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

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APPLICATION TO CHANGE WATER RIGHT NO. 41H 30102910 BY NORTON PROPERTIES LLC, NORTON RANCH HOMES LLC, AND J&D FAMILY LP	**)** **)** **)** **)**	**PRELIMINARY DETERMINATION TO GRANT CHANGE**

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On June 4, 2015, Norton Properties LLC, Norton Ranch Homes LLC, and J&D Family LP (Applicant) submitted Application to Change an Existing Irrigation Water Right No. 41H 30102910 to change Water Right Claim Nos. 41H 30023118, 41H 30023119, and 30023120 to the Bozeman Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The Applicant proposes to retire 26.40 acres of irrigation in order to leave 39.0 acre-feet (AF) of historically consumed water in the West Gallatin River to mitigate depletions caused by pending Provisional Permit No. 41H 30025398, owned by Bostwick Properties Inc. A pre-application meeting for this Application and subsequent Norton-City of Bozeman Change Application 41H 30103245 was held on March 19, 2015. The Department published receipt of the Application on its website. The Application was determined to be correct and complete as of November 11, 2015. An Environmental Assessment for this Application was completed on February 3, 2016. The Department issued a Draft Preliminary Determination to Deny the Application on April 29, 2016. The Applicant submitted an Amendment to the Application on June 7, 2016, to incorporate Water Right Claim Nos. 41H 138898-00, 41H 138899-00, 41H 138902-00, and 41H 138903-00 into this Change Application. The Amendment reset statutory timelines for the Application. The Amended Application was determined to be correct and complete as of July 22, 2016.

INFORMATION

The Department considered the following information submitted by the Applicant.

Application as Filed:

- Form No. 606 IR.
- Change in Purpose Addendum.
- Exhibits 1 through 48.

Information Received after Application Filed:

- "Norton Change Applications – Replacement Exhibit," email from Deborah Stephenson (DMS) to Troy Benn (Department) containing Farmer's Canal ditch rider notes to replace the originally submitted notes, Exhibit 25.
- "Diversion Volume Calculations," Exhibit 10 from Change Application 41H 30103245 (Norton-City of Bozeman), calculating historic diverted volume for the subject rights.
- February 9, 2016, meeting between the Department and Deborah Stephenson (DMS), refining the mitigation place of use.
- March 17, 2016, letter of 30-day extension of statutory timelines from Deborah Stephenson (DMS) to Brent Zundel (Department).
- April 12, 2016, letter of two-week extension of statutory timelines from Deborah Stephenson (DMS) to Brent Zundel (Department).
- "Bylaws of the Farmer's Canal Company of Gallatin County," received via email on April 15, 2016, from Deborah Stephenson (DMS) to Brent Zundel (Department).
- Motion to Amend, submitted by the Applicant to the Montana Water Court on April 29, 2016, clarifying the historical place of use of both the subject water rights and the groundwater claims.
- Amendment to the Application; email from Deborah Stephenson (DMS) to Brent Zundel (Department) received June 7, 2016, and signed hard copy received June 15, 2016; proposing to incorporate the retirement of the groundwater claims into the current Application.
- Amendment to Application, Appendices A, B, and C.

Information within the Department's Possession/Knowledge

- 1953 Gallatin County Water Resources Survey (Aerial Photographs from 1947, Field Mapping, Field Notes, and Published Survey).
- USDA Aerial Photos (1979, 1995, 2005).
- Farmer's Canal Company Articles of Incorporation.
- Environmental Assessment dated February 3, 2016.
- "Flow Rates to Accomplish Mitigation," notes from Troy Benn (Department) meeting with Deborah Stephenson (DMS), indicating mitigation flow rates and periods of diversion.
- Analysis of existing water rights on Aajker and Baxter Creeks, spreadsheet by Troy Benn (Department).
- Irrigation Change Application Technical Report by Troy Benn (Department).
- Revised Irrigation Change Application Technical Report by Brent Zundel (Department).

The Department has fully reviewed and considered the Environmental Assessment and evidence and argument submitted with this Application and **preliminarily determines** pursuant to the Montana Water Use Act (Title 85, chapter 2, parts 3 and 4, MCA) as follows.

WATER RIGHTS TO BE CHANGED

FINDINGS OF FACT

Subject Water Rights

1. The Applicant seeks to change Water Right Claims 41H 30023118, 41H 30023119, and 41H 30023120. Table 1, below, summarizes the rights proposed for change as currently claimed. All three water rights (the "subject rights") are fully supplemental, claiming irrigation on the same 237.27 acres. Water is diverted from the West Gallatin River at the Farmer's Canal headgate and conveyed to the place of use through the Farmer's Canal and the E. Minder Lateral. Each right has a unique priority date, and the combined flow rate of all three claims is 1,102.25 GPM (2.46 CFS). Claims 41H 30023118 and 30023119 have the same period of use from 6/1 – 10/31, while 41H 30023120 is from 5/1 – 10/1.

Table 1: Subject Water Rights Proposed for Change

Water Right Number	Purpose	Source of Water	Flow Rate	Period of Use	Point of Diversion[1]	Place of Use	Priority Date	Acres
(41H)	**(–)**	**(–)**	**(GPM)**	**(–)**	**(–)**	**(–)**	**(–)**	**(ac)**
30023118	Irrigation	West Gallatin River	372.5	6/1 – 10/31	SWNWNW, Sec. 11, T03 S, R04 E	E½SW, W½SE, SENW, SWNE, Sec. 9, T02 S, R05 E	10/15/1866	237.27
30023119			168.75	6/1 – 10/31			6/15/1881	237.27
30023120			561	5/1 – 10/1			6/1/1867	237.27
Notes: [1]Farmer's Canal headgate.								

2. The three subject water rights; 41H 30023118, 41H 30023119, and 41H 30023120; derive from 2006 splits of parent claims 41H 138901-00, 41H 138900-00, and 41H 9295-00, respectively. The place of use of 41H 9295-00 was changed to the Norton Ranch in 1988. Three child rights; 41H 30069703, 41H 30069704, and 41H 30069705; were created from the subject water rights in a 2015 split. The 1988 place of use change, 2006 split, and 2015 split are addressed in greater detail in the Historic Use Section.

Groundwater Claims

3. The original Application filed by the Applicant on June 4, 2015, and determined correct and complete on November 11, 2015, included the retirement of four water rights (the "groundwater claims") as part of the plan to prevent adverse effect from the proposed change. While the four groundwater claims were part of the correct and complete change application and analysis contained therein, the Applicant proposed to withdraw the associated groundwater rights rather than obtain a change authorization for those rights. Following the draft Preliminary Determination to Deny, the Applicant submitted an Amended Application on June 7, 2016. The Amended Application proposes to obtain a change authorization for the groundwater claims 41H 138898-00, 41H 138899-00, 41H 138902-00, and 41H 138903-00 in order to resolve one of the major issues identified in the draft Preliminary Determination to Deny. Although a separate change application would usually be required for the four groundwater claims pursuant to Rule 36.12.1901(7), ARM, under the limited procedural circumstances of this case, where the original application included analysis of these groundwater rights as part of the proposed change and was

accepted as correct and complete, the proposed change of the groundwater rights will be analyzed as part of the Amended Application.

4. These four claims were filed for controlled subirrigation of waste and seepage from an unnamed tributary of Baxter Creek and have a claimed place of use that overlaps with that of the subject water rights. The Applicant demonstrated through a preponderance of the evidence that these claims were exercised independently on a separate place of use located in the SWNE and portions of the N½NWSE of Section 9, T02 S, R05 E. Furthermore, the Applicant filed a Motion to Amend with the Montana Water Court on April 29, 2016, to clarify the above-described place of use of the groundwater claims, the place of use of the subject water rights, and the lack of a supplemental relationship between the subject water rights and the groundwater claims. The place of use and independent operation of the groundwater claims is analyzed in greater detail in the Historic Use Section. The June 7, 2016, Amendment to the Application included these groundwater claims as part of the current Application. See Finding of Fact No. 10 for further discussion of the Amendment. Table 2, below, reflects the groundwater claims as they were originally filed.

Table 2: Groundwater Claims Proposed for Change

Water Right Number	**Purpose**	**Source of Water**	**Flow Rate**	**Period of Use**	**Point of Diversion[1]**	**Place of Use[2]**	**Priority Date**	**Acres**
(41H)	**(–)**	**(–)**	**(CFS)**	**(–)**	**(–)**	**(–)**	**(–)**	**(ac)**
138898	Irrigation	Unnamed Tributary of Baxter Creek; Waste & Seepage, Unnamed Tributary of Baxter Creek	1.25	6/1 – 10/31	SWNWSE	W2SE, E2SW	9/15/1919	70.00
138899	Irrigation	Waste & Seepage, Unnamed Tributary of Baxter Creek	1.25	6/1 – 10/31	SWNWSE	NWSE, SWNE	9/15/1919	17.00
138902	Irrigation		1.25	6/1 – 10/31	SWNWSE	NWSE, SWNE, NESW, SENW	9/15/1919	45.00
138903	Irrigation		1.25	6/1 – 10/31	SESWNE	SWNE	9/15/1919	18.00

Notes: [1]All Section 9, T02 S, R05 E, Gallatin County.
[2]All Section 9, T02 S, R05 E, Gallatin County.

5. The place of use was also served by Farmer's Canal shares. The Applicant addressed how the subject water rights, Farmer's shares, and groundwater claims were operated in a discussion of historic use. See the Historic Use Section.

6. The place of use of right 41H 9295-00 was moved in Change Application 41H 929502, which was completed in 1988. Right 41H 30023120 was subsequently split from parent right 41H 9295-00 in 2006. The verification process was begun when the Notice of Completion was received but never finalized, so this change authorization was certified on March 1, 2016, using a February 24, 2000, Report of Findings; information in the file; and aerial imagery available to the Department. None of the other subject water rights or groundwater claims has been subject to a change authorization. The Farmer's Canal water rights have been subject to a previous change, but that change does not directly affect the historic use discussion for this Application.

CHANGE PROPOSAL

FINDINGS OF FACT

7. The Applicant proposes to change the purpose and place of use for the subject water rights. They propose to retire 26.40 acres from irrigation in order to provide 39.0 AF of consumptive use, which will be left in the West Gallatin River to provide mitigation for pending permit 41H 30025398, owned by Bostwick Properties Inc. In Bostwick Properties, Inc. v DNRC, 2013 MT 48, 369 Mont. 150, 296 P.3d 1154, the Montana Supreme Court found that an irrigation-season-only water right would sufficiently mitigate the depletions caused by 41H 30025398, provided that it met the following criteria: (1) a priority date senior to 1890, (2) a consumed volume of 39.0 AF or more, and (3) a point of diversion located upstream of the point where Interstate 90 crosses the West Gallatin River. The Applicant proposes to leave a constant 47.58 GPM (0.107 CFS) in the West Gallatin River from May 1 through October 31 to provide the 39.0 AF of mitigation water.

8. The originally proposed mitigation place of use was a reach from the Farmer's Canal headgate downstream along the West Gallatin River and subsequently the Gallatin River to its confluence with the Missouri River and then along a reach of the Missouri until its confluence with Canyon Ferry Reservoir. In a February 9, 2016, meeting, the Applicant's consultant,

Deborah Stephenson, refined the place of use to the reach of the West Gallatin River from the Farmer's Canal headgate to the point where Interstate 90 crosses the West Gallatin River in the N½NWSE of Section 19, T01 N, R03 E. This reach forms the new place of use for the mitigation purpose. The point of diversion will remain the Farmer's Canal headgate in the SWNWNW of Section 11, T03 S, R04 E, Gallatin County.

9. The remaining historically irrigated acreage is proposed for change under the subsequent Norton-City of Bozeman Change Application 41H 30103245.

10. On June 7, 2016, the Department received an Amendment to the Application that proposed to modify the Application to include the four groundwater claims as a part of the change. The Application, as originally received, proposed to retire the groundwater claims in order to mitigate any adverse effect caused by the loss of return flows to Aajker and Baxter Creeks due to the retirement of the historical irrigation under the subject water rights. The Amendment proposes to include the groundwater claims as part of the change. Their purpose, point of diversion, and place of use would be changed. The new purpose is mitigation. The new point of diversion and place of use for these rights will be the same; they will be two points, one on Aajker Creek and one on Baxter Creek, at the downstream end of Norton Properties, at a likely point of connection between groundwater and surface water. These points are located in the NWSENW and NESWNE of Section 9, T02 S, R05 E, for Aajker and Baxter Creeks, respectively. Instead of being diverted for irrigation, now water from the groundwater claims will be left undiverted in the ground and available to downstream users.

§85-2-402, MCA, CRITERIA

GENERAL CONCLUSIONS OF LAW

11. 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.

12. 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)Denial of a change in appropriation in whole or part does not affect the exercise of the underlying right(s). The water right holder can continue to exercise the underlying right, unchanged as it has historically. The Department's change process only addresses the water right holder's ability to make a different use of that existing right. E.g., Town of Manhattan v. DNRC, Cause No. DV-09-872C, Montana Eighteenth Judicial

District Court, *Order Re Petition for Judicial Review*, (2011) Pg. 8; *In the Matter of Application to Change Appropriation Water Right No.41F-31227 by T-L Irrigation Company* (DNRC Final Order 1991).

13. In this case, the Applicant proposes to change the subject water rights and the groundwater claims for the purpose of mitigation as provided for in §§85-2-102(4) and – 420(1), MCA.

Historic Use:

FINDINGS OF FACT

Background

Subject Water Rights

14. The place of use in this change has a fairly complex history with water. Prior to July 1, 1973, use involved two claims and shares from the Farmer's Canal. An opportunity to buy an additional senior water right to ensure full-season irrigation arose in the 1980s. A change to move the place of use of this senior right to the Norton field was completed in 1988, at which point all three of the subject water rights were being exercised on the Norton place of use. This significantly changed the water use on the field: The shares were no longer necessary, though the Applicant and the Applicant's predecessors retained the shares after completing this change until the year 2006. Due to this change, a decision has been made to focus the historic use analysis and to calculate historic use from the completion of the change to present day. Because all three rights were comingled and operated as part of the same system, historic consumptive use is calculated as of the 1988 completion of the change. Full historic use, going back to pre-July 1, 1973, is briefly analyzed to confirm that no expansion occurred.

Groundwater Claims

15. The four groundwater claims included in this change were exercised on a separate place of use of 44.50 acres and operated with an independent irrigation system composed of tile drains, sunken concrete headgates, and drain ditches, which allowed for control of the groundwater. Because these rights represent historical claims that have not been subject to any previous changes and because their irrigation system was operated independently from that of the subject water rights, historic use is analyzed prior to July 1, 1973.

Point of Diversion and Means of Conveyance

Subject Water Rights

16. The source of water for the subject place of use has always been the West Gallatin River. Rights 41H 30023118 and 41H 30023119 have always historically been diverted into the Farmer's Canal and conveyed to this place of use. Water right 41H 30023120 served a different place of use and was conveyed through the West Gallatin (Kleinschmidt) Canal until a 1988 change. The goal of this change was to procure more senior water for full season irrigation. This water was conveyed through the Farmer's Canal to the current place of use after the 1988 change authorization approval and subsequent notice of completion.

17. Water was conveyed 7.9 miles in the Farmer's Canal. The Farmer's Canal headgate is located in the SWNWNW of Section 11, T03 S, R04 E. The West Gallatin River is a major source of irrigation water in the Gallatin Valley; typically, a water commissioner is appointed every year to administer water rights. Likewise, the Farmer's Canal is a major irrigation canal in the Valley and employs a ditch rider. Water entering the Farmer's Canal is measured by two 10-foot Parshall flumes, located approximately 300 feet down the ditch from the headgate. In a clarification submitted with the June 7, 2016, Amendment, George Alberda, the current West Gallatin Water Commissioner, and Bill Tatarka, President of the Farmer's Canal Company, estimate the capacity of the Farmer's Canal at approximately 250 CFS. The Department's historical records (Water Resource Survey notes) also indicate a capacity of up to 250 CFS. Records provided by Mr. Alberda and submitted with the Application showed measurements for 2005, 2006, 2007, 2009, 2010, 2012, 2013, and 2014 (more records are available upon request, but these last 10 years are sufficiently representative for historic water use analysis, encompassing both wet and dry years); according to those records, Farmer's Canal diversion water was measured at a maximum of 103.425 CFS during those eight years. According to the Department's records, 50 rights are conveyed in the Farmer's Canal. Farmer's Canal conveys approximately 37 CFS of privately held, recorded water rights with a more senior priority date to Farmer's Canal water rights (pre-1883). Farmer's Canal also carries 275 AF of Middle Creek storage water. Farmer's Canal recorded water rights, ranging in priority from 1883 through 1892, account for approximately 234.5 CFS.

18. Water was conveyed through the Farmer's Canal to the E. Minder Lateral. At this secondary point of diversion, water was diverted into the lateral via a headgate in the NWNESW of Section 16, T02 S, R05 E. Water was conveyed approximately 3,600 feet through the lateral and then applied to the field. According to 2014 measurements and modeling conducted by Spanish Peaks Engineering & Consulting LLC, the E. Minder Lateral has a capacity of 6.3 CFS and was flowing at full capacity on August 7, 2014. A Parshall flume and staff gage measure flow in E. Minder. According to the Department's records and information provided in the Application, the E. Minder conveys the subject water rights (2.45 CFS), Norton's Farmer's shares (7.81 CFS), and Kamp's Farmer's shares (3 2/3 shares at 89 2/7 MI each = 8.18 CFS). Aerial imagery and materials related to the 1988 change application indicate that the capacity of the E. Minder Lateral did not change between 1973 and 2006. Beginning in 2006, the Applicant began to subdivide portions of the Norton Ranch. When describing the adequacy of the proposed means of diversion and conveyance in 1988, the Applicant stated that the change would only "lengthen the period of use of existing facilities, without increasing the maximum amount they are required to handle." Therefore, the measurements conducted in 2014 accurately reflect the historical capacity of the E. Minder Lateral and demonstrate that it was capable of conveying the full flow rate of the subject water rights.

Groundwater Claims

19. The sources of water for the groundwater claims are an unnamed tributary of Baxter Creek and waste and seepage, unnamed tributary of Baxter Creek, all considered groundwater. The points of diversion are two sunken concrete box headgates used to control the tile drain system. The means of diversion and conveyance for these claims are a tile drain system, sunken concrete headgates, and drain ditches. The Applicant provided a photograph of a concrete headgate used to control the drain ditch system, Farm Service Administration (FSA) maps, and maps of the historical place of use showing the location of infrastructure associated with the groundwater claims.

20. The diversion and conveyance system consists of the drain tiles, headgates, and drain ditches. According to the Applicant, the underground concrete headgates are approximately 4 feet wide by 6 feet long and are buried 5 to 6 feet below the ground surface. This is supported by two notarized Notices of Water Right, one from 1920 and the other from 1934, that are included

in the claim files. Water was collected in the drain tile and drain ditch system and the headgates were closed to back up groundwater in order to irrigate portions of the property. The 1934 Notice of Water Right further claims that; in addition to the drain tiles, headgates, and drain ditches; a pump "sufficient in size to carry" the claimed flow rate was also used to divert groundwater. The means of diversion and conveyance allowed the Applicant to exercise control over the groundwater for the purpose of irrigation.

Priority Date

Subject Water Rights

21. Water right 41H 30023118 is based upon a water right previously decreed to A.D. Weaver for 467 miner's inches (MI) with an October 15, 1866, priority date in the West Gallatin River Decree, Bell v. Armstrong, Case No. 3850, Gallatin County, dated October 7, 1909. Water right 41H 30023119 is based upon a water right previously decreed to D.P. Stone for 80 MI with a June 15, 1881, priority date also in the 1909 West Gallatin River Decree. Water right 41H 30023120 is based upon a water right previously decreed to O.T. Crawford for 101 MI with a June 1, 1867, priority date, again in the 1909 West Gallatin River Decree.

22. Provided by West Gallatin Water Commissioner George Alberda, Exhibit 24 in the Application materials is a list of calls from 2005 to 2014 that indicates the date at which water rights with varying priority dates were cut off. The subject rights are of sufficient seniority such that they were not subject to a call at any time during those 10 years. Furthermore, the Applicant stated that these three rights provide full-service irrigation and have never been subject to a call for water. The Department has no knowledge of a call for water being made against these rights. The Montana Supreme Court found in Bostwick Properties, Inc. v DNRC, 2013 MT 48, 369 Mont. 150, 296 P.3d 1154, that a right with a priority date senior to 1890 would be sufficient to mitigate the depletions caused by permit 41H 30025398. The subject rights meet that criterion.

Groundwater Claims

23. The four groundwater claims are filed historical rights with a claimed priority date of September 15, 1919. The Application states that "[i]n 1919, drain tile was installed to control the groundwater on the property." The priority date claimed on the Statement of Claims when they were filed was September 15, 1919, and the files include copies of a notarized Notice of Water Right indicating that water was first put to use under these rights on September 15, 1919. The

Gallatin County Water Resources Survey confirm historical use of the groundwater claims as of the March 4, 1953, date that the Norton place of use was surveyed. The survey includes notes regarding an appropriation of "Drainage and Waste Water" by John E. Norton and an appropriation of "Drainage" by Roger Huffine. The Montana Water Court decreed a priority date for these claims of September 15, 1919.

Place of Use

Subject Water Rights

24. Prior to 1988, claims 41H 138900-00 and 41H 138901-00 were used to irrigate the Norton Ranch in Sections 8 and 9, T02 S, R05 E. In 1988, 41H 9295-00 was moved from its place of use on the Sime Ranch in Sections 25, 30, and 36 of T02 S, R04 E, to the current place of use in Sections 8 and 9 via change application 41H 929502, which was completed in 1988. The verification process was begun at that time but never finalized, so this change authorization was certified on March 1, 2016, using a February 24, 2000, Report of Findings; information in the file; and aerial imagery available to the Department. Portions of the Norton Ranch were sold off, so the Montana Water Court split the claims in Case 41H-412. The three new rights retained by Norton Properties were 41H 30023118, 41H 30023119, and 41H 30023120, the subject water rights in this change, which claimed a place of use of 237.27 acres.

25. Figure 1, on the next page, shows a map of the historic irrigated acres under the subject rights. Of the claimed place of use, only 140 acres were actually historically irrigated with the subject water rights after completion of the 1988 change. The Applicant asserts that the rest of the claimed place of use was not irrigated under the subject rights. This assertion is supported by FSA maps from 2002 – 2014 and an affidavit from longtime neighbor, farmer, and former Montana State University Agricultural Experiment Station employee Al Lien, who is knowledgeable of irrigation practices on the Norton Ranch and in the greater Gallatin Valley. The FSA maps delineate field boundaries that align with the Applicant's map of which fields were irrigated with Big Gun sprinkler systems and wheel line sprinkler systems. Furthermore, some of the FSA maps call out portions of the SENW of Section 9 as being "to [sic] wet to seed" or being "wet!!!". In his affidavit, Mr. Lien claims that the "northern and southeastern portions of the property located approximately in the SENW, SWNE, NWNWSE and SESWSE of section 9 … was [sic] historically not irrigated with water from Farmer's Canal due to subirrigation."

Four groundwater claims, discussed in more detail later in this document, were historically used for irrigation on much of the acreage in the northern portion of the place of use but were operated independently and did not overlap with the actual, 140 acre place of use of the subject rights. The groundwater claims were operated with a system of drain tiles, underground concrete box headgates, and drain ditches. The Applicant filed a Motion to Amend with the Montana Water Court on April 29, 2016, to reflect this information.

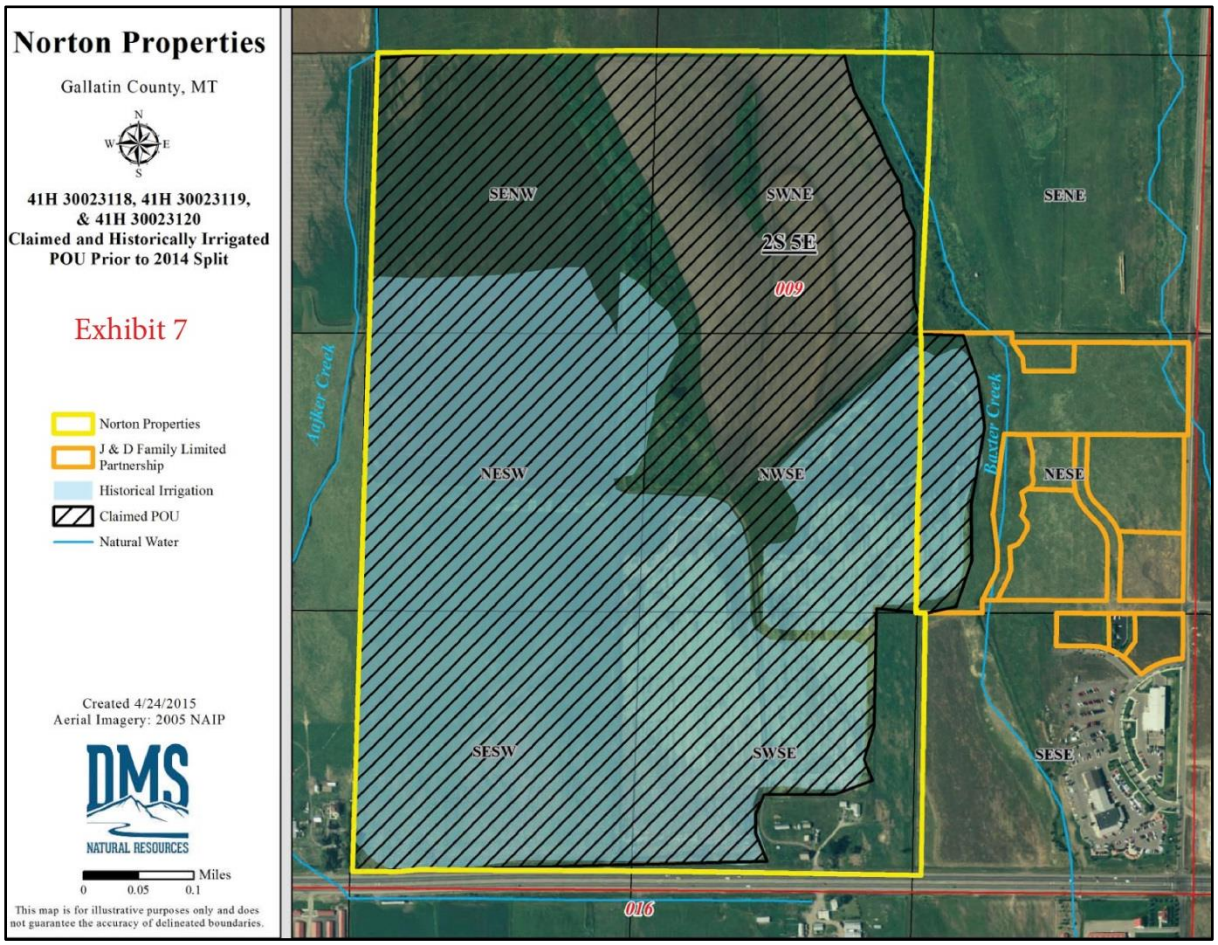

Figure 1: Map of the claimed place of use and the place of use that was actually historically irrigated under the subject water rights. Application Exhibit 7.

26. Between 2006 and 2014, portions of the Norton Ranch were subdivided, and the appurtenant water rights were conveyed to individual owners. Not all of these rights were re-acquired, so three child rights; 41H 30069703, 41H 30069704, and 41H 30069705; were created to represent the 2.73 acres of the claimed place of use that were conveyed to multiple individual owners. Of the 140 acres that were historically irrigated, 1.37 acres were conveyed to the three

child rights. Therefore, 138.63 historically irrigated acres remain with the subject water rights. The 138.63 acres are located within the E½SW, W½SE, SENW, and SWNE of Section 9. (Note that the child rights are fully supplemental and the distinction that, while they list 2.73 claimed acres on their abstracts, only 1.37 of those acres were historically irrigated, according to the information and evidence provided in this Application.) On April 29, 2016, the Applicant filed a Motion to Amend with the Montana Water Court, clarifying the place of use of the subject water rights as the 138.63 acres described above. For further discussion, see the Supplemental Rights and Non-Use Sub-Section in this Historic Use Section.

27. The Gallatin County Water Resources Survey (1953) and USDA aerial photos (1979, 1995, and 2005) confirm irrigation on the historic 138.63 acres. Water rights 41H 30023118 and 41H 30023119 have historically been exercised on the acreage since appropriation. The Water Resources Survey provides evidence that the field was irrigated under these rights prior to July 1, 1973. Right 41H 30023120 was used on the place of use after being changed in 1988 to supplement the existing rights and extend the irrigation period for low-water years, as described elsewhere in this document. USDA aerial photos, additional aerial photos available to the Department, FSA maps, an affidavit from long-time neighbor Al Lien, and interviews of the previous two farmers of the property (from 1996 – 2011) clearly indicate that the place of use has been irrigated up until the present.

Groundwater Claims

28. The Applicant demonstrated by a preponderance of the evidence that these claims were exercised independently on a separate place of use of 44.50 acres located in the SWNE and portions of the N½NWSE of Section 9, T02 S, R05 E. The Applicant provided a map of the infrastructure, showing the location of the Big Gun sprinkler system; the wheel line sprinkler system; and the tile drain, sunken headgate, and drainage ditch system – and the areas that were irrigated under each. Interviews conducted by the Applicant's consultant with two previous farmers of the property, Pat Ward (1996 – 2002) and Josh Jones (2003 – 2011) indicated that the groundwater system was operated on the northern third of the property (the SWNE and N½NWSE of Section 9). Longtime neighbor and former MSU Agricultural Experiment Research Station employee Al Lien submitted an affidavit supporting the historical use of the groundwater claims in this area. The Gallatin County Water Resources Survey and associated field notes

confirm that a groundwater appropriation by John E. Norton was in use at the time of the 1953 field inspection. Historical aerial imagery; as well as later imagery from 1981, 1995, and 2001; also supports historical use of the groundwater claims on 44.50 acres. The Applicant filed a Motion to Amend with the Montana Water Court on April 29, 2016, to clarify the place of use of the groundwater claims.

Periods of Diversion and Use

Subject Water Rights

29. The periods of diversion and use for 41H 30023118 and 41H 30023119 are from June 1 – October 31, as decreed in Bell v. Armstrong, Case No. 3850, Gallatin County, dated October 7, 1909. The periods of diversion and use for 41H 30023120 are from May 1 – October 1, as decreed in Bell v. Armstrong, Case No. 3850, Gallatin County, dated October 7, 1909. The period of use for 41H 30023120 is within the Department of Natural Resources and Conservation's adjudication guideline of April 20 to October 10 for Climatic Area IV. These same periods of diversion and use are reflected in the 1985 Temporary Preliminary Decree issued by the Montana Water Court for the Gallatin River Basin and in the Priority Date Indices published as part of the West Gallatin Enforcement Project. The Application materials included interviews with the previous two farmers of the property (from 1996 – 2011) and long-time neighbor Al Lien, which confirmed that the three subject rights have historically been exercised across their periods of use and diversion from May to October.

30. Prior to 2006, the entire place of use (claimed 480 acres) was associated with 3.5 Farmer's Canal shares. According to information in the Application and the Bylaws of the Farmer's Canal Company, each share is worth 89 2/7 MI, for a total of 7.81 CFS. The property split in 2006, being about half, gave the Applicant approximately 3.91 CFS. Farmer's shares have 1890, 1891, and 1892 priority dates and are usually curtailed by early July, according to call records from Water Commissioner George Alberda. Therefore, these shares were historically exercised in the early season, until approximately the middle of July. Once the change took place in 1988, the shares were not required for any portion of the irrigation. See the Historic Consumptive Use Sub-Section below for further discussion.

Groundwater Claims

31. The periods of diversion and use for the four groundwater claims are from June 1 – October 31. These periods of diversion and use are the same as that for subject water rights 41H 30023118 and 41H 30023119.

32. While the irrigation systems for the subject water rights and the groundwater claims were operated independently, Pat Ward and Josh Jones, previous farmers of the property from 1996 – 2011, indicated in the Application materials that the groundwater irrigation system was operated during the same time periods as the surface water rights were being exercised. The Application materials included interviews with Pat Ward, Josh Jones, and long-time neighbor Al Lien, which confirmed that these rights have historically been exercised across their periods of use and diversion.

Flow Rate

Subject Water Rights

33. Water was historically diverted from the West Gallatin River into the Farmer's Canal and conveyed 7.9 miles to the E. Minder lateral (see Figure 2 on page 19). Once in the lateral, water was conveyed 3,600 feet to the Applicant's pump, which supplied the sprinkler system. As discussed, Farmer's shares were held by the Applicant until 2006, but the shares did not substantively contribute to irrigation after the change authorization in 1988. See the Historic Consumptive Use Sub-Section for further discussion of the role of the shares. Pre-2006 data and post-2006 data show that the ditch rider delivered the full flow rate of the private water rights to the secondary diversion point (E. Minder Lateral). In this Application, the subject water rights are not credited with any conveyance losses along Farmer's Canal. The Applicant chose to attribute only late-season losses in the E. Minder Lateral to the subject water rights because the shares provided carriage water in the early season. Using the Department's 2012 Historic Diverted Volume memorandum, the Applicant calculated a value of 9.8 AF for the subject rights' late-season conveyance losses in E. Minder. Travel distance in the lateral was 3,600 feet. The Montana Bureau of Mines and Geology (MBMG) calculates average ditch loss in the Gallatin Valley as approximately 1.1 CFS/mile. Spreading the 9.8 AF of E. Minder conveyance loss across the 3,600-foot lateral over the 36-days of late season irrigation results in a loss rate of 0.20 CFS/mi, which is reasonable when compared with the Valley-wide MBMG estimate above.

The pump has a capacity of 800 GPM, which is based on a 75-HP Cornell pump (model 5WB75-2). The total combined flow rate under these rights is 1,102.25 GPM. With the flow rate of the rights minus the flow rate lost to conveyance in the lateral being available at the pump station, the excess water was discharged to Aajker Creek on the west edge of the property. In order to function properly, sprinkler irrigation systems typically require water to be available at least in the amount of their operating flow rate, if not more. In this instance, where the Applicant was pumping out of a ditch lateral, it is reasonable that a greater flow rate was required in the ditch than the capacity of the sprinkler system itself in order to ensure that the system functioned properly and that no air was introduced due to a lack of water. The excess water that was not diverted by the pump was then spilled to Aajker Creek. Therefore, the full claimed flow rate of 1,102.25 GPM between the three subject rights is reasonable and required for the beneficial use of irrigation.

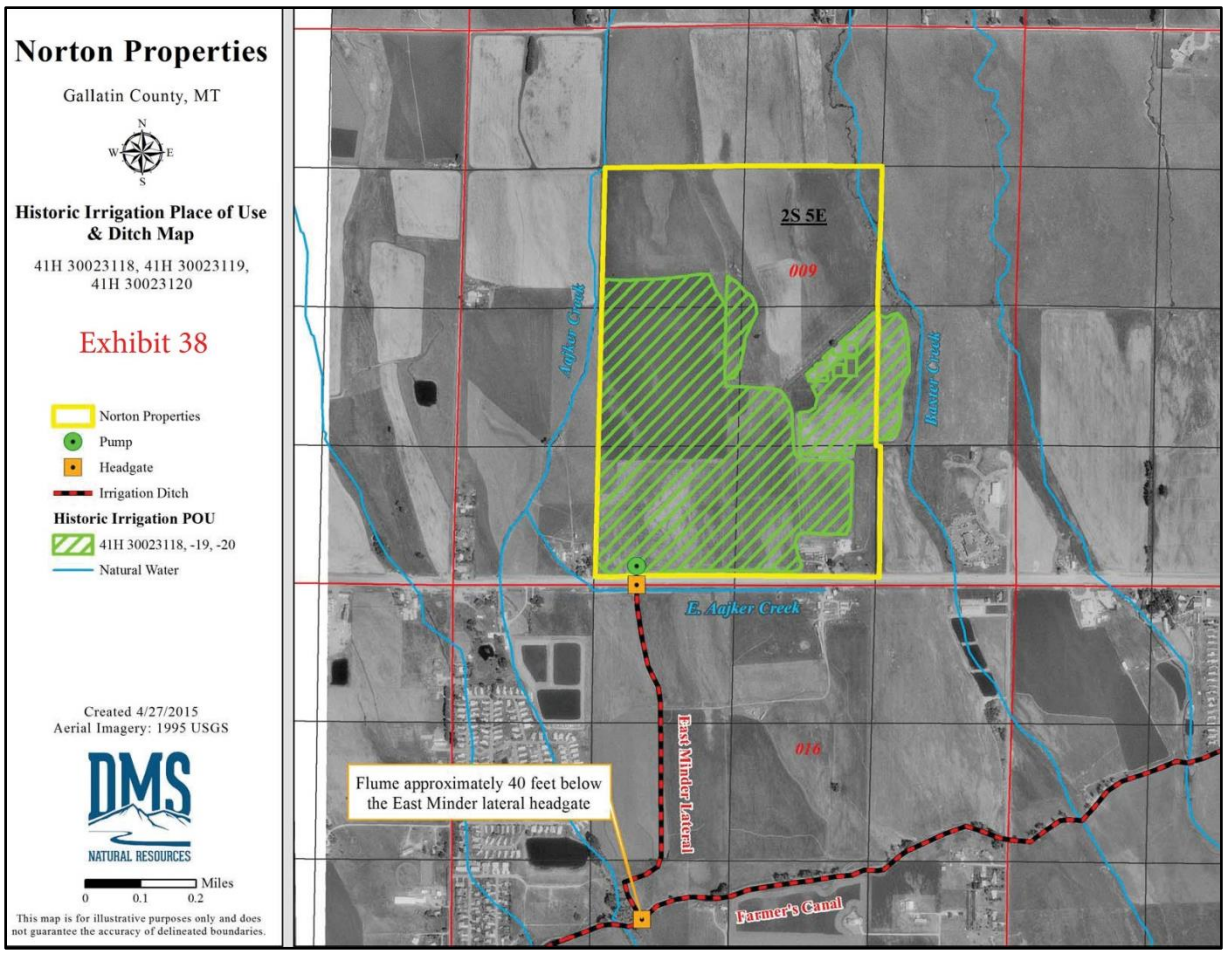

Figure 2: Map of historic place of use and conveyance system for the subject water rights. Water is diverted from the West Gallatin into Farmer's Canal and thence into the E. Minder Lateral. Water is applied to the field from the lateral, and excess water is discharged to Aajker Creek. Application Exhibit 38.

Groundwater Claims

34. The Montana Water Court does not decree flow rates for natural subirrigation claims; however, water in this system has always been controlled by a system of drain tiles, sunken concrete headgates, and drain ditches, as indicated by the evidence in the file and the information submitted in this Application. Based on this information, the Water Court decreed the claimed 1.25 CFS for each of these claims. According to information and evidence submitted in the Application, the four groundwater claims are supplemental and employ the same infrastructure to divert water. The claim files for 41H 138902-00 and 41H 138903-00 indicate that a 500 GPM (1.11 CFS) pump was used to divert water. Pumps typically require water to be available at least in amount of their operating flow rate, if not more. In this instance, it is reasonable that the

appropriator required water to be available slightly in excess of the pump's operating flow rate so as to ensure the system functioned properly and to avoid introducing air into the pump. Therefore, the claimed 1.25 CFS is reasonable. Based on the available information, these four rights have an undivided interest in the claimed 1.25 CFS flow rate. Applying the Department's adjudication guideline of 17 GPM per acre to the 44.50 acres that were historically irrigated with the groundwater claims results in 1.69 CFS. The claimed flow rates are below the Department's guideline. The Application materials state that the sunken concrete headgates are approximately 4 feet by 6 feet, which would be sufficient to back up the claimed flow rate. Groundwater in the project vicinity is shallow (less than 6 feet) and abundant – the place of use is currently being subdivided for housing development and requires dewatering. The claimed flow rate of 1.25 CFS is reasonable for the beneficial use of irrigating 44.50 acres.

Historic Consumptive Use

Subject Water Rights

35. 41H 30023120 was subject to Change Application 41H 929502, which moved the place of use for its parent right from the Sime Ranch in Sections 25, 30, and 36 of T02 S, R04 E, to the current place of use on the Norton Ranch in Section 9, T02 S, R05 E. This change was completed in 1988, and the goal was to "supplement existing rights on the described land" and "extend the period of time this land will be irrigated," as described by the Applicant in Change Application 41H 929502. Historic use is calculated for all three rights as of the date of completion of change 41H 929502 in 1988 because all three rights were historically exercised in conjunction on the same place of use and are therefore completely supplemental. The 1988 change did not constitute an enlargement of the parent right for 41H 30023120; rather, it allowed for full-season irrigation of the same historically irrigated acreage. Water rights 41H 30023118 and 41H 30023119 have been exercised on the place of use since appropriation (prior to the 1988 change and prior to the July 1, 1973, effective date of the Montana Water Use Act) as evidenced by aerial photos from 1947 and 1979.

36. The three subject water rights were historically used on the same acreage. As such, historic use has been quantified based on the total irrigated acreage. Each water right has been assigned historic use based on its flow rate proportional to the total flow rate of all three rights, 1,102.25 GPM.

37. These rights were historically used in conjunction with shares from the Farmer's Canal Company. Prior to 1988, canal shares were more important in the operation of the irrigation system and likely provided substantial conveyance water. The explicit goal of the 1988 change was to extend the irrigation season. Farmer's shares, as discussed previously, are typically cut off by early to mid-July, depending on the year. Based on the monthly breakdown of the crop Irrigation Water Requirements, the two rights that have always been exercised on the Norton Ranch (41H 30023118 and 41H 30023119) are capable of providing sufficient consumptive use for the historically irrigated acreage until mid- to late July. However, the shares likely played an important role in providing carriage water. The parent right for 41H 30023120 was added to the place of use in the 1988 change to extend the irrigation season. The Applicant owned shares until 2006, but the shares did not provide any substantive water to the irrigation use after the 1988 change. The shares were typically curtailed in mid-July and are being credited in this Application with only early season conveyance losses. It is important to note that the shares were for both the place of use involved in this Application and the nearby place of use in Section 8 (the originally claimed place of use for the parent rights for the three subject rights is 480 acres in Sections 8 and 9). Furthermore, the ditch rider's notes submitted with the Application show that management practices of the Farmer's Canal were such that the full flow rate of the private water rights was delivered to the E. Minder Lateral even after the Applicant stopped purchasing shares in 2006. Therefore, all historic consumptive use can be attributed to the subject rights, but no conveyance loss for the Farmer's Canal is credited to them.

38. The Applicant used the historic consumptive use rules in ARM 36.12.1902 to calculate historic consumptive use. The Bozeman Experiment Farm station irrigation water requirements for alfalfa were used, in addition to the 1973 – 2006 Gallatin County Management Factor and 10% irrecoverable loss for sprinklers. For the 138.63 acres that were historically irrigated, crop consumptive use was 179.18 AF. With 70% efficiency for a sprinkler system, 255.96 AF was applied to the field, so the irrecoverable loss was 25.60 AF. The total historically consumed volume was therefore 204.78 AF. These values were confirmed by Department engineer/hydrologist Troy Benn in the Technical Report.

39. The typical irrigation pattern was four 10-day sets to irrigate the entire place of use. A second irrigation of the field was conducted when alfalfa was grown. According to a description

of the pattern of use provided by Pat Ward and Josh Jones, the E. Minder Lateral headgate was typically opened in May and water was applied until September and October. Given the pump capacity of 800 GPM and the volume applied to the field of approximately 256 AF, irrigation took place over approximately 72 days.

Groundwater Claims

40. The Applicant provided substantial and credible evidence that the four groundwater claims were exercised on the same 44.50 acres as part of the same irrigation system. As these rights were exercised independently of the subject water rights and have not been subject to a change authorization, their historic use is evaluated prior to July 1, 1973. The historic consumptive use rules in ARM 36.12.1902 were employed with the Bozeman Experiment Farm station irrigation water requirements for alfalfa were used, the 1964 - 1973 Gallatin County Management Factor, and 5% irrecoverable loss for flood systems. The total volume consumed by 44.50 acres of crops was therefore 45.90 AF, with an additional 3.53 AF of irrecoverable loss, for a total of 49.43 AF of consumed volume. These values were calculated by Department hydrologist/specialist Brent Zundel in the Technical Report for subsequent Norton-City of Bozeman Change Application 41H 30103245.

41. The four groundwater claims were historically used on the same acreage. As such, historic use has been quantified based on the total irrigated acreage. Each water right has been assigned an equivalent one-fourth portion of the historic use because the Applicant provided substantial, credible evidence that these rights were fully supplemental, comingled, dependent upon the same infrastructure, and exercised on the same 44.50 acres.

<u>Diverted Volume</u>

Subject Water Rights

42. The Applicant provided calculations for the diverted volume in Exhibit 10 of Change Application 41H 30103245 (Norton-City of Bozeman), which has been copied to this Application file. These calculations were analyzed in the Technical Report for the present Application. The Applicant calculated the diverted volume using three components: (1) conveyance losses over the 72-day irrigation period, (2) excess water spilled to Aajker Creek, and (3) the volume applied to the field. Conveyance losses were calculated for two 36-day periods: (a) an early season when all rights are in priority (June – July 17) and Farmer's shares

were used for conveyance water and (b) a late season (July 18 – October) when only the Applicant's subject water rights were still in priority. The Applicant calculated conveyance losses in the Farmer's Canal and the E. Minder Lateral according to the Department's 2012 historic diverted volume memo and attributed the losses to the subject water rights in proportion to the other rights and shares in the ditch. However, additional information presented in the Application indicates that the subject water rights did not contribute to ditch losses in the Farmer's Canal. See the next Finding of Fact for further discussion. For further discussion of the diverted water discharged to Aajker Creek, see the Flow Rate Sub-Section of this Historic Use Section.

43. While conveyance loss calculations represent a standard scenario, the Applicant has shown that, under the Farmer's Canal management practices, the full flow rate of the subject rights is delivered at the E. Minder Lateral. This full flow rate was delivered both when shares were purchased prior to 2006 and after that year, when shares were no longer purchased. While the Farmer's Canal might generously be delivering full flow now, future management has no guarantees. In this Application, the subject rights are not credited with any conveyance losses in Farmer's Canal, either early or late season. In the early season, the shares provided all of the carriage water. By the late season, shares were no longer in priority, so the private water rights being conveyed through Farmer's had to provide carriage water. However, records show that the ditch rider delivered the full flow rate of the subject rights to the E. Minder Lateral even in the late season, so the subject rights are not credited with any conveyance losses in this Application. With respect to conveyance losses in the E. Minder Lateral, shares provided early season carriage water, but the subject rights are credited with late season conveyance water along the E. Minder (9.8 AF). The Revised Technical Report shows updated calculations for diverted volume. The diverted volume is then calculated as the volume of water applied to the field plus the volume of water spilled to Aajker Creek plus the volume of water lost to late-season conveyance in the E. Minder Lateral or, respectively, 255.96 AF + 87.7 AF + 9.8 AF = 353.46 AF. The total diverted volume is 353.46 AF.

Groundwater Claims

44. For graded border systems with 0.75 – 1.5% slope, a standard scenario is 65% application efficiency. Therefore, the diverted volume is calculated as 70.61 AF using the Department's standard methodology.

Return Flows

45. The Technical Report found that the historic practices of irrigation on 138.63 acres under the subject rights would have resulted in the accrual of 51.22 AF to Aajker and Baxter Creeks. Under the retirement of 26.40 acres as proposed in this Application, 41.47 AF of return flows would continue to accrue. Therefore, 9.75 AF of return flows would no longer accrue as a result of this Application. The entire remaining acreage of 112.23 is proposed for retirement in the subsequent Norton-City of Bozeman Change Application. The June 7, 2016, Amendment proposes to change a portion of the groundwater claims to mitigate any adverse effect from the loss of these return flows. See the Adverse Effect Section for further discussion.

Supplemental Rights, Parent Rights, and Non-Use

46. See Figure 3, on the next page, for a map of the historic place of use and diversion and conveyance systems for the groundwater claims. Figure 4, on page 26, contrasts the claimed place of use for the groundwater rights and the place of use that was historically irrigated by the subject water rights. Groundwater claims 41H 138898-00, 41H 138899-00, 41H 138902-00, and 41H 138903-00 are supplemental to the subject water rights because their claimed places of use overlap. However, the Applicant provided evidence that the groundwater claims were historically exercised independently on 44.50 acres in the SWNE and portions of the N½NWSE of Section 9. The Applicant filed a Motion to Amend with the Water Court on April 29, 2016, to clarify the above-described place of use of the groundwater claims and to remove the supplemental remarks. No overlap occurred between acreage irrigated under the groundwater claims and acreage irrigated under the subject water rights. Figure 5, on page 27, shows the location of the Big Gun sprinkler and the wheel line sprinkler systems that were used to irrigate the acreage under the subject water rights. Drain tiles were installed in 1919, and the Applicant provided photographs of underground concrete headgates used to control groundwater for irrigation. Interviews conducted by the Applicant's consultant with two previous farmers of the property, Pat Ward (1996 – 2002) and Josh Jones (2003 – 2011) indicated that the groundwater

system was operated independently on the northern third of the property (the SWNE and N½NWSE of Section 9). Furthermore, longtime neighbor and former MSU Agricultural Experiment Research Station employee Al Lien submitted an affidavit supporting the historical use of the groundwater claims in this area. FSA maps from 2002 – 2014 indicate high groundwater levels in this area. Finally, the Gallatin County Water Resources Survey and the associated field notes confirm historical use as of 1953, mentioning an appropriation of "Seepage and Waste Water" by John E. Norton and an appropriation of "Drainage [water]" by Roger Huffine. The field map produced by the Water Resources Survey indicates that private irrigation water, not water supplied by Farmer's Canal, was used on the groundwater claims' place of use. Later aerial imagery from 1981, 1995, and 2001 further supports historical use on 44.50 acres.

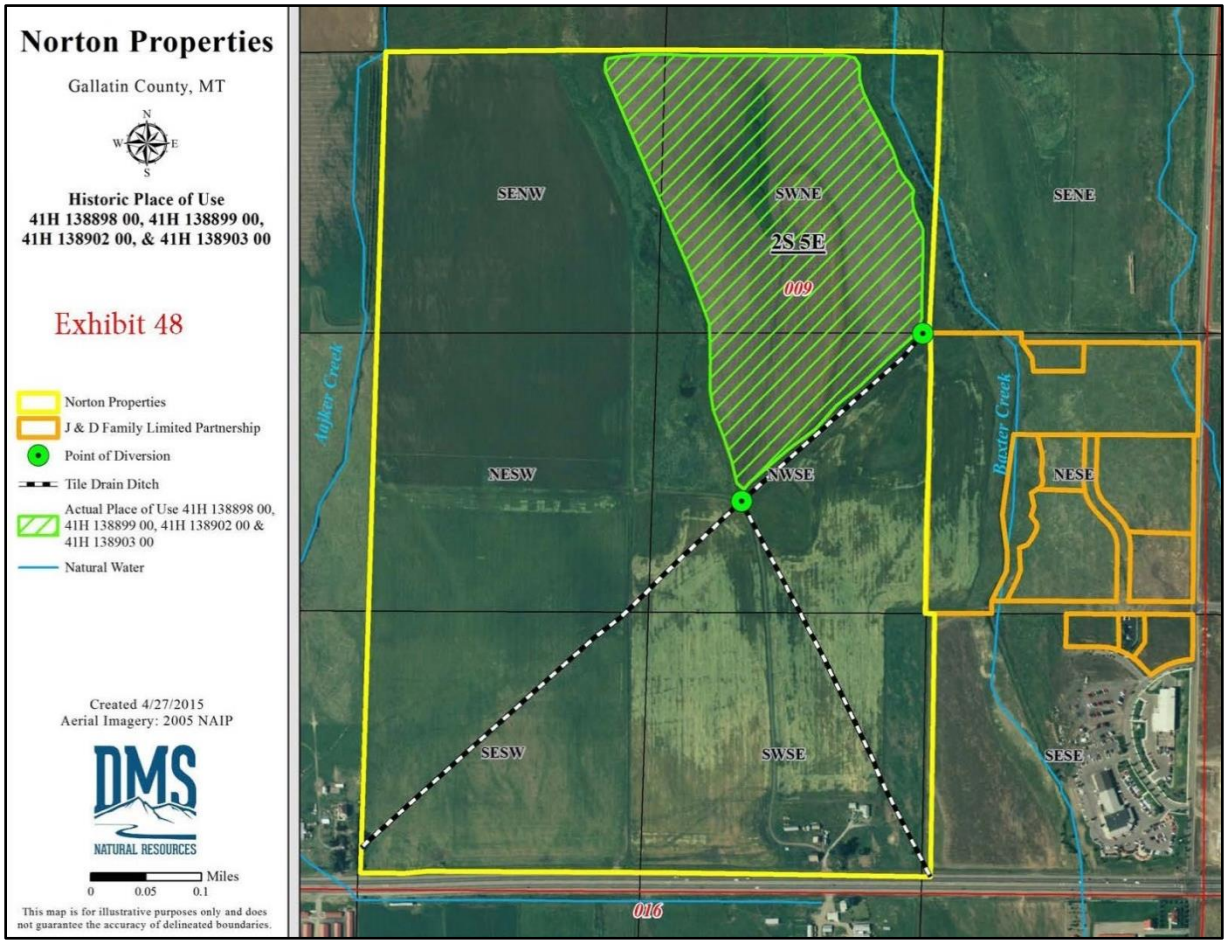

Figure 3: Map of historic place of use and system of tile drain ditches and headgates for the groundwater claims. Application Exhibit 48.

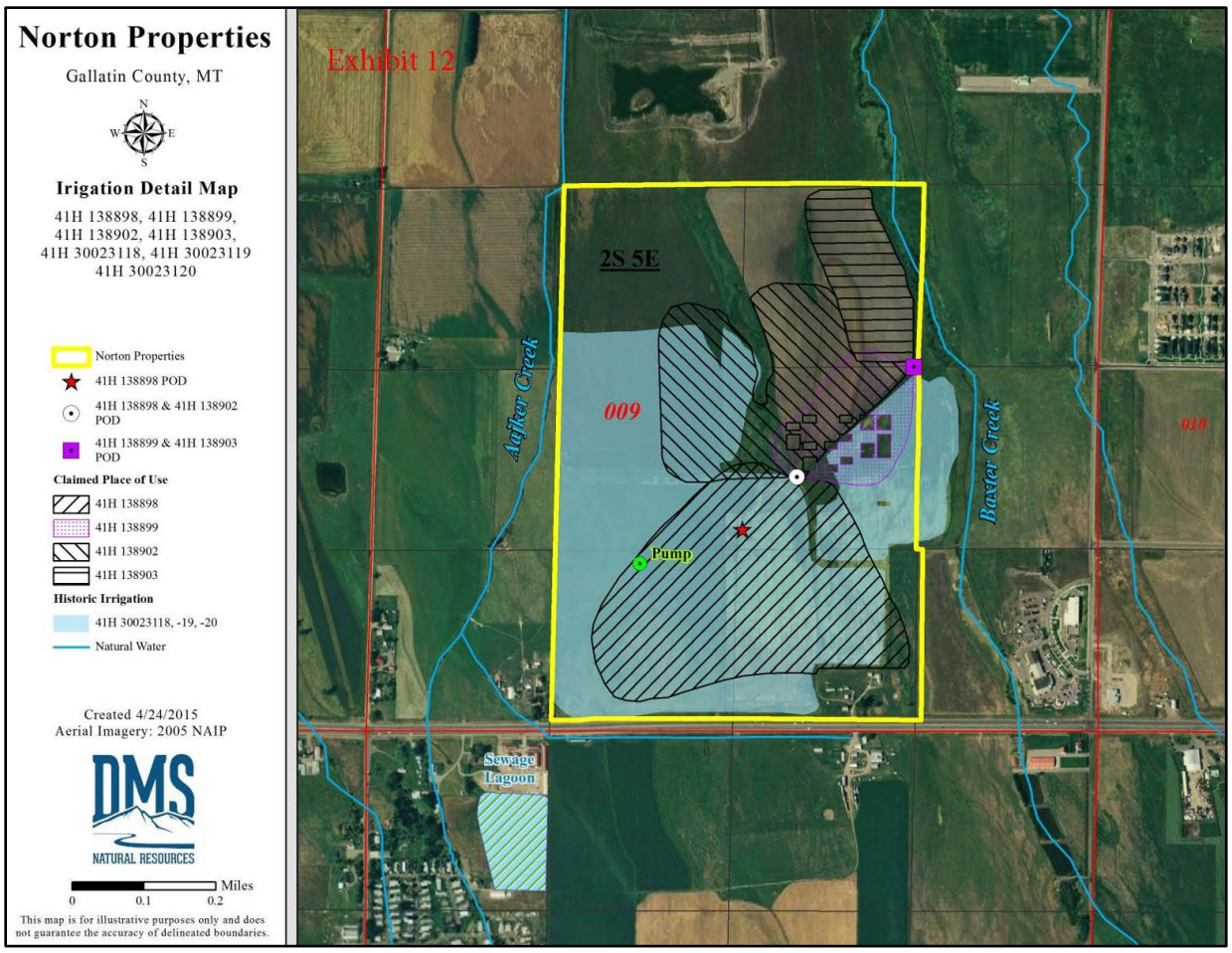

Figure 4: Map of claimed groundwater place of use and the place of use that was actually historically irrigated under the subject rights. Application Exhibit 12.

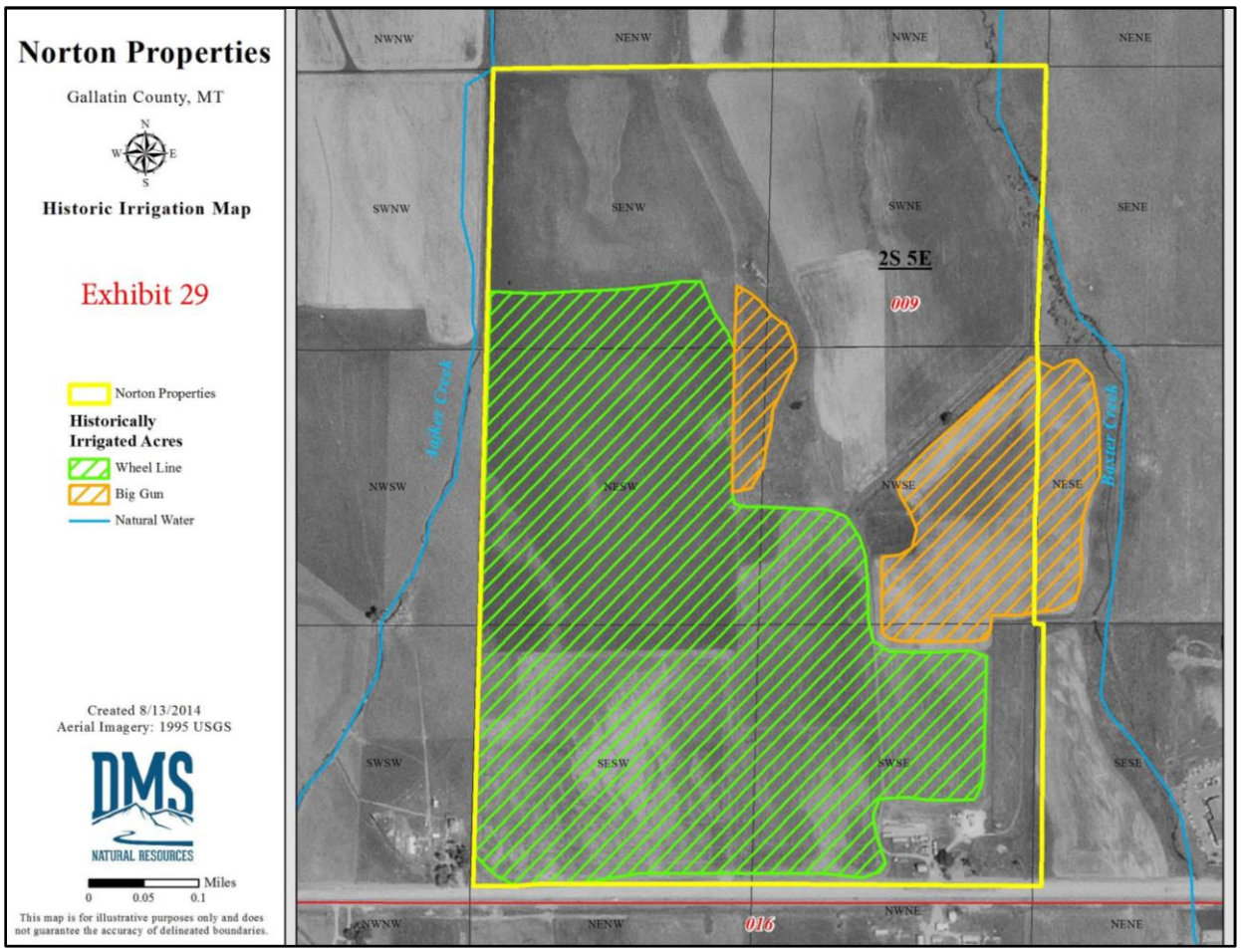

Figure 5: Location of Big Gun sprinklers and wheel line sprinklers, and the location of acreage irrigated under both systems. Application Exhibit 29.

47. Between 2006 and 2014, portions of the place of use were subdivided and eventually conveyed to individual owners. The appurtenant portions of the subject water rights were conveyed to the new owners. The Applicant re-acquired portions of the subject water rights from many of these owners, but 22 did not convey their portions back. Three separate child rights were created for those property owners: 41H 30069703, 41H 30069704, and 41H 30069705. The claimed place of use of these rights is 2.73 acres, but of the place of use that was actually historically irrigated under these rights, only 1.37 acres were conveyed to the child rights. This difference explains the finding of historic use on 138.63 acres under the subject rights. The child rights are not involved in the current change.

48. The property was last fully irrigated nine years ago in 2006. Since this period is less than 10 years, non-use is not evaluated.

Overview

49. Based on the findings above, historic use for the subject water rights is quantified as the following.

Table 3: Historic Use of Subject Water Rights

Water Right No.	**Purpose (Acres)**	**Flow Rate**	**Div. Volume**	**Consump. Use**	**Period of Use**	**Point of Diversion**	**Place of Use**	**Priority Date**
(41H)	**(–)**	**(GPM)**	**(AF)**	**(AF)**	**(–)**	**(–)**	**(–)**	**(–)**
30023118 Parent 138901-00	Irrigation (138.63)	372.5	119.45	69.22	6/1 – 10/31	SWNWNW Sec. 11, T0 3S, R04 E (Farmer's Canal headgate)	E½SW, W½SE, SENW, SWNE, Sec. 9, T02 S, R05 E	10/15/1866
30023119 Parent 138900-00	Irrigation (138.63)	168.75	54.11	31.33	6/1 – 10/31			6/15/1881
30023120 Parent 9295-00	Irrigation (138.63)	561	179.90	104.23	5/1 – 10/1			6/1/1867
Total =	**138.63**	**1,102.25**	**353.46**	**204.78**	**184 days** **(5/1 – 10/31)**	**--**	**--**	**--**

50. Based on the findings above, historic use for the groundwater claims is quantified as the following.

Table 4: Historic Use of Groundwater Claims

Water Right No. (41H)	**Purpose (Acres)**	**Flow Rate[1] (CFS)**	**Div. Volume[2] (AF)**	**Consump. Use[2] (AF)**	**Period of Use**	**Point of Diversion**	**Place of Use**	**Priority Date**
(41H)	**(–)**	**(CFS)**	**(AF)**	**(AF)**	**(–)**	**(–)**	**(–)**	**(–)**
138898-00	Irrigation (44.50)	1.25	17.65	12.36	6/1 – 10/31	SWNWSE, Sec. 9, T02 S, R05 E	SWNE, SENW, NWSE, Sec. 9, T02 S, R05 E	9/15/1919
138899-00	Irrigation (44.50)	1.25	17.65	12.36	6/1 – 10/31	SWNWSE, Sec. 9, T02 S, R05 E		9/15/1919
138902-00	Irrigation (44.50)	1.25	17.65	12.36	6/1 – 10/31	SWNWSE, Sec. 9, T02 S, R05 E		9/15/1919
138903-00	Irrigation (44.50)	1.25	17.65	12.36	6/1 – 10/31	SESWNE, Sec. 9, T02 S, R05 E		9/15/1919
Total =	**44.50**	**1.25**	**70.61**	**49.43**	**184 days (5/1 – 10/31)**	**--**	**--**	**--**

Notes: [1]Undivided interest in the total flow rate of 1.25 CFS.
[2]The sums of the individual diverted volumes and consumptive uses do not exactly match the totals due to rounding.

<u>Adverse Effect</u>:

<u>FINDINGS OF FACT</u>

51. The Applicant proposes to retire 26.40 of the 138.63 acres that were historically irrigated under the subject water rights and the associated consumptive volume to provide mitigation for the depletions to the West Gallatin River caused by Provisional Permit No. 41H 30025398, owned by Bostwick Properties Inc. The change proposal is a partial change of purpose and place of use from irrigation to instream mitigation. The remaining 112.23 acres are involved in a subsequent, related change, 41H 30103245 (Norton-City of Bozeman). According to the

Department's Technical Report, return flows historically accrued approximately evenly to Aajker and Baxter Creeks, which are located on the western and eastern property boundaries, respectively. Groundwater in the project vicinity is shallow (less than 6 feet) and is hydraulically connected to Aajker and Baxter Creeks.

52. Return flows accrue within the same month as they were applied to the field because of the close proximity to and hydraulic connection with Aajker and Baxter Creeks and the need for tile drains in the down-flow field. Department engineer/hydrologist Troy Benn performed the calculations and analysis for these return flows using Department methods. The following table, Table 5, summarizes the return flow analysis.

Table 5: Return Flow Analysis

Month	**Return Flows under Historic Conditions on 138.63 acres**	**Return Flows under Proposed Conditions on 112.23 acres**	**Loss of Return Flows from Historic Conditions**	**Loss of Return Flows from Historic Conditions**
(–)	**(AF)**	**(AF)**	**(AF)**	**(GPM)**
Jan	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00
May	0.97	0.79	0.19	1.35
Jun	12.68	10.26	2.41	18.21
Jul	18.67	15.11	3.55	25.95
Aug	15.99	12.95	3.05	22.23
Sep	2.92	2.36	0.56	4.19
Oct	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00
TOTAL =	**51.22**	**41.47**	**9.75**	**--**

53. The retirement of 26.40 acres will result in the loss of 9.75 AF of return flows associated with the historic irrigation. Because return flows accrued evenly, 4.88 AF would be lost from Aajker Creek, and 4.88 AF would be lost from Baxter Creek – this equates to a rate of approximately 6 GPM over the course of the historical periods of use and diversion. Recorded water rights on Aajker and Baxter Creeks downstream of the subject property total 15.94 CFS and 43.55 CFS, respectively. Aajker and Baxter Creeks are located within the Upper Missouri

River Basin, which was legislatively closed to new appropriations with an effective date of April 16, 1993. DNRC does not have any measurement information on Aajker and Baxter Creeks. In the Application as originally filed, the Applicant did not provide any further evidence to show that the lack of return flows accruing to these sources will not cause an adverse effect. However, in the Amendment, received on June 7, 2016, the Applicant proposed to incorporate a change of the groundwater claims into the present Application in order to mitigate potential adverse effect from the loss of return flows.

54. The Applicant did provide a plan to prevent adverse effect from return flows. The Applicant owns four groundwater Statements of Claim (41H 138898-00, 41H 138899-00, 41H 138902-00, and 41H 138903-00) that were historically used on 44.50 acres. In the Application as originally filed, the Applicant proposed that these water rights would be retired or no longer used and that the continuing dewatering of this ground into the spring creek sources would be sufficient to prevent adverse effect. In the April 29, 2016, Draft Preliminary Determination to Deny, the Department determined that, without a change application, it could not make a determination regarding the adequacy of the groundwater claims to mitigate the loss of return flows and neither could the Applicant provide assurance that these rights would be used continuously into the future in this manner. Mitigation is a beneficial use of water that would require reflection in the water right for a right to use the water in that manner. In their June 7, 2016, Amendment, the Applicant proposed to incorporate a change to the groundwater claims into the present Application.

55. Other appropriators may already rely on return flows from the groundwater claims, so only the historically consumed volume may be changed to mitigate the loss of return flows from the retirement of the subject water rights. As described in the Historic Use Section of this document and the Revised Technical Report, the groundwater claims have a historical consumed volume of 49.43 AF and a diverted volume of 70.61 AF.

56. The groundwater claims are for groundwater, which will no longer be diverted from the subsurface via the historical system of drain tiles, sunken concrete headgates, and drain ditches. As discussed elsewhere in this document, groundwater in the area is shallow (less than 6 feet below ground surface) and hydraulically connected to Aajker and Baxter Creeks. The historical groundwater place of use and associated diversion infrastructure are located immediately

adjacent to the place of use of the subject water rights. Because of the hydraulic connection and the physical proximity, if a volume of water from the groundwater claims were not diverted and were instead left in the subsurface, that volume of water would be able to effectively mitigate an equivalent volume of return flows, lost due to the subject water rights' retirement, during the same time period in which those return flows would have accrued.

57. In this Application, the Applicant proposes to retire a consumptive volume of 9.75 AF from the groundwater claims in order to mitigate the loss of return flows associated with the 26.4 acres that are being retired under the subject rights. The groundwater claims historically irrigated 44.5 acres with a consumed volume of 49.43 AF total (1.11 AF consumed volume per acre). Therefore, 8.78 acres must be retired in order to provide 9.75 AF of consumed volume to prevent any adverse effect from the loss of return flows. Averaged out over the 153-day period of diversion and use (June 1 – October 31), this equates to an average consumed flow rate of 14.42 GPM. The retirement of 8.78 acres from the groundwater claims will be sufficient to prevent any adverse effect from the loss of return flows due to the retirement of 26.4 acres from irrigation under the subject rights. This change will not adversely affect other appropriators on Aajker or Baxter Creeks.

58. The retirement of 26.40 acres from irrigation will not have an adverse effect on owners of private water rights or ditch shares in the Farmer's Canal. The historically consumed volume of those 26.40 acres, 39.0 AF, is proposed to be left in the West Gallatin. This water was never used for conveyance, but rather has been shown to be consumptively used by a crop. No main canal conveyance water is being changed. The remaining volume under these water rights is proposed to be changed to the City of Bozeman Sports Complex in subsequent Norton-City of Bozeman change 41H 30103245. If that change is granted, these water rights will continue to be diverted into the Farmer's Canal, except for the 39.0 AF proposed to be left in the West Gallatin in this change. From the Farmer's Canal, the water will be diverted into the Maynard-Border ditch, which is a lateral located approximately 1 mile farther down ditch, as compared to the E. Minder. According to information in the Application, the City of Bozeman obtained one Farmer's Canal share with the purchase of the Sports Complex and owns an additional 4.25 shares from previous purchases. The combined 5.25 shares will be used to help convey the subject water rights to the

new place of use at the Sports Complex. Therefore, other rights and shares in the Farmer's Canal that relied on conveyance water from these rights will not be affected.

59. The retirement of 26.40 acres from irrigation will not have an adverse effect on owners of private water rights or ditch shares in the E. Minder Lateral. There is only one other user on the E. Minder Lateral: Kamp Enterprises. According to information provided by the president of the Farmer's Canal to the Applicant's consultant and included in the Application materials, Kamp currently owns 3 2/3 Farmer's shares. Water is diverted from the E. Minder Lateral to the Kamp place of use well before reaching the Norton field. According to aerial imagery, the E. Minder Lateral traverses approximately 880 feet from the headgate on the Farmer's Canal to the Kamp place of use. The effect of the loss of any conveyance water associated with the Norton rights on Kamp's ability to continue to convey their shares through the E. Minder Lateral over such a short distance will not interfere with Kamp's ability to reasonably exercise its water rights.

60. In order to ensure that the flow rate of water left instream under this change of the subject water rights does not exceed the maximum historical volume used on the 26.40 acres to be retired and in the event that the Applicant makes a call for water to ensure that the mitigation flow rate is left instream or a water commissioner is appointed, an operation representing undivided, continuous flow rates of water shall be followed. A table titled "Operation of Mitigation Purpose Flow Rates" is incorporated in one of the conditions at the end of this document. Table 6 in the Beneficial Use Section of this document also reflects the same information.

61. The historical use for the subject water rights and the groundwater claims involved in this change has been determined and no expansion in use is occurring as a result of this change.

62. The Applicant has adequately shown 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)(a), MCA.

HISTORIC USE AND ADVERSE EFFECT CONCLUSIONS OF LAW

63. 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).[1]

64. 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

[1] DNRC decisions are available at: http://www.dnrc.mt.gov/wrd/water_rts/hearing_info/hearing_orders/hearingorders.asp

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.[2]

65. 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 potential for adverse effect.[3] 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

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[2] 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).

[3] A 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

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).[4]

66. Applicant seeks to change existing water rights represented by its Water Right Claims. Water Right No. 41H 30023120 is a child right of 41H 9295-00, which was the subject of a previous change authorization in 1988. The change authorization for Water Right No. 41H 30023120/41H 9295-00 was completed on May 2, 1988. According to Rule 36.12.1902(1)(a), ARM, historic use information for this right is determined based upon its use as of the date of completion for the change, May 2, 1988. Because Water Right Nos. 41H 30023118 and 41H 30023119 are supplemental to, comingled with, and dependent upon the same infrastructure as

[4] 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, 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.)

41H 30023120, historic consumptive use was also determined as of 1988. Pre-1973 and post-1988 historic use were also analyzed to confirm no expansion. Analysis regarding historic use and adverse effect for the remaining water rights being changed (Water Right Claim Nos. 41H 138898-00, 41H 138899-00, 41H 138902-00, and 41H 138903-00) requires evaluation of historic use to determine what the water right looked like and how it was exercised prior to July 1, 1973. In McDonald v. State, the Montana Supreme Court explained:

> The foregoing cases and many others serve to illustrate that what is preserved to owners of appropriated or decreed water rights by the provision of the 1972 Constitution is what the law has always contemplated in this state as the extent of a water right: such amount of water as, by pattern of use and means of use, the owners or their predecessors put to beneficial use. . . . the Water Use Act contemplates that all water rights, regardless of prior statements or claims as to amount, must nevertheless, to be recognized, pass the test of historical, unabandoned beneficial use. . . . To that extent only the 1972 constitutional recognition of water rights is effective and will be sustained.

220 Mont. at 529, 722 P.2d at 604; see also Matter of Clark Fork River Drainage Area, 254 Mont. 11, 17, 833 P.2d 1120 (1992).

67. Water Resources Surveys were authorized by the 1939 legislature. 1939 Mont. Laws Ch. 185, § 5. Since their completion, Water Resources Surveys have been invaluable evidence in water right disputes and have long been relied on by Montana courts and the DNRC in evaluating the historic use of a water right. In re Adjudication of Existing Rights to Use of All Water in North End Subbasin of Bitterroot River Drainage Area in Ravalli and Missoula Counties, 295 Mont. 447, 453, 984 P.2d 151, 155 (1999)(Water Resources Survey used as evidence in adjudicating of water rights); Wareing v. Schreckendgust, 280 Mont. 196, 213, 930 P.2d 37, 47 (1996)(Water Resources Survey used as evidence in a prescriptive ditch easement case); Olsen v. McQueary, 212 Mont. 173, 180, 687 P.2d 712, 716 (1984) (judicial notice taken of Water Resources Survey in water right dispute concerning branches of a creek).

68. 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 ¶44; 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. 41I 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).[5]

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

70. 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

[5] 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).

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).

71. 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.

72. 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).

73. An Applicant may proceed under ARM. 36.12.1902, the Department's historic consumptive use rule for the calculation of consumptive use or may present its own evidence of historic beneficial use. In this case, the Applicant has elected to proceed under ARM 36.12.1902. (FOF No. 36).

74. The Applicant has proven by a preponderance of the evidence that the historic use of supplemental Water Right Claim Nos. 41H 30023118, 41H 30023119, and 41H 30023120 (the subject water rights) totals a diverted volume of 353.46 AF, a consumed volume of 204.78 AF, and a flow rate of 1,102.25 GPM. (FOF Nos. 14 – 50).

75. The Applicant has proven by a preponderance of the evidence that the historic use of supplemental Water Right Claim Nos. 41H 138898-00, 41H 138899-00, 41H 138902-00, and 41H 138903-00 (the groundwater claims) totals a diverted volume of 70.61 AF, a consumed volume of 49.43 AF, and a flow rate of 1.25 CFS. (FOF Nos. 14 – 50).

76. The historical use of the subject rights and the groundwater claims has been determined, and no expansion is occurring as a result of this change. The retirement of 26.4 acres under the subject water rights will result in a loss of return flows to Aajker and Baxter Creeks, but the retirement of 8.78 acres under the groundwater claims will prevent any adverse effect to other appropriators. 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. 51 – 62).

Beneficial Use

FINDINGS OF FACT

77. Under the subject water rights, the Applicant proposes to change the purpose from 26.40 acres of irrigation to 39.0 AF left instream for mitigation. The State of Montana recognizes mitigation as a beneficial use of water. The Upper Missouri River Basin is closed to new appropriations of water, so new consumptive uses must mitigate the depletion to surface water. Mitigation will be provided for permit 41H 30025398, owned by Bostwick Properties Inc. This permit is for municipal purposes, specified as commercial, domestic, and irrigation use in Tracts 1 and 2 and the Lazy J South Subdivision in Section 5, T07 S, R04 E, Gallatin County, near the unincorporated community of Big Sky. In case Bostwick Properties, Inc. v DNRC, 2013 MT 48, 369 Mont. 150, 296 P.3d 1154, the Montana Supreme Court approved a mitigation plan for this permit that would leave 39.0 AF of water from rights senior to 1890 in the West Gallatin River upstream of the Interstate 90 crossing throughout the irrigation season.

78. Under the subject rights, the Applicant proposes to leave 39.0 AF instream throughout the historic irrigation season. In total, water at a continuous flow rate of 47.58 GPM (0.107 CFS) will be left instream from May 1 through October 31. The flow rates left instream for each water right are summarized in Table 6, below.

Table 6: Consumptive Use Left Instream Based on the Proportion of the Total Flow and the Historic Period of Use

Water Right Number	**Proposed Period of Use**	**Consumptive Flow per Period**
(–)	**(–)**	**[GPM, CFS]**
41H 30023118	May 1 – May 31 Jun 1 – Oct 1 Oct 2 – Oct 31	[0, 0] [16.16, 0.036] [33.21, 0.074]
41H 30023119	May 1 – May 31 Jun 1 – Oct 1 Oct 2 – Oct 31	[0, 0] [7.18, 0.016] [14.81, 0.033]
41H 30023120	May 1 – May 31 Jun 1 – Oct 1 Oct 2 – Oct 31	[48.02, 0.107] [24.24, 0.054] [0, 0]
TOTAL =	**At any time during the season**	**47.58, 0.107**

79. Under the groundwater claims, the Applicant proposes to change the purpose to mitigation. The State of Montana recognizes mitigation as a beneficial use of water. The purpose will be changed from irrigation to water left instream (i.e., not diverted from the subsurface) for mitigation of the loss of 9.75 AF of return flows associated with the retirement of 26.4 acres of the subject water rights. In order to provide 9.75 AF of historic consumptive use, 8.78 acres need to be retired under the groundwater claims. Averaging the 9.75 AF volume out across the 153-day (June 1 to October 31) period of diversion and use equates to a mitigation flow rate of 14.42 GPM. Because the groundwater claims are fully supplemental, consumed volume and consumed flow rate are assigned to all four in equal proportions. See Table 7 below.

Table 7: Groundwater Claims Mitigation Volume and Flow Rate by Application

Water Right Number	**Acres Retired[1]**	**Consumed Volume[2]**	**Consumed Flow Rate[2]**
(41H)	**(ac)**	**(AF)**	**(GPM)**
138898-00	8.78	2.44	3.6
138899-00		2.44	3.6
138902-00		2.44	3.6
138903-00		2.44	3.6
TOTAL =	8.78	9.75	14.42

Notes: [1]These claims are fully supplemental, so 8.78 acres will be retired from all of them.
[2]The sums of the individual values do not exactly match the totals due to rounding.

BENEFICIAL USE CONCLUSIONS OF LAW

80. 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).

81. The Applicant proposes to use water for mitigation, which is a recognized beneficial use. §85-2-102(4) and -420, MCA. The Applicant has proven by a preponderance of the evidence that 39.0 AF of volume for mitigation at a rate of 47.58 GPM (0.107 CFS) from May 1 – October 31 is the amount needed to mitigate surface water depletions caused by permit 41H 30025398 and sustain the beneficial use of mitigation. The Applicant has proven by a preponderance of the evidence that 9.45 AF of volume for mitigation at a rate of 14.42 GPM from June 1 – October 31 is the amount needed to mitigate the loss of return flows caused by the retirement of 26.40 acres from irrigation under the subject water rights and to sustain the beneficial use of mitigation. §85-2-402(2)(c), MCA. (FOF Nos. 77 – 79).

Adequate Diversion

82. This Application proposes to partially change the subject water rights to the purpose of mitigation and to fully change the groundwater claims to the purpose of mitigation. Pursuant to §85-2-402 (2)(b)(iii), MCA, changes for mitigation are not required to prove by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

Possessory Interest

83. This Application proposes to partially change the subject water rights to the purpose of mitigation and to fully change the groundwater claims to the purpose of mitigation. Pursuant to §85-2-402 (2)(d)(iii), MCA, changes for mitigation are not required to prove by a preponderance of the evidence that they have a possessory interest in the property where the water is to be put to beneficial use.

Salvage Water

84. This Application does not involve salvage water.

Conditions for 41H 30102910

MITIGATION FOR BENEFICIAL USE PERMIT NO. 41H 30025398

This Change Authorization provides mitigation water for Beneficial Use Permit No. 41H 30025398. If at any time mitigation under this Change Authorization is not met, water use under Beneficial Use Permit 41H 30025398 must be reduced or stopped. If mitigation cannot be met, the Appropriator will provide a report to DNRC detailing the amount of shortage of mitigation water and how the permit use was reduced or stopped to prevent adverse effect.

OPERATION OF MITIGATION-PURPOSE FLOW RATES FOR SUBJECT WATER RIGHTS

In the event that the Applicant makes a call for water or a water commissioner is appointed, the following operation representing undivided, continuous flow rates of the water rights shall be followed.

Water Right No.	**Period of Use**	**Consumptive Flow (GPM)**
41H 30023118	5/1 – 5/31	0.00
	6/1 – 10/1	16.16
	10/2 – 10/31	33.21
41H 30023119	5/1 – 5/31	0.00
	6/1 – 10/1	7.18
	10/2 – 10/31	14.81
41H 30023120	5/1 – 5/31	48.02
	6/1 – 10/1	24.24
	10/2 – 10/31	0.00
TOTAL =	At any time during season	47.58

PRELIMINARY DETERMINATION

Subject to the terms and analysis in this Preliminary Determination Order, the Department preliminarily determines that this Application to Change an Existing Irrigation Water Right No. 41H 30102910 should be GRANTED subject to the following.

The Applicant is authorized to change partially the purpose and place of use of subject water rights 41H 30023118, 41H 30023119, and 41H 30023120. Under these three rights, 26.40 acres of irrigation will be retired in order to leave 39.0 AF in the West Gallatin River to provide mitigation for permit 41H 30025398, owned by Bostwick Properties Inc. A flow rate of 47.58 GPM (0.107 CFS) shall be left instream from May 1 through October 31 at the Farmer's Canal headgate in the SWNWNW of Section 11, T3S, R4E, Gallatin County, and along a reach of the West Gallatin River to the point where Interstate 90 crosses the West Gallatin River in the N½NWSE of Section 19, T01 N, R03 E. The point of diversion remains the Farmer's Canal headgate in the SWNWNW of Section 11, T03 S, R04 E.

The Applicant is further authorized to change partially the purpose, place of use, and point of diversion of groundwater claims 41H 138898-00, 41H 138899-00, 41H 138902-00, and 41H 138903-00. Under these four rights, 8.78 acres of irrigation will be retired in order to leave 9.45 AF of groundwater at a rate of 14.42 GPM in the subsurface from June 1 through October 31 at points in the NWSENW and NESWNE of Section 9, T02 S, R05 E, Gallatin County. These two points constitute the new place of use and points of diversion.

NOTICE

The 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 22nd day of July 2016.

/Original signed by Kerri Strasheim/
Kerri Strasheim, Manager
Bozeman 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 22nd day of July 2016, by first class United States mail.

NORTON PROPERTIES LLC
63020 LOWER MEADOW DRIVE
BEND, OR 97701

NORTON RANCH HOMES LLC
63278 POWELL BUTTE HWY
BEND, OR 97701-9429

J & D FAMILY LP
270 AUTOMOTIVE AVE
BOZEMAN, MT 59718-7797

DEBORAH STEPHENSON
DMS NATURAL RESOURCES LLC
2023 STADIUM DRIVE SUITE 2B
BOZEMAN, MT 59715
(VIA EMAIL ONLY)

_____

Brent Zundel
Regional Office, (406) 586-3136