



Submitted via electronic mail to: chris.scott@gallatin.mt.gov

Gallatin County Planning Board
Gallatin County Planning Dept.
311 West Main
Bozeman, MT 59715

Re: Comment in Opposition to Approval of Proposed Sandhill Major Subdivision Preliminary Plat Application

Dear Gallatin County Planning Board & Planning Staff:

Upper Missouri Waterkeeper submits this letter in opposition to the proposed Sandhill Major Subdivision Preliminary Plat (hereinafter the "Subdivision"). As outlined herein the evaluation of this subdivision is lacking material data and/or an adequate analysis in several critical water resource aspects. At the same time data provided to support the preliminary plat application by the applicant is deficient or misleading and unable to provide the County a sound evidentiary basis to approve the plat application. These unresolved issues individually and in the aggregate provide a clear basis for the County to deny the requested preliminary plat application as-proposed.

About Us

Upper Missouri Waterkeeper (hereinafter 'Waterkeeper') is a 501(c)3 not-for-profit membership-based advocacy organization that defends fishable, swimmable, drinkable water, promotes sound land use, and supports community health throughout the 25,000 sq. miles of southwest and west-central Montana's Upper Missouri River Basin. Gallatin County is centrally located within our geographic focus and we have a particular focus of identifying new development in this region that threaten disproportionate, negative impacts on local water resources.

Our staff collectively possess over 20 years of professional experience and scientific expertise in natural resources management, water rights, water quality protection, and government decisionmaking. Our members and supporters live, recreate, work, and enjoy the natural resources and unique outdoors heritage of this river basin, many of which reside within Gallatin County. Our comments here are written on the organization's and our members' behalf to inform Gallatin County decisionmaking on a proposal which has the potential to cause or contribute to potentially significantly negative effects on the local environment.

Subdivision Review Requirements

The Subdivision and Platting Act provides authority to Counties, and rules under MCA 76-3-501 require, among other things, that county decisions avoid subdivision "that would involve **unnecessary environmental degradation** and danger of injury to health, safety, or

welfare by reason of natural hazard, including but not limited to fire and wildland fire, or the **lack of water**, drainage, access, transportation..." (emphasis added).

The Subdivision Act requires that the applicant prepare a detailed environmental assessment as part of the application package. Among several items, this application must include "a summary of the probably impacts of the proposed subdivision based on the criteria described in 76-3-608."

Then, in reviewing a subdivision, the County must itself evaluate many of the specific elements and impacts arising out of a development proposal, including but not limited to the "specific, documentable, and clearly defined impact on agriculture, agricultural water user facilities, local services, the natural environment, wildlife, wildlife habitat, and public health and safety..."

Waterkeeper has identified several shortcomings in the application supporting the proposed Subdivision.

The Subdivision Unlawfully Relies on "Clustered" Exempt Well Withdrawals Exceeding the Maximum 10ac/ft/yr Allotment to Any Single Subdivision

The Subdivision applicant proposes to use a system of "clustered" exempt wells drawing water from an underground aquifer to supply irrigation and domestic use at 34 lots. The Subdivision does not own or intent to rely on any water rights, and the project is situated in the administratively closed Upper Missouri River Basin due to over-allocation of water. Therefore as both a legal and pragmatic matter, the County must take a hard look at proposed water supply means, availability, and potential impacts of water withdrawals at the Subdivision via the proposed clustering of exempt wells.

While DNRC has apparently expressed its approval of the project's intended use of exempt wells, that does not relieve Gallatin County from its independent obligation to evaluate impacts of the entire subdivision on the aquifer, the water table, and water availability.

As to water availability, the plain language of the Water Use Act text and DNRC rules lead to the inescapable conclusion that the developer proposes to use more groundwater than it has legal right. Furthermore, the applicant performed well tests to show alleged water availability for these withdrawals under the property, but did not adequately assess the potential impacts of those new withdrawals **off** the property.

The clustering of several exempt wells, whose aggregate withdrawals exceed 10 ac/ft/yr, violates the plain requirements of the Montana Water Use Act, DNRC's combined appropriations rule, and the Montana Supreme Court precedent in *Clark Fork Coalition v. DNRC*, 2016 MT 229. The EA's failure to adequately examine potential offsite impacts of new groundwater withdrawals also renders the EA inadequate.

Groundwater

The applicant's own geologic investigation identifies subsurface groundwater as being in an unconfined alluvial aquifer system approximately 85' beneath the soil. This means that underlying groundwater interacts with other inflow (groundwater and surface water from the Gallatin Range to the south) and likely nearby surface water at the same elevation (such as the unnamed tributary of Rocky Cr. on the property's southeastern border). In fact, test well pumping

indicates that static water levels at 85', which coincides nearly to the mapped elevation of the unnamed surface water (tributary of Rocky Cr) on the property's south-eastern boundary.

While the developer alleges there is available groundwater to sustain 35/gpm pumping in the immediate vicinity, the applicant's study did not take a hard look at potential "cones of depression" in groundwater levels that sustained pumping from clustered wells could have on the unnamed tributary of Rocky Creek (which is similar in elevation to the shallowest documented groundwater and may be hydrologically connected), and provided lip service to potential impacts on the adjacent and downgradient wells of the Painted Hills or Arrowleaf subdivisions.

Noting that pumping of the Subdivision will in fact cause offsite impacts, but failing to identify, qualify and quantify those impacts on neighbors or neighboring uses, renders such analysis incomplete at minimum. For example, the applicant's engineering study estimated that groundwater pumping from the Subdivision would reflect around 3% of available groundwater in the aquifer, but then dismisses documented drawdown impacts on downgradient water uses by conclusory statement that sufficient groundwater supplies exist. Yet no documentation is provided on whether downgradient well users have wells drilled deep enough to sustain their existing supply based on anticipated groundwater level depletion, how much of the aquifer is already "used" or relied upon, including by senior water rights, and no documentation is provided on potential effects to nearby surface water hydrologically connected to the aquifer, either the unnamed tributary on the property, its downgradient reaches, or other surface waters in the vicinity.

The shortcomings in the developer's application as regards water quantity impacts of exempt wells provide a basis for the Commission to deem the EA incomplete and incapable of supporting a factual determination of the specific, identifiable impacts on the natural environment, and legal water availability in particular.

The Legal Right to Exempt Groundwater Diversions Is Limited

Insofar as the application conflates several legal constructs under the Montana Subdivision and Platting Act, the Sanitation Act, and the Water Use Act in supporting its alleged right to > 10 ac/ft/yr of groundwater withdrawals from clustered wells, it is prudent to recite the controlling statutory and regulatory framework for Gallatin County's consideration of a preliminary plat solely reliant on exempt wells.

The Montana Water Use Act allows for exempt groundwater appropriations without a permit as long as the well is "35 gallons a minute or less, and does not exceed 10 ac/ft a year, except that a combined appropriation from the same source by two or more wells or developed springs exceed 10 ac/ft, regardless of flow rate, requires a permit." Thus, all subdivisions that create one or more parcels under 20 acres in size are limited to a single exempt well appropriation with a total, maximum depletion of 10 acre-feet/year from a single source, and anything additional requires a water rights permit. *See also Clark Fork Coalition v. Tubbs*, 2016 MT 229 at ¶ 24; MCA § 85-2-306; ARM 36.12.101(12); 2016 DNRC Combined Appropriations Guidance.

The applicant attempts to evade this volumetric limitation on exempt wells by (a) separating and clustering several wells within the Subdivision, and by (2) relying on arbitrary setbacks between clustering of wells. For example, according to the application the Subdivision will break up groundwater withdrawals into several wells spread throughout the plat, including four clusters with three wells that use up to 9.18 ac/ft, and three clusters with two wells

producing up to 6.12 ac/ft/yr. Simple math indicates these well volumes, aggregated together, far exceed the exempt well limit of 10 ac/ft/yr per new subdivision. As the presently-effective 1987 combined appropriations rule states:

An appropriation of water from the same source aquifer by means of two or more groundwater developments, the purpose of which, in the department's judgment, could have been accomplished by a single appropriation. Groundwater developments need not be physically connected nor have a common distribution system to be considered a "combined appropriation." They can be separate developed springs or wells to separate parts of a project or development. Such wells and springs need not be developed simultaneously. They can be developed gradually or in increments. The amount of water appropriated from the entire project or development from these groundwater developments in the same source aquifer is the "combined appropriation."

Nothing in the statutory or regulatory framework permits a subdivision applicant to avoid the exempt well issue and volumetric limits of a combined appropriation simply by phasing "clusters" of wells, or by separating clusters via an arbitrary setback distance, particularly when such wells all serve one subdivision. As explained in the definition of combined appropriation, as long as the water is from the same source, the "wells and springs need not be developed simultaneously" to be considered a single combined appropriation limited to 10 ac/ft/yr. ARM 36.12.101(12). DNRC's letter blatantly conflicts with the agency's own rules, and the County is not obligated to follow an agency letter, or agency interpretation of non-binding guidance, especially when such a letter is in plain conflict with the requirements of its own rules and established Montana Supreme Court precedent.

To be clear DNRC's letter does not, as suggested by the applicant, provide a clear or lawful basis for the County to make a finding of legal availability of water supply for the Subdivision. Rather, the plain language of DNRC's correspondence states that the Subdivision relies explicitly on the use of clustered exempt wells, indicates no analysis has been done by DNRC to confirm the legal availability of water supplies as-proposed, and explains the letter does not serve as pre-approval for a water right.

The County has an independent legal obligation under the Montana Subdivision and Platting Act to evaluate the impacts of the entire subdivision as-proposed on the aquifer, the water table, and water availability, including potential impacts on nearby surface waters and downgradient water users. Multiple well withdrawals develop a cone of depression, particularly in an unconfined groundwater aquifer such as beneath the Subdivision and surrounding developments. The potential for adverse impacts from the cumulative impact of the Subdivision's 18 exempt wells, in clusters, could be far reaching off the subdivision property with potential impacts on existing wells on adjacent parcels or nearby surface water and wetlands, such as the unnamed tributary on the property's southern border.

The Sandhill Subdivision Has No Right to Proposed Groundwater Volumes

The applicant's submission provides little clarity on legal water availability in the proposed volumes of diversions, or on potential impacts to other users or adjacent surface water. The County should obtain, or require the applicant to obtain, a qualified third-party independent study of the aquifer to determine the number of wells the aquifer can sustain without adversely impacts nearby existing domestic and irrigation wells, any impacts to surface water in the tributary of Rocky Creek, as well as the wells of each resident in the downgradient subdivisions.

This information should be collected and evaluated before decision-making on the preliminary plat.

Without sufficient, detailed information, a clear identification of potential impacts and mitigation measures, the developer's evaluation of legal supply is substantively lacking and has the potential for harm to existing landowners' water availability, dewatering of adjacent surface water, and potential impact to far-reaching areas off-site. Further, without adequate analyses in the developer's EA, the County does not have a sound evidentiary basis to make lawful findings in support of the preliminary plat application.

In sum, the applicant's intent to rely solely on clusters of exempt wells unreasonably construes the law, DNRC rules, and binding Montana Supreme Court precedent to support its application. The County should not blindly take the applicant at its word that it has the legal right to sufficient water supply for the Subdivision, particularly given that the only uncontested fact at-hand is that the proposed Subdivision is attempting to aggregate more than a dozen exempt wells constituting as much as > 50 ac/ft/yr for water supply, within the administratively closed Upper Missouri River Basin, when the law plainly limits new subdivisions to a total of 10 ac/ft/yr from all exempt wells.

Moreover, County Planning Staff have already identified the same fatal flaws as regards water availability in the application, and despite good faith requests for more detail and analysis to the developer, the applicant has dug in its heels by relying on arbitrary DNRC conclusions in a non-binding guidance letter. Thus, the issue of water availability and sound new subdivision decision-making now falls to the County's leaders.

The Commission and Gallatin County Planning Department cannot reasonably find that water supplies are legally available for the proposed project based on a lay reading of the law, the application, and supplemental information and public comment. Neither can a finding be made that proposed diversions will not have negative impacts on existing water supplies, agriculture, or the environment with the present level of detail and analysis. On the basis of speculative water availability alone, and in the interests of sound public policy conserving finite water resources and preventing irresponsible growth that may negatively impact existing uses of water and the environment, the Commission should deny the preliminary plat application.

Sanitation and Water Quality Issues

As numerous studies have shown, there is a clear link between exempt well approval and individual septic development, as this development proposal demonstrates. In turn, the continued reliance on septic systems by new and existing development are large contributors to water degradation in many Montana river valleys, including watercourses throughout Gallatin County.

The applicant proposes to use SepticNet treatment systems, which produce effluent of approximately 5.75 mg/L nitrogen at the end of a mixing zone (the pollutant of concern in septic wastes near drinking water supplies or surface water is nitrogen and/or nitrate). The applicant alleges that because the usage of these systems satisfies a DEQ groundwater mixing zone concentration in rule, they are acceptable waste disposal technology. Available science in the applicant's own record, including testimony from the Gallatin Local Water Quality District, appear to refute the applicant's statements.

One key issue not addressed in the application is the potential impacts of new subdivision septic wastes in causing or contributing to pollution in the adjacent, unnamed tributary of Rocky

Creek. This waterway, based on the applicant's own data, appears downgradient from the layout of proposed septic drainfields, and may receive cumulative septic discharges from upgradient systems located higher in elevation (i.e., septic discharges from systems lying less than a dozen feet subsurface on the hill will percolate into subsurface groundwater and flow downgradient towards the creek).

Engineering analysis from the applicant explicitly states that "a standard septic system adequately treats the wastewater from a groundwater nitrate perspective", and earlier in the analysis admits the applicant did not examine potential impacts of new septic discharges to the unnamed tributary. Thus, neither the applicant, nor the County, knows what impacts might occur in surface water on the property downgradient from septic systems. As but one contextual reference point, applicable surface water quality criteria and trigger for violations of standards for the unnamed tributary, a wadeable stream, is .3 mg/L nitrogen. The applicant's own data suggests that its septic system discharges could be more than 10x more potent in terms of nitrogen loading than trigger levels for the stream, yet there is no analysis of those potential impacts.

More than 10 years ago the Montana DEQ and federal EPA recognized that subsurface wastewater treatment and disposal from septic systems and sprawl development within the lower Gallatin Valley East Gallatin subwatershed were contributing to unhealthy local water quality conditions¹ that diminish recreational, social, and economic value. The County should not allow or encourage new development just outside the municipal boundary of Bozeman to rely on waste disposal practices linked to ongoing water quality degradation, particularly when there has been inadequate analysis of the pollution potential of such waste systems on identified water resources.

In the same vein, a similar issue regards how cumulative new septic discharges from the Subdivision may exacerbate nitrate concentrations in underlying groundwater, which the applicant's own test wells document as unnaturally elevated at approximately 3 mg/L nitrate. The use of proposed septic systems may exacerbate existing, already elevated, water quality challenges in terms of cumulative nitrate concentrations in the local aquifer. The causal relationship between septic systems and downgradient water quality degradation is well-established in scientific literature, known in Montana, and should not be casually dismissed by the Commission.²

As noted above, best available science from the Montana DEQ in the form of its numeric nutrient criteria³ for wadeable streams indicate that the trigger level for potential negative nutrient pollution impacts to a downgradient surface water like the unnamed tributary of Rocky Creek exist at this Subdivision. So too, increasing nitrate loading to the aquifer means a proposal

¹ See "[Lower Gallatin Planning Areas TMDLs & Framework Water Quality Improvement Plan](#)" Section 6.0 at 6-24.

² Suplee, M.W., and V. Watson, 2013, Scientific and Technical Basis of the Numeric Nutrient Criteria for Montana's Wadeable Streams and Rivers—Update 1, *and addendums*. Helena, MT: Montana Dept. of Environmental Quality, available online at: <http://deq.mt.gov/wqinfo/standards/NumericNutrientCriteria.mcp> ; Tri-State Water Quality Council, "Septic System Impacts on Surface Water", A Review for the Inland Northwest, 2005, available online at: <https://clarkfork.org/wp-content/uploads/2016/03/septic-system-impact-surface-waters-2005.pdf>

³ Montana Numeric Nutrient Criteria, Circular 12-A, available online: https://deq.mt.gov/files/Water/WQPB/Standards/PDF/NutrientRules/CircularDEQ12A_July2014_FINAL.pdf

has the potential to add more nutrient pollution, and further elevate nitrate levels, in an unconfined aquifer that appears to support a multitude of private wells in the vicinity and/or downgradient subdivisions.

The applicant's failure to take a hard look at potential direct impacts of septic systems to the identified surface water (unnamed tributary) or at potential cumulative impacts offsite is made clear when considering available soil profiles. Soil profiles are helpful to understanding the suitability of a site for naturally digesting and removing septic pollution or, conversely, the inability of a site to naturally mitigate pollution and likelihood to convey wastes offsite, in a concentrated form, via groundwater.

The site-specific NRCS soil survey report prepared by the applicant indicates that much of the soils underlying the subdivision (in which septic fields would be placed) are considered "very limited" for the purposes of providing septic tank absorption fields (e.g., Bigbear loam, Blackmore silt loam, Durston silty clay). This classification means in effect very little, if any, natural breakdown of wastewater effluent can be anticipated from soils denitrification (aka, natural breakdown of sewage pollutants). In turn, little to no anticipated natural breakdown of cumulative septic discharges represents an even greater need to understand likely fate and transport of sewage wastes in receiving groundwater, including in particular the potential downgradient discharge into the adjacent unnamed tributary of Rocky Cr., and the potential cumulative impacts of adding new sewage to already elevated groundwater concentrations given known downgradient drinking water supplies.

Ironically, a conclusion of the applicant's engineer is the recommendation that drinking water supplies for the Subdivision be drilled to the lowest reaches of the groundwater aquifer so as to access better quality groundwater: upper reaches of the groundwater aquifer are already, as discussed above, unnaturally elevated to approximately 3 mg/L nitrate. If anything, the applicant's EA has avoided a substantive discussion of the potential negative cumulative water quality effects accompanying existing development in the region, much less examined the propensity of its development to potentially worsen those conditions offsite.

The County has a mandatory duty assure the applicant documents the specific, identifiable impacts to a variety of criteria under the Subdivisions and Platting Act, including impacts to natural amenities like surface and ground water quality. If it is approved at all, this Subdivision should be required to use readily available, advanced wastewater treatment alternatives, including potentially a centralized community wastewater treatment system with advanced treatment capabilities, or consider mandatory hook-up to nearby centralized facilities.

Record evidence, including comments from the Local Water Quality District, corroborate publicly available data from the Montana Bureau of Mines and Geology indicating existing groundwater quality is already unnaturally elevated by nutrient pollution linked to existing wastewater disposal patterns. Although groundwater quality has not exceeded the human health criterion of 10 mg/L total nitrogen (which is notably a worst-case threshold that we should not, as a County, use as a litmus test), the concentration at which human health is directly at-risk, available water quality data indicates a steady increase in nitrogen concentrations marching steadily upwards towards 10 mg/L. Further, to the extent that proposed septic discharges would in fact contribute wastes to the unnamed stream on the property, the only likelihood established by the record is that such wastes would likely be exponentially higher in nutrient pollutant concentrations than such stream could assimilate without experiencing nuisance aquatic growth and violating its water quality standards.

As decisionmakers with the unique authority to identify – and condition - local development projects' water quality impacts, the County cannot ignore the Subdivision's likelihood to exacerbate negative water quality trends, and at a minimum should require further investigation and analysis of how the Subdivision may affect local ground and surface water quality. This is particularly true given the headwater creek on the project's south-east border and downgradient drinking water supplies.

In short, the Subdivision's application materials fail to contain or discuss salient water resource issues, despite the fact that the Montana Subdivision and Platting Act requires their specific evaluation. Similar to the fatal flaws discussed above as regards groundwater legal availability, the application lacks the water quality investigation and data necessary to reasonably evaluate the development's potential impacts on the natural environment and should therefore be denied.

Conclusion

The application fails to consider or evaluate several significant water resource impacts. In particular, the proposed Sandhill Major Subdivision includes the potential to adversely impact local wells, unquantified impacts on the aquifer, groundwater-surface water connectivity or legal water availability, and the potential for wastewater pollution discharging to sensitive local water resources. Unless and until these issues are adequately assessed the preliminary plat application continues to be deficient and non-compliant with the Subdivision Act.

For these reasons we urge the Commission to deny the Sandhill Major Subdivision's request for preliminary plat authorization.

Respectfully submitted-

A handwritten signature in black ink, appearing to read "Guy Alberto", with a long horizontal flourish extending to the right.

Executive Director

Guy@UpperMissouriWaterkeeper.org

T: 406.570.2202