erating ⅔ of the total output of the station; the building being large enough to include the third unit to be installed at any time in the future when conditions of market warrant.

It is proposed to generate at 2,200 volts and to transmit at 13,200 volts by the use of step-up transformers. All switching and subsidiary equipment would be installed as required.

Transmission Line.—The transmission line, approximately 7½ miles long, would initially consist of one 3-phase circuit, on wooden poles. The line owned by the Canadian Pacific Railway, now in service between Bankhead and Banff, could be readily adapted to the proposed system, the only change required being the replacing of the present conductors by larger ones, sufficient to transmit 1,000 h.p.

Receiving Station and Distribution System.—It is proposed to utilize the present receiving station and distributing station and equipment within the town of Banff if it can be acquired at a reasonable price. This system is in excellent condition and is usable with modifications in any extended system of distribution and lighting in the town. As it is proposed in connection with the new system of lighting contemplated in the town and vicinity to extend the distribution system very considerably, it will be necessary to construct several miles of new lines, the wire for which can be secured from the transmission line.

In order to carry out a suitably extensive project of lighting the town and vicinity in an attractive manner, utilizing the most up-to-date types and arrangement, it will be necessary to rearrange the present system and to extend it.

It is proposed that a 3-phase system would encircle the centre of the town, having 3-phase feeders radiating from it. It is expected that the 3 phase lines will prove ample for the complete distribution of power for industrial power service, domestic and commercial lighting and heating to the full commercial output of the generating plant.

A very attractive street lighting system is proposed and special lighting units have been designed. The lighting plans, as at present arranged, provide for 40 standards, 278 bracket lamps and 18 path lamps. Some of the streets will be provided with underground wiring. Street lights will, in general, be operated by the same transformers as are to be used for house lighting, clock switches being installed to operate individual sections of the system at predetermined hours. The lamps indicated on the plan will consume about 120 h.p.

Power Supply and Distribution.—The capacity of the power and transmission system outlined in the foregoing as an initial system of 1,000 horse-power, laid down in Banff, is amply sufficient for some time to come for all the lighting that may be desired, and at the same time will provide power for those various small uses such as motors in bakeries, laundries, printing offices, butcher shops, small machine shops and mills, etc., and for heating.

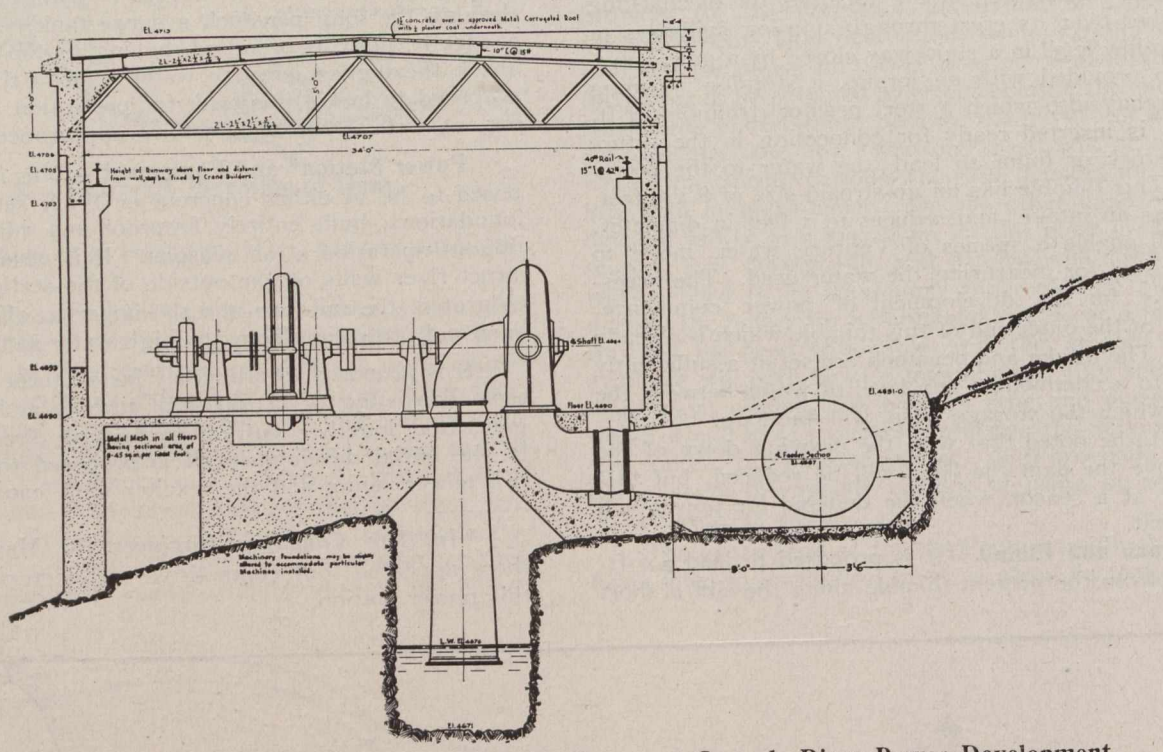

Fig. 5.—Typical Section of Power Station of the Proposed Cascade River Power Development.

Estimates of Cost.—In the following, estimates of cost of construction are based entirely upon the construction of a new system complete from the dam (already built) to, and inclusive of, the distribution and lighting system outlined, as it is only on such a basis that the comparative costs can be readily considered.

The following estimates are based upon the current prices for labor, apparatus and supplies provided and delivered at the location required. If construction is undertaken under conditions whereby these current prices are visibly exceeded, the estimates herein given must be correspondingly increased.

The following estimate is for general works for the whole ultimate plant, but with hydraulic and electric machinery installed only sufficient to deliver 1,000 h.p. in Banff:—

Penstock and flume, including headworks connections, tunnel, river span, wood flume, feeder section and rising section complete ready for water	$34,000.00
Regulating tank, including housing	1,000.00