



316 North Park Avenue, Helena, Montana 59623

ZONING ADVISORY PANEL

DRAFT Meeting Minutes

Meeting Date and Time: March 24, 2021 9:30 a.m. to 12:16 a.m.

Location: Meeting Held Electronically Via Zoom

Board Members Present:

Mark Runkle
Pat Keim
Jacob Kuntz
Tyler Emmert
David Brown
Lois Steinbeck - *joined at 9:43am*
Joyce Evans
Archie Harper
Dustin Ramoie
Kim Smith - *joined at 9:43am*

Board Members Absent:

One Vacant Position

County Staff Present:

Peter Italiano, Director
Greg McNally, Planner III

Moderators Present:

Dr. Eric Austin
Lucia Stewart

Water Quality Protection District Present:

Jennifer McBroom - Supervisor
Peter Schade - Water Quality Specialist
James Swierc - Hydrogeologist
Valerie Stacy - Environmental Technology
Mayor James Schell - Chair for Board

Members of the Public Present (as noted by the Zoom screen name or phone number listed):

Peter Schade, 406-459-9390, Andrew Thomas, Chris Stockwell, Darcy HBIA, David Knoepke, HCTV, James Schell, James Swierc, Jennifer McBroom, Kim D'Arcy

1. Call to Order

Chair Jacob Kuntz brought the session to order at 9:32 a.m.

2. Roll Call

A quorum was established with 8 members present.

3. Zoom Meeting Protocols

Greg McNally provided an opening statement regarding the ZOOM Meeting Protocols, the process of the meeting, COVID approved safety protocols, and Zoom participation instruction.

4. Approval of February 24, 2021 Meeting Minutes

Pat Keim: Motion to approve minutes

Mark Runkle: 2nd the motion

Motion passed unanimously: 8-0.

5. Business Items

Tyler Emmert requested a map of non-conforming parcels.

Moderator Eric Austin noted the requests for: a map of non-confirming parcels; hydrology questions regarding water access; timeline, content, and costs for postcards to the public; and a case study for 46 North development.

There is an ongoing opportunity for additional questions, and to please email Peter Italiano, Greg McNally, and Eric Austin. Work plan and timeline document has updated the requests and comments from March 10. The updates will be tracked, as well as the process. Specificity is added of the outreach to the community to two stages making it proactive and clearer.

Chair Jacob Kuntz requested a presentation from East Helena and its growth plan.

Greg McNally stated he spoke with East Helena's Mayor to join us in the next meeting.

James Schell stated that he is checking with the East Helena city planner in regards to joining the next meeting, April 14, 2021.

Jennifer McBroom introduced the water quality protection district and its staff.

Presentation

Pete Schade provided a presentation of the hydrology of the Helena Valley and how the data is obtained. This presentation is available by watching the [HCTV meeting](#) recording. He discussed how water moves through the valley in the alluvial and tertiary aquifers, and the irrigation networks. He also discussed various well locations, depths, and the refilling of these wells.

James Swierc discussed the North Hills water depletion and displayed a hydrograph of the draw downs of the valley's various wells that have been monitored.

These presentations are available by watching the [HCTV meeting](#) recording.

Board Discussion

David Brown inquired what value of this modeling and studies have to the planning process of subdivision approval? He asked what the ZAP needs to do to assure these models are used and considered when zoning recommendations are developed.

Peter Schade responded that for each of these studies, a very specific question was asked and data was designed and collected to answer that question. He added that when a development is being assessed, modeling was taken with the existing density of houses using domestic consumption, including the geology, what is known about the water recharge, and what is known about the hydroelectric properties of the rocks. Is that acceptable? There may be criteria established that states a one-foot drawdown is acceptable, but of course that's based on the depth of the wells. There's something in between one foot and 40 feet that might be acceptable. He added that to get to that answer means asking the right questions and setting up the model the right way to answer if that level of drawdown is acceptable in this environment in terms of the number of houses, what is expected in the future, and how deep people's wells are. It takes years of site-specific data collection to create models.

James Swierc responded that models are a representation of the natural system, but geology always has uncertainties. He added that hopefully the modelers are creating a representation of what the actual model is and continue to refine the models as more is known. As for how it relates to the subdivision process, that is more regulatory framework and planning.

Secretary Lois Steinbeck stated she recently went through a subdivision review that used well data that revealed the variability. She asked how can models be developed that get data quick enough to utilize it in the subdivision process? Is density control of 10 acres per unit the only answer or is there something more refined that can be utilized than well data in the subdivision review process which is a 60-day process. How can models be made useful prospectively when governed by short term timeframes that don't provide three to four years?

Peter Schade responded that it goes back to the question earlier of making predictions based on physical properties. Typically, an assessment is made by looking at well logs in the past, but there is no easy answer to predicting into the future on short time frames since that's a

planning question regarding statutory requirements of time constraints and potentially assessing a hybrid process to evaluate these things.

Greg McNally reminded the ZAP of earlier presentations of zoning and subdivision, which are two different land use controls. The Lewis & Clark County Growth Policy states that subdivision review on its own is ineffective on the comprehensive issues that are arising out of this type of long-term data. Lewis & Clark County Planning Department is limited on water and wastewater review mechanisms as it relates to subdivisions due to the state law. He it is important to recognize the distinction between zoning and subdivision. In zoning, there is the local latitude as to how zoning occurs given the local knowledge. The Lewis & Clark County growth policy recognizes these issues, particular in the rural residential area, where those impacts can be lowered by zoning. It doesn't fix the issues but it's a tool that can be used to lower those impacts where subdivision review is ineffective in that goal.

Tyler Emmert asked if it's safe to assume based on the hydrological presentation that the alluvial aquifer is a decent source of water but the tertiary aquifer is a questionable source of water. Is this a correct assumption?

James Swierc responded that yes, that is a good generalization, but the Helena Valley irrigation system does provide some recharge.

Tyler Emmert stated that a decent map of the boundary of the alluvial aquifer exists but doesn't address the conclusion that the real long-term solution is public water. He asked if this is correct and if there's a reason to shy away from the statement that outside of the alluvial aquifer that city water should be required?

James Swierc responded that the Upper Missouri Basin is a closed basin for new water rights from the Department of Natural Resource Conservation (DNRC). Therefore, no new public water supply can be developed without water rights, which is why development is occurring without public water supply in these areas.

Peter Italiano responded that there is not adequate scientific data to confirm that water is in such short supply that public water sources are always necessary. The availability and the quality of water ebbs and flows based on the time of year when data is collected. There is no understanding of the demand side of the equation. Without zoning, there is no way to know what the demand is of one-acre density or 10-acre density or 50-acre density. The alluvial aquifer may or may not be adequate. Using the phrase 'public water supply' can mean a lot of things and cautioned the use of this phrase.

Pat Keim stated that he's not sure what impact ZAP has on this information presented today or vice versa. He suggested adding the focus areas to the top of each meeting's agenda to help keep the ZAP focused on discussing the areas that need to be focused on.

Moderator Eric Austin agreed that adding this change to the agenda is a good one.

Mark Runkle asked that if a well is put in the wrong place, is the solution costly and uncertain such as putting a well 800 feet into bedrock? He asked if a \$10,000 to \$25,000 solution would solve the problem?

James Swierc responded that there is uncertainty, but monitoring and time will tell. Uncertainty in water availability reflects the need to continue to monitor the situation in what seems like a sustainable water source.

Secretary Lois Steinbeck stated in order to consider alternatives to 10-acre density, the ZAP needs to find another way to evaluate water, if a subdivision cannot be denied based on water unless there is additional data or a plan to implement the growth policy. She added that water availability is also related directly to the 10 -acre density charge for ZAP since wells cannot continue to sustain the demand and the long-term impacts of additional wells or drilling deeper. There needs to be a better solution to address water.

Chair Jacob Kuntz left the meeting 11:35am

John Rausch stated a recent experience in east Billings where no wells are allowed, and there is a requirement that new residential construction truck water in. He questioned if the County or ZAP thinks this is a possibility to require people to buy water and put in cisterns? He also asked if placing restrictions on water usage is a possibility, such as requiring xeriscaping?

Peter Schade responded that water efficiency, conservation measures, and how they could or couldn't be applied at a variety of levels is an ongoing conversation in the department. He stated that approximately 95 percent of water usage in Montana is because of irrigation. If there were no lawns, there wouldn't be no water quantity issues. There are a variety of tools that are available to planners or subdivision developers that look at efficiency measures.

Archie Harper stated three categories that need to be framed in ZAP risk assessment. The first is the alluvial aquifer, which is a reliable source of water. The second is that the alluvial aquifer is a shallow aquifer and what does that mean for more septic systems and the risk to water

quality. The third is the tertiary zone where there is a higher risk to reliability of the water source. He asked what are the trends that can accommodate water in determining development density? Which ones can support how much development?

Secretary Lois Steinbeck agrees with Archie Harper in how to frame this, understand it, and how to evaluate this. She also suggested the importance of having working groups.

David Brown asked the question what is pertinent from today's presentation to the ZAP work plan?

Moderator Eric Austin suggested aggregating today's information in a digestible and working format that includes a two page summary of Peter Schade's presentation.

Tyler Emmert stated that today's presentation confirmed that the alluvial aquifer is different from the tertiary aquifer, but the under the current zoning, groups these all together. James Swierc mentioned zero restrictions on irrigation, but these restrictions could be theoretically plausible in zoning regulations. The ZAP also needs to consider the built environment that already exists.

Valerie Stacy stated that the water quality district is working on aggregating information that is accessible, and that their relationship can continue with ZAP and the general public.

Kim Smith stated the importance of having the ability to state that this information is science-based, since the public may not believe it. He added that the Helena Valley does have richest aquifers in the world, but there is no solution for central sewer and that is what is needed to protect the aquifers from septic systems. He also stated that there will be future mistakes, but there is a good understanding of the water supply from the water experts, and that zoning can provide solutions.

Archie Harper asked the question what is the most reliable source and least reliable source of water in the hydrologic areas discussed today?

James Swierc responded that clay-rich geologic formation provide less yields. The Helena Valley aquifer has good yield and permeability to sustain additional development. He added that the bedrock area is unknown, and that areas near streams, such as by 10-mile creek, are likely to have more water, but that reflects the recharge from precipitation patterns that are also variable.

Archie Harper asked the question how does this data relate to density of minimums per lot size matter? He asked if there other factors beside the water in certain areas, such as in these tertiary benches?

Peter Schade responded that it depends on the variability based on fracture systems.

David Brown stated that the alluvial aquifer area is unlimited. As the agriculture lands disappear and are eliminated, the water levels can change with a change to the recharge of the alluvial areas.

7. Public Comment (*transcribed verbatim*)

Vice Chair Dustin Ramoie called for public comment.

Andrew Thomas stated one general comment that ties into all the things that were addressed in today's meeting. In any type of scientific methodology, there is a degree of certainty and there is a degree of variability. The key to understanding any of these issues is not ignoring either, but reconciling them and acknowledging the amount of variance in any projection versus the amount of certainty. So it is disingenuous to say that any model is perfectly predictive, or any model is perfectly uncertain, is a very critical feature of this discussion and a variety of others. And that does create some confusion, especially if you are not trained in a specific field. However, the key issue is getting a model that you can rely on and knowing how much you can rely on it and then weighing that model against other models, as well as the cost and complexity of the model. One famous quote by Harry Truman, he said "I want a one-handed economist," and the reason why I said that was he kept being approached by experts who said well on one hand, you have this uncertainty and on the other, you have a certain certainty.

Andrew Thomas continued comments by stating some of these have already been mentioned, but I will reiterate them. These applied both to issues of individual permits to build but also subdivisions, because obviously subdivisions and individual wells create data points. Data points can lead to useful information. The first generality is how accurately and predictively can you model draw downs, recharge, and at what density can a certain area support? I will defer to the hydrologists' insurance of answering that question. The next question, as a follow up is if the historical data that is present cannot be used to predictively model impacts, because there is a degree of certainty, how well does real time testing and analysis of either proposed subdivisions houses or wells tell us what long term impact they might have looking at a lot of the longitudinal data on wells? There does seem to be some validity to the notion that if you

draw a test or drill a test well and monitor it, you can map it, whether or not that will integrate to the environment.

Andrew Thomas continued comments with his next issue with that, from a practical perspective is what cost is involved in such analysis and how predictive is that analysis? I think you can either be too permissive and that will create issues with drawing down neighbors' wells, or you can be overly restrictive. So an example of an overly restrictive requirement is one that was promulgated by the Department of Ecology in Washington State. It gave rise to the occasion and what, that's up on your own time. The next question, it was already raised and it's kind of dualistic, which is what role does mitigation and mitigation-related policies play in limiting drawdowns with using things like xeriscaping? But also, in the areas where you have a high water table, what role does limiting, for example, fertilizers for certain agriculture activities and other things that might pollute the water table to ensure the quality of the water table?

Andrew Thomas continued his comments with a question: when we look at things like Emerald Ridge and North Star, they were likely planted 25-30 years ago. It may be useful to review the regulations at that time and compare them to DEQ and subdivision regulations currently to see if the standards have changed. Obviously, both those subdivisions have given rise to problems. The regulatory environment in that period of time has likely changed also our understanding of the area, but also the general impacts of such development has likely evolved, as well.

Andrew Thomas continued his comments mostly focused on development in the lower valley area. What other variability, such as the different types of aquifers, but also development patterns and geographic constraints exist that might make water a non-issue? Some areas are not going to have an issue with massive amounts of development due to being relatively constrained for much development. The same thing with a Scratch Gravel Hills. That's a bedrock aqua. So for the likely development pattern, that's going to be a particularly dense subdivision area. The water availability is likely going to vary depending upon where the wells are drilled but that might lessen the potential risk cost by water availability, as compared to the tertiary areas down in the valley.

Andrew Thomas continued stating the next issue, and the final one and Tyler mentioned this and he does think it warrants investigation. In the areas that have manifested the most pressing issues with regard to availability, some of them like North Star are already there. And I'm sure that the residents would like to hear discussions of relief. But also it creates the potential for more development in that area. What potential is there to develop water infrastructure? There is obviously an issue with water rights and legal availability of water, but my understanding of it is that those rights can be purchased given the availability and its proximity to those

developments, i.e. the main aquifer. I think that that's a valid thing in some limited scope and in terms of considering the long term development patterns in the valley, would warrant explicit consideration. So those are just some points to consider and hopefully you'll take them to heart and further explore them. Thank you.

Vice Chair Dustin Ramoie called public comment items not on the agenda.

No public comment.

Public comment closed.

7. Announcements

Greg McNally stated that the ZAP panel does accept written public comment which will be posted on its website. There is a section of the Lewis & Clark County [ZAP website](#) to review all public comments, and information on how to make public comment. He will consolidate all public comments received on a biweekly basis, posted on the Friday prior the next meeting, and he will notify the ZAP panel. This process will set expectations of when to look for public comment, and when public comment needs to be submitted to be heard prior to the next meeting.

Vice Chair Dustin Ramoie recommended the need to enter all written public comments into public record at the next meeting.

Greg McNally stated he's working to confirm East Helena's presentation at the next meeting. He is also working on bringing in fire specialists. He is also working on bringing in the Public Works department to discuss roads.

Greg McNally provided an update on the ZAP Vacancy. The open position from the Valley Flood Committee is currently posted and advertised but he has not heard results at this time.

Archie Harper stated that since the current vacancy has to do with the flood position, he is willing to fill the role until the position is filled.

Secretary Lois Steinbeck wanted to acknowledge the Emerald Ridge and North Star problems that are currently in place that cannot be addressed. But she wanted to emphasize it's a reason to try and get the final ZAP recommendations right so these infrastructure costs don't go back to the public solutions and impact taxes.

Archie Harper: Motion to end the meeting

Joyce Evans: 2nd the motion

Motion was not voted on.

8. Next Scheduled Meeting

April 14, 2021 at 9:30 a.m.

Adjourned at 12:16 p.m.