

*1st Skagit River
Flood Plain Info. Study*

NPSEN-PP-W

26 May 1964

MEMO FOR RECORD

SUBJECT: Revision to Water Surface Profiles, Flood Plain Information Study, Skagit River, Washington

1. The Water Surface Profiles were revised as a result of changes in flows due to revised Exceedence Frequency Curves at Concrete, Sedro Woolley, and Mount Vernon. The following flows were used:

<u>Profile Description</u>	<u>Total Flow in c.f.s.</u>		
	<u>At Concrete</u>	<u>At Sedro Woolley</u>	<u>At Mt. Vernon</u>
200-year Exceedence Frequency Flood	310,000	325,000	290,000
50-year Exceedence Frequency Flood	225,000	235,000	210,000

2. The 200-year Exceedence Frequency Flood Profile was revised as follows:

a. From Concrete to Sedro Woolley the flow was increased at random locations by 5,000 c.f.s. increments from 310,000 c.f.s. to 325,000 c.f.s. respectively.

b. From Sedro Woolley to the break at Mile 19.48 the flow was decreased at random from 325,000 c.f.s. to 290,000 c.f.s., respectively.

c. At the break (Mile 19.48) the total flow was 290,000 c.f.s. with 150,000 c.f.s. going into the main channel and the remainder going into the overbank areas. This condition was the same as before, which therefore gave no change to the Water Surface Profile in the distributaries below this location.

d. Where changes did occur, the new Water Surface Profile was defined by interpolation from corresponding rating curves.

3. The 50-year Exceedence Frequency Flood Profile was revised as follows:

a. From Concrete to Sedro Woolley the flow was the same as before; therefore there was no change in the Water Surface Profile for this reach.

b. From Sedro Woolley to the break at Mile 19.48, the flow was decreased at random from 235,000 c.f.s. to 210,000 c.f.s. respectively. By interpolation from rating curves there was no change in the Water Surface Profile.

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c. At the break (Mile 19.48) the total flow was 210,000 c.f.s. with 150,000 c.f.s. going into the main channel and the remainder going into the overbank areas. The flow of 150,000 c.f.s. in the main channel was the same as before; therefore, there was no change in the Water Surface Profile in the main channel from Mile 19.48 to the junction of the North and South Forks and to their mouths. The total overbank flow of 60,000 c.f.s. was distributed between the Samish Overbank and the Bayview to Pleasant Ridges Overbank by the use of a previously drawn combined rating curve.

d. The Bayview to Pleasant Ridges Overbank Water Surface Profile was defined for a flow of 36,000 c.f.s. by interpolation of rating curves. The elevation at Section No. 11 was assumed to be 41.5 feet, the same as for the main channel at this Section.

e. The Samish Overbank Water Surface Profile was defined for a flow of 29,000 c.f.s. by interpolation of rating curves from Section No. 1 through Section No. 6, and estimated based on observed High Water Marks from Section No. 7 through Section No. 11.

3. The Samish River Water Surface Profiles were revised as follows:

a. The Water Surface Profile for the 50-year Exceedence Frequency Flood was changed to agree with the Samish Overbank Profile from the mouth to Section SM-1. The Water Surface Profile from Section SM-2 and upstream was unchanged.

b. The 200-year Exceedence Frequency Flood Profile was changed slightly to conform with the previous tabulation.


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