

ESTIMATE OF TEMPORARY STRUCTURES REQUIRED
FOR 200-BEV ACCELERATOR'S EXPERIMENTAL AREAS

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Summary

Based on the present plans for 12 experimental beams, of which 9 are in active operation, with the others in preparation for the near future, the following temporary structures are proposed.

	<u>Number</u>	<u>Total Sq. Ft.</u>
Experimenters' houses, 50' x 50' (these may be too small and too few)	12	30,000
Sheds, 15' x 25'	140	52,500
Sheds, 15' x 35'	60	31,500
	Total	114,000 sq. ft.

If the cost of such structures is about \$ 35/sq. ft. (including lighting, heating and other minimal facilities), then the total cost for this number is about \$ 4 million.

Breakdown.

As stated above, the experimenters' houses have been chosen as 50' x 50', a rather minimum size. It is probable that some experiments may need larger sizes, but perhaps this can be taken care of by using one or two of the 15' x 35' sheds. It should be noted that the permanent buildings include a minimum bubble-chamber building about the size of that for the Argonne 12-ft chamber. It is also probable that 12 experimenters' houses may not be enough as there is no provision for those running tests parasitically.

Some typical beams were examined to determine the number of sheds required for housing the beam-transport equipment. It was assumed that the front part of these beams would be housed within the permanent structures now planned for the target areas. The dimensions of these were assumed to be:

at L₁A - 30' x 160'; at L₁B - 100' x 350'; at L₁C - 100' x 350'.

The dimensions of these sheds have been picked rather arbitrarily as 15' x 25' and 15' x 35'. Other modules would probably be satisfactory. However, 15-ft width is perhaps minimum for housing not

only the beam-transport magnets, with their power supplies, but also vacuum pumps, water, control equipment, etc. The lengths do not allow for extra space for these things.

Under these assumptions, then, these beams require the following:

<u>Beams</u>	<u>Number of Sheds</u>	
	<u>15' x 25'</u>	<u>15' x 35'</u>
two 150 GeV/c ctr. beams, Longo design	12	2
two counter beams, "semi-Longo"	8	2
one counter beam, Manning design	22	
one RF separated beam, 150 GeV/c, Lach design	13	19
one RF separated beam, 50 GeV/c	8	12
Counter branches for two separated beams	8	2
Neutrino beam, Perkins design	20	
p-p scattering experiment, at L ₁ A (no design)	?	?
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	91 +	37 +
For 3 experiments in preparation, plus spares	49	23
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Totals	140	60