

August 20th, 2021
File #N-4486

CREST

Engineering Associates Inc.

Lawrence Township Engineering Department
Attn: Brenda Kraemer, P.E., P.P., C.M.E.
2207 Lawrence Road
Lawrence Township, NJ 08648

**Re: 3870 Princeton Pike (Mohan)
Lot 32.02, Block 5101
Lawrence Township, Mercer County, NJ**

Dear Ms. Kraemer:

In regards to the above-referenced project, our office has taken into consideration the increase in impervious area due to the proposed building addition and stairs and re-routed the increase runoff through the existing onsite detention basin, to find the new peak discharge.

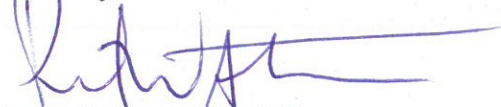
The increase in impervious area, of about 1,600 s.f., changed the runoff coefficient "c" from 0.33 to 0.34, subsequently increasing the peak discharge rate. The following table shows the previously approved design peak discharge from the basin in 2014, compared to the proposed conditions with the building addition included:

Storm event	Approved discharge rate (cfs)	Proposed discharge rate (cfs)
2 YR.	1.500	1.496
10 YR.	1.833	1.781
25 YR.	2.053	1.973

The following hydrographs have been provided for your further review. As can readily be seen, the small building addition proposed will not adversely affect properties downstream or violate the original site approval.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Peter W. Strong, P.E., P.P.
N.J.P.E. License #22370
For the Firm
PWS:jcb
enc.

cc: Dr. Pankaj Mohan
Jeffrey Chang

Q:\4001-4500\4486\2021-8-19 addressing inc. in imp\LTEngr3.odt

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Toms River, NJ 08753
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Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Thursday, Aug 19, 2021

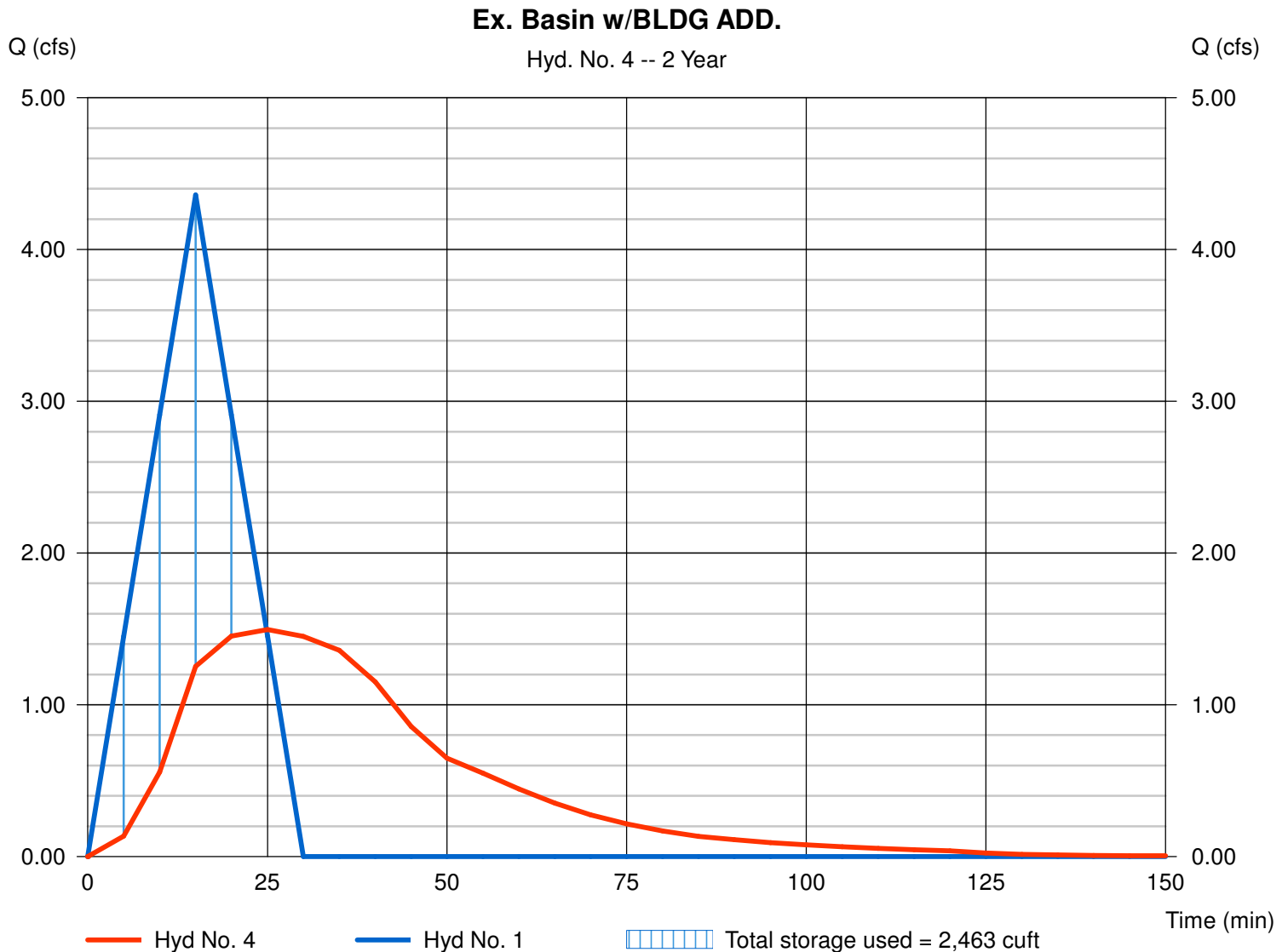
Hyd. No. 4

Ex. Basin w/BLDG ADD.

Hydrograph type = Reservoir
 Storm frequency = 2 yrs
 Time interval = 5 min
 Inflow hyd. No. = 1 - Modified Rational Hydrograph
 Reservoir name = Asbuilt Basin most updated

Peak discharge = 1,496 cfs
 Time to peak = 25 min
 Hyd. volume = 3,919 cuft
 Max. Elevation = 81.15 ft
 Max. Storage = 2,463 cuft

Storage Indication method used.



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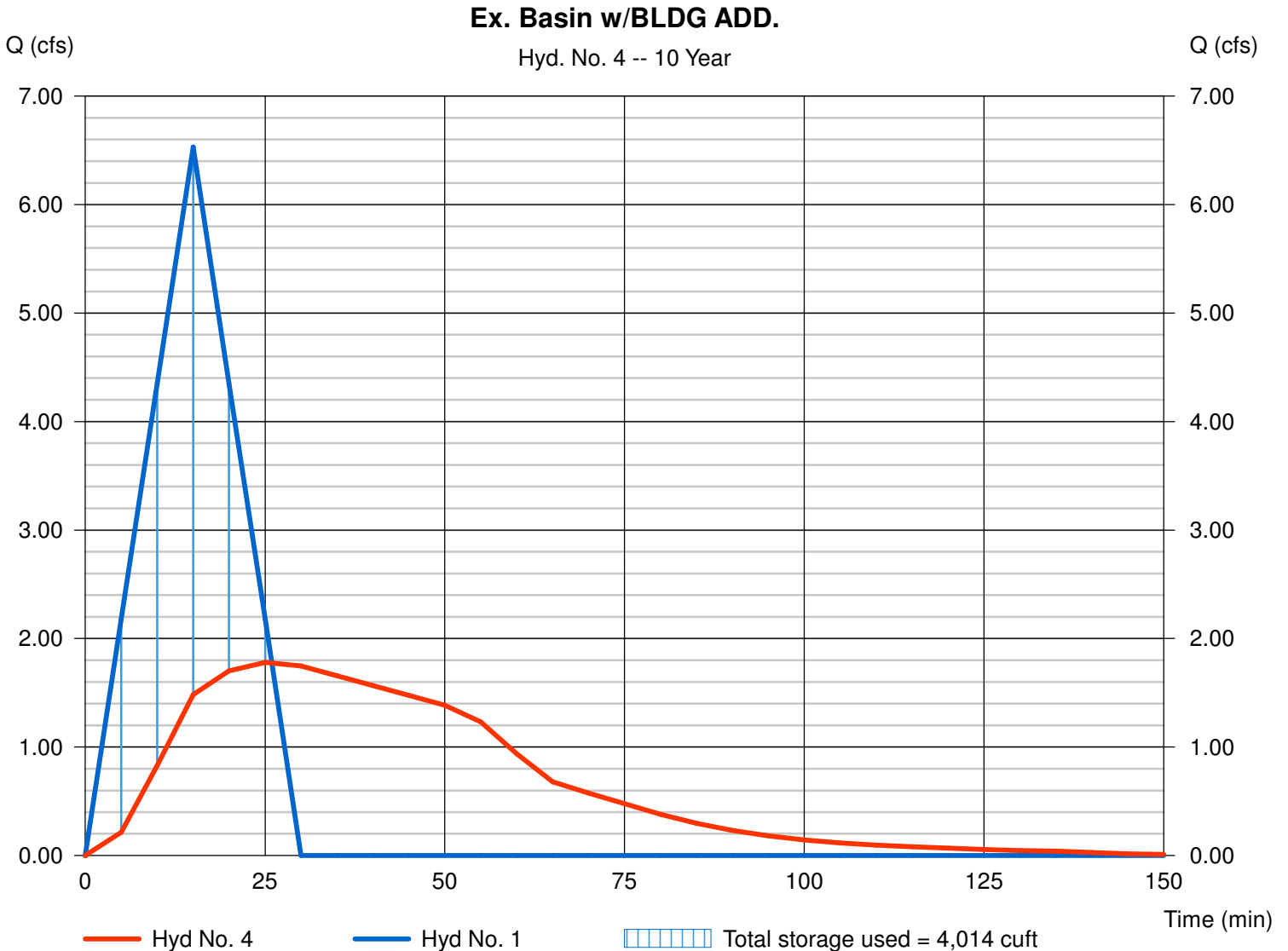
Hyd. No. 4

Ex. Basin w/BLDG ADD.

Hydrograph type = Reservoir
 Storm frequency = 10 yrs
 Time interval = 5 min
 Inflow hyd. No. = 1 - Modified Rational Hydrograph
 Reservoir name = Asbuilt Basin most updated

Peak discharge = 1.781 cfs
 Time to peak = 25 min
 Hyd. volume = 5,872 cuft
 Max. Elevation = 81.46 ft
 Max. Storage = 4,014 cuft

Storage Indication method used.



Hydrograph Report

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Thursday, Aug 19, 2021

Hyd. No. 4

Ex. Basin w/BLDG ADD.

Hydrograph type	= Reservoir	Peak discharge	= 1.973 cfs
Storm frequency	= 25 yrs	Time to peak	= 25 min
Time interval	= 5 min	Hyd. volume	= 7,366 cuft
Inflow hyd. No.	= 1 - Modified Rational Hydrograph	Max. Elevation	= 81.70 ft
Reservoir name	= Asbuilt Basin most updated	Max. Storage	= 5,209 cuft

Storage Indication method used.

