NOTICE AREA

Application No. 4	3O 30163932			Re	gional Office # 03
Applicant's Name	Randall Shinn	& Deborah St	eward		
Indian Reservation	X Yes No	If yes, Reservation	Crow Tribe		
Irrigation District	Yes X No	If yes, District N/A	\		
Specialist C. Stre	ebeck			Date	04/24/2025



Water Right Owner	Water Right # (Basin, ID, and Number)
Applicant: Randall S Shinn; Deborah G Steward	430 188069-00
Water Right Owners in Potentially Affected Area	
Randall S Shinn; Deborah G Steward	430 189016-00
Randall S Shinn; Deborah G Steward	430 111988-00
Randall S Shinn; Deborah G Steward	430 111993-00
ALL WATER RIGHTS APPLICATION	
1BIA	All Apps
1DSL	All Apps
1FWP	All Apps
1PPL	All Apps
1NWE	All Apps
2FWP	All Apps
3BLG	All Apps
3NPR	All Apps
ALL SURFACE WATER	
1BOR	All Surface
1TUL	All Surface
1FWS	All Surface
INDIAN RESERVATION	
зстс	Inside Indian Reservation or in 42A, 42B, & 42C
1DOI	Inside Indian Reservation
CONSERVATION DISTRICT	
3BDA	Big Horn County Apps
NEWPAPERS	
BIG HORN COUNTY NEWS	Newspaper

*If the owner is listed twice, only one notice is sent.

The public notice area is shown on the map encasing the area of Lodge Grass Creek in lime green (AOI – Public Notice). The public notice area extends from the top of the reach in the NWNENW Sec 32, T7S, R34E, in Big Horn County of Lodge Grass Creek to the end of the reach in the NENENE Sec 29, T7S, R34E, in Big Horn County.

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

Water Resources Division • Billings Regional Office 1371 Rimtop Drive, Billings, MT 59105 Phone: (406) 247-4415 Fax: (406) 247-4416

OF

MONTANA



GREG GIANFORTE, GOVERNOR

1539 ELEVENTH AVENUE

DIRECTOR'S OFFICE: (406) 444-2074 FAX: (406) 444-2684

STATE

PO BOX 201601 HELENA, MONTANA 59620-1601

April 2, 2025

Randall S. Shinn & Deborah G. Steward 13683 Lodge Grass Creek Rd Lodge Grass, MT 59050

Subject: Draft Preliminary Determination to Grant Water Right Change Application No. 430 30163932

Dear Applicant,

The Department of Natural Resources and Conservation (Department or DNRC) has completed a preliminary review of your application. This review consists of an evaluation of the criteria for issuance of a change authorization found in §85-2-402, MCA. The Department has preliminarily determined that the criteria are met, and this application should be granted. A copy of the Draft Preliminary Determination to Grant your application is attached.

You have the opportunity to request an extension of time to submit additional information for the Department to consider in the decision, within 15 business days of the date of this letter. If no response is received by April 23, 2025, the Department will prepare a notice of opportunity to provide public comment per §85-2-307(4), MCA.

Please note that if you are granted an extension of time to submit additional information to the Department, additional information may be considered an amendment to your application, which may reset application timelines pursuant to ARM 36.12.1401

Please let me know if you have any questions.

Sincerely Yours,

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Cassey Strebeck Water Resource Specialist Billings Regional Office, Montana DNRC Cassey.Strebeck@mt.gov 406-247-4422

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

* * * * * * *

APPLICATION TO CHANGE WATER RIGHT) NO. 43O 30163932 BY RANDALL S. SHINN &) DEBORAH G. STEWARD) DEBORAH G. STEWARD)

* * * * * * *

On February 12, 2025, Randall S. Shinn and Deborah G. Steward (Applicants) submitted Application to Change Water Right No. 43O 30163932 to change Reserved Claim 43O 188069-00 to the Billings Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The Department published the receipt of the application on its website. The Department delivered the Technical Analysis on January 15, 2025. The application was determined to be correct and complete as of February 21, 2025. The Department met with the Applicant, Ms. Steward, on June 25, 2024, and October 18, 2024, for scoping meetings; and November 18, 2024, for the preapplication meeting, in which the Applicants designated that the technical analyses for this application would be completed by the Department. The Applicants returned the completed Preapplication Meeting Form on December 2, 2024. The Department again met with Ms. Steward on January 7, 2025; January 31, 2025; and February 12, 2025, for application assistance. An Environmental Assessment for this application was completed on March 26, 2025.

INFORMATION

The Department considered the following information submitted by the Applicants, which is contained in the administrative record.

Application as filed

- Application for Change of Appropriation Water Right, Form 606
- Attachments:
 - Possible Pivot Design Layout, dated October 2024
 - o Attachment A: Pump Design Discussion 2024
 - o Attachment B: Overview of pivot system and irrigation plan
 - Photo of the Riverscreen
- Maps:
 - Map titled: DNRC Examination Report, dated October 22, 2008. Source photo date 1980; survey date 1947.

- Historical Use Map, 2021 Aerial
- Proposed Use Map, 2021 Aerial
- Department-completed technical analyses based on information provided in the Preapplication Meeting Form, dated January 15, 2025.

Information within the Department's Possession/Knowledge

- 1947 Big Horn Country Water Resources Survey
- Department Water Right Files for Reserved Claim 43O 188069-00
- Crow Tribe Current Use List
- DNRC Change Manual
- DNRC Converge Water Right Information Resource Mapping Database
- The Department also routinely considers the following information. The following information is not included in the administrative file for this application but is available upon request. Please contact the Billings Regional Office at 406-247-4415 to request copies of the following documents:
 - Consumptive Use Methodology Memo
 - Historic Diverted Volume Memo

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

For the purposes of this document, Department or DNRC means the Department of Natural Resources & Conservation; AU means animal unit; CFS means cubic feet per second; GPM means gallons per minute; AF means acre-feet; AC means acres; and AF/YR means acre-feet per year.

WATER RIGHTS TO BE CHANGED

FINDINGS OF FACT

1. Applicants seek to change the point of diversion (POD) of Reserved Claim 43O 188069-00 in this application. Reserved Claim 43O 188069-00 is for a flow rate of 4.40 CFS and the volume of water historically and beneficially diverted, subsequently calculated for this application as 494.85 AF, from Lodge Grass Creek for (wild) flood irrigation of 116.8 acres. The period of use is from May 15 to October 31. The historical point of diversion is a headgate located in the NWNENW Section 32, Township 7 South, Range 34 East, Big Horn County, and water was conveyed to the place of use into the William Miller Ditch. The project is approximately 13 miles SW of Lodge Grass, MT, in Big Horn County, on the Crow Indian Reservation.

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Water	Flow	Volumo	Burnoso	Period Of	Place	Point(S) Of	Priority
Right Number	Rate	Volume	Fulpose	Use	Of Use	Diversion	Date
43O 188069- 00	4.40 CFS	The amount historically put to beneficial use	Irrigation	May 15 To October 31	See Table 2	NWNENW Sec. 32, T7S, R34E, Big Horn County	05/07/1868

Table 1: Water Right Proposed for Change

Table 2. Claimed Place of Use for Reserved Claim 43O 188069-00

POU#	Acres	Quarter Sections	Section	Township	Range	County
1	0.50	SENESE	20	7S	34E	Big Horn
2	25.00	S2SE	20	7S	34E	Big Horn
3	85.10	NE	29	7S	34E	Big Horn
4	1.20	SESENW	29	7S	34E	Big Horn
5	0.50	NWNWSE	29	7S	34E	Big Horn
6	4.00	E2NESW	29	7S	34E	Big Horn
7	0.50	NESESW	29	7S	34E	Big Horn
Total	116.80	-	-	-	-	-

2. There are no supplemental water rights to Reserved Claim 43O 188069-00. On November 25, 2024, the Applicants filed a withdrawal for Reserved Claim 43O 197352-00, which utilized the William Miller Ditch, citing no interest in the claim. The withdrawal and dismissal of Reserved Claim 43O 197352-00 can be reviewed in the Montana Water Court Master's Report Case 43O-0405-I-2024.

3. There have been no previous change authorizations on Reserved Claim 43O 188069-00.

4. Master's Report filed on July 7, 2017, for Water Court Case 43O-266 reduced the maximum irrigable acreage in the place of use to 116.8 acres, as shown in Table 2, and increased the flow rate to 4.4 CFS. All parties agreed that 43O 188069-00 was not part of the Crow Tribal Water Right; should be clarified as a Walton Right; and may receive supplemental water from the Willow Creek Reservoir (also known as the Willow Creek Dam and Lodge Grass Reservoir; Federally owned by the Bureau of Indian Affairs), which is identified as part of the Crow Tribal Water Right – Little Big Horn River.

5. Land owned by the Applicants may be a place of use for the Crow Tribal Right, and the Applicants may be able to use that right. However, the Applicants currently do not use the Crow Tribal Right, have no intention to use the Crow Tribal Right, and rely entirely on their private rights to irrigate the historical and proposed place of use in this application.

CHANGE PROPOSAL

FINDINGS OF FACT

6. The Applicants propose to change the historical point of diversion (POD) of Reserved Claim 43O 188069-00 from the headgate for the William Miller Ditch located in the NWNENW Sec. 32, T7S, R34E, Big Horn County, on Lodge Grass Creek to a point downstream to pump directly from Lodge Grass Creek, in the NENENE Sec. 29, T7S, R34E, Big Horn County. If this change is authorized, the Applicants may divert up to 413.91 AF at a flow rate of 820 GPM. No other changes have been proposed to any of the other aspects of water rights. Figure 1 below shows the elements of the proposed change.



Figure 1. Historical & Proposed Use for Reserved Claim 43O 188069-00

CHANGE CRITERIA

7. 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 probable 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 85-2-436; (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.

8. 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*, ¶¶ 29-31; *Town of Manhattan*, ¶ 8; *In the Matter of Application to Change Appropriation Water Right No.41F-31227 by T-L Irrigation Company* (DNRC Final Order 1991).

9. The existing place of use and proposed place of use for Reserved Claim 43O 188069-00 are located in the Little Bighorn River Basin 43O within the boundaries of the Crow Reservation.

The Crow Tribe-Montana Compact (Compact) was ratified by the Montana Legislature on June 22, 1999, the United States Congress in 2010, and the Crow Tribal Council on March 19, 2011. As such, the Applicant's proposed change in use is subject to the applicable provisions of the Crow Compact in addition to the change provisions of the Montana Water Use Act. § 85-20-901 (IV)(D)(2), MCA.

10. The Crow Tribe has a water right for all surface flow, groundwater, and storage in the Little Bighorn River Basin. MCA § 85-20-901 (III)(B)(7) and (IV)(D)(1) through the Compact. The Compact further provides that any water right Recognized Under State Law with priority date earlier than June 22, 1999 (date Compact ratified by Montana Legislature) in the Little Bighorn River Basin is protected from a claim of senior priority by Tribal Water Rights existing prior to June 22, 1999, and is protected from post-June 22, 1999, new development of the Tribal Water Right. MCA § 85-20-901 (III)(B)(6). While the Little Bighorn River Basin closure prohibits most new water development, the State has the authority to process and approve changes in use to Water Rights Recognized Under State Law that existed prior to June 22, 1999. MCA § 85-20-901 (III)(B)(7)(c).

11. Reserved Claim 43O 188069-00 constitutes a Water Right Recognized Under State Law pursuant to the Compact. The State of Montana may authorize a change in use of a Water Right Recognized Under State Law within the reservation, providing that the change does not adversely affect a use of the Tribal Water Right existing at the time. See generally § 85-20-901 (IV)(D)(2), MCA. The Montana Department of Natural Resource and Conservation is required to determine if an adverse effect to the Tribal Water Right would result from authorizing the change (§ 85-20-901).

12. Master's Report, filed on July 7, 2017, for Water Court Case 43O-266 reduced the maximum irrigable acreage in the place of use to 116.8 acres, as shown in Table 2, and increased the flow rate to 4.4 CFS. All parties agreed that 43O 188069-00 was not part of the Crow Tribal Water Right; should be clarified as a Walton Right; and may receive supplemental water from the Willow Creek Reservoir (also known as the Willow Creek Dam and Lodge Grass Reservoir; Federally owned by the Bureau of Indian Affairs), which is identified as part of the Crow Tribal Water Right – Little Big Horn River.

HISTORICAL USE

FINDINGS OF FACT

13. The water right proposed for change, Reserved Claim 43O 188069-00, is an active water right with a priority date of May 7, 1868.

14. The historical place of use for Reserved Claim 43O 188069-00 consists of 116.8 acres in the S2SE and SENESE of Sec. 20 T7S 34E; and the NE, SESENW, NWNWSE, E2NESW, NESESW of Sec. 29, T7S, R34E, Big Horn County, as shown in Table 3. Pre-1973 historical use was verified by aerial imagery analysis of the Water Resource Survey (WRS), in which the Department found approximately 119.74 acres (115.14 acres in the SE of Sec. 20 and NE of Sec. 29; and 4.6 acres in the NESW and SESW of Sec. 29). While the 119.74 acres found during this Application are greater than the amount quantified by the adjudication process, the Applicant is limited to the 116.80 decreed acres, as shown in Table 3.

	Acres	Quarter Sections	Section	Township	Range	County
1	0.50	SENESE	20	7S	34E	Big Horn
2	25.00	S2SE	20	7S	34E	Big Horn
3	85.10	NE	29	7S	34E	Big Horn
4	1.20	SESENW	29	7S	34E	Big Horn
5	0.50	NWNWSE	29	7S	34E	Big Horn
6	4.00	E2NESW	29	7S	34E	Big Horn
7	0.50	NESESW	29	7S	34E	Big Horn
Total	116.80	-	-	-	-	-

 Table 3. Historical Place of Use for Reserved Claim 43O 188069-00

15. The historical consumptive use was calculated by the Department, at the request of the Applicants, using the methodology in ARM 36.12.1902. The 116.8 acres within the place of use for this water right were historically wild flood-irrigated using the William Miller Ditch diverted from Lodge Grass Creek, via a headgate located at NWNENW Sec. 32, T7S, R34E. The Department used 25% irrigation efficiency for wild flood (as provided by the Applicants) to evaluate historical consumptive use. This 25% efficiency for wild flood irrigation is indicated per the Department's Historic Diverted Volume Memo, dated September 13, 2012.

16. Based on 116.8 irrigated acres, an IWR for flood irrigation at the Wyola, MT weather station in Big Horn County of 19.19 inches, and a county management factor of 55.4% (0.554), the historical consumptive use for this right is 103.48 AF (116.8 AC x (19.19 inches / 12 inches/ft) x 0.554 = 103.48 AF). The Department adds 5% of field-applied volume to account for irrecoverable losses (IL) in flood irrigation systems. Using a 25% efficiency, the field-applied volume is 413.91 AF (103.48 AF / 0.25 = 413.91 AF), and the irrecoverable losses are 20.70 AF (413.91 AF x 0.05 = 20.70 AF). The total historical consumptive use, including irrecoverable losses, is 124.18 AF (103.48 AF + 20.70 AF = 124.18 AF). The historically consumed and field applied volume for Reserved Claim 43O 188069-00 are shown in Table 4.

Table 4. Historically consumed volume (HCV) and field application volume for the historical place of use:

Big Horn Flood Irrigation ET (in)	Historical (1964-1973) Management	Historically Irrigated Acres	HCV (Excluding IL)	On- Farm Efficiency	Field Application Volume	Historical Irrecoverable Losses (IL):	HCV (Including IL)
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	Factor, Big Horn County					Flood Irrigation, 5%	
19.19	0.554 (55.4%)	116.8	103.48 AF	0.25 (25%)	413.91 AF	20.70 AF	124.18 AF

17. There are no supplemental water rights to Reserved Claim 43O 188069-00. On November 25, 2024, the Applicants filed a withdrawal for Reserved Claim 43O 197352-00, which utilized the William Miller Ditch, citing no interest in the claim. The withdrawal and dismissal of Reserved Claim 43O 197352-00 can be reviewed in the Montana Water Court Master's Report Case 43O-0405-I-2024.

18. Water was historically diverted water from Lodge Grass Creek at a point of diversion in the NWNENW Sec. 32, T7S, R34E, Big Horn County, via a headgate. Water traveled 3,656 feet from the headgate through the William Miller Ditch to the main (largest) field in the NENESW Sec. 29, T7S, R34E. The ditch is assumed to be trapezoidal, given the dimensions provided by the Applicants with a top width of 5.0 feet, a bottom width of 3.0 feet, and a depth of 3.0 feet. These parameters give a wetted perimeter of 9.32 feet. Based on USGS topographic maps, the ditch drops approximately 20 feet (from 3,940 to 3,920) over 3,656 feet from the headgate located at NWNENW Sec. 32, T7S, R34E to the main field in the NENESW Sec. 29, T7S, R34E, giving a ditch slope of 0.00547 ft/ft. Manning's equation with a coefficient of 0.03, provided by the Applicants, indicates the estimated maximum capacity of the ditch to be 52.01 CFS. The estimated maximum capacity exceeds the flow rate claimed by the Applicants.

19. Water was diverted for 170 days from May 15 to October 31. With the exception of 14 days for 2 cuttings, the fields were irrigated for 156 days.

20. Per ARM 36.12.1902(10), the historical conveyance loss volume is equal to the sum of the historical seepage loss, vegetation loss, and ditch evaporation volumes.

a. The total historical seepage loss attributed to the historical conveyance loss of Reserved Claim 43O 188069-00 is 73.21 AF. Seepage loss is determined by the wetted perimeter (9.32 feet), ditch length (3,655.77 feet), the days the ditch supports flow (156 days), and loss rate, then converted to acre feet (AF). The ditch soil profile consists of Wyola silty clay loam & Korchea silty clay loam, giving a ditch loss rate = 0.60 ft3/ft2/day. Seepage loss for Reserved Claim 43O 188069-00 is given in the following equation: [(9.32) x (3,655.77 ft) x (0.60 ft3/ft2/day) x (156 days) / 43560 ft²/acre = 73.21 AF].

b. The total vegetation loss attributed to the historical conveyance loss of Reserved Claim
43O 188069-00 is 7.12 AF. Vegetation loss is determined by the days the ditch supports flow
(156 days), the ditch length in miles (0.692 miles), the unit conversion constant of 2.0, and the

percent loss per mile. Based on the National Engineering Handbook (NEH) standard of 1993, the percent loss per mile = 0.75% (0.0075). Vegetation loss for Reserved Claim 43O 188069-00 is given in the following equation: [(0.0075) x (4.40 CFS) x (156 days) x (0.692 miles) x 2 = 7.12 AF].

c. The total ditch evaporation attributed to the historical conveyance loss of Reserved Claim 43O 188069-00 is 0.613 AF. Ditch evaporation is determined by the surface area and evaporation rate. The surface area is determined by multiplying the length of the ditch (3,655.77) by the upper width (5 feet). The Adjusted Net Evaporation sum from May 15 through October 31 as taken from the Gridded Monthly NetEvap layer in Converge gives an evaporation rate = 1.46 ft (17.51 in). Vegetation loss for Reserved Claim 43O 188069-00 is given in the following equation: [(3,655.77 ft x 5 ft) x (1.46 in ft/acre/yr, period adjusted) / 43,560 ft2/acre = 0.613 AF].

21. Total Historical Conveyance Loss for Reserved Claim 43O 188069-00 is 80.94 AF (73.21 AF + 7.12 AF + 0.61 AF = 80.94 AF). The parameters used in calculating conveyance loss are shown in Table 5.

^A Seepage	Ditch Wetted Perimeter (ft)	Ditch Length (ft)	Ditch Loss Rate (ft ³ /ft ² /day)	Days Irrigated	Seepage Loss (AF)
Loss	9.32	6,655.77	0.60	156	73.21
^B Vegetation	% Loss/Mile	Historical Flow Rate (CFS)	Days Irrigated	Ditch Length (mi)	Vegetation Loss (×2) (AF)
Loss	0.0075	4.40	156	0.692	7.12
^c Ditch Evaporation	Ditch Width (ft)	Ditch Length (ft)	Period Adjusted Evaporation Factor (ft)	Ditch Evaporation (AF)	Seasonal Conveyance Loss (AF) (A+B+C)
	5	3,655.77	1.46	0.613*	80.94*

Table 5. Conveyance Losses for William Millers Ditch

*The ditch evaporation was incorrectly calculated in the Technical Analyses as 0.64 AF, resulting in a total season conveyance loss of 80.97 AF. The ditch evaporation has been corrected to 0.613, and the total seasonal conveyance loss represents this correction at 80.943 AF. All subsequent calculations have been corrected.

22. The Department finds the total historical diverted volume for this water right to be 494.85 AF. Per Department standard practice, the historical diverted volume is the sum of the Field Application Volume and the calculated Conveyance Loss volume. The total historical diverted volume for Reserved Claim 43O 188069-00 is shown in the following equation: 413.91 AF + 80.94 AF = 494.85 AF; and in Table 6.

Table 6: Historically diverted volume of Reserved Claim 43O 188069-00

Water Right No.	Field Application Apportionment	Field Application Volume	Conveyance Loss Volume	Diverted Volume
43O 188069-00	100%	413.91 AF	80.94 AF	494.85 AF

23. The Department finds the following historical use, as shown in Table 7 and Table 8.

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WR #	Priority Date	Diverted Volume	Flow Rate	Purpose (Total Acres)	Total Consumptive Use	Place of Use	Point of Diversion
43O 188069-00	05/07/1868	494.85 AF	4.40 CFS	Flood Irrigation (116.8 Acres)	124.18 AF	See Table 8	NWNENW Sec. 32, T7S, R34E, Big Horn County

Table 7: Summary of historical use findings for Reserved Claim 43O 188069-00

Table 8. Historical Place of Use for Reserved Claim 43O 188069-00

POU#	Acres	Quarter Sections	Section	Township	Range	County
1	0.50	SENESE	20	7S	34E	Big Horn
2	25.00	S2SE	20	7S	34E	Big Horn
3	85.10	NE	29	7S	34E	Big Horn
4	1.20	SESENW	29	7S	34E	Big Horn
5	0.50	NWNWSE	29	7S	34E	Big Horn
6	4.00	E2NESW	29	7S	34E	Big Horn
7	0.50	NESESW	29	7S	34E	Big Horn
Total	116.80	-	-	-	-	-

ADVERSE EFFECT

FINDINGS OF FACT

24. The Applicants propose to change the point of diversion (POD) from the NWNENW Sec. 32, T7S, R34E to a location downstream on Lodge Grass Creek, in the NENENE Sec. 29, T7S, R34E. The Applicants will pump water to two pipelines that will supply two pivots in the northern portion of the Applicant's place of use, irrigating 37 acres with the north pivot, up to 300 GPM; and 64 acres with the south pivot, up to 520 GPM, for a total proposed flow rate of 820 GPM. The remaining acres in the place of use not covered by the pivots will be flood irrigated. No additional flow rate will be calculated for these flood-irrigated acres because the flow is not additive but interchangeable with the pivot.

25. The proposed flow rate of 820 GPM is less than the historical flow rate of 4.40 CFS.

26. The Applicants propose to continue irrigating all of the historical place of use. According to MCA 85-2-102(7)(b), the Department will not analyze the change in efficiency for acres within the historical footprint because a change authorization is not required to change the method of irrigation. The historical consumptive volume is 124.18 AF. Per Department policy, the proposed consumptive volume is 124.18 AF.

27. The Department has considered a potentially impacted reach on the source of supply. This reach was determined by accounting for the location of the proposed and historical point of diversion. This reach extends from the historical point of diversion in the NWNENW Sec. 32, T7S, R34E downstream to the proposed point of diversion in the NENENE Sec. 29, T7S, 34E. There are three water rights within the reach: Reserved Claim 43O 189016-00 for Livestock Direct from Source, Statement of Claim 43O 111988-00 Livestock Direct from Source, and Statement of Claim 43O 111993-00 for Irrigation by Natural Flow. These are the only water rights between the two points of diversions, and all three are owned by the Applicants.

28. As a result of the proposed change, the Applicants will have no greater access to water, and the Applicants will not be able to make call on water rights that could not be called previously. The Department will not require the Applicants to measure the proposed diversion as a result of this change, however, the Applicants propose to install an in-line flow meter on the proposed pivot pump. Should a valid call be made, the Applicants have the ability to shut off their pumps to cease diversion.

29. The historically diverted volume is 494.85 AF. If this change is authorized, the Applicants may divert up to 413.91 AF. The Applicants propose to divert 80.94 AF less than the historically diverted volume (494.85 AF – 413.91 AF = 80.94 AF); and there is no change to the place of use or the purpose of Reserved Claim 43O 188069-00; therefore, return flows were not analyzed.

30. The proposed change will not increase the consumptive use of Reserved Claim 43O 189016-00. The Department finds there will be no adverse effect to existing water rights as a result of this change. Because there is no increase in consumptive use and because water will be left instream, the Department finds there will be no adverse effect to the Crow Tribal Right.

BENEFICIAL USE

FINDINGS OF FACT

31. The Applicants propose to divert water for irrigation. Irrigation is a recognized beneficial use under § 85-2-102, MCA.

32. The Applicants propose a flow rate of 820 GPM up to 413.91 AF from May 15 to October 31. This flow rate is necessary to run the two proposed pivots. This volume was determined by the Department as the Historically Diverted Volume minus the Conveyance Loss previously attributed by the ditch (494.85 AF – 80.94 AF = 413.91 AF). 33. The Department finds that the purpose, flow rate, volume, period of diversion, and period of use proposed for appropriation are a beneficial use of water and that the requested flow rate of 820 GPM and annual volume of 413.91 AF are reasonably justified per ARM 36.12.1801(3).

ADEQUATE DIVERSION

FINDINGS OF FACT

34. The Applicants historically diverted 4.40 CFS flow rate from a headgate on Lodge Grass Creek in the NWNENW Sec. 32, T7S, R34E to the William Miller Ditch. The Applicants propose to abandon this point of diversion and use a pump and pipeline system in the NENENE Sec. 29, T7S, R34E. The proposed POD pump site is located in Lodge Grass Creek near the existing headgate site for the Robert Miller ditch. The pump structure is a 12-inch Riverscreen intake capable of withdrawing sufficient water volume to serve both pivots simultaneously from a creek water depth of 4 inches or more. The pump is a 40 HP Cornel centrifugal pump. The pump is connected to a 12-inch pipeline where gate valves can direct water to the north pivot, south pivot, or both. The north pivot of the proposed system is served with 1,420 feet of 6-inch buried pipeline, which will supply the necessary 300 GPM. The south pivot of the proposed system is served by 1,500 feet of 8-inch pipeline, which will supply the necessary 520 GPM. Both systems are controlled by Linsey Vision control panels and are equipped with Grow Smart IM 3000 flow meters. The irrigation system was designed by Big Sky Irrigation Inc. and is capable conveying water to the entirety of the pivot-irrigated acres from the proposed POD. The Applicants plan to divert 820 GPM to irrigate 116.8 acres in the historical place of use.

35. The remaining acres in the place of use not covered by the pivots will be flood-irrigated utilizing a valve at the end of the pivots. No additional flow rate will be calculated for these flood-irrigated acres because the flow is not additive but interchangeable with the pivot. There are no additional PODs.

36. The Department finds the proposed diversion means are adequate.

POSSESSORY INTEREST

FINDINGS OF FACT

37. The Applicants signed the affidavit on the application form affirming the Applicants have 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.

CONCLUSIONS OF LAW

HISTORICAL USE AND ADVERSE EFFECT

38. 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, ¶ 10 (an appropriator's right only attaches to the amount of water actually taken and beneficially applied).¹ 39. Sections 85-2-401(1) and -402(2)(a), MCA, codify the prior appropriation principles that Montana appropriators have a vested right to maintain surface and ground water conditions substantially as they existed at the time of their appropriation; subsequent appropriators may insist that prior appropriators confine their use to what was actually appropriated or necessary for their originally intended purpose of use; and, an appropriator may not change or alter its use in a manner that adversely affects another water user. Spokane Ranch & Water Co. v. Beatty, 37 Mont. 342, 96 P. 727, 731 (1908); Quigley, 110 Mont. at 505-11,103 P.2d at 1072-74; Matter of

¹ DNRC decisions are available at: https://dnrc.mt.gov/Directors-Office/HearingOrders

Royston, 249 Mont. at 429, 816 P.2d at 1057; Hohenlohe, ¶¶ 43-45.²

40. 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, ¶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 Department with evidence of the historic diverted volume, consumption, and return flow); Hohenlohe, ¶ 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

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).

³A 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. Section 85-2-234, MCA

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

41. 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*, **¶** 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; ARM 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

42. 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

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.)

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, 198 P.3d 219,(*citing Hidden Hollow Ranch v. Fields*, 2004 MT 153, 321 Mont. 505, 92 P.3d 1185).

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 ¶¶ 45-46 and 55-6; *Spokane Ranch & Water Co.*, 37 Mont. at 351-52, 96 P. at 731. 43. In_*Royston*, the Montana Supreme Court confirmed that an Applicant is required to prove lack of adverse effect through comparison of the proposed change to the historic use, historic consumption, and historic return flows of the original right. 249 Mont. at 431, 816 P.2d at 1059-60. More recently, the Montana Supreme Court explained the relationship between the fundamental principles of historic beneficial use, return flow, and the rights of subsequent appropriators as they relate to the adverse effect analysis in a change proceeding in the following manner:

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

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

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

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

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

44. 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. ARM 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. ARM 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. ARM 36.12.1901 and 1903. 45. Applicants seek to change existing water rights represented by its Water Right Claims. The "existing water rights" in this case are those as they existed prior to July 1, 1973, because with limited exception, no changes could have been made to those rights after that date without the Department's approval. Analysis of adverse effect in a change to an "existing water right" requires evaluation of 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).

46. 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. *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).

47. 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).

48. The Department has adopted a rule providing for the calculation of historic consumptive use where the Applicants prove by a preponderance of the evidence that the acreage was historically irrigated. ARM 36.12.1902(16). In the alternative, an Applicant may present its own evidence of historic beneficial use. In this case, the Applicants have elected to proceed under ARM 36.12.1902. (FOF No. 15).

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

50. Based upon the Applicant's evidence of historic use, the Applicant has proven by a preponderance of the evidence the historical use of Reserved Claim 43O 188069-00 to be a diverted volume of 494.85 AF, a historically consumed volume of 124.18 AF, and flow rate of 4.40 CFS. (FOF Nos. 16-23)

51. Based upon the Applicant's comparative analysis of historic water use and return flows to water use and return flows under the proposed change, the Applicant has proven that the proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been issued or for which a state water reservation has been issued. Section 85-2-402(2)(a), MCA. (FOF Nos. 24-30)

BENEFICIAL USE

52. A change Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use. Sections 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" <u>McDonald</u>, 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. ARM 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 (Mont. 1st Jud. Dist. Ct.) (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,, *Order Affirming DNRC Decision*, Pg. 3 (Mont. 5th Jud. Dist. Ct.) (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).

53. Applicants propose to use water for irrigation which is a recognized beneficial use. Section 85-2-102(5), MCA. Applicants have proven by a preponderance of the evidence irrigation is a beneficial use and that 413.91 AF of diverted volume and 820 GPM flow rate of water requested is the amount needed to sustain the beneficial use and is within the standards set by DNRC Rule. Section 85-2-402(2)(c), MCA (FOF Nos. 31-33).

ADEQUATE MEANS OF DIVERSION

54. Pursuant to § 85-2-402 (2)(b), MCA, the Applicant must prove by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate. This codifies the prior appropriation principle that the means of diversion must be reasonably effective for the contemplated use and may not result in a waste of the resource. *Crowley v. 6th Judicial District Court*, 108 Mont. 89, 88 P.2d 23 (1939); *In the Matter of Application for Beneficial Water Use Permit No. 41C-11339900 by Three Creeks Ranch of Wyoming LLC* (DNRC Final Order 2002) (information needed to prove that proposed means of diversion, construction, and operation of the appropriation works are adequate varies based upon project complexity; design by licensed engineer adequate).

55. Pursuant to § 85-2-402 (2)(b), MCA, Applicants have proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. (FOF Nos. 34-36)

POSSESSORY INTEREST

56. Pursuant to § 85-2-402(2)(d), MCA, the Applicant must prove by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. See also ARM 36.12.1802. 57. The Applicants have proven by a preponderance of the evidence that it has a possessory interest, 'or the written consent of the person with the possessory interest, in the property where the water is to be put to be be evidence that it has a possessory interest, 'or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. (FOF No. 37).

PRELIMINARY DETERMINATION

Subject to the terms and analysis in this Preliminary Determination Order, the Department preliminarily determines that this Application to Change Water Right No. 43O 30163932 should be GRANTED subject to the following.

The Applicants may change the point of diversion (POD) of Reserved Claim 43O 188069-00 from the historical headgate located at the NWNENW Sec. 32, T7S, R34E, in Big Horn County on Lodge Grass Creek to a pump located downstream on Lodge Grass Creek, in the NENENE Sec. 29, T7S, R34E, Big Horn County

NOTICE

The Department will provide a notice of opportunity for public comment on this Application and the Department's Draft Preliminary Determination to Grant pursuant to § 85-2-307, MCA. The Department will set a deadline for public comments to this Application pursuant to §§ 85-2-307, and -308, MCA. If this Application receives public comment, the Department shall consider the public comments, respond to the public comments, and issue a preliminary determination to grant the application, grant the application in modified form, or deny the application. If no public comments are received pursuant to § 85-2-307(4), MCA, the Department's preliminary determination will be adopted as the final determination.

DATED this 2nd day of April 2025

Mark Elison Manager, Billings Regional Office, Department of Natural Resources and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the <u>DRAFT PRELIMINARY DETERMINATION TO</u> <u>GRANT</u> was served upon all parties listed below on this 2nd day of April 2025, by first class United States mail.

RANDALL S. SHINN & DEBORAH G. STEWARD 13683 LODGE GRASS CREEK RD LODGE GRASS, MT 59050 MICKEYSTEWARD@GMAIL.COM

CASSEY STREBECK Billings Regional Office, Department of Natural Resources and Conservation Cassey.Strebeck@mt.gov (406) 247-4422

02APR25

DATE

EA Form R 1/2007

Montana Department of Natural Resources and Conservation Water Resources Division Water Rights Bureau ENVIRONMENTAL ASSESSMENT

For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

Applicant/Contact name and address:

Randall S. Shinn & Deborah G. Steward 13683 Lodge Grass Creek Rd Lodge Grass, MT 59050

Type of action: Application to Change a Water Right No. 43O 30163932

Water source name: Lodge Grass Creek

Location affected by the project: the NENENE of Section 29, T7S, R34E, in Big Horn County

Narrative summary of the proposed project, purpose, action to be taken, and benefits:

This project is on Lodge Grass Creek within the boundary of the Crow Reservation, approximately 13 miles southwest of Lodge Grass, Big Horn County, Montana. Lodge Grass Creek originates from the Big Horn Mountains and travels in a northeasterly direction to its confluence with the Little Big Horn River, just south of Lodge Grass, Montana.

This project is changing the point of diversion from the NWNENW of Section 32, T7S, R34E, Big Horn County via a headgate and William Miller Ditch for flood irrigation to a pump directly from Lodge Grass Creek, downstream in the NENENE of Section 29, T7S, R34E, in Big Horn County, to pivot and flood irrigate the place of use. The flow rate and volume of the appropriation will decrease. No construction will transpire; the pump will be on aluminum pontoons, with a screen protector, and capable of pumping water from minimum depth of four inches. The pump will be placed into the creek and removed when necessary.

The DNRC shall issue Change Authorization 43O 30163932 if the applicant proves the criteria in 85-2-402 MCA are met.

Agencies consulted during the preparation of the Environmental Assessment:

(include agencies with overlapping jurisdiction)

Montana Department of Natural Resources and Conservation Montana Department of Fish, Wildlife and Parks (FWP) Montana Department of Environmental Quality (DEQ) Montana Sage Grouse Habitat Conservation Program (SGHCP) Montana Natural Heritage Program (NHP) U.S. Fish and Wildlife Service (USFWS) U.S. Department of Agriculture, National Resource Conservation Service (USDA, NRCS)

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity

This application is to change the location of the uptake of water from Lodge Grass Creek. Originally diverted via headgate to a ditch, uptake will now be pumped from a location downstream. The new appropriation is less than historically used. Therefore, there will be more water left in the source and no significant impact on water quantity.

Determination: No Significant Impact

Water quality

Classified as a B-1 stream by Montana DEQ, water quality use classes. Lodge Grass Creek was not located in the 2020 Water Quality Integrated Report or 303(d) List, provided by Montana DEQ. Lodge Grass Creek was last included in the 1998 303(d) List, Table 3-A, as segments completely under Tribal Jurisdiction. Since the project falls within the Crow Reservation, the State has no jurisdiction over the water quality of this creek. However, this project will have no significant impact on water quality, regardless of data availability.

Determination: No Significant Impact

Groundwater

This project will have no significant impact on the groundwater quality or supply. The project will be appropriating surface water from Lodge Grass Creek at a flow rate and volume below its historical allotments.

Determination: No Significant Impact

Diversion works

The project will utilize a 12" Riverscreen on aluminum pontoons, capable of withdrawing water from a minimum depth of 4". As the Riverscreen floats on the surface, it will not affect the creek bed, however, the size of the Riverscreen will impede surface debris flow that will likely require the owner to remove it if caught on the device. The screen protector will keep wildlife away from the pump. The Riverscreen will not alter the shape of the stream or restrict the flow of aquatic life. However, given its size, there will be some bank disturbance when placing in and removing the Riverscreen from the creek. Furthermore, this disturbance can increase the spread of noxious

weeds or invasive species, both of which are the responsibility of the owner to maintain and report. Long-term bank disturbance and riparian health can be affected if the owner places and removes the Riverscreen without precautions or too frequently, increasing erosion and bank instability.

It is advised that the owner install the Riverscreen crane system for easy installation and retrieval and to maintain bank stability, or to maintain the riparian vegetation.

Determination: Possible Impact

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species

The Montana Natural Heritage Program (MT NHP) identifies the following as Species of Concern (SOC) within the general area of the project: Bobolink, Veery, Great Blue Heron, Bald Eagle, Eastern Screech Owl, Dickcissel, Bombus suckleyi, N.A. Porcupine, Danaus Plexippus, Western Spotted Skunk, Dwarf Shrew, A. White Pelican, Plumbeous Vireo, Black-billed Cuckoo, Little Brown Myotis, Long Eared Myotis, Long-legged Myotis, Merriam's Shrew, Prairie Shrew, Preble's Shrew, Silver-haired Bat, Golden Eagle, Sharp-tailed Grouse, Plains Hog-nosed Snake, Northern Hoary Bat, Brewer's Sparrow, Common Poorwill, Long-billed Curlew, Sage Thrasher, Townsend's Big-eared bat, Fringed Myotis, Greater Sage-Grouse, Pinyon Jay, Short-eared Owl, Snapping Turtle, Astragalus barrii, Astragalus ceramicus var. filifolius, Eastern Red Bat, Rufous Hummingbird, Great Plains Toad, Northern Leopard Frog, Carex crawei, Carex gravida, Cirsium pulcherrimum, Stellaria crassifolia, A. Bittern, Black Tern, Broad-Tailed Hummingbird, Ferruginous Hawk, Lewis's Woodpecker, Ovenbird, Red-headed Woodpecker, Black-tailed Prairie Dog, Eupatorium maculatum, Physaria brassicoides, Potentilla plattensis, Streptanthella longirostris, Pallid Bat, Yellow-billed Cuckoo, and the Sprague's Pipit.

While there is an abundance of species present, this project is not expected to produce an adverse effect on the wildlife community.

Determination: No Significant Impact

Wetlands

No wetlands were claimed or proposed in this project or identified in the general area of the project were reported on the Montana Natural Heritage Program (MT NHP) report.

Determination: No Significant Impact

<u>Ponds</u>

No ponds were claimed or proposed in this project or identified in the general area of the project via the Montana Natural Heritage Program (MT NHP) report.

Determination: No Significant Impact

GEOLOGY/SOIL QUALITY, STABILITY, AND MOISTURE

As mentioned above in the Diversion Works section, the most significant impact from this project will come from the Riverscreen being placed and removed from the creek, that may

increase erosion on the bank near the point of diversion located in the NENENE Sec 29, T7S, R34E, in Big Horn County.

USDA Web Soil Survey gives the point of diversion located in NENENE Sec 29, T7S, R34E, in Big Horn County as consisting primarily of Korchea and Frazer soils (KR). Frazer soils consist of well-draining, slow runoff, and slow permeability characteristics, formed by alluvium, and found on stream terraces. This soil is likely to be eroded upon increased disturbance if vegetation is lost.

It is advisable to maintain the vegetation and limit the number of times the Riverscreen is placed in and removed from the creek to maintain bank stability.

Determination: Possible Impact

VEGETATION COVER, QUANTITY, AND QUALITY/NOXIOUS WEEDS

The Montana Natural Heritage Program (MT NHP) identified the following land cover in the general project area: Great Plains Mixed-grass Prairie (37%); Big Sagebrush Steppe (16%); Cultivated Crops (14%); Rocky Mountain Lower Montane, Foothill, and Valley Grassland (12%); Great Plains Riparian (10%); Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest (3%); Pasture/Hay (3%); and Great Plains Wooded Draw and Ravine (2%).

MT NHP identified the following as Invasive and Pest Species: Invasive aquatic species include Myriophyllum spicatum and Nymphaea odorata; priority 1A noxious weeds include Centaurea solstitialis, Isatis tinctoria, and Taeniatherum caput-medusae; priority 1B noxious weeds include Lythrum salicaria, Polygonum cuspidatum, Cytisus scoparius, Echium vulgare, Polygonum x bohemicum; priority 2A noxious weeds include Ventenata dubia, Rhamnus cathartica, Lepidium latifolium, and Ranunculus acris; priority 2B include Acroptilon repins, Convolvulus arvensis, Cynoglossum officinale, Lepidium draba, Linaria dalmatica, Potentilla recta, Tamarix ramosissima, Centaurea stoebe, Cirsium arvense, Euphorbia virgata, Berteroa incana, Centaurea diffusa, Leucanthemum vulgare, Tanacetum vulgare, and Linaria vulgaris; priority 3 include Bromus tectorum and Elaeagnus angustifolia; lastly, biocontrol species include Mecinus janthinus, Mecinus janthiniformis, Aphthona lacertosa, Cyphocleonus Achates, Aphthona nigriscutis, and Oberea erythrocephala.

It will be the responsibility of the landowner to prevent the establishment and spread of noxious weeds.

Determination: No Significant Impact

AIR QUALITY

No impact on air quality is expected due to this project proposing a change in point of diversion.

Determination: No Impact

HISTORICAL AND ARCHEOLOGICAL SITES

Not applicable; the project is not located on State or Federal Lands. The Montana State Historic Preservation Office was not consulted regarding this project. As the project is located on private property, any cultural resource inventory conducted would be at the property owner's discretion.

Determination: Not Applicable

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY

No additional impact on other environmental resources is expected due to this project.

Determination: No Impact

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS

There are no known locally adopted environmental plans or goals.

Determination: Not Applicable

<u>ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES</u> This project will have no significant impact on recreational and wilderness activities.

Determination: No Significant Impact

<u>Human health</u>

This project will have no significant impact on human health.

Determination: No Significant Impact

<u>**PRIVATE PROPERTY</u>** - Assess whether there are any government regulatory impacts on private property rights.</u>

Yes____ No_X_ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: No Impact

<u>OTHER HUMAN-ENVIRONMENTAL ISSUES</u> - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

- (a) <u>Cultural uniqueness and diversity</u>? No Significant Impact
- (b) Local and state tax base and tax revenues? No Significant Impact
- (c) Existing land uses? No Significant Impact
- (d) **Quantity and distribution of employment**? No Significant Impact
- (e) <u>Distribution and density of population and housing</u>? No Significant Impact

- (f) <u>Demands for government services</u>? No Significant Impact
- (g) Industrial and commercial activity? No Significant Impact
- (h) <u>Utilities</u>? No Significant Impact
- (i) <u>Transportation</u>? No Significant Impact
- (j) <u>Safety</u>? No Significant Impact
- (k) <u>Other appropriate social and economic circumstances</u>? No Significant Impact
- 2. Secondary and cumulative impacts on the physical environment and human population:
 - (a) <u>Secondary Impacts</u>: No secondary impacts are identified
 - (b) <u>Cumulative Impacts:</u> No cumulative impacts are identified
- 3. Describe any mitigation/stipulation measures: None at this time
- 4. Description and analysis of reasonable alternatives to the proposed action, including the no-action alternative, if an alternative is reasonably available and prudent to consider: The alternative to the proposed project is the no-action alternative. The no-action alternative prevents the property owner from improving the operation of their irrigation system. The no-action alternative does not prevent or mitigate any significant environmental impacts.

PART III. Conclusion

- **1. Preferred Alternative:** Issue the change authorization if the applicant proves the criteria in 85-2-402 MCA are met.
- 2. Comments and Responses: The land owner should maintain vegetation on the bank where the pump is being placed into the creek to maintain bank stability and decrease erosion potential.

3. Finding:

Yes No X Based on the significance criteria evaluated in this EA, is an EIS required?

No significant environmental impacts were identified; therefore, an EIS is not required.

Name of person(s) responsible for preparation of EA:

Name: Cassey Strebeck *Title:* Water Resource Specialist *Date:* March 26, 2025



February 21, 2025

Randall S. Shinn & Deborah G. Steward 13683 Lodge Grass Creek Rd Lodge Grass, MT 59050

Subject: Correct and Complete Application for Reserved Claim No. 43O 30163932

Dear Applicant,

The Department of Natural Resources and Conservation (Department) has determined that your application is correct and complete pursuant to ARM 36.12.1601. Please remember that correct and complete **does not mean that your application will be granted.** The purpose of this letter is to indicate that the Department has enough information to analyze your water right application.

The Department will issue a Draft Preliminary Determination within 60 days of the date of this letter per §85-2-307(2)(b), MCA.

Following issuance of the Draft Preliminary Determination, you (Applicant) will have 15 business days to request an extension of time to submit additional information, if desired pursuant to §85-2-307(3)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to grant your application or grant your application in modified form, the Department will prepare a notice of opportunity to provide public comment, per §85-2-307(4)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to deny your application, the Department will adopt the Draft Preliminary Determination as the final determination per §85-2-307(3)(d)(ii), MCA.

If you have any questions or concerns about the application process, please contact me.

Sincerely Yours,

theal p

Cassey Strebeck Water Resource Specialist Billings Regional Office, Montana DNRC Cassey.Strebeck@mt.gov 406-247-4422



APPLICATION TO CHANGE A WATER RIGHT

§ 85-2-302 Form No. 606 (Revised 04/2024)

FILING FEE

\$2500/\$1500 – Without/with filing fee reduction. \$400 – (The following types do not qualify for a filing fee reduction)

- Replacement well that exceeds 35 GPM or 10 AF per year
- Replacement municipal well that exceeds 450 GPM
- Replacement reservoir on the same source

INFORMATION

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)). For Department Use Only

RECEIVED FEB 12 2025

DNRC-WRD-BILLINGS

Application # 30163932 Basin 430 Priority Date Feb 12.2025 Time 1030 AMPM Rec'd By <u>CS2</u> and SW Fee Rec'd \$ 100000 Check # 12397 Deposit Receipt # BLS2514974 Payor Sea Cross Ranch - D.G. Steward Refund \$ _____ Date ____

Applicant Name Randall S. Shinn (50942) & Deborah G Steward (343570) Mailing Address 13683 Lodge Grass Creek Rd City Lod

Applicant Information: Add more as necessary.

Mailing Address 13683 Lodge Grass Creek Rd	City Lodge Grass	State MT	Zip_59050
Phone Numbers: Home 307-680-5410	Work	Cell	
Email Addressmickeysteward@gmail.com			
Applicant Name			
Mailing Address	City	State	Zip
Phone Numbers: Home	Work	Cell	
Email Address			
A. P. (N			
Applicant Name			
Mailing Address	City	State	Zip
Phone Numbers: Home	Work	Cell	
Email Address			
Contact/Representative Information: Add	more as necessary.		
Contact/Representative is: Applicant	_ Consultant Attorney _	Other	
Contact/Representative Name			
Mailing Address	City	State	Zip
Phone Numbers: Home	Work	Cell	
Email Address			
NOTE: If a contact person is identified as an	attorney all communication will be	sont only to the attorne	v uploss

NOTE: If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary. If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondence and a copy may be sent to the contact person.



DIRECTIONS

Answer every question and applicable follow-up questions. Use the checkboxes to denote yes ("Y"), no ("N"), or not applicable ("NA"). Questions that require items to be submitted to the Department have a submitted ("S") checkbox, which is checked when the required item is attached to the Application. Label all submitted items with the question number for which they were submitted. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, specify "see attachment" on this form, and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses. Responses in the form of a table may be entered into the table provided on this form or in an attachment. Responses in the form of a table that are larger than the table provided on this form should be placed in an attachment. If an attachment. If an attachment is used, the table provided on this form should be placed in an attachment. If an attachment is used, the table provided on this form or in an attachment. Responses in the form of a table that are larger than the table provided on this form should be placed in an attachment. If an attachment is used, the table must have the exact headings found on this form, and "see attachment" must be placed on this form. For tables on this form, circle correct unit at header of column when table has unit options. For tables in attachments, label all units.

PREAPPLICATION AND TECHNICAL ANALYSIS INFORMATION

1. ■ **Y** □ **N** Did you have a preapplication meeting AND complete a Form 606P Change Preapplication Meeting Form?

IF QUESTION 1 IS YES,

- 2. Y N Did you elect on Form 606P to have the Department conduct Technical Analysis?
- 3. □ Y N Has any element of the application changed from Form 606P or the Technical Analysis conducted as part of the preapplication process? A Technical Analysis Addendum (Form 606-TAA) is required if changes have occurred.
- 4. Submit the following items:
 - **4.1. S** Technical Analyses you would like the Department to use to conduct criteria assessment.
 - **4.2. D S E NA** Scientific Credibility Review, if applicable.
 - **4.3.** \square **S** \blacksquare **NA** Technical Analysis Addendum (Form 606-TAA), if applicable, per question 3.

IF QUESTION 1 IS NO,

- 5. \Box S Submit the Technical Analysis Addendum (Form 606-TAA).
- 6. \Box Y \Box N Do you elect to have the Department conduct Technical Analysis?
 - **6.1.** □ **S** If no, submit all the required Technical Analyses. See the Technical Analysis Guide for more information.



APPLICATION ADDENDA AND REVIEW

- 7. □ S NA If the proposed change is on a non-filed water project, then submit the Non-Filed Water Project Addendum (Form 606/634-NFWPA) if you have not already submitted it with the Preapplication Meeting Form (606P). The project must meet the requirements of the addendum.
- 8. □ S NA If the project involves an appropriation that is greater than 5.5 CFS and 4,000 acre-feet, then submit a Reasonable Use Addendum (Form 606-B).
- **9.** □ **S NA** If the project involves out-of-state water use, then submit the Out-of-State Use Addendum (Form 600/606-OSA).
- **10.** □ **S NA** If the proposed purposes include marketing or selling water, then submit the Water Marketing Purpose Addendum (Form 600/606-WMA).
- 11. □ S NA If the proposed purpose includes instream flow, then submit Change to Instream Flow Addendum (Form 606-IFA).
- **12.** □ **S NA** If the proposed purposes include mitigation or aquifer recharge, then submit a Mitigation Purpose Addendum (Form 606/606-MIT).
- **13.** □ **S NA** If the project is in designated sage grouse habitat, then submit a review letter from the Montana Sage Grouse Habitat Conservation Program (https://sagegrouse.mt.gov).
- 14. □ Y □ N NA You must provide a written notice of the application to each owner of an appropriation right sharing the point of diversion or means of conveyance (e.g., canal, ditch, flume, pipeline, or constructed waterway). Have you sent this notice to all applicable parties? Your application cannot be deemed correct and complete until you have sent this notice pursuant to §85-2-302(4)(c), MCA.

APPLICATION DETAILS

15. How many change applications will be needed for this project? Refer to ARM 36.12.1305 for more information. 1

16. Fill out the table below.

Water Right No. Proposed for Change	Current Flow Rate (GPM or CFS)	Flow Rate Needed for Project (GPM or CFS)
43O 188069-00	4.4 CFS	4.4 CFS



17. Identify the water right elements proposed for change, with a checkmark, for each water right proposed for change.

Water Right No.	43O 188069-00			
Point of				
Diversion Dises of Liss		 	 	
Place of Use				
Purpose of Use				
Place of Storage				

- **18. S** Submit a historical use map created on an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all historical points of diversion (POD) labeled with a unique POD ID letter, all historical places of use (POU), all historical conveyance structures, all historical places of storage, and historical place of use for all overlapping water rights.
- 19. S Submit a proposed use map created on an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all proposed points of diversion labeled with a unique POD ID number, all proposed places of use, all proposed conveyance structures, all proposed places of storage, and place of use for all overlapping water rights.
- 20. **Y N** Does the proposed change involve a change in point of diversion?

IF YES,

20.1. Is the source for the new POD(s) surface water or groundwater? Surface Water (SW)

- 20.2. What is the source name for the new POD(s)? Lodge Grass Creek
- **20.3.** What is the means of diversion for all new POD(s)? Means of diversion for surface water includes headgate, pump, dam, and others. Means of diversion for groundwater includes well, developed spring, pit pond, and others. Pump
- **20.4.** Describe the proposed location for all new points of diversion to the nearest 10 acres. Label POD # with the same POD ID number assigned for the proposed use map (question 19).

POD	1⁄4	1⁄4	1⁄4	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov.
#												Lot
1	NE	NE	NE	29	7S	34E	Big Horn					


21. \Box **Y** \blacksquare **N** Does the proposed change involve a change in place of use?

IF YES,

21.1. What are the geocodes of the proposed place of use?

-	-
-	-
-	-
-	-
-	-

21.2. Describe the legal land description of the proposed place of use, and if the water rights being changed will have an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov't Lot	1/4	1/4	1⁄4	Sec.	Twp.	Rge.	County

22. ■ Y □ N Did all owners of the historical place of use for the water rights being changed sign this application? If ownership cannot be established for the entirety of the water rights being changed, a Form 641 or Form 642 must be received and processed by the Department prior to application submittal. The follow-up questions for question 22 help to establish whether a split is required before application submittal in the case all owners of the historical place of use did not sign the application.

IF NO,

22.1. List all water rights proposed for change for which you do not own the entire historical place of use.

22.2. □ Y □ N Are the water rights listed in question 22.1 severed from the historical place of use?
22.2.1. □ Y □ N □ NA Do you own the entirety of the severed water rights proposed for change?
22.3. □ Y □ N Are you filing on behalf of another entity?
22.3.1. If yes, explain.



23. □ Y ■ N Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use.

ADVERSE EFFECT

24. □ Y ■ N Do you have evidence that the proposed use does not exceed the historical use for flow rate, consumed volume, and diverted volume?

24.1. If yes, explain.

25. □ Y ■ N Are there any factors that would limit your ability to turn off your appropriation in response to a call?

25.1. If yes, explain.

26. Explain how you can control your diversion in response to a call being made. Pump can be shut off if valid call is made

27. □ Y ■ N Are you aware of any calls that have been made on the source of supply or depleted surface water source?

27.1. If yes, explain.



28. □ Y ■ N Does a water commissioner distribute water or oversee water distribution on your proposed source or any identified depleted surface water sources?

28.1. If yes, list the sources.

29. Describe your plan to ensure existing water rights will be satisfied during times of water shortage. Pump can be shut off if valid call is made

30. When was the last time the water rights proposed for change were appropriated and used beneficially? Not since 2014

IF THERE HAS BEEN A PERIOD OF NONUSE,

30.1. Why was the water right not used? Headgate/ditch system is in disrepair

30.2. Why will a resumption of use not adversely affect other water users? Other water users are aware these rights could resume at any time, no new appropriations within this time frame of nonuse

30.3. □ **Y** ■ **N** Is the period of nonuse greater than 10 years?

30.4. □ **Y** ■ **N** Have new water rights been authorized to use the source during the period of nonuse?



- 31. For point of diversion changes:
 - **31.1.** Are the proposed points of diversion upstream or downstream of the historical points of diversion? Downstream
 - **31.2. Y** □ **N** Are there intervening water rights between the historical and proposed points of diversion?

31	2.1. If yes, list the water rights.
	43O 189016-00
	43O 111988-00
	43O 111993-00

- 31.3. □ Y N Does the proposed point of diversion allow for diverting water longer during times of shortage?
 - **31.3.1.** If yes, explain how you will prevent an expansion of use.

31.4. □ Y ■ N Do other water rights share any of the proposed points of diversion?

31.4.1. If yes, describe how the proposed project will not adversely affect these water rights. Water right 43O 197352 was dismissed on 01/22/2025

31.5. □ **Y** ■ **N** Do other water rights share any conveyance ditch associated with the proposed points of diversion?

31.6. If yes, describe how the proposed project will not adversely affect these water rights.



ADEQUATE MEANS OF DIVERSION AND OPERATION

- 32. S Provide a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.
- **33.** Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.

The Riverscreen Inc intake, 40 HP pump(s), pipelines and pivot systems are designed to meet the NCRS-recommended water needs for irrigated alfalfa in our region, and were designed by Big Sky Irrigation. Attachment A gives pump curves and other relevant system specifications.

34. ■ Y □ N Is the diversion capable of providing the full amount of water requested through the period of diversion?

34.1. If no, explain.

35. Describe the size and configuration of infrastructure to convey water from all proposed points of diversion to all proposed places of use. This may include, where applicable: ditch capacity and/or pipeline size and configuration.

See Attachment B



36. Describe any losses related to the proposed conveyance. None

37. Y IN N NA Is the proposed conveyance infrastructure capable of providing the required flow and volume, plus any conveyance losses? **37.1.** If no, explain. **38.** \Box **Y** \blacksquare **N** Does the proposed conveyance require easements? 38.1. If yes, explain. **39.** Describe specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot, the output and configuration of sprinkler heads, and pipelines within the place of use. See Attachment B

40. □ Y ■ N Will your system be designed to discharge water from the project?40.1. If yes, explain the way water will be discharged.



- **40.2.** □ **Y** □ **N** □ **NA** Have the necessary permits been obtained to comply with §§ 75-5-410 and 85-2-364, MCA?
- **41.** □ **Y N** Is the means of diversion for any proposed point of diversion a well?

IF YES,

- **41.1.** □ **Y** □ **N** Have all wells already been drilled?
- **41.2.** For all wells that have been drilled, what is the name of the well driller and, if available, what is their license number?

- 41.3. \Box Y \Box N For all wells yet to be drilled, will a licensed well driller construct the wells?
- 41.4. \Box S \Box NA Submit any additional well logs for wells drilled after submittal of Form 606P.

BENEFICIAL USE

42. Why is the requested flow rate and volume the amount needed for the purposes? Using modern irrigation techniques, this is the recommended water required for irrigating the agricultural lands.

43. ■ Y □ N Does the Department have a standard for the purposes for which water is proposed? Department standards can be found in the DNRC Water Calculation Guide, ARM 36.12.112, ARM 36.12.115, and ARM 36.12.1902.

43.1. ■ Y □ N If yes, does the proposed beneficial use fall within Department standards?



43.2. If no Department standard exists, or if proposed beneficial use falls outside of Department standards, explain how the use is reasonable for the purpose. NA

44. □ **Y** ■ **N** Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?

44.1. \Box **Y** \Box **N** If yes, have you researched or consulted with DEQ regarding those requirements?

45. □ **Y** ■ **N** Are you proposing to use surface water for in-house domestic use?

45.1. □ **Y** □ **N** If yes, does a COSA exist for the proposed place of use?

45.1.1. □ **S** □ **NA** If yes, please submit the COSA.

45.1.2. \Box Y \Box N If no, have you researched or consulted with DEQ regarding their requirements?

PROPOSED COMPLETION PERIOD

- **46.** How many years will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 618)? 5 years
- **47.** Why is this amount of time needed? To install system.



AFFIDAVIT & CERTIFICATION

Read carefully before you sign and review with legal counsel if you have any questions. All owners (or trustees) must sign the form. **If the owner is a business or trust, include the title of the representative(s) signing the form (i.e., president, trustee, managing partner, etc.) and provide documentation that establishes the authority of the representative to sign the application.

I affirm the information provided for this application is to the best of my knowledge true and correct. I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the department, I changed any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a)).

I affirm I have 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, unless this application meets an exception to the possessory interest requirements in ARM 36.12.1802(1)(b).

I understand that making a false statement under oath or affirmation in this application and official proceedings throughout the examination of my application may subject me to prosecution under §45-7-202, MCA, a misdemeanor punishable by a jail term not to exceed 6 months or a fine not to exceed \$500, or both. I have read this Affidavit and understand the terms and conditions.

I declare under penalty of perjury and under the laws of the state of Montana that the foregoing is true and correct.

Applicant Signature Real 205 Chi	Date: February 12, 2025
Printed Name Randall 5. Shimn	
Title over - agrenator	
Applicant Signature	Date: Bteb CS
Printed Name Deborah Grave Steward	
Title	
Applicant Signature	Date:
Printed Name	7.
Title	



Attachment A - Pg 1

Randall Shinn - Pump Design Discusion 2024

Big Sky Irrigation - Scott Swenson 406-672-5641 (cell) scott@bigskyirrigation.com

North Pivot

1	179
2	179
3	179
4	179
5	157
OH	44
	917

Wet length with a 100' gun 1017' Gross acres 37 (Pivot Arc 177 degrees)

Proposed flow rate 300 gpm, .42" gross in 24 hours (8 GPM per acre)

South Pivot

UH	44
04	4.4
5	157
4	157
3	157
2	157
1	179

Wet length with a 100' gun 951' Gross acres 64 (Full Circle)

Proposed flow rate 520 gpm, .42" gross in 24 hours (8 GPM per acre)

(GPM) North Pivot Flow South Pivot Flow

300 520 820

The Proposed Pump is a Cornell 4RB-40, 12" impeller 820 gpm at 140'

The proposed system will use a single pump (4RB-40) with 12" impeller (run both pivots at the same time) Or individually

There will be an automatic valve at the center point. So if one pivot shuts down the other pivot will continue to run

Using the pump above, when running the North Pivot by itself it will not meet NRCS efficiency specifications.... With or With out a VFD

I would recommend running the pump at a fixed speed with out a VFD. Looking at the design using a VFD versus with out a VFD the energy saving is minimal

North Pivot - 300 GPM

With VFD ... 300 gpm at 137', 19.3HP, 63.4% efficient With out VFD 300 gpm at 155', 22.1HP, 61.7% efficient

South Pivot 520 GPM

With VFD ... 520 gpm at 138', 25.7HP, 77% efficient With out VFD 520 gpm at 152', 28.5HP, 76% efficient

See attached Pump Curves

2/4/2025

			Bo +	h Pi	uots Kun	nins	Attachment	A - Pg 2
				Pump Da	ta Sheet - Cornell			
Company: Big Sky Name: Randall Sh	y Irrigation	I	Both Pivo	ts Running to	ogether 820 GPM at 14	.0'		
Date: 02/04/2025			Jorth Suth	Piot Piwr	300 520		CORNE	ELL
Dumpi					820 GPM	Total		0
Size: Type: Synch Speed: Dia: Curve:	4RB Clear Liquids 1800 rpm 12 in 4RB18	Dimensio Suction: Discharg	ons: le:	6 in 4 in	Name: SG: Density: Viscosity: Temperature:	Water 1 62.4 lb/ft³ 1.1 cP 60 °F	Vapor Pressure: Atm Pressure: Margin Ratio:	0.256 psi a 14.7 psi a 1
					Pump Limits:			
Search Criteria:					Temperature: Wkg Pressure:	250 °F 175 psi g	Sphere Size:	0.84 in
Flow:	820 US gpm	Near Miss:			Motor:			
Head:	140 π	Static Head:	υπ		Standard: Enclosure: Frame: Sizing Criteria:	NEMA TEFC 326T Max Power or	Size: Speed: Design Curve	50 hp 1800 rpm
Dut Flow: Head: Eff: Power: NPSHr: Speed: Desig Shutoff Head Shutoff dP: Min Flow: BEP: 85.5% NOL Power: 41.7 hp Max Max Power: 49.1 hp	ty Point — 821 US gpm 140 ft 83.8% 34.7 hp 9.79 ft 1775 rpm gn Curve — 160 ft 69.1 psi 150 US gpm @ 967 US gpm 0 @ 1387 US gpm Curve — 0 @ 1393 US gpm	200 150 H 100 50 E 40	12.75 in 12 in 8 in	60	60 70 75 70 73 5 kp	80 B3	85 85.5 85.5 85 83 15 hp - 10 hp	80 75 7050 hp 40 hp 30 hp 25 hp 0 hp
		- 145 145 10 10		250	500	750	1000 1250	US g p m

Min flow line represents the absolute lowest flow pump can operate. For flow rates to the left of the first efficiency line on the curve, consult your Cornell Sales representative. Actual efficiency and HP may vary depending on mounting configuration. Refer to Catalog curve.

formance Evaluation:									
Flow	Speed	Head	Efficiency	Power	NPSHr				
US gpm	rpm	ft	%	hp	ft				
984	1775	129	85	37.6	12.6				
820	1775	140	84	34.7	9.78				
656	1775	148	79	30.9	8.32				
492	1775	153	72	26.3	8				
328	1775	155	60	21.5	8				

Attachment A - Pg 3

Pump Data Sheet - Cornell

Fluid:

Company: Big Sky Irrigation Name: Randall Shinn 300 at 155' Date: 02/04/2025

North Pivot only ... 300 GPM at 155'



Size: Type: Synch Speed: Dia: Curve:	4RB Clear Liquids 1800 rpm 12 in 4RB18	<u>Dimensions:</u> Suction: Discharge:	6 in 4 in
Search Criteria:			
Flow: Head:	300 US gpm 155 ft	Near Miss: Static Head:	O ft

Water				
1	Vapor Pressure:	0.256 psi a		
62.4 lb/ft ³	Atm Pressure:	14.7 psi a		
1.1 cP				
60 °F	Margin Ratio:	1		
250 °F	Sphere Size:	0.84 in		
175 psi g				
NEMA	Size.	50 hp		
NEMA	Size.	50 Hp		
TEFC	Speed:	1800 rpm		
326T				
Max Power on Design Curve				
	Water 1 62.4 lb/ft ³ 1.1 cP 60 °F 250 °F 175 psi g NEMA TEFC 326T Max Power on Desig	Water 1 Vapor Pressure: 1 Atm Pressure: 1.1 cP Atm Pressure: 60 °F Margin Ratio: 250 °F Sphere Size: 175 psi g Vapor Pressure: NEMA Size: TEFC Speed: 326T Max Power on Design Curve		

Pump Selection Warnings:

None

Pump:



Min flow line represents the absolute lowest flow pump can operate. For flow rates to the left of the first efficiency line on the curve, consult your Cornell Sales representative. Actual efficiency and HP may vary depending on mounting configuration. Refer to Catalog curve.

Pe	erformance Evaluation	on:					
	Flow	Speed	Head	Efficiency	Power	NPSHr	
	US gpm	rpm	ft	%	hp	ft	
	360	1775	155	62	22.4	8	
	300	1775	155	58	20.7	8	
	240	1775	156	53	18.9	8	
	180	1775	157	48	17.1	8	
	120	1775					

South Pivot Only

Fluid:

Attachment A - Pg 4

Pump Data Sheet - Cornell

Company: Big Sky Irrigation Name: South Pivot only 520 GPM at 152' Date: 02/04/2025

South Pivot only 520 gpm at 152'



Pump:			
Size:	4RB	Dimensions:	
Туре:	Clear Liquids	Suction:	6 in
Synch Speed:	1800 rpm	Discharge:	4 in
Dia:	12 in		
Curve:	4RB18		

Search Criteria:

Flow: Head: 520 US gpm Near Miss: 152 ft Static Head:

Name:	Water		
SG:	1	Vapor Pressure:	0.256 psi a
Density:	62.4 lb/ft ³	Atm Pressure:	14.7 psi a
Viscosity:	1.1 cP		
Temperature:	60 °F	Margin Ratio:	1
Pump Limits:			
Temperature:	250 °E	Sphere Size	0.84 in
Wkg Pressure:	175 psi g	ophoro oizo.	0.04 11
ning i rooodiroi	o pol g		
Motor:			
Standard:	NEMA	Size:	50 hp
Enclosure:	TEFC	Speed:	1800 rpm
Frame:	326T		
Sizing Criteria:	Max Power on [Design Curve	

Pump Selection Warnings: None

--- Duty Point ---521 US gpm Flow: Head: 152 ft Eff: 73.8% Power: 27.1 hp NPSHr: 8 ft Speed: 1775 rpm --- Design Curve ---Shutoff Head: 160 ft Shutoff dP: 69.1 psi 150 US gpm Min Flow: BEP: 85.5% @ 967 US gpm NOL Power: 41.7 hp @ 1387 US gpm --- Max Curve ---Max Power: 49.1 hp @ 1393 US gpm



Min flow line represents the absolute lowest flow pump can operate. For flow rates to the left of the first efficiency line on the curve, consult your Cornell Sales representative. Actual efficiency and HP may vary depending on mounting configuration. Refer to Catalog curve.

0 ft

Ρε	erformance Evaluation	on:					
	Flow	Speed	Head	Efficiency	Power	NPSHr	
	US gpm	rpm	ft	%	hp	ft	
	624	1775	149	78	30	8.23	
	520	1775	152	74	27.1	8	
	416	1775	154	67	24.1	8	
	312	1775	155	59	21	8	
	208	1775	157	50	18	8	

Randall S. Shinn (50942) & Deborah G Steward (343570) Application: 43O 30163932

Attachment **B**

Question 35: Describe the size and configuration of infrastructure to convey water from all proposed points of diversion to all proposed places of use. This may include, where applicable: ditch capacity and/or pipeline size and configuration.

The new point of diversion/withdrawal is located at a modern existing withdrawal site designed and installed in 2017. This site was designed to replace a headgate and ditch system, the old Robert Miller ditch, with a direct pump -to-pipeline system serving 2 pre-existing pivot systems.

Withdrawal is directly from Lodge Grass Creek. The Withdrawal structure is a 12" Riverscreen* intake capable of withdrawing sufficient water volume to serve both pivots simultaneously from a creek water depth of 4"or more. The pump is a 40 HP Cornel centrifugal. Pump pressure and volume are designed to flow through a 12" pipeline to a valve manifold where gate valves can be operated to direct water to the north pivot, south pivot or both.

The north pivot of the proposed system is served with 1420' of 6" buried pipeline which will supply the necessary 300 gpm. The south pivot of the proposed system is served with 1500' of 8" pipeline which will supply the necessary 520 gpm. Both systems are controlled by Lindsey Vision control panels and are equipped with Grow Smart IM 3000 flow meters.

The north pivot will irrigate 37 acres. The south pivot will irrigate 64 acres. Pivot irrigated acres will be watered to achieve soil moisture levels recommended by the NCRS or the hay and/or grazing practices in use. Irrigable acres not irrigated by the pivots will be irrigated by opening the pivot sand traps when needed at the last tower of each system and directing water a surface pipeline to the existing irrigation ditches.

Attachment A provides systems diagrams.

NA 430 30163932 - Shinn & Steward

Historical



Map Created: 8/20/2024 Author: Cassey Strebeck, Water Resource Specialist

Scale: 1:12,000

Southern, 4.6 11





Elements depicted on this map are for illustrative purposes and have not been surveyed by the Department. Service Layer Credits: MSDI PLSS 2021 Aerials

Shinn & Steward - 430 188069 - Proposed







Surface Water Change Technical Analyses Report

Department of Natural Resources and Conservation (DNRC or Department) Water Resources Division

Cassey Strebeck, Water Resource Specialist, Billings Regional Office

Application No.	430 30163932	Proposed Point of Diversion	NENENE Sec 29, T7S, 34E		
Applicant	Randall S. Shinn & Deborah G. Steward				

Overview

This report analyzes data submitted by the Applicant in support of the above-mentioned water right change application. This report provides technical analyses as required under the Administrative Rules of Montana (ARM) 36.12.1303 in support of the water rights criteria assessment as required in §85-2-402, Montana Code Annotated (MCA). This report was completed by regional office staff.

This Surface Water Change Technical Analyses Report contains the following sections:

Overview1
1.0 Application Details
2.1 Historical Field Consumed and Applied Volumes
2.2 Historical Conveyance Losses
2.3 Historical Diverted Volume
2.4 Summary of Historical Use
3.0 Analysis of Impacted Surface Water Sources
3.1 Summary of Proposed Use7
3.2 Area of Potential Adverse Effect
Review
References
Appendix A: Water Rights within the Area of Potential Adverse Effect



The Applicant proposes to change the point of diversion (POD) for Reserved Claim 43O 188069-00. The proposed place of use is located in the S2SE and SENESE of Sec. 20 T7S 34E; and the NE, SESENW, NWNWSE, E2NESW, NESESW of Sec. 29, T7S, R34E. The project is approximately 13 miles SW of Lodge Grass, MT, in Big Horn County. The source is Lodge Grass Creek. The water right proposed for change is in Table 1 and Table 2.

WR Number	Purpose	Flow Rate	Volume	Period of Use	Point of diversion	Place of use	Priority date	Acres
430 188069- 00	Wild Flood Irrigation	4.40 CFS	The amount historically put to beneficial use	May 15 to October 31	NWNENW Sec 32, T7S, R34E, Big Horn County	See Table 2	05/07/1868	116.80

Table 1. Water Right Proposed for Change

Table 2. Historical Places of Use for 43O 188069-00

POU#	Acres	Quarter Sections	Section	Township	Range	County
1	0.50	SENESE	20	7S	34E	Big Horn
2	25.00	S2SE	20	7S	34E	Big Horn
3	85.10	NE	29	7S	34E	Big Horn
4	1.20	SESENW	29	7S	34E	Big Horn
5	0.50	NWNWSE	29	7S	34E	Big Horn
6	4.00	E2NESW	29	7S	34E	Big Horn
7	0.50	NESESW	29	7S	34E	Big Horn
Total	116.80	-	-	-	-	-

The historical headgate was located at the NWNENW Sec 32, T7S, R34E, in Big Horn County. The Applicant proposes a new point of diversion located downstream on Lodge Grass Creek, in the NENENE Sec 29, T7S, R34E, in Big Horn County, at an established headgate utilized by the Applicant under water right no. 43O 111991-00.





Figure 1: Map of the Applicant's proposed POD on the source and proposed place of use.



2.0 Historical Use Technical Analysis

2.1 Historical Field Consumed and Applied Volumes

The consumed volume for irrigation is based on the net irrigation requirement (NIR) from USDA Natural Resources Conservation Service Irrigation Water Requirements (IWR) at a representative weather station. The NIR is multiplied by a county-wide management factor (from ARM 36.12.1902) to produce an adjusted NIR representative of actual crop yields in Montana. Crop consumption is determined by multiplying the adjusted NIR by the number of acres of irrigation. Crop consumption is then divided by the field efficiency identified from the irrigation method and ARM 36.12.115. Irrecoverable losses (IL) are 5% of the field applied volume for flood irrigation or 10% for sprinkler irrigation. The total consumed volume for irrigation is the crop consumption plus irrecoverable losses. The total non-consumed volume is the field applied volume minus the total consumed volume.

The 116.8 acres in the historical place of use are located in the S2SE and SENESE of Sec. 20 T7S 34E; and the NE, SESENW, NWNWSE, E2NESW, NESESW of Sec. 29, T7S, R34E, in Big Horn County, and have historically been wild flood irrigated by means of diversion at a headgate located in the NWNENW Sec 32, T7S, R34E, in Big Horn County.

The historical consumptive use was calculated by the Department, at the request of the Applicant, using the methodology in ARM 36.12.1902. The 116.8 acres within the place of use for this water right were historically wild flood-irrigated using the William Miller Ditch diverted from Lodge Grass Creek, via a headgate located at NWNENW Sec 32, T7S, R34E. The Department will use 25% irrigation efficiency, for wild flood (as indicated by the Applicant), to evaluate historical consumptive use. This 25% efficiency for wild flood irrigation is indicated per the Department's Historic Diverted Volume Memo, dated September 13, 2012.

Based on 116.8 irrigated acres, an IWR for flood irrigation at the Wyola, MT weather station in Big Horn County of 19.19 inches, and a county management factor of 55.4% (0.554), the consumptive use for this right is 103.48 AF (116.8 AC x (19.19 inches / 12 inches/ft) x 0.554 = 103.48 AF). The Department adds 5% of field applied volume to account for irrecoverable losses (IL) in flood irrigation systems. Using a 25% efficiency, the field applied volume is 413.91 AF (103.48 AF / 0.25 = 413.91 AF), and the irrecoverable losses are 20.70 AF (103.48 AF / 0.25 x 0.05 = 20.70 AF). The total historical consumptive use including irrecoverable losses is 124.18 AF (103.48 AF + 20.70 AF = 124.18 AF).

The historical consumed and field applied volumes have been calculated with the inputs shown in **Table 1** following the methods described above and in ARM 36.12.1902.



Table 1: Historical use for Statement of Claim 43O 1	188069-00
--	-----------

Irrigation Method	Acres	IWR (in) ¹	Mgmt. Factor ²	Field Efficiency	Crop Consumption (AF)	IL (AF)	Total Consumed Volume (AF)	Field Application Volume (AF)
Wild Flood	116.8	19.19	.554	.25	103.48	20.70	124.18	413.91

¹Wyola IWR Weather Station

²Big Horn County Historical Use Management Factor (1964-1973)

There are no supplemental water rights to Reserved Claim 43O 188069-00.

2.2 Historical Conveyance Losses

Per ARM 36.12.1902(10), the historical conveyance loss volume is equal to the sum of the historical seepage loss, vegetation loss, and ditch evaporation volumes.

The Applicant gives ditch dimensions as: top width = 5.0 ft, bottom width = 3.0 ft, and depth = 3.0 ft; giving a wetted perimeter of 9.32 feet. Based on USGS topographic maps, the ditch drops approximately 20 feet (from 3940 to 3920) over 3656 feet from the headgate located at NWNENW Sec 32, T7S, R34E to the main field in the NENESW Sec 29, T7S, R34E. Thus, the ditch slope = 0.00547 ft/ft.

The Applicant states that the ditch receives flow for 170 days from May 15 to Oct 31, and, with the subtraction of 14 days for 2 cuttings, the fields are irrigated for 156 days. The ditch soil profile consists of Wyola silty clay loam & Korchea silty clay loam, giving a ditch loss rate = 0.60 ft3/ft2/day. Based on the National Engineering Handbook (NEH) standard of 1993, the percent loss per mile = 0.75% (0.0075). The NetEvap sum from May 15 through October 31 gives an evaporation rate = 1.46 ft (17.51 in). The Department is using a ditch length = 3,655.77 feet from the headgate to the start of the main field located in the NENESW of Sec S29, T7S, R34E, obtained from aerial imagery in ArcGIS Pro.

<u>**Historical Seepage Loss**</u> is calculated as: (wetted perimeter) x (ditch length) x (loss rate) x (days) / 43560 ft2/acre

The total historical seepage loss attributed to 43O 188069-00 is 73.21 AF [(9.32) x (3,655.77 ft) x (0.60 ft3/ft2/day) x (156 days) / 43560 ft2/acre = 73.21 AF]. (See Table 4)

Historical Vegetation Loss is calculated as: (% loss per mile) x (flow in CFS) x (days ditch is flowing) x (ditch length in miles) x 2

The total historical vegetation loss attributed to 43O 188069-00 is 7.12 AF [(0.0075) x (4.40 CFS) x (156 days) x (0.692 miles) x 2]. (See Table 4)



<u>**Historical Ditch Evaporation**</u> is calculated as: (surface area of ditch (length x width in ft)) x (evaporation rate in ft/acre/yr, period adjusted) / 43,560 ft2/acre

The total historical ditch evaporation attributed to 43O 188069-00 is 0.64 AF [(3,655.77 ft x 5 ft) x (1.46 in ft/acre/yr, period adjusted) / 43,560 ft2/acre]. (See Table 4)

<u>Total Historical Conveyance Loss</u> for 43O 188069-00 is 80.97 AF (73.21 AF + 7.12 AF + 0.64 AF = 80.97 AF). (See Table 4)

Given these calculations, the ditch seepage loss = 73.21 AF; the vegetation loss = 7.13 AF; and the ditch evaporation = 0.64. Therefore, the seasonal conveyance loss = 80.97 AF. Table 4 below summarizes the conveyance loss for the William Miller ditch from the headgate to the start of the main field located in the NENESW of Sec S29, T7S, R34E.

Table 2 below summarizes the conveyance loss for the William Miller ditch.

^A Seepage Loss	Ditch Wetted Perimeter (ft)	Ditch Length (ft)	Ditch Loss Rate (ft ³ /ft ² /day)	Days Irrigated	Seepage Loss (AF)
	9.32	3,655.77	0.60	156	73.21
^B Vegetation Loss	% Loss/Mile	Historic Flow Rate (CFS)	Days Irrigated	Ditch Length (mi)	Vegetation Loss (×2) (AF)
Ū	0.0075	4.4	156	0.692	7.12
^C Ditch Evaporation	Ditch Width (ft)	Ditch Length (ft)	Ditch Evaporation Rate (ft)	Ditch Evaporation (AF)	Seasonal Conveyance Loss (AF) (A+B+C)
_	5	3,655.77	1.46	0.64	80.97

 Table 2: Conveyance losses

2.3 Historical Diverted Volume

Per ARM 36.12.1902(10), the historically diverted volume is equal to the sum of the historical field application volume and historical conveyance loss volume. Table 3 below summarizes the historical field applied and conveyance loss volumes.

Table 3: Historic Diverted Volume of 43O 188069-00

Water Right No.	Field Application Apportionment	Field Application Volume	Conveyance Loss Volume	Diverted Volume
43O 188069-00	100%	413.91 AF	80.97 AF	494.89

2.4 Summary of Historical Use

The Department will consider the following values when evaluating the historical use of 43O 188069-00 for the adverse effect criterion:



Water Right No.	Historical Purpose	Maximum Historical Acres	Historical Place of Use	Historical Point of Diversion	Maximum Historical Flow Rate	Historically Consumed Volume	Historically Diverted Volume
430 188069- 00	Flood Irrigation	116.8	S2SE and SENESE of Sec 20, T7S, 34E; and NE, SESWNW, NWNWSE, E2NESW, NESESW of Sec 29, T7S 34E	NWNENW Sec 32, T7S, R34E	4.40 CFS	124.18 AF	494.89

Table 4: Summary of historical use of 43O 188069-00

3.0 Analysis of Impacted Surface Water Sources

3.1 Summary of Proposed Use

00

The Applicant proposes to change the point of diversion (POD) to a location downstream on Lodge Grass Creek, in the NENENE Sec 29, T7S, R34E. The Applicant will pump water to two pipelines that will supply 2 pivots in the northern portion of the Applicant's place of use, irrigating 37 acres with the north pivot, up to 300 GPM; and 64 acres with the south pivot, up to 520 GPM. Other irrigable acres not covered by the pivots will be flood irrigated.

The Applicant proposes 820 GPM to supply two pivots: (1) 300 GPM to pivot irrigate 37 acres (north pivot). (2) 520 GPM to pivot irrigate 64 acres (south pivot). The Applicant proposes to flood irrigate the remaining 15.8 acres using the flow through the southern pivot. Therefore, no additional flow rate will be calculated for these flood-irrigated acres because the flow is not additive but interchangeable with the pivot. The Applicant proposes to use 43O 188069-00 as shown in Table 5.

pı	roposed u	se.						
	Water Right No.	Proposed Purpose	Proposed Acres	Proposed Place of Use	Proposed Point of Diversion	Proposed Flow Rate	Proposed Consumptive Volume	Proposed Diverted Volume
	430			The S2SE and SENESE of Sec 20,	NENENE			
	188069-	Pivot	116.8	T7S, 34E;	Sec 29,	820 GPM	124.18 AF	413.91

and the NE, SESWNW, NWNWSE, E2NESW, T7S, 34E

Table 5 Summary of the proposed use of 43O 188069-00. See below for an explanation of the proposed use.



	NESESW of Sec 29, T7S 34E		

The Applicant proposes to change the point of diversion. No change in the place of use is proposed. Per the December 2, 2015, Department memo on changes in method of irrigation, the Department will not evaluate acres within the historical footprint of irrigation for changes in applied or consumed volume. The proposed diverted volume is less than the historical diverted volume because there are no associated conveyance losses.

Table 6: Volumes associated with historical and proposed use.

Purpose	Historically	Historically	Proposed	Proposed
	Consumed	Diverted	Consumptive	Diverted
	Volume	Volume	Volume	Volume
Irrigation	124.18 AF	494.89 AF	124.18 AF	413.91 AF

3.2 Area of Potential Adverse Effect

The Department has considered a potentially impacted reach on the source of supply. This reach was determined by accounting for the location of the proposed and historical point of diversion. This reach extends from NWNENW Sec 32, T7S, R34E downstream to NENENE Sec 29, T7S, 34E.

There are three water rights within the reach, Reserved Claim 43O 189016-00 for Livestock Direct from Source, Statement of Claim 43O 111988-00 Livestock Direct from Source, and Statement of Claim 43O 111993-00 for Irrigation by Natural Flow are the only water rights between the two points of diversions, and all three are owned by the Applicant.

The volume for Livestock Direct from Source Claims is calculated at 30 GPD/AU times the number of AU, the flow rate is calculated as the flow required to produce that volume plus 35 GPM. The flow rate for 540 animal units is 46.25 GPM [(540 AU) * (30 GPD/AU) * (1 GPM / 1,440 GPD) + 35 GPM = 46.25 GPM].

These three water rights within the API are shown in Appendix A.



Review

This document has been reviewed by the Department on January 15, 2025.

References

Department Standard Practice for Determining Historical Use Department Standard Practice for Analyzing Area of Potential Adverse Effect Department's Historic Diverted Volume Memo December 2, 2015, Department Memo – Change in Method of Irrigation



Appendix A: Water Rights within the Area of Potential Adverse Effect



Appendix A:	Water Rights	within the Area	a of Potential A	Adverse Impacts (API)
TT · · ·				The second secon

Water Dight #	Owners	Dumono	ΔΤΙ	Flow Rate	Volume
water Right #	Owners	Purpose	AU	(CFS)	(AF)
430 189016-00	Randall S Shinn; Deborah G Steward	Stock Direct	40	.10*	1.34
43O 111988-00	Randall S Shinn; Deborah G Steward	Stock Direct	500	0.00*	16.8
430 111003 00	Pandall & Shinn: Deboreh G Staward	Natural Flow	NI/A	0.00**	61.4***
430 111993-00	Randall S Shinn; Deborah G Steward	Irrigation	IN/A	0.00**	

* Calculated by DNRC: Flow rate assigned for livestock direct from source as 46.25 GPM (0.10 CFS) for the first right, zeroed out on all others, based upon back calculation of total volume used for the livestock direct from source water rights (18.1 AF/YR).

** Natural Flow Irrigation is not assigned a flow rate.

*** Calculated by DNRC as lower range of 60% efficient irrigation in climate area II.



PREAPPLICATION MEETING FEE

\$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

For Department Use Only

Application #	30163932	Basin	430	
Meeting Date	11/18/2024	Time	13:00 P	AM/PM
Completed Fo	orm Deadline May	/ 17, 2	2025	

RECEIVED 02DEC2024 DNRC-WRD-BILLINGS

Completed Form Received 02DEC2024				
Fee Rec'd \$ 500.00 Check # 12262				
Deposit Receipt # BLS2508371				
Payor Seacross Ranch - D.G. Steward				
Refund \$	Date			

The Department will fill out Form No. 606P and will identify follow-up during the preapplication meeting. The Department and Applicant will sign the Preapplication Meeting Affidavit and Certification within five business days. Within 180 days of the preapplication meeting, the Applicant will complete identified follow-up on a separate document with the question numbers clearly labeled.

Applicant Information: Add more as necessary.

Applicant Name Randall S. Shinn (50942) & Deborah G S	teward (343570)					
Mailing Address 13683 Lodge Grass Creek Rd	City Lodge Grass	State MT	Zip 59050			
Phone Numbers: Home 307-680-5410	Work	Cell				
Email Address <u>mickeysteward@gmail.com</u>						
Applicant Name						
Mailing Address	City	State	_ Zip			
Phone Numbers: Home	Work	Cell				
Email Address						
Contact/Representative Information Add more as pecessary. Contact/Representative is: Applicant Consultant Attorney Other (describe)						
Mailing Address	City	State	_ Zip			
Phone Numbers: Home	Work	Cell				
Email Address						

NOTE: If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary. If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondence and a copy may be sent to the contact person.

Meeting Attendees: Add more as necessary.

Name	Organization	Position
Mickey Steward	Applicant	
Mark Elison	DNRC	Manager
Cassey Strebeck	DNRC	Water Specialist
Veronica Corbett	DNRC	Water Specialist

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The following questions are mandatory and must be filled out before the Preapplication Meeting Form is determined to be complete. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, mark the see attachment ("A") checkbox on this form and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses. Responses in the form of a table may be entered into the table provided on this form or in an attachment. Responses in the form of a table that are larger than the table provided on this form should be placed in an attachment. If an attachment is used, the table must have the exact headings found on this form, and the see attachment ("A") checkbox must be marked. For tables in this form, circle correct unit at header of column when faced with a choice of units. For tables in attachments, label all units. Questions that require Applicant to submit items to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. For all questions where follow-up is necessary, mark the "F" checkbox in the "Follow-Up" column and write the question number on the "Follow-Up Page".

Question	<u>Check-</u> boxes	Follow -Up		
1. Do you elect to have DNRC conduct Technica	l Analyses?		$\blacksquare Y \Box N$	ΓF
2. Which water right(s) are proposed for change? Include water right number, currently authorized flow rate (GPM or CFS), and flow rate needed for project (GPM or CFS).				
Water Right Number Current Flow Rate (GPM or CFS) Flow Rate Needed for Press		oject (GPM o	or CFS)	
43O 188069-00	4.4 CFS	4.4 CF	=S	

3.	Is the proposed change on a non-filed water project?	\Box Y \blacksquare N	ΓF
	a. If yes, please submit a Non-Filed Water Project Addendum (Form 606/634-NFWPA). The project must meet the requirements of the addendum. The addendum is required before the Preapplication Meeting Form is completed.	□S	🗆 F
4.	How many change applications will be needed for this project? Please refer to ARM 36.12.1305 for more information.		□ F
5.	Please submit a historical use map created on an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all historical points of diversion (POD) labeled with a unique POD ID letter, all historical places of use (POU), all historical conveyance structures, all historical places of storage, and historical place of	S S	□ F



Form No. 606P

Application Details

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use for all overla	pping water right	s.						
6. Please submit a p corners, township proposed places o overlapping wate	. Please submit a proposed use map created on an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all proposed points of diversion labeled with a unique POD ID number, all proposed places of use, all proposed conveyance structures, all proposed places of storage, and proposed place of use for all overlapping water rights.							□ F
7. Identify the wate	7. Identify the water right elements proposed for change, with an "X", for each water right proposed for change.							Γ
Water Right #	43O 188069-00							
Point of diversion	Х							
Place of use								
Purpose of use								
Place of storage								

8. Doe	3. Does the change involve a change in point of diversion?											$\blacksquare Y \Box N$	🗆 F			
 a. If yes, describe the proposed location of the new point(s) of diversion to the nearest 10 acres, if source is groundwater (GW) or surface water (SW), source name, and means of diversion (e.g., pump, headgate, well). Label POD ID with the same numbers as the proposed use map (Question 6). 												□ F				
POD #	1/4	1/4	1/4	Sec	Тwp	Rge	County	Lot	Block	Tract	Subdivision	Gov Lot	GW or SW	Source Name	Means	
1	NE	NE	NE	29	7S	34E	Big Horn						SW	Lodge Grass Creek	Pump	
								L								

9.	9. Does the change involve a change in place of use?						
	a. If yes,						
	i. What are the geocodes of the proposed place of use?						



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	ii. Describe the have an irr	ne legal land o igation or law	description of the on and garden pur	proposed place of pose, list the num	of use and, if the w nber of irrigated ad	vater rights being cres.	changed will	ΔA	□ F
Acres	Gov't Lot	1/4	1/4	1/4	Sec	Twp	Rge	Count	v
						1	Ŭ		<i>.</i>
									-
	Total	1		ł	U.	i.			

b. Are you proposing to add a place of use on State of Montana Trust Land?	\Box Y \blacksquare N	ΓF
i. If yes, you must submit an Authorization for Temporary Change in Appropriation Right Consent Form	\Box S	□ F
from the DNRC Trust Lands Management Division before the Preapplication Meeting Form is complete. A		
change authorization to add a POU on Trust Land will be temporary for the duration of the lease term.		
Answer project-specific questions for temporary changes (question 99 to 105).		
10. Does the proposed change include a change in purpose of use? If yes, answer questions 106 to 109 for change in purpose of	\Box Y \blacksquare N	ΓF
use.		
11. Do you propose to add or modify one or more place(s) of storage (reservoir or pond) with a storage capacity greater than 0.1	🗆 Y 🔳 N	ΓF
acre-feet? If yes, answer questions 110 to 119.		
12. Are conveyance ditches used for historical or proposed uses? If yes, answer ditch-specific questions 120 to 126.	\blacksquare Y \square N	ΓF
13. Do you have ownership of the entire historical POU for the water right(s) being changed?	\blacksquare Y \square N	ΓF
a. If no,		
i. List the water right(s) for which you do not own the entire historical POU.		ΓF
ii. Are the water right(s) listed in question 13.a.i severed from the historical POU?	\Box Y \Box N	ΓF
1. If yes, do you own the entirety of the severed water right(s) proposed for change?	\Box Y \Box N	ΓF



iii. Are you filing on behalf of another entity? If yes, describe.	\Box Y \Box N	□ F
iv. Are all owners of the historical place of use willing to sign the application?	\Box Y \Box N	🗆 F
1. If no,		
a. A Form 641 or 642 to split the water right(s) being changed must be received and processed by the Department prior to application submittal	□S	□ F
 b. Describe how the water right(s) will be split, and which part of the split water right(s) will be proposed for change. 	A	□ F
14. Is the proposed use temporary? If yes, answer questions 99 to 105 for temporary changes.	\Box Y \blacksquare N	\Box F
15. Is the application to change the purpose of use or place of use of an appropriation of 4,000 or more acre-feet (AF) of water a year and 5.5 or more cubic feet per second (CFS)? If yes, you must submit a Reasonable Use Addendum (Form 606-B) with the application. The reasonable use criteria are found in §85-2-402(4-5), MCA.	□ Y ■ N	□ F
16. Will you be transporting water for use outside of Montana? If yes, you will need submit an Out-of-State Use Addendum (Form 600/606- OSA) with the application. The out-of-state use criteria are outlined in §85-2-402(6), MCA.	□ Y ■ N	□ F
17. Is the project located in designated sage grouse habitat? If yes, you must have a consultation with and review of your project by the Montana Sage Grouse Habitat Conservation Program. The review letter will be required at application submittal.	□ Y ■ N	□ F
18. Does the application include the water marketing purpose? If yes, answer questions 127 to 134 for water marketing. A Water Marketing Purpose Addendum (Form 600/606-WMA) will be required with application submittal.	□ Y ■ N	□ F
19. Does the proposed purpose include instream flow? If yes, answer questions 135 to 145 for Instream Flow Changes. A Change to Instream Flow Addendum (Form 606-IFA) will be required with application submittal.	□ Y ■ N	□ F
20. Will the proposed use include salvage water? If yes, answer questions 146 to 150 for Salvage Water.	🗆 Y 🔳 N	🗆 F



Historical Use

The following questions are mandatory and must be filled out for both Surface Water and Groundwater Applications before the Preapplication Meeting Form is determined to be complete.

			<u>Check-</u> boxes	Follow -Up			
21.	What type of water rig Provisional Permit, an Reserved Right (Trea	ght(s) are proposed for change? Ans id 24 for other types of water rights. ited as STOC)	wer question 22 for each Statemer	nt of Claim, 23 for each		A	□ F
22. In the table below, write the water right number for each Statement of Claim proposed for change in the "Statement of Claim" column. If there is one or more previous change authorizations, write the application numbers for the change authorizations in the "Previous Change Authorization" column and if there are no previous change authorizations, write "none" instead. Write the date of the Project Completion Notice for each previous change authorization in the "Project Completion Notice" column and if the previous change authorization does not have a Project Completion Notice, write "none" instead. In the "Previous Historical Use Analysis" column, write "full" or "partial" if a historical use analysis was conducted for the previous change authorization, and "none" if no previous historical use analysis was conducted. In the "Use Historical Use Analysis for Current Application" column, write "yes" if the previous historical use analysis will be used for the current application and "or" if a new historical use analysis will be conducted.							□ F
St	atement of Claim	Previous Change	Use Hi	storical Use A	Analysis		
	43O 188069-00	None	None	None	101 Cu	No	
-							
23.	In the table below, wr Permit" column. If a H column, and if no Pro proposed for change, authorizations in the " in the "Previous Chan	" ange "none"	A	□ F			



Historical Use

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Completion Notice if the previous chan Change Historical change authorization for Current Applica "no" if a new histo	for each previou nge authorization Use Analysis" co on, and "none" if ation" column, w rical use analysis	s change authorization in the "Previo does not have a Project Completion I dumn, write "full" or "partial" if a his no previous historical use analysis wa rite "yes" if the previous historical us will be conducted.	us Change Project Com Notice, write "none" ins torical use analysis was as conducted. In the "Us e analysis will be used f	pletion Notice" column and tead. In the "Previous conducted for the previous se Historical Use Analysis for the current application,		
Provisional Permit	Project Completion Notice	Previous Change Authorization	Previous Change Project Completion Notice	Previous Change Historical Use Analysis	Use Historica Analysis for Current App	d Use lication
24. In the table below, water right, and the	A	□ F				
Other Water Right	Type Number	Other Water Right Type Description	ion	Date of Issuance		
25. Are there previous Department decision	Montana Water (ons related to the	Court approved stipulations, Water M water right(s) being changed?	aster reports, or prior M	Iontana Water Court or	■ Y □ N	□ F
a. If yes, explain. Post Decree versions, 43O 188069 Case 43O 266 & Case 43O 21					A	□ F



Historical Use
26. Fill in the table below Right Number" list a Analysis Options" ar Historical Use Analy analysis. If the "Exis 42 because this section	w based on ARM 36.12.1902(1) and the information provided in questions 21 to 25. In column "Water ill water rights proposed for change. Select one of the three options from column "Historical Use and fill in the "Information Required for Historical Use" associated with that option. Select "Full /sis NA" only if an unperfected Provisional Permit will be used to serve as historical use in lieu of sting Historical Use Analysis" or "Full Historical Use Analysis NA" option is selected, skip to question on is complete.	□ F
Water Right No. Proposed for Change	Historical Use Analysis Option and Information Required for Historical Use	
	New Historical Use Analysis. Date for new Historical Use Analysis:	
43O 188069-00	Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis:	
	 New Historical Use Analysis. Date for new Historical Use Analysis:	
	Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis:	
	Full Historical Use Analysis NA. Water right number serving as historical use in lieu of analysis:	
	 New Historical Use Analysis. Date for new Historical Use Analysis:	
	Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis:	
	Full Historical Use Analysis NA. Water right number serving as historical use in lieu of analysis:	



	New Historical Use Analysis. Date for new Historical Use Analysis:					
	Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis:					
	□ Full Historical Use Analysis NA. Water right number serving as historical use in lieu of analysis:					
	 New Historical Use Analysis. Date for new Historical Use Analysis: 					
 Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis: 						
	 Full Historical Use Analysis NA. Water right number serving as historical use in lieu of analysis: 					
	 New Historical Use Analysis. Date for new Historical Use Analysis:					
	Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis:					
	 Full Historical Use Analysis NA. Water right number serving as historical use in lieu of analysis:					
27. Do you have ac	tual knowledge of historical use?	🗆 Y 🔳 N	🗆 F			
a. If yes,						
i. Is this firsthand knowledge?						
ii.	Who has this knowledge and what was their role?	ΔA	□ F			



b.	If no,			
	i.	Where will the historical use data be derived?	ΠA	□F
		Big Horn County WRS, historical aerial imagery, WR records		

Historical Use: Place of Use

28. The historical us	B. The historical use map provided for question 5 must clearly identify the entire place of use for each overlapping water right 🔳 Y 🗆 N 👘 F						
that intersects the	that intersects the historical place of use. Does your historical use map meet this requirement?						
29. Are you proposit	ng to change all w	rater right(s) associated with the historical place of use?	$\blacksquare Y \Box N$	🗆 F			
a. If no, ide	entify the water right	ght(s) associated with the historical place of use that are not included in this application.	ΠA	ΓF			
Provide	the priority date for	or each water right and explain why all overlapping water rights are not included in the					
applicati	on. Include water	received via contract from a company, district, or water users' association.					
Water Right No.	Priority Date	Reason Not Included in Change					
		1					

30. Answer the questions below related to the historical purpose for each of the water right(s) being changed.		
a. Irrigation		
i. Is the water right being changed a Statement of Claim?	\blacksquare Y \square N	ΓF
1. If yes,		
a. Does the Water Resources Survey corroborate the acres irrigated listed on the abstract?	🔳 Y 🗆 N	\Box F
i. If no, provide aerial photograph(s) that can corroborate the historical place of use.		ΓF
b. Does the legal land description from the abstract match the actual location of the historical place of use?	■ Y □ N	□ F
 If no, provide documentation of a written request submitted to the Water Court for amendment of the Claim as well as information to substantiate the requested amendment. 	□S	□ F



Historical Use

2. If no, provide one or more aerial photographs that can corroborate the historical place of use.		ΓF
b. Lawn and garden		
i. Provide aerial photographs that can corroborate the historical place of use.		ΓF
c. Stock		
i. Provide aerial photographs, grazing records, or other records to corroborate the historical place of use.		ΓF
ii. Did the stock drink direct from source or direct from ditch?	$\Box Y \Box N$	ΓF
1. If no, provide data sources that make clear the location of the stock watering infrastructure.		ΓF
d. Multiple domestic, domestic, municipal, mining, commercial, and other purposes		
i. Provide aerial photographs, deeds, other recorded documents or records, affidavits, or other published		ΓF
documents, such as magazine articles, to corroborate the historical place of use.		

Historical Use: Point of Diversion

31. For all historical point(s) of diversion, identify the means, location (1/4 1/4 1/4 section), and if they are proposed for change. Label using the same POD ID letter as for the Historical Use Map (question 5).			A	□ F	
POD	POD Means Location (¼¼¼ Section) Prop.			sed for Chan	ge?
ID			_		_
1	Headgate	NWNENW Sec 32 T7S R34E		Yes	

32. Does the legal land description from the abstract match the actual location of the historical point(s) of diversion?	\blacksquare Y \square N	ΓF
a. If no, do you have aerial photograph(s) that clearly show the location of the historical point(s) of diversion?	\Box Y \Box N	ΓF
i. If yes,		
1. Provide the photograph(s).	\Box S	Γ
2. Provide an explanation for the discrepancy and, if a Statement of Claim, provide documentation of	\Box S	Γ
a written request submitted to the Water Court for amendment of the Claim.		
33. Answer questions below related to the diversion means for each of the historical point(s) of diversion.		
a. Headgate		
i. For each headgate, provide dimensions in feet (FT), slope of the channel at the headgate (%), material of	ΠA	Γ
the headgate, estimated historical capacity in gallons per minute (GPM) or CFS and the method used to		
estimate historical capacity. Label using the same POD ID letter as for the Historical Use Map (question 5).		



Form No. 606P

Historical Use

POD ID	Dimensions (FT)	Slope (%)	Material	Estimated Capacity (GPM or CFS)	Method
1	4'	0.547%	Steel	221 CFS	Headgate; culvert with removable boards

b	b. Pump, dike, dam, or other surface water point of diversion				
	i. For each pump, dike, dam, or other surface water point of diversion, provide an estimate of the historical				
	capacity (GPI	M or CFS) and the method used to estimate the historical capacity. Label using the same POD			
	ID letter as fo	r the Historical Use Map (question 5).			
POD	Estimated Capacity	Method			
ID	(GPM or CFS)				

	c.	Well, pit, or other gro	undwater point of diversion			
	i. For each well, pit, or other groundwater point of diversion, provide an estimate of the historical capacity					
		(GPM or CFS	s) and the method used to estimate the historical capacity. Label using the same POD ID letter			
		as for the Hist	torical Use Map (question 5).			
POD		Estimated Capacity	Method			
ID		(GPM or CFS)				

34. Do other water rights share the point(s) of diversion?	\blacksquare Y \square N	ΓF
a. If yes, list the water rights, their flow rates (GPM or CFS), and the nature of the relationship. Label using the same	ΠA	Γ
POD ID letter as for the Historical Use Map (question 5).		



POD	Water Right No.	Flow (GPM	Relationship
ID		or CFS)	
1	430 197352	43.18 GPM	Shared POD, irrigated non-overlapping acres; withdrawal form submitted to Dept 11/18/2024

Historical Use: Period of Diversion

35. Are the period of diversion and the period of use the same?			\blacksquare Y \Box N	ΓF
a. If no,	a. If no,			
i. Why are they different?			ΠA	ΓF
ii.	Is there a place of storage?		$\Box Y \Box N$	ΓF
36. When was wate	er diverted for the purpose(s) of the water right(s) being	changed?	ΠA	ΓF
Start Date (Mont	th (MM)/Day (DD))	End Date (MM/DD)		
	05/15 10/31			
37. Does the Department have a standard, found in ARM 36.12.112, for the period of diversion for the purposes for which				ΓF
water is used?				

water is used?		
a. If yes, does the period of diversion fall within Department standards?	\blacksquare Y \square N	ΓF
 b. If no or if the period of diversion falls outside Department standards, explain how the period of diversion is reasonable for the purpose. 		□ F
38. If the water right(s) being changed have an irrigation purpose, answer the following questions.		
a. What were the crop(s) grown? Alfalfa hay		□ F



Historical Use

i. If the crop(s) grown include hay, how many cuttings were there per season and how many days did they last? 2 cuttings, 5-7 days		□ F
b. Did diversions ever temporarily cease within the period of use? This may include water shortages or calls based on priority date.	🗆 Y 🔳 N	□ F
i. If yes, please explain.	A	□ F

Historical Use: Historical Diverted Volume

a. Irrigation	
i. Do you want ARM 36.12.1902(11) to be used to calculate historical diverted volume? \blacksquare Y \Box N	🗆 F
1. If no, provide a Historical Water Use Addendum (Form 606-HUA). Form 606-HUA must be submitted to the Department before the Preapplication Meeting Form is completed. □ S	□ F
b. Non-irrigation	
i. How often was water historically diverted?	□ F
ii. What was the duration of each historical diversion?	□ F
iii. Was wastewater historically discharged? If yes, what amount was discharged?	□ F
iv. What is the volume of water historically diverted (AF)?	🗆 F
v. How did you determine the volume of water historically diverted?	F
vi. Did the historical diverted volume serve more than one purpose of use? \Box Y \Box N	□ F



0

Historical Use

1.	If yes, how much of the diverted volume served each purpose of use and how did you determine this?	A	□ F

Historical Use: Historical Consumed Volume

40. Answer the questions below related to the	e historical purpose of the water rights being changed.		
a. Irrigation			
i. Will you use Department	standards for historical consumptive use as defined in ARM 36.12.1902?	\blacksquare Y \square N	ΓF
1. If no,	1. If no,		
a. What me	thod will you use to determine historical consumptive use?	A	□ F
b. Provide a HUA mu complete	a Historical Water Use Addendum (Form 606-HUA) to the Department. Form 606- ist be submitted to the Department before the Preapplication Meeting Form is ed.	□S	□ F
2. If yes,			
a. What is t flood and contour o <u>Flood, w</u>	the historical irrigation method type and subtype? Irrigation method types include d sprinkler. Flood irrigation subtypes include level border, graded border, furrow, ditch, or wild flood. Sprinkler subtypes include wheel line and center pivot. did	A	□ F
b. What wa N/A per	s the slope of the historical place of use? historic diverted memo - wild flood		□ F
c. Are there may influ	e any factors beyond irrigation method type/subtype and place of use slope that uence percent efficiency of irrigation?	\Box Y \blacksquare N	🗆 F
i. I t i	f yes, provide evidence to support the modified percent efficiency of irrigation in he Historical Water Use Addendum (Form 606-HUA). These factors may include nfrastructure age, soil characteristics, or field improvements. Form 606-HUA must be submitted to the Department before the Preapplication Meeting Form is	□S	□ F



	completed.					
d.	Based on answers to the 25%	Based on answers to the above questions, what is the percent efficiency of irrigation? 25%				□ F
e.	What is the County Man	What is the County Management Factor? 55.4				🗆 F
f.	What is evapotranspirati 19.19	What is evapotranspiration (ET) based on the irrigation method and county? 19.19				□ F
g.	What percent of applied 5%	What percent of applied water are irrecoverable losses per ARM 36.12.1902(17)? 5%				□ F
h.	Do other water rights su irrigation water demand	pplement or overlap the histo?	prical place of use that contribute	to the	□Y■N	□ F
	i. If yes,					
	2. For each period c and the demand	h supplemental or overlappin of diversion and use (MM/DI volume of water (AF) contri	g water right, please list the avera D-MM/DD), flow rate (GPM or C buted to the total irrigation water	age EFS),	□ A	□ F
Water Right No. Av (M	rg. Period of Diversion IM/DD-MM/DD)	Avg. Period of Use (MM/DD-MM/DD)	Flow Rate (GPM or CFS)	Volun	ne Contributed	1 (AF)



b. Lawn and garden		
i. Will you use the Department standards for historical consumptive use volume for lawn and garden?	\Box Y \Box N	🗆 F
Department standards include 2.5 acre-feet per acre, or a calculated volume based on Irrigation Water Requirements for turf grass		
1. If yes, which standard?		□ F
 If no, please provide an estimate of historical water use based on expert analysis and methods used to determine this estimate. 		□ F
c. Stock		
 Which volume standard for animal units applies to historical use and why? The standards are either 15 or 30 gallons per animal unit per day. 		□ F
11. How many animal units were historically served?		⊔F
iii. Did these animal units rely entirely on the water right(s) proposed for change for their full water demand?	\Box Y \Box N	🗆 F
1. If no, explain.	A	□ F
d Demostic and multiple domostic		
i. How many households were served?		
ii. Will the Department standard of 1 acre-foot per household be used? The same standard shall be applied to historical and proposed uses.	\Box Y \Box N	□ F
1. If no, what standard will be used?		□ F
iii. Did the historical use include wastewater disposal and treatment?	\Box Y \Box N	ΓF



	 If yes, which of the following best describes the wastewater disposal and treatment system? Individual drain fields, central treatment facility with minimal consumption, or evaporation basin or land application? 	A	□ F
e. Munici	ipal		
i.	What is the volume of water (AF) historically consumed for municipal purposes?		□ F
ii.	Provide evidence to support historical municipal use such as commercial, lawn and garden, and/or multiple domestic uses. The data sources may include records that tie water use to the U.S Census, estimates of historical system capacity and estimates of leakage.	□S	□ F
f. Other			
i.	What is the volume of water (AF) historically consumed for other purposes?		□ F
ii.	Please submit to the Department evidence to support the volume of water historically consumed.	\Box S	ΓF

Historical Use: Historical Places of Storage

41. Did the historical use include one or mor than 0.1 acre-feet in volume?	reater	□ Y ■ N	□ F		
a. If yes, for each historical place of storage please provide the surface area in acres (AC), capacity (AF), annual net					
ID Surface Area (AC)	Capacity (AF)	Annual Net Evaporation (FT/YR)	# of Annual Fillings		



Historical Use

Surface Water

■ Applicable, move on to question 42. □ Not Applicable, skip to question 67. *The following questions are mandatory for changes to surface water rights and must be filled out before the Preapplication Meeting Form is determined to* be complete.

Surface Water: Return Flow Analysis

Questions, Narrative Responses, and Tables	Check-	Follow
42. Do the purposes of the water rights proposed for change include irrigation?	\square V \square N	<u>-Up</u>
a. If yes, does the proposed change include a change in place of use <i>and/or</i> a change in purpose? A change in place of		
use includes retiring acres in the historical place of use and adding any new acres outside the historical place of use.		
i. If yes, a return flow analysis is required. Move on to answer question 43.		
ii. If no, this section is complete, and you may skip to question 51.		
43. Does the proposed change include a change in purpose?	🗆 Y 🔳 N	
a. If yes, what is the consumptive use for the proposed non-irrigation purpose? Please explain.	ΠA	ΓF
44. Does the proposed change include a change in place of use? If yes, move on to question 45. If no, this section is complete,	□ Y ■ N	
and you may skip to question 51.		
45. Provide a map showing the historical and proposed places of use created on an aerial photograph or topographic map with		
46 How many agrees if any will be retired from the historical place of use?		
40. How many acres, if any, will be retired from the historical place of use?		
47. Are irrigated acres proposed that are outside the historical place of use?	\Box Y \Box N	🗆 F
a. If yes,		
i. How many acres?		ΓF



Surface Water

ii.	What is the border, fur	What is the proposed irrigation method type (e.g., flood or sprinkler) and subtype (e.g., level border, graded order, furrow, contour ditch, wild flood, center pivot, or wheel line) for the new acres?						□ F
iii.	What is the	e slope	of the new place of use	e?				🗆 F
iv.	Based on 4	ed on 47.a.ii to 47.a.iii, what is the percent efficiency of irrigation for the new acres?						□ F
v.	What is the	'hat is the County Management Factor for the new acres?						□ F
vi.	What is the	hat is the ET based on the irrigation method and county for the new acres?						□ F
vii.	What perce	What percent of applied water are irrecoverable losses for new acres per ARM 36.12.1902(17)?						□ F
viii.	viii. Do other water rights supplement or overlap the new place of use that contribute to the irrigation water demand?					\Box Y \Box N	□ F	
	1. If y	yes,						
		a. I - - -	How will the water right	ts be operated to serve the irrig	gation purpose?			□ F
	 b. For each supplemental or overlapping water right, please list the average period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed to the total irrigation water demand. 					ΠA	□ F	
Water Right No.		Avg. (MM	Period of Diversion /DD-MM/DD)	Avg. Period of Use (MM/DD-MM/DD)	Flow Rate (GPM or CFS)	Volur	ne Contribut	ed (AF)



Surface Water

48. Do you have information for the Department to consider about the source and location where return flows historically accrued?	\Box Y \Box N	□ F
a. If yes, explain.	A	□ F
49. Based on the preliminary data provided by the Department at this preapplication meeting, to what surface water sources do return flows accrue before and after the proposed change? *Return flow data provided by the Department at the preapplication meeting is preliminary and is subject to change during the Technical Analysis.	A	□ F
50. If an analysis of impacts to identified surface water rights is required as part of the return flow analysis, pursuant to ARM 36.12.1303(3)(c)(iii), do you elect to answer non-mandatory questions 161 to 163 to provide information required for this extended return flow analysis?	ΠΥ□Ν	□ F
a. If yes, go to question 161. If an analysis of impacts to identified surface water rights is required, this information will be used for the analysis.		
b. If no, did you elect in question 1 for the Department to conduct technical analyses?	$\Box Y \Box N$	ΓF
 If yes, do you elect for the Department to use publicly available water quantity data for the analysis of impacts to identified surface water rights? If the extended return flow analysis is required and sufficient publicly available water quantity data is not available, then the Department will not be able to conduct the extended analysis. You will still have to prove a lack of adverse effect from the proposed change. 	□ Y □ N	□ F
 ii. If no, an analysis of impacts to identified surface water rights will need to be completed as part of the extended return flow analysis. The Department will include the extended analysis in its scientific credibility review of the Technical Analyses. 		

Surface Water: Mitigation Analysis

51. Are you changing the purpose to mitigation to meet the criteria of issuance for another application? If yes, answer the	🗆 Y 🔳 N	ΓF
questions in this section (questions 52 to 60). If no, this section is complete, and you can skip to question 61.		



Surface Water

52. Identify the water right(s) proposed for change to a mitigation purpose, the water right(s) identified as needing mitigation and the application number for the water right(s) identified as needing mitigation.					A	□ F			
53. What source(s) have been identified as needing mitigation water?								□ F	
54. By what means will mitigation water be made available (e.g., infiltration gallery, water left instream)? You must provide a copy of all relevant discharge permits at application submittal (§85-2-364, MCA).							A	□ F	
55. What is	the locat	tion $(\frac{1}{4}, \frac{1}{4}, \frac{1}{4})$ section	ion of start and end of reach	h) and length (FT) of th	e mitiga	tion reach?			□ F
56. What is	the amo	unt, timing, and l	ocation ($\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ section) of	water needed for mitig	gation?			ΠA	🗆 F
Month	Days	Amount	Location	Month	Days	Amount	Location		
January				July					
February				August					
March				September					
April				October					
May				November					
June				December					
57. How do	the prio	rity dates of the v	water rights proposed for ch	nange to mitigation com	npare to	other water right	ts on the source?	A	□ F
50 D									1



Surface Water

,	10 1	1 1 1 44							
а.	a. If yes, describe and submit them to the Department.								\Box F
-									
-									
-									
-									
50 Do tho u	roton mial	to proposed for shap	as to mitigation have	a partial of use that is an	ooton the	n on aqual to the ma	mid whon		
39. Do the w	ater rigi	its proposed for chang	ge to mitigation have	a period of use that is gro	eater tha	n or equal to the pe	riod when		
mitigatic	on is neco	essary?							
a. 1	a. If no, how will mitigation water be made available during the entire period when mitigation is necessary?							\Box A	\Box F
-									
-									
60. Will oth	er water	rights contribute to m	nitigation water?						□ F
a.]	lf yes, w	hat amount, at what t	iming, and at which le	ocation $(\frac{1}{4}, \frac{1}{4}, \frac{1}{4})$ section)	will they	contribute?			□ F
Month	Davs	Amount	Location	Month	Davs	Amount	Location		
January				July					
February				August					
March				September					
April				October					
May				November					
Iune				December					
June				Detember					

Surface Water: Aquifer Recharge Analysis

61. Are you changing the purpose to aquifer recharge to serve a current purpose or changing the purpose to marketing for mitigation/aquifer recharge for a future mitigation purpose? If yes, answer the questions in this section (questions 62 to 66). If no, this section is complete, and you can skip to question 67.	□ Y ■ N	□ F
62. Is this aquifer recharge for a current mitigation need or marketing for mitigation/aquifer recharge for a future mitigation need?		□ F
63. What sources have been identified as having net depletions in need of mitigation or as benefiting from marketing for mitigation/aquifer recharge water?		□ F



Form No. 606P

Surface Water

64. By what means will aquifer recharge water be made available? You must provide a copy of all relevant discharge permits application submittal (§85-2-364, MCA).	A	□ F
65. How do the priority dates of the water rights proposed for change to aquifer recharge compare to other water rights on the source?	e □ A	F
66. Do you have measurement records or Water Commissioner records that show the reliability of the water rights proposed change to aquifer recharge?	for \Box Y \Box N	□ F
a. If yes, describe and submit them to the Department.	□ S 	□ F



Surface Water

Groundwater

□ Applicable, move on to question 67. ■ Not Applicable, skip to question 99. The following questions are mandatory for changes to groundwater rights and must be filled out before the Preapplication Meeting Form is determined to be complete.

Groundwater: Adequacy of Diversion

	<u>Check-</u> boxes	Follow -Up				
67. What is the flow ra	A	ΓF				
groundwater point	se Map (question 6) to match this					
information with t	information with the location information.					
POD #	Flow Rate (GPM or CFS)	Volume (AF)	Period of Diversion (MM/DD-	M/DD-MM/DD)		

68. Will the month year-round use		□ F												
a. If yes,	provide the monthly	y pumping schedule in the table	e below. Label using th	e same POD ID number as the	ΠA	ΓF								
Propos	sed Use Map (questi	on 6).												
Month	POD #	Volume (AF)	Month	POD #	Volume (AF)									
January			July											
February			August											
March			September											
April			October											
May			November											
June			December											
· · ·														

69. Answer the following questions specific to the means of groundwater diversion.						
Well/Pit	Questions 70 to 71	Developed Spring	Question 72	Pond	Questions 73 to 76	



Form No. 606P

Groundwater

Groundwater: Adequacy of Diversion: Well/Pit □ Applicable □ Not Applicable

70. Have you submitted a completed Form 633 to DNRC for review?	\Box Y \Box N	ΓF
a. If no, submit Form 633 to DNRC for review. Form 633 is required by the time the Preapplication Meeting Form is		ΓF
deemed complete.		
b. If yes, did the Department identify deficiencies?	$\Box Y \Box N$	🗆 F
1. If yes, are variances from ARM 36.12.121 needed?	\Box Y \Box N	ΓF
a. If yes,		
i. Do you have data for aquifer characteristics?	$\Box Y \Box N$	ΓF
1. If yes, provide the data to the Department.		F
ii. Have you submitted Form 653 to the Department?	$\Box Y \Box N$	ΓF
1. If yes, was the variance granted?	\Box Y \Box N	ΓF
71. Have all the wells/pits been constructed?	\Box Y \Box N	ΓF
a. If yes, provide a map with the location of each well/pit labeled, the well/pit depth, and, if available, the GWIC ID.		F
Create map on an aerial photograph or topographic map and include the following: well/pit location, well/pit depth,		
GWIC ID (if available), section corners, township and range, and a north arrow.		
b. If no,		
i. When will the wells/pits be constructed?		□ F
ii. Do you have an initial map with the proposed location of wells/pits?	\Box Y \Box N	🗆 F
1. If yes, provide an initial map to the Department. Create map on an aerial photograph or topographic		ΓF
map and include the following: proposed well/pit location, section corners, township and range, and a north arrow.		
iii. What is the anticipated depth for each new well/pit? Label on the initial map if the proposed location is		ΓF
known. Otherwise provide the depth(s) here:		
iv. Is the requested volume for each new well/pit known?		
1. If no, what is the total requested volume (AF) and the number of new PODs?		□ F



Groundwater: Adequacy of Diversion: Developed Spring □ Applicable □ Not Applicable

ΓF
ΓF
ΠF
ΓF
ΓF
ΓF
-

Groundwater: Adequacy of Diversion: Pond □ Applicable □ Not Applicable

73. Have you submitted Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test?	\Box Y \Box N	ΓF
a. If yes, did the Department approve the variance request?	\Box Y \Box N	Γ
74. Submit pond bathymetry data, survey, or engineering plans to the Department.		ΓF
75. Submit a map identifying the location of the proposed pond to the Department. Create map on an aerial photograph or		ΓF
topographic map and include the following: pond location, section corners, township and range, and a north arrow.		
76. If you are conducting Technical Analyses, what is your plan to determine depth, surface area, and net evaporation of the	ΠA	\Box F
pond? If the Department is conducting Technical Analyses, write N/A.		



Groundwater: Adverse Effect to Existing Groundwater Rights All information to calculate the one-foot drawdown contour was collected in previous questions.

Groundwater: Adverse Effect to Surface Water Rights

Groundwater: Adverse Effect to Surface Water Rights: Surface Water Depletion Analysis

77. Does the proposed change include a change in point of diversion or a change in place of use or purpose that will lead to a	\Box Y \Box N	ΓF
change in consumptive use or pumping schedule? If you do not know if a change in place of use or purpose will lead to a		
change in consumptive use or pumping schedule, work through this with the Department. If yes, a surface water depletion		
analysis is required; move on to question 78. If no, this section is complete; skip to question 80.		
78. Based on the preliminary data provided by the Department at this preapplication meeting, what are the hydraulically	ΠA	🗆 F
connected surface water sources before and after the proposed change? *Net depletion data provided by the Department at		
the preapplication meeting is preliminary and is subject to change during the Technical Analysis.		
/9. If an analysis of impacts to identified surface water rights is required as part of the surface water depiction analysis,		
pursuant to ARM 50.12.1905(2)(1), do you elect to answer non-mandatory questions 100 to 108 to provide information		
required to this extended surface water depending analysis:		
a. If yes, go to question 100. If an analysis of impacts to identified surface water rights is required for the surface		
water depletion analysis, this information will used for the analysis.		
b. If no, did you elect in question 1 for the Department to conduct technical analyses?		
1. If yes, do you elect for the Department to use publicly available water quantity data for the analysis of	$\Box Y \Box N$	□ F
impacts to identified surface water rights for the surface water depletion analysis? If this extended surface		
water depletion analysis is required and sufficient publicly available water quantity data is not available,		
then the Department will not be able to conduct the extended surface water depletion analysis. You will still		
have to prove a lack of adverse effect from the proposed change.		
ii. If no, you may still include the analysis of impacts to identified surface water rights with the surface water		
depletion analysis. The Department will include the extended analysis in its scientific credibility review of		
the Technical Analyses.		



80. Do the purposes of the water rights proposed for change include irrigation?	\Box Y \Box N	ΓF
a. If yes, does the proposed change include a change in place of use <i>and/or</i> a change in purpose? A change in place	e of $\Box Y \Box N$	F
use includes retiring acres in the historical place of use and adding any new acres outside the historical place of	use.	
i. If yes, a return flow analysis is required. Move on to answer question 81.		
ii. If no, this section is complete, and you may skip to question 89.		
81. Does the proposed change include a change in purpose?	\Box Y \Box N	
a. If yes, what is the consumptive use for the proposed non-irrigation purpose? Please explain.	ΠA	\Box F
82. Does the proposed change include a change in place of use? If yes, move on to question 83. If no, this section is completed	te, $\Box Y \Box N$	
and you may skip to question 89.		
83. Provide a map showing the historical and proposed places of use. Create map on an aerial photograph or topographic ma	ıp 🗆 S	ΓF
that shows the following: section corners, township and range, and a north arrow.		
84. How many acres, if any, will be retired from the historical place of use?		ΓF
85. Are irrigated acres proposed that are outside the historical place of use?		□ F
a. If yes,		
i. How many acres?		🗆 F
11. What is the proposed irrigation method type and subtype (e.g., level border, graded border, furrow, cont	our	\Box F
ditch, or wild flood) for the new acres?		
iii. What is the slope of the new place of use?		🗆 F
iv. Based on question 85 a ii to 85 a iii what is the percent efficiency of irrigation for the new acres?		ΓF
1. Dased on question of an it of starm, what is the percent enterency of might on the new acres:		

Groundwater: Adverse Effect to Surface Water Rights: Return Flow Analysis



v.	What is the County Management Factor for the new acres?						□ F
vi.	What is the ET b	Vhat is the ET based on the irrigation method and county for the new acres?					
vii.	What percent of	hat percent of applied water are irrecoverable losses for new acres?					
viii.	Do other water r demand?	Do other water rights supplement or overlap the new place of use that contribute to the irrigation water demand?					□ F
	1. If yes,						
	a.						L F
	b.	For each supplemental diversion and use (MM (AF) contributed to the	l or overlapping water right, p I/DD-MM/DD), flow rate (G e total irrigation water deman	lease list the average period of PM or CFS), and the volume of v d.	vater	A	□ F
Water Right No.	Avg. P (MM/I	eriod of Diversion DD-MM/DD)	Avg. Period of Use (MM/DD-MM/DD)	Flow Rate (GPM or CFS)	Volu	me Contribut	ed (AF)

86. Do you have information for the Department to consider about the source and location where return flows historically	$\Box Y \Box N$	ΓF
accrued?		



Groundwater

a. If yes, explain.	A	□ F
87. Based on the preliminary data provided at this preapplication meeting, to what surface water sources will return flows accrue before and after the proposed change? * <i>Return flow data provided by the Department at the preapplication meeting is preliminary and is subject to change during the Technical Analysis.</i>	A	□ F
88. If an analysis of impacts to identified surface water rights is required as part of the return flow analysis, pursuant to ARM 36.12.1303(5)(d)(iii), do you elect to answer non-mandatory questions 161 to 163 to provide information required for this extended analysis?	\Box Y \Box N	□ F
a. If yes, go to question 161. If an analysis of impacts to identified surface water rights is required as part of the return flow analysis, this information will used for the analysis.		
b. If no, did you elect in question 1 for the Department to conduct technical analyses?	$\Box Y \Box N$	ΓF
 If yes, do you elect for the Department to use publicly available water quantity data for the analysis of impacts to identified surface water rights? If this extended return flow analysis is required and sufficient publicly available water quantity data is not available, then the Department will not be able to conduct the extended analysis. You will still have to prove a lack of adverse effect from the proposed change. 	□ Y □ N	□ F
 ii. If no, an analysis of impacts to identified surface water rights will need to be completed as part of the return flow analysis. The Department will include the extended analysis in its scientific credibility review of the Technical Analyses. 		

Groundwater: Mitigation

89. Do you require mitigation water to meet the criteria of issuance for this change application or for a different application? If yes, answer the questions in this section (questions 90 to 98). If no, this section is complete, and you can skip to question 99.	□ Y □ N	□ F
90. Please identify the water rights proposed for change to a mitigation purpose and the water rights identified as needing mitigation.	ΠA	□ F



91. What so	What sources have been identified as needing mitigation water?								🗆 F
92. By what means will mitigation water be made available?						A	□ F		
93. What is	3. What is the location (1/4 1/4 1/4 section of start and end of reach) and length (feet) of the mitigation reach?							□ F	
94. What is	he amou	unt, timing, and loca	tion (1/4 1/4 1/4 section) of w	vater needed for mitiga	tion?			ΠA	ΓF
Month	Days	Amount	Location	Month	Days	Amount	Location		
January				July					
February				A					
				August					
March				September					
March April				August September October					
March April May				August September October November					

95. How do the priority dates of the water rights proposed for change to mitigation compare to other water rights on the source?	A	□ F
96. Do you have measurement records or Water Commissioner records that show the reliability of the water right(s) proposed for change to a mitigation purpose?	\Box Y \Box N	□ F
a. If yes, describe and submit them to the Department.	□S	□ F
97. Do the water rights proposed for change to mitigation have a period of use that is greater than or equal to the period when mitigation is necessary?	\Box Y \Box N	□ F



Groundwater

a.	If no, ho	w will mitigation wa	ter be made available during the	entire period v	when mi	tigation is necessary	?		□ F
98. Will oth	er water	rights contribute to n	nitigation water?					\Box Y \Box N	ΓF
a.	If yes, w	hat amount, at what t	iming, and at which location ($\frac{1}{4}$	1/4 1/4 section)	will they	contribute?		ΠA	🗆 F
Month	Days	Amount	Location (¹ / ₄ ¹ / ₄ ¹ / ₄ Section)	Month	Days	Amount	Location (1/4 1/4 1/4 Sectio	on)
January				July					
February				August					
March				September					
April				October					
May				November					
June				December					

The following questions are mandatory when applicable and must be filled out before the Preapplication Meeting Form is determined to be complete.

Temporary Change

Questions, Narrative Responses, and Tables	Check- boxes	Follow -Up
99. Does the proposal include a temporary change? If yes, please answer the questions in this section (questions 100 to 105) for	□ Y ■ N	F
each water right being changed. If no, or if you answered these questions earlier in the preapplication meeting, this section		
is complete and you can skip to question 106.		
100. What element(s) of the water right(s) are being temporarily changed?		□ F
101. For how many years will the water right(s) be temporarily changed?		□ F
102. Will the temporary change be intermittent over the years?	$\Box Y \Box N$	F
a. If yes, explain.	A	□ F
103. For what purpose will the water rights be temporarily used?		□ F



Form No. 606P

Project-Specific Questions

104. Is the quantity of water subject to the temporary change being made available from the development of a new water conservation or storage project?	\Box Y \Box N	□ F
a. If yes, explain the water conservation or storage project.	A	□ F
105. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 10 if you are proposing to add a place of use on State of Montana Trust Land and question 15 if you are proposing a temporary change that does not involve State of Montana Trust Land. If you are answering in consecutive order, go to question 106.		

Change in Purpose

106. Does the project involve a change in purpose? If yes, answer the questions in this section (questions 107 to 109). If no, of if you answered these questions earlier in the preapplication meeting, this section is complete and you can skip to question 110. □ Y ■ N							□ F
107. Identify the proposed new purpose, flow rate (GPM or CFS), volume (AF), and period of use (MM/DD-MM/DD) for each purpose.					ΠA	□ F	
Purpos	se	Flow Rate (GPM or CFS)	Volume (AF)	Period of Use Start (MM/DD-MM/DD)	Period of MM/DD)	Use End (MI	M/DD-

108.	Explain why the requested flow rate and volume is the amount needed for the purpose.	ΠA	ΓF
109.	If you are answering Project Specific Questions as they are referenced in Application Details, return to question 11 and		
if	you are answering in consecutive order, go to question 110.		



Form No. 606P

Project-Specific Questions

Change in Place of Storage

110. Does the project involve a change in place of storage? If yes, answer the questions in this section (questions for each individual place of storage (use additional Change in Place of Storage sheet for additional places of stor or if you answered these questions earlier in the preapplication meeting, this section is complete; skip to question	111 to 119) age). If no, n 120.	□Y■N	□ F
111. Submit a map showing the location of the place of storage. Create map on an aerial photograph or topograph	nic map that	□S	ΓF
shows the following, place of storage, section conters, township and range, and a norm arrow.			
112. Is this application to add a new place of storage or change an existing place of storage?			
 a. If application is to change an existing place of storage, list the water rights that include the place of storage short description of the proposed change. 	ige and a	A	□ F
113. Is the place of storage located on-stream?		ΠΥ□Ν	□ F
a. If no, explain the conveyance means to and from the off-stream place of storage and any losses that may that conveyance.	occur with	A	□ F
114. What is the proposed capacity of the place of storage? Use bathymetry data, survey, or engineering plans for Submit the data source used with this form. In lieu of these data sources, use the following equation: Surface Acres x Maximum Depth (FT) x 0.5 (0.4-0.6 depending on side slope) = Capacity (AF)	capacity.	□S	□ F
115. Will the place of storage include primary and/or emergency spillways? Preliminary design specifications for and emergency spillways must be included with application submittal (ARM 36.12.113).	primary	$\Box Y \Box N$	🗆 F
116. Will the place of storage be lined?		$\Box Y \Box N$	ΓF
117. What is the annual net evaporation of water from the place of storage using the standards in ARM 36.12.116 Department's Gridded Net Evaporation Layer?	(1) and the		□ F
118. Is the place of storage capacity calculated to be greater than 50 acre-feet?		$\Box Y \Box N$	ΓF
a. If yes, have you made an application to the DNRC Water Operations Bureau for a determination of whe dam or reservoir is a high-hazard dam?	ther the	$\Box Y \Box N$	□ F



Form No. 606P

Project-Specific Questions

119.	If you are answering Project Specific Questions as they are referenced in Application Details, return to question 12 and	
if	you are answering in consecutive order, go to question 120.	

Ditch-Specific Questions

120.). Does the historical use of water include at least one conveyance ditch? If yes, answer questions 121 to 122. If no, or if 🛛 🖬 Y 🗆 N							
you	you answered these questions earlier in the preapplication meeting, skip to question 123.							
121.	Submit a Historical Use Ditch Map that shows every ditch conveying water for the historical use of all water right(s)					(s)	S S	ΓF
prop	oose	ed for change. Labe	the ditch name(s), POD(s), the	he POU(s), and the ditch measu	rement locations (requested in			
ques	stio	n 122.d). The map	should be created on an aerial	photograph or topographic map	with the following: section co	rners,		
town	nshi	ip and range, and a	north arrow.					
122.	For	each historical cor	veyance ditch, answer question	on 122.a to 122.h. If there is mo	re than one historical conveyar	nce		
ditel	h, u	se an Additional H	istorical Ditch Sheet for each a	additional ditch.				
	a.	What is the ditch r	name? William Miller Ditch					ΓF
	b. List the water right(s) proposed for change that were conveyed by the ditch.							□ F
		430 188069-00						
	0	What is the distan	a watar was historially armi	d by the conveyence ditch? Or	ly include comments between t	ha		
	с.	POD and start of t	he POU: do not include segme	ants within the POU	iry menude segments between th	lic		Г
			lie FOO, do not include segure	ents within the FOO.				
		<u>3,033.77 II</u>						
	d.	Provide at least on	e set of ditch measurements, v	which include width (FT), depth	n (FT), and slope (%). Discuss of	ditch		ΓF
		characteristics with	h DNRC to determine the min	imum number of ditch measure	ements. Include the location of	each		
		measurement, labe	eled with the 2-digit measurem	ent ID number, used on the ma	p submitted for question 121.			
ID #			Width (FT)	Depth (FT)	Slope (%)	Date	of Measurement	
		1	5' top, 3' bottom	3	0.547046		7/2/2024	

e.	What is a reasonable Manning's n value? List the factors used for estimation. If you do not know this value, please	ΠA	ΓF
	work through estimation with the Department.		
	0.03 - excavated or dredged channel, earth, winding & sluggish, grass, some weeds		



Project-Specific Questions

f. What type of soils compose the historical conveyance ditch? For lined ditches, write "lined" instead. silty, clay loam	A	□ F
g. Are other water rights conveyed by the historical conveyance ditch?	\blacksquare Y \Box N	ΓF
i. If yes,		
1. What are the water right numbers? 430 111991-00 (withdrawal paperwork submitted 11/18/2024)	A	□ F
2. What is the sum of the flow rates (GPM or CFS) for all water rights conveyed? 4.5 CFS	A	□ F
3. Provide a map with your best estimate of the historical POUs for the other water rights conveyed by the historical conveyance ditch. Include only POUs between the historical POD and your historical POU. If you do not know this information, the Department can help you create the map. The map should be created on an aerial photograph or topographic map and show the following: section corners, township and range, and a north arrow.	S S	□ F
h. Were any water rights proposed for change part of one historical water right that was split?	🗆 Y 🔳 N	ΓF
i. If yes, were all split water rights split in such a way to ensure each post-split water right could stand alone and not be reliant on the others for carriage water?	\Box Y \Box N	🗆 F
1. If no, do any of the water right(s) proposed for change have a carriage water requirement?	$\Box Y \Box N$	ΓF
a. If yes,		
i. List the water right(s) with a carriage water requirement		□ F
 Update your Historical Use Ditch Map to label the ditch segments where a carriage water requirement exists for a water right proposed for change. Also, use your best estimate to label the POUs for all water rights included in the carriage water requirement. If you do not know this information, the Department can help you update the map. 	□S	F
123. Does the proposed use include at least one existing or new conveyance ditch? If yes, answer questions 124 to 126. If no, or if you answered these questions earlier in the preapplication meeting, this section is complete; skip to question 127.	■ Y □ N	□ F



124. Submit a Proposed Use Ditch Map that shows every ditch conveying the water right(s) proposed for change, including any unchanged portions. Label all unchanged and proposed PODs, all unchanged and proposed POUs, and additional ditch measurement locations (requested in question 125.e). The map should be created on an aerial photograph or topographic						
map with the following: section corners, township and range, and a north arrow.						
125. For each proposed use	e conveyance ditch, answer the	questions 125.a to 125.i. If the	ere is more than one proposed	use		
conveyance ditch, use an Additional Proposed Use Ditch Sheet for each additional ditch.						
a. What is the ditch	name? William Miller Ditch					□ F
b. Is this ditch a hist	orical conveyance ditch detaile	d in questions 121 to 122?			\blacksquare Y \square N	ΓF
i. If yes, have any of the following details changed, to the best of your knowledge, from historical conditions:				litions:	🗆 Y 🔳 N	ΓF
ditch leng	th, distance water conveyed, di	itch lining, or water rights conv	veyed by the ditch?			
1. If	Eyes, answer questions 125.c to	125.i using current data.				
2. If no, do not answer questions 125.c to 125.i for this ditch because the information remains						
unchanged. Move on to the next proposed use conveyance ditch, or if none remain, skip to question				uestion		
	27.		4. 4			
c. List the water right	nt(s) proposed for change that a	re going to be conveyed by the	e ditch.			⊔F
<u>430 188069-00</u>						
d. What is the distant	ce water will be carried by the	conveyance ditch? Only includ	de segments between the POD	and	ΠA	ΓF
start of the POU;	do not include segments within	the POU.				
1,600 ft approx						
e. Provide at least or	ne set of ditch measurements, w	which include width (FT), depth	h (FT), and slope (%). Discuss	ditch		□F
characteristics with	th DNRC to determine the mini	imum number of ditch measure	ements. Include the location of	feach		
measurement, lab	eled with the 2-digit measurem	ent ID number, used on the ma	ap submitted for question 124.			
ID #	Width (FT)	Depth (FT)	Slope (%)	Date of	of Measurem	ent
1	5ft	3ft	0.547046		7/2/2024	
1						



 f. What is a reasonable Manning's n value? List the factors used for estimation. If you do not know this value, please work through estimation with the Department. 0.03 	A	□ F
g. What type of soils compose the proposed conveyance ditch? For lined ditches, write "lined" instead. silty clay loam	A	□ F
h. Are other water rights conveyed by the proposed conveyance ditch?	$\Box Y \Box N$	🗆 F
i. If yes,		
What are the water right numbers? <u>430 111991-00 (withdrawal paperwork submitted 11/18/2024)</u>	A	□ F
2. What is the sum of the flow rates (GPM or CFS) for all water rights conveyed? 4.5 CFS	A	□ F
3. Provide a map with your best estimate of the current POUs for the other water rights conveyed by the proposed conveyance ditch. Include only POUs between the POD and your proposed POU. If you do not know this information, the Department can help you create the map. The map should be created on an aerial photograph or topographic map and show the following: section corners, township and range, and a north arrow.	S S	□F
i. Were any water right(s) proposed for change identified as having a carriage water requirement in question 122.h.i.1.a.i?	🗆 Y 🔳 N	□ F
 i. If yes, update your Proposed Use Ditch Map to label the ditch segments where a carriage water requirement exists for a water right proposed for change. Also, use your best estimate to label the POUs for all water rights included in the carriage water requirement. If you do not know this information, the Department can help you update the map. 126. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 13 and 	□S	□ F
if you are answering in consecutive order, go to question 127.		



Water Marketing

127. Does this project involve water marketing? If yes, answer the questions in this section (questions 128 to 134). If r	no, or if 🛛 Y 🔳 N	🗆 F
you answered these questions earlier in the preapplication meeting, this section is complete; skip to question 135.		
128. Identify the flow rate (GPM or CFS) and volume of water (AF) that will be marketed.		ΓF
129. Will the marketed water return to the source?	\Box Y \Box N	□F
a. If yes, explain how that determination was made.		ΓF
· · · · · · · · · · · · · · · · · · ·		
130. For what purpose(s) will the marketed water be used?	A	ΓF
131. How will you control or limit access to the water?		ΓF
132. Do you have contracts for the entire volume and flow rate sought?	\Box Y \Box N	ΓF
133. Provide a service area map. Create map on an aerial photograph or topographic map and shows the following: get	eneral 🗌 S	🗆 F
service area boundary, section corners, township and range, and a north arrow.		
134. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 1	19 and	
if you are answering in consecutive order, go to question 135.		

Instream Flow Change

135.	Does the project involve an instream flow change? If yes, answer the questions in this section (questions 136 to 145). If	🗆 Y 🔳 N	ΓF
no	or if you answered these questions earlier in the preapplication meeting, this section is complete; skip to question 146.		
136.	Is the proposal to retire all the use from the historical purpose throughout the entire period of use?	\Box Y \Box N	ΓF
	a. If no, describe why not in detail.	\Box A	ΓF



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Project-Specific Questions

137. What is the name of the source of water where streamflow will be maintained or enhanced?		□ F
138. Provide specific information on the location (1/4 1/4 1/4 section of start and end of reach) and length (FT) of the stream reach in which the streamflow is to be maintained or enhanced.	A	□ F
139. Does the protected reach begin at the existing point of diversion?	$\Box Y \Box N$	\Box F
a. If no, does the proposed protected reach begin upstream of or downstream from the existing point of diversion?		□ F
140. Does return flow go back to the source of supply? The Department provides an initial estimate of the sources where return flow historically accrued at the preapplication meeting.	\Box Y \Box N	□ F
141. Describe the way the streamflow is to be maintained or enhanced.	□ A	□ F
142. Provide initial details about a streamflow measuring plan, which include the points where measurements occur, the interval of measurement, and the methods and equipment used. A complete streamflow measuring plan will be required for the application.	A	□ F
143. Provide initial details about an operation plan, which include the proposed flow rate (GPM or CFS) to be protected up to the proposed volume (AF) and the period when protection is to occur. If there is a "trigger flow" associated with your operation plan, please explain. A complete operation plan, based on the Technical Analysis, will be required for the application.	A	□ F



144.	Is the amount of water proposed for change in the application made available through creation of a "water saving	ΠΥΠΝ	ΓF
method," as defined in ARM 36.12.101?			
	a. If yes, complete the Salvage Water section (questions 146 to 150).	□S	ΓF
145.	If you are answering Project Specific Questions as they are referenced in Application Details, return to question 20 and		
if you are answering in consecutive order, go to question 146.			

Salvage Water

146. Does this project involve salvage water? Salvage water does not include destroying phreatophytes, removing vegetation, converting to a less consumptive crop, or converting to a partial irrigation schedule. If yes, answer the questions in this section (questions 147 to 150). If no, or if you answered these questions earlier in the preapplication meeting, this section is complete and you can skip to question 151.	→ □ Y ■ N	□ F
147. What water saving method was implemented? This may include lining an unlined ditch or canal, converting unlined ditch or canal to pipeline, converting high profile or high-pressure sprinklers to low pressure, and other (explain).		□ F
148. How much water was salvaged from creation of the water saving method? Include flow rate (GPM or CFS) and volume (AF).		□ F
149. How did you determine the amount of water salvaged?	A	□ F
150. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 21 and if you are answering in consecutive order, go to question 151.		



Project-Specific Questions

Non-Mandatory Questions for Criteria Analysis

The following questions are not mandatory. They should be discussed in the Preapplication Meeting, but do not need to be filled out before the Preapplication Meeting Form is determined to be complete.

Adverse Effect

Questions, Narrative Responses, and Tables	Check-
151. Once the historical use analysis is complete for the application, be ready to compare the historical use with the proposed use. Do you have evidence the proposed use exceeds the historical use for flow rate, consumed volume, or diverted volume?	boxes □Y■N
a. If yes, what is your plan to address this with the permitting process?	A
152. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. Pump can be shut off if valid call is made	A
153. Explain how you can control your diversion in response to call being made. Pump can be shut off if valid call is made	
154. Are you aware of any calls that have been made on the source of supply or depleted surface water source? a. If yes, explain.	□ Y ■ N □ A
155. Does a water commissioner distribute water or oversee water distribution on your proposed source or depleted surface water source?	□ Y ■ N
156. Will the proposed use change the ability for you to make call?	🗆 Y 🔳 N



Non-Mandatory Questions for Criteria Analysis
157.	Wl	nen was the last time water was appropriated and used beneficially? Not since 2014	
If t	here	has been a period of nonuse, explain below:	
	a.	Why the water right was not used.	ΠA
		Headgate/ditch system is in disrepair	
	b.	Why a resumption of use will not adversely affect other water users.	ΠA
		Other water users are aware these rights could resume at any time, no new appropriations within this time frame of nonuse	
	c.	Is the period of nonuse greater than 10 years?	🗆 Y 🔳 N
	d.	Have water rights been authorized to use the source during the period of nonuse?	🗆 Y 🔳 N
158.	Fo	r point of diversion changes:	
	a.	Is the proposed point of diversion upstream or downstream of the historical point of diversion?	
		Downstream	
	b.	Are there intervening water users between the historical and proposed point of diversion?	□ Y ■ N
	c.	Does the proposed point of diversion allow for diverting water longer during times of shortage?	🗆 Y 🔳 N
159.	Fo	r place of use changes, will changes to the rate, location, volume, or timing of return flows adversely affect other	🗆 Y 🔳 N
app	orop	riators?	

Adverse Effect: Evaluation of Impacts to Identified Water Rights for Return Flow Analysis

160.	160. Respond to questions in this section if you elected in questions 50 or 88 to answer optional questions 161 to 163. If you did not		
ele	ect to answer these qu	estions or answered these questions earlier in the preapplication meeting, this section is complete; skip to	
qu	estion 165.		
161.	For each surface wa	ater source receiving return flows, is gage data available?	$\Box Y \Box N$
	a. If yes, answer t	he following questions for the number of stream gages that are available.	
	i. One str	eam gage is available	
	1.	What is the gage name?	
	2.	Who operates and maintains the gage?	



3.	Is the stream gage upstream or downstream of the point(s) of diversion?	-
4.	Is there a limiting or controlling factor that would make the Drainage Area Method not practical? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, please contact the Regional Hydro-Specialist or the Water Sciences Bureau.	□ Y □ N
5.	Is the period of record greater than or equal to 10 years?	\Box Y \Box N
6.	How frequently is stage data recorded?	-
7.	If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	\Box Y \Box N
8.	Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	\Box Y \Box N
9.	Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	\Box Y \Box N
10.	Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	\Box Y \Box N
	a. If yes, skip to question 163.	
	b. If no, answer question 161.b.	
ii. More t	han one stream gage is available	
1.	List the gage names.	
2.	Who operates and maintains the gages?	-
3.	Is one stream gage upstream and one downstream of point(s) of diversion?	\Box Y \Box N
4.	Do the stream gages have similar periods of record?	\Box Y \Box N
5.	Are the periods of record each greater than or equal to 10 years?	\Box Y \Box N
6.	How frequently is stage data recorded at each gage?	-
7.	For each gage, if data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	\Box Y \Box N



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8.	Were the rating curves established and maintained throughout the duration of the period of record using measurements taken near the reference gages and stage recorders according to USGS protocols?	$\Box Y \Box N$
9	For each gage, were there requirements for maintaining a permanent gage datum and meeting specified	$\Box V \Box N$
	accuracy limits?	
10.	Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean	$\Box Y \Box N$
	monthly flow rate and volume during the proposed months of diversion?	
	a. If yes, skip to question 163.	
	b. If no, answer question 161.b.	
b. If no gage data	is available or if available gage data does not meet the Department's standard to be sufficient to calculate the	$\Box Y \Box N$
median of the n	nean monthly flow rate and volume during the proposed months of diversion, is the source otherwise	
measured?		
i. If yes,		
1.	Submit measurements to the Department.	□S
2.	Who collected the measurements?	ΠA
3.	With what method was the data collected?	ΠA
4.	What is the period of record?	
5.	What is the frequency of measurement?	
6	Are there gans in the data?	
0.		
	a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality?	LA
7.	Is there a process for maintaining the data and meeting specified accuracy limits?	ΠΥΠΝ
,	1 1	



a. If yes, explain.	ΠA
8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of	\Box Y \Box N
the mean monthly flow rate and volume during the proposed months of diversion?	
a. If yes, skip to question 163.	
b. If no, answer question 162.	
162. For each surface water source receiving return flows, does the available measurement data, gage and/or otherwise measured,	$\Box Y \Box N$
meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for validation of a	
department-accepted estimation technique?	
a. If yes, describe the estimation technique.	ΠA
b. If no, will measurements be collected prior to submission of a completed Form No. 606P that meet the Department's	\Box Y \Box N
standard of including a minimum of high, moderate, and low flows to be sufficient to use for validation of a department-	
accepted estimation technique?	
i. If yes,	
1. With what method will the data be collected?	
2. What will be the interval of measurement?	



3. Describe the proposed estimation technique.	□ A
ii. If no, describe your plan supply measurements for return flow receiving sources.	A
163. If you are conducting Technical Analysis, how will the Area of Potential Adverse Effect be defined for evaluating return flow impacts? If the Department is conducting Technical Analyses, write N/A.	□ A
164. If you went straight to this section when referenced, go back to question 51 for surface water changes and question 88 for groundwater changes. If you waited to answer in consecutive order and have completed all prior sections, move to question 165.	

Adverse Effect: Evaluation of Impacts to Identified Water Rights for Surface Water Depletion Analysis

165. Respond to questions in this section if you elected in question 79 to answer optional questions 166 to 168. If you did not elect to answer these questions or answered these questions earlier in the preapplication meeting, this section is complete; skip to question		
17	70.	
166.	For each hydraulically connected surface water source, is gage data available?	\Box Y \Box N
	a. If yes, answer the following questions for the number stream gages are available.	
	i. One stream gage is available	
	1. What is the gage name?	



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2.	Who operates and maintains the gage?	
3.	Is the stream gage upstream or downstream of the start of the depletion?	
4.	Is there a limiting or controlling factor that would make the Drainage Area Method not practical? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, please contact the Regional Hydro-Specialist or the Water Sciences Bureau.	□ Y □ N
5.	Is the period of record greater than or equal to 10 years?	\Box Y \Box N
6.	How frequently is stage data recorded?	
7.	If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	\Box Y \Box N
8.	Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	\Box Y \Box N
9.	Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	$\Box Y \Box N$
10	. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	\Box Y \Box N
	a. If yes, skip to question 168.	
	b. If no, answer question 166.b.	
ii. More t	han one stream gage is available	
1.	List the gage names.	
2.	Who operates and maintains the gages?	
3.	Is one stream gage upstream and one downstream of the start of the depletion?	\Box Y \Box N
4.	Do the stream gages have similar periods of record?	\Box Y \Box N
5.	Are the periods of record each greater than or equal to 10 years?	\Box Y \Box N
6.	How frequently is stage data recorded at each gage?	



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7.	For each gage, if data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	$\Box Y \Box N$
8.	Were the rating curves established and maintained throughout the duration of the period of record using	$\Box Y \Box N$
	measurements taken near the reference gages and stage recorders according to USGS protocols?	
9.	For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	\Box Y \Box N
10	. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	\Box Y \Box N
	a. If yes, skip to question 168.	
	b. If no, answer question 166.b.	
b. If no gage data median of the n measured?	is available or if available gage data does not meet the Department's standard to be sufficient to calculate the nean monthly flow rate and volume during the proposed months of diversion, is the source otherwise	□ Y □ N
i. If yes,		
1.	Submit available measurements to the Department	\Box S
2.	Who collected the measurements?	ΠA
3.	With what method was the data collected?	A
4.	What is the period of record?	
5.	What is the frequency of measurement?	
6.	Are there gaps in the data?	ΠΥΠΝ
	a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality?	
7	Is there a process for maintaining the data and meeting specified accuracy limits?	
7.	as were a process for mananing the data and mooning spectrice accuracy minus.	



a.	If yes, explain.	\Box A
8. Does a	vailable measurement data meet the Department's standard to be sufficient to calculate the median of	$\Box Y \Box N$
the me	an monthly flow rate and volume during the proposed months of diversion?	
a.	If yes, skip to question 168.	
b.	If no, answer question 167.	
167. For each hydraulically com	nected surface water source, does the available measurement data, gage and/or otherwise measured,	ΠΥΠΝ
meet the Department's standard	d of including a minimum of high, moderate, and low flows to be sufficient to use for validation of a	
department-accepted estimation	n technique?	
a If yes describe the esti	mation technique	
a. If yes, describe the esti-	mation teorinque.	
b. If no,		
i. Will measurem	nents be collected prior to submission of a completed Form No. 606P that meet the Department's	$\Box Y \Box N$
standard of inc	luding a minimum of high, moderate, and low flows to be sufficient to use for validation of a	
department-acc	cepted estimation technique?	
1. If yes,	A A	
a.	With what method will the data be collected?	ПА
L	What will be the interval of massurement?	
D.	what will be the interval of ineasticinent?	
1		



	c. Describe the proposed estimation technique.	A
2. If no wate	b, describe your plan to comply with the measurement requirements for hydraulically connected surface or sources.	A
168. If you are conducting Tea depletions? If the Departmen	chnical Analysis, how will the Area of Potential Adverse Effect be defined for evaluating changes to net t is conducting Technical Analyses, write N/A.	A
169. If you went straight to the have completed all prior sect	is section when referenced, go back to question 80. If you waited to answer in consecutive order and ions, move to question 170.	

Adequate Means of Diversion and Operation

170.	Provide a diagram of how you will operate your system from the point of diversion to the place of use.	□S
171.	Describe specific information about the capacity of the diversionary structure(s). This may include, where applicable: pump	ΠA
curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.		
172.	Is the diversion capable of providing the full amount requested through the period of diversion?	$\Box Y \Box N$



173. Describe the size and configuration of infrastructure to convey water from where applicable: ditch capacity and/or pipeline size and configuration.	point of diversion to place of use. This may include,	<u> </u>
174. Describe any losses related to conveyance.		1
175. Is the conveyance infrastructure capable of providing the required flow and	volume and any losses?	\square N
176. Does the proposed conveyance require easements?	□ Y	N
a. If yes, explain.	□ A	L
177. Describe any places of storage, including whether drainage devices will be available. Preliminary designs will be required at application submittal. N/A	installed, and provide preliminary designs, if	L
178. Describe specific information about how water is delivered within the place range of flow rates needed for a pivot and output and configuration of sprinkler	e of use. This may include, where applicable, the heads.	<u> </u>
179. Is the water delivery system capable of providing the requested beneficial u	Ise? I Y	Ν
180. Will your system be designed to discharge water from the project?	□ Y	N
a. If yes, explain the way water will be discharged and the wastewater dis	posal method.	1



191	Drovide a plan of operations	
101.	riovide à plan of operations.	
182.	Can the plan of operations deliver the flow rate and volume for the beneficial use being requested?	🔳 Y 🗆 N
183.	Do you have any plans to measure your diversion and use?	🗆 Y 🔳 N
	a. If yes, describe the plan and the type of measurements you will take.	ΠA
184.	Is the means of diversion a well?	🗆 Y 🔳 N
	a. If yes, are well log(s) available?	\Box Y \Box N
	i. If yes, submit well log(s) to DNRC	
	ii. If no, who drilled the well?	

Beneficial Use

185. Why is the requested flow rate and volume the amount needed for t	he purpose?
186. Does the Department have a standard for the purposes for which wa 36.12.112.	ater is used? Department standards can be found in ARM \blacksquare Y \Box N
a. If yes, does the proposed beneficial use fall within Department	standards? $\blacksquare Y \Box N$
187. If no standard or if proposed beneficial use falls outside of Department standards, explain how the use is reasonable for the purpose.	
188. Will your proposed project be subject to DEQ requirements for a pu Subdivision Approval (COSA)?	ublic water supply (PWS) system or Certificate of $\Box Y \equiv N$



Form No. 606P

	a. If yes,	
	i. Have you researched or consulted with DEQ regarding those requirements?	\Box Y \Box N
189.	Are you proposing to use surface water for in-house domestic use?	🗆 Y 🔳 N
	a. If yes, does a COSA exist for the proposed place of use?	$\Box Y \Box N$
	i. If yes, please submit the COSA.	
	ii. If no, have you researched or consulted with DEQ regarding their requirements?	\Box Y \Box N

Possessory Interest

ΠA



PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION

"We attest that the information on this form accurately describes the proposed project discussed during the preapplication meeting and that the items marked for follow-up will require the applicant to provide additional information before the form is deemed complete."

"Applicant acknowledges that any information provided by the Department during the preapplication is preliminary and subject to change."

"Applicant acknowledges that if the follow-up information provided to the Department substantially changes the proposed project, for example in a way that alters which sections of the form are applicable or which technical analyses are required, or who is to complete the technical analyses, the applicant will need to schedule a new preapplication meeting so that the department can identify any additional information necessary for completion of the technical analyses (ARM 36.12.1302(3)(c))."

Upon Department receipt of the completed form (within 180 days following the meeting), the Department reserves the first five days of the 45-day period in ARM 36.12.1302(4) or (5) to return the form to the applicant if:

- 1- the completed form does not include all necessary follow-up information identified in the meeting, OR
- 2- the completed form is not adequate for the Department to proceed with technical analyses, OR
- 3 the applicant has elected to complete technical analyses and has not submitted each piece of technical analysis required, OR
- 4 the applicant has substantially changed the details of the proposed project, such as in a way that alters which sections of the form are

applicable, which technical analyses are required, or who is to complete the technical analyses.

If the Department returns the form to the Applicant within these five days due to reasons 1-3 above, the Applicant can use the balance of their 180-day period in ARM 36.12.1302(4) or (5) to gather the remaining follow-up information needed. If there is no time remaining in the 180-day period, the Applicant can submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). Even if there is still time remaining, the Applicant can choose to schedule a new preapplication meeting. The Department shall transfer the \$500 payment received to the new preapplication meeting, or refund the payment to the Applicant if the Applicant desires. If the Department returns the form to the Applicant within these five days due to reason (4) above, the Applicant must submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). The Department shall transfer the \$500 payment received to the new preapplication meeting, or refund the payment to the Applicant if the Applicant desires.

AX O	18000 24
Applicant Signature	Date
120,0050	24 November 2024
Applicant Signature	Date
- Mah Shi	11/25/2024
Department Signature	Date

Department Signature



PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION

FOLLOW-UP PAGE

Applicant will provide all responses to questions marked for follow-up on a separate document entitled "Follow-up Responses" with the question number labeled. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. The Applicant may not alter the Preapplication Meeting Form signed at the Preapplication Meeting. Instead, the Applicant must use the Amended Responses procedure defined below. Do not include additional information for questions not marked for follow-up here; instead include any additional information pursuant to the process for amending responses defined below.

Questions marked for follow-up		
-	-	
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FOLLOW-UP PAGE

AMENDED RESPONSES PAGE

The Applicant may not alter the Preapplication Meeting Form signed at the Preapplication Meeting or the Follow-up Page. If a response has changed to a question answered at the preapplication meeting, the Applicant can provide a new response in a separate document entitled "Amended Responses" with the question number labeled. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. The Applicant will mark all question numbers with an amended response in the table below and note for each question whether the response will replace the response given at the preapplication meeting or will provide additional information to consider in conjunction with the response given at the preapplicant will return the "Amended Responses" document with the "Follow-up Responses" document and the signed Preapplication Meeting Form.

Questions with amended responses			
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Form No. 606P

AMENDED RESPONSES PAGE

FOLLOW-UP PAGE AFFIDAVIT & CERTIFICATION

"I/we attest that this preapplication meeting form, follow-up page, and amended responses page accurately portray my proposed project. I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the department, I change any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a))."

	18000 24
Applicant Signature	Date
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"We confirm that the preapplication form and follow-up information are adequate for the Department to proceed with technical analyses in ARM 36.12.1303. If the applicant has elected to complete technical analyses, we confirm they have submitted each piece of technical analysis required based on the proposed project and the Department is able to proceed with the scientific credibility review (ARM 36.12.1303(8))."

Department Signature

Department Signature



FOLLOW-UP PAGE AFFIDAVIT & CERTIFICATION

Date

Date

Responses Provided for Shinn POD Application

Question 170

The new point of diversion/withdrawal is located at a modern existing withdrawal site designed and installed in 2017. This site was designed to replace a headgate and ditch system, the old Robert Miller ditch, with a direct pump -to-pipeline system serving 2 pre-existing pivot systems.

Withdrawal is directly from Lodge Grass Creek. The Withdrawal structure is a 12" Riverscreen* intake capable of withdrawing sufficient water volume to serve both pivots simultaneously from a creek water depth of 4" or more. The pump is a 40 HP Cornel centrifugal. Pump pressure and volume are designed to flow through a 12" pipeline to a valve manifold where gate valves can be operated to direct water to the north pivot, south pivot or both.

The north pivot of the proposed system is served with 1420' of 6" buried pipeline which will supply the necessary 300gpm. The south pivot of the proposed system is served with 1500' of 8" pipeline which will supply the necessary 520 gpm. Both systems are controlled by Lindsey Vision control panels and are equipped with Grow Smart IM 3000 flow meters.

The north pivot will irrigate 37 acres. The south pivot will irrigate 64 acres. Pivot irrigated acres will be watered to achieve soil moisture levels recommended by the NCRS or the hay and/or grazing practices in use. Irrigable acres not irrigated by the pivots will be irrigated by opening the pivot sand traps when needed at the last tower of each system and directing water a surface pipeline to the existing irrigation ditches.

Attachment A provides systems diagrams.

Question 171

The Riverscreen intake 40 HP pump(s) pipelines and pivot systems are designed to meet the NCRS-recommended water needs for irrigated alfalfa in our region. Attachment A gives pump curves and other relevant system specifications.

Question 172

The Riverscreen intake is designed by the NCRS and Big Sky Irrigation engineers to withdraw sufficient water volumes at creek water levels as shallow as 4" to meet the irrigation requirements of the NCRS.

Question 173

See response to Question 170.

Question 174

There are no losses in conveyance anticipated for the pivot systems and only minor conveyance losses in the irrigation ditches because the lengths employed are very short.

Question 175

The conveyance infrastructure can provide the required flow and volume as well as any losses.

Question 176

The proposed conveyance does not require any easements.

Question 177

No storage or drainage devices are required.

Question 178

See response to question 170.

Question 179

The system is designed and engineered to provide adequate water uniformly delivered to meet NCRS standards.

Question 180

No water discharge should occur from the project area.

Question 181

See response to question 170.

Question 182

The plan of operation will deliver adequate water flow and volume of water for the beneficial use being requested.

Question 183

The volumes of water being diverted and delivered by the systems will be measured in both pivot centers by use of Grow Smart IM 3000 flowmeters.

Question 184

The means of diversion is not a well.

Question 185

The requested flow rates and volumes are those required for optimum forage production of alfalfa hay in this area's climate and soils conditions as determined by the NCRS.

Question 186

Yes.

Question 187

Yes.

*Photo of typical Riverscreen apparatus attached



Department of Natural Resources and Conservation Examination Report



NA 43O 30163932 - Shinn & Steward



Customer Com 10/15/24 Scott Swenson scott@bigskyirrigation.com 406-672-5641 cell **Randall Shinn October 2024** Upgrade Exisitng Three Phase Service 500 MCM in Duct North Pivot Apprx 36 Acres South Pivot Apprx 60 Acres

Scott Swenson 406-672-5641 cell

