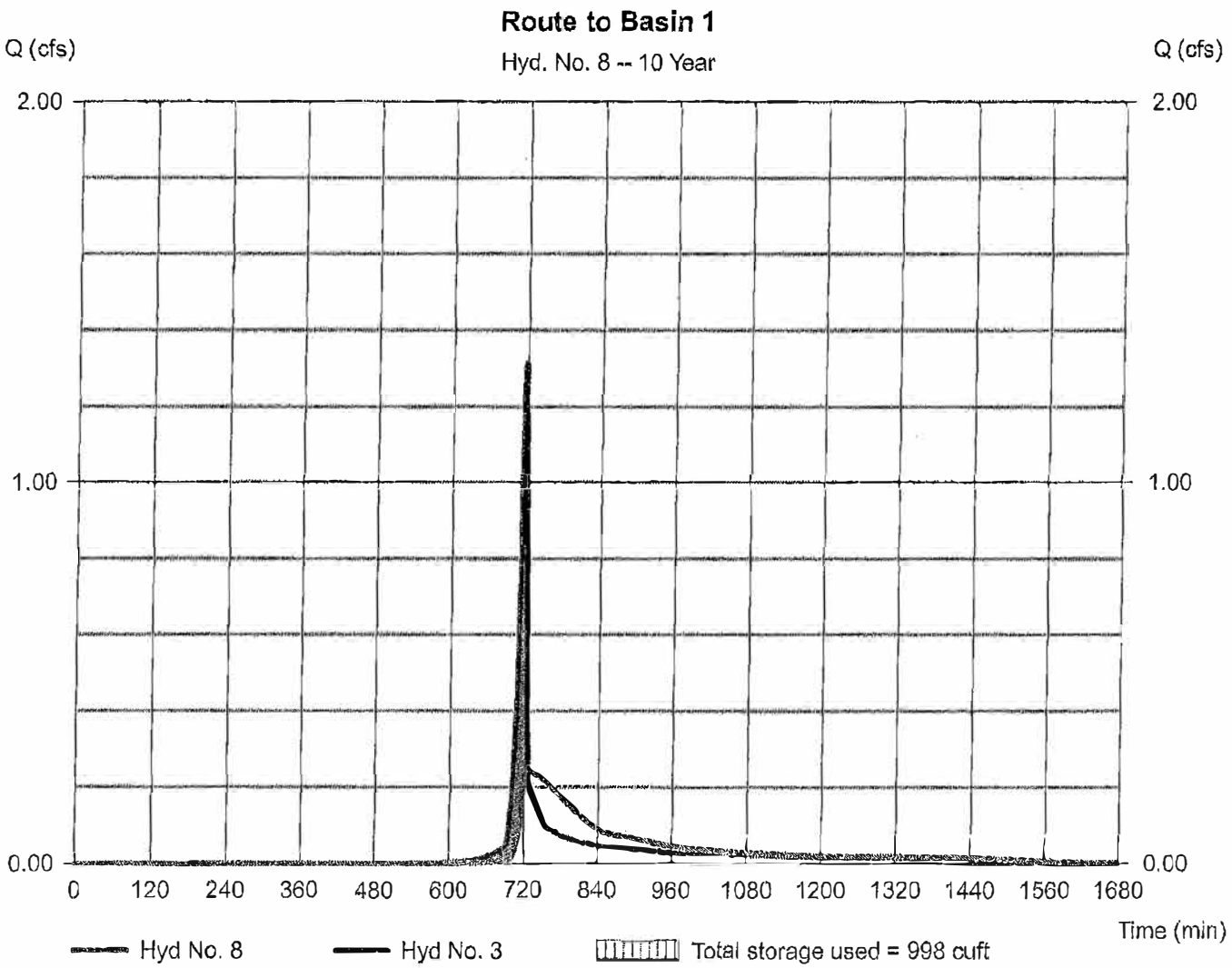
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 8

Route to Basin 1

Hydrograph type	= Reservoir	Peak discharge	= 0.243 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 2,628 cuft
Inflow hyd. No.	= 3 - DA to Basin 1	Max. Elevation	= 356.22 ft
Reservoir name	= Basin 1	Max. Storage	= 998 cuft

Storage Indication method used.



Hydrograph Report

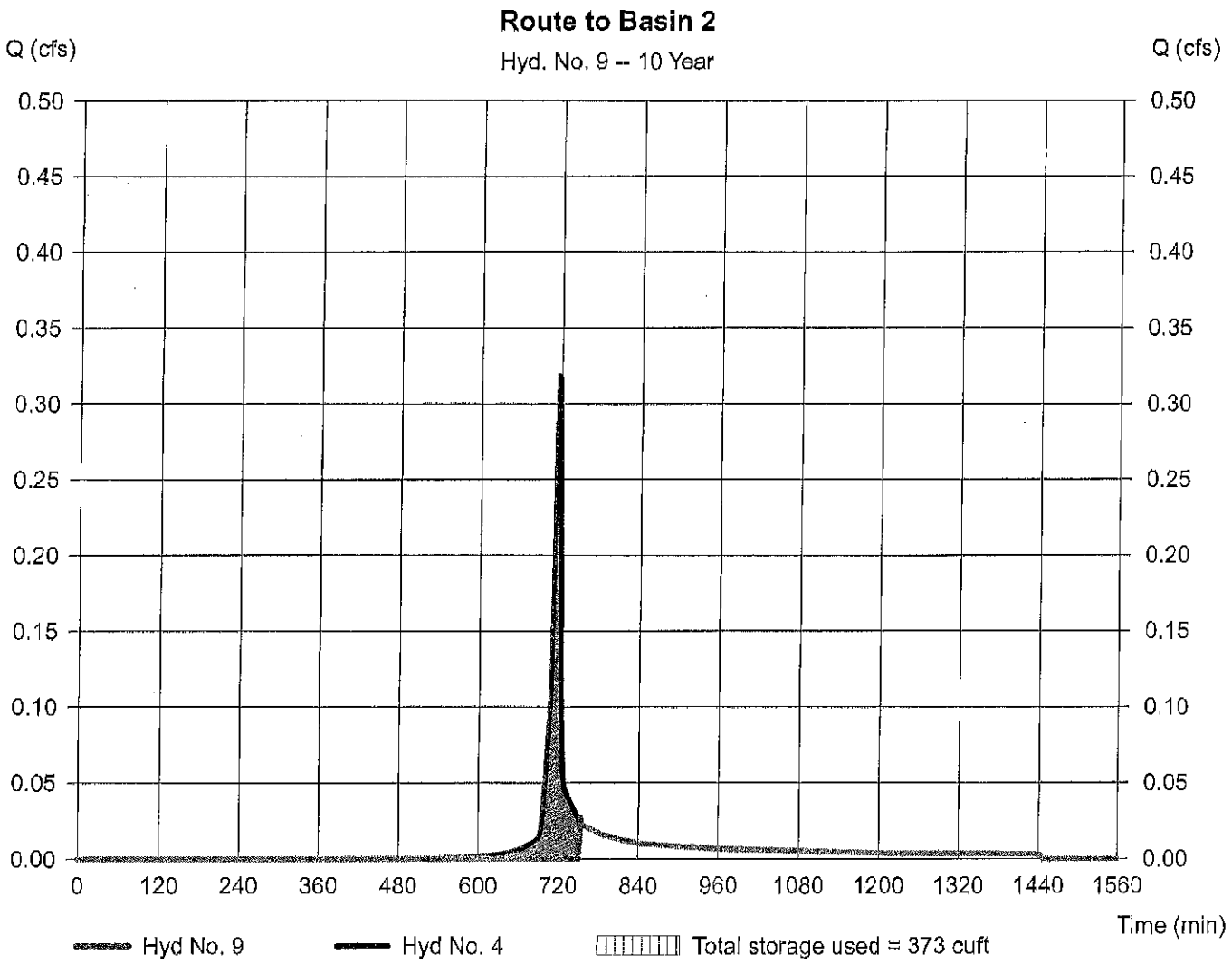
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 9

Route to Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.028 cfs
Storm frequency	= 10 yrs	Time to peak	= 754 min
Time interval	= 2 min	Hyd. volume	= 271 cuft
Inflow hyd. No.	= 4 - DA to Basin 2	Max. Elevation	= 354.80 ft
Reservoir name	= Basin 2	Max. Storage	= 373 cuft

Storage Indication method used.



Hydrograph Report

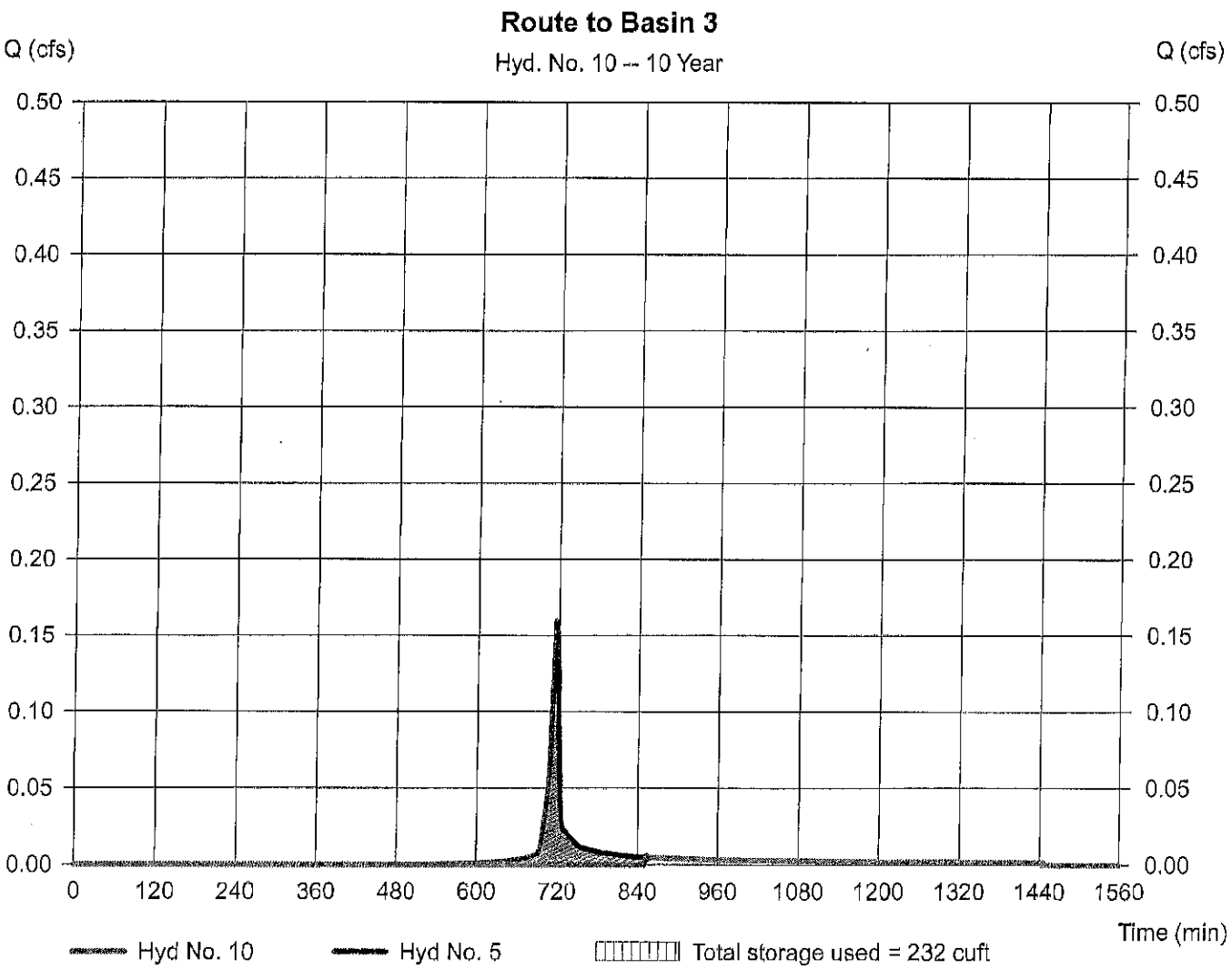
Hydraflow Hydrographs by Intellisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 10

Route to Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.006 cfs
Storm frequency	= 10 yrs	Time to peak	= 854 min
Time interval	= 2 min	Hyd. volume	= 90 cuft
Inflow hyd. No.	= 5 - DA to Basin 3	Max. Elevation	= 353.00 ft
Reservoir name	= Basin 3	Max. Storage	= 232 cuft

Storage Indication method used.



Hydrograph Report

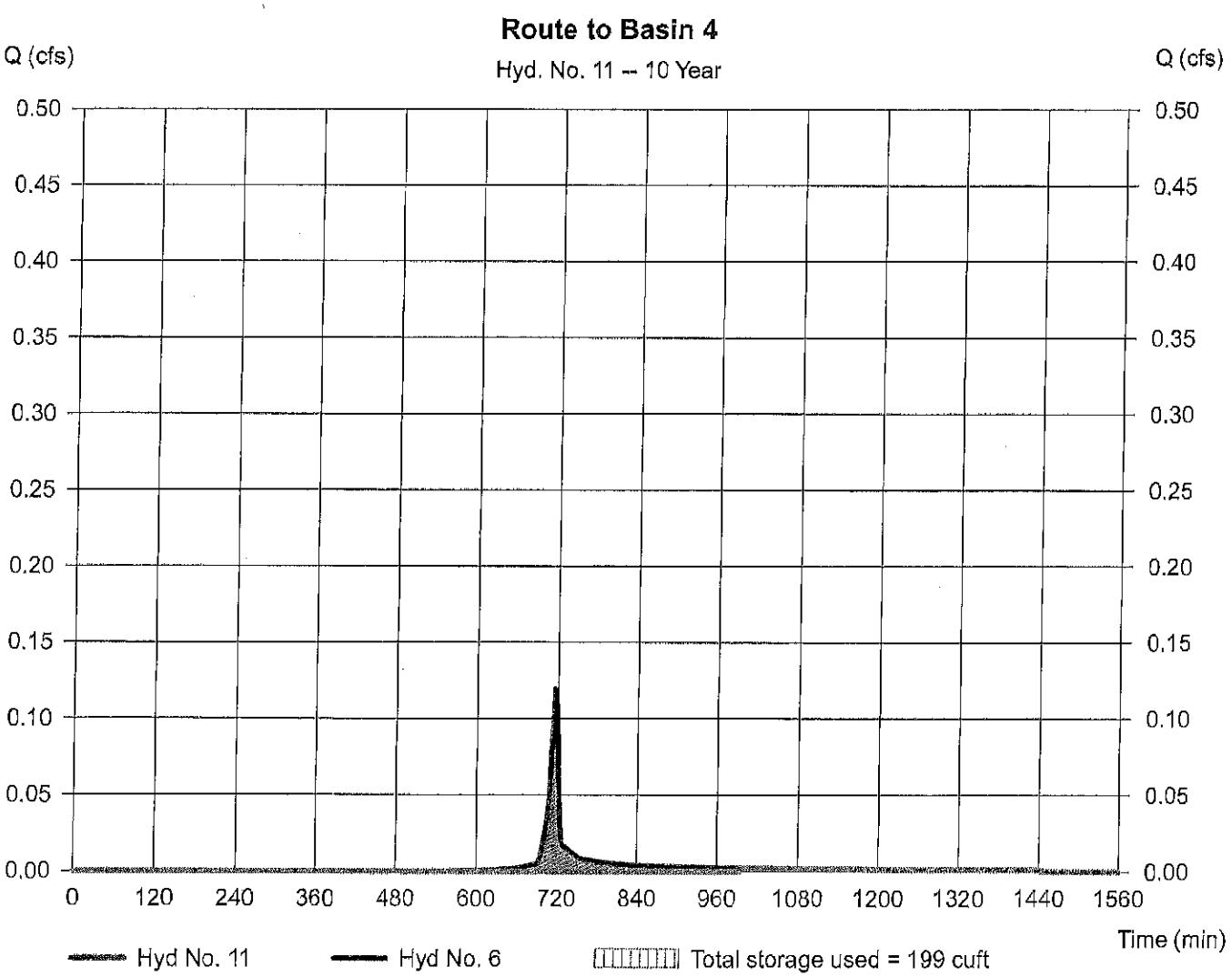
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 11

Route to Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.002 cfs
Storm frequency	= 10 yrs	Time to peak	= 996 min
Time interval	= 2 min	Hyd. volume	= 42 cuft
Inflow hyd. No.	= 6 - DA to Basin 4	Max. Elevation	= 351.30 ft
Reservoir name	= Basin 4	Max. Storage	= 199 cuft

Storage Indication method used.



Hydrograph Report

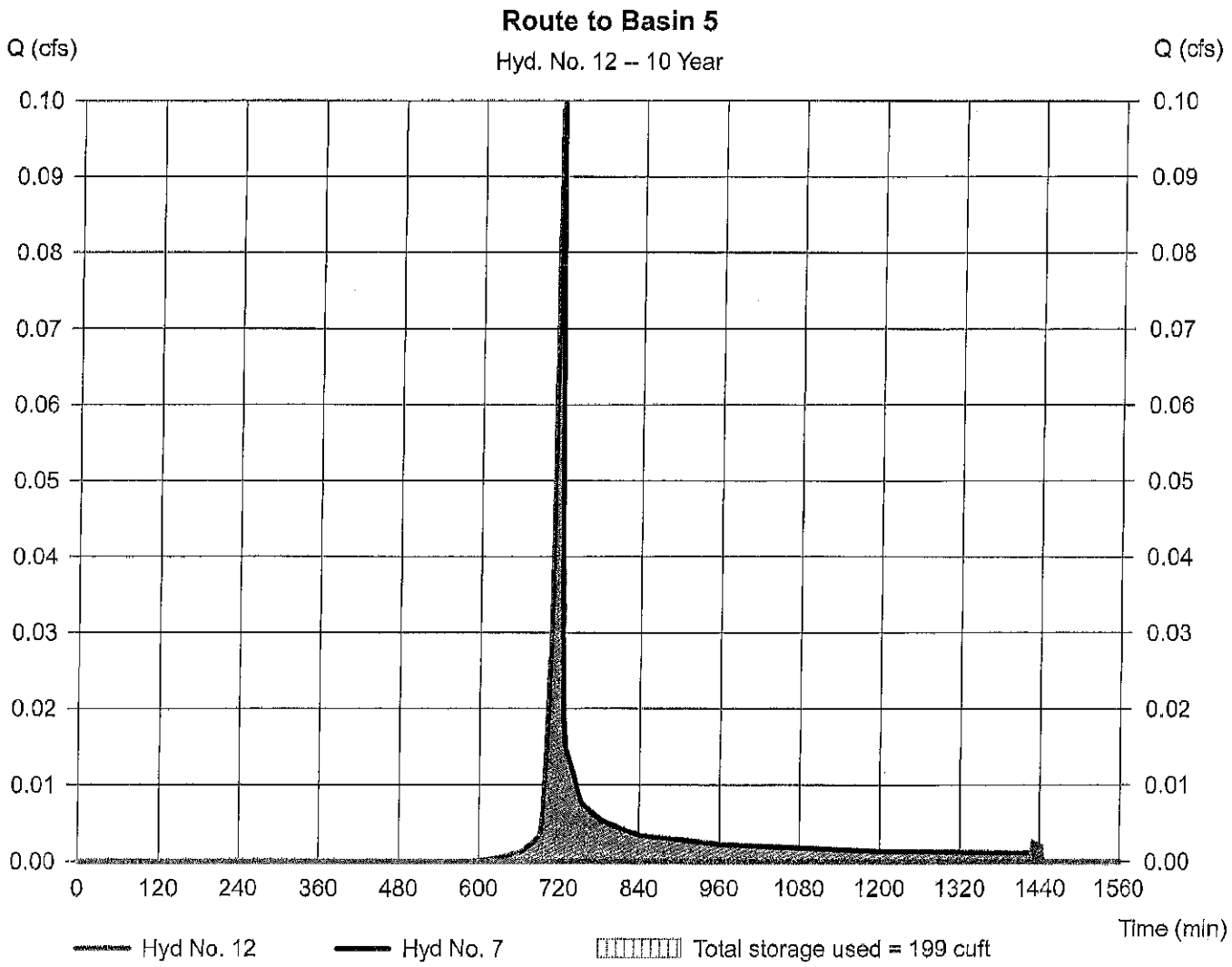
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 12

Route to Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.003 cfs
Storm frequency	= 10 yrs	Time to peak	= 1430 min
Time interval	= 2 min	Hyd. volume	= 1 cuft
Inflow hyd. No.	= 7 - DA to Basin 5	Max. Elevation	= 349.40 ft
Reservoir name	= Basin 5	Max. Storage	= 199 cuft

Storage Indication method used.



Hydrograph Report

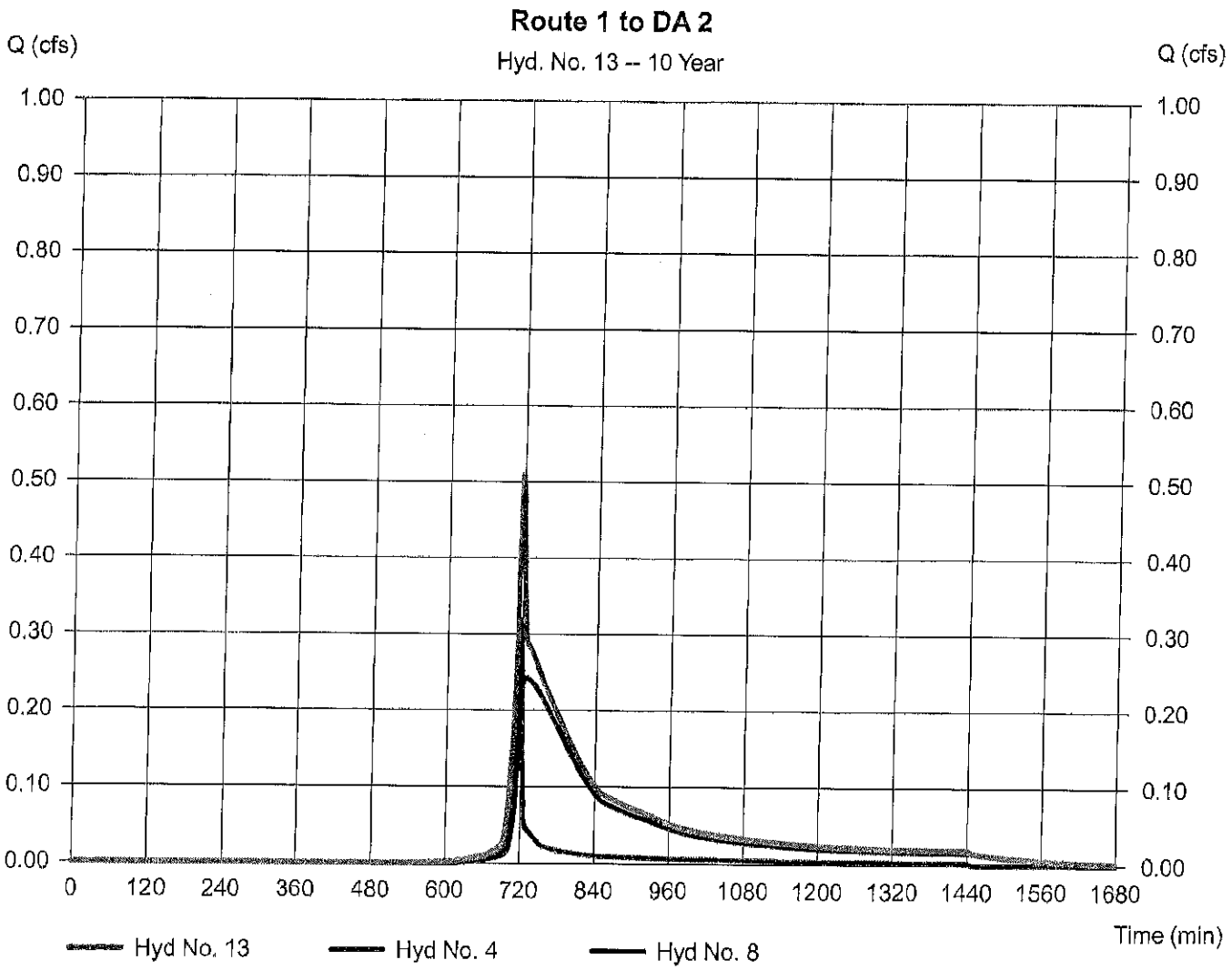
Hydraflow Hydrographs by Intellisolve v9.1

Tuesday, Jun 14, 2022

Hyd. No. 13

Route 1 to DA 2

Hydrograph type	= Combine	Peak discharge	= 0.509 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 3,271 cuft
Inflow hyds.	= 4, 8	Contrib. drain. area	= 0.080 ac



Hydrograph Report

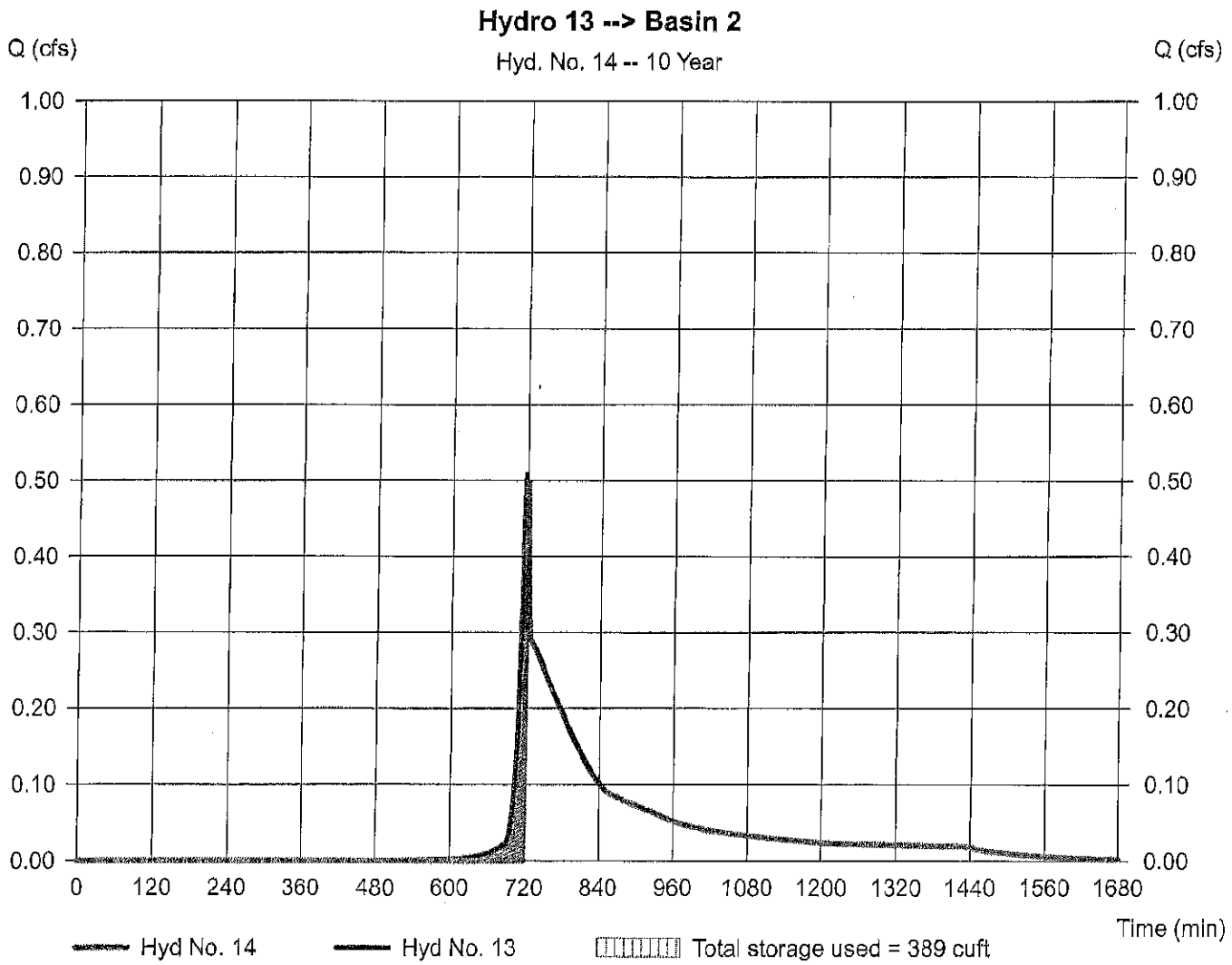
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 14

Hydro 13 --> Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.498 cfs
Storm frequency	= 10 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 2,899 cuft
Inflow hyd. No.	= 13 - Route 1 to DA 2	Max. Elevation	= 354.84 ft
Reservoir name	= Basin 2	Max. Storage	= 389 cuft

Storage Indication method used.



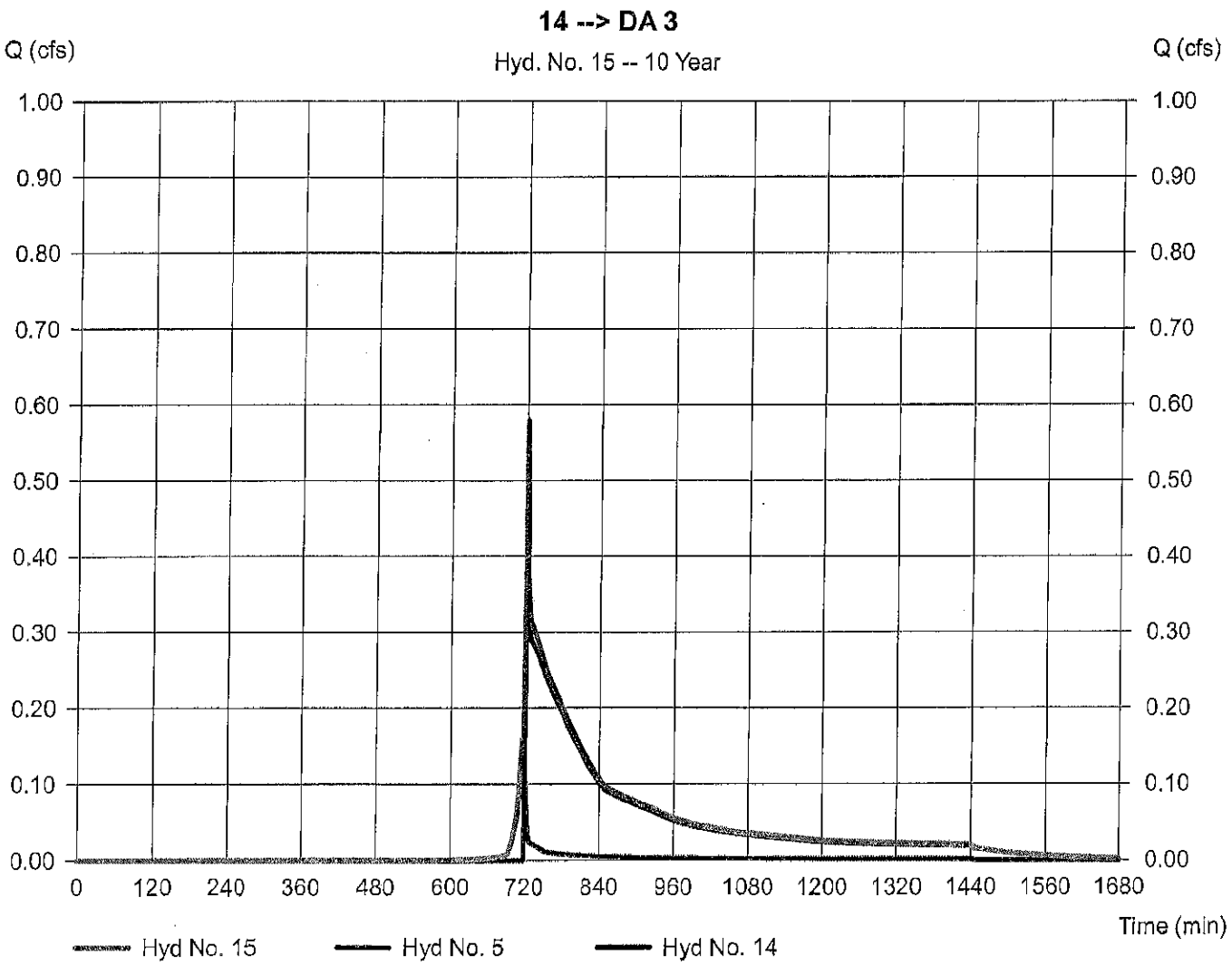
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 15

14 --> DA 3

Hydrograph type	= Combine	Peak discharge	= 0.579 cfs
Storm frequency	= 10 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 3,221 cuft
Inflow hyds.	= 5, 14	Contrib. drain. area	= 0.040 ac



Hydrograph Report

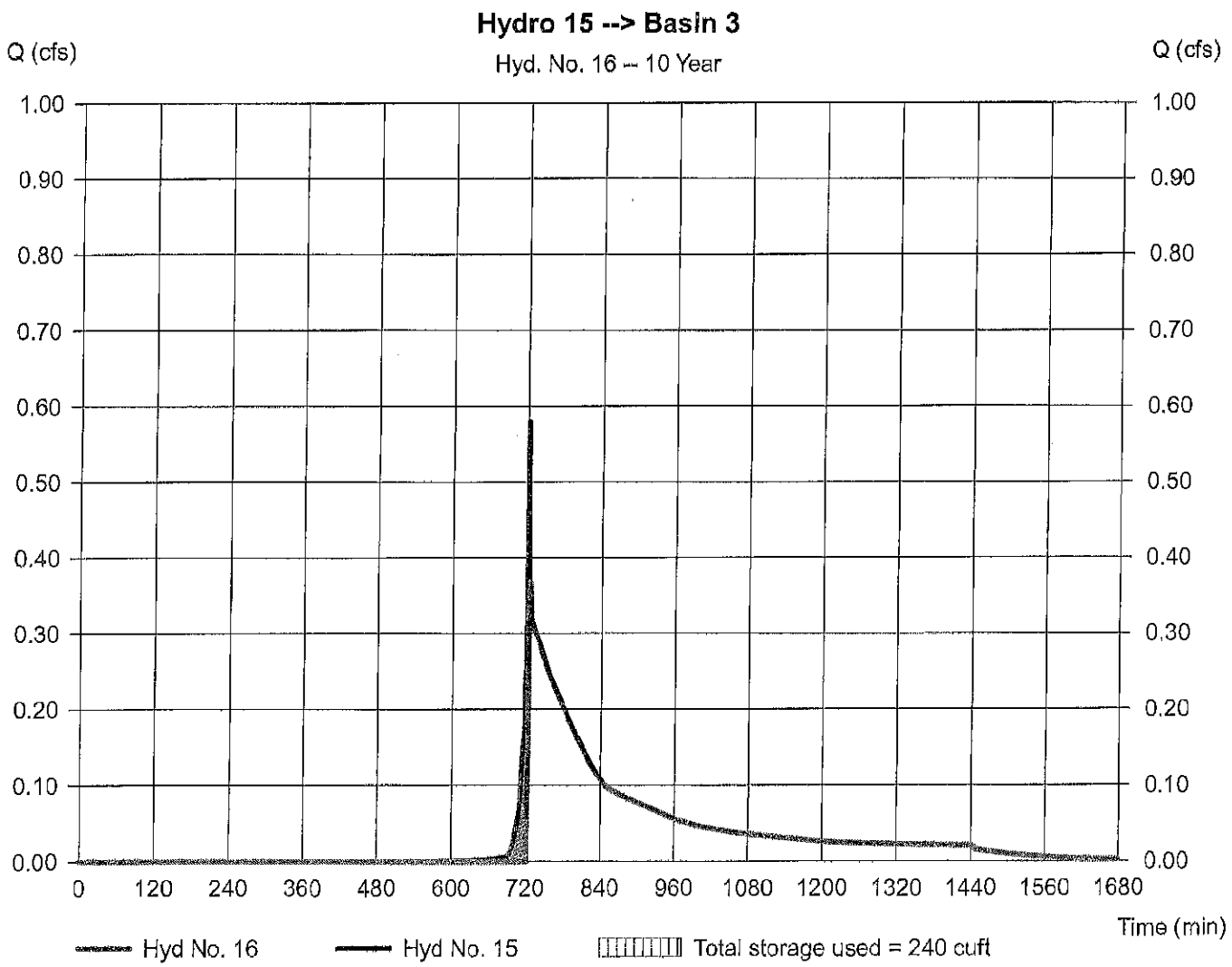
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 16

Hydro 15 --> Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.368 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 2,989 cuft
Inflow hyd. No.	= 15 - 14 --> DA 3	Max. Elevation	= 353.03 ft
Reservoir name	= Basin 3	Max. Storage	= 240 cuft

Storage Indication method used.



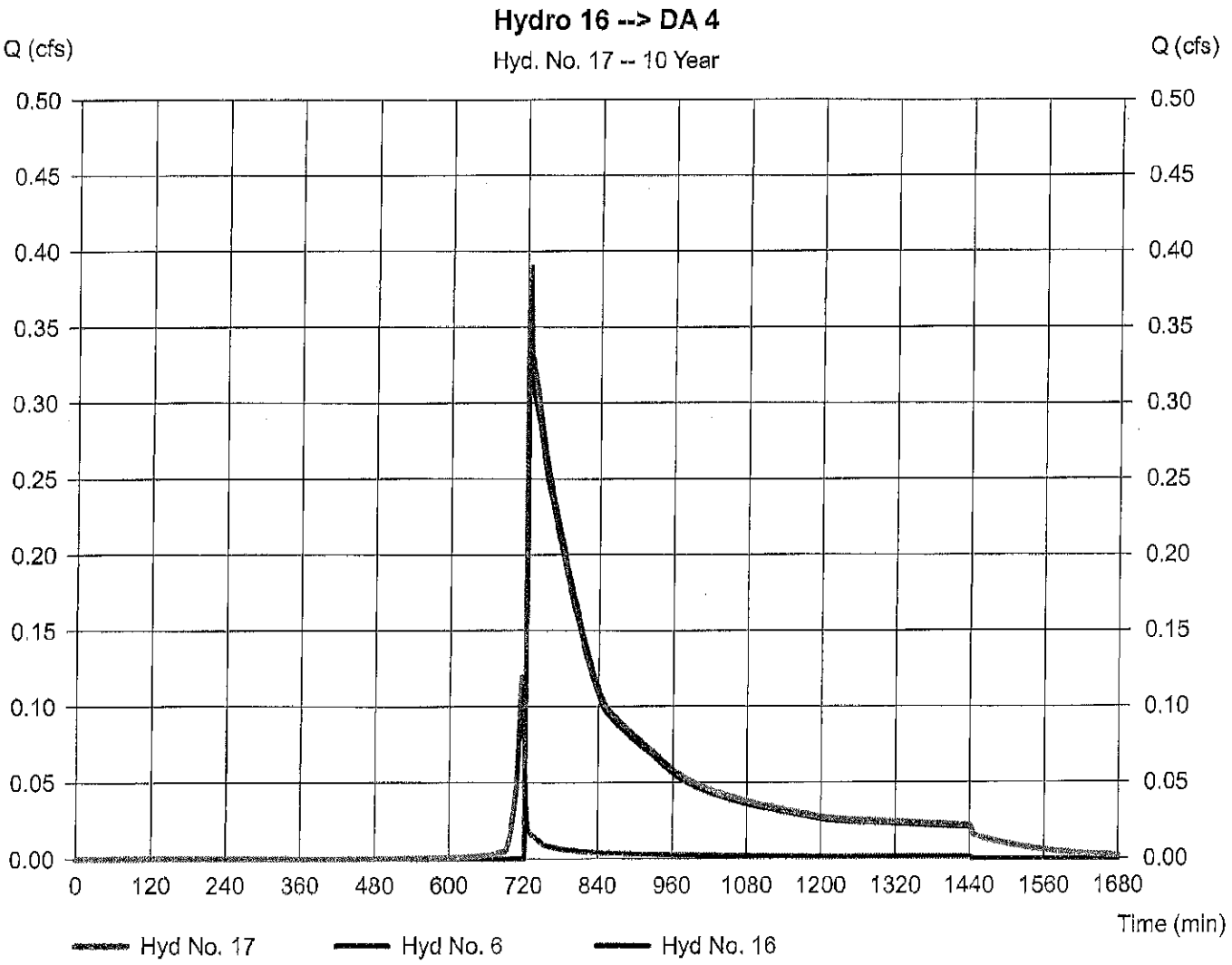
Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 17

Hydro 16 --> DA 4

Hydrograph type	= Combine	Peak discharge	= 0.389 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 3,230 cuft
Inflow hyds.	= 6, 16	Contrib. drain. area	= 0.030 ac



Hydrograph Report

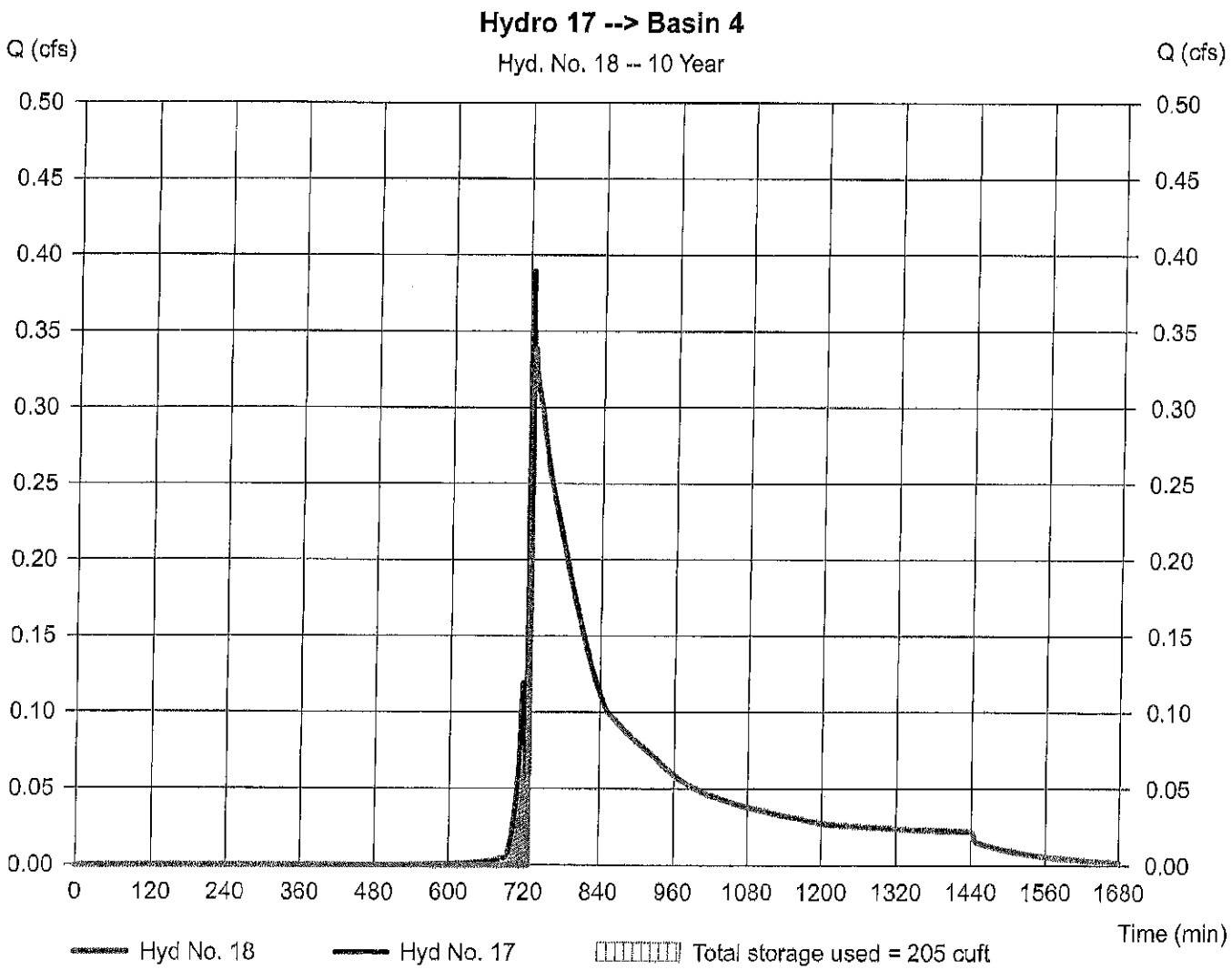
Hydraflow Hydrographs by Intellisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 18

Hydro 17 --> Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.338 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 3,032 cuft
Inflow hyd. No.	= 17 - Hydro 16 --> DA 4	Max. Elevation	= 351.32 ft
Reservoir name	= Basin 4	Max. Storage	= 205 cuft

Storage Indication method used.



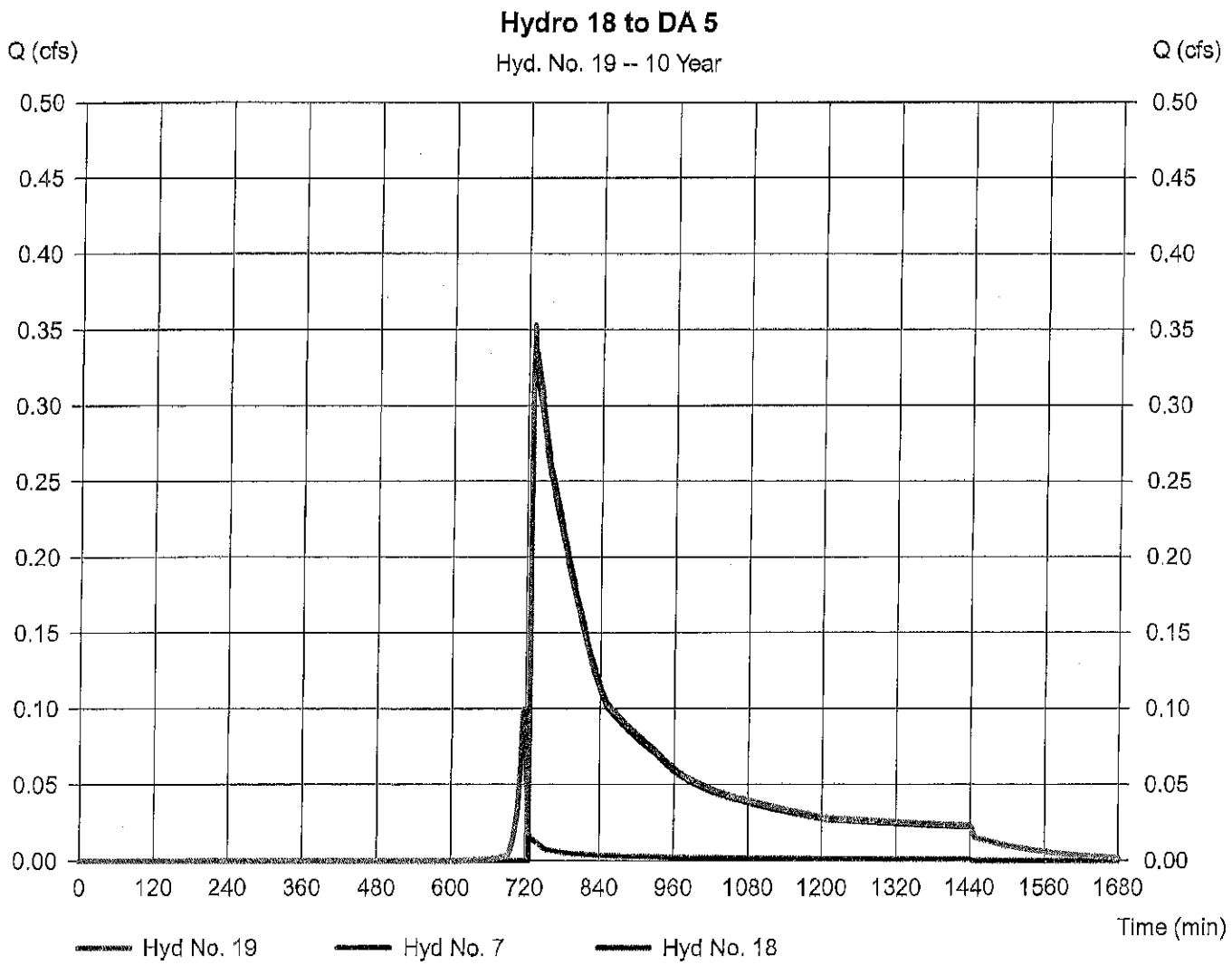
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 19

Hydro 18 to DA 5

Hydrograph type	= Combine	Peak discharge	= 0.353 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 3,232 cuft
Inflow hyds.	= 7, 18	Contrib. drain. area	= 0.030 ac



Hydrograph Report

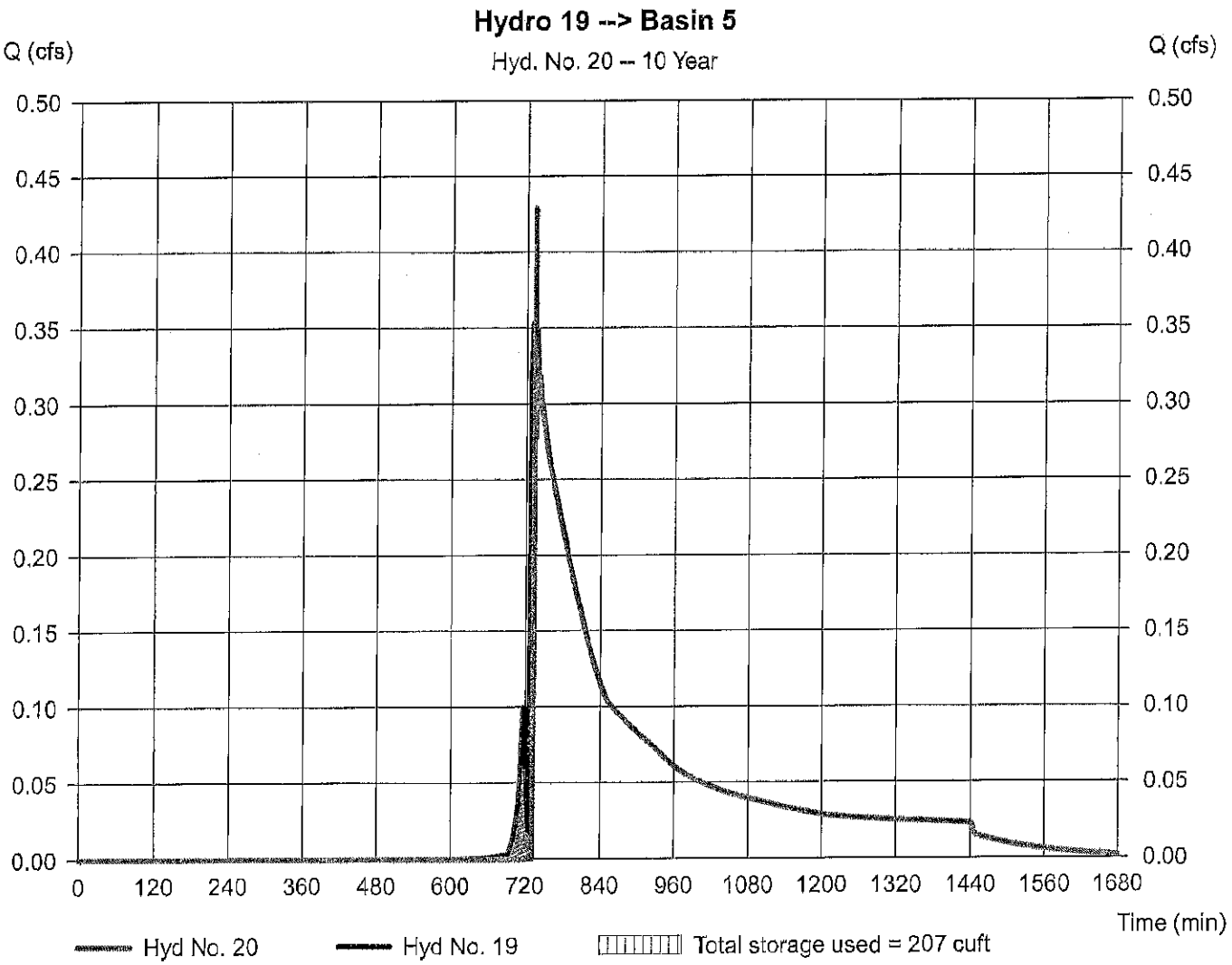
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 20

Hydro 19 --> Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.429 cfs
Storm frequency	= 10 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 3,033 cuft
Inflow hyd. No.	= 19 - Hydro 18 to DA 5	Max. Elevation	= 349.45 ft
Reservoir name	= Basin 5	Max. Storage	= 207 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs by Intellisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time Interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	1.602	2	718	3,221	----	------	------	Pre-Condition
2	SCS Runoff	2.765	2	716	5,598	----	------	------	Post-Condition
3	SCS Runoff	1.807	2	716	3,650	----	------	------	DA to Basin 1
4	SCS Runoff	0.430	2	716	871	----	------	------	DA to Basin 2
5	SCS Runoff	0.215	2	716	436	----	------	------	DA to Basin 3
6	SCS Runoff	0.161	2	716	327	----	------	------	DA to Basin 4
7	SCS Runoff	0.138	2	718	279	----	------	------	DA to Basin 5
8	Reservoir	0.310	2	726	3,643	3	356.52	1,442	Route to Basin 1
9	Reservoir	0.323	2	722	499	4	354.83	383	Route to Basin 2
10	Reservoir	0.040	2	732	204	5	353.00	232	Route to Basin 3
11	Reservoir	0.014	2	758	128	6	351.30	199	Route to Basin 4
12	Reservoir	0.006	2	854	80	7	349.40	199	Route to Basin 5
13	Combine	0.888	2	718	4,514	4, 8,	------	------	Route 1 to DA 2
14	Reservoir	0.767	2	716	4,142	13	354.86	398	Hydro 13 --> Basin 2
15	Combine	0.982	2	716	4,577	5, 14	------	------	14 --> DA 3
16	Reservoir	0.904	2	718	4,346	15	353.07	252	Hydro 15 --> Basin 3
17	Combine	1.063	2	718	4,672	6, 16	------	------	Hydro 16 --> DA 4
18	Reservoir	1.309	2	720	4,473	17	351.46	223	Hydro 17 --> Basin 4
19	Combine	1.420	2	720	4,752	7, 18	------	------	Hydro 18 to DA 5
20	Reservoir	1.529	2	722	4,553	19	349.67	227	Hydro 19 --> Basin 5

Hydrograph Report

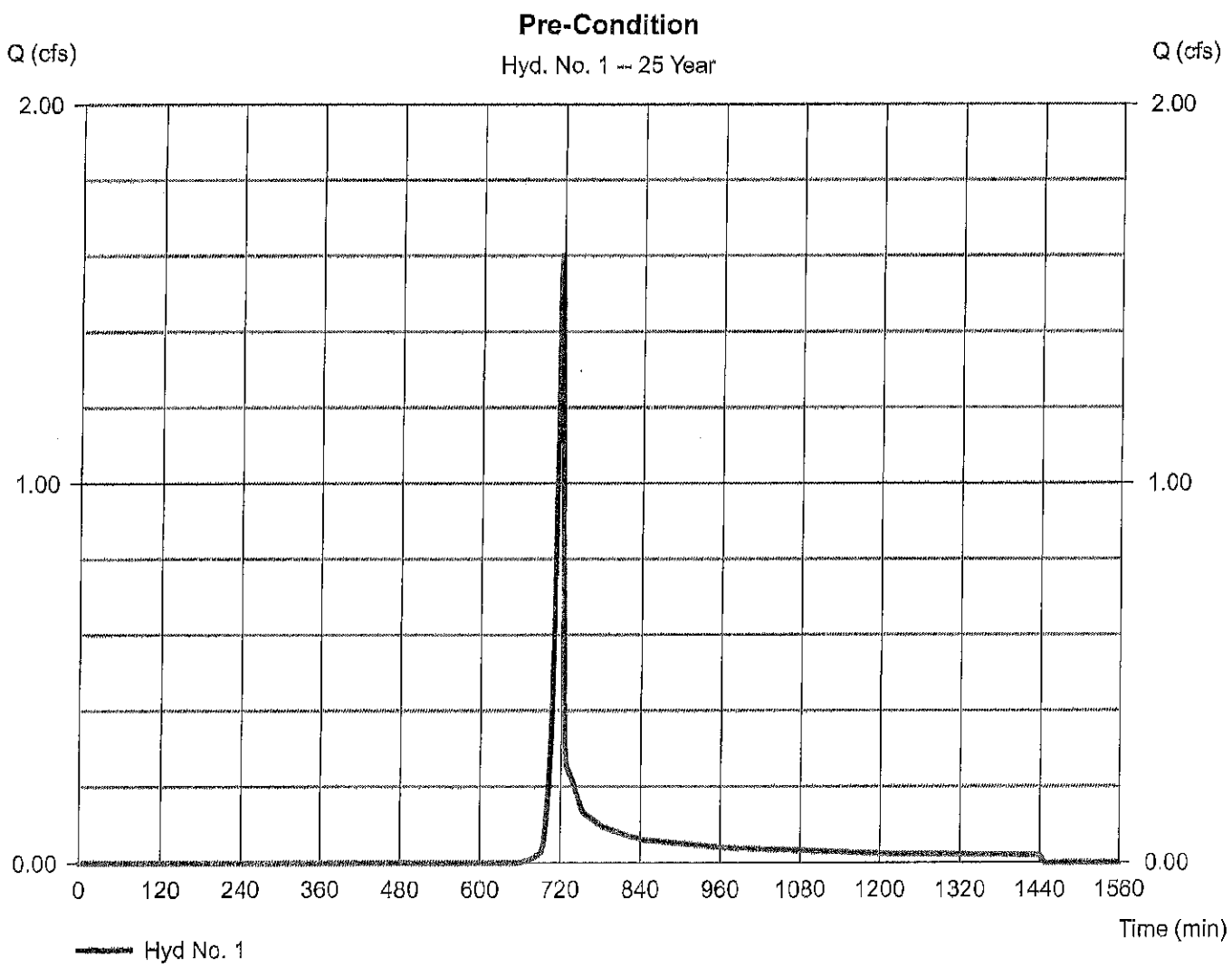
Hydraflow Hydrographs by Intellsolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 1

Pre-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 1.602 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 3,221 cuft
Drainage area	= 0.530 ac	Curve number	= 60*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.509 x 58) + (0.022 x 98)] / 0.530



Hydrograph Report

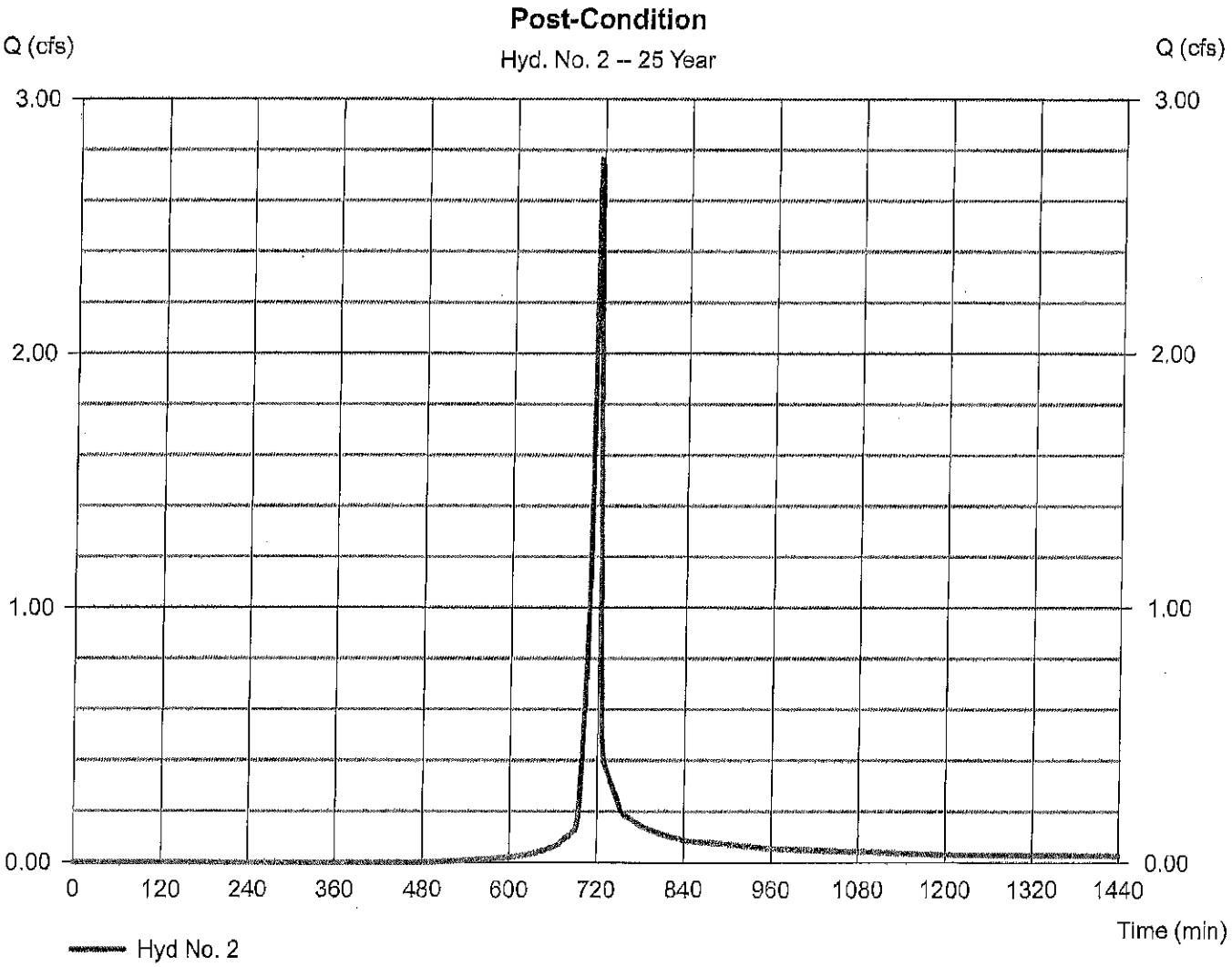
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 2

Post-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 2.765 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 5,598 cuft
Drainage area	= 0.530 ac	Curve number	= 75*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.327 x 61) + (0.204 x 98)] / 0.530



Hydrograph Report

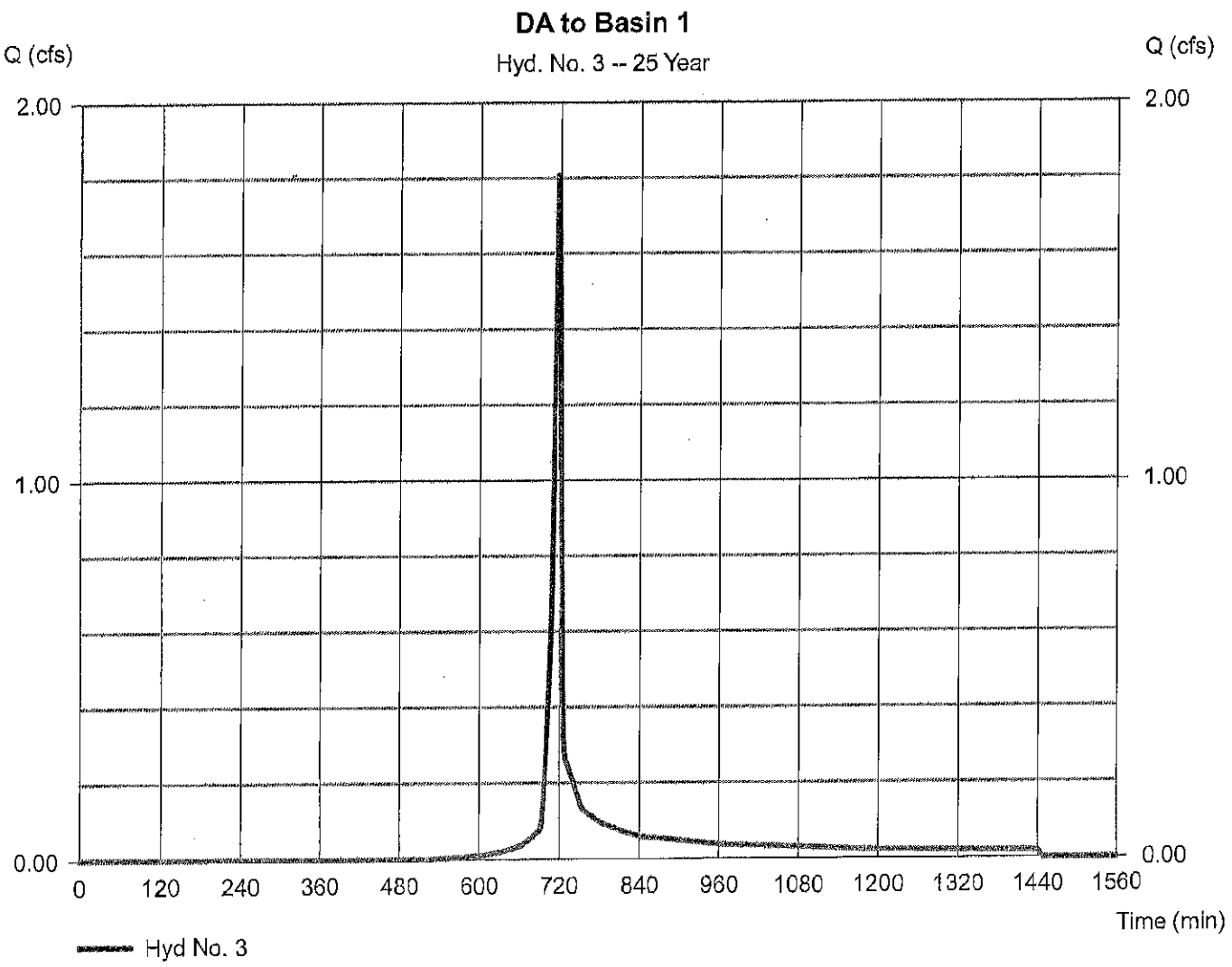
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 3

DA to Basin 1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.807 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 3,650 cuft
Drainage area	= 0.380 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.261 x 61) + (0.116 x 98)] / 0.380



Hydrograph Report

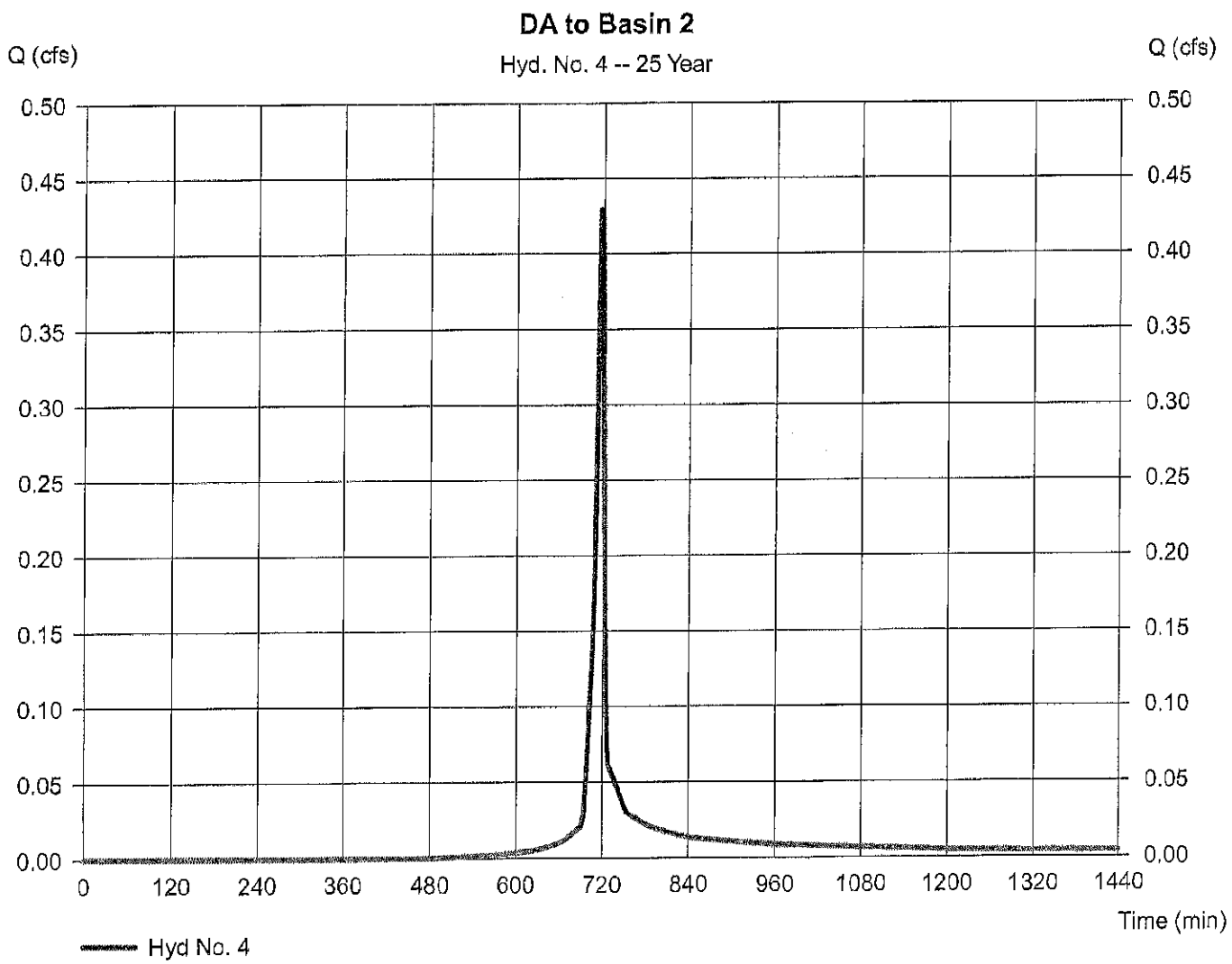
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 4

DA to Basin 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.430 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 871 cuft
Drainage area	= 0.080 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.048 x 61) + (0.031 x 98)] / 0.080



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

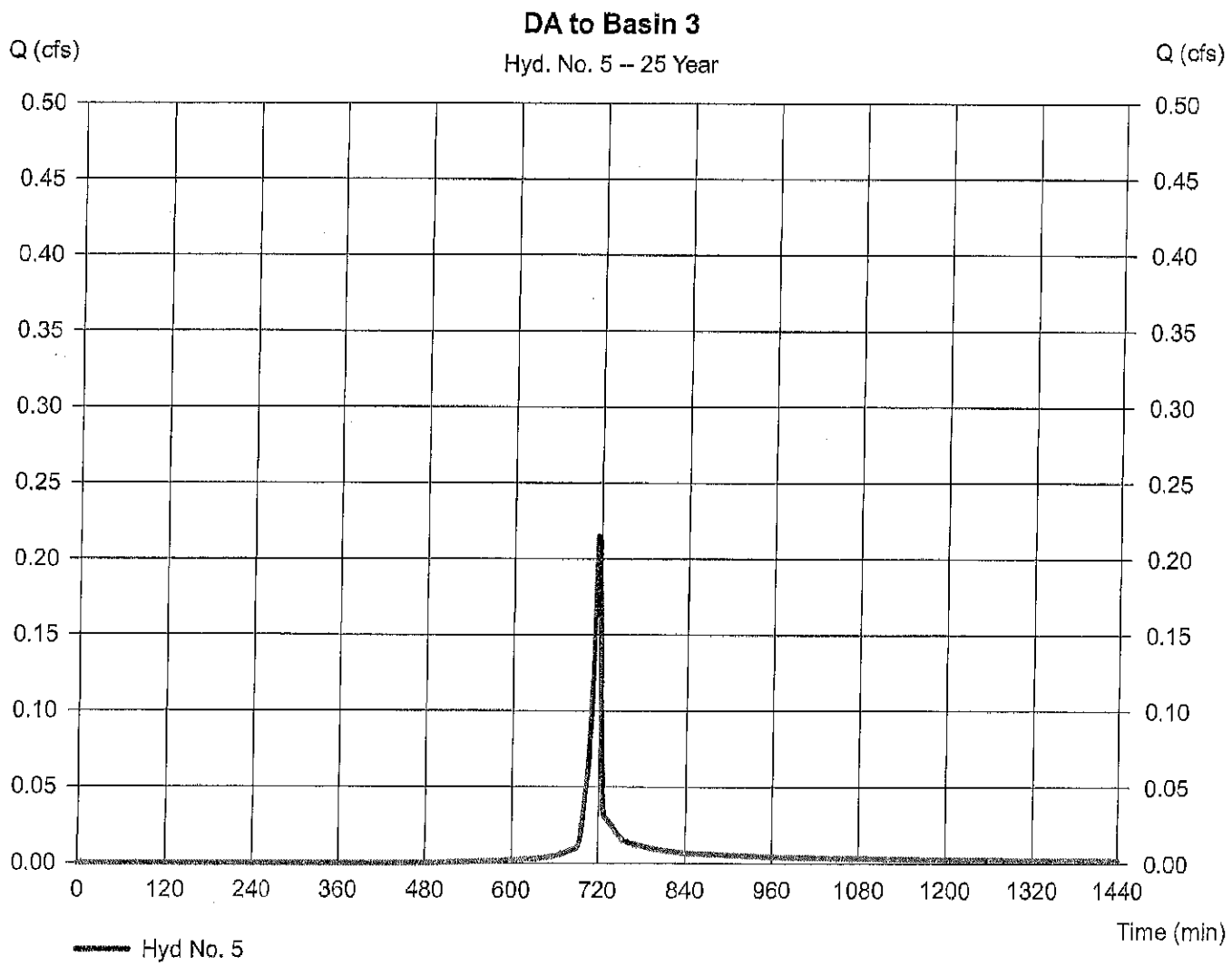
Tuesday, Jun 14, 2022

Hyd. No. 5

DA to Basin 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.215 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 436 cuft
Drainage area	= 0.040 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.021 x 61) + (0.014 x 98)] / 0.040



Hydrograph Report

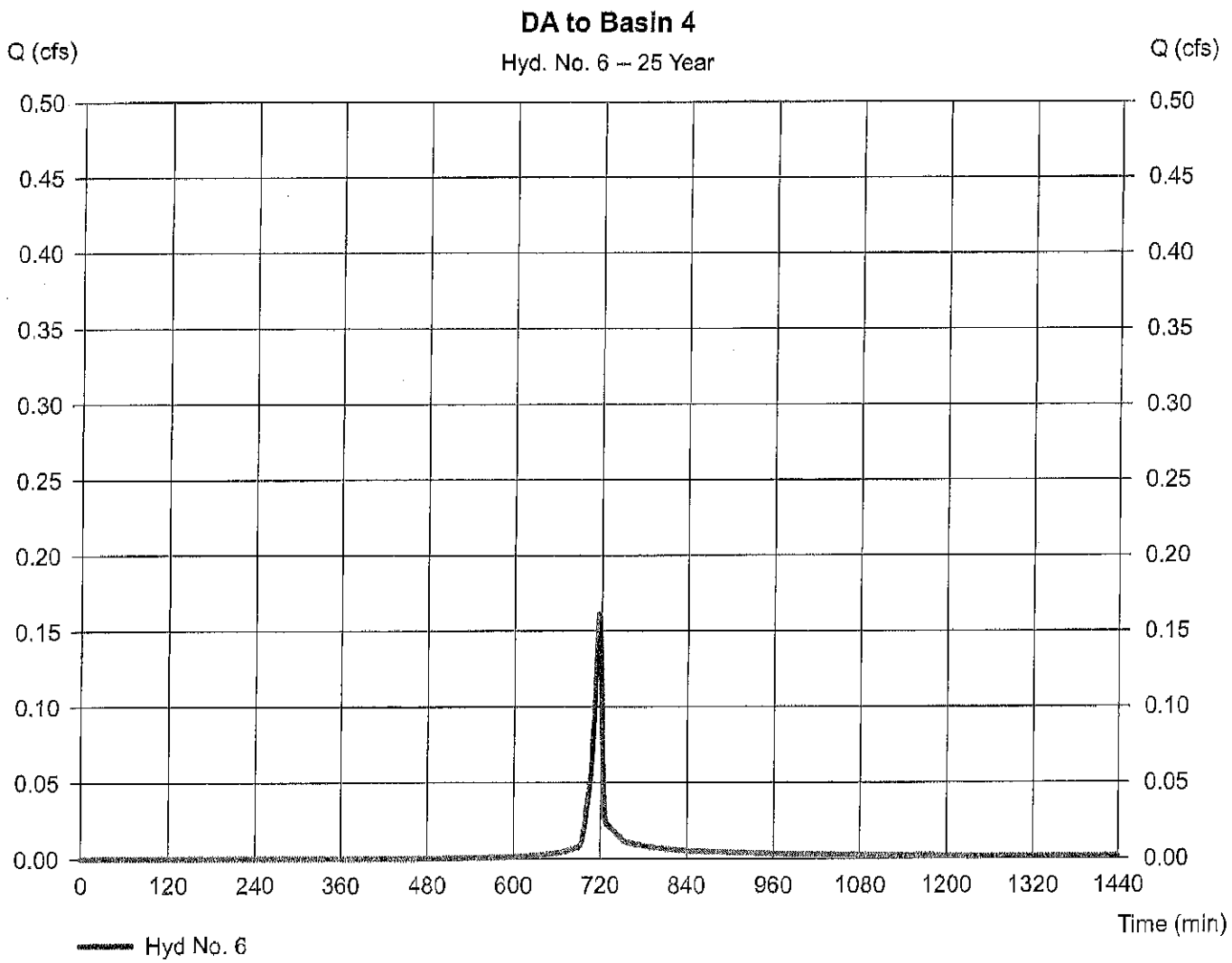
Hydraflow Hydrographs by Intellsolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 6

DA to Basin 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.161 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 327 cuft
Drainage area	= 0.030 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.017 x 61) + (0.011 x 98)] / 0.030



Hydrograph Report

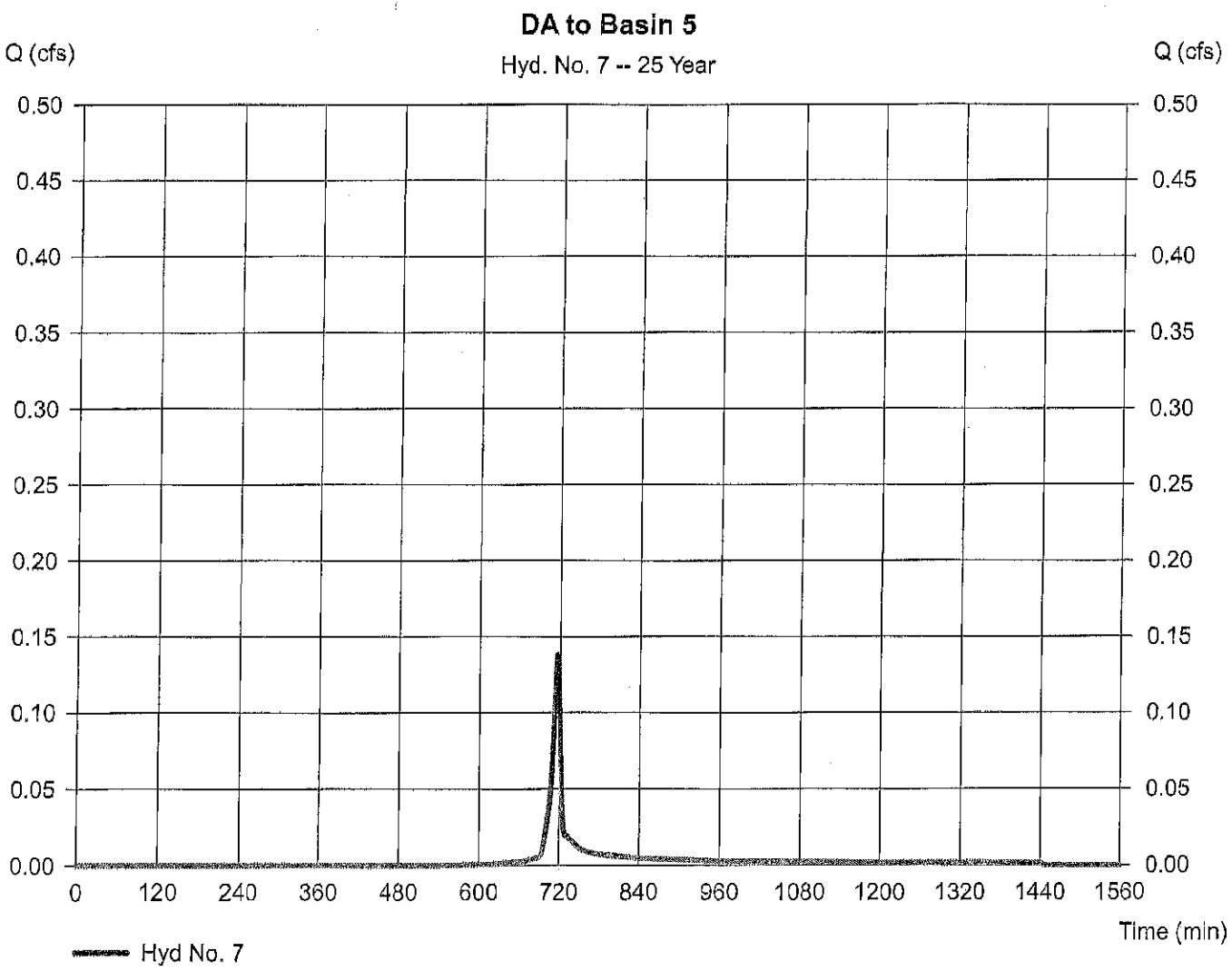
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 7

DA to Basin 5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.138 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 279 cuft
Drainage area	= 0.030 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.79 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.023 x 61) + (0.009 x 98)] / 0.030



Hydrograph Report

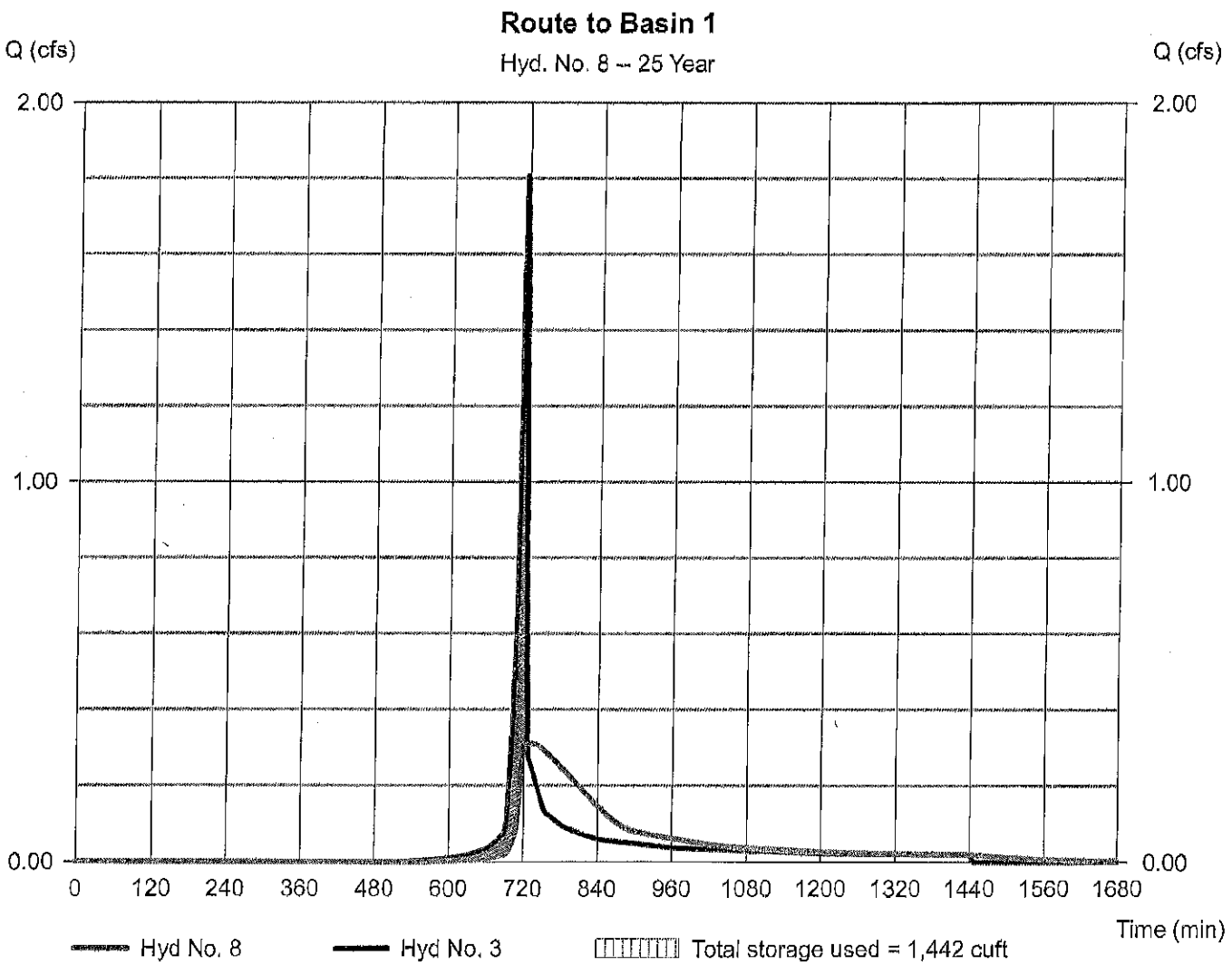
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 8

Route to Basin 1

Hydrograph type	= Reservoir	Peak discharge	= 0.310 cfs
Storm frequency	= 25 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 3,643 cuft
Inflow hyd. No.	= 3 - DA to Basin 1	Max. Elevation	= 356.52 ft
Reservoir name	= Basin 1	Max. Storage	= 1,442 cuft

Storage Indication method used.



Hydrograph Report

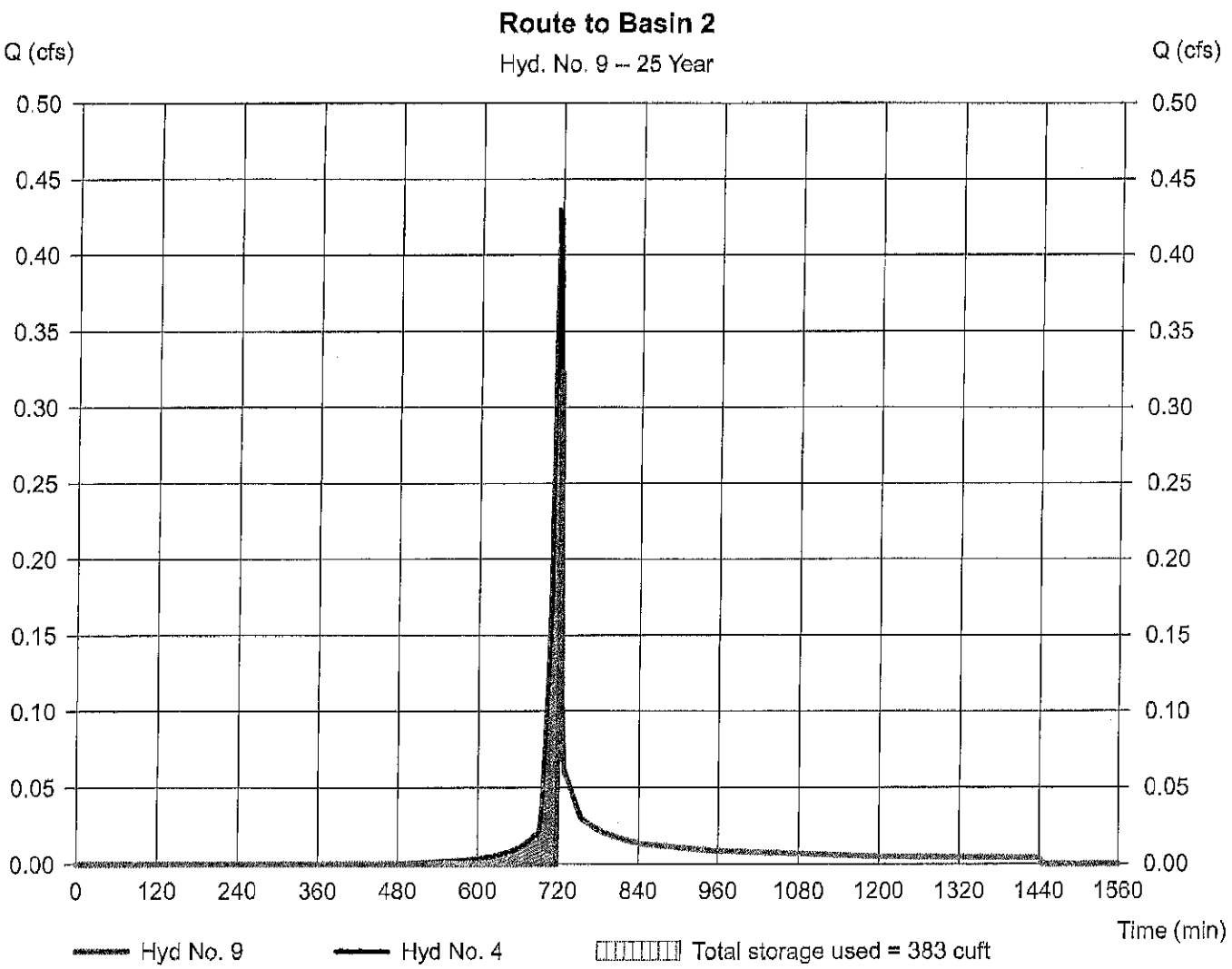
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 9

Route to Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.323 cfs
Storm frequency	= 25 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 499 cuft
Inflow hyd. No.	= 4 - DA to Basin 2	Max. Elevation	= 354.83 ft
Reservoir name	= Basin 2	Max. Storage	= 383 cuft

Storage Indication method used.



Hydrograph Report

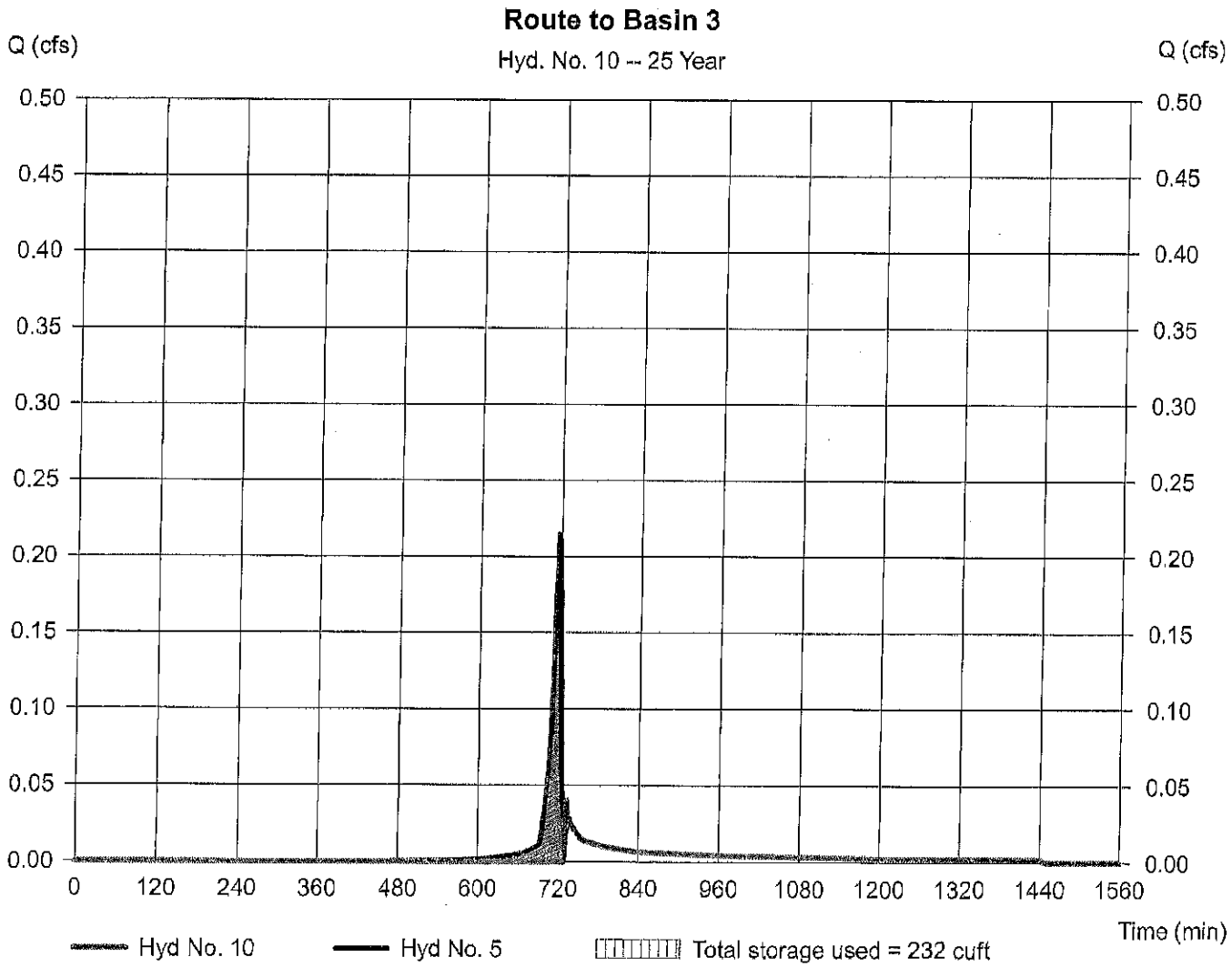
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 10

Route to Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.040 cfs
Storm frequency	= 25 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 204 cuft
Inflow hyd. No.	= 5 - DA to Basin 3	Max. Elevation	= 353.00 ft
Reservoir name	= Basin 3	Max. Storage	= 232 cuft

Storage indication method used.



Hydrograph Report

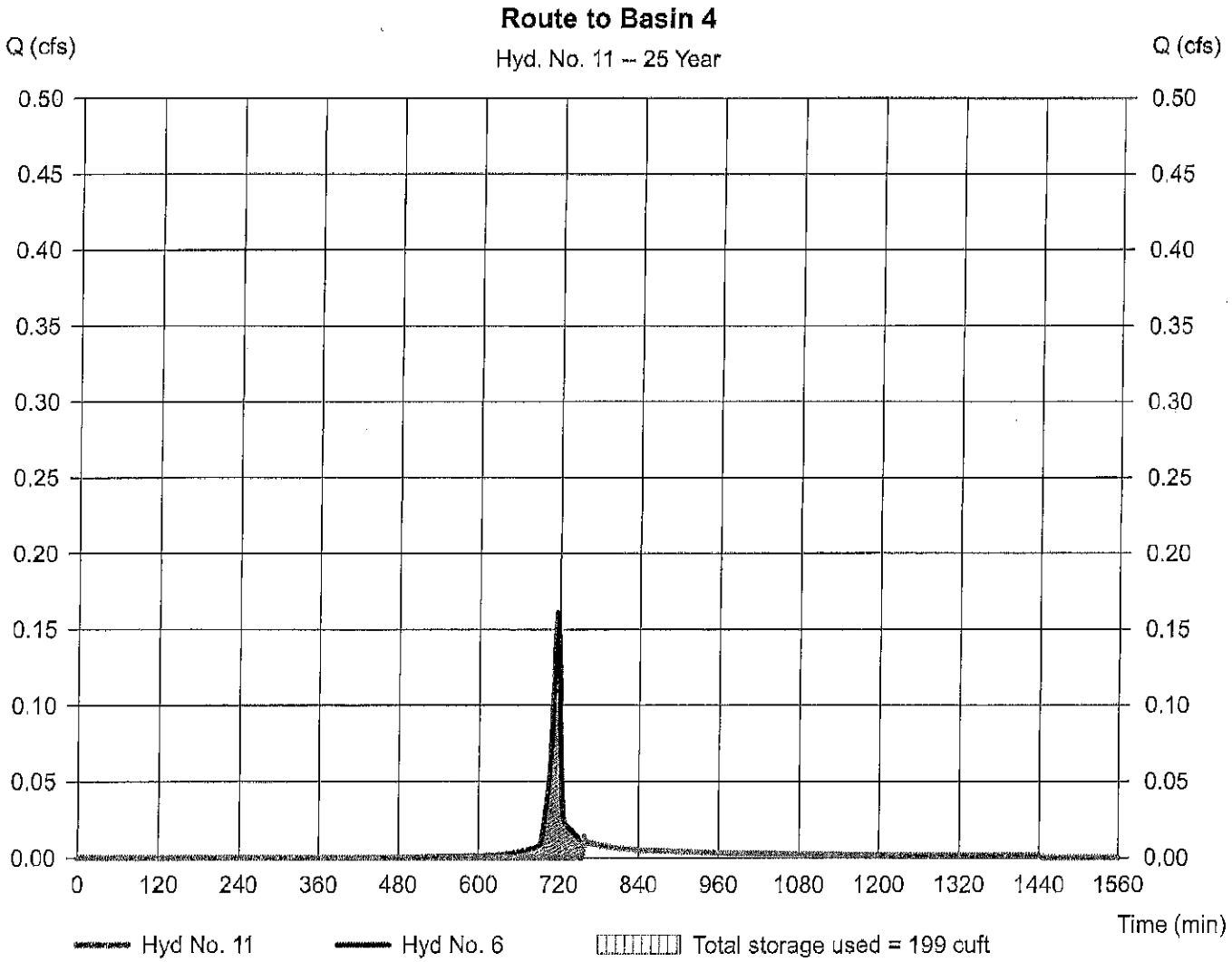
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 11

Route to Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.014 cfs
Storm frequency	= 25 yrs	Time to peak	= 758 min
Time interval	= 2 min	Hyd. volume	= 128 cuft
Inflow hyd. No.	= 6 - DA to Basin 4	Max. Elevation	= 351.30 ft
Reservoir name	= Basin 4	Max. Storage	= 199 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1

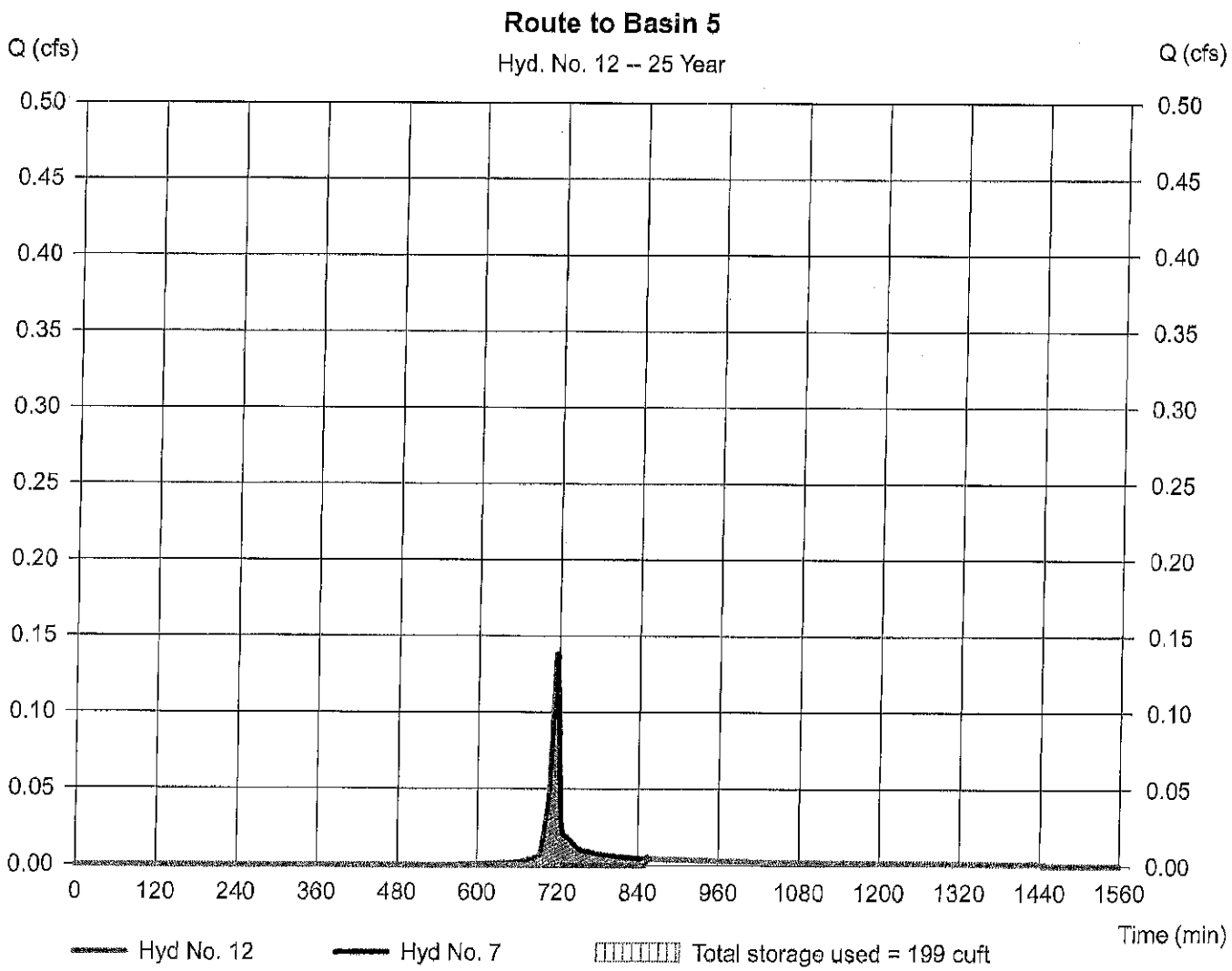
Tuesday, Jun 14, 2022

Hyd. No. 12

Route to Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.006 cfs
Storm frequency	= 25 yrs	Time to peak	= 854 min
Time interval	= 2 min	Hyd. volume	= 80 cuft
Inflow hyd. No.	= 7 - DA to Basin 5	Max. Elevation	= 349.40 ft
Reservoir name	= Basin 5	Max. Storage	= 199 cuft

Storage Indication method used.



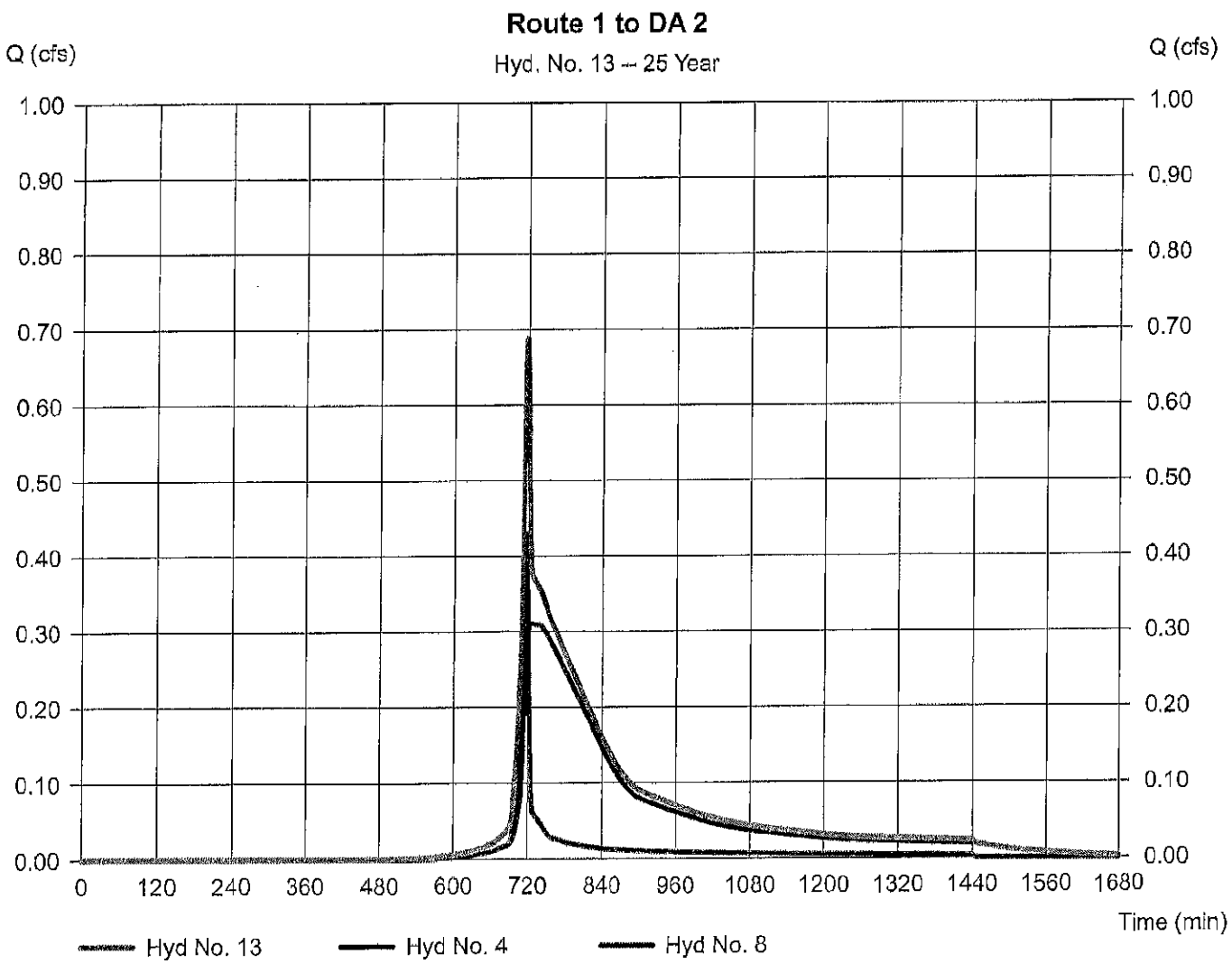
Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 13

Route 1 to DA 2

Hydrograph type	= Combine	Peak discharge	= 0.688 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 4,514 cuft
Inflow hyds.	= 4, 8	Contrib. drain. area	= 0.080 ac



Hydrograph Report

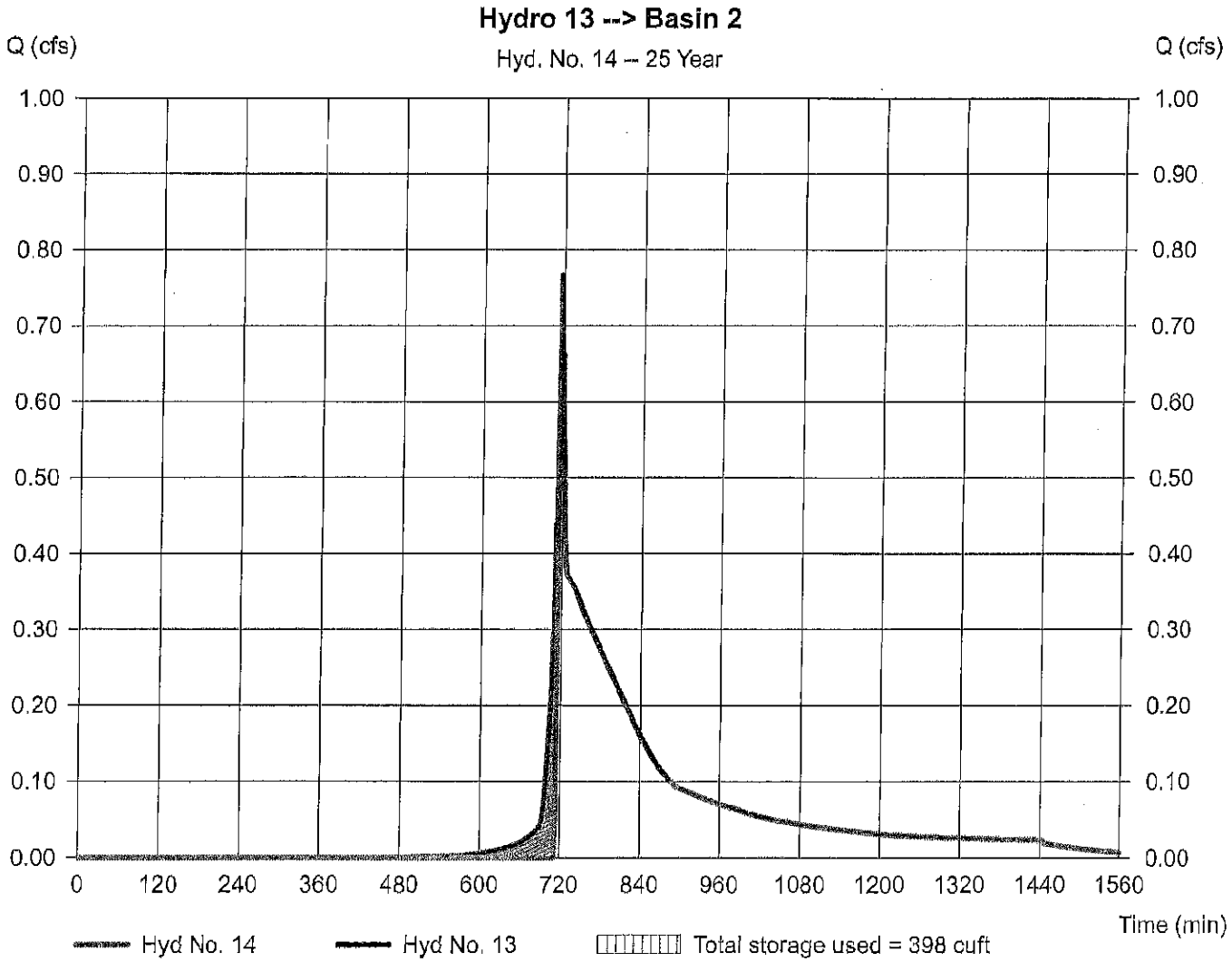
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 14

Hydro 13 --> Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.767 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 4,142 cuft
Inflow hyd. No.	= 13 - Route 1 to DA 2	Max. Elevation	= 354.86 ft
Reservoir name	= Basin 2	Max. Storage	= 398 cuft

Storage Indication method used.



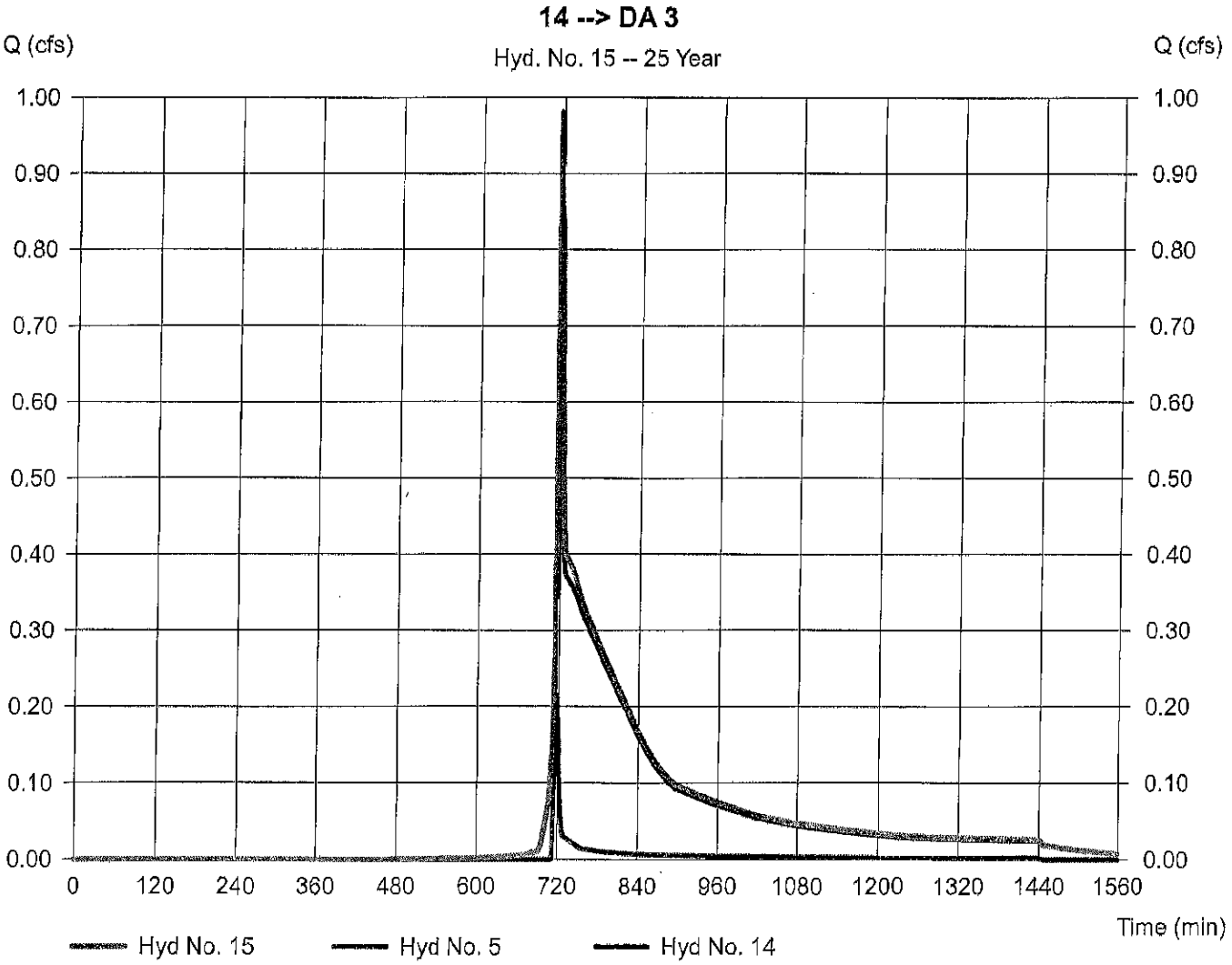
Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 15

14 --> DA 3

Hydrograph type	= Combine	Peak discharge	= 0.982 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 4,577 cuft
Inflow hyds.	= 5, 14	Contrib. drain. area	= 0.040 ac



Hydrograph Report

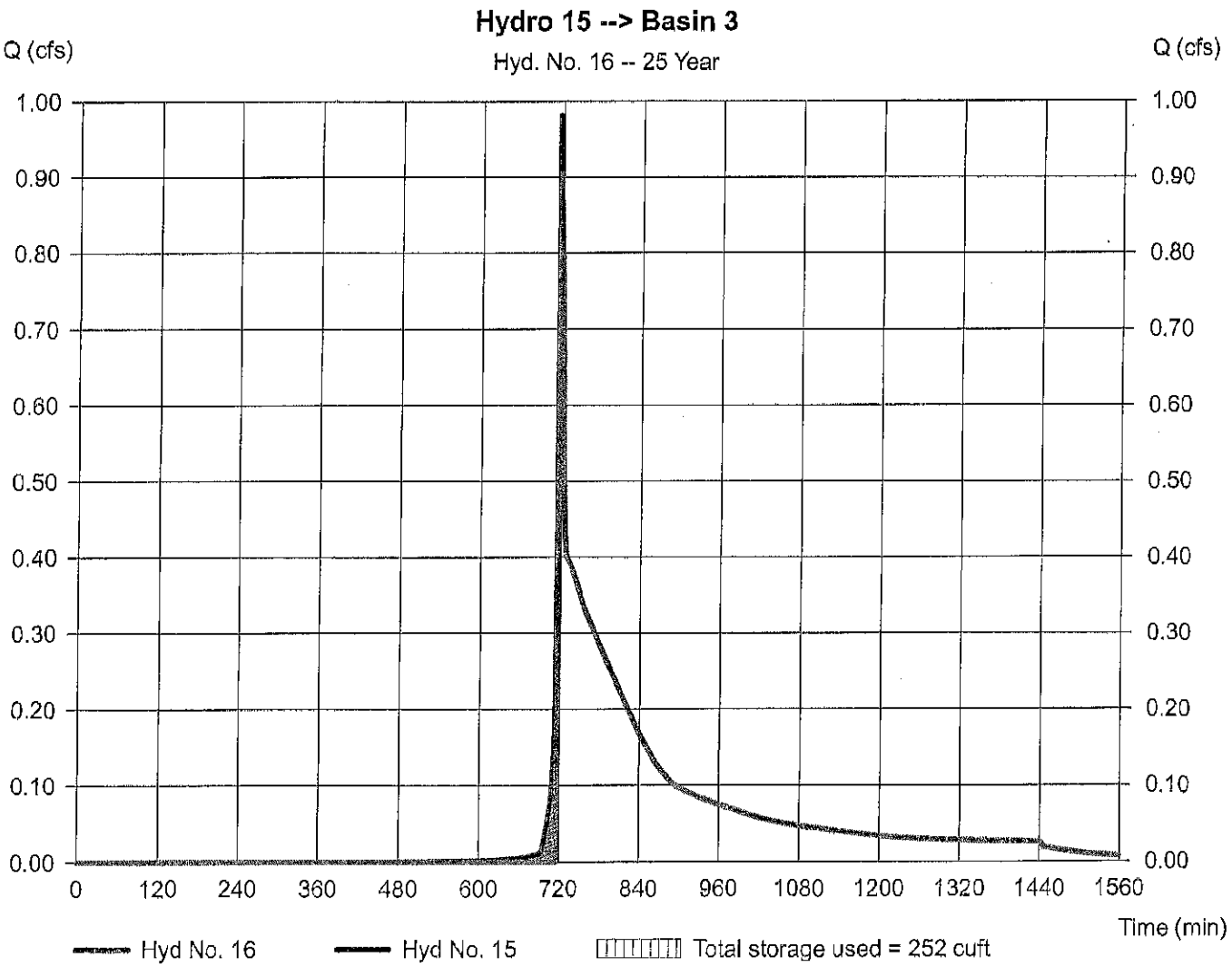
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 16

Hydro 15 --> Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.904 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 4,346 cuft
Inflow hyd. No.	= 15 - 14 --> DA 3	Max. Elevation	= 353.07 ft
Reservoir name	= Basin 3	Max. Storage	= 252 cuft

Storage Indication method used.



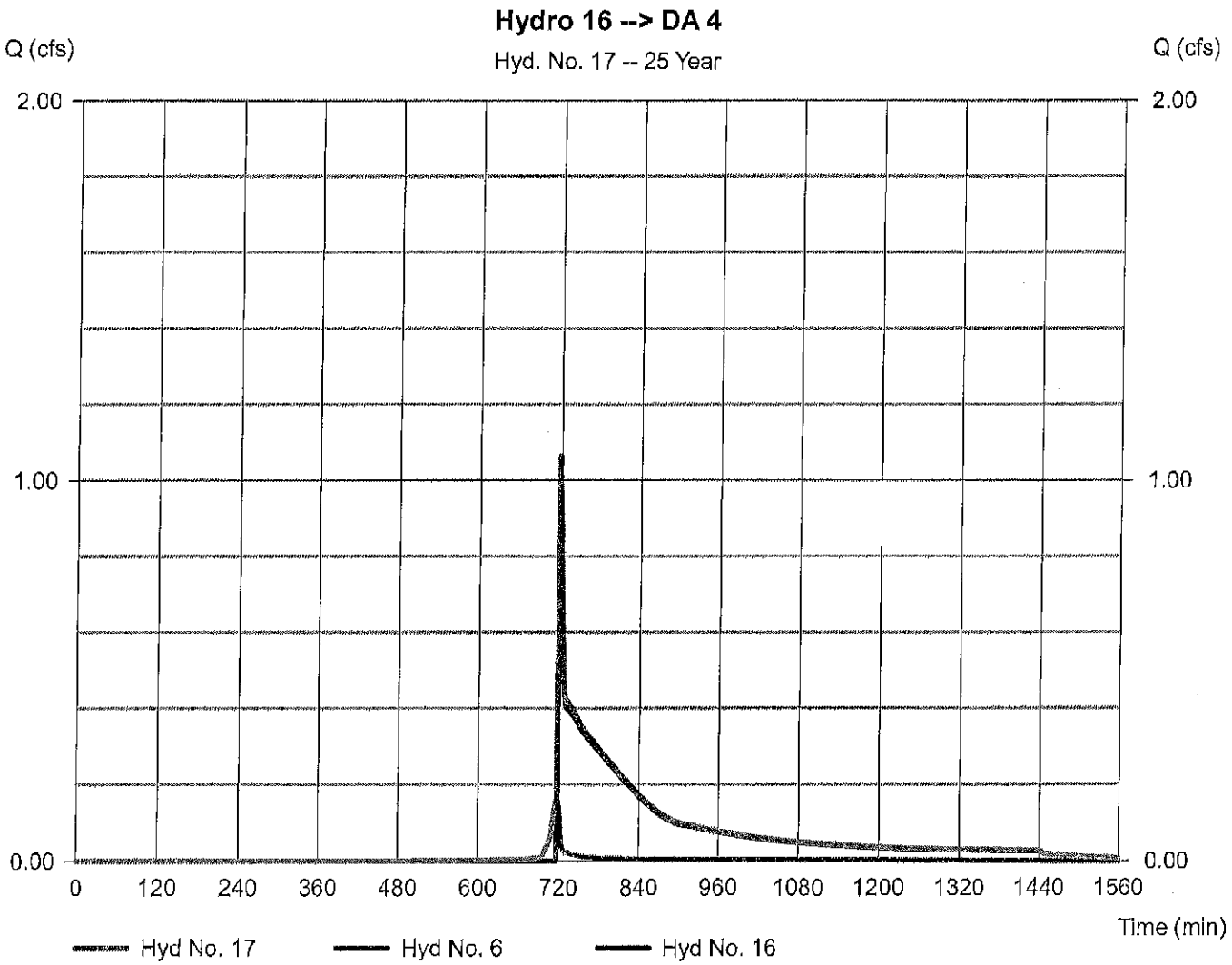
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 17

Hydro 16 --> DA 4

Hydrograph type	= Combine	Peak discharge	= 1.063 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 4,672 cuft
Inflow hyds.	= 6, 16	Contrib. drain. area	= 0.030 ac



Hydrograph Report

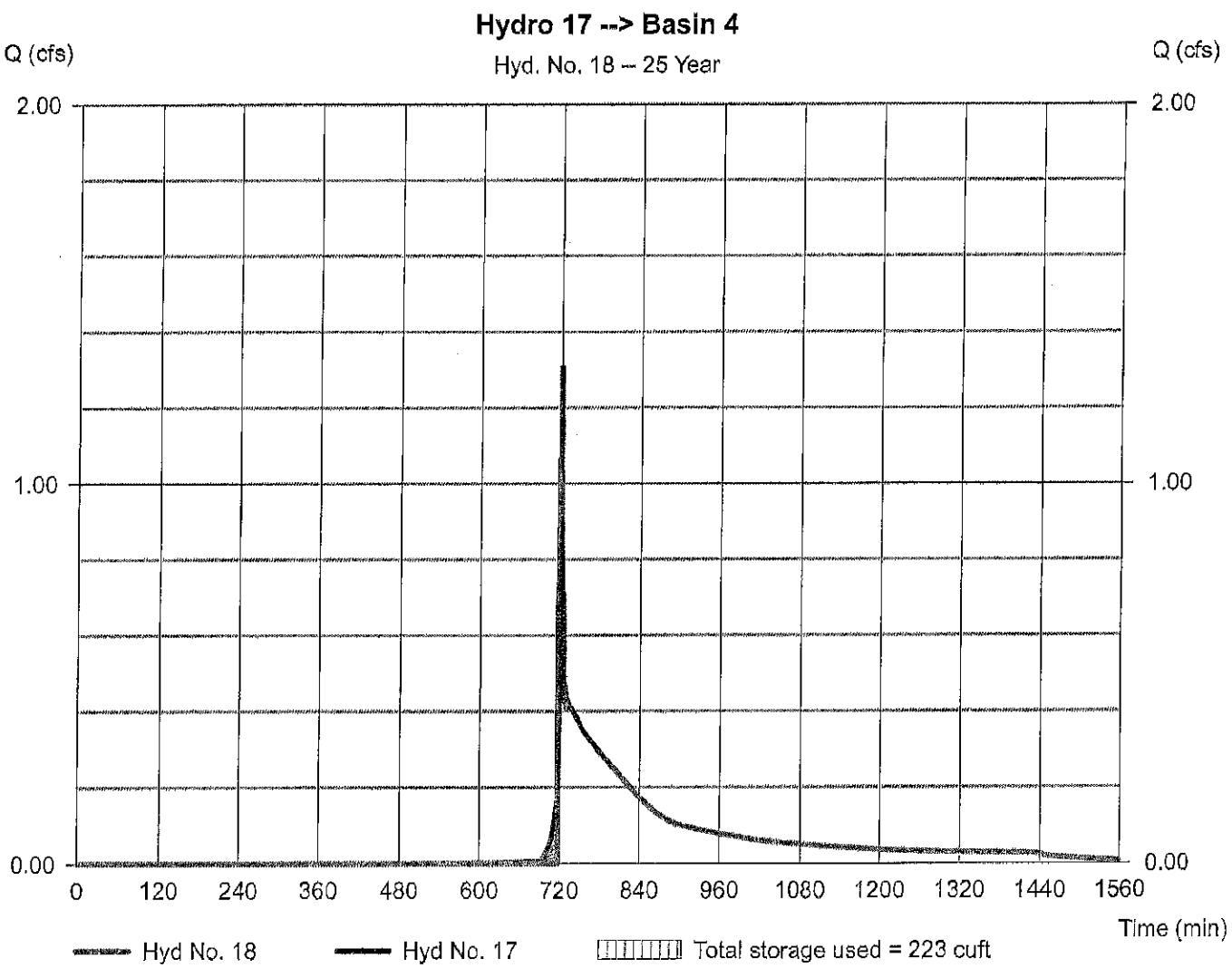
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 18

Hydro 17 --> Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 1.309 cfs
Storm frequency	= 25 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 4,473 cuft
Inflow hyd. No.	= 17 - Hydro 16 --> DA 4	Max. Elevation	= 351.46 ft
Reservoir name	= Basin 4	Max. Storage	= 223 cuft

Storage Indication method used.



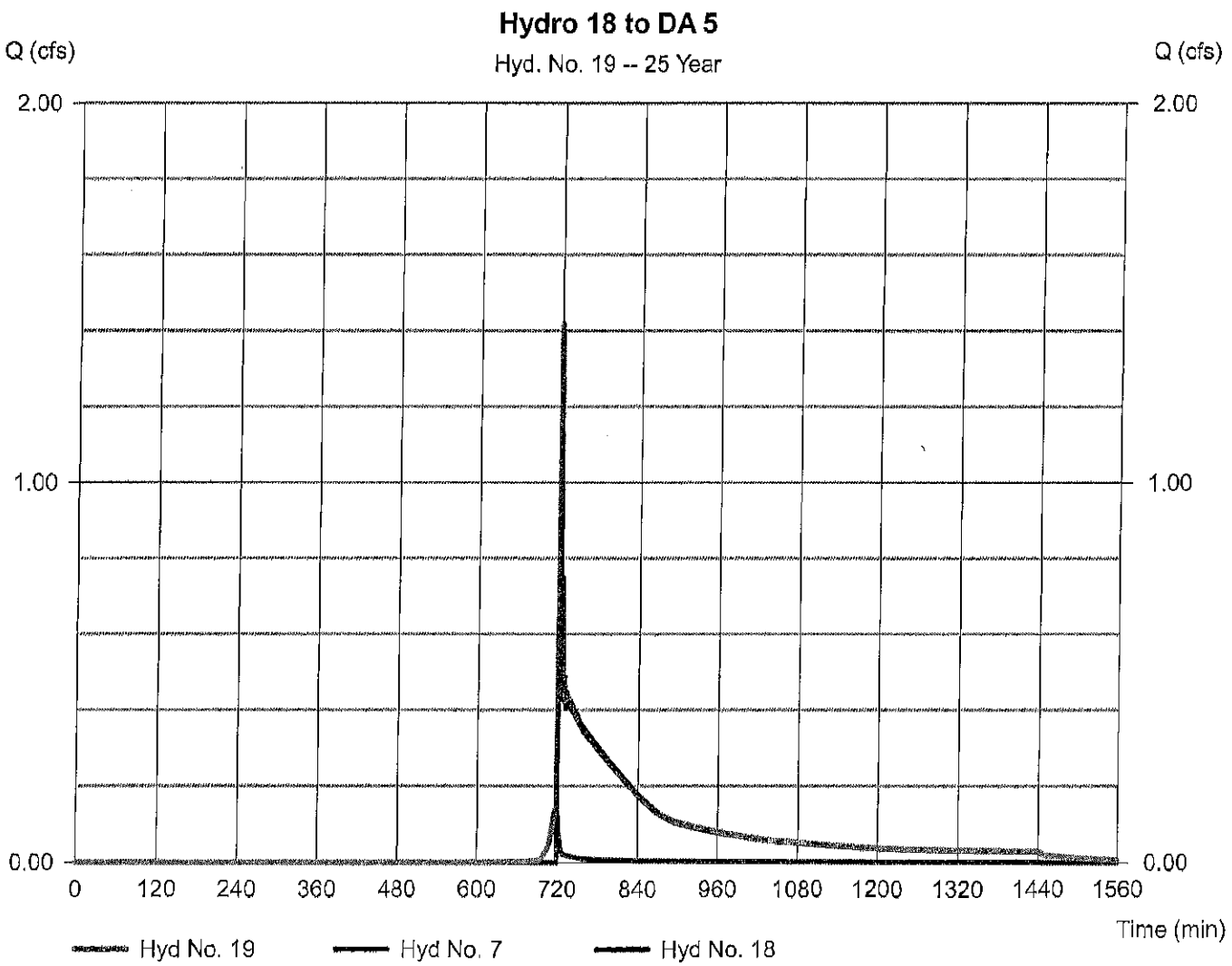
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 19

Hydro 18 to DA 5

Hydrograph type	= Combine	Peak discharge	= 1.420 cfs
Storm frequency	= 25 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 4,752 cuft
Inflow hyds.	= 7, 18	Contrib. drain. area	= 0.030 ac



Hydrograph Report

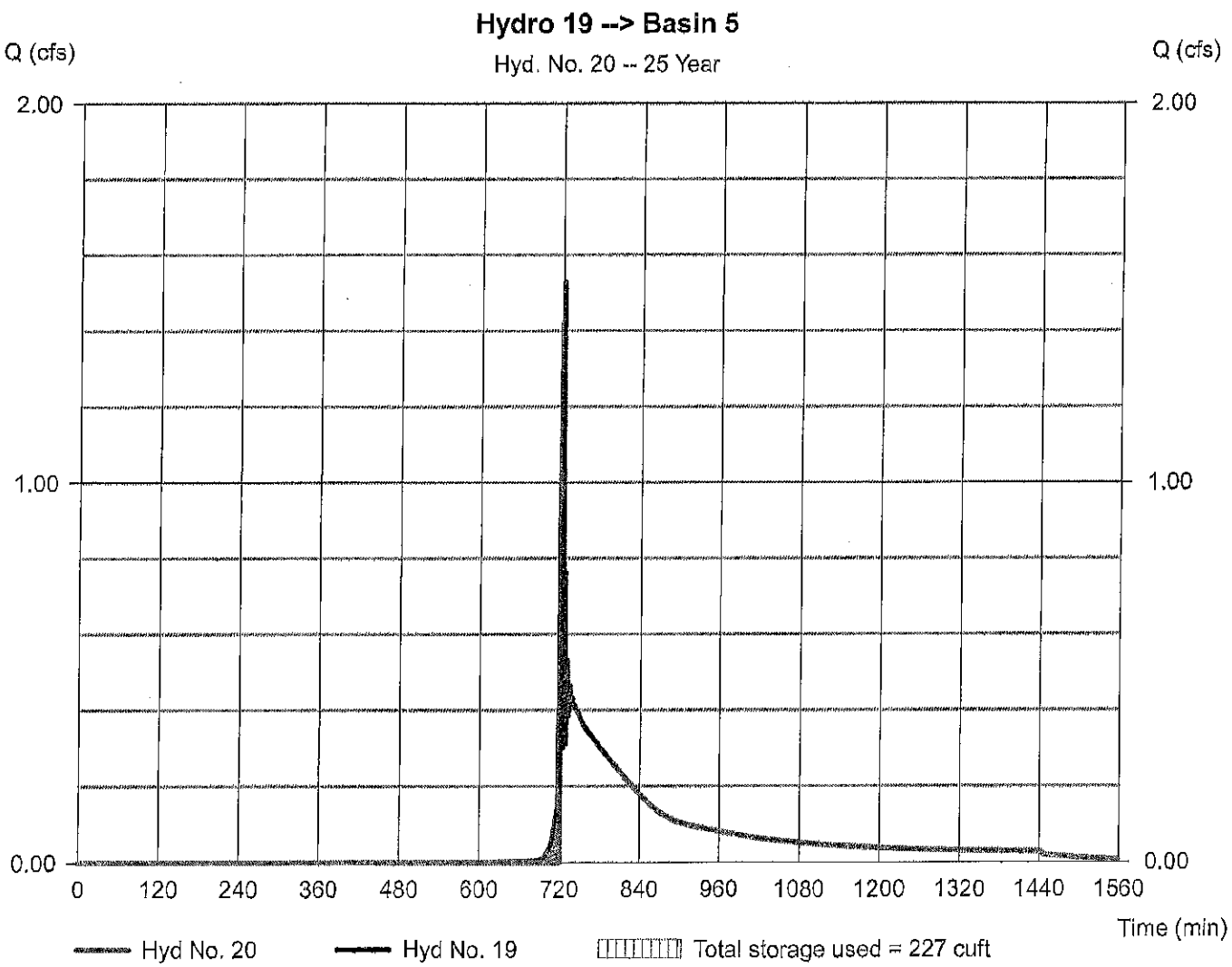
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 20

Hydro 19 --> Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 1.529 cfs
Storm frequency	= 25 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 4,553 cuft
Inflow hyd. No.	= 19 - Hydro 18 to DA 5	Max. Elevation	= 349.67 ft
Reservoir name	= Basin 5	Max. Storage	= 227 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	2.120	2	718	4,242	----	------	------	Pre-Condition
2	SCS Runoff	3.400	2	716	6,915	----	------	------	Post-Condition
3	SCS Runoff	2.252	2	716	4,558	----	------	------	DA to Basin 1
4	SCS Runoff	0.526	2	716	1,072	----	------	------	DA to Basin 2
5	SCS Runoff	0.263	2	716	536	----	------	------	DA to Basin 3
6	SCS Runoff	0.197	2	716	402	----	------	------	DA to Basin 4
7	SCS Runoff	0.173	2	716	349	----	------	------	DA to Basin 5
8	Reservoir	0.331	2	728	4,551	3	356.62	1,862	Route to Basin 1
9	Reservoir	0.668	2	718	700	4	354.86	394	Route to Basin 2
10	Reservoir	0.170	2	722	305	5	353.02	235	Route to Basin 3
11	Reservoir	0.116	2	724	203	6	351.32	201	Route to Basin 4
12	Reservoir	0.017	2	746	151	7	349.40	199	Route to Basin 5
13	Combine	0.827	2	718	5,623	4, 8,	------	------	Route 1 to DA 2
14	Reservoir	0.826	2	718	5,251	13	354.85	400	Hydro 13 --> Basin 2
15	Combine	1.085	2	718	5,787	5, 14	------	------	14 --> DA 3
16	Reservoir	1.085	2	718	5,555	15	353.07	256	Hydro 15 --> Basin 3
17	Combine	1.278	2	718	5,957	6, 16	------	------	Hydro 16 --> DA 4
18	Reservoir	1.295	2	716	5,758	17	351.40	223	Hydro 17 --> Basin 4
19	Combine	1.468	2	716	6,108	7, 18	------	------	Hydro 18 to DA 5
20	Reservoir	2.087	2	718	5,909	19	349.66	233	Hydro 19 --> Basin 5

Hydrograph Report

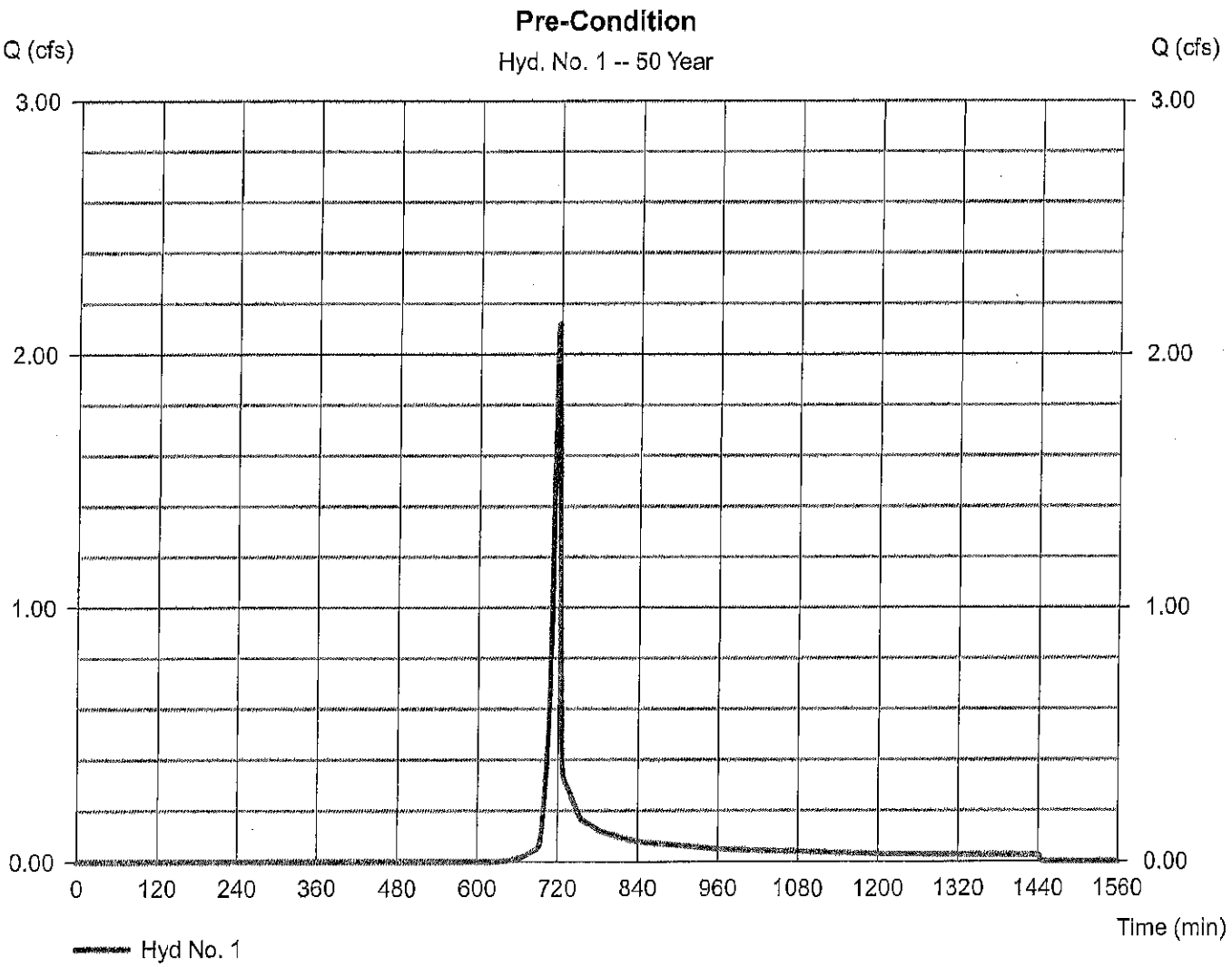
Hydraflow Hydrographs by Intellsolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 1

Pre-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 2.120 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 4,242 cuft
Drainage area	= 0.530 ac	Curve number	= 60*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.64 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.509 x 58) + (0.022 x 98)] / 0.530



Hydrograph Report

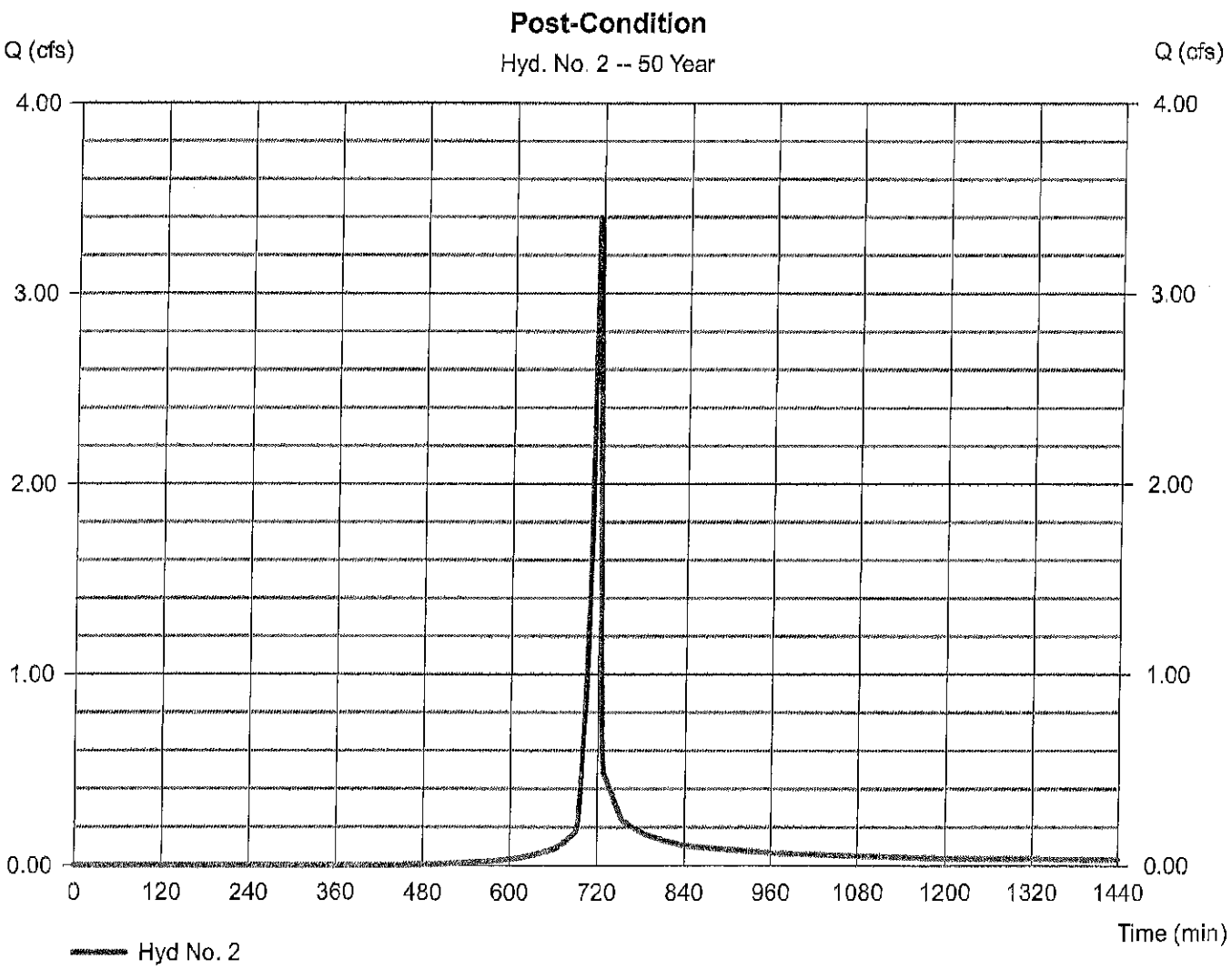
Hydraflow Hydrographs by Intellisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 2

Post-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 3.400 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 6,915 cuft
Drainage area	= 0.530 ac	Curve number	= 75*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.64 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.327 x 61) + (0.204 x 98)] / 0.530



Hydrograph Report

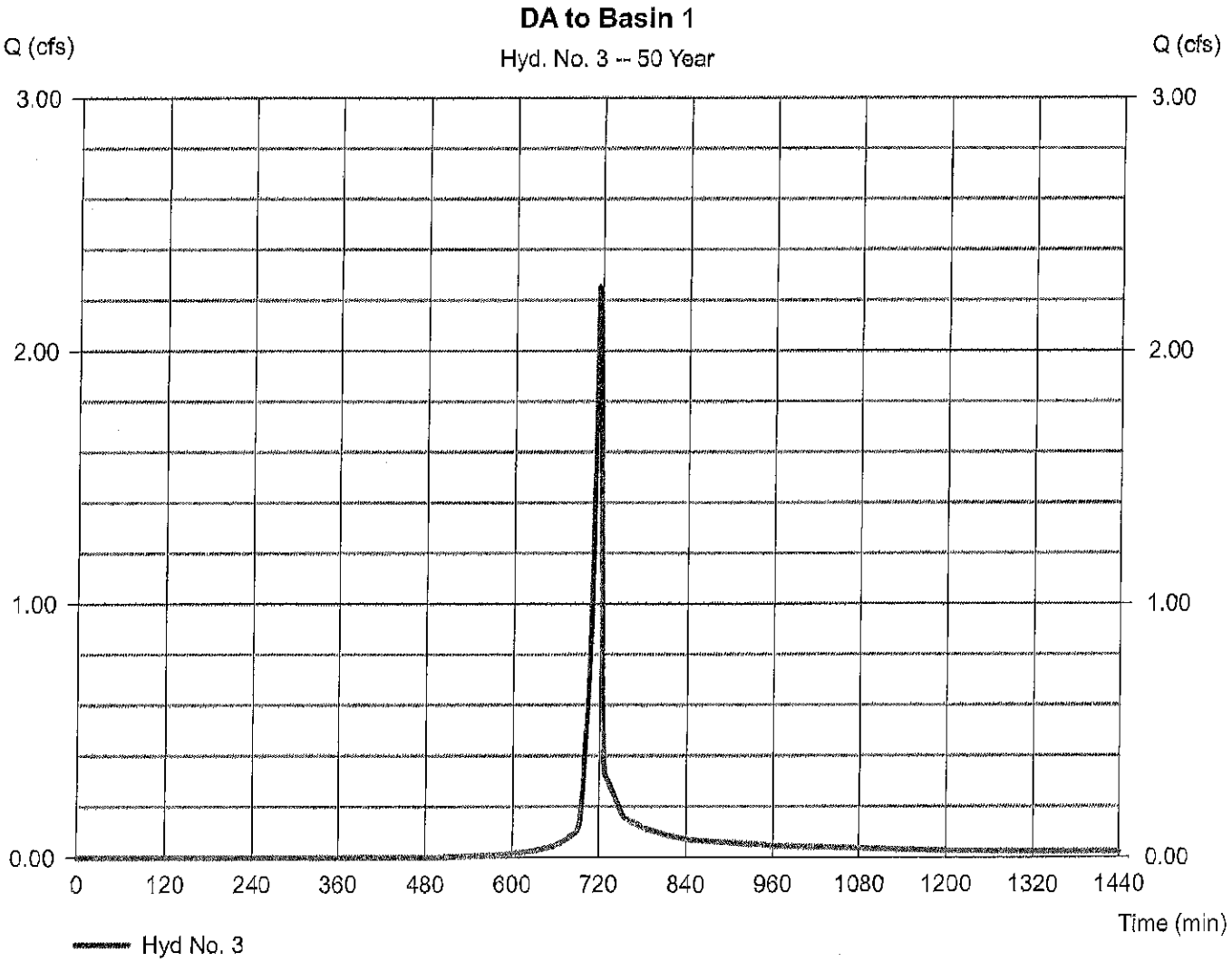
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 3

DA to Basin 1

Hydrograph type	= SCS Runoff	Peak discharge	= 2.252 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 4,558 cuft
Drainage area	= 0.380 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.64 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.261 x 61) + (0.116 x 98)] / 0.380



Hydrograph Report

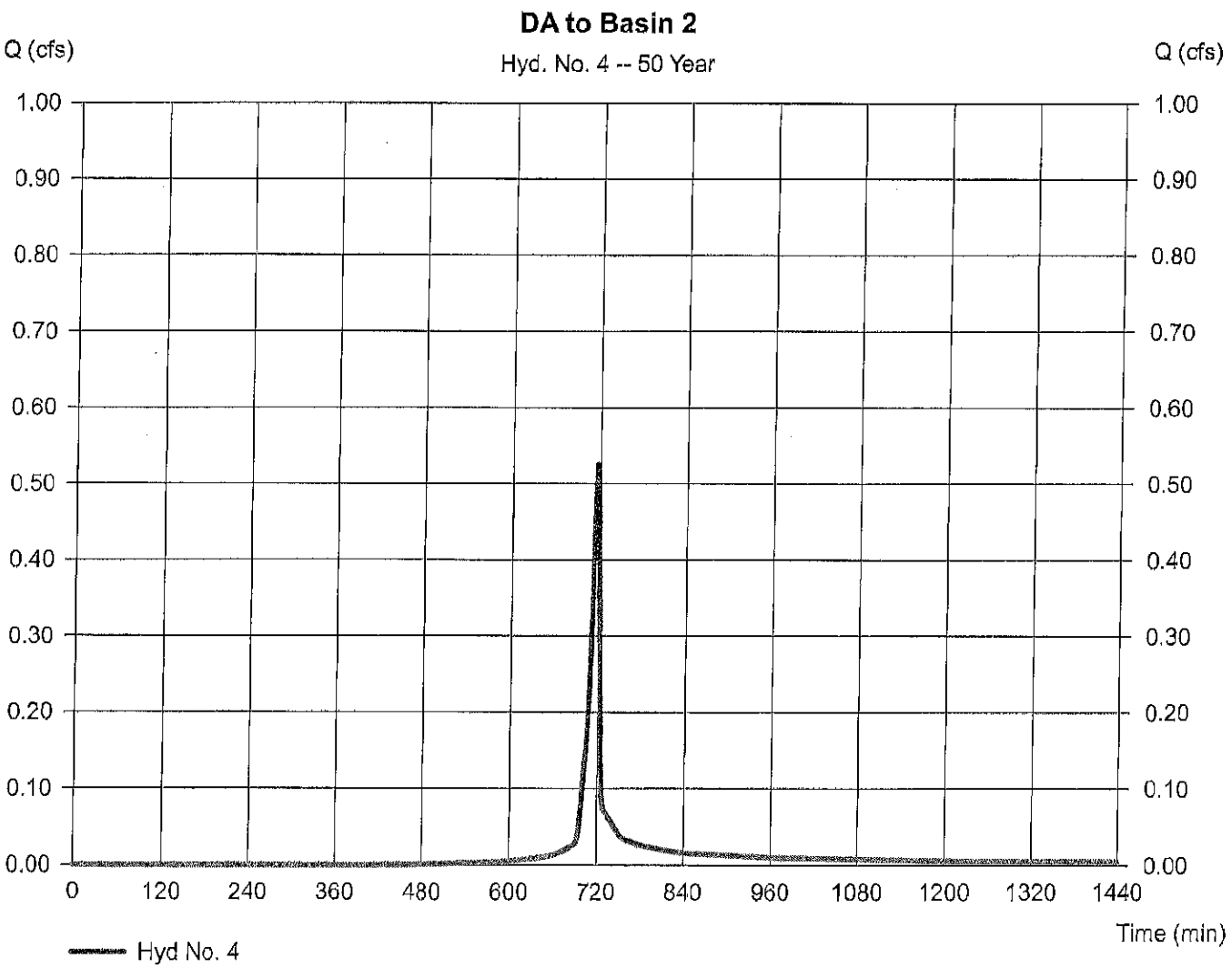
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 4

DA to Basin 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.526 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 1,072 cuft
Drainage area	= 0.080 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.64 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.046 x 61) + (0.031 x 98)] / 0.080



Hydrograph Report

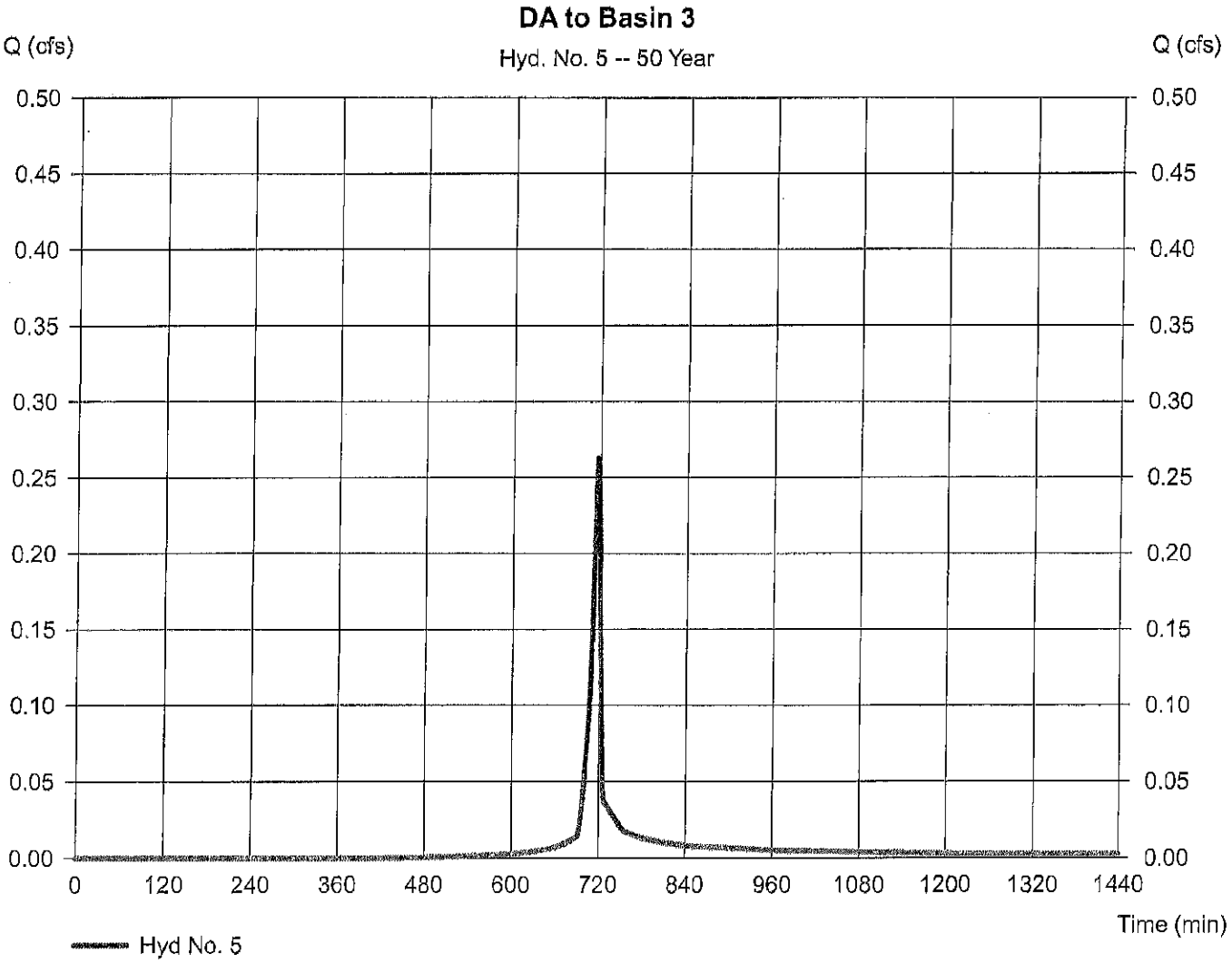
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 5

DA to Basin 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.263 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 536 cuft
Drainage area	= 0.040 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.64 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.021 x 61) + (0.014 x 98)] / 0.040



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

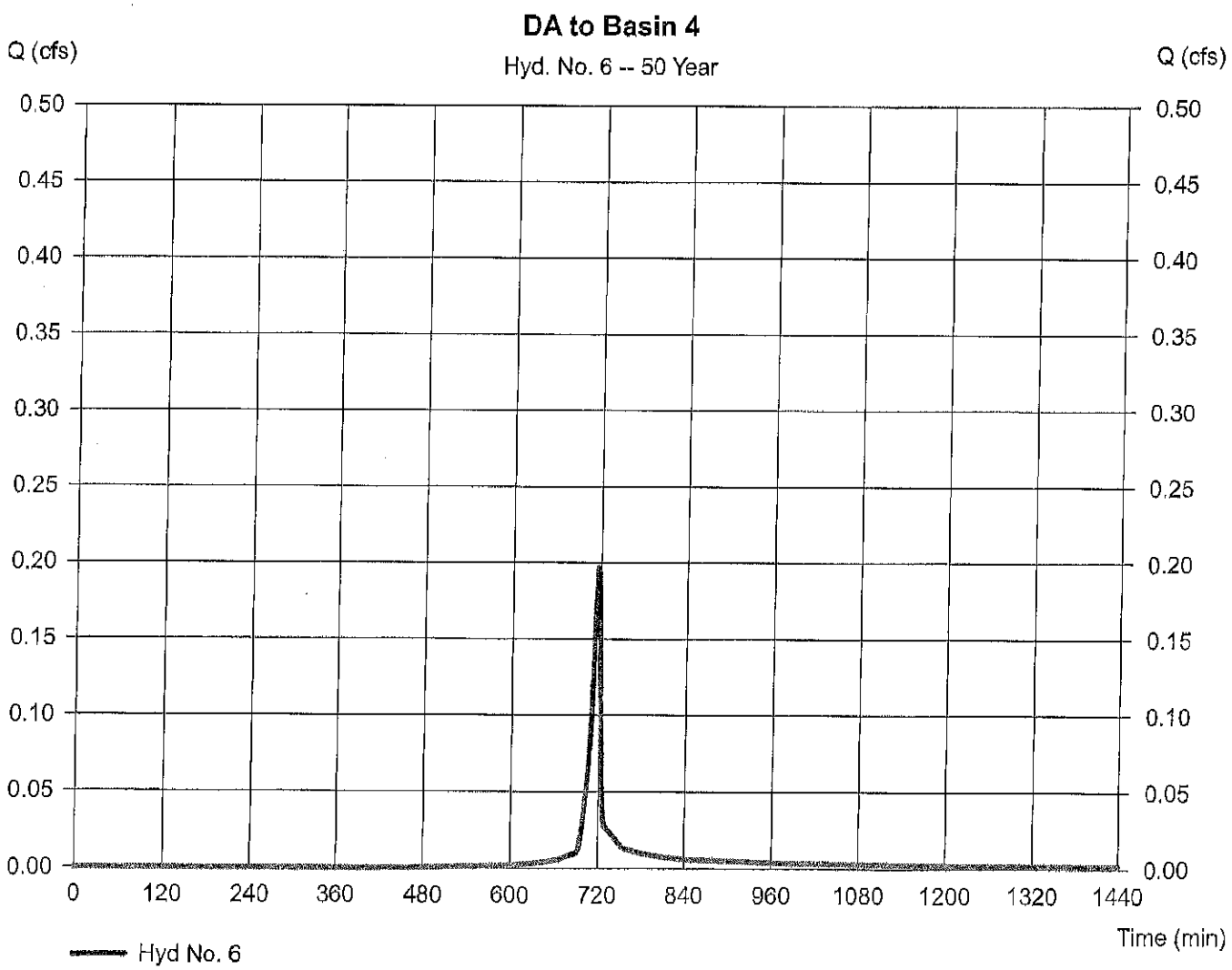
Tuesday, Jun 14, 2022

Hyd. No. 6

DA to Basin 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.197 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 402 cuft
Drainage area	= 0.030 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.64 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.017 x 61) + (0.011 x 98)] / 0.030



Hydrograph Report

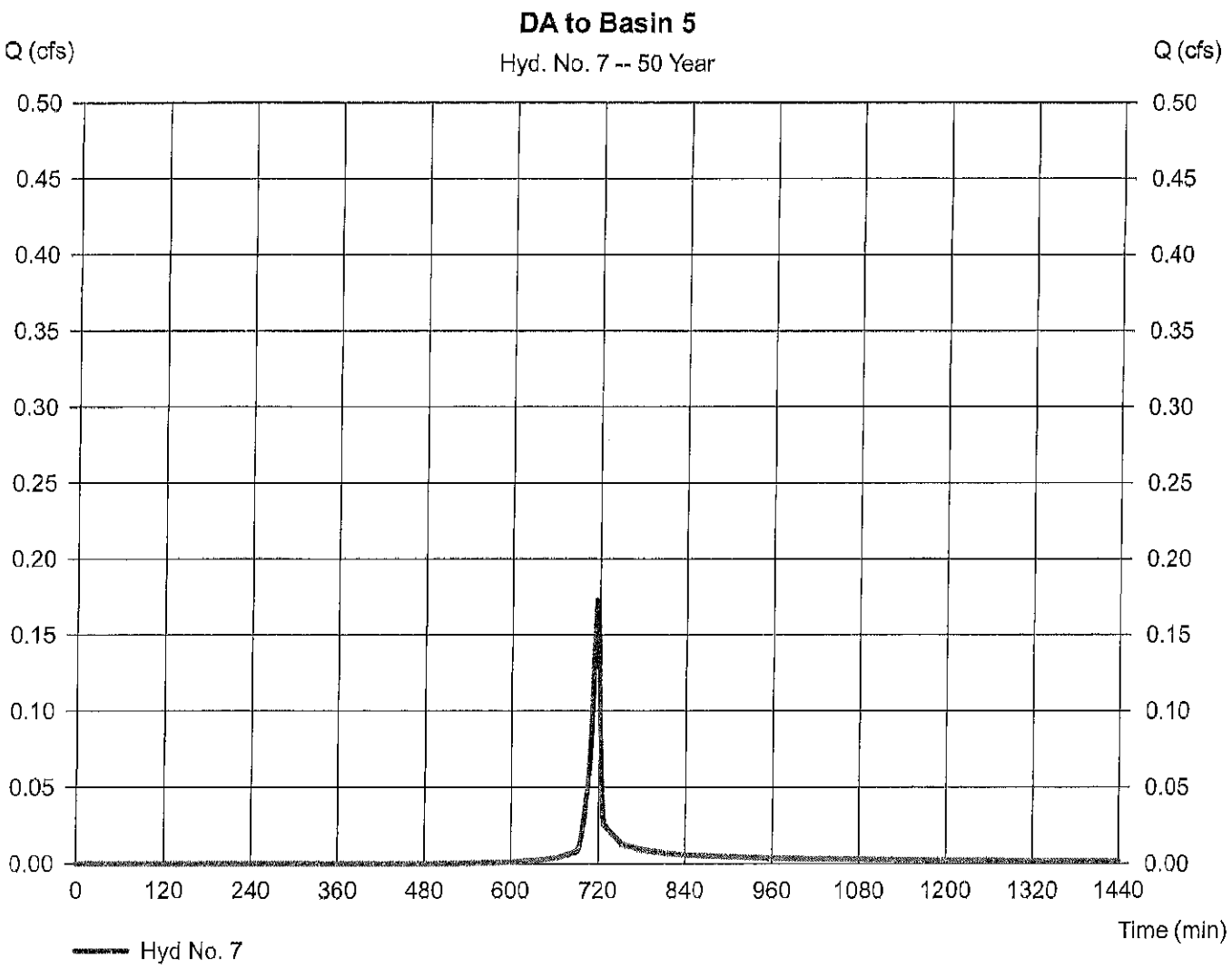
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 7

DA to Basin 5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.173 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 349 cuft
Drainage area	= 0.030 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.64 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.023 x 61) + (0.009 x 98)] / 0.030



Hydrograph Report

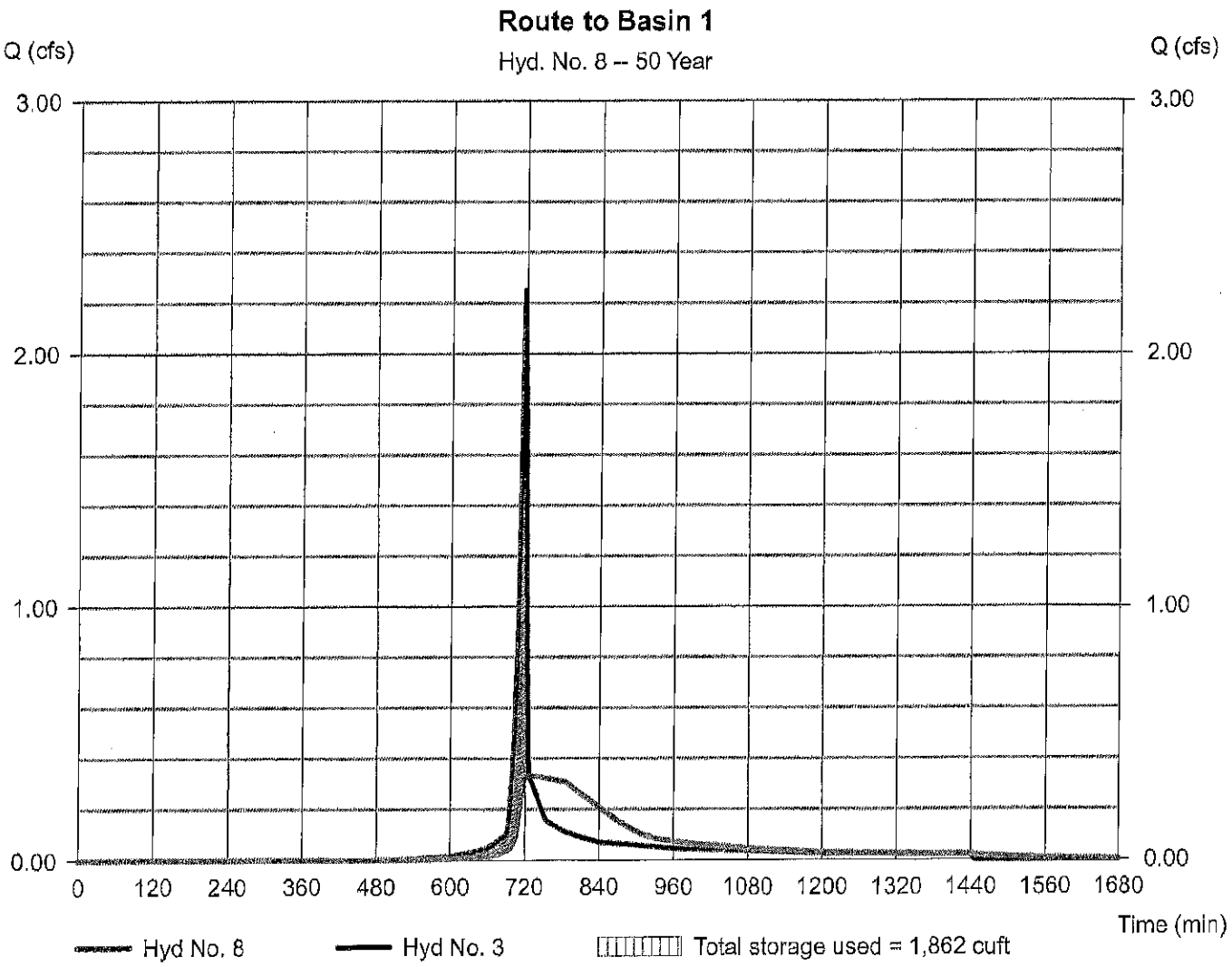
Hydraflow Hydrographs by Intellsolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 8

Route to Basin 1

Hydrograph type	= Reservoir	Peak discharge	= 0.331 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 4,551 cuft
Inflow hyd. No.	= 3 - DA to Basin 1	Max. Elevation	= 356.62 ft
Reservoir name	= Basin 1	Max. Storage	= 1,862 cuft

Storage Indication method used.



Hydrograph Report

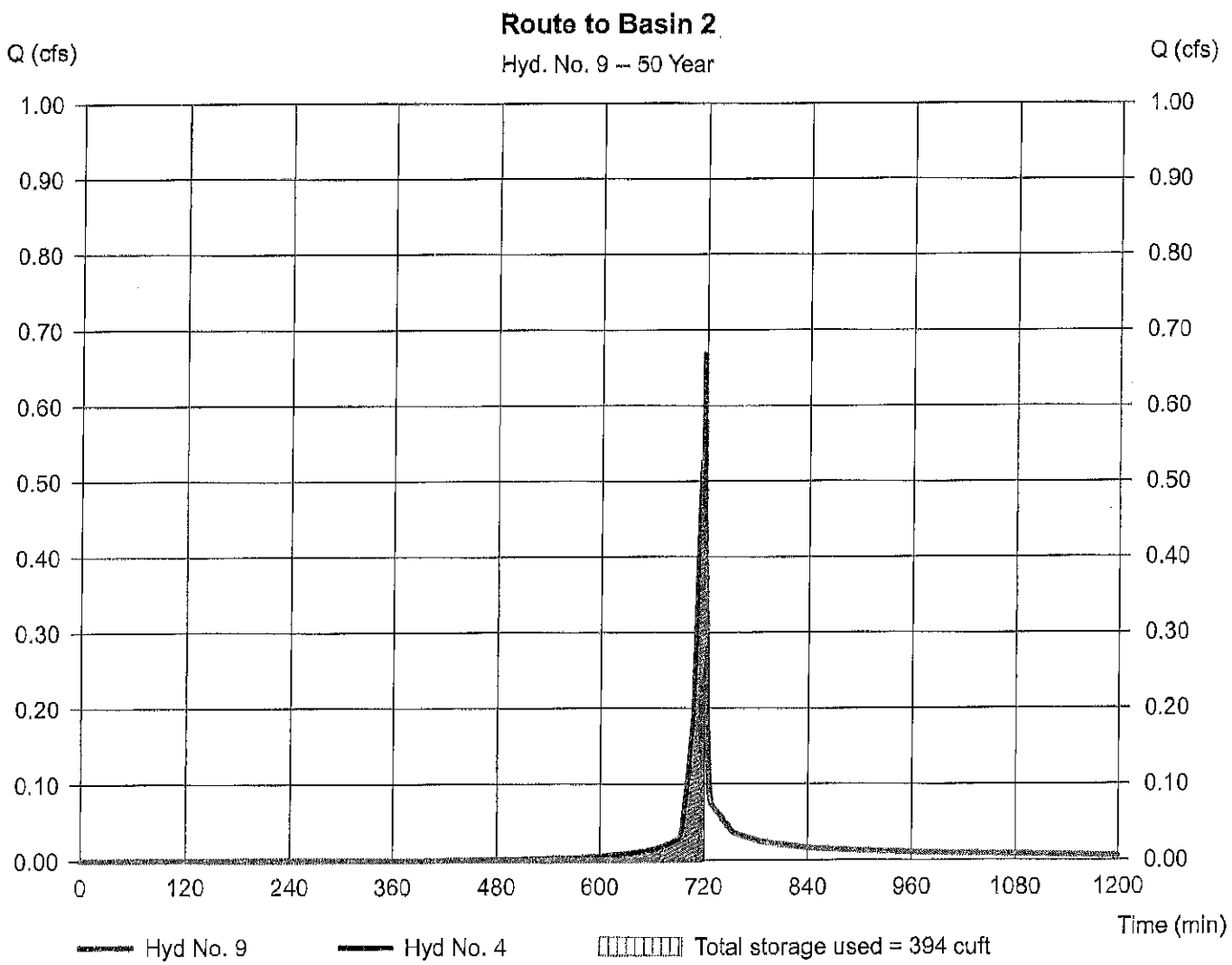
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 9

Route to Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.668 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 700 cuft
Inflow hyd. No.	= 4 - DA to Basin 2	Max. Elevation	= 354.86 ft
Reservoir name	= Basin 2	Max. Storage	= 394 cuft

Storage Indication method used.



Hydrograph Report

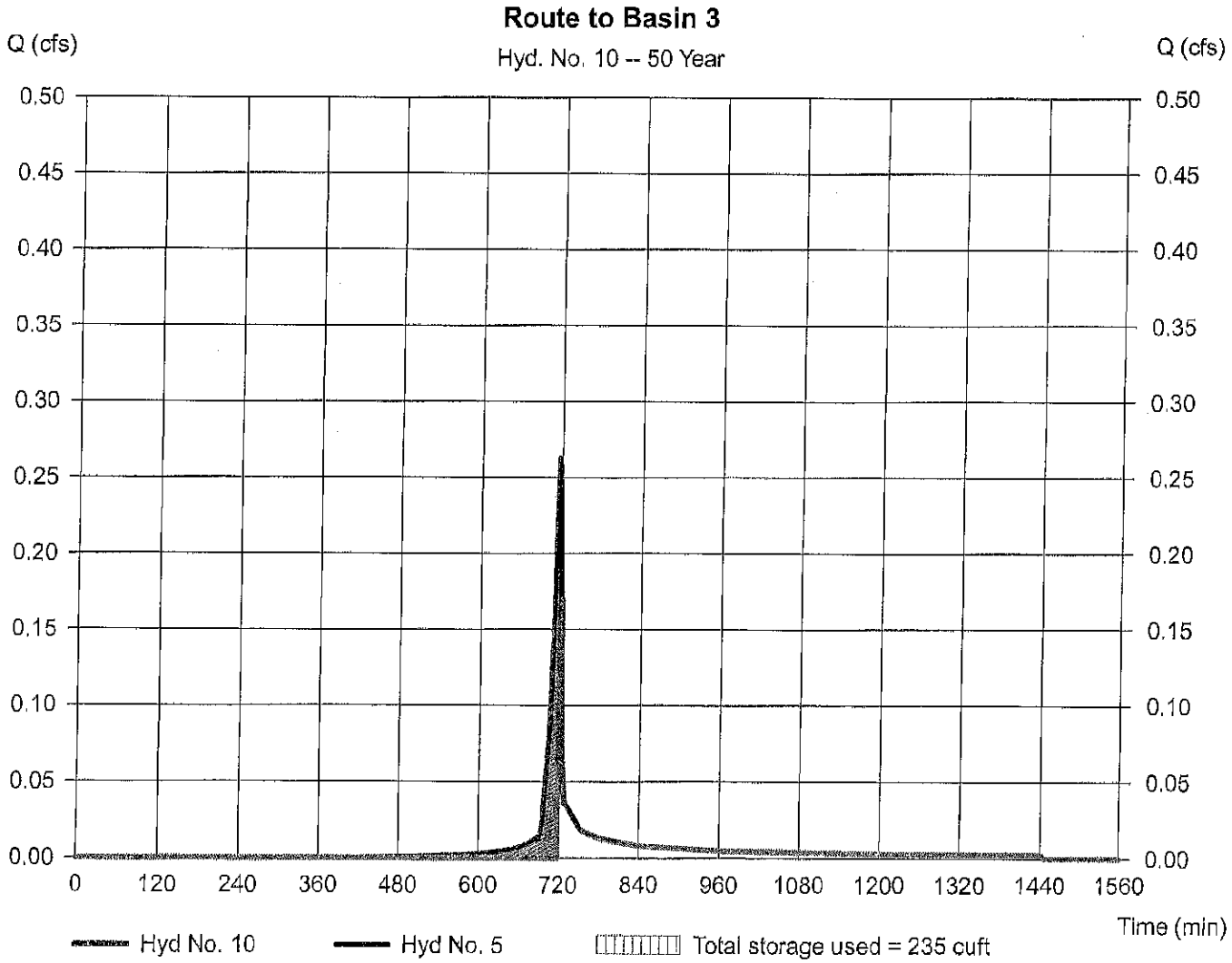
Hydraflow Hydrographs by Intellisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 10

Route to Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.170 cfs
Storm frequency	= 50 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 305 cuft
Inflow hyd. No.	= 5 - DA to Basin 3	Max. Elevation	= 353.02 ft
Reservoir name	= Basin 3	Max. Storage	= 235 cuft

Storage Indication method used.



Hydrograph Report

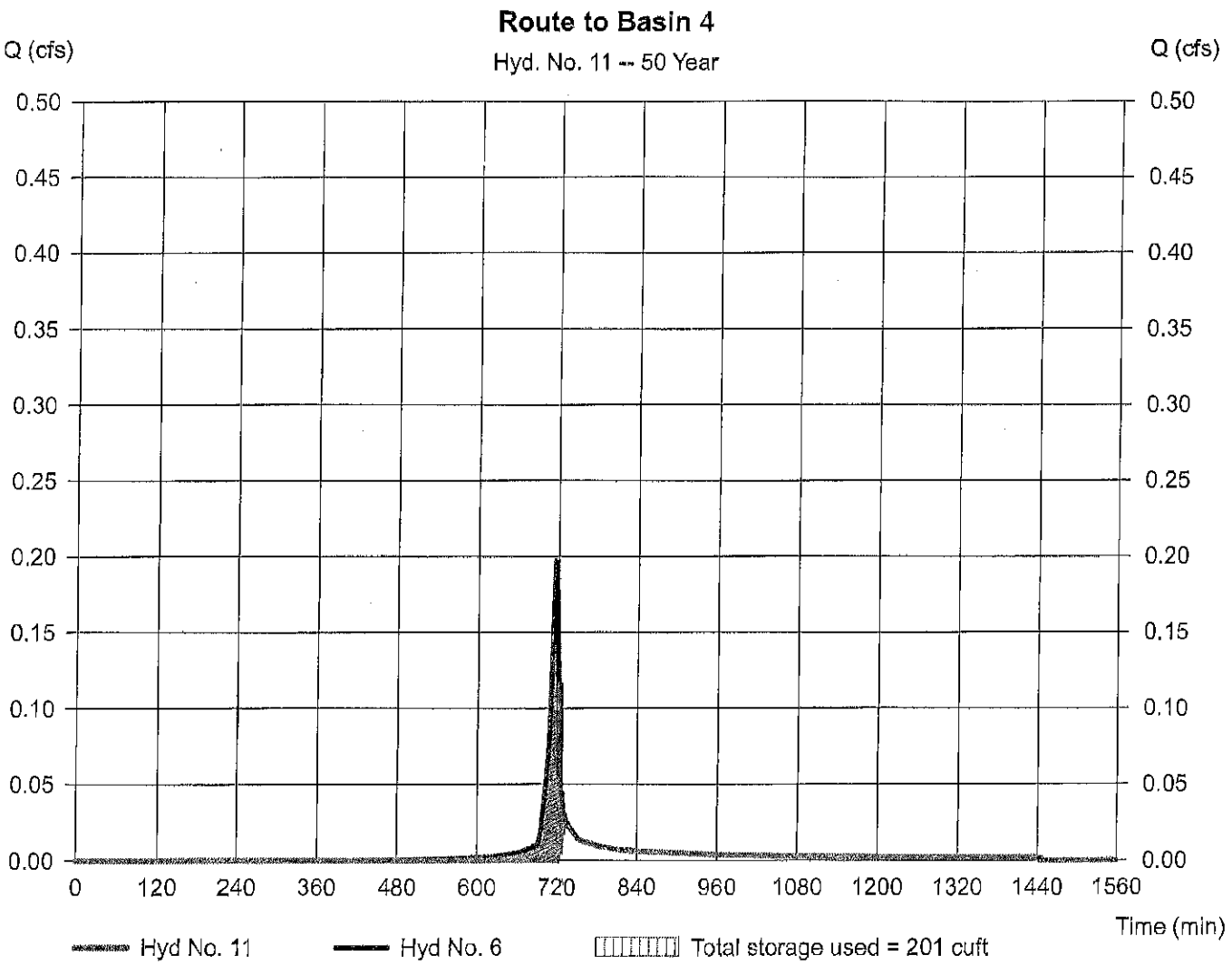
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 11

Route to Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.116 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 203 cuft
Inflow hyd. No.	= 6 - DA to Basin 4	Max. Elevation	= 351.32 ft
Reservoir name	= Basin 4	Max. Storage	= 201 cuft

Storage Indication method used.



Hydrograph Report

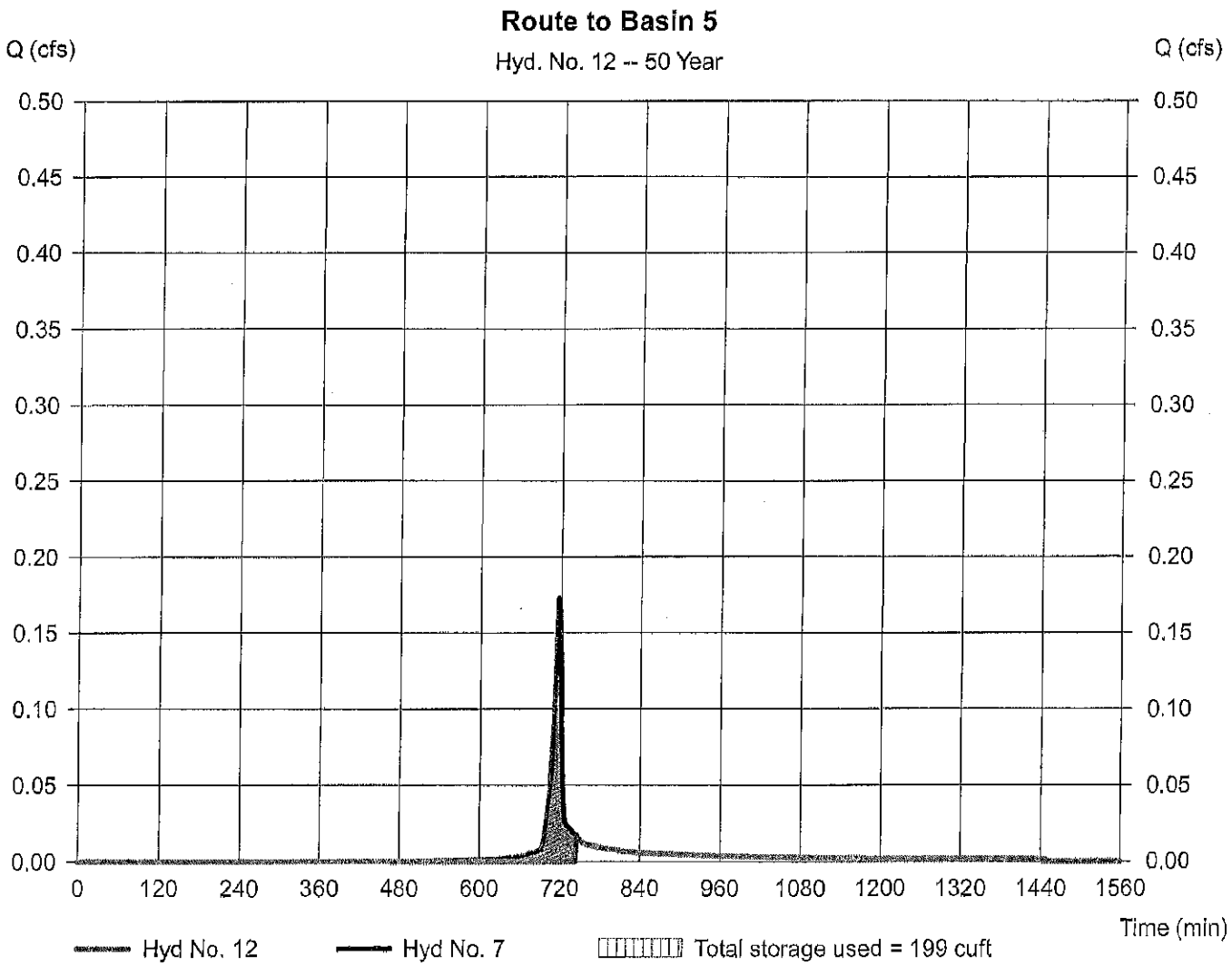
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 12

Route to Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.017 cfs
Storm frequency	= 50 yrs	Time to peak	= 746 min
Time interval	= 2 min	Hyd. volume	= 151 cuft
Inflow hyd. No.	= 7 - DA to Basin 5	Max. Elevation	= 349.40 ft
Reservoir name	= Basin 5	Max. Storage	= 199 cuft

Storage Indication method used.



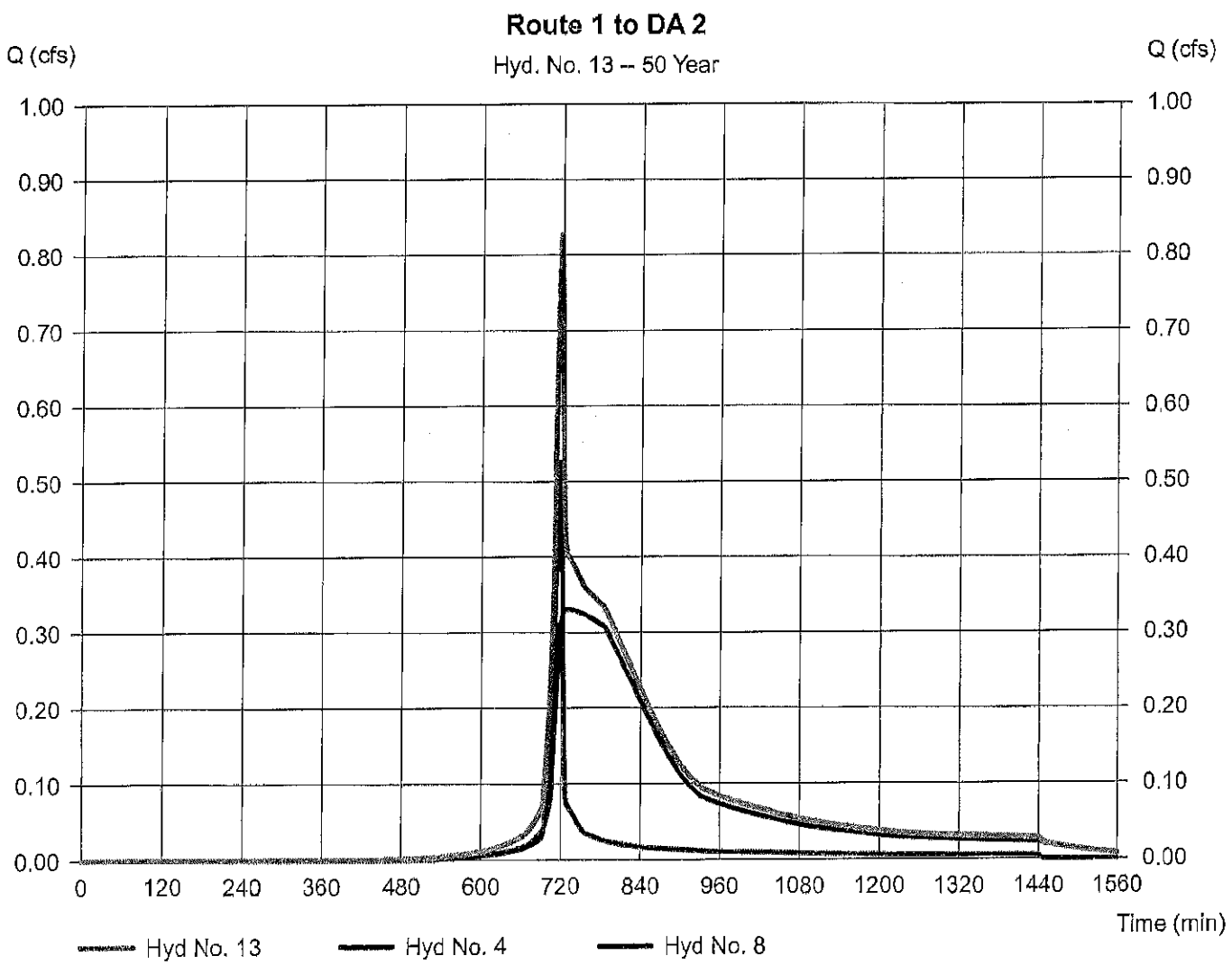
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 13

Route 1 to DA 2

Hydrograph type	= Combine	Peak discharge	= 0.827 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 5,623 cuft
Inflow hyds.	= 4, 8	Contrib. drain. area	= 0.080 ac



Hydrograph Report

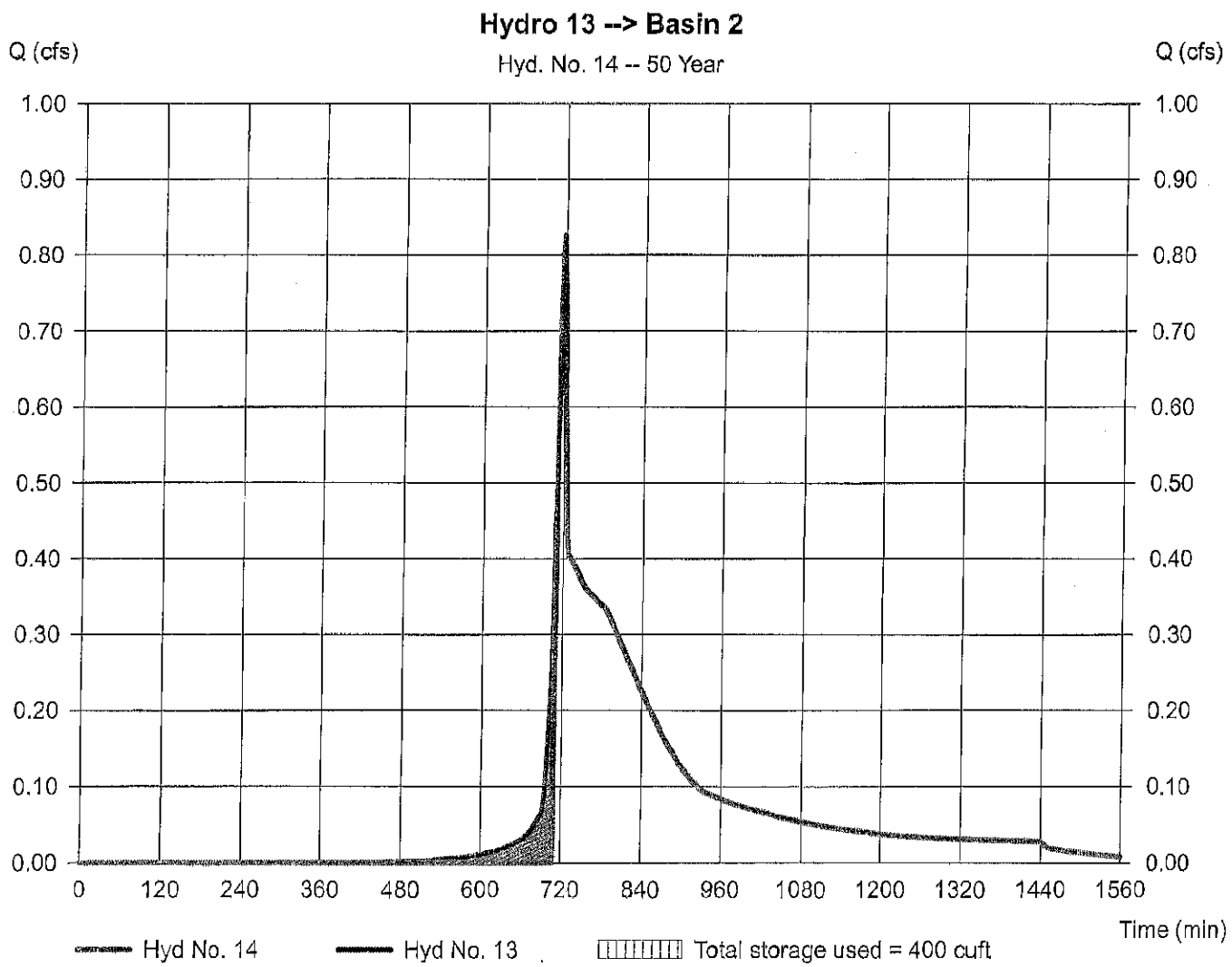
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 14

Hydro 13 --> Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.826 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 5,251 cuft
Inflow hyd. No.	= 13 - Route 1 to DA 2	Max. Elevation	= 354.85 ft
Reservoir name	= Basin 2	Max. Storage	= 400 cuft

Storage Indication method used.



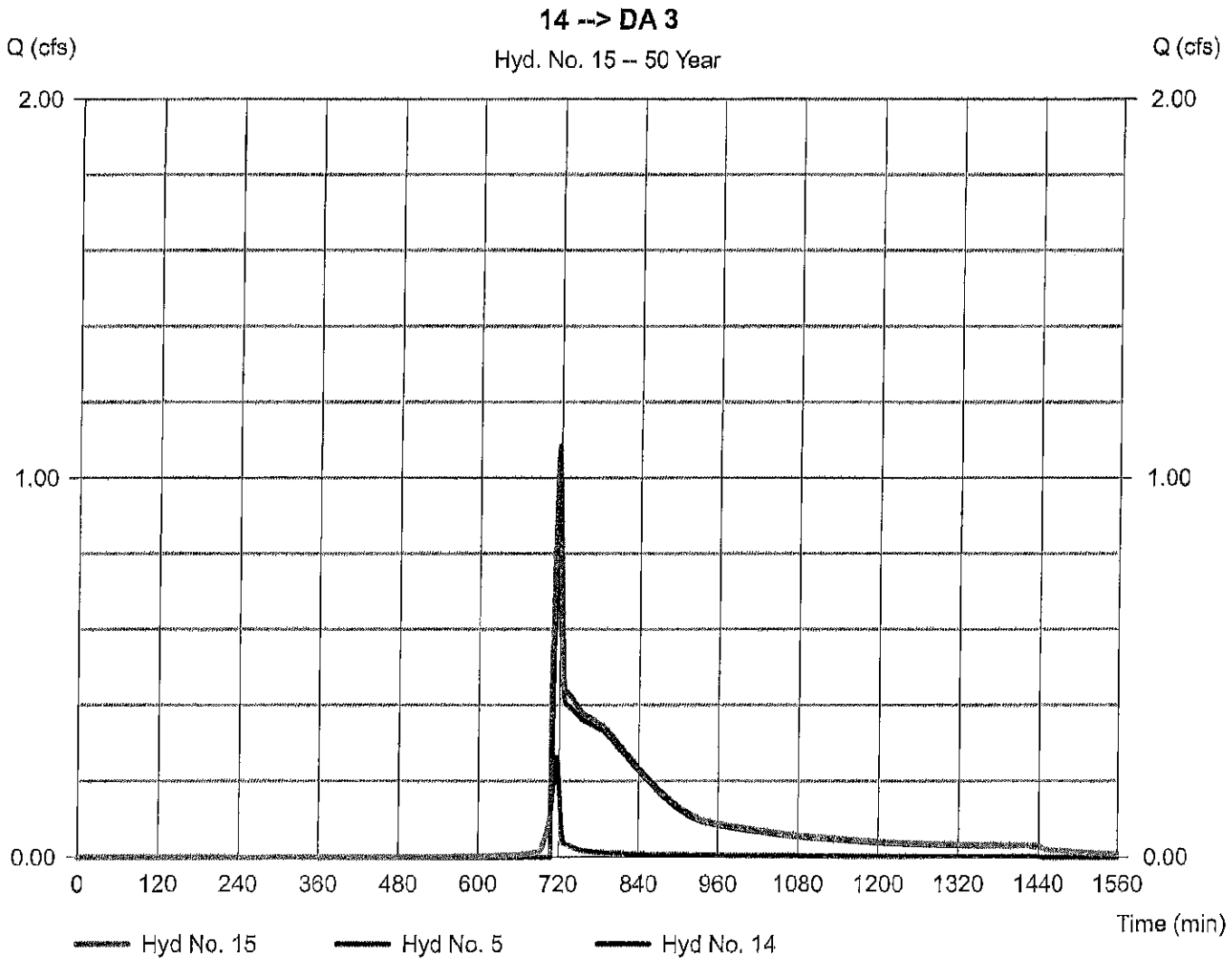
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 15

14 --> DA 3

Hydrograph type	= Combine	Peak discharge	= 1.085 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 5,787 cuft
Inflow hyds.	= 5, 14	Contrib. drain. area	= 0.040 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

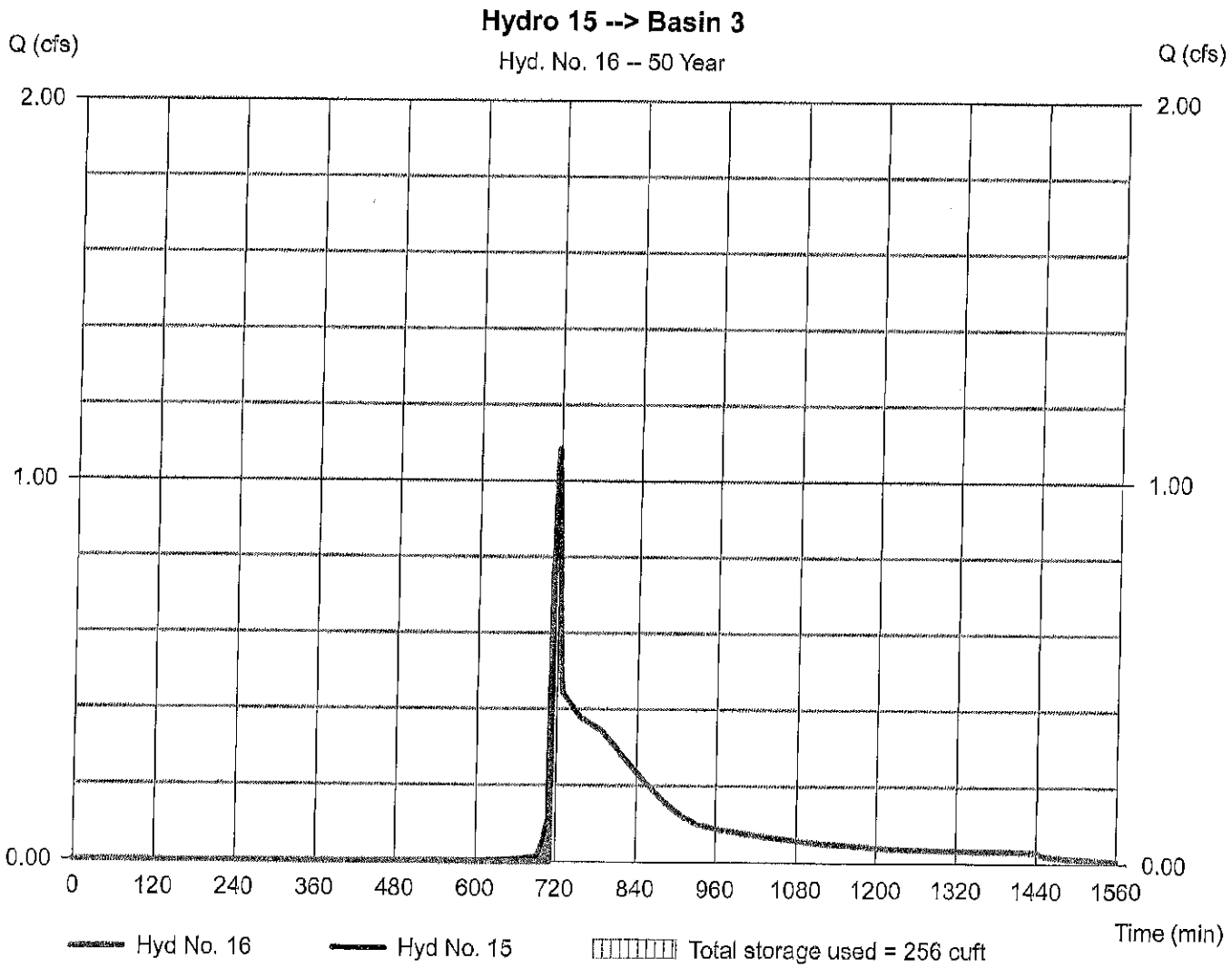
Tuesday, Jun 14, 2022

Hyd. No. 16

Hydro 15 --> Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 1.085 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 5,555 cuft
Inflow hyd. No.	= 15 - 14 --> DA 3	Max. Elevation	= 353.07 ft
Reservoir name	= Basin 3	Max. Storage	= 256 cuft

Storage Indication method used.



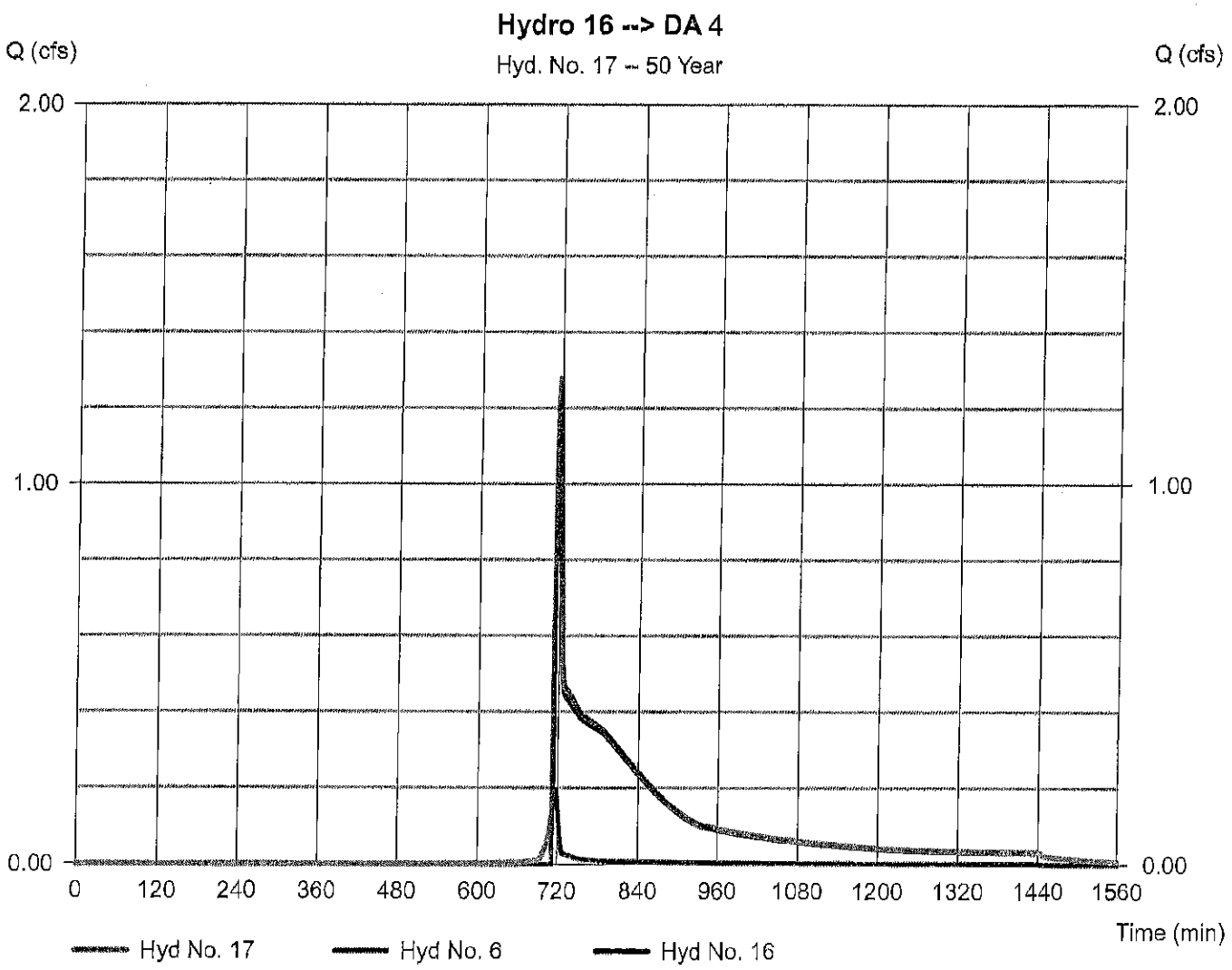
Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 17

Hydro 16 --> DA 4

Hydrograph type	= Combine	Peak discharge	= 1.278 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 5,957 cuft
Inflow hyds.	= 6, 16	Contrib. drain. area	= 0.030 ac



Hydrograph Report

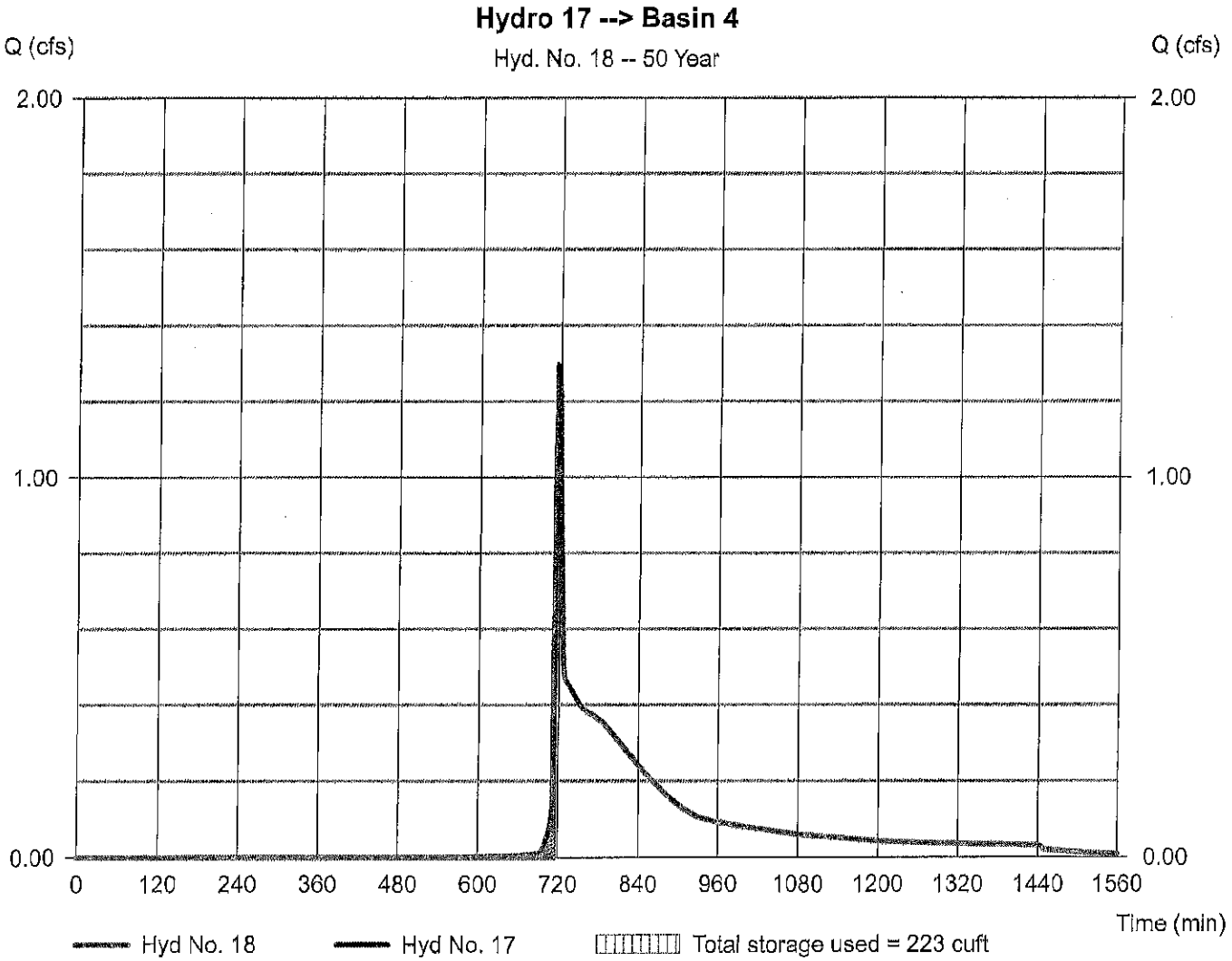
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 18

Hydro 17 --> Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 1.295 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 5,758 cuft
Inflow hyd. No.	= 17 - Hydro 16 --> DA 4	Max. Elevation	= 351.40 ft
Reservoir name	= Basin 4	Max. Storage	= 223 cuft

Storage Indication method used.



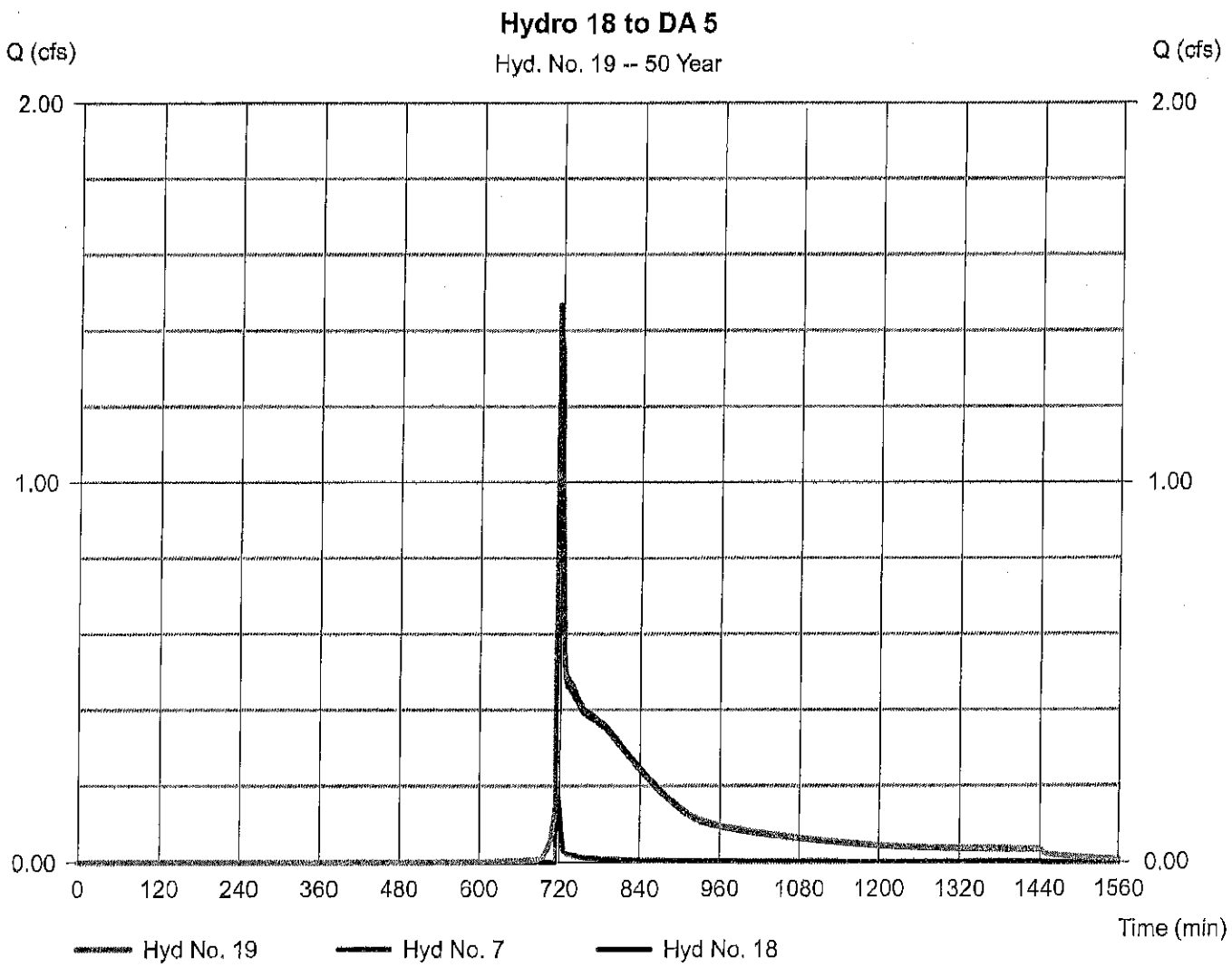
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 19

Hydro 18 to DA 5

Hydrograph type	= Combine	Peak discharge	= 1.468 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 6,108 cuft
Inflow hyds.	= 7, 18	Contrib. drain. area	= 0.030 ac



Hydrograph Report

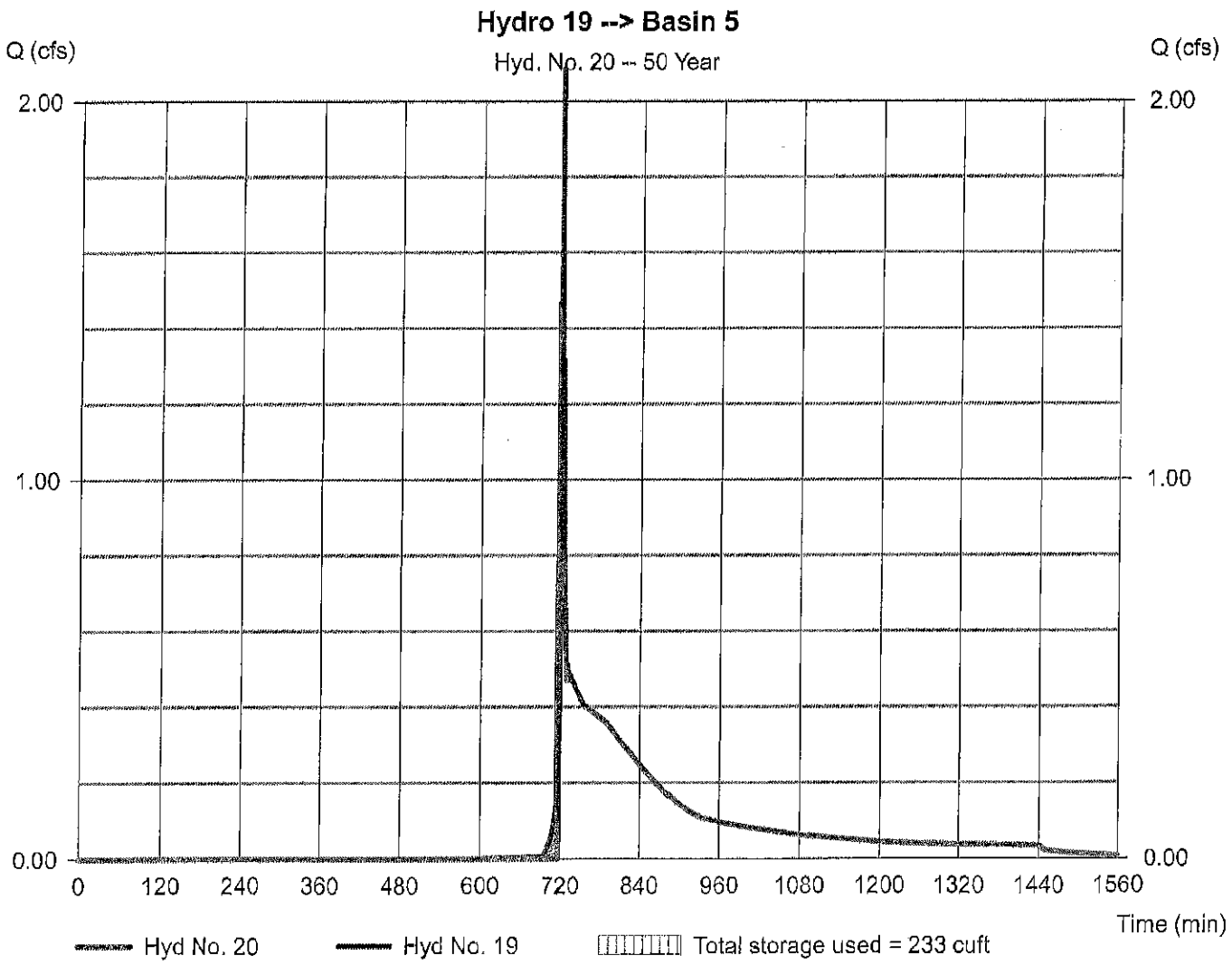
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 20

Hydro 19 --> Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 2.087 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 5,909 cuft
Inflow hyd. No.	= 19 - Hydro 18 to DA 5	Max. Elevation	= 349.66 ft
Reservoir name	= Basin 5	Max. Storage	= 233 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs by Intellisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	2.702	2	718	5,411	----	------	------	Pre-Condition
2	SCS Runoff	4.088	2	716	8,365	----	------	------	Post-Condition
3	SCS Runoff	2.738	2	716	5,563	----	------	------	DA to Basin 1
4	SCS Runoff	0.630	2	716	1,293	----	------	------	DA to Basin 2
5	SCS Runoff	0.315	2	716	647	----	------	------	DA to Basin 3
6	SCS Runoff	0.236	2	716	485	----	------	------	DA to Basin 4
7	SCS Runoff	0.211	2	716	428	----	------	------	DA to Basin 5
8	Reservoir	0.352	2	732	5,556	3	356.73	2,342	Route to Basin 1
9	Reservoir	0.678	2	716	921	4	354.85	395	Route to Basin 2
10	Reservoir	0.436	2	718	415	5	353.05	241	Route to Basin 3
11	Reservoir	0.283	2	720	286	6	351.34	204	Route to Basin 4
12	Reservoir	0.085	2	724	229	7	349.41	200	Route to Basin 5
13	Combine	0.944	2	718	6,849	4, 8,	------	------	Route 1 to DA 2
14	Reservoir	0.952	2	718	6,477	13	354.86	404	Hydro 13 --> Basin 2
15	Combine	1.260	2	718	7,124	5, 14	------	------	14 --> DA 3
16	Reservoir	1.271	2	718	6,892	15	353.08	260	Hydro 15 --> Basin 3
17	Combine	1.503	2	718	7,377	6, 16	------	------	Hydro 16 --> DA 4
18	Reservoir	1.515	2	716	7,178	17	351.44	227	Hydro 17 --> Basin 4
19	Combine	1.726	2	716	7,606	7, 18	------	------	Hydro 18 to DA 5
20	Reservoir	1.889	2	718	7,407	19	349.59	231	Hydro 19 --> Basin 5

Hydrograph Report

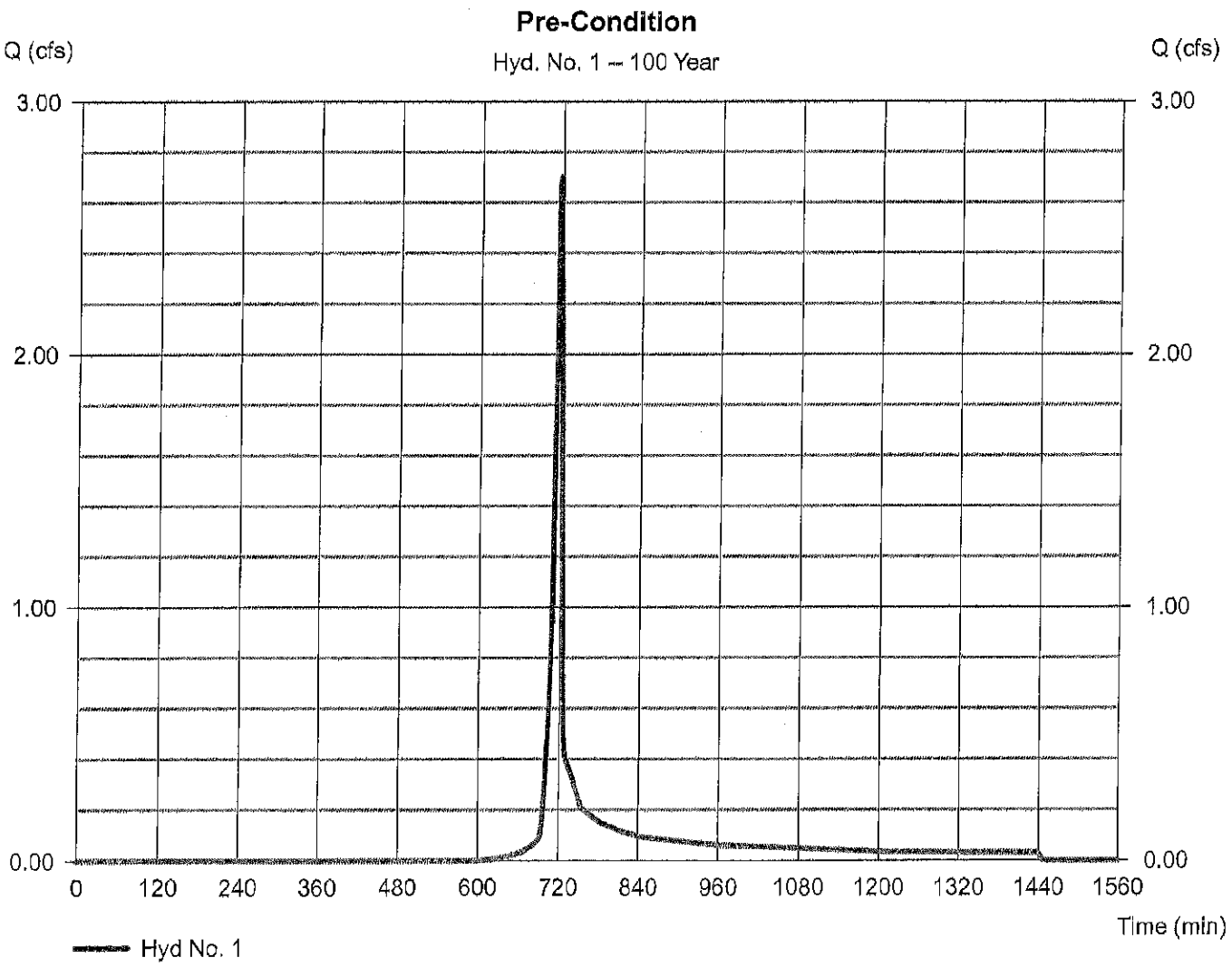
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 1

Pre-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 2.702 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 5,411 cuft
Drainage area	= 0.530 ac	Curve number	= 60*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.55 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.509 x 58) + (0.022 x 98)] / 0.530



Hydrograph Report

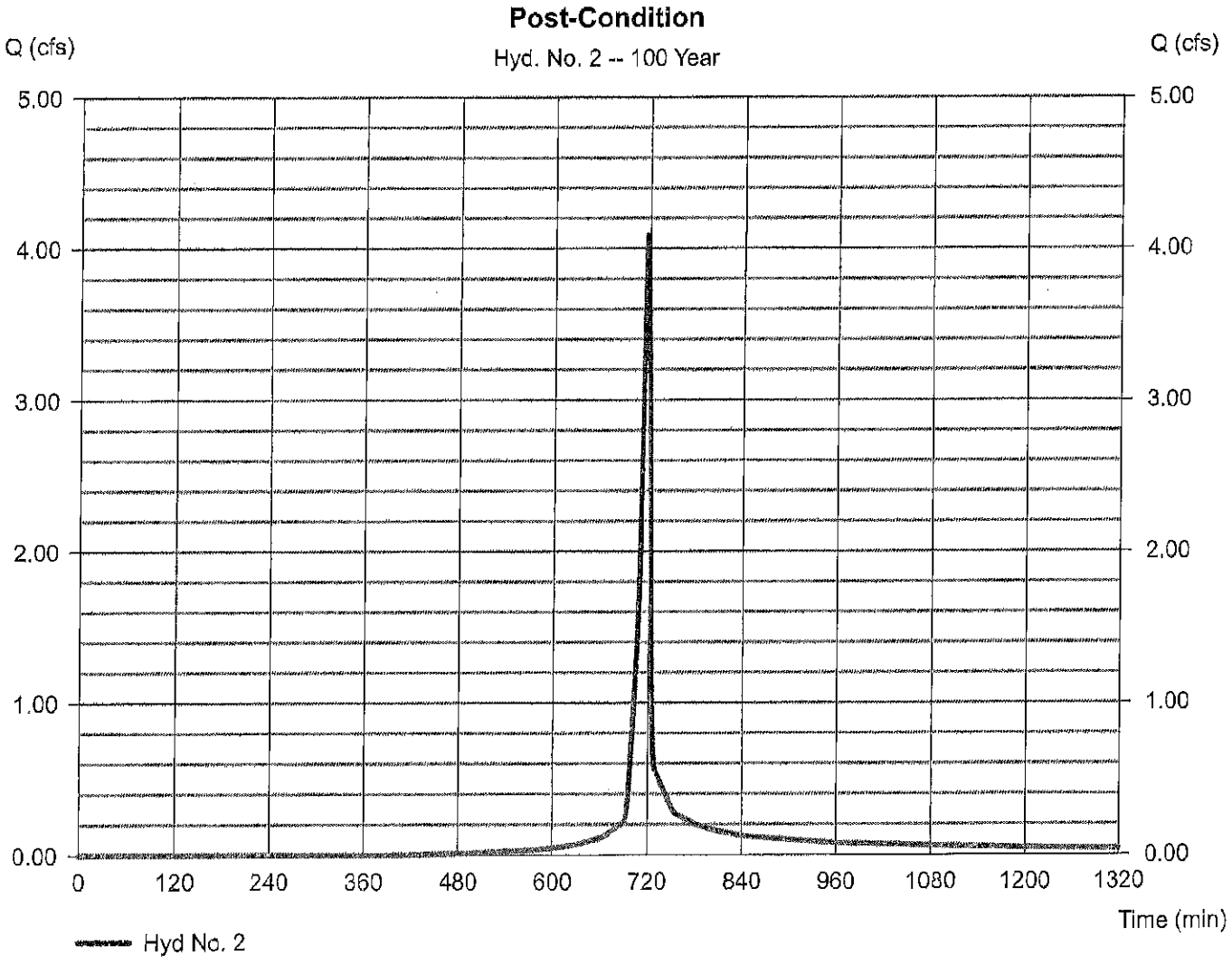
Hydraflow Hydrographs by Intellsolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 2

Post-Condition

Hydrograph type	= SCS Runoff	Peak discharge	= 4.088 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 8,365 cuft
Drainage area	= 0.530 ac	Curve number	= 75*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.55 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.327 x 61) + (0.204 x 98)] / 0.530



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

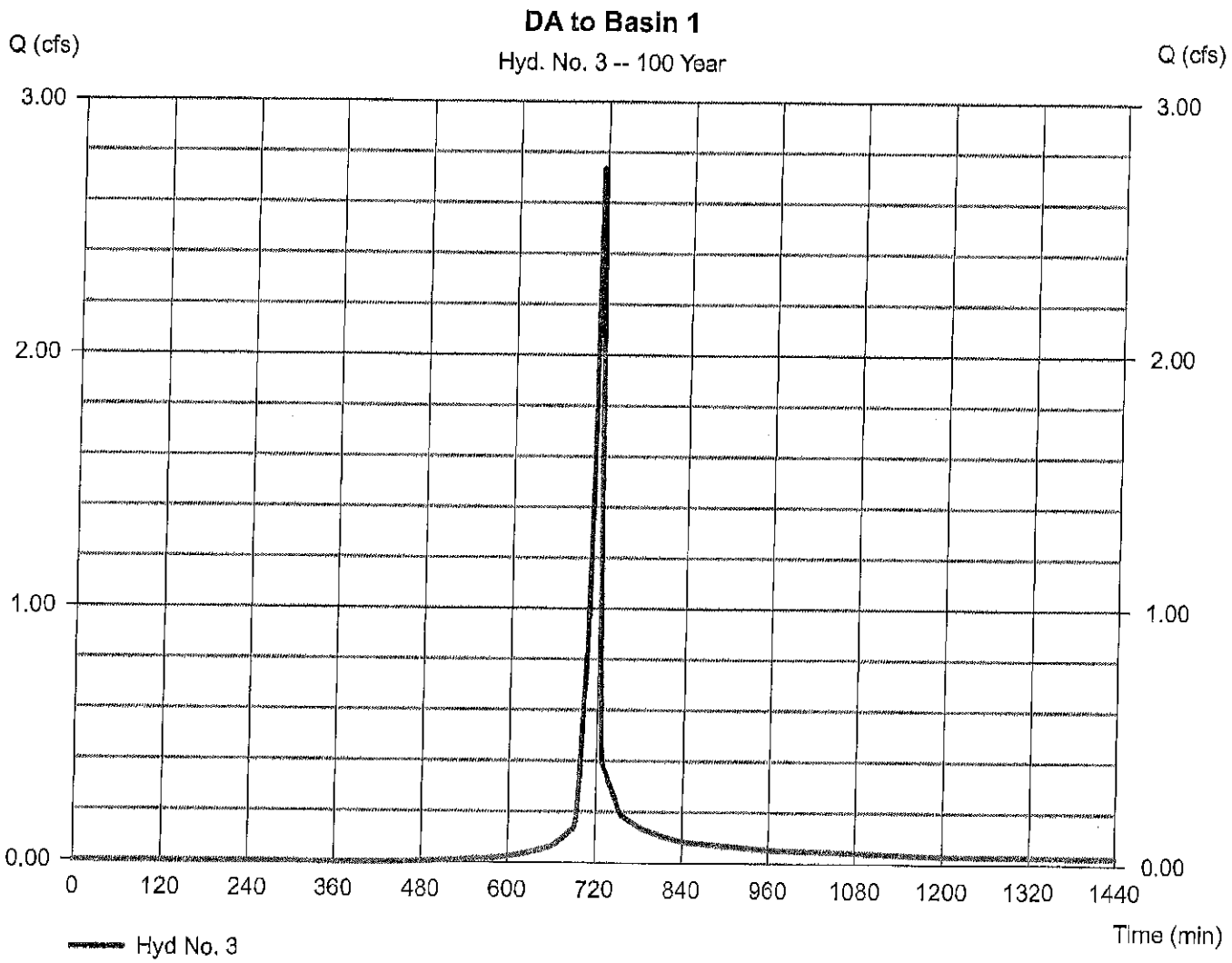
Tuesday, Jun 14, 2022

Hyd. No. 3

DA to Basin 1

Hydrograph type	= SCS Runoff	Peak discharge	= 2.738 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 5,563 cuft
Drainage area	= 0.380 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.55 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.261 x 81) + (0.116 x 98)] / 0.380



Hydrograph Report

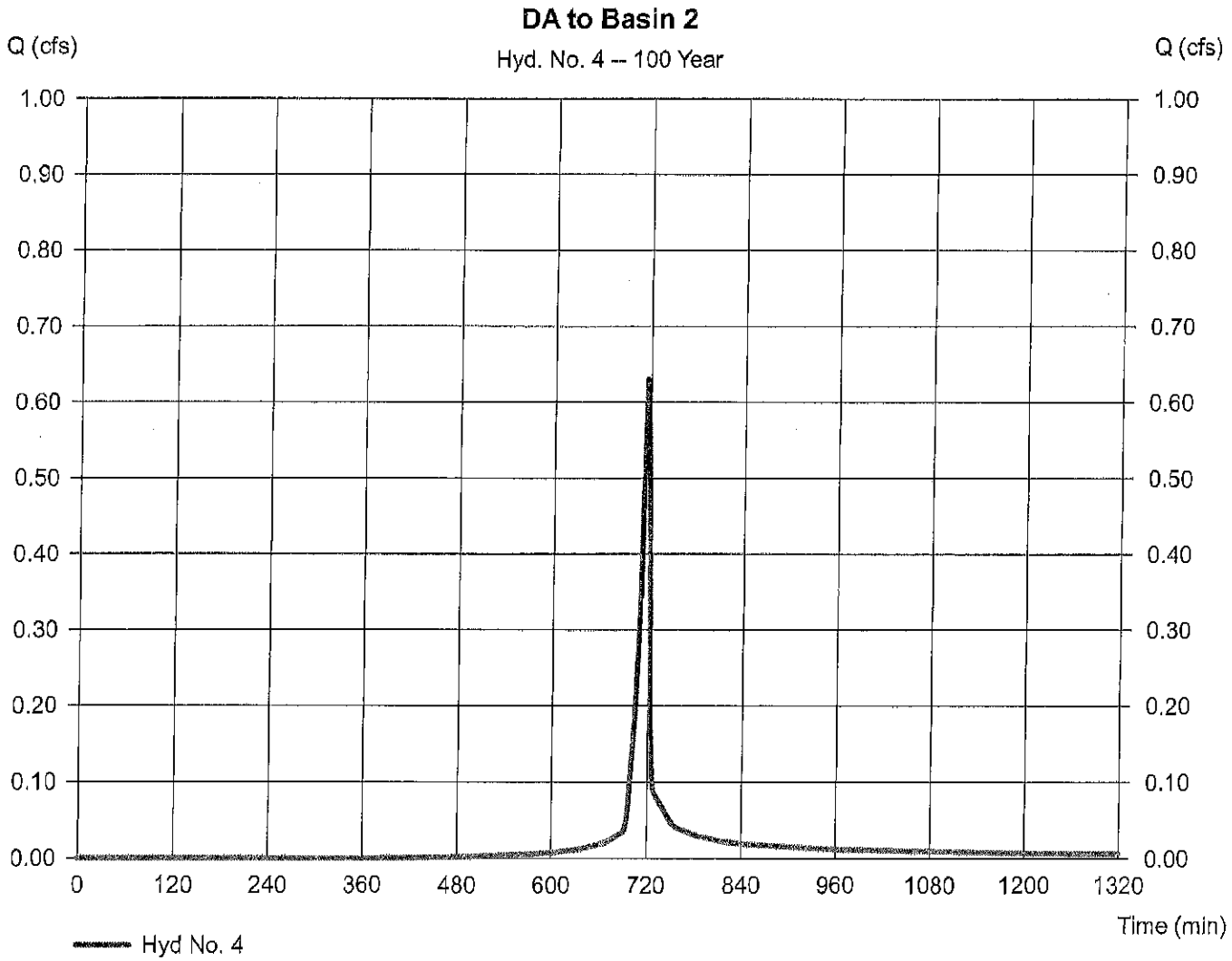
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 4

DA to Basin 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.630 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 1,293 cuft
Drainage area	= 0.080 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.55 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.046 x 61) + (0.031 x 98)] / 0.080



Hydrograph Report

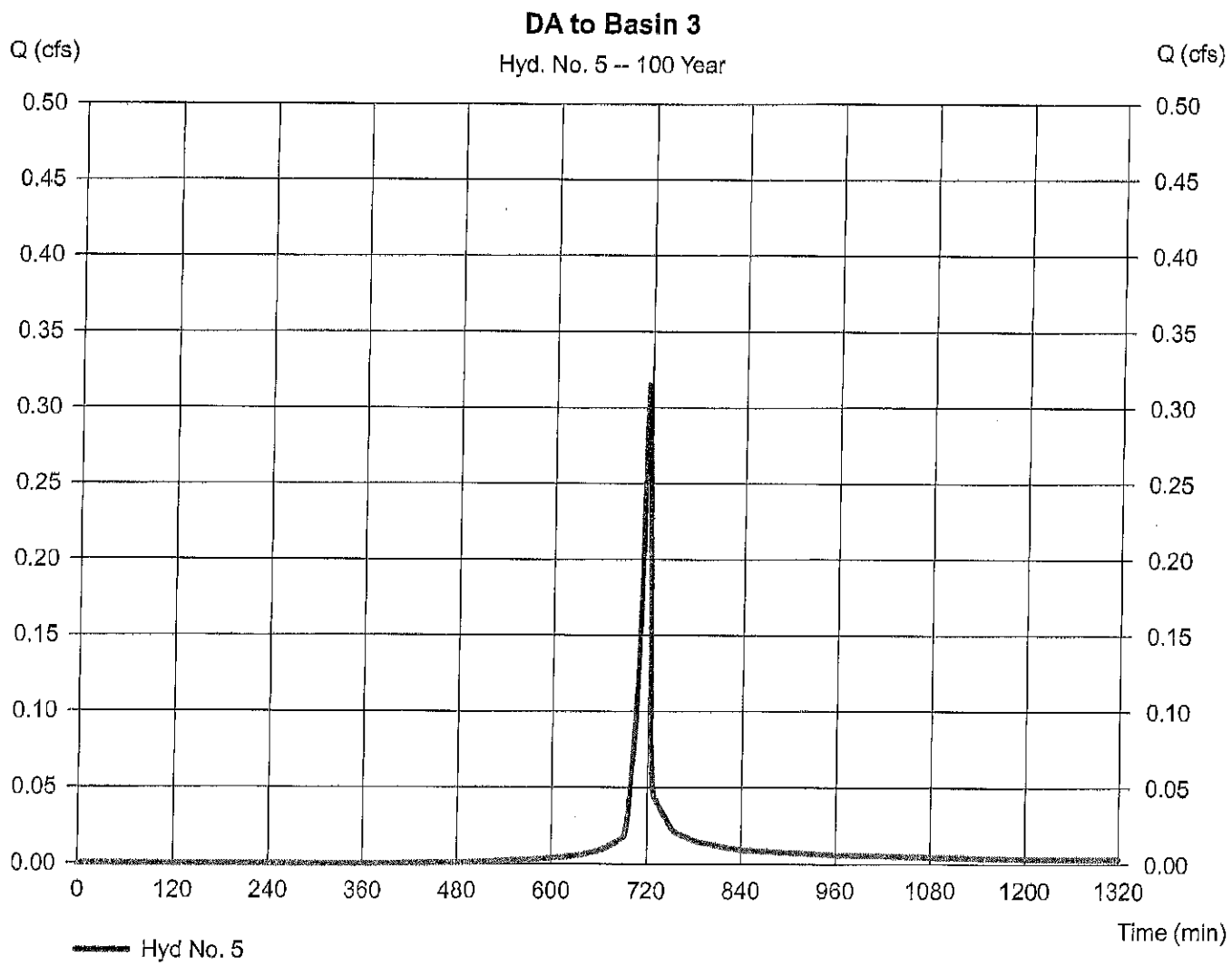
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Jun 14, 2022

Hyd. No. 5

DA to Basin 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.315 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 647 cuft
Drainage area	= 0.040 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.55 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.021 x 61) + (0.014 x 98)] / 0.040



Hydrograph Report

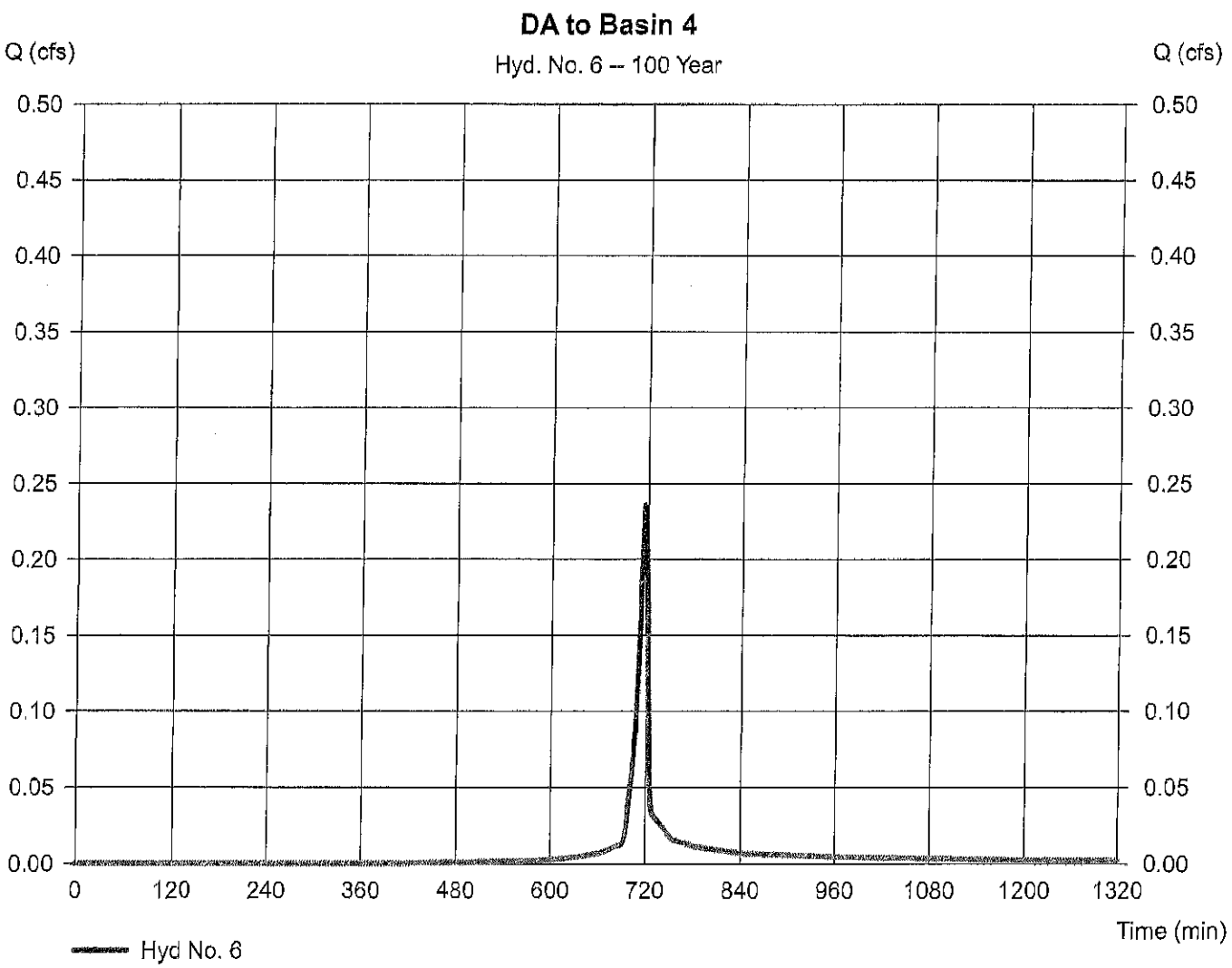
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 6

DA to Basin 4

Hydrograph type	= SCS Runoff	Peak discharge	= 0.236 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 485 cuft
Drainage area	= 0.030 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.55 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.017 x 61) + (0.011 x 98)] / 0.030



Hydrograph Report

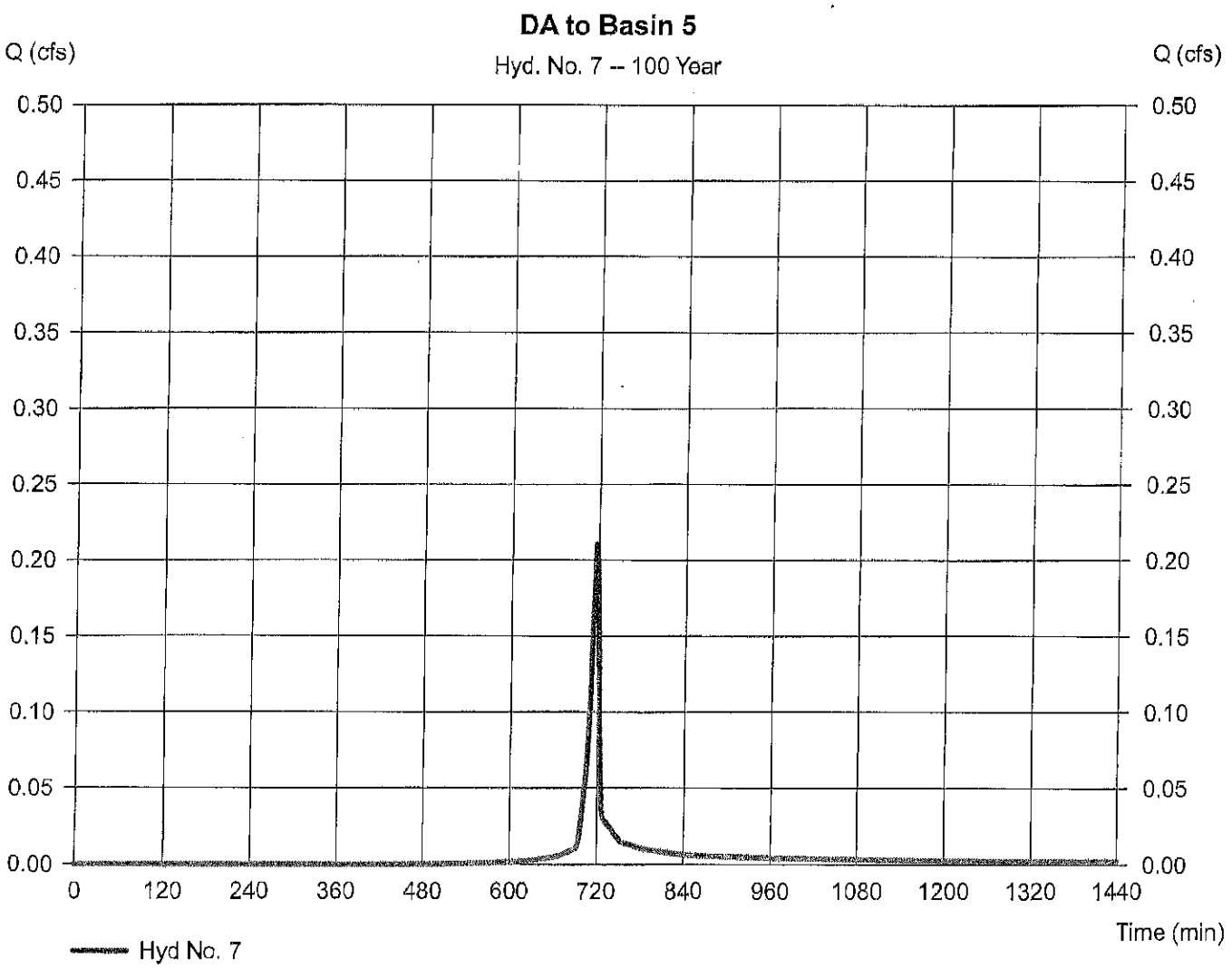
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 7

DA to Basin 5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.211 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 428 cuft
Drainage area	= 0.030 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.55 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.023 x 61) + (0.009 x 98)] / 0.030



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

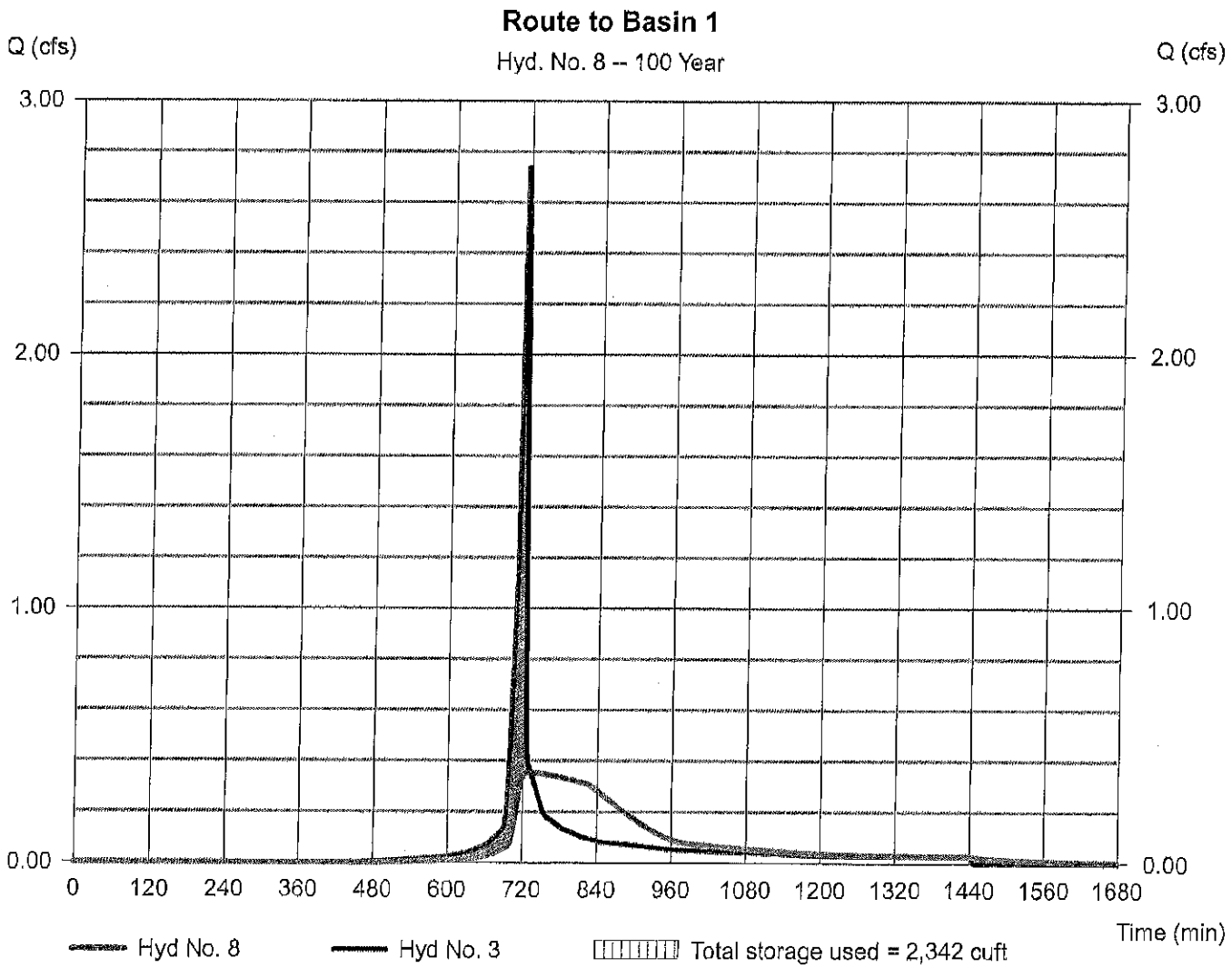
Tuesday, Jun 14, 2022

Hyd. No. 8

Route to Basin 1

Hydrograph type	= Reservoir	Peak discharge	= 0.352 cfs
Storm frequency	= 100 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 5,556 cuft
Inflow hyd. No.	= 3 - DA to Basin 1	Max. Elevation	= 356.73 ft
Reservoir name	= Basin 1	Max. Storage	= 2,342 cuft

Storage Indication method used.



Hydrograph Report

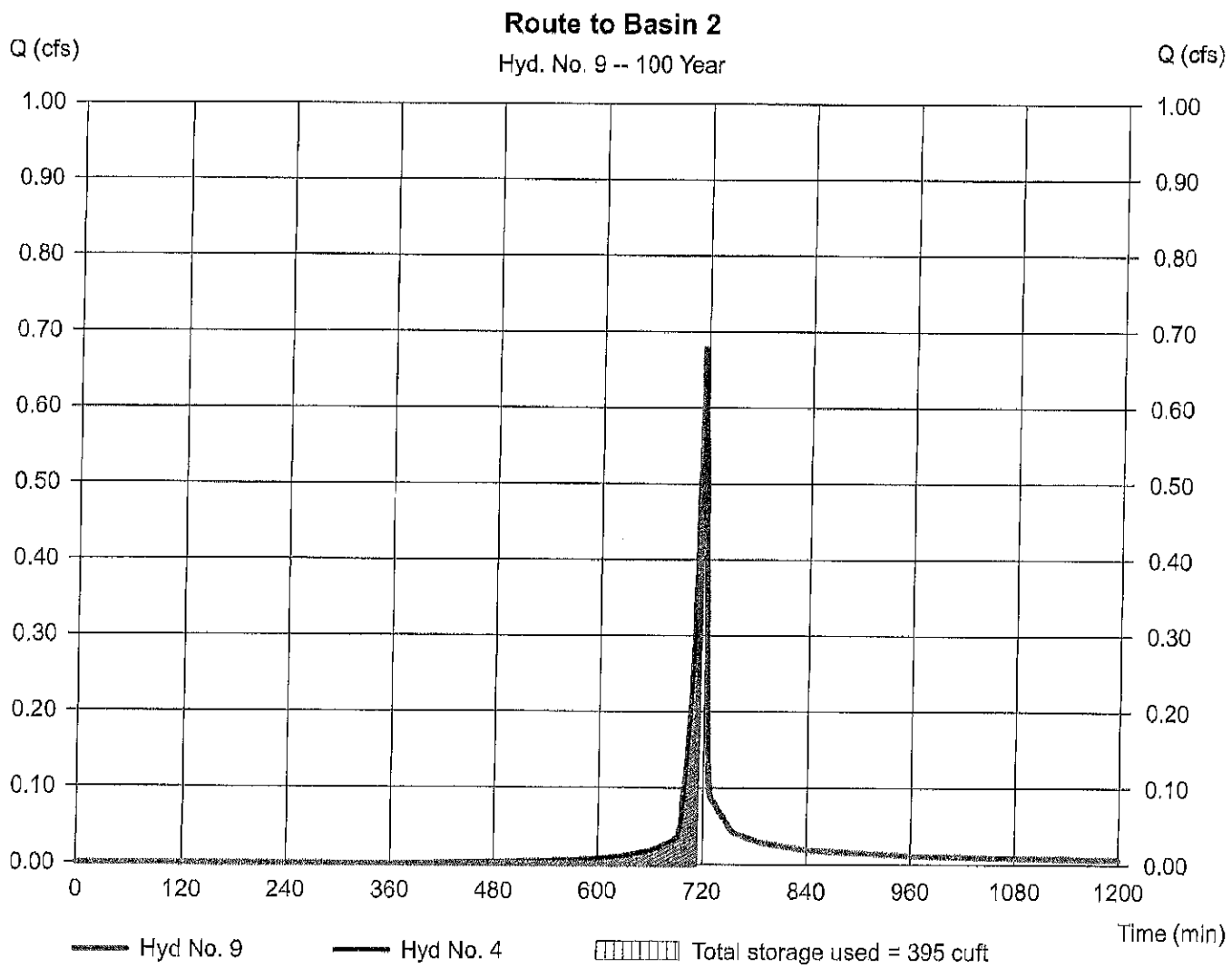
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 9

Route to Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.678 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 921 cuft
Inflow hyd. No.	= 4 - DA to Basin 2	Max. Elevation	= 354.85 ft
Reservoir name	= Basin 2	Max. Storage	= 395 cuft

Storage Indication method used.



Hydrograph Report

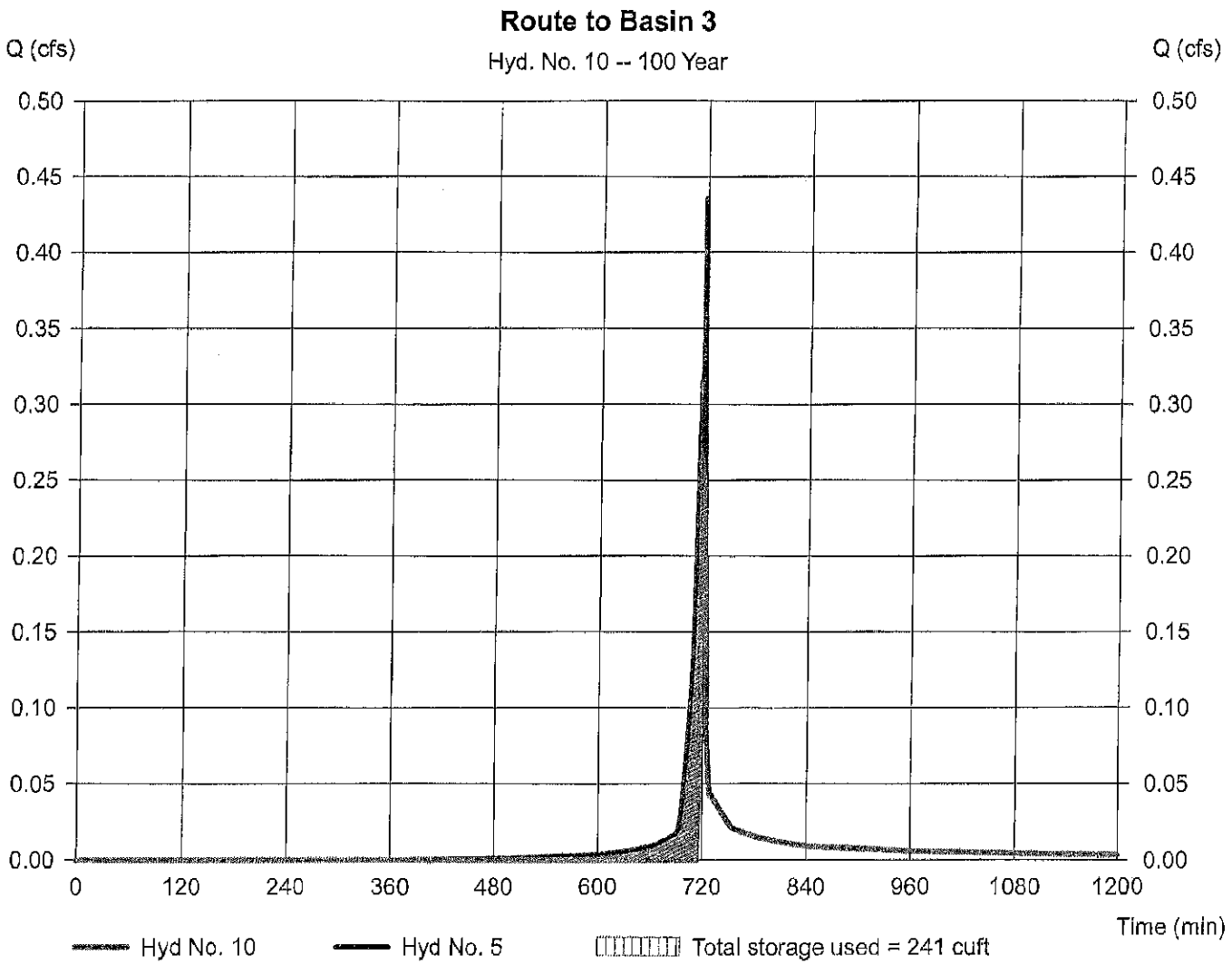
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 10

Route to Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 0.436 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 415 cuft
Inflow hyd. No.	= 5 - DA to Basin 3	Max. Elevation	= 353.05 ft
Reservoir name	= Basin 3	Max. Storage	= 241 cuft

Storage Indication method used.



Hydrograph Report

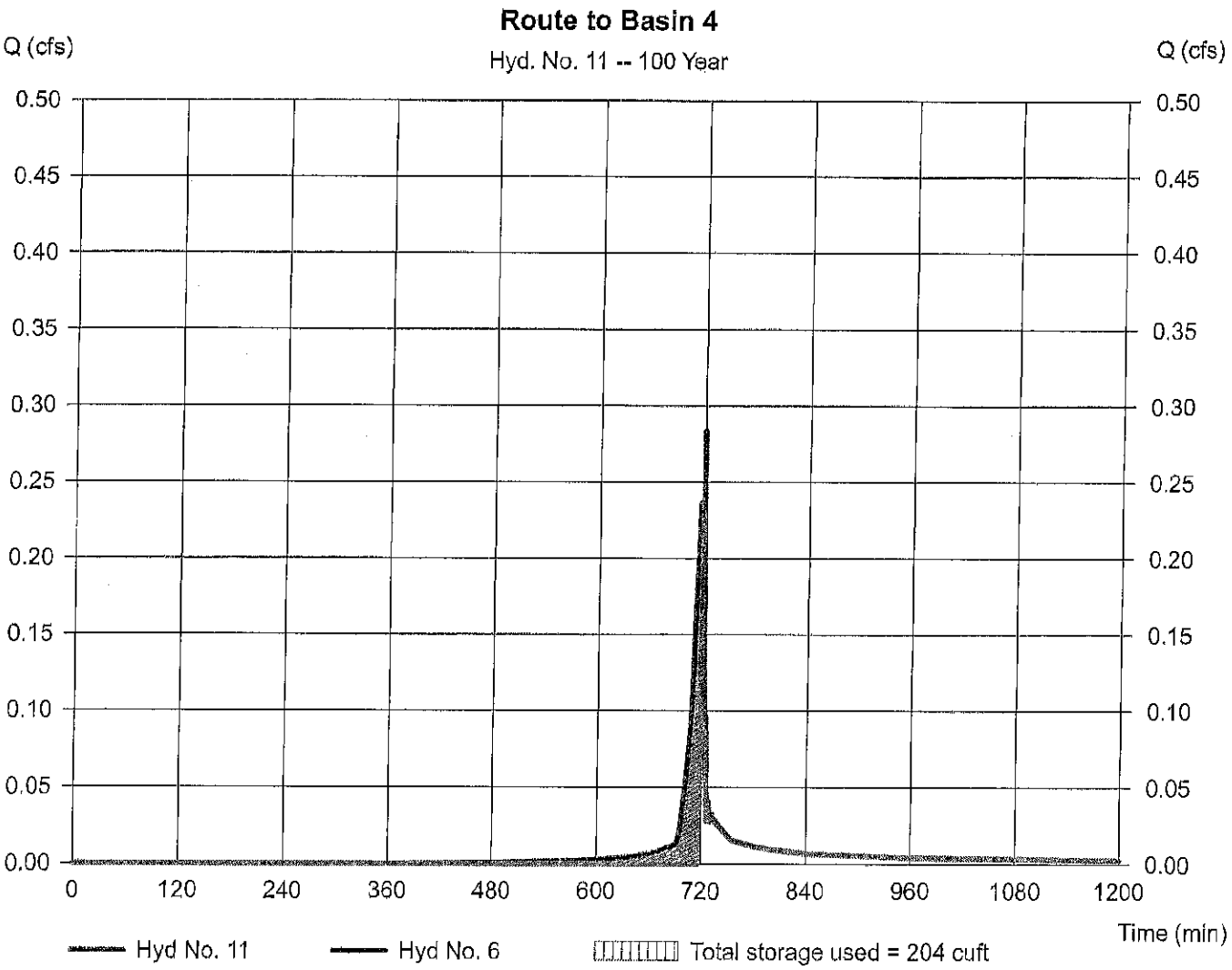
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 11

Route to Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 0.283 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 286 cuft
Inflow hyd. No.	= 6 - DA to Basin 4	Max. Elevation	= 351.34 ft
Reservoir name	= Basin 4	Max. Storage	= 204 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1

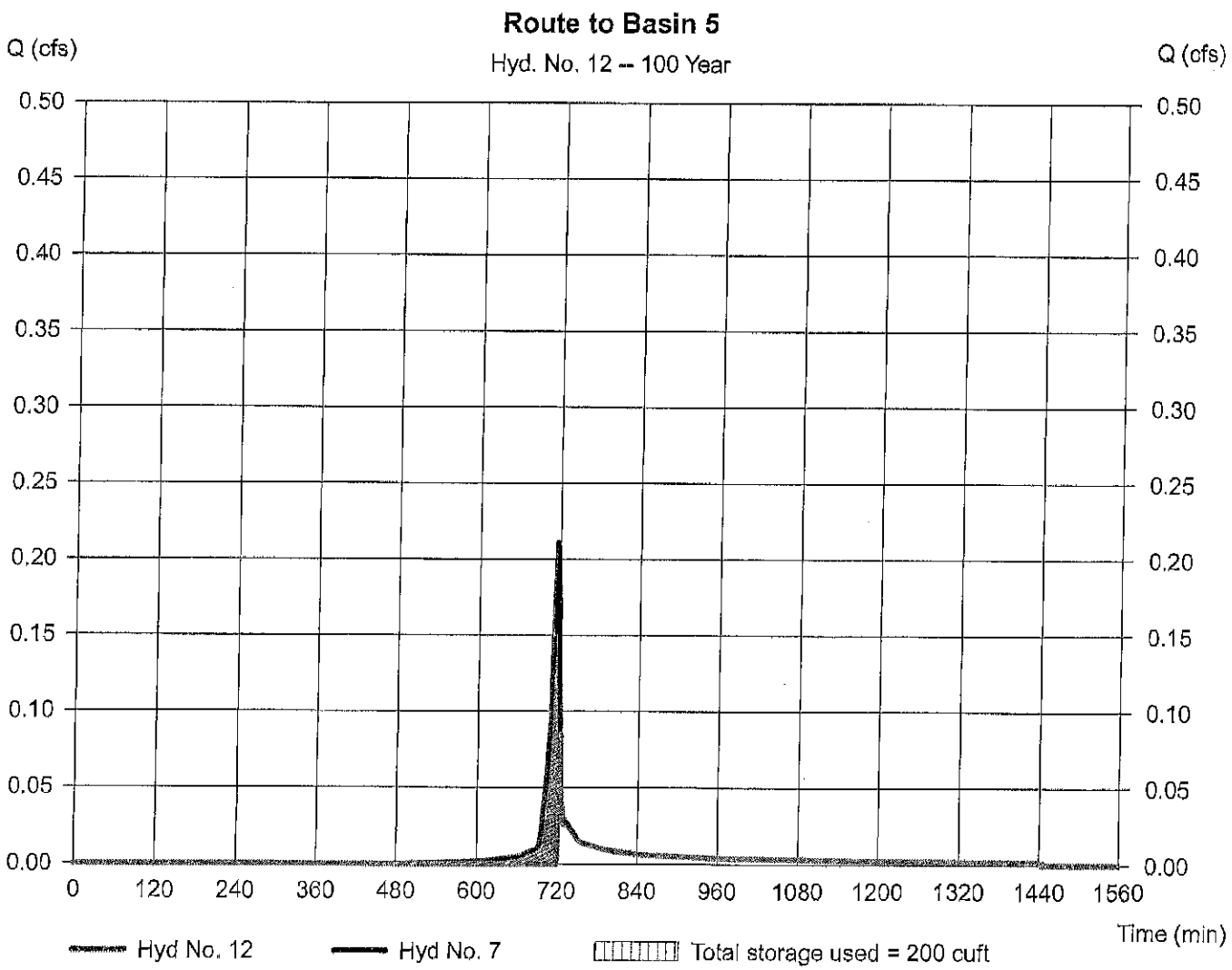
Tuesday, Jun 14, 2022

Hyd. No. 12

Route to Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 0.085 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 229 cuft
Inflow hyd. No.	= 7 - DA to Basin 5	Max. Elevation	= 349.41 ft
Reservoir name	= Basin 5	Max. Storage	= 200 cuft

Storage Indication method used.



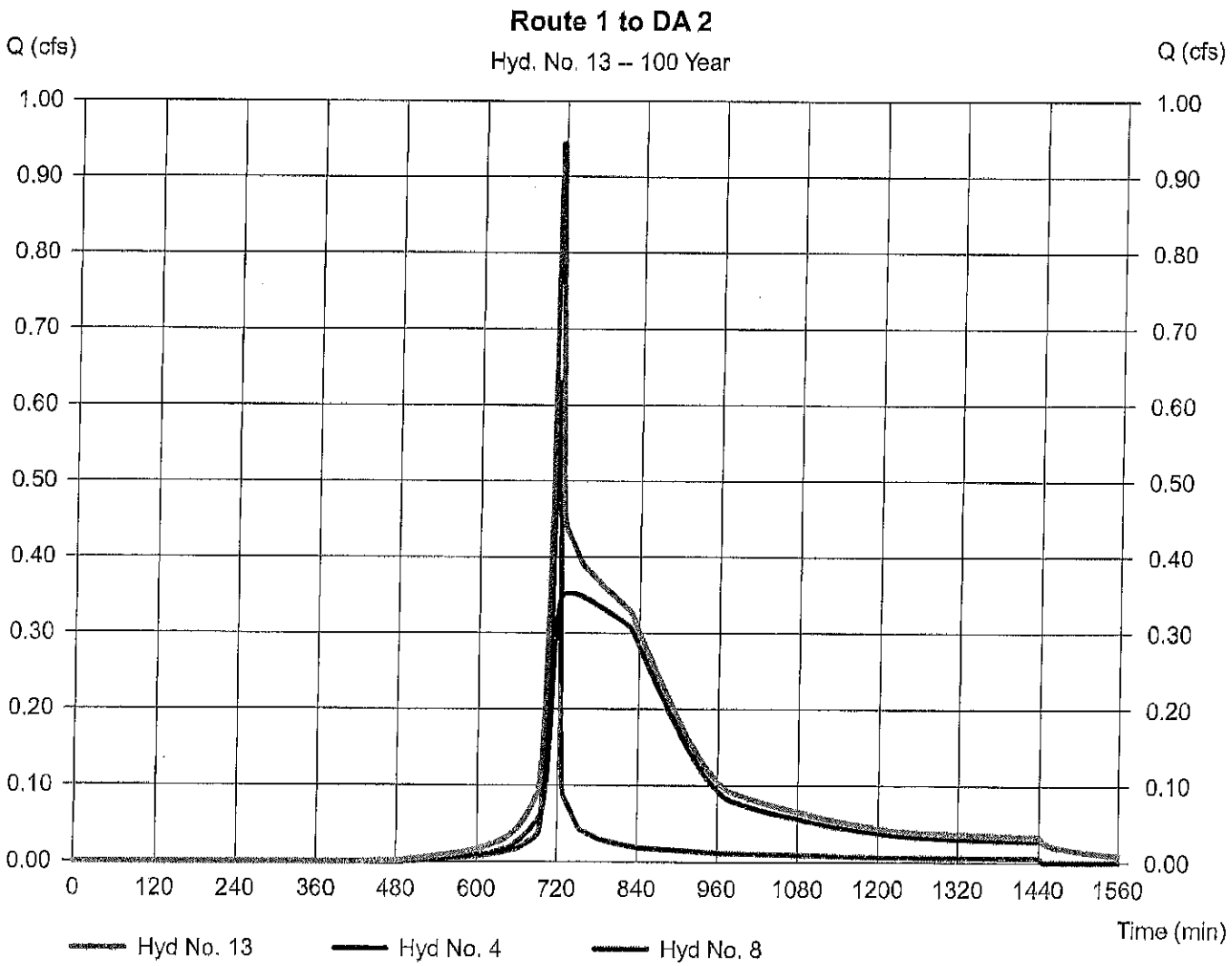
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 13

Route 1 to DA 2

Hydrograph type	= Combine	Peak discharge	= 0.944 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 6,849 cuft
Inflow hyds.	= 4, 8	Contrib. drain. area	= 0.080 ac



Hydrograph Report

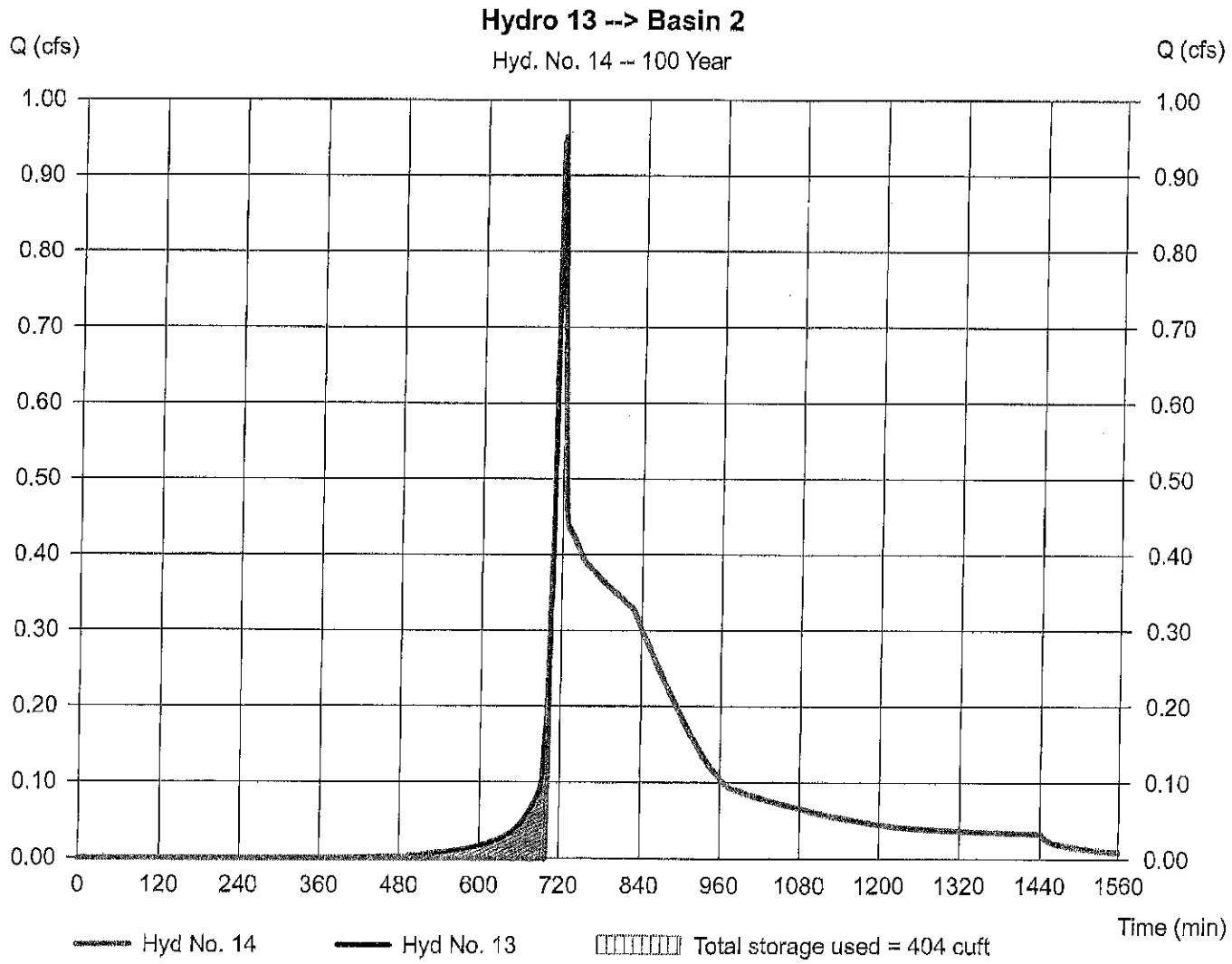
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 14

Hydro 13 --> Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.952 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 6,477 cuft
Inflow hyd. No.	= 13 - Route 1 to DA 2	Max. Elevation	= 354.86 ft
Reservoir name	= Basin 2	Max. Storage	= 404 cuft

Storage Indication method used.



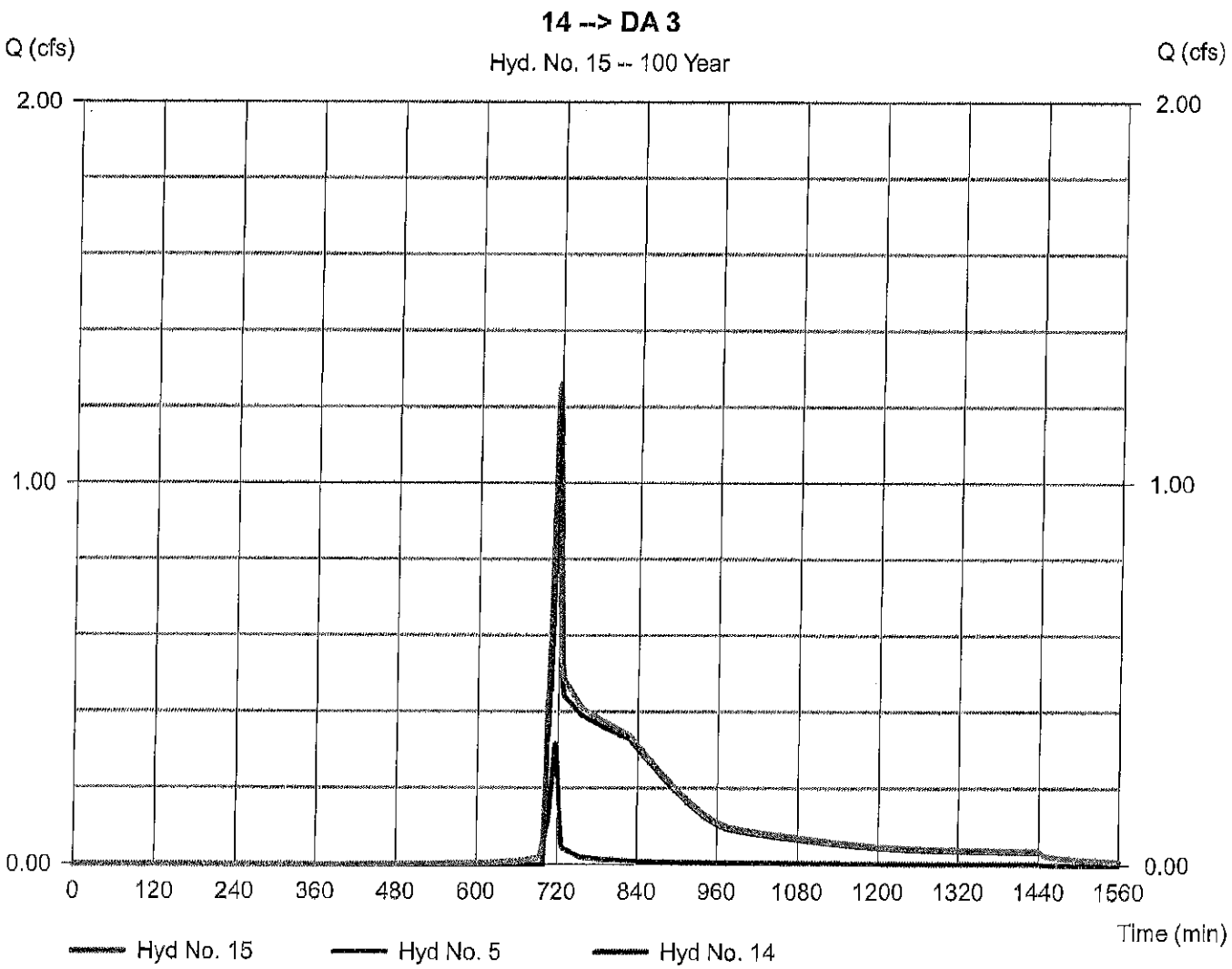
Hydrograph Report

Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 15

14 --> DA 3

Hydrograph type	= Combine	Peak discharge	= 1.260 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 7,124 cuft
Inflow hyds.	= 5, 14	Contrib. drain. area	= 0.040 ac



Hydrograph Report

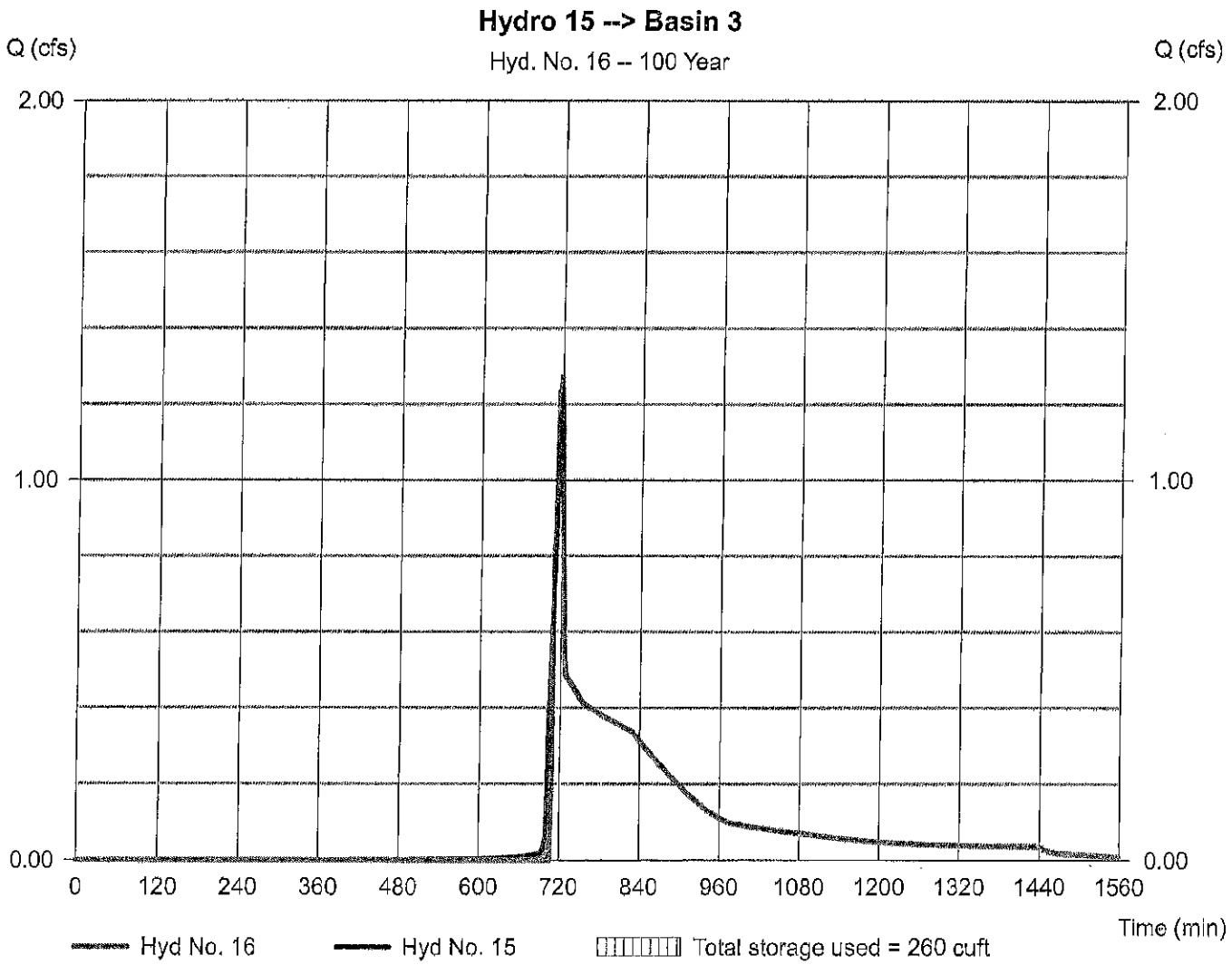
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 16

Hydro 15 --> Basin 3

Hydrograph type	= Reservoir	Peak discharge	= 1.271 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 6,892 cuft
Inflow hyd. No.	= 15 - 14 --> DA 3	Max. Elevation	= 353.08 ft
Reservoir name	= Basin 3	Max. Storage	= 260 cuft

Storage Indication method used.



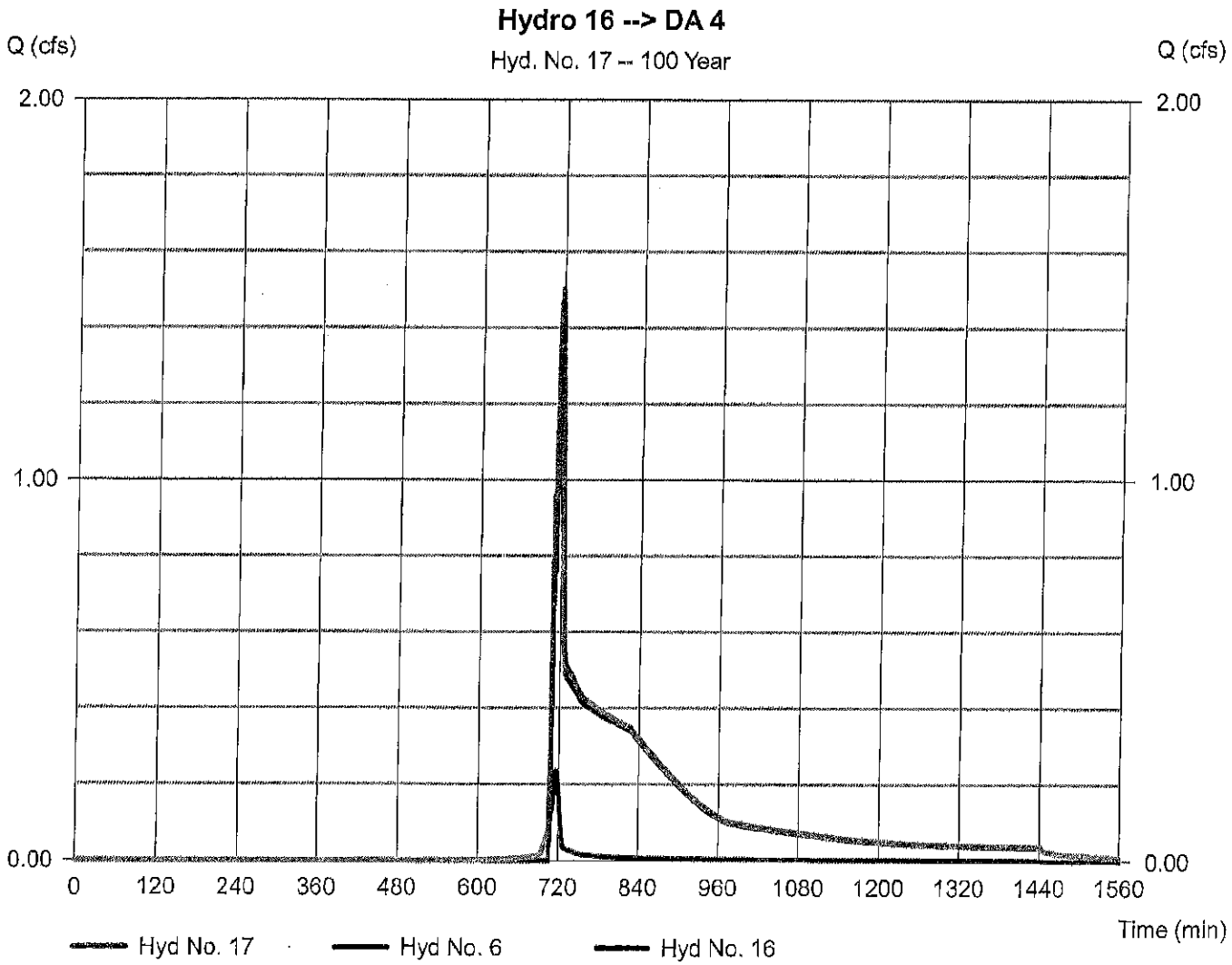
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 17

Hydro 16 --> DA 4

Hydrograph type	= Combine	Peak discharge	= 1.503 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 7,377 cuft
Inflow hyds.	= 6, 16	Contrib. drain. area	= 0.030 ac



Hydrograph Report

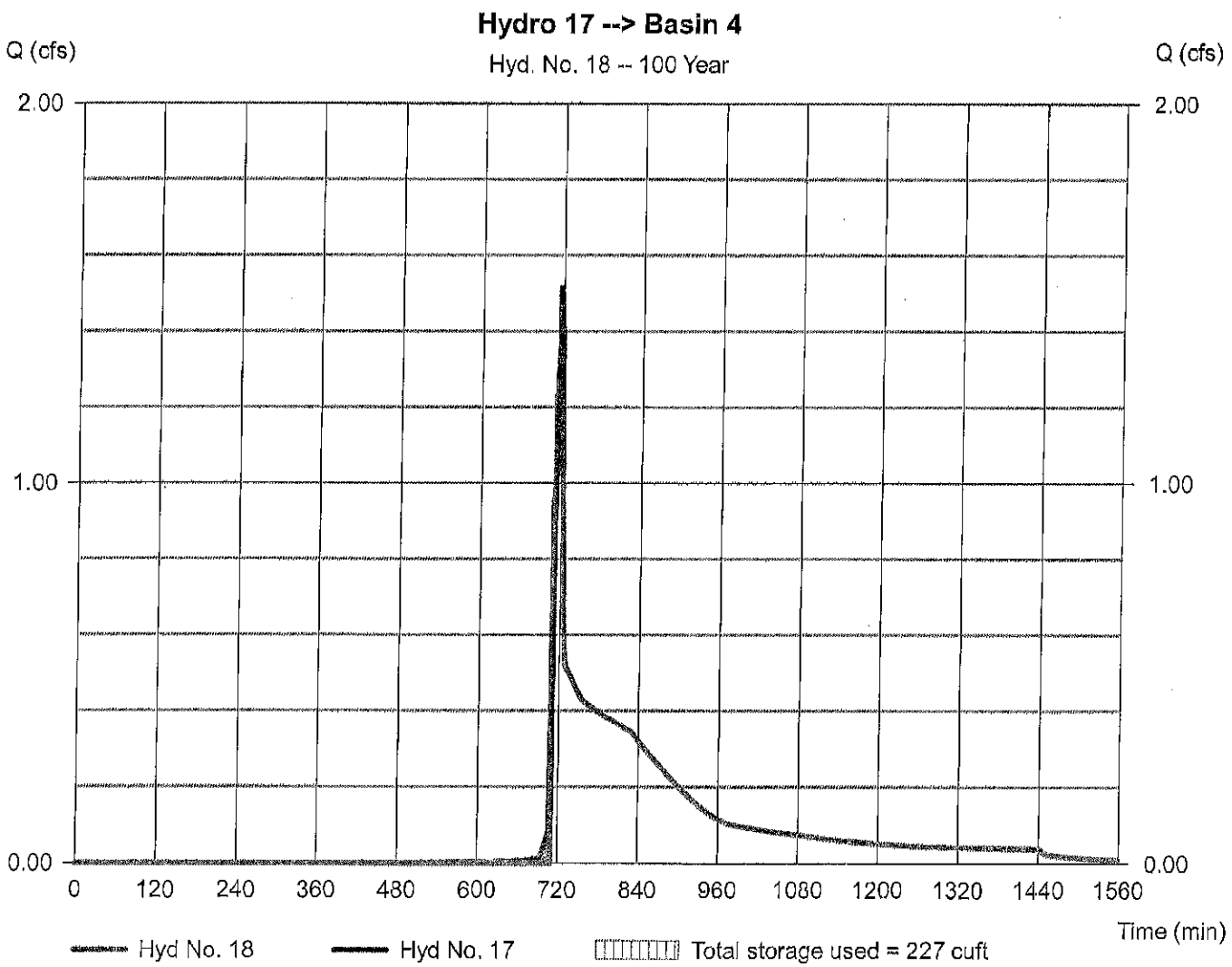
Hydraflow Hydrographs by Intelisolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 18

Hydro 17 --> Basin 4

Hydrograph type	= Reservoir	Peak discharge	= 1.515 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 7,178 cuft
Inflow hyd. No.	= 17 - Hydro 16 --> DA 4	Max. Elevation	= 351.44 ft
Reservoir name	= Basin 4	Max. Storage	= 227 cuft

Storage Indication method used.



Hydrograph Report

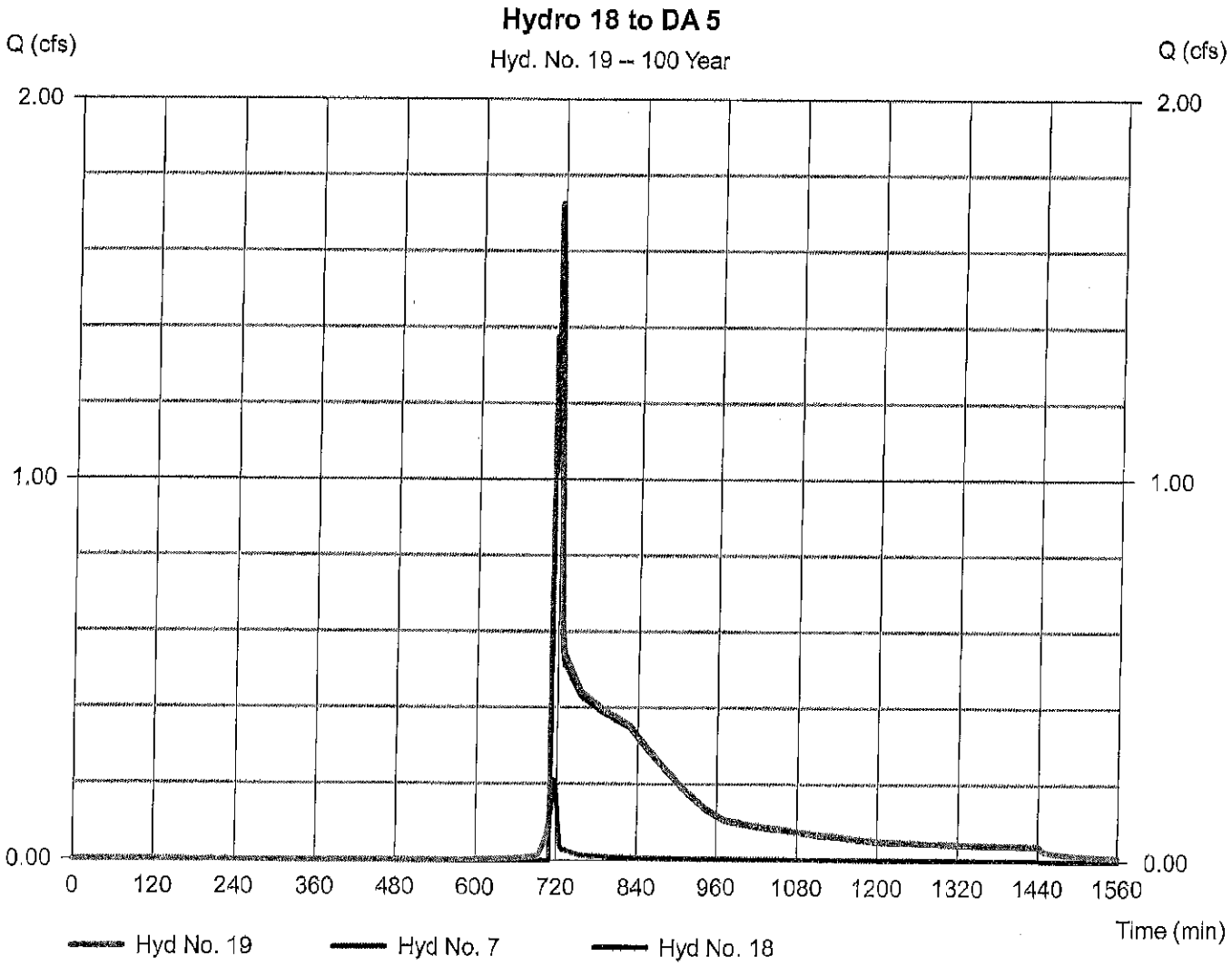
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, Jun 14, 2022

Hyd. No. 19

Hydro 18 to DA 5

Hydrograph type	= Combine	Peak discharge	= 1.726 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 7,606 cuft
Inflow hyds.	= 7, 18	Contrib. drain. area	= 0.030 ac



Hydrograph Report

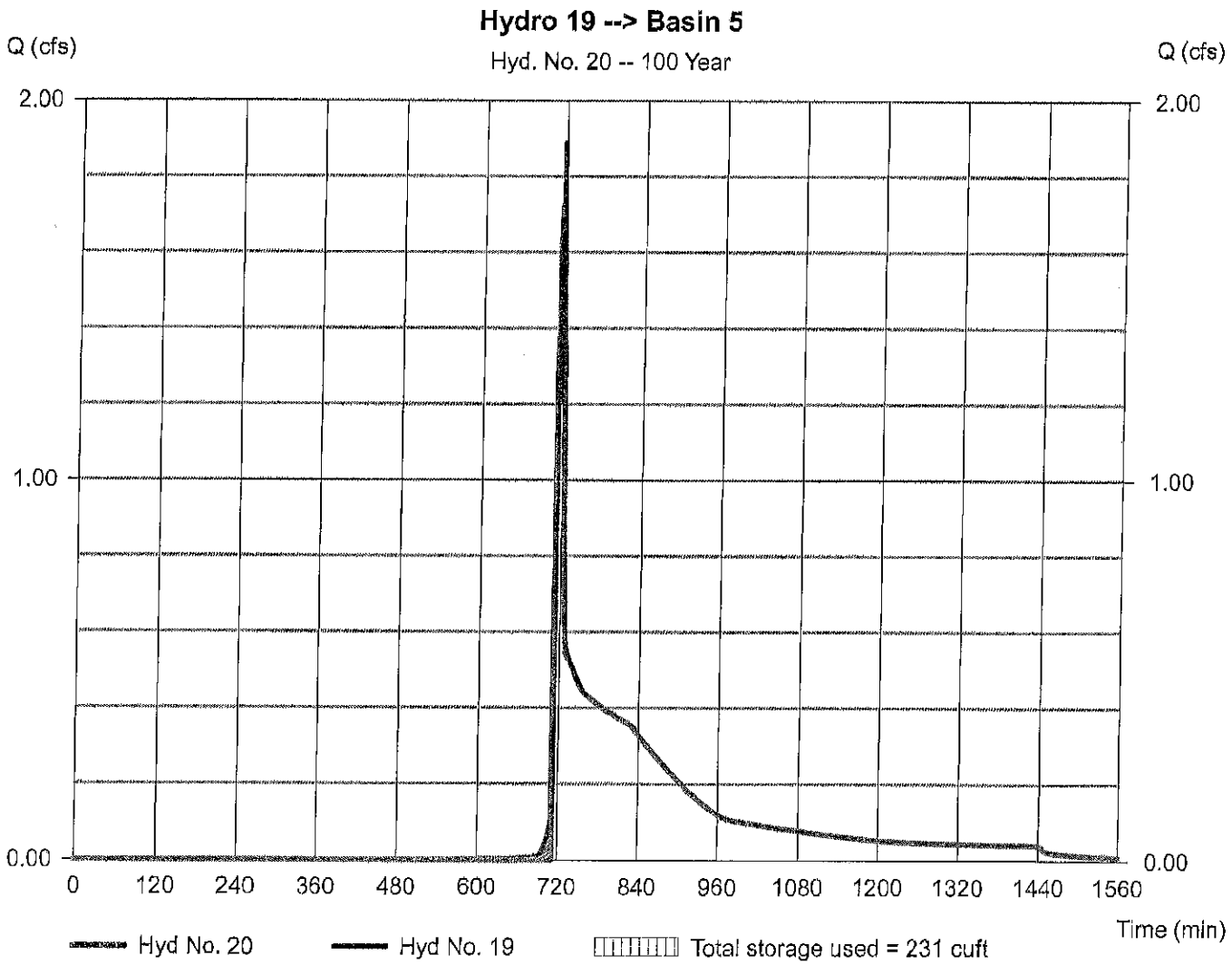
Hydraflow Hydrographs by Intellsolve v9.1 Tuesday, Jun 14, 2022

Hyd. No. 20

Hydro 19 --> Basin 5

Hydrograph type	= Reservoir	Peak discharge	= 1.889 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 7,407 cuft
Inflow hyd. No.	= 19 - Hydro 18 to DA 5	Max. Elevation	= 349.59 ft
Reservoir name	= Basin 5	Max. Storage	= 231 cuft

Storage Indication method used.



Appendix F: Worksheet 4, Groundwater Recharge

NPDES CG1 Volume Requirements

PROJECT: 14 Reservoir Road

DATE: 6/17/2022
REVISED:
BY: CPJ

2yr-year rainfall (in) 3.26

Existing Conditions Using CG1 Guidelines - Drainage Area 1

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff (in)	Runoff Volume (ft^3)
Meadows	B/D	22,168	0.51	58	7.24	1.45	0.36	669.78
			0.00	71	4.08	0.82	0.91	0.00
			0.00	61	6.39	1.28	0.47	0.00
			0.00	1	990.00	198.00	47.69	0.00
Impervious		963	0.02	98	0.20	0.04	3.03	242.94
			0.00	1	990.00	198.00	47.69	0.00
		23,131	0.53					912.72

Proposed Conditions Total Post-Development Drainage Area 1

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff (in)	Runoff Volume (ft^3)
Meadows			0.00	58	7.24	1.45	0.36	0.00
Meadows			0.00	86	1.63	0.33	1.89	0.00
Grass		15,618	0.36	61	6.39	1.28	0.47	610.07
Grass			0.00	70	4.29	0.86	0.86	0.00
Impervious		7,513	0.17	98	0.20	0.04	3.03	1,896.32
			0.00	1	990.00	198.00	47.69	0.00
		23,131	0.53					2,505.39

2-Yr Volume Increase: 1,592.67

Level Spreader Length Calculations Glosson

Perforation Diameter, D:	(in) =	0.75	
Pipe Perforation Area, A:	(in^2) =	0.44	A=pi (D/2)^2
	(ft^2) =	0.0031	
SWM Outlet Invert:	(ft) =	351.20	
Level Spreader Grade Elev:	(ft) =	349.80	
Head Loss:	(ft) =	1.40	
Orifice Coefficient,Cd		0.60	
Gravity, g:	(ft/s^2)=	32.20	
Outflow / Perforation, Q_o	(CFS)=	0.02	Q_o=Cd(A)[(2gh)]^0.5
No. of Perforations per Foot:		24.00	
Outflow / Linear Foot, Q_L	(CFS/ft)=	0.42	Q_L=Q_o(No./LF)
100-yr Controlled Outflow	(CFS)=	1.89	
Safety Factor,Fs	(CFS)=	1.00	
Minimum Level Spreader Lengh, L	(ft) =	4.50	L=(Q/Q_L)*Fs
Proposed Level Spreader Length,L	(ft) =	15.00	
Spreader Cover		Gravel	
Weir Coeffiecient,Cw		3.00	
Maximum Allowed Flow, Vmax	(FPS)	4.00	
Actual Velocity, V	(FPS)	1.57	V=(3/2)(Cw^2/3)(Q/L^1/3)

Note: The above calculations have been provided for the sole purpose of demonstrating that the velocities of discharge are not considered to be erosive

Appendix G: Pre-Construction and Post-Construction Drainage Maps