

Seattle May 5"1902

Hon. Board of County Commissioners,
King County, Wash.

Gentlemen:-

In accordance with your instructions under joint resolution with the Board of County Commissioners of Pierce County, Wash, in regard to the Stuck-White River proposition:- Mr. Chas S. Bihler representing Pierce County, and myself, made a somewhat hurried examination of White River and Valley in the vicinity of the present junction of Stuck and White rivers. It was thought best, in case of the proposed division being carried out, to locate the necessary works at the point where King County has done the principal portion of recent protection work, or where the two channels at present approach closely and then separate widely, the White River channel running nearly north while the stuck channel runs in a southwesterly direction. No borings to determine nature of substrata of the valley were made owing to the shortness of time, but examination of river banks and exposed river bed indicates only sand and gravel to a seeming considerable depth, over whole of valley. This foundation, wherever the river rushes against or along it, readily washes down and is carried with the rush of water down the stream to form new bars or assist in building new jams. The numerous changes in the channels of White River indicates the uncertainty of the river continuing in one channel. This uncertainty would, it seems to me, continue, and be more or less present even with united effort in constructing and maintaining works for the division of White river at the point mentioned. Should such work fail during any freshet, and the volume of water pass down the Stuck and Puyallup channels even under present conditions, comparatively little damage would be done for reasons given later, but should the failure result in the volume of the freshet passing into lower White river channel, a large part of White river valley would be overflowed and immense damage result. It seems to me the wise and fair thing to do is, SEND THE WATER WHERE IT WILL NOT OVERFLOW OR CAUSE UNNECESSARY DAMAGE, if such a result can be obtained. Can this be done? It seems to me it can.

From levels recently run from Seattle to the junction of the Stuck and Puyallup rivers along the line of the N. P. Ry, some not wholly expected facts have been shown. At a medium stage of water in the rivers, the following approximate elevations appear for surface of water at a few points, as follows:

POINT	Approximate distance from Tacoma	Surface of water in Riv. above high tide
Junction of Stuck and Puyallup rivers	9 miles	33 feet
Co. Brdg. over Stuck river at Sumner	10 "	36 "
Co. Brdg. over Stuck river west of Derringer	12 ""	46 "
Co. Brdg. over Stuck river 1 mile Nly of Derringer	13 "	59 "
N. P. crossing of Stuck	14 "	73 "
Considered point of division	16 "	143 "
	Approximate distance from Seattle.	
Black River Junction	9 miles	6 feet
N.P.crossing of White river south of Kent	18 "	22 "
Co. Brdg. over White river at Auburn	22 "	67 "
Considered point of division	24 "	143 "

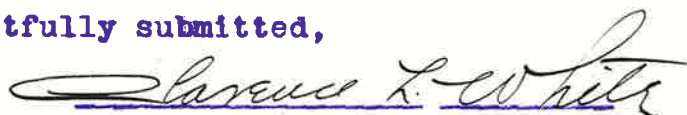
These elevations show approximately five (5) times as much fall between the junction of the Stuck and Puyallup rivers and the Bay at Tacoma, as there is between Black River Junction and the Bay at Seattle the distance being about the same in either case. Again, from tide

water at Seattle to the N. P. crossing of White River south of Kent is about eighteen (18) miles, or fully equal to the distance from tide water at Tacoma to the considered point of division. In the first instance we have 22 feet fall, while in the latter we find 143 feet. Again, from tide water at Seattle to the N. P. crossing of White river, is eighteen (18) miles, with a fall of 22 feet, while from tide water at Tacoma to the N. P. crossing of Stuck is a distance of 14 miles with a fall of 73 feet. Even through Stuck bottom where the swampy nature of the ground would indicate a nearly level ground surface we find upwards of ten (10) feet fall in the river channel to the mile. Comparisons might continue, but this seems enough to establish the fact that nature, as indicated by distances and elevations, intended that the water should flow down the Stuck and Puyallup river channels. These conditions, it seems to me, show plainly the force of the statement previously made, that, should the division work fail at any time of freshet, the Stuck river, (if present jams in the river were removed) would carry off the water without serious overflow or injury, while the showing of adverse circumstances proven on various occasions in years past, would cause the overflow of much of White River valley, and consequent serious damage. It seems to me therefore that the wise and fair action under the circumstances, is, for King County to join with Pierce County in clearing and enlarging the Stuck river channel until it is adequate to carry the water, when the problem of disposing of the flow of White river would be safely settled for both Counties. The expense of this would, it seems to me, be less than that necessary for the permanent division of White river, while, considering its security to King County (without injury to Pierce County) it would be more economical even if it cost King County more than the construction work necessary for division.

An arrangement was made between Mr. Bihler and myself, that he was to make necessary surveys in the vicinity of point of division to secure needed information. It seems to me this survey should be made but it also seems proper for King County to insist that the necessary surveys be made in connection with this survey (if it is continued) for the development of conditions down Stuck and Puyallup rivers, to prove or disprove the correctness of my contention that White River could go down Stuck and Puyallup rivers without injury to Pierce County.

My thought would be that King County Commissioners send a resolution similar to the one sent by Pierce County, but including the wider scope indicated in this report.

Respectfully submitted,



County Surveyor, King County.