NOTICE AREA

Application No. **40S 30165293** Regional Office # 4

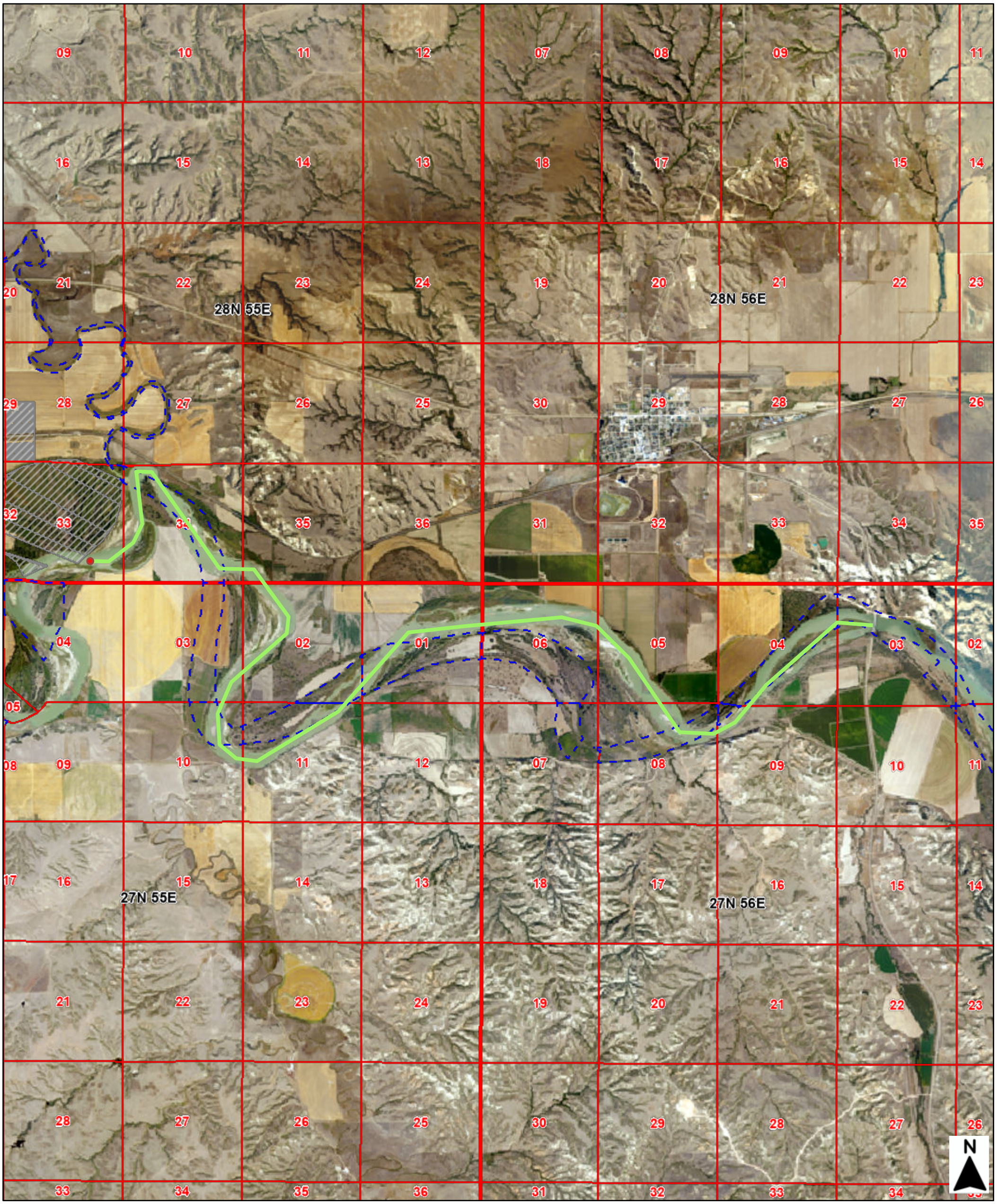
Applicant's Name **Richland County Conservation District (Iverson)**

Indian Reservation [ ] Yes [X] No If yes, Reservation _____

Irrigation District [ ] Yes [X] No If yes, District _____

Specialist **Kailee Ingalls** Date **6/16/25**

40S 30165293



Uppermost Point of Diversion Notice Area

PLSS Special Survey

Section

Township

PLSS Meandered Water

MONTANA DNRC

Map Created: 05/18/25
Author: Kailee Ingalls
Water Resource Specialist

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

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Kailee Ingalls

Esri, NASA, NGA, USGS, FEMA | Montana State University, Montana State Library, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS | U.S.

Water Right Owner	Water Right # (Basin, ID, and Number)
Applicant: Richland County Conservation District	40S 30165293
Teresa E. Olson	Consultant
1DSL	
1FWS	
1FWP	
2FWP	
1TUL	
1PPL	
1NWE	
1WQB	
4HVR	
7GLS	
1BOR	
7RHC	
7RCD	
1CRP	
1DOI	
7SON	
7FPT	
1BIA	
MONTANA, STATE OF DEPT OF FISH WILDLIFE & PARKS	40S 30017671
CARLISLE, JAMES D	40S 184965 00
USA (DEPT OF INTERIOR BUREAU OF LAND MGMT)	40S 30142616
USA (DEPT OF INTERIOR BUREAU OF LAND MGMT)	40S 30142619
USA (DEPT OF INTERIOR BUREAU OF LAND MGMT)	40S 30142621
USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	40S 30073870
USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	40S 30073871
CULBERTSON, CITY OF	40S 1549 00
BNSF RAILWAY CO	40S 142790 00
TVEIT, NOLAN; TVEIT, LESLIE; TVEIT, BRAD; TVEIT, MEGAN	40S 1508 00
TVEIT, NOLAN; TVEIT, LESLIE; TVEIT, BRAD; TVEIT, MEGAN	40S 30030883
SANDHILL RED ANGUS, LLC	40S 30046592
SANDHILL RED ANGUS, LLC	40S 30030881
CL-JLG LLC; GUSTAFSON, JOANN; GUSTAFSON, VICTOR; GUSTAFSON, BRIAN; GUSTAFSON, KENNETH	40S 101303 00
CARLISLE, JAMES D; RICHLAND COUNTY CONSERVATION DISTRICT	40S 30150186
IVERSEN, CONSTANCE C; RICHLAND COUNTY CONSERVATION DISTRICT	40S 30012791
RICHLAND COUNTY CONSERVATION DISTRICT IVERSEN, NEIL J; IVERSEN, AMY K;	40S 30027588
ROOSEVELT COUNTY CONSERVATION DISTRICT; MONTANA STATE BOARD OF LAND COMMISSIONERS; GOBBS PHEASANT RIDGE RANCH LLC	40S 30044041
ROOSEVELT COUNTY CONSERVATION DISTRICT; GOBBS PHEASANT RIDGE RANCH LLC	40S 103671 00
GOBBS PHEASANT RIDGE RANCH LLC	40S 178507 00
CALDWELL, LAURA J IRREVOCABLE TRUST	40S 163084 00
KNUDSEN FAMILY PARTNERSHIP	40S 78203 00
IVERSEN, DONALD B; IVERSEN, MICHAEL D	40S 178504 00
RICHLAND COUNTY CONSERVATION DISTRICT; HARDY INVESTMENTS LP	40S 101074 00

HARDY INVESTMENTS LP	40S 96357 00
RICHLAND COUNTY CONSERVATION DISTRICT; COLWELL, CLIFFORD; COLWELL, DUANE N; COLUCCI, JOYCE A; COLWELL, CHARLES	40S 106990 00
MONTANA STATE BOARD OF LAND COMMISSIONERS	40S 42905 00
MONTANA STATE BOARD OF LAND COMMISSIONERS	40S 42906 00
BAXTER, KAREN K	40S 11957 00
BAXTER, KAREN K	40S 5134 00
COLWELL, CAROLE; COLWELL, CLIFFORD; COLWELL, DUANE N; COLWELL, SHIRLEY A; CARLISLE, JAMES D	40S 101292 00
FINNICUM, BERNIE; FINNICUM, PAUL	40S 17844 00
IVERSEN, NEIL J, IVERSEN, AMY K	40S 30022924
IVERSEN, CONSTANCE C	40S 4947 00
SMITH, DOUGLAS B; SMITH, WENDY J	40S 30022935
PUBLISHED: The area of potential impact includes 34 surface water rights out of the Missouri River between the proposed point of diversion (SESWSE, Section 33, T28N, R55E, Richland County) and the USGS Missouri River Gage Station near Culbertson (Section 03, T27N, R56E, Richland County). There is also a FWP Water Reservation and the Fort Peck- Montana Compact (MCA 85-20-201.) included in the Area of Impact. The AOI is approximately 11 miles.	

**If owner listed twice, only one notice sent*

Draft Preliminary Determinations

- Draft PD
- Draft PD cover letter
- Updated Draft PD
- Updated Draft PD cover letter
- Any correspondence with the applicant regarding the draft PDs

Draft Preliminary Determinations

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

* * * * * * *

APPLICATION TO CHANGE WATER RIGHT NO. 40S 30165293 by RICHLAND COUNTY CONSERVATION DISTRICT (NEIL, AMY, CONNIE, & RICHARD IVERSON, PRODUCER)	)))	**DRAFT PRELIMINARY DETERMINATION TO GRANT CHANGE**

* * * * * * *

On April 3, 2025, Richland County Conservation District (Applicant) submitted Application to Change Water Right No. 40S 30165293 to change Conservation District Water Right 40S 30164956 to the Havre Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The Department published receipt of the application on its website. A preapplication meeting was held between the Department and the Applicant on December 10, 2024, in which the Applicant designated that the technical analyses for this application would be completed by the Department. The Applicant returned the completed Preapplication Meeting Form on February 3, 2025. The Department delivered the Department - completed technical analyses on March 18, 2025. The Application was determined to be correct and complete as of April 21, 2025. An Environmental Assessment for this application was completed on May 7, 2025.

INFORMATION

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

Application as filed:

- Form 606-CD, Conservation District Application to Change Water Reservation
- Attachments:
    - Copy of the Conservation District Application from the Producer, Dated September 24, 2024.
    - Signed Copy of the Reserved Water Use Authorization from the Conservation District, Dated November 14, 2024.
    - Copy of the Conservation Public Notice from the Conservation District, Dated October 9, 2024.
    - Affidavit of Publication from the Conservation District, Dated October 9, 2024.
    - Copy of the public notice Certificate of Service from the Conservation District, Dated October 7, 2024.

- 40S 30164956 Conservation District Record General Abstract, Dated March 24, 2025.
- 33.3 AC & 49.5 AC Half Pivots, Hoop House Pump Curve
- 67.7 AC Flood Irrigation Pump Data Sheet – Cornell
- 144.4 AC Half Pivot Pump Data Sheet – Cornell
- 33.3 AC Half Pivot Valley V-Chart
- 49.6 AC Half Pivot Valley V-Chart
- 144.4 AC Large NE Half Pivot Valley V-Chart

Maps:

- Richland County Conservation District Detailed Development Plan Map (Undated)
- Richland County Conservation District Associated Water Rights Map (Undated)
- Richland County Conservation District Operations Diagram (Undated)

- Department- completed technical analyses based on information provided in the Preapplication Checklist, dated March 18th, 2025.

Information Received after Application Filed

- None

Information within the Department's Possession/Knowledge

- DNRC Water Rights Database Records
- Lower Missouri River Basin Final Order of the Board of Natural Resources & Conservation, December 30, 1994.
- USGS Gaging Station #06185500 data for the Missouri River near Culbertson (Period of Record: April 1958 – September 2024)

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; 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. CD means Conservation District; and Producer means the applicant who applied to the CD to use a portion of the CD water reservation water right.

WATER RIGHTS TO BE CHANGED

FINDINGS OF FACT

1. The Applicant seeks to add points of diversion and places of use to the Richland County Conservation District water reservation (40S 84500-00) that were not included in the original water reservation public notice.

Table 1: Water Rights Proposed for Change

WR TYPE	WR NUMBER	WR PRIORITY DATE	WR SOURCE
Water Reservation	40S 84500-00	7/1/1985 8:00 AM	Missouri River
Conservation District Record	40S 30164956 (RI-037M)	09/24/2024 9:00 AM (internal CD priority date)	Missouri River

2. Provisional Permit 40S 74355-00 shares a point of diversion and place of use with one of the proposed points of diversion (SESESE, Section 34, Lot 10, T28N, R55E, Richland County). The Applicant will withdraw Provisional Permit 40S 74355-00 prior to issuance of this change authorization. Therefore, there will be no supplemental relationship or overlapping places of use.

CHANGE PROPOSAL

FINDINGS OF FACT

3. The Applicant proposes to divert water from the Missouri River, by means of three pumps, from April 1 to November 1 at 8.7 CFS up to 590.25 AF. The water will be diverted from three pumps located in the following locations: Point of Diversion 1: SWSESE, Section 03, Lot 10, T27N, R55E, Point of Diversion 2: SESWSE, Section 33, T28N, R55E, and Point of Diversion 3: SESESE, Section 34, Lot 10, T28N, R55E, Richland County. Point of Diversion 1 is for Flood Irrigation, Point of Diversion 2 is for Sprinkler Irrigation as well as Lawn and Garden Irrigation, and Point of Diversion 3 is for Sprinkler Irrigation use. The period of use is April 1 to November 1. A total of 295.01 AC will be irrigated. The proposed place of use is located in the following locations (Table 2):

Table 2: Proposed Place of Use							
Irrigation Type	POD ID #	Total AC	QTR	SECTION	TWN	RGE	COUNTY
Sprinkler	3	2.6	S2S2SE	34	28N	55E	RICHLAND
	3	48.2	N2NE	3	27N	55E	RICHLAND
	3	58.8	S2NE	3	27N	55E	RICHLAND
Sprinkler	3	35.9	SE	3	27N	55E	RICHLAND
Flood	1	44.4					
Flood	1	23.3	W2NE	10	27N	55E	RICHLAND
Sprinkler	2	8.2	S2NESW	3	27N	55E	RICHLAND
	2	40.3	S2SW	3	27N	55E	RICHLAND
	2	18.4	S2SE	4	27N	55E	RICHLAND
	2	14.9	N2NE	9	27N	55E	RICHLAND
Lawn and Garden	2	0.01	E2E2NENE	9	27N	55E	RICHLAND

4. According to the 2025 Water Reservation Record, the Richland County CD had 69.75 CFS and 15,208.40 AF remaining in their water reservation prior to the submission of this application.

5. The CD granted the producer (Neil, Amy, Connie, & Richard Iverson) the right to use a portion of the CD water reservation on November 14, 2024. The CD granted approval subject to the installation of a water measuring device. As such, the DNRC will add the following conditions:

WATER MEASUREMENT-MEETS CONSERVATION DISTRICT REQUIREMENT

THIS RIGHT IS SUBJECT TO THE TYPE OF WATER USE MEASURING DEVICE OR WATER USE ESTIMATION TECHNIQUE REQUIRED BY THE CONSERVATION DISTRICT. THE APPROPRIATOR SHALL KEEP WRITTEN RECORDS OF THE FLOW RATE AND VOLUME OF WATER USED. RECORDS SHALL BE SUBMITTED BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF THE CHANGE. THE RECORDS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE. THE WATER USER SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

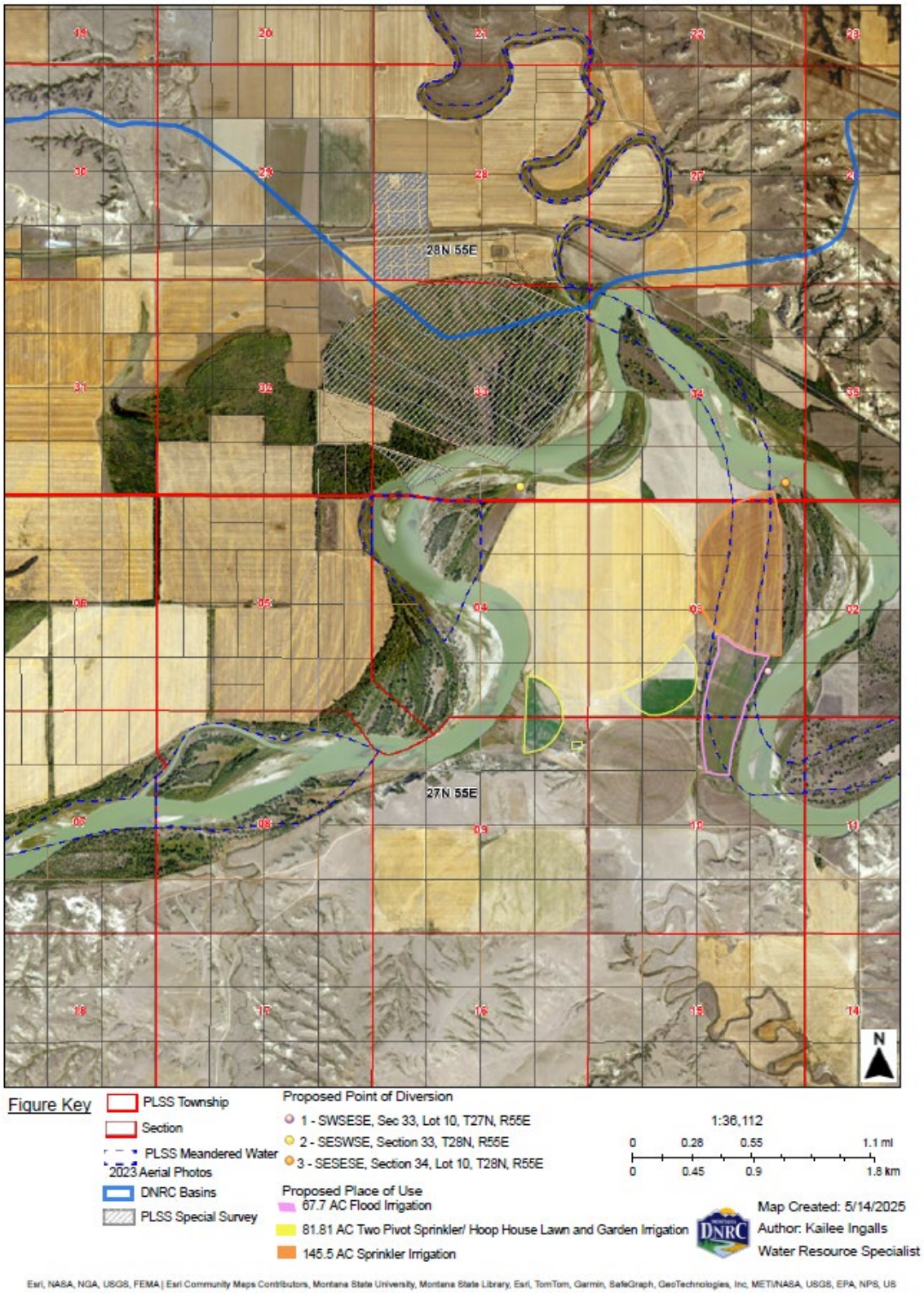

Figure 1: 2023 Aerial Map of Proposed Point of Diversion and Place of Use for CD Change Application No. 40S 30165293

CHANGE CRITERIA

6. 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 85-2-320 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.

7. 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).

WATER RESERVATION CRITERIA

FINDINGS OF FACT

8. An authorization for change is required in § 85-2-316(12), MCA, because the producer's proposed point of diversion and place of use are outside the project areas identified in the original Water Reservation application's public notice.
9. The purpose for the Water Reservation was established by the Board of Natural Resources and Conservation and the conclusions are contained in the *Lower Missouri River Basin Final Order* dated December 30, 1994.
10. The need for the Water Reservation was established by the Board of Natural Resources and Conservation and the conclusions are contained in the *Lower Missouri River Basin Final Order* dated December 30, 1994.
11. The amount of water necessary for the purposes of the Water Reservation was established by the Board of Natural Resources and Conservation and the conclusions are contained in the *Lower Missouri River Basin Final Order* dated December 30, 1994.
12. That the water reservation was in the public interest was established by the Board of Natural Resources and the conclusions are contained in the *Lower Missouri River Basin Final Order* dated December 30, 1994.
13. This change authorization proposal is consistent with the purpose, need, amount, and public interest established by the Board of Natural Resources.

HISTORICAL USE AND ADVERSE EFFECT

FINDINGS OF FACT - Historical Use

14. The Board of Natural Resources and Conservation granted the Richland County Conservation District a water reservation (40S 84500-00) for 186.9 CFS up to 25,349 AF for use on 11,141 acres for future irrigation development out of the Missouri River. The water reservation was granted in the *Lower Missouri River Basin Final Order* dated December 30, 1994, with a priority date of July 1, 1985.
15. This application is to change a portion of the water reservation not yet put to use and therefore no historical use for the amount of water being changed exists.

ADVERSE EFFECT

FINDINGS OF FACT

16. Richland County CD is proposing to add Sprinkler, Flood, and Lawn and Garden Irrigation to its water reservation. The proposed period of diversion and period of use is April 1 to November 1.
17. Water is physically and legally available in the amount the Applicant seeks to appropriate under the Richland County CD water reservation.
18. The CD published notice of this proposed project on October 9, 2024, in the Roundup and set a November 12, 2024, deadline for objections.
19. The CD sent individual public notices to water users downstream of the proposed point of diversion and to the entities on the DNRC standardized list of entities to notice.
20. No objections were received by the CD to this project.
21. The Richland County CD requires the water user to keep written records of the flow rate and volume of all water diverted and to submit the report to the Conservation District annually by November 15. The method of water flow measurement will be by recording electricity reports (run time) and system information from the pump provider.
22. The Applicant is seeking to divert 590.25 AF to irrigate 295.01 AC. Consumptive volume was calculated by assigning a field application of 2 AF/AC, as authorized by the Richland County CD for 295.01 AC. Lawn and Garden use was calculated by rounding the hoop house dimensions to the nearest $1/10^{th}$ AC and multiplying by 2.5AF.
23. A full-service irrigation Consumptive Volume was calculated by the Department using the Culbertson, MT weather station. This station was chosen because it is closest to the proposed irrigated acres. Using a management factor of 74.6% per ARM 36.12.1902. Sprinkler Irrigation will consume 23.73 in/ 12in/ft x 74.6 x 227.3 AC = 335.32 AF per year. Adding 10% of the diverted volume (479.02 AF) as irrecoverable losses from pivot operation, the total consumptive use is 335.32 + 47.9 AF = 383.22 AF. Flood Irrigation will consume 20.84 in/12in/ft x 74.6 x 67.7 AC = 87.71 AF per year. Adding 5% of the diverted volume (7.31 AF) as irrecoverable losses from flood operation, the total consumptive use is 87.71 AF + 7.31 AF = 95.02 AF. The total Consumed Volume for both methods is 478.24 AF. Lawn and Garden Irrigation was calculated based upon the standard in ARM 36.12.115.: 20' x 30' = 0.0137 AC x 2.5 AF/AC = .03 AF.
24. The Applicants proposed diverted volume is 590.25 AF and the Department diverted volume necessary for a full-service irrigation is 625.23 AF.
25. There is no historical return flow because the water has not yet been put to use.

26. This application represents a non-perfected portion of the Richland County CD water reservation. Therefore, water rights both senior and junior to Water Reservation No. 40S 84500-00 must be considered in order to determine whether this proposed application would have adverse effect. USGS Gaging Station #06185500, Missouri River near Culbertson, was used to calculate flow rate and volume physically available during the proposed period of diversion. The Culbertson gaging station is approximately 11 river miles downstream of the POD and has a period of record from April 1958 to September 2024. Water physically available was calculated by taking the median of the mean monthly flows (CFS) and adding in all water rights between the requested POD and the gaging station. Table 3 lists the existing water rights between the POD and the gaging station:

Table 3: Existing Water Rights between Uppermost Proposed POD and Gaging Station

A	B	C	D	E
WR NUMBER	***PERIOD OF DIVERSION***	***WR TYPE***	***FLOW RATE (CFS)***	***VOLUME (AF)***
40S 184965 00*	01/01 to 12/31	Statement of Claim	0.1	7.1
40S 30142616*	01/01 to 12/31	Statement of Claim	0.1	1.5
40S 30073870	01/01 to 12/31	Reserved Claim	0.0	0.6
40S 30142619*	01/01 to 12/31	Statement of Claim	0.1	0.5
40S 1549 00	01/01 to 12/31	Statement of Claim	1.8	257.4
40S 30073871	01/01 to 12/31	Reserved Claim	0.0	304.0
40S 142790 00	01/01 to 12/31	Statement of Claim	0.5	135.0
40S 30142621*	01/01 to 12/31	Statement of Claim	0.1	0.03
40S 1508 00**	03/01 to 12/04	Statement of Claim	3.8	348.0
40S 30046592**	03/01 to 12/04	Statement of Claim	7.4	685.0
40S 101303 00**	04/01 to 09/30	Statement of Claim	1.2	80.0
40S 30150186	04/01 to 10/15	Conservation District Record	0.8	69.0
40S 30012791	04/01 to 10/15	Conservation District Record	6.0	413.6
40S 30027588	04/01 to 10/15	Conservation District Record	3.9	272.8
40S 30044041	04/01 to 10/15	Conservation District Record	1.8	176.9
40S 30030883	04/01 to 10/31	Provisional Permit	6.2	0.0
40S 178507 00**	04/01 to 10/31	Statement of Claim	1.1	70.3
40S 163084 00**	04/01 to 10/31	Statement of Claim	1.9	103.5
40S 30030881	04/01 to 10/31	Provisional Permit	2.7	0.0
40S 78203 00	04/01 to 10/31	Provisional Permit	4.5	1202.0
40S 178504 00**	04/01 to 11/01	Statement of Claim	1.8	400.0
40S 101074 00	04/15 to 10/15	Conservation District Record	5.8	927.0
40S 106990 00	04/15 to 10/15	Conservation District Record	4.2	636.0
40S 103671 00	04/15 to 10/15	Conservation District Record	2.5	360.0
40S 42905 00**	04/15 to 10/19	Statement of Claim	1.0	67.5
40S 42906 00**	04/15 to 10/19	Statement of Claim	11.1	237.5
40S 96357 00	04/15 to 10/31	Provisional Permit	5.6	795.0
40S 11957 00**	05/01 to 09/19	Statement of Claim	1.0	100.0
40S 5134 00**	05/01 to 09/30	Statement of Claim	1.4	150.0
40S 101292 00**	05/01 to 10/19	Statement of Claim	6.2	1737.5
40S 17844 00	06/01 to 08/15	Provisional Permit	1.3	216.0
40S 30022924	06/01 to 09/01	Provisional Permit	1.3	232.0

40S 4947 00	06/01 to 09/01	Provisional Permit	1.9	350.0
40S 30022935	06/01 to 09/01	Provisional Permit	1.3	240.0

* Flow rate and volume assigned per department standards
**Volume calculated per department standard water use for irrigation in climatic area 2 (2.5AF/AC)

Table 4: Physical Availability of Flow Rate and Volume

A	B	C	D	E	F	G
Month	**Median of the Mean Monthly Flow at Gage 06185500 (CFS)**	**Median of the Mean Monthly Volume at Gage 06185500 (AF)***	**Existing Rights from Gage 06185500 to POD (CFS)**	**Existing Rights from the POD to Gage 06185500 (AF)**	**Physically Available Water at POD (CFS)**	**Physically Available Water at POD (AF)**
April	8,000	475,200	75.80	1,245.78	8,075.80	476,445.78
May	8,656	531,305	84.50	1,573.72	8,740.50	532,879.00
June	9,547	567,092	90.30	1,744.99	9,637.30	568,836.79
July	9,371	575,192	90.30	1,744.99	9,461.30	576,936.97
August	8,973	550,763	90.30	1,744.99	9,063.30	552,507.73
September	7,836	465,458	88.90	1,709.35	7,924.90	467,167.75
October	6,976	428,187	80.80	1,519.27	7,056.80	429,706.15

*Median of the mean monthly volume was calculated by multiplying the median of the mean monthly flow rates in CFS by the number of days in the month by 1.98 AF/CFS/day.

27. The Department determined that the area of potential impact for this application is from the uppermost POD approximately 11 river miles downstream to the Culbertson gaging station. Table 5 lists the existing downstream users within the area of potential impact:

Table 5: Existing Downstream Users in the Area of Impact

A	B	C	D	E
WR NUMBER	***PERIOD OF DIVERSION***	***WR TYPE***	***FLOW RATE (CFS)***	***VOLUME (AF)***
MCA 85-20-201	01/01 to 12/31	Reserved Claim	See Table 6	See Table 6
40S 30017671	01/01 to 12/31	Water Reservation	5178	3,748,500
40S 184965 00*	01/01 to 12/31	Statement of Claim	0.1	7.1
40S 30142616*	01/01 to 12/31	Statement of Claim	0.1	1.5
40S 30073870	01/01 to 12/31	Reserved Claim	0.0	0.6
40S 30142619*	01/01 to 12/31	Statement of Claim	0.1	0.5
40S 1549 00	01/01 to 12/31	Statement of Claim	1.8	257.4
40S 30073871	01/01 to 12/31	Reserved Claim	0.0	304.0
40S 142790 00	01/01 to 12/31	Statement of Claim	0.5	135.0
40S 30142621*	01/01 to 12/31	Statement of Claim	0.1	0.03
40S 1508 00**	03/01 to 12/04	Statement of Claim	3.8	348.0
40S 30046592**	03/01 to 12/04	Statement of Claim	7.4	685.0
40S 101303 00**	04/01 to 09/30	Statement of Claim	1.2	80.0
40S 30150186	04/01 to 10/15	Conservation District Record	0.8	69.0
40S 30012791	04/01 to 10/15	Conservation District Record	6.0	413.6
40S 30027588	04/01 to 10/15	Conservation District Record	3.9	272.8
40S 30044041	04/01 to 10/15	Conservation District Record	1.8	176.9
40S 30030883	04/01 to 10/31	Provisional Permit	6.2	0.0
40S 178507 00**	04/01 to 10/31	Statement of Claim	1.1	70.3

40S 163084 00**	04/01 to 10/31	Statement of Claim	1.9	103.5
40S 30030881	04/01 to 10/31	Provisional Permit	2.7	0.0
40S 78203 00	04/01 to 10/31	Provisional Permit	4.5	1202.0
40S 178504 00**	04/01 to 11/01	Statement of Claim	1.8	400.0
40S 101074 00	04/15 to 10/15	Conservation District Record	5.8	927.0
40S 106990 00	04/15 to 10/15	Conservation District Record	4.2	636.0
40S 103671 00	04/15 to 10/15	Conservation District Record	2.5	360.0
40S 42905 00**	04/15 to 10/19	Statement of Claim	1.0	67.5
40S 42906 00**	04/15 to 10/19	Statement of Claim	11.1	237.5
40S 96357 00	04/15 to 10/31	Provisional Permit	5.6	795.0
40S 11957 00**	05/01 to 09/19	Statement of Claim	1.0	100.0
40S 5134 00**	05/01 to 09/30	Statement of Claim	1.4	150.0
40S 101292 00**	05/01 to 10/19	Statement of Claim	6.2	1737.5
40S 17844 00	06/01 to 08/15	Provisional Permit	1.3	216.0
40S 30022924	06/01 to 09/01	Provisional Permit	1.3	232.0
40S 4947 00	06/01 to 09/01	Provisional Permit	1.9	350.0
40S 30022935	06/01 to 09/01	Provisional Permit	1.3	240.0

* Flow rate and volume assigned per department standards
**Volume calculated per department standard water use for irrigation in climatic area 2 (2.5AF/AC)

Table 6: Fort Peck-Montana Compact, MCA §85-20-201, Article III F.1 Volumes

Month	Fort Peck Tribal Right (AF)	Fort Peck Tribal Right (CFS)**
April	50,000	840
May	105,000	1708
June	145,000	2437
July	215,000	3497
August	180,000	2927
September	105,000	1765
October	50,000	813

** Flow rate in CFS is calculated by dividing monthly volume in AF by the number of days in the month by 1.98 AF/day.

28. Water legally available was calculated by subtracting the existing legal demands, the MT Department of Fish, Wildlife and Parks (FWP) instream flow reservation (Water Reservation 40S 30017671), and the Fort Peck Tribal right (assuming full development of Fort Peck-Montana Compact, MCA §85-20-201, Article III F.1) from the flow and volume physically available within the identified area of potential impact. Tables 7 and 8 summarize the legal availability of flow and volume on the source within the area of potential impact. The monthly volume of downstream water rights was calculated by dividing the claimed volumes by the number of months in the claimed period of use.

Table 7: Legal Availability of Flow Rate					
A	**B**	**C**	**D**	**E**	**F**
Month	**Flow Rate Physically Available (CFS)**	**Existing Legal Demands (CFS)**	**FWP Instream Flow Reservation (CFS)**	**Fort Peck Tribal Right (CFS)****	**Flow Rate Legally Available Water (CFS)**
April	8,075.8	75.8	5,178.00	840	1982.00
May	8,740.5	84.5	5,178.00	1708	1770.00
June	9,637.3	90.3	5,178.00	2437	1932.00
July	9,461.3	90.3	5,178.00	3497	696.00
August	9,063.3	90.3	5,178.00	2927	868.00
September	7,924.9	88.9	5,178.00	1765	893.00
October	7,056.8	80.8	5,178.00	813	985.00

** Flow rate in CFS is calculated by dividing monthly volume in AF by the number of days in the month by 1.98 AF/day.

Table 8: Legal Availability of Volume					
A	**B**	**C**	**D**	**E**	**F**
Month	**Volume Physically Available (AF)**	**Existing Legal Demands (AF)**	**FWP Instream Flow Reservation (AF)**	**Fort Peck Tribal Right (AF)**	**Volume Legally Available Water (AF)**
April	476,445.78	1,245.78	307,573.20	50,000	117,626.8
May	532,879.00	1,573.72	317,825.64	105,000	108,479.6
June	568,836.79	1,744.99	307,573.20	145,000	114,518.6
July	576,936.97	1,744.99	317,825.64	215,000	42,366.3
August	552,507.73	1,744.99	317,825.64	180,000	52,937.1
September	467,167.75	1,709.35	307,573.20	105,000	52,885.2
October	429,706.15	1,519.27	317,825.64	50,000	60,361.2

29. The least amount of flow legally available in any month during the period of diversion is 696 CFS in July and the Applicant is applying for 8.7 CFS. The least amount of volume legally available in any month during the period of diversion is 42,366.3 AF in July and the Applicant is requesting 220 AF for the entire annual use. The Department finds the proposed change will not have an adverse effect on other users.

BENEFICIAL USE

FINDINGS OF FACT

30. This change will allow the Richland County Conservation District to authorize the use of a portion of their water reservation. The Conservation District must authorize projects to fulfill the purpose of the reservation.

31. The Applicant proposes to use water for Flood, Sprinkler, and Lawn and Garden Irrigation on 295.01 AC. Irrigation is recognized as beneficial use under the Montana Water Use Act. § 85-2-102 (5), MCA. Applicant proposes to use 8.7 CFS up to 590.25 AF. The volume and flow rate were agreed upon by the Conservation District and the producer. The Department finds the proposed use of water to be beneficial.

ADEQUATE DIVERSION

FINDINGS OF FACT

32. The water will be diverted under Richland County's water reservation from the Missouri River at one existing and two new points of diversion.
33. The first Point of Diversion is located in the SWSESE, Section 03, Lot 10, T27N, R55E, Richland County. The diversion method is a Cornell 6YB - 1800 rpm pump. A 6.7 CFS flow rate is being proposed. This pump will convey water from the into 12" gated pipe for the purpose of Flood Irrigation. Gates are to be opened and closed manually, one section at a time, based on the location where water is needed. The flood irrigation is scheduled for eight days on and a couple weeks off based on crop demands.
34. The second Point of Diversion is located in the SESWSE, Section 33, T28N, R55E, Richland County. The diversion method is a Cornell 5HH – 1800 rpm pump and is shared with an existing system utilized by water right Nos.: Provisional Permit No. 40S 4947 00, Provisional Permit No. 40S 30022924, Conservation District Record No. 40S 30027588, and Conservation District Record 40S 30012791. No new flow rate is being proposed. A variable flow drive panel (VFD) is used to manage water flow and pressure based on system demand. The pump will convey water into 12" pipe extending to the center of an existing center pivot the N2 of the pivot is served by Provisional Permit No. 40S 30022924 and Conservation District Record No. 40S 30027588 while the S2 is served by Provisional Permit No. 40S 4947 00 and Conservation District Record 40S 30012791. From there, a 10" pipe will then run south. The 10" pipe will then split off and convey water in three separate directions. A section of 2" HDPE pipe will run south to the Hoop House (20'x 30'). The hoop house water can be turned on and off at the place of use as needed for gardening purposes. A section of 8" pipe will run west to the 33.3 AC Agri Industries Sprinkler Pivot and section of 8" pipe will run east to the 49.6 AC Agri Industries Sprinkler Pivot. The east section of pipe will then extend further south to an existing pivot (also served by Provisional Permit No. 40S 4947-00 and Conservation District Record No. 40S 30012791). The proposed 33.3 AC and 49.9 AC half pivots will

operate one at a time while also irrigating the existing large center pivot (served by Provisional Permit No. 40S 4947 00, Provisional Permit No. 40S 30022924, Conservation District Record No. 40S 30027588, and Conservation District Record 40S 30012791.)

35. The third Point of Diversion is located in the SESESE, Section 34, Lot 10, T28N, R55E, Richland County. The diversion method is a Cornell 4RB - 1800 rpm pump. A 2 CFS flow rate is being proposed. This pump will convey water into 10" aluminum pipe extending to the center of a 144.4 AC Agri Industries Sprinkler Pivot. This pivot is run independently based on water and crop needs.
36. The diversion and conveyance are typical of those used for sprinkler and flood irrigation on this source in this region.
37. Measurements will be taken by recording electricity reports (run time) and system information from the pump provider to measure the total amount of water diverted from the Missouri River.
38. The Department finds the means of diversion and conveyance to the places of use to be adequate.

POSSESSORY INTEREST

FINDINGS OF FACT

39. The submission of the Conservation District Application for Reserved Water Use Authorization (Form 101) was signed by the producer, Neil, Amy, Connie, & Richard Iverson, and implies written consent. The affidavit on the Conservation District Reserved Water Use Authorization (Form 102) was signed by Shawn Conradsen, Conservation District Chairman and Julie Goss, District Administrator.

CONCLUSIONS OF LAW

WATER RESERVATION CRITERIA

40. The Applicant has proven by a preponderance of the evidence that the purpose, need, amount, and public interest are consistent with the 1978 Order of Board of Natural Resources Establishing Water Reservations. §§ 85-2-316(12), 85-2-402(2)(d), MCA. (FOF Nos. 8-13)

HISTORICAL USE AND ADVERSE EFFECT

41. 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]

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

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

1057; *Hohenlohe*, ¶¶ 43-45.[2]

43. 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

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

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

City of Bozeman, *Memorandum*, Pgs. 8-22 (Adopted by DNRC *Final Order* January 9,1985)(evidence of historic use must be compared to the proposed change in use to give effect to the implied limitations read into every decreed right that an appropriator has no right to expand his appropriation or change his use to the detriment of juniors).[4]

44. 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

[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.)

- is not part of a water right and is subject to appropriation by subsequent water users).[5]

45. Although the level of analysis may vary, analysis of the extent to which a proposed change may alter the amount, location, or timing return flows is critical in order to prove that the proposed change will not adversely affect other appropriators who rely on those return flows as part of the source of supply for their water rights. *Royston*, 249 Mont. at 431, 816 P.2d at 1059-60; *Hohenlohe*, at ¶¶ 45-46 and 55-6; *Spokane Ranch & Water Co.*, 37 Mont. at 351-52, 96 P. at 731.

46. 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).

[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).

47. 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.

48. There is no historic use because the water being changed in this application is for future irrigation development pursuant to § 85-2-316, MCA. (FOF Nos. 14-15)

49. The Applicant has proven by a preponderance of the evidence that the proposed change in appropriation will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been issued or for which a state water reservation has been issued. § 85-2-402(2)(b), MCA. (FOF Nos. 16-29)

BENEFICIAL USE

50. 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 . . ." McDonald, 220 Mont. at 532, 722 P.2d at 606. The analysis of the beneficial use criterion is the same for change authorizations under §85-2-402, MCA, and new beneficial permits under §85-2-311, MCA. 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).

51. Applicant proposes to use water for Irrigation which is a recognized beneficial use. Section 85-2-102(5), MCA. Applicant has proven by a preponderance of the evidence Irrigation is a beneficial use and that 590.25 AF of diverted volume and 8.7 CFS flow rate of water requested is the amount needed to sustain the beneficial use on 295.01 AC. Section 85-2-402(2)(c), MCA (FOF Nos. 30-31).

ADEQUATE MEANS OF DIVERSION

52. 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).

53. Pursuant to § 85-2-402 (2)(b), MCA, Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. (FOF Nos. 32—38)

POSSESSORY INTEREST

54. 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.

55. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. (FOF No. 39).

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. 40S 30165293 should be GRANTED subject to the following.

The Applicant proposes to divert water from the Missouri River, by means of a pump, from April 1 to November 1 at 8.7 CFS up to 590.25 AF, from the following locations: SESESE, Section 34, Lot 10, T28N, R55E, Richland County, SWSESE, Section 03, Lot 10, T27N, R55E, Richland County, and the SESWSE, Section 33, T28N, R55E, Richland County, for Sprinkler, Flood, and Lawn and Garden Irrigation use from April 1 to November 1.

The Applicant is authorized to add the proposed points of diversion and place of use. A flow rate of 8.7 CFS up to 590.25 AF shall be diverted from the Missouri River from the following locations: SESESE, Section 34, Lot 10, T28N, R55E, Richland County, SWSESE, Section 03, Lot 10, T27N, R55E, Richland County, and the SESWSE, Section 33, T28N, R55E, Richland County to 295.01 AC of place of use (see Table 2). The period of diversion and period of use are from April 1 to November 1. This change authorization will be subject to the following conditions, limitations, or restrictions:

WATER MEASUREMENT-MEETS CONSERVATION DISTRICT REQUIREMENT

THIS RIGHT IS SUBJECT TO THE TYPE OF WATER USE MEASURING DEVICE OR WATER USE ESTIMATION TECHNIQUE REQUIRED BY THE CONSERVATION DISTRICT. THE APPROPRIATOR SHALL KEEP WRITTEN RECORDS OF THE FLOW RATE AND VOLUME OF WATER USED. RECORDS SHALL BE SUBMITTED BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF THE CHANGE. THE RECORDS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE. THE WATER USER SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

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 22nd day of May 2025.

Matt Miles Digitally signed by Matt Miles
Date: 2025.05.22 15:21:41 -06'00'

Matt Miles, Manager
Havre Regional Office
Montana Department of Natural Resources and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the DRAFT PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 22nd day of May, 2025, by first class United States mail.

Richland County Conservation District
2745 West Holly St.
Sidney, MT 59270

Teresa Olson
2612 7th Ave. N.
Billings, MT 59101
tolson@hydrosi.com

Kailee Ingalls

Digitally signed by Kailee Ingalls
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HAVRE Regional Office, (406) 265-5516

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DIRECTOR'S OFFICE: (406) 444-2074
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1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

May 22nd, 2025

Richland County Conservation District
2745 West Holly St.
Sidney, MT 59270

Subject: Draft Preliminary Determination to Grant Water Right Conservation District Water Reservation Based Change Application No. 40S 30165293

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 June 13th, 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.

Best,

Kailee Ingalls

Kailee Ingalls | Water Resource Specialist
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
Physical| 210 6th Ave | Havre MT 59501
Mailing| PO Box 1828 | Havre MT 59501
DESK: 406-808-7126 **EMAIL**: kailee.ingalls@mt.gov

CC: Teresa Olson <tolson@hydrosi.com>

2912 7th Ave. N.

Billings, MT 59101-0906

Processing Materials

- Work copies of applicant-submitted information
- Deficiency letter
- Deficiency response
- Correct & complete determination
- Any correspondence with the applicant after application receipt and prior to sending the Draft PD

Processing Materials

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DIRECTOR'S OFFICE: (406) 444-2074
PO BOX 201601

1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

April 21st, 2025

Richland County Conservation District

2745 West Holly St.

Sidney, MT 59270

Subject: Correct and Complete Application for Conservation District Water Reservation Based Change No. 40S 30165293

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.

Best,

Kailee Ingalls

Kailee Ingalls | Water Resource Specialist
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
Physical| 210 6th Ave | Havre MT 59501
Mailing| PO Box 1828 | Havre MT 59501
DESK: 406-808-7126 **EMAIL**: kailee.ingalls@mt.gov
Website | **Facebook** | **X (Twitter)** | **Instagram**

CC: Teresa Olson <tolson@hydrosi.com>

2912 7th Ave. N.

Billings, MT 59101-0906

Application Materials

- Application
- Any information submitted with Application including maps

Application Materials

CONSERVATION DISTRICT APPLICATION TO CHANGE WATER RESERVATION

§85-2-316, MCA

Form No. 606-CD *(Revised 01/2024)*

RECEIVED
For Department Use Only

APR 03 2025

DNRC WATER RESOURCES
HAVRE REGIONAL OFFICE

Application # 30165293 Basin 40S

Priority Date _____ Time 11:00 AM/PM

Rec'd By _____

Fee Rec'd $ 1000- Check # 8813

Deposit Receipt # HVS2520139

Payor Richland County Conservation District

Refund $ _____ Date _____

When to use this form:

- Use Form 606-CD to add a point of diversion, place of use, or place of storage to a Conservation District Water Reservation.
- Complete this form if the point of diversion, or any portion of the proposed place of use or place of storage ***was not*** included in the original public notice.
- For a change in purpose, use Form 606, Application to Change a Water Right, instead.

Filing fee:

- The filing fee for Form 606-CD is $2500 ***without*** *the filing fee reduction.*
- The filing fee for Form 606-CD is $1500 ***with*** *the filing fee reduction.*
- Please make checks payable to DNRC.

Important 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)).

---

1. Conservation District (CD): Richland County Conservation District

   Mailing Address: 2745 West Holly ST City Sidney State MT Zip 59270

   Phone Numbers: Work 406-943-3001 Cell _____

   Email Address: richlandcd@gmail.com

2. Producer Name: Neil & Amy Iversen; Connie & Richard Iversen (13749 County Rd. 332, Culbertson, MT 59218-9411)

   Mailing Address: 411 US HWY 2 City Bainville State MT Zip 59212-9654

   Phone Numbers: Home _____ Work 406-433-2103 x 12 Cell 406-798-7770

   Email Address: Richard Iversen- rji@midrivers.com

3. Project Completion – The Department will set the project completion deadline to December 31 of the year set by the Conservation District in its authorization.

4. Affidavit – A Conservation District Board Member Must Sign

5. "Sage Grouse Habitat Project Review" required if the diversion and/or place of use are located within an area designated as sage grouse habitat. (https://sagegrouse.mt.gov/)

CHANGE APPLICATION INFORMATION

This application may only be used to add a point of diversion, place of use, or place of storage to include a project that was not included in the original Water Reservation public notice.

Yes ☐ No ☒ Was the point of diversion included in the original public notice?
Yes ☐ No ☒ Was the entire place of use included in the original public notice? If not, complete this form.

Section A. Water Reservation Details

A.1 69.75 CFS How much flow rate remains for this CD water reservation prior to this application?
A.2 15,208.40 AF How much volume remains for this CD water reservation prior to this application?
A.3 4/1 - 11/1 What is the typical period of diversion the CD authorizes?
A.4 2.5 AF/AC What volume per acre (AF/AC) does the CD typically authorize?

Section B. Application Details

B.1 ☒ Submit a copy of the Conservation District Application from the Producer.
B.2 ☒ Submit a signed copy of the Reserved Water Use Authorization from the Conservation District.
B.3 ☒ Submit a copy of the CD Public Notice from the Conservation District.
B.4 ☒ Submit a copy of the Affidavit of Publication from the Conservation District
B.5 ☒ Submit a copy of the public notice Certificate of Service from the Conservation District.
B.6 ☒ Yes ____ No x Did the public notice of the Application receive any objections?
If Yes, attach a copy.

Section C. Project Location

C.1 **Point of Diversion:** Describe the location of the proposed diversion(s) to the nearest 10 acres. Include additional Points of Diversion on a separate sheet.

POD #1 SE 1/4 SE 1/4 SE 1/4 Sec 34 Twp 28N N/S Rge 55E E/W County Richland

Lot _____ Block _____ Tract No. _____ Subdivision Name _____

Government Lot 10 Latitude 48.1298122*N Longitude 104.5921184*W

POD #2 SW 1/4 SE 1/4 SE 1/4 Sec 3 Twp 27N N/S Rge 55E E/W County Richland

Lot _____ Block _____ Tract No. _____ Subdivision Name _____

Government Lot 10 Latitude 48.1152200*N Longitude 104.5943378*W

POD #3 (of 3) on enclosed Additional Information sheet

C.2 **Place of Use:** Describe the location of the proposed Place of Use to the nearest 10 acres. Include additional Places of Use on a separate sheet.

Place of Use on enclosed Additional Information sheet

ACRES IRRIGATED. Describe to the nearest 10 acres. Include additional Places of Use on a separate sheet.

_____ Acres _____ Lot _____ Block _____ 1/4 ____ 1/4 ____ 1/4 Sec ____ Twp _____ N/S Rge _____ E/W
_____ Acres _____ Lot _____ Block _____ 1/4 ____ 1/4 ____ 1/4 Sec ____ Twp _____ N/S Rge _____ E/W
_____ Acres _____ Lot _____ Block _____ 1/4 ____ 1/4 ____ 1/4 Sec ____ Twp _____ N/S Rge _____ E/W
_____ Acres _____ Lot _____ Block _____ 1/4 ____ 1/4 ____ 1/4 Sec ____ Twp _____ N/S Rge _____ E/W

Section D. Supplemental Water Rights

When two or more water rights overlap the proposed place of use, the water rights are considered supplemental.

D.1 Yes ☐ No ☒ Are there any water rights that overlap the place of use proposed in this application? If yes, identify those rights. If no, skip to Section D.

Water Right No. & Basin	***Priority Date***
Note: 40S 74355-00 to be withdrawn; a completed Request to Withdraw	
a Water Right Form will be submitted by the owner upon approval for	
the change authorization.	

D.2 Why is this water reservation needed to supplement the acres?

D.3 Explain how all of the supplemental water rights will be collectively operated.

Section E. Map – ARM 36.12.111

E.1 ☒ Provide a map depicting the proposed point of diversion, means of conveyance, place of use, and place of storage. Detailed Development Plan and Operations Maps attached.

E.2 ☒ If there are supplemental water rights, provide one map depicting all of the historic points of diversion, means of conveyance, and places of use. Label each point of diversion with the water right number. Note: 40S 74355-00 will be withdrawn upon completion of this change. There are associated water rights (shared POD's but not POU's). Associated Water Rights Map included.

Section F. Adverse Effect – ARM 36.12.1903

The determination of whether adverse effect will occur is based on the details of the proposed project. If the CD is adding a point of diversion or place of use, the CD needs to show that the proposed project will not create an adverse effect to junior or senior water rights. In some cases, adding a point of diversion may require the physical and legal demands on the source be known. If a legal demand analysis is needed and the legal demands exceed the amount of water physically available, the CD may need to provide a mitigation plan.

The Department will review the proposed project and contact the CD if mitigation is required or if other information is required to address possible adverse effects.

Section G. Adequate Diversion Means and Operation - ARM 36.12.1904

G.1 Describe the preliminary design plans and specifications for the proposed diversion and conveyance facilities and the equipment used to put the water to beneficial use.

Three pumps supply the places of use; Cornell 5HH with 12" pipe, Cornell 4RB with 10" aluminum pipe, and Cornell 6YB with 12" gated pipe. Operations diagram, Detailed Development Plan Map, Sprinkler irrigation system specifications and pump curves are enclosed.

G.2 Yes ☒ No ☐ Are there other water rights that use the same diversion from the source, such as a ditch? If yes, explain why this water right will not exceed the capacity of the diversion works.

The flow from the Cornell 5HH pump is shared; no additional flow was requested or authorized. See enclosed Detailed Development Plan Map. The water rights sharing the flow rate are: 40S 30022924, 30027588, 4947-00, 30012791. 40S 74355-00 to be withdrawn.

Section H. Beneficial Use – ARM 36.12.1801

H.1 How does the water use benefit you, other persons, or the public?

Agriculture supports family farm owned business and local economy as well as supports local and trade food supply demands.

H.2 How did you determine the flow rate needed for the project?

Agri Industries, Inc. irrigation design and recommendation and pump curve ratings.

H.3 How did you determine the acre-feet needed for the project?

Capacity of system and known requirements of existing adjacent fields.

The information provided for this application is to the best of my knowledge true and correct. 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.

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

Printed Name: Shawn Conradsen, chairman — Richland County Conservation District

Applicant Signature: [signature] Date: 3-26-2025

Printed Name: _____

Applicant Signature: _____ Date: _____

Section C. Project Location Additional Information

C.1 Point of Diversion Additional

POD #3

SESWSE Section 33, 28N 55E, Richland County

Latitude: 48.1299569*N Longitude: 104.6170345*W

C2. Place of Use

ACRES	Govt Lot	QTR	QTR	QTR	SEC	TWP	RGE	COUNTY	New or Supplemental	Sprinkler or Flood
2.6	9, 10	S2	S2	SE	34	28N	55E	Richland	S	S
48.2	1, 2		N2	NE	3	27N	55E	Richland	S	S
58.8	5, 6		S2	NE	3	27N	55E	Richland	S	S
80.3	7, 8, 9, 10			SE	3	27N	55E	Richland	S	S/F
23.3	2, 3		W2	NE	10	27N	55E	Richland	S	F
8.2		S2	NE	SW	3	27N	55E	Richland	N	S
40.3			S2	SW	3	27N	55E	Richland	N	S
18.4			S2	SE	4	27N	55E	Richland	N	S
14.9			N2	NE	9	27N	55E	Richland	N	S
295	TOTAL									

Hoop House		E2E2	NE	NE	9	27N	55E	Richland	N

CONSERVATION DISTRICT APPLICATION FOR RESERVED WATER USE AUTHORIZATION

§85-2-316, MCA

Form No. 101 (Revised 07/2024)

For Conservation District Use Only

Application # RI-037M

Date Received Sept 24, 2024

Time Received 9:00 am

Fee Received $25.00

Received By Julie Goss

When to use this form:

- Use this form to apply to the Conservation District for a Reserved Water Use Authorization. Use one application for each source of supply or separate development.

Filing Fee:

- Contact the Conservation District for the filing fee schedule.

Important Information:

- There are **three pages** to this application. A separate Place of Use Addendum is also provided.
- Answer every question and applicable follow-up questions. Narrative and table 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.
- The Reserved Water Development Manual which governs Reserved Water Use Authorization for the Conservation District is on file in the district office and available for review.
- The applicant may not appropriate water or commence construction on any project infrastructure prior to the approval by the Conservation District and the receipt of a Reserved Water Use Authorization.

Conservation District Name: Richland County Conservation District

1. Applicant Name: Connie and Richard Iversen; Neil and Amy Iversen- 411 US HWY 2, Bainville, MT 59212-9654

   Mailing Address: 13749 County Road 332 City Culbertson State MT Zip 59218-9411

   Phone Number: 406-433-2103 x 12 Cell 406-798-7770

   Email Address: rji@midrivers.com

2. Consultant/Engineer Firm and Contact: n/a

   Phone Number: _____ Cell _____

   Email Address: _____

3. "Sage Grouse Habitat Project Review" required if the diversion and/or place of use are located within an area designated as sage grouse habitat. (https://sagegrouse.mt.gov/)

4. Applying for: ___ New Irrigation ___ Supplemental X Both

5. Source of Water Supply: Missouri River

   A tributary of n/a

6. Describe Irrigation System: Two half pivots, flood irrigation, and garden use in hoop-house

7. Crops to be grown: Alfalfa, grass hay/pasture, corn, small grain, garden plants

8. Point of Diversion Description to the nearest 10 acres

LOT	¼	¼	¼	SEC	TWP N/S	RGE E/W	COUNTY	NOTES
10	SE	SE	SE	34	28N	55E	Richland	northeast half pivot
10	SW	SE	SE	3	27N	55E	Richland	flood irrigation
	SE	SW	SE	33	28N	55E	Richland	southwest half pivot and hoop house

If water is not consumed, will it be discharged back into the same source? X Yes ___ No

If no, explain and give the complete land description at the point of discharge.

9. Place of Use Description

A. Will project involve new irrigated land? X Yes ___ No

B. Will project involve supplemental water to existing irrigation? X Yes ___ No

C. Will project involve both new irrigated land and supplemental water to existing irrigation? If yes, the acreage must be entered on separate lines in the table below. X Yes ___ No

Enter the number of acres to be irrigated in the appropriate quarter-section. **See Addendum page 4**

N = New S = Supplemental

ACRES	LOT	¼	¼	¼	SEC	TWP N/S	RGE E/W	COUNTY	N/S

TOTAL ACRES: 295 See Addendum page 4

2 AF/Acre = 590 + .25 AF Garden/Hoop-House (20 x 25'= ~1/10th an acre)

10. Volume Requested: **590.25** acre-ft, Volume of Discharge: _____ acre-ft

11. Flow Rate Requested: 8.7 (2 NE half pivot, 6.7 SE flood irr) cubic ft per second (cfs), or 3900 gallons per minute

12. Diversion Means: X Pump: Type & Power See additional sheet ___ Other _____

13. Conveyance Means: X Pipeline _____ ___ Other _____

14. Period of Use: Month/Day April 1 to Month/Day November 1

15. Reserved Water Rights Projects

Is this a project that was originally included in the Conservation District water reservation application? ___ Yes X No

16. Project Completion Date: ASAP

17. Location map showing the following must accompany this application.

- o Township and range
- o Section numbers and corners
- o Scale of map in inches
- o Project location and general layout
- o Point of diversion and discharge
- o Place of use

18. Soils map(s) must accompany this application for suitability evaluation of the project. Indicate on the map the location of the project, point(s) of diversion, and point(s) of discharge.

19. Engineering data details must be submitted with this application:
    A. General layout plans for point of diversion structures
    B. Placement plans of pumping plant
    C. Control structures design and placement
    D. Typical cross-section for dikes
    E. Conveyance and delivery ditch designs
    F. Reservoir cross-section and capacities
    G. Structural tables
    H. Pipeline designs
    I. Yardage figures for land leveling and design grid
    J. Method of water use measurement
    K. Water availability and water quarter evaluation
    L. Construction schedule

Other information applicable to the project deemed necessary by the Conservation District may include but is not limited to:

a. Written leases and deeds
b. Water quality assessment

I declare under penalty of perjury and under the laws of the State of Montana that the information provided for this application is to the best of my knowledge true and correct. 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.

Richard Iversen Neil Iversen
Connie Iversen Amy Iversen
Applicant Printed Name — Date: 9/25/24

Applicant Name Signature — Date: 9/25/24

Consultant/Engineer Firm and Printed Contact Name — Date

Consultant/Engineer Firm and Contact Signature — Date

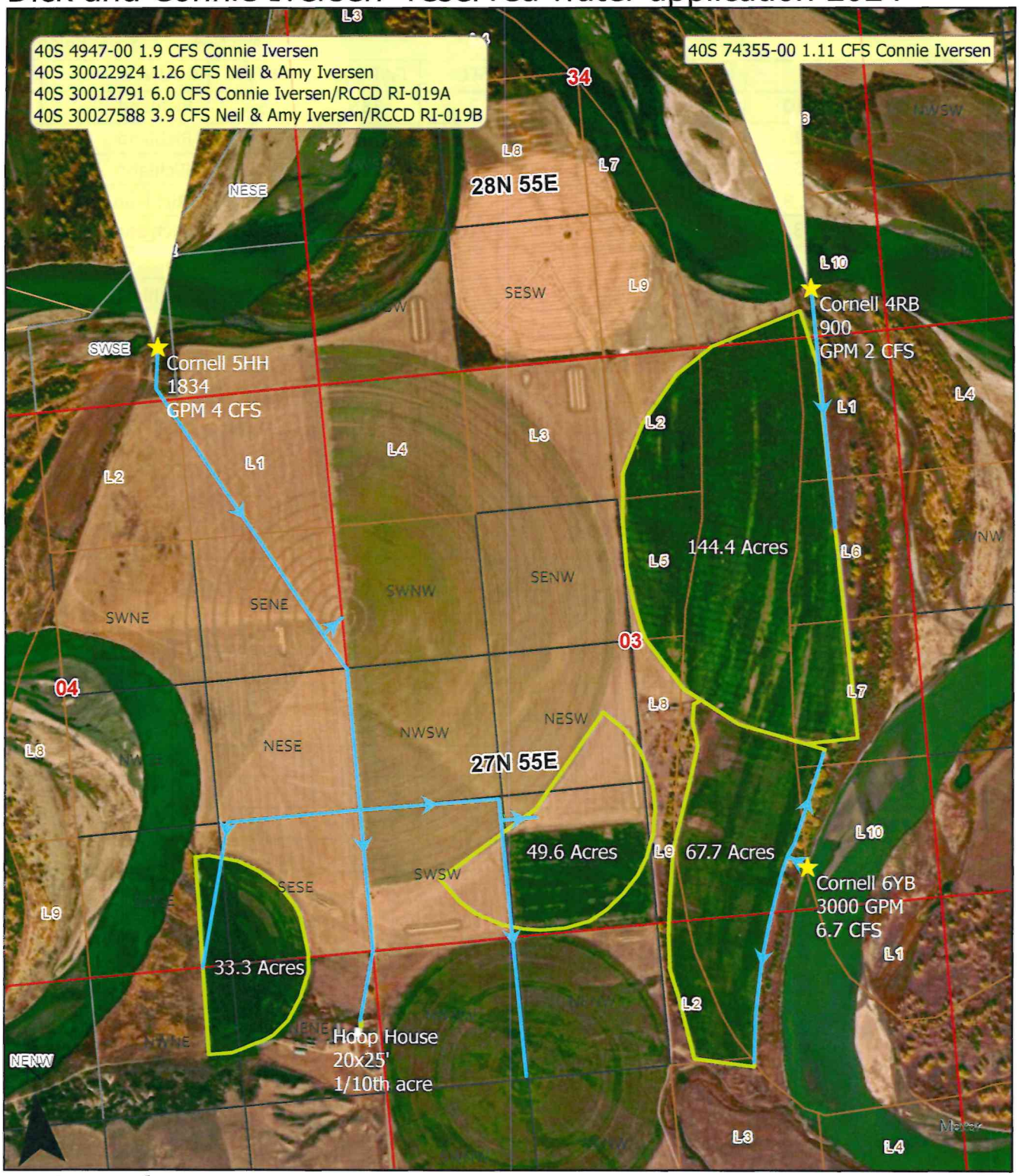
PLACE OF USE ADDENDUM

N = New S = Supplemental

	ACRES	LOT	¼	¼	¼	SEC	TWP N/S	RGE E/W	COUNTY	N/S
Pivot	2.6	9, 10	S2	S2	SE	34	28N	55E	Richland	S
Pivot	48.2	1, 2		N2	NE	3	27N	55E	Richland	S
Pivot	58.8	5, 6		S2	NE	3	27N	55E	Richland	S
44.4 Food 35.9 Pivots	80.3	7, 8, 9, 10			SE	3	27N	55E	Richland	S
Flood	23.3	2, 3		W2	NE	10	27N	55E	Richland	S
Pivot	8.2		S2	NE	SW	3	27N	55E	Richland	N
Pivot	40.3			S2	SW	3	27N	55E	Richland	N
Pivot	18.4			S2	SE	4	27N	55E	Richland	N
Pivot	14.9			N2	NE	9	27N	55E	Richland	N
Hoop-house	N/A		E2E2	NE	NE	9	27N	55E	Richland	N

TOTAL ACRES: 67.7 Flood + 227.3 Pivot = 295.0 Acres

Dick and Connie Iversen -reserved water application 2024



Legend

- Points of Diversion
- Pipelines
- Places of Use

CONSERVATION DISTRICT RESERVED WATER USE AUTHORIZATION
§85-2-316, MCA
Form No. 102 (Revised 02/2024)

When to use this form:
This form is for the issuance of a Reserved Water Use Authorization.

Conservation District Name: Richland County Conservation District

CD Water Reservation No: 40S L084500-00

Upon determination that the criteria for issuance of a reserved water use authorization have been met, this Authorization is hereby issued to:

1. Applicant Name: Connie and Richard Iversen; Neil and Amy Iversen (411 US HWY 2, Bainville, MT 59212-9654)
   Mailing Address: 13749 County Road 332 City Culbertson State MT Zip 59218-9411
   Phone Numbers: 406-433-2103 x 12 Cell 406-798-7770
   Email Address: rji@midrivers.com
2. Authorization Number: RI-037M Internal Priority Date: 9/24/2024 9am
3. Source of Water Supply: Missouri River
   A tributary of
4. Total Amount: 8.7 cfs up to 590.25 acre-ft per Anum
5. Period of Use: April 1 Month/Day to November 1 Month/Day
6. Point of Diversion:

	LOT	¼	¼	¼	SEC	TWP N/S	RGE E/W	COUNTY
1.	10	SE	SE	SE	34	28N	55E	Richland- NE half pivot
2.	10	SW	SE	SE	3	27N	55E	Richland- flood irrigation
3.		SE	SW	SE	33	28N	55E	Richland- SW half pivot & hoop house

7. Place of Use:

N = New S = Supplemental

ACRES	LOT	¼	¼	¼	SEC	TWP N/S	RGE E/W	COUNTY	N/S
SEE PG 4									

8. Means of Diversion: Pumps
9. Means of Flow Measurement: Electric usage and sprinkler package calculations, or water measuring device
10. Standard and Special Terms, Conditions, Restrictions, and Limitations:

STANDARD TERMS:

Completion:
The diversion and distribution work for this use shall be completed, and water shall be applied to a beneficial use as specified above, on or before November 14, 20 27, or within any authorized extension of time. The Notice of Completion of Water Development, Form 106, shall be filed on or before November 14, 20 27.

Compliance with Board and Conservation District Rules, Regulations, and Requirements:
Authorization is subject to the order, rules, regulations, and requirements governing the water reservation and the laws of the State of Montana. Further, this Authorization is subject to the administrative rules, regulations, and procedures adopted by the Conservation District governing the water reservations, which by the reference is made a condition of the Authorization.

Control:
The Conservation District has exclusive control over the reservation by the Board. The authorization holder receives no right, title, ownership, control, or interest in the water reservation.

Revocations:
Failure to comply with the provisions of the Authorization including submission of the annual water user report, may result in revocation of the Authorization.

Senior Rights:
This Authorization is subject to all prior existing water rights in the source of supply. Further, this Authorization is subject to any final determination of existing water rights, as provided by Montana law.

Transfer of Authorization:
Upon a change in ownership of all or any portion of land associated with this Authorization, the person receiving the interest shall file a Notice of Transfer of Reserved Water Use Authorization, Form 109, with the Conservation District.

Water Status Annual Report
Notify the Conservation District whether any water had been used under the authorization or not. Complete and submit Water User Annual Status Report, Form 103, by November 15 annually. If the infrastructure for the use of the water have not been completed, give details of progress toward completion and if an extension of time is required, fill out and submit Application for Extension of Time, Form 108, to the Conservation District.

SPECIAL TERMS:

This Authorization is subject to the type of water use measuring device or water use estimation technique required by the Conservation District. The water user shall maintain the measuring device, so it always operates properly and measures flow rate and volume accurately. The water user shall keep written records of the flow rate and volume of water used. Records shall be submitted by November 15 of each year and upon request at

other times during the year. Failure to submit the *Water Use Annual Status Report* (Form 103) may be cause for revocation of this Authorization. The annual status report must be sent to the Conservation District Office.

Note:
Applicant intends to withdraw provisional permit 40S 74355-00. This authorization is to replace it.

40S 74355-00
1.11 CFS
120 AF
60 acres irrigation in the NE Section 3, 27N 55E (supplemental place of use)
Priority date: 4/20/1990.

APPROVAL:

Shawn Conradsen — 11/14/2024
Chairman Printed Name — Date

Chairman Signature — 11-14-2024
Date

Julie Goss — 11/14/2024
District Administrator Printed Contact Name — Date

District Administrator Signature — 11-14-2024
Date

PLACE OF USE ADDENDUM

N = New S = Supplemental

	ACRES	LOT	¼	¼	¼	SEC	TWP N/S	RGE E/W	COUNTY	N/S
Pivot	2.6	9, 10	S2	S2	SE	34	28N	55E	Richland	S
Pivot	48.2	1, 2		N2	NE	3	27N	55E	Richland	S
Pivot	58.8	5, 6		S2	NE	3	27N	55E	Richland	S
44.4 Food 35.9 Pivots	80.3	7, 8, 9, 10			SE	3	27N	55E	Richland	S
Flood	23.3	2, 3		W2	NE	10	27N	55E	Richland	S
Pivot	8.2		S2	NE	SW	3	27N	55E	Richland	N
Pivot	40.3			S2	SW	3	27N	55E	Richland	N
Pivot	18.4			S2	SE	4	27N	55E	Richland	N
Pivot	14.9			N2	NE	9	27N	55E	Richland	N
Hoop-house	N/A		E2E2	NE	NE	9	27N	55E	Richland	N

PUBLIC NOTICE

Notice to Water Users

THE FOLLOWING APPLICATION HAS BEEN SUBMITTED FOR RESERVED WATER USE TO THE Richland County CONSERVATION DISTRICT.

Remarks:

- This notice is provided as a courtesy by the Conservation District. The project area may have been public notice under the original Conservation District Reservation Application.
- This application is to use a portion of the water reserved by the Conservation District. If issued, the Authorization will be subject to prior existing water rights.

Important Information:

- During the Public Notice of a new Reserved Water Use Authorization application, objections may be submitted for a 30-day period to the Conservation District using Objection to Application for Reserved Water Use Authorization, Form 107. Objections received outside this period will not be accepted or considered valid.

NAME:	Neil & Amy Iversen, Connie & Richard Iversen
APPLICATION NO:	RI-037M
DATE FILED:	9/20/2024
INTERNAL PRIORITY DATE:	7/1/1985
WATER SOURCE:	Missouri River
TOTAL AMOUNT:	590.25
PERIOD OF APPROPRIATION:	4/1/ to 11/1
DIVERSION POINT:	L10, SESESE SEC 34, 28N 55E; Richland Co., L10, SWSESE SEC3, 27N 55E Richland County; SESWSE SEC 33, 28N 55E Richland County
DIVERSION MEANS:	3 Pumps
USE:	Irrigation
PLACE OF USE:	See next page

ACRES	Quarter Section	Section	Township	Range	New/Supplemental
	Total Acres				

COMMENTS OR OBJECTIONS to the issuance of an authorization under this application must be received by the Richland County Conservation District, 2745 W Holly ST, Sidney, MT 59270 (address), 406-433-2103 (phone number) , on or before _____ (date). Objection forms are available from the Richland County Conservation District. The conservation district will review this application and any objections at their _____, (date) meeting at _____ (time), at the district office.

Assistance or questions regarding this application should be directed to the Richland County Conservation District, 2745 W Holly ST, Sidney,MT 59270 , (address), 406-433-2103 (phone number).

PUBLISHED IN THE Roundup Newspaper (publication name) on 10/9/2024 (date).

ACRES	LOT	¼	¼	¼	SEC	TWP N/S	RGE E/W	COUNTY
2.6	9, 10	S2	S2	SE	34	28N	55E	Richland
48.2	1, 2		N2	NE	3	27N	55E	Richland
58.8	5, 6		S2	NE	3	27N	55E	Richland
80.3	7, 8, 9, 10			SE	3	27N	55E	Richland
23.3	2, 3		W2	NE	10	27N	55E	Richland
8.2		S2	NE	SW	3	27N	55E	Richland
40.3			S2	SW	3	27N	55E	Richland
18.4			S2	SE	4	27N	55E	Richland
14.9			N2	NE	9	27N	55E	Richland
N/A		E2E2	NE	NE	9	27N	55E	Richland

AFFIDAVIT OF PUBLICATION

Linda Wells, being first duly sworn, deposes and says that she is the agent to the Publisher of The Roundup Newspaper printed and published one day a week in the City of Sidney, County of Richland, State of Montana. That the notice, a copy of which is hereto attached and submitted by:

Richland County Conservation District
Julie Goss, Administrator
2745 West Holly Street
Sidney, MT 59270

was printed and published in the regular and entire issue of said The Roundup, 111 West Main, Sidney, MT 59270, 406-433-3306 for
1 issue(s), that said publication was made on each of the following dates to with:
October 9, 2024
It was also published in said paper
_____, 2024
It was also published in said paper
_____, 2024
It was also published in said paper
_____, 2024

Linda Wells

State of Montana)
ss
County of Richland)

Subscribed and sworn to before me this
9th day of October, 2024.

Debbie Schieffer
Notary Public for the State of Montana

DEBBIE SCHIEFFER
NOTARY PUBLIC for the
State of Montana
Residing at Sidney, Montana
My Commission Expires
May 15, 2025

PUBLIC NOTICE
Notice to Water Users

THE FOLLOWING APPLICATION HAS BEEN SUBMITTED FOR RESERVED WATER USE TO THE **RICHLAND COUNTY CONSERVAITON DISTRICT.**

Remarks

Important Information:

• During the Public Notice of a new Reserved Water Use Authorization application, objections may be submitted for a 30-day period to the Conservation District using Objection to Application for Reserved Water Use Authorization, Form 107. Objections received outside this period will not be accepted or considered valid.

NAME: Neil & Amy Iversen, Connie & Richard Iversen
APPLICATION NO: RI-037M
DATE FILED: 9/20/2024
INTERNAL PRIORITY DATE: 7/1/1985
WATER SOURCE: Missouri River
TOTAL AMOUNT: 590.25 Acre Feet
PERIOD OF APPROPRIATION: 4/1 to 11/1
DIVERSION POINT: L10, SESESE SEC 34, 28N 55E; Richland Co., L10, SWSESE SEC3, 27N 55E
Richland County; SESWSE SEC 33, 28N 55E Richland County
DIVERSION MEANS: 3 Pumps
USE: Irrigation
PLACE OF USE: 295 acres in SE Sec 34, 28N, 55E; Sec 3, SE Sec 4, NE Sec 9, NE Sec 10 27N, 55E

COMMENTS OR OBJECTIONS to the issuance of an authorization under this application must be received by the Richland County Conservation District 2745 W Holly ST, Sidney, MT 59270, 406-433-2103 x 3 on or Before November 12, 2024. Objection forms are available from the Richland County Conservation District.

The Conservation District will review this application and any objections at their November 14, 2024, (date) meeting at 4:00 PM (time), at the district office.

Assistance or questions regarding this application should be directed to the Richland County Conservation District, 2745 W Holly ST, Sidney, MT 59270, 406-433-2103.

PUBLISHED IN THE Roundup (publication name) on October 9, 2024 (date).

MNAXLP
(Publish October 9, 2024)

CERTIFICATE OF SERVICE – MISSOURI

This certifies a true and correct copy of the public notice for the Conservation District Reserved Water Use Application number RI-037M was served upon all individuals listed below. Notices were served as specified or by first class mail at the addresses shown.

Conservation District Administrator — Date: 10-7-2024

MT Department of Environmental Quality DEQ Headquarters ATTN: Water Quality Division 1520 East Sixth Avenue Helena, MT 59601	Bureau of Indian Affairs Rocky Mountain Regional Office ATTN: Water Rights and Resources 2021 4th Avenue North Billings, MT 59101
US Fish & Wildlife Service Montana Fish and Wildlife Conservation Office 4052 Bridger Canyon Road Bozeman, MT 59715	Bureau of Reclamation Montana Area Office PO Box 30137 Billings, MT 59107-0137
MT Department of Fish, Wildlife and Parks ATTN: Fisheries Division 1420 East Sixth Avenue PO Box 200701 Helena, MT 59620-0701	US Department of the Interior Billings Field Office ATTN: Office of the Solicitor 2021 4th Avenue North, Suite 112 Billings, MT 59101-1405
MT Department of Fish, Wildlife and Parks Region 6 ATTN: Fisheries Division 1 Airport Road Glasgow, MT 59230	Fort Peck Tribes ATTN: Water Resources Office PO Box 1027 Poplar, MT 59255
MT Department of Natural Resources and Conservation Glasgow Regional Office PO Box 1269 Glasgow, MT 59230-1269	Roosevelt County Conservation District 508 6th St. E. PO Box 517 Culbertson, MT 59218
Montana-Dakota Utilities Co 5181 Southgate Dr. Billings, MT 59101	Richland County Conservation District 2745 West Holly ST Sidney, MT 59270
US Army Corps of Engineers 301 E Kansas ST Fort Peck, MT 59223	Richard and Connie Iversen Neil and Amy Iversen 13749 County Road 332 Culbertson MT 59218-9411

INDIVIDUAL NOTICES – sent to all water right owners in the notice area (list names and addresses)	
BERNIE FINNICUM; PAUL FINNICUM PO BOX 270 CULBERTSON, MT 59218	HARDY INVESTMENTS LP 13265 HWY 200 FAIRVIEW, MT 59221-9447
BNSF RAILWAY CO 2650 LOU MENK DR # MOB-2 FORT WORTH, TX 76131-2830	KAREN K BAXTER PO BOX 141 CULBERTSON, MT 59218
BRAD TVEIT; LESLIE TVEIT; MEGAN TVEIT; NOLAN TVEIT 13854 HIGHWAY 16 FAIRVIEW, MT 59221-9428	SANDHILL RED ANGUS, LLC 5175 ROAD 1026 FROID, MT 59226-9025
LAURA J CALDWELL IRREVOCABLE TRUST PO BOX 733 CULBERTSON, MT 59218-0733	BRIAN GUSTAFSON 14747 COUNTY RD 335 CULBERTSON, MT 59218
CL-JLG LLC PO BOX 48 CULBERTSON, MT 59218	JOANN GUSTAFSON 5564 135TH AVE NW WILLISTON, ND 58801-8903
MICHAEL D IVERSEN & DONALD B IVERSEN PO BOX 383 FAIRVIEW, MT 59221-0383	KENNETH GUSTAFSON 1381 N CORTEZ RD APACHE JUNCTION, AZ 85119
GOBBS PHEASANT RIDGE RANCH LLC 819 HWY 12 E TOWNSEND, MT 59644	VICTOR GUSTAFSON 424 3RD ST NE SIDNEY, MT 59270
MONTANA STATE BOARD OF LAND COMMISSIONERS TRUST LAND MANAGEMENT DIVISION PO BOX 201601 HELENA, MT 59620-1601	

STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O. BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 40S 30164956 CONSERVATION DISTRICT RECORD **CD Number:** RI-037M

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Owners:

AMY K IVERSEN
411 US HIGHWAY 2
BAINVILLE, MT 59212-9654

CONSTANCE C IVERSEN
13749 COUNTY RD 332
CULBERTSON, MT 59218-9411

NEIL J IVERSEN
411 US HWY 2
BAINVILLE, MT 59212

RICHARD J IVERSEN
13749 COUNTY RD 332
CULBERTSON, MT 59218-9411

RICHLAND COUNTY CONSERVATION DISTRICT
2745 W HOLLY ST
SIDNEY, MT 59270

Priority Date: JULY 1, 1985 at 08:00 A.M.

Enforceable Priority Date: JULY 1, 1985 at 08:00 A.M.

Internal Priority Date: SEPTEMBER 24, 2024 AT 09:00 A.M.

Purpose (Use): IRRIGATION

Maximum Flow Rate: 8.70 CFS

Maximum Volume:

Maximum Acres: 295.00

Source Name: MISSOURI RIVER

Source Type: SURFACE WATER

Point of Diversion and Means of Diversion:

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	10	SWSESE	3	27N	55E	RICHLAND
Period of Diversion:	APRIL 1 TO NOVEMBER 1					
Diversion Means:	PUMP					
2		SESWSE	33	28N	55E	RICHLAND
Period of Diversion:	APRIL 1 TO NOVEMBER 1					
Diversion Means:	PUMP					
3	10	SESESE	34	28N	55E	RICHLAND
Period of Diversion:	APRIL 1 TO NOVEMBER 1					

Diversion Means: PUMP

Purpose (Use): IRRIGATION

Irrigation Type: MULTIPLE METHODS

Climatic Area: 2 - MODERATELY HIGH

Volume:

Perfected Flow Rate:

Perfected Volume:

Period of Use:

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	48.20		N2NE	3	27N	55E	RICHLAND
2	58.80		S2NE	3	27N	55E	RICHLAND
3	80.30		SE	3	27N	55E	RICHLAND
4	8.20		S2NESW	3	27N	55E	RICHLAND
5	40.30		S2SW	3	27N	55E	RICHLAND
6	18.40		S2SE	4	27N	55E	RICHLAND
7	14.90		N2NE	9	27N	55E	RICHLAND
8			E2E2NENE	9	27N	55E	RICHLAND
9	23.30		W2NE	10	27N	55E	RICHLAND
10	2.60		S2S2SE	34	28N	55E	RICHLAND
Total:	295.00						

Geocodes/Valid: -- NO VALID GEOCODES --

Remarks:

ASSOCIATED RIGHT

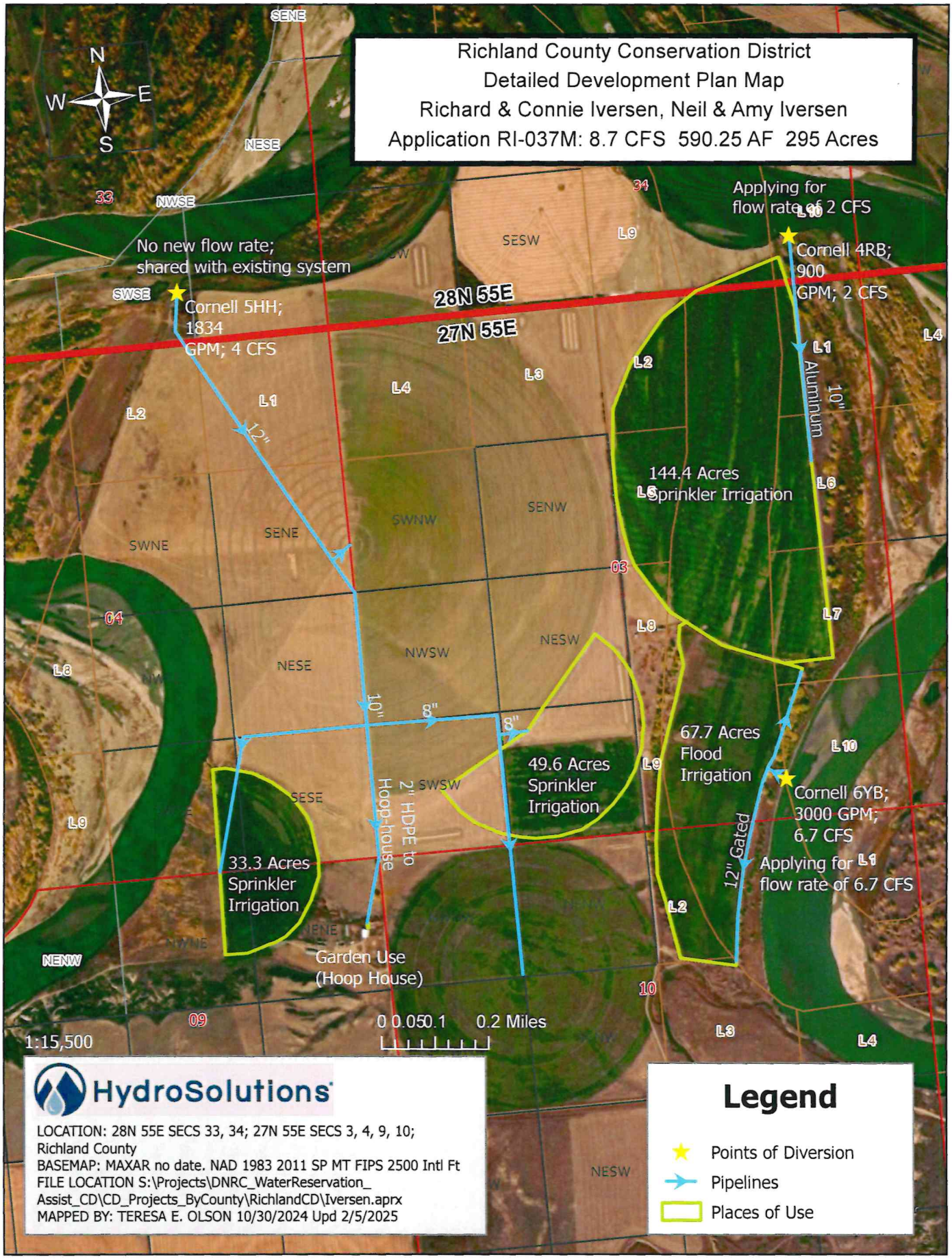
SHARED DIVERSION IN NW: 40S 4947-00, 40S 30012791, 40S 30022924, 40S 30027588. 40S 74355-00 (SHARED DIVERSION NE AND SUPPLEMENTAL ACRES. CLAIMANT WILL WITHDRAW; THIS IS JUNIOR TO RESERVED WATER AUTHORIZATION 1990 V. 1985) LIMIT OF COMBINED RIGHTS: 13CFS, 1268.4 AF ON 634 ACRES (2AF/ACRE)

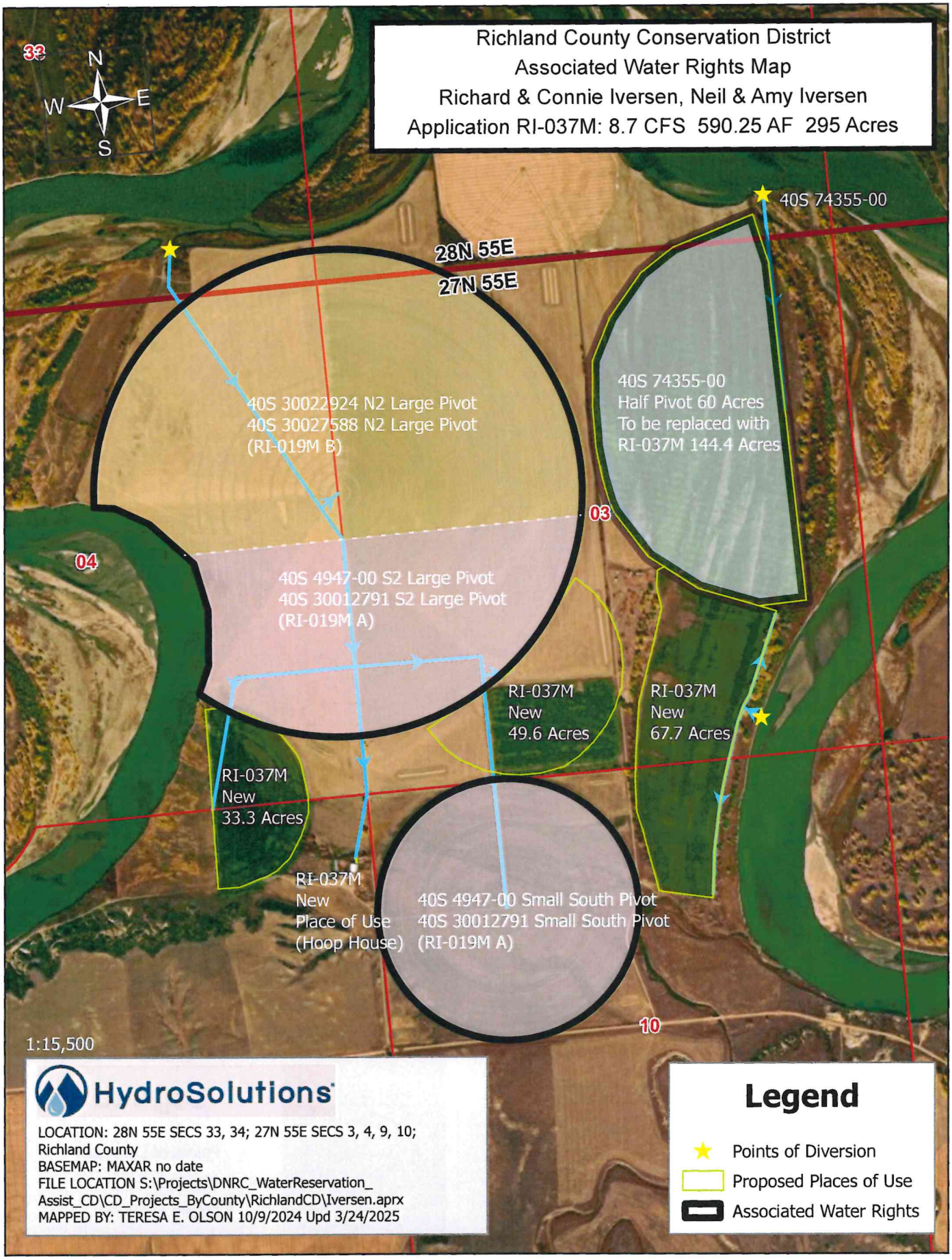
CONSERVATION DISTRICT REMARK

APPLICANT INTENDS TO WITHDRAW PROVISIONAL PERMIT 40S 74355-00. THIS AUTHORIZATION IS TO REPLACE IT.

CONSERVATION DISTRICT WATER MEASUREMENT

METHOD OF WATER USE MEASUREMENT WILL BE BY FLOWMETER. THE MEASUREMENT OF WATER USED WILL BE RECORDED AND REPORTED TO THE CONSERVATION DISTRICT ANNUALLY BY NOVEMBER 15.


Richland County Conservation District
Detailed Development Plan Map
Richard & Connie Iversen, Neil & Amy Iversen
Application RI-037M: 8.7 CFS 590.25 AF 295 Acres
N
W
E
S
SENE
NESE
NWSE
SWSE
SESW
SWNW
SENW
SWNE
SENE
NESW
NWSW
SESE
SWSW
NENE
NENW
33
34
03
04
09
10
28N 55E
27N 55E
No new flow rate; shared with existing system
Cornell 5HH; 1834 GPM; 4 CFS
Applying for flow rate of 2 CFS
Cornell 4RB; 900 GPM; 2 CFS
Aluminum
10"
12"
8"
144.4 Acres Sprinkler Irrigation
67.7 Acres Flood Irrigation
49.6 Acres Sprinkler Irrigation
33.3 Acres Sprinkler Irrigation
2" HDPE to Hoop-house
12" Gated
Cornell 6YB; 3000 GPM; 6.7 CFS
Applying for flow rate of 6.7 CFS
Garden Use (Hoop House)
L1
L2
L3
L4
L6
L7
L8
L9
L10
0 0.05 0.1 0.2 Miles
1:15,500
HydroSolutions
LOCATION: 28N 55E SECS 33, 34; 27N 55E SECS 3, 4, 9, 10; Richland County
BASEMAP: MAXAR no date. NAD 1983 2011 SP MT FIPS 2500 Intl Ft
FILE LOCATION S:\Projects\DNRC_WaterReservation_Assist_CD\CD_Projects_ByCounty\RichlandCD\Iversen.aprx
MAPPED BY: TERESA E. OLSON 10/30/2024 Upd 2/5/2025
Legend
Points of Diversion
Pipelines
Places of Use


Richland County Conservation District
Associated Water Rights Map
Richard & Connie Iversen, Neil & Amy Iversen
Application RI-037M: 8.7 CFS 590.25 AF 295 Acres
N
W
E
S
33
28N 55E
27N 55E
40S 74355-00
40S 30022924 N2 Large Pivot
40S 30027588 N2 Large Pivot
(RI-019M B)
40S 74355-00
Half Pivot 60 Acres
To be replaced with
RI-037M 144.4 Acres
03
04
40S 4947-00 S2 Large Pivot
40S 30012791 S2 Large Pivot
(RI-019M A)
RI-037M
New
49.6 Acres
RI-037M
New
67.7 Acres
RI-037M
New
33.3 Acres
RI-037M
New
Place of Use
(Hoop House)
40S 4947-00 Small South Pivot
40S 30012791 Small South Pivot
(RI-019M A)
10
1:15,500
HydroSolutions
LOCATION: 28N 55E SECS 33, 34; 27N 55E SECS 3, 4, 9, 10;
Richland County
BASEMAP: MAXAR no date
FILE LOCATION S:\Projects\DNRC_WaterReservation_
Assist_CD\CD_Projects_ByCounty\RichlandCD\Iversen.aprx
MAPPED BY: TERESA E. OLSON 10/9/2024 Upd 3/24/2025
Legend
Points of Diversion
Proposed Places of Use
Associated Water Rights

Richland County Conservation District
Operations Diagram
Richard & Connie Iversen, Neil & Amy Iversen
Application RI-037M: 8.7 CFS 590.25 AF 295 Acres

N
W E
S

Information provided but no new flow rate requested from this diversion. The flow is shared with supplemental rights.

A variable flow drive panel (Variable Frequency Drive or VFD) is used to manage water flow and pressure. New half pivots will operate one at a time while also irrigating the existing large center pivot. Hoop house will be turned on at the place of use as needed for gardening purposes.

33

34

Half pivot will be run independently based on water/crop needs.

Cornell 4RB; 900 GPM; 2 CFS

10" Aluminum

Cornell 5HH; 1834 GPM; 4 CFS

12"

144.4 Acres Sprinkler Irrigation

All half pivots (sprinkler irrigation) have Nelson irrigation Corp. pivot sprinklers with 10# pressure regulator.

03

04

Flood irrigation from gated pipe. Gates opened/closed manually, 1 section at a time based on location, 8 days on, couple weeks off based on crop demands.

10"

8"

8"

67.7 Acres Flood Irrigation

Cornell 6YB; 3000 GPM; 6.7 CFS

49.6 Acres Sprinkler Irrigation

2" HDPE to Hoop-house

12" Gated

33.3 Acres Sprinkler Irrigation

Hoop House 20'x30' funded through the NRCS High Tunnel Initiative

10

09

1:15,000

HydroSolutions

LOCATION: 28N 55E SECS 33, 34; 27N 55E SECS 3, 4, 9, 10; Richland County
BASEMAP: MAXAR no date
FILE LOCATION S:\Projects\DNRC_WaterReservation_Assist_CD\CD_Projects_ByCounty\RichlandCD\Iversen.aprx
MAPPED BY: TERESA E. OLSON 12/16/2024 upd. 1/3/2025

Legend

- Points of Diversion
- Pipelines
- Places of Use

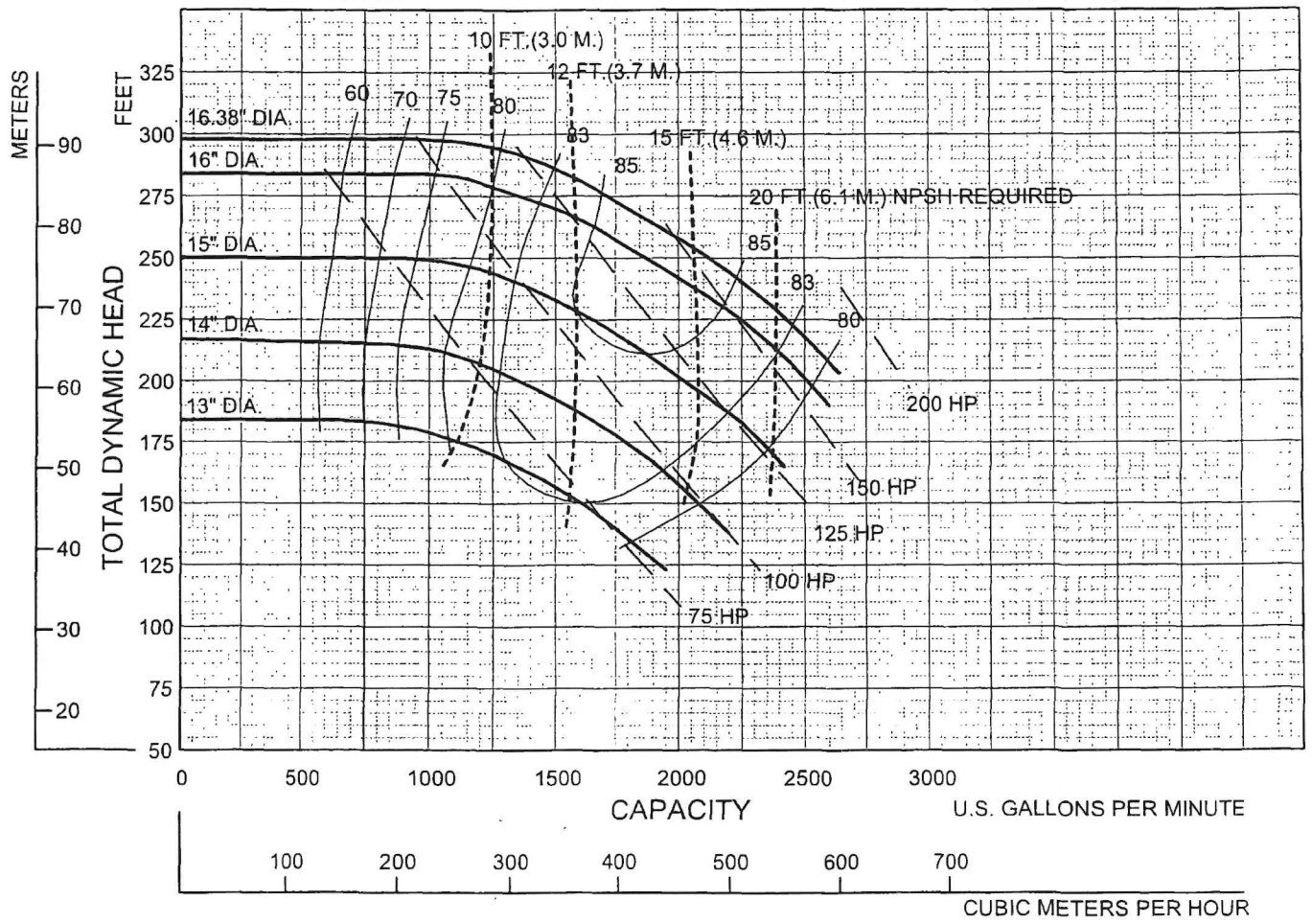
NEW PAGE

Feet x .305 = Meters
Inches x 25 4 = Millimeters
GPM x .227 = Cubic Meters/Hour
GPM x 3.785 = Liters/Minute
HP x .746 = KW

Speed	Impeller Dia.	Style	Solids Dia.	N_S	Suction	Discharge	No. vanes
1785	VARIOUS	ENCLOSED	1.0"	1197	8"	5"	6

DOUBLE VOLUTE

MOUNTING CONFIG.: CC, VM, F, VF, EM, VC



Performances shown are for cool water, close-coupled electric configuration with packing. Other mounting styles or liquids may require horsepower and/or performance adjustments.

6/99

5HH18

CORNELL
Efficient by Design

Cornell Pump Company • Portland, Oregon

5HH - 1800 RPM

Pump Data Sheet - Cornell

Company: Agri Industries, Inc
Name: Richard Iversen
Date: 01/09/2024

67.7 ACRES FLOOD IRRIGATION

Pump:

Size:	6YB	Dimensions:	
Type:	Clear Liquids	Suction:	10 in
Synch Speed:	1800 rpm	Discharge:	6 in
Line:	10.50" x 13°		
Curve:	6YB18		

Fluid:

Name:	Water		
SG:	1	Vapor Pressure:	0.256 psi a
Density:	62.4 lb/ft³	Atm Pressure:	14.7 psi a
Viscosity:	1.1 cP		
Temperature:	60 °F	Margin Ratio:	1

Search Criteria:

Flow:	---	Near Miss:	---
Head:	---	Static Head:	0 ft

Pump Limits:

Temperature:	250 °F	Sphere Size:	0.75 in
Wkg Pressure:	175 psi 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 ---

Flow:	2245 US gpm
Head:	72.1 ft
Eff:	86%
Power:	47.6 hp
NPSHr:	12.3 ft
Speed:	1775 rpm

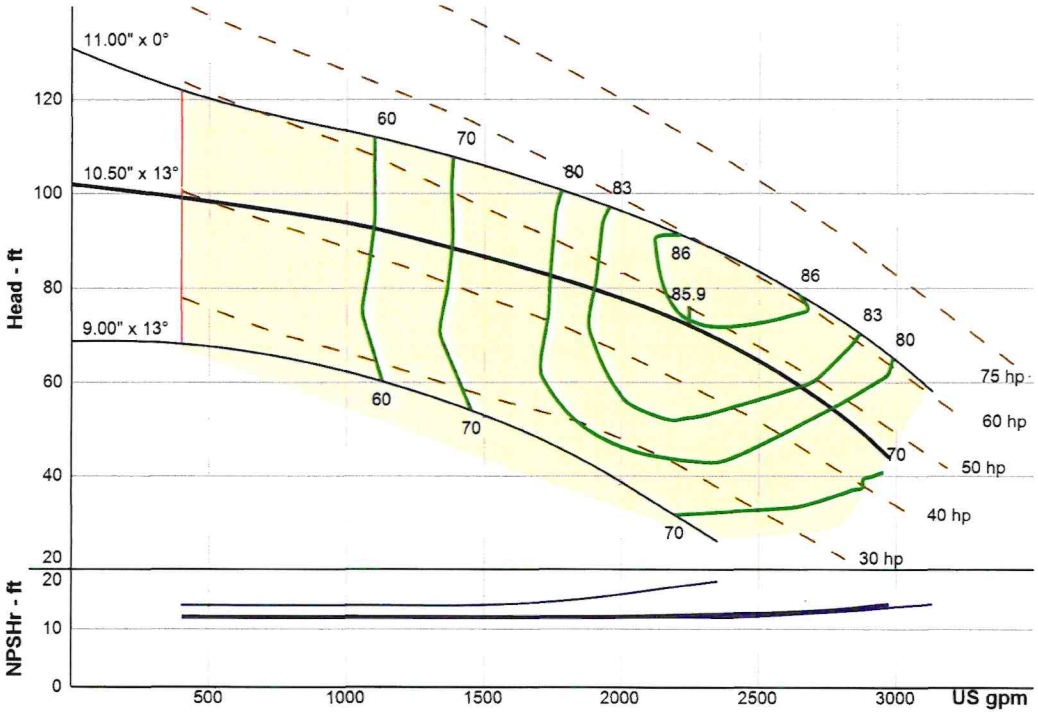
--- Design Curve ---

Shutoff Head:	102 ft
Shutoff dP:	44.2 psi
Min Flow:	400 US gpm

BEP: 85.9% @ 2245 US gpm
NOL Power:
47.7 hp @ 2650 US gpm

--- Max Curve ---

Max Power:
61.4 hp @ 2985 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.

Performance Evaluation:

Flow	Speed	Head	Efficiency	Power	NPSHr
US gpm	rpm	ft	%	hp	ft
2854	1775	50	77	46.8	13.6
2378	1775	67.8	85	47.6	12.5
1902	1775	79.7	83	46.1	12
1427	1775	87.8	71	44.3	12
951	1775	94.2	53	42.1	12

Pump Data Sheet - Cornell

Company: Agri Industries, Inc
Name: Richard Iversen
Date: 01/09/2024

144.4 ACRE HALF PIVOT

CORNELL

Pump:

Size:	4RB	Dimensions:	
Type:	Clear Liquids	Suction:	6 in
Synch Speed:	1800 rpm	Discharge:	4 in
Dia:	12.75 in		
Curve:	4RB18		

Fluid:

Name:	Water		
SG:	1	Vapor Pressure:	0.256 psi a
Density:	62.4 lb/ft³	Atm Pressure:	14.7 psi a
Viscosity:	1.1 cP		
Temperature:	60 °F	Margin Ratio:	1

Search Criteria:

Flow:	---	Near Miss:	---
Head:	---	Static Head:	0 ft

Pump Limits:

Temperature:	250 °F	Sphere Size:	0.84 in
Wkg Pressure:	175 psi 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 ---

Flow:	1029 US gpm
Head:	148 ft
Eff:	86%
Power:	45 hp
NPSHr:	13.7 ft
Speed:	1775 rpm

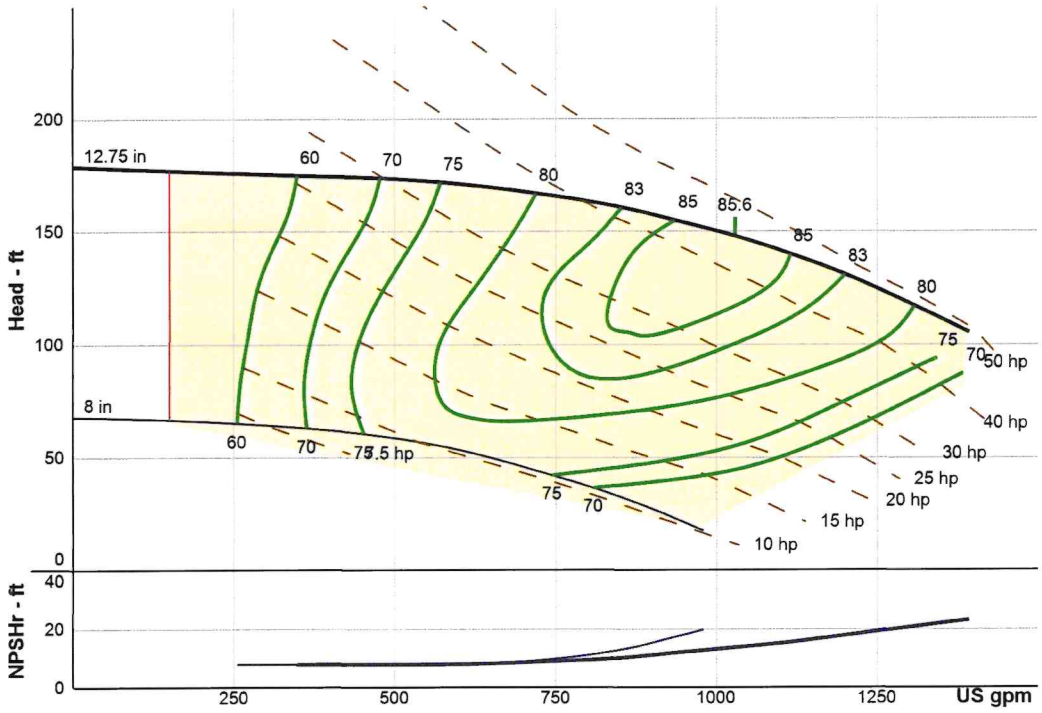
--- Design Curve ---

Shutoff Head:	179 ft
Shutoff dP:	77.5 psi
Min Flow:	150 US gpm

BEP: 85.6% @ 1029 US gpm
NOL Power:
49.1 hp @ 1393 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.

Performance Evaluation:

Flow	Speed	Head	Efficiency	Power	NPSHr
US gpm	rpm	ft	%	hp	ft
1337	1775	113	78	48.6	21.6
1114	1775	140	85	46.4	15.5
891	1775	158	84	42.4	11
668	1775	169	78	36.3	8.55
446	1775	174	68	28.9	8

33.3 ACRES HALF PIVOT

VALLEY | V-CHART

Valley Dealer

AGRI INDUSTRIES - WILLISTON
3105 2nd St W
PO Box 1166
Williston, ND 58801
United States

Customer

Agri Industries
411 US Highway 2
Bainville, MT 59212-9654
US

Dealer No.

00000337

Field Name

MEM - N Iversen - P3(SPRP - 6000)V1

Parent Order No. 15076108
Sprinkler Order No. 15076449

Plant VALLEY SHIPPING

Dealer PO 0009811
Order Date 05/03/2023
Load Date 05/10/2023
Method Of Shipment W/SYS (15076108)

7 Span Valley Standard Pivot 8000
Machine Flow 328 (GPM)
Pivot Pressure 19 (PSI)

33.3 ACRES HALF PIVOT

Parent Order No 15076108

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Summary

Span and Overhang

Model	Qty	Length (ft)	Pipe O.D. (in)	Coupler Spacing (in)	D. U. Qty	Profile	Tire
PRE 6000	5	126.5	8	126 (Variable)	12	Standard	11.2 x 24 New
PRE 6000	2	160.0	6 5/8	126 (Variable)	16	Standard	11.2 x 24 New

Field Area

47.3 (Ac) Total
40.1 (Ac) Pivot 220°
7.3 (Ac) EG on 100%
953.5 (ft) Machine Length
82.8 (ft) End Gun Radius

Flow

328 (GPM)
6.93 (GPM per Acre)
0.37 (in per day) App Rate
0.135 (in) App Depth @ 100%
51.7 (GPM) End Gun

Messages

Caution:
None

Dealer:
None

Pressure

19 (PSI) Pivot Pressure
Calculated Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @60 Hz freq.
11.2 x 24 New Tire
52:1 Wheel GB Ratio, LRDU Dist 953.5 (ft)
8.8 Hrs/220° @ 100% 6.92 (Ft per Min)
14.4 Hrs/360° @ 100%

Sprinkler -- Computer Spacing

Sprinkler Configuration	Range (ft)
Valley U-Pipe 6(in) Galvanized 3/4 M NPT x 3/4 M Hose	All
Blue Premium Hose Drop Variable Length 60(in) Ground Clr	
Nelson Regulator Blue Acme 15(PSI) 3/4 F NPT	
Valley Slip Weight 26(in) 2(lb) Poly	
Nelson R3030 D6 - Red 3/4 F Acme	

376.01 (ft) Total Drop Hose Length

33.3 ACRES HALF PIVOT

Parent Order No 15076108

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Summary

Pressure Loss

Pipe Length (ft)	Pipe I.D. (in)	Pipe Finish	C-Factor	Loss (PSI)
634.0	7.78	Galvanized	150	0.1
319.5	6.41	Galvanized	150	0.2
			Total =	0.3

End Gun(s) & Booster Pump Information

Primary End Gun

Nelson SR100 End Gun

0.5 Nozzle

Berkeley 2 HP Booster Pump

Span Flow

Span Number	Irrigated Length (ft)	Area (Ac)	Rqd (GPM)	Act (GPM)	Rqd (GPM per Acre)	Act (GPM per Acre)	% Deviation
1	126.8	0.7	5.0	7.1	6.88	9.87	43.4
2	126.5	2.1	14.7	14.6	6.88	6.86	-0.3
3	126.5	3.5	24.4	24.4	6.88	6.90	0.2
4	126.5	5.0	34.1	34.2	6.88	6.90	0.3
5	126.5	6.4	43.8	43.7	6.88	6.86	-0.2
6	159.9	10.1	69.2	69.1	6.88	6.87	-0.2
7	159.7	12.3	84.6	84.6	6.88	6.88	0.0
EG	82.8	7.3	50.3	51.7	6.93	7.12	2.8
Totals		47.4		329.4			
	Drain Sprinkler		0	0			
	Total Machine Flow			329.4			

Advanced Options

```
Last Sprinkler Coverage = 1 ft
Sprinkler Coverage Length = 954.5 ft
Use Last Coupler= YES
Minimum Mainline Pressure = 6 PSI
```

Shipping Options

```
Ship Drop Hardware
Ship Endgun Nozzle
Ship Endgun & Hardware
Do not ship Endgun Valve / Nozzle Valve Hardware
Do not ship Boosterpump Hardware
```

33.3 ACRES HALF PIVOT

Parent Order No 15076108

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
1	7.9			Gauge						19.0			
2	18.4			Plug									
	Sprinkler : Nelson Rotator R3030												
3	28.9	1		14	Lime	R3030	D6 - Red	97	Blue Acme 15L	18.9	16.4	0.5	1.4
4	39.4			Plug									
5	49.9	2	21.0	14	Lime	R3030	D6 - Red	99	Blue Acme 15L	18.8	16.3	0.6	1.3
6	60.3			Plug									
7	70.8	3	21.0	14	Lime	R3030	D6 - Red	98	Blue Acme 15L	18.8	16.2	0.9	1.3
8	81.3			Plug									
9	91.8	4	21.0	14	Lime	R3030	D6 - Red	95	Blue Acme 15L	18.9	16.2	1.2	1.3
10	102.3			Plug									
11	112.8	5	21.0	14	Lime	R3030	D6 - Red	89	Blue Acme 15L	19.1	16.1	1.4	1.3
12	123.3			Plug									
	127.8		Tower Number : 1	Span Length(ft) : 126.8									
13	133.4	6	20.6	16	Lavender	R3030	D6 - Red	86	Blue Acme 15L	19.2	16.0	1.7	1.8
14	143.9			Plug									
15	154.4	7	21.0	17	Lavender/Notch	R3030	D6 - Red	91	Blue Acme 15L	19.0	15.9	2.0	2.0
16	164.9			Plug									
17	175.4	8	21.0	18	Gray	R3030	D6 - Red	94	Blue Acme 15L	18.9	15.9	2.2	2.2
18	185.9			Plug									
19	196.4	9	21.0	19	Gray/Notch	R3030	D6 - Red	94	Blue Acme 15L	18.8	15.8	2.5	2.5
20	206.9			Plug									
21	217.4	10	21.0	20	Turquoise	R3030	D6 - Red	93	Blue Acme 15L	18.9	15.7	2.8	2.7
22	227.9			Plug									
23	238.4	11	21.0	21	Turq/Notch	R3030	D6 - Red	89	Blue Acme 15L	19.0	15.6	3.1	3.0
24	248.9			Plug									
	254.4		Tower Number : 2	Span Length(ft) : 126.5									
25	259.9	12	21.5	23	Yellow/Notch	R3030	D6 - Red	86	Blue Acme 15L	19.1	15.5	3.4	3.6
26	270.4			Plug									
27	280.9	13	21.0	23	Yellow/Notch	R3030	D6 - Red	91	Blue Acme 15L	18.9	15.5	3.6	3.6

Parent Order No 15076108

33.3 ACRES HALF PIVOT

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
28	291.4			Plug									
29	301.9	14	21.0	24	Red	R3030	D6 - Red	94	Blue Acme 15L	18.8	15.4	3.8	3.9
30	312.4			Plug									
31	322.9	15	21.0	24	Red	R3030	D6 - Red	94	Blue Acme 15L	18.7	15.3	4.1	3.9
32	333.4			Plug									
33	343.9	16	21.0	26	White	R3030	D6 - Red	93	Blue Acme 15L	18.8	15.3	4.4	4.6
34	354.4			Plug									
35	364.9	17	21.0	26	White	R3030	D6 - Red	89	Blue Acme 15L	18.9	15.3	4.7	4.6
36	375.4			Plug									
	380.9		Tower Number : 3		Span Length(ft) : 126.5								
37	386.5	18	21.5	27	White/Notch	R3030	D6 - Red	86	Blue Acme 15L	19.0	15.3	5.0	4.9
38	397.0			Plug									
39	407.5	19	21.0	28	Blue	R3030	D6 - Red	91	Blue Acme 15L	18.8	15.2	5.2	5.3
40	418.0			Plug									
41	428.5	20	21.0	28	Blue	R3030	D6 - Red	94	Blue Acme 15L	18.7	15.2	5.5	5.3
42	439.0			Plug									
43	449.5	21	21.0	29	Blue/Notch	R3030	D6 - Red	94	Blue Acme 15L	18.6	15.2	5.7	5.7
44	460.0			Plug									
45	470.5	22	21.0	30	Dark Brown	R3030	D6 - Red	93	Blue Acme 15L	18.7	15.2	6.0	6.1
46	481.0			Plug									
47	491.5	23	21.0	31	Dk Brown/Notch	R3030	D6 - Red	89	Blue Acme 15L	18.8	15.1	6.3	6.4
48	502.0			Plug									
	507.4		Tower Number : 4		Span Length(ft) : 126.5								
49	513.0	24	21.5	31	Dk Brown/Notch	R3030	D6 - Red	86	Blue Acme 15L	18.9	15.1	6.6	6.4
50	523.5			Plug									
51	534.0	25	21.0	32	Orange	R3030	D6 - Red	91	Blue Acme 15L	18.7	15.1	6.8	6.9
52	544.5			Plug									
53	555.0	26	21.0	32	Orange	R3030	D6 - Red	94	Blue Acme 15L	18.6	15.1	7.1	6.9
54	565.5			Plug									
55	576.0	27	21.0	33	Orange/Notch	R3030	D6 - Red	94	Blue Acme 15L	18.6	15.1	7.3	7.4
56	586.5			Plug									
57	597.0	28	21.0	34	Dark Green	R3030	D6 - Red	93	Blue Acme 15L	18.6	15.0	7.6	7.8
58	607.5			Plug									

33.3 ACRES HALF PIVOT

Parent Order No 15076108 | Dealer AGRI INDUSTRIES - WILLISTON | Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
59	618.0	29	21.0	34	Dark Green	R3030	D6 - Red	89	Blue Acme 15L	18.8	15.0	8.0	7.8
60	628.5			Plug									
	634.0		Tower Number : 5	Span Length(ft) : 126.5									
61	639.6	30	21.6	35	Dk Green/Notch	R3030	D6 - Red	87	Blue Acme 15L	18.8	15.0	8.2	8.2
62	650.0			Plug									
63	660.4	31	20.9	35	Dk Green/Notch	R3030	D6 - Red	95	Blue Acme 15L	18.5	15.0	8.2	8.2
64	670.9			Plug									
65	680.5	32	20.0	35	Dk Green/Notch	R3030	D6 - Red	101	Blue Acme 15L	18.3	15.0	8.1	8.2
66	690.0			Plug									
67	699.6	33	19.2	35	Dk Green/Notch	R3030	D6 - Red	104	Blue Acme 15L	18.2	15.0	8.1	8.2
68	709.2			Plug									
69	718.8	34	19.2	35	Dk Green/Notch	R3030	D6 - Red	104	Blue Acme 15L	18.1	15.0	8.4	8.2
70	728.4			Plug									
71	737.9	35	19.2	36	Purple	R3030	D6 - Red	102	Blue Acme 15L	18.2	14.9	8.6	8.6
72	747.5			Plug									
73	757.1	36	19.2	37	Purple/Notch	R3030	D6 - Red	98	Blue Acme 15L	18.3	14.9	9.2	9.2
74	767.5			Plug									
75	778.1	37	21.0	38	Black	R3030	D6 - Red	91	Blue Acme 15L	18.6	14.8	10.0	9.7
76	788.4			Plug									
	793.8		Tower Number : 6	Span Length(ft) : 159.9									
77	799.5	38	21.4	39	Black/Notch	R3030	D6 - Red	87	Blue Acme 15L	18.7	14.7	10.2	10.2
78	809.9			Plug									
79	820.3	39	20.9	39	Black/Notch	R3030	D6 - Red	95	Blue Acme 15L	18.4	14.7	10.2	10.2
80	830.8			Plug									
81	840.3	40	20.0	39	Black/Notch	R3030	D6 - Red	101	Blue Acme 15L	18.2	14.8	10.0	10.2
82	849.9			Plug									
83	859.5	41	19.2	38	Black	R3030	D6 - Red	104	Blue Acme 15L	18.1	14.8	10.0	9.7
84	869.1			Plug									
85	878.7	42	19.2	39	Black/Notch	R3030	D6 - Red	104	Blue Acme 15L	18.1	14.7	10.2	10.2
86	888.2			Plug									
87	897.8	43	19.2	34	Dark Green	R3030	D6 - Red	102	Blue Acme 15L	18.1	15.0	7.8	7.8
88	907.4	44	9.6	28	Blue	R3030	D6 - Red	101	Blue Acme 15L	18.2	15.2	5.3	5.3
89	917.0	45	9.6	29	Blue/Notch	R3030	D6 - Red	98	Blue Acme 15L	18.3	15.2	5.6	5.7

Parent Order No **15076108**

33.3 ACRES HALF PIVOT

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No **15076449**

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
90	927.4	46	10.4	29	Blue/Notch	R3030	D6 - Red	95	Blue Acme 15L	18.4	15.2	5.9	5.7
91	937.8	47	10.4	30	Dark Brown	R3030	D6 - Red	91	Blue Acme 15L	18.5	15.2	5.9	6.1
92	948.2	48	10.4	31	Dk Brown/Notch	R3030	D6 - Red	87	Blue Acme 15L	18.7	15.1	6.6	6.4
	953.5		Tower Number : 7		Span Length(ft) : 159.7								
			Sprinkler : Nelson Endgun										
93	953.5	49		0.5		SR100				18.6	53.0	50.3	51.7

Primary Endgun Arc Settings: Forward Angle: 45 Reverse Angle: 80 330.0

33.3 ACRES HALF PIVOT

Dealer AGRI INDUSTRIES - WILLISTON
Customer Agri Industries
Field Name MEM - N Iversen - P3(SPRP - 6000)V1

VALLEY | V-CHART

Sprinkler Order No 15076449

Parent Order No 15076108

Valley Standard Pivot 8000 Percent Timer Data

Setup Information - Valley Computer Control Panel Water Application Constants: Minimum Application = 0.135 (in) Hours/360° = 14.4

Based on IN

IN Per 220 degrees	Pivot % Timer	Hours Per 220 degrees
0.135	100.0	8.8
0.20	67.4	13.1
0.30	44.9	19.6
0.40	33.7	26.1
0.50	27.0	32.6
0.60	22.5	39.1
0.70	19.3	45.6
0.80	16.8	52.4
0.90	15.0	58.7
1.00	13.5	65.2
1.25	10.8	81.5
1.50	9.0	97.8
1.75	7.7	114.3
2.00	6.7	131.3
2.50	5.4	163.0

Based on % Timer

Pivot % Timer	IN Per 220 degrees	Hours Per 220 degrees
100.0	0.135	8.8
90.0	0.15	9.8
80.0	0.17	11.0
70.0	0.19	12.6
60.0	0.22	14.7
50.0	0.27	17.6
45.0	0.30	19.6
40.0	0.34	22.0
35.0	0.39	25.1
30.0	0.45	29.3
25.0	0.54	35.2
20.0	0.67	44.0
17.5	0.77	50.3
15.0	0.90	58.7
12.5	1.08	70.4
10.0	1.35	88.0
7.5	1.80	117.3
5.0	2.70	176.0

Field Area

47.3 (Ac) Total
40.1 (Ac) Pivot 220°
7.3 (Ac) EG on 100%
953.5 (ft) Machine Length
82.8 (ft) End Gun Radius

Flow

328 (GPM)
6.93 (GPM per Acre)
0.37 (in per day) App Rate
0.135 (in) App Depth @ 100%
51.7 (GPM) End Gun

Pressure

19 (PSI) Pivot Pressure
Calculated Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11.2 x 24 New Tire
52:1 Wheel GB Ratio, LRDU Dist 953.5 (ft)
8.8 Hrs/220° @ 100% (6.92) (Ft per Min)
14.4 Hrs/360° @ 100%

33.3 ACRES HALF PIVOT

Parent Order No 15076108

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 15076449

Customer Agri Industries

Currency **USD ($)**

Field Name MEM - N Iversen - P3(SPRP - 6000)VI

Valley Standard Pivot 8000 Bill Of Materials

Qty	Part Number	Description
48	**0231104**	REG PR NELSON LO FLO 15 PSI BLUE/RED INTEGRA
1	**0231122**	GAE MS 0-30 PSI PRESSURE GAUGE
48	**0244038**	FIT PB 1 X 3/4 GV REDUCER
48	**0271077**	HSE IT 3/4" MNPT X 3/4" HOSE BARB
48	**0271080**	HSE CL 1 1/16" HOSE CLAMP-CRIMP
48	**0271084**	HSE CL 1 1/4 S.S. HOSE DROP CLAMP
5	**0430814**	SPK NZ NELSON 3NV #14 LI ME
1	**0430816**	SPK NZ NELSON 3NV #16 LA VENDER
1	**0430817**	SPK NZ NELSON 3NV #17 LA VENDER
1	**0430818**	SPK NZ NELSON 3NV #18 GR AY
1	**0430819**	SPK NZ NELSON 3NV #19 GR AY
1	**0430820**	SPK NZ NELSON 3NV #20 TU RQUOISE
1	**0430821**	SPK NZ NELSON 3NV #21 TU RQUOISE
2	**0430823**	SPK NZ NELSON 3NV #23 YE LLOW
2	**0430824**	SPK NZ NELSON 3NV #24 RE D
2	**0430826**	SPK NZ NELSON 3NV #26 WH ITE
1	**0430827**	SPK NZ NELSON 3NV #27 WH ITE
3	**0430828**	SPK NZ NELSON 3NV #28 BL UE
3	**0430829**	SPK NZ NELSON 3NV #29 BL UE
2	**0430830**	SPK NZ NELSON 3NV #30 DA RK BROWN
3	**0430831**	SPK NZ NELSON 3NV #31 DA RK BROWN
2	**0430832**	SPK NZ NELSON 3NV #32 OR ANGE
1	**0430833**	SPK NZ NELSON 3NV #33 OR ANGE
3	**0430834**	SPK NZ NELSON 3NV #34 DA RK GREEN
5	**0430835**	SPK NZ NELSON 3NV #35 DA RK GREEN
1	**0430836**	SPK NZ NELSON 3NV #36 PU RPLE
1	**0430837**	SPK NZ NELSON 3NV #37 PU RPLE
2	**0430838**	SPK NZ NELSON 3NV #38 BL ACK
4	**0430839**	SPK NZ NELSON 3NV #39 BL ACK
48	**0430852**	SPK MS NELSON ROTATOR/SP INNER 3030 BODY
48	**0430866**	R3000 CAP/PLATE ASSY D6- 12 DEGREE RED PLATE
1	**0500701**	SPK NZ TAPERED SR100 NELSON 0.50T
1	**0505060**	SPK CP NELSON SR100 END GUN MOD W/2"BASE
48	**0994385**	2 LB. HOSE DROP WEIGHT - POLYETHYLENE
48	**0995972**	U-PIPE W/BARBED END
2	**09S0049**	PREMIUM BLUE PIVOT IRR HOSE 3/4" (250')

33.3 ACRES HALF PIVOT

Parent Order No 15076108

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 15076449

Customer Agri Industries

Currency **USD ($)**

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Bill Of Materials

Qty	Part Number	Description
1	**PRDCTED**	COOP & PRODUCT PROMOTION

Total Net Weight (lbs): 293.78

Parent Order No 15076108

33.3 ACRES HALF PIVOT

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Sprinkler Chart Disclaimer

WARRANTY

The information presented in the attached Default Sprinkler Report, Setup Sprinkler Report, and Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont makes no warranty for this sprinkler package's uniformity and/or distribution of water or chemicals, accuracy or consistency of the application depth, and machine rotation time. Furthermore, Valmont makes no representations or recommendations as to percentage timer settings, water application rates, irrigation scheduling, and other similar or dissimilar irrigation/farm management decisions.

LIABILITY

The responsibility and obligations lie with the end user to determine if the sprinkler package/report received matches the machine configuration and field conditions (including but not limited to: sprinkler type, sprinkler spacing, sprinkler height, pressure regulator type, crop, soil type, end gun arc settings, span lengths, last regular drive unit tire type, last regular drive unit motor, and pipe diameters). *VALMONT ASSUMES NO LIABILITY OF WHATSOEVER NATURE OR KIND FOR CROP LOSSES OR OTHER DAMAGES (INCLUDING CONSEQUENTIAL DAMAGES) CAUSED BY THIS SPRINKLER PACKAGE.*

SPRINKLER REPORT GENERAL INFORMATION

Sprinkler reports are created using information from the Sprinkler Order Transmittal received or as given verbally to a Valmont Customer Service/Parts Representative and is considered by Valmont to be accurate.

Pivot tower length begins at the center of the riser pipe inlet and ends at the center of a flex joint. Intermediate length span begins and ends at the center of a flex joint. Last span length begins at the center of a flex joint and ends at the last pipe flange.

Pivot pressure begins at the first coupler on the pipeline downstream of the pivot elbow. End pressure stated by the report will be within a range of -0 to +1.1 PSI of the specified end pressure at the end of the machine pipeline. Calculated pressure stated by the report will be within a range of -0 to +1.1 PSI of the minimum sprinkler pressure specified by Valmont or its sprinkler suppliers.

Pipeline pressure and drop length stated by the report for an under truss span are adjusted for elevation change due to crown height, tire size and drive unit profile.

Calculated sprinkler ground clearance extends from the ground surface up to the point where the water exits the sprinkler.

Highest elevation stated by the report is prorated over the first 30% of machine length with the remaining machine length at the highest elevation and is only used with sprinkler packages containing pressure regulators.

Non-pressure regulated machines are considered to be on level ground. Pressure regulators will have a minimum inlet pressure of 5 PSI plus their nominal pressure rating.

End gun coverage area can be over watering or under watering based upon end gun nozzle size and/or booster pump flow limitations. An auxiliary end gun will be specified by the sprinkler report when requested by the customer and the end gun required flow is at least 10% greater than the maximum flow of the primary end gun.

The Percent Timer report is based upon typical operating conditions. Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

Water application rates and rotation times may vary with a corner machine operating in chemigate mode.

49.6 ACRES HALF PIVOT

VALLEY | V-CHART

Valley Dealer

AGRI INDUSTRIES, INC.
1775 S Central Ave
Sidney, MT 59270
United States

Customer

AGRI INDUSTRIES, INC.
1775 S Central Ave
Sidney, MT 59270
United States

Dealer No.

00910337

Field Name

Quarter Circle Pivot

Parent Order No.
Sprinkler Order No. NeilQuarterCircle w Regs

Plant VALLEY SHIPPING

Dealer PO
Order Date 01/02/2025
Load Date 01/07/2025
Method Of Shipment UPSG

5 Span Valley Standard Pivot PRE 6000
Machine Flow 500 (GPM)
Pivot Pressure 23 (PSI)

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Sprinkler Order No NeilQuarterCircle w Regs

Valley Standard Pivot PRE 6000 Machine Summary

Span and Overhang

Model	Qty	Length (ft)	Pipe O.D. (in)	Coupler Spacing (in)	D. U. Qty	Profile	Tire
PRE 6000	1	185.0	6	102 (Uniform)	22	Standard	11R x 24.5 Radial Retr
PRE 6000	4	170.0	6	102 (Uniform)	20	Standard	11R x 24.5 Radial Retr
PRE 6000	1	84.0	6	102 (Uniform)	11		

Field Area

78.5 (Ac) Total
65.1 (Ac) Pivot 360°
13.4 (Ac) EG on 100%
949.9 (ft) Machine Length
93.5 (ft) End Gun Radius

Flow

500 (GPM)
6.37 (GPM per Acre)
0.34 (in per day) App Rate
0.179 (in) App Depth @ 100%
84.8 (GPM) End Gun

Messages

Caution:
None

Dealer:
None

Pressure

23 (PSI) Pivot Pressure
Calculated Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @60 Hz freq.
11R x 24.5 Radial Retread Tire
52:1 Wheel GB Ratio, LRDU Dist 866.3 (ft)
12.7 Hrs/360° @ 100% 7.18 (Ft per Min)
12.7 Hrs/360° @ 100%

Sprinkler -- Available Outlets

Sprinkler Configuration	Range(ft)
Valley U-Pipe 6(in) Galvanized 3/4 M NPT x 3/4 M Hose	Outlets 4,60,1
Blue Premium Hose Drop Variable Length 60(in) Ground Clr	61,112
Nelson Regulator All Flo ACME 15(PSI) 3/4 F NPT	
Nelson R3000 D6 - Red 3/4 F Acme ASSY	

645.65 (ft) Total Drop Hose Length

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Sprinkler Order No NeilQuarterCircle w Regs

Valley Standard Pivot PRE 6000 Machine Summary

Pressure Loss

Pipe Length (ft)	Pipe I.D. (in)	Pipe Finish	C-Factor	Loss (PSI)
949.9	5.78	Galvanized	150	5.7
			Total =	5.7

End Gun(s) & Booster Pump Information

Primary End Gun

Nelson SR100 End Gun

0.65 Nozzle

Berkeley 2 HP Booster Pump

Span Flow

Span Number	Irrigated Length (ft)	Area (Ac)	Rqd (GPM)	Act (GPM)	Rqd (GPM per Acre)	Act (GPM per Acre)	% Deviation
1	161.1	2.5	15.6	17.6	6.25	7.01	12.2
2	169.5	6.7	41.7	41.5	6.25	6.23	-0.3
3	169.5	10.8	67.5	67.8	6.25	6.27	0.4
4	169.5	15.0	93.4	93.4	6.25	6.24	-0.0
5	169.8	19.1	119.5	119.2	6.25	6.23	-0.2
O/H	83.6	10.9	69.2	69.3	6.32	6.33	0.2
EG	93.5	13.4	85.5	84.8	6.36	6.31	-0.8
Totals		78.4		493.6			
	Drain Sprinkler		7.9	8.3			
	Total Machine Flow			501.9			

Advanced Options

```
Drain Sprinkler = Senninger Directional
Last Sprinkler Coverage = 1 ft
Sprinkler Coverage Length = 950.9 ft
Use Last Coupler= YES
Minimum Mainline Pressure = 6 PSI
```

Shipping Options

```
Ship Drop Hardware
Ship Endgun Nozzle
Ship Endgun & Hardware
Do not ship Endgun Valve / Nozzle Valve Hardware
Do not ship Boosterpump Hardware
```

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
1	7.9			Gauge						23.0			
2	16.4			Plug									
3	24.9			Plug									
	Sprinkler : Nelson Rotator Assembly												
4	33.4	1		14	Lime	R3000	D6 - Red	99	All Flo ACME 15A	22.5	16.0	0.5	1.3
5	41.9			Plug									
6	50.4	2	17.0	14	Lime	R3000	D6 - Red	103	All Flo ACME 15A	22.2	16.0	0.8	1.3
7	58.9			Plug									
8	67.3	3	16.9	14	Lime	R3000	D6 - Red	105	All Flo ACME 15A	22.0	16.0	1.0	1.3
9	75.9			Plug									
10	84.5	4	17.2	14	Lime	R3000	D6 - Red	106	All Flo ACME 15A	21.9	16.0	1.3	1.3
11	92.6			Plug									
12	100.9	5	16.4	15	Lime/Lavender	R3000	D6 - Red	105	All Flo ACME 15A	21.7	16.0	1.5	1.6
13	108.9			Plug									
14	117.5	6	16.6	16	Lavender	R3000	D6 - Red	104	All Flo ACME 15A	21.7	16.0	1.8	1.8
15	126.0			Plug									
16	134.4	7	17.0	17	Lavender/Gray	R3000	D6 - Red	101	All Flo ACME 15A	21.7	16.0	2.1	2.0
17	142.9			Plug									
18	151.4	8	16.9	18	Gray	R3000	D6 - Red	96	All Flo ACME 15A	21.7	16.0	2.3	2.2
19	159.8			Plug									
20	168.3	9	16.9	20	Turquoise	R3000	D6 - Red	90	All Flo ACME 15A	21.8	15.9	2.6	2.8
21	176.8			Plug									
22	185.3	10	16.9	20	Turquoise	R3000	D6 - Red	83	All Flo ACME 15A	21.9	15.9	2.7	2.8
	188.1		Tower Number : 1		Span Length(ft) : 186.0								
23	192.0			Plug									
24	200.6	11	15.3	20	Turquoise	R3000	D6 - Red	87	All Flo ACME 15A	21.6	15.9	2.9	2.8
25	209.1			Plug									
26	217.7	12	17.1	22	Yellow	R3000	D6 - Red	92	All Flo ACME 15A	21.3	15.8	3.3	3.3
27	226.2			Plug									
28	234.6	13	17.0	23	Yellow/Red	R3000	D6 - Red	96	All Flo ACME 15A	21.0	15.8	3.6	3.6

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
29	243.1			Plug									
30	251.5	14	16.9	24	Red	R3000	D6 - Red	99	All Flo ACME 15A	20.8	15.7	3.9	4.0
31	260.1			Plug									
32	268.7	15	17.2	25	Red/White	R3000	D6 - Red	100	All Flo ACME 15A	20.7	15.7	4.1	4.3
33	277.1			Plug									
34	285.6	16	16.9	25	Red/White	R3000	D6 - Red	100	All Flo ACME 15A	20.5	15.6	4.4	4.3
35	294.2			Plug									
36	302.7	17	17.0	26	White	R3000	D6 - Red	98	All Flo ACME 15A	20.5	15.6	4.6	4.6
37	311.1			Plug									
38	319.6	18	16.9	27	White/Blue	R3000	D6 - Red	95	All Flo ACME 15A	20.5	15.6	4.9	5.0
39	328.0			Plug									
40	336.5	19	16.9	27	White/Blue	R3000	D6 - Red	90	All Flo ACME 15A	20.6	15.5	5.1	4.9
41	345.0			Plug									
42	353.4	20	16.9	28	Blue	R3000	D6 - Red	84	All Flo ACME 15A	20.7	15.5	5.3	5.4
	357.6		Tower Number : 2		Span Length(ft) : 169.5								
43	361.5			Plug									
44	370.1	21	16.6	29	Blue/Dark Brown	R3000	D6 - Red	87	All Flo ACME 15A	20.4	15.4	5.6	5.7
45	378.6			Plug									
46	387.2	22	17.1	29	Blue/Dark Brown	R3000	D6 - Red	92	All Flo ACME 15A	20.1	15.4	5.9	5.7
47	395.7			Plug									
48	404.1	23	17.0	30	Dark Brown	R3000	D6 - Red	96	All Flo ACME 15A	19.9	15.3	6.2	6.1
49	412.6			Plug									
50	421.0	24	16.9	31	Dk Brown/Orange	R3000	D6 - Red	99	All Flo ACME 15A	19.7	15.3	6.5	6.5
51	429.6			Plug									
52	438.2	25	17.2	32	Orange	R3000	D6 - Red	100	All Flo ACME 15A	19.6	15.2	6.7	7.0
53	446.6			Plug									
54	455.1	26	16.9	32	Orange	R3000	D6 - Red	100	All Flo ACME 15A	19.5	15.2	7.0	6.9
55	463.7			Plug									
56	472.2	27	17.0	33	Orange/Dk Green	R3000	D6 - Red	98	All Flo ACME 15A	19.4	15.2	7.2	7.4
57	480.6			Plug									
58	489.1	28	16.9	33	Orange/Dk Green	R3000	D6 - Red	95	All Flo ACME 15A	19.5	15.2	7.5	7.4
59	497.5			Plug									
60	506.0	29	16.9	29	Blue/Dark Brown	R3000	D6 - Red	90	All Flo ACME 15A	19.6	15.4	5.8	5.7

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
61	514.5	30	8.5	24	Red	R3000	D6 - Red	87	All Flo ACME 15A	19.6	15.7	3.9	4.0
62	522.9	31	8.5	24	Red	R3000	D6 - Red	84	All Flo ACME 15A	19.7	15.7	3.9	4.0
	527.1		Tower Number : 3		Span Length(ft) : 169.5								
63	531.0	32	8.1	24	Red	R3000	D6 - Red	84	All Flo ACME 15A	19.7	15.7	4.0	4.0
64	539.6	33	8.5	24	Red	R3000	D6 - Red	87	All Flo ACME 15A	19.5	15.7	4.2	3.9
65	548.1	34	8.5	25	Red/White	R3000	D6 - Red	90	All Flo ACME 15A	19.4	15.6	4.2	4.3
66	556.7	35	8.5	25	Red/White	R3000	D6 - Red	92	All Flo ACME 15A	19.2	15.6	4.3	4.3
67	565.2	36	8.5	25	Red/White	R3000	D6 - Red	95	All Flo ACME 15A	19.1	15.6	4.3	4.3
68	573.6	37	8.4	25	Red/White	R3000	D6 - Red	96	All Flo ACME 15A	19.0	15.6	4.4	4.3
69	582.1	38	8.5	26	White	R3000	D6 - Red	98	All Flo ACME 15A	18.9	15.6	4.4	4.6
70	590.5	39	8.5	26	White	R3000	D6 - Red	99	All Flo ACME 15A	18.9	15.6	4.5	4.6
71	599.1	40	8.6	26	White	R3000	D6 - Red	100	All Flo ACME 15A	18.8	15.6	4.6	4.6
72	607.7	41	8.6	26	White	R3000	D6 - Red	100	All Flo ACME 15A	18.7	15.6	4.6	4.6
73	616.1	42	8.4	26	White	R3000	D6 - Red	100	All Flo ACME 15A	18.7	15.6	4.7	4.6
74	624.6	43	8.6	27	White/Blue	R3000	D6 - Red	100	All Flo ACME 15A	18.7	15.5	4.8	4.9
75	633.2	44	8.6	27	White/Blue	R3000	D6 - Red	99	All Flo ACME 15A	18.7	15.5	4.9	4.9
76	641.7	45	8.5	27	White/Blue	R3000	D6 - Red	98	All Flo ACME 15A	18.7	15.5	4.9	4.9
77	650.1	46	8.5	27	White/Blue	R3000	D6 - Red	96	All Flo ACME 15A	18.7	15.5	4.9	4.9
78	658.6	47	8.4	27	White/Blue	R3000	D6 - Red	95	All Flo ACME 15A	18.8	15.5	5.0	4.9
79	667.0	48	8.5	27	White/Blue	R3000	D6 - Red	92	All Flo ACME 15A	18.8	15.5	5.1	4.9
80	675.5	49	8.5	27	White/Blue	R3000	D6 - Red	90	All Flo ACME 15A	18.9	15.5	5.2	4.9
81	684.0	50	8.5	28	Blue	R3000	D6 - Red	87	All Flo ACME 15A	19.0	15.5	5.2	5.4
82	692.4	51	8.5	28	Blue	R3000	D6 - Red	84	All Flo ACME 15A	19.0	15.5	5.2	5.4
	696.6		Tower Number : 4		Span Length(ft) : 169.5								
83	700.5	52	8.1	27	White/Blue	R3000	D6 - Red	84	All Flo ACME 15A	19.0	15.5	5.3	4.9
84	709.1	53	8.5	28	Blue	R3000	D6 - Red	87	All Flo ACME 15A	18.9	15.4	5.5	5.4
85	717.6	54	8.5	29	Blue/Dark Brown	R3000	D6 - Red	90	All Flo ACME 15A	18.8	15.4	5.5	5.7
86	726.2	55	8.5	29	Blue/Dark Brown	R3000	D6 - Red	92	All Flo ACME 15A	18.6	15.4	5.6	5.7
87	734.7	56	8.5	28	Blue	R3000	D6 - Red	95	All Flo ACME 15A	18.5	15.4	5.6	5.4
88	743.1	57	8.4	29	Blue/Dark Brown	R3000	D6 - Red	96	All Flo ACME 15A	18.5	15.4	5.7	5.7
89	751.6	58	8.5	29	Blue/Dark Brown	R3000	D6 - Red	98	All Flo ACME 15A	18.4	15.4	5.7	5.7
90	760.0	59	8.5	29	Blue/Dark Brown	R3000	D6 - Red	99	All Flo ACME 15A	18.3	15.4	5.8	5.7
91	768.6	60	8.6	30	Dark Brown	R3000	D6 - Red	100	All Flo ACME 15A	18.3	15.4	5.9	6.1

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
92	777.2	61	8.6	29	Blue/Dark Brown	R3000	D6 - Red	100	All Flo ACME 15A	18.3	15.4	5.9	5.7
93	785.6	62	8.4	30	Dark Brown	R3000	D6 - Red	100	All Flo ACME 15A	18.2	15.4	6.0	6.1
94	794.1	63	8.6	30	Dark Brown	R3000	D6 - Red	100	All Flo ACME 15A	18.2	15.3	6.1	6.1
95	802.7	64	8.6	30	Dark Brown	R3000	D6 - Red	99	All Flo ACME 15A	18.3	15.3	6.2	6.1
96	811.2	65	8.5	30	Dark Brown	R3000	D6 - Red	98	All Flo ACME 15A	18.3	15.3	6.2	6.1
97	819.6	66	8.5	30	Dark Brown	R3000	D6 - Red	96	All Flo ACME 15A	18.3	15.3	6.2	6.1
98	828.1	67	8.4	31	Dk Brown/Orange	R3000	D6 - Red	95	All Flo ACME 15A	18.4	15.3	6.3	6.5
99	836.5	68	8.5	31	Dk Brown/Orange	R3000	D6 - Red	92	All Flo ACME 15A	18.4	15.3	6.4	6.5
100	845.0	69	8.5	31	Dk Brown/Orange	R3000	D6 - Red	90	All Flo ACME 15A	18.5	15.3	6.4	6.5
101	853.5	70	8.5	31	Dk Brown/Orange	R3000	D6 - Red	87	All Flo ACME 15A	18.6	15.3	6.5	6.5
102	861.9	71	8.5	31	Dk Brown/Orange	R3000	D6 - Red	84	All Flo ACME 15A	18.7	15.3	6.6	6.5
	866.3		Tower Number : 5		Span Length(ft) : 169.8								
103	870.5	72	8.5	32	Orange	R3000	D6 - Red	84	All Flo ACME 15A	18.7	15.2	6.7	7.0
104	879.0	73	8.5	31	Dk Brown/Orange	R3000	D6 - Red	88	All Flo ACME 15A	18.6	15.3	6.7	6.5
105	887.5	74	8.5	32	Orange	R3000	D6 - Red	92	All Flo ACME 15A	18.4	15.2	6.8	6.9
106	896.0	75	8.5	32	Orange	R3000	D6 - Red	96	All Flo ACME 15A	18.2	15.2	6.9	6.9
107	904.5	76	8.5	32	Orange	R3000	D6 - Red	100	All Flo ACME 15A	18.1	15.2	6.9	6.9
108	913.0	77	8.5	32	Orange	R3000	D6 - Red	104	All Flo ACME 15A	17.9	15.2	7.0	6.9
109	921.5	78	8.5	32	Orange	R3000	D6 - Red	109	All Flo ACME 15A	17.8	15.2	7.1	6.9
110	930.1	79	8.5	32	Orange	R3000	D6 - Red	113	All Flo ACME 15A	17.6	15.2	7.1	6.9
111	938.6	80	8.5	33	Orange/Dk Green	R3000	D6 - Red	117	All Flo ACME 15A	17.5	15.2	7.2	7.4
112	947.1	81	8.5	32	Orange	R3000	D6 - Red	121	All Flo ACME 15A	17.3	15.2	6.9	6.9
		Sprinkler : Senninger Spray											
113	948.9	82		17	Dark Green	Directional				17.2	17.2	7.9	8.3
	949.9			Overhang	Span Length(ft) : 83.6								
		Sprinkler : Nelson Endgun											
114	949.9	83		0.65		SR100				17.2	48.3	85.5	84.8

Primary Endgun Arc Settings: Forward Angle: 45 Reverse Angle: 80

501.9

Parent Order No

49.6 ACRES HALF PIVOT

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)

49.6 ACRES HALF PIVOT

Dealer AGRI INDUSTRIES, INC.
Customer AGRI INDUSTRIES, INC.
Field Name Quarter Circle Pivot

VALLEY | V-CHART

Sprinkler Order No NeilQuarterCircle w Regs

Parent Order No

Valley Standard Pivot PRE 6000 Percent Timer Data

Setup Information - Valley Computer Control Panel Water Application Constants: Minimum Application = 0.179 (in) Hours/360° = 12.7

Based on IN

IN Per 360 degrees	Pivot % Timer	Hours Per 360 degrees
0.179	100.0	12.7
0.20	89.4	14.2
0.30	59.6	21.3
0.40	44.7	28.4
0.50	35.7	35.6
0.60	29.8	42.6
0.70	25.5	49.8
0.80	22.3	57.0
0.90	19.9	63.8
1.00	17.9	70.9
1.25	14.3	88.8
1.50	11.9	106.7
1.75	10.2	124.5
2.00	8.9	142.7
2.50	7.1	178.9
3.00	6.0	211.7
3.50	5.1	249.0

Based on % Timer

Pivot % Timer	IN Per 360 degrees	Hours Per 360 degrees
100.0	0.179	12.7
90.0	0.20	14.1
80.0	0.22	15.9
70.0	0.26	18.1
60.0	0.30	21.2
50.0	0.36	25.4
45.0	0.40	28.2
40.0	0.45	31.8
35.0	0.51	36.3
30.0	0.60	42.3
25.0	0.71	50.8
20.0	0.89	63.5
17.5	1.02	72.6
15.0	1.19	84.7
12.5	1.43	101.6
10.0	1.79	127.0
7.5	2.38	169.3
5.0	3.57	254.0

Field Area

78.5 (Ac) Total
65.1 (Ac) Pivot 360°
13.4 (Ac) EG on 100%
949.9 (ft) Machine Length
93.5 (ft) End Gun Radius

Flow

500 (GPM)
6.37 (GPM per Acre)
0.34 (in per day) App Rate
0.179 (in) App Depth @ 100%
84.8 (GPM) End Gun

Pressure

23 (PSI) Pivot Pressure
Calculated Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11R x 24.5 Radial Retread Tire
52:1 Wheel GB Ratio, LRDU Dist 866.3 (ft)
12.7 Hrs/360° @ 100% (7.18) (Ft per Min)
12.7 Hrs/360° @ 100%

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Customer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Currency **USD ($)**

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Bill Of Materials

Qty	Part Number	Description
1	0211059	NPL MS 3/4 X 12 GVSCH 40
81	0217159	REG PR ALL-FLO REGULATOR15 PSI FNPT X SQ THD
1	0231122	GAE MS 0-30 PSI PRESSURE GAUGE
1	0241005	FIT ER 3/4 X 90 GV
1	0241012	FIT ES 3/4 X 90 GV
82	0244038	FIT PB 1 X 3/4 GVREDUCER
81	0271077	HSE IT 3/4" MNPT X 3/4"HOSE BARB
81	0271080	HSE CL 1 1/16" HOSECLAMP-CRIMP
81	0271084	HSE CL 1 1/4 S.S. HOSEDROP CLAMP
4	0430614	NZ LIME 3TN 14/128
1	0430615	NZ LIME/LAVENDER 3TN 15/128
1	0430616	NZ LAVENDER 3TN 16/128
1	0430617	NZ LAVENDER/GRAY 3TN 17/128
1	0430618	NZ GRAY 3TN 18/128
3	0430620	NZ TURQUOISE 3TN 20/128
1	0430622	NZ YELLOW 3TN 22/128
1	0430623	NZ YELLOW/RED 3TN 23/128
5	0430624	NZ RED 3TN 24/128
6	0430625	NZ RED/WHITE 3TN 25/128
6	0430626	NZ WHITE 3TN 26/128
10	0430627	NZ WHITE/BLUE 3TN 27/128
5	0430628	NZ BLUE 3TN 28/128
9	0430629	NZ BLUE/DARK BROWN 3TN 29/128
7	0430630	NZ DARK BROWN 3TN 30/128
7	0430631	NZ DARK BROWN/ORANGE 3TN 31/128
10	0430632	NZ ORANGE 3TN 32/128
3	0430633	NZ ORANGE/DARK GREEN 3TN 33/128
81	0430795	R3000 ROTATOR ASSY-D6-12DEGREE RED PLATE
1	0496170	DARK GREEN SPRAY NZ #17 ORF .266
1	0500703	SPK NZ TAPERED SR100NELSON 0.65T
1	0505060	SPK CP NELSON SR100 ENDGUN MOD W/2"BASE
81	0995972	U-PIPE W/BARBED END
3	09S0049	PREMIUM BLUE PIVOT IRRHOSE 3/4" (250')
1	PRDCTED	COOP & PRODUCT PROMOTION

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Customer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Currency **USD ($)**

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Bill Of Materials

Qty	Part Number	Description

Total Net Weight (lbs):	327.83

49.6 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Sprinkler Chart Disclaimer

WARRANTY

The information presented in the attached Default Sprinkler Report, Setup Sprinkler Report, and Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont makes no warranty for this sprinkler package's uniformity and/or distribution of water or chemicals, accuracy or consistency of the application depth, and machine rotation time. Furthermore, Valmont makes no representations or recommendations as to percentage timer settings, water application rates, irrigation scheduling, and other similar or dissimilar irrigation/farm management decisions.

LIABILITY

The responsibility and obligations lie with the end user to determine if the sprinkler package/report received matches the machine configuration and field conditions (including but not limited to: sprinkler type, sprinkler spacing, sprinkler height, pressure regulator type, crop, soil type, end gun arc settings, span lengths, last regular drive unit tire type, last regular drive unit motor, and pipe diameters). VALMONT ASSUMES NO LIABILITY OF WHATSOEVER NATURE OR KIND FOR CROP LOSSES OR OTHER DAMAGES (INCLUDING CONSEQUENTIAL DAMAGES) CAUSED BY THIS SPRINKLER PACKAGE.

SPRINKLER REPORT GENERAL INFORMATION

Sprinkler reports are created using information from the Sprinkler Order Transmittal received or as given verbally to a Valmont Customer Service/Parts Representative and is considered by Valmont to be accurate.

Pivot tower length begins at the center of the riser pipe inlet and ends at the center of a flex joint. Intermediate length span begins and ends at the center of a flex joint. Last span length begins at the center of a flex joint and ends at the last pipe flange.

Pivot pressure begins at the first coupler on the pipeline downstream of the pivot elbow. End pressure stated by the report will be within a range of -0 to +1.1 PSI of the specified end pressure at the end of the machine pipeline. Calculated pressure stated by the report will be within a range of -0 to +1.1 PSI of the minimum sprinkler pressure specified by Valmont or its sprinkler suppliers.

Pipeline pressure and drop length stated by the report for an under truss span are adjusted for elevation change due to crown height, tire size and drive unit profile.

Calculated sprinkler ground clearance extends from the ground surface up to the point where the water exits the sprinkler.

Highest elevation stated by the report is prorated over the first 30% of machine length with the remaining machine length at the highest elevation and is only used with sprinkler packages containing pressure regulators.

Non-pressure regulated machines are considered to be on level ground. Pressure regulators will have a minimum inlet pressure of 5 PSI plus their nominal pressure rating.

End gun coverage area can be over watering or under watering based upon end gun nozzle size and/or booster pump flow limitations. An auxiliary end gun will be specified by the sprinkler report when requested by the customer and the end gun required flow is at least 10% greater than the maximum flow of the primary end gun.

The Percent Timer report is based upon typical operating conditions. Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

Water application rates and rotation times may vary with a corner machine operating in chemigate mode.

144.4 ACRES LARGE NE HALF PIVOT

V-Chart

Valley Dealer

Agri Industries
3105 2ND ST W
PO Box 1166
Williston, ND 58801-6907
UNITED STATES

Customer

DS FARMS
6047 ROAD 1011
BAINVILLE, MT 59212
UNITED STATES

Dealer No.

00000337

Field Name

Replace Olson Pivot Birch River Bottom

Parent Order No. 10816827
Sprinkler Order No. 10820997

Plant McCook Manufacturing

Dealer PO 62878
Order Date 01/17/2011
Load Date 01/21/2011
Method Of Shipment W/SYS (10816827)

11 Span Valley Standard Pivot 8000
Machine Flow 900 GPM
Pivot Pressure 35 PSI

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827

Dealer Agri Industries

Customer DS FARMS

Field Name Replace Olson Pivot Birch River Bottom

Sprinkler Order No 10820997

Valley Standard Pivot 8000 Machine Summary

Span and Overhang

Model	Qty	Length Ft	Pipe O.D. In	Coupler Spacing	Qty	D. U. Profile	Tire
8000	6	180	6 5/8	108	20	Standard	11.2 x 38
8000	5	160	6 5/8	108	18	Standard	11.2 x 38
8000	1	64	6 5/8	110	10		

Field Area

300.1 Acres Total
273.1 Acres: Pivot 360°
27.0 EG on 100%
1946.1 Ft. Machine Length
93.8 Ft. End Gun Radius

Flow

900 Gallons Per Minute
3.00 GPM/Acre
0.16 In/Day App Rate
0.138 In. App Depth @ 100%
85.2 GPM End Gun

Messages

Caution:
None

Dealer:
None

Pressure

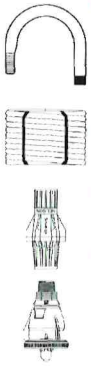
35 PSI Pivot Pressure
Calculated Pressure
0.0 Ft. Highest Elevation
0.0 Ft. Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11.2 x 38 Tire
52:1 Wheel GB Ratio, LRDU Dist 1882.4 Ft.
20.9 Hrs/360° @ 100% (9.45) Ft/Min

Sprinkler -- Computer Spacing

Sprinkler Configuration	Range (ft)
Valley U-Pipe 6 Galvanized 3/4 M NPT x 3/4 M Hose	All
Senninger Hose Drop Variable Length 60" Ground Clr	
Nelson Regulator Blue Acme 15 3/4 F NPT	
Valley Slip Weight 26 2.0 Poly	
Nelson R3000 D6 - Red 3/4 F Acme	



1382.27 Ft Total Drop Hose Length

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827

Dealer Agri Industries

Sprinkler Order No 10820997

Customer DS FARMS

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Summary

Pressure Loss

Pipe Length Ft	Pipe I.D. In	Pipe Finish	C-Factor	Loss PSI
1918.6	6.42	Galvanized	150	17.0
27.4	3.79	Galvanized	150	0.5
			Total =	17.5

Nelson SR100 End Gun
0.65 Nozzle
Berkeley 2 HP Booster Pump

Span Flow

Span Number	Irrigated Length	Irrigated Acres	Rqd GPM	Act GPM	Rqd GPM/Acre	Act GPM/Acre	% Deviation
1	179.9	2.4	7.0	11.9	2.95	4.98	68.9
2	180.1	7.1	20.8	20.8	2.95	2.94	-0.2
3	180.1	11.7	34.6	34.8	2.95	2.96	0.5
4	180.1	16.4	48.4	48.3	2.95	2.94	-0.3
5	180.1	21.1	62.3	62.3	2.95	2.95	0.2
6	180.1	25.8	76.1	76.1	2.95	2.95	0.1
7	160.0	26.8	79.2	79.0	2.95	2.94	-0.2
8	160.0	30.5	90.1	89.9	2.95	2.95	-0.2
9	160.0	34.2	101.0	101.2	2.95	2.96	0.3
10	160.0	37.9	111.9	111.8	2.95	2.95	-0.1
11	159.8	41.5	122.5	122.5	2.95	2.95	-0.0
O/H	63.6	17.6	52.7	52.4	3.00	2.98	-0.5
EG	93.8	27.0	80.9	85.2	3.00	3.16	5.4
Totals		300		896.2			
	Drain Sprinkler		7.9	8.3			
	Total Machine Flow			904.5			

Advanced Options

```
Drain Sprinkler = Senninger Directional
Last Sprinkler Coverage = 1.0 ft
Sprinkler Coverage Length = 1947.1 ft
Use Last Coupler= YES
Minimum Mainline Pressure = 6.0 PSI
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Shipping Options

```
Ship Drop Hardware
Ship Endgun Nozzle
Ship Endgun & Hardware
Do not ship Endgun Valve / Nozzle Valve Hardware
Do not ship Boosterpump Hardware
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144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 | Dealer AGRI INDUSTRIES - WILLISTON | Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
1	6.5			Gauge						35.0			
2	15.5			Plug									
3	24.5			Plug									
		Sprinkler : Nelson Rotator											
4	33.5	1		14	Lime	R3000	D6 - Red	114	Blue Acme 15L	33.9	16.7	0.4	1.4
5	42.5		9.0	Plug									
6	51.5	2	18.0	14	Lime	R3000	D6 - Red	123	Blue Acme 15L	33.4	16.7	0.4	1.4
7	60.5		9.0	Plug									
8	69.5	3	18.0	14	Lime	R3000	D6 - Red	129	Blue Acme 15L	32.9	16.7	0.5	1.4
9	78.5		9.0	Plug									
10	87.5	4	18.0	14	Lime	R3000	D6 - Red	132	Blue Acme 15L	32.5	16.7	0.7	1.4
11	96.4		8.9	Plug									
12	105.4	5	17.9	14	Lime	R3000	D6 - Red	132	Blue Acme 15L	32.3	16.6	0.8	1.4
13	114.4		9.0	Plug									
14	123.4	6	18.0	14	Lime	R3000	D6 - Red	129	Blue Acme 15L	32.1	16.6	0.9	1.4
15	132.4		9.0	Plug									
16	141.3	7	17.9	14	Lime	R3000	D6 - Red	123	Blue Acme 15L	32.1	16.5	1.1	1.4
17	150.3		9.0	Plug									
18	159.3	8	18.0	14	Lime	R3000	D6 - Red	115	Blue Acme 15L	32.1	16.5	1.2	1.4
19	168.3		9.0	Plug									
20	177.3	9	18.0	14	Lime	R3000	D6 - Red	103	Blue Acme 15L	32.3	16.4	1.4	1.4
	182.0		Tower Number : 1	Span Length(ft) : 179.9									
21	186.6		9.3	Plug									
22	195.6	10	18.3	15	Lime/Lavender	R3000	D6 - Red	110	Blue Acme 15L	31.8	16.4	1.5	1.6
23	204.6		9.0	Plug									
24	213.6	11	18.0	15	Lime/Lavender	R3000	D6 - Red	121	Blue Acme 15L	31.1	16.3	1.6	1.6
25	222.6		9.0	Plug									
26	231.6	12	18.0	16	Lavender	R3000	D6 - Red	128	Blue Acme 15L	30.6	16.3	1.8	1.8
27	240.6		9.0	Plug									
28	249.6	13	18.0	17	Lavender/Gray	R3000	D6 - Red	133	Blue Acme 15L	30.1	16.2	1.9	2.0

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
29	258.6		9.0	Plug									
30	267.6	14	18.0	17	Lavender/Gray	R3000	D6 - Red	136	Blue Acme 15L	29.8	16.2	2.0	2.0
31	276.5		8.9	Plug									
32	285.5	15	17.9	18	Gray	R3000	D6 - Red	135	Blue Acme 15L	29.6	16.1	2.2	2.2
33	294.5		9.0	Plug									
34	303.5	16	18.0	18	Gray	R3000	D6 - Red	131	Blue Acme 15L	29.5	16.1	2.3	2.2
35	312.5		9.0	Plug									
36	321.4	17	17.9	19	Gray/Turquoise	R3000	D6 - Red	125	Blue Acme 15L	29.5	16.0	2.5	2.5
37	330.4		9.0	Plug									
38	339.4	18	18.0	19	Gray/Turquoise	R3000	D6 - Red	116	Blue Acme 15L	29.5	16.0	2.6	2.5
39	348.4		9.0	Plug									
40	357.4	19	18.0	20	Turquoise	R3000	D6 - Red	103	Blue Acme 15L	29.7	15.9	2.8	2.8
	362.1		Tower Number : 2		Span Length(ft) : 180.1								
41	366.7		9.3	Plug									
42	375.7	20	18.3	21	Turq/Yellow	R3000	D6 - Red	110	Blue Acme 15L	29.2	15.9	2.9	3.0
43	384.7		9.0	Plug									
44	393.7	21	18.0	21	Turq/Yellow	R3000	D6 - Red	121	Blue Acme 15L	28.6	15.9	3.0	3.0
45	402.7		9.0	Plug									
46	411.7	22	18.0	21	Turq/Yellow	R3000	D6 - Red	128	Blue Acme 15L	28.1	15.8	3.2	3.0
47	420.7		9.0	Plug									
48	429.7	23	18.0	22	Yellow	R3000	D6 - Red	133	Blue Acme 15L	27.7	15.8	3.3	3.3
49	438.7		9.0	Plug									
50	447.7	24	18.0	23	Yellow/Red	R3000	D6 - Red	136	Blue Acme 15L	27.4	15.7	3.4	3.6
51	456.6		8.9	Plug									
52	465.6	25	17.9	23	Yellow/Red	R3000	D6 - Red	135	Blue Acme 15L	27.1	15.7	3.6	3.6
53	474.6		9.0	Plug									
54	483.6	26	18.0	23	Yellow/Red	R3000	D6 - Red	131	Blue Acme 15L	27.0	15.7	3.7	3.6
55	492.6		9.0	Plug									
56	501.5	27	17.9	24	Red	R3000	D6 - Red	125	Blue Acme 15L	27.0	15.6	3.8	3.9
57	510.5		9.0	Plug									
58	519.5	28	18.0	24	Red	R3000	D6 - Red	116	Blue Acme 15L	27.1	15.6	4.0	3.9
59	528.5		9.0	Plug									
60	537.5	29	18.0	25	Red/White	R3000	D6 - Red	103	Blue Acme 15L	27.4	15.5	4.2	4.2

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
	542.2		Tower Number : 3	Span Length(ft) : 180.1									
61	546.8		9.3	Plug									
62	555.8	30	18.3	25	Red/White	R3000	D6 - Red	110	Blue Acme 15L	26.9	15.5	4.3	4.2
63	564.8		9.0	Plug									
64	573.8	31	18.0	25	Red/White	R3000	D6 - Red	121	Blue Acme 15L	26.3	15.5	4.4	4.2
65	582.8		9.0	Plug									
66	591.8	32	18.0	26	White	R3000	D6 - Red	128	Blue Acme 15L	25.8	15.5	4.5	4.6
67	600.8		9.0	Plug									
68	609.8	33	18.0	26	White	R3000	D6 - Red	133	Blue Acme 15L	25.4	15.5	4.7	4.6
69	618.8		9.0	Plug									
70	627.8	34	18.0	27	White/Blue	R3000	D6 - Red	136	Blue Acme 15L	25.1	15.5	4.8	4.9
71	636.7		8.9	Plug									
72	645.7	35	17.9	27	White/Blue	R3000	D6 - Red	135	Blue Acme 15L	24.9	15.5	4.9	4.9
73	654.7		9.0	Plug									
74	663.7	36	18.0	27	White/Blue	R3000	D6 - Red	131	Blue Acme 15L	24.8	15.4	5.1	4.9
75	672.7		9.0	Plug									
76	681.6	37	17.9	28	Blue	R3000	D6 - Red	125	Blue Acme 15L	24.8	15.4	5.2	5.4
77	690.6		9.0	Plug									
78	699.6	38	18.0	28	Blue	R3000	D6 - Red	116	Blue Acme 15L	24.9	15.4	5.4	5.4
79	708.6		9.0	Plug									
80	717.6	39	18.0	28	Blue	R3000	D6 - Red	103	Blue Acme 15L	25.2	15.4	5.5	5.4
	722.3		Tower Number : 4	Span Length(ft) : 180.1									
81	726.9		9.3	Plug									
82	735.9	40	18.3	29	Blue/Dark Brown	R3000	D6 - Red	110	Blue Acme 15L	24.7	15.4	5.7	5.7
83	744.9		9.0	Plug									
84	753.9	41	18.0	29	Blue/Dark Brown	R3000	D6 - Red	121	Blue Acme 15L	24.1	15.3	5.8	5.7
85	762.9		9.0	Plug									
86	771.9	42	18.0	30	Dark Brown	R3000	D6 - Red	128	Blue Acme 15L	23.7	15.3	5.9	6.1
87	780.9		9.0	Plug									
88	789.9	43	18.0	30	Dark Brown	R3000	D6 - Red	133	Blue Acme 15L	23.3	15.3	6.0	6.1
89	798.9		9.0	Plug									
90	807.9	44	18.0	30	Dark Brown	R3000	D6 - Red	136	Blue Acme 15L	23.0	15.3	6.2	6.1
91	816.8		8.9	Plug									

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
92	825.8	45	17.9	30	Dark Brown	R3000	D6 - Red	135	Blue Acme 15L	22.9	15.3	6.3	6.1
93	834.8		9.0	Plug									
94	843.8	46	18.0	31	Dk Brown/Orange	R3000	D6 - Red	131	Blue Acme 15L	22.8	15.3	6.4	6.5
95	852.8		9.0	Plug									
96	861.7	47	17.9	31	Dk Brown/Orange	R3000	D6 - Red	125	Blue Acme 15L	22.8	15.2	6.6	6.5
97	870.7		9.0	Plug									
98	879.7	48	18.0	32	Orange	R3000	D6 - Red	116	Blue Acme 15L	23.0	15.2	6.7	6.9
99	888.7		9.0	Plug									
100	897.7	49	18.0	32	Orange	R3000	D6 - Red	103	Blue Acme 15L	23.3	15.2	6.9	6.9
	902.4		Tower Number : 5		Span Length(ft) : 180.1								
101	907.0		9.3	Plug									
102	916.0	50	18.3	32	Orange	R3000	D6 - Red	110	Blue Acme 15L	22.9	15.2	7.1	6.9
103	925.0		9.0	Plug									
104	934.0	51	18.0	33	Orange/Dk Green	R3000	D6 - Red	121	Blue Acme 15L	22.3	15.2	7.2	7.4
105	943.0		9.0	Plug									
106	952.0	52	18.0	33	Orange/Dk Green	R3000	D6 - Red	128	Blue Acme 15L	21.8	15.2	7.3	7.4
107	961.0		9.0	Plug									
108	970.0	53	18.0	33	Orange/Dk Green	R3000	D6 - Red	133	Blue Acme 15L	21.5	15.2	7.4	7.4
109	979.0		9.0	Plug									
110	988.0	54	18.0	33	Orange/Dk Green	R3000	D6 - Red	136	Blue Acme 15L	21.3	15.1	7.5	7.4
111	996.9		8.9	Plug									
112	1005.9	55	17.9	34	Dark Green	R3000	D6 - Red	135	Blue Acme 15L	21.1	15.1	7.7	7.8
113	1014.9		9.0	Plug									
114	1023.9	56	18.0	34	Dark Green	R3000	D6 - Red	131	Blue Acme 15L	21.1	15.1	7.8	7.8
115	1032.9		9.0	Plug									
116	1041.8	57	17.9	34	Dark Green	R3000	D6 - Red	125	Blue Acme 15L	21.2	15.1	8.0	7.8
117	1050.8		9.0	Plug									
118	1059.8	58	18.0	35	Dk Green/Purple	R3000	D6 - Red	116	Blue Acme 15L	21.4	15.1	8.1	8.2
119	1068.8		9.0	Plug									
120	1077.8	59	18.0	35	Dk Green/Purple	R3000	D6 - Red	103	Blue Acme 15L	21.7	15.1	8.3	8.2
	1082.5		Tower Number : 6		Span Length(ft) : 180.1								
121	1087.1		9.3	Plug									
122	1096.1	60	18.3	35	Dk Green/Purple	R3000	D6 - Red	107	Blue Acme 15L	21.4	15.0	8.5	8.2

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
123	1105.1		9.0	Plug									
124	1114.1	61	18.0	36	Purple	R3000	D6 - Red	116	Blue Acme 15L	20.9	15.0	8.4	8.7
125	1123.1		9.0	Plug									
126	1131.6	62	17.5	35	Dk Green/Purple	R3000	D6 - Red	121	Blue Acme 15L	20.6	15.0	8.3	8.2
127	1140.1		8.4	Plug									
128	1148.5	63	16.8	35	Dk Green/Purple	R3000	D6 - Red	124	Blue Acme 15L	20.4	15.0	8.4	8.2
129	1157.0		8.5	Plug									
130	1166.0	64	17.5	36	Purple	R3000	D6 - Red	125	Blue Acme 15L	20.2	15.0	8.8	8.6
131	1175.0		9.0	Plug									
132	1184.0	65	18.0	37	Purple/Black	R3000	D6 - Red	123	Blue Acme 15L	20.2	15.0	9.0	9.2
133	1193.0		9.0	Plug									
134	1201.9	66	17.9	37	Purple/Black	R3000	D6 - Red	119	Blue Acme 15L	20.2	14.9	9.2	9.2
135	1210.9		9.0	Plug									
136	1219.9	67	18.0	37	Purple/Black	R3000	D6 - Red	112	Blue Acme 15L	20.3	14.9	9.3	9.2
137	1228.9		9.0	Plug									
138	1237.9	68	18.0	38	Black	R3000	D6 - Red	103	Blue Acme 15L	20.6	14.9	9.6	9.7
	1242.5		Tower Number : 7		Span Length(ft) : 160.0								
139	1247.2		9.3	Plug									
140	1256.2	69	18.3	38	Black	R3000	D6 - Red	107	Blue Acme 15L	20.3	14.9	9.7	9.7
141	1265.2		9.0	Plug									
142	1274.2	70	18.0	38	Black	R3000	D6 - Red	116	Blue Acme 15L	19.9	14.9	9.6	9.7
143	1283.2		9.0	Plug									
144	1291.7	71	17.5	37	Purple/Black	R3000	D6 - Red	121	Blue Acme 15L	19.6	14.9	9.4	9.2
145	1300.1		8.4	Plug									
146	1308.5	72	16.8	38	Black	R3000	D6 - Red	124	Blue Acme 15L	19.4	14.9	9.6	9.7
147	1317.0		8.5	Plug									
148	1326.0	73	17.5	38	Black	R3000	D6 - Red	125	Blue Acme 15L	19.2	14.8	10.0	9.7
149	1335.0		9.0	Plug									
150	1344.0	74	18.0	39	Black/Dk Turq	R3000	D6 - Red	123	Blue Acme 15L	19.2	14.8	10.3	10.2
151	1353.0		9.0	Plug									
152	1361.9	75	17.9	39	Black/Dk Turq	R3000	D6 - Red	119	Blue Acme 15L	19.3	14.8	10.4	10.2
153	1370.9		9.0	Plug									
154	1379.9	76	18.0	35	Dk Green/Purple	R3000	D6 - Red	112	Blue Acme 15L	19.4	15.0	7.9	8.2

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
155	1388.9	77	9.0	28	Blue	R3000	D6 - Red	107	Blue Acme 15L	19.6	15.3	5.3	5.3
156	1397.9	78	9.0	28	Blue	R3000	D6 - Red	103	Blue Acme 15L	19.7	15.3	5.4	5.3
	1402.6		Tower Number : 8		Span Length(ft) : 160.0								
157	1407.2	79	9.3	29	Blue/Dark Brown	R3000	D6 - Red	103	Blue Acme 15L	19.6	15.2	5.5	5.7
158	1416.2	80	9.0	28	Blue	R3000	D6 - Red	107	Blue Acme 15L	19.4	15.3	5.4	5.3
159	1425.2	81	9.0	28	Blue	R3000	D6 - Red	112	Blue Acme 15L	19.2	15.3	5.5	5.3
160	1434.2	82	9.0	29	Blue/Dark Brown	R3000	D6 - Red	116	Blue Acme 15L	19.1	15.2	5.5	5.7
161	1443.2	83	9.0	28	Blue	R3000	D6 - Red	119	Blue Acme 15L	18.9	15.3	5.4	5.3
162	1451.7	84	8.5	28	Blue	R3000	D6 - Red	121	Blue Acme 15L	18.8	15.3	5.2	5.3
163	1460.1	85	8.4	27	White/Blue	R3000	D6 - Red	123	Blue Acme 15L	18.7	15.3	5.2	4.9
164	1468.6	86	8.4	28	Blue	R3000	D6 - Red	124	Blue Acme 15L	18.6	15.3	5.3	5.3
165	1477.1	87	8.5	29	Blue/Dark Brown	R3000	D6 - Red	125	Blue Acme 15L	18.6	15.2	5.5	5.7
166	1486.1	88	9.0	29	Blue/Dark Brown	R3000	D6 - Red	125	Blue Acme 15L	18.5	15.2	5.7	5.7
167	1495.1	89	9.0	29	Blue/Dark Brown	R3000	D6 - Red	124	Blue Acme 15L	18.5	15.2	5.7	5.7
168	1504.1	90	9.0	29	Blue/Dark Brown	R3000	D6 - Red	123	Blue Acme 15L	18.5	15.2	5.8	5.7
169	1513.1	91	9.0	29	Blue/Dark Brown	R3000	D6 - Red	121	Blue Acme 15L	18.6	15.2	5.8	5.7
170	1522.0	92	8.9	29	Blue/Dark Brown	R3000	D6 - Red	119	Blue Acme 15L	18.6	15.2	5.8	5.7
171	1531.0	93	9.0	30	Dark Brown	R3000	D6 - Red	116	Blue Acme 15L	18.7	15.2	5.9	6.1
172	1540.0	94	9.0	29	Blue/Dark Brown	R3000	D6 - Red	112	Blue Acme 15L	18.8	15.2	5.9	5.7
173	1549.0	95	9.0	30	Dark Brown	R3000	D6 - Red	107	Blue Acme 15L	18.9	15.2	5.9	6.1
174	1558.0	96	9.0	30	Dark Brown	R3000	D6 - Red	103	Blue Acme 15L	19.1	15.2	6.1	6.1
	1562.6		Tower Number : 9		Span Length(ft) : 160.0								
175	1567.3	97	9.3	30	Dark Brown	R3000	D6 - Red	103	Blue Acme 15L	19.1	15.2	6.1	6.1
176	1576.3	98	9.0	30	Dark Brown	R3000	D6 - Red	107	Blue Acme 15L	18.9	15.2	6.0	6.1
177	1585.3	99	9.0	30	Dark Brown	R3000	D6 - Red	112	Blue Acme 15L	18.7	15.2	6.1	6.1
178	1594.3	100	9.0	30	Dark Brown	R3000	D6 - Red	116	Blue Acme 15L	18.5	15.2	6.1	6.1
179	1603.3	101	9.0	29	Blue/Dark Brown	R3000	D6 - Red	119	Blue Acme 15L	18.4	15.2	6.0	5.7
180	1611.8	102	8.5	29	Blue/Dark Brown	R3000	D6 - Red	121	Blue Acme 15L	18.3	15.2	5.8	5.7
181	1620.2	103	8.4	29	Blue/Dark Brown	R3000	D6 - Red	123	Blue Acme 15L	18.2	15.2	5.8	5.7
182	1628.6	104	8.4	30	Dark Brown	R3000	D6 - Red	124	Blue Acme 15L	18.1	15.2	5.9	6.1
183	1637.1	105	8.5	30	Dark Brown	R3000	D6 - Red	125	Blue Acme 15L	18.1	15.2	6.1	6.1
184	1646.1	106	9.0	31	Dk Brown/Orange	R3000	D6 - Red	125	Blue Acme 15L	18.1	15.2	6.3	6.4
185	1655.1	107	9.0	31	Dk Brown/Orange	R3000	D6 - Red	124	Blue Acme 15L	18.1	15.2	6.3	6.4

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
186	1664.1	108	9.0	30	Dark Brown	R3000	D6 - Red	123	Blue Acme 15L	18.1	15.2	6.4	6.1
187	1673.1	109	9.0	31	Dk Brown/Orange	R3000	D6 - Red	121	Blue Acme 15L	18.1	15.2	6.4	6.4
188	1682.0	110	8.9	31	Dk Brown/Orange	R3000	D6 - Red	119	Blue Acme 15L	18.2	15.2	6.4	6.4
189	1691.0	111	9.0	31	Dk Brown/Orange	R3000	D6 - Red	116	Blue Acme 15L	18.3	15.1	6.5	6.4
190	1700.0	112	9.0	31	Dk Brown/Orange	R3000	D6 - Red	112	Blue Acme 15L	18.4	15.1	6.5	6.4
191	1709.0	113	9.0	31	Dk Brown/Orange	R3000	D6 - Red	107	Blue Acme 15L	18.6	15.1	6.5	6.4
192	1718.0	114	9.0	32	Orange	R3000	D6 - Red	103	Blue Acme 15L	18.7	15.1	6.7	6.9
	1722.7		Tower Number : 10		Span Length(ft) : 160.0								
193	1727.3	115	9.3	32	Orange	R3000	D6 - Red	103	Blue Acme 15L	18.7	15.1	6.7	6.9
194	1736.3	116	9.0	31	Dk Brown/Orange	R3000	D6 - Red	108	Blue Acme 15L	18.5	15.1	6.6	6.4
195	1745.3	117	9.0	31	Dk Brown/Orange	R3000	D6 - Red	112	Blue Acme 15L	18.4	15.1	6.7	6.4
196	1754.3	118	9.0	32	Orange	R3000	D6 - Red	116	Blue Acme 15L	18.2	15.1	6.7	6.9
197	1763.3	119	9.0	31	Dk Brown/Orange	R3000	D6 - Red	119	Blue Acme 15L	18.1	15.1	6.6	6.4
198	1771.8	120	8.5	31	Dk Brown/Orange	R3000	D6 - Red	121	Blue Acme 15L	18.0	15.1	6.4	6.4
199	1780.2	121	8.4	31	Dk Brown/Orange	R3000	D6 - Red	123	Blue Acme 15L	17.9	15.2	6.4	6.4
200	1788.6	122	8.4	31	Dk Brown/Orange	R3000	D6 - Red	124	Blue Acme 15L	17.9	15.1	6.4	6.4
201	1797.1	123	8.5	31	Dk Brown/Orange	R3000	D6 - Red	125	Blue Acme 15L	17.8	15.1	6.7	6.4
202	1806.1	124	9.0	32	Orange	R3000	D6 - Red	125	Blue Acme 15L	17.8	15.1	6.9	6.9
203	1815.1	125	9.0	32	Orange	R3000	D6 - Red	124	Blue Acme 15L	17.8	15.1	7.0	6.9
204	1824.1	126	9.0	32	Orange	R3000	D6 - Red	123	Blue Acme 15L	17.9	15.1	7.0	6.9
205	1833.1	127	9.0	32	Orange	R3000	D6 - Red	121	Blue Acme 15L	17.9	15.1	7.0	6.9
206	1842.0	128	8.9	33	Orange/Dk Green	R3000	D6 - Red	119	Blue Acme 15L	18.0	15.1	7.0	7.4
207	1851.0	129	9.0	32	Orange	R3000	D6 - Red	115	Blue Acme 15L	18.1	15.1	7.1	6.9
208	1860.0	130	9.0	33	Orange/Dk Green	R3000	D6 - Red	112	Blue Acme 15L	18.3	15.1	7.1	7.4
209	1869.0	131	9.0	32	Orange	R3000	D6 - Red	107	Blue Acme 15L	18.4	15.1	7.2	6.9
210	1878.0	132	9.0	33	Orange/Dk Green	R3000	D6 - Red	102	Blue Acme 15L	18.6	15.1	7.1	7.4
211	1881.8		3.8	B.P.									
	1882.4		Tower Number : 11		Span Length(ft) : 159.8								
212	1886.8	133	8.8	33	Orange/Dk Green	R3000	D6 - Red	102	Blue Acme 15L	18.6	15.1	7.2	7.4
213	1896.0	134	9.2	33	Orange/Dk Green	R3000	D6 - Red	106	Blue Acme 15L	18.4	15.1	7.3	7.4
214	1899.5		3.5	Plug									
215	1904.9	135	8.9	33	Orange/Dk Green	R3000	D6 - Red	110	Blue Acme 15L	18.3	15.1	7.3	7.4
216	1914.1	136	9.2	33	Orange/Dk Green	R3000	D6 - Red	115	Blue Acme 15L	18.1	15.1	7.4	7.4

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
217	1917.6		3.5	Plug									
218	1923.2	137	9.1	33	Orange/Dk Green	R3000	D6 - Red	119	Blue Acme 15L	17.9	15.1	7.5	7.4
219	1932.4	138	9.1	33	Orange/Dk Green	R3000	D6 - Red	124	Blue Acme 15L	17.8	15.1	7.5	7.4
220	1941.5	139	9.2	35	Dk Green/Purple	R3000	D6 - Red	128	Blue Acme 15L	17.6	15.0	8.4	8.2
		Sprinkler : Senninger Spray											
221	1945.1	140	3.5	17	Dark Green	Directional				17.1	17.1	7.9	8.3
	1946.1			Overhang	Span Length(ft) : 63.6								
		Sprinkler : Nelson Endgun											
222	1946.1	141	1.0	0.65		SR100				17.1	48.8	80.9	85.2

Primary Endgun Arc Settings: Forward Angle: 45 Reverse Angle: 80

904.7

144.4 ACRES LARGE NE HALF PIVOT

Dealer AGRI INDUSTRIES - WILLISTON
Customer Ds Farms
Field Name Replace Olson Pivot Birch River Bottom

VALLEY | V-CHART

Sprinkler Order No 10820997

Parent Order No 10816827

Valley Standard Pivot 8000 Percent Timer Data

Setup Information - Valley Computer Control Panel Water Application Constants: Minimum Application = 0.138 (in) Hours/360° = 20.9

Based on IN

IN Per 360 degrees	Pivot % Timer	Hours Per 360 degrees
0.138	100.0	20.9
0.20	69.2	30.2
0.30	46.2	45.2
0.40	34.6	60.4
0.50	27.7	75.5
0.60	23.1	90.5
0.70	19.8	105.6
0.80	17.3	120.8
0.90	15.4	135.7
1.00	13.8	151.4
1.25	11.1	188.3
1.50	9.2	227.2
1.75	7.9	264.6
2.00	6.9	302.9
2.50	5.5	380.0

Based on % Timer

Pivot % Timer	IN Per 360 degrees	Hours Per 360 degrees
100.0	0.138	20.9
90.0	0.15	23.2
80.0	0.17	26.1
70.0	0.20	29.9
60.0	0.23	34.8
50.0	0.28	41.8
45.0	0.31	46.4
40.0	0.35	52.3
35.0	0.40	59.7
30.0	0.46	69.7
25.0	0.55	83.6
20.0	0.69	104.5
17.5	0.79	119.4
15.0	0.92	139.3
12.5	1.11	167.2
10.0	1.38	209.0
7.5	1.85	278.7
5.0	2.77	418.0

Field Area

300.1 (Ac) Total
273.1 (Ac) Pivot 360°
27.0 (Ac) EG on 100%
1946.1 (ft) Machine Length
93.8 (ft) End Gun Radius

Flow

900 (GPM)
3.00 (GPM per Acre)
0.16 (in per day) App Rate
0.138 (in) App Depth @ 100%
85.2 (GPM) End Gun

Pressure

35 (PSI) Pivot Pressure
Calculated Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11.2 x 38 Tire
52:1 Wheel GB Ratio, LRDU Dist 1882.4 (ft)
20.9 Hrs/360° @ 100% (9.45) (Ft per Min)
20.9 Hrs/360° @ 100%

Disclaimer

The information presented in the attached Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827

Dealer Agri Industries

Sprinkler Order No 10820997

Customer DS FARMS

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Bill Of Materials

Qty	Part Number	Description
1	0211059	NPL MS 3/4 X 12 GVSCH 40
139	0231104	REG PR NELSON LO FLO 15PSI BLUE/RED INTEGRA
1	0232442	GAE MS 0-60 PSI PRESSUREGAUGE
1	0241005	FIT ER 3/4 X 90 GV
1	0241012	FIT ES 3/4 X 90 GV
1	0244038	FIT PB 1 X 3/4 GVREDUCER
139	0271077	HSE IT 3/4" MNPT X 3/4"HOSE BARB
139	0271080	HSE CL 1 1/16" HOSECLAMP-CRIMP
139	0271084	HSE CL 1 1/4 S.S. HOSEDROP CLAMP
6	0272043	HSE WT 3/4 FLEX X 250 FTFROM SENNINGER
139	0430530	SPK PD D6 12 DEG ROTORPLATE (RED)
139	0430601	SPK MS NELSON BODY FORR3000/S3000
139	0430602	SPK MS NELSON CAP/MOTORASSM FOR R3000
9	0430614	NZ LIME 3TN 14/128
2	0430615	NZ LIME/LAVENDER 3TN 15/128
1	0430616	NZ LAVENDER 3TN 16/128
2	0430617	NZ LAVENDER/GRAY 3TN 17/128
2	0430618	NZ GRAY 3TN 18/128
2	0430619	NZ GRAY/TURQUOISE 3TN 19/128
1	0430620	NZ TURQUOISE 3TN 20/128
3	0430621	NZ TURQUOISE/YEL 3TN 21/128
1	0430622	NZ YELLOW 3TN 22/128
3	0430623	NZ YELLOW/RED 3TN 23/128
2	0430624	NZ RED 3TN 24/128
3	0430625	NZ RED/WHITE 3TN 25/128
2	0430626	NZ WHITE 3TN 26/128
4	0430627	NZ WHITE/BLUE 3TN 27/128
10	0430628	NZ BLUE 3TN 28/128
14	0430629	NZ BLUE/DARK BROWN 3TN 29/128
14	0430630	NZ DARK BROWN 3TN 30/128
16	0430631	NZ DARK BROWN/ORANGE 3TN 31/128
12	0430632	NZ ORANGE 3TN 32/128
13	0430633	NZ ORANGE/DARK GREEN 3TN 33/128
3	0430634	NZ DARK GREEN 3TN 34/128
7	0430635	NZ DARK GREEN/PURPLE 3TN 35/128
2	0430636	NZ PURPLE 3TN 36/128

144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827

Dealer Agri Industries

Customer DS FARMS

Field Name Replace Olson Pivot Birch River Bottom

Sprinkler Order No 10820997

Valley Standard Pivot 8000 Bill Of Materials

Qty	Part Number	Description
4	0430637	NZ PURPLE/BLACK 3TN 37/128
5	0430638	NZ BLACK 3TN 38/128
2	0430639	NZ BLACK/DARK TURQUOISE 3TN 39/128
1	0496170	DARK GREEN SPRAY NZ #17 ORF .266
1	0500703	SPK NZ TAPERED SR100NELSON 0.65T
1	0505060	SPK CP NELSON SR100 ENDGUN MOD W/2"BASE
139	0994385	2 LB. HOSE DROP WEIGHT -POLYETHYLENE
139	0995972	U-PIPE W/BARBED END
1	PRDCTED	COOP & PRODUCT PROMOTION

Total Net Weight (lbs): 816.70

Parent Order No 10816827

144.4 ACRES LARGE NE HALF PIVOT

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Sprinkler Chart Disclaimer

WARRANTY

The information presented in the attached Default Sprinkler Report, Setup Sprinkler Report, and Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont makes no warranty for this sprinkler package's uniformity and/or distribution of water or chemicals, accuracy or consistency of the application depth, and machine rotation time. Furthermore, Valmont makes no representations or recommendations as to percentage timer settings, water application rates, irrigation scheduling, and other similar or dissimilar irrigation/farm management decisions.

LIABILITY

The responsibility and obligations lie with the end user to determine if the sprinkler package/report received matches the machine configuration and field conditions (including but not limited to: sprinkler type, sprinkler spacing, sprinkler height, pressure regulator type, crop, soil type, end gun arc settings, span lengths, last regular drive unit tire type, last regular drive unit motor, and pipe diameters). VALMONT ASSUMES NO LIABILITY OF WHATSOEVER NATURE OR KIND FOR CROP LOSSES OR OTHER DAMAGES (INCLUDING CONSEQUENTIAL DAMAGES) CAUSED BY THIS SPRINKLER PACKAGE.

SPRINKLER REPORT GENERAL INFORMATION

Sprinkler reports are created using information from the Sprinkler Order Transmittal received or as given verbally to a Valmont Customer Service/Parts Representative and is considered by Valmont to be accurate.

Pivot tower length begins at the center of the riser pipe inlet and ends at the center of a flex joint. Intermediate length span begins and ends at the center of a flex joint. Last span length begins at the center of a flex joint and ends at the last pipe flange.

Pivot pressure begins at the first coupler on the pipeline downstream of the pivot elbow. End pressure stated by the report will be within a range of -0 to +1.1 PSI of the specified end pressure at the end of the machine pipeline. Calculated pressure stated by the report will be within a range of -0 to +1.1 PSI of the minimum sprinkler pressure specified by Valmont or its sprinkler suppliers.

Pipeline pressure and drop length stated by the report for an under truss span are adjusted for elevation change due to crown height, tire size and drive unit profile.

Calculated sprinkler ground clearance extends from the ground surface up to the point where the water exits the sprinkler.

Highest elevation stated by the report is prorated over the first 30% of machine length with the remaining machine length at the highest elevation and is only used with sprinkler packages containing pressure regulators.

Non-pressure regulated machines are considered to be on level ground. Pressure regulators will have a minimum inlet pressure of 5 PSI plus their nominal pressure rating.

End gun coverage area can be over watering or under watering based upon end gun nozzle size and/or booster pump flow limitations. An auxiliary end gun will be specified by the sprinkler report when requested by the customer and the end gun required flow is at least 10% greater than the maximum flow of the primary end gun.

The Percent Timer report is based upon typical operating conditions. Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

Water application rates and rotation times may vary with a corner machine operating in chemigate mode.

Technical Analyses Report/ Scientific Credibility Review

- Departmental Technical Analyses Report/ Scientific Credibility Review
- Any correspondence relating to the Technical Analyses Report

Technical Analyses Report / Scientific Credibility Review

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DIRECTOR'S OFFICE: (406) 444-2074
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1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

March 18th, 2025

Richland County Conservation District
2745 West Holly St.
Sidney, MT 59270

Subject: Completed Technical Analyses Report for Beneficial Water Use Change Preapplication No. 40S 30165293

Dear Applicant,

As designated on the submitted Preapplication Meeting Form per §85-2-302(3)(b), MCA, the Department of Natural Resources and Conservation (DNRC or Department) has completed the technical analyses for Beneficial Water Use Change Preapplication No. 40S 30165293 based on the information provided in your Preapplication Meeting Form accepted by the Department on February 5th, 2025. The technical analyses can be found in the attached report.

This Technical Analyses Report **IS**: A collection of facts that the DNRC has gathered, including content provided in the Preapplication Meeting Form materials. The Department will use these data to analyze the criteria in §85-2-316, MCA if you submit an application for the project described in the completed Preapplication Meeting Form.

This Technical Analyses Report **IS NOT**: An analysis or discussion of whether the Preapplication Meeting Form as filed meets the criteria (§85-2-316, MCA).

You have 180 days to submit the Conservation District Application to Change Water Reservation Application Form 606-CD considering the information provided in the technical analyses and Preapplication Meeting Form. If the Application Form is not submitted to the Havre Regional Office by September 14th, 2025, a new preapplication meeting will be required to process the Application with expedited timelines (ARM 36.12.1302(6)(b)). If any details described in the submitted Application are changed from that of the submitted Preapplication Meeting Form, the discounted filing fee and expedited timelines will not apply (ARM 36.12.1302(6)(a)). Please note that the technical analyses will expire one year from the date of this letter (ARM 36.12.1302(8)).

Please let me know if you have any questions.

Best,

Kailee Ingalls

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2912 7th Ave. N.

Billings, MT 59101-0906

Conservation District Application to Change Water Reservation Technical Analyses Report

Department of Natural Resources and Conservation (DNRC or Department)
Water Resources Division
Kailee Ingalls, Water Resource Specialist, Havre Regional Office

Application No.	40S 30165293	**Proposed Point of Diversion**	SESWSE, Section 33, T28N, R55E, Richland County. SESESE, Section 34, Lot 10, T28N, R55E, Richland County. SWSESE, Section 03, Lot 10, T27N, R55E, Richland County.
Applicant	Richland County Conservation District		

Overview

This report analyzes data submitted by the Applicant in support of the above-mentioned water right 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 §85-2-311, Montana Code Annotated (MCA). This report was completed by regional office staff.

This Conservation District Application to Change Water Reservation Technical Analyses Report contains the following sections:

1.0 Application Details

This application adds points of diversion and places of use to the Richland County Conservation District water reservation (40S 84500-00) that were not included in the original water reservation public notice. The Applicant proposes to divert water at SESESE Section 34, Lot 10, T28N, R55E, Richland County, SWSESE, Section 03, Lot 10, T27N, R55E, Richland County, and SESWSE, Section 33, T28N, R55E, Richland County from the Missouri River at a rate of 8.7 CFS. 590.25 AC-FT of water would be used between April 1st - November 1st for Irrigation use in the following places of use:

Table 1: Proposed Place of Use

QTR	LOT	SECTION	TWN	RANGE	COUNTY
S2S2SE	9,10	34	28N	55E	RICHLAND
N2NE	1,2	3	27N	55E	RICHLAND
S2NE	5,6	3	27N	55E	RICHLAND
SE	7,8,9,10	3	27N	55E	RICHLAND
W2NE	2,3	10	27N	55E	RICHLAND
S2NESW		3	27N	55E	RICHLAND
S2SW		3	27N	55E	RICHLAND
S2SE		4	27N	55E	RICHLAND
N2NE		9	27N	55E	RICHLAND
E2E2NENE		9	27N	55E	RICHLAND

The Richland County Conservation District CONSERVATION DISTRICT RESERVATION 8450000 has a flow rate of 75.12 CFS and a volume of 15,508.05 AF remaining in their water reservation prior to this application.

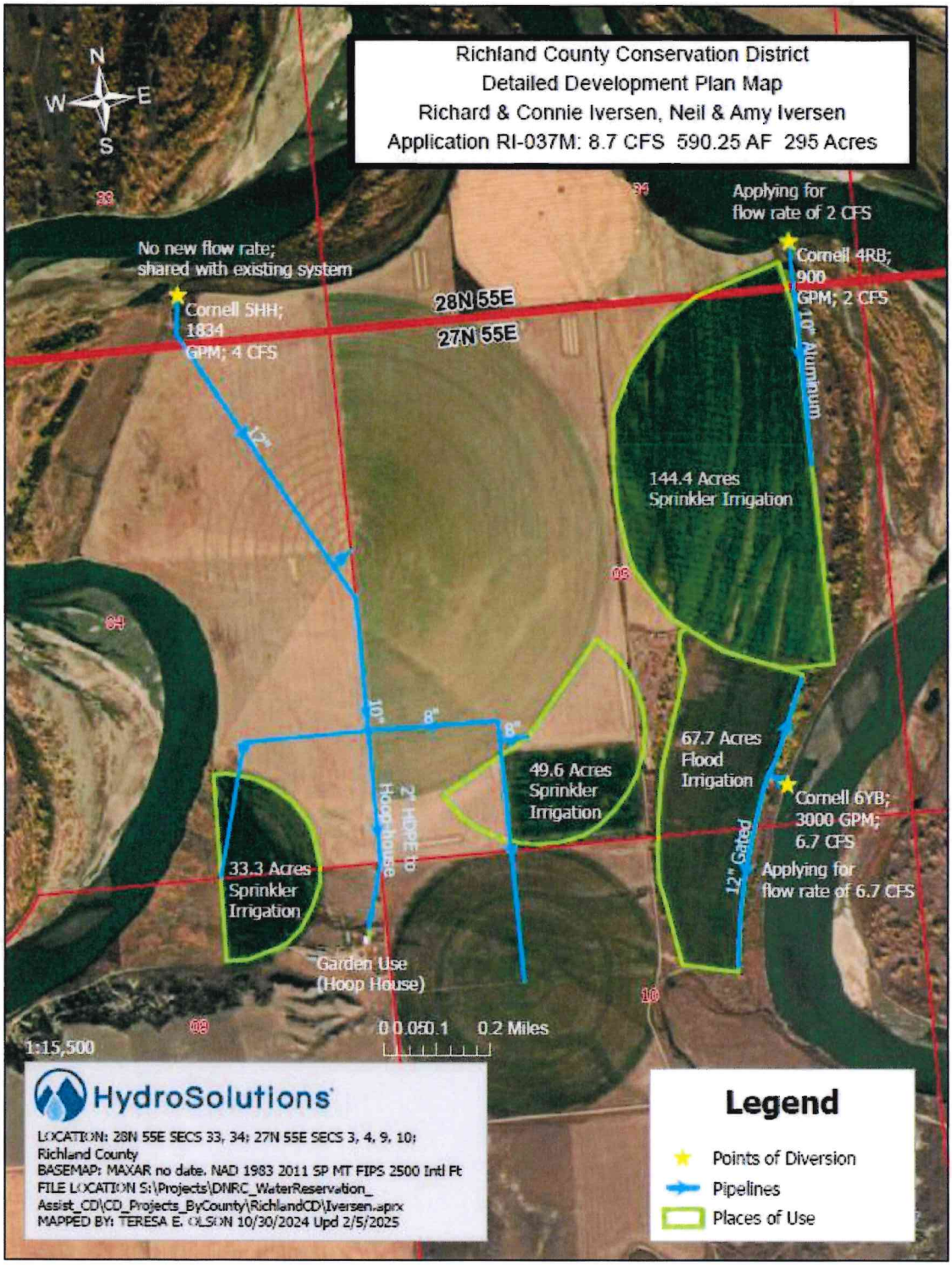

Figure 1: Applicant Provided Map of Proposed Point of Diversion and Place of Use for CD Change Application Preapplication No. 40S 30165293

2.0 Historical Use Analysis

2.1 Historical Field Consumed and Applied Volumes

This water right is not supplemental to any other water rights.

Historical place of use, historical acres irrigated, method of irrigation, and historical storage are not considered in this change authorization. This is a new use under the Richland County Conservation District's water reservation, and this section does not apply.

2.2 Historical Conveyance Losses

No historical conveyance losses are considered for the historical use pertaining to this change authorization because this is a new use under the Richland County Conservation District's water reservation, and this section does not apply.

2.3 Historical Diverted Volume

There is no historical diverted volume associated with this change authorization because this is a new use under the Richland County Conservation District's water reservation, and this section does not apply.

2.4 Summary of Historical Use

This application is to change a portion of the water reservation not yet put to use and therefore no historic use for the amount of water being changed exists.

The Department will consider the following values when evaluating the historical use of Richland County Conservation District for the adverse effect criterion: None.

3.0 Surface Water Analysis

3.1 Summary of Proposed Use

The Applicant proposes to use a non-perfected portion of Water Reservation No. 40S 84500-00. The proposed consumed and field applied volumes have been calculated with the inputs shown in Table 2 following the methods described below in ARM 36.12.115 and ARM 36.12.1902.

Proposed Consumptive Volume ((without Irrecoverable Losses (IL)) (AF) =

$$\frac{\text{Culbertson Seasonal Evapotranspiration } (\frac{\text{in}}{\text{acre}})}{\text{Roosevelt County Management Factor x Proposed Acres x } 12\,(\frac{\text{in}}{\text{ft}})}$$

$$\text{Applied Field Volume} = \frac{\textit{Proposed Consumptive Volume(without Irrecoverable Losses)}}{\textit{On-Farm Efficieny}}$$

$$\text{Proposed Irrecoverable Losses} = \frac{\textit{Volume}_{\textit{proposed consumptive use}}}{\textit{On Farm Efficiency}} \text{ x (5\% Flood Irrigation or 10\% Sprinkler Irrigation)}$$

Lawn and Garden (Hoop House) Volume:

Volume Standard for Lawn and Garden Use: 2.5 AC-FT/AC
20' x 30' = 0.0137 ACRE x 2.5 AF/ACRE = .03 AF

Table 2: Proposed new irrigation that proposed points of diversion and places of use are outside the project area identified in the original water reservation application public notice.

Irrigation Method	Acres	IWR (in)[1]	Mgmt. Factor[2]	Field Efficiency	Crop Consumption (AF)	Applied Field Volume (AF)	Irrecoverable Losses (AF)	Total Consumptive Volume (AF)	Non-Consumptive Volume (AF)
Sprinkler	227.3	23.73	74.6	70%	335.32	479.02	47.9	383.22	95.8
Flood	67.7	20.84	74.6	60%	146.18	146.18	7.31	95.02	51.16
Lawn and Garden	0.02	-	-	-	-	0.03	-	-	-
Total	295.02	-	-	-	423.03	625.23	55.21	478.24	146.97

[1]Culbertson IWR Weather Station
[2]Roosevelt County Proposed Use Management Factor 1973-2006

Total Diverted Volume: 625.23 AF

Total Consumptive Volume: 478.24AF

The following are hydraulically connected surface waters for the purpose of evaluating return flows: There are no return flows to evaluate for this change because this application is to irrigate new acres under a water reservation.

3.2 Source Description

Proposed Source of Water: Missouri River

Proposed Source Type: Perennial

Proposed Point of Diversion: SESWSE, Section 33, T28N, R55E, Richland County
SESESE, Section 34, Lot 10, T28N, R55E, Richland County
SWSESE, Section 03, Lot 10, T27N, R55E, Richland County

3.3 Method of Estimation

Gage Name: USGS Missouri River near Culbertson

Gage Number: #06185500

Period of Record: 1958-2024

Why this gage is considered an appropriate data source: According to ARM 6.12.1702, available stream gage records will be used to quantify physical availability using the median of

the mean monthly flow rate and volume during the proposed months of diversion. USGS Gage #06185500, Missouri River near Culbertson, is the nearest gage to the proposed POD and is approximately 11 river miles downstream of the uppermost POD. The date range includes the entire period of record for this gage.

3.4 Monthly Flow Rate and Volume

Methodology: The physical availability of the Missouri River water at the POD will be quantified monthly. Department practice for physical availability analyses where the gage used is downstream of the POD is to add the monthly flow rates of existing water rights between the gage and the POD to the median of the mean monthly flows at the gage. The DNRC used the method below to quantify physically available monthly flows and volumes at the POD during the proposed period of diversion:

1. The Department calculated the median of the mean monthly flow rates in cubic feet per second (CFS) for the Missouri River using USGS Gage #06185500 records for each month of the proposed period of diversion (Table 3, column B). Those flows were converted to monthly volumes in AF (Table 3, column C) using the following equation found on DNRC Form 615: median of the mean monthly flow (CFS) × 1.98 (AF/day/1 CFS) × days per month = AF/month.
2. The Department calculated the monthly flows appropriated by existing users upstream of the gage on the source (Table 3, column D) by:
    i. Generating a list of existing water rights from the Missouri River uppermost POD to USGS Gage #06185500 (list is included in the application file and available upon request);
    ii. Calculating the flow rate of all livestock direct from source water rights drinking from the reach of interest using either 30 GPD/AU for Statements of Claim or 15 GPD/AU for all other water rights and adding 35 GPM.
    iii. Calculating a volume for all livestock direct from source rights without a designated volume by multiplying the number of AU by 30 GPD/AU for Statements of Claim or 15 GPD/AU for all other water rights.
    iv. Calculating a volume for all irrigation rights without a designated volume by multiplying the number of acres by 2.5 AF/Acre per Department water use standards for a moderate consumptive use climatic area.
    v. Assuming that the flow rate of each existing right is continuously diverted throughout each month of the period of diversion. This assumption is necessary due to the difficulty of differentiating the distribution of appropriated volume over the period of diversion. The Department has determined that this leads to an overestimation of existing uses from the source.
3. Since the gage used is downstream of the POD, the Department added in the flow rates of the existing rights between USGS Gage #06185500 and the POD on the Missouri River (Table 3, column D) to the median of the mean monthly gage values (Table 3, column B) to determine

physical availability at the POD (Table 3, column F). Physically available monthly flows were then converted to monthly volumes (Table 3, column G).

Table 3: Physical Availability at the Uppermost Point of Diversion on the Missouri River

A	B	C	D	E	F	G
Month	**Median of the Mean Monthly Flow at Gage 06185500 (CFS)**	**Median of the Mean Monthly Volume at Gage 06185500 (AF)**	**Existing Rights from Gage 06185500 to POD (CFS)**	**Existing Rights from the POD to Gage 06185500 (AF)**	**Physically Available Water at POD (CFS)**	**Physically Available Water at POD (AF)**
April	8,000	475,200	75.80	1,245.78	8,075.80	476,445.78
May	8,656	531,305	84.50	1,573.72	8,740.50	532,879.00
June	9,547	567,092	90.30	1,744.99	9,637.30	568,836.79
July	9,371	575,192	90.30	1,744.99	9,461.30	576,936.97
August	8,973	550,763	90.30	1,744.99	9,063.30	552,507.73
September	7,836	465,458	88.90	1,709.35	7,924.90	467,167.75
October	6,976	428,187	80.80	1,519.27	7,056.80	429,706.15

4.0 Area of Potential Impact Analysis

The Area of Potential Impact for this application is: The area of potential affect is approximately 11 river miles downstream of the uppermost proposed point of diversion. A total of 34 surface water rights exists within the reach. A list of rights can be found in Appendix A.

Why this is an appropriate Area of Potential Impact: The proposed uppermost point of diversion is located approximately 11 river miles upstream of the USGS Missouri River near Culbertson. A total of 34 surface water rights exists within the reach, which includes the Montana Fish Wildlife & Parks instream flow right (40S 30017671), and the Fort Peck Tribal Reserved Claim (Fort Peck-Montana Compact, MCA §85-20-201, Article III F.1). A list of rights can be found in Appendix A.

Methodology: A list of water rights that divert from the Missouri River in the location between the point of diversion (SESWSE, Section 33, T28N, R55E, Richland County) and the USGS Missouri River near Culbertson (Section 03, T27N, R56E, Richland County) were compiled using the DNRC GIS web application Converge. Water rights could include all active claims, exempt notices, permits, perfected conservation district reservations, instream flow, tribal rights, and hydropower water rights.

Review

This document has been reviewed by the Department on March 14, 2025.

References

Department Standard Practice for Determining Physical Availability of Surface Water
Department Standard Practice for Determining Area of Potential Impact

Appendix A: Water Rights within the Area of Potential Impact

APPENDIX A				
A	**B**	**C**	**D**	**E**
WR NUMBER	***PERIOD OF DIVERSION***	***WR TYPE***	***FLOW RATE (CFS)***	***VOLUME (AF)***
MCA 85-20-201.	01/01 to 12/31	Reserved Claim	See Table 4	See Table 4
40S 30017671	01/01 to 12/31	Water Reservation	5178	3,748,500
40S 184965 00*	01/01 to 12/31	Statement of Claim	0.1	7.1
40S 30142616*	01/01 to 12/31	Statement of Claim	0.1	1.5
40S 30073870	01/01 to 12/31	Reserved Claim	0.0	0.6
40S 30142619*	01/01 to 12/31	Statement of Claim	0.1	0.5
40S 1549 00	01/01 to 12/31	Statement of Claim	1.8	257.4
40S 30073871	01/01 to 12/31	Reserved Claim	0.0	304.0
40S 142790 00	01/01 to 12/31	Statement of Claim	0.5	135.0
40S 30142621*	01/01 to 12/31	Statement of Claim	0.1	0.03
40S 1508 00**	03/01 to 12/04	Statement of Claim	3.8	348.0
40S 30046592**	03/01 to 12/04	Statement of Claim	7.4	685.0
40S 101303 00**	04/01 to 09/30	Statement of Claim	1.2	80.0
40S 30150186	04/01 to 10/15	Conservation District Record	0.8	69.0
40S 30012791	04/01 to 10/15	Conservation District Record	6.0	413.6
40S 30027588	04/01 to 10/15	Conservation District Record	3.9	272.8
40S 30044041	04/01 to 10/15	Conservation District Record	1.8	176.9
40S 30030883	04/01 to 10/31	Provisional Permit	6.2	0.0

WR NUMBER	*PERIOD OF DIVERSION*	*WR TYPE*	*FLOW RATE (CFS)*	*VOLUME (AF)*
40S 178507 00**	04/01 to 10/31	Statement of Claim	1.1	70.3
40S 163084 00**	04/01 to 10/31	Statement of Claim	1.9	103.5
40S 30030881	04/01 to 10/31	Provisional Permit	2.7	0.0
40S 78203 00	04/01 to 10/31	Provisional Permit	4.5	1202.0
40S 178504 00**	04/01 to 11/01	Statement of Claim	1.8	400.0
40S 101074 00	04/15 to 10/15	Conservation District Record	5.8	927.0
40S 106990 00	04/15 to 10/15	Conservation District Record	4.2	636.0
40S 103671 00	04/15 to 10/15	Conservation District Record	2.5	360.0
40S 42905 00**	04/15 to 10/19	Statement of Claim	1.0	67.5
40S 42906 00**	04/15 to 10/19	Statement of Claim	11.1	237.5
40S 96357 00	04/15 to 10/31	Provisional Permit	5.6	795.0
40S 11957 00**	05/01 to 09/19	Statement of Claim	1.0	100.0
40S 5134 00**	05/01 to 09/30	Statement of Claim	1.4	150.0
40S 101292 00**	05/01 to 10/19	Statement of Claim	6.2	1737.5
40S 17844 00	06/01 to 08/15	Provisional Permit	1.3	216.0
40S 30022924	06/01 to 09/01	Provisional Permit	1.3	232.0
40S 4947 00	06/01 to 09/01	Provisional Permit	1.9	350.0
40S 30022935	06/01 to 09/01	Provisional Permit	1.3	240.0

* Flow rate and volume assigned per department standards
**Volume calculated per department standard water use for irrigation in climatic area 2

Table 4: Fort Peck-Montana Compact, MCA §85-20-201, Article III F.1 Volumes		
Month	**Fort Peck Tribal Right (AF)**	**Fort Peck Tribal Right (CFS)****
April	50,000	840
May	105,000	1708
June	145,000	2437
July	215,000	3497
August	180,000	2927
September	105,000	1765
October	50,000	813

** Flow rate in CFS is calculated by dividing monthly volume in AF by the number of days in the month by 1.98 AF/day.

5. It has been established to the satisfaction of the Board that the amount requested by Richland County Conservation District as modified and conditioned herein is needed to fulfill the purpose of the reservation (MCA §85-2-316(4)(a)(iii); ARM 36.16.107B(3)).

6. Upon a weighing and balancing of the evidence, it has been established to the satisfaction of the Board that the reservation requested by the Richland County Conservation District is in the public interest (MCA §85-2-316(4)(a)(iv)(1993); ARM 36.16.107B(4)).

7. Lower Missouri River water reservations approved by the Board shall have a priority date of July 1, 1985 (MCA §85-2-331(4)). The Board may determine the relative priorities of all reservations (MCA §85-2-316(a)(e)).

8. The Board may grant, deny, modify or condition any reservation applied for. In no case may the Board make a reservation for more than the amount applied for (MCA §85-2-316).

9. The Board has no authority under the reservation statutes or any other statutes to determine, or alter any water right that is not a reservation (MCA §85-2-316(14)).

IV. ORDER

1. Subject to all applicable conditions and limitations, the application of the Richland County Conservation District is granted for all projects requested. The amount of diversion, volume of diversion, places of diversion and places of use are as set forth in the reservation application of Richland County Conservation District for those particular projects and by reference are made a part of this Order. The total amount of water reserved for this applicant is 25,349 acre-feet at a flow rate not to exceed 186.9 cfs to serve a total of 11,141 irrigated acres.

2. The Richland County Conservation District water reservations approved by the Board shall have a priority date of July 1, 1985.

3. Relative to other reservations, the priority date of the Richland County Conservation District shall be subordinate to the consumptive use reservations granted to all municipalities, equal in priority with all other reservations granted to conservation districts, and shall have priority over the reservations granted to the Montana Department of Fish, Wildlife and Parks for instream flows.

4. Any and all liability arising from the reservation or the use of the reservation is the sole responsibility of the applicant. By granting such reservations, the Board, on behalf of itself and the Department of Natural Resources and Conservation, assumes no liability.

Preapplication Materials

- Preapplication Meeting Request
- Preapplication Meeting Form
- All attachments
- All correspondence prior to application receipt

Preapplication Materials

February 5th, 2025

Richland County Conservation District
2745 West Holly St.
Sidney, MT 59270

Subject: Complete Preapplication Form for Beneficial Water Use Change Application No. 40S 30165293

Dear Applicant,

The Havre Regional Office of the Department of Natural Resources and Conservation (DNRC or Department) received your Preapplication Meeting Form and preapplication meeting fee on February 3rd, 2025, and the Department deems the submitted Preapplication Meeting Form to be successfully completed per ARM 36.12.1302.

As designated on the submitted Preapplication Meeting Form per §85-2-302(3)(b), MCA, the Department will produce the technical analyses based on the parameters included in the Preapplication Meeting Form (ARM 36.12.1302(4)) within 45 days of February 5th, 2025.

Please let me know if you have any questions.

Best,

Kailee Ingalls

Kailee Ingalls | Water Resource Specialist
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
Physical| 210 6th Ave | Havre MT 59501
Mailing| PO Box 1828 | Havre MT 59501
DESK: 406-808-7126 **EMAIL**: kailee.ingalls@mt.gov

CC: Teresa Olson <tolson@hydrosi.com>

2912 7th Ave. N.

Billings, MT 59101-0906

PREAPPLICATION MEETING FORM
CHANGE

§ 85-2-302(3)(b)
Form No. 606P *(Revised 4/2024)*

For Department Use Only

Application # 30165293 Basin 40S
Meeting Date 12/10/24 Time 1:30 AM/PM
Completed Form Deadline 6/8/2025

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)).

Completed Form Received 2/3/25
Fee Rec'd $ 500.00 Check # 8781
Deposit Receipt # HVS2509148
Payor RICHLAND COUNTY CONSERVATIO
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 Richland County Conservation District
Mailing Address 2745 West Holly ST City Sidney State MT Zip 59270
Phone Numbers: Home _____ Work 406-943-3001 Cell _____
Email Address richlandcd@gmail.com

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 (describe) _____
Contact/Representative Name Teresa Olson
Mailing Address 2912 7th Ave. N. City Billings State MT Zip 59101-090
Phone Numbers: Home _____ Work 406-366-6547 Cell _____
Email Address tolson@hydrosi.com

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
Julie Goss	RCCD	Applicant
Teresa Olson	HydroSolutions	Consultant
Matt Miles/Kailee Ingalls	DNRC WRD - Havre RO	Regional Manager/ WRS
Li-An Yang	DNRC WRD - Glasgow RO	Regional Manager
Jay Smith	DNRC WRD - Central Office	NA Specialist

Table of Contents

Application Details

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".

Questions, Narrative Responses, and Tables	Check-boxes	Follow-Up
1. Do you elect to have DNRC conduct Technical Analyses?	■ Y ☐ N	☐ F
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).	■ A	☐ F

Water Right Number	Current Flow Rate (GPM or CFS)	Flow Rate Needed for Project (GPM or CFS)
Conservation District # 8450000	N/A	8.7 CFS

3. Is the proposed change on a non-filed water project?	☐ Y ■ N	☐ F
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. 1		☐ 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	☐ F

N/A

use for all overlapping water rights.		
6. 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.	■ S	☐ F
7. Identify the water right elements proposed for change, with an "X", for each water right proposed for change.	■ A	☐ F

Water Right #	INFORMATION	SUBMITTED	IN PRE APP	REQUEST.			
Point of diversion	X						
Place of use	X						
Purpose of use							
Place of storage							

8. Does the change involve a change in point of diversion?	■ Y ☐ 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).	☐ A	☐ F

POD #	¼	¼	¼	**Sec**	**Twp**	**Rge**	**County**	**Lot**	**Block**	**Tract**	**Subdivision**	**Gov Lot**	**GW or SW**	**Source Name**	**Means**
1	SE	SE	SE	34	28N	55E	RICHLAND	10					SW	MISSOURI RIVER	PUMP
2	SW	SE	SE	3	27N	55E	RICHLAND	10					SW	MISSOURI RIVER	PUMP
3	SE	SW	SE	33	28N	55E	RICHLAND						SW	MISSOURI RIVER	PUMP

9. Does the change involve a change in place of use?	■ Y ☐ N	☐ F
a. If yes,		
i. What are the geocodes of the proposed place of use?	☐ A	☐ F

NOT APPLICABLE TO CD WR	

ii. 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.	■ A	☐ F

Acres	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County
See Attached								
Page 61								
	Total							

b. Are you proposing to add a place of use on State of Montana Trust Land?	☐ Y ■ N	☐ F	
i. If yes, you must submit an Authorization for Temporary Change in Appropriation Right Consent Form 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).	☐ S	☐ F	
10. Does the proposed change include a change in purpose of use? If yes, answer questions 106 to 109 for change in purpose of use.	☐ Y ■ N	☐ F	
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 acre-feet? If yes, answer questions 110 to 119.	☐ Y ■ N	☐ F	
12. Are conveyance ditches used for historical or proposed uses? If yes, answer ditch-specific questions 120 to 126.	☐ Y ■ N	☐ F	
13. Do you have ownership of the entire historical POU for the water right(s) being changed?	☐ Y ☐ N	☐ F	N/A
a. If no,			
i. List the water right(s) for which you do not own the entire historical POU. Question 13 N/A FOR CD CHANGE		☐ F	
ii. Are the water right(s) listed in question 13.a.i severed from the historical POU?	☐ Y ☐ N	☐ F	N/A
1. If yes, do you own the entirety of the severed water right(s) proposed for change?	☐ Y ☐ N	☐ F	

iii. Are you filing on behalf of another entity? If yes, describe. _____	☐ Y ■ N	☐ F
iv. Are all owners of the historical place of use willing to sign the application?	☐ Y ☐ 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. N/A FOR CD CHANGE _____	☐ A	☐ F
14. Is the proposed use temporary? If yes, answer questions 99 to 105 for temporary changes.	☐ Y ■ N	☐ 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

N/A

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.

Questions, Narrative Responses, and Tables	Check-boxes	Follow-Up
21. What type of water right(s) are proposed for change? Answer question 22 for each Statement of Claim, 23 for each Provisional Permit, and 24 for other types of water rights. N/A FOR CD CHANGE CD# 8450000	☐ 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 "no" if a new historical use analysis will be conducted.	☐ A	☐ F

N/A

Statement of Claim	Previous Change Authorization	Project Completion Notice	Previous Historical Use Analysis	Use Historical Use Analysis for Current Application
N/A FOR CD CHANGE				

23. In the table below, write the water right number for each Provisional Permit proposed for change in the "Provisional Permit" column. If a Project Completion Notice has been submitted, write the date in the "Project Completion Notice" column, and if no Project Completion Notice has been submitted, write "none" instead. For each Provisional Permit proposed for change, if there are one or more previous change authorizations, write the application number for the change authorizations in the "Previous Change Authorization" column. If there are no previous change authorizations, write "none" in the "Previous Change Authorization" column and "NA" in all the remaining columns. Write the date of the Project	☐ A	☐ F

N/A

Completion Notice for each previous change authorization in the "Previous Change Project Completion Notice" column and if the previous change authorization does not have a Project Completion Notice, write "none" instead. In the "Previous Change 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, "no" if a new historical use analysis will be conducted.

Provisional Permit	Project Completion Notice	Previous Change Authorization	Previous Change Project Completion Notice	Previous Change Historical Use Analysis	Use Historical Use Analysis for Current Application
N/A					

24. In the table below, write the water right number for each water right with another type proposed for change, the type of water right, and the date of issuance.

☐ A ☐ F

Other Water Right Type Number	Other Water Right Type Description	Date of Issuance
CD #8450000	CONSERVATION DISTRICT	JULY 1ST, 1985

25. Are there previous Montana Water Court approved stipulations, Water Master reports, or prior Montana Water Court or Department decisions related to the water right(s) being changed?

☐ Y ■ N ☐ F

a. If yes, explain.

☐ A ☐ F

_____

_____

_____

_____

_____

_____

_____

26. Fill in the table below based on ARM 36.12.1902(1) and the information provided in questions 21 to 25. In column "Water Right Number" list all water rights proposed for change. Select one of the three options from column "Historical Use Analysis Options" and fill in the "Information Required for Historical Use" associated with that option. Select "Full Historical Use Analysis NA" only if an unperfected Provisional Permit will be used to serve as historical use in lieu of analysis. If the "Existing Historical Use Analysis" or "Full Historical Use Analysis NA" option is selected, skip to question 42 because this section is complete.	☐ A	☐ F	N/A

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: _____
	☐ 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: _____	
	☐ 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 actual knowledge of historical use?	☐ Y ☐ N	☐ F	N/A
a. If yes,			
i. Is this firsthand knowledge?	☐ Y ☐ N	☐ F	N/A
ii. Who has this knowledge and what was their role? N/A FOR CD CHANGE	☐ A	☐ F	

b. If no,			
i. Where will the historical use data be derived? N/A FOR CD CHANGE		☐ A	☐ F

N/A

Historical Use: Place of Use

28. The historical use map provided for question 5 must clearly identify the entire place of use for each overlapping water right that intersects the historical place of use. Does your historical use map meet this requirement?		☐ Y ☐ N	☐ F
29. Are you proposing to change all water right(s) associated with the historical place of use?		☐ Y ☐ N	☐ F
a. If no, identify the water right(s) associated with the historical place of use that are not included in this application. Provide the priority date for each water right and explain why all overlapping water rights are not included in the application. Include water received via contract from a company, district, or water users' association.		☐ A	☐ F

N/A

N/A

Water Right No.	Priority Date	Reason Not Included in Change
		N/A FOR CD CHANGE

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?	☐ Y ☐ N	☐ F
1. If yes,		
a. Does the Water Resources Survey corroborate the acres irrigated listed on the abstract?	☐ Y ☐ N	☐ F
i. If no, provide aerial photograph(s) that can corroborate the historical place of use.	☐ S	☐ F
b. Does the legal land description from the abstract match the actual location of the historical place of use?	☐ Y ☐ N	☐ F
i. 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

N/A

N/A

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

Historical Use: Point of Diversion

31. For all historical point(s) of diversion, identify the means, location (¼ ¼ ¼ 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

N/A

POD ID	Means	Location (¼ ¼ ¼ Section)	Proposed for Change?
		N/A FOR CD CHANGE	

N/A

32. Does the legal land description from the abstract match the actual location of the historical point(s) of diversion?	☐ Y ☐ N	☐ F
a. If no, do you have aerial photograph(s) that clearly show the location of the historical point(s) of diversion?	☐ Y ☐ N	☐ F
i. If yes,		
1. Provide the photograph(s).	☐ S	☐ F
2. Provide an explanation for the discrepancy and, if a Statement of Claim, provide documentation of a written request submitted to the Water Court for amendment of the Claim.	☐ S	☐ F
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 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).	☐ A	☐ F

POD ID	Dimensions (FT)	Slope (%)	Material	Estimated Capacity (GPM or CFS)	Method
					N/A FOR CD CHANGE

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 (GPM or CFS) and the method used to estimate the historical capacity. Label using the same POD ID letter as for the Historical Use Map (question 5).	☐ A	☐ F	N/A

POD ID	Estimated Capacity (GPM or CFS)	Method
		N/A FOR CD CHANGE

c. Well, pit, or other groundwater point of diversion			
i. For each well, pit, or other groundwater point of diversion, provide an estimate of the historical capacity (GPM or CFS) and the method used to estimate the historical capacity. Label using the same POD ID letter as for the Historical Use Map (question 5).	☐ A	☐ F	N/A

POD ID	Estimated Capacity (GPM or CFS)	Method
		N/A FOR CD CHANGE

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

POD ID	Water Right No.	Flow (GPM or CFS)	Relationship
	40S 30022924	1.26 CFS	SHARE POD 1
	40S 30027588	3.9 CFS	SHARE POD 1
	40S 4947-00	1.9CFS	SHARE POD 1
	40S 30012791	6 CFS	SHARE POD 1
	40S 74355-00	1.1 CFS	TO BE WITHDRAWN, SUPPLIMENTAL TO PROPOSED POU (SHARES POD 2)

Historical Use: Period of Diversion

35. Are the period of diversion and the period of use the same?	■ Y ☐ N	☐ F
a. If no,		
i. Why are they different? _____ _____	☐ A	☐ F
ii. Is there a place of storage?	☐ Y ■ N	☐ F
36. When was water diverted for the purpose(s) of the water right(s) being changed?	■ A	☐ F

Start Date (Month (MM)/Day (DD))	End Date (MM/DD)
04/01	11/01

37. Does the Department have a standard, found in ARM 36.12.112, for the period of diversion for the purposes for which water is used?	☐ Y ☐ N	■ F
a. If yes, does the period of diversion fall within Department standards?	☐ Y ☐ N	☐ F
b. If no or if the period of diversion falls outside Department standards, explain how the period of diversion is reasonable for the purpose. _____ _____ _____ _____	☐ A	☐ F
38. If the water right(s) being changed have an irrigation purpose, answer the following questions.		
a. What were the crop(s) grown? N/A FOR CD CHANGE		☐ F

i. If the crop(s) grown include hay, how many cuttings were there per season and how many days did they last? _____		☐ 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. N/A FOR CD CHANGE	☐ A	☐ F

N/A

Historical Use: Historical Diverted Volume

39. Answer the questions below related to the historical purposes of the water rights being changed.		
a. Irrigation		
i. Do you want ARM 36.12.1902(11) to be used to calculate historical diverted volume?	☐ Y ☐ 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? N/A FOR CD CHANGE		☐ F
ii. What was the duration of each historical diversion?		☐ F
iii. Was wastewater historically discharged? If yes, what amount was discharged?	☐ Y ☐ N	☐ F
iv. What is the volume of water historically diverted (AF)? _____		☐ F
v. How did you determine the volume of water historically diverted?	☐ A	☐ F
vi. Did the historical diverted volume serve more than one purpose of use?	☐ Y ☐ N	☐ F

N/A

1. If yes, how much of the diverted volume served each purpose of use and how did you determine this? N/A FOR CD CHANGE	☐ A	☐ F

Historical Use: Historical Consumed Volume

N/A

40. Answer the questions below related to the 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?	☐ Y ☐ N	☐ F
1. If no,		
a. What method will you use to determine historical consumptive use? N/A FOR CD CHANGE	☐ A	☐ F
b. Provide a Historical Water Use Addendum (Form 606-HUA) to the Department. Form 606-HUA must be submitted to the Department before the Preapplication Meeting Form is completed.	☐ S	☐ F
2. If yes,		
a. What is the historical irrigation method type and subtype? Irrigation method types include flood and sprinkler. Flood irrigation subtypes include level border, graded border, furrow, contour ditch, or wild flood. Sprinkler subtypes include wheel line and center pivot. N/A FOR CD CHANGE	☐ A	☐ F
b. What was the slope of the historical place of use? N/A FOR CD CHANGE		☐ F
c. Are there any factors beyond irrigation method type/subtype and place of use slope that may influence percent efficiency of irrigation?	☐ Y ☐ N	☐ F
i. If yes, provide evidence to support the modified percent efficiency of irrigation in the Historical Water Use Addendum (Form 606-HUA). These factors may include infrastructure 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 above questions, what is the percent efficiency of irrigation? N/A FOR CD CHANGE		☐ F
e. What is the County Management Factor? N/A FOR CD CHANGE		☐ F
f. What is evapotranspiration (ET) based on the irrigation method and county? N/A FOR CD CHANGE		☐ F
g. What percent of applied water are irrecoverable losses per ARM 36.12.1902(17)? N/A FOR CD CHANGE		☐ F
h. Do other water rights supplement or overlap the historical place of use that contribute to the irrigation water demand?	☐ Y ■ N	☐ F
i. If yes,		
1. How were the water rights operated to serve the irrigation purpose?	☐ A	☐ F
2. 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.	☐ A	☐ F

Water Right No.	Avg. Period of Diversion (MM/DD-MM/DD)	Avg. Period of Use (MM/DD-MM/DD)	Flow Rate (GPM or CFS)	Volume Contributed (AF)

b. Lawn and garden		
i. Will you use the Department standards for historical consumptive use volume for lawn and garden? Department standards include 2.5 acre-feet per acre, or a calculated volume based on Irrigation Water Requirements for turf grass.	☐ Y ☐ N	☐ F
1. If yes, which standard? _____		☐ F
2. If no, please provide an estimate of historical water use based on expert analysis and methods used to determine this estimate. _____ _____	☐ A	☐ F
c. Stock		
i. 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
ii. 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?	☐ Y ☐ N	☐ F
1. If no, explain. _____ _____	☐ A	☐ F
d. Domestic and multiple domestic		
i. How many households were served? _____		☐ F
ii. Will the Department standard of 1 acre-foot per household be used? The same standard shall be applied to historical and proposed uses.	☐ Y ☐ N	☐ F
1. If no, what standard will be used? _____		☐ F
iii. Did the historical use include wastewater disposal and treatment?	☐ Y ☐ N	☐ F

1. 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. Municipal		
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.	☐ S	☐ F

Historical Use: Historical Places of Storage

41. Did the historical use include one or more place(s) of storage, which may include reservoirs, ponds, and pits that are greater than 0.1 acre-feet in volume?	☐ Y ■ N	☐ F
a. If yes, for each historical place of storage please provide the surface area in acres (AC), capacity (AF), annual net evaporation (FT/year), and number of times per year the place of storage was filled.	☐ A	☐ F

ID	Surface Area (AC)	Capacity (AF)	Annual Net Evaporation (FT/YR)	# of Annual Fillings

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-boxes	Follow-Up
42. Do the purposes of the water rights proposed for change include irrigation?	■ Y ☐ N	☐ F
a. If yes, does the proposed change include a change in place of use *and/or* 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.	☐ Y ■ N	☐ F
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.	☐ A	☐ F
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, and you may skip to question 51.	■ Y ☐ N	
45. Provide a map showing the historical and proposed places of use created on an aerial photograph or topographic map with section corners, township and range, and a north arrow.	■ S	☐ F
46. How many acres, if any, will be retired from the historical place of use? 0		☐ F
47. Are irrigated acres proposed that are outside the historical place of use?	☐ Y ☐ N	☐ F
a. If yes,		
i. How many acres? N/A FOR CD CHANGE,		☐ F

N/A

ii.	What is the proposed irrigation method type (e.g., flood or sprinkler) and subtype (e.g., level border, graded border, furrow, contour ditch, wild flood, center pivot, or wheel line) for the new acres? SPRINKLER AND FLOOD		☐ F
iii.	What is the slope of the new place of use? GRADED BORDER FLOOD		☐ F
iv.	Based on 47.a.ii to 47.a.iii, what is the percent efficiency of irrigation for the new acres? 60%		☐ F
v.	What is the County Management Factor for the new acres? 74.6		☐ F
vi.	What is the ET based on the irrigation method and county for the new acres? Sprinkler: 23.73in Flood: 20.84in		☐ F
vii.	What percent of applied water are irrecoverable losses for new acres per ARM 36.12.1902(17)? Sprinkler 10% Flood 5%		☐ F
viii.	Do other water rights supplement or overlap the new place of use that contribute to the irrigation water demand?	☐ Y ■ N	☐ F
1.	If yes,		
a.	How will the water rights be operated to serve the irrigation purpose?	☐ A	☐ 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.	☐ A	☐ F

Water Right No.	Avg. Period of Diversion (MM/DD-MM/DD)	Avg. Period of Use (MM/DD-MM/DD)	Flow Rate (GPM or CFS)	Volume Contributed (AF)

48. Do you have information for the Department to consider about the source and location where return flows historically accrued?	☐ Y ☐ N	☐ F	N/A
a. If yes, explain. N/A for CD Change	☐ 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.* N/A for CD Change	☐ 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?	☐ Y ☐ N	☐ F	N/A
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?	☐ Y ☐ N	☐ F	N/A
i. 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	N/A
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 questions in this section (questions 52 to 60). If no, this section is complete, and you can skip to question 61.	☐ Y ■ N	☐ F

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 location (¼ ¼ ¼ section of start and end of reach) and length (FT) of the mitigation reach? _____		☐ F
56. What is the amount, timing, and location (¼ ¼ ¼ section) of water needed for mitigation?	☐ A	☐ 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 priority dates of the water rights proposed for change to mitigation compare to other water rights on the source? _____ _____ _____	☐ A	☐ F
58. 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?	☐ Y ☐ N	☐ F

a. If yes, describe and submit them to the Department. _____ _____ _____ _____	☐ S	☐ F
59. 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?	☐ Y ☐ N	☐ F
a. If no, how will mitigation water be made available during the entire period when mitigation is necessary? _____ _____	☐ A	☐ F
60. Will other water rights contribute to mitigation water?	☐ Y ☐ N	☐ F
a. If yes, what amount, at what timing, and at which location (¼ ¼ ¼ section) will they contribute?	☐ A	☐ F

Month	Days	Amount	Location	Month	Days	Amount	Location
January				**July**			
February				**August**			
March				**September**			
April				**October**			
May				**November**			
June				**December**			

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

64. By what means will aquifer recharge water be made available? You must provide a copy of all relevant discharge permits at 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? _____ _____ _____	☐ A	☐ F
66. Do you have measurement records or Water Commissioner records that show the reliability of the water rights proposed for change to aquifer recharge?	☐ Y ☐ N	☐ F
a. If yes, describe and submit them to the Department. _____ _____ _____ _____	☐ S	☐ F

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

Questions, Narrative Responses, and Tables	Check-boxes	Follow-Up
67. What is the flow rate (GPM or CFS), volume (AF), and period of diversion (MM/DD-MM/DD) required at each new groundwater point of diversion? Label using the same POD ID number as the Proposed Use Map (question 6) to match this information with the location information.	☐ A	☐ F

POD #	Flow Rate (GPM or CFS)	Volume (AF)	Period of Diversion (MM/DD-MM/DD)

68. Will the monthly pumping schedule differ from an allocation of diverted volume by the number of days in the month for year-round uses or the IWR 80% net irrigation requirements for irrigation/lawn & garden uses (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
a. If yes, provide the monthly pumping schedule in the table below. Label using the same POD ID number as the Proposed Use Map (question 6).	☐ A	☐ F

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

Groundwater: Adequacy of Diversion: Well/Pit

☐ Applicable ■ Not Applicable

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

72. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes,		
i. Submit measurements to the Department.	☐ S	☐ F
ii. With what method were measurements collected? _____ _____	☐ A	☐ F
iii. What is the interval of measurements? _____		☐ F
iv. Is the interval of measurements sufficient to comply with ARM 36.12.1703(1)?	☐ Y ☐ N	☐ F
b. If no, or if measurements do not comply with ARM 36.12.1703(1),		
i. When do you plan to measure? _____		☐ F
ii. With what method and at what interval will measurements be collected? _____ _____	☐ A	☐ F

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?	☐ Y ☐ N	☐ F
a. If yes, did the Department approve the variance request?	☐ Y ☐ N	☐ F
74. Submit pond bathymetry data, survey, or engineering plans to the Department.	☐ S	☐ F
75. Submit a map identifying the location of the proposed pond to the Department. Create map on an aerial photograph or topographic map and include the following: pond location, section corners, township and range, and a north arrow.	☐ S	☐ F
76. If you are conducting Technical Analyses, what is your plan to determine depth, surface area, and net evaporation of the pond? If the Department is conducting Technical Analyses, write N/A. _____ _____	☐ A	☐ F

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 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.	☐ Y ☐ N	☐ F
78. Based on the preliminary data provided by the Department at this preapplication meeting, what are the hydraulically 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.* _____ _____ _____ _____	☐ A	☐ F
79. If an analysis of impacts to identified surface water rights is required as part of the surface water depletion analysis, pursuant to ARM 36.12.1903(2)(f), do you elect to answer non-mandatory questions 166 to 168 to provide information required for this extended surface water depletion analysis?	☐ Y ☐ N	☐ F
a. If yes, go to question 166. 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?	☐ Y ☐ N	☐ F
i. 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 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.	☐ Y ☐ N	☐ F
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.		

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

80. Do the purposes of the water rights proposed for change include irrigation?	☐ Y ☐ N	☐ F
a. If yes, does the proposed change include a change in place of use *and/or* 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.	☐ Y ☐ N	☐ F
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?	☐ Y ☐ N	
a. If yes, what is the consumptive use for the proposed non-irrigation purpose? Please explain. _____ _____ _____ _____ _____ _____	☐ A	☐ 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 complete, and you may skip to question 89.	☐ Y ☐ N	
83. Provide a map showing the historical and proposed places of use. Create map on an aerial photograph or topographic map that shows the following: section corners, township and range, and a north arrow.	☐ S	☐ F
84. How many acres, if any, will be retired from the historical place of use? _____		☐ F
85. Are irrigated acres proposed that are outside the historical place of use?	☐ Y ☐ N	☐ F
a. If yes,		
i. How many acres? _____		☐ F
ii. What is the proposed irrigation method type and subtype (e.g., level border, graded border, furrow, contour ditch, or wild flood) for the new acres? _____		☐ F
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? _____		☐ F

v. What is the County Management Factor for the new acres? _____		☐ F
vi. What is the ET based on the irrigation method and county for the new acres? _____		☐ F
vii. What percent of applied water are irrecoverable losses for new acres? _____		☐ F
viii. Do other water rights supplement or overlap the new place of use that contribute to the irrigation water demand?	☐ Y ☐ N	☐ F
1. If yes,		
a. How will the water rights be operated to serve the irrigation purpose? _____ _____ _____ _____ _____ _____ _____	☐ A	☐ 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.	☐ A	☐ F

Water Right No.	Avg. Period of Diversion (MM/DD-MM/DD)	Avg. Period of Use (MM/DD-MM/DD)	Flow Rate (GPM or CFS)	Volume Contributed (AF)

86. Do you have information for the Department to consider about the source and location where return flows historically accrued?	☐ Y ☐ N	☐ F

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? **Return flow data provided by the Department at the preapplication meeting is preliminary and is subject to change during the Technical Analysis.* _____ _____ _____	☐ 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?	☐ Y ☐ 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?	☐ Y ☐ N	☐ F
i. 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. _____	☐ A	☐ F

91. 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 the location (¼ ¼ ¼ section of start and end of reach) and length (feet) of the mitigation reach? _____		☐ F
94. What is the amount, timing, and location (¼ ¼ ¼ section) of water needed for mitigation?	☐ A	☐ F

Month	Days	Amount	Location	Month	Days	Amount	Location
January				**July**			
February				**August**			
March				**September**			
April				**October**			
May				**November**			
June				**December**			

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?	☐ Y ☐ 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?	☐ Y ☐ N	☐ F

a. If no, how will mitigation water be made available during the entire period when mitigation is necessary? _____ _____ _____	☐ A	☐ F
98. Will other water rights contribute to mitigation water?	☐ Y ☐ N	☐ F
a. If yes, what amount, at what timing, and at which location (¼ ¼ ¼ section) will they contribute?	☐ A	☐ F

Month	Days	Amount	Location (¼ ¼ ¼ Section)	Month	Days	Amount	Location (¼ ¼ ¼ Section)
January				**July**			
February				**August**			
March				**September**			
April				**October**			
May				**November**			
June				**December**			

Project-Specific Questions

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 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.	☐ Y ■ N	☐ F
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?	☐ Y ☐ N	☐ F
a. If yes, explain. _____	☐ A	☐ F
103. For what purpose will the water rights be temporarily used? _____		☐ F

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?	☐ Y ☐ 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.	☐ A	☐ F

Purpose	**Flow Rate (GPM or CFS)**	**Volume (AF)**	**Period of Use Start (MM/DD-MM/DD)**	**Period of Use End (MM/DD-MM/DD)**

108. Explain why the requested flow rate and volume is the amount needed for the purpose. _____ _____ _____	☐ A	☐ F
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.		

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 111 to 119) for each individual place of storage (use additional Change in Place of Storage sheet for additional places of storage). If no, or if you answered these questions earlier in the preapplication meeting, this section is complete; skip to question 120.	☐ Y ■ N	☐ F
111. Submit a map showing the location of the place of storage. Create map on an aerial photograph or topographic map that shows the following: place of storage, section corners, township and range, and a north arrow.	☐ S	☐ F
112. Is this application to add a new place of storage or change an existing place of storage? _____		☐ F
a. If application is to change an existing place of storage, list the water rights that include the place of storage and a short description of the proposed change. _____ _____	☐ A	☐ F
113. Is the place of storage located on-stream?	☐ Y ☐ N	☐ F
a. If no, explain the conveyance means to and from the off-stream place of storage and any losses that may occur with that conveyance. _____ _____	☐ A	☐ F
114. What is the proposed capacity of the place of storage? Use bathymetry data, survey, or engineering plans for capacity. 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)* _____	☐ S	☐ F
115. Will the place of storage include primary and/or emergency spillways? Preliminary design specifications for primary and emergency spillways must be included with application submittal (ARM 36.12.113).	☐ Y ☐ N	☐ F
116. Will the place of storage be lined?	☐ Y ☐ N	☐ F
117. What is the annual net evaporation of water from the place of storage using the standards in ARM 36.12.116(1) and the Department's Gridded Net Evaporation Layer? _____		☐ F
118. Is the place of storage capacity calculated to be greater than 50 acre-feet?	☐ Y ☐ N	☐ F
a. If yes, have you made an application to the DNRC Water Operations Bureau for a determination of whether the dam or reservoir is a high-hazard dam?	☐ Y ☐ N	☐ F

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 you answered these questions earlier in the preapplication meeting, skip to question 123.	☐ Y ■ N	☐ F
121. Submit a Historical Use Ditch Map that shows every ditch conveying water for the historical use of all water right(s) proposed for change. Label the ditch name(s), POD(s), the POU(s), and the ditch measurement locations (requested in question 122.d). The map should be created on an aerial photograph or topographic map with the following: section corners, township and range, and a north arrow.	☐ S	☐ F
122. For each historical conveyance ditch, answer question 122.a to 122.h. If there is more than one historical conveyance ditch, use an Additional Historical Ditch Sheet for each additional ditch.		
a. What is the ditch name? _____		☐ F
b. List the water right(s) proposed for change that were conveyed by the ditch. _____		☐ F
c. What is the distance water was historically carried by the conveyance ditch? Only include segments between the POD and start of the POU; do not include segments within the POU. _____	☐ A	☐ F
d. Provide at least one set of ditch measurements, which include width (FT), depth (FT), and slope (%). Discuss ditch characteristics with DNRC to determine the minimum number of ditch measurements. Include the location of each measurement, labeled with the 2-digit measurement ID number, used on the map submitted for question 121.	☐ S	☐ F

ID #	Width (FT)	Depth (FT)	Slope (%)	Date of Measurement

e. 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. _____ _____	☐ A	☐ F

f. What type of soils compose the historical conveyance ditch? For lined ditches, write "lined" instead. _____ _____	☐ A	☐ F
g. Are other water rights conveyed by the historical conveyance ditch?	☐ Y ☐ N	☐ F
i. If yes,		
1. What are the water right numbers? _____ _____ _____	☐ A	☐ F
2. What is the sum of the flow rates (GPM or CFS) for all water rights conveyed? _____ _____ _____	☐ 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	☐ F
h. Were any water rights proposed for change part of one historical water right that was split?	☐ Y ☐ N	☐ F
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?	☐ Y ☐ N	☐ F
1. If no, do any of the water right(s) proposed for change have a carriage water requirement?	☐ Y ☐ N	☐ F
a. If yes,		
i. List the water right(s) with a carriage water requirement _____		☐ F
ii. 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.	☐ S	☐ F
125. For each proposed use conveyance ditch, answer the questions 125.a to 125.i. If there 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? _____		☐ F
b. Is this ditch a historical conveyance ditch detailed in questions 121 to 122?	☐ Y ☐ N	☐ F
i. If yes, have any of the following details changed, to the best of your knowledge, from historical conditions: ditch length, distance water conveyed, ditch lining, or water rights conveyed by the ditch?	☐ Y ☐ N	☐ F
1. If yes, 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 127.		
c. List the water right(s) proposed for change that are going to be conveyed by the ditch. _____		☐ F
d. What is the distance water will be carried by the conveyance ditch? Only include segments between the POD and start of the POU; do not include segments within the POU. _____ _____	☐ A	☐ F
e. Provide at least one set of ditch measurements, which include width (FT), depth (FT), and slope (%). Discuss ditch characteristics with DNRC to determine the minimum number of ditch measurements. Include the location of each measurement, labeled with the 2-digit measurement ID number, used on the map submitted for question 124.	☐ S	☐ F

ID #	Width (FT)	Depth (FT)	Slope (%)	Date of Measurement

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. _____ _____	☐ A	☐ F
g. What type of soils compose the proposed conveyance ditch? For lined ditches, write "lined" instead. _____ _____	☐ A	☐ F
h. Are other water rights conveyed by the proposed conveyance ditch?	☐ Y ☐ N	☐ F
i. If yes,		
1. What are the water right numbers? _____ _____ _____	☐ A	☐ F
2. What is the sum of the flow rates (GPM or CFS) for all water rights conveyed? _____ _____ _____	☐ 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	☐ 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.	☐ S	☐ F
126. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 13 and 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 no, or if you answered these questions earlier in the preapplication meeting, this section is complete; skip to question 135.	☐ Y ■ N	☐ F
128. Identify the flow rate (GPM or CFS) and volume of water (AF) that will be marketed. _____		☐ F
129. Will the marketed water return to the source?	☐ Y ☐ N	☐ F
a. If yes, explain how that determination was made. _____ _____ _____	☐ A	☐ F
130. For what purpose(s) will the marketed water be used? _____ _____	☐ A	☐ F
131. How will you control or limit access to the water? _____ _____	☐ A	☐ F
132. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N	☐ F
133. Provide a service area map. Create map on an aerial photograph or topographic map and shows the following: general service area boundary, section corners, township and range, and a north arrow.	☐ S	☐ F
134. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 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 no, or if you answered these questions earlier in the preapplication meeting, this section is complete; skip to question 146.	☐ Y ■ N	☐ F
136. Is the proposal to retire all the use from the historical purpose throughout the entire period of use?	☐ Y ☐ N	☐ F
a. If no, describe why not in detail. _____ _____ _____	☐ A	☐ F

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 (¼ ¼ ¼ 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?	☐ Y ☐ N	☐ 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.	☐ Y ☐ 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 method," as defined in ARM 36.12.101?	☐ Y ☐ N	☐ F
a. If yes, complete the Salvage Water section (questions 146 to 150).	☐ S	☐ F
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). _____ _____	☐ A	☐ 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.		

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-boxes
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?	☐ Y ☐ N
a. If yes, what is your plan to address this with the permitting process? N/A for CD Change	☐ A
152. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. District will honor any calls from senior water users. Pumps can be shut off by request.	▬ A
153. Explain how you can control your diversion in response to call being made. Pumps can be shut off.	▬ A
154. Are you aware of any calls that have been made on the source of supply or depleted surface water source?	☐ Y ▬ N
a. If yes, explain.	☐ 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

N/A

157. When was the last time water was appropriated and used beneficially? Water proposed is apart of the unperfected reservation. If there has been a period of nonuse, explain below:		
a. Why the water right was not used. Water proposed is apart of the unperfected reservation.	☒ A	
b. Why a resumption of use will not adversely affect other water users. Water has already been granted by board.	☒ A	
c. Is the period of nonuse greater than 10 years?	☐ Y ☐ N	N/A
d. Have water rights been authorized to use the source during the period of nonuse?	☐ Y ☐ N	N/A
158. For point of diversion changes:		
a. Is the proposed point of diversion upstream or downstream of the historical point of diversion? N/A for CD Change		N/A
b. Are there intervening water users between the historical and proposed point of diversion?	☐ Y ☐ N	N/A
c. Does the proposed point of diversion allow for diverting water longer during times of shortage?	☐ Y ☐ N	N/A
159. For place of use changes, will changes to the rate, location, volume, or timing of return flows adversely affect other appropriators?	☐ Y ☒ N	

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

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 elect to answer these questions or answered these questions earlier in the preapplication meeting, this section is complete; skip to question 165.		
161. For each surface water source receiving return flows, is gage data available?	☐ Y ☐ N	N/A
a. If yes, answer the following questions for the number of stream gages that are available.		
i. One stream gage is available		
1. What is the gage name? N/A for CD Change		
2. Who operates and maintains the gage? N/A for CD Change		

3. Is the stream gage upstream or downstream of the point(s) of diversion? N/A for CD Change	
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?	☐ Y ☐ N
6. How frequently is stage data recorded? N/A for CD Change	
7. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ 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?	☐ Y ☐ N
9. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ 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?	☐ Y ☐ N
a. If yes, skip to question 163.	
b. If no, answer question 161.b.	
ii. More than one stream gage is available	
1. List the gage names. N/A for CD Change	
2. Who operates and maintains the gages? N/A for CD Change	
3. Is one stream gage upstream and one downstream of point(s) of diversion?	☐ Y ☐ N
4. Do the stream gages have similar periods of record?	☐ Y ☐ N
5. Are the periods of record each greater than or equal to 10 years?	☐ Y ☐ N
6. How frequently is stage data recorded at each gage? N/A for CD Change	
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?	☐ Y ☐ N

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?	☐ Y ☐ N
9. For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ 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?	☐ Y ☐ N
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 median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	☐ Y ☐ N
i. If yes,	
1. Submit measurements to the Department.	☐ S
2. Who collected the measurements? N/A for CD Change	☐ A
3. With what method was the data collected? N/A for CD Change	☐ A
4. What is the period of record? N/A for CD Change	
5. What is the frequency of measurement? N/A for CD Change	
6. Are there gaps in the data?	☐ Y ☐ N
a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? N/A for CD Change	☐ A
7. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N

a. If yes, explain. N/A for CD Change	☐ A
8. Does available measurement 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?	☐ Y ☐ N
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, 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?	☐ Y ☐ N
a. If yes, describe the estimation technique. N/A for CD Change	☐ A
b. If no, will measurements be collected prior to submission of a completed Form No. 606P that 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?	☐ Y ☐ N
i. If yes,	
1. With what method will the data be collected? N/A for CD Change	☐ A
2. What will be the interval of measurement? N/A for CD Change	

3. Describe the proposed estimation technique. N/A for CD Change	☐ A
ii. If no, describe your plan supply measurements for return flow receiving sources. N/A for CD Change	☐ 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. N/A for CD Change	☐ 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 170.	
166. For each hydraulically connected surface water source, is gage data available?	☐ Y ☐ 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?	

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?	☐ Y ☐ 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?	☐ Y ☐ 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?	☐ Y ☐ N
9. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ 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?	☐ Y ☐ N
a. If yes, skip to question 168.	
b. If no, answer question 166.b.	
ii. More than 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?	☐ Y ☐ N
4. Do the stream gages have similar periods of record?	☐ Y ☐ N
5. Are the periods of record each greater than or equal to 10 years?	☐ Y ☐ 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?	☐ Y ☐ N
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?	☐ Y ☐ N
9. For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ 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?	☐ Y ☐ N
a. If yes, skip to question 168.	
b. If no, answer question 166.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 median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	☐ Y ☐ N
i. If yes,	
1. Submit available measurements to the Department	☐ S
2. Who collected the measurements? _____	☐ A
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?	☐ Y ☐ N
a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____ _____	☐ A
7. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N

a. If yes, explain. _____ _____ _____	☐ A
8. Does available measurement 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?	☐ Y ☐ N
a. If yes, skip to question 168.	
b. If no, answer question 167.	
167. For each hydraulically connected surface water source, does the available measurement data, gage and/or otherwise measured, 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?	☐ Y ☐ N
a. If yes, describe the estimation technique. _____ _____ _____ _____	☐ A
b. If no,	
i. Will measurements be collected prior to submission of a completed Form No. 606P that 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?	☐ Y ☐ N
1. If yes,	
a. With what method will the data be collected? _____ _____ _____	☐ A
b. What will be the interval of measurement? _____	

c. Describe the proposed estimation technique. _____ _____ _____ _____	☐ A
2. If no, describe your plan to comply with the measurement requirements for hydraulically connected surface water sources. _____ _____ _____	☐ A
168. If you are conducting Technical Analysis, how will the Area of Potential Adverse Effect be defined for evaluating changes to net depletions? If the Department is conducting Technical Analyses, write N/A. _____ _____ _____ _____	☐ A
169. If you went straight to this section when referenced, go back to question 80. If you waited to answer in consecutive order and have completed all prior sections, 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 curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length. _____ _____	☐ A
172. Is the diversion capable of providing the full amount requested through the period of diversion?	■ Y ☐ N

173. Describe the size and configuration of infrastructure to convey water from point of diversion to place of use. This may include, where applicable: ditch capacity and/or pipeline size and configuration. Pipeline dimensions on map.	■ A
174. Describe any losses related to conveyance. None. Pipeline in use.	■ A
175. Is the conveyance infrastructure capable of providing the required flow and volume and any losses?	■ Y ☐ N
176. Does the proposed conveyance require easements?	☐ Y ■ N
a. If yes, explain.	☐ A
177. Describe any places of storage, including whether drainage devices will be installed, and provide preliminary designs, if available. Preliminary designs will be required at application submittal. None	■ A
178. 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 and output and configuration of sprinkler heads.	☐ A
179. Is the water delivery system capable of providing the requested beneficial use?	■ Y ☐ N
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 disposal method.	☐ A

181. Provide a plan of operations.	☐ A
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. Electricity Reports (run time) and System Information from Pump Provider, no in line flow meter.	■ A
184. Is the means of diversion a well?	☐ Y ■ N
a. If yes, are well log(s) available?	☐ Y ■ N
i. If yes, submit well log(s) to DNRC	☐ S
ii. If no, who drilled the well?	

Beneficial Use

185. Why is the requested flow rate and volume the amount needed for the purpose? To develop more lands for agricultural purposes based on crop needs.	■ A
186. Does the Department have a standard for the purposes for which water is used? Department standards can be found in ARM 36.12.112.	■ Y ☐ N
a. If yes, does the proposed beneficial use fall within Department standards?	■ Y ☐ N
187. If no standard or if proposed beneficial use falls outside of Department standards, explain how the use is reasonable for the purpose.	☐ A
188. Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?	☐ Y ■ N

a. If yes,	
i. Have you researched or consulted with DEQ regarding those requirements?	☐ Y ☐ 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?	☐ Y ☐ N
i. If yes, please submit the COSA.	☐ S
ii. If no, have you researched or consulted with DEQ regarding their requirements?	☐ Y ☐ N

Possessory Interest

190. Do you have possessory interest, or the permission of the party with possessory interest, of the proposed place of use? Proof of possessory interest or permission of the party with possessory interest is required at application submittal.	☐ Y ☐ N
a. If no, explain. N/A Conservation District	☐ A

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.

Chairman — 12-12-2024

Applicant Signature — Date

Applicant Signature — Date

Regional Manager — 12-17-2024

Department Signature — Date

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

-170	-
-171	-
-178	-
-181	-
-37	-
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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 preapplication meeting. The Applicant 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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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))."

Chairman Richland County Conservation District 1/31/2025

Applicant Signature Date

Applicant Signature Date

"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))."

WRS 2/5/25

Department Signature Date

Department Signature Date

RICHLAND COUNTY CONSERVATION DISTRICT
CHANGE PREAPPLICATION MEETING FORM NO. 606P
RESERVATION NO. 40S 84500-00
DNRC RECORD NO. 40S 30164956
January 27, 2025

FOLLOW UP RESPONSES

37. Does the Department have a standard, found in ARM 36.12.112, for the period of diversion for the purposes for which water is used? ☒Y ☐N

a. If yes, does the period of diversion fall within Department Standards? ☐Y ☒N

b. If no or if the period of diversion falls outside Department standards, explain how the period of diversion is reasonable for the purpose.

The period of diversion requested is April 1 through November 1, the Department standard is April 1 through October 31st. The period of diversion is reasonable for the purpose and consistent with other conservation district authorization periods of use.

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 curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length. ☒ A

Pump curve documents attached and labeled as:

*FOLLOW UP RESPONSE 171- 33.3 & 49.6 ACRES HALF PIVOTS, HOOP HOUSE PUMP CURVE

FOLLOW UP RESPONSE 171- 144.4 ACRES LARGE NE HALF PIVOT PUMP CURVE

FOLLOW UP RESPONSE 171- 67.7 FLOOD IRRIGATION PUMP CURVE

**The NW pump used for the 33.3 acre, 49.6 acre half pivots, and hoop house, is shared with existing system. No new flow rate is being requested. See supplemental rights map provided with pre-application form.*

178. 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 and output and configuration of sprinkler heads. ☒ A

Sprinkler irrigation using Nelson irrigation corporation pivot sprinklers with 10# pressure regulator.

Agri Industries System Design Details are attached and labeled as:

*FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

*FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

**The NW pump used for the 33.3 acre, 49.6 acre half pivots, and hoop house, is shared with existing system. No new flow rate is being requested. See supplemental rights map provided with pre-application form.*

181. Provide a plan of operations. ☒ A

The entire system waters approximately 866 acres from the Missouri River. The pipe is of the proper pressure class for all operating pressures found in the system details provided with Follow Up Response 178. All pivots have sprinkler packages as manufactured by Nelson Irrigation. The system sprinkler packages are designed to apply an application rate of 7 gpm/acre. All pumps use a self cleaning screen as manufactured by Ames Manufacturing of Williston, ND. All systems are powered by public power and have 480 volt, three phase power available.

No new flow rate is requested from the NW pump, (Cornell 5HH). The flow rate will be shared. A variable flow drive panel (VFD) is used to manage water flow and pressure. New half pivots will operate one at a time while also irrigating the existing large center pivot. Hoop house will be turned on and off at the place of use as needed for gardening purposes. The hoop house is 20'x30' in size.

The NE Half pivot, 144.4 acres, will run independently based on water/crop needs according to system specifications provided by Agri Industries (attached as response to 178).

The SE 67.7 Flood irrigation is operated from manual gated pipes, one section at a time will be opened based on location. Generally, 8 days on, couple weeks off based on crop demands.

Richland County Conservation District
FOLLOW UP RESPONSE 170. Operations Diagram
Richard & Connie Iversen, Neil & Amy Iversen
Application RI-037M: 8.7 CFS 590.25 AF 295 Acres

Information provided but no new flow rate requested from this diversion. The flow is shared with supplemental rights.

A variable flow drive panel (Variable Frequency Drive or VFD) is used to manage water flow and pressure.

New half pivots will operate one at a time while also irrigating the existing large center pivot.

Hoop house will be turned on at the place of use as needed for gardening purposes.

33

34

Half pivot will be run independently based on water/crop needs.

Cornell 4RB; 900 GPM; 2 CFS

10" Aluminum

Cornell 5HH; 1834 GPM; 4 CFS

12"

144.4 Acres Sprinkler Irrigation

All half pivots (sprinkler irrigation) have Nelson irrigation Corp. pivot sprinklers with 10# pressure regulator.

03

04

Flood irrigation from gated pipe. Gates opened/closed manually, 1 section at a time based on location, 8 days on, couple weeks off based on crop demands.

10"

8"

8"

49.6 Acres Sprinkler Irrigation

67.7 Acres Flood Irrigation

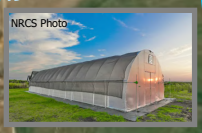
Cornell 6YB; 3000 GPM; 6.7 CFS

2" HDPE to Hoop-house

12" Gated

33.3 Acres Sprinkler Irrigation

NRCS Photo



Hoop House 20'x30' funded through the NRCS High Tunnel Initiative

10

09

1:15,000

HydroSolutions

LOCATION: 28N 55E SECS 33, 34; 27N 55E SECS 3, 4, 9, 10; Richland County

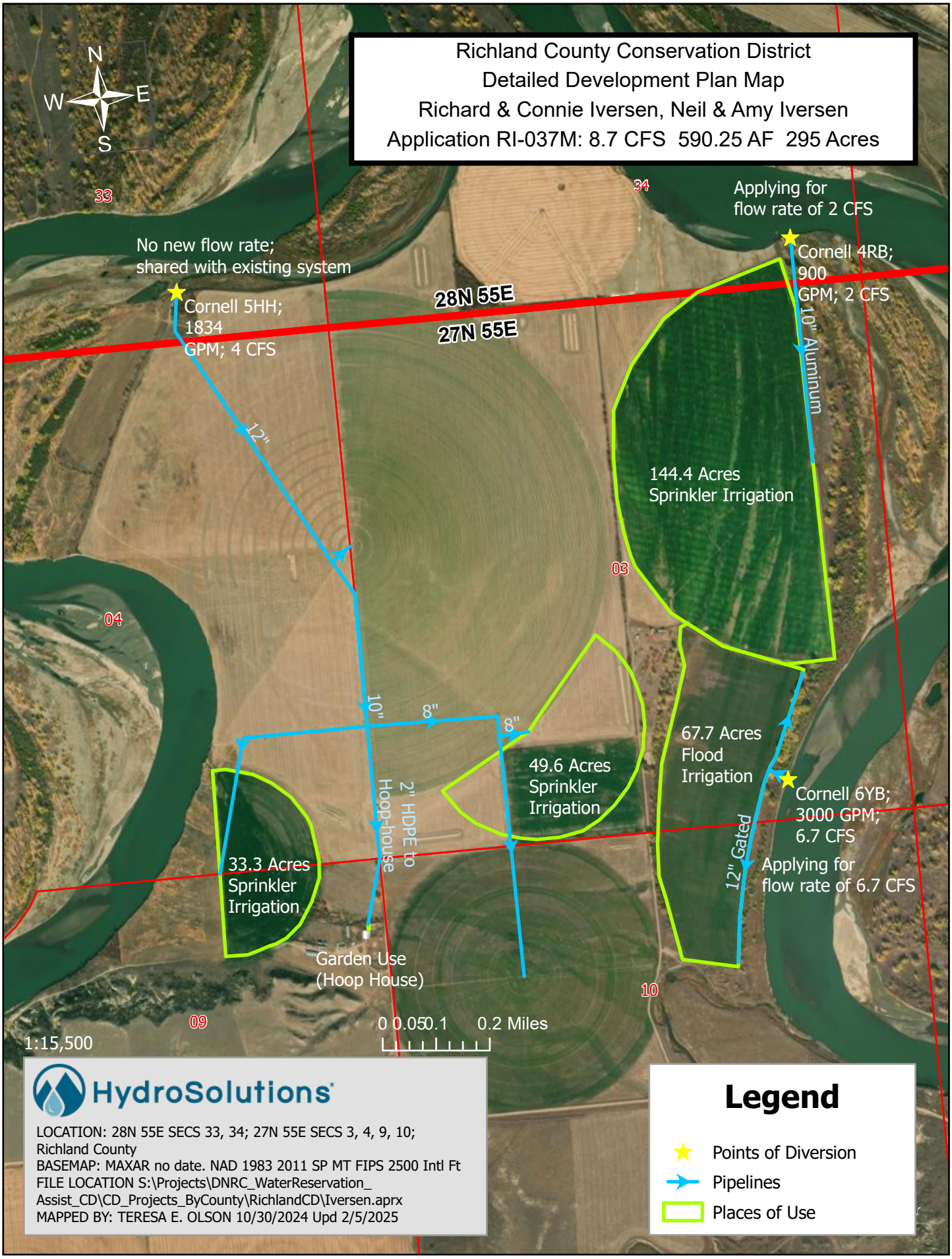
BASEMAP: MAXAR no date

FILE LOCATION S:\Projects\DNRC_WaterReservation_Assist_CD\CD_Projects_ByCounty\RichlandCD\Iversen.aprx

MAPPED BY: TERESA E. OLSON 12/16/2024 upd. 1/3/2025

Legend

- Points of Diversion
- Pipelines
- Places of Use


Richland County Conservation District
Detailed Development Plan Map
Richard & Connie Iversen, Neil & Amy Iversen
Application RI-037M: 8.7 CFS 590.25 AF 295 Acres
N
W
E
S
33
34
Applying for
flow rate of 2 CFS
No new flow rate;
shared with existing system
Cornell 4RB;
900
GPM; 2 CFS
Cornell 5HH;
1834
GPM; 4 CFS
28N 55E
27N 55E
10" Aluminum
12"
144.4 Acres
Sprinkler Irrigation
03
04
10"
8"
8"
49.6 Acres
Sprinkler
Irrigation
67.7 Acres
Flood
Irrigation
2" HDPE to
Hoop-house
Cornell 6YB;
3000 GPM;
6.7 CFS
12" Gated
Applying for
flow rate of 6.7 CFS
33.3 Acres
Sprinkler
Irrigation
Garden Use
(Hoop House)
10
09
1:15,500
0 0.05 0.1 0.2 Miles
HydroSolutions
LOCATION: 28N 55E SECS 33, 34; 27N 55E SECS 3, 4, 9, 10;
Richland County
BASEMAP: MAXAR no date. NAD 1983 2011 SP MT FIPS 2500 Intl Ft
FILE LOCATION S:\Projects\DNRC_WaterReservation_
Assist_CD\CD_Projects_ByCounty\RichlandCD\Iversen.aprx
MAPPED BY: TERESA E. OLSON 10/30/2024 Upd 2/5/2025
Legend
Points of Diversion
Pipelines
Places of Use

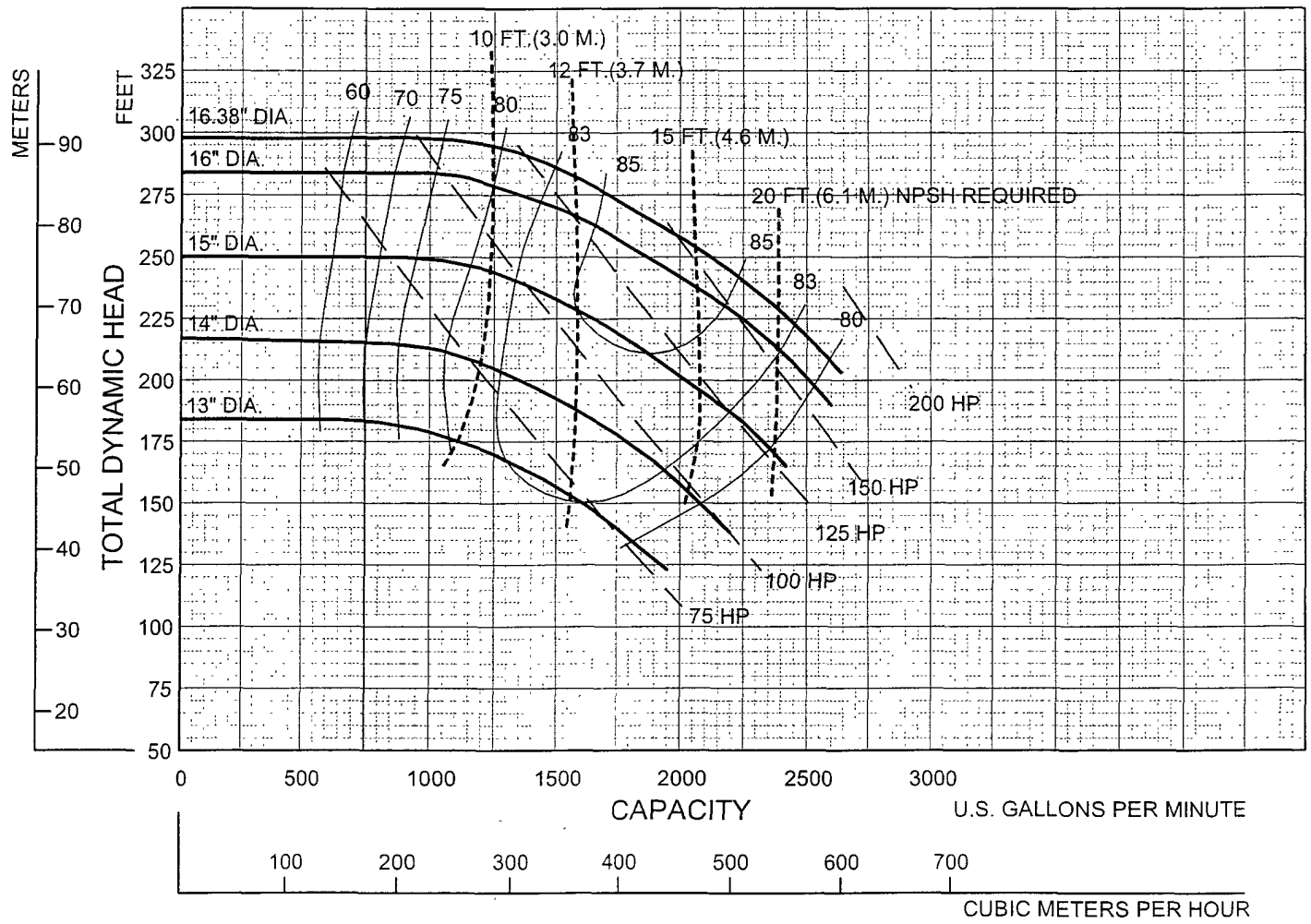
NEW PAGE

Feet x .305 = Meters
Inches x 25 4 = Millimeters
GPM x .227 = Cubic Meters/Hour
GPM x 3.785 = Liters/Minute
HP x .746 = KW

Speed	Impeller Dia.	Style	Solids Dia.	N_S	Suction	Discharge	No. vanes
1785	VARIOUS	ENCLOSED	1.0"	1197	8"	5"	6

DOUBLE VOLUTE

MOUNTING CONFIG.: CC, VM, F, VF, EM, VC



Performances shown are for cool water, close-coupled electric configuration with packing
Other mounting styles or liquids may require horsepower and/or performance adjustments.

6/99

5HH18

CORNELL
Efficient by Design

Cornell Pump Company • Portland, Oregon

5HH - 1800 RPM

Company: Agri Industries, Inc
Name: Richard Iversen
Date: 01/09/2024

FOLLOW UP RESPONSE 171-
144.4 ACRES LARGE NE HALF PIVOT PUMP CURVE

Pump:

Size:	4RB	Dimensions:	
Type:	Clear Liquids	Suction:	6 in
Synch Speed:	1800 rpm	Discharge:	4 in
Dia:	12.75 in		
Curve:	4RB18		

Fluid:

Name:	Water		
SG:	1	Vapor Pressure:	0.256 psi a
Density:	62.4 lb/ft³	Atm Pressure:	14.7 psi a
Viscosity:	1.1 cP		
Temperature:	60 °F	Margin Ratio:	1

Search Criteria:

Flow:	---	Near Miss:	---
Head:	---	Static Head:	0 ft

Pump Limits:

Temperature:	250 °F	Sphere Size:	0.84 in
Wkg Pressure:	175 psi 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 ---

Flow:	1029 US gpm
Head:	148 ft
Eff:	86%
Power:	45 hp
NPSHr:	13.7 ft
Speed:	1775 rpm

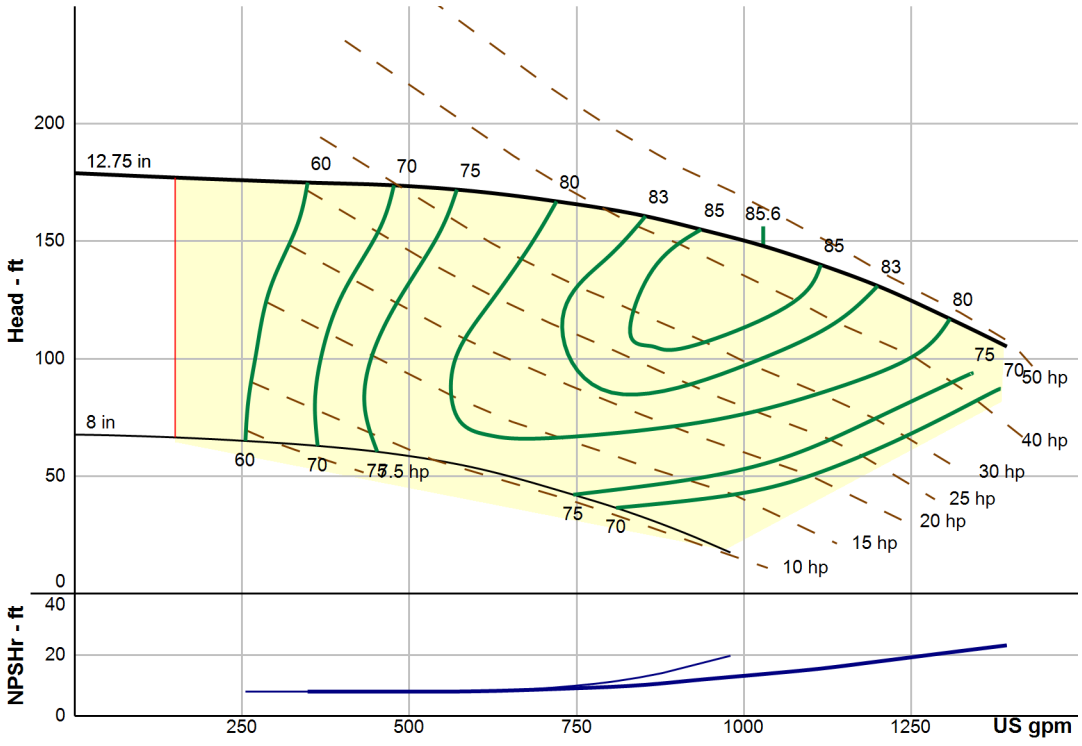
--- Design Curve ---

Shutoff Head:	179 ft
Shutoff dP:	77.5 psi
Min Flow:	150 US gpm

BEP: 85.6% @ 1029 US gpm
NOL Power:
49.1 hp @ 1393 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.

Performance Evaluation:

Flow	Speed	Head	Efficiency	Power	NPSHr
US gpm	rpm	ft	%	hp	ft
1337	1775	113	78	48.6	21.6
1114	1775	140	85	46.4	15.5
891	1775	158	84	42.4	11
668	1775	169	78	36.3	8.55
446	1775	174	68	28.9	8

Company: Agri Industries, Inc
Name: Richard Iversen
Date: 01/09/2024

FOLLOW UP RESPONSE 171-
67.7 FLOOD IRRIGATION PUMP CURVE

Pump:

Size:	6YB	Dimensions:	
Type:	Clear Liquids	Suction:	10 in
Synch Speed:	1800 rpm	Discharge:	6 in
Line:	10.50" x 13°		
Curve:	6YB18		

Fluid:

Name:	Water		
SG:	1	Vapor Pressure:	0.256 psi a
Density:	62.4 lb/ft³	Atm Pressure:	14.7 psi a
Viscosity:	1.1 cP		
Temperature:	60 °F	Margin Ratio:	1

Search Criteria:

Flow:	---	Near Miss:	---
Head:	---	Static Head:	0 ft

Pump Limits:

Temperature:	250 °F	Sphere Size:	0.75 in
Wkg Pressure:	175 psi 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 ---

Flow:	2245 US gpm
Head:	72.1 ft
Eff:	86%
Power:	47.6 hp
NPSHr:	12.3 ft
Speed:	1775 rpm

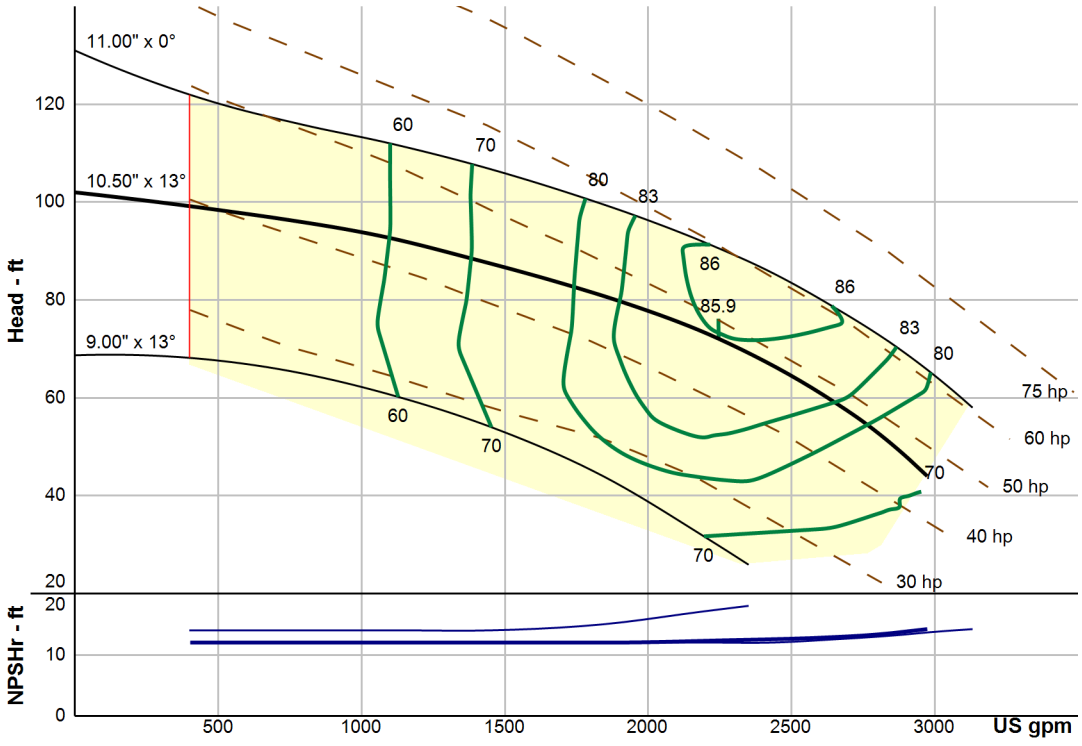
--- Design Curve ---

Shutoff Head:	102 ft
Shutoff dP:	44.2 psi
Min Flow:	400 US gpm

BEP: 85.9% @ 2245 US gpm
NOL Power:
47.7 hp @ 2650 US gpm

--- Max Curve ---

Max Power:
61.4 hp @ 2985 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.

Performance Evaluation:

Flow	Speed	Head	Efficiency	Power	NPSHr
US gpm	rpm	ft	%	hp	ft
2854	1775	50	77	46.8	13.6
2378	1775	67.8	85	47.6	12.5
1902	1775	79.7	83	46.1	12
1427	1775	87.8	71	44.3	12
951	1775	94.2	53	42.1	12

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

VALLEY | V-CHART

Valley Dealer

AGRI INDUSTRIES - WILLISTON
3105 2nd St W
PO Box 1166
Williston, ND 58801
United States

Customer

Agri Industries
411 US Highway 2
Bainville, MT 59212-9654
US

Dealer No.

00000337

Field Name

MEM - N Iversen - P3(SPRP - 6000)V1

Parent Order No. 15076108
Sprinkler Order No. 15076449

Plant VALLEY SHIPPING

Dealer PO 0009811
Order Date 05/03/2023
Load Date 05/10/2023
Method Of Shipment W/SYS (15076108)

7 Span Valley Standard Pivot 8000
Machine Flow 328 (GPM)
Pivot Pressure 19 (PSI)

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108

Dealer AGRI INDUSTRIES - WILLISTON

Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Summary

Span and Overhang

Model	Qty	Length (ft)	Pipe O.D. (in)	Coupler Spacing (in)	D. U. Qty	Profile	Tire
PRE 6000	5	126.5	8	126 (Variable)	12	Standard	11.2 x 24 New
PRE 6000	2	160.0	6 5/8	126 (Variable)	16	Standard	11.2 x 24 New

Field Area

47.3 (Ac) Total
40.1 (Ac)Pivot 220°
7.3 (Ac) EG on 100%
953.5 (ft)Machine Length
82.8 (ft)End Gun Radius

Flow

328 (GPM)
6.93 (GPM per Acre)
0.37 (in per day) App Rate
0.135 (in) App Depth @ 100%
51.7 (GPM) End Gun

Messages

Caution:
None

Dealer:
None

Pressure

19 (PSI) Pivot Pressure
Calculated Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @60 Hz freq.
11.2 x 24 New Tire
52:1 Wheel GB Ratio, LRDU Dist 953.5 (ft)
8.8 Hrs/220° @ 100% 6.92 (Ft per Min)
14.4 Hrs/360° @ 100%

Sprinkler -- Computer Spacing

Sprinkler Configuration	Range(ft)
Valley U-Pipe 6(in) Galvanized 3/4 M NPT x 3/4 M Hose	All
Blue Premium Hose Drop Variable Length 60(in) Ground Clr	
Nelson Regulator Blue Acme 15(PSI) 3/4 F NPT	
Valley Slip Weight 26(in) 2(lb) Poly	
Nelson R3030 D6 - Red 3/4 F Acme	

376.01 (ft) Total Drop Hose Length

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108 | Dealer AGRI INDUSTRIES - WILLISTON | Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Summary

Pressure Loss

Pipe Length (ft)	Pipe I.D. (in)	Pipe Finish	C-Factor	Loss (PSI)
634.0	7.78	Galvanized	150	0.1
319.5	6.41	Galvanized	150	0.2
			Total =	0.3

End Gun(s) & Booster Pump Information

Primary End Gun

Nelson SR100 End Gun

0.5 Nozzle

Berkeley 2 HP Booster Pump

Span Flow

Span Number	Irrigated Length (ft)	Area (Ac)	Rqd (GPM)	Act (GPM)	Rqd (GPM per Acre)	Act (GPM per Acre)	% Deviation
1	126.8	0.7	5.0	7.1	6.88	9.87	43.4
2	126.5	2.1	14.7	14.6	6.88	6.86	-0.3
3	126.5	3.5	24.4	24.4	6.88	6.90	0.2
4	126.5	5.0	34.1	34.2	6.88	6.90	0.3
5	126.5	6.4	43.8	43.7	6.88	6.86	-0.2
6	159.9	10.1	69.2	69.1	6.88	6.87	-0.2
7	159.7	12.3	84.6	84.6	6.88	6.88	0.0
EG	82.8	7.3	50.3	51.7	6.93	7.12	2.8
Totals		47.4		329.4			
	Drain Sprinkler		0	0			
	Total Machine Flow			329.4			

Advanced Options

```
Last Sprinkler Coverage = 1 ft
Sprinkler Coverage Length = 954.5 ft
Use Last Coupler= YES
Minimum Mainline Pressure = 6 PSI
```

Shipping Options

```
Ship Drop Hardware
Ship Endgun Nozzle
Ship Endgun & Hardware
Do not ship Endgun Valve / Nozzle Valve Hardware
Do not ship Boosterpump Hardware
```

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
1	7.9			Gauge						19.0			
2	18.4			Plug									
	Sprinkler : Nelson Rotator R3030												

3	28.9	1		14	Lime	R3030	D6 - Red	97	Blue Acme 15L	18.9	16.4	0.5	1.4
4	39.4			Plug									
5	49.9	2	21.0	14	Lime	R3030	D6 - Red	99	Blue Acme 15L	18.8	16.3	0.6	1.3
6	60.3			Plug									
7	70.8	3	21.0	14	Lime	R3030	D6 - Red	98	Blue Acme 15L	18.8	16.2	0.9	1.3
8	81.3			Plug									
9	91.8	4	21.0	14	Lime	R3030	D6 - Red	95	Blue Acme 15L	18.9	16.2	1.2	1.3
10	102.3			Plug									
11	112.8	5	21.0	14	Lime	R3030	D6 - Red	89	Blue Acme 15L	19.1	16.1	1.4	1.3
12	123.3			Plug									
	127.8		Tower Number : 1	Span Length(ft) : 126.8									
13	133.4	6	20.6	16	Lavender	R3030	D6 - Red	86	Blue Acme 15L	19.2	16.0	1.7	1.8
14	143.9			Plug									
15	154.4	7	21.0	17	Lavender/Notch	R3030	D6 - Red	91	Blue Acme 15L	19.0	15.9	2.0	2.0
16	164.9			Plug									
17	175.4	8	21.0	18	Gray	R3030	D6 - Red	94	Blue Acme 15L	18.9	15.9	2.2	2.2
18	185.9			Plug									
19	196.4	9	21.0	19	Gray/Notch	R3030	D6 - Red	94	Blue Acme 15L	18.8	15.8	2.5	2.5
20	206.9			Plug									
21	217.4	10	21.0	20	Turquoise	R3030	D6 - Red	93	Blue Acme 15L	18.9	15.7	2.8	2.7
22	227.9			Plug									
23	238.4	11	21.0	21	Turq/Notch	R3030	D6 - Red	89	Blue Acme 15L	19.0	15.6	3.1	3.0
24	248.9			Plug									
	254.4		Tower Number : 2	Span Length(ft) : 126.5									
25	259.9	12	21.5	23	Yellow/Notch	R3030	D6 - Red	86	Blue Acme 15L	19.1	15.5	3.4	3.6
26	270.4			Plug									
27	280.9	13	21.0	23	Yellow/Notch	R3030	D6 - Red	91	Blue Acme 15L	18.9	15.5	3.6	3.6

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
28	291.4			Plug									
29	301.9	14	21.0	24	Red	R3030	D6 - Red	94	Blue Acme 15L	18.8	15.4	3.8	3.9
30	312.4			Plug									
31	322.9	15	21.0	24	Red	R3030	D6 - Red	94	Blue Acme 15L	18.7	15.3	4.1	3.9
32	333.4			Plug									
33	343.9	16	21.0	26	White	R3030	D6 - Red	93	Blue Acme 15L	18.8	15.3	4.4	4.6
34	354.4			Plug									
35	364.9	17	21.0	26	White	R3030	D6 - Red	89	Blue Acme 15L	18.9	15.3	4.7	4.6
36	375.4			Plug									
	380.9		Tower Number : 3		Span Length(ft) : 126.5								
37	386.5	18	21.5	27	White/Notch	R3030	D6 - Red	86	Blue Acme 15L	19.0	15.3	5.0	4.9
38	397.0			Plug									
39	407.5	19	21.0	28	Blue	R3030	D6 - Red	91	Blue Acme 15L	18.8	15.2	5.2	5.3
40	418.0			Plug									
41	428.5	20	21.0	28	Blue	R3030	D6 - Red	94	Blue Acme 15L	18.7	15.2	5.5	5.3
42	439.0			Plug									
43	449.5	21	21.0	29	Blue/Notch	R3030	D6 - Red	94	Blue Acme 15L	18.6	15.2	5.7	5.7
44	460.0			Plug									
45	470.5	22	21.0	30	Dark Brown	R3030	D6 - Red	93	Blue Acme 15L	18.7	15.2	6.0	6.1
46	481.0			Plug									
47	491.5	23	21.0	31	Dk Brown/Notch	R3030	D6 - Red	89	Blue Acme 15L	18.8	15.1	6.3	6.4
48	502.0			Plug									
	507.4		Tower Number : 4		Span Length(ft) : 126.5								
49	513.0	24	21.5	31	Dk Brown/Notch	R3030	D6 - Red	86	Blue Acme 15L	18.9	15.1	6.6	6.4
50	523.5			Plug									
51	534.0	25	21.0	32	Orange	R3030	D6 - Red	91	Blue Acme 15L	18.7	15.1	6.8	6.9
52	544.5			Plug									
53	555.0	26	21.0	32	Orange	R3030	D6 - Red	94	Blue Acme 15L	18.6	15.1	7.1	6.9
54	565.5			Plug									
55	576.0	27	21.0	33	Orange/Notch	R3030	D6 - Red	94	Blue Acme 15L	18.6	15.1	7.3	7.4
56	586.5			Plug									
57	597.0	28	21.0	34	Dark Green	R3030	D6 - Red	93	Blue Acme 15L	18.6	15.0	7.6	7.8
58	607.5			Plug									

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
59	618.0	29	21.0	34	Dark Green	R3030	D6 - Red	89	Blue Acme 15L	18.8	15.0	8.0	7.8
60	628.5			Plug									
	634.0		Tower Number : 5		Span Length(ft) : 126.5								
61	639.6	30	21.6	35	Dk Green/Notch	R3030	D6 - Red	87	Blue Acme 15L	18.8	15.0	8.2	8.2
62	650.0			Plug									
63	660.4	31	20.9	35	Dk Green/Notch	R3030	D6 - Red	95	Blue Acme 15L	18.5	15.0	8.2	8.2
64	670.9			Plug									
65	680.5	32	20.0	35	Dk Green/Notch	R3030	D6 - Red	101	Blue Acme 15L	18.3	15.0	8.1	8.2
66	690.0			Plug									
67	699.6	33	19.2	35	Dk Green/Notch	R3030	D6 - Red	104	Blue Acme 15L	18.2	15.0	8.1	8.2
68	709.2			Plug									
69	718.8	34	19.2	35	Dk Green/Notch	R3030	D6 - Red	104	Blue Acme 15L	18.1	15.0	8.4	8.2
70	728.4			Plug									
71	737.9	35	19.2	36	Purple	R3030	D6 - Red	102	Blue Acme 15L	18.2	14.9	8.6	8.6
72	747.5			Plug									
73	757.1	36	19.2	37	Purple/Notch	R3030	D6 - Red	98	Blue Acme 15L	18.3	14.9	9.2	9.2
74	767.5			Plug									
75	778.1	37	21.0	38	Black	R3030	D6 - Red	91	Blue Acme 15L	18.6	14.8	10.0	9.7
76	788.4			Plug									
	793.8		Tower Number : 6		Span Length(ft) : 159.9								
77	799.5	38	21.4	39	Black/Notch	R3030	D6 - Red	87	Blue Acme 15L	18.7	14.7	10.2	10.2
78	809.9			Plug									
79	820.3	39	20.9	39	Black/Notch	R3030	D6 - Red	95	Blue Acme 15L	18.4	14.7	10.2	10.2
80	830.8			Plug									
81	840.3	40	20.0	39	Black/Notch	R3030	D6 - Red	101	Blue Acme 15L	18.2	14.8	10.0	10.2
82	849.9			Plug									
83	859.5	41	19.2	38	Black	R3030	D6 - Red	104	Blue Acme 15L	18.1	14.8	10.0	9.7
84	869.1			Plug									
85	878.7	42	19.2	39	Black/Notch	R3030	D6 - Red	104	Blue Acme 15L	18.1	14.7	10.2	10.2
86	888.2			Plug									
87	897.8	43	19.2	34	Dark Green	R3030	D6 - Red	102	Blue Acme 15L	18.1	15.0	7.8	7.8
88	907.4	44	9.6	28	Blue	R3030	D6 - Red	101	Blue Acme 15L	18.2	15.2	5.3	5.3
89	917.0	45	9.6	29	Blue/Notch	R3030	D6 - Red	98	Blue Acme 15L	18.3	15.2	5.6	5.7

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
90	927.4	46	10.4	29	Blue/Notch	R3030	D6 - Red	95	Blue Acme 15L	18.4	15.2	5.9	5.7
91	937.8	47	10.4	30	Dark Brown	R3030	D6 - Red	91	Blue Acme 15L	18.5	15.2	5.9	6.1
92	948.2	48	10.4	31	Dk Brown/Notch	R3030	D6 - Red	87	Blue Acme 15L	18.7	15.1	6.6	6.4
	953.5	Tower Number : 7		Span Length(ft) : 159.7									
		Sprinkler : Nelson Endgun											
93	953.5	49		0.5		SR100				18.6	53.0	50.3	51.7

Primary Endgun Arc Settings: Forward Angle: 45 Reverse Angle: 80 330.0

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Dealer AGRI INDUSTRIES - WILLISTON
Customer Agri Industries
Field Name MEM - N Iversen - P3(SPRP - 6000)V1

V-CHART

Sprinkler Order No 15076449

Parent Order No 15076108

Valley Standard Pivot 8000 Percent Timer Data

Setup Information - Valley Computer Control Panel Water Application Constants: Minimum Application = 0.135 (in) Hours/360° = 14.4

Based on IN

IN Per 220 degrees	Pivot % Timer	Hours Per 220 degrees
0.135	100.0	8.8
0.20	67.4	13.1
0.30	44.9	19.6
0.40	33.7	26.1
0.50	27.0	32.6
0.60	22.5	39.1
0.70	19.3	45.6
0.80	16.8	52.4
0.90	15.0	58.7
1.00	13.5	65.2
1.25	10.8	81.5
1.50	9.0	97.8
1.75	7.7	114.3
2.00	6.7	131.3
2.50	5.4	163.0

Based on % Timer

Pivot % Timer	IN Per 220 degrees	Hours Per 220 degrees
100.0	0.135	8.8
90.0	0.15	9.8
80.0	0.17	11.0
70.0	0.19	12.6
60.0	0.22	14.7
50.0	0.27	17.6
45.0	0.30	19.6
40.0	0.34	22.0
35.0	0.39	25.1
30.0	0.45	29.3
25.0	0.54	35.2
20.0	0.67	44.0
17.5	0.77	50.3
15.0	0.90	58.7
12.5	1.08	70.4
10.0	1.35	88.0
7.5	1.80	117.3
5.0	2.70	176.0

Field Area

47.3 (Ac) Total
40.1 (Ac)Pivot 220°
7.3 (Ac) EG on 100%
953.5(ft)Machine Length
82.8(ft)End Gun Radius

Flow

328 (GPM)
6.93 (GPM per Acre)
0.37 (in per day) App Rate
0.135 (in) App Depth @ 100%
51.7 (GPM) End Gun

Pressure

19 (PSI) Pivot Pressure
Calculated Pressure
0.0(ft) Highest Elevation
0.0(ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11.2 x 24 New Tire
52:1Wheel GB Ratio, LRDU Dist 953.5(ft)
8.8 Hrs/220° @ 100% (6.92)(Ft per Min)
14.4 Hrs/360° @ 100%

Disclaimer

The information presented in the attached Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108 | Dealer AGRI INDUSTRIES - WILLISTON | Sprinkler Order No 15076449

Customer Agri Industries

Currency **USD($)** | Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Bill Of Materials

Qty	Part Number	Description
48	**0231104**	REG PR NELSON LO FLO 15 PSI BLUE/RED INTEGRA
1	**0231122**	GAE MS 0-30 PSI PRESSURE GAUGE
48	**0244038**	FIT PB 1 X 3/4 GV REDUCER
48	**0271077**	HSE IT 3/4" MNPT X 3/4" HOSE BARB
48	**0271080**	HSE CL 1 1/16" HOSE CLAMP-CRIMP
48	**0271084**	HSE CL 1 1/4 S.S. HOSE DROP CLAMP
5	**0430814**	SPK NZ NELSON 3NV #14 LI ME
1	**0430816**	SPK NZ NELSON 3NV #16 LA VENDER
1	**0430817**	SPK NZ NELSON 3NV #17 LA VENDER
1	**0430818**	SPK NZ NELSON 3NV #18 GR AY
1	**0430819**	SPK NZ NELSON 3NV #19 GR AY
1	**0430820**	SPK NZ NELSON 3NV #20 TU RQUOISE
1	**0430821**	SPK NZ NELSON 3NV #21 TU RQUOISE
2	**0430823**	SPK NZ NELSON 3NV #23 YE LLOW
2	**0430824**	SPK NZ NELSON 3NV #24 RE D
2	**0430826**	SPK NZ NELSON 3NV #26 WH ITE
1	**0430827**	SPK NZ NELSON 3NV #27 WH ITE
3	**0430828**	SPK NZ NELSON 3NV #28 BL UE
3	**0430829**	SPK NZ NELSON 3NV #29 BL UE
2	**0430830**	SPK NZ NELSON 3NV #30 DA RK BROWN
3	**0430831**	SPK NZ NELSON 3NV #31 DA RK BROWN
2	**0430832**	SPK NZ NELSON 3NV #32 OR ANGE
1	**0430833**	SPK NZ NELSON 3NV #33 OR ANGE
3	**0430834**	SPK NZ NELSON 3NV #34 DA RK GREEN
5	**0430835**	SPK NZ NELSON 3NV #35 DA RK GREEN
1	**0430836**	SPK NZ NELSON 3NV #36 PU RPLE
1	**0430837**	SPK NZ NELSON 3NV #37 PU RPLE
2	**0430838**	SPK NZ NELSON 3NV #38 BL ACK
4	**0430839**	SPK NZ NELSON 3NV #39 BL ACK
48	**0430852**	SPK MS NELSON ROTATOR/SP INNER 3030 BODY
48	**0430866**	R3000 CAP/PLATE ASSY D6- 12 DEGREE RED PLATE
1	**0500701**	SPK NZ TAPERED SR100 NELSON 0.50T
1	**0505060**	SPK CP NELSON SR100 END GUN MOD W/2"BASE
48	**0994385**	2 LB. HOSE DROP WEIGHT - POLYETHYLENE
48	**0995972**	U-PIPE W/BARBED END
2	**09S0049**	PREMIUM BLUE PIVOT IRR HOSE 3/4" (250')

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108 | Dealer AGRI INDUSTRIES - WILLISTON | Sprinkler Order No 15076449

Customer Agri Industries

Currency **USD($)** | Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Bill Of Materials

Qty	Part Number	Description
1	**PRDCTED**	COOP & PRODUCT PROMOTION

Total Net Weight (lbs): 293.78

FOLLOW UP RESPONSE 178- 49.6 ACRES HALF PIVOT

Parent Order No 15076108 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 15076449

Customer Agri Industries

Field Name MEM - N Iversen - P3(SPRP - 6000)V1

Valley Standard Pivot 8000 Sprinkler Chart Disclaimer

WARRANTY

The information presented in the attached Default Sprinkler Report, Setup Sprinkler Report, and Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont makes no warranty for this sprinkler package's uniformity and/or distribution of water or chemicals, accuracy or consistency of the application depth, and machine rotation time. Furthermore, Valmont makes no representations or recommendations as to percentage timer settings, water application rates, irrigation scheduling, and other similar or dissimilar irrigation/farm management decisions.

LIABILITY

The responsibility and obligations lie with the end user to determine if the sprinkler package/report received matches the machine configuration and field conditions (including but not limited to: sprinkler type, sprinkler spacing, sprinkler height, pressure regulator type, crop, soil type, end gun arc settings, span lengths, last regular drive unit tire type, last regular drive unit motor, and pipe diameters). *VALMONT ASSUMES NO LIABILITY OF WHATSOEVER NATURE OR KIND FOR CROP LOSSES OR OTHER DAMAGES (INCLUDING CONSEQUENTIAL DAMAGES) CAUSED BY THIS SPRINKLER PACKAGE*.

SPRINKLER REPORT GENERAL INFORMATION

Sprinkler reports are created using information from the Sprinkler Order Transmittal received or as given verbally to a Valmont Customer Service/Parts Representative and is considered by Valmont to be accurate.

Pivot tower length begins at the center of the riser pipe inlet and ends at the center of a flex joint. Intermediate length span begins and ends at the center of a flex joint. Last span length begins at the center of a flex joint and ends at the last pipe flange.

Pivot pressure begins at the first coupler on the pipeline downstream of the pivot elbow. End pressure stated by the report will be within a range of -0 to +1.1 PSI of the specified end pressure at the end of the machine pipeline. Calculated pressure stated by the report will be within a range of -0 to +1.1 PSI of the minimum sprinkler pressure specified by Valmont or its sprinkler suppliers.

Pipeline pressure and drop length stated by the report for an under truss span are adjusted for elevation change due to crown height, tire size and drive unit profile.

Calculated sprinkler ground clearance extends from the ground surface up to the point where the water exits the sprinkler.

Highest elevation stated by the report is prorated over the first 30% of machine length with the remaining machine length at the highest elevation and is only used with sprinkler packages containing pressure regulators.

Non-pressure regulated machines are considered to be on level ground. Pressure regulators will have a minimum inlet pressure of 5 PSI plus their nominal pressure rating.

End gun coverage area can be over watering or under watering based upon end gun nozzle size and/or booster pump flow limitations. An auxiliary end gun will be specified by the sprinkler report when requested by the customer and the end gun required flow is at least 10% greater than the maximum flow of the primary end gun.

The Percent Timer report is based upon typical operating conditions. Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

Water application rates and rotation times may vary with a corner machine operating in chemigate mode.

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

VALLEY | V-CHART

Valley Dealer

AGRI INDUSTRIES, INC.
1775 S Central Ave
Sidney, MT 59270
United States

Customer

AGRI INDUSTRIES, INC.
1775 S Central Ave
Sidney, MT 59270
United States

Dealer No.

00910337

Field Name

Quarter Circle Pivot

Parent Order No.
Sprinkler Order No. NeilQuarterCircle w Regs
Plant VALLEY SHIPPING

Dealer PO
Order Date 01/02/2025
Load Date 01/07/2025
Method Of Shipment UPSG

5 Span Valley Standard Pivot PRE 6000
Machine Flow 500 (GPM)
Pivot Pressure 23 (PSI)

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Sprinkler Order No NeilQuarterCircle w Regs

Valley Standard Pivot PRE 6000 Machine Summary

Span and Overhang

Model	Qty	Length (ft)	Pipe O.D. (in)	Coupler Spacing (in)	Qty	D. U. Profile	Tire
PRE 6000	1	185.0	6	102 (Uniform)	22	Standard	11R x 24.5 Radial Retr
PRE 6000	4	170.0	6	102 (Uniform)	20	Standard	11R x 24.5 Radial Retr
PRE 6000	1	84.0	6	102 (Uniform)	11		

Field Area

78.5 (Ac) Total
65.1 (Ac)Pivot 360º
13.4 (Ac) EG on 100%
949.9 (ft)Machine Length
93.5 (ft)End Gun Radius

Flow

500 (GPM)
6.37 (GPM per Acre)
0.34 (in per day) App Rate
0.179 (in) App Depth @ 100%
84.8 (GPM) End Gun

Messages

Caution:
None

Dealer:
None

Pressure

23 (PSI) Pivot Pressure
Calculated Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @60 Hz freq.
11R x 24.5 Radial Retread Tire
52:1 Wheel GB Ratio, LRDU Dist 866.3 (ft)
12.7 Hrs/360º @ 100% 7.18 (Ft per Min)
12.7 Hrs/360º @ 100%

Sprinkler -- Available Outlets

Sprinkler Configuration	Range(ft)
Valley U-Pipe 6(in) Galvanized 3/4 M NPT x 3/4 M Hose	Outlets 4,60,1
Blue Premium Hose Drop Variable Length 60(in) Ground Clr	61,112
Nelson Regulator All Flo ACME 15(PSI) 3/4 F NPT	
Nelson R3000 D6 - Red 3/4 F Acme ASSY	

645.65 (ft) Total Drop Hose Length

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Sprinkler Order No NeilQuarterCircle w Regs

Valley Standard Pivot PRE 6000 Machine Summary

Pressure Loss

Pipe Length (ft)	Pipe I.D. (in)	Pipe Finish	C-Factor	Loss (PSI)
949.9	5.78	Galvanized	150	5.7
			Total =	5.7

End Gun(s) & Booster Pump Information

Primary End Gun

Nelson SR100 End Gun

0.65 Nozzle

Berkeley 2 HP Booster Pump

Span Flow

Span Number	Irrigated Length (ft)	Area (Ac)	Rqd (GPM)	Act (GPM)	Rqd (GPM per Acre)	Act (GPM per Acre)	% Deviation
1	161.1	2.5	15.6	17.6	6.25	7.01	12.2
2	169.5	6.7	41.7	41.5	6.25	6.23	-0.3
3	169.5	10.8	67.5	67.8	6.25	6.27	0.4
4	169.5	15.0	93.4	93.4	6.25	6.24	-0.0
5	169.8	19.1	119.5	119.2	6.25	6.23	-0.2
O/H	83.6	10.9	69.2	69.3	6.32	6.33	0.2
EG	93.5	13.4	85.5	84.8	6.36	6.31	-0.8
Totals		78.4		493.6			
	Drain Sprinkler		7.9	8.3			
	Total Machine Flow			501.9			

Advanced Options

```
Drain Sprinkler = Senninger Directional
Last Sprinkler Coverage = 1 ft
Sprinkler Coverage Length = 950.9 ft
Use Last Coupler= YES
Minimum Mainline Pressure = 6 PSI
```

Shipping Options

```
Ship Drop Hardware
Ship Endgun Nozzle
Ship Endgun & Hardware
Do not ship Endgun Valve / Nozzle Valve Hardware
Do not ship Boosterpump Hardware
```

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
1	7.9			Gauge						23.0			
2	16.4			Plug									
3	24.9			Plug									
	Sprinkler : Nelson Rotator Assembly												
4	33.4	1		14	Lime	R3000	D6 - Red	99	All Flo ACME 15A	22.5	16.0	0.5	1.3
5	41.9			Plug									
6	50.4	2	17.0	14	Lime	R3000	D6 - Red	103	All Flo ACME 15A	22.2	16.0	0.8	1.3
7	58.9			Plug									
8	67.3	3	16.9	14	Lime	R3000	D6 - Red	105	All Flo ACME 15A	22.0	16.0	1.0	1.3
9	75.9			Plug									
10	84.5	4	17.2	14	Lime	R3000	D6 - Red	106	All Flo ACME 15A	21.9	16.0	1.3	1.3
11	92.6			Plug									
12	100.9	5	16.4	15	Lime/Lavender	R3000	D6 - Red	105	All Flo ACME 15A	21.7	16.0	1.5	1.6
13	108.9			Plug									
14	117.5	6	16.6	16	Lavender	R3000	D6 - Red	104	All Flo ACME 15A	21.7	16.0	1.8	1.8
15	126.0			Plug									
16	134.4	7	17.0	17	Lavender/Gray	R3000	D6 - Red	101	All Flo ACME 15A	21.7	16.0	2.1	2.0
17	142.9			Plug									
18	151.4	8	16.9	18	Gray	R3000	D6 - Red	96	All Flo ACME 15A	21.7	16.0	2.3	2.2
19	159.8			Plug									
20	168.3	9	16.9	20	Turquoise	R3000	D6 - Red	90	All Flo ACME 15A	21.8	15.9	2.6	2.8
21	176.8			Plug									
22	185.3	10	16.9	20	Turquoise	R3000	D6 - Red	83	All Flo ACME 15A	21.9	15.9	2.7	2.8
	188.1		Tower Number : 1		Span Length(ft) : 186.0								
23	192.0			Plug									
24	200.6	11	15.3	20	Turquoise	R3000	D6 - Red	87	All Flo ACME 15A	21.6	15.9	2.9	2.8
25	209.1			Plug									
26	217.7	12	17.1	22	Yellow	R3000	D6 - Red	92	All Flo ACME 15A	21.3	15.8	3.3	3.3
27	226.2			Plug									
28	234.6	13	17.0	23	Yellow/Red	R3000	D6 - Red	96	All Flo ACME 15A	21.0	15.8	3.6	3.6

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
29	243.1			Plug									
30	251.5	14	16.9	24	Red	R3000	D6 - Red	99	All Flo ACME 15A	20.8	15.7	3.9	4.0
31	260.1			Plug									
32	268.7	15	17.2	25	Red/White	R3000	D6 - Red	100	All Flo ACME 15A	20.7	15.7	4.1	4.3
33	277.1			Plug									
34	285.6	16	16.9	25	Red/White	R3000	D6 - Red	100	All Flo ACME 15A	20.5	15.6	4.4	4.3
35	294.2			Plug									
36	302.7	17	17.0	26	White	R3000	D6 - Red	98	All Flo ACME 15A	20.5	15.6	4.6	4.6
37	311.1			Plug									
38	319.6	18	16.9	27	White/Blue	R3000	D6 - Red	95	All Flo ACME 15A	20.5	15.6	4.9	5.0
39	328.0			Plug									
40	336.5	19	16.9	27	White/Blue	R3000	D6 - Red	90	All Flo ACME 15A	20.6	15.5	5.1	4.9
41	345.0			Plug									
42	353.4	20	16.9	28	Blue	R3000	D6 - Red	84	All Flo ACME 15A	20.7	15.5	5.3	5.4
	357.6		Tower Number : 2		Span Length(ft) : 169.5								
43	361.5			Plug									
44	370.1	21	16.6	29	Blue/Dark Brown	R3000	D6 - Red	87	All Flo ACME 15A	20.4	15.4	5.6	5.7
45	378.6			Plug									
46	387.2	22	17.1	29	Blue/Dark Brown	R3000	D6 - Red	92	All Flo ACME 15A	20.1	15.4	5.9	5.7
47	395.7			Plug									
48	404.1	23	17.0	30	Dark Brown	R3000	D6 - Red	96	All Flo ACME 15A	19.9	15.3	6.2	6.1
49	412.6			Plug									
50	421.0	24	16.9	31	Dk Brown/Orange	R3000	D6 - Red	99	All Flo ACME 15A	19.7	15.3	6.5	6.5
51	429.6			Plug									
52	438.2	25	17.2	32	Orange	R3000	D6 - Red	100	All Flo ACME 15A	19.6	15.2	6.7	7.0
53	446.6			Plug									
54	455.1	26	16.9	32	Orange	R3000	D6 - Red	100	All Flo ACME 15A	19.5	15.2	7.0	6.9
55	463.7			Plug									
56	472.2	27	17.0	33	Orange/Dk Green	R3000	D6 - Red	98	All Flo ACME 15A	19.4	15.2	7.2	7.4
57	480.6			Plug									
58	489.1	28	16.9	33	Orange/Dk Green	R3000	D6 - Red	95	All Flo ACME 15A	19.5	15.2	7.5	7.4
59	497.5			Plug									
60	506.0	29	16.9	29	Blue/Dark Brown	R3000	D6 - Red	90	All Flo ACME 15A	19.6	15.4	5.8	5.7

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
61	514.5	30	8.5	24	Red	R3000	D6 - Red	87	All Flo ACME 15A	19.6	15.7	3.9	4.0
62	522.9	31	8.5	24	Red	R3000	D6 - Red	84	All Flo ACME 15A	19.7	15.7	3.9	4.0
	527.1		Tower Number : 3		Span Length(ft) : 169.5								
63	531.0	32	8.1	24	Red	R3000	D6 - Red	84	All Flo ACME 15A	19.7	15.7	4.0	4.0
64	539.6	33	8.5	24	Red	R3000	D6 - Red	87	All Flo ACME 15A	19.5	15.7	4.2	3.9
65	548.1	34	8.5	25	Red/White	R3000	D6 - Red	90	All Flo ACME 15A	19.4	15.6	4.2	4.3
66	556.7	35	8.5	25	Red/White	R3000	D6 - Red	92	All Flo ACME 15A	19.2	15.6	4.3	4.3
67	565.2	36	8.5	25	Red/White	R3000	D6 - Red	95	All Flo ACME 15A	19.1	15.6	4.3	4.3
68	573.6	37	8.4	25	Red/White	R3000	D6 - Red	96	All Flo ACME 15A	19.0	15.6	4.4	4.3
69	582.1	38	8.5	26	White	R3000	D6 - Red	98	All Flo ACME 15A	18.9	15.6	4.4	4.6
70	590.5	39	8.5	26	White	R3000	D6 - Red	99	All Flo ACME 15A	18.9	15.6	4.5	4.6
71	599.1	40	8.6	26	White	R3000	D6 - Red	100	All Flo ACME 15A	18.8	15.6	4.6	4.6
72	607.7	41	8.6	26	White	R3000	D6 - Red	100	All Flo ACME 15A	18.7	15.6	4.6	4.6
73	616.1	42	8.4	26	White	R3000	D6 - Red	100	All Flo ACME 15A	18.7	15.6	4.7	4.6
74	624.6	43	8.6	27	White/Blue	R3000	D6 - Red	100	All Flo ACME 15A	18.7	15.5	4.8	4.9
75	633.2	44	8.6	27	White/Blue	R3000	D6 - Red	99	All Flo ACME 15A	18.7	15.5	4.9	4.9
76	641.7	45	8.5	27	White/Blue	R3000	D6 - Red	98	All Flo ACME 15A	18.7	15.5	4.9	4.9
77	650.1	46	8.5	27	White/Blue	R3000	D6 - Red	96	All Flo ACME 15A	18.7	15.5	4.9	4.9
78	658.6	47	8.4	27	White/Blue	R3000	D6 - Red	95	All Flo ACME 15A	18.8	15.5	5.0	4.9
79	667.0	48	8.5	27	White/Blue	R3000	D6 - Red	92	All Flo ACME 15A	18.8	15.5	5.1	4.9
80	675.5	49	8.5	27	White/Blue	R3000	D6 - Red	90	All Flo ACME 15A	18.9	15.5	5.2	4.9
81	684.0	50	8.5	28	Blue	R3000	D6 - Red	87	All Flo ACME 15A	19.0	15.5	5.2	5.4
82	692.4	51	8.5	28	Blue	R3000	D6 - Red	84	All Flo ACME 15A	19.0	15.5	5.2	5.4
	696.6		Tower Number : 4		Span Length(ft) : 169.5								
83	700.5	52	8.1	27	White/Blue	R3000	D6 - Red	84	All Flo ACME 15A	19.0	15.5	5.3	4.9
84	709.1	53	8.5	28	Blue	R3000	D6 - Red	87	All Flo ACME 15A	18.9	15.4	5.5	5.4
85	717.6	54	8.5	29	Blue/Dark Brown	R3000	D6 - Red	90	All Flo ACME 15A	18.8	15.4	5.5	5.7
86	726.2	55	8.5	29	Blue/Dark Brown	R3000	D6 - Red	92	All Flo ACME 15A	18.6	15.4	5.6	5.7
87	734.7	56	8.5	28	Blue	R3000	D6 - Red	95	All Flo ACME 15A	18.5	15.4	5.6	5.4
88	743.1	57	8.4	29	Blue/Dark Brown	R3000	D6 - Red	96	All Flo ACME 15A	18.5	15.4	5.7	5.7
89	751.6	58	8.5	29	Blue/Dark Brown	R3000	D6 - Red	98	All Flo ACME 15A	18.4	15.4	5.7	5.7
90	760.0	59	8.5	29	Blue/Dark Brown	R3000	D6 - Red	99	All Flo ACME 15A	18.3	15.4	5.8	5.7
91	768.6	60	8.6	30	Dark Brown	R3000	D6 - Red	100	All Flo ACME 15A	18.3	15.4	5.9	6.1

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
92	777.2	61	8.6	29	Blue/Dark Brown	R3000	D6 - Red	100	All Flo ACME 15A	18.3	15.4	5.9	5.7
93	785.6	62	8.4	30	Dark Brown	R3000	D6 - Red	100	All Flo ACME 15A	18.2	15.4	6.0	6.1
94	794.1	63	8.6	30	Dark Brown	R3000	D6 - Red	100	All Flo ACME 15A	18.2	15.3	6.1	6.1
95	802.7	64	8.6	30	Dark Brown	R3000	D6 - Red	99	All Flo ACME 15A	18.3	15.3	6.2	6.1
96	811.2	65	8.5	30	Dark Brown	R3000	D6 - Red	98	All Flo ACME 15A	18.3	15.3	6.2	6.1
97	819.6	66	8.5	30	Dark Brown	R3000	D6 - Red	96	All Flo ACME 15A	18.3	15.3	6.2	6.1
98	828.1	67	8.4	31	Dk Brown/Orange	R3000	D6 - Red	95	All Flo ACME 15A	18.4	15.3	6.3	6.5
99	836.5	68	8.5	31	Dk Brown/Orange	R3000	D6 - Red	92	All Flo ACME 15A	18.4	15.3	6.4	6.5
100	845.0	69	8.5	31	Dk Brown/Orange	R3000	D6 - Red	90	All Flo ACME 15A	18.5	15.3	6.4	6.5
101	853.5	70	8.5	31	Dk Brown/Orange	R3000	D6 - Red	87	All Flo ACME 15A	18.6	15.3	6.5	6.5
102	861.9	71	8.5	31	Dk Brown/Orange	R3000	D6 - Red	84	All Flo ACME 15A	18.7	15.3	6.6	6.5
	866.3		Tower Number : 5		Span Length(ft) : 169.8								
103	870.5	72	8.5	32	Orange	R3000	D6 - Red	84	All Flo ACME 15A	18.7	15.2	6.7	7.0
104	879.0	73	8.5	31	Dk Brown/Orange	R3000	D6 - Red	88	All Flo ACME 15A	18.6	15.3	6.7	6.5
105	887.5	74	8.5	32	Orange	R3000	D6 - Red	92	All Flo ACME 15A	18.4	15.2	6.8	6.9
106	896.0	75	8.5	32	Orange	R3000	D6 - Red	96	All Flo ACME 15A	18.2	15.2	6.9	6.9
107	904.5	76	8.5	32	Orange	R3000	D6 - Red	100	All Flo ACME 15A	18.1	15.2	6.9	6.9
108	913.0	77	8.5	32	Orange	R3000	D6 - Red	104	All Flo ACME 15A	17.9	15.2	7.0	6.9
109	921.5	78	8.5	32	Orange	R3000	D6 - Red	109	All Flo ACME 15A	17.8	15.2	7.1	6.9
110	930.1	79	8.5	32	Orange	R3000	D6 - Red	113	All Flo ACME 15A	17.6	15.2	7.1	6.9
111	938.6	80	8.5	33	Orange/Dk Green	R3000	D6 - Red	117	All Flo ACME 15A	17.5	15.2	7.2	7.4
112	947.1	81	8.5	32	Orange	R3000	D6 - Red	121	All Flo ACME 15A	17.3	15.2	6.9	6.9
			Sprinkler : Senninger Spray										
113	948.9	82		17	Dark Green	Directional				17.2	17.2	7.9	8.3
	949.9		Overhang		Span Length(ft) : 83.6								
			Sprinkler : Nelson Endgun										
114	949.9	83		0.65		SR100				17.2	48.3	85.5	84.8

Primary Endgun Arc Settings: Forward Angle: 45 Reverse Angle: 80

501.9

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Dealer AGRI INDUSTRIES, INC.
Customer AGRI INDUSTRIES, INC.
Field Name Quarter Circle Pivot

VALLEY | V-CHART

Sprinkler Order No NeilQuarterCircle w Regs

Parent Order No

Valley Standard Pivot PRE 6000 Percent Timer Data

Setup Information - Valley Computer Control Panel Water Application Constants: Minimum Application = 0.179 (in) Hours/360° = 12.7

Based on IN

IN Per 360 degrees	Pivot % Timer	Hours Per 360 degrees
0.179	100.0	12.7
0.20	89.4	14.2
0.30	59.6	21.3
0.40	44.7	28.4
0.50	35.7	35.6
0.60	29.8	42.6
0.70	25.5	49.8
0.80	22.3	57.0
0.90	19.9	63.8
1.00	17.9	70.9
1.25	14.3	88.8
1.50	11.9	106.7
1.75	10.2	124.5
2.00	8.9	142.7
2.50	7.1	178.9
3.00	6.0	211.7
3.50	5.1	249.0

Based on % Timer

Pivot % Timer	IN Per 360 degrees	Hours Per 360 degrees
100.0	0.179	12.7
90.0	0.20	14.1
80.0	0.22	15.9
70.0	0.26	18.1
60.0	0.30	21.2
50.0	0.36	25.4
45.0	0.40	28.2
40.0	0.45	31.8
35.0	0.51	36.3
30.0	0.60	42.3
25.0	0.71	50.8
20.0	0.89	63.5
17.5	1.02	72.6
15.0	1.19	84.7
12.5	1.43	101.6
10.0	1.79	127.0
7.5	2.38	169.3
5.0	3.57	254.0

Field Area

78.5 (Ac) Total
65.1 (Ac)Pivot 360°
13.4 (Ac) EG on 100%
949.9 (ft)Machine Length
93.5 (ft)End Gun Radius

Flow

500 (GPM)
6.37 (GPM per Acre)
0.34 (in per day) App Rate
0.179 (in) App Depth @ 100%
84.8 (GPM) End Gun

Pressure

23 (PSI) Pivot Pressure
Calculated Pressure
0.0 (ft) Highest Elevation
0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11R x 24.5 Radial Retread Tire
52:1 Wheel GB Ratio, LRDU Dist 866.3 (ft)
12.7 Hrs/360° @ 100% (7.18)(Ft per Min)
12.7 Hrs/360° @ 100%

Disclaimer

The information presented in the attached Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Customer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Currency **USD($)**

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Bill Of Materials

Qty	Part Number	Description
1	0211059	NPL MS 3/4 X 12 GVSCH 40
81	0217159	REG PR ALL-FLO REGULATOR15 PSI FNPT X SQ THD
1	0231122	GAE MS 0-30 PSI PRESSURE GAUGE
1	0241005	FIT ER 3/4 X 90 GV
1	0241012	FIT ES 3/4 X 90 GV
82	0244038	FIT PB 1 X 3/4 GVREDUCER
81	0271077	HSE IT 3/4" MNPT X 3/4"HOSE BARB
81	0271080	HSE CL 1 1/16" HOSECLAMP-CRIMP
81	0271084	HSE CL 1 1/4 S.S. HOSEDROP CLAMP
4	0430614	NZ LIME 3TN 14/128
1	0430615	NZ LIME/LAVENDER 3TN 15/128
1	0430616	NZ LAVENDER 3TN 16/128
1	0430617	NZ LAVENDER/GRAY 3TN 17/128
1	0430618	NZ GRAY 3TN 18/128
3	0430620	NZ TURQUOISE 3TN 20/128
1	0430622	NZ YELLOW 3TN 22/128
1	0430623	NZ YELLOW/RED 3TN 23/128
5	0430624	NZ RED 3TN 24/128
6	0430625	NZ RED/WHITE 3TN 25/128
6	0430626	NZ WHITE 3TN 26/128
10	0430627	NZ WHITE/BLUE 3TN 27/128
5	0430628	NZ BLUE 3TN 28/128
9	0430629	NZ BLUE/DARK BROWN 3TN 29/128
7	0430630	NZ DARK BROWN 3TN 30/128
7	0430631	NZ DARK BROWN/ORANGE 3TN 31/128
10	0430632	NZ ORANGE 3TN 32/128
3	0430633	NZ ORANGE/DARK GREEN 3TN 33/128
81	0430795	R3000 ROTATOR ASSY-D6-12DEGREE RED PLATE
1	0496170	DARK GREEN SPRAY NZ #17 ORF .266
1	0500703	SPK NZ TAPERED SR100NELSON 0.65T
1	0505060	SPK CP NELSON SR100 ENDGUN MOD W/2"BASE
81	0995972	U-PIPE W/BARBED END
3	09S0049	PREMIUM BLUE PIVOT IRRHOSE 3/4" (250')
1	PRDCTED	COOP & PRODUCT PROMOTION

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Currency **USD($)**

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Bill Of Materials

Qty	Part Number	Description

Total Net Weight (lbs): 327.83

FOLLOW UP RESPONSE 178- 33.3 ACRES HALF PIVOT

Parent Order No

Dealer AGRI INDUSTRIES, INC.

Sprinkler Order No NeilQuarterCircle w Regs

Customer AGRI INDUSTRIES, INC.

Field Name Quarter Circle Pivot

Valley Standard Pivot PRE 6000 Sprinkler Chart Disclaimer

WARRANTY

The information presented in the attached Default Sprinkler Report, Setup Sprinkler Report, and Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont makes no warranty for this sprinkler package's uniformity and/or distribution of water or chemicals, accuracy or consistency of the application depth, and machine rotation time. Furthermore, Valmont makes no representations or recommendations as to percentage timer settings, water application rates, irrigation scheduling, and other similar or dissimilar irrigation/farm management decisions.

LIABILITY

The responsibility and obligations lie with the end user to determine if the sprinkler package/report received matches the machine configuration and field conditions (including but not limited to: sprinkler type, sprinkler spacing, sprinkler height, pressure regulator type, crop, soil type, end gun arc settings, span lengths, last regular drive unit tire type, last regular drive unit motor, and pipe diameters). VALMONT ASSUMES NO LIABILITY OF WHATSOEVER NATURE OR KIND FOR CROP LOSSES OR OTHER DAMAGES (INCLUDING CONSEQUENTIAL DAMAGES) CAUSED BY THIS SPRINKLER PACKAGE.

SPRINKLER REPORT GENERAL INFORMATION

Sprinkler reports are created using information from the Sprinkler Order Transmittal received or as given verbally to a Valmont Customer Service/Parts Representative and is considered by Valmont to be accurate.

Pivot tower length begins at the center of the riser pipe inlet and ends at the center of a flex joint. Intermediate length span begins and ends at the center of a flex joint. Last span length begins at the center of a flex joint and ends at the last pipe flange.

Pivot pressure begins at the first coupler on the pipeline downstream of the pivot elbow. End pressure stated by the report will be within a range of -0 to +1.1 PSI of the specified end pressure at the end of the machine pipeline. Calculated pressure stated by the report will be within a range of -0 to +1.1 PSI of the minimum sprinkler pressure specified by Valmont or its sprinkler suppliers.

Pipeline pressure and drop length stated by the report for an under truss span are adjusted for elevation change due to crown height, tire size and drive unit profile.

Calculated sprinkler ground clearance extends from the ground surface up to the point where the water exits the sprinkler.

Highest elevation stated by the report is prorated over the first 30% of machine length with the remaining machine length at the highest elevation and is only used with sprinkler packages containing pressure regulators.

Non-pressure regulated machines are considered to be on level ground. Pressure regulators will have a minimum inlet pressure of 5 PSI plus their nominal pressure rating.

End gun coverage area can be over watering or under watering based upon end gun nozzle size and/or booster pump flow limitations. An auxiliary end gun will be specified by the sprinkler report when requested by the customer and the end gun required flow is at least 10% greater than the maximum flow of the primary end gun.

The Percent Timer report is based upon typical operating conditions. Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

Water application rates and rotation times may vary with a corner machine operating in chemigate mode.

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

V-Chart

Valley Dealer

Agri Industries
3105 2ND ST W
PO Box 1166
Williston, ND 58801-6907
UNITED STATES

Customer

DS FARMS
6047 ROAD 1011
BAINVILLE, MT 59212
UNITED STATES

Dealer No.

00000337

Field Name

Replace Olson Pivot Birch River Bottom

Parent Order No. 10816827
Sprinkler Order No. 10820997

Plant McCook Manufacturing

Dealer PO 62878
Order Date 01/17/2011
Load Date 01/21/2011
Method Of Shipment W/SYS (10816827)

11 Span Valley Standard Pivot 8000
Machine Flow 900 GPM
Pivot Pressure 35 PSI

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827

Dealer Agri Industries

Customer DS FARMS

Field Name Replace Olson Pivot Birch River Bottom

Sprinkler Order No 10820997

Valley Standard Pivot 8000 Machine Summary

Span and Overhang

Model	Qty	Length Ft	Pipe O.D. In	Coupler Spacing	Qty	D. U. Profile	Tire
8000	6	180	6 5/8	108	20	Standard	11.2 x 38
8000	5	160	6 5/8	108	18	Standard	11.2 x 38
8000	1	64	6 5/8	110	10		

Field Area

300.1 Acres Total
273.1 Acres: Pivot 360°
27.0 EG on 100%
1946.1 Ft. Machine Length
93.8 Ft. End Gun Radius

Flow

900 Gallons Per Minute
3.00 GPM/Acre
0.16 In/Day App Rate
0.138 In. App Depth @ 100%
85.2 GPM End Gun

Messages

Caution:
None

Dealer:
None

Pressure

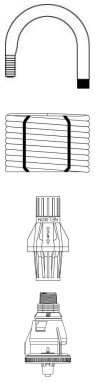
35 PSI Pivot Pressure
Calculated Pressure
0.0 Ft. Highest Elevation
0.0 Ft. Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11.2 x 38 Tire
52:1 Wheel GB Ratio, LRDU Dist 1882.4 Ft.
20.9 Hrs/360° @ 100% (9.45) Ft/Min

Sprinkler -- Computer Spacing

Sprinkler Configuration	Range (ft)
Valley U-Pipe 6 Galvanized 3/4 M NPT x 3/4 M Hose	All
Senninger Hose Drop Variable Length 60" Ground Clr	
Nelson Regulator Blue Acme 15 3/4 F NPT	
Valley Slip Weight 26 2.0 Poly	
Nelson R3000 D6 - Red 3/4 F Acme	



1382.27 Ft Total Drop Hose Length

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827

Dealer Agri Industries

Sprinkler Order No 10820997

Customer DS FARMS

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Summary

Pressure Loss

Pipe Length Ft	Pipe I.D. In	Pipe Finish	C-Factor	Loss PSI
1918.6	6.42	Galvanized	150	17.0
27.4	3.79	Galvanized	150	0.5
			Total =	17.5

Nelson SR100 End Gun
0.65 Nozzle
Berkeley 2 HP Booster Pump

Span Flow

Span Number	Irrigated Length	Acres	Rqd GPM	Act GPM	Rqd GPM/Acre	Act GPM/Acre	% Deviation
1	179.9	2.4	7.0	11.9	2.95	4.98	68.9
2	180.1	7.1	20.8	20.8	2.95	2.94	-0.2
3	180.1	11.7	34.6	34.8	2.95	2.96	0.5
4	180.1	16.4	48.4	48.3	2.95	2.94	-0.3
5	180.1	21.1	62.3	62.3	2.95	2.95	0.2
6	180.1	25.8	76.1	76.1	2.95	2.95	0.1
7	160.0	26.8	79.2	79.0	2.95	2.94	-0.2
8	160.0	30.5	90.1	89.9	2.95	2.95	-0.2
9	160.0	34.2	101.0	101.2	2.95	2.96	0.3
10	160.0	37.9	111.9	111.8	2.95	2.95	-0.1
11	159.8	41.5	122.5	122.5	2.95	2.95	-0.0
O/H	63.6	17.6	52.7	52.4	3.00	2.98	-0.5
EG	93.8	27.0	80.9	85.2	3.00	3.16	5.4
Totals		300		896.2			
	Drain Sprinkler		7.9	8.3			
		Total Machine Flow		904.5			

Advanced Options

```
Drain Sprinkler = Senninger Directional
Last Sprinkler Coverage = 1.0 ft
Sprinkler Coverage Length = 1947.1 ft
Use Last Coupler= YES
Minimum Mainline Pressure = 6.0 PSI
```

Shipping Options

```
Ship Drop Hardware
Ship Endgun Nozzle
Ship Endgun & Hardware
Do not ship Endgun Valve / Nozzle Valve Hardware
Do not ship Boosterpump Hardware
```

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
1	6.5			Gauge						35.0			
2	15.5			Plug									
3	24.5			Plug									
		Sprinkler : Nelson Rotator											
4	33.5	1		14	Lime	R3000	D6 - Red	114	Blue Acme 15L	33.9	16.7	0.4	1.4
5	42.5		9.0	Plug									
6	51.5	2	18.0	14	Lime	R3000	D6 - Red	123	Blue Acme 15L	33.4	16.7	0.4	1.4
7	60.5		9.0	Plug									
8	69.5	3	18.0	14	Lime	R3000	D6 - Red	129	Blue Acme 15L	32.9	16.7	0.5	1.4
9	78.5		9.0	Plug									
10	87.5	4	18.0	14	Lime	R3000	D6 - Red	132	Blue Acme 15L	32.5	16.7	0.7	1.4
11	96.4		8.9	Plug									
12	105.4	5	17.9	14	Lime	R3000	D6 - Red	132	Blue Acme 15L	32.3	16.6	0.8	1.4
13	114.4		9.0	Plug									
14	123.4	6	18.0	14	Lime	R3000	D6 - Red	129	Blue Acme 15L	32.1	16.6	0.9	1.4
15	132.4		9.0	Plug									
16	141.3	7	17.9	14	Lime	R3000	D6 - Red	123	Blue Acme 15L	32.1	16.5	1.1	1.4
17	150.3		9.0	Plug									
18	159.3	8	18.0	14	Lime	R3000	D6 - Red	115	Blue Acme 15L	32.1	16.5	1.2	1.4
19	168.3		9.0	Plug									
20	177.3	9	18.0	14	Lime	R3000	D6 - Red	103	Blue Acme 15L	32.3	16.4	1.4	1.4
	182.0		Tower Number : 1		Span Length(ft) : 179.9								
21	186.6		9.3	Plug									
22	195.6	10	18.3	15	Lime/Lavender	R3000	D6 - Red	110	Blue Acme 15L	31.8	16.4	1.5	1.6
23	204.6		9.0	Plug									
24	213.6	11	18.0	15	Lime/Lavender	R3000	D6 - Red	121	Blue Acme 15L	31.1	16.3	1.6	1.6
25	222.6		9.0	Plug									
26	231.6	12	18.0	16	Lavender	R3000	D6 - Red	128	Blue Acme 15L	30.6	16.3	1.8	1.8
27	240.6		9.0	Plug									
28	249.6	13	18.0	17	Lavender/Gray	R3000	D6 - Red	133	Blue Acme 15L	30.1	16.2	1.9	2.0

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
29	258.6		9.0	Plug									
30	267.6	14	18.0	17	Lavender/Gray	R3000	D6 - Red	136	Blue Acme 15L	29.8	16.2	2.0	2.0
31	276.5		8.9	Plug									
32	285.5	15	17.9	18	Gray	R3000	D6 - Red	135	Blue Acme 15L	29.6	16.1	2.2	2.2
33	294.5		9.0	Plug									
34	303.5	16	18.0	18	Gray	R3000	D6 - Red	131	Blue Acme 15L	29.5	16.1	2.3	2.2
35	312.5		9.0	Plug									
36	321.4	17	17.9	19	Gray/Turquoise	R3000	D6 - Red	125	Blue Acme 15L	29.5	16.0	2.5	2.5
37	330.4		9.0	Plug									
38	339.4	18	18.0	19	Gray/Turquoise	R3000	D6 - Red	116	Blue Acme 15L	29.5	16.0	2.6	2.5
39	348.4		9.0	Plug									
40	357.4	19	18.0	20	Turquoise	R3000	D6 - Red	103	Blue Acme 15L	29.7	15.9	2.8	2.8
	362.1		Tower Number : 2		Span Length(ft) : 180.1								
41	366.7		9.3	Plug									
42	375.7	20	18.3	21	Turq/Yellow	R3000	D6 - Red	110	Blue Acme 15L	29.2	15.9	2.9	3.0
43	384.7		9.0	Plug									
44	393.7	21	18.0	21	Turq/Yellow	R3000	D6 - Red	121	Blue Acme 15L	28.6	15.9	3.0	3.0
45	402.7		9.0	Plug									
46	411.7	22	18.0	21	Turq/Yellow	R3000	D6 - Red	128	Blue Acme 15L	28.1	15.8	3.2	3.0
47	420.7		9.0	Plug									
48	429.7	23	18.0	22	Yellow	R3000	D6 - Red	133	Blue Acme 15L	27.7	15.8	3.3	3.3
49	438.7		9.0	Plug									
50	447.7	24	18.0	23	Yellow/Red	R3000	D6 - Red	136	Blue Acme 15L	27.4	15.7	3.4	3.6
51	456.6		8.9	Plug									
52	465.6	25	17.9	23	Yellow/Red	R3000	D6 - Red	135	Blue Acme 15L	27.1	15.7	3.6	3.6
53	474.6		9.0	Plug									
54	483.6	26	18.0	23	Yellow/Red	R3000	D6 - Red	131	Blue Acme 15L	27.0	15.7	3.7	3.6
55	492.6		9.0	Plug									
56	501.5	27	17.9	24	Red	R3000	D6 - Red	125	Blue Acme 15L	27.0	15.6	3.8	3.9
57	510.5		9.0	Plug									
58	519.5	28	18.0	24	Red	R3000	D6 - Red	116	Blue Acme 15L	27.1	15.6	4.0	3.9
59	528.5		9.0	Plug									
60	537.5	29	18.0	25	Red/White	R3000	D6 - Red	103	Blue Acme 15L	27.4	15.5	4.2	4.2

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
	542.2		Tower Number : 3	Span Length(ft) : 180.1									
61	546.8		9.3	Plug									
62	555.8	30	18.3	25	Red/White	R3000	D6 - Red	110	Blue Acme 15L	26.9	15.5	4.3	4.2
63	564.8		9.0	Plug									
64	573.8	31	18.0	25	Red/White	R3000	D6 - Red	121	Blue Acme 15L	26.3	15.5	4.4	4.2
65	582.8		9.0	Plug									
66	591.8	32	18.0	26	White	R3000	D6 - Red	128	Blue Acme 15L	25.8	15.5	4.5	4.6
67	600.8		9.0	Plug									
68	609.8	33	18.0	26	White	R3000	D6 - Red	133	Blue Acme 15L	25.4	15.5	4.7	4.6
69	618.8		9.0	Plug									
70	627.8	34	18.0	27	White/Blue	R3000	D6 - Red	136	Blue Acme 15L	25.1	15.5	4.8	4.9
71	636.7		8.9	Plug									
72	645.7	35	17.9	27	White/Blue	R3000	D6 - Red	135	Blue Acme 15L	24.9	15.5	4.9	4.9
73	654.7		9.0	Plug									
74	663.7	36	18.0	27	White/Blue	R3000	D6 - Red	131	Blue Acme 15L	24.8	15.4	5.1	4.9
75	672.7		9.0	Plug									
76	681.6	37	17.9	28	Blue	R3000	D6 - Red	125	Blue Acme 15L	24.8	15.4	5.2	5.4
77	690.6		9.0	Plug									
78	699.6	38	18.0	28	Blue	R3000	D6 - Red	116	Blue Acme 15L	24.9	15.4	5.4	5.4
79	708.6		9.0	Plug									
80	717.6	39	18.0	28	Blue	R3000	D6 - Red	103	Blue Acme 15L	25.2	15.4	5.5	5.4
	722.3		Tower Number : 4	Span Length(ft) : 180.1									
81	726.9		9.3	Plug									
82	735.9	40	18.3	29	Blue/Dark Brown	R3000	D6 - Red	110	Blue Acme 15L	24.7	15.4	5.7	5.7
83	744.9		9.0	Plug									
84	753.9	41	18.0	29	Blue/Dark Brown	R3000	D6 - Red	121	Blue Acme 15L	24.1	15.3	5.8	5.7
85	762.9		9.0	Plug									
86	771.9	42	18.0	30	Dark Brown	R3000	D6 - Red	128	Blue Acme 15L	23.7	15.3	5.9	6.1
87	780.9		9.0	Plug									
88	789.9	43	18.0	30	Dark Brown	R3000	D6 - Red	133	Blue Acme 15L	23.3	15.3	6.0	6.1
89	798.9		9.0	Plug									
90	807.9	44	18.0	30	Dark Brown	R3000	D6 - Red	136	Blue Acme 15L	23.0	15.3	6.2	6.1
91	816.8		8.9	Plug									

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
92	825.8	45	17.9	30	Dark Brown	R3000	D6 - Red	135	Blue Acme 15L	22.9	15.3	6.3	6.1
93	834.8		9.0	Plug									
94	843.8	46	18.0	31	Dk Brown/Orange	R3000	D6 - Red	131	Blue Acme 15L	22.8	15.3	6.4	6.5
95	852.8		9.0	Plug									
96	861.7	47	17.9	31	Dk Brown/Orange	R3000	D6 - Red	125	Blue Acme 15L	22.8	15.2	6.6	6.5
97	870.7		9.0	Plug									
98	879.7	48	18.0	32	Orange	R3000	D6 - Red	116	Blue Acme 15L	23.0	15.2	6.7	6.9
99	888.7		9.0	Plug									
100	897.7	49	18.0	32	Orange	R3000	D6 - Red	103	Blue Acme 15L	23.3	15.2	6.9	6.9
	902.4		Tower Number : 5		Span Length(ft) : 180.1								
101	907.0		9.3	Plug									
102	916.0	50	18.3	32	Orange	R3000	D6 - Red	110	Blue Acme 15L	22.9	15.2	7.1	6.9
103	925.0		9.0	Plug									
104	934.0	51	18.0	33	Orange/Dk Green	R3000	D6 - Red	121	Blue Acme 15L	22.3	15.2	7.2	7.4
105	943.0		9.0	Plug									
106	952.0	52	18.0	33	Orange/Dk Green	R3000	D6 - Red	128	Blue Acme 15L	21.8	15.2	7.3	7.4
107	961.0		9.0	Plug									
108	970.0	53	18.0	33	Orange/Dk Green	R3000	D6 - Red	133	Blue Acme 15L	21.5	15.2	7.4	7.4
109	979.0		9.0	Plug									
110	988.0	54	18.0	33	Orange/Dk Green	R3000	D6 - Red	136	Blue Acme 15L	21.3	15.1	7.5	7.4
111	996.9		8.9	Plug									
112	1005.9	55	17.9	34	Dark Green	R3000	D6 - Red	135	Blue Acme 15L	21.1	15.1	7.7	7.8
113	1014.9		9.0	Plug									
114	1023.9	56	18.0	34	Dark Green	R3000	D6 - Red	131	Blue Acme 15L	21.1	15.1	7.8	7.8
115	1032.9		9.0	Plug									
116	1041.8	57	17.9	34	Dark Green	R3000	D6 - Red	125	Blue Acme 15L	21.2	15.1	8.0	7.8
117	1050.8		9.0	Plug									
118	1059.8	58	18.0	35	Dk Green/Purple	R3000	D6 - Red	116	Blue Acme 15L	21.4	15.1	8.1	8.2
119	1068.8		9.0	Plug									
120	1077.8	59	18.0	35	Dk Green/Purple	R3000	D6 - Red	103	Blue Acme 15L	21.7	15.1	8.3	8.2
	1082.5		Tower Number : 6		Span Length(ft) : 180.1								
121	1087.1		9.3	Plug									
122	1096.1	60	18.3	35	Dk Green/Purple	R3000	D6 - Red	107	Blue Acme 15L	21.4	15.0	8.5	8.2

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
123	1105.1		9.0	Plug									
124	1114.1	61	18.0	36	Purple	R3000	D6 - Red	116	Blue Acme 15L	20.9	15.0	8.4	8.7
125	1123.1		9.0	Plug									
126	1131.6	62	17.5	35	Dk Green/Purple	R3000	D6 - Red	121	Blue Acme 15L	20.6	15.0	8.3	8.2
127	1140.1		8.4	Plug									
128	1148.5	63	16.8	35	Dk Green/Purple	R3000	D6 - Red	124	Blue Acme 15L	20.4	15.0	8.4	8.2
129	1157.0		8.5	Plug									
130	1166.0	64	17.5	36	Purple	R3000	D6 - Red	125	Blue Acme 15L	20.2	15.0	8.8	8.6
131	1175.0		9.0	Plug									
132	1184.0	65	18.0	37	Purple/Black	R3000	D6 - Red	123	Blue Acme 15L	20.2	15.0	9.0	9.2
133	1193.0		9.0	Plug									
134	1201.9	66	17.9	37	Purple/Black	R3000	D6 - Red	119	Blue Acme 15L	20.2	14.9	9.2	9.2
135	1210.9		9.0	Plug									
136	1219.9	67	18.0	37	Purple/Black	R3000	D6 - Red	112	Blue Acme 15L	20.3	14.9	9.3	9.2
137	1228.9		9.0	Plug									
138	1237.9	68	18.0	38	Black	R3000	D6 - Red	103	Blue Acme 15L	20.6	14.9	9.6	9.7
	1242.5		Tower Number : 7		Span Length(ft) : 160.0								
139	1247.2		9.3	Plug									
140	1256.2	69	18.3	38	Black	R3000	D6 - Red	107	Blue Acme 15L	20.3	14.9	9.7	9.7
141	1265.2		9.0	Plug									
142	1274.2	70	18.0	38	Black	R3000	D6 - Red	116	Blue Acme 15L	19.9	14.9	9.6	9.7
143	1283.2		9.0	Plug									
144	1291.7	71	17.5	37	Purple/Black	R3000	D6 - Red	121	Blue Acme 15L	19.6	14.9	9.4	9.2
145	1300.1		8.4	Plug									
146	1308.5	72	16.8	38	Black	R3000	D6 - Red	124	Blue Acme 15L	19.4	14.9	9.6	9.7
147	1317.0		8.5	Plug									
148	1326.0	73	17.5	38	Black	R3000	D6 - Red	125	Blue Acme 15L	19.2	14.8	10.0	9.7
149	1335.0		9.0	Plug									
150	1344.0	74	18.0	39	Black/Dk Turq	R3000	D6 - Red	123	Blue Acme 15L	19.2	14.8	10.3	10.2
151	1353.0		9.0	Plug									
152	1361.9	75	17.9	39	Black/Dk Turq	R3000	D6 - Red	119	Blue Acme 15L	19.3	14.8	10.4	10.2
153	1370.9		9.0	Plug									
154	1379.9	76	18.0	35	Dk Green/Purple	R3000	D6 - Red	112	Blue Acme 15L	19.4	15.0	7.9	8.2

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
155	1388.9	77	9.0	28	Blue	R3000	D6 - Red	107	Blue Acme 15L	19.6	15.3	5.3	5.3
156	1397.9	78	9.0	28	Blue	R3000	D6 - Red	103	Blue Acme 15L	19.7	15.3	5.4	5.3
	1402.6		Tower Number : 8		Span Length(ft) : 160.0								
157	1407.2	79	9.3	29	Blue/Dark Brown	R3000	D6 - Red	103	Blue Acme 15L	19.6	15.2	5.5	5.7
158	1416.2	80	9.0	28	Blue	R3000	D6 - Red	107	Blue Acme 15L	19.4	15.3	5.4	5.3
159	1425.2	81	9.0	28	Blue	R3000	D6 - Red	112	Blue Acme 15L	19.2	15.3	5.5	5.3
160	1434.2	82	9.0	29	Blue/Dark Brown	R3000	D6 - Red	116	Blue Acme 15L	19.1	15.2	5.5	5.7
161	1443.2	83	9.0	28	Blue	R3000	D6 - Red	119	Blue Acme 15L	18.9	15.3	5.4	5.3
162	1451.7	84	8.5	28	Blue	R3000	D6 - Red	121	Blue Acme 15L	18.8	15.3	5.2	5.3
163	1460.1	85	8.4	27	White/Blue	R3000	D6 - Red	123	Blue Acme 15L	18.7	15.3	5.2	4.9
164	1468.6	86	8.4	28	Blue	R3000	D6 - Red	124	Blue Acme 15L	18.6	15.3	5.3	5.3
165	1477.1	87	8.5	29	Blue/Dark Brown	R3000	D6 - Red	125	Blue Acme 15L	18.6	15.2	5.5	5.7
166	1486.1	88	9.0	29	Blue/Dark Brown	R3000	D6 - Red	125	Blue Acme 15L	18.5	15.2	5.7	5.7
167	1495.1	89	9.0	29	Blue/Dark Brown	R3000	D6 - Red	124	Blue Acme 15L	18.5	15.2	5.7	5.7
168	1504.1	90	9.0	29	Blue/Dark Brown	R3000	D6 - Red	123	Blue Acme 15L	18.5	15.2	5.8	5.7
169	1513.1	91	9.0	29	Blue/Dark Brown	R3000	D6 - Red	121	Blue Acme 15L	18.6	15.2	5.8	5.7
170	1522.0	92	8.9	29	Blue/Dark Brown	R3000	D6 - Red	119	Blue Acme 15L	18.6	15.2	5.8	5.7
171	1531.0	93	9.0	30	Dark Brown	R3000	D6 - Red	116	Blue Acme 15L	18.7	15.2	5.9	6.1
172	1540.0	94	9.0	29	Blue/Dark Brown	R3000	D6 - Red	112	Blue Acme 15L	18.8	15.2	5.9	5.7
173	1549.0	95	9.0	30	Dark Brown	R3000	D6 - Red	107	Blue Acme 15L	18.9	15.2	5.9	6.1
174	1558.0	96	9.0	30	Dark Brown	R3000	D6 - Red	103	Blue Acme 15L	19.1	15.2	6.1	6.1
	1562.6		Tower Number : 9		Span Length(ft) : 160.0								
175	1567.3	97	9.3	30	Dark Brown	R3000	D6 - Red	103	Blue Acme 15L	19.1	15.2	6.1	6.1
176	1576.3	98	9.0	30	Dark Brown	R3000	D6 - Red	107	Blue Acme 15L	18.9	15.2	6.0	6.1
177	1585.3	99	9.0	30	Dark Brown	R3000	D6 - Red	112	Blue Acme 15L	18.7	15.2	6.1	6.1
178	1594.3	100	9.0	30	Dark Brown	R3000	D6 - Red	116	Blue Acme 15L	18.5	15.2	6.1	6.1
179	1603.3	101	9.0	29	Blue/Dark Brown	R3000	D6 - Red	119	Blue Acme 15L	18.4	15.2	6.0	5.7
180	1611.8	102	8.5	29	Blue/Dark Brown	R3000	D6 - Red	121	Blue Acme 15L	18.3	15.2	5.8	5.7
181	1620.2	103	8.4	29	Blue/Dark Brown	R3000	D6 - Red	123	Blue Acme 15L	18.2	15.2	5.8	5.7
182	1628.6	104	8.4	30	Dark Brown	R3000	D6 - Red	124	Blue Acme 15L	18.1	15.2	5.9	6.1
183	1637.1	105	8.5	30	Dark Brown	R3000	D6 - Red	125	Blue Acme 15L	18.1	15.2	6.1	6.1
184	1646.1	106	9.0	31	Dk Brown/Orange	R3000	D6 - Red	125	Blue Acme 15L	18.1	15.2	6.3	6.4
185	1655.1	107	9.0	31	Dk Brown/Orange	R3000	D6 - Red	124	Blue Acme 15L	18.1	15.2	6.3	6.4

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
186	1664.1	108	9.0	30	Dark Brown	R3000	D6 - Red	123	Blue Acme 15L	18.1	15.2	6.4	6.1
187	1673.1	109	9.0	31	Dk Brown/Orange	R3000	D6 - Red	121	Blue Acme 15L	18.1	15.2	6.4	6.4
188	1682.0	110	8.9	31	Dk Brown/Orange	R3000	D6 - Red	119	Blue Acme 15L	18.2	15.2	6.4	6.4
189	1691.0	111	9.0	31	Dk Brown/Orange	R3000	D6 - Red	116	Blue Acme 15L	18.3	15.1	6.5	6.4
190	1700.0	112	9.0	31	Dk Brown/Orange	R3000	D6 - Red	112	Blue Acme 15L	18.4	15.1	6.5	6.4
191	1709.0	113	9.0	31	Dk Brown/Orange	R3000	D6 - Red	107	Blue Acme 15L	18.6	15.1	6.5	6.4
192	1718.0	114	9.0	32	Orange	R3000	D6 - Red	103	Blue Acme 15L	18.7	15.1	6.7	6.9
	1722.7	Tower Number : 10		Span Length(ft) : 160.0									
193	1727.3	115	9.3	32	Orange	R3000	D6 - Red	103	Blue Acme 15L	18.7	15.1	6.7	6.9
194	1736.3	116	9.0	31	Dk Brown/Orange	R3000	D6 - Red	108	Blue Acme 15L	18.5	15.1	6.6	6.4
195	1745.3	117	9.0	31	Dk Brown/Orange	R3000	D6 - Red	112	Blue Acme 15L	18.4	15.1	6.7	6.4
196	1754.3	118	9.0	32	Orange	R3000	D6 - Red	116	Blue Acme 15L	18.2	15.1	6.7	6.9
197	1763.3	119	9.0	31	Dk Brown/Orange	R3000	D6 - Red	119	Blue Acme 15L	18.1	15.1	6.6	6.4
198	1771.8	120	8.5	31	Dk Brown/Orange	R3000	D6 - Red	121	Blue Acme 15L	18.0	15.1	6.4	6.4
199	1780.2	121	8.4	31	Dk Brown/Orange	R3000	D6 - Red	123	Blue Acme 15L	17.9	15.2	6.4	6.4
200	1788.6	122	8.4	31	Dk Brown/Orange	R3000	D6 - Red	124	Blue Acme 15L	17.9	15.1	6.4	6.4
201	1797.1	123	8.5	31	Dk Brown/Orange	R3000	D6 - Red	125	Blue Acme 15L	17.8	15.1	6.7	6.4
202	1806.1	124	9.0	32	Orange	R3000	D6 - Red	125	Blue Acme 15L	17.8	15.1	6.9	6.9
203	1815.1	125	9.0	32	Orange	R3000	D6 - Red	124	Blue Acme 15L	17.8	15.1	7.0	6.9
204	1824.1	126	9.0	32	Orange	R3000	D6 - Red	123	Blue Acme 15L	17.9	15.1	7.0	6.9
205	1833.1	127	9.0	32	Orange	R3000	D6 - Red	121	Blue Acme 15L	17.9	15.1	7.0	6.9
206	1842.0	128	8.9	33	Orange/Dk Green	R3000	D6 - Red	119	Blue Acme 15L	18.0	15.1	7.0	7.4
207	1851.0	129	9.0	32	Orange	R3000	D6 - Red	115	Blue Acme 15L	18.1	15.1	7.1	6.9
208	1860.0	130	9.0	33	Orange/Dk Green	R3000	D6 - Red	112	Blue Acme 15L	18.3	15.1	7.1	7.4
209	1869.0	131	9.0	32	Orange	R3000	D6 - Red	107	Blue Acme 15L	18.4	15.1	7.2	6.9
210	1878.0	132	9.0	33	Orange/Dk Green	R3000	D6 - Red	102	Blue Acme 15L	18.6	15.1	7.1	7.4
211	1881.8		3.8	B.P.									
	1882.4	Tower Number : 11		Span Length(ft) : 159.8									
212	1886.8	133	8.8	33	Orange/Dk Green	R3000	D6 - Red	102	Blue Acme 15L	18.6	15.1	7.2	7.4
213	1896.0	134	9.2	33	Orange/Dk Green	R3000	D6 - Red	106	Blue Acme 15L	18.4	15.1	7.3	7.4
214	1899.5		3.5	Plug									
215	1904.9	135	8.9	33	Orange/Dk Green	R3000	D6 - Red	110	Blue Acme 15L	18.3	15.1	7.3	7.4
216	1914.1	136	9.2	33	Orange/Dk Green	R3000	D6 - Red	115	Blue Acme 15L	18.1	15.1	7.4	7.4

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	Rqd (GPM)	Act (GPM)
217	1917.6		3.5	Plug									
218	1923.2	137	9.1	33	Orange/Dk Green	R3000	D6 - Red	119	Blue Acme 15L	17.9	15.1	7.5	7.4
219	1932.4	138	9.1	33	Orange/Dk Green	R3000	D6 - Red	124	Blue Acme 15L	17.8	15.1	7.5	7.4
220	1941.5	139	9.2	35	Dk Green/Purple	R3000	D6 - Red	128	Blue Acme 15L	17.6	15.0	8.4	8.2
		Sprinkler : Senninger Spray											
221	1945.1	140	3.5	17	Dark Green	Directional				17.1	17.1	7.9	8.3
	1946.1			Overhang	Span Length(ft) : 63.6								
		Sprinkler : Nelson Endgun											
222	1946.1	141	1.0	0.65		SR100				17.1	48.8	80.9	85.2

Primary Endgun Arc Settings: Forward Angle: 45 Reverse Angle: 80 904.7

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Dealer AGRI INDUSTRIES - WILLISTON
Customer Ds Farms
Field Name Replace Olson Pivot Birch River Bottom

VALLEY | V-CHART

Sprinkler Order No 10820997
Parent Order No 10816827

Valley Standard Pivot 8000 Percent Timer Data

Setup Information - Valley Computer Control Panel Water Application Constants: Minimum Application = 0.138 (in) Hours/360° = 20.9

Based on IN

IN Per 360 degrees	Pivot % Timer	Hours Per 360 degrees
0.138	100.0	20.9
0.20	69.2	30.2
0.30	46.2	45.2
0.40	34.6	60.4
0.50	27.7	75.5
0.60	23.1	90.5
0.70	19.8	105.6
0.80	17.3	120.8
0.90	15.4	135.7
1.00	13.8	151.4
1.25	11.1	188.3
1.50	9.2	227.2
1.75	7.9	264.6
2.00	6.9	302.9
2.50	5.5	380.0

Based on % Timer

Pivot % Timer	IN Per 360 degrees	Hours Per 360 degrees
100.0	0.138	20.9
90.0	0.15	23.2
80.0	0.17	26.1
70.0	0.20	29.9
60.0	0.23	34.8
50.0	0.28	41.8
45.0	0.31	46.4
40.0	0.35	52.3
35.0	0.40	59.7
30.0	0.46	69.7
25.0	0.55	83.6
20.0	0.69	104.5
17.5	0.79	119.4
15.0	0.92	139.3
12.5	1.11	167.2
10.0	1.38	209.0
7.5	1.85	278.7
5.0	2.77	418.0

Field Area

300.1 (Ac) Total
273.1 (Ac)Pivot 360°
27.0 (Ac) EG on 100%
1946.1(ft)Machine Length
93.8(ft)End Gun Radius

Flow

900 (GPM)
3.00 (GPM per Acre)
0.16 (in per day) App Rate
0.138 (in) App Depth @ 100%
85.2 (GPM) End Gun

Pressure

35 (PSI) Pivot Pressure
Calculated Pressure
0.0(ft) Highest Elevation
0.0(ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @ 60 Hz freq.
11.2 x 38 Tire
52:1Wheel GB Ratio, LRDU Dist 1882.4(ft)
20.9 Hrs/360° @ 100% (9.45)(Ft per Min)
20.9 Hrs/360° @ 100%

Disclaimer

The information presented in the attached Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827

Dealer Agri Industries

Sprinkler Order No 10820997

Customer DS FARMS

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Bill Of Materials

Qty	Part Number	Description
1	0211059	NPL MS 3/4 X 12 GVSCH 40
139	0231104	REG PR NELSON LO FLO 15PSI BLUE/RED INTEGRA
1	0232442	GAE MS 0-60 PSI PRESSUREGAUGE
1	0241005	FIT ER 3/4 X 90 GV
1	0241012	FIT ES 3/4 X 90 GV
1	0244038	FIT PB 1 X 3/4 GVREDUCER
139	0271077	HSE IT 3/4" MNPT X 3/4"HOSE BARB
139	0271080	HSE CL 1 1/16" HOSECLAMP-CRIMP
139	0271084	HSE CL 1 1/4 S.S. HOSEDROP CLAMP
6	0272043	HSE WT 3/4 FLEX X 250 FTFROM SENNINGER
139	0430530	SPK PD D6 12 DEG ROTORPLATE (RED)
139	0430601	SPK MS NELSON BODY FORR3000/S3000
139	0430602	SPK MS NELSON CAP/MOTORASSM FOR R3000
9	0430614	NZ LIME 3TN 14/128
2	0430615	NZ LIME/LAVENDER 3TN 15/128
1	0430616	NZ LAVENDER 3TN 16/128
2	0430617	NZ LAVENDER/GRAY 3TN 17/128
2	0430618	NZ GRAY 3TN 18/128
2	0430619	NZ GRAY/TURQUOISE 3TN 19/128
1	0430620	NZ TURQUOISE 3TN 20/128
3	0430621	NZ TURQUOISE/YEL 3TN 21/128
1	0430622	NZ YELLOW 3TN 22/128
3	0430623	NZ YELLOW/RED 3TN 23/128
2	0430624	NZ RED 3TN 24/128
3	0430625	NZ RED/WHITE 3TN 25/128
2	0430626	NZ WHITE 3TN 26/128
4	0430627	NZ WHITE/BLUE 3TN 27/128
10	0430628	NZ BLUE 3TN 28/128
14	0430629	NZ BLUE/DARK BROWN 3TN 29/128
14	0430630	NZ DARK BROWN 3TN 30/128
16	0430631	NZ DARK BROWN/ORANGE 3TN 31/128
12	0430632	NZ ORANGE 3TN 32/128
13	0430633	NZ ORANGE/DARK GREEN 3TN 33/128
3	0430634	NZ DARK GREEN 3TN 34/128
7	0430635	NZ DARK GREEN/PURPLE 3TN 35/128
2	0430636	NZ PURPLE 3TN 36/128

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827

Dealer Agri Industries

Customer DS FARMS

Field Name Replace Olson Pivot Birch River Bottom

Sprinkler Order No 10820997

Valley Standard Pivot 8000 Bill Of Materials

Qty	Part Number	Description
4	0430637	NZ PURPLE/BLACK 3TN 37/128
5	0430638	NZ BLACK 3TN 38/128
2	0430639	NZ BLACK/DARK TURQUOISE 3TN 39/128
1	0496170	DARK GREEN SPRAY NZ #17 ORF .266
1	0500703	SPK NZ TAPERED SR100NELSON 0.65T
1	0505060	SPK CP NELSON SR100 ENDGUN MOD W/2"BASE
139	0994385	2 LB. HOSE DROP WEIGHT -POLYETHYLENE
139	0995972	U-PIPE W/BARBED END
1	PRDCTED	COOP & PRODUCT PROMOTION

Total Net Weight (lbs): 816.70

FOLLOW UP RESPONSE 178- 144.4 ACRES LARGE NE HALF PIVOT

Parent Order No 10816827 Dealer AGRI INDUSTRIES - WILLISTON Sprinkler Order No 10820997

Customer Ds Farms

Field Name Replace Olson Pivot Birch River Bottom

Valley Standard Pivot 8000 Sprinkler Chart Disclaimer

WARRANTY

The information presented in the attached Default Sprinkler Report, Setup Sprinkler Report, and Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont makes no warranty for this sprinkler package's uniformity and/or distribution of water or chemicals, accuracy or consistency of the application depth, and machine rotation time. Furthermore, Valmont makes no representations or recommendations as to percentage timer settings, water application rates, irrigation scheduling, and other similar or dissimilar irrigation/farm management decisions.

LIABILITY

The responsibility and obligations lie with the end user to determine if the sprinkler package/report received matches the machine configuration and field conditions (including but not limited to: sprinkler type, sprinkler spacing, sprinkler height, pressure regulator type, crop, soil type, end gun arc settings, span lengths, last regular drive unit tire type, last regular drive unit motor, and pipe diameters). VALMONT ASSUMES NO LIABILITY OF WHATSOEVER NATURE OR KIND FOR CROP LOSSES OR OTHER DAMAGES (INCLUDING CONSEQUENTIAL DAMAGES) CAUSED BY THIS SPRINKLER PACKAGE.

SPRINKLER REPORT GENERAL INFORMATION

Sprinkler reports are created using information from the Sprinkler Order Transmittal received or as given verbally to a Valmont Customer Service/Parts Representative and is considered by Valmont to be accurate.

Pivot tower length begins at the center of the riser pipe inlet and ends at the center of a flex joint. Intermediate length span begins and ends at the center of a flex joint. Last span length begins at the center of a flex joint and ends at the last pipe flange.

Pivot pressure begins at the first coupler on the pipeline downstream of the pivot elbow. End pressure stated by the report will be within a range of -0 to +1.1 PSI of the specified end pressure at the end of the machine pipeline. Calculated pressure stated by the report will be within a range of -0 to +1.1 PSI of the minimum sprinkler pressure specified by Valmont or its sprinkler suppliers.

Pipeline pressure and drop length stated by the report for an under truss span are adjusted for elevation change due to crown height, tire size and drive unit profile.

Calculated sprinkler ground clearance extends from the ground surface up to the point where the water exits the sprinkler.

Highest elevation stated by the report is prorated over the first 30% of machine length with the remaining machine length at the highest elevation and is only used with sprinkler packages containing pressure regulators.

Non-pressure regulated machines are considered to be on level ground. Pressure regulators will have a minimum inlet pressure of 5 PSI plus their nominal pressure rating.

End gun coverage area can be over watering or under watering based upon end gun nozzle size and/or booster pump flow limitations. An auxiliary end gun will be specified by the sprinkler report when requested by the customer and the end gun required flow is at least 10% greater than the maximum flow of the primary end gun.

The Percent Timer report is based upon typical operating conditions. Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

Water application rates and rotation times may vary with a corner machine operating in chemigate mode.

REQUEST FOR PREAPPLICATION MEETING

ARM 36.12.1302(2)

(Revised 01/2024)

Instructions

Use this optional form to submit a written request for a preapplication meeting, as required in ARM 36.12.1302(2) for applicants electing to complete a preapplication meeting with the department prior to submitting an application for a beneficial water use permit or change in appropriation right pursuant to §85-2-302, MCA. Use additional sheets as necessary.

Submit this form to the appropriate regional office; see contact information on the last page of this form.

For Department Use Only

Date Received 10/31/2024

Received By KI

Scheduled Meeting Date 12/10/2024

1. Applicant Name Richland County Conservation District

Mailing Address 2745 West Holly ST

City Sidney State MT Zip 59270

Home Phone 406-943-3001 Other Phone

Email: richlandcd@gmail.com

2. Representative Name (if other than Applicant) Teresa Olson

☒ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other

Mailing Address 2912 7th Ave. N.

City Billings State MT Zip 59101-0906

Home Phone Other Phone 406-366-6547

Email: tolson@hydrosi.com

3. Are you requesting a preapplication meeting for a permit or change application?

☐ Permit ☒ Change

4. Identify the following elements of the proposed permit or change in appropriation.

a) The flow rate and volume of water required:

Flow Rate 8.7 ☐ GPM ☒ CFS Volume 590.25 Acre-Feet

b) The point of diversion: see attached addendum 3 points of Diversion

Point of Diversion #1 ____1/4 ____1/4 ____1/4 Section ____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block_____ Subdivision Name_____

Point of Diversion #2 ____1/4 ____1/4 ____1/4 Section ____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block_____ Subdivision Name_____

c) The place of use: see attached addendum

_____Acres ____ Lot ____ Block_____1/4 _____1/4 _____1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

_____Acres ____ Lot ____ Block_____1/4 _____1/4 _____1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

_____Acres ____ Lot ____ Block_____1/4 _____1/4 _____1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

_____Acres ____ Lot ____ Block_____1/4 _____1/4 _____1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

_____Acres ____ Lot ____ Block_____1/4 _____1/4 _____1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

d) The source of water: Missouri River

e) The proposed purpose: Irrigation

f) For a change in appropriation right, the water right(s) proposed for change:

Type of water right CONSERVATION DISTRICT Basin _____ Water Right # 8450000

Type of water right Lower Missouri Water Reservation Basin _____ Water Right # _____

Type of water right _____ Basin _____ Water Right # _____

g) For a change in appropriation right, an explanation of historical use of the right(s) proposed for change:

Place of use and diversion is outside of the conservation district boundry that was previously public noticed and need to be added.

h) Any proposed place of storage, if applicable (only if storage capacity is greater than 0.1 acre-feet):

#1 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

#2 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

#3 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

i) For applications proposing a new well or wells, the well depth(s) and location:

New Well #1 ____1/4 ____1/4 ____1/4 Section ____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block_____ Subdivision Name_____

Estimated Well Depth _____ Feet

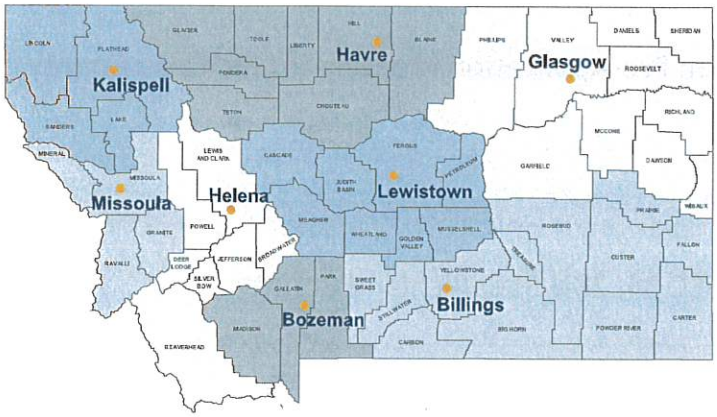
New Well #2 ____1/4 ____1/4 ____1/4 Section ____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block_____ Subdivision Name_____

Estimated Well Depth _____ Feet

WATER RESOURCES REGIONAL OFFICES



BILLINGS
Airport Industrial Park, 1371 Rimtop Dr
Billings, MT 59105-9702

PHONE 406-247-4415 FAX 406-247-4416
EMAIL DNRCBillingsWater@mt.gov

Big Horn, Carbon, Carter, Custer, Fallon, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, and Yellowstone Counties

BOZEMAN
2273 Boot Hill Court, Suite 110
Bozeman, MT 59715-7249

PHONE 406-586-3136 FAX 406-587-9726
EMAIL DNRCBozemanWater@mt.gov

Gallatin, Madison, and Park Counties

GLASGOW
222 6th Street South, PO Box 1269
Glasgow, MT 59230-1269

PHONE 406-228-2561
EMAIL DNRCGlasgowWater@mt.gov

Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, Valley, and Wibaux Counties

HAVRE
210 6th Ave., PO Box 1828
Havre, MT 59501-1828

PHONE 406-265-5516
EMAIL DNRCHavreWater@mt.gov

Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties

HELENA
1424 9th Ave., PO Box 201601,
Helena, MT 59620-1601

PHONE 406-444-6999 FAX 406-444-9317
EMAIL DNRCHelenaWater@mt.gov

Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell, and Silver Bow Counties

KALISPELL
655 Timberwolf Parkway, Suite 4
Kalispell, MT 59901-1215

PHONE 406-752-2288
EMAIL DNRCKalispellWater@mt.gov

Flathead, Lake, Lincoln, and Sanders Counties

LEWISTOWN
613 Northeast Main St., Suite E
Lewistown, MT 59457-2020

PHONE 406-538-7459
EMAIL DNRCLewistownWater@mt.gov

Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum, and Wheatland Counties

MISSOULA
2705 Spurgin Rd. Bldg. C, PO Box 5004
Missoula, MT 59806-5004

PHONE 406-721-4284 FAX 406-542-5899
EMAIL DNRCMissoulaWater@mt.gov

Granite, Mineral, Missoula, and Ravalli Counties

Addendum to Form Pre-Application Meeting for Richland County Conservation District

Point of Diversion

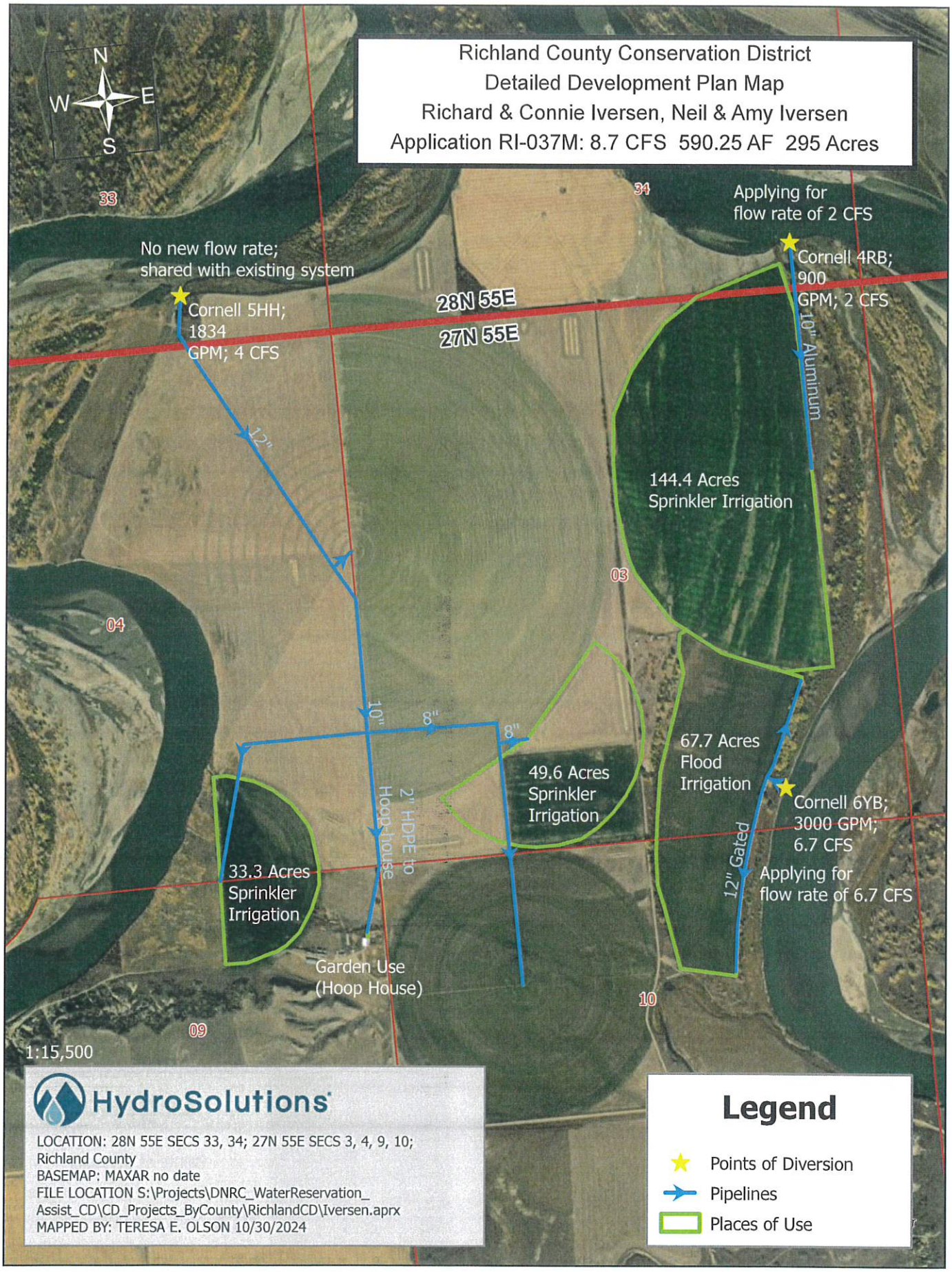
#1. L10, SESESE SEC 34, 28N 55E; Richland County

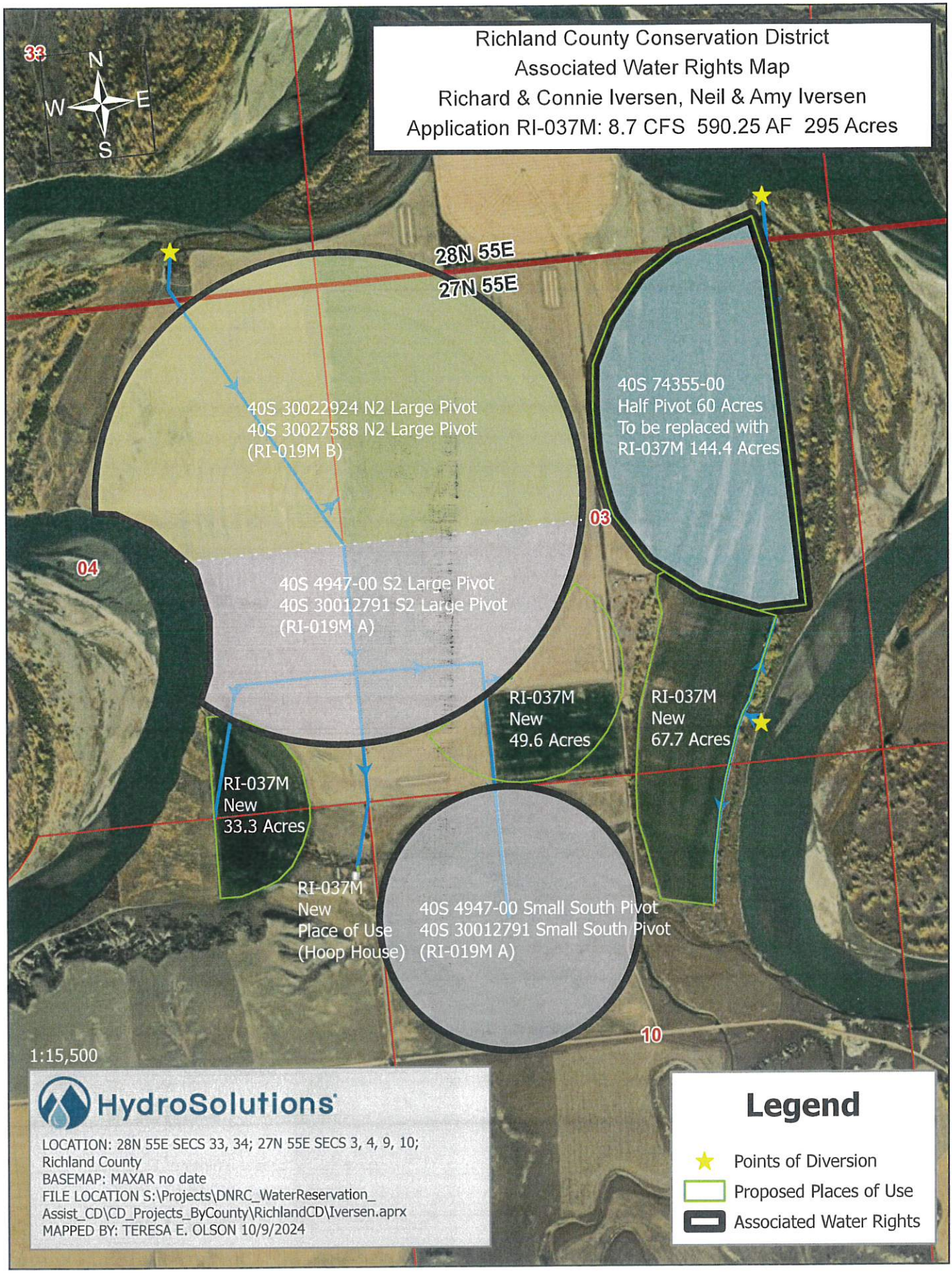
#2. L10, SWSESE SEC3, 27N 55E Richland County

#3. SESWSE SEC 33, 28N 55E Richland County

Place of Use

ACRES	LOT	¼	¼	¼	SEC	TWP N/S	RGE E/W	COUNTY
2.6	9, 10	S2	S2	SE	34	28N	55E	Richland
48.2	1, 2		N2	NE	3	27N	55E	Richland
58.8	5, 6		S2	NE	3	27N	55E	Richland
80.3	7, 8, 9, 10			SE	3	27N	55E	Richland
23.3	2, 3		W2	NE	10	27N	55E	Richland
8.2		S2	NE	SW	3	27N	55E	Richland
40.3			S2	SW	3	27N	55E	Richland
18.4			S2	SE	4	27N	55E	Richland
14.9			N2	NE	9	27N	55E	Richland
N/A		E2E2	NE	NE	9	27N	55E	Richland


Richland County Conservation District
Detailed Development Plan Map
Richard & Connie Iversen, Neil & Amy Iversen
Application RI-037M: 8.7 CFS 590.25 AF 295 Acres
N
W
E
S
33
34
Applying for
flow rate of 2 CFS
No new flow rate;
shared with existing system
Cornell 4RB;
900
GPM; 2 CFS
Cornell 5HH;
1834
GPM; 4 CFS
28N 55E
27N 55E
10" Aluminum
12"
144.4 Acres
Sprinkler Irrigation
03
04
10"
8"
8"
49.6 Acres
Sprinkler
Irrigation
67.7 Acres
Flood
Irrigation
2" HDPE to
Hoop house
Cornell 6YB;
3000 GPM;
6.7 CFS
12" Gated
Applying for
flow rate of 6.7 CFS
33.3 Acres
Sprinkler
Irrigation
Garden Use
(Hoop House)
10
09
1:15,500
HydroSolutions
LOCATION: 28N 55E SECS 33, 34; 27N 55E SECS 3, 4, 9, 10;
Richland County
BASEMAP: MAXAR no date
FILE LOCATION S:\Projects\DNRC_WaterReservation_
Assist_CD\CD_Projects_ByCounty\RichlandCD\Iversen.aprx
MAPPED BY: TERESA E. OLSON 10/30/2024
Legend
Points of Diversion
Pipelines
Places of Use


Richland County Conservation District
Associated Water Rights Map
Richard & Connie Iversen, Neil & Amy Iversen
Application RI-037M: 8.7 CFS 590.25 AF 295 Acres
33
N
W
E
S
28N 55E
27N 55E
40S 30022924 N2 Large Pivot
40S 30027588 N2 Large Pivot
(RI-019M B)
40S 74355-00
Half Pivot 60 Acres
To be replaced with
RI-037M 144.4 Acres
03
04
40S 4947-00 S2 Large Pivot
40S 30012791 S2 Large Pivot
(RI-019M A)
RI-037M
New
49.6 Acres
RI-037M
New
67.7 Acres
RI-037M
New
33.3 Acres
RI-037M
New
Place of Use
(Hoop House)
40S 4947-00 Small South Pivot
40S 30012791 Small South Pivot
(RI-019M A)
10
1:15,500
HydroSolutions
LOCATION: 28N 55E SECS 33, 34; 27N 55E SECS 3, 4, 9, 10;
Richland County
BASEMAP: MAXAR no date
FILE LOCATION S:\Projects\DNRC_WaterReservation_
Assist_CD\CD_Projects_ByCounty\RichlandCD\Iversen.aprx
MAPPED BY: TERESA E. OLSON 10/9/2024
Legend
Points of Diversion
Proposed Places of Use
Associated Water Rights