"

186.2

Dosing chamber	5.000 "
Stand-by or storm-water	62,000
Sprinkling Filters.	N. C. S. H. S. M. S.
contrea	3,534 sup. yds.
Vapacity.	5,890 cub. yds.
volume which will be sprinkled on each super-	
Incial yard per day (dry-weather flow)	70.7 gallons.
volume which will be sprinkled on each cubic	
yard per day (dry-weather flow)	40.7 "'
Area Sand Filters.	
Canadi	2,300 sup. yds.
Volume	1,342 cub. yds.
for which will be distributed on each super-	*
Volusial yard per day (dry-weather flow)	108.6 gallons.

olume which will be distributed on each cubic yard per day (dry-weather flow)

All brick walls have been constructed with blue Staffordshire bricks in cement mortar, concrete walls and floors are built of clean, washed shingle, sand, and Portland cement in the proportions of 5, 2 and 1; glazed stoneware pipes, etc., have been obtained from the Albion Clay Company, Limited, Woodville; cast-iron pipes from Messrs. Stanton & Co., and the whole of the sluice valves, penstocks, sludge plugs and sprinklers from Messrs. Adams-Hydraulics, Limited, York. The contractors, Messrs. Cunliffe & Sons, have carried out the whole of the works in a careful and satisfactory manner.

NOVA SCOTIA SOCIETY OF ENCINEERS.

(Continued from Page 224.)

dustries. Of late years there has been a marked increase in the price of coal, and, as far as can be seen, the prices will not decline, but, on the other hand, will certainly further increase. This being so, it is inevitable that the water powers will receive more attention, in spite of the fact that further improvements will undoubtedly be made in the economy of the steam engine.

Much Power Available.

Recent developments in the transmitting of energy, particularly in the line of electricity, have so improved that it is guite quite possible to utilize water powers which have hitherto been considered of little value on account of an unfortunate situation, and it is possible to utilize power miles from where it is Created it is possible to utilize power miles from where it is created. The province has no large rivers and the watersheds are comparatively small. Six hundred square miles was about the law the largest watershed in the province Mr. Yorston was aware of, and of, and the average watershed of streams is probably not more than for by the fact that many of the streams have a rapid descent and office fact that many of the streams have a rapid descent. In and offer fairly high heads for the utilization of the water. In the provi the province there are to be found powers capable of develop-ment and ment under heads of from 100 to 400 feet, though the watershed is limited in extent. He had investigated one water power having having but 10 square miles of watershed, which was well worth down 10 square miles of watershed, which was well worth development, as there was a total fall of 275 feet in a little little over two miles, as well as practically unlimited opportunities for storage of water on the watershed.

In all parts of the province there are water powers well th day parts of the province there are water powers well worth development, which have not so far received attention. On other streams development is well advanced, and some few rivers routing and reserved and some few are at present rivers, particularly the Mersey and St. Croix, are at present generation generating quite an amount of power. Still, at the same time, not one of the same time, and the same time, a not one of the streams has the development of its full power

Steam and Water Together.

defect of water power is its great variability. The flow in the days of development in the subject important enough to (Continued on Page 235.) dry summer months will be found to be one tenth and less of

the flow in other months when the rain fall is heavier. If steam power were used as an auxiliary to supplement the power in the months of small stream flow, the amount of power to be derived could be made much more constant. But the best power of all is one in which storage reservoirs and steam are both used to increase the amount of power, the ideal power being one with reservoir capacity to equalize the flow over not only a year, but a cycle of years, and thus obliterate the vagaries of the rain fall.

The capacity of the power development of any water power proposition is a problem which requires solving for each individual case.

A factor which enters largely into the case is the cost of development and the annual charges on it as to the saving which can be effected by the use of that amount of water power. If the plant is designed with steam power as auxiliary care must taken in the calculations to find the point at which the saving by using steam power about equals the fixed charges on the cost of developing the water power, and this will be the limit, beyond which it will not be economical to create power by water. It is unfortunate that no data as to stream flow in Nova Scotia is obtainable, the only information on the subject to be had bearing on rainfall records taken at a few places. At times recourse must be had to records of other places distant at times 100 miles, so that calculations based thereon are, after all, only an approximation. A measurement of the flow of any stream taken at extreme high or low water has some value, as it gives a conception of extremes of flow, but measurements must extend over a series of years if the average flow is to be determined with any accuracy.

Mr. Yorston gave comparative rainfall statistics of Halifax and Sydney districts and of Sudbury, Mass., and quoted from a report of a New England committee's report on data relating to awards for water and water power diversions. The committee recognized the danger of laying down approximate rules for determining the amount of power to be derived from watersheds of known fall in New England, and said the subject was one requiring the judgment of one versed in such matters, for different conditions materially affect, not only the amount, but distribution and constancy of the power to be derived from the watersheds.

Little Information.

The value of any water power privilege could be determined after all the data regarding the power had been ascertained, and Mr. Yorston gave examples of procedure in so estimating values of privileges. He frankly acknowleged he was not acquainted with all the water powers in the province. In fact, at this date so little demand for water power has been in evidence that all the facts in connection with some of the best Nova Scotia water powers are not fully known. As a rule, the majority of our large factories are located in the larger centres of population, and for many there are considerations which make this imperative. At the same time there are many uses to which our scattered water powers could be put, of which more vigorous prosecution of mineral development is one. Many of these powers are sufficiently large to warrant the expense of quite lengthy transmission lines in order to utilize the power at more convenient points.

Mr. Yorston referred to the annual meeting of the American Peat Society at Ottawa on July 26, the interest taken in which by the industrial world being evidenced by three representatives of such being sent to attend the meeting. Hitherto we have thought little of our peat deposits, and the majority of our citizens speak frequently of them as "black swamps." So far little or no attention has been given to the use of and do not give more than a passing thought to their value and do not give more than a passing thought to their value. That great steam power as an auxiliary to water power plants. The chief and possibility of development in the near future. That great and possibility of material and possibility of development in the near future. That great and possibility of material and possibility of development in the near future.