

Questions / Comments on the preliminary engineering document produced by Miro

These questions are from Donald Samuels

- 1) Comment on page 2. At the booster pumps on Emerald Road there is an additional 40,000 gallons of storage
- 2) Comment on page 2. Irrigation water keeps the domestic wells charged
- 3) Comment on page 2, 7 phases left on the water project, lasting anywhere from 9 to 12 years depending on inflation assumptions – see attached pdf
- 4) Question Page 3 – Numbers in the table for improvements need to be explained, these are obviously not the dollars put into the replacements
- 5) Comments on page 3 – significant disagreement in the estimates from Miro vs my own analysis (same attached pdf) need to have Miro numbers explained in depth
- 6) Comment on page 4 – The amount of new RAP that is put down each season is not given, just the grading and dust control
- 7) Comment on page 4. Where you say Ruby Road you really mean Ruby Ranch Road (CR 1304), and where you say South Ruby Road you mean Ruby Road (also CR1304). This is an unfortunate legacy of the developer who at one point wanted North Ruby road to be Emerald plus Pearl. This document should strive to be precise on these points.
- 8) Question/Comment Page 5: Dust health issues. Please cite peer reviewed studies or delete. I have dust at my house but I am at the end of Emerald and the dust does not even come from the roads but from the wild fires as far away as California.
- 9) Comment Page 5: High annual maintenance costs for our current roads. I can show higher costs on a neighboring development where their paved roads are approaching end of life
- 10) Comment Page 5: along the same lines as the previous comment, the low maintenance costs for paved roads. Perhaps at the beginning but not at end of life. Your firm should be able to put together a table or a graph showing the escalating costs of a paved road (per mile) as it ages up here in the mountains
- 11) Questions/Comments Page 6: Only posted speed is 20mph, no 15 or 10 signs exist. When you say lane width of 10 feet or 9 feet, is that still a 2 lane road so width would be 20 feet or 18 feet when you get to the paving costs?
- 12) Question Page 6: The current Collector and Local roads are 24 feet wide and are designated as County Roads. My understanding is the minimum width of a County Road is 24 feet. If the roads are shrunk in width, and the County Road designation is lost, what are all of the implications, legal, insurance, fire, emergency and otherwise? Your answer here has to be bullet proof, please research
- 13) Question page 7: “Add funds to convert from RAP to Gravel” – why, isn’t RAP a superior product? I have found it to be and I have been here long enough to remember what Road Base (i.e. Gravel) was like. Please explain
- 14) Question page 7: The paving paragraphs for local and collector roads. What are the thicknesses and widths of local and collector roads in these numbers. Hamilton Creek, a development across the valley has paved roads at end of life, and at their annual meeting their board stated that repaving will be \$1,250,000 per mile (actually they gave the total cost and I converted to mile). This number for two roads that are currently paved are much much higher than what appears to be your costs of \$503,684 and \$369,969 per mile. Admittedly I do not have the width and

thickness of their roads but I can try and get them. Hamilton Creek's roads are also County Roads so I suspect their minimum width is 24 feet. Their maintenance costs now are higher per mile than Ruby Ranch based on published data by their metro district. You can drive to these coordinates in Google Earth to look at the condition of their roads: 39 39 45.18N 106 0406.19W

- 15) Question page 7, where did the estimate for the Rocky Mountain Chip and Seal come from, did one of our board members request this (I never saw it).
- 16) Question page 7, once you answer my questions number 11 and 12 on road width, is it a simple matter to scale up to get true 24 foot width costs from your estimates?
- 17) Statement page 8, you do not include costs of financing.

The next set of comments switch from your page numbers to page numbers as accounted for by pdf viewers since your page numbers actually start at real page 3 (your title page and table of contents are not counted)

- 1) Pdf map page 14 – There are two phases you indicate not done that Eric Kircher has informed me as well as you are done. I have another pdf going over water cost numbers and the phases I highlighted in red are done. Also you missed the 40K storage tank at the booster pump on Emerald
- 2) Pdf page 15 – Lot 6 is on a well. Lot 53/54 are on TOS water, not WBMD water
- 3) Pdf map page 17: please explain why Agate, Garnet, Diamond, Pearl Ln and upper Jade are classified as driveways. They are County Roads. The shared driveways, serving 1) lots 2,3,4 2) lots 22,23,24; 3) lots 25,26; and 4) lots 19,20,27/28 are not county roads. I realize you are doing this by either driveways or traffic but I am not sure this is correct
- 4) Pdf table page 18 – End of roads or shared driveways always have sufficient room for Eric to turn his plows around, not sure the way you classify presence or absence of cul-de-sacs leads to unnecessary confusion
- 5) Pdf table page 19 – this should be removed unless you want to state it is your firms opinion and not the opinion of the residents of the ranch
- 6) Traffic Data Collection Page 22? Section 1.0. What is important to see is not the 50th or 85th percentiles but what percentile is 20mph and what were the maximum speeds. It may be good to put in other rudimentary statistics as well such as mean and median and actual numbers, not projected as in page 2 of the study
- 7) Knowing the ranch as well as I do, locations 1 and 2 should have been essentially identical in counts. The first two sets of bar graphs do not reflect this however. Do we have a problem with putting these hoses on dirt roads vs paved roads? Also in graph number 2, the title does not spell Emerald correctly.
- 8) Daily trip projected volume seems really high. I am a full time resident and I know I don't make 5 trips a day, much less 10.
- 9) Geotechnical report. No samples were taken (to my knowledge) on the various areas where we have slippage (or sloughs if you prefer) are on Emerald and on Garnet, or at the spring which is at the intersection of Pearl Ln with Pearl Road, nor the one in the s-curves on Emerald (TH14 is close but we never have had road heaves there). It seems to me those areas will be the biggest engineering issues. I can also state as my job as President of the WBMD, for each phase of the water project, I have been at the trenches watching the soil come out and that even in the course of 50 feet there is significant variation in the soils.

- 10) The Geotechnical report does give thicknesses for asphalt, 5" collector vs 4" local. Are these the numbers used in generating the cost estimates earlier in the report, if not what thicknesses were used?
- 11) What will the max vehicle weight be per thickness? Will we need to post signs limiting weight?