

**WEST FORK ENO RIVER RESERVOIR
DAM SAFETY PERMIT - MINIMUM RELEASE REQUIREMENT**

The continuous, instantaneous minimum release requirement is the **greater** of the flows determined by methods “A” and “B” described below.

A. A minimum flow measured immediately downstream of the release mechanism at the dam will be determined using a tiered release schedule (*15A NCAC 2K.0502(c)(6)*). During Phase one of the project, the trigger points for the three tiers will be the lake elevations shown in the table below. The mandatory water use reductions will be calculated according to the provisions of *15A NCAC 2K.0502(c)(6)(D&E)*.

TIER	% AVAILABLE WATER SUPPLY STORAGE	LAKE ELEVATION PHASE 1 (M.S.L.)	MANDATORY WATER USE REDUCTION
1	60% or more	633' to 628'	0%
2	between 60% & 40%	628' to 624'	10%
3	less than 40%	624' to 592'	another 10% (total 20%)

Once the proper tier has been determined, the minimum release under method “A” is stipulated according to the table below.

MONTH	TIER 1 (cfs)	TIER 2 (cfs)	TIER 3 (cfs)
January	3.5	1.9	0.1
February	3.5	1.9	0.1
March	3.5	1.9	0.1
April	4.0	2.2	0.2
May	3.0	1.6	0.2
June	1.8	1.0	0.2
July	1.4	1.0	0.2
August	1.0	0.6	0.2
September	1.0	0.6	0.2
October	1.0	0.6	0.2
November	1.6	1.0	0.2
December	2.6	1.3	0.1

Whenever Phase two of the project is completed, the lake elevation trigger points in the first table above will be changed to: tier 1 = 643' to 637'; tier 2 = 637' to 632'; and tier 3 = 632' to 592'.

B.

1. An amount will be released from the dam to provide minimum flow augmentation of 1.0 cfs as measured at USGS gaging station 02085000 in Hillsborough.
2. To accomplish this, any water being released from the reservoir to be withdrawn at the Lake Ben Johnson intake must be released **in addition to** the amount released to achieve the 1.0 cfs augmentation at the Hillsborough gage.
3. To account for channel losses the total release determined in steps 1 and 2 above must be multiplied by a channel loss factor as shown in the table below.

Discharge at USGS gage 02085000 in Hillsborough	Estimated Channel Losses	Required Release at West Fork Eno Reservoir dam
more than 12 cfs	none	1.0 cfs + water supply demand
between 4 and 12 cfs	10%	1.1 x (1.0 cfs + water supply demand)
less than 4 cfs	20%	1.2 x (1.0 cfs + water supply demand)

Monitoring:

The Town will be required to monitor minimum flows released by the dam. At a minimum, a staff gage calibrated for the range of minimum releases should be installed at a suitable gaging location in the immediate vicinity of the dam. Plans for monitoring the release should be submitted to the Division of Water Resources (DWR) for review and approval prior to filling of the reservoir. Calibration of the gage should be checked at least every two years with results provided to both DWR and the Division of Land Resources, Land Quality Section. (See 15A NCAC 2K.0504).