

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. *Applicant/Contact name and address:* Mason Shanks
5110 Central Ave
Billings, MT 59106-2332
2. *Type of action:* Application for Beneficial Water Use Permit 43Q 30162286
3. *Water source name:* Groundwater
4. *Location affected by project:* NWNE Section 9, T1S, R25E, Yellowstone County
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*

The Applicant proposes to divert groundwater from January 1 to December 31 for multiple domestic use and from May 1 to September 30 for lawn and garden use. Groundwater will be diverted by means of 16 wells from January 1 to December 31 at a combined flow rate of 167.32 GPM (0.37 CFS) up to 19.55 AF, from 16 points of diversion in the NWNE Section 9, T1S, R25E, Yellowstone County, to serve The Waters Subdivision (Tract 1B COS 2713). Two wells have been drilled and were used for aquifer testing. The Applicant proposes a subdivision with 15 residential lots and 1 park each served by an individual well. The Applicant proposes a total of 5.806 AC of lawn and garden irrigation distributed as 4.85 AC for residential lawn and garden irrigation and 0.956 AC of park lawn irrigation. The proposed annual volume for multiple domestic use is 5.04 AF. The proposed volume for lawn and garden irrigation is 14.51 AF distributed as 12.12 AF for residential lawn and garden irrigation and 2.39 AF for park lawn irrigation. The place of use is generally located in the NWNE Section 9, T1S, R25E, Yellowstone County for The Waters Subdivision (Tract 1B COS 2713), to the west of Billings. The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

6. *Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)*

Montana Department of Natural Resources and Conservation (DNRC)
Montana Department of Fish Wildlife & Parks (MFWP)
Montana Department of Environmental Quality (MDEQ)
United States Fish and Wildlife Service
United States Natural Resource and Conservation Service
Montana Natural Heritage Program

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity - *Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

The proposed project would draw from groundwater in West Billings. The modeled 0.01-foot drawdown contour (zone of influence, or ZOI) occurs at 5,700 feet from the proposed wells. The aquifer flux is greater than the current legal demands on groundwater in the area. A Department of Natural Resources and Conservation groundwater hydrologist concluded that the appropriation of groundwater for this project will cause depletions to Hogans Slough and Shiloh Drain. The depleted reach of Hogans Slough is downstream of the northwestern boundary of Section 9, T1S, R25E to the confluence with Shiloh Drain in the SESENE Section 15, T1S, R25E. The depleted reach of Shiloh Drain is downstream of the southern boundary of Section 3, T1S, R25E until the drain flows into Hogans Slough in the SESENE Section 15, T1S, R25E. Neither Hogans Slough or Shiloh Drain are included on the Montana Department of Fish, Wildlife, and Parks list of chronically or periodically dewatered streams. Groundwater is the source of water for the proposed project and is not identified as dewatered by the Montana Department of Fish, Wildlife, and Parks. Modeling by the Department of Natural Resources and Conservation groundwater hydrologist indicates an available groundwater supply in excess of all legal demands.

Determination: No significant impact

Water quality - *Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Some of the groundwater appropriated would be returned to the aquifer through lawn and garden irrigation and through individual drain fields at each of the 15 residences. Groundwater in the West Billings area has high dissolved constituents and is undesirable for drinking water (Olson and Reiten, 2002). In many areas, nitrate concentrations with isotopic signatures indicating manure and septic system sources are near or above recommended limits for human health. Based on Department of Natural Resources and Conservation standards and analysis, roughly 30% of appropriated water will return to the aquifer either through drain fields or by infiltration of irrigation water. The return of water from drain fields and residential irrigation could potentially degrade groundwater quality. The Montana Department of Environmental Quality and the Yellowstone County Health Department monitor and regulate public water supply and drain field installation. If water quality falls below health limits, treatment of the water supply would be required.

Determination: Possible significant impact

Groundwater - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

The proposed project will divert 19.55 AF/YR of groundwater from the alluvial aquifer of the Yellowstone River Valley. The amount of water available in the area exceeds legal demands on the aquifer based on analysis by a Department of Natural Resources and Conservation groundwater hydrologist and drawdown from the well is acceptable. The appropriation will likely deplete surface water in Hogans Slough and Shiloh Drain. The depletion to surface water is relatively minor ranging from a minimum monthly depletion of 0.88 GPM to a maximum monthly depletion of 5.91 GPM). These sources are not listed as chronically or periodically dewatered by the Montana Department of Fish, Wildlife, and Parks. The return of water to the aquifer through drain fields and infiltration of lawn and garden irrigation water could potentially add dissolved constituents, fertilizer, and nitrates to the groundwater locally.

Determination: Possible significant Impact

DIVERSION WORKS - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

The 16 wells proposed for the subdivision would be drilled by a licensed well driller and can be assumed to be properly constructed. The diversion will not create barriers or alter riparian environments or stream channels. The area for the proposed subdivision has been in agricultural use and is not adjacent to any naturally occurring watercourse. The soils in the area are stable.

Determination: No Significant Impact.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."

The Natural Heritage Program identified the following animal species of concern in the project area: Townsend's Big-eared Bat, Spotted Bat, Hoary Bat, Pinyon Jay, Veery, and Plains Hog-nosed Snake. No plant species of concern are identified in the project area. The project area is currently agricultural and does not provide appropriate habitat for the listed species of concern. The State of Montana, Office of the Governor has issued Executive Order No. 12-2015 creating the Montana Sage Grouse Oversight Team and the Montana Sage Grouse Habitat Conservation Program. The proposed project does not fall within currently mapped sage grouse habitat.

Determination: No Significant Impact

Wetlands - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

The proposed project is not within a wetland area according to the National Wetlands Inventory prepared by the United States Fish and Wildlife Service. There are some wetland areas identified near Hogans Slough and Shiloh Drain. Drawdown of the groundwater aquifer from the proposed project could potentially impact nearby surface water sources and associated wetlands. There are no wetlands within the project area, and none are proposed.

Determination: Possible Significant Impact

Ponds - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

There are no ponds associated with this water right application.

Determination: No impact

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

The soil survey from the USDA Natural Resources Conservation Services shows the primary soil type in the project area is McRae loam, 0 to 1 percent slopes. This soil type is well drained and nonsaline to slightly saline. It is considered prime farmland if irrigated. Transition from agricultural use to residential use may decrease soil moisture.

Determination: No Significant Impact

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

The project area has historically been used for agricultural purposes. The proposed project would alter the vegetation from agriculture to lawns and residential homes. No existing vegetation is critical to habitat. The construction equipment necessary for development of the subdivision may transport noxious weeds to the site. The developer is expected to prevent the establishment or spread of noxious weeds on their property.

Determination: No Significant Impact

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

The proposed subdivision development will change the land use from agricultural to residential. This transition could decrease dust associated with tilling and harvest but could increase emissions associated with transportation, heating, and cooling.

Determination: No Significant Impact

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: Not Applicable - project is not located on State or Federal Lands.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

The proposed project would remove acres out of agricultural production and use them for residential purposes. The amount of water required would decrease and energy consumption would change from running agricultural equipment to powering houses.

Determination: No Significant Impact

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

The proposed project is located within Yellowstone County and would be subject to county zoning regulations, subdivision review, and public water and wastewater regulations. This proposed use is not inconsistent with locally adopted environmental plans or goals for Yellowstone County.

Determination: No Impact

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

The proposed project lies within a rapidly developing area of West Billings. There are no nearby wilderness areas or recreational sites and no changes to the transportation system are expected.

Determination: No Impact

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

The proposed project could have limited impact on public health. Dust may be reduced by abandoning previous agricultural use and drinking water quality could be affected by residential drain fields.

Determination: No significant Impact

PRIVATE PROPERTY - Assess whether there are any government regulatory impacts on private property rights.

Yes ___ No X If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: Not Applicable

OTHER HUMAN ENVIRONMENTAL ISSUES - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

- (a) Cultural uniqueness and diversity? No significant impact.
- (b) Local and state tax base and tax revenues? The county and state tax base would increase with the change from agricultural use to residential use. No significant impact.
- (c) Existing land uses? No significant impact.
- (d) Quantity and distribution of employment? No significant impact.
- (e) Distribution and density of population and housing? The proposed project would increase available housing in the area resulting in increased population density.
- (f) Demands for government services? The proposed subdivision to develop 15 residential lots would increase demand for fire and police protection.
- (g) Industrial and commercial activity? No significant impact.
- (h) Utilities? The new residential homes would increase demand for electric, gas, and telephone services.
- (i) Transportation? The proposed subdivision would increase traffic in the area.
- (j) Safety? No significant impact.
- (k) Other appropriate social and economic circumstances? No significant impact.

2. Secondary and cumulative impacts on the physical environment and human population:

Secondary Impacts: None identified.

Cumulative Impacts: Multiple subdivisions have been created in recent years as the west Billings is developing at a rapid rate. The continued use of groundwater for residential subdivisions in the area west of Billings has potential for cumulative impacts on water availability and quality. Traffic, utilities, and government services are additional cumulative impacts.

3. ***Describe any mitigation/stipulation measures:*** There are no mitigation or stipulation measures required.
4. ***Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*** The reasonable alternatives are to grant the beneficial water use permit or the no action alternative. The no action alternative would prevent the Applicant from developing a residential subdivision and denies the associated economic benefits of the development. The no action alternative has few significant advantages over the proposed project. Development in west Billings is inevitable and the no action alternative prevents the construction of needed housing.

PART III. Conclusion

1. ***Preferred Alternative:*** To authorize the beneficial water use permit if the Applicant proves the criteria in 85-2-311 MCA are met.
2. ***Comments and Responses:*** None
3. ***Finding:***
Yes ___ *No* *X* *Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: No significant environmental impacts were identified. No EIS required.

Name of person(s) responsible for preparation of EA:

Name: Jill Lippard

Title: Water Resource Specialist

Date: March 27, 2024