

5.2 Infrastructure Recommendations

As previously mentioned in this Plan, managing the interface between roads and other infrastructure with streams often sets the stage for the stability of an entire stream network. Undersized bridges and culverts and road encroachments can provide the point at which a stream begins to unravel, leading to negative consequences upstream and downstream that often extend well beyond the rights-of-way associated with the infrastructure (i.e. into private property). On the other hand, properly-sized bridges and culverts and well-managed stream-road intersections can house a stream and road network that co-exists without adversely impacting each other. The relationship is a little bit like closely-aged siblings – don’t bother me and I won’t bother you... for the most part. Regardless of how well the two may behave together, the stream will occasionally get out of hand during flood flows. In this case, we generally stay out of the way while nature has its temper tantrum and pick up the pieces when stream levels calm.

Due to this critical relationship, the Program Team made a concerted effort to meet separately with each of the four primary infrastructure managers (Neversink Highway Department, Denning Highway Department, Ulster County Department of Public Works and Sullivan County Department of Public Works) in autumn 2009. The Team and its hosts visited various “hot spots” to understand points of concern for these departments. After discussion of the trend toward increasing chlorides in the Rondout, Highway Superintendants expressed some interest in exploring alternate sources and cost-share funding to increase the quality of winter road abrasive materials. Below is a summary of specific sites visited during the field meetings. An added benefit to these meetings was the wealth of knowledge the staff conveyed about the Rondout Creek and its tributaries through their first-hand management of this resource during all types of weather.

Table 1 List of infrastructure points of concern associated with the Rondout Creek and select tributaries

Location	Description of Concern	Proposed Solutions	Photo
<i>Sullivan County Department of Public Works¹</i>			
1. Culvert under Rt. 42	Stream bank erosion. Very little bank protection under culvert.	Upsize culvert. Stabilize bank.	
2. Wall upstream of USGS gage near Lowes Corners	Constantly adding more rock to it.	Rock vane to deflect flow away from bank; Sheetpile (estimated expense = \$400K)	
3. Triple culvert just before Glade Hill Rd.	Culverts get blocked. Lots of scour on wing walls. Stream washes over road.	Box culvert	

¹ See map locating points of concern provided by Sullivan County DPW.

4. Quadruple culvert	Culverts clog. Stream alignment veering towards right wing wall on upstream side.	Box culvert; Small rock cross vane or W cross vane	
<i>Ulster County Department of Public Works</i>			
1. Highway Garage along Sundown Creek	Stream bank erosion threatening property loss	Stormwater retrofit; Bioengineering of Stream bank	
2. Landslide on Greenville Rd.	Large hillslope failure across road from Sundown Creek; Crews had to remove sediment from road 3 times during summer 2009		
3. Just upstream of empty trailer pad	[culvert?] receives water from stream and from hillside	Rock vanes?	
4. Horseshoe by #351 Greenville Rd.	Failing hillslope; Headcut; Clay exposure		
5. Dug Way (Pigeon Brook)	In 2001 road was under 3 ft. of water. A future problem that's just on the radar for now.		
6. Cross Rd.	Local dump; Inadequate road drainage	Add another piped outfall.	
7. Right bank just downstream of Raymond	Stream bank erosion threatening road.	Turning vane to steer stream away from road; Concrete pin	

George Rd.			
<i>Town of Neversink Highway Department²</i>			
1. Low Road ³	Culvert Pipe #20 is too small; Stream jumps its bank during high flow and flows down road almost every rainfall; Pipe has been repaired several times.	Replace with larger ellipse pipe.	
2. Sugarloaf Road	Bank is sliding and will eventually take part or all of the highway downstream	Rip rap stone or Sheetpiling	
3. Viscomi Road	Bank is sliding and will eventually take part of all of the highway downstream	Rip rap stone or Sheetpiling	
4. Fairgrounds Bridge ⁴	Scouring of footings. West bank next to abutment is eroding.	Rock cross vanes to keep stream to center of channel; Pull boulder back that seems to be causing back eddy eroding bank; Retaining wall on west bank.	
<i>Town of Denning Highway Department</i>			
1. Bridge by Ulster Cty Highway Garage			
2. Trib along Raymond George Rd.	Road washed out in 2002 & 2005; Culvert clogs with rock; Major sediment source	Concrete box culvert (~\$50K) with bottom to hold grade; Cut ditch to direct water off hillslope; Grade control in trib; Raise base elevation	
3. Embankment just downstream of Peekamoose Lake	Stream bank erosion threatening Rt. 42		

² See map locating points of concern provided by Neversink Highway Department.

³ This site is outside the scope of the Rondout Creek Management Plan, but is included when the program expands to address the whole watershed flowing into the Rondout Reservoir Basin.

⁴ See above.

<p>4. Downstream, ½ mile past wood lot</p>	<p>Stream bank erosion threatening Rt. 42</p>		
<p>5. Halfway between campground & Pack property</p>	<p>Stream bank erosion threatening Rt. 42; Gabion baskets</p>		
<p>6. Davy property</p>	<p>Headcut working its way up last barb</p>		

DRAFT

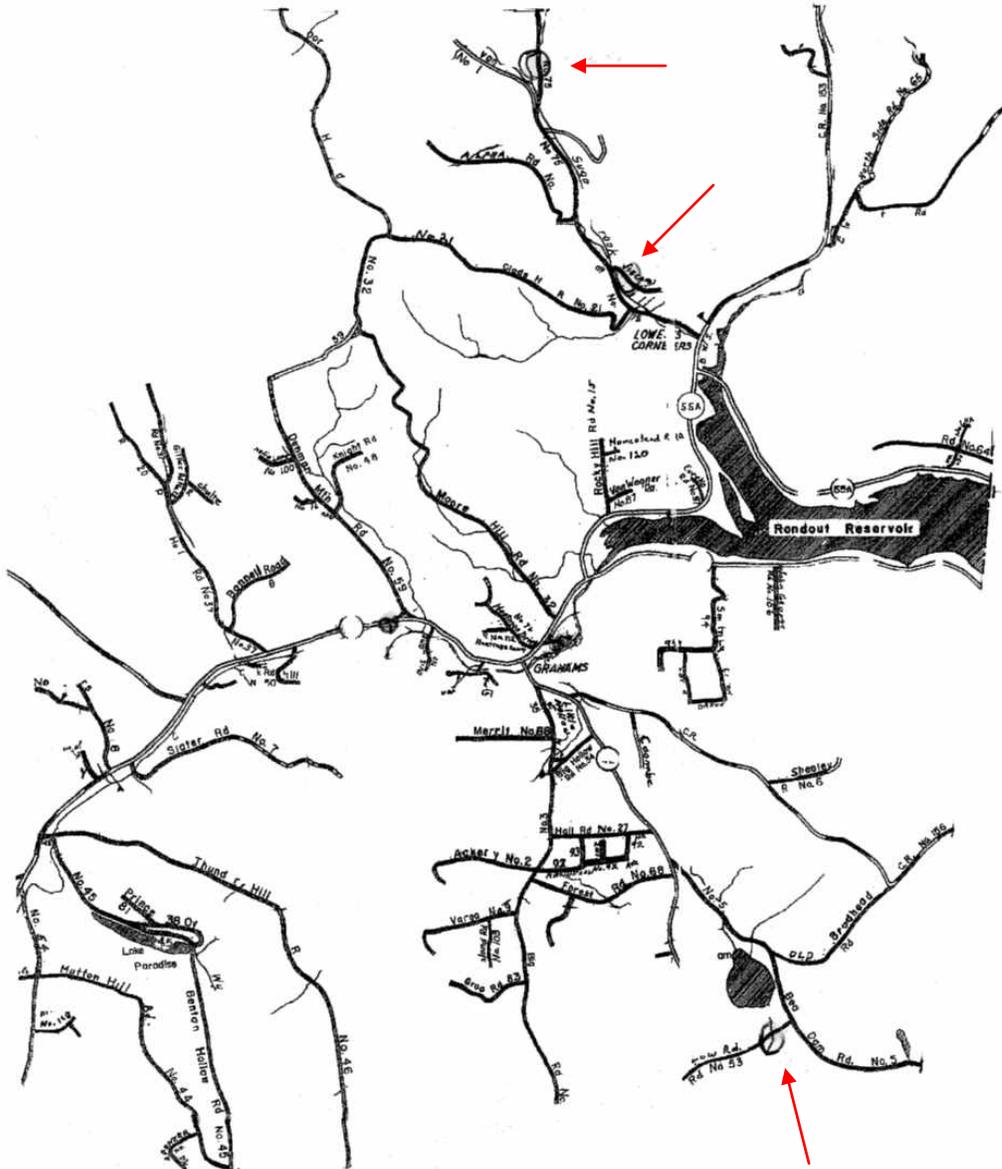


Figure 1 Map indicating points of concern for the Town of Neversink Highway Department