

**BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA**

APPLICATION TO CHANGE AN EXISTING) IRRIGATION WATER RIGHT NO. 41S) 30147282 BY FRED W. COLVER)	PRELIMINARY DETERMINATION TO GRANT CHANGE
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On December 6, 2019, Fred W. Colver (Applicant) submitted Application to Change Water Right No. 41S 30147282 to change Provisional Permit No. 41S 4374 to the Lewistown Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The Department published receipt of the Application on its website. The Department sent Applicant a deficiency letter under §85-2-302, Montana Code Annotated (MCA), dated February 6, 2020. The Applicant responded with information dated March 16, 2020. The Application was determined to be correct and complete as of May 4, 2020. An Environmental Assessment for this Application was completed on May 21, 2020.

INFORMATION

The Department considered the following information which is contained in the administrative record.

Application as filed

- Application to Change Water Right, Form 606
- Attachments
 - Change in Place of Storage Addendum
 - Documents from the file for the water right to be changed (Permit No. 41S 4374)
 - Department Memorandum summarizing the results of multiple pumping/recovery cycles on the storage pond, August 29, 2017.
 - Irrigation system schematics and specification documents.
 - Aquifer testing data (Form 633).
 - Aquifer test report, Willis Weight, PhD, PE Hydrogeologist, November 3, 2017.
 - Department Pre-Application Draft Aquifer Test Report, Attila Folnagy, April 25, 2018 (document was part of a previous application process).
 - Department Pre-Application Draft Depletion Report, Attila Folnagy, April 26, 2018 (document was part of a previous application process).

- Department Pre-Application Draft Return Flow Report, Attila Fohnagy, April 24, 2018 (document was part of a previous application process).
- Irrigation sprinkler system evaluation by USDA, Soil Conservation Service (Metro Karaffa, District Conservationist), April 9, 1974.
- Maps of historic use of water and proposed use of water, and system configuration for each.

Information received after Application filed

- Applicant's deficiency response dated March 16, 2020.
 - Supplemental deficiency response submitted by Applicant's technical consultant, Willis Weight, PhD, PE Hydrogeologist, dated March 2, 2020.
- Email communication with Applicant's attorney regarding agreement with flow rate and authorized conditions, dated May 21, 2020.

Information within the Department's Possession/Knowledge

- Department Technical Report.
- Water right records include in the Department's centralized database including, but not limited to, the file for the Provisional Permit to be changed in this matter (41S 4374); supplemental/associated water right files (41S 48825 and 41S 30120663); , and water rights owned by the Applicant or other water users that could be impacted by the proposed change. The Department may also reference records for water right applications that were previously terminated.
- Fergus County Water Resources Survey.
- Aerial photos; topographic maps.
- Department Groundwater Change Report, Attila Fohnagy, April 24, 2020.
- Department memorandum regarding Colver pit pump/recovery cycle monitoring from Dave Amman, Hydrologist, to Mike Everett, Water Resources Specialist, August 29, 2017 (Amman Pump-Recovery Memo).
- Permit verification for 41S 4374.
- The Department also routinely considers the following information. The following information is not included in the administrative file for this Application, but is available upon request. Please contact the Lewistown Regional Office at 406-538-7459 to request copies of the following documents.
 - Return Flow Memo
 - Consumptive Use Methodology Memo

The Department has fully reviewed and considered the evidence and argument submitted in this Application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, part 4, MCA).

WATER RIGHT TO BE CHANGED

FINDINGS OF FACT

1. The water right proposed to be changed is Provisional Permit No. 41S 4374. The project is located approximately 8.5 miles north of Lewistown in Fergus County. The following table displays elements of the historical use of the water right as verified by the Department in 2001. Water right records.

TABLE 1: HISTORICAL WATER USE (PRE-JULY 1, 1973). BASIN 41S PRELIMINARY

DECREE.

WR Number	Purpose	Source	Flow Rate	Period of Diversion / Period of Use	Point of Diversion	Place of Use	Priority Date	Acres Irrigated
41S 4374	Irrigation	Ground-water (well)	1.23 Cubic Feet Per Second (CFS)	Apr 1 – Nov 1	NENENE Section 35, T17N, R18E	NE1/4 Sec 35, T17N, R18E	Dec 11, 1974	116.9

2. The historical place of use of Provisional Permit No. 41S 4374 overlaps with the claimed place of use of Statement of Claim No. 41S 48825. 41S 48825 is a surface water right from Warm Spring Creek that is not proposed to be changed.

CHANGE PROPOSAL

FINDINGS OF FACT

3. Applicant proposes 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 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 volume of water to be appropriated by the pivot system is 59.9 AF.

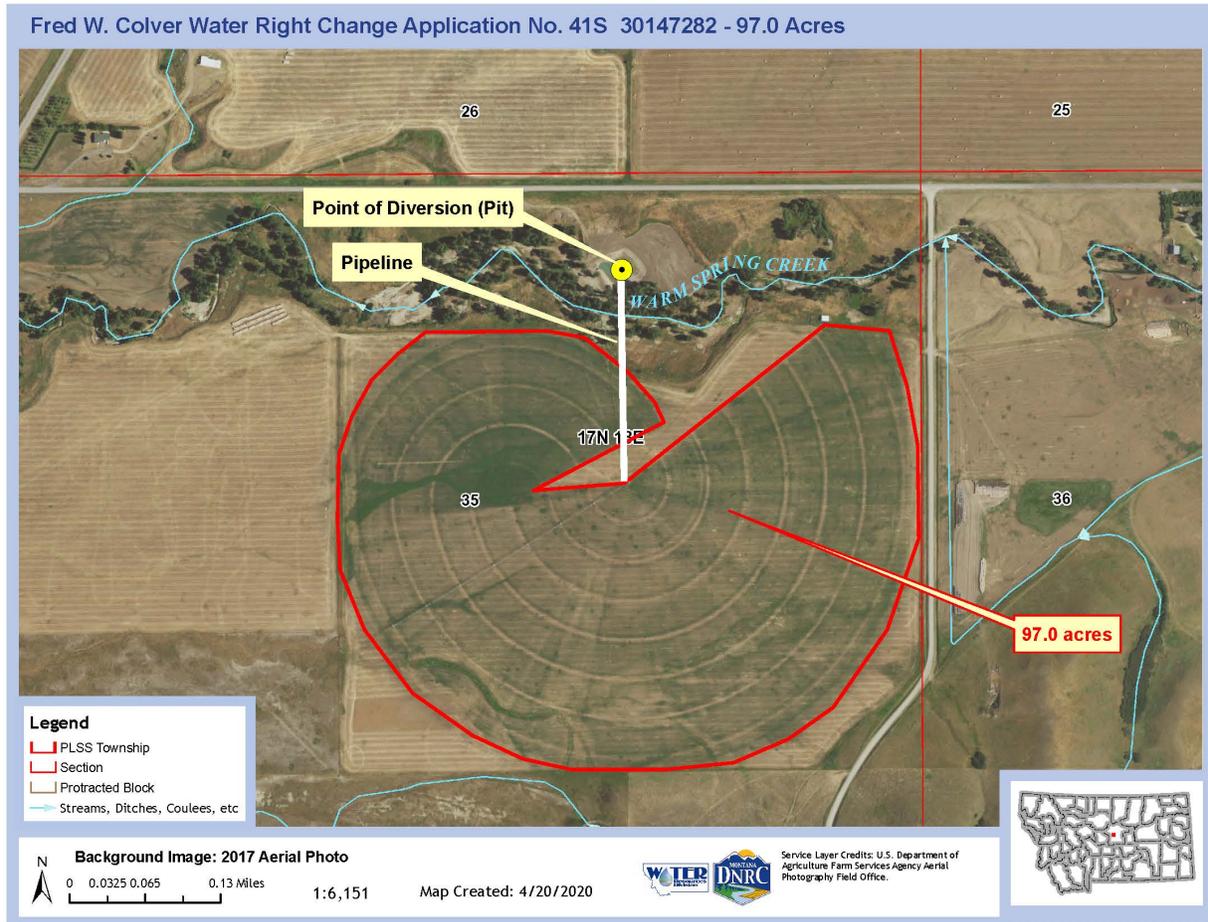
4. If the proposed change is authorized, there will be no flow rate applied to the authorization. When the pumping system is operating it will divert stored water from the pit. The capacity of the aquifer to transmit water to the pit varies with hydrologic conditions.

5. The proposed volume is 59.9 AF as calculated by the Department. Department Technical Report.

6. The proposed acreage to be irrigated under the center pivot is 97 acres, a reduction of 19.9 acres from the historic irrigated place of use of 116.9 acres. Application.

7. A condition of water measurement is imposed in this Preliminary Determination so that the diverted volume can be monitored to prevent an overdraft of appropriations and adverse effects to other water rights. Email communication with Applicant's attorney, May 21, 2020.

Map of the proposed change.



CHANGE CRITERIA

8. The Department is authorized to approve a change if the applicant meets its burden to prove the applicable § 85-2-402, MCA, criteria by a preponderance of the evidence. Matter of Royston, 249 Mont. 425, 429, 816 P.2d 1054, 1057 (1991); Hohenlohe v. DNRC, 2010 MT 203, ¶¶ 33, 35, and 75, 357 Mont. 438, 240 P.3d 628 (an applicant’s burden to prove change criteria by a preponderance of evidence is “more probably than not.”); Town of Manhattan v. DNRC, 2012 MT 81, ¶8, 364 Mont. 450, 276 P.3d 920. Under this Preliminary Determination, the relevant change criteria in §85-2-402(2), MCA, are:

(2) Except as provided in subsections (4) through (6), (15), (16), and (18) and, if applicable, subject to subsection (17), the department shall approve a change in appropriation right if the appropriator proves by a preponderance of evidence that the following criteria are met:

(a) The proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been issued or for which a state water reservation has been issued under part 3.

(b) The proposed means of diversion, construction, and operation of the appropriation works are adequate, except for: (i) a change in appropriation right for instream flow pursuant to 85-2-320 or 85-2-436; (ii) a temporary change in appropriation right for instream flow pursuant to 85-2-408; or (iii) a change in appropriation right pursuant to 85-2-420 for mitigation or marketing for mitigation.

(c) The proposed use of water is a beneficial use.

(d) The applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use or, if the proposed change involves a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water. This subsection (2)(d) does not apply to: (i) a change in appropriation right for instream flow pursuant to 85-2-320 or 85-2-436; (ii) a temporary change in appropriation right for instream flow pursuant to 85-2-408; or (iii) a change in appropriation right pursuant to 85-2-420 for mitigation or marketing for mitigation.

9. The evaluation of a proposed change in appropriation does not adjudicate the underlying right(s). The Department's change process only addresses the water right holder's ability to make a different use of that existing right. *E.g., Hohenlohe*, at ¶¶ 29-31; *Town of Manhattan*, at ¶8; *In the Matter of Application to Change Appropriation Water Right No.41F-31227 by T-L Irrigation Company* (DNRC Final Order 1991).

HISTORIC USE AND ADVERSE EFFECT

FINDINGS OF FACT - Historic Use

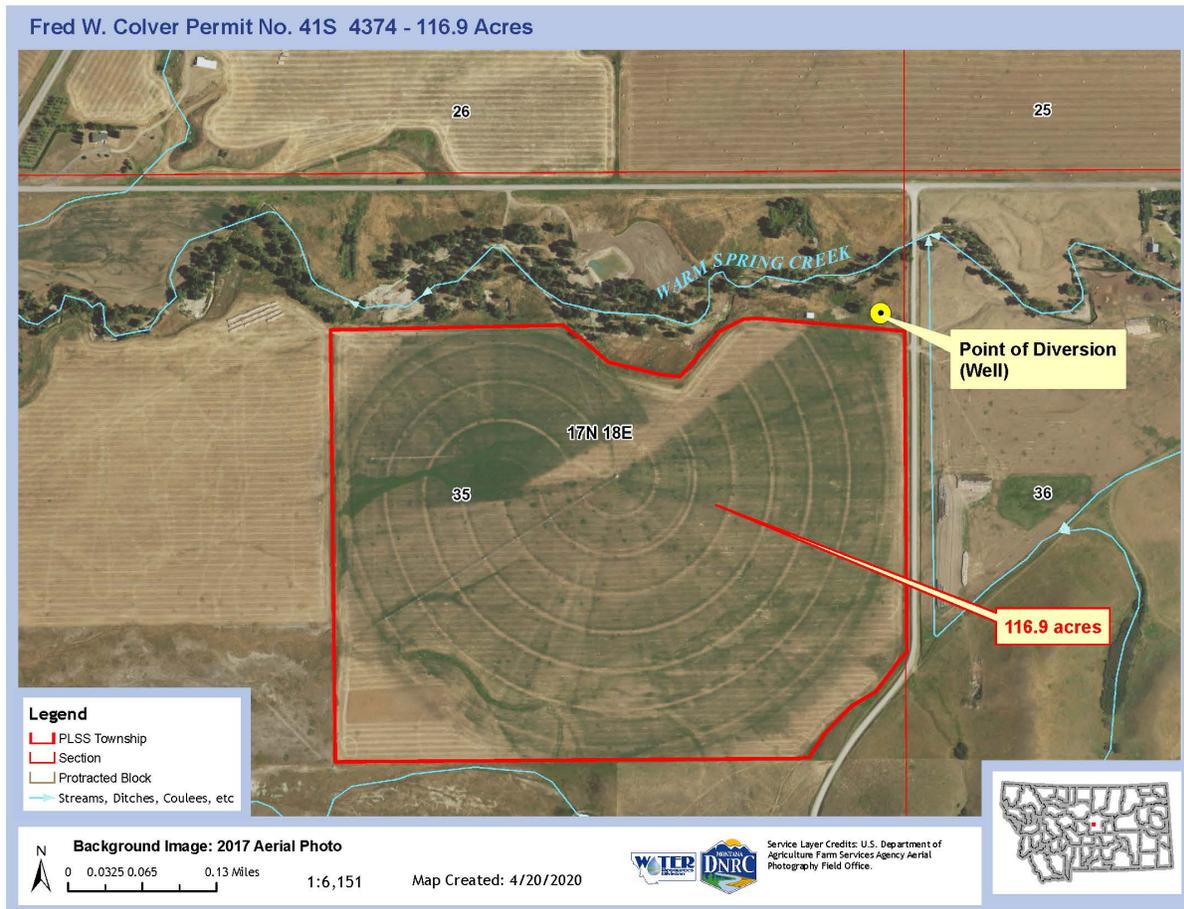
Permit Verification

10. The water right to be changed is Permit No. 41S 4374. In 2001 the Department conducted verification of 41S 4374, which included analysis of information provided by the permittee and a review of the existing record. Information submitted by the permittee included a Water Use Permit Questionnaire outlining details of the type of equipment historically used (pump and irrigation equipment), operating schedule, type of crop irrigated, a map of the place of use, etc. The Department verified the Permit as indicated in the table below, documenting its findings on a Permit Verification Abstract. The abstract was signed by the permittee (Fred W. Colver)

acknowledging his agreement with the Department's findings, as well as the Department's Regional Manager, Scott Irvin. A Draft Certificate of Water Right for Perfected Permit to Appropriate Water was issued on April 17, 2002, memorializing the verified elements of the water right. File for 41S 4374.

TABLE 2: VERIFIED ELEMENTS OF 41S 4374

WR Number	Purpose	Source	Flow Rate	Diverted Volume	Period of Diversion / Period of Use	Point of Diversion	Place of Use	Priority Date	Acres Irrigated
41S 4374	Irrigation	Ground -water	1.23 CFS	70.0 AF	Apr 1 – Nov 1	NENENE Section 35, T17N, R18E	NE1/4 Sec 35, T17N, R18E	Dec 11, 1974	116.9



11. During the verification process an error was made by the Department in documenting the historical period of diversion/use. The permittee filed a Water Use Permit Questionnaire asserting the actual period of diversion/use was May 20 through September 20, as opposed to the verified period of April 1 through November 1. The Department mistakenly verified the period as that initially permitted (April 1 through November 1) and issued the Draft Certificate with the extended date. The permittee was requested to address the discrepancy in a deficiency letter sent by the Department during the present change process, and responded that the actual, historic period should be April 20 through September 20. The Applicant asserts that historical appropriations have occurred as soon as water became available in the source – sometimes as early as April 20. Applicant's asserted period falls within the standard growing season start date of April 20 for the project area. The Department finds the historical period of diversion/use to be April 20 through September 20, and this period is the only element of the Permit that varies from the 2001 verification. Applicant's deficiency response.

Consumptive Volume

12. Calculation of consumed volume using the Department's standard methodology set out in administrative rule (ARM 36.12.1902) is not applicable in this instance, because the resulting value is greater than that permitted for Permit No. 41S 4374. The Department will calculate consumed volume using the verified diverted volume of 70.0 AF, efficiency rate of the irrigation system, and estimated irrecoverable losses.

13. The traveling big gun system historically used for irrigation purposes is considered to have an on-farm efficiency rate of 67%, with no system losses incurred from diversion through conveyance (appropriations historically occurred from a groundwater well and conveyed to the irrigation system via a pipeline). With a diverted volume of 70 AF, and an on-farm efficiency rate of 67%, crop consumption is equal to 46.9 AF ($70 \text{ AF} \times 0.67 = 46.9 \text{ AF}$). Additionally, the Department's methodology of calculating consumed volume factors in irrecoverable losses, which includes water not used by the crop, yet is removed from the hydrologic system (e.g. evaporative losses at the field that do not return to groundwater or surface water). The Department assumes 10% of the volume applied to the field by a sprinkler system is consumed or irrecoverably lost. Therefore, in this instance, irrecoverable losses are calculated to be 7.0 AF ($0.10 \times 70 \text{ AF} = 7.0 \text{ AF}$). Department Technical Report.

14. The Department finds the total historic consumed volume to be 53.9 AF, including crop consumption and irrecoverable losses ($46.9 \text{ AF} + 7.0 \text{ AF} = 53.9 \text{ AF}$).

Supplemental Water Right

15. The irrigated place of use for Permit No. 41S 4374 overlaps with Statement of Claim No. 41S 48825. 41S 48825 claims 112 acres of historical irrigation with the source being Warm Spring Creek. The place of use permitted and claimed for both water rights is the same, minus 4.9 acres. The Applicant asserts 41S 48825 is likely to be terminated during future adjudication proceedings due to issue remarks that exist on the claim relating to non-perfection and/or abandonment. The Applicant did not provide evidence of historic use for 41S 48825, and in fact commented that his intention is that 41S 4374 “replace” 41S 48825. In light of the lack of evidence of historic use under the supplemental water right, and for purposes of this change proceeding, the Department finds that all water applied to the overlapping place of use is only associated with 41S 4374. A condition is imposed in this Preliminary Determination that authorization to change 41S 4374 is revoked if 41S 48825 is put to beneficial use. Water right records; Application; Conditions Section.

16. The following table displays the Department’s findings for historical use of Permit No. 41S 4374, as determined for this change application proceeding. Department Technical Report.

TABLE 3: HISTORIC USE OF 41S 4374

WR Number	Purpose	Source	Flow Rate	Div/Con Volume	Period of Diversion / Period of Use	Point of Diversion	Place of Use	Priority Date	Acres Irrigated
41S 4374	Irrigation	Ground -water	1.23 CFS	Div Vol = 70.0 AF Cons Vol = 53.9 AF	Apr 20 – Sept 20	NENENE Section 35, T17N, R18E	NE1/4 Sec 35, T17N, R18E	Dec 11, 1974	116.9

FINDINGS OF FACT – Adverse Effect

17. Applicant proposes to change the point of diversion, add storage, and reduce the irrigated place of use from 116.9 acres to 97.0 acres. The proposal includes a change from a groundwater well (depth = 27.5 feet) in the NENENE Section 35, T17N, R18E, to a groundwater pit (depth = 12 feet) 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. A change in irrigation method from a less efficient traveling big gun to a more efficient center pivot is planned. Application.

18. The historical flow rate diverted from the groundwater well was 550 GPM, or 1.23 CFS. No flow rate will be authorized under the proposed operation because of the following: 1) the appropriator has no control over the natural filling rate or upwelling of groundwater in the pit, and that rate will vary with hydrologic conditions; and 2) when the pumping system is in operation it will appropriate stored water. In August 2017 the Department investigated the natural filling rate by monitoring multiple pump-recovery cycles when the secondary pumping system was operating. The Department measured the fill rate at 318 GPM, or 0.71 CFS, but that was during an especially dry period. During wetter periods and higher stream flow conditions the pit may naturally fill at a different rate after a pumping cycle. Department Technical Report; Amman Pump-Recovery Memo, August 29, 2017; Permit verification for 41S 4374.

19. The proposal to change the irrigation method results in a more efficient and higher consuming system. The on-farm efficiency rate of the historic big gun system was 67%, and the efficiency rate of the center pivot system is 80%. In order to ensure no increase in *consumed volume* over historic levels (53.9 AF), the Department has determined the volume diverted to the center pivot from the secondary diversion in the groundwater pit shall be 59.4 AF. Diverting 59.4 AF from the secondary diversion results in a total consumed volume of 53.9 AF, including estimated evaporative losses of 0.5 AF from the pit.¹ The consumed volume calculations follow:

Total Consumed Volume = Crop Consumption + Irrecoverable Losses + Pit Evaporation

Crop Consumption=59.4 AF (volume applied to crop) X 0.80 (on-farm efficiency) = 47.5 AF

+

Irrecoverable Losses= 59.4 AF (volume applied to crop) X 0.10 (estimated) = 5.9 AF

Total Consumed Volume= 47.5 AF (crop cons) + 5.9 AF (irrecov loss) + 0.5 AF (pit evap) = 53.9 AF

The calculations show that a total volume of 59.9 AF, including the volume diverted to the center pivot (59.4 AF) and pit evaporation (0.5 AF), will result in a decrease in diverted volume over the historical operation, and the same estimated consumed volume. The volume is insufficient to

¹ Calculated evaporation from the groundwater pit has only been included on this water right for a portion. The Applicant owns a separate stockwater right (41S 30120663) on the pit that already includes evaporation during the period December 1 to April 30 and September 1 to December 31.

meet full-service crop production on the place of use, but will result in greater production than a dryland farming operation. A condition of water measurement is imposed in this Preliminary Determination so that the permittee can monitor and control appropriations throughout the irrigation season. Department Technical Report.

20. The historical means of diversion is an excavated, 27.5-foot deep groundwater well (24-inch casing) in the NENENE Section 35, and the proposed means of diversion is an excavated, 12-foot deep groundwater pit in the NENWNE Section 35. The proposed pit is located $\frac{1}{4}$ mile to the west of the well. The new pit is approximately 50 feet from Warm Spring Creek and the existing well is approximately 60 feet from the creek. Application; Department Groundwater Change Report.

21. Department Groundwater Hydrologist Attila Fohnagy evaluated technical elements of the proposed change including the hydraulic connection of the shallow aquifer at the location of the proposed pit and existing well to surface water; the change in rate, timing and location of depletions to surface water from the existing well and proposed pit; and an evaluation of any changes in drawdown in nearby wells as a result of the proposed change. Fohnagy concluded the following:

- a. The source of water for both the existing groundwater well and proposed pit is the alluvial aquifer of Warm Spring Creek. Both developments are located roughly equal in distance to Warm Spring Creek, and both do or will deplete surface flows in the creek. The proposed pit is located approximately 1,380 feet west of the existing well.
- b. Groundwater modeling indicates that monthly net depletions to Warm Spring Creek are the same for the existing well and proposed pit due to both being approximately equidistant from the creek. Depletions generally occur during the period of April through August, and accrue within hours to days to the adjacent reaches of Warm Spring Creek.
- c. Groundwater modeling indicates there are no groundwater rights within the source aquifer that are predicted to experience drawdown greater than 1 foot from pumping of the proposed pit. Therefore, no groundwater rights will be affected due to the locational change in diversion.
- d. Return flows from the old and proposed irrigation systems will enter back into Warm Spring Creek at the same location.

22. Applicant's consultant, Willis Weight, WDW Writing, Consulting & Planning, Inc., provided planning, oversight and analysis of two aquifer tests conducted in 2017 and 2018 at the proposed

groundwater pit.² Mr. Weight provided analysis of the aquifer tests in a November 3, 2017 letter and March 2, 2020 letter, indicating that no drawdown or impacts were registered in any of the nearby wells that were monitored during the tests. He also submitted Form 633 including data collected during the testing. File.

23. As part of his plan to prevent adverse effects to surface water users on Warm Spring Creek, the Applicant asserts he will limit appropriations of water to when Warm Spring Creek is flowing. The Applicant states “This practice should allow Warm Springs Creek to continue to supply surface water to existing water users downstream.” Additionally, Applicant has agreed to a condition of water measurement to monitor and regulate his appropriation. Applicant’s deficiency response; email communication with Applicant’s attorney on May 21, 2020.

24. Based on the record the Department finds there will be no increase in the amount of water diverted or consumed under the proposed change, no changes in the timing, amount or relative location of depletions to surface water, and no change in impacts to other groundwater rights. However, because of the relatively direct hydraulic connection and proximity of the proposed pumping pit to Warm Spring Creek, the groundwater appropriation may be subject at times to senior surface water rights on the stream, based on the relative status of its priority date. The appropriator should be prepared to cease diversion if a valid call is made by a senior water right holder on Warm Spring Creek.

25. Under the conditions imposed in this Preliminary Determination, the Department finds there will be no adverse effects to other water rights. Conditions Section.

BENEFICIAL USE

FINDINGS OF FACT

26. The diverted volume to be beneficially used is 59.9 AF annually. The total volume includes 59.4 AF in diversions from the secondary pumping system to the center pivot, and 0.5 AF in evaporation from the groundwater pit. Department Technical Report.

27. The volume of water to be distributed to the center pivot is less than that necessary to supply full-service irrigation. The proposed diverted volume from the secondary diversion is 59.4

² A variance was granted to the Applicant from select aquifer testing procedures outlined in ARM 36.12.121 (3(a), 3(c), 3 (e), 3(k), 3(h), and 3(j)). The Department’s expert, Attila Fohnagy, had sufficient information to make technical recommendations without the noted procedures.

AF, or 0.61 AF/acre. The volume is restricted so there is no increase in consumptive use over that historically used and certified by the Department for Permit No. 41S 4374. The standard volume for center pivot irrigation in the project area is 1.31 AF/acre, after factoring in a system efficiency rate of 80%. Although the appropriation represents deficit irrigation, the Applicant will benefit by producing more crop tonnage than under a dryland crop operation.

28. A secondary diversion in the pit will pump water at a rate of 2.03 CFS, or about 9.4 GPM/acre, to the irrigation system. The flow rate of water delivered to the place of use is within the standard per-acre range of modern center pivot irrigation systems. Amman Pump-Recovery Memo, August 29, 2017; Department Technical Report.

29. The Department finds the amount of water to be used is a beneficial use. Appropriations from the pit will be measured to allow the appropriator to monitor and control his water use.

ADEQUATE DIVERSION

FINDINGS OF FACT

30. The proposed means of diversion is a groundwater pit (excavated pit) in the NENWNE Section 35. The source aquifer for the pit is the shallow alluvial aquifer of Warm Spring Creek. The depth of the pit is 12 feet with a surface area of 0.6 acres, and a capacity of 3.8 acre-feet (AF). The pit will provide storage for cycling water to the irrigation system. A pumping system (secondary diversion) installed in the pit is planned to supply groundwater via pipeline to a 97-acre center pivot at a rate of 2.03 CFS. The place of use is in the NE1/4 Section 35.

31. The natural filling rate or upwelling of groundwater into the pit (flow rate) was measured by the Department in 2017 at an average rate of 318 gallons per minute (GPM), based on a series of pump and recovery cycles. Amman Pump-Recovery Memo, August 29, 2017. The recovery rate after each pumping cycle is expected to vary due to shifting aquifer recharge rates, or site-specific climatic conditions (e.g. pumping cycles may be more frequent during spring runoff conditions, when the shallow aquifer is capable of recharging the groundwater pit at a faster rate than during drier conditions). The Department will not authorize the proposed change with a specific flow rate.

32. Mechanical irrigation system infrastructure includes the following: a stationary Cornell, 4RB-1800 RPM, 40-horsepower pump that diverts water from the pit at a flow rate of 910 GPM (2.03 CFS). The pump supplies water to a Zimmatic Model 9500P center pivot through a 10-inch

pipeline. The pump and irrigation system were designed by Big Sky Irrigation, an irrigation equipment dealer in Billings, Montana. Specification charts of the pump, mainline, and center pivot system, and a diagram of the pivot, are included in the file.

33. The Department finds the proposed means of diversion, construction, and operation of the appropriation works to be adequate.

POSSESSORY INTEREST

FINDINGS OF FACT

34. The Applicant signed the affidavit on the application form affirming he has possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. (Department file)

CONCLUSIONS OF LAW

HISTORIC USE AND ADVERSE EFFECT

35. Montana's change statute codifies the fundamental principles of the Prior Appropriation Doctrine. Sections 85-2-401 and -402(1)(a), MCA, authorize changes to existing water rights, permits, and water reservations subject to the fundamental tenet of Montana water law that one may change only that to which he or she has the right based upon beneficial use. A change to an existing water right may not expand the consumptive use of the underlying right or remove the well-established limit of the appropriator's right to water actually taken and beneficially used. An increase in consumptive use constitutes a new appropriation and is subject to the new water use permit requirements of the MWUA. McDonald v. State, 220 Mont. 519, 530, 722 P.2d 598, 605 (1986)(beneficial use constitutes the basis, measure, and limit of a water right); Featherman v. Hennessy, 43 Mont. 310, 316-17, 115 P. 983, 986 (1911)(increased consumption associated with expanded use of underlying right amounted to new appropriation rather than change in use); Quigley v. McIntosh, 110 Mont. 495, 103 P.2d 1067, 1072-74 (1940)(appropriator may not expand a water right through the guise of a change – expanded use constitutes a new use with a new priority date junior to intervening water uses); Allen v. Petrick, 69 Mont. 373, 222 P. 451(1924)(“quantity of water which may be claimed lawfully under a prior appropriation is limited to that quantity within the amount claimed which the appropriator has needed, and which within a reasonable time he has actually and economically applied to a beneficial use. . . . it may be said that the principle of beneficial use is the one of paramount importance . . . The appropriator does not own the water. He has a right of ownership in its use only”); Town of Manhattan, at ¶ 10 (an

appropriator's right only attaches to the amount of water actually taken and beneficially applied); Town of Manhattan v. DNRC, Cause No. DV-09-872C, Montana Eighteenth Judicial District Court, *Order Re Petition for Judicial Review*, Pg. 9 (2011)(the rule that one may change only that to which it has a right is a fundamental tenet of Montana water law and imperative to MWUA change provisions); In the Matter of Application to Change a Water Right No. 41I 30002512 by Brewer Land Co. LLC, DNRC Proposal For Decision and Final Order (2004).³

36. Sections 85-2-401(1) and -402(2)(a), MCA, codify the prior appropriation principles that Montana appropriators have a vested right to maintain surface and ground water conditions substantially as they existed at the time of their appropriation; subsequent appropriators may insist that prior appropriators confine their use to what was actually appropriated or necessary for their originally intended purpose of use; and, an appropriator may not change or alter its use in a manner that adversely affects another water user. Spokane Ranch & Water Co. v. Beatty, 37 Mont. 342, 96 P. 727, 731 (1908); Quigley, 110 Mont. at 505-11, 103 P.2d at 1072-74; Matter of Royston, 249 Mont. at 429, 816 P.2d at 1057; Hohenlohe, at ¶¶43-45.⁴

37. The cornerstone of evaluating potential adverse effect to other appropriators is the determination of the "historic use" of the water right being changed. Town of Manhattan, at ¶10 (recognizing that the Department's obligation to ensure that change will not adversely affect other water rights requires analysis of the actual historic amount, pattern, and means of water use). A change applicant must prove the extent and pattern of use for the underlying right proposed for change through evidence of the historic diverted amount, consumed amount, place of use, pattern of use, and return flow because a statement of claim, permit, or decree may not include the beneficial use information necessary to evaluate the amount of water available for change or

³ DNRC decisions are available at:

http://www.dnrc.mt.gov/wrd/water_rts/hearing_info/hearing_orders/hearingorders.asp

⁴ See also Holmstrom Land Co., Inc., v. Newlan Creek Water District, 185 Mont. 409, 605 P.2d 1060 (1979); Lokowich v. Helena, 46 Mont. 575, 129 P. 1063(1913); Thompson v. Harvey, 164 Mont. 133, 519 P.2d 963 (1974)(plaintiff could not change his diversion to a point upstream of the defendants because of the injury resulting to the defendants); McIntosh v. Graveley, 159 Mont. 72, 495 P.2d 186 (1972)(appropriator was entitled to move his point of diversion downstream, so long as he installed measuring devices to ensure that he took no more than would have been available at his original point of diversion); Head v. Hale, 38 Mont. 302, 100 P. 222 (1909)(successors of the appropriator of water appropriated for placer mining purposes cannot so change its use as to deprive lower appropriators of their rights, already acquired, in the use of it for irrigating purposes); and, Gassert v. Noyes, 18 Mont. 216, 44 P. 959(1896)(change in place of use was unlawful where reduced the amount of water in the source of supply available which was subject to plaintiff's subsequent right).

potential for adverse effect.⁵ A comparative analysis of the historic use of the water right to the proposed change in use is necessary to prove the change will not result in expansion of the original right, or adversely affect water users who are entitled to rely upon maintenance of conditions on the source of supply for their water rights. Quigley, 103 P.2d at 1072-75 (it is necessary to ascertain historic use of a decreed water right to determine whether a change in use expands the underlying right to the detriment of other water user because a decree only provides a limited description of the right); Royston, 249 Mont. at 431-32, 816 P.2d at 1059-60 (record could not sustain a conclusion of no adverse effect because the applicant failed to provide the Department with evidence of the historic diverted volume, consumption, and return flow); Hohenlohe, at ¶44-45; Town of Manhattan v. DNRC, Cause No. DV-09-872C, Montana Eighteenth Judicial District Court, *Order Re Petition for Judicial Review*, Pgs. 11-12 (proof of historic use is required even when the right has been decreed because the decreed flow rate or volume establishes the maximum appropriation that may be diverted, and may exceed the historical pattern of use, amount diverted or amount consumed through actual use); Matter of Application For Beneficial Water Use Permit By City of Bozeman, Memorandum, Pgs. 8-22 (Adopted by DNRC *Final Order* January 9, 1985)(evidence of historic use must be compared to the proposed change in use to give effect to the implied limitations read into every decreed right that an appropriator has no right to expand his appropriation or change his use to the detriment of juniors).⁶

⁵A claim only constitutes *prima facie* evidence for the purposes of the adjudication under § 85-2-221, MCA. The claim does not constitute *prima facie* evidence of historical use in a change proceeding under §85-2-402, MCA. For example, most water rights decreed for irrigation are not decreed with a volume and provide limited evidence of actual historic beneficial use. §85-2-234, MCA

⁶ Other western states likewise rely upon the doctrine of historic use as a critical component in evaluating changes in appropriation rights for expansion and adverse effect: Pueblo West Metropolitan District v. Southeastern Colorado Water Conservancy District, 717 P.2d 955, 959 (Colo. 1986)(“[O]nce an appropriator exercises his or her privilege to change a water right ... the appropriator runs a real risk of requantification of the water right based on actual historical consumptive use. In such a change proceeding a junior water right ... which had been strictly administered throughout its existence would, in all probability, be reduced to a lesser quantity because of the relatively limited actual historic use of the right.”); Santa Fe Trail Ranches Property Owners Ass'n v. Simpson, 990 P.2d 46, 55 -57 (Colo., 1999); Farmers Reservoir and Irr. Co. v. City of Golden, 44 P.3d 241, 245 (Colo. 2002)(“We [Colorado Supreme Court] have stated time and again that the need for security and predictability in the prior appropriation system dictates that holders of vested water rights are entitled to the continuation of stream conditions as they existed at the time they first made their appropriation); Application for Water Rights in Rio Grande County, 53 P.3d 1165, 1170 (Colo. 2002); Wyo. Stat. § 41-3-104 (When an owner of a water right wishes to change a water right ... he shall file a petition requesting permission to make such a change The change ... may be allowed provided that the quantity of water transferred ... shall not exceed the amount of water historically diverted under the existing use, nor increase the historic rate of diversion under the existing use, nor increase the historic amount consumptively used under the existing use, nor decrease the historic amount of return flow, nor in any manner injure other existing lawful appropriators.); Basin Elec. Power Co-op. v. State Bd. of Control, 578 P.2d 557,

38. An applicant must also analyze the extent to which a proposed change may alter historic return flows for purposes of establishing that the proposed change will not result in adverse effect. The requisite return flow analysis reflects the fundamental tenant of Montana water law that once water leaves the control of the original appropriator, the original appropriator has no right to its use and the water is subject to appropriation by others. E.g., Hohenlohe, at ¶144; Rock Creek Ditch & Flume Co. v. Miller, 93 Mont. 248, 17 P.2d 1074, 1077 (1933); Newton v. Weiler, 87 Mont. 164, 286 P. 133(1930); Popham v. Holloron, 84 Mont. 442, 275 P. 1099, 1102 (1929); Galiger v. McNulty, 80 Mont. 339, 260 P. 401 (1927); Head v. Hale, 38 Mont. 302, 100 P. 222 (1909); Spokane Ranch & Water Co., 37 Mont. at 351-52, 96 P. at 731; Hidden Hollow Ranch v. Fields, 2004 MT 153, 321 Mont. 505, 92 P.3d 1185; In the Matter of Application for Change Authorization No. G (W)028708-411 by Hedrich/Straugh/Ringer, DNRC Final Order (Dec. 13, 1991); In the Matter of Application for Change Authorization No. G(W)008323-G76l By Starkel/Koester, DNRC Final Order (Apr. 1, 1992); In the Matter of Application to Change a Water Right No. 411 30002512 by Brewer Land Co, LLC, DNRC Proposal For Decision and Final Order (2004); Admin. R.M. 36.12.101(56)(Return flow - that part of a diverted flow which is not consumed by the appropriator and returns underground to its original source or another source of water - is not part of a water right and is subject to appropriation by subsequent water users).⁷

39. Although the level of analysis may vary, analysis of the extent to which a proposed change may alter the amount, location, or timing return flows is critical in order to prove that the proposed change will not adversely affect other appropriators who rely on those return flows as part of the source of supply for their water rights. Royston, 249 Mont. at 431, 816 P.2d at 1059-60; Hohenlohe, at ¶¶ 45-6 and 55-6; Spokane Ranch & Water Co., 37 Mont. at 351-52, 96 P. at 731. Noted Montana Water Law scholar Al Stone explained that the water right holder who seeks to change a water right is unlikely to receive the full amount claimed or historically used at the original place of use due to reliance upon return flows by other water users. Montana Water Law, Albert

564 -566 (Wyo,1978) (a water right holder may not effect a change of use transferring more water than he had historically consumptively used; regardless of the lack of injury to other appropriators, the amount of water historically diverted under the existing use, the historic rate of diversion under the existing use, the historic amount consumptively used under the existing use, and the historic amount of return flow must be considered.)

⁷ The Montana Supreme Court recently recognized the fundamental nature of return flows to Montana's water sources in addressing whether the Mitchell Slough was a perennial flowing stream, given the large amount of irrigation return flow which feeds the stream. The Court acknowledged that the Mitchell's flows are fed by irrigation return flows available for appropriation. Bitterroot River Protective Ass'n, Inc. v. Bitterroot Conservation Dist. 2008 MT 377, ¶¶ 22, 31, 43, 346 Mont. 508, ¶¶ 22, 31,43, 198 P.3d 219, ¶¶ 22, 31,43(citing Hidden Hollow Ranch v. Fields, 2004 MT 153, 321 Mont. 505, 92 P.3d 1185).

W. Stone, Pgs. 112-17 (State Bar of Montana 1994).

40. In Royston, the Montana Supreme Court confirmed that an applicant is required to prove lack of adverse effect through comparison of the proposed change to the historic use, historic consumption, and historic return flows of the original right. 249 Mont. at 431, 816 P.2d at 1059-60. More recently, the Montana Supreme Court explained the relationship between the fundamental principles of historic beneficial use, return flow, and the rights of subsequent appropriators as they relate to the adverse effect analysis in a change proceeding in the following manner:

The question of adverse effect under §§ 85-2-402(2) and -408(3), MCA, implicates return flows. A change in the amount of return flow, or to the hydrogeologic pattern of return flow, has the potential to affect adversely downstream water rights. There consequently exists an inextricable link between the “amount historically consumed” and the water that re-enters the stream as return flow. . . .

An appropriator historically has been entitled to the greatest quantity of water he can put to use. The requirement that the use be both beneficial and reasonable, however, proscribes this tenet. This limitation springs from a fundamental tenet of western water law—that an appropriator has a right only to that amount of water historically put to beneficial use—developed in concert with the rationale that each subsequent appropriator “is entitled to have the water flow in the same manner as when he located,” and the appropriator may insist that prior appropriators do not affect adversely his rights.

This fundamental rule of Montana water law has dictated the Department’s determinations in numerous prior change proceedings. The Department claims that historic consumptive use, as quantified in part by return flow analysis, represents a key element of proving historic beneficial use.

We do not dispute this interrelationship between historic consumptive use, return flow, and the amount of water to which an appropriator is entitled as limited by his past beneficial use.

Hohenlohe, at ¶¶ 42-45 (internal citations omitted).

41. The Department’s rules reflect the above fundamental principles of Montana water law and are designed to itemize the type evidence and analysis required for an applicant to meet its burden of proof. Admin.R.M. 36.12.1901 through 1903. These rules forth specific evidence and analysis required to establish the parameters of historic use of the water right being changed. Admin.R.M. 36.12.1901 and 1902. The rules also outline the analysis required to establish a lack of adverse effect based upon a comparison of historic use of the water rights being changed to the proposed use under the changed conditions along with evaluation of the potential impacts of the change on other water users caused by changes in the amount, timing, or location of historic diversions and return flows. Admin.R.M. 36.12.1901 and 1903.

42. While evidence may be provided that a particular parcel was irrigated, the actual amount of water historically diverted and consumed is critical. E.g., In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC., DNRC Proposal for Decision adopted by Final Order (2005). The Department cannot assume that a parcel received the full duty of water or that it received sufficient water to constitute full service irrigation for optimum plant growth. Even when it seems clear that no other rights could be affected solely by a particular change in the location of diversion, it is essential that the change also not enlarge an existing right. See MacDonald, 220 Mont. at 529, 722 P.2d at 604; Featherman, 43 Mont. at 316-17, 115 P. at 986; Trail's End Ranch, L.L.C. v. Colorado Div. of Water Resources 91 P.3d 1058, 1063 (Colo., 2004).

43. If an applicant seeks more than the historic consumptive use as calculated by Admin.R.M .36.12.1902 (16), the applicant bears the burden of proof to demonstrate the amount of historic consumptive use by a preponderance of the evidence. The actual historic use of water could be less than the optimum utilization represented by the calculated duty of water in any particular case. E.g., Application for Water Rights in Rio Grande County 53 P.3d 1165 (Colo., 2002) (historical use must be quantified to ensure no enlargement); In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC., supra; Orr v. Arapahoe Water and Sanitation Dist. 753 P.2d 1217, 1223 -1224 (Colo., 1988)(historical use of a water right could very well be less than the duty of water); Weibert v. Rothe Bros., Inc., 200 Colo. 310, 317, 618 P.2d 1367, 1371 - 1372 (Colo. 1980) (historical use could be less than the optimum utilization "duty of water").

44. Based upon the evidence the Applicant has proven by a preponderance of the evidence the historic use of Provisional Permit No. 41S 4374 of 1.23 CFS in flow rate, 70.0 AF in diverted volume, and 53.9 AF in consumed volume. (FOF Nos. 10-16)

45. Under the conditions imposed in this Preliminary Determination, and based upon the Applicant's comparative analysis of historic water use and planned use under the proposed change, the Applicant has proven that the proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been issued or for which a state water reservation has been issued. §85-2-402(2)(b), MCA. (FOF Nos. 17-25)

BENEFICIAL USE

46. A change applicant must prove by a preponderance of the evidence the proposed use is a beneficial use. §§85-2-102(4) and -402(2)(c), MCA. Beneficial use is and has always been the hallmark of a valid Montana water right: “[T]he amount actually needed for beneficial use within the appropriation will be the basis, measure, and the limit of all water rights in Montana . . .” McDonald, 220 Mont. at 532, 722 P.2d at 606. The analysis of the beneficial use criterion is the same for change authorizations under §85-2-402, MCA, and new beneficial permits under §85-2-311, MCA. Admin.R.M. 36.12.1801. The amount of water that may be authorized for change is limited to the amount of water necessary to sustain the beneficial use. E.g., Bitterroot River Protective Association v. Siebel, *Order on Petition for Judicial Review*, Cause No. BDV-2002-519, Montana First Judicial District Court (2003) (*affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518); Worden v. Alexander, 108 Mont. 208, 90 P.2d 160 (1939); Allen v. Petrick, 69 Mont. 373, 222 P. 451(1924); Sitz Ranch v. DNRC, DV-10-13390, Montana Fifth Judicial District Court, *Order Affirming DNRC Decision*, Pg. 3 (2011)(citing BRPA v. Siebel, 2005 MT 60, and rejecting applicant’s argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet); Toohey v. Campbell, 24 Mont. 13, 60 P. 396 (1900)(“The policy of the law is to prevent a person from acquiring exclusive control of a stream, or any part thereof, not for present and actual beneficial use, but for mere future speculative profit or advantage, without regard to existing or contemplated beneficial uses. He is restricted in the amount that he can appropriate to the quantity needed for such beneficial purposes.”); §85-2-312(1)(a), MCA (DNRC is statutorily prohibited from issuing a permit for more water than can be beneficially used).

47. Applicant proposes to use water for irrigation which is a recognized beneficial use. §85-2-102(4), MCA. Applicant has proven by a preponderance of the evidence that 59.9 AF in diverted volume is a beneficial use. §85-2-402(2)(c), MCA (FOF Nos. 26-29)

ADEQUATE MEANS OF DIVERSION

48. Pursuant to §85-2-402 (2)(b), MCA, the Applicant must prove by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate. This codifies the prior appropriation principle that the means of diversion must be reasonably effective for the contemplated use and may not result in a waste of the resource. Crowley v. 6th Judicial District Court, 108 Mont. 89, 88 P.2d 23 (1939); In the Matter

of Application for Beneficial Water Use Permit No. 41C-11339900 by Three Creeks Ranch of Wyoming LLC (DNRC Final Order 2002)(information needed to prove that proposed means of diversion, construction, and operation of the appropriation works are adequate varies based upon project complexity; design by licensed engineer adequate).

49. Pursuant to §85-2-402 (2)(b), MCA, applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. (FOF Nos. 30-33)

POSSESSORY INTEREST

50. Pursuant to §85-2-402(2)(d), MCA, the Applicant must prove by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. See also Admin.R.M. 36.12.1802

51. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. (FOF No. 34)

CONDITIONS

IN THE MATTER OF APPLICATION TO CHANGE A WATER RIGHT NO. 41S 30147282 THE DEPARTMENT FINDS THE FOLLOWING CONDITIONS ARE NECESSARY TO MEET THE STATUTORY CRITERIA FOR CHANGES OF WATER RIGHT SET FORTH AT § 85-2-402, MCA AND ALLOW FOR ISSUANCE OF THE CHANGE AUTHORIZATION:

**WATER MEASUREMENT AND RECORDS REQUIRED

THE APPROPRIATOR SHALL INSTALL A DEPARTMENT-APPROVED MEASURING DEVICE IN THE SUPPLY LINE FROM THE DIVERSION POINT TO THE CENTER PIVOT IRRIGATION SYSTEM. THE LOCATION OF THE MEASURING DEVICE MUST BE APPROVED BY THE DEPARTMENT. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. THE APPROPRIATOR SHALL KEEP A WRITTEN MONTHLY RECORD OF THE VOLUME OF ALL WATER DIVERTED UNDER THE WATER RIGHT. THE VOLUME DIVERTED BY THE PUMPING SYSTEM SHALL NOT EXCEED 59.4 AF ANNUALLY.

RECORDS OF APPROPRIATIONS SHALL BE SUBMITTED BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT RECORDS MAY BE CAUSE FOR REVOCATION OF THE AUTHORIZATION. THE

APPROPRIATOR SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES THE FLOW RATE AND VOLUME OF WATER ACCURATELY.

SUBMIT RECORDS TO:
LEWISTOWN WATER RESOURCES REGIONAL OFFICE
613 NE MAIN ST, SUITE E
LEWISTOWN, MT 59457
PHONE: (406)538-7459

****IMPORTANT INFORMATION**

THE PLACE OF USE FOR THIS WATER RIGHT OVERLAPS WITH THE CLAIMED PLACE OF USE OF 41S 48825. THIS AUTHORIZATION SHALL BE REVOKED IF 41S 48825 IS PUT TO BENEFICIAL USE.

****IMPORTANT INFORMATION**

THE GROUNDWATER APPROPRIATION ASSOCIATED WITH THIS AUTHORIZATION IS HYDRAULICALLY-CONNECTED TO WARM SPRING CREEK.

PRELIMINARY DETERMINATION

Subject to the terms and analysis in this Preliminary Determination Order, the Department preliminarily determines that this Application to Change Water Right No. 41S 30147282 should be granted subject to the following.

Applicant is authorized to change the point of diversion, add storage, and reduce the irrigated place of use for Permit No. 41S 4374. The authorized means of diversion and point of diversion is a 3.8 AF capacity groundwater pit in NENWNE Section 35, T17N, R18E. A pumping system installed in the pit (secondary diversion) shall supply groundwater to a 97-acre center pivot irrigation system in the NE1/4 Section 35, T17N, R18E. The total volume is 59.9 AF. The volume diverted from the secondary pump diversion to the irrigation system shall not exceed 59.4 AF. The appropriation is subject to the conditions outlined in the Conditions section of this Preliminary Determination.

NOTICE

This Department will provide public notice of this Application and the Department's Preliminary Determination to Grant pursuant to §85-2-307, MCA. The Department will set a deadline for objections to this Application pursuant to §§85-2-307, and -308, MCA. If this Application receives a valid objection, it will proceed to a contested case proceeding pursuant to Title 2 Chapter 4 Part 6, MCA, and §85-2-309, MCA. If this Application receives no valid objection or all valid objections are unconditionally withdrawn, the Department will grant this Application as herein approved. If this Application receives a valid objection(s) and the valid objection(s) are conditionally withdrawn, the Department will consider the proposed condition(s) and grant the Application with such conditions as the Department decides necessary to satisfy the applicable criteria. E.g., §§85-2-310, -312, MCA.

DATED this 21st day of May, 2020.

/Original signed by Scott Irvin/
Scott Irvin, Regional Manager
Lewistown Regional Office
Department of Natural Resources
and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 21st day of May 2020, by first class United States mail.

CHRISTOPHER SCOONES
662 S FERGUSON AVE, UNIT 2
BOZEMAN, MT 59718

Lewistown Regional Office (406)538-7459