

Martins Ferry Road Intersection Project

The Town needs to reconstruct the intersection of Martins Ferry Road and North River Road including roadway realignment and construction of a new bridge. The purpose of the project will address speed concerns and will eliminate the risk of flooding and erosion and redirect the stream to its natural course. It will also eliminate significant maintenance concerns regarding the existing guardrails and drainage culvert.

Currently, the guardrails on both sides of the bridge are in disrepair. The guardrail on the southeast corner must be replaced with a bridge rail because replacing the guardrail will not meet code requirements. Installing a bridge rail will include removing all of the pavement over the entire culvert, dismantling and replacing a portion of the concrete slab on top of the culvert, re-forming the concrete slab to accept the bridge rail, then installing the new slab, with a new membrane over the entire culvert structure and replacing the pavement. In addition to the above, any other areas where the culvert has deteriorated will have to be repaired or replaced.

If the warrant article is not passed and the work isn't done, the Town will remain at risk of erosion along the steep embankment of Messer Brook. The stream edge is extremely close to the near vertical slope against Martins Ferry Road. Restoring the channel to its original flow pattern will completely eliminate this potential issue and any future slope maintenance. Two years ago the Town spent \$133,970 on erosion repair along Martins Ferry Road. Because the slope between Martins Ferry Road and Messer Brook is so steep, the likelihood of additional erosion remains.

The brook as it exists presents a flooding hazard. The 90 degree angles that the brook takes could result in debris getting hung up and causing backups. In addition, there is an existing sewer main that runs through the culvert at an elevation close to the water line creating additional risk of flow restrictions.

The intersection as it currently exists is very flat over the culvert. The minimal cover over the culvert makes it impossible to properly grade the road to direct runoff away from the road. The proposed project will include the proper slopes and drainage infrastructure to handle runoff.

The existing culvert has been posted no trucks due to its low structural rating. A new bridge will be safe for all vehicles to pass over it (although posting the roadway "No Thru Trucks" is still an option if the Town Council chooses to do this). The design will be completed based on a design speed of 30 miles per hour with a fairly sharp curve to slow traffic down.

If constructed, the bridge will be inspected by the State of New Hampshire Department of Transportation Bridge Inspection Division every two years (at no cost to the Town). In addition, the bridge will qualify for State/Federal Funding for future maintenance.

Putting Messer Brook on its natural course has garnered the enthusiastic support of several natural resource agencies, such as the New Hampshire Wetlands Bureau, the New Hampshire Natural Heritage Bureau, the New Hampshire Fish and Game Division and the U.S. Army Corps of Engineers. The proposed project calls for a Timber Bridge that will beautify and enhance the area. If the warrant article is not passed and the work isn't done the Town will spend significant funds replacing these guardrails.

Financial Impact:

The estimated cost of the project is **\$1,500,000** and will be funded as follows:

2022 SB401 Bridge Aid:	\$205,508
2023 SB270 Bridge Aid:	\$58,354
2023 Block Grant:	\$85,415
Impact Fees:	\$385,000
ARPA Funding:	\$15,723
Bond:	\$750,000
Total:	\$1,500,000

Bonding options are based on the July 2023 bond sale from the NH Municipal Bond Bank and are conservative for budgeting purposes.

		Total	Average	Tax
	Interest	Interest	Annual	rate
Options	rate	on Bond	Payment	Impact
5-Year	4.50%	89,375.00	147,875.00	7 cents
10-Year	4.75%	170,625.00	82,062.00	3 cents

Contact **Bruce A. Thomas, P.E., Town Engineer** at (603) 264-8508 or bthomas@hooksett.org for additional information.