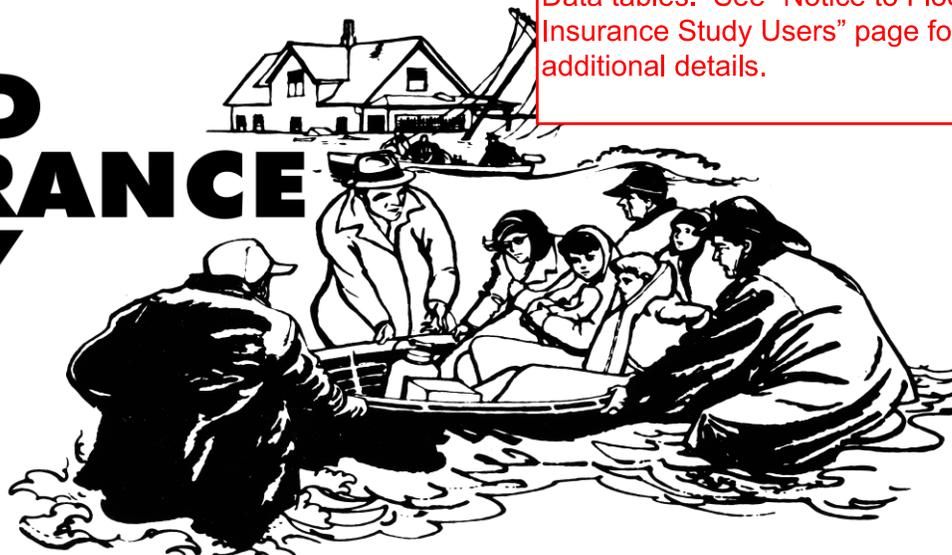
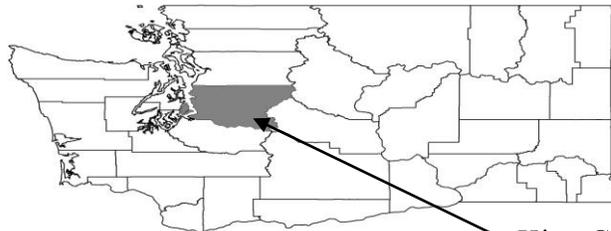


**Notice**  
 This preliminary FIS report includes only revised Flood Profiles and Floodway Data tables. See "Notice to Flood Insurance Study Users" page for additional details.

# FLOOD INSURANCE STUDY



## KING COUNTY, WASHINGTON AND INCORPORATED AREAS



King County

Volume 2 of 4

COMMUNITY NAME	COMMUNITY NUMBER	COMMUNITY NAME	COMMUNITY NUMBER
*ALGONA, CITY OF	530072	*MEDINA, CITY OF	530315
AUBURN, CITY OF	530073	*MERCER ISLAND, CITY OF	530083
*BEAUX ARTS VILLAGE, TOWN OF	530242	MUCKLESHOOT INDIAN RESERVATION	530165
BELLEVUE, CITY OF	530074	NEWCASTLE, CITY OF	530134
BLACK DIAMOND, CITY OF	530272	NORMANDY PARK, CITY OF	530084
BOTHELL, CITY OF	530075	NORTH BEND, CITY OF	530085
BURIEN, CITY OF	530321	PACIFIC, CITY OF	530086
CARNATION, CITY OF	530076	REDMOND, CITY OF	530087
*CLYDE HILL, CITY OF	530279	RENTON, CITY OF	530088
COVINGTON, CITY OF	530339	SAMMAMISH, CITY OF	530337
DES MOINES, CITY OF	530077	SEATAC, CITY OF	590320
DUVALL, CITY OF	530282	SEATTLE, CITY OF	530089
ENUMCLAW, CITY OF	530319	SHORELINE, CITY OF	530327
FEDERAL WAY, CITY OF	530322	SKYKOMISH, TOWN OF	530236
*HUNTS POINT, TOWN OF	530288	SNOQUALMIE, CITY OF	530090
ISSAQUAH, CITY OF	530079	TUKWILA, CITY OF	530091
KENMORE, CITY OF	530336	WOODINVILLE, CITY OF	530324
KENT, CITY OF	530080	*YARROW POINT, TOWN OF	530309
KING COUNTY, UNINCORPORATED AREAS	530071		
KIRKLAND, CITY OF	530081		
LAKE FOREST PARK, CITY OF	530082		
*MAPLE VALLEY, CITY OF	530078		

\*No Special Flood Hazard Areas Identified

PRELIMINARY:

## Federal Emergency Management Agency

Flood Insurance Study Number

53033CV002B



FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ.FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
LITTLE BEAR CREEK								
A	40	39	289	1.7	27.7	27.4 <sup>2</sup>	27.4	0.0
B	177	8	78	6.4	29.2	29.2	29.2	0.0
C	427	14	97	5.2	30.0	30.0	30.3	0.3
D	577	24	70	7.1	29.9	29.9	30.6	0.7
E	617	19	52	9.6	30.9	30.9	30.9	0.0
F	764	39	182	2.7	36.9	36.9	37.0	0.1
G	849	31	102	4.9	36.9	36.9	37.0	0.1
H	949	49	124	4.4	37.4	37.4	37.5	0.1
I	1,059	55	247	2.3	39.9	39.9	39.9	0.0
J	1,159	44	179	3.2	40.1	40.1	40.1	0.0
K	1,199	50	194	2.9	40.1	40.1	40.1	0.0
L	1,224	31	137	4.1	40.1	40.1	40.1	0.0
M	1,413	26	157	3.6	41.8	41.8	41.8	0.0
N	1,493	31	183	3.1	41.9	41.9	42.0	0.1
O	1,773	32	109	5.2	42.1	42.1	42.2	0.1
P	1,979	11	51	11.0	46.4	46.4	46.8	0.4
Q	2,103	24	174	3.3	49.3	49.3	49.3	0.0
R	2,792	20	104	5.4	51.9	51.9	52.7	0.8
S	3,642	34	130	4.4	57.3	57.3	57.7	0.4
T	4,602	38	89	6.4	64.5	64.5	64.9	0.4
U	5,122	28	129	4.4	68.0	68.0	69.0	1.0
V	5,962	24	94	6.0	72.9	72.9	73.5	0.6
W	6,652	45	303	1.8	84.5	84.5	84.5	0.0
X	7,052	24	111	4.8	84.7	84.7	85.2	0.5
Y	7,452	36	175	3.1	87.2	87.2	88.2	1.0
Z	7,762	23	148	3.6	94.3	94.3	94.3	0.0

<sup>1</sup>Feet above mouth

<sup>2</sup>Elevation Computed Without Consideration of Backwater Effects from Sammamish River

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

**KING COUNTY, WA**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**LITTLE BEAR CREEK**

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ.FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
LITTLE BEAR CREEK (CONTINUED)								
AA	8,162	27	150	3.6	94.8	94.8	95.8	1.0
AB	9,522	21	73	7.4	104.5	104.5	105.3	0.8
AC	10,562	23	136	4.0	114.0	114.0	114.6	0.6
AD	10,742	46	247	2.2	114.5	114.5	115.1	0.6

<sup>1</sup>Feet above mouth

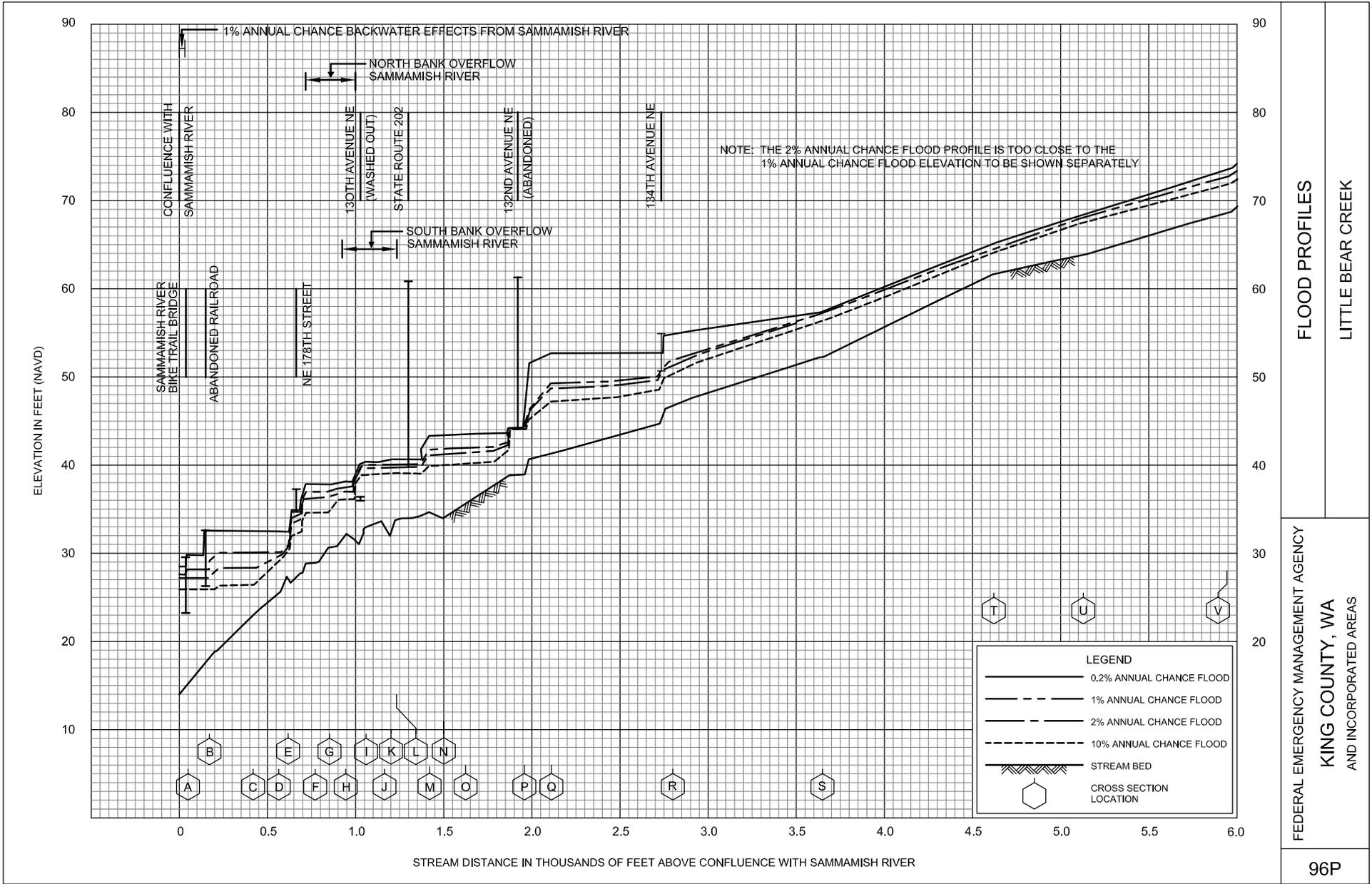
TABLE 6

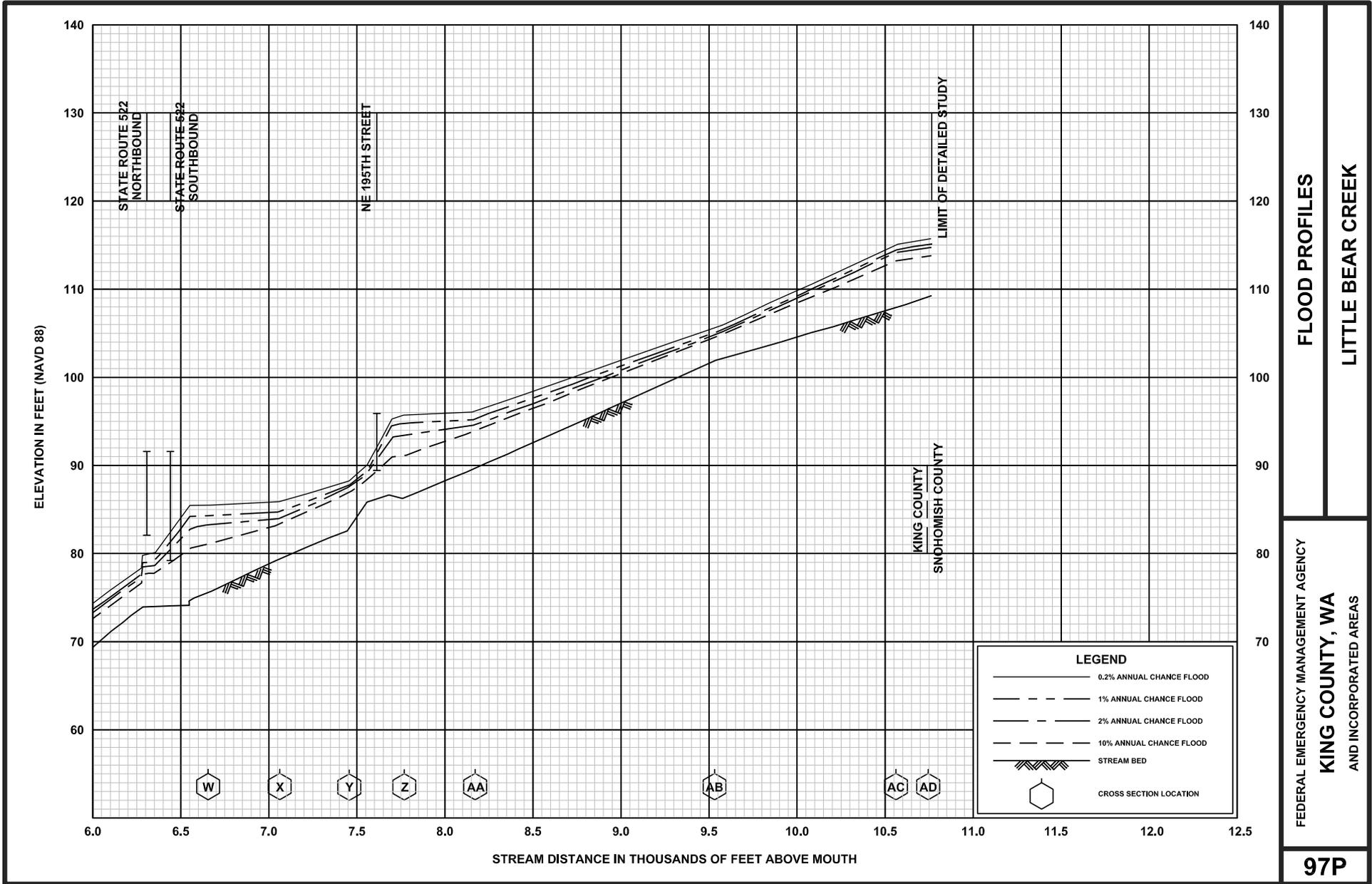
FEDERAL EMERGENCY MANAGEMENT AGENCY

**KING COUNTY, WA**  
AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE BEAR CREEK





### NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at <http://www.fema.gov/business/nfip/index.shtm>.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services  
NOAA, N/NGS12  
National Geodetic Survey  
SSMC-3, #9202  
1315 East-West Highway  
Silver Spring, Maryland 20910-3282  
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

**Base Map** information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by King County GIS, WA DNR, WSDOT, and Pierce County GIS. This information was compiled at scales of 1:12,000 to 24,000 during the time period of 1994-2012.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

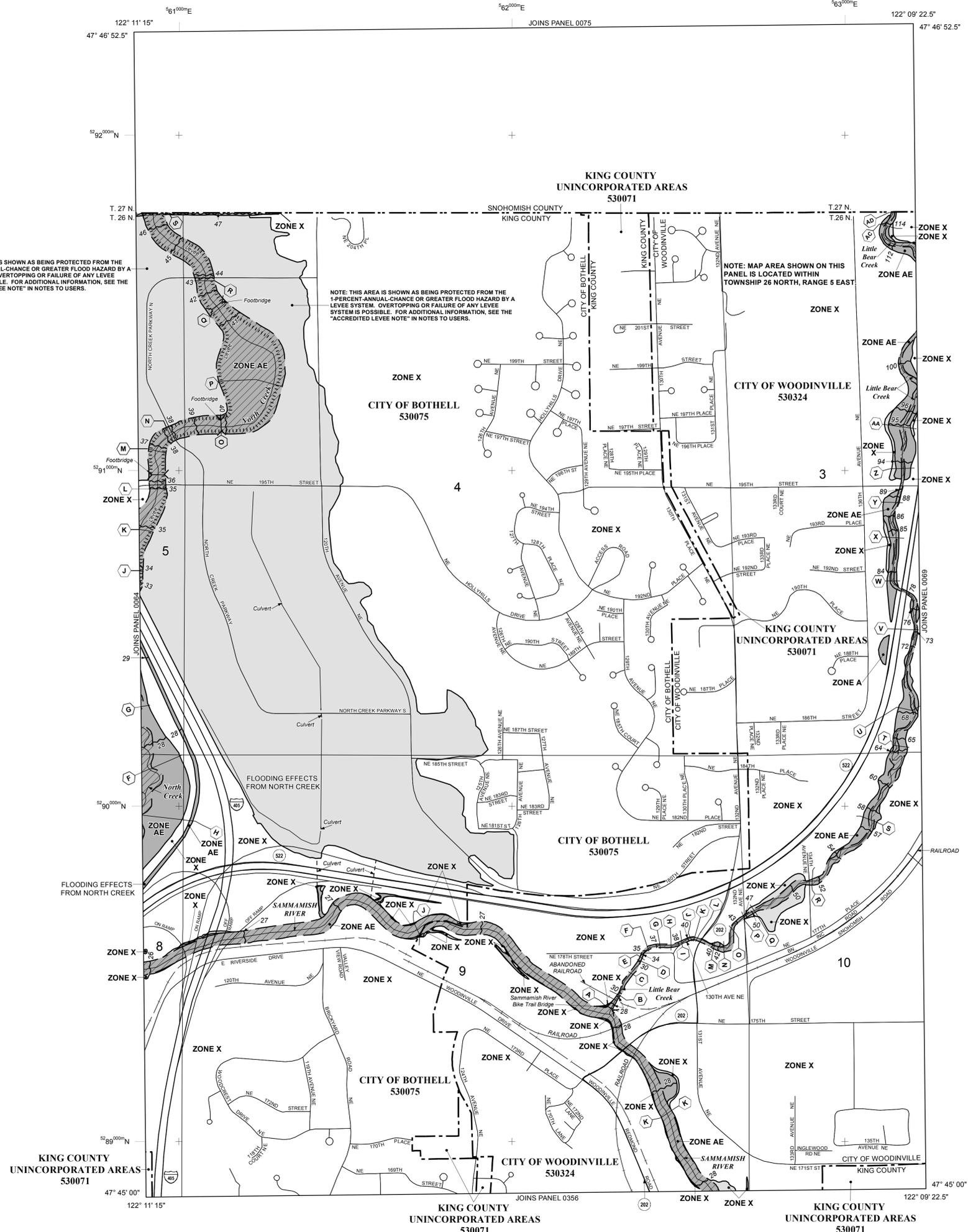
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/nfip>.



### LEGEND

**SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**  
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently described. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**  
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway Boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- Base Flood Elevation line and value; elevation in feet\*
- Base Flood Elevation value where uniform within zone; elevation in feet\*

\*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 45° 02' 08", 93° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 890000 N 1000-meter Universal Transverse Mercator grid values, zone 10
- DX5510 X Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 River Mile

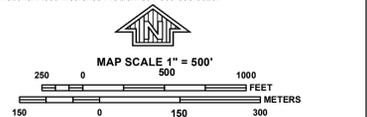
**MAP REPOSITORIES**  
Refer to Map Repositories list on Map Index

**EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP**  
September 26, 1989

**EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL**  
May 15, 1995  
November 8, 1999  
(Date of Revision) - to change Base Flood Elevations, to update corporate limits to add roads and road names, to update the effects of wave action, to change Special Flood Hazard Areas, to change zone designations and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



**NATIONAL FLOOD INSURANCE PROGRAM**

**PANEL 0068H**

**FIRM FLOOD INSURANCE RATE MAP KING COUNTY, WASHINGTON AND INCORPORATED AREAS**

**PANEL 68 OF 1700**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

**CONTAINS:**

COMMUNITY	NUMBER	PANEL	SUFFIX
BOTHELL, CITY OF	530075	0068	H
KING COUNTY	530071	0068	H
WOODINVILLE, CITY OF	530324	0068	H

**PRELIMINARY FEBRUARY 1, 2013**

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER 53033C0068H**  
**MAP REVISED**

**Federal Emergency Management Agency**