

# Comparison of the Five Alternatives

When the County began considering options for Index-Galena Road repair, the team identified 15 possibilities for the early Feasibility Study which was completed in March 2009. Preliminary review of the 15 narrowed the field of options to 5.

An analysis and comparison of the 5 options followed and was completed in March 2011. Details of the findings are published in the 2011 Design Report which is available here tonight and on the project Web site ([www.snoco.org](http://www.snoco.org), search Index-Galena). The chart below is a summary of the criteria used during the analysis.

“Alignment 3” below is the alignment that has been selected to move forward to full design and construction.

	1. No build	2. Existing Alignment	These two are the same except for the percentage of walls along the alignment.	4. Lower Alignment with more walls than Alignment #3.	5. Upper Alignment
			<b>SELECTED</b> <b>3. Lower Alignment</b>		
<b>River channel migration zone</b>	Removes roadway from the channel migration zone	Remains within river migration zone – greatest long-term impact to river	Slightly above river migration zone in some places– limits impact to river migration zone	Slightly Above river migration zone in some places–limits impact to river migration zone	Above river migration zone – no impact to river migration zone
<b>Riparian zone &amp; wetland impact</b>	Natural re-vegetation of riverbank will occur after removal of asphalt	Puts roadway back into river adversely affecting in-stream fish habitat	Natural re-vegetation of riverbank will occur after removal of asphalt	Natural re-vegetation of riverbank will occur after removal of asphalt	Natural re-vegetation of riverbank will occur after removal of asphalt
<b>In-water work</b>					
<b>Right-of-way</b>	No new right-of-way needed	No new right-of-way needed	New right-of-way needed	New right-of-way needed	Would require the most new right-of-way area for roadway
<b>Vegetation clearing</b>	Limited	Limited	Substantial clearing	Substantial clearing	Largest footprint = largest area of clearing
<b>Wildlife habitat impact</b>	Least impact	Impacts to in-stream fish habitat are extensive but would minimize other impacts	Impacts wildlife habitat with clearing	Impacts wildlife habitat with clearing	Greatest impact to wildlife habitat due to extensive clearing, excavation and grading
<b>Excavation into hillside</b>	None	None	Excavation occurs at base of slope	Excavation occurs at base of slope	Extensive and deep excavation into steep slopes
<b>Structures to build</b>	None	Significant armoring of roadway needed – would require import of many large rocks	10% walls to minimize footprint and excavation into hillside	30 %walls to further minimize footprint and excavation into hillside?	Culverts and expensive bridges to span numerous hillside streams – extensive walls likely needed
<b>Permitting process</b>	Likely simplest to get permitted	Difficult due to location in river migration zone and affects to in-stream habitat	Lengthy review time but would develop mitigation measures	Lengthy review time but would develop mitigation measures	Difficult/long process due to extensive excavation and impact to wildlife habitat
<b>Construction / Maintenance</b>	Less roadway would = least maintenance	High construction and maintenance and greatest possibility of future washout by river	Medium costs and designed to be out of river, relatively easy to maintain	Higher costs and designed to be out of river, relatively easy to maintain	Highest cost and would potentially require more maintenance due to falling rock hazards
<b>Approximate Length of construction</b>	1 construction season	2 seasons	2 seasons Planned to begin in 2013. Revised from 2015 start	2 seasons	2-3 construction seasons
<i>snow shortens field work and construction seasons</i>			Refining design and completing permitting process		
<b>Estimated Construction Cost</b>	\$495,900  (remove asphalt from river & build turn arounds at washout)	\$26,404,000	\$15,659,800	\$21,571,600	\$34,932,500