

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. Applicants/Contact name and address: **Fred W. Colver
42039 MT HWY 81
Lewistown, MT 59457**
2. Type of action: **Application to Change an Existing Water Right No. 41S 30147282**
3. Water source name: **Groundwater**
4. Location affected by project: **The project is in the NE of Sec 35, Twp 17N Rge 18E in Fergus County.**
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

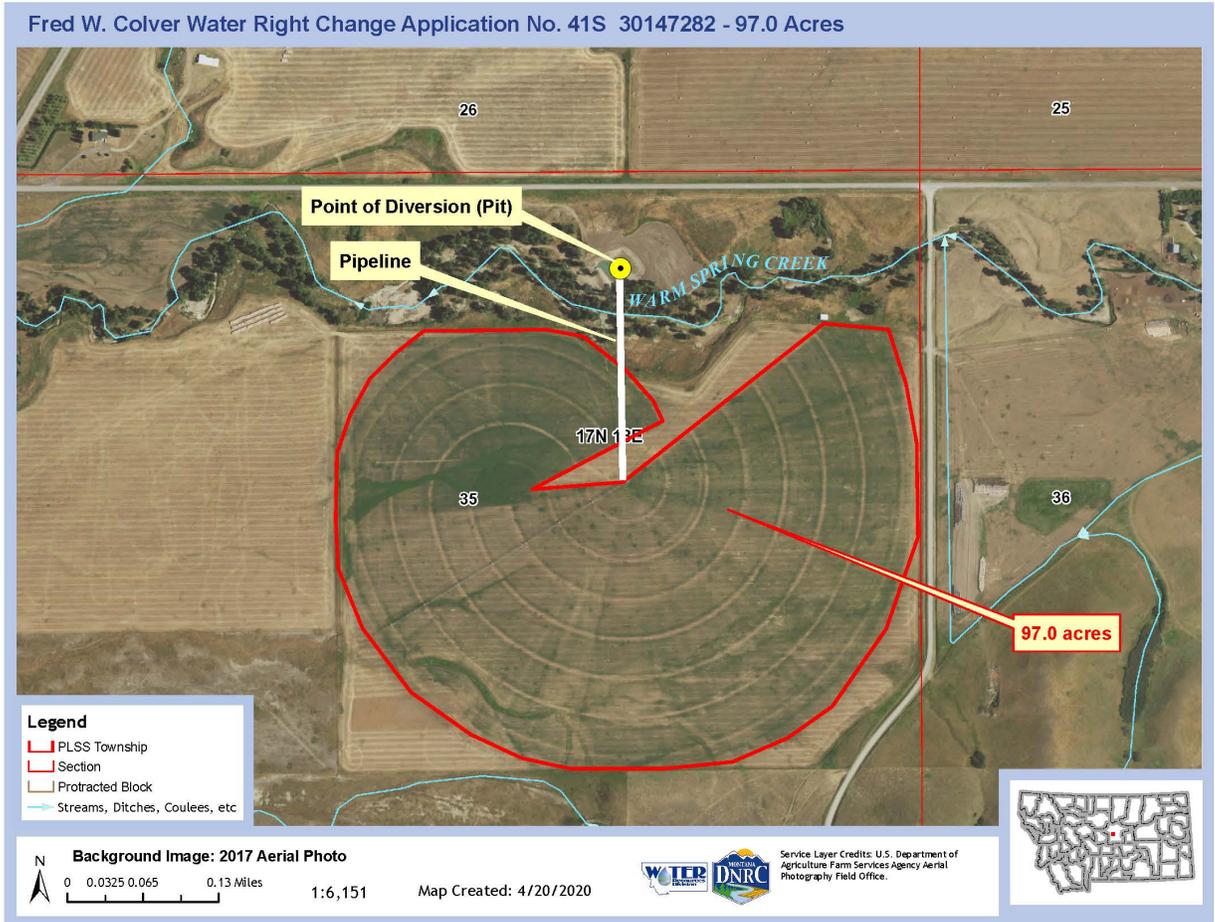
The proposed water right change would allow Applicant to change the point of diversion, add storage, and reduce the irrigated place of use for Permit No. 41S 4374. The proposal includes a change from a groundwater well (depth = 27.5 feet) in the NENENE Section 35, T17N, R18E, to a groundwater pit in NENWNE Section 35. The proposed pit is located about 1/4 mile to the west of the existing well. The source aquifer for both the well and pit is the shallow alluvial aquifer adjacent to Warm Spring Creek. The depth of the pit is 12 feet (maximum pumping depth) and its capacity is 3.8 acre-feet (AF). A pumping system installed in the pit (secondary diversion), is planned to supply groundwater via a pipeline to a 97-acre center pivot irrigation system south of Warm Springs Creek in the NE1/4 Section 35, T17N, R18E. The 97 acres are contained within the historical 116.9-acre place of use for the water right to be changed, and the amount of water associated with the former place of use will be applied to the reduced 97-acre pivot configuration. A change in irrigation method from a traveling big gun sprinkler to a center pivot will occur, and the amount of water associated with the pivot system is up to 59.9 AF.

The Department proposes to grant an authorization to change the point of diversion, add storage, and consolidate the place of use. Although the appropriation represents deficit irrigation, the proposed action will benefit the Applicant by growing more crop tonnage than under a dryland crop operation.

The DNRC shall issue a change authorization if an Applicant proves the criteria in 85-2-402 MCA are met.

The Applicant is also changing his irrigation system by replacing his traveling big gun sprinkler with a center pivot. The center pivot system is more efficient than the previously used traveling big gun.

A map depicting the proposed project is displayed below:



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
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 pit the Applicant is proposing to change his diversion to is approximately 50 feet from Warm Spring Creek. Its source aquifer is the shallow alluvial aquifer adjacent to the creek. Warm Spring Creek is not identified as chronically or periodically dewatered stream by DFWP.

There is a low likelihood that this project will have a significant impact on water quantity; demands on the hydrologic system are not expected to change because there should be no increase in the amount of water withdrawn from the aquifer over the previous system. Diversions will decrease over historical amounts due to a more efficient irrigation system and water applied to the field will return to the aquifer at the same location it did before.

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.**

This change proposal involves moving a point of diversion (from a shallow well to an excavated pit), adding storage (pit), and reconfiguring the existing irrigated field (116.9 acres) to a smaller field (97 acres) within the historic field boundary. Permit no. 41S 4374 is a groundwater right which was used to irrigate a 116.9-acre field, and now will irrigate a 97-acre field. The source aquifer is the shallow alluvial aquifer adjacent to Warm Spring Creek which has not been listed as a water quality impaired or threatened stream by DEQ. There is a low likelihood that the proposed water right changes will have a significant impact on water quality. Water pumped from the pit is proposed to be conveyed to the pivot via a pipeline and water not utilized by the crop will return to the aquifer just as it did before.

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.**

The source of water for Permit no. 41S 4374 is groundwater. The Applicant historically pumped water from a shallow well 27.5 feet deep. The Applicant proposes to change his diversion point from the well to a pumping pit. The pit is 12 feet deep (maximum pumping depth) and its estimated capacity is 3.8 acre-feet. The source of water for both the well and pit is the shallow alluvial aquifer adjacent to Warm Spring Creek. This project is not anticipated to use any more groundwater than has been used historically. The flow rate for the existing water right is 550 gallons per minute (GPM). Because the Applicant is limited by his historical use and the recovery rate for the pit, there should be no increase in the amount of water withdrawn from the aquifer.

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 Applicant is proposing to change from a traveling big gun sprinkler to a center pivot. Applicant is also proposing to change his groundwater diversion from a shallow well to a pit. Water is now proposed to be pumped from an existing pit to a center pivot. Water will continue being conveyed to the field via a pipeline. If the Applicant's proposal is granted, the sprinkled field will be reconfigured from 116.9 acres to 97 acres; a smaller irrigated footprint will result from the proposal. Channel impacts, impacts to flow modifications, barriers, riparian areas, dams, or pit construction are not expected. The pit, pivot, and conveyance system are already in place.

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 lists four Species of Concern within Township 17 North, Range 18 East. The common names for the species include the Hoary Bat, Little Brown Myotis, Golden Eagle, and Sauger. Two are mammals, one is a bird, and the last is a fish.

The USDI Fish & Wildlife Service Website also lists the Canada Lynx as threatened. It lists the Pallid Sturgeon as endangered and the Whitebark Pine as a candidate species. Although these species are identified in Fergus County because one may reasonably expect them to live there, the non-fish species are generally found in wilderness areas and are not typically found in the area of the project. Additionally, it is unlikely that the proposed action will displace the species.

The proposed project is not located in general sage grouse habitat therefore the Applicant does not have to consult with the Sage Grouse Habitat Conservation Program or obtain a letter regarding the consultation.

***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 excavated pit involved in this change proceeding is an existing development. It is located approximately 50 feet north of Warm Spring Creek. The source of water for the development is the shallow aquifer (alluvium Warm Spring Creek). Wetlands are located within the riparian area of the creek. The Applicant inquired about a 310 permit from the county conservation district to do the improvement work involving his irrigation system, however no permit was required as he was not working within the banks for Warm Spring Creek. The place of use for the existing water right proposed to be changed has previously been farmed. If the Applicant's proposal is granted, the irrigated field's boundary will be consolidated from a 116.9-acre field to a 97-acre field. Because the pit, center pivot, and conveyance infrastructure are already in place, no additional impacts to wetlands in the area of the project are anticipated.

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

Determination: **No Significant Impact.**

The groundwater pit is approximately 3.8 AF in capacity. It was filed on, by the Applicant, for stock watering use in 2018 (Certificate no. 41S 30120663). The Applicant is now proposing to also use the pit for his irrigation system. If this project is approved, there will be some overlap between stock watering and irrigation periods of use. The existing stock use from the pit is September 1 to April 30. The period of use for the permit proposing to be changed (41S 4374) is April 20 to September 20. When livestock use the pit, they access it directly. When it's used for irrigation, water will be pumped to a sprinkler irrigation system. Due to the size of the pit and water recovery rates, the Applicant proposes to pump from the pit in cycles. Recovery times for the pit storage may differ in the spring and early summer and will limit what the Applicant can pump through the proposed pivot or use for stock watering during the overlapping periods of use.

The pit is a manmade impoundment adjacent to Warm Spring Creek. The only permitted use for the pit currently is stock watering. If the Applicant's water right change is approved, then it will also be approved for irrigation use and there may be periods throughout the year when water levels are low. During such periods, water availability for wildlife and waterfowl will be limited, however, wildlife uses from the pit are not protected by an existing water right. The pit does not contain fish.

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 type is Gerber clay loam, 0 to 2 percent slopes. The Sodium Adsorption Ratio is non-saline to very slightly saline and the available water storage is high for the soil components in the area of interest.

Potential impacts associated with the construction activities could have created minor short-term impacts on the soils from the pit construction, pipeline installation, and center pivot assembly, but disturbances from construction are complete and there will be no further impacts than what has already occurred. It is not anticipated that any significant impacts to geology, soil quality, stability and moisture would result from the proposed action since the project has already been completed.

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 was completed prior to this application. Any impacts to existing cover have already occurred. Normal weed management actions 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 are expected as a result of this proposal; the pump uses an electric motor.

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 – 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.**

No impacts to wilderness or recreation are anticipated from the proposed project.

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 property is taxed at a different rate than non-irrigated property. The Applicant has irrigated 116.9 acres using a traveling gun sprinkler. He is proposing to consolidate his irrigated field to 97 acres. Reducing his field size may result in less tax revenues being collected if taxes are being collected for irrigation.**

- (c) Existing land uses? **No significant impacts from the proposed project are expected. The Applicant has irrigated 116.9 acres and now proposes to consolidate his irrigation to a 97-acre field. The proposed reconfiguration is located entirely within the Applicant's historically irrigated footprint.**

- (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? **Little change is expected. The Applicant irrigated his historic field by pumping water from a shallow well. He is proposing to move his diversion to pump from a pit. Both systems utilize a pipeline to convey water to the sprinkler. Because of the limiting nature of the source aquifer, both diversions involve similar pumping and recovery cycles; therefore it is anticipated that the utility demands between them are comparable.**
- (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 are expected to be minor; the consumptive use for the new center pivot system as it relates to the historic traveling gun sprinkler will not change. The center pivot however is a more efficient irrigation system than the traveling big gun sprinkler. To offset this, the Applicant's diverted volume will be reduced.**

Cumulative Impacts: **In general, more irrigated acres are being converted to center pivot sprinkler irrigation in the area to facilitate better water management, increase production, and reduce labor costs. 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 a traveling big gun to a center pivot. Water measuring will aid in controlling and tracking the amount of water used.**

3. *Describe any mitigation/stipulation measures:*

If the proposed change application is approved, its place of use will overlap with another, active water right (Statement of Claim No. 41S 48825). The right has nonuse/abandonment issue remarks identified for adjudication purposes which have not yet been addressed by the Montana Water Court. The Applicant has agreed to not use Claim No. 41S 48825 if the proposed change application for Permit No. 41S 4374 is approved. The Applicant has also agreed to adhere to a measurement condition imposed by the Department 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 not authorizing the Applicant to change his point of diversion from a well to a pit and add storage to his right.

PART III. Conclusion

1. Preferred Alternative

The preferred alternative is the proposed alternative.

2 Comments and Responses

None Received.

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: Melissa Norris

Title: Water Resources Specialist – Lewistown Regional Office

Date: 05/21/2020