



January 3, 2023

Mrs. Amy Smith, Superintendent
Hopkins County Schools
320 S Seminary Street
Madisonville, KY 42431

Re: Hopkins County Central High School – Fire Pump
Emergency Project Declaration
Letter of Recommendation
Marcum No. 22663

Dear Mrs. Smith:

Marcum Engineering is in the midst of design for the Tornado Shelter and Auxiliary Gymnasium additions at Madisonville North Hopkins High School and Hopkins County Central High School.

During design at Hopkins County Central High School, flowtest data taken indicates the water flow/pressure is below what is required for both the automatic sprinkler system and the four (4) private fire hydrants. See attached 2022-12-02 Hopkins County Central High School – Fire Suppression Report.

Immediate action has been taken with the Hopkins Fire District, Hopkins Water District and Building Official to ensure the Hopkins County Central High School is protected in the short term as outlined in the attached meeting notes from a 2022-12-6 meeting. A long-term solution must be implemented involving the addition of a Packaged Fire Pump and housing to be installed in the lawn between the school and US Hwy 41.

Marcum recommends Board Motion to declare this project “emergency project” as defined by KDE to ensure the safety of all facility occupants.

Sincerely,

MARCUM ENGINEERING, LLC

A handwritten signature in black ink, appearing to read 'Logan Overturf', is written over a horizontal line.

Logan Overturf, PE
Project Manager / Mechanical Engineer

500 South 17th Street • P.O. Box 120 • Paducah, KY 42002-0120
Phone 270-444-9274 • Fax 270-443-1904
www.marcumengineering.net

Attachments:

- 2022-12-06 Meeting Notes
- 2022-12-02 Hopkins County Central High School – Fire Suppression Report



MARCUM
ENGINEERING, LLC

500 South 17th Street
P.O. Box 120
Paducah, KY 42002-0120
Phone (270) 444-9274; Fax (270) 443-1904

FLOWTEST RESULTS MEETING NOTES

PROJECT NAME: Hopkins County Central High School – Fire Pump	PROJECT NO: 22663
DATE: December 6, 2022	TIME: 1:00 PM – 3:00 PM

Meeting Attendees and Representatives:

Frank Wallace, Building Official
Michael Easley, South Hopkins Fire District
Jon Blalock, South Hopkins Water District
Amy Smith, Hopkins County Schools
Marty Cline, Hopkins County Schools
George Jones, Hopkins County Schools

General Meeting Notes:

- Recent Flow Tests of Hopkins County Central High School indicate the water flow/pressure is below what is required for both automatic sprinkler system and the (4) private fire hydrants.
- As a precaution, a Flow Test was performed 12/5/2022 at Southside Elementary School. This school has adequate flow/pressure for the automatic sprinkler system and private fire hydrants at the Elementary School.
- This meeting focused on the High School and a short-term operation understanding and a long term correction.
- The attached Existing Zone study was distributed and noted that the High School receives just adequate flow/pressure to supply the automatic sprinkler system (highest priority). It was also noted use of fire hydrants anywhere in the Water District would not allow for a full structure fire in the High School to receive enough flow/pressure.
- All attendees agreed to a 2 Phased action plan:
 - Phase 1 – immediate action
 - The Water District will verify the roadway valve serving the High School is functioning properly and not possibly the problem.
 - The Fire District will notify all fire fighting professionals and Mutual Aid Departments that the Fire Hydrants should not be utilized if the sprinkler system in the High School is operational.
 - The School District will install Fire Hydrant operator locks on the (4) hydrants at the High School. The Fire District and Water District will hold the keys for these hydrants.
 - If the Fire Hydrants are needed for a non-structure fire (examples are car fire, field fire, etc.), the Fire District might possibly access the private hydrants for fighting such a non-structure fire. If this is deployed, the Fire District will notify all fire fighting professionals and Mutual Aid Departments that a fire watch must be present at all times within the High School to determine if a second event occurs of a fire within the High School occurs. If this were to happen, use of the Fire Hydrants will cease allowing the school's sprinkler system to receive the needed flow/pressure.
 - Phase 2 – long term corrective action
 - The School District will commence with planning for the installation of a packaged fire pump located in the lawn between the school and US Hwy 41.
 - Locating the fire pump at this location will have the additional benefit of serving both the automatic sprinkler system and the private fire hydrants.

- Marcum Engineering will be hired by the School District to prepare an Emergency BG-1 and start design immediately.

Please reply within 3 business days if any of the above items are incorrect. Thank you for your assistance to Hopkins County Schools.

END OF DOCUMENT

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **ZONE 2
KITCHEN ARM**

NO. OF SPRINKLERS **16**

BASIS OF DESIGN
DESIGN K **.15**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **264.46 + 250 K.S.**
DESIGN PRESSURE AT BASE OF RISER **38.66**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(534,38.66) (K)

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **AREA "D" ZONE 2**

NO. OF SPRINKLERS **14**

BASIS OF DESIGN
DESIGN K **.20**
DESIGN AREA OF DISCHARGE **Total Area**

SYSTEM DEMAND
DESIGN K **310.71 + 250 K.S.**
DESIGN PRESSURE AT BASE OF RISER **39.40**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(560.71,39.40) (B)

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **AREA "E" ZONE 2**

NO. OF SPRINKLERS **12**

BASIS OF DESIGN
DESIGN K **.10**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **286.96 + 100 K.S.**
DESIGN PRESSURE AT BASE OF RISER **58.75**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(386.96,58.75) (E)

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **2ND FLOOR
AREA "G" ZONE 2**

NO. OF SPRINKLERS **9**

BASIS OF DESIGN
DESIGN K **.10**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **181.75 + 100 K.S.**
DESIGN PRESSURE AT BASE OF RISER **65.58**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(281.75,65.58) (G)

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **ZONE 1
MECHANICS LAB**

NO. OF SPRINKLERS **14**

BASIS OF DESIGN
DESIGN K **.15**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **289.92 + 250 K.S.**
DESIGN PRESSURE AT BASE OF RISER **37.92**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(539.83,37.92) (M)

HOPKINS COUNTY CENTRAL HIGH SCHOOL EXISTING FIRE SUPPRESSION ZONES AND DEMANDS

RISER LEFT
ZONE 2

RISER CENTER
ZONE 1

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **AREA "A" ZONE 1**

NO. OF SPRINKLERS **8**

BASIS OF DESIGN
DESIGN K **.1**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **188.79 + 100 K.S.**
DESIGN PRESSURE AT BASE OF RISER **67.56**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(288.79,67.56) (A)

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **2ND FLOOR
AREA "F" ZONE 1**

NO. OF SPRINKLERS **9**

BASIS OF DESIGN
DESIGN K **.10**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **198.46 + 100 K.S.**
DESIGN PRESSURE AT BASE OF RISER **63.59**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(293.46,63.59) (F)

RISER CENTER
ZONE 1

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **AREA "H" ZONE 3**

NO. OF SPRINKLERS **10**

BASIS OF DESIGN
DESIGN K **.10**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **167.66 + 100 K.S.**
DESIGN PRESSURE AT BASE OF RISER **40.65**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(267.6,40.65) (HG)

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **2ND FLOOR
AREA "H" ZONE 3**

NO. OF SPRINKLERS **17**

BASIS OF DESIGN
DESIGN K **.10**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **313.84 + 100 K.S.**
DESIGN PRESSURE AT BASE OF RISER **55.48**

DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(413.84,55.48) (HL)

RISER RIGHT
ZONE 3

HYDRAULIC SYSTEM
THIS BUILDING IS PROTECTED BY
A HYDRAULICALLY DESIGNED
AUTOMATIC SPRINKLER SYSTEM

LOCATION **WOMAN'S LOCKER
AREA "H" ZONE 3**

NO. OF SPRINKLERS **15**

BASIS OF DESIGN
DESIGN K **.10**
DESIGN AREA OF DISCHARGE **1500**

SYSTEM DEMAND
DESIGN K **269.85 + 100 K.S.**
DESIGN PRESSURE AT BASE OF RISER **56.82**

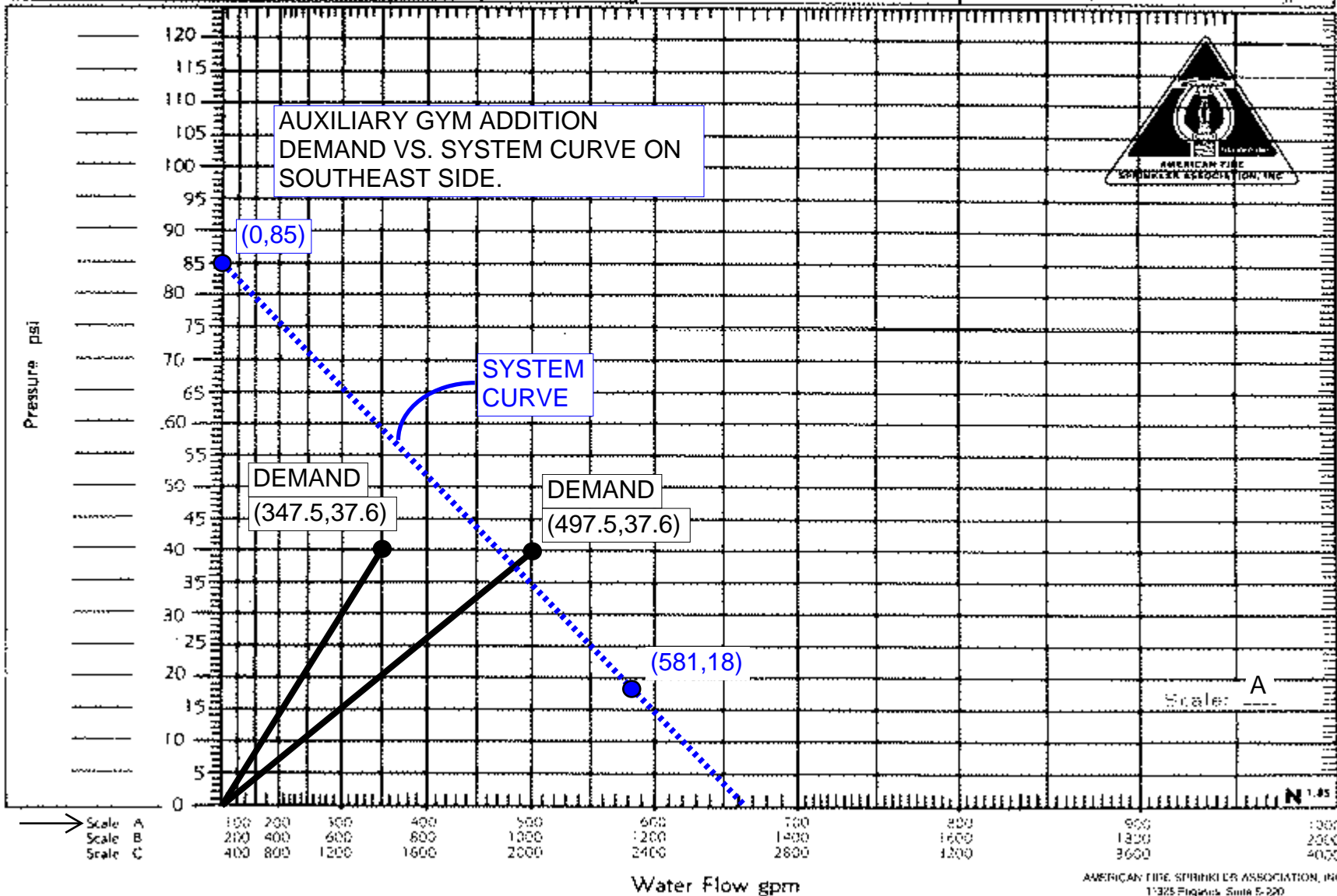
DATE OF INSTALLATION **12/95**

SSI SPRINKLER SYSTEMS, INC.
QUALITY FIRE PROTECTION SERVICE
EVANVILLE, IN - NASHVILLE, TN 1-800-800-7311
INSPECTION • REPAIRS • 24 HOUR EMERGENCY SERVICE

(369.85,56.82) (HLR)

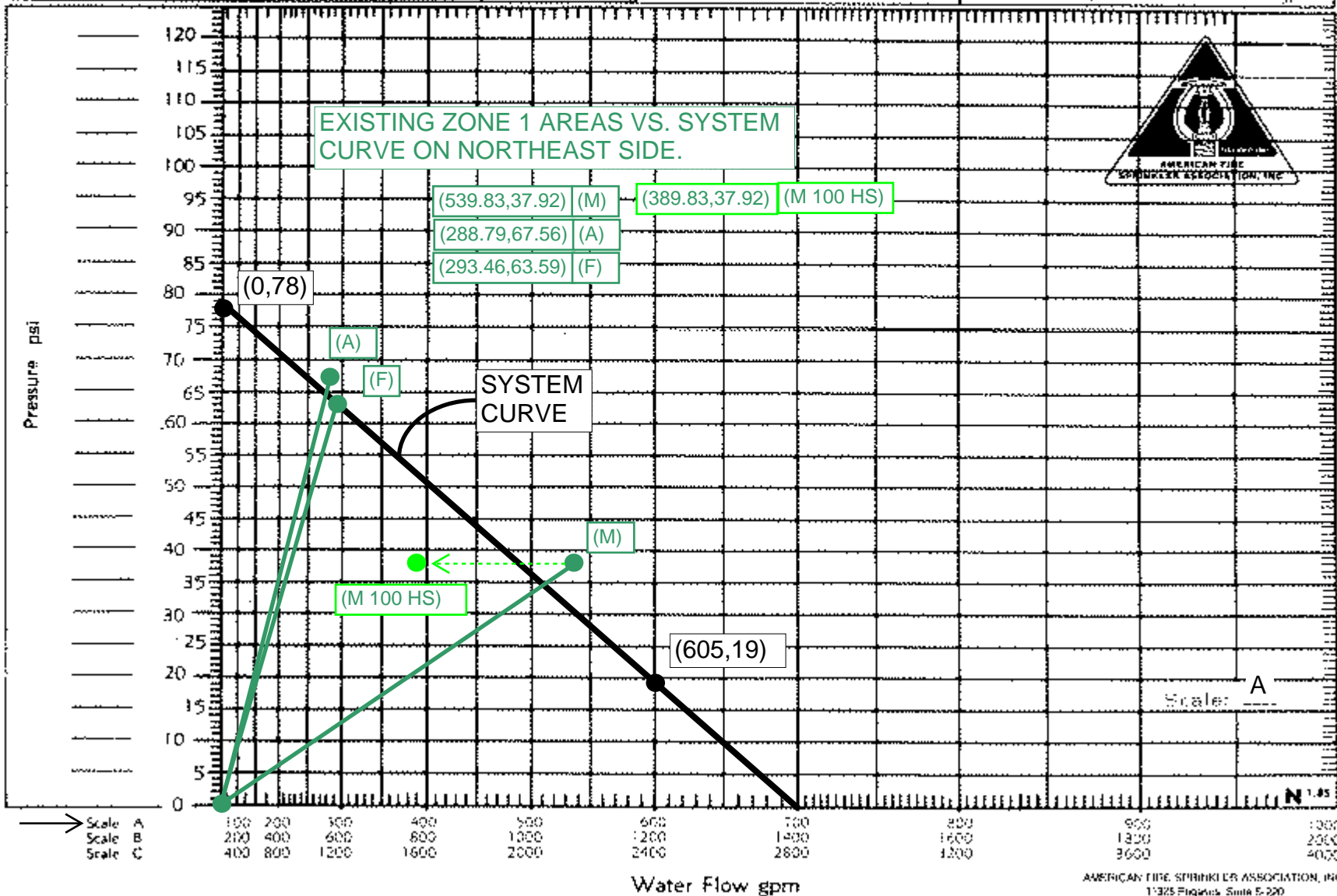
WATER FLOW TEST SUMMARY SHEET

Hydrant No.	Outlet I.D. inches	Pitot Press. psi	Flow gpm	Residual psi	Date: 10-12-22	Time: 9:00 AM	Cont. No.
1			581		Cont. Name: GEYER FIRE PROTECTION		
2				18	Address:		
3							
Total Flow					Static Press: 85 psi		Flow @ 20 psi gpm



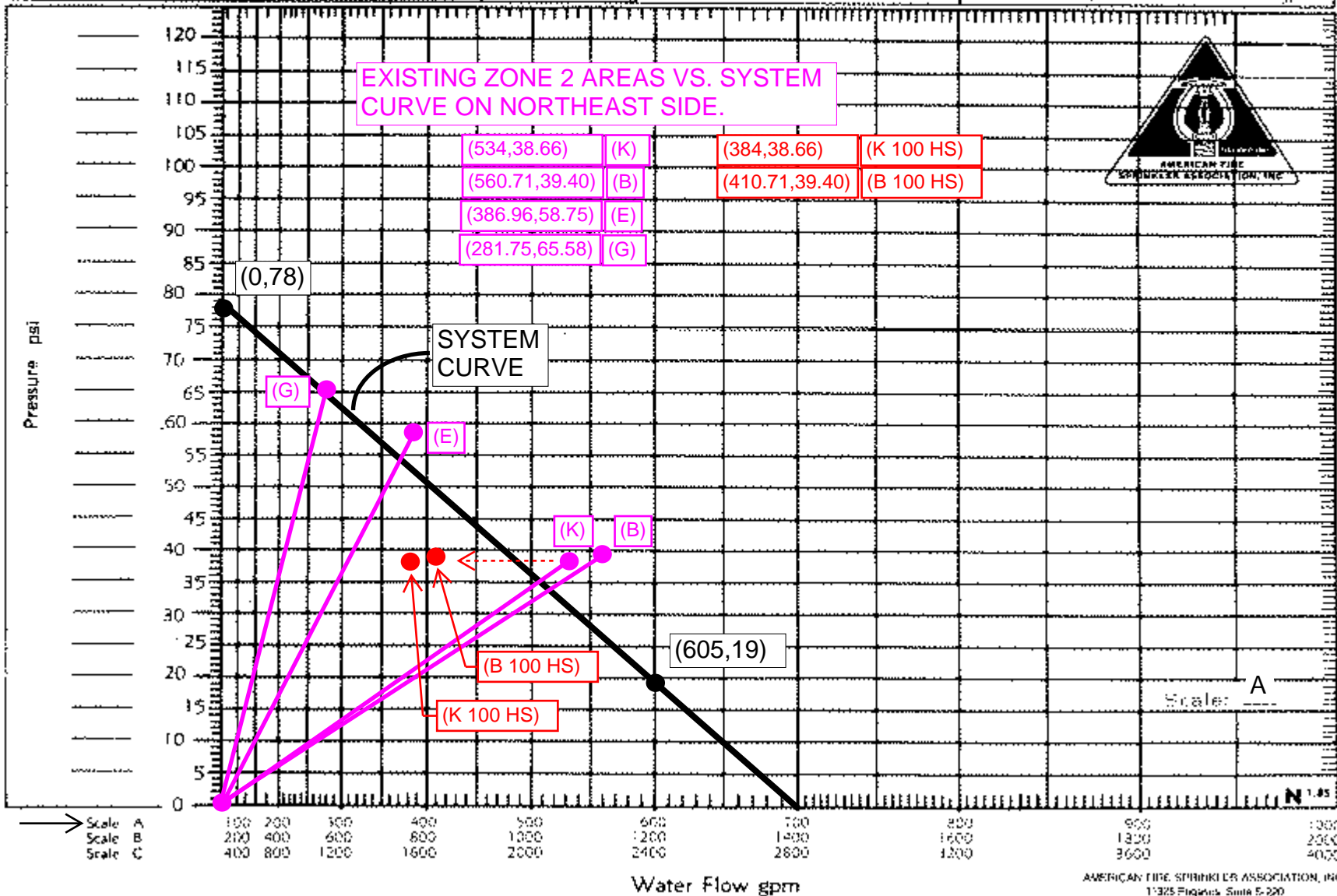
WATER FLOW TEST SUMMARY SHEET

Hydrant No.	Outlet I.D. inches	Pitot Press. psi	Flow gpm	Residual psi	Date: 11-17-22	Time: 11:00 AM	Cont. No.
1			605		Cont. Name: GEYER FIRE PROTECTION		
2				19	Address:		
3							
Total Flow					Static Press: 78	psi	Flow @ 20 psi gpm



WATER FLOW TEST SUMMARY SHEET

Hydrant No.	Outlet I.D. inches	Pitot Press. psi	Flow gpm	Residual psi	Date: 11-17-22	Time: 11:00 AM	Cont. No.
1			605		Cont. Name: GEYER FIRE PROTECTION		
2				19	Address:		
3							
Total Flow					Static Press: 78	psi	Flow @ 20 psi gpm



WATER FLOW TEST SUMMARY SHEET

Hydrant No.	Outlet I.D. inches	Pitot Press. psi	Flow gpm	Residual psi	Date: 11-17-22	Time: 11:00 AM	Cont. No.
1			605		Cont. Name: GEYER FIRE PROTECTION		
2				19	Address:		
3							
Total Flow					Static Press: 78	psi	Flow @ 20 psi gpm

