

[HAWLINGS RIVER RESERVOIR.]—The dam required here must preserve a maximum depth of 45 feet, estimating from the point of entrance of the feeder. The length of dam would be about 650 feet. The above mentioned depth of water creates a pond of 6500 feet in length. The descent on the stream is great here and the valley deep and narrow, and exceedingly pertinent. The extent of country drained into this reservoir amounts to 10 180 square miles. [PATUXENT FEEDER.]—Returning to the point marked F. on Holland's farm, where the feeder from the Patuxent River enters, we proceed to trace that feeder to its source.

Our first route surveyed for this feeder contemplated diverging from the feeder already described immediately after the crossing of Hawling's River below; the route thence was surveyed down the Hawlings River, under the impression, that a crossing of the Unity Ridge (dividing this river from the Patuxent) might be effected somewhere by an open cut, without following that ridge to its termination at the mouth of Hawlings River. Such a crossing however could not be obtained. The surveys compelled us to follow this long ridge to its point, and return up the Patuxent Valley. This survey was abandoned after proceeding four miles, and the ridge more particularly examined with a view to crossing higher up. The narrowest and most advantageous point for this purpose was found at the depression above Holland's where the feeder line was finally traced. Such a crossing however requires a tunnel of 2200 feet in length; but the tunnel required for a feeder is not formidable when compared with that for a canal. If to this portion of the feeder a greater fall be given than obtains generally on an open feeder, a tunnel of 6 x 6 would probably answer every purpose. Under any circumstances the route finally adopted is probably the most economical, since the other very circuitous route would increase the distance upwards of five miles. From the point F. then on Holland's farm, the feeder follows the small Spring Branch which flows there. The excavation preceding the tunnelling required here commences at a point 1000 feet from the junction F. The excavation on the west side of the ridge extends to 1700 feet, where the depth has reached 50 feet and the tunnelling commences. The tunnel required to pass this ridge extends to 2200 feet in length, the corresponding excavation on the east side is 1100 feet in length. This brings the feeder into Mr. Gattrell's farm on the Patuxent Valley. The Unity Ridge being thus crossed, the feeder route continues up the West slope of the Patuxent River. The deep but very narrow ravine of Rigg's Run is crossed at a height of 32 feet above its bed. Beyond Rigg's Branch the slopes are frequently steep and rocky especially in the neighborhood of the Triadelphia Factory, there are, however no branches or vallies requiring expensive masonry. This feeder terminates at about a quarter of a mile above the junction of the Cat-tail Branch, or half a mile above the Triadelphia Factory. At this place the valley of the Patuxent is narrow affording in this re-