

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

Applicant/Contact name: **Montana Mexican John Ranch, LLC**
12 Rain Fern Court
The Woodlands TX, 77380-1554

1. Type of action: **Application to Change a Water Right No. 40A 30113880.**
2. Water source name: **Musselshell River**
3. Location affected by project: **Sections 21 and 22, T8N, R14E, Golden Valley County.**
4. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

Applicant proposes to change the points of diversion and places of use of Statement of Claim Nos. 40A 130827, 40A 130837 and 40A 130843 to facilitate a partial conversion in irrigation method. The total place of use proposed to be irrigated after the change is 182 acres (125 acres under center pivot irrigation and 57 acres under flood irrigation). The historic irrigated acreage located south of the Musselshell River will be retired (79 acres). The proposed points of diversion include one stationary pumping system located in the SWSENE Section 22, T8N, R14E, and a mobile or transitory pump that can be placed throughout the E2NE Section 21 and Section 22. The flow rate diverted from the stationary pump will be 2.3 cubic feet per second (CFS), and the flow rate diverted from the transitory pump will be 2.7 CFS.

The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

5. 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
MT State Historic Preservation Office - Archeological/Historical Sites

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 is the Musselshell River, which has been declared chronically dewatered under MCA 85-2-150. It is closed to new appropriations from July through September. The Musselshell River Water Management Study shows that most years no water is reasonably available for appropriation during these months. It also shows that in some years no water is available for appropriation at any time and that many existing water rights are not satisfied. Because of this situation, any added burden on the source represents an adverse effect to other water users. The Department’s assessment of the proposed change is that the flow rate will be reduced from 19.38 CFS to 5.0 CFS and diverted volume will be reduced from 307.0 AF to 174.6 AF. Estimated consumptive use will remain the same. Assuming the Applicant adheres to all Department conditions of appropriation (measurement), this project will not have a significant impact on surface water quantity in the Musselshell River.

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 reach of the Musselshell River near this project has been designated as needing a TMDL plan. The 2014 303d listing identifies impairments to aquatic life support probably caused by low flow alterations, streamside vegetation alteration, Nitrogen & Phosphorous levels and other habitat alterations. No significant impacts to water quality are anticipated because of this project. The stipulations/conditions noted under the water quantity section above and detailed later in this document could limit further impact to the impaired conditions to aquatic life by contributing the reduced flow and volume to stream flows left in the source.

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 groundwater quality or supply. The place of use under the pivots will realize a minor increase in seasonal water table elevations; in turn, the potentiometric water surface under acres being retired from flood irrigation will see a decrease in soil moisture contributions.

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 for the stationary pump is a 4HH Variable Frequency Drive Pump, driven by a 60 HP 135 KW motor. The transitory flood pump is a Pacific Pump PIP 276-2, driven by a 125 HP propane motor. Flood water will be conveyed to a ditch location via a pipeline within the irrigated field. Water for pivot irrigation will be diverted through a mainline pipe and therefore no conveyance loss is assigned to the center pivot sprinkler irrigation systems either. The stationary system is in place and the flood pump can be placed at various locations along the source, no further impacts due to diversion works are anticipated because of this project. In addition, the old system's points of diversion previously required a high diverted flow rate and volume to operate the flood irrigation system. The appropriator will now be diverting a lessor amount of water to operate the pivot irrigation.

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 Chestnut-collared Longspur, Mountain Plover, Northern Redbelly Dace, and the Northern Redbelly X Finescale Dace as Species of Concern within Township 8 North Range 14 East. There are no known Plant Species of Concern listed in the area of interest. The USDI Fish & Wildlife Service Report (updated 10/23/2018) indicates that Wheatland County has two species listed as threatened (Canada Lynx & Grizzly Bear), one species is proposed for listing (Wolverine) and one species is a candidate (Whitebark Pine). Since this project is associated with ground that has been previously disturbed by past agriculture practices; there is a low likelihood of impact to endangered or threatened species because of this change proposal.

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 acreage involved in this application has been previously farmed and therefore, no wetlands should not be impacted within the irrigated fields. The USDI Fish & Wildlife Service – Wetlands Online Mapper shows Freshwater Emergent and Freshwater Forested/Shrub Wetland types in the area; however, they should not be affected by the proposed irrigation. The project will generally retire irrigated acres adjacent to wetlands and move the acres away from any wetlands in the area.

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

Determination: **No Significant Impact.**

This project does not involve a pond. No impact 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.**

No significant impacts to the soil profile are anticipated. The predominant soil type is Musselshell-Crago complex with 2 to 4 percent slopes. The Sodium Adsorption Ratio is very slightly saline to moderately saline for all the soil components in the area of interest and the acreage involved in this permit application has been previously developed for irrigation. Therefore, soil quality, alteration of soil stability, or moisture content should not be negatively impacted by 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 impacts to vegetation 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. The stationary pump will be driven by an electric motor, while the flood system will be operated by a previously used portable propane powered pump. 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? **Flood/wheel-line irrigation converted to flood/pivot 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/gas consumption by pump motors.**
- (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 the Musselshell River due to the conversion from flood 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 flood irrigation is not expected to 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 to pivot irrigation, and a water measuring device will aid in controlling the amount of water diverted.

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: Douglas D. Mann

Title: Hydrologist – LRO

Date: 10/24/2018