

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: **Daniel & Sandra Debuff
PO Box 77
Shawmut, MT 59078**
2. Type of action: **Application to Change a Water Right No. 40A 30104885 (Merrills Springs).**
3. Water source name: **Merrills Springs**
4. Location affected by project:

The point of diversion for Application to Change a Water Right No. 40A 30104886 was perfected in a different location than authorized. The actual diversion is located in the SENW Sec. 8, T9N, R20E on Merrills Springs Creek, and the means of diversion is a dike.

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

Applicant proposes to reconfigure the place of use of Provisional Permit No. 40A 25724 to facilitate a change in irrigation methods. The proposal includes a change from wheel line to center pivot sprinkler irrigation. The existing irrigation system includes a dam/reservoir that impounds water for irrigation purposes and stores water year-round. During the irrigation season, the stored water is pumped to a wheel line system for application on 80 acres. Under the proposed change, a center pivot will replace the wheel line, requiring a reconfiguration of acres irrigated to accommodate the center pivot. The primary diversion point (dam) will remain at the same location on the tributary, and a secondary pumping system will continue to pump water from the reservoir to the new system. The number of acres irrigated will also remain the same at 80.

This application is associated with Application to Change an Existing Irrigation Water Right No. 40A 30104885. Both applications are for purposes of changing the place of use of two overlapping water rights in order to facilitate the irrigation system conversion.

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)

Dept. of Environmental Quality Website - TMDL 303d listing
MT. National Heritage Program Website - Species of Concern
USDI Fish & Wildlife Service Website - Endangered and Threatened Species Judith Basin County, MT
MT State Historic Preservation Office - Archeological/Historical Sites
USDA Natural Resources Conservation Service – Web Soil Survey
USDI Fish & Wildlife Service – Wetlands Online Mapper

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.

Determination: **No Significant Impact.**

The source of supply is Merrills Springs, a tributary to Currant Creek. Montana Fish, Wildlife, and Parks’, MFISH website does not list any information regarding Merrills Springs. Merrills Springs is predominantly an ephemeral source, therefore the majority of the streams water quantity will be based of high flow periods, mostly occurring during spring runoff from high elevation snow melt.

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.

Determination: **No Significant impact.**

Merrills Springs does not have any data available on the Montana Dept. of Environmental Quality Website – Clean Water Act Information Center.

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

Determination: **No Significant Impact.**

The proposed change should not have a significant impact on ground water quality or supply. The proposed place of use for the new pivot may realize a minor increase in seasonal water table elevations; in turn, the potentiometric water surface under acres being retired from wheel-line irrigation should see a decrease in seasonal elevations.

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.

Determination: **No Significant Impact.**

The proposed means of diversion is a 4RB, F-16 pump. Water conveyance will occur through a 12 inch mainline pipe to the center pivot sprinkler irrigation system. The system is in place, therefore no further impacts due to diversion works are expected because of this project.

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."

Determination: **No Significant Impact.**

The Montana National Heritage Program currently lists the Brewer's Sparrow, Ferruginous Hawk, the Mountain Plover, and one fish (Northern Redbelly Dace) as Species of Concern within Township 9 North Range 20 East. There are no known Plant Species of Concern listed in the area of interest. The USDI Fish & Wildlife Service Report (Sept. 2009) indicates that Golden Valley County has one species listed as endangered, the Black-footed Ferret. Since this project is associated with ground that has been previously farmed and grazed, there is a low likelihood of impact to endangered or threatened species because of this appropriation.

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

Determination: **No Significant Impact.**

The USDI Fish & Wildlife Service Wetlands Online shows Freshwater Emergent Wetland and Freshwater pond type areas located within the existing place of use. These areas are located primarily along Merrills Springs and within the place of storage. No significant impacts to wetlands are expected from this change application; wetland areas may benefit from water stored in the reservoir.

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

Determination: **No Significant Impact.**

The on-stream reservoir associated to this change application has been present for over 30 years. Any net impacts to existing wildlife, waterfowl, or fisheries resources would have

already taken place. Also, the reservoir has created additional habitat, therefore no significant impacts are expected with this change application.

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.

Determination: **No Significant Impact.**

The NRCS Web Soil Survey shows the predominant soil unit under the proposed pivot location is the Crago-Musselshell complex, with 1 to 4 percent slopes. This unit consists of a loam/gravelly loam mix that is moderately-well drained. The area proposed for pivot irrigation is not rated as prime farmland; there may be limitations on crop choices and a need for careful management. The soil is moderately susceptible to wind erosion and has an estimated average yield of 5 tons/acre of alfalfa production. There is a low likelihood of impact to soil quality because of this project.

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.

Determination: **No Significant Impact.**

Typical construction activities associated to pump & pipeline installation can cause short-term disturbances to vegetative cover; however, there is a low likelihood of any long term or significant impact because of this project. It is the responsibility of the property owner to control noxious weeds on their property.

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

Determination: **No Significant Impact.**

It is unlikely air quality will be deteriorated. No impacts to air quality have been identified.

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: **No Significant Impact.**

Not Applicable – Project 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.

Determination: **No Significant Impact.**

No additional impacts are anticipated.

HUMAN ENVIRONMENT

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

Determination: **No Significant Impact.**

No locally adopted environmental plans or goals have been identified.

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.

Determination: **No Significant Impact.**

This proposal should not impact recreational activities in the area.

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

Determination: **No Significant Impact.**

No impacts to human health have been identified.

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: **No Significant Impact.**

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? **None**
- (b) Local and state tax base and tax revenues? **None**
- (c) Existing land uses? **Wheel-line irrigation to sprinkler irrigation.**
- (d) Quantity and distribution of employment? **None**
- (e) Distribution and density of population and housing? **None**
- (f) Demands for government services? **None**

- (g) Industrial and commercial activity? **None**
- (h) Utilities? **Electrical consumption by pivot.**
- (i) Transportation? **None**
- (j) Safety? **None**
- (k) Other appropriate social and economic circumstances? **None**

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

Secondary Impacts - Department analysis finds less return flows are expected in the riparian zone along Merrills Springs due to the conversion from wheel-line to pivot-sprinkler irrigation. The Applicant proposes to divert less volume with the pivot system and as such, the timing of the flow regime will be modified. Secondary impacts are expected to be minor, more water will be available in the stream during periods of pivot diversion and consumptive use for the new center pivot system as it relates to historic wheel-line irrigation will not change.

Cumulative Impacts - More and more historic acres are being converted to center pivot sprinkler irrigation to facilitate better water management, increased production and reduced labor. Water is more easily managed with a pivot and application rates can be matched to the landowners' specific soil characteristics. Generally, acres under a center pivot system will experience increased production compared to flood acres, which in turn increases crop water consumption. In this instance, the Applicant will be limited to using the same consumptive use after conversion from flood to pivot irrigation, and a water measuring device will aid in controlling the amount of water used.

3. *Describe any mitigation/stipulation measures:*

No mitigation or stipulation measures have been identified by the Applicant. The Department may impose a measurement condition to ensure required criteria are met.

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:*

No action alternative: Deny the application. This alternative would result in none of the benefits being realized by the Applicant.

PART III. Conclusion

1. *Preferred Alternative*

The preferred alternative is the proposed alternative.

2 *Comments and Responses*

None Received.

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:

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.

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

Name: Michael Everett

Title: Water Resources Specialist – LRO

Date: 8/17/2016