

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: **Dan & Sandra DeBuff
PO Box 66
Winifred, MT 59489-0066**
2. Type of action: **Application for Beneficial Water Use Permit No. 40A 30105384**
3. Water source name: **Groundwater**
4. Location affected by project: **The project is approximately 12 miles southeast of Judith Gap, Montana, adjacent to what is known as Living Springs.**
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

Applicants propose to divert groundwater from a shallow, unconfined gravel and sand aquifer system, by means of four wells (well depths are 54.5 feet, 55 feet, 65 feet, and 70 feet) and a groundwater pit (the pit is 39 feet deep and taps the shallow groundwater aquifer). The proposed capacity of the groundwater pit is 19.5 AF and the wells would discharge groundwater into the pit between April 20 and October 10. The combined, stored water will be pumped to a center pivot system that irrigates 173.1 acres. The flow rate diverted to and from the pit would be 2.43 cubic feet per second (CFS) with an associated volume of up to 216.4 acre-feet (AF) annually. The diversion points (wells and pit) are generally located in the E2 Section 26, and the place of use (center pivot) is located in Section 35, all in T10N, R17E, Wheatland County.

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

**Dept. of Environmental Quality Website – Clean Water Act Information Center
MT. National Heritage Program Website - Species of Concern
USDI Fish & Wildlife Service Website - Endangered and Threatened Species
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 for this application is groundwater; therefore, it has not been identified as a chronically or periodically dewatered stream by DFWP. The project may have an impact on water quantity; the wells and pit are diverting water from an unconfined shallow aquifer that is considered by the Department to be hydraulically connected to the Living Springs wetland complex and four down gradient springs (hereafter, Southern Springs).

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.**

The proposed project would divert shallow groundwater from an unconfined aquifer to be used for center pivot irrigation. There is a low likelihood of adverse impacts to water quality.

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.

Determination: **No Significant Impact.**

This proposed groundwater appropriation from the shallow aquifer requests to divert a flow rate of 2.43 CFS and volume of 216.4 AF per year. Although groundwater supply is available from a pump test evaluation, the Department considers the Living Springs wetland area and Southern Springs to be hydraulically connected to the aquifer. Groundwater depletions from the four wells and pit could eventually affect flows in Elk Creek by intercepting contributions to the Southern Springs.

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.**

Water will be appropriated by four groundwater wells and a pit completed into the unconfined shallow aquifer. Water from the wells will be pumped to the 19.5 AF pit at a combined flow rate of up to 2.43 CFS. Center pivot water will be stored in the pit and a

separate pumping system will be used to divert water from the pit to pivot. The diversions could have a minor impact on the Southern Springs and Elk Creek stream flows.

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 website lists seven animal species as Species of Concern within Township 10 North Range 17 East. Common names for these bird species are the Sprague’s Pipit, Golden Eagle, Ferruginous Hawk, Greater Sage-Grouse, Mountain Plover, Long-billed Curlew and the McCowen’s Longspur. Northern Redbelly Dace. The Montana National Heritage Program website also lists one plant as a Species of Concern and one plant as a Potential Species of Concern within Township 10 North Range 17 East. The respective common names for these two species are the Scribner’s Ragwort and Slender Wedgegrass.

The most recent USDI Fish & Wildlife Service Website shows that Wheatland County has four species listed as either a candidate, threatened, or proposed for the Endangered Species Act; the Wolverine, (Proposed), the Canada Lynx and Grizzly Bear (Threatened) and the Whitebark Pine (Candidate). This project is not expected to impact any species listed above as the project will be located on acreage that has been previously disturbed by agriculture practices.

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 National Wetlands Inventory website shows Living Springs has a seasonally inundated wetland area of 65.2 acres with a smaller 8.34-acre area designated as temporary wetland inundation. The Departments Revised Depletion Report indicates that depletions will likely occur to the Living Springs wetland within a month of diversion from the shallow aquifer, while depletions to the Southern Springs would be more constant and year-round. The wetland resource could be impacted by appropriations from the shallow aquifer.

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

Determination: **No Significant Impact.**

This project will include a 19.5 AF groundwater pond that would be seasonally utilized for center pivot irrigation. No adverse impacts to wildlife, waterfowl, or fisheries is anticipated.

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 predominant soil as shown by the USDA Web Soil Survey is the Whitecow-Yapple Complex. This soil is well-drained and has low salinity, there is a low likelihood of adverse impact to soil quality, stability, or moisture content.

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.**

Construction associated to this project could cause some disturbance to vegetative cover, however it is expected to be short-term. Normal weed management can be used to control noxious weeds potentially invading disturbed areas due to construction activities; therefore, no spread of noxious weeds should be associated with this application. 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.**

No impacts to air quality or adverse effects to vegetation from pollutants are expected as a result of this proposal, the wells and the irrigation system will use electric pumps.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

Determination: **N/A – no places of use are 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.**

The proposed action is consistent with typical agricultural practices 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 known impacts.**

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? **Irrigated crop land.**
- (c) Existing land uses? **Irrigated crop land.**
- (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 from pumps and pivot irrigation.**
- (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:

Secondary impacts from this project are expected on the physical environment; there will be seasonal groundwater depletions to a shallow unconfined aquifer, and in turn the Southern Springs and Elk Creek drainage.

Cumulative Impacts:

As more irrigation development takes place, there will be increased demands of water for projects. This increased demand will eventually have a higher potential for significant impacts to existing water right owners.

3. *Describe any mitigation/stipulation measures:*

No mitigation or stipulation measures have been identified.

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 no new depletions from pivot irrigation.

PART III. Conclusion

1. ***Preferred Alternative***

The preferred alternative is the no action 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: Douglas D. Mann
Title: Hydrologist – LRO
Date: 7/27/2018