

REPORT.

*Engineer's Office of the Baltimore and Ohio Rail }
Road Company, January 24th, 1831. }*
To PHILIP E. THOMAS, Prest. &c.

In accordance with the request, I submit the following observations in regard to the comparative merits of canals and rail ways, so far as relates to their expense, facilities of construction and benefits, to the State of Maryland, in point of revenue, as well as of general advantages to the citizens.

First.—*Comparative Expense.* As a canal and a rail road cannot both be constructed between any two points on the same identical route, therefore the evidence by which we are to judge of their comparative expense on a given line, must consequently be that of an estimate for each; or, by an approximate conclusion drawn from analogy.

I know of but one route on which careful estimates have been made at the same time, both for a canal and for a rail road. The route here alluded to, is along the Potomac river from the Point of Rocks to Harper's Ferry, or at least so much of that route as was included in the narrow passes.

These estimates were made by N. S. Roberts and myself, as commissioners appointed by the Chancellor of Maryland, to examine and survey the ground with a view to the location of the Chesapeake and Ohio canal and the Baltimore and Ohio rail road along that line. In the first place a route was run for the canal and an estimate made for it, without any regard to the rail road. In the next place, a route was run and estimated for the graduation and masonry of the rail road with a view to three sets of tracks through the same narrow passes without any regard to the canal.

From these estimates therefore, adding to the estimates for the rail road, an average price for the laying of three tracks of rail way on the graduated surface so to be prepared, we arrive at results which will give the comparative probable expense of both the canal and rail road.

The canal was assumed to be of such dimensions that with a depth of water of 6 feet its cross section should contain an area of 305 square feet. The breadth of the graduation for the rail road was to be 30 feet.