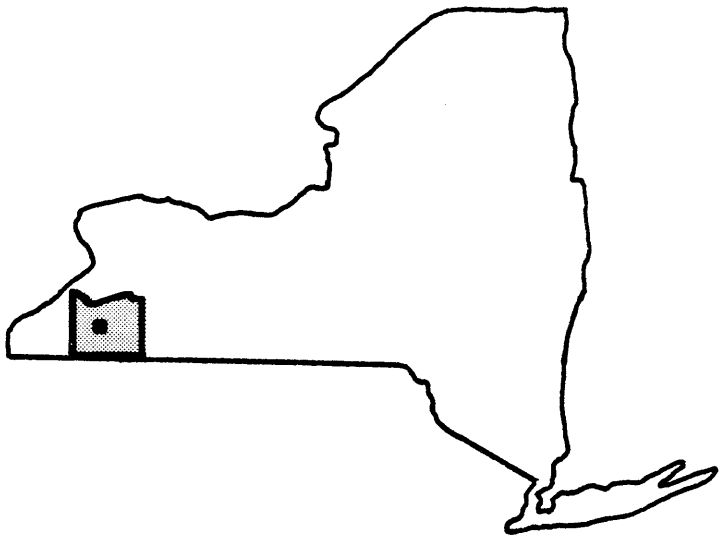
FLOOD INSURANCE STUDY

VILLAGE OF LITTLE VALLEY, NEW YORK

CATTARAUGUS COUNTY



AUGUST 1977

U.S. DEPARTMENT of HOUSING & URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

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PUBLISHED SEPARATELY:

FLOOD INSURANCE STUDY
VILLAGE OF LITTLE VALLEY, NEW YORK

1.0 INTRODUCTION

1.1 Purpose of Study

The purpose of this Flood Insurance Study is to investigate the existence and severity of flood hazards in the Village of Little Valley, Cattaraugus County, New York, and to aid in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. Initial use of this information will be to convert the Village of Little Valley to the regular program of flood insurance by the Federal Insurance Administration (FIA). Further use of this information will be made by local and regional planners in their efforts to promote sound land use and flood plain development.

1.2 Coordination

The purposes of the Flood Insurance Study were explained at a meeting held on July 30, 1975, with representatives of the Village of Little Valley, the FIA, the U. S. Department of Agriculture, the Soil Conservation Service (SCS), the Cattaraugus County Planning Board, and the study contractor.

A search for basic data was made at all levels of government. The U. S. Geological Survey (USGS) was contacted to obtain contour maps. Both the SCS and the U. S. Army Corps of Engineers (COE) supplied information about Little Valley Creek, which served as a part of the input for the hydraulic analysis. Information regarding stream flow data was not available, since there are no existing flow records in the area. Village officials provided information on sheet flooding problems in the southwest portion of the village.

On July 13, 1976, a meeting was held with officials of the village to obtain additional local input. The final meeting of consultation and coordination was held on January 19, 1977, where the final draft of the Flood Insurance Study was presented for further local comment.

1.3 Authority and Acknowledgements

The source of authority for this Flood Insurance Study is the National Flood Insurance Act of 1968, as amended.

The hydrologic and hydraulic analyses for this study were performed by the New York State Department of Environmental Conservation for the Federal Insurance Administration under Contract No. H-3856. This work, which was completed in December 1976, covered all flooding sources in the Village of Little Valley. Topographic mapping was provided by Lockwood, Kessler, Bartlett, Inc. under subcontract to the New York State Department of Environmental Conservation.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the Village of Little Valley. The area of study is shown on the Vicinity Map (Figure 1).

Because of the significant residential and commercial development that has occurred along Little Valley Creek and the Little Valley Creek Tributary No. 1, it was agreed between the FIA and the Village of Little Valley, that both would be studied by detailed methods. The areas studied by detailed methods were selected with priority given to all known flood hazard areas, areas of projected development, and proposed construction for the next five years (through March 1980).

Tributary No. 2 and Tributary No. 3 were studied by approximate methods for reaches within the community. Approximate methods of analysis were used to study those areas having low development potential and/or minimal flood hazards as identified at the initiation of the study. The scope and methods of study were proposed to and agreed upon by the FIA.

2.2 Community Description

The Village of Little Valley, county seat of Cattaraugus County, is located in the central portion of the county, in western New York. Surrounding the village is the Town of Little Valley. Located in the northwestern-most corner of the town, the Village of Little Valley shares its northwestern-most point with the town boundary of the Town of Mansfield. About 3,700 feet west of Little Valley's western corporate limits is the town boundary of the Town of Napoli.

Little Valley Creek, which is the major watercourse within the village, enters the village on its western border about 700 feet north of State Highway 353. The creek then flows southeasterly

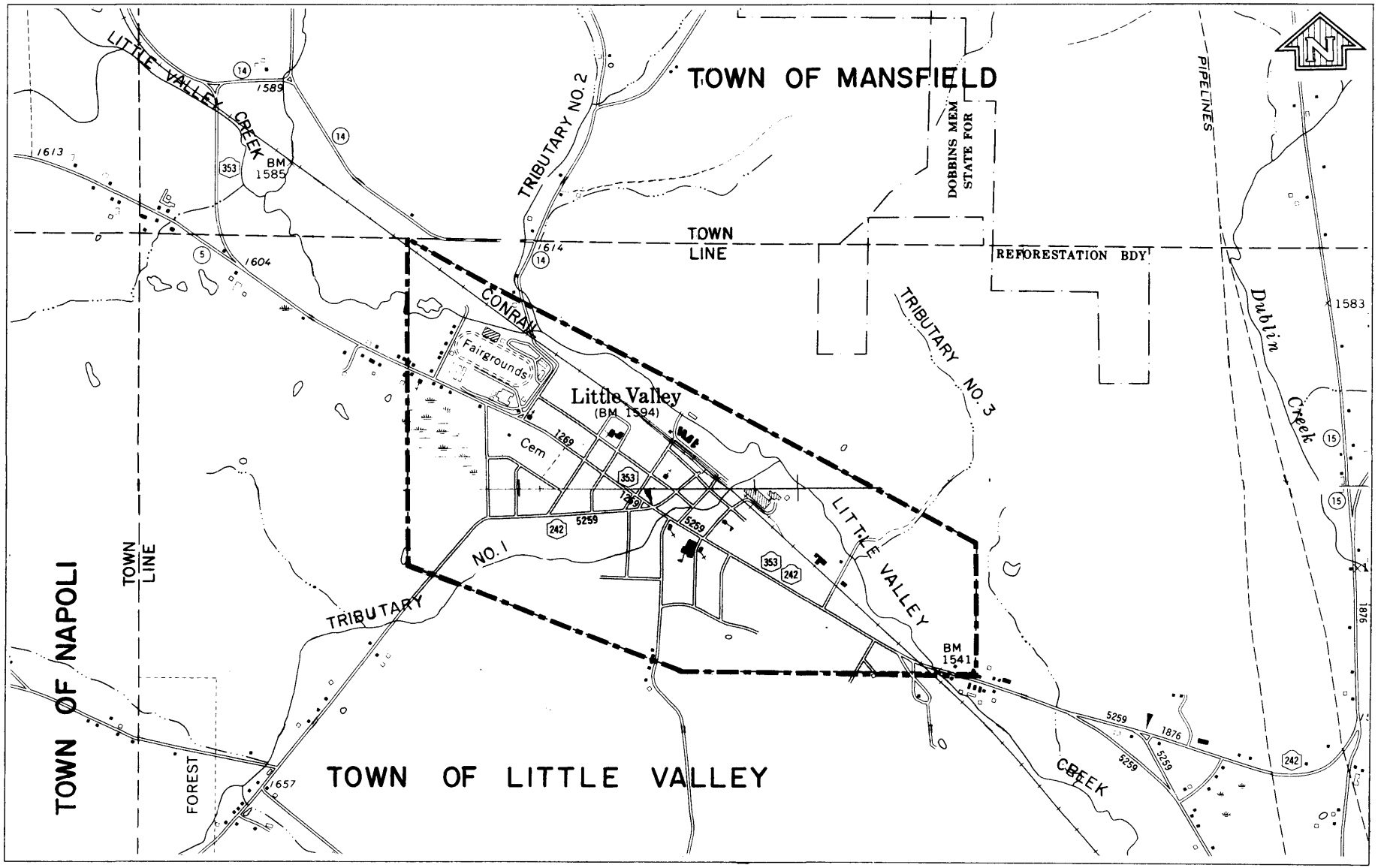


FIGURE 1

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

VILLAGE OF LITTLE VALLEY, NY
(CATTARAUGUS CO.)

APPROXIMATE SCALE
2000 0 2000 4000 6000 FEET

VICINITY MAP

for a distance of 10,000 feet to a point where it flows under State Highway 353 and beyond the southern corporate limits of the village. At a distance of 3,700 feet upstream from the southern corporate limits, an unnamed tributary (for purposes herein named Tributary No. 1) flowing from the southwest enters Little Valley Creek. The length of the tributary reach within the village is 5,000 feet. Just east of the First Street Bridge another tributary (named Tributary No. 3) flowing from the northeast enters Little Valley Creek. A very small tributary (named Tributary No. 2) flows for a short reach from the northern corporate limits to its point of confluence with Little Valley Creek, just downstream of North Ninth Street. Little Valley Creek leaves the village at the southeast corner flowing in a southeasterly direction to its confluence with the Allegheny River near Salamanca. The Allegheny, which rises in Pennsylvania, flows in a wide loop through a portion of southwestern New York and eventually joins with the Monongahela River at Pittsburgh to form the Ohio River.

The village lies within an area of rolling uplands cut by numerous steep-walled valleys. Elevations within the village range from 1,900 feet above the National Geodetic Vertical Datum of 1929 (NGVD), formerly referred to as Sea Level Datum of 1929, in the southwest part of the community, to about 1,530 feet NGVD where Little Valley Creek leaves the village at the southeast corner.

There are several manufacturing concerns within the village and most industrial development has taken place on and above the flood plain to the south of Little Valley Creek. State Highway 353, Conrail, and numerous village streets occupy portions of the flood plain.

Many residences, commercial establishments, and streets have been built within the flood plain of Tributary No. 1.

The village is growing at a moderate rate with a population of 1,244 persons in 1960, increasing to 1,340 persons by 1970 (Reference 1).

Climate is typical of a temperate continental region. Average January and July temperatures are 23°F and 67°F, respectively. The average annual precipitation is 44 inches (Reference 2).

Physiographically, the area is composed of maturely dissected plateaus designated as the Northwestern Appalachian Plateau Border and the Allegheny Plateau. The soils range from gravelly loam to clay, but in most places consists of silt loam. Both the original and the

present second and third growth forests were, and are, composed principally of Yellow Birch, Beech and Hard Maple. The wood lots are, for the most part, kept free of underbush by grazing animals (Reference 3).

Typical portions of the flood plain area are illustrated by photographs in Figures 2 and 3.

2.3 Principal Flood Problems

Due to the steep terrain of the surrounding area, the Village of Little Valley is subject to flash flooding from cyclonic disturbances of high intensity even if such storms are of short duration. The most frequent floods result from these disturbances in winter or early spring, augmented by melting snow. Flooding on Little Valley Creek usually develops from the same general storm conditions which cause flooding of the Allegheny River at Salamanca, New York. It is possible though to have flooding on Little Valley Creek and not have flooding on the Allegheny River.

Newspaper files and previous flood information reports were searched for information concerning past flooding in the village. From these investigations, it is known that flooding of a significant magnitude has occurred three times in the last sixty years. Major flooding occurred in March 1956, September 1967, and June 1972. There is insufficient information on these occurrences to accurately estimate their recurrence intervals, however, as there have been no streamflow records maintained for Little Valley Creek. Information regarding damages was not available.

2.4 Flood Protection Measures

At the first coordination meeting between the study contractor and officials of the village, an area was identified as having experienced a sheet flooding problem. The village is undertaking construction of drainage ditches which are designed to alleviate this minor drainage problem.

Other than the correction of this drainage problem, there are no existing or contemplated flood control projects which affect the study area.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood

Figure 2 - Little Valley Creek looking south (downstream) near the southern corporate limit

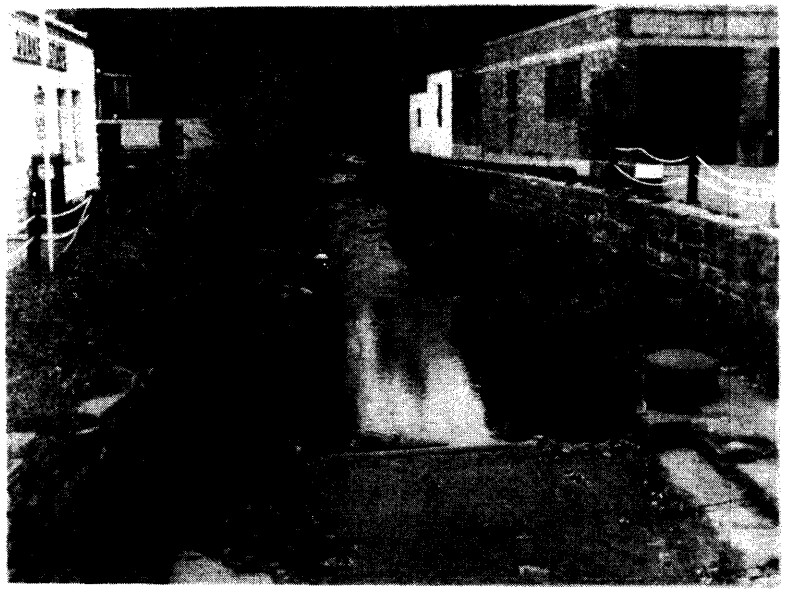


Figure 3 - Tributary No. 1, looking west (upstream) from bridge on Route 353 near center of the village

hazard data required for this study. Floods having recurrence intervals of 10, 50, 100, and 500 years have been selected as having special significance for flood plain management and for flood insurance premium rates. The analyses reported here reflect current conditions in the drainage areas of the streams.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each stream studied in detail in the community.

A regional analysis prepared by the study contractor was used for Little Valley Creek and Tributary No. 1 (Reference 4). This regional analysis used USGS stream gaging records (Reference 5) for maximum peak flow to establish exceedence interval, discharge curves at selected points along the waterways of the Allegheny River Basin. The statistical procedures used were those proposed by Leo R. Beard, utilizing a log-Pearson Type III distribution (Reference 6). This methodology conforms with the uniform technique for determining flood flow frequencies as set forth by the Hydrology Committee of the United States Water Resources Council (Reference 7).

For Tributary No. 2 and Tributary No. 3 (studied by approximate methods), the hydrology was established through the use of a Bureau of Public Roads technique (Reference 8). This technique utilizes a correlation between discharge and major basin characteristics, such as drainage area, topography, and precipitation.

A summary of discharges for Little Valley Creek and Tributary No. 1 in the Village of Little Valley are shown in Table 1.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
LITTLE VALLEY CREEK					
State Highway 353	18.9	1,843	2,695	3,087	4,052
Cross Section D	11.5	1,191	1,741	1,994	2,614
TRIBUTARY NO. 1					
Mouth at Little Valley Creek	6.0	674	985	1,129	1,482
Cross Section L	5.4	674	985	1,129	1,482

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the streams studied in detail in the community were carried out to provide estimates of the elevations of floods of the selected recurrence intervals along each of these streams.

Cross section and backwater-producing structure data was obtained by field survey. Cross sections were located at close intervals above and below bridges, at control sections along the stream length, and at significant changes in ground relief, land use, or land cover.

Roughness coefficients (Manning's "n") were assigned on the basis of on-site field inspections and ground level photographs. These photographs were compared with USGS calibrated photographs (Reference 9), taking into consideration channel conditions, overbank vegetation, and land use. The channels were assigned a roughness coefficient value of 0.035 and the overbank areas 0.046 for all streams in the village.

Flood Profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals. Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway is computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map (Exhibit 2). Water-surface elevations of floods of the selected recurrence intervals were computed using the COE HEC-2 Step-Backwater Computer Program (Reference 10). All elevations are referenced to NGVD. Elevation reference marks used in this study are shown on the maps.

Starting elevations for Little Valley Creek backwater computations were taken from the backwater computations of Little Valley Creek in the Town of Little Valley. Starting elevations for backwater computations on Little Valley Creek Tributary No. 1 were determined by the slope-area method.

Reach lengths were measured along the center line of channel between sections and overbank reach lengths were measured along the approximate center line of the effective out-of-channel flow area.

Ice jams during spring thaws can raise flood elevations; the hydraulic analyses for this study, however, are based only on the effects of unobstructed flow. The flood elevations as shown on

the Flood Profiles are thus considered valid only if hydraulic structures in general remain unobstructed and flood control structures operate properly and do not fail.

For Tributary No. 2 and Tributary No. 3, studied by approximate methods, USGS flood height-drainage area curves for the 100-year flood were utilized (Reference 11). No flood height-drainage area relation was developed by the USGS for the Allegheny River Basin. However, the upper Genesee River Basin, immediately to the east of the Allegheny River Basin, has definite hydrologic and hydraulic similarities to the area of study and was, therefore, used in the approximate analysis. Drainage areas were developed at selected locations from USGS topographic maps (Reference 12). Estimates of discharges and slopes, and a field view of each stream were also employed to verify the determinations.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

A prime purpose of the National Flood Insurance Program is to encourage state and local governments to adopt sound flood plain management programs. This Flood Insurance Study, therefore, includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by the FIA as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the boundaries of the 100- and the 500-year floods have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using topographic maps developed for this study from aerial photographs at a scale of 1:4,800, with a contour interval of five feet (Reference 13). In cases where the 100- and the 500-year flood boundaries are close together, only the 100-year boundary has been shown.

For the streams studied by approximate methods, the boundary of the 100-year flood was plotted on New York Department of Transportation maps (Reference 14) using USGS maps for differential elevation reference (Reference 12).

The boundaries of the 100- and 500-year floods are shown on the Flood Boundary and Floodway Map (Exhibit 2). Small areas within the flood boundaries may lie above the flood elevations, and therefore, may not be subject to flooding; owing to limitations of the map scale or lack of detailed topographic data, such areas are not shown.

4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity, increases the flood heights, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent flood plain areas, that must be kept free of encroachment in order that the 100-year flood may be carried without substantial increases in flood heights. Minimum standards of the FIA limit such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this report are presented to local agencies as minimum standards that can be adopted or that can be used as a basis for additional studies.

The floodway presented in this study was computed on the basis of equal conveyance reduction from each side of the flood plain. The results of these computations are tabulated at selected cross sections for each stream segment for which a floodway was computed (Table 2).

As shown on the Flood Boundary and Floodway Map (Exhibit 2), the floodway widths were determined at cross sections; between cross sections, the boundaries were interpolated. In cases where the boundaries of the floodway and the 100-year flood are either close together, or colinear, only the floodway boundary has been shown.

The floodway developed for Little Valley Creek at the downstream corporate limit extends into the contiguous Town of Little Valley.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 1.0 foot at any point. Typical relationships between the

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	WITH FLOODWAY (NGVD)	WITHOUT FLOODWAY (NGVD)	DIFFERENCE (FT.)
Little Valley Creek							
A	70[1]	283[3]	515	3.9	1,535.5	1,535.0	0.5
B	1,470[1]	121	351	5.7	1,541.9	1,541.2	0.7
C	2,335[1]	697	3,328	0.6	1,551.7	1,551.0	0.7
D	3,585[1]	147	360	5.5	1,553.6	1,553.3	0.3
E	5,015[1]	222	691	2.9	1,561.3	1,560.6	0.7
F	6,815[1]	202[3]	289	6.9	1,570.4	1,570.4	0.0
G	7,915[1]	84	304	6.6	1,581.8	1,581.3	0.5
H	8,105[1]	100	656	3.0	1,586.4	1,586.1	0.3
I	8,875[1]	247	1,792	1.1	1,589.3	1,589.0	0.3
J	9,115[1]	250	1,824	1.1	1,590.3	1,590.0	0.3
Tributary No. 1							
A	610[2]	37	113	10.0	1,561.1	1,561.1	0.0
B	800[2]	164	354	3.2	1,563.9	1,563.7	0.2
C	960[2]	36	140	8.1	1,563.6	1,563.2[4]	0.4
D	1,030[2]	36	170	6.6	1,564.4	1,564.3	0.1
E	1,370[2]	38	134	8.4	1,566.7	1,566.5	0.2

[1]FEET ABOVE CORPORATE LIMITS [2]FEET ABOVE CONFLUENCE WITH LITTLE VALLEY CREEK
[3]THIS WIDTH EXTENDS BEYOND THE CORPORATE LIMITS
[4]DRAW-DOWN ELEVATION NOT SHOWN ON PROFILES

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

VILLAGE OF LITTLE VALLEY, NY
(CATTARAUGUS CO.)

FLOODWAY DATA

LITTLE VALLEY CREEK AND TRIBUTARY NO. 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	WITH FLOODWAY (NGVD)	WITHOUT FLOODWAY (NGVD)	DIFFERENCE (FT.)
Tributary No. 1 continued							
F	1,410	38	150	7.6	1,567.2	1,567.2	0.0
G	1,550	38	175	6.5	1,568.0	1,568.0	0.0
H	1,800	39	160	7.0	1,569.6	1,569.6	0.0
I	1,870	40	207	5.4	1,570.3	1,570.3	0.0
J	2,490	24	97	11.6	1,578.5	1,578.5	0.0
K	2,615	25	192	5.9	1,581.2	1,581.2	0.0
L	4,040	82	167	6.8	1,591.3	1,590.6	0.7

[1]FEET ABOVE CONFLUENCE WITH LITTLE VALLEY CREEK

TABLE 2

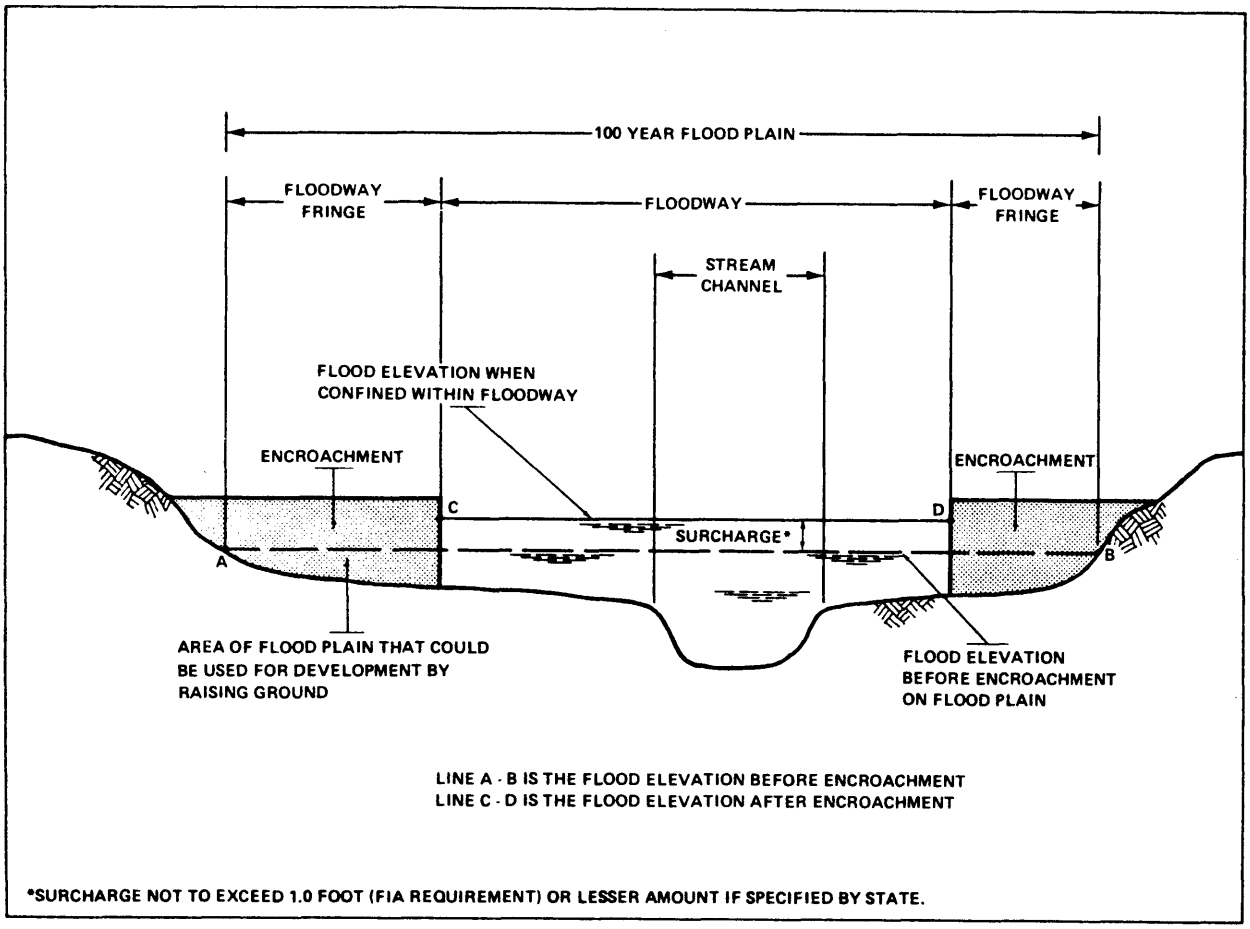
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

VILLAGE OF LITTLE VALLEY, NY
(CATTARAUGUS CO.)

FLOODWAY DATA

TRIBUTARY NO. 1

floodway and the floodway fringe and their significance to flood plain development are shown in Figure 4.



FLOODWAY SCHEMATIC Figure 4

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, the FIA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors (FHFs), and flood insurance zone designations for each flooding source affecting the Village of Little Valley.

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods.

This difference does not have a variation greater than that indicated in the following table for more than 20 percent of the reach.

Average Difference Between 10- and 100-year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot

Three reaches meeting the above criteria were required for the flooding sources of Little Valley. These included two on Little Valley Creek and one on Tributary No. 1. The locations of the reaches are shown on the Flood Profiles (Exhibit 1).

5.2 Flood Hazard Factors

The FHF is the FIA device used to correlate flood information with insurance rate tables. Correlations between property damages from floods and their FHFs are used to set actuarial insurance premium rate tables based on FHFs from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest 0.5 foot, and shown as a three-digit code. For example, if the difference between water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year water-surface elevations is greater than 10.0 feet, accuracy for the FHF is to the nearest foot.

5.3 Flood Insurance Zones

After the determination of reaches and their respective FHFs, the entire incorporated area of Little Valley was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations:

Zone A: Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods, no base flood elevations shown or FHFs determined.

Zones A1, A2, A8: Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations shown, and zones assigned according to FHFs.

Zone B: Areas between the Special Flood Hazard Areas and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; or, areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot. Zone B is not subdivided.

Zone C: Areas of minimal flooding.

Table 3, "Flood Insurance Zone Data," summarizes the flood elevation differences, FHFs, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the Village of Little Valley is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by the FIA.

6.0 OTHER STUDIES

No other studies of flooding have been performed for the Village of Little Valley. Flood Insurance Studies are currently underway by the study contractor for other communities within the Allegheny River Basin. The results of the Flood Insurance Study for the contiguous Town of Little Valley have been coordinated with this study (Reference 14). The flood boundaries and elevations are in exact agreement.

This study is authoritative for purposes of the Flood Insurance Program and the data presented here either supersede or are compatible with previous determinations.

7.0 LOCATION OF DATA

Survey, hydrologic, hydraulic, and other pertinent data used in this study can be obtained by contacting the office of the Federal Insurance Administration, Regional Director, 90 Church Street, Room 801, New York, New York 10007.

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION[3]
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Little Valley Creek							
Reach 1	01	-0.73	-0.25	+0.42	005	A1	Varies
Reach 2	01	-4.00	-1.15	+1.51	040	A8	Varies
Tributary No. 1							
Reach 1	01	-1.00	-0.34	+0.65	010	A2	Varies

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT – SEE MAP

TABLE 3

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

VILLAGE OF LITTLE VALLEY, NY
(CATTARAUGUS CO.)

FLOOD INSURANCE ZONE DATA

LITTLE VALLEY CREEK AND TRIBUTARY NO. 1

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REACH 1
ZONE A1

CORPORATE LIMITS

STATE ROUTE 353

CONFLUENCE OF TRIBUTARY NO. 3

FIRST STREET

ELEVATION IN FEET (NGVD)

1555
1550
1545
1540
1535
1530
1525

0 0.25 0.5 0.75 1.0 1.25 1.5 1.75 2.0 2.25 2.5

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CORPORATE LIMITS

A B C

LEGEND

- 500 YEAR FLOOD
- 100 YEAR FLOOD
- 50 YEAR FLOOD
- 10 YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION (A)

FLOOD PROFILES

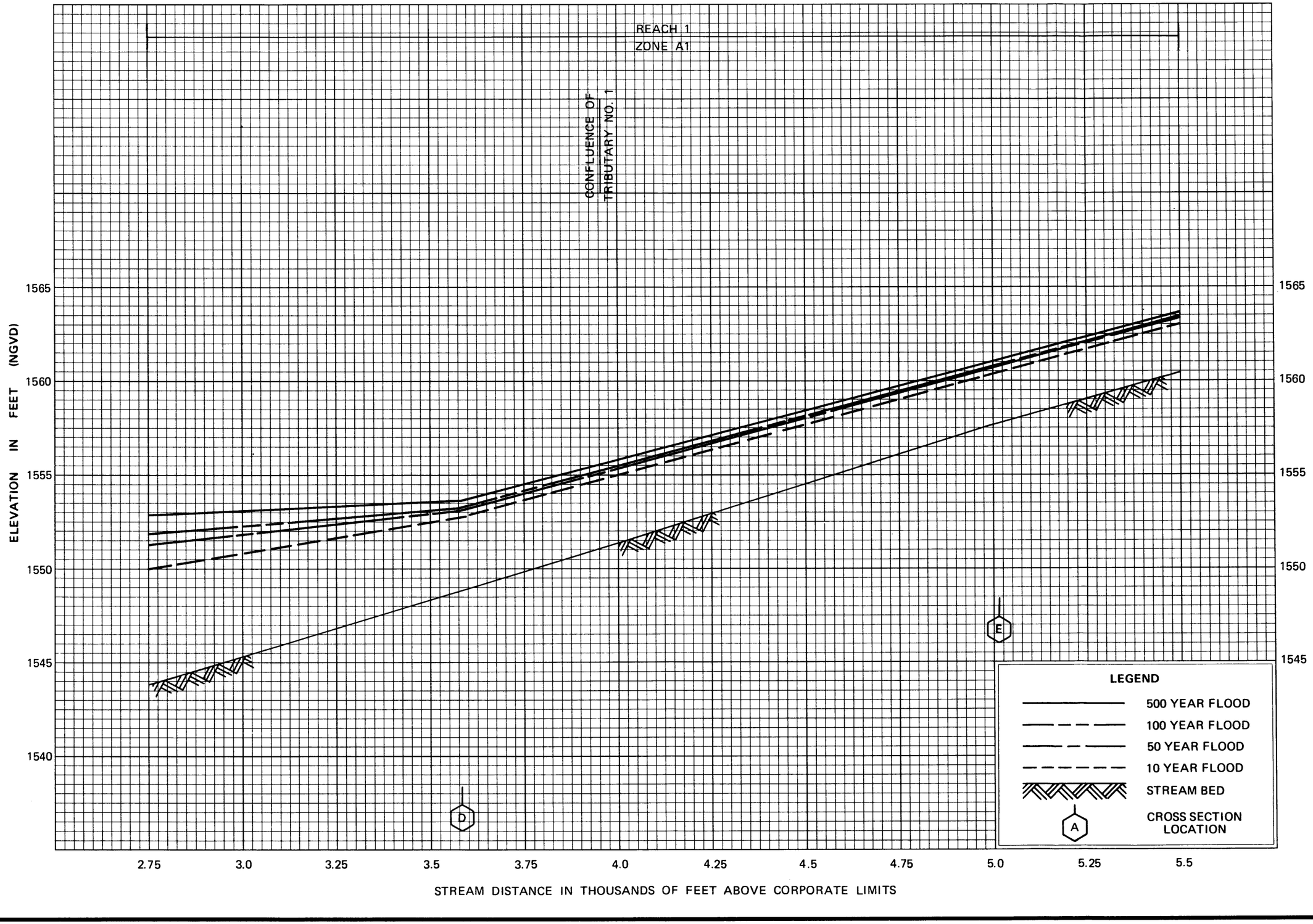
LITTLE VALLEY CREEK

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

VILLAGE OF LITTLE VALLEY, NY
(CATTARAUGUS CO.)

01P

EXHIBIT 1



FLOOD PROFILES

LITTLE VALLEY CREEK

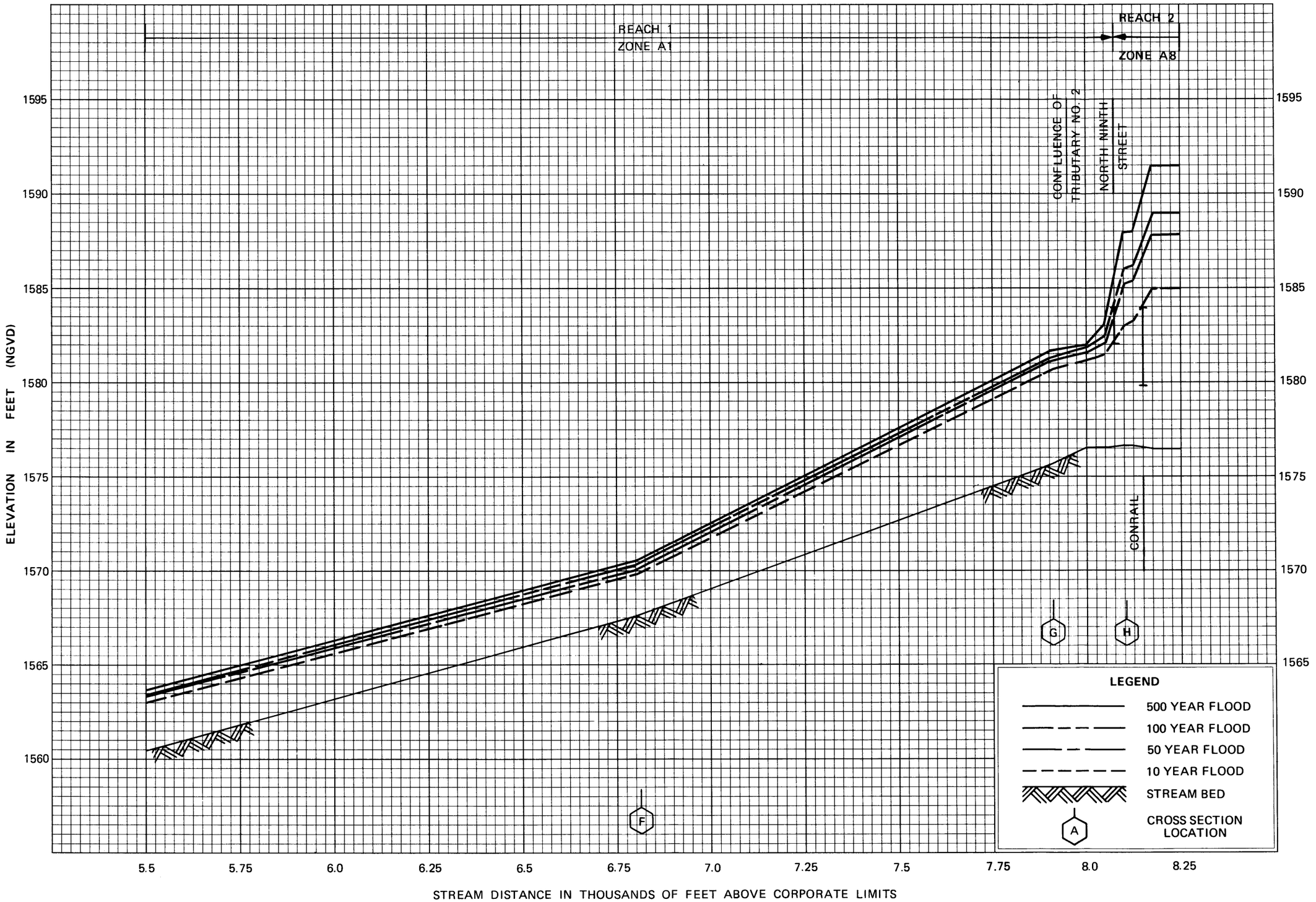
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

VILLAGE OF LITTLE VALLEY, NY

(CATTARAUGUS CO.)

02P

EXHIBIT 1



FLOOD PROFILES

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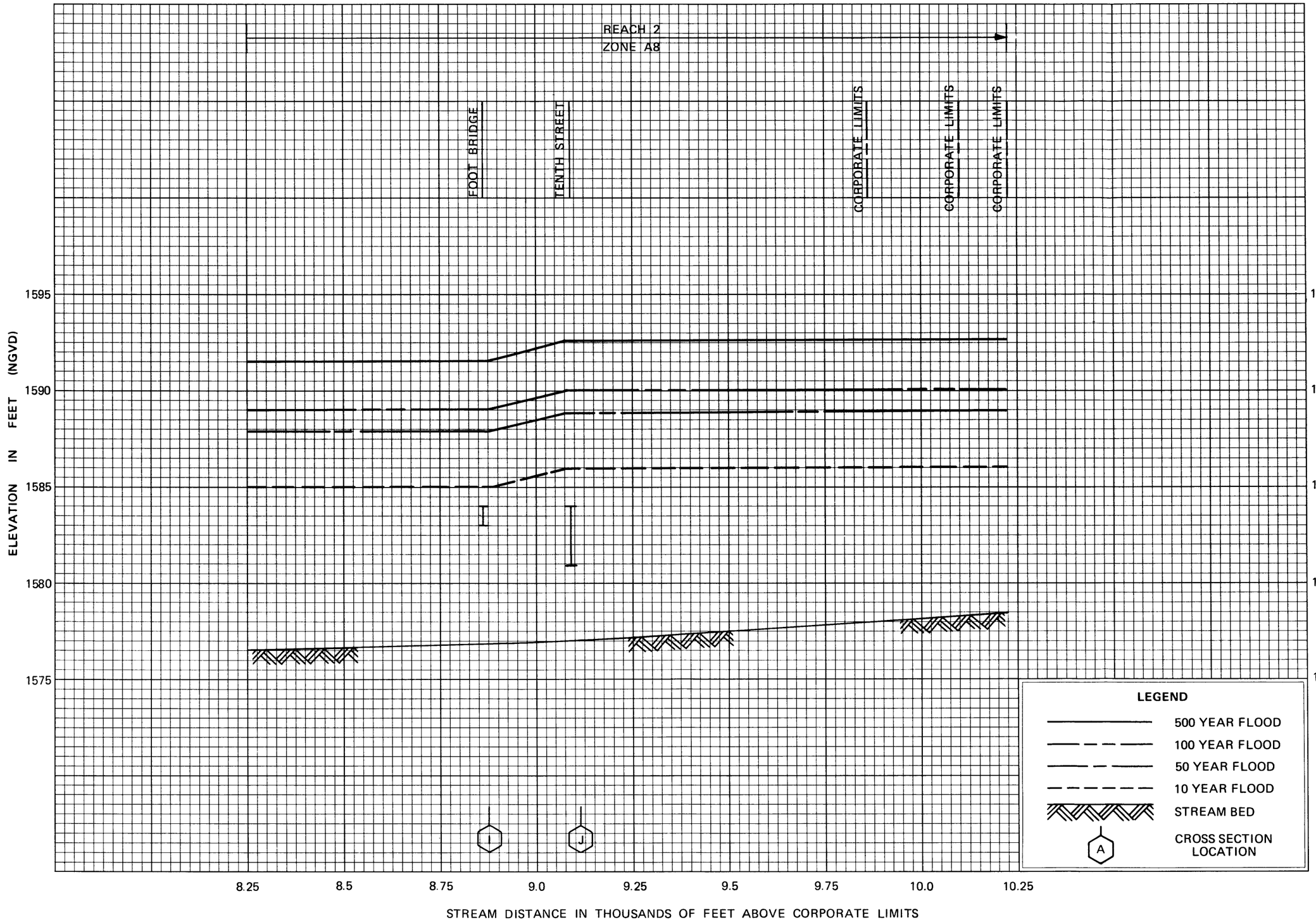
03P



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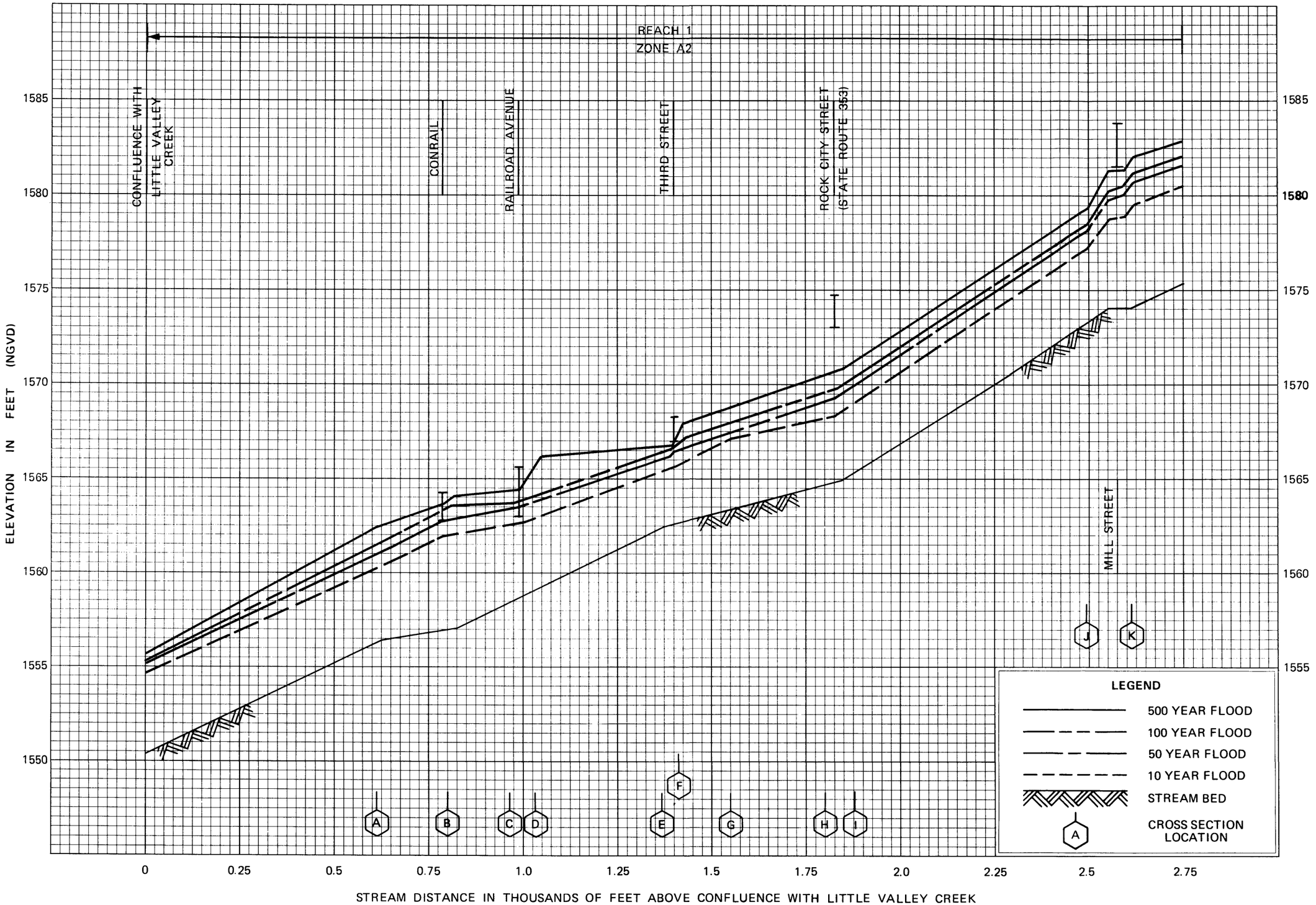
04P



FLOOD PROFILES

TRIBUTARY NO. 1

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VILLAGE OF LITTLE VALLEY, NY

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05P

REACH 1
ZONE A2

CORPORATE LIMITS

ELEVATION IN FEET (NGVD)

1605
1600
1595
1590
1585
1580
1575

2.75 3.0 3.25 3.5 3.75 4.0 4.25 4.5 4.75 5.0

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CONFLUENCE WITH LITTLE VALLEY CREEK

L

LEGEND

- 500 YEAR FLOOD
- 100 YEAR FLOOD
- 50 YEAR FLOOD
- 10 YEAR FLOOD
- STREAM BED
- A — CROSS SECTION LOCATION

FLOOD PROFILES

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