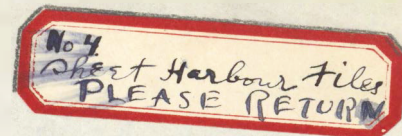


WALTER S. PAINTER

32 PEARL STREET

NEW YORK, N. Y.



TELEPHONE  
BOWLING GREEN 5055

August 15th, 1923

Mr. W. S. Crandall, General Manager  
A. P. W. Paper Company  
Albany, New York

Dear Sir:

Enclosed please find hydrographs compiled from Dominion Government data covering five years, 1915 to 1920, inclusive.

I find upon investigating that the dam at Alma Lake is a very small affair and that this dam, combined with the Sheet Harbor Lake dam, will give a monthly discharge of 260 second feet. The 465 second feet storage line shown is for storage as listed in the Nova Scotia Water Commissioners report for 1917 plus the additional 5 ft. of water in Sheet Harbor Lake due to the building of the dam 5 ft. higher. The cost of this additional storage is so great that for the benefit derived, that is 13 double grinder months, it does not warrant the expense.

We have written to both the Dominion and Provincial Governments for any additional hydrographs they may have in connection with this development and if I do get anything more will complete the hydrograph to date.

I am also sending you a drawing showing the proposed flume line and relocated tail race as agreed upon by us when I was last in Albany. I think this is a great improvement over our other scheme as we can locate the power house directly opposite and build small piers on the rock foundations on the last fall to carry the steam line and a walk-way, at very small expense.

I also find that it will pay us to stop the wood flume on the other side of the road and build a canal in concrete from the road, as a flume would require an excavation in rock of from five to six feet and as it parallels the walls of the blow pit room, the total cost of the concrete canal would be less than the installation of a wood flume plus the attendant walls above the rock level and a floor over same.

Will you be good enough to let me have your total power estimate. I am making up the power estimate now and I find that in comparison with other mills our total power is comparatively light. This I attribute to the fact that you are eliminating considerable pumping but it would facilitate my work materially to have your total power estimate.

I would also like to have the length of shaft and the distance on centers of the two grinder units installed in Albany

To - Mr. W. S. Crandall

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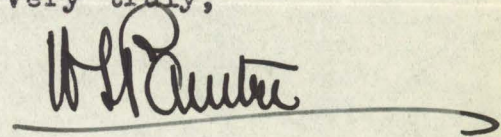
August 15th, 1923

as I find the Canadian wheel is 40' overall on the shaft line. This may compel us to put the grinder over in the second half of the mill though I believe this width of wheel is not absolutely necessary. In this connection I might add that S. Morgan-Smith's proposal will practically parallel the proposal of the William Hamilton Co.

Kindly note from the drawing that the mean net effective head will be in the neighborhood of 70 ft. The wheel manufacturers are figuring  $2\frac{1}{4}$  to  $3\frac{1}{4}$  ft. friction head at the wheel.

Had hoped to get up to see you this week but have several appointments with water wheel and generator manufacturers that will prevent my doing so.

Yours very truly,

A handwritten signature in dark ink, appearing to read "W. S. Crandall", with a long horizontal flourish extending to the right.

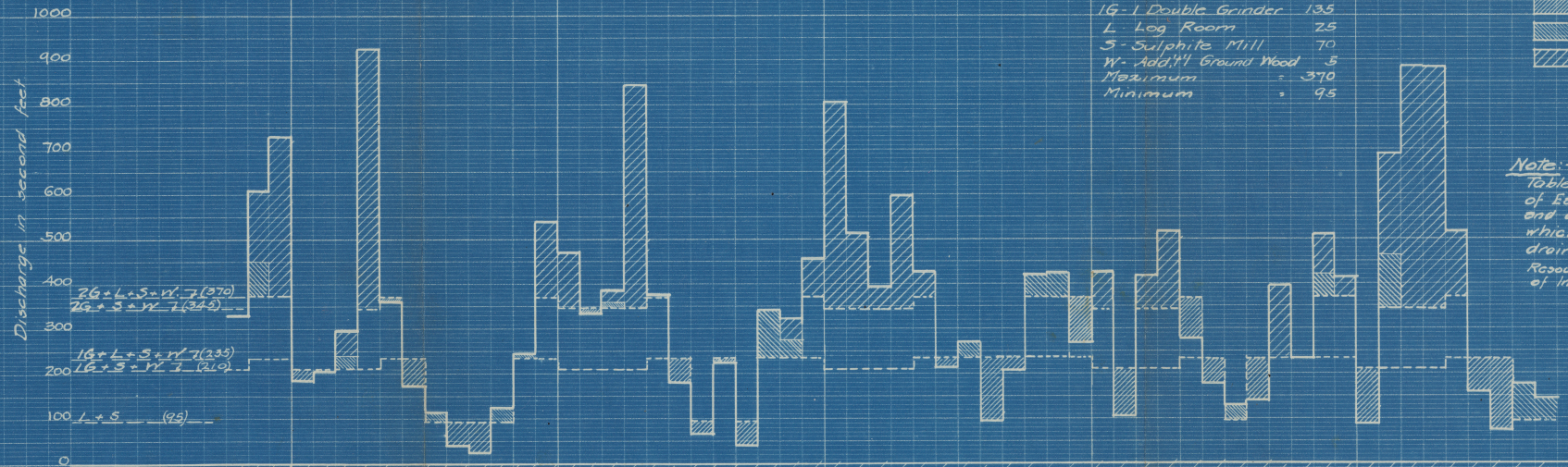
WSP/LM

Enclosures

Storage	1915			1916			1917			1918			1919			1920			Months	2 Grinders	1 0	Grinder Months								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar					Apr	May	June	July	Aug	Sept		
No. Grinders Operating: (160 s.f.)	1	2	2	1	1	2	2	1	0	0	0	1	2	2	2	2	1	1	1	2	2	2	1	0	0	Months	29	22	9	80
" " " (465 s.f.)	1	2	2	2	2	2	1	1	0	1	2	2	2	2	2	1	1	2	2	2	2	2	2	1	1	"	35	25	2	93

Water Required Sec. Ft.  
 2G - 2 Double Grinders 270  
 1G - 1 Double Grinder 135  
 L - Log Room 25  
 S - Sulphite Mill 70  
 W - Add. 1/4 Ground Wood 5  
 Maximum = 370  
 Minimum = 95

Key  
 From Storage  
 To Storage  
 Wasted



Note: Data compiled from Table of monthly discharge of East River Sheet Harbor and applying the factor  $\frac{115}{216}$  which is the ratio of drainage Areas. (From Water Resources Paper #29 - Dept. of Interior Canada, pg. 22)

Storage required to give min. flow 95 s.f.

STORAGE CAPACITY  
 15470 Acre Feet  
 Ave Monthly Discharge  
 of 200 Sec. Ft.

Storage Capacity 2,465 s.f.  
 = 27,760 Acre Feet.

HYDROGRAPH OF WEST RIVER SHEET HARBOR AND EFFECT ON STORAGE RESERVOIRS WHEN GRINDERS ARE OPERATING.