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

October 14, 2026

Sunny Brook Colony Inc.
12495 Goosebill Rd.
Fort Benton, MT 59442-8870

Subject: Correct and Complete Application for Beneficial Water Use Permit Application No. 41P 30172629

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 rights 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 Conservation Specialist 3
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

ELECTRONIC COPY:
David Baldwin, HydroSolutions Inc.
<dbaldwin@hydrosci.com>

RESPONSE TO DNRC DEFICIENCY LETTER

SUNNY BROOK COLONY INC.
APPLICATION FOR BENEFICIAL WATER USE PERMIT
APPLICATION NO. 41P 30172629

September 15, 2026

This is Applicant's response to DNRC's August 28, 2026 Deficiency Letter. Responses of places of use and numbers related to volumes are based on maximum use planned at the time of application. POU locations and will be verified in the project completion process.

Purpose and Diversion Information – ARM 36.12.115

19. ☐ Y ☐ N *Does the proposed use include one or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the table below, where applicable.* Yes.

In addition to the submitted information, please clarify the number of households supplied.

Response: The Applicant response was 36-38 residences in Preapplication Form 600P and the Permit Application should have the same number. The response provided in the application is the maximum use of 150 people before a Hutterite colony typically splits. This allows the Applicant to define the number of users regardless of living quarters and provides an accurate maximum volume of 16.8 AF of annual use based on 100 gallons/day/person. This 16.8 AF/year is based on usage claimed for other colonies. Also, this is the domestic volume submitted in Preapplication Form 600P and used by WSB in the Technical Report to calculate net depletion and the required mitigation..

Place of Use – ARM 36.12.110

22. *Describe the legal land description for the proposed place of use and, if applying for an irrigation or lawn and garden purpose, list the number of irrigated acres.*

Refine the place of use to the nearest concise legal land description that reflects the proposed use.

In addition, please state which purpose is associated with each place of use. I have provided an example based on the Applicant's submitted map and table provided under question 22. This example does not include any refined legal land descriptions.

Response:

Industrial – Batch Plant POU can be clarified as E2NENE Sec. 20, T28N-R08E, Chouteau County because the plant POU could be moved within this area as need in the future.

Industrial – Shops The POU for the seven shops on the north side of the Colony Complex can be refined to S2NENWSE Sec. 20, T28N-R08E, Chouteau County. A detailed review on Google Earth shows that this POU also overlaps into N2SENWSE of Sec. 20, Chouteau County.
The Slaughter House Shop POU is located east of the Colony Complex in NWNWSESE Sec. 20, T28N-R08E, Chouteau County.

Domestic Use – NESWSE and SENWSE, Section 20, T28N, R08E, Chouteau County.

Adverse Effect – ARM 36.12.1706

27. *Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.*

Mitigation Addendum

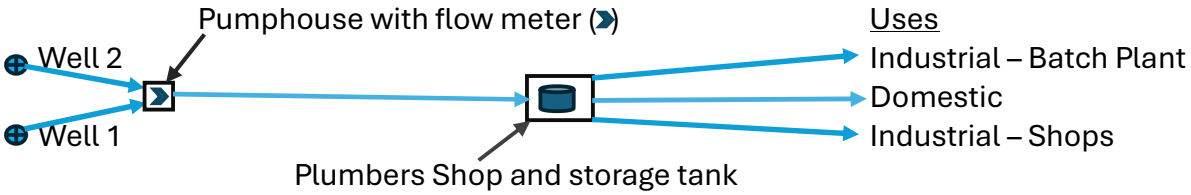
The Department finds the plan is not adequate to offset the net depletions of the proposed new appropriation in an amount greater than the difference between the amount of water physically available and legal demands, on a monthly timestep, because 2.15 AF is less than the net depletions of 2.2 AF in January, March, and December. Revise the statement to provide evidence that net depletion is fully offset in January, February, March, and December and include how the Tribe will operationally implement releases from Tiber Reservoir such that the identified depletions will be offset.

Response: Applicant will provide the full amount of water required by DNRC to offset net depletions to the Marias River. Applicant anticipates its Water Service Contract (WSC) with the Chippewa Cree Tribe (Tribe), or alternatively the Blackfeet Tribe, will provide at least 2.2 AF/month in January, February, March, and December each year or any other volume and at least 16.6 gpm flow rate or other rate identified by DNRC to fully offset Marias River net depletions. Operationally, the WSC will specify the flow rate, volume, and timing of releases from stored water in Tiber Reservoir and will notify the operator–U.S. Bureau of Reclamation (BOR)–that the water is for mitigation of adverse effects under Sunny Brook Permit Application 41P 30172629. This is consistent with how BOR has historically implemented mitigation releases under WSCs directly from BOR.

Adequate Means of Diversion and Operation – ARM 36.12.1707

32. Submit a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.

Additional requested details have been added as shown below:

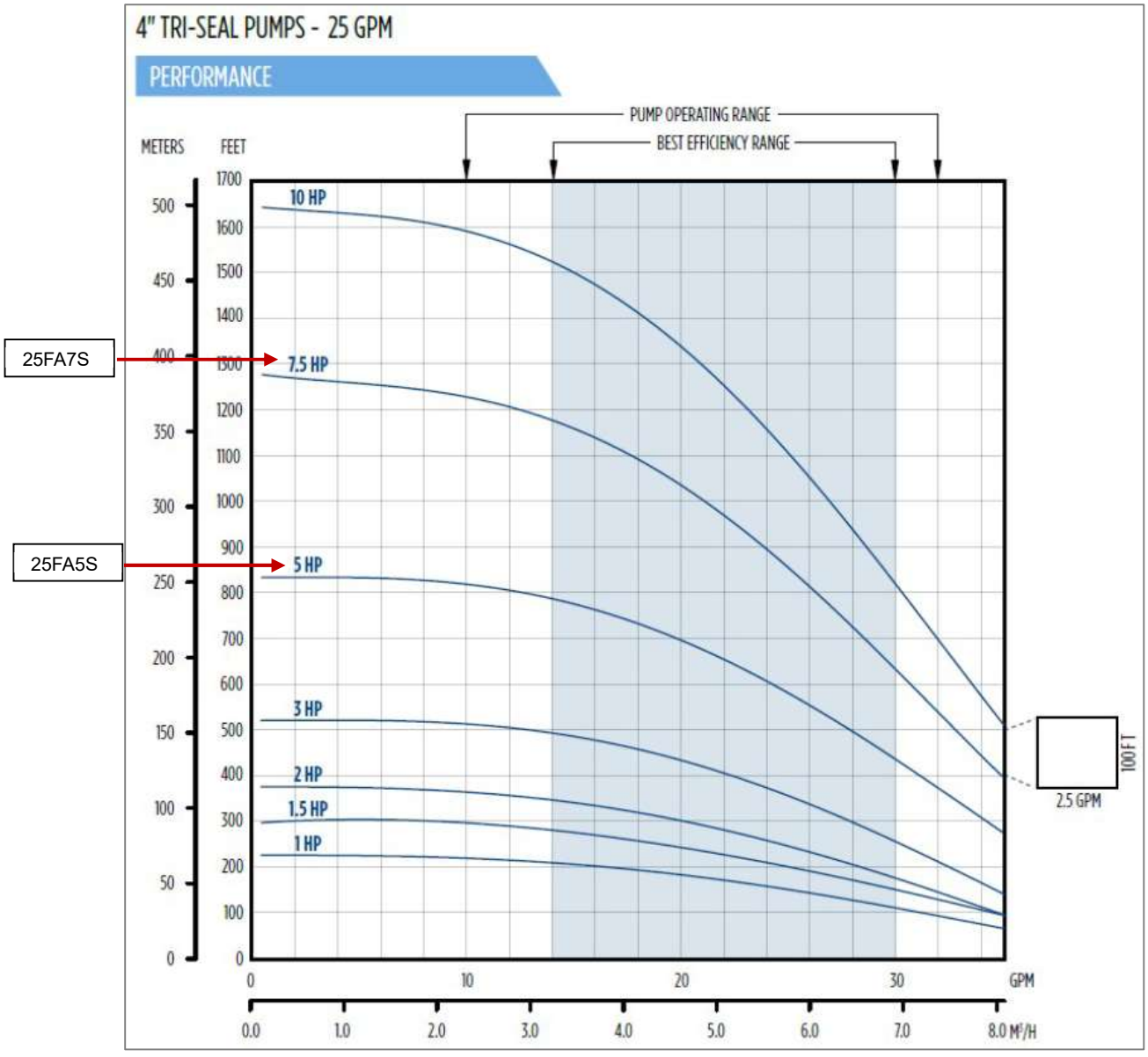


33. Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.

Please submit the pump curve and spec sheet for both well pumps.

Response: Question 33 says "Describe specific information about the capacity of all proposed diversionary structures. This may include (emphasis added), where applicable: pump curves…" Applicant contends the capacity of the pumps and all other conveyance structures have been confirmed by pumping tests and by acceptance by DNRC in WSB Findings and Section 6.0 of their Technical Analysis (Part A) – Adequacy of Diversion Analysis. Also, the pump curves were previously submitted to DNRC in Appendix A of the Preapplication Meeting Form 600P. Nonetheless, please see pump curves supplied in the figure below.

Franklin 25FA5S4-PE (5hp) and 25FA7S4 (7.5hp)



40. ☐ **Y** ☐ **N** ***Do you have any plans to measure your diversion and use?*** Yes

40.a. If yes, describe the plan and the type of measurements you will take.

Please provide one specific location for the inline flow meter or clarify if two flow meters will be installed.

Response: The inline flow meter is installed in the pumphouse as shown in #32 above.

August 28, 2026

Sunny Brook Colony
12495 Goosebill Rd.
Fort Benton, MT 59442-8870

Subject: Deficiency Letter for Beneficial Water Use Permit No. 41P 30172629.

Dear Applicant:

The Department of Natural Resources and Conservation (DNRC or Department) has begun reviewing your application. This letter is to notify you of the deficiencies in your application as required in ARM 36.12.1501(1) and §85-2-302(5)(b), MCA. An Applicant is required to submit substantial and credible information addressing the rules and statutes that are relative to your application. You must provide the information specified below for your application to be considered correct and complete. "Correct and complete" means all of the information provided is substantial and credible and provides all of the information as required by applicable rules and statutes. The application as submitted contains deficiencies in the following section(s):

Purpose and Diversion Information – ARM 36.12.115

19. ☐ Y ☐ N *Does the proposed use include one or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the table below, where applicable.*

The Applicant marked "yes" and submitted the following table:

Purpose	Requested Information	Response
Domestic or multiple domestic	Number of households and bedrooms served per household	Colonies split at 150 residential population
Stock	Number of animal units	NA
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	NA
Irrigation (flood only)	Design slope	NA

In addition to the submitted information, please clarify the number of households supplied.

Place of Use – ARM 36.12.110

22. *Describe the legal land description for the proposed place of use and, if applying for an irrigation or lawn and garden purpose, list the number of irrigated acres.*

The Applicant submitted the following table:

Acres	Gov. Lot	Block	¼	¼	¼	Sec.	Twp.	Rge.	County
					SE	20	28N	8E	CHOUTEAU
				NE	NE	20	28N	8E	CHOUTEAU

The legal land description for the place of use must be listed to the nearest concise legal land description (ARM 36.12.110(5)). Can the place of use be refined further? For example, the Applicant-provided map, *Figure 2b. Point of diversion map showing conveyance and POU at the Colony Complex*, provided in the application Form 600 Attachment, indicates that the Industrial – Batch Plant place of use can be refined to an additional quarter section to the NENENE, Section 20, T28N, R08E, Chouteau County. Based on Figure 2b, the "Industrial -Shops" place of use can be refined to S2NWSE. If there are any other shops, please describe them and add their legal land description accordingly. The Multiple Domestic could be refined to NESWSE and SENWSE, Section 20, T28N, R08E, Chouteau County. Refine the place of use to the nearest concise legal land description that reflects the proposed use.

In addition, please state which purpose is associated with each place of use. I have provided an example based on the Applicant's submitted map and table provided under question 22. This example does not include any refined legal land descriptions.

Table 1. Place of Use by Purpose

Purpose	1/4	1/4	1/4	Section	Township	Range	County
Industrial - Batch Plant		NE	NE	20	28N	08E	Chouteau
Industrial - Shops			SE	20	28N	08E	Chouteau
Multiple Domestic			SE	20	28N	08E	Chouteau

Adverse Effect – ARM 36.12.1706

27. *Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.*

The Applicant provided the following response: "The pumps can be shut off if a valid call is made. A shortage is unlikely because a Chippewa Cree Tribal Water Service Contract from Lake Elwell (Tiber Reservoir) (in progress) will provide full mitigation of the location, amount, and timing of consumptive use depletions to the Maria River in months that water is not legally available. Please see attachments for analysis of legal availability." In addition, a mitigation addendum was submitted, along with an attached mitigation plan.

Mitigation Addendum

3. *"Will the proposed diversion and/or net depletions to surface water occur in an open or closed basin? Answer question 3.a for open basins or question 3.b for closed basins."*

The Applicant selected Open Basin.

3.a. *Submit an aquifer recharge or mitigation plan with sufficient detail to explain why the plan is adequate to offset the net depletions of the proposed new appropriation in an amount greater than the difference between the amount of water physically available and legal demands, on a monthly timestep. The plan must include:*

> **3.a.i.** *description of the method by which water will be made available for aquifer recharge or mitigation purpose(s);*
>
> **3.a.ii.** *the amount, timing, and location of mitigation water delivery and/or net accretions to the depleted source;*
>
> **3.a.iii.** *comparison of the elements of 3.a.ii to the amount, timing, and location of the net depletions of the proposed new appropriation.*

The Applicant states that "For months that water is not legally available, this mitigation plan for Sunny Brook Colony (Colony) will fully offset the amount and timing of Department-defined depletions to the Marias River that are projected to occur from Colony pumping of two new public-supply wells under proposed Permit Application No. 41 P 30172629. To provide mitigation, the Colony plans to enter into a Water Service Contract (Contract) with the Chippewa Cree Tribe (Tribe) to obtain monthly releases of stored water from Tibor Reservoir in months when water is not legally available. Based on the DNRC's Technical Report for Permit Application No. 41 P 30172629, water is not legally available in the Marias River for four months/year – January, February, March, and December. Under the expected Contract, 16 gal/min (GPM) and a monthly average of 2.15 AF would be released through Tiber Dam to offset Marias River depletions during those same months within the Area of Potential Impact (AOPI) (Figure 1 of Application). Previously, similar mitigation plans for utilizing U.S. Bureau of Reclamation (BOR) stored water have been accepted by the Department. Discussions for mitigation water have been initiated, but the Tribe requires DNRC verification of the required volume necessary for mitigation before entering into a Contract (Appendix A). Table 1 identifies monthly flow rate and volumes of expected depletions in the Marias River within the AOPI. (Table 2 below is Table 1 from the Application.) Months when water is

not legally available are shown in red. The total amount of mitigation needed is 8.6 AF at a constant rate of 16.0 GPM."

Table 2. Applicant-provided Net Depletions by Month

Month	Consumed Volume (AF)	Marias River Net Depletion (AF)	Marias River Net Depletion (CFS)
January	2.2	2.2	16.0
February	2.0	2.0	16.0
March	2.2	2.2	16.0
April (15 days)	2.1	2.1	16.0
May	2.2	2.2	16.0
June	2.1	2.1	16.0
July	2.2	2.2	16.0
August	2.2	2.2	16.0
September	2.1	2.1	16.0
October	2.2	2.2	16.0
November	2.1	2.1	16.0
December	2.2	2.2	16.0
Total	25.8	25.8	
Total	8.6	8.6	

The Colony plans to enter into a Water Service Contract with the Chippewa Cree Tribe to obtain monthly releases of stored water from Tibor Reservoir when water is not legally available in January, February, March, and December. Those monthly releases would be 16 gal/min (GPM) and a monthly average of 2.15 AF. The Department finds the plan is not adequate to offset the net depletions of the proposed new appropriation in an amount greater than the difference between the amount of water physically available and legal demands, on a monthly timestep, because 2.15 AF is less than the net depletions of 2.2 AF in January, March, and December. Revise the statement to provide evidence that net depletion is fully offset in January, February, March, and December and include how the Tribe will operationally implement releases from Tiber Reservoir such that the identified depletions will be offset.

Adequate Means of Diversion and Operation – ARM 36.12.1707

32. *Submit a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.*

The Applicant submitted the following diagram in their Form 600 Attachments:

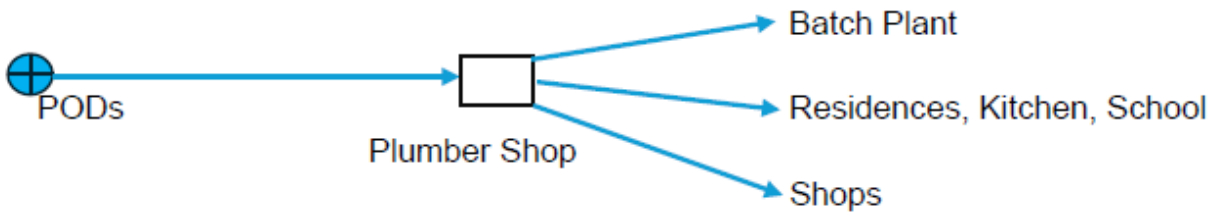


Figure 1. Applicant provided Diagram

The Applicant submitted the diagram referenced as Figure 1 above to illustrate how they will operate their system from the point of diversion to the place of use. In the diagram provided by the Applicant, please include a symbol for both PODs. Afterward, show how their separate methods of conveyance combine at the pumphouse, described in Q33 of the submitted application. A symbol for where the pumphouse will be located needs to be added, as well as a symbol for where an in-line flow meter(s) will be located. Within the Plumber shop, include a symbol for the tank that the water is held in before being distributed to the buildings for their proposed use.

33. *Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.*

The Applicant states that "One 6.6-in well and one 8.6-in well are piped to the pump house in 2-in HPDE. Pumping tests confirmed that Well 1 can produce an average of 17.3 GPM and Well 2 can produce an average of 29.5 GPM. Well 1 has a Franklin 25FA5S4 5HP, 25 GPM pump. Well 2 has a Franklin 25FA7S4 7.5 HP, 26 GPM pump. The capacity of the pumps has been confirmed by pumping tests and accepted by DNRC in the Technical Analysis completed after the Preapplication Meeting." No pump curves were submitted with the Application. Please submit the pump curve and spec sheet for both well pumps.

40. ☐*Y* ☐*N* *Do you have any plans to measure your diversion and use?*
40.a. *If yes, describe the plan and the type of measurements you will take.*

The Applicant responded yes to Question 40, prompting a response to Question 40.a. The Applicant stated that "An inline flow meter will measure well discharges at the diversion site or in the colony plumber shop prior to use". Please provide one specific location for the inline flow meter or clarify if two flow meters will be installed.

Please submit the information specified above to the Havre Regional Office by December 26, 2026. <u>This is the only deficiency letter that will be sent</u>. An application not corrected or completed within 120 days from the date of this letter is terminated per ARM 36.12.1501(2) and §85-2-302(6)(a), MCA.

Please let me know if you have any questions.

Best,

Kailee Ingalls

Kailee Ingalls | Water Conservation Specialist 3
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

ELECTRONIC COPY:
David Baldwin
HydroSolutions Inc.
303 Clarke St., Helena, MT 59601
<dbaldwin@hydrosci.com>

IMPORTANT NOTICE: *This will be the final opportunity for you to provide the required information to the Department. If ALL of the requested information in this letter is not postmarked or submitted within 120 days of this letter, the application will be terminated, and the fee will not be refunded.*

From: Ingalls, Kailee
To: David Baldwin
Subject: Sunny Brook Colony - Application 41P 30172629
Date: Wednesday, October 14, 2026 8:48:00 AM
Attachments: image001.png
41P 30172629 Correct and Complete Letter.pdf

Correct and Complete

Hi Dave,

I have attached the Correct and Complete Letter for Groundwater 600 Application 41P 30172629. The Department will issue a Draft Preliminary Determination within 60 days of the date of this letter per §85-2-307(2)(b), MCA. A hard copy of the letter is being mailed to Sunny Brook Colony.

Please let us know if you have any questions.

Thanks!

Kailee Ingalls | Water Conservation Specialist 3
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**

From: Ingalls, Kailee
To: "David Baldwin"
Subject: RE: Sunny Brook Colony - Application 41P 30172629
Date: Friday, August 28, 2026 10:14:00 AM
Attachments: 41P 30172629 Sunny Brook 600GW Deficiency Letter.pdf

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Hi Dave,

I have attached the Deficiency Letter for Groundwater 600 Application 41P 30172629. Please submit the information specified in the letter to the Havre Regional Office by December 26, 2026. A hard copy of the letter is being mailed to Sunny Brook Colony.

Please let us know if you have any questions.

Thanks!

Kailee Ingalls | Water Conservation Specialist 3
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
DESK: 406-808-7126 **OFFICE:** 406-265-5516

From: David Baldwin <dbaldwin@hydrosi.com>
Sent: Friday, August 7, 2026 11:02 AM
To: Ingalls, Kailee <Kailee.Ingalls@mt.gov>
Cc: Miles, Matt <MMiles@mt.gov>; steve wipf <stevewipf53@gmail.com>
Subject: [EXTERNAL] Sunny Brook Colony - Updated Permit Application 41P 30172629

Hi Kailee,
Mitigation Addendum has been updated to Open Basin. The mitigation attachment did not need changing. Included Errata for Part B of Tech Analysis.
Let me know if you need anything else.

Thanks!

Dave Baldwin MS PG | Sr. Hydrogeologist | Sr. Water Rights Specialist

Office: 303 Clarke Street, Helena, MT 59601
Contact Phone (Cell): 406.431-7760
dbaldwin@hydrosi.com [mail.hydrosi.com] www.hydrosi.com [mail.hydrosi.com]

From: Ingalls, Kailee <Kailee.Ingalls@mt.gov>
Sent: Thursday, August 6, 2026 3:33 PM

To: David Baldwin <dbaldwin@hydrosi.com>
Cc: Miles, Matt <MMiles@mt.gov>; steve wipf <stevewipf53@gmail.com>
Subject: RE: Sunny Brook Colony - Permit Application 41P 30172629

One last thing I found based on your latest emailed Application Copy: It looks like the Mitigation Addendum Question 3 and attachments need to be revised to reflect an open basin, as well. In addition, the Technical Analysis Errata was not added to Appendix A as stated.

Best,

Kailee Ingalls | Water Conservation Specialist 3
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
DESK: 406-808-7126 **OFFICE:** 406-265-5516

From: Ingalls, Kailee
Sent: Thursday, August 6, 2026 9:26 AM
To: David Baldwin <dbaldwin@hydrosi.com>
Cc: Miles, Matt <MMiles@mt.gov>; steve wipf <stevewipf53@gmail.com>
Subject: RE: Sunny Brook Colony - Permit Application 41P 30172629

Thanks, Dave! We will be awaiting the signed copy from the Colony. If they are coming into Havre, I can print them a copy to sign in the office, if that is more convenient. With the Basin Closure not necessary, the fee will be $700.

Thanks!

Kailee Ingalls | Water Conservation Specialist 3
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
DESK: 406-808-7126 **OFFICE:** 406-265-5516

From: David Baldwin <dbaldwin@hydrosi.com>
Sent: Thursday, August 6, 2026 9:10 AM
To: Ingalls, Kailee <Kailee.Ingalls@mt.gov>
Cc: Miles, Matt <MMiles@mt.gov>; steve wipf <stevewipf53@gmail.com>
Subject: [EXTERNAL] RE: Sunny Brook Colony - Permit Application 41P 30172629

Kailee – Here is the corrected application with Basin Closure removed.

Let me know if you need anything else.

Thanks

Dave Baldwin MS PG | Sr. Hydrogeologist | Sr. Water Rights Specialist

Office: 303 Clarke Street, Helena, MT 59601
Contact Phone (Cell): 406.431-7760
dbaldwin@hydrosi.com [mail.hydrosi.com] www.hydrosi.com [mail.hydrosi.com]

From: Ingalls, Kailee <Kailee.Ingalls@mt.gov>
Sent: Wednesday, August 5, 2026 11:40 AM
To: David Baldwin <dbaldwin@hydrosi.com>
Cc: Miles, Matt <MMiles@mt.gov>; steve wipf <stevewipf53@gmail.com>
Subject: RE: Sunny Brook Colony - Permit Application 41P 30172629

Hi Dave,

I was just going through the application. I do not believe that this Application is subject to any basin closure. Please let me know why it was selected as being in a basin closure and filled out as such.

Thanks!

Kailee Ingalls | Water Conservation Specialist 3
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
DESK: 406-808-7126 **OFFICE:** 406-265-5516

From: David Baldwin <dbaldwin@hydrosi.com>
Sent: Friday, July 31, 2026 8:37 AM
To: Ingalls, Kailee <Kailee.Ingalls@mt.gov>
Cc: Miles, Matt <MMiles@mt.gov>; steve wipf <stevewipf53@gmail.com>
Subject: [EXTERNAL] Sunny Brook Colony - Permit Application 41P 30172629

Hi Kailee,

Attached is Beneficial Water Use Permit Application 41P 30172629 for Sunny Brook Colony. Next week Steve Wipf will be signing this and mailing you the hard copy signature page and the $1600 application fee.

Thanks!

Dave Baldwin MS PG | Sr. Hydrogeologist | Sr. Water Rights Specialist

Office: 303 Clarke Street, Helena, MT 59601
Contact Phone (Cell): 406.431-7760
dbaldwin@hydrosi.com [mail.hydrosi.com] www.hydrosi.com [mail.hydrosi.com]

Application Materials

- Application
- Any information submitted with Application including maps

Application Materials

APPLICATION FOR BENEFICIAL WATER USE PERMIT

§ 85-2-302, MCA

Form No. 600 *(10/2025)*

FILING FEE

$2900/$1600 – Inside a Basin Closure Area, Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

$2500/$1200 – Outside a Basin Closure Area; Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

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)). If application is eligible for a filing fee reduction, $500 paid for Form 600P-B will be credited toward filing fees shown above.

For Department Use Only

RECEIVED

DNRC
HAVRE WATER RESOURCES

Application # 30172629 Basin 41P
Priority Date 8/10/2026 Time 11:00 AM/PM
Rec'd By DH
Fee Rec'd $ 1,600/1,200 Check #
Deposit Receipt # HVS2702575
Payor
Refund $ 500 Date

Applicant Information: ***Add more as necessary.***

Applicant Name Sunny Brook Colony Inc
Mailing Address 12495 Goosebill Rd. City Fort Benton State MT Zip 59442
Phone Numbers: Home 406-621-0276 Work Cell
Email Address steve wipf <stevewipf53@gmail.com>

Applicant Name
Mailing Address City State Zip
Phone Numbers: Home Work Cell
Email Address

Applicant Name
Mailing Address City State Zip
Phone Numbers: Home Work Cell
Email Address

Contact/Representative Information: ***Add more as necessary.***

Contact/Representative is: ☐ Applicant ☑ Consultant ☐ Attorney ☐ Other
Contact/Representative Name David Baldwin, Hydrosolutions Inc
Mailing Address 303 Clarke Street City Helena State MT Zip 59601
Phone Numbers: Home Work Cell 406-431-7760
Email Address dbaldwin@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 (ARM 36.12.122(2)). 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 correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).*

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

PREAPPLICATION AND TECHNICAL ANALYSES INFORMATION

1. ☑ **Y** ☐ **N** Do you elect for Department technical analyses to be used for criteria assessment?

2. ☑ **Y** ☐ **N** Did you have a preapplication meeting AND complete a Permit Preapplication Meeting Form Part A and Part B (Form 600P-A and 600P-B)?

IF QUESTION 2 IS NO, answer 2.a and 2.b:

2.a. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.b. ☐ **S** ☐ **NA** Submit the technical analyses, if you elected in question 1 for Applicant technical analyses to be used for criteria assessment. Select "NA" if you elected for Departmental technical analyses.

IF QUESTION 2 IS YES, answer 2.c, 2.d, and 2.e:

2.c. ☐ **Y** ☑ **N** Has any element of the project described in this application changed from the mandatory elements of the project described in the completed form 600P? **If yes:**
2.c.i. Please explain.

_____
_____
_____
_____
_____
_____

2.c.ii. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.d. ☑ **Y** ☐ **N** Are the technical analyses to be used for criteria assessment exactly the same as those completed during the preapplication process? **If no:**
2.d.i. Please explain.

_____
_____
_____
_____
_____

2.d.ii. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.e. ☑ **Y** ☐ **N** Did you elect in Question 1 for Department technical analyses to be used for criteria assessment? **If no:**
2.e.i. ☑ **S** Submit the technical analyses.

APPLICATION ADDENDA AND REVIEW

3. ☐ **S** ☑ **NA** If your application is for groundwater, not surface water, and one or more of your points of diversion are in a Basin Closure Area, then submit the Basin Closure Area Addendum (Form 600-BCA).

4. ☐ **S** ☑ **NA** If your application is for groundwater and one or more points of diversion are in a Basin Closure Area, then your project must have a Hydrogeologic Report that conforms with MCA 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements. Please mark the box below that best applies, then select "S" if submitting a Hydrogeologic Report or "NA" if one is not required. This question does not apply to surface water points of diversion in a Basin Closure Area.

- ☐ If you elected to conduct Technical Analyses, you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
- ☐ If you elected for DNRC to conduct Technical Analyses but did not have a preapplication meeting AND complete a Form 600P Permit Preapplication Meeting Form (or changes have occurred since the completed Form 600P), you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
- ☐ If you elected for DNRC to conduct Technical Analyses, had a preapplication meeting, completed a Form 600P, and the Technical Analyses remain unchanged since the preapplication meeting, you do not need to submit Form 600-HRA because the Department's Technical Analyses meet the report requirements of § 85-2-360 and § 85-2-361, MCA.

5. ☐ **S** ☑ **NA** If the project is for one or more groundwater points of diversion located in a Controlled Groundwater Area, then submit the Controlled Groundwater Area Addendum (Form 600-CGWA).

6. ☐ **S** ☑ **NA** If the project involves an appropriation that is greater than 5.5 CFS and 4,000 acre-feet, then submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AC-FT (Form 600-B).

7. ☐ **S** ☑ **NA** If the project involves out-of-state water use, then submit the Out-of-State Use Addendum (Form 600/606-OSA).

8. ☑ **S** ☐ **NA** If you require mitigation water to meet the criteria of issuance, then submit a Mitigation Purpose Addendum (Form 600/606-MIT).

9. ☐ **S** ☑ **NA** If the proposed purposes include marketing or selling water, (not marketing for mitigation/ aquifer recharge), then submit the Marketing Purpose Addendum (Form 600/606-WMA).

10. ☐ **S** ☑ **NA** If the project involves one or more places of storage, then submit a Permit Storage Addendum (Form 600-SA). This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)).

11. ☑ **S** ☐ **NA** If the project is in designated sage grouse habitat, then submit a review letter from the Montana Sage Grouse Habitat Conservation Program.

12. ☐ **S** ☑ **NA** If the project includes a point of diversion and/or place of use on State of Montana Trust Land, submit documentation of consent from the DNRC Trust Lands Management Division.

13. ☐ **S** ☑ **NA** You must provide a written notice of the application to each owner of an appropriation right sharing a point of diversion or means of conveyance (e.g., canal, ditch, flume, pipeline, or constructed waterway) pursuant to §85-2-302(4)(c), MCA. Submit a copy of this notice and the recipient list.

PURPOSE AND DIVERSION INFORMATION

14. ☐ **Y** ☑ **N** Is the proposed use temporary?

14.a. If yes, when will the appropriation cease? _____

15. Is the proposed source surface water or groundwater? Groundwater

16. What is the source name? Alluvial aquifer

17. ☑ **S** Attach a map utilizing an aerial photograph or topographic map that shows the following: section corners; township and range; north arrow; scale bar; all proposed points of diversion labeled with a unique Point of Diversion (POD) ID number and, if applicable, GWIC number; all proposed places of use; all proposed conveyance facilities and or routes; all proposed places of storage labeled with a unique Storage ID number; and places of use (POU) for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.

18. Fill out the table below. Means of diversion for surface water includes headgate, pump, dam, and others. Means of diversion for groundwater includes well, developed spring, pit pond, and others.

Purpose	**Means of Diversion**	**Acres Irrigated** (if appl.)	**Period of Diversion** *(Month/Day - Month/Day)*	**Period of Use** *(Month/Day - Month/Day)*	**Flow Rate** ☑ *GPM* ☐ *CFS*	**Volume** *(Acre-Feet)*
Multiple Domestic	2 Wells		01/01-12/31	01/01-12/31	29.5	16.8
Industrial-8 Shops	2 Wells		01/01-12/31	01/01-12/31	29.5	8
Indust-1 Batch Plant	2 Wells		01/01-12/31	01/01-12/31	29.5	1
				Total Flow Rate and Volume Required	29.5	25.8

19. ☑ **Y** ☐ **N** Does the proposed use include on or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the table below, where applicable.

Purpose	**Requested Information**	**Response**
Domestic or multiple domestic	Number of households and bedrooms served per household	Colonies split at 150 residential population
Stock	Number of animal units	NA
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	NA
Irrigation (flood only)	Design slope	NA

POINT(S) OF DIVERSION

20. Describe the proposed location of the point(s) diversion to the nearest ¼ ¼ ¼ Section. Label each POD with the POD ID number used for the project map (question 17).

POD #	¼	¼	¼	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot
1	SE	NE	NE	25	28N	8E	CHOUTEAU					
2	NE	SE	NE	25	28N	8E	CHOUTEAU					

PLACE OF USE

21. What are the geocodes of the place of use?

19-3998-20-1-01-01-0000	

22. Describe the legal land description for the proposed place of use and, if applying for an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov. Lot	Block	¼	¼	¼	Sec.	Twp.	Rge.	County
					SE	20	28N	8E	CHOUTEAU
				NE	NE	20	28N	8E	CHOUTEAU

SUPPLEMENTAL AND OVERLAPPING WATER RIGHTS

23. ☐ **Y** ☑ **N** Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?

23.a. If yes, summarize how the supplemental and proposed water rights will be operated as a whole to serve the purpose(s).

24. For each supplemental or overlapping water right, please list the water right number, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed to the shared place of use.

Water Right #	Average Period of Diversion	Average Period of Use	Flow Rate	Volume Contributed

25. ☐ **Y** ☑ **N** Will this application supplement contract water from a Federal Project, ditch company, or other source?

25.a. If yes, explain.

ADVERSE EFFECT

26. Explain how you can control your diversion in response to a call being made.

THE PUMPS CAN BE SHUT OFF IF A VALID CALL IS MADE.
ALL VALID CALLS WILL BE HONORED.

27. Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.

THE PUMPS CAN BE SHUT OFF IF A VALID CALL IS MADE. A SHORTAGE IS UNLIKLEY BECAUSE A CHIPPEWA CREE TRIBE WATER SERVICE CONTRACT FROM LAKE ELWELL (TIBER RESERVOIR) (IN PROCESS) WILL PROVIDE FULL MITIGATION OF THE LOCATION, AMOUNT, AND TIMING OF CONSUMPTIVE USE DEPLETIONS TO THE MARIAS RIVER IN MONTHS THAT WATER IS NOT LEAGALLY AVAILABLE. PLEASE SEE ATTACHMENT FOR ANALYSIS OF LEGAL AVAILABILITY.

28. ☐ **Y** ☑ **N** Are you aware of any calls that have been made on the source of supply or, if groundwater, on nearby surface water sources?

28.a. If yes, explain.

29. ☐ **Y** ☑ **N** Does a water commissioner distribute water or oversee water distribution on your proposed source?

29.a. If yes, list the source(s).

30. ☐ **Y** ☑ **N** Do other water rights share any of the proposed points of diversion?

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

31. ☐ **Y** ☑ **N** Do other water rights share any conveyance infrastructure associated with the proposed project?

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

ADEQUATE MEANS OF DIVERSION AND OPERATION

32. ☑ **S** Submit a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.

33. Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.

One 6.6-in well and one 8.6-in well piped to pump house in 2-in HPDE. Pumping tests confirmed Well 1 can produce an average of 17.3 gpm and Well 2 can produce an average of 29.5 gpm. Well 1 has a Franklin 25FA5S4 5HP, 25 GPM pump. Well 2 has a 25FA7S4 7.5 HP, 26 GPM pump. The capacity of the pumps has been confirmed by pumping tests and accepted by DNRC in the Technical Analysis completed after the Preapplication Meeting.

34. Describe the size, materials, capacity, and configuration of infrastructure to convey water from all proposed points of diversion to all proposed places of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods.

Conveyance will be through a 3-in HPDE transmission pipeline to the Plumbers Shop at the Colony Complex. From the Plumber Shop, 3-in HPDE line distributes potable water to the residences, kitchen, school, shops, and batch plant. No losses are expected from the pipeline conveyance. The pumping and conveyance system has been approved for the Sunny Brook public water supply system by Montana DEQ.

35. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion.

Pumping tests were conducted in PWS Wells 1 and 2. Well 1 produced an average of 17.3 gpm during 24.5 hrs of pumping. Well 2 produced an average of 29.5 gpm over 78.3 hours. The requested maximum flow rate is 29.5 gpm. a 3-in line is capable of transmitting the requested flow rate. Water is piped from the wells to the Colony and there is no permitted storage.

36. Provide a plan of operations, which includes 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.

Water will be diverted from the well PODs, measured, and conveyed to a storage tank in the Colony Plumber Shop. From there, water is distributed for potable use to Colony buildings and for industrial use. Volumes are based on DNRC standards.

37. ☐ **Y** ☑ **N** Does the proposed conveyance require easements?

37.a. If yes, explain.

38. ☑ **Y** ☐ **N** Do you own the land where all proposed points of diversion are located?

38.a. ☐ **S** If no, submit documentation to show you have the right to use all points of diversion located on each property you do not own. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.

39. ☐ **Y** ☑ **N** Will your system be designed to discharge water from the project?

The wastewater system uses evaporative lagoons.

IF YES,

39.a. Explain the wastewater disposal method.

39.b. ☐ **Y** ☐ **N** ☑ **NA** Have the necessary permits been obtained to comply with §§ 75-5-410 and 85-2-364, MCA?

40. ☑ **Y** ☐ **N** Do you have any plans to measure your diversion and use?

40.a. If yes, describe the plan and the type of measurements you will take.

AN INLINE METER WILL MEASURE WELL DISCHARGES AT THE DIVERSION SITE OR IN THE COLONY PLUMER SHOP PRIOR TO USE.

41. ☑ **Y** ☐ **N** Is the means of diversion for any proposed point of diversion a well?

IF YES,

41.a. ☑ **Y** ☐ **N** Have all wells been drilled?

41.b. For all wells that have been drilled, what is the name of the well driller and, if available, what is their license number?

TYREL HLAVNICKA, AQUASOURCE INC LLC, LICENSE WWC-199

41.c. ☐ **Y** ☐ **N** For all wells yet to be drilled, will a licensed well driller construct the wells?

41.d. ☐ **S** ☐ **NA** Submit any well logs not yet submitted to the Department.

Well logs were previously submitted

BENEFICIAL USE

42. ☑ **Y** ☐ **N** Does the Department have a volume, period of diversion, or period of use standard for the purposes for which water is proposed? Department standards can be found in the DNRC Water Calculation Guide, ARM 36.12.112, and ARM 36.12.115.

42.a. ☑ **Y** ☐ **N** If yes, do all proposed beneficial uses fall within Department standards?

42.b. If no Department standard exists, or if any proposed beneficial use falls outside of Department standards, explain how the requested flow rate and volume are reasonable for the purpose.

NOTE: DEPARTMENT STANDARD FOR INDUSTRIAL (1AF FOR SHOPS AND 1AC/FT FOR BATCH PLANT). MULTIPLE DOMESTIC USE CALCULATED AT 16.8 AF = 100 GPM/PERSON/DAY WITH 150 PEOPLE MAX.

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

44. ☐ **Y** ☑ **N** Are you proposing to use surface water for in-house domestic use?

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

44.a.i. ☐ **S** ☐ **NA** If yes, please submit the COSA.

44.a.ii. ☑ **Y** ☐ **N** If no, have you researched or consulted with DEQ regarding their requirements?

POSSESSORY INTEREST

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

45.a. If yes, explain.

_____

_____

_____

_____

46. ☑ **Y** ☐ **N** ☐ **NA** Do you own all proposed places of use? Mark "NA" if you meet one of the exceptions to the possessory interest requirement.

IF NO,

46.a. ☐ **S** Explain and submit documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use.

_____

_____

_____

_____

_____

_____

_____

46.b. ☐ **Y** ☐ **N** Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403, MCA.

46.b.i. If no, explain.

_____

_____

_____

PROPOSED COMPLETION PERIOD

47. How much time will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 617)? 20 YEARS

48. Please describe why this amount of time is needed to complete this project.

THIS IS THE AMOUNT OF TIME A TYPICAL COLONY NEEDS TO BECOME FULLY POPULATED AND FULLY USE THE REQUESTED FLOW RATE AND VOLUME.

_____

AFFIDAVIT & CERTIFICATION

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

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

I affirm I have possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use, unless this application meets an exception to the possessory interest requirements in ARM 36.12.1802(1)(b).

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

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

Printed Name Ben P Wipf

Applicant Signature Ben P Wipf Date: 7-31-2026

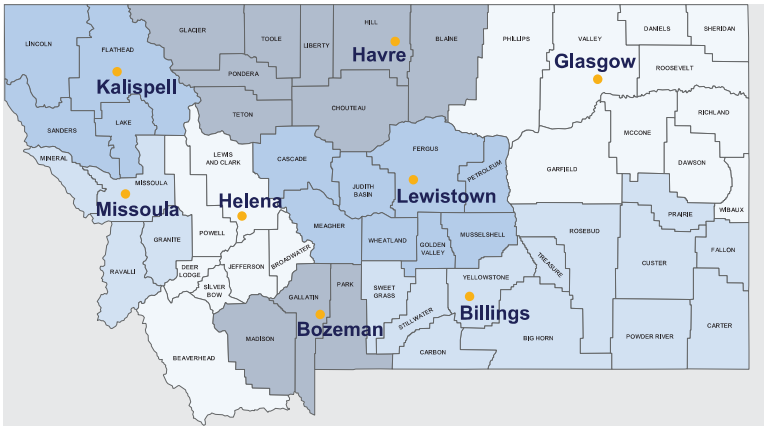
Printed Name Steve J Wipf

Applicant Signature Steve J Wipf Date: 7-31-2026

Printed Name Abe D Waldner

Applicant Signature Abe D Waldner Date: 7-31-2026

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

SUNNYBROOK COLONY INC

PERMIT APPLICATION 41P 30172629 – FORM 600

ATTACHMENT WITH SUPPLEMENTAL RESPONSES

July 30, 2026

This attachment accompanies Permit Application 41P 30172629. In addition to supplemented answers to application questions, the following information is provided:

Appendix A – DNRC Technical Analyses and Errata

Appendix B – Mitigation Purpose Addendum (Form 600/606-MIT)

- Includes Mitigation Plan

Appendix C – Review letter from the Montana Sage Grouse Habitat Conservation Program

17. Attach a map that shows all proposed points of diversion, all proposed places of use, all proposed conveyance facilities and routes, and places of use (POU) for all overlapping water rights.

Please see Figures 1 and 2 below showing location of well PODs. Map 2 shows conveyance and the place of use at the Colony complex in SE Section 20, T28N-R8E, Choteau County. There are no overlapping water rights.

Figure 1. Point of diversion map showing well locations.

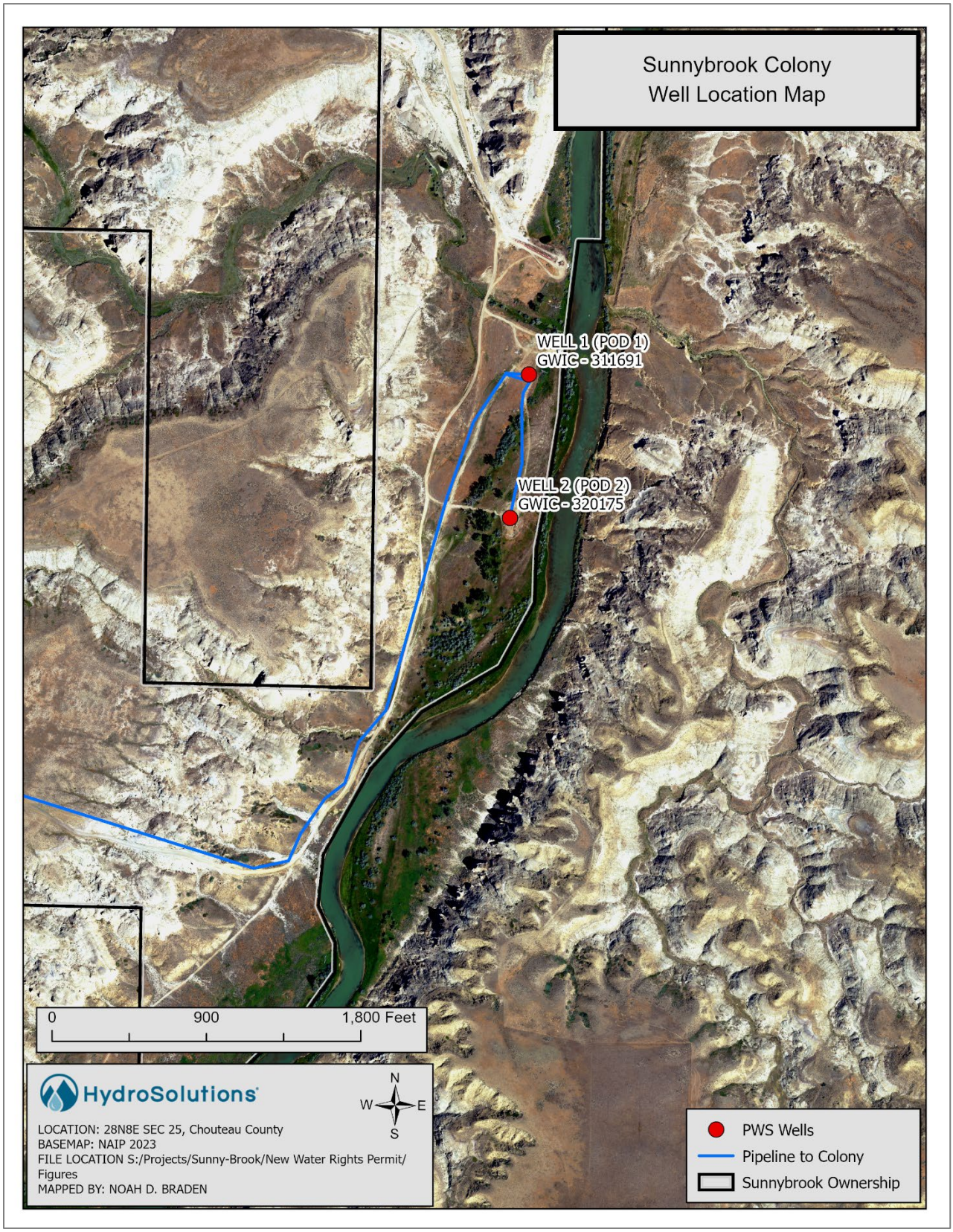
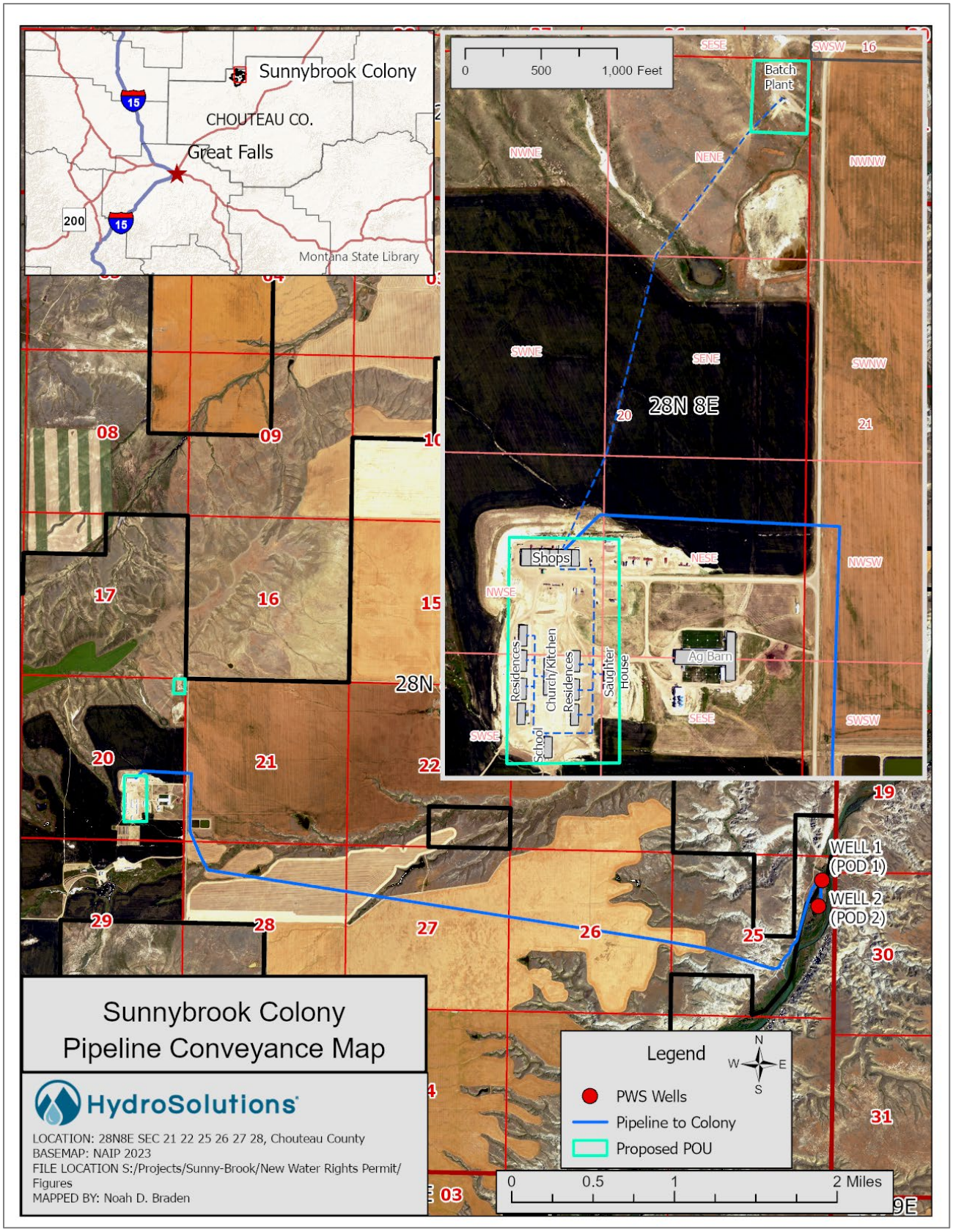


Figure 2. Point of diversion map showing conveyance and POU at the Colony Complex.



27. Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.
Legal availability is analyzed in the following table. Physical availability and exiting legal demands are provided in DNRC's Technical Analysis Report and Notice of Errata (Table 2 (Columns A-K) and Appendix A (below), respectively).

Water is not legally available in December through March (Table 2). The Applicant is seeking a Water Service Contract (Contract) from the Chippewa Cree Tribe to fully offset the location, amount, and timing of depletions during these months. Because the Tribe requires DNRC to acknowledge the amount and of mitigation required in specific months, Applicant proposes issuance of a Beneficial Use Permit conditioned on obtaining an acceptable Contract.

Table 2. Overall legal availability.

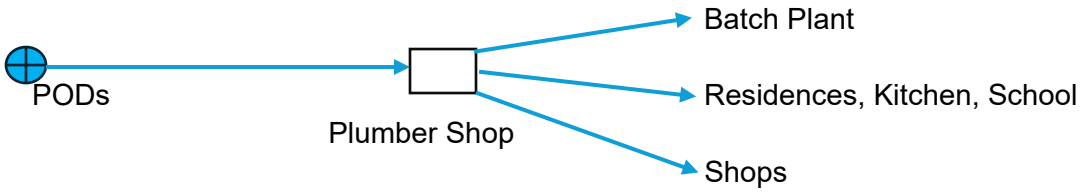
Sunny Brook Colony - Legal Availability

Source >	Columns A-G From Tech Report Part B Physical Availability Analysis , Table 2 (p. 6)							Tech Rpt - Appendix A		Tech Report - Part A		This Analysis		
	A	B	C	D	E	F	G	H	I	L	K	L	M	N
Days/Mo	Month	Median of the Mean Monthly Flow at Gage #06102050 (CFS)	Median of the Mean Monthly Volume at Gage #06102050 (AF)	Existing Rights from Point of Depletion to Gage #06102050 (CFS)	Existing Rights from Point of Depletion to Gage #06102050 (AF)	Physically Available Water at Point of Depletion (CFS)	Physically Available Water at Point of Depletion (AF)	Water Rights w/in Area of Potential Impact (CFS)	Water Rights w/in Area of Potential Impact (AF)	Marias River Net Depletion (GPM)	Marias River Net Depletion (AF)	Marias River Net Depletion (CFS)	Net Legal Availability Col. F - H - L (CFS)	Net Legal Availability Col. G - I - K (AF)
31	Jan	324.20	19,899.40	1.11	8.86	325.31	19,908.26	491.78	29,102.5	16.0	2.2	0.04	-166.51	-9196.46
28	Feb	379.60	21,045.02	1.11	8.86	380.71	21,053.88	491.78	29,102.5	16.0	2.0	0.04	-111.11	-8050.64
31	Mar	430.30	26,411.81	1.11	8.86	431.41	26,420.67	491.78	29,102.5	16.0	2.2	0.04	-60.41	-2684.05
30	[A.] Apr	540.85	32,126.49	31.90	629.89	572.75	32,756.38	507.82	29,575.8	16.0	2.1	0.04	64.89	3178.52
31	May	917.00	56,285.46	38.22	710.80	955.22	56,996.26	507.82	29,575.8	16.0	2.2	0.04	447.36	27418.30
30	Jun	1,193.00	70,864.20	38.22	710.80	1231.22	71,575.00	507.82	29,575.8	16.0	2.1	0.04	723.36	41997.14
31	Jul	692.50	42,505.65	38.22	710.80	730.72	43,216.45	507.82	29,575.8	16.0	2.2	0.04	222.86	13638.49
31	Aug	698.00	42,843.24	36.14	673.82	734.14	43,517.06	507.82	29,575.8	16.0	2.2	0.04	226.28	13939.10
30	Sept	601.35	35,720.19	36.14	673.82	637.49	36,394.01	507.82	29,575.8	16.0	2.1	0.04	129.63	6816.15
31	Oct	526.35	32,307.36	18.99	217.61	545.34	32,524.97	491.78	29,102.5	16.0	2.2	0.04	53.52	3420.25
30	Nov	596.90	35,455.86	6.23	74.43	603.13	35,530.29	491.78	29,102.5	16.0	2.1	0.04	111.31	6425.67
31	Dec	396.10	24,312.62	1.11	8.86	397.21	24,321.48	491.78	29,102.5	16.0	2.2	0.04	-94.61	-4783.24

A. April usage assumes 41P 105759-00 for the full month.

32. Provide a diagram of how you will operate your system from the point of diversion to the place of use.

The system will operate by pumping PODs 1 and 2, conveying water through the pipeline to the Colony Plumber Shop and then distributing the water for multiple domestic and commercial use through distribution lines. This operation is shown on the maps above and represented in the following diagram.



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APPENDIX A

DNRC Technical Analyses and Errata

Groundwater Permit Technical Analyses Report- Part A

The Montana Department of Natural Resources and Conservation (DNRC)
Water Resources Division

Jack Landers, Groundwater Hydrologist, Water Sciences Bureau (WSB)

Applicant Name	Sunny Brook Colony
Application No.	41P 30172629
Point of Diversion Legal Land Description	Section 25, Township 28 North, Range 8 East, Chouteau County

Overview

This report is Part A of a two-part publication which analyzes data submitted by the Applicant in support of the above-mentioned water right permit application. This report provides technical analyses as required under the Administrative Rules of Montana (ARM 36.12.1303) in support of the water rights criteria assessment as required in §85-2-402, Montana Code Annotated (MCA).

This Groundwater Permit Technical Analyses Report – Part A contains the following sections:

Overview 1
1.0 Executive Summary 2
2.0 Hydrogeologic Setting 4
3.0 Aquifer Test Summary 5
4.0 Aquifer Test Analysis 9
5.0 Modeling Inputs 14
6.0 Adequacy of Diversion Analysis 14
7.0 Physical Availability Analysis 17
8.0 Adverse Effect Analyses 20
8.1 Groundwater - Drawdown in Existing Wells 20
8.2 Surface Water - Net Depletions (Consumed Water) 20
Review 1
References 1

1.0 Executive Summary

Application Details

The Applicant proposes to divert groundwater from two points of diversion (POD) for multiple domestic and industrial purposes. The proposed wells would be pumped at a maximum combined flow rate of 29.5 gallons per minute (gpm) to produce an annual volume of 25.8 acre-feet (AF) with a period of diversion and period of use from January 1 to December 31. Water would be conveyed through a pipeline to a plumber shop and distributed to multiple residences, industrial shops, and a batch plant throughout Sunny Brook Colony. The Applicant also proposes to offset net depletion to hydraulically connected surface water from the proposed use with a Tribal (Chippewa Cree or Blackfeet) storage contract that would be released from Lake Elwell (Tiber Reservoir) to the Marias River at a constant year-round rate.

Approved Variances from ARM 36.12.121

Variances from aquifer test requirements found in ARM 36.12.121 were requested and granted from the Havre Regional office. The reasoning for the requested variances can be found in the WSB Aquifer Testing Addendum Review document dated December 17, 2025. Granting of the variances was recommended because the quality of the data derived from each test was sufficient for modeling.

WSB Technical Analyses Findings

Based on information submitted, the WSB estimated aquifer properties, evaluated the proposed well(s) available water column, and evaluated potential impacts to existing groundwater and surface water rights. Adverse effects were evaluated by comparing drawdown in existing wells and quantifying net depletions to surface water. These analyses are in support of the following criteria assessment: adequacy of diversion, physical availability, and adverse effect. A summary of WSB findings described in subsequent sections are listed below.

TECHNICAL ANALYSES FINDINGS

AQUIFER TEST ANALYSIS	Using the Cooper-Jacob (1946) solution for unconfined aquifers and the geometric mean of the results from the 24-hour and 78-hour aquifer testing data for Production Wells Groundwater Information Center (GWIC) ID 311691 and 320175, the estimated aquifer Transmissivity (T) is 2,827 ft^2/day.
MODELING INPUTS	The following aquifer properties were used to complete adequacy of diversion, physical availability and adverse effect technical analyses: T of 2,827 ft^2/day, S_y = 0.1 from Lohman (1972), and a saturated thickness (b) of 15 ft for Production Well 311691 and 35 ft for Production Well 320175. A no-flow boundary 560 ft west of the proposed wells to represent the sandstone bedrock of the Eagle Formation. A constant head boundary 245 ft east of the proposed wells to represent the Marias River. Pumping schedules used to model each criterion are identified within the document.

ADEQUACY OF DIVERSION	The aquifer adjacent to GWIC ID 311691 would experience 2.42 ft of drawdown after the first year, leaving 17 ft of available water column above the bottom of the well or perforated interval. The aquifer adjacent to GWIC ID 320175 would experience 2.38 ft of drawdown after the first year, leaving 34.8 ft of available water column above the bottom of the well or perforated interval.
PHYSICAL AVAILABILITY	The model predicted the 0.01-foot drawdown contour, or zone of influence (ZOI), extends approximately 5,142 ft from the Applicant's well. The calculated groundwater flux through the ZOI totaled 3,458 AF/yr. No active or severed groundwater rights were found within the ZOI that would experience drawdown from the proposed use.
ADVERSE EFFECT (DRAWDOWN IN EXISTING WELLS)	Maximum drawdown at the end of the fifth July of the proposed annual pumping schedule is 0.83 ft. As such, no water rights are predicted to experience drawdown equal to or greater than one foot.
ADVERSE EFFECT (NET DEPLETION TO SURFACE WATER)	Monthly net depletions resulting from the proposed use of groundwater are identified in **Table 1.** The starting point of the depleted reach on the Marias River is the southern boundary of the NENENE of Section 25, Township 28 North, Range 8 East, Chouteau County.

Table 1: Consumed volume and net depletions to the Marias River.

Month	Consumed Volume (AF)	Marias River Net Depletion (AF)	Marias River Net Depletion (gpm)
January	2.2	2.2	16.0
February	2.0	2.0	16.0
March	2.2	2.2	16.0
April	2.1	2.1	16.0
May	2.2	2.2	16.0
June	2.1	2.1	16.0
July	2.2	2.2	16.0
August	2.2	2.2	16.0
September	2.1	2.1	16.0
October	2.2	2.2	16.0
November	2.1	2.1	16.0
December	2.2	2.2	16.0
Total	25.8	25.8	-

2.0 Hydrogeologic Setting

As identified in **Figure 1**, the proposed wells (GWIC ID 320175 and 311691) are 823 ft apart and located in the NE Section 25, Township 28 North, Range 8 East, Chouteau County, in a narrow alluvial aquifer (DNRC aquifer code 110ALVM) adjacent to the Marias River. Both wells are completed at the bottom of the unconsolidated aquifer at the sandstone bedrock interface of the Eagle Formation. GWIC ID 320175 is an open bottom with a total depth of 50.5 ft below ground surface (bgs). GWIC ID 311691 has a perforated interval from 27-30 ft bgs.

The Eagle Formation bounding the alluvial aquifer at the proposed project is an Upper Cretaceous sandstone aquifer in central Montana, typically 200–400 ft thick, composed of stacked shallow-marine sandstones and shales (Feltis, 1982, Hopkins, 1976). Near outcrops in central Montana, it commonly supplies municipal, domestic, and stock wells (Feltis, 1982). In eastern Montana, the formation yields limited water due to greater depth and dominant shale and siltstone (Noble et al., 1982). Well logs near the proposed wells describe an approximately 30-ft thick sand and gravel aquifer overlying the Eagle Formation sandstone and shale. Lithologic logs for GWIC ID 320175 and 311691 report interbedded sand and clay with gravel, reflecting the weathering and reworking of shale and sandstone parent material that form the unconfined alluvial aquifer. Unconsolidated glacial deposits overlie sandstone in surrounding upland areas (**Figure 1**).

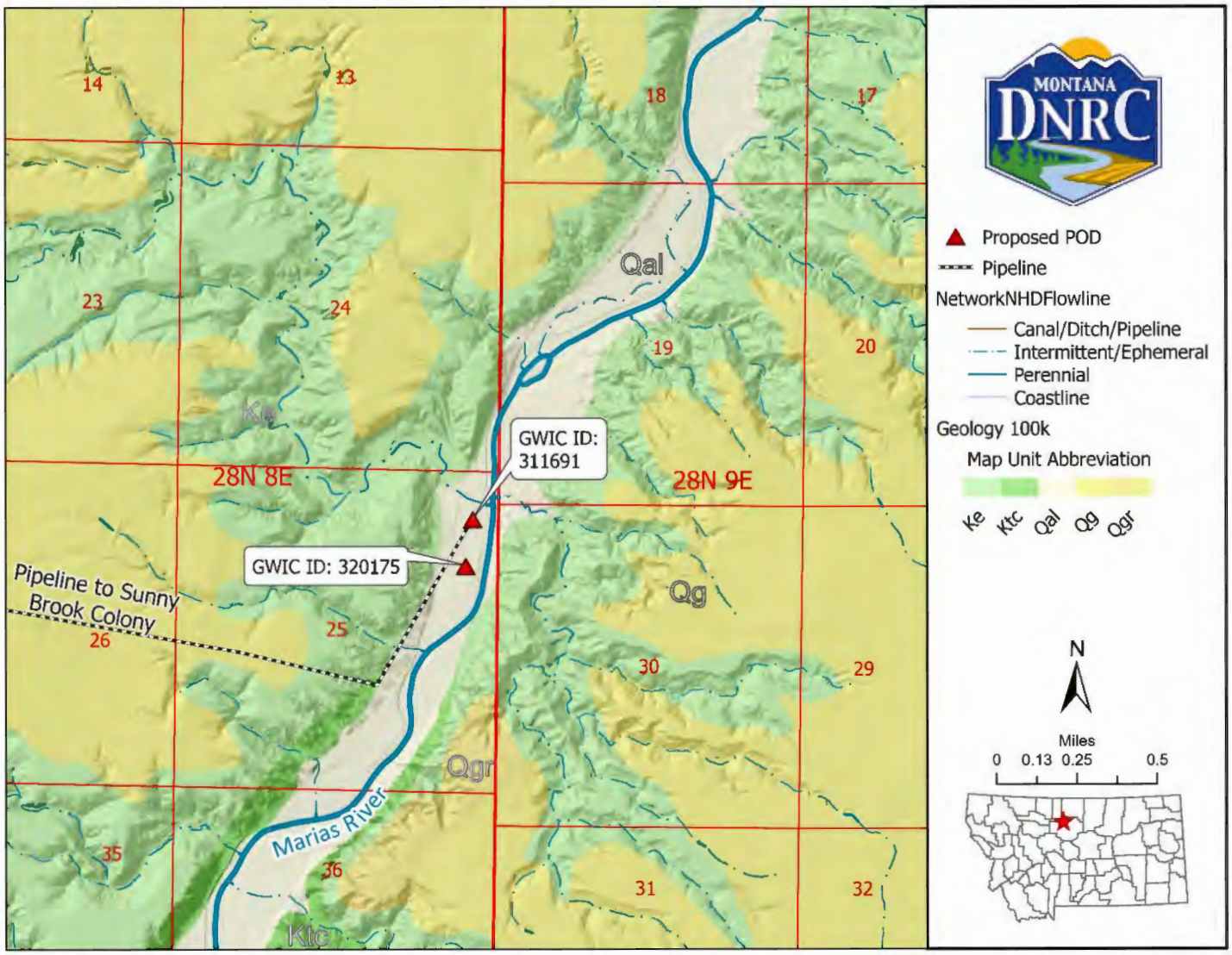


Figure 1: Map of the Applicant's proposed wells and aquifer test location.

3.0 Aquifer Test Summary

DNRC requires two different types of tests, "Aquifer Tests" and "Drawdown and Yield Tests", which are used to analyze different application criteria.

- An "Aquifer Test" is a pumping test that is meant to provide data to model aquifer properties. The minimum duration of these tests is either 24-hours or 72-hours, depending on the proposed flow rate and volume (ARM 36.12.121(3)(e)), and DNRC only requires one of these tests per application. Aquifer Tests must include observation well data, and pre-test monitoring data as well as post-test recovery data.
- A "Drawdown and Yield Test" is a pumping test that is meant to evaluate well construction and the ability of the aquifer to yield water to the well. This is also known as demonstrating "adequacy of

diversion". The minimum duration of these tests is 8-hours, and every well that is a part of the application must be tested. Observation wells, pre-test, and post-test data is not required for Drawdown and Yield Tests.

Field Methods and Equipment

The Applicant provided data collected during a 24-hr aquifer test on Production Well GWIC ID 311691 and a 78-hr aquifer test on Production Well GWIC ID 320175. Both aquifer tests were used to derive aquifer properties and are summarized in the following section. Additional aquifer test information such as the monitoring periods for the test, equipment used, collected water levels, and measured discharge can be found on Form 633. **Figure 1** identifies the location of the Production Wells. The Observation Well for the 24-hr aquifer test is located 18 ft east of the Production Well (GWIC ID 311691) and is not visible due to the scale of the map.

The 24-hour aquifer test conducted on the Production Well, GWIC ID 311691 started on November 10, 2021. The average pumping rate was 17.25 gpm. Completion details for the wells used in the aquifer test are identified in **Table 2**.

Table 2: Specification of wells for the 24-hr aquifer test.

GWIC ID	Well ID	Distance from the Production Well (ft)	Completed Well Depth (ft bgs)	Perforated Interval (ft bgs)	Casing Diameter (inches)
311691	Production	0	30	27-30	6
N/A	Observation	18	30	open bottom	6

The 78-hour aquifer test conducted on the Production Well, GWIC ID 320175 started on July 28, 2022. The average pumping rate was 29.5 gpm. Completion details for the wells used in the aquifer test are identified in **Table 3**.

Table 3: Specification of wells for the 78-hr aquifer test.

GWIC ID	Well ID	Distance from the Production Well (ft)	Completed Well Depth (ft bgs)	Perforated Interval (ft bgs)	Casing Diameter (inches)
320175	Production	0	50.5	open bottom	8
311691	Observation	823	30	27-30	6

Background, Drawdown and Recovery Data

Figures 2-5 summarize background, drawdown, and recovery water level data for the aquifer tests. As identified in **Figure 2** and **Figure 3** Production and Observation Well background data show no trends for both tests; water elevations appear stable.

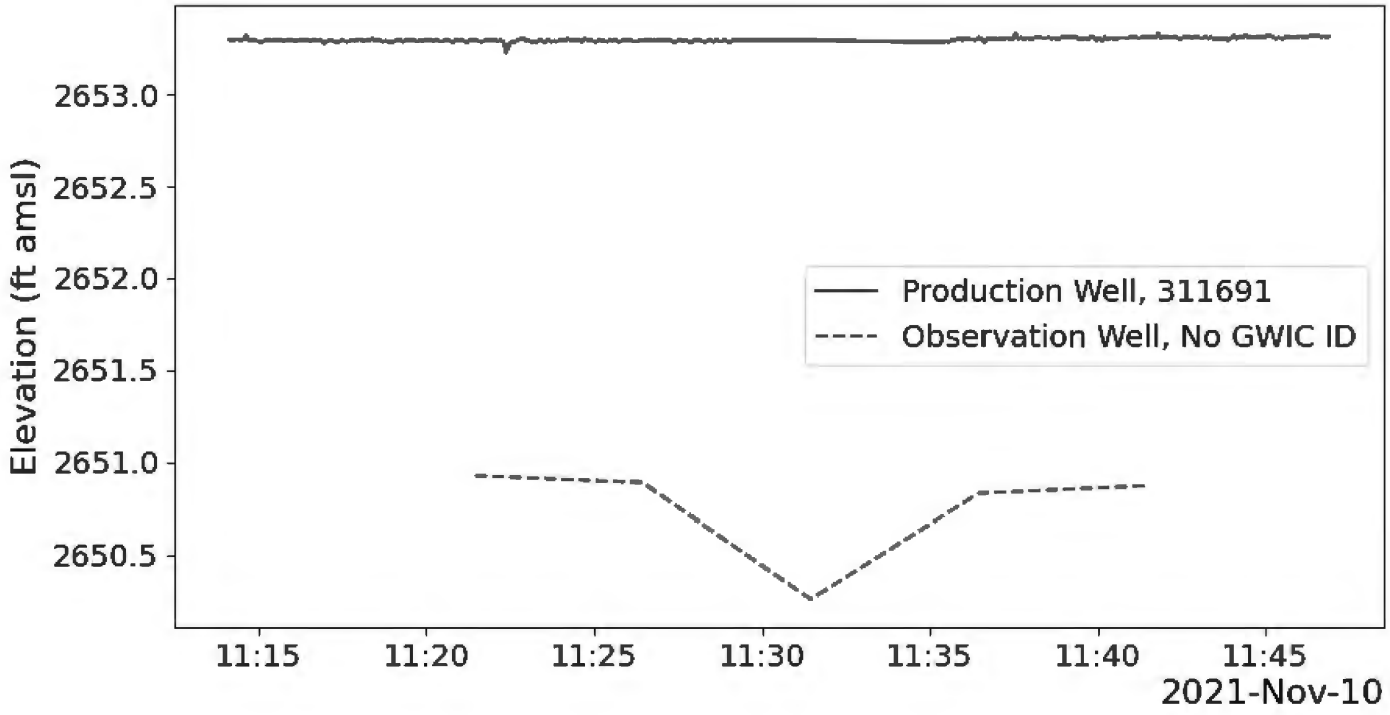


Figure 2: Background data for Production and Observation Wells prior to the 24-hr aquifer test.

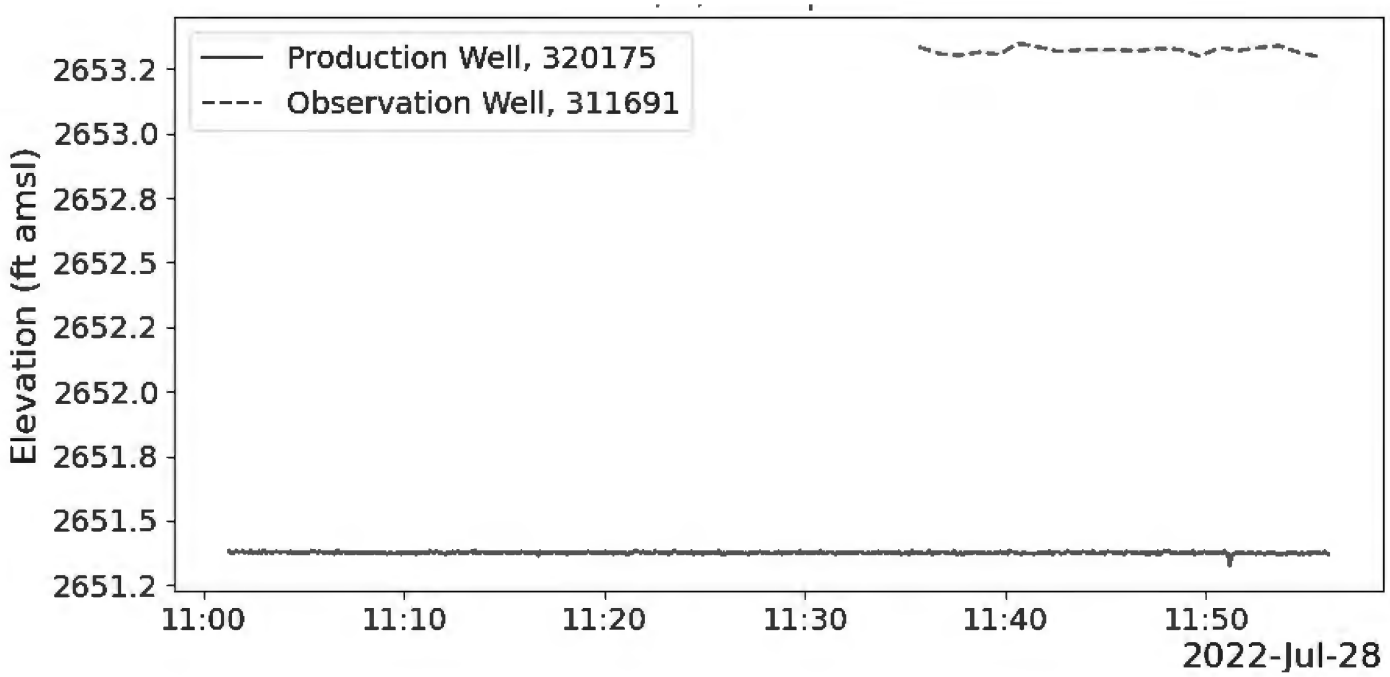


Figure 3: Background data for Production and Observation Wells prior to the 78-hr aquifer test.

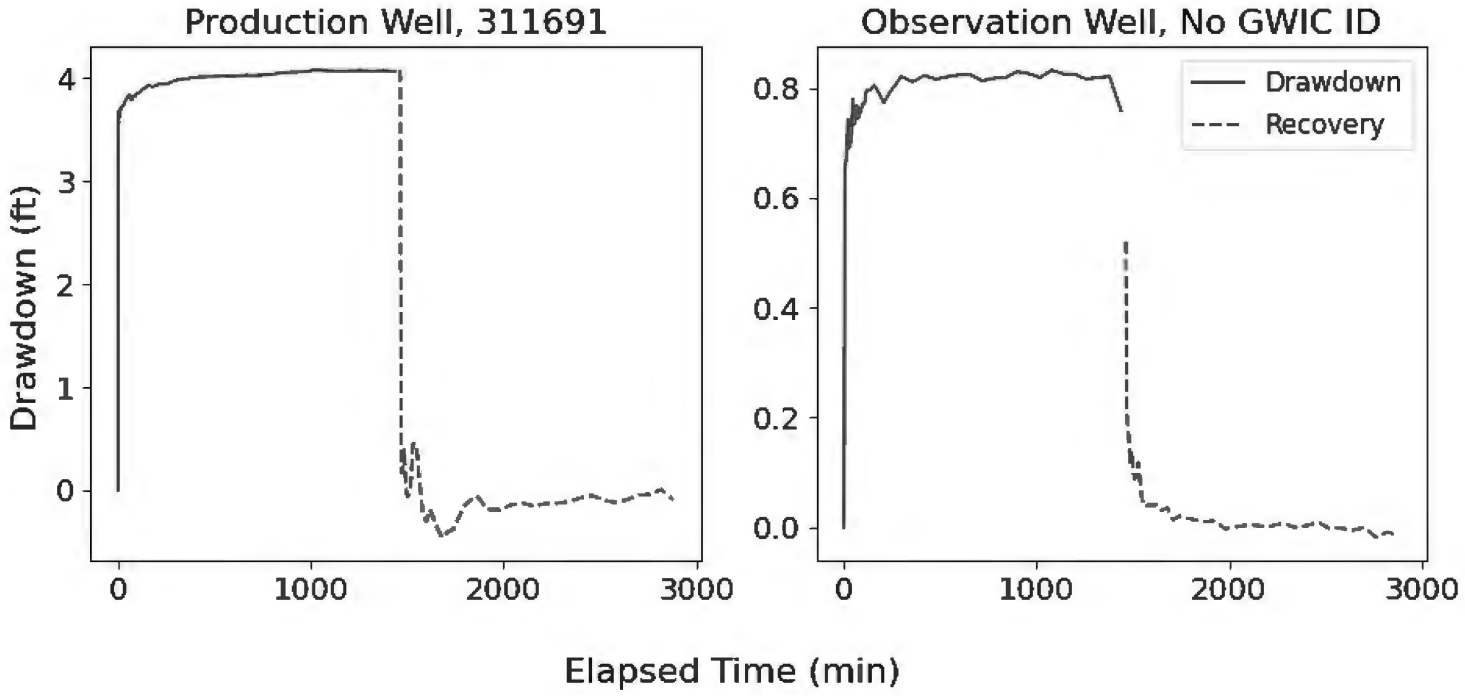


Figure 4: Drawdown and recovery data for the 24-hour aquifer test on the Production Well.

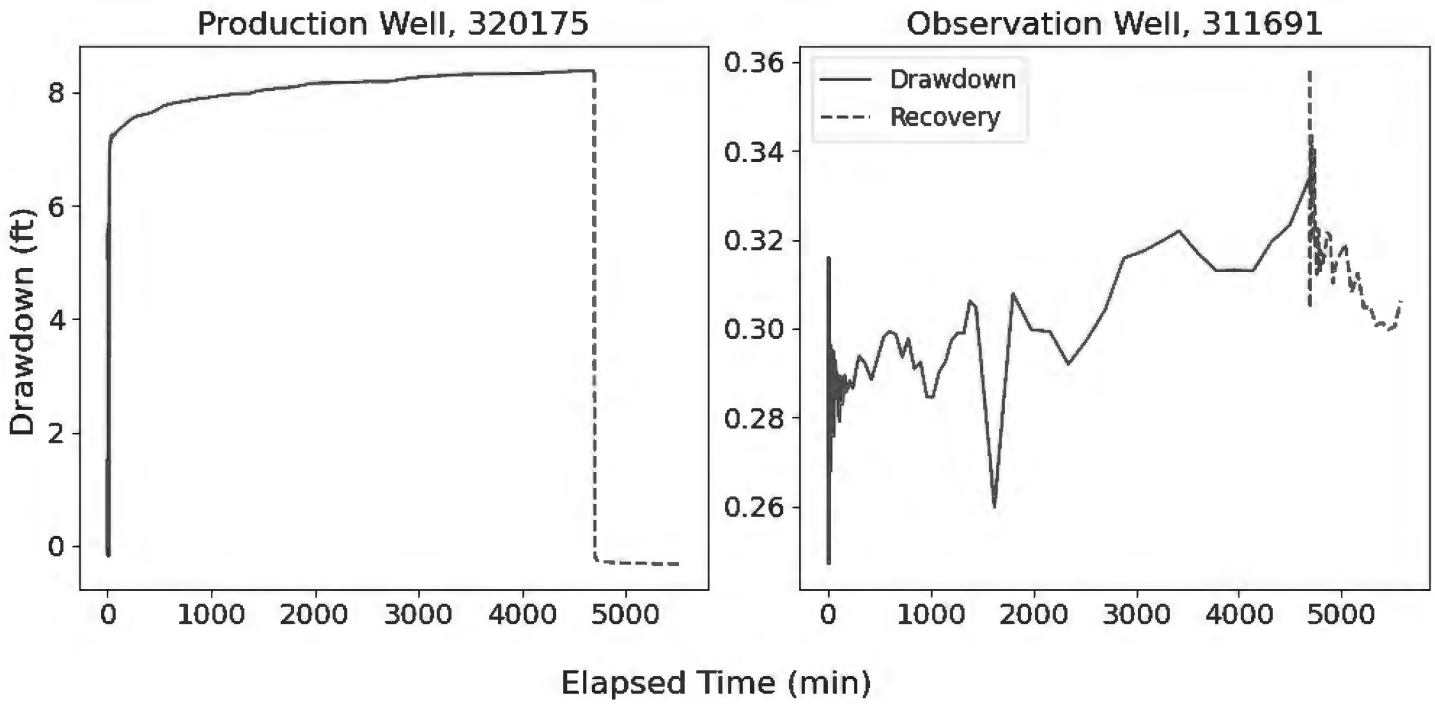


Figure 5: Drawdown and recovery data for the 78-hour aquifer test on the Production Well.

Table 4 and **Table 5** identify the maximum drawdown and available water column above the bottom of the well or perforated interval for the Production and Observation Wells at the end of the aquifer tests. Available water column was quantified by adding 3 ft to the bottom of the perforated interval or bottom of well depth, to reflect the measurement point for static water levels (top of casing).

Table 4: Available water column at the end of the 24-hr aquifer test for the Production and Observation Wells.

GWIC ID	Well ID	Static Water Level (ft btc)	Maximum Observed Drawdown (ft)	Available Water Column (ft)
311691	Production	14.02	4.08	15
N/A	Observation	16.46	0.83	15.71

Table 5: Available water column at the end of the 78-hr aquifer test for the Production and Observation Wells.

GWIC ID	Well ID	Static Water Level (ft btc)	Maximum Observed Drawdown (ft)	Available Water Column (ft)
320175	Production	16.33	8.38	28.79
311691	Observation	14.10	0.33	19

4.0 Aquifer Test Analysis

Methods

The DNRC used AQTESOLV® (HydroSOLVE, Inc., 2007) to analyze drawdown data from the aquifer test, obtain estimates of aquifer properties, and model predicted drawdown in existing wells. AQTESOLV® is an analytical modeling software that uses image well theory and the principle of superposition to simulate aquifer stress tests. Known well, aquifer, and aquitard characteristics from well logs and previous investigations are input into the model. Calculated aquifer drawdown and measured flow rates from the aquifer test, and the spatial location of each well are also input into the model. Using this compilation of data, aquifer properties including Transmissivity (T) and Storativity (S) are estimated based on a best-fit visual match between the observed and theoretical drawdown data.

Analyses

Analytical groundwater solutions were matched to Observation Well drawdown data to generate estimates of aquifer properties for the source aquifer**.** As identified in **Figures 6-8** theoretical AQTESOLV® predicted derivatives (red line) were compared to the calculated derivatives from the observed drawdown (red crosses) and predicted drawdown (blue line) compared to the observed drawdown (black squares). A summary of aquifer test analyses for Production and Observation Wells is found in **Table 6**.

Drawdown data and measured flow rates from the aquifer test, a saturated thickness of 15 ft for Production Well 311691 and 35 ft for Production Well 320175, and the spatial location of each well were input into the model.

Production Well GWIC ID 311691 is completed in 3 ft of fractured sandstone underlying sand and gravel. Production Well GWIC ID 320175 is completed in sand and gravel with fractured sandstone. The primary source of water to both wells is interpreted as the sand and gravel alluvial aquifer, as both wells were drilled

to the top of the bedrock surface and pumping would likely directly interact with the unconfined sand and gravel aquifer.

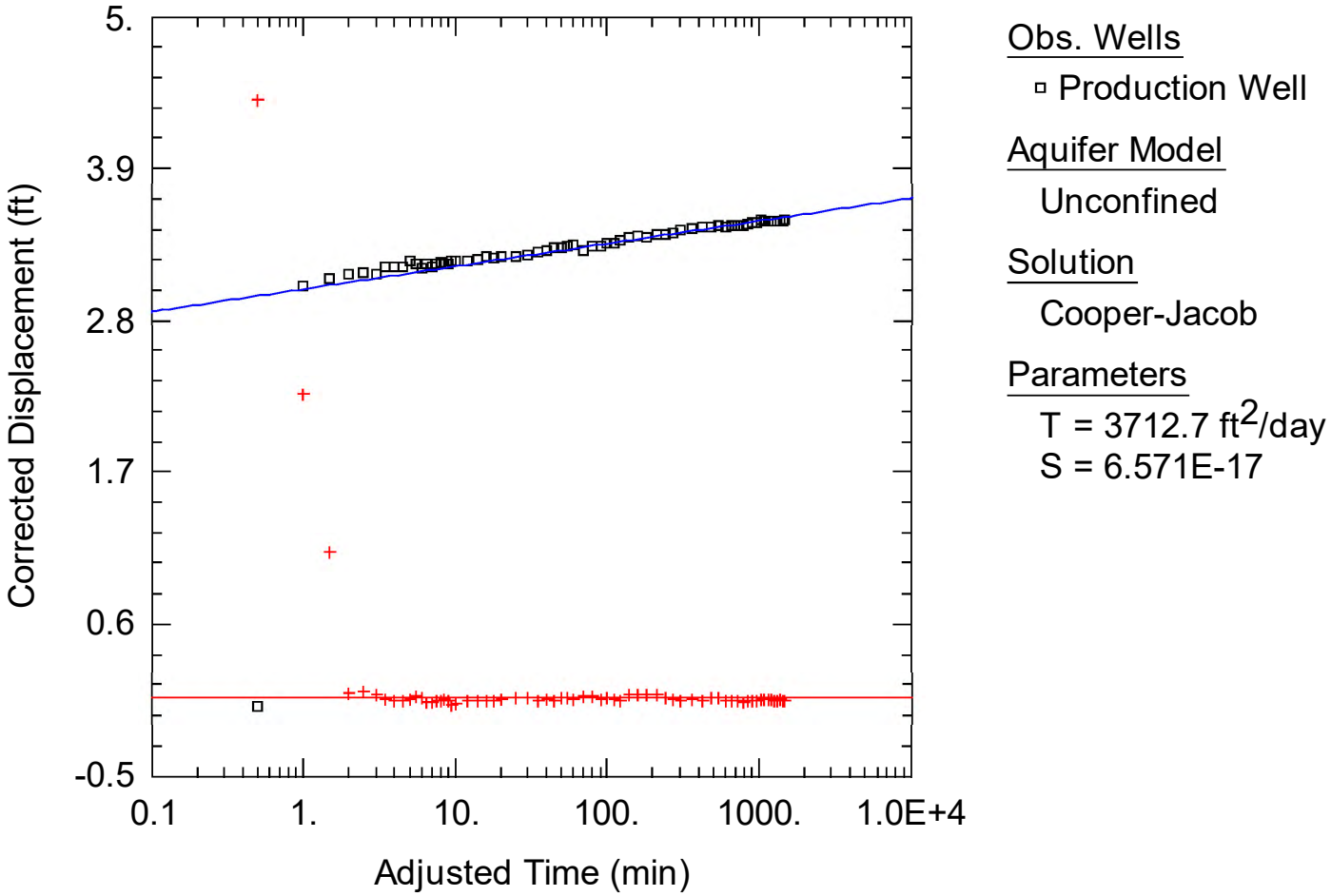


Figure 6: Cooper-Jacob (1946) solution and drawdown data used from the Production Well from the 24-hr aquifer test.

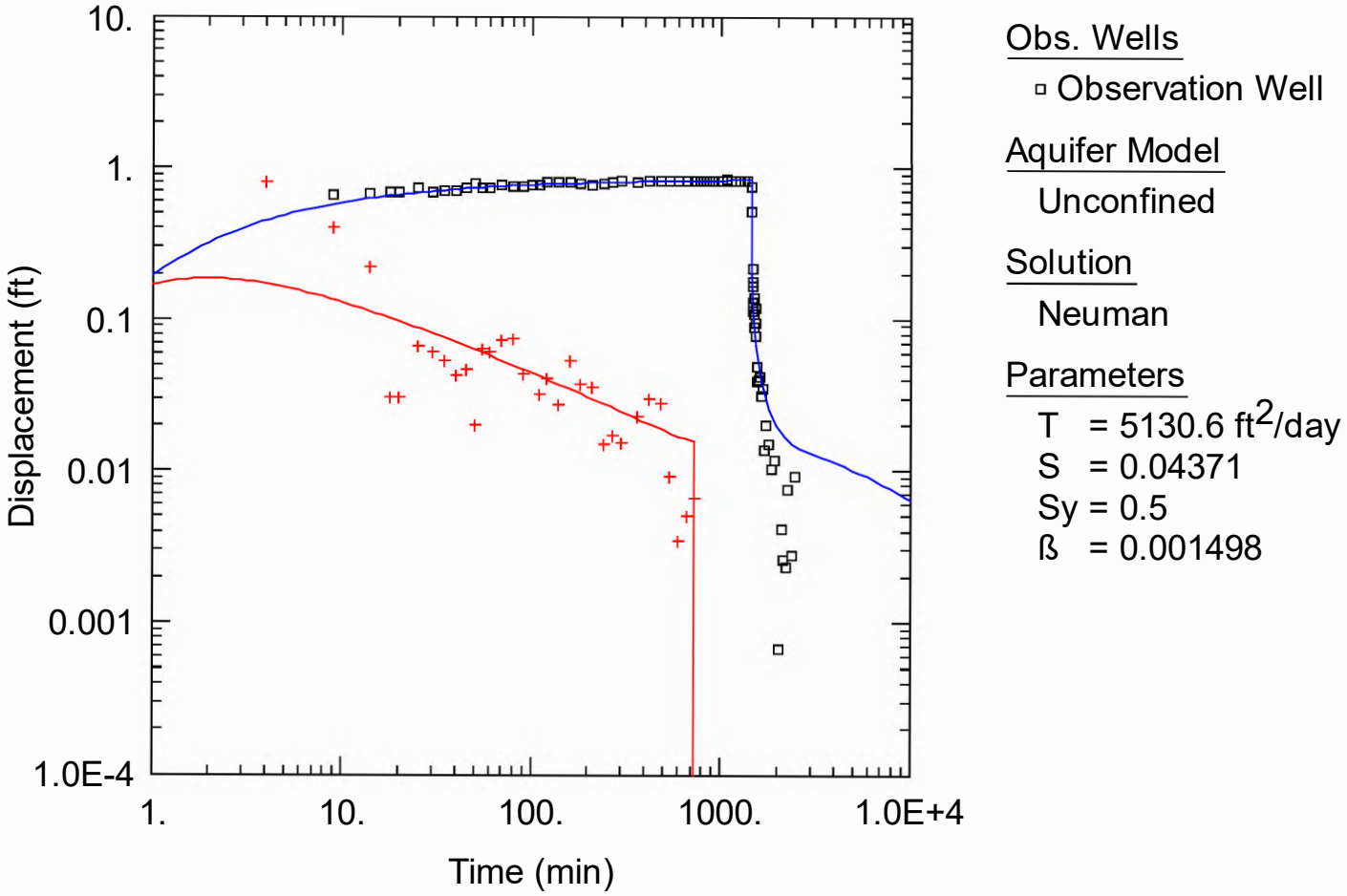


Figure 7: Neuman (1974) solution and drawdown and recovery data used from the Observation Well from the 24-hr aquifer test.

24-hr Aquifer Test

As shown in **Figure 6** the Cooper-Jacob (1946) solution was used to analyze the Production Well drawdown data. The derivative plateau for the Production Well drawdown data is indicative of infinite-acting radial flow conditions and did not exhibit boundary effects from the Marias River (recharge) or alluvial aquifer boundaries (no-flow).

As shown in **Figure 7**, the derivatives for the Observation Well drawdown data measured during the 24-hr aquifer test varied significantly but generally declined throughout the duration of the test. The decreasing rate of drawdown in the Observation Well may be indicative of the effect of a recharge boundary or onset of delayed yield. However, the relatively short duration of the aquifer test does not appear to fully capture the mechanism affecting the rate of drawdown. It is unlikely that a recharge boundary effect from the Marias River would be apparent from the beginning of the aquifer test. Infinite acting radial flow conditions would be expected at intermediate time, followed by a drawdown plateau at late time as the recharge boundary begins to influence the rate of drawdown. In addition, a recharge boundary effect was not observed in the Production Well drawdown data for the longer-duration 78-hr aquifer test, which is located at a similar distance to the river as the Production and Observation Wells for the 24-hr aquifer test.

The Neuman (1974) solution (**Figure 7**) was fit to the Observation Well drawdown data as this solution can account for delayed yield in an unconfined aquifer. Due to the close proximity of the Observation and Production Well, delayed yield effects may appear earlier in the test and manifest as an initial decrease in the rate of drawdown. However, the curve match shown in **Figure 7** produced a very low hydraulic conductivity anisotropy ratio and a high specific yield value, indicating that flow to the well is primarily horizontal with extremely slow vertical movement of water through the aquifer.

It is possible that the close proximity of the Observation and Production Well (18 ft), fluctuations in pumping rate, or errors in water level measurements affected the results of the test and produced the declining derivative trend. Due to the relatively short duration of the 24-hr aquifer test and lack of a delayed yield or recharge boundary signature in the longer duration 78-hr aquifer test, results derived from the Observation Well for the 24-hr aquifer test were determined to be unreliable.

78-hr Aquifer Test

The Cooper-Jacob (1946) aquifer solution was fit to the Production Well for the 78-hr aquifer test. The Observation Well data was not used to derive aquifer properties due to significant fluctuations in water levels during the pumping and recovery phases. The Production Well drawdown data (**Figure 8**) is indicative of infinite-acting radial flow conditions.

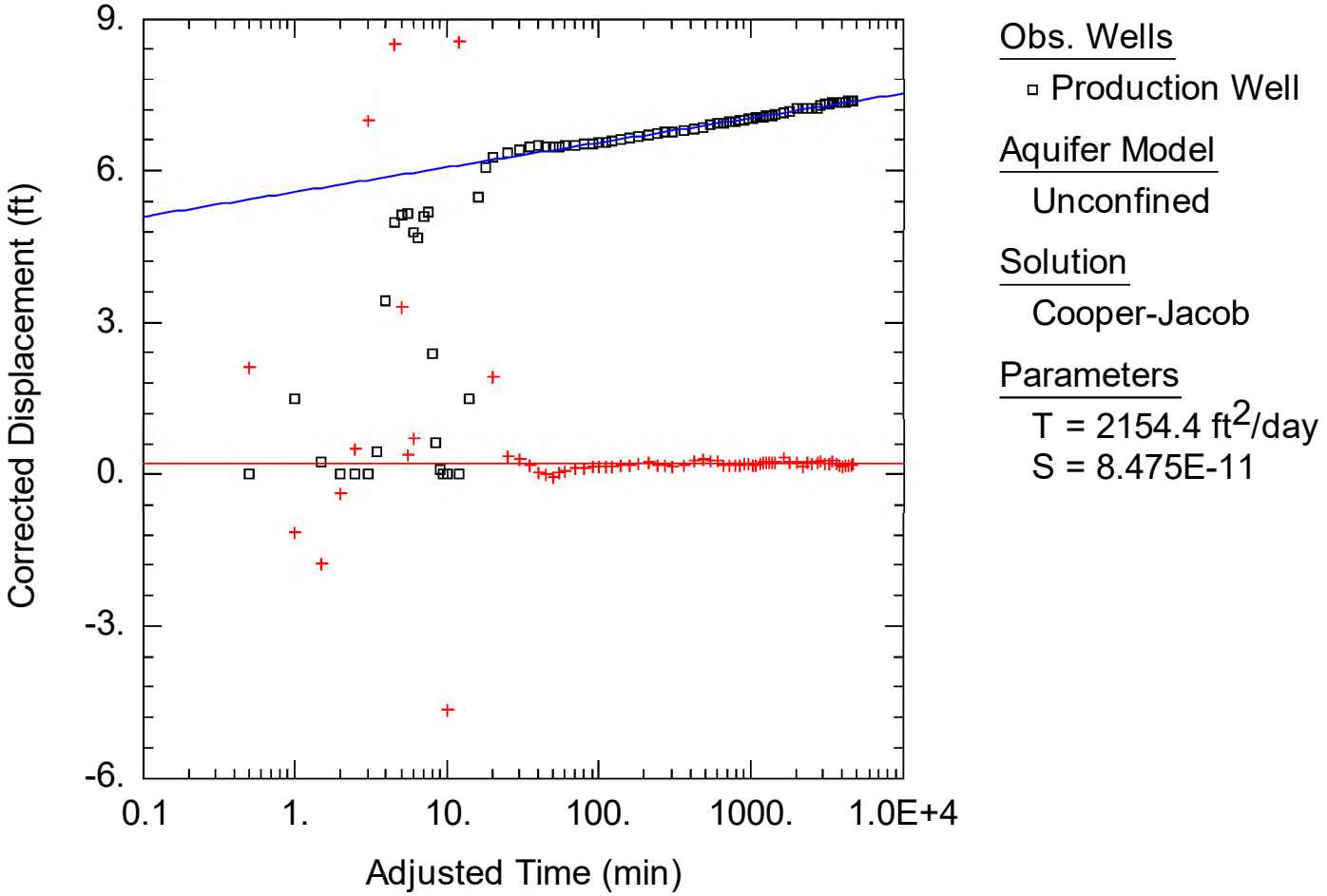


Figure 8: Cooper-Jacob (1946) and data used from the Production Well from the 78-hr aquifer test.

Table 6: A summary of aquifer test analyses completed on the Production Wells GWIC ID 311691 and 320175 for the 24-hr and 78-hr aquifer tests.

Aquifer Test Phase	Well Analyzed (GWIC ID)	Well ID	Analysis Solution	T (ft^2/day)	S or Sy
Drawdown	311691	Production	Cooper-Jacob (1946)	3,712	NA
Drawdown/Recovery	NA	Observation	Neuman (1974)	5,130	0.5
Drawdown	320175	Production	Cooper-Jacob (1946)	2,154	NA

The T derived from the Production Wells for both aquifer tests are similar and drawdown data exhibited infinite-acting radial flow conditions that were not influenced by aquifer boundaries. The properties derived from the 24-hr aquifer test Observation Well produced a higher T value, a high Sy for an unconfined aquifer with high sand and clay content, and a low anisotropy ratio. The proximity of the Observation and Production Wells for the 24-hr test are also much closer than recommended following aquifer testing guidelines (US EPA, 1993). As a result, only aquifer properties derived from the Production Wells were used.

The aquifer T to be used in forward modeling is 2,827 ft^2/day and is the geometric mean from the 24-hr and 78-hr aquifer test Production Wells. The geometric mean is used to account for aquifer heterogeneity observed between both locations. The S_y of 0.1 is from Lohman (1972) for unconfined sand and gravel aquifers. Moench (1994) states that although an unconfined aquifer test analysis can account for S_y, evaluation of S_y should be done with caution because the very early time data are subject to large errors.

Additional Aquifer Test and/or Aquifer Property Comparison

The DNRC Aquifer Test Database was queried for aquifer tests completed in unconfined alluvial aquifers and the seven nearby aquifer tests are shown in **Table 7**. No nearby aquifer test data to the proposed project was found and the closest aquifer test completed in an unconfined aquifer is 58 miles away. The derived aquifer T is reasonable when compared to other T values derived from nearby pumping test data.

Table 7: Nearby Aquifer Tests. Note: T = Transmissivity. NA = Not Available.

Water Right No.	GWIC ID	Well Depth (ft)	Distance from Applicant Well (miles)	Aquifer Test Length (hours)	Pump Rate (gpm)	T (ft2/day)
41K 6853 00	274670	202	58	25	330	16,300
41K 6853 00	34538	193	58	24	260	15,000
41K 6853 00	274667	196	58.1	25	325	18,900
41P 30117451	87581	49	59.9	71	253	20,000
41K 30150582	301863	15	60.3	28	35	1,000
41O 30000571	218332	40	63.9	24	250	8,237
41O 30149178	290231	220	63.9	24	40.4	349
41K 30047925	260103	18	91.3	24	26	324

5.0 Modeling Inputs

Technical analyses in support of the following criteria assessment: adequacy of diversion, physical availability, and adverse effect (drawdown in existing wells) were modeled in FWD:SOLV (HydroSOLVE INC., 2024) using the following inputs:

- Theis (1935) solution for fully penetrating wells in a single-porosity aquifer
- Saturated thickness of 15 ft for Production Well 311691 and 35 ft for Production Well 320175
- GWIC ID 320175: Well radius of 0.33 ft, open bottom; GWIC ID 311691: Well radius of 0.17 ft and screened interval of 3 ft.
- Well locations (Applicant supplied coordinates)
- T = 2,827 ft^2/day
- S = 0.1, Lohman (1972)

Monthly pumping schedules and boundaries used to complete technical analyses are identified in subsequent criteria sections.

6.0 Adequacy of Diversion Analysis

An evaluation of the potentially available water column remaining in the proposed well(s) was modeled in FWD:SOLV (HydroSOLVE INC., 2024) using the following:

- Proposed monthly pumping schedule identified in **Table 8** for the period of diversion.
- A no-flow boundary 560 ft west of the proposed wells to represent the sandstone bedrock of the Eagle Formation.
- A constant head boundary 245 ft east of the proposed wells to represent the Marias River.

The Applicant requests 25.8 AF per year. Water would be diverted at a constant year-round rate for multiple domestic and industrial purposes. The wells were modeled as though they were pumping simultaneously, each at half of the flow rate (8 gpm) shown in **Table 8**.

Table 8: Assumed proposed monthly pumping schedule for the proposed well(s).

Month	Domestic Diverted Volume (AF)	Industrial Diverted Volume (AF)	Batch Plant Diverted Volume (AF)	Total Diverted Volume (AF)	Total Flow Rate (gpm)
January	1.4	0.7	0.1	2.2	16.0
February	1.3	0.6	0.1	2.0	16.0
March	1.4	0.7	0.1	2.2	16.0
April	1.4	0.7	0.1	2.1	16.0
May	1.4	0.7	0.1	2.2	16.0
June	1.4	0.7	0.1	2.1	16.0
July	1.4	0.7	0.1	2.2	16.0
August	1.4	0.7	0.1	2.2	16.0
September	1.4	0.7	0.1	2.1	16.0
October	1.4	0.7	0.1	2.2	16.0
November	1.4	0.7	0.1	2.1	16.0
December	1.4	0.7	0.1	2.2	16.0
Total	16.8	8.0	1.0	25.8	

As identified in **Table 9,** total drawdown is the sum of interference drawdown and predicted drawdown with well loss. Interference drawdown is additional drawdown from pumping both wells simultaneously. Well loss is calculated by dividing the predicted theoretical maximum drawdown by a well efficiency value. Predicted theoretical drawdown for the proposed well(s) was modeled for the period of diversion using the monthly pumping schedule for each well identified in **Table 8**. Well efficiency is calculated by dividing the modeled maximum drawdown for the aquifer test by the maximum observed drawdown of the aquifer test. The aquifer adjacent to the proposed wells GWIC ID 311691 and 320175 would experience a predicted total drawdown of 2.42 ft and 2.38 ft respectively at the end of the first year (**Figure 9**). The remaining available water column for the proposed wells GWIC ID 311691 and 320175 is 17 ft and 34.8 ft respectively and is equal to the available drawdown above the bottom of the well minus total drawdown.

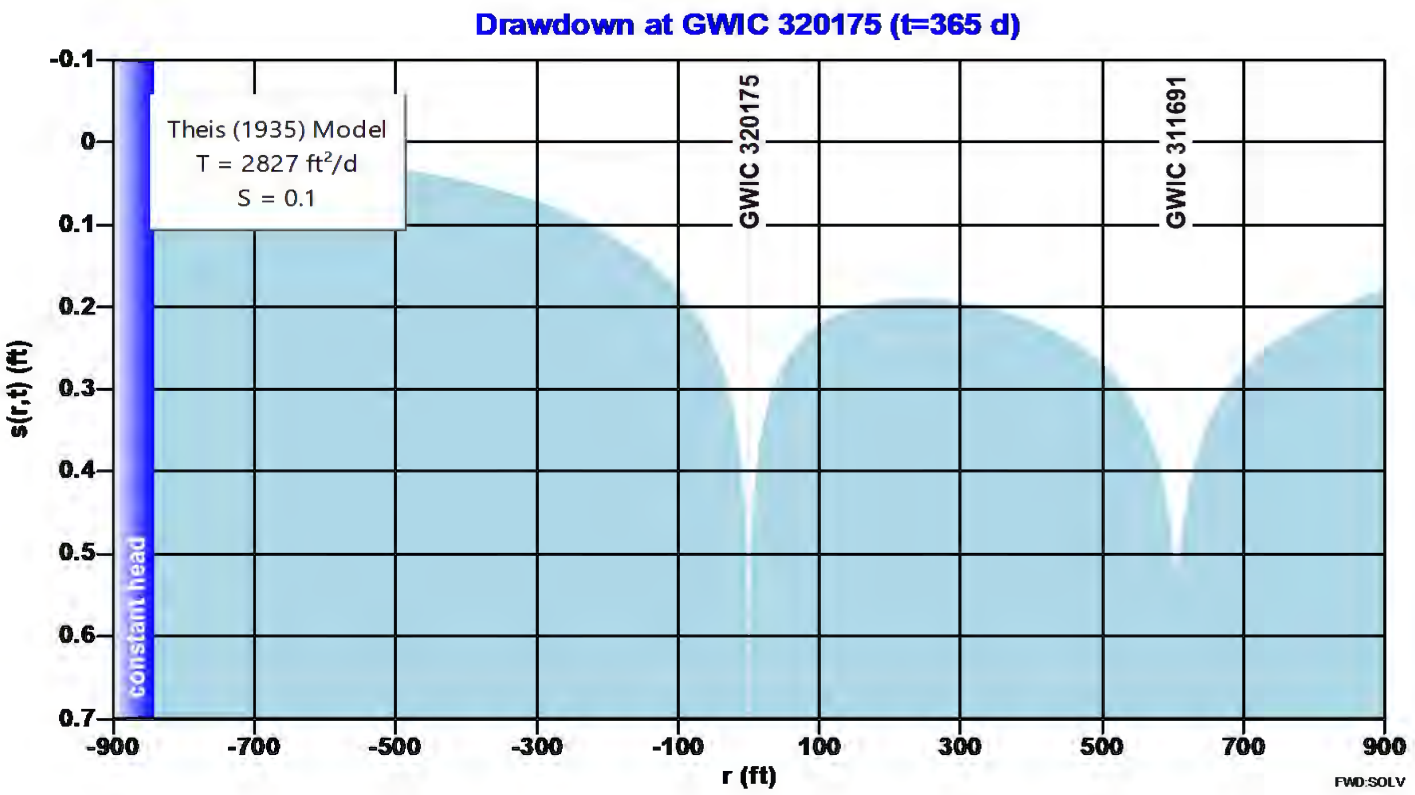


Figure 9: FWD:SOLV (HydroSOLVE INC., 2024) radial plot at the end of the first year/time-drawdown plot for the proposed pumping schedule for the proposed well. The profile is rotated 80 degrees, southwest (left side of plot) to northeast (right side of plot) to show the effect of the constant head boundary and interference drawdown.

Table 9: Remaining available water column for the proposed well(s).

Drawdown Estimate	Proposed Well 311691	Proposed Well 320175
Total Depth at Bottom of Perforated Interval (ft btc)[1]	33.00	53.50
Pre-Test Static Water Level (ft btc)	14.02	16.33
Available Drawdown Above Bottom of Well (ft)	18.98	37.17
Observed Drawdown of Aquifer Test (ft)	4.20	8.41
Modeled Drawdown Using Mean Aquifer Test Rate (ft)	1.36	2.31
Well Efficiency (%)	32%	27%
Predicted Theoretical Maximum Drawdown (ft)	0.76	0.64
Predicted Drawdown with Well Loss (ft)	2.35	2.33
Interference Drawdown (ft)	0.07	0.05
Total Drawdown (ft)	2.42	2.38
Remaining Available Water Column (ft)	**17**	**34.8**

[1]The total well depth measuring point (bgs) was adjusted to the top of well casing based on a 3 ft well casing stickup reported on the well log.

7.0 Physical Availability Analysis

An evaluation of groundwater availability in the source aquifer for the purpose of evaluating physical and legal availability was done by calculating groundwater flux through a zone of influence (ZOI) corresponding to the 0.01-foot drawdown contour. The 0.01-foot drawdown contour was modeled in FWD:SOLV (HydroSOLVE INC., 2024) using previously listed modeling inputs and the following pump schedule and boundaries:

- Constant pumping rate of 8.0 gpm for GWIC ID 320175 and 8.0 gpm for GWIC ID 3211691 for the period of diversion.
- No flow boundary 560 ft west and constant head boundary 250 ft east of the proposed wells to represent the aquifer boundaries.

The normalized pumping rate required to produce the annual volume is 16.0 gpm. The proposed wells were modeled as though they were pumping simultaneously at a constant year-round rate. According to **Figure 10** the 0.01-foot drawdown contour extends to the largest extent, approximately 5,142 ft from the Applicant's well(s). The western extent of the aquifer based on the 100k geologic map was represented as a no-flow boundary 560 ft west of the proposed wells. The Marias River was represented as a constant head boundary 250 ft east of the proposed wells. The river was treated as a constant head boundary because the Applicant proposes to pump the proposed wells at a constant year-round rate and drawdown within the aquifer will likely be influenced by boundary conditions after a prolonged period of pumping. In addition, water surface elevations for the proposed wells, calculated with 1-ft Lidar data (Montana State Library, 2020), are within 3 ft of the Marias River water surface elevation, indicating a direct connection of the alluvial aquifer with the Marias River.

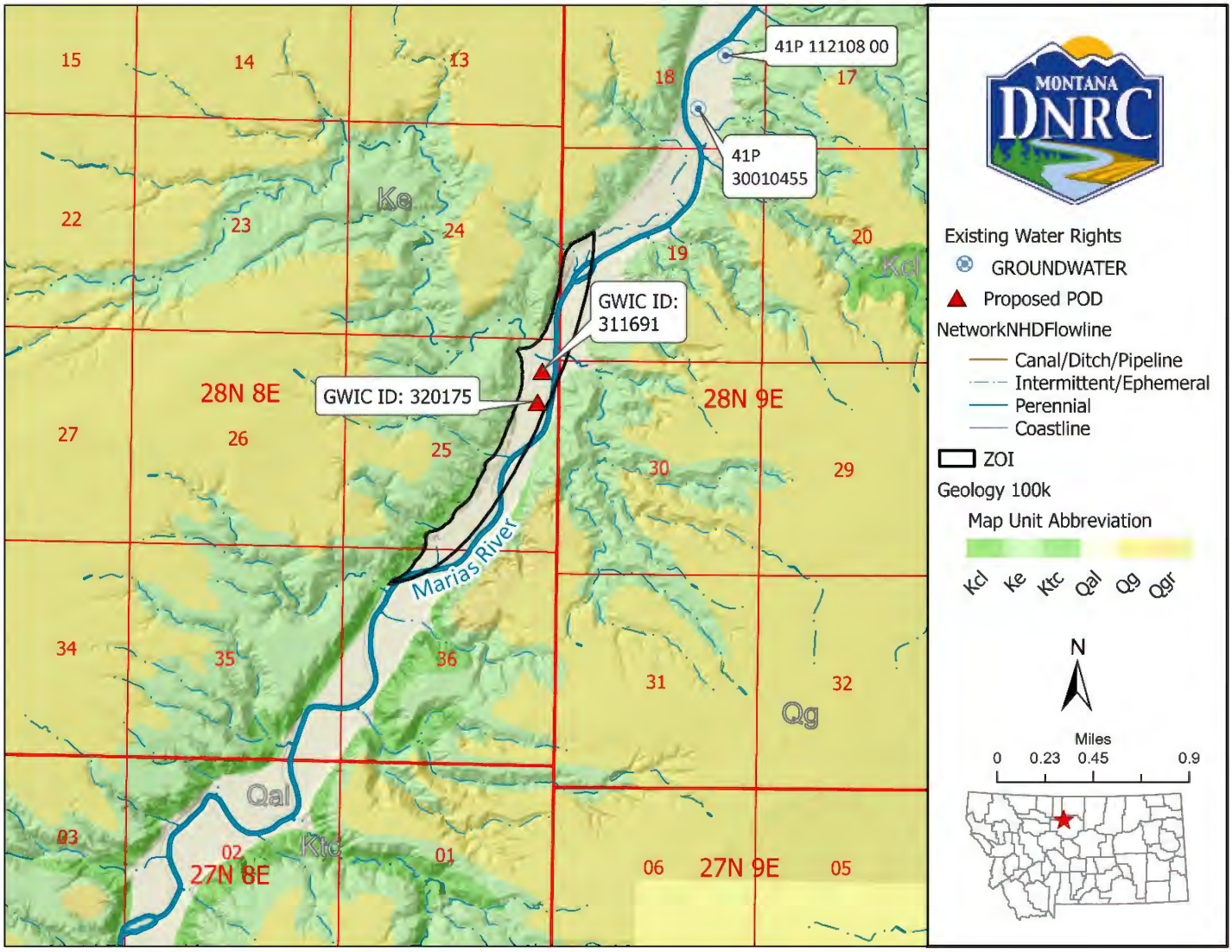


Figure 10: Map of the Zone of Influence (ZOI) and existing water rights. No groundwater rights are located within the ZOI.

No potentiometric surface maps to derive groundwater gradient and flow direction were found for this location. Therefore, groundwater gradient was calculated using the three-point solution described in Heath (1983) and Johnston and Harte (1996). The closest wells that are in a suitable configuration to produce reliable gradient estimates are approximately 6 miles south of the proposed project (**Figure 11**). These wells have similar construction and distance to the river as the proposed wells and are described in **Table 10**. The estimated gradient is 0.02 ft/ft towards the river with an azimuth of 230 degrees. Ground surface slope was also calculated at several locations and produced slope estimates ranging from 0.01 to 0.05 ft/ft in the vicinity of the proposed wells. Therefore, a groundwater gradient of 0.02 ft/ft is considered representative of conditions near the proposed project.

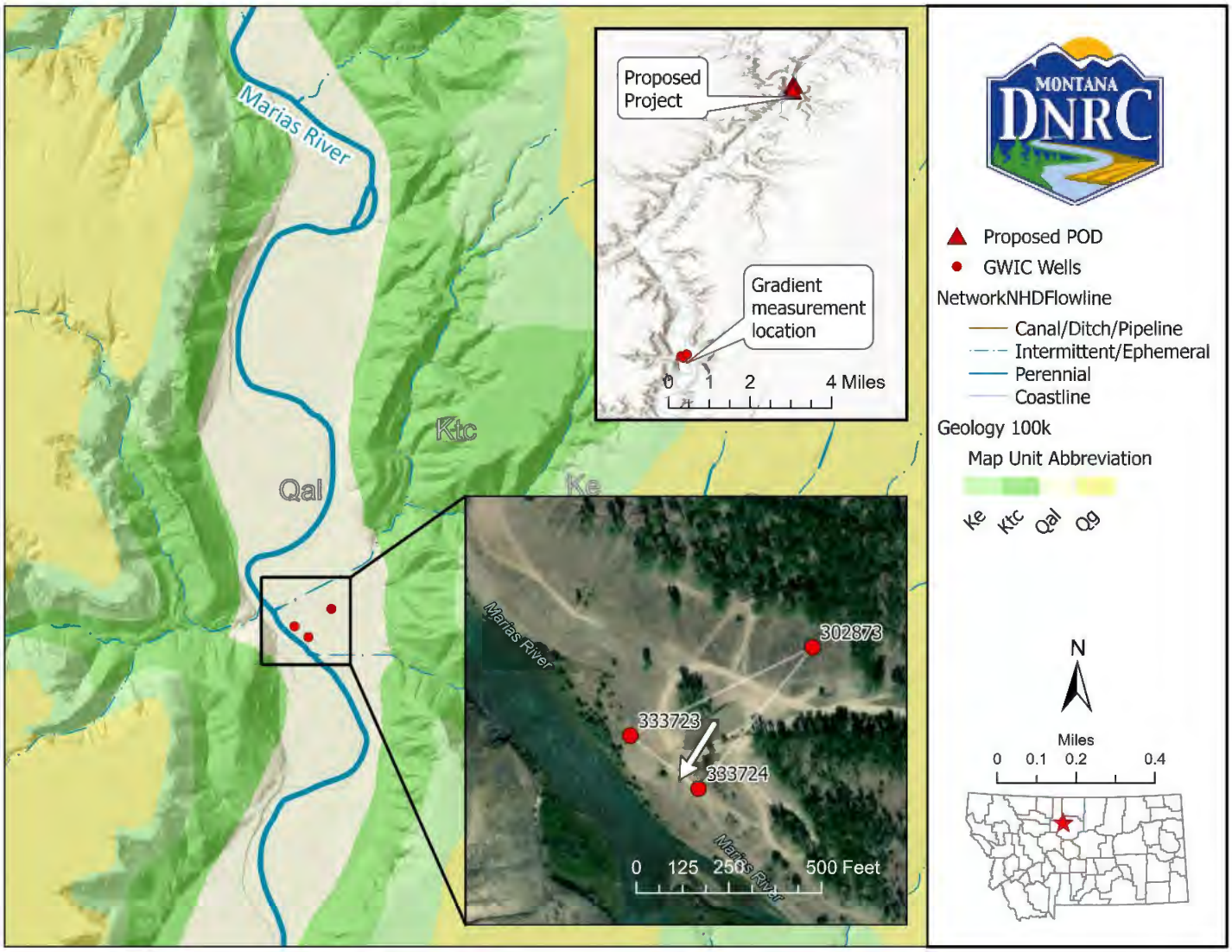


Figure 11: Map of the wells used to determine groundwater gradient and relationship to the proposed project location. Groundwater flow direction is indicated by the white arrow in the inset map.

Table 10: Construction details and water surface elevations for the wells used to determine groundwater gradient.

GWIC ID	Date Completed	Depth water enters (ft)	Static Water Level (ft)	Elevation (ft)	Water Surface Elevation (ft)
333723	9/13/2024	26	18.11	2,622	2,604
333724	9/16/2024	26	18.86	2,622	2,604
302873	7/19/2019	23	12	2,628	2,616

No active or severed water rights are located within the ZOI. The water surface elevations for GWIC ID 311691 and 320175 are 2,644 ft above mean sea level (amsl) and 2,641 ft amsl respectively as measured with 1-ft Lidar data (Montana State Library, 2020). The water surface elevation for the Marias River is approximately

2,644 ft amsl. Therefore, the groundwater flow direction is interpreted as towards the river, consistent with conditions observed from the wells used to determine gradient. Therefore, groundwater flow is predominantly to the east and the width of the ZOI that is perpendicular to groundwater flow equals 7,300 ft. The calculation for groundwater flux (Q) through the delineated area is given by Eq. 1 and is 412,742 ft^3/day or 3,458 AF/year:

$$\mathbf{Q = TWi}$$

where:
T = Transmissivity = 2,827 ft^2/day
W = Width of Zone of Influence = 7,300 ft
i = Groundwater gradient (estimated from field data) = 0.02 ft/ft

8.0 Adverse Effect Analyses

Under §85-2-402, Montana Code Annotated (MCA), using the Applicant's proposed pump schedule and associated volume, adverse effect is evaluated by modeling drawdown in nearby wells, changes in net depletions to surface water, and changes in return flows to surface water.

8.1 Groundwater - Drawdown in Existing Wells

The drawdown in existing wells was modeled in FWD:SOLV (HydroSOLVE INC., 2024) using previously listed modeling inputs and the following:

- Constant pumping rate of 8.0 gpm for GWIC ID 320175 and 8.0 gpm for GWIC ID 3211691 for a period of five years.
- No flow boundary 560 ft west and constant head boundary 250 ft east of the proposed wells to represent the aquifer boundaries.

After five years of pumping, maximum drawdown is 0.76 ft at Production Well 320175 and 0.83 ft at Production Well 311691. No groundwater rights are expected to experience drawdown greater than 1-ft from the proposed use.

8.2 Surface Water - Net Depletions (Consumed Water)

Pursuant to *Montana Trout Unlimited v. DNRC*, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the DNRC recognizes the connection between surface water and groundwater, and the effect of pre-stream capture and induced infiltration on surface waters.

Net depletions to surface water depend on propagation of drawdown to areas of the aquifer from which water can be captured. Captured water consists of two possible sources – a reduction in the natural discharge (outflow) rate of groundwater from the aquifer (pre-stream capture) or an increase in the natural/artificial recharge (inflow) rate to the aquifer (e.g. induced infiltration). Two important assumptions are made when evaluating net depletions: first the stream and underlying aquifer remain hydraulically connected by a continuous saturated zone, and second, the stream does not become dry. In addition, net depletion is not a function of groundwater flow rate or direction (Theis, 1938; Leake, 2011) and drawdown from pumping can

propagate through the entire thickness of the confining layer to overlying aquifers or surface waters (Konikow and Neuzil, 2007).

As such, net depletions are identified for hydraulically connected surface water sources, not including ditches or ephemeral streams. Net depletion is equal to consumption for proposed groundwater use and is described as the calculated volume, rate, timing, and location of reductions to surface water that are offset by return flows (non-consumed water). Net depletion is evaluated by 1.) quantifying the consumed volume associated with the proposed use; 2.) identifying hydraulically connected surface waters; and 3.) calculating the monthly rate and timing of net depletions to affected surface water(s).

1. Consumed Volume

Consumed groundwater does not return to the source aquifer. Consumed volume depends on the proposed use and its associated percentage of known consumption. Depletion is assumed to be equivalent to consumption on an annual basis unless return flows do not accrete to the potentially affected surface water.

Monthly consumption for irrigation, not including turf grass, can be calculated using ARM 36.12.115 irrigation standards and associated efficiency values or the net irrigation requirement (dry year 80% chance) calculated using the USDA Natural Resources Conservation Service (NRCS) IWR program with inputs consistent with DNRC consumptive use rules in ARM 36.12.1902. Monthly consumption for irrigation of turf grass (lawns) is calculated using either a minimum efficiency value of 70% and ARM 36.12.115 lawn and garden standards or the net irrigation requirement from IWR with inputs consistent with DNRC (2010) Consumptive Use Methodology for turf grass.

Consumption for other purposes are listed in **Table 11** and are based on the results of studies by Kimsey and Flood (1987), Vanslyke and Simpson (1974), Paul, Poeter, and Laws (2007), DNRC (2018), wastewater treatment method, operation of systems, or DNRC policy. Net evaporation is calculated using gridded monthly net evaporation values and methodologies associated with DNRC (2023). Municipal use for non-municipalities(e.g. water district) may have variable consumption rates.

Table 11: Percent consumption by use.

Purpose	Method of Treatment/Use	Consumed
Domestic/Municipal/Commercial/Institutional	Individual drainfields	10%
Domestic/Municipal/Commercial/Institutional	Central treatment facility with minimal consumption	5%
Domestic/Municipal/Commercial/Institutional	Evaporation basin or land application	100%
Municipal Use for Municipality	Variable	100%
Water Marketing/Agriculture Spraying/Stock Water/some Industrial Uses	Variable	100%
Commercial/Industrial	Aggregate Washing – construction standard for moisture allowed in the finished aggregate product.	5%
Commercial	Snow Making – depends on time of day, machine, weather at time of operation, etc.	10-30%
Fisheries, Recreation, Storage for Irrigation	Net evaporation off reservoir surface, gridded monthly net evaporation values and methodologies	AF/acre
Geothermal	Closed loop systems	0%

WSB Findings

For the subject application, wastewater for the proposed domestic and industrial uses would be treated with evaporation basin or land application, resulting in 100% consumption. The Applicant stated that the batch plant would result in 100% consumption. The total consumed volume by purpose is shown in **Table 12**.

Table 12: Consumed volumes for the proposed use.

Month	Domestic Diverted Volume (AF)	Domestic Consumed Volume (AF)	Industrial Diverted Volume (AF)	Industrial Consumed Volume (AF)	Batch Plant Diverted Volume (AF)	Batch Plant Consumed Volume (AF)	Total Diverted Volume (AF)	Total Consumed Volume (AF)
January	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
February	1.3	1.3	0.6	0.6	0.1	0.1	2.0	2.0
March	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
April	1.4	1.4	0.7	0.7	0.1	0.1	2.1	2.1
May	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
June	1.4	1.4	0.7	0.7	0.1	0.1	2.1	2.1
July	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
August	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
September	1.4	1.4	0.7	0.7	0.1	0.1	2.1	2.1
October	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
November	1.4	1.4	0.7	0.7	0.1	0.1	2.1	2.1
December	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
Total	16.8	16.8	8.0	8.0	1.0	1.0	25.8	25.8

2. Hydraulically Connected Surface Water(s) and Location of Net Depletions

Potentially affected surface waters in a net depletion evaluation are identified by their hydraulic connection, both direct and indirect, to the source aquifer of a proposed groundwater diversion. Hydraulic connection depends on the depth to groundwater beneath the beds of surface waters, connection between deep and overlying shallow aquifers, vertical gradients, and can vary along a reach and with time of year.

Procedures for evaluating hydraulic connection and identifying one or more potentially affected surface water(s) for a proposed well in an unconfined/confined aquifer or regional bedrock aquifer can be found in DNRC (2018) and DNRC (2019), respectively. Net depletion is apportioned between multiple potentially affected surface waters generally following procedures described in Section 3.2 of a guidance document developed by the Province of British Columbia (2016) for determining the effect of groundwater diversion on specific streams.

Following protocols in DNRC (2018) **Table 13** identifies published information used to assess hydraulically connected surface water(s). Not all data may be available for each project and is noted as “NA” when that occurs.

Table 13: Published information used to identify hydraulically connected surface water(s).

Published Information	Surface Water Source: Marias River	Surface Water Source: Unnamed Tributary to Marias River
USGS National Hydrographic Dataset (NHD)[1]	Perennial	Intermittent
USGS PROSPER Dataset[2]	Perennial (0.74-0.77)	Intermittent (0.45-0.54) at mouth, decreases upstream
MBMG GWIC wells, less than 50 ft deep, within 1,000 ft of surface water, static water levels above or within 10 ft of elevation of stream bed (DNRC, 2018)[3]	311691, 320175	311691, 320175
Published Water Table Maps, Publications, Previous Water Rights, etc.[4]	NA	NA
Gridded National Soil Survey Geographic Database[5]	Partially hydric conditions along river channel	No hydric conditions along channel
Aerial imagery	Water present	No water present
Affidavits, photographs, etc.	Flow regime controlled by Lake Elwell/Tiber Reservoir 30 miles upstream	NA

[1] Review NHD to identify perennial, intermittent, and ephemeral classifications for surface water sources most proximal to the proposed diversion(s).

[2] USGS PROSPER probability of streamflow permanence (greater than 50 percent of the time it flows).

[3] Per DNRC (2018) hydraulic connection of individual stream reaches to ground water is evaluated by comparing streambed elevations to static ground water elevations measured in MBMG GWIC wells less than 50 ft deep and within 1,000 ft of surface water or from published water table maps. Surface water within that area is considered hydraulically connected to the unconfined aquifer if static ground water elevations are above or within 10 ft of the elevation of the stream bed.

[4]No water table maps available.

[5] Review Gridded National Soil Survey Geographic Database to identify hydric soils or shallow water tables near surface water sources.

WSB Findings

Based on the review of the published information in **Table 13**, the source aquifer is hydraulically connected to the Marias River, a perennial surface water source. One nearby tributary approximately 200 ft north of GWIC ID 311691 was also considered but was determined to not be perennial (**Table 13**). Therefore, the Marias River

is the hydraulically connected surface water source and the starting point of the depleted reach starts along the southern boundary of the NENENE of Section 25, Township 28 North, Range 8 East, Chouteau County (**Figure 12**).

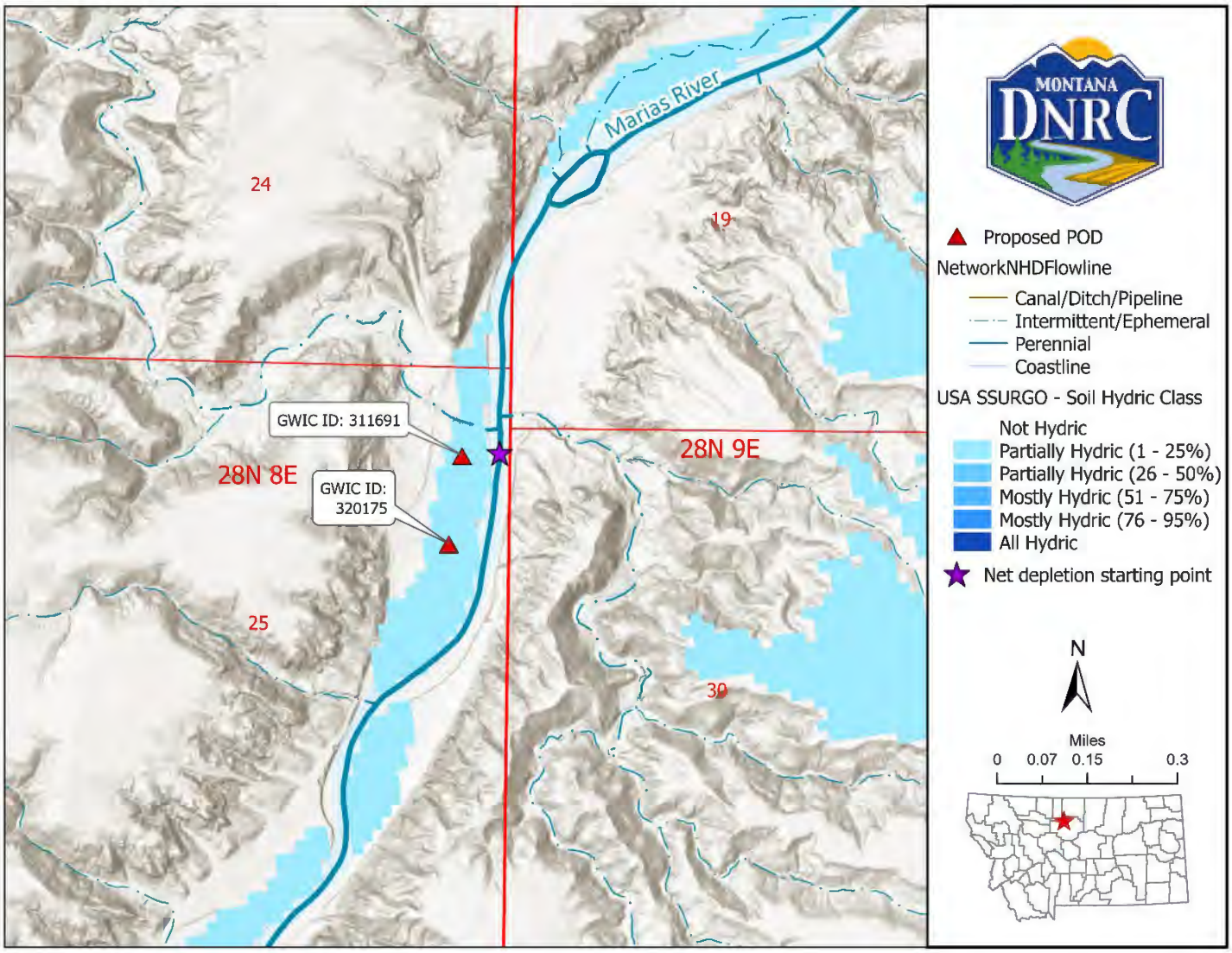


Figure 12: Data used to assess hydrologic connection and starting point of the depleted reach.

3. Rate and Timing of Depletions

Evaluations of the rate and timing of depletions caused by pumping are based on the basic concept that groundwater pumping eventually is offset by an equivalent increase in recharge or decrease in discharge (Theis, 1940; Leake et al., 2008), a process defined as capture by Lohman (1972). Capture occurs as drawdown propagates to surface water and areas of phreatophyte vegetation that takes water directly from groundwater. In the absence of credible evidence to the contrary, capture of ET by phreatophytes is neglected and net depletion is assumed to equal total capture. This assumption is justified because published estimates for conditions common in Montana alluvial valleys indicate capture of ET generally is less than 10 percent of

total capture (Xunhong, 2006). Capture of ET in ephemeral drainages may be significant and will be evaluated on an application-by-application basis.

The rate and timing of net depletion caused by pumping may be modeled using a variety of analytical and numerical models selected to fit site-specific conditions and needs. Simple models including the Alluvial Water Accounting System (AWAS), the Well Pumping Depletion Model (WPDM) or FWD:SOLV (HydroSOLVE, 2024) typically are used by DNRC to model depletions to one source with simple aquifer boundaries. Adjustments may be made for more complex conditions or multiple sources using methods like those described by Contor (2011), analytical models by Hunt (2003) and Butler et al. (2001) or a superposition numerical groundwater flow model.

Modeling is not necessary in some situations such as where a proposed use is constant year-round, because of the depth to the source aquifer, and a distance to potentially affected stream reaches. Modeling of depletions can be simplified if the proposed place of use is located the same relative distance from the potentially affected surface water as the proposed wells and all non-consumed water infiltrates the source aquifer and returns to the potentially affected surface water as return flows. Under those simplifying assumptions, depletion can be modeled based on withdrawal of the monthly consumed amounts. Otherwise, depletion by the full withdrawals and return flows need to be modeled separately with net depletion calculated as depletion minus return flows.

Net depletion by pumping in the source aquifer primarily occurs through propagation of drawdown through the unconfined aquifer to the potentially affected reach of the Marias River. The proposed use is constant year-round, therefore net depletion would occur at a constant year-round rate equal to the consumed volume. Monthly net depletions to the Marias River are identified in **Table 1**.

Review

This document has been reviewed on January 27, 2026, in accordance with Category 7 of DNRC's Water Sciences Bureau Minimum Standards of Review, Version 2, February 2024.

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Groundwater Permit Technical Analyses Report – Part B

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

Application No.	41P 30172629	**Proposed Point of Diversion**	POD Well 1: SENENE, Sec 25, T28N, R08E, Chouteau County. POD Well 2: NESENE, Sec 25, T28N, R08E, Chouteau County.
Applicant	Sunny Brook Colony		

Overview

This report is Part B of a two-part publication which 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 Groundwater Permit Technical Analyses Report – Part B contains the following sections:

Overview 1
Variances 2
1.0 Application Details 3
2.0 Surface Water Analysis of Depleted Surface Water 5
2.1 Source Description 5
2.2 Method of Estimation 5
2.3 Monthly Flow Rate and Volume 5
3.0 Area of Potential Impact Analysis of Depleted Surface Water 7
Review 8
References 8
Appendix A: Water Rights within the Area of Potential Impact 9

Variances

The following variances found in ARM 36.12.121(3)(e)(iii), ARM 36.12.121(3)(g), and ARM 36.12.121(3)(h) were granted from the Havre Regional Office on December 18, 2025, for the following reasons:

72-hr Test Duration

(3)(e)(iii)

Requirement: the testing procedures for a minimum eight-hour drawdown and yield test performed on any production well must follow (a), (d), and (h)

Reason for Granting: Groundwater levels were not recorded according to the schedule on Form No. 633. The sampling interval was equal to or greater than the minimum 30-second interval for the first 10 minutes of the test and will be resampled to match the Form No. 633 schedule. The sampling interval does not affect the analysis of the aquifer test data.

24-hr Test Duration

(3)(g)

Requirement: Background groundwater levels in the production well and observation well(s) must be monitored at frequent intervals for at least two days prior to beginning the aquifer test according to Form No. 633.

Reason for Granting: Background water levels were monitored for less than 1-hr prior to the 24-hr aquifer test. The Applicant provided an analysis of precipitation and river stage prior to and during the aquifer test. This information did not show hydrologic conditions that would significantly impact the analysis of the aquifer test.

(3)(h)

Requirement: Groundwater levels in the production and/or observation well(s) must be reported with 0.01-foot precision according to the schedule specified on Form No. 633

Reason for Granting: Drawdown in the Observation Well was recorded at 5-minute intervals for the 11/10/2021 aquifer test. The sampling interval was less than the minimum interval for the first 20 minutes of the test and exceeded the minimum sampling interval for the remainder of the 24-hr aquifer test. The data will be resampled to match the Form No. 633 schedule, where applicable, and this does not affect the analysis of the aquifer test.

1.0 Application Details

The Applicant proposes to divert water from January 1 to December 31 from two wells at a rate of 29.5 GPM. 25.8 AF of water would be used from January 1 to December 31 for Multiple Domestic and Industrial use in the SE, Section 20, T28N, R08E, Chouteau County, and the NENE, Section 20, T28N, R08E, Chouteau County.

Table 1. Summary of the proposed use.

Purpose	Period of Diversion	Period of Use	Flow Rate (GPM)	Volume (AF)
Multiple Domestic: 36-38 Dwellings	01/01 - 12/31	01/01 - 12/31		16.8
Industrial: 8 Shops	01/01 - 12/31	01/01 - 12/31		8
Industrial: 1 Batch Plant	01/01 - 12/31	01/01 - 12/31		1
		Total	29.5	25.8

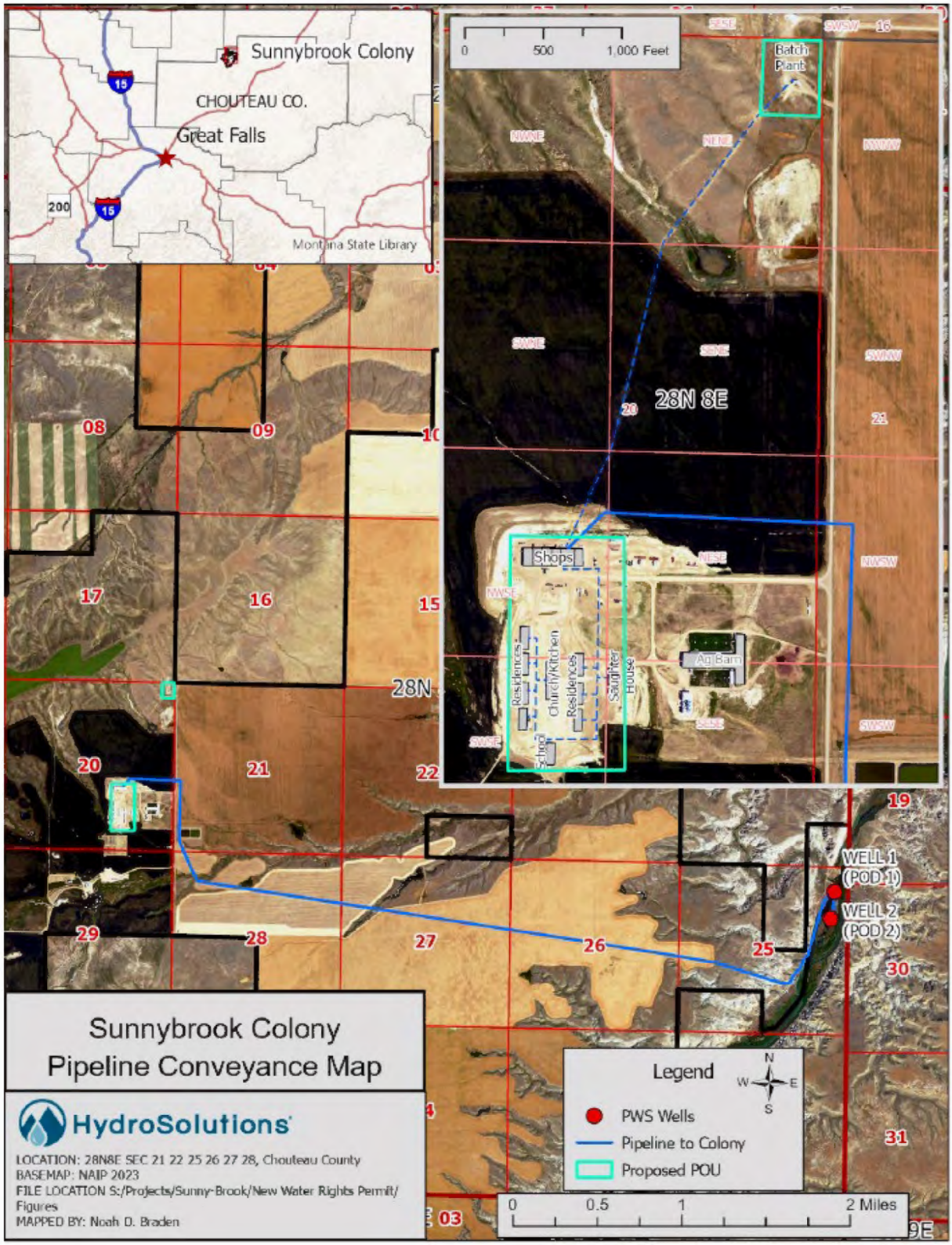


Figure 1: Undated, Applicant-Provided Map of Proposed Points of Diversion and Proposed Place of Use.

2.0 Surface Water Analysis of Depleted Surface Water

2.1 Source Description

Part A of the Technical Analyses Report includes the Groundwater Analysis, which describes the methodologies used to identify the depleted surface water source.

Depleted Source of Water: Marias River

Depleted Source Type: Perennial Stream

Location of Depletions: Point of Diversion to Gage Station #06102050, Marias River near Loma, MT.

Point of Diversions:

POD 1 (Well 1): SENENE, Sec 25, T28N, R08E, Chouteau County.
POD 2 (Well 2): NESENE, Sec 25, T28N, R08E, Chouteau County.

Gage Station: SESW, Sec 04, Lot 10, T25N, R09E, Chouteau County.

Latitude 47°56'45.25" Longitude 110°34'51.02"

2.2 Method of Estimation

Gage Name: Marias River near Loma, MT.

Gage Number: 06102050

Period of Record: October 1959 – Current

Why this gage is considered an appropriate data source: According to ARM 36.12.1702, 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 06102050, Marias River near Loma, MT, is the nearest gage to the proposed point of diversion and is approximately 17 river miles downstream of the point of diversion. The date range includes the entire period of record for this gage.

2.3 Monthly Flow Rate and Volume

The physical availability of the Marias 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 POD and the gage 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 Marias River using USGS Gage #06102050 records for each month of the proposed period of diversion (Table 2, column B). Those flows were converted to monthly volumes in AF (Table 2, 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 2, column D) by:
    i. Generating a list of existing water rights from the Marias River uppermost POD to USGS Gage #06102050 (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 2.69 AF/AC per Department water use standards for Climatic Area II.
    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 #06102050 and the POD on the Marias River (Table 2, column D) to the median of the mean monthly gage values (Table 2, column B) to determine physical availability at the POD (Table 2, column F). Physically available monthly flows were then converted to monthly volumes (Table 2, column G).

Table 2: Physical Availability at the Point of Diversion on the Marias River

A	B	C	D	E	F	G
Month	Median of the Mean Monthly Flow at Gage #06102050 (CFS)	Median of the Mean Monthly Volume at Gage #06102050 (AF)	Existing Rights from Gage #06102050 to POD (CFS)	Existing Rights from the POD to Gage #06102050 (AF)	Physically Available Water at POD (CFS)	Physically Available Water at POD (AF)
January	324.20	19,899.40	1.11	8.86	325.31	19,908.26
February	379.60	21,045.02	1.11	8.86	380.71	21,053.89
March	430.30	26,411.81	1.11	8.86	431.41	26,420.68

April	540.85	32,126.49	31.90	629.89	572.75	32,756.38
May	917.00	56,285.46	38.22	728.06	955.22	57,013.52
June	1,193.00	70,864.20	38.22	728.06	1,231.22	71,592.26
July	692.50	42,505.65	38.22	728.06	730.72	43,233.71
August	698.00	42,843.24	36.14	691.08	734.14	43,534.32
September	601.35	35,720.19	36.14	691.08	637.49	36,411.27
October	526.35	32,307.36	18.99	234.87	545.34	32,542.23
November	596.90	35,455.86	6.23	74.43	603.13	35,530.29
December	396.10	24,312.62	1.11	8.86	397.21	24,321.48

3.0 Area of Potential Impact Analysis of Depleted Surface Water

The Area of Potential Impact for this application is: The area of potential impact is approximately 5 river miles downstream of the uppermost proposed point of diversion. A total of 9 surface water rights exist within the reach, including Montana Fish, Wildlife & Parks Instream Flow Water Reservation (41P 30017508). A list of rights can be found in **Appendix A**.

Why this is an appropriate Area of Potential Impact:

Depletion modeling suggests that depletion of the Marias River will occur due to its proximity to the well field. In addition, mitigation will be provided under a Tribal (Chippewa Cree or Blackfeet) Water Service Contract that will offset the full volume consumed each month. Water will be released from Lake Elwell through Tiber Dam on a normalized monthly basis.

A list of rights can be found in **Appendix A**. To quantify the area of impacted water rights, the methodology detailed in 2.3 Monthly Flow Rate and Volume was used. Senior surface water rights could include all active Statements of Claim, Provisional Permits, Conservation District Reservations, Instream Flow Reservations, Federally Reserved Water Rights, and Hydropower Water Rights.

Review

This document has been reviewed by Matt Miles, Havre Regional Manager, on February 2, 2026.

References

Department Standard Practice for Determining Physical Availability of Surface Water
Department Standard Practice for Area of Potential Impact Analysis
Technical Memorandum: Physical Availability of Surface Water with Gage Data

Appendix A: Water Rights within the Area of Potential Impact

WATER RIGHT NUMBER	WATER RIGHT TYPE	PERIOD OF DIVERSION	FLOW RATE (CFS)	VOLUME (AF)
41P 24612 00	PROVISIONAL PERMIT	01/01 - 12/31	0.05	32.3
41P 58210 00	PROVISIONAL PERMIT	01/01 - 12/31	0.07	12.7
41P 30110255*	STATEMENT OF CLAIM	01/01 - 12/31	0.12	27.5
41P 30122516*	STATEMENT OF CLAIM	01/01 - 12/31	0.08	0.9
41P 30140369*	STATEMENT OF CLAIM	01/01 - 12/31	0.11	1.4
41P 124684 00**	STATEMENT OF CLAIM	04/01 - 11/01	1.34	94.2
41P 124683 00**	STATEMENT OF CLAIM	04/01 - 11/01	1.34	115.7
41P 105759 00	PROVISIONAL PERMIT	04/15 - 09/30	16.04	2622.2
41P 30017508	WATER RESERVATION	01/01 - 12/31	488.5	353,633.76

* These Statements of Claim were issued for Livestock Drinking Directly from the source.
** These Statements of Claim were issued for Irrigation, in which a volume was not given.

Water Resources

Groundwater Permit Technical Analyses Report- Part B – NOTICE OF ERRATA

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

Kailee Ingalls, Water Resource Specialist, Havre Regional Office

Applicant	Sunny Brook Colony Inc.
Application No.	41P 30172629
Proposed Point of Diversion	Well 1: SENENE, Section 25, T28N, R08E, Chouteau County. Well 2: NESENE, Section 25, T28N, R08E, Chouteau County.

Overview

This memo documents a correction to the Groundwater Permit Technical Analyses Report- Part B, prepared for Application No. 41P 30172629 by Sunny Brook Colony. An error was identified in the evaluation of Physical Availability in Section 2.0. When dividing the volume for each water right in the reach, one water right (41P 157525 00) had its full volume applied to its period of diversion, leading to an overestimation of 20.7 AF in the months of May - October. Revised calculations for physical availability are provided in **Table 2**, below. In Section 2.3, labeling and reference to **Table 2** were updated.

An error in Section 3.0 Area of Potential Impact Analysis was also identified. The technical analysis omitted two Statements of Claim (41P 30140364 & 41P 30140370) for livestock direct from source. A total of 11 water rights exist in the reach, not the originally stated 9. To clarify, the water rights listed above have points of diversion within the 5 mi reach, but 41P 30140370 also has two points of diversion that exist 1 mi downstream of the confluence. In addition, it was identified that Statement of Claim 41P 30122516, included in the original Area of Potential Impact, has 3 points of diversion that also exist within the 1 mi reach, as well as 3 points of diversion that exist in the original 5 mi reach. To account for all points of diversion, for the previously omitted water right and 41P 30122516, the Area of Potential Impact was extended from 5 mi to 6 mi to include all points of diversion. No new water rights were identified in the additional 1 mi reach that were not previously found in the original 5 mi reach. A new Appendix for water rights considered in the Area of Potential Impact is provided in **Appendix A**.

In addition, the “uppermost point of diversion” language used on the Groundwater Permit Technical Analyses Report- Part B was updated to “point of depletion” to reflect how physical and legal availability was evaluated for the depleted surface water source. These changes can be found in all sections below.

This Groundwater Permit Technical Analyses Report – Part B – Notice of Errata contains the following sections:

Overview 1
2.0 Surface Water Analysis of Depleted Surface Water 2
2.1 Source Description 2
2.2 Method of Estimation 2
2.3 Monthly Flow Rate and Volume 2
3.0 Area of Potential Impact Analysis 4
3.1 Area of Potential Impact Analysis of Depleted Surface Water 4
Appendix A: Water Rights within the Surface Water Area of Potential Impact 5

2.0 Surface Water Analysis of Depleted Surface Water

2.1 Source Description

Part A of the Technical Analyses Report includes the Groundwater Analysis, which describes the methodologies used to identify the depleted surface water source and the location of net depletions on said source.

Depleted Source of Water: *Marias River*

Depleted Source Type: *Perennial*

Location of Depletions: *NENENE Section 25, T28N, R08E, Chouteau County.*

2.2 Method of Estimation

Why this gage is considered an appropriate data source: *According to ARM 36.12.1702, 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 06102050, Marias River near Loma, MT, is the nearest gage to the point of depletion and is approximately 17 river mi downstream of the projected point of depletion. The date range includes the entire period of record for this gage.*

2.3 Monthly Flow Rate and Volume

Methodology: *USGS Gage No. 06102050 is the nearest gage to the projected point of depletion from the Marias River. The point of depletion for this application is upstream of the gaging station. The date range used includes the entire period of record for this gage.*

Physical availability of Marias River water at the point of depletion will be quantified monthly. Department practice for physical availability analyses in which the gage is downstream of the point of depletion is to add the monthly flow rates of existing water rights between the gage and the point of depletion 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 point of depletion 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 Marias River using USGS Gage No. 06102050 records for each month of the proposed period of diversion (Table 2, column B). Those flows were converted to monthly volumes in AF (Table 2, column C) using the following equation found on DNRC Water Calculation Guide (formerly 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/volumes appropriated by existing users upstream of the gage on the source (Table 2, column D&E) by:*
    i. *Generating a list of existing water rights from the point of depletion to USGS Gage No. 06102050 (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 and adding 35 GPM for Statements of Claim or 15 GPD/AU and adding 35 GPM for all other water rights.*
    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 2.69 AF/AC per Department water use standards for Climatic Area II, moderately high consumptive use.*
    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 point of depletion, the Department added the flow rates of the existing rights point of depletion and USGS Gaging Station No. 06102050 (Table 2, column D) to the median of the mean monthly gage values (Table 2, column B) to determine physical availability at the point of depletion (Table 2, columns F). In addition, the Department added the volumes of the existing rights point of depletion and USGS Gaging Station No.* 06102050 *(Table 2, column E) to the median of the mean monthly gage values (Table 2, column C) to determine physical availability at the point of depletion (Table 2, column G).*

Table 2. Physical Availability at the Location of Surface Water Depletions on the Marias River						
A	**B**	**C**	**D**	**E**	**F**	**G**
Month	**Median of the Mean Monthly Flow at Gage #06102050 (CFS)**	**Median of the Mean Monthly Volume at Gage #06102050 (AF)**	**Existing Rights from Point of Depletion to Gage #06102050 (CFS)**	**Existing Rights from Point of Depletion to Gage #06102050 (AF)**	**Physically Available Water at Point of Depletion (CFS)**	**Physically Available Water at Point of Depletion (AF)**
January	324.20	19,899.40	1.11	8.86	325.31	19,908.26
February	379.60	21,045.02	1.11	8.86	380.71	21,053.89
March	430.30	26,411.81	1.11	8.86	431.41	26,420.68
April	540.85	32,126.49	31.90	629.89	572.75	32,756.38
May	917.00	56,285.46	38.22	710.80	955.22	56,996.26
June	1,193.00	70,864.20	38.22	710.80	1,231.22	71,575.00
July	692.50	42,505.65	38.22	710.80	730.72	43,216.45
August	698.00	42,843.24	36.14	673.82	734.14	43,517.06
September	601.35	35,720.19	36.14	673.82	637.49	36,394.01
October	526.35	32,307.36	18.99	217.61	545.34	32,524.97
November	596.90	35,455.86	6.23	74.43	603.13	35,530.29
December	396.10	24,312.62	1.11	8.86	397.21	24,321.48

3.0 Area of Potential Impact Analysis

3.1 Area of Potential Impact Analysis of Depleted Surface Water

The surface water Area of Potential Impact for this application is: *The area of potential impact is approximately 6 river mi downstream of the point of depletion. A total of 11 surface water rights exist within the reach, including Montana Fish, Wildlife & Parks Instream Flow Water Reservation (41P 30017508). A list of rights can be found in* ***Appendix A****.*

Why this is an appropriate Area of Potential Impact: *Depletion modeling suggests that depletion of the Marias River will occur due to its proximity to the well field. The Marias River is a major surface water source compared to other streams in the area. The confluence of Sheep Coulee into the Marias River is approximately 5 mi downstream from the projected start of surface water depletions. From the confluence, an additional 1 mi of downstream reach was included to include all the points of diversion for Statements of Claim 41P 30122516 and 41P 30140370. The Department finds this to be an appropriate hydrologic boundary and will designate the said reach as the area of potential impact.*

Appendix A: Water Rights within the Surface Water Area of Potential Impact

WATER RIGHT NUMBER	WATER RIGHT TYPE	PERIOD OF DIVERSION	FLOW RATE (CFS)	VOLUME (AF)
41P 24612 00	PROVISIONAL PERMIT	01/01 - 12/31	0.05	32.3
41P 58210 00	PROVISIONAL PERMIT	01/01 - 12/31	0.07	12.7
41P 30110255*	STATEMENT OF CLAIM	01/01 - 12/31	0.12	27.5
41P 30122516*	STATEMENT OF CLAIM	01/01 - 12/31	0.08	0.9
41P 30140369*	STATEMENT OF CLAIM	01/01 - 12/31	0.11	1.4
41P 124684 00**	STATEMENT OF CLAIM	04/01 - 11/01	1.34	94.2
41P 124683 00**	STATEMENT OF CLAIM	04/01 - 11/01	1.34	115.7
41P 105759 00	PROVISIONAL PERMIT	04/15 - 09/30	16.04	2622.2
41P 30140364*	STATEMENT OF CLAIM	01/01 - 12/31	0.08	2.8
41P 30140370*	STATEMENT OF CLAIM	01/01 - 12/31	0.09	5.1
41P 30017508	WATER RESERVATION	01/01 - 12/31	488.5	353,633.76

* Statements of Claim for Livestock Drinking Directly from the source.
** Statements of Claim for Irrigation, in which a volume was not given.

APPENDIX B

Mitigation Purpose Addendum (Form 600/606-MIT)
(Includes Mitigation Plan)

Form No. 600/606-MIT *(02/2025)* **Applicant Name** SUNNY BROOK COLONY INC

APPLICATION FOR BENEFICIAL WATER USE PERMIT OR APPLICATION TO CHANGE A WATER RIGHT

MITIGATION ADDENDUM

§§ 85-2-420, 85-2-362, 85-2-402, 85-2-311, MCA

Answer every applicable question and use the prompts to craft a plan for mitigation, aquifer recharge, or marketing for mitigation/aquifer recharge. Use the checkboxes to denote yes ("Y") or no ("N"). Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, specify "see attachment" on this form. Label all attachments and submitted items with the question number. Label all units in tables and narrative responses.

In some cases, the information required to correctly and completely answer the questions on this form will not be available until technical analyses are completed. It is highly recommended all technical analyses required for the project are completed before filling out this form.

---

1. How many applications will you need to file with the Department for this project? Applications include Application for Beneficial Water Use Permit (Form 600) and Application to Change a Water Right (Form 606). One - Form 600 for Application 41 P 30172629.

1.a. ☐ **Y** ☑ **N** Will you need to file more than one application with the Department for this project?

If yes,

1.a.i. ☐ **Y** ☐ **N** You are only required to answer the remaining questions on Form 600/606-MIT one time per project. The Department cannot begin criteria assessment for any application required for the project until you have submitted a completed Form 600/606-MIT, including answers to the remaining questions. Will you answer the remaining questions on a Form 600/606-MIT submitted with another application?

1.a.ii. If yes, briefly explain, then this form is complete.

_____

_____

_____

1.a.iii. If no, move on to question 2.

2. Which of the following scenarios best describes the proposed project? Check all that apply and answer the questions specific to each scenario; then answer question 6 and 7.

☐ **Identified need for mitigation/aquifer recharge water AND change application(s) to supply the mitigation/aquifer recharge water:** Mitigation or aquifer recharge water is required to meet the criteria of issuance for a project, which is either in the preapplication meeting stage or has a pending Application for Beneficial Water Use or Application to Change a Water Right, and is proposed to be made available through a change in purpose of one or more water rights to mitigation or aquifer recharge. Answer question 3.

☑ **Identified need for mitigation/aquifer recharge water AND water contract(s) to supply the mitigation/aquifer recharge water:** Mitigation and aquifer recharge water is required to meet the criteria of issuance for a project, which is either in the preapplication meeting stage or has a pending Application for Beneficial Water Use or Application to Change a Water Right, and is proposed to be made available through one or more contracts for water, such as from water with a marketing for mitigation purpose. Answer questions 3 and 4.

☐ **Marketing for mitigation/aquifer recharge:** Water right(s) being changed to a marketing for mitigation or marketing for aquifer recharge purpose that will be sold or leased to other entities. Answer question 5.

3. Will the proposed diversion and/or net depletions to surface water occur in an open or closed basin? Answer question 3.a for open basins or question 3.b for closed basins.

☑ **Open** ☐ **Closed**

Please see attached Mitigation Plan for Applican's plan to mitigate.

If an open basin:

3.a. Submit an aquifer recharge or mitigation plan with sufficient detail to explain why the plan is adequate to offset the net depletions of the proposed new appropriation in an amount greater than the difference between the amount of water physically available and legal demands, on a monthly timestep. The plan must include:

3.a.i. description of the method by which water will be made available for aquifer recharge or mitigation purpose(s);

3.a.ii. the amount, timing, and location of mitigation water delivery and/or net accretions to the depleted source;

3.a.iii. comparison of the elements of 3.a.ii to the amount, timing, and location of the net depletions of the proposed new appropriation.

If a closed basin:

3.b. If the hydrogeologic report conducted pursuant to § 85-2-361, MCA, predicts a net depletion of surface water, submit an aquifer recharge or mitigation plan. Per § 85-2-362, MCA, the plan must include:

3.b.i. where and how the water in the plan will be put to beneficial use;
3.b.ii. when and where, generally, water for aquifer recharge or mitigation will be required;
3.b.iii. the amount of water that is required for aquifer recharge or mitigation;
3.b.iv. how the proposed project or beneficial use for which the aquifer recharge or mitigation plan is required will be operated;
3.b.v. evidence that an application for a change in appropriation right, if necessary, has been submitted;
3.b.vi. evidence of water availability;
3.b.vii. evidence of how the aquifer recharge or mitigation plan will offset the required amount of net depletion of surface water in a manner that will offset an adverse effect on a prior appropriator; and
3.b.viii. evidence that the appropriate water quality permits have been granted pursuant to Title 75, chapter 5, as required by § 75-5-410, MCA, and § 85-2-364, MCA.
3.b.ix. In addition to 3.b.i through 3.b.viii, an aquifer recharge plan must include a description of the process by which water will be reintroduced to the aquifer.

4. Describe details about the contract(s) for water and submit a copy of the contract(s). In doing so, be sure to address the following sub-questions: A water service contract has not yet been signed with the Chippewa Cree Tribe. The Tribe is waiting for DNRC to confirm the amount of water needed.

4.a. Is the contract a lease or sale?
4.a.i. If a lease, what is the duration of the contract and what is the process to renew the lease?
4.b. Does the contract water have a marketing for mitigation or marketing for aquifer recharge purpose? If yes,
4.b.i. What are the water right numbers with a marketing for mitigation or marketing for aquifer recharge purpose?
4.b.ii. What is the change authorization number that authorized the marketing for mitigation purpose?
4.b.iii. What is the mitigation reach identified in the change authorization?

5. Submit a marketing for mitigation/aquifer recharge plan that addresses the following:
NA **5.a.** Describe your ability to measure and operate all existing diversions to adjust flow rate as water is sold or leased.
5.b. How will you cease diversions for the existing beneficial use of the water right(s) as water is sold or leased for the purpose of marketing for mitigation/ aquifer recharge?
5.c. Describe the need for mitigation water within the proposed place of use of the new appropriation.

6. How do the priority dates of the water rights proposed for change to mitigation, aquifer recharge, and/or marketing for mitigation/aquifer recharge purpose(s) compare to other water rights on the source?

The water proposed for change is storage is Tiber Reservoir. This water cannot be called, so it is ideal for use in a mitigation plan.

7. ☐ **Y** ☑ **N** Do you have measurement records or Water Commissioner records that show the reliability of the water rights proposed for change to mitigation, aquifer recharge, and/or marketing for mitigation/aquifer recharge? If yes, submit them to the Department.

SUNNY BROOK COLONY INC

MITIGATION PLAN FOR
BENEFICIAL WATER USE PERMIT APPLICATION 41P 30170770

July 30, 2026

For months that water is not legally available, this mitigation plan for Sunny Brook Colony (Colony) will fully offset the amount and timing of Department-defined depletions to the Marias River that are project to occur from Colony pumping of two new public-supply wells under proposed Permit Application No. 41 P 30172629. To provide mitigation, the Colony plans to enter into a Water Service Contract (Contract) with the Chippewa Cree Tribe (Tribe) to obtain monthly releases of stored water from Tibor Reservoir in months when water is not legally available. Based on the DNRC's Technical Report for Permit Application No. 41 P 30172629, water is not legally available in in the Marias River for four months/year – January, February, March, and December. Under the expected Contract, 16 gal/min (GPM) and a monthly average of 2.15 AF would be released through Tiber Dam to offset Marias River depletions during those same months within the Area of Potential Impact (AOPI) (Figure 1). Previously, similar mitigation plans for utilizing U.S. Bureau of Reclamation (BOR) stored water have been accepted by the Department. Discussions for mitigation water have been initiated, but the Tribe requires DNRC verification of the required volume necessary for mitigation before entering into a Contract (Appendix A).

Table 1 identifies monthly flow rate and volumes of expected depletions in the Marias River within the AOPI. Months when water is not legally available are shown in red. The total amount of mitigation needed is 8.6 AF at a constant rate of 16.0 GPM.

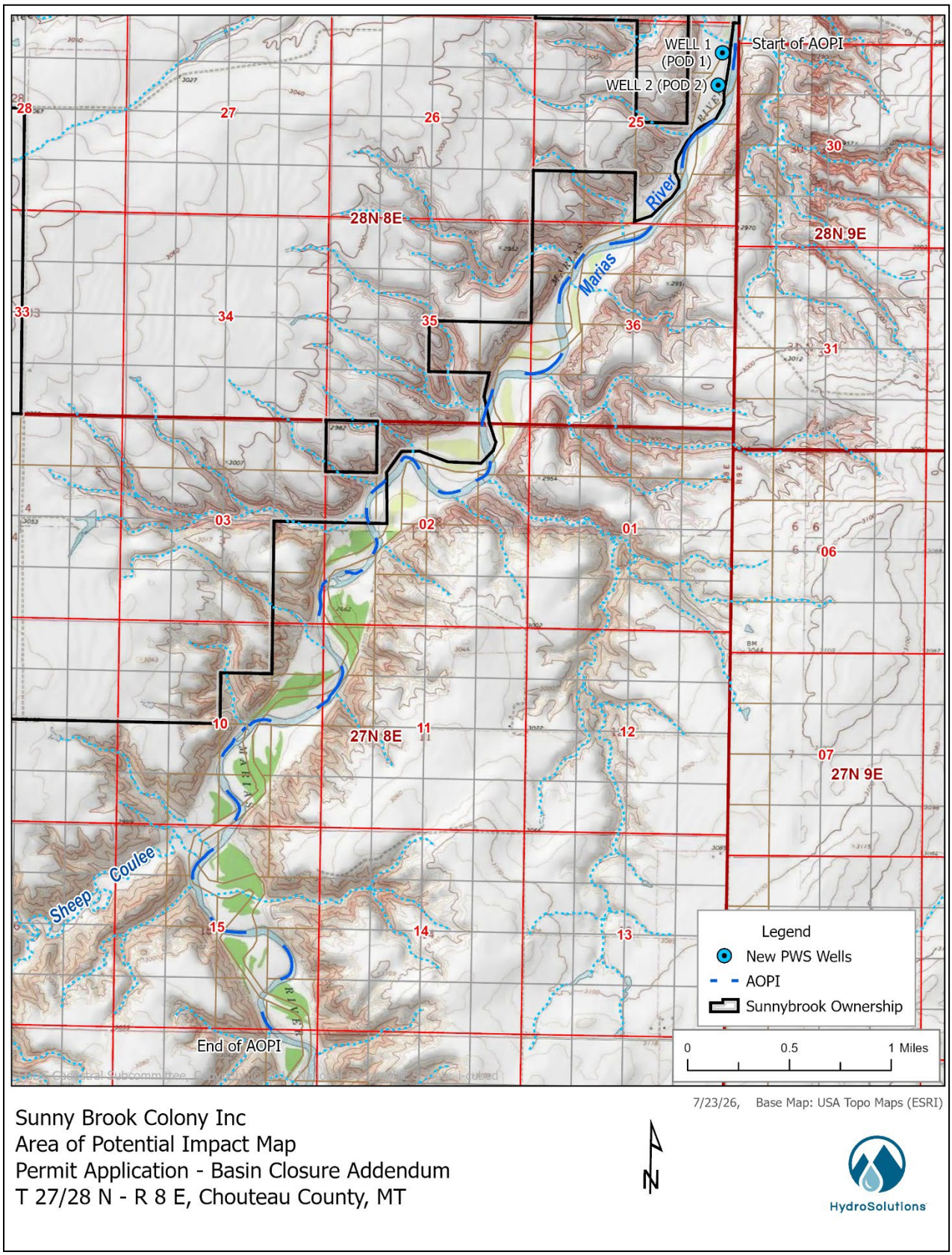
Table 1

Month	Consumed Volume (AF)	Marias River Net Depletion (AF)	Marias River Net Depletion (CFS)
January	2.2	2.2	16.0
February	2.0	2.0	16.0
March	2.2	2.2	16.0
April (15 days)	2.1	2.1	16.0
May	2.2	2.2	16.0
June	2.1	2.1	16.0
July	2.2	2.2	16.0
August	2.2	2.2	16.0
September	2.1	2.1	16.0
October	2.2	2.2	16.0
November	2.1	2.1	16.0
December	2.2	2.2	16.0
Total	25.8	25.8	
Total	8.6	8.6	

The Marias River depletions start at the southern boundary of the NENENE of Section 25, T28N-R8E, Choteau County, and extend six miles downstream (Technical Report – Notice of Errata) as shown in Figure 1. The end of the AOPI is mapped as the southern boundary of SWSESE Section 15, T27N-R8E, about one river mile south of Sheep Coulee.

No water quality permits are required.

This mitigation plan does not propose aquifer recharge.



Sunny Brook Colony Inc
Area of Potential Impact Map
Permit Application - Basin Closure Addendum
T 27/28 N - R 8 E, Chouteau County, MT

Figure 1

APPENDIX A – Email from Chippewa Cree Tribe regarding Water Service Contract

From: David Baldwin
To: David Baldwin
Subject: Inquiry - Mitigation Water from Marias River for Mitigation_1st Page
Date: Tuesday, July 28, 2026 4:27:33 PM

From: Santana Wells <santana@chippewa-cree.org>
Sent: Friday, July 24, 2026 12:46 PM
To: David Baldwin <dbaldwin@hydrosi.com>
Cc: steve wipf <stevewipf53@gmail.com>
Subject: RE: Inquiry - Mitigation Water from Marias River for Mitigation

David,

Thank you for reaching out.

During our recent discussions with Morgan Case at DNRC, she indicated that the Colony should coordinate directly with DNRC regarding the legal-availability analysis and the specific water demand requirements, including whether the April demand will also need to be addressed.

Once those discussions have taken place and the necessary information has been finalized, we can continue working on the water service agreement with the updated requirements in mind.

Thank you.

Respectfully,

Santana Wells
TWRD Director
Chippewa Cree Tribe

APPENDIX C

Review letter from the Montana Sage Grouse Habitat Conservation Program

MONTANA SAGE GROUSE
HABITAT CONSERVATION PROGRAM

GREG GIANFORTE, GOVERNOR
STATE OF MONTANA
1539 ELEVENTH AVENUE
PHONE: (406) 444-0554
FAX: (406) 444-6721
PO BOX 201601
HELENA, MONTANA 59620-1601

Project No. 7034
Governor's Executive Orders 12-2015 and 21-2015
Sunnybrook Colony Public Water Supply

Dave Baldwin
HydroSolutions
81 Thunder Ridge Road
Clancy, MT 59634

July 25, 2025

Dear Mr. Baldwin,

The Montana Sage Grouse Habitat Conservation Program received a request for consultation and review of your project or proposed activity on May 30, 2025. Additional information necessary for Program review was received on July 11, 2025. Based on the information provided, a portion of this Project is located within General Habitat for sage grouse. The Bureau of Land Management (BLM) classifies a portion of this area as a General Habitat Management Area (GHMA).

Executive Orders 12-2015 and 21-2015 set forth Montana's Sage Grouse Conservation Strategy. Montana's goal is to maintain viable sage grouse populations and conserve habitat so that Montana maintains flexibility to manage our own lands, our wildlife, and our economy and ensure that a listing under the federal Endangered Species Act is not warranted in the future.

The Program has completed its review, including:

Project Description:

Project Type: Infrastructure – Pipeline (Major)
Project Disturbance: Two Water Wells Totaling 0.004 Acres; 6.04 Miles of Buried Pipeline
Construction Timeframe: May 7, 2025 to May 21, 2025; Temporary (<1 Year)
Operations Timeframe: May 22, 2025; Permanent (>25 Years)

Project Location:

Legal: Township 28 North, Range 8 East, Sections 20, 21, 25, 26, 27, 28
County: Chouteau
Ownership: Private

Project Description and Executive Orders 12-2015 and 21-2015 Consistency:

The Sunnybrook Colony Public Water Supply Project proposes to permit an existing water supply line in designated General Habitat for sage grouse.

Sunnybrook Colony Inc. proposes to retroactively permit an existing water pipeline located approximately 23 miles north of Fort Benton, Montana in Chouteau County. See Figure 1 (Sunnybrook Colony Public Water Supply Project Location Map). This pipeline diverts water from the Marias River to supply Sunnybrook Colony with drinking water.

Two water supply wells and 6.04 miles of pipeline were installed prior to obtaining water rights to do so, through the Department of Natural Resources and Conservation (DNRC). Installation occurred in May 2025 and was done using a trenchless plow.

Of the 6.04 miles of buried pipeline, 5.04 miles are located within designated General Habitat for sage grouse and 1.0 miles are located outside of designated habitat. Both water supply wells are located within designated General Habitat for sage grouse. This Program Review applies only to the portion of the Project within designated habitat for sage grouse.

Here, the Program is providing a consultation retroactively so that Sunnybrook Colony can obtain water rights through the DNRC for this water diversion and use. In the future, the Program appreciates consultation prior to obtaining any necessary permits in an effort to provide recommendations to reduce or minimize potential impacts to sage grouse and their habitat prior to Project implementation.

Based on the information you provided, a portion of your Project is within two miles of one active sage grouse lek in General Habitat. See Figure 2 (Sunnybrook Colony Public Water Supply Project Lek Location Map).

Discussion:

The Sunnybrook Colony Public Water Supply Project is located entirely on private property. Its purpose is to provide drinking water for the existing Sunnybrook Colony.

Montana's Conservation Strategy is premised on an "all hands, all lands, all threats" approach where we work collaboratively across all lands and address all threats, in recognition of both Montana's checkerboard landownership patterns and the landscape scale nature of sage grouse habitat needs and the species' sensitivity to disturbance, habitat loss, and habitat fragmentation. Another foundational premise is to respect private property rights, existing uses, and activities on private lands.

Lastly, Montana's Strategy also requires mitigation measures be taken to avoid and minimize impacts to habitat and to compensate for residual impacts which can't be avoided. Concurrently, Executive Order 12-2015 also offers Best Management Practices that can be voluntarily implemented to aid in habitat conservation efforts and mitigate impacts.

The Council's recommendations ultimately became the backbone of Montana's Strategy and Executive Order 12-2015. Nonetheless, both the Advisory Council and Executive Order 12-2015 recognize private property and the voluntary nature of actions taken by Montana's private landowners to contribute to habitat conservation.

I offer recommendations for your consideration and voluntary implementation. If followed, these recommendations will minimize the impacts to sage grouse and sage grouse habitat to the extent possible. For its part, the State of Montana will endeavor to more fully mitigate the impacts of urbanization and subdivision programmatically through a more comprehensive approach.

Program Recommendations:

The following stipulations are taken from Montana Executive Order 12-2015. These stipulations are designed to maintain existing levels of suitable sage grouse habitat by managing uses and activities in sage grouse habitat to ensure the maintenance of sage grouse abundance and distribution in Montana. Development should be designed and managed to maintain populations and sage grouse habitats.

- Seasonal Use: Activities will be prohibited from March 15 through July 15 within 2.0 miles of an active lek where breeding, nesting, and early brood-rearing habitat is present.

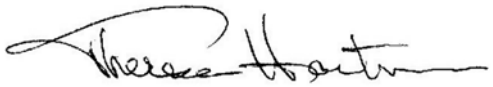
- Reclamation should re-establish native grasses, forbs, and/or shrubs during interim and final reclamation. The goal of reclamation is to achieve cover, species composition, and life form diversity commensurate with the surrounding plant community or desired ecological condition to the benefit of sage grouse and replace or enhance sage grouse habitat to the degree that environmental conditions allow.

- Weed management is required within General Habitat for sage grouse. Reclamation of disturbed areas must include control of noxious weeds and invasive plant species, including cheatgrass (*Bromus tectorum*) and Japanese brome (*Bromus japonicas*).

If the location or boundaries of your proposed project or activity change in the future, or if new activities are proposed within one of the designated sage grouse habitat areas, please visit https://sagegrouse.mt.gov/ and submit the new information.

Thanks for your interest in sage grouse and your commitment to taking the steps necessary to ensure Montana's Sage Grouse Conservation Strategy is successful.

Sincerely,



Therese Hartman
Montana Sage Grouse Habitat Conservation Program Manager

Attachments:

1. Figure 1. Sunnybrook Colony Public Water Supply Project Location Map
2. Figure 2. Sunnybrook Colony Public Water Supply Project Lek Location Map

7034_Sunnybrook Colony Public Water Supply Project Location

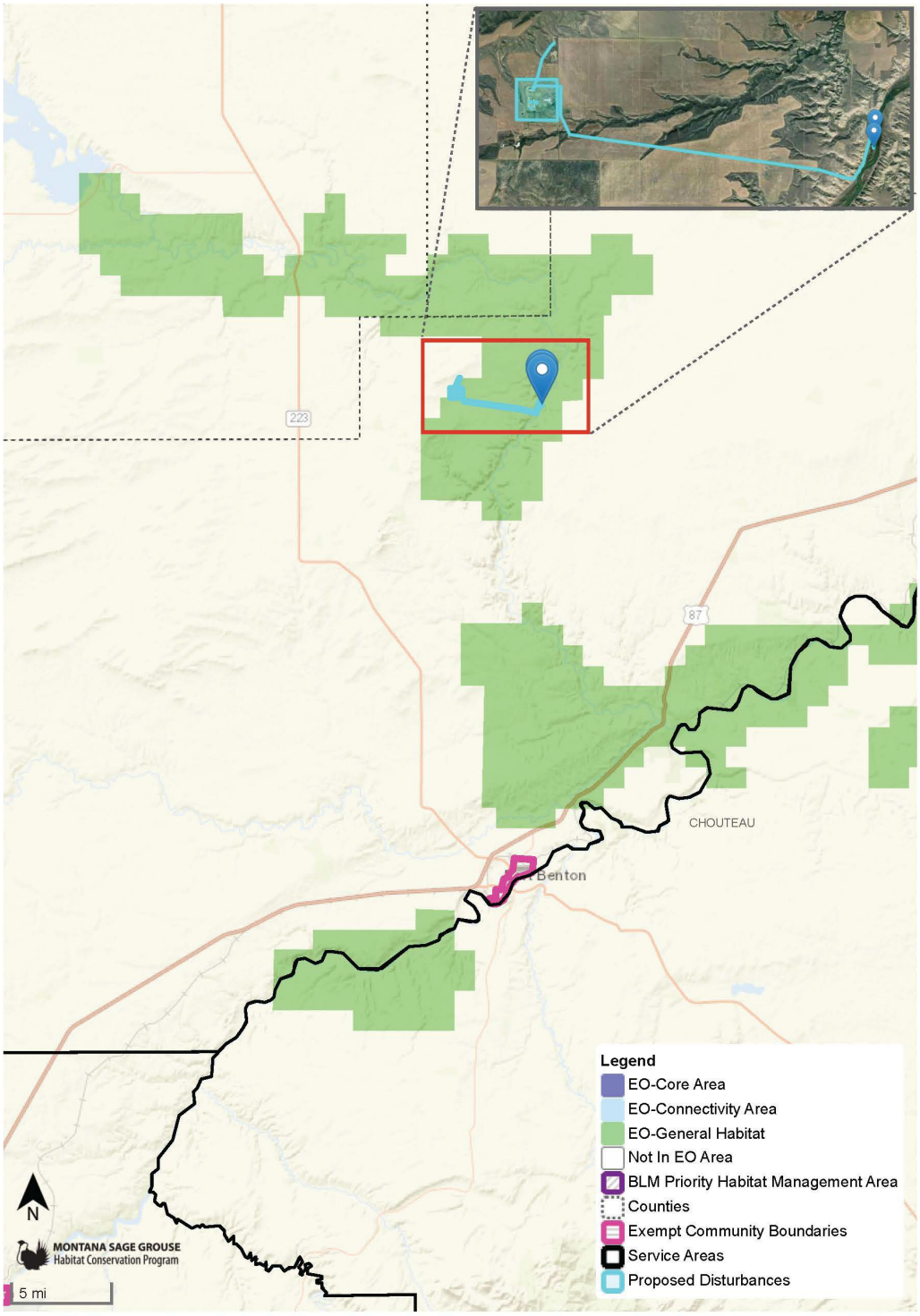
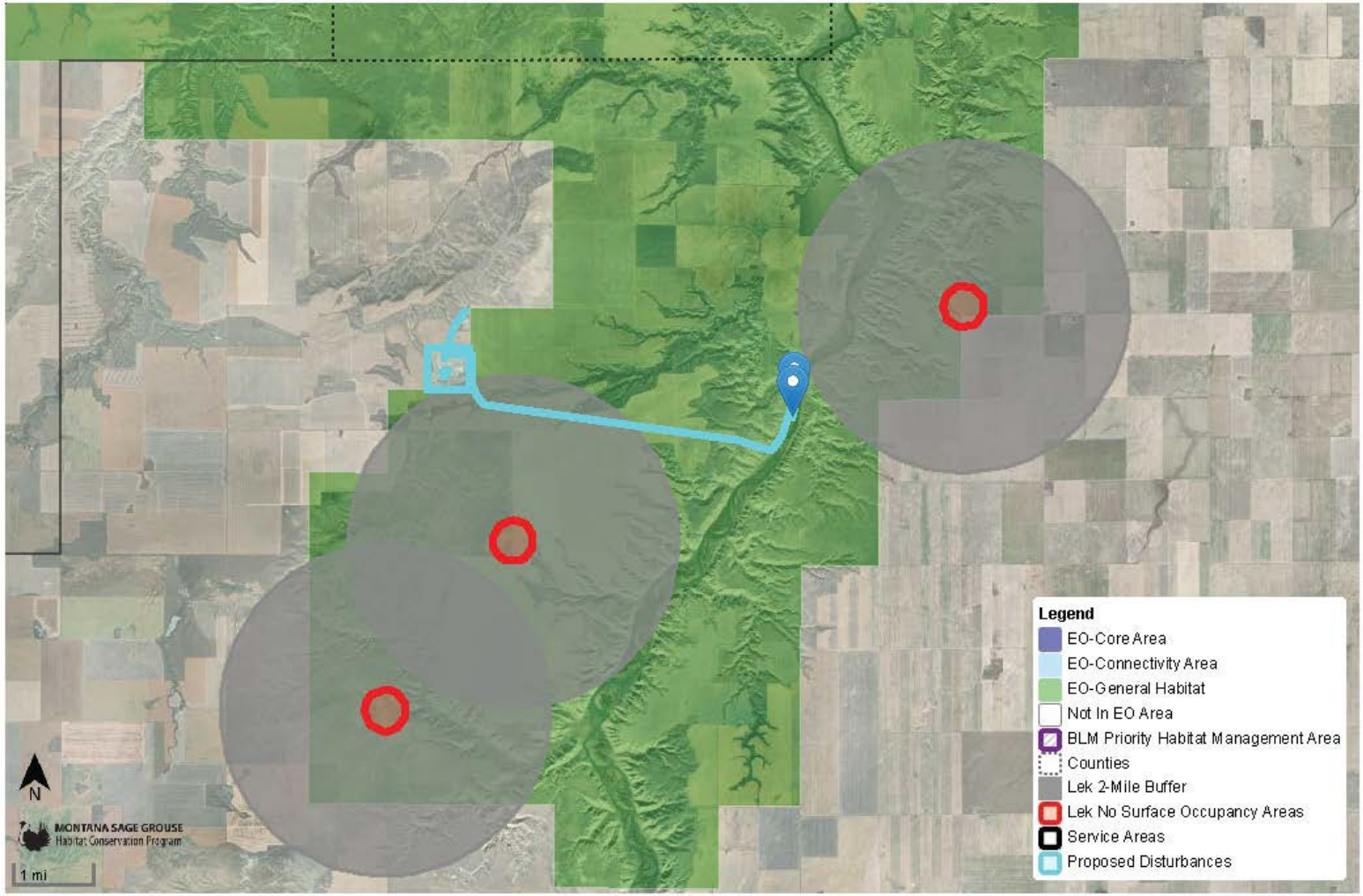


Figure 2

7034 - Sunnybrook Colony Public Water Supply Project Lek Location Map



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Director's Office: (406) 444-2074

Technical Analyses Report/ Scientific Credibility Review

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

Technical Analyses Report / Scientific Credibility Review

Water Resources

Groundwater Permit Technical Analyses Report- Part B – NOTICE OF ERRATA

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

Kailee Ingalls, Water Resource Specialist, Havre Regional Office

Applicant	Sunny Brook Colony Inc.
Application No.	41P 30172629
Proposed Point of Diversion	Well 1: SENENE, Section 25, T28N, R08E, Chouteau County. Well 2: NESENE, Section 25, T28N, R08E, Chouteau County.

Overview

This memo documents a correction to the Groundwater Permit Technical Analyses Report- Part B, prepared for Application No. 41P 30172629 by Sunny Brook Colony. An error was identified in the evaluation of Physical Availability in Section 2.0. When dividing the volume for each water right in the reach, one water right (41P 157525 00) had its full volume applied to its period of diversion, leading to an overestimation of 20.7 AF in the months of May - October. Revised calculations for physical availability are provided in **Table 2**, below. In Section 2.3, labeling and reference to **Table 2** were updated.

An error in Section 3.0 Area of Potential Impact Analysis was also identified. The technical analysis omitted two Statements of Claim (41P 30140364 & 41P 30140370) for livestock direct from source. A total of 11 water rights exist in the reach, not the originally stated 9. To clarify, the water rights listed above have points of diversion within the 5 mi reach, but 41P 30140370 also has two points of diversion that exist 1 mi downstream of the confluence. In addition, it was identified that Statement of Claim 41P 30122516, included in the original Area of Potential Impact, has 3 points of diversion that also exist within the 1 mi reach, as well as 3 points of diversion that exist in the original 5 mi reach. To account for all points of diversion, for the previously omitted water right and 41P 30122516, the Area of Potential Impact was extended from 5 mi to 6 mi to include all points of diversion. No new water rights were identified in the additional 1 mi reach that were not previously found in the original 5 mi reach. A new Appendix for water rights considered in the Area of Potential Impact is provided in **Appendix A**.

In addition, the “uppermost point of diversion” language used on the Groundwater Permit Technical Analyses Report- Part B was updated to “point of depletion” to reflect how physical and legal availability was evaluated for the depleted surface water source. These changes can be found in all sections below.

This Groundwater Permit Technical Analyses Report – Part B – Notice of Errata contains the following sections:

Overview 1
2.0 Surface Water Analysis of Depleted Surface Water 2
2.1 Source Description 2
2.2 Method of Estimation 2
2.3 Monthly Flow Rate and Volume 2
3.0 Area of Potential Impact Analysis 4
3.1 Area of Potential Impact Analysis of Depleted Surface Water 4
Appendix A: Water Rights within the Surface Water Area of Potential Impact 5

2.0 Surface Water Analysis of Depleted Surface Water

2.1 Source Description

Part A of the Technical Analyses Report includes the Groundwater Analysis, which describes the methodologies used to identify the depleted surface water source and the location of net depletions on said source.

Depleted Source of Water: *Marias River*

Depleted Source Type: *Perennial*

Location of Depletions: *NENENE Section 25, T28N, R08E, Chouteau County.*

2.2 Method of Estimation

Why this gage is considered an appropriate data source: *According to ARM 36.12.1702, 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 06102050, Marias River near Loma, MT, is the nearest gage to the point of depletion and is approximately 17 river mi downstream of the projected point of depletion. The date range includes the entire period of record for this gage.*

2.3 Monthly Flow Rate and Volume

Methodology: *USGS Gage No. 06102050 is the nearest gage to the projected point of depletion from the Marias River. The point of depletion for this application is upstream of the gaging station. The date range used includes the entire period of record for this gage.*

Physical availability of Marias River water at the point of depletion will be quantified monthly. Department practice for physical availability analyses in which the gage is downstream of the point of depletion is to add the monthly flow rates of existing water rights between the gage and the point of depletion 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 point of depletion 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 Marias River using USGS Gage No. 06102050 records for each month of the proposed period of diversion (Table 2, column B). Those flows were converted to monthly volumes in AF (Table 2, column C) using the following equation found on DNRC Water Calculation Guide (formerly 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/volumes appropriated by existing users upstream of the gage on the source (Table 2, column D&E) by:*
    i. *Generating a list of existing water rights from the point of depletion to USGS Gage No. 06102050 (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 and adding 35 GPM for Statements of Claim or 15 GPD/AU and adding 35 GPM for all other water rights.*
    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 2.69 AF/AC per Department water use standards for Climatic Area II, moderately high consumptive use.*
    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 point of depletion, the Department added the flow rates of the existing rights point of depletion and USGS Gaging Station No. 06102050 (Table 2, column D) to the median of the mean monthly gage values (Table 2, column B) to determine physical availability at the point of depletion (Table 2, columns F). In addition, the Department added the volumes of the existing rights point of depletion and USGS Gaging Station No.* 06102050 *(Table 2, column E) to the median of the mean monthly gage values (Table 2, column C) to determine physical availability at the point of depletion (Table 2, column G).*

Table 2. Physical Availability at the Location of Surface Water Depletions on the Marias River						
A	**B**	**C**	**D**	**E**	**F**	**G**
Month	**Median of the Mean Monthly Flow at Gage #06102050 (CFS)**	**Median of the Mean Monthly Volume at Gage #06102050 (AF)**	**Existing Rights from Point of Depletion to Gage #06102050 (CFS)**	**Existing Rights from Point of Depletion to Gage #06102050 (AF)**	**Physically Available Water at Point of Depletion (CFS)**	**Physically Available Water at Point of Depletion (AF)**
January	324.20	19,899.40	1.11	8.86	325.31	19,908.26
February	379.60	21,045.02	1.11	8.86	380.71	21,053.89
March	430.30	26,411.81	1.11	8.86	431.41	26,420.68
April	540.85	32,126.49	31.90	629.89	572.75	32,756.38
May	917.00	56,285.46	38.22	710.80	955.22	56,996.26
June	1,193.00	70,864.20	38.22	710.80	1,231.22	71,575.00
July	692.50	42,505.65	38.22	710.80	730.72	43,216.45
August	698.00	42,843.24	36.14	673.82	734.14	43,517.06
September	601.35	35,720.19	36.14	673.82	637.49	36,394.01
October	526.35	32,307.36	18.99	217.61	545.34	32,524.97
November	596.90	35,455.86	6.23	74.43	603.13	35,530.29
December	396.10	24,312.62	1.11	8.86	397.21	24,321.48

3.0 Area of Potential Impact Analysis

3.1 Area of Potential Impact Analysis of Depleted Surface Water

The surface water Area of Potential Impact for this application is: *The area of potential impact is approximately 6 river mi downstream of the point of depletion. A total of 11 surface water rights exist within the reach, including Montana Fish, Wildlife & Parks Instream Flow Water Reservation (41P 30017508). A list of rights can be found in* ***Appendix A****.*

Why this is an appropriate Area of Potential Impact: *Depletion modeling suggests that depletion of the Marias River will occur due to its proximity to the well field. The Marias River is a major surface water source compared to other streams in the area. The confluence of Sheep Coulee into the Marias River is approximately 5 mi downstream from the projected start of surface water depletions. From the confluence, an additional 1 mi of downstream reach was included to include all the points of diversion for Statements of Claim 41P 30122516 and 41P 30140370. The Department finds this to be an appropriate hydrologic boundary and will designate the said reach as the area of potential impact.*

Appendix A: Water Rights within the Surface Water Area of Potential Impact

WATER RIGHT NUMBER	WATER RIGHT TYPE	PERIOD OF DIVERSION	FLOW RATE (CFS)	VOLUME (AF)
41P 24612 00	PROVISIONAL PERMIT	01/01 - 12/31	0.05	32.3
41P 58210 00	PROVISIONAL PERMIT	01/01 - 12/31	0.07	12.7
41P 30110255*	STATEMENT OF CLAIM	01/01 - 12/31	0.12	27.5
41P 30122516*	STATEMENT OF CLAIM	01/01 - 12/31	0.08	0.9
41P 30140369*	STATEMENT OF CLAIM	01/01 - 12/31	0.11	1.4
41P 124684 00**	STATEMENT OF CLAIM	04/01 - 11/01	1.34	94.2
41P 124683 00**	STATEMENT OF CLAIM	04/01 - 11/01	1.34	115.7
41P 105759 00	PROVISIONAL PERMIT	04/15 - 09/30	16.04	2622.2
41P 30140364*	STATEMENT OF CLAIM	01/01 - 12/31	0.08	2.8
41P 30140370*	STATEMENT OF CLAIM	01/01 - 12/31	0.09	5.1
41P 30017508	WATER RESERVATION	01/01 - 12/31	488.5	353,633.76

* Statements of Claim for Livestock Drinking Directly from the source.
** Statements of Claim for Irrigation, in which a volume was not given.

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

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1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

February 12th, 2026

Sunny Brook Colony

12495 Goosebill Rd.

Fort Benton, MT 59442-8870

Subject: Complete Technical Analyses Report for Beneficial Water Use Permit Preapplication No. 41P 30172629

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 Permit Preapplication No. 41P 30172629 based on the information provided in your Preapplication Meeting Form accepted by the Department on December 31, 2025. The Technical Analyses can be found in the attached report. Please note this Beneficial Water Use Permit Technical Analyses Report is a two-part publication, comprised of Part A completed by Water Science Bureau staff, and Part B completed by Havre Regional Office staff.

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 this data to analyze the criteria in §85-2-311, 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 (§85-2-311, MCA).

You have 180 days to submit the Beneficial Water Use Permit Application Form 600, 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 August 11th, 2026, 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

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: David Baldwin, HydroSolutions Inc.

<dbaldwin@hydrosci.com>

303 Clarke St., Helena, MT 59601

Groundwater Permit Technical Analyses Report- Part A

The Montana Department of Natural Resources and Conservation (DNRC)
Water Resources Division

Jack Landers, Groundwater Hydrologist, Water Sciences Bureau (WSB)

Applicant Name	Sunny Brook Colony
Application No.	41P 30172629
Point of Diversion Legal Land Description	Section 25, Township 28 North, Range 8 East, Chouteau County

Overview

This report is Part A of a two-part publication which analyzes data submitted by the Applicant in support of the above-mentioned water right permit application. This report provides technical analyses as required under the Administrative Rules of Montana (ARM 36.12.1303) in support of the water rights criteria assessment as required in §85-2-402, Montana Code Annotated (MCA).

This Groundwater Permit Technical Analyses Report – Part A contains the following sections:

Overview 1
1.0 Executive Summary 2
2.0 Hydrogeologic Setting 4
3.0 Aquifer Test Summary 5
4.0 Aquifer Test Analysis 9
5.0 Modeling Inputs 14
6.0 Adequacy of Diversion Analysis 14
7.0 Physical Availability Analysis 17
8.0 Adverse Effect Analyses 20
8.1 Groundwater - Drawdown in Existing Wells 20
8.2 Surface Water - Net Depletions (Consumed Water) 20
Review 1
References 1

1.0 Executive Summary

Application Details

The Applicant proposes to divert groundwater from two points of diversion (POD) for multiple domestic and industrial purposes. The proposed wells would be pumped at a maximum combined flow rate of 29.5 gallons per minute (gpm) to produce an annual volume of 25.8 acre-feet (AF) with a period of diversion and period of use from January 1 to December 31. Water would be conveyed through a pipeline to a plumber shop and distributed to multiple residences, industrial shops, and a batch plant throughout Sunny Brook Colony. The Applicant also proposes to offset net depletion to hydraulically connected surface water from the proposed use with a Tribal (Chippewa Cree or Blackfeet) storage contract that would be released from Lake Elwell (Tiber Reservoir) to the Marias River at a constant year-round rate.

Approved Variances from ARM 36.12.121

Variances from aquifer test requirements found in ARM 36.12.121 were requested and granted from the Havre Regional office. The reasoning for the requested variances can be found in the WSB Aquifer Testing Addendum Review document dated December 17, 2025. Granting of the variances was recommended because the quality of the data derived from each test was sufficient for modeling.

WSB Technical Analyses Findings

Based on information submitted, the WSB estimated aquifer properties, evaluated the proposed well(s) available water column, and evaluated potential impacts to existing groundwater and surface water rights. Adverse effects were evaluated by comparing drawdown in existing wells and quantifying net depletions to surface water. These analyses are in support of the following criteria assessment: adequacy of diversion, physical availability, and adverse effect. A summary of WSB findings described in subsequent sections are listed below.

TECHNICAL ANALYSES FINDINGS

AQUIFER TEST ANALYSIS	Using the Cooper-Jacob (1946) solution for unconfined aquifers and the geometric mean of the results from the 24-hour and 78-hour aquifer testing data for Production Wells Groundwater Information Center (GWIC) ID 311691 and 320175, the estimated aquifer Transmissivity (T) is 2,827 ft^2/day.
MODELING INPUTS	The following aquifer properties were used to complete adequacy of diversion, physical availability and adverse effect technical analyses: T of 2,827 ft^2/day, S_y = 0.1 from Lohman (1972), and a saturated thickness (b) of 15 ft for Production Well 311691 and 35 ft for Production Well 320175. A no-flow boundary 560 ft west of the proposed wells to represent the sandstone bedrock of the Eagle Formation. A constant head boundary 245 ft east of the proposed wells to represent the Marias River. Pumping schedules used to model each criterion are identified within the document.

ADEQUACY OF DIVERSION	The aquifer adjacent to GWIC ID 311691 would experience 2.42 ft of drawdown after the first year, leaving 17 ft of available water column above the bottom of the well or perforated interval. The aquifer adjacent to GWIC ID 320175 would experience 2.38 ft of drawdown after the first year, leaving 34.8 ft of available water column above the bottom of the well or perforated interval.
PHYSICAL AVAILABILITY	The model predicted the 0.01-foot drawdown contour, or zone of influence (ZOI), extends approximately 5,142 ft from the Applicant's well. The calculated groundwater flux through the ZOI totaled 3,458 AF/yr. No active or severed groundwater rights were found within the ZOI that would experience drawdown from the proposed use.
ADVERSE EFFECT (DRAWDOWN IN EXISTING WELLS)	Maximum drawdown at the end of the fifth July of the proposed annual pumping schedule is 0.83 ft. As such, no water rights are predicted to experience drawdown equal to or greater than one foot.
ADVERSE EFFECT (NET DEPLETION TO SURFACE WATER)	Monthly net depletions resulting from the proposed use of groundwater are identified in **Table 1.** The starting point of the depleted reach on the Marias River is the southern boundary of the NENENE of Section 25, Township 28 North, Range 8 East, Chouteau County.

Table 1: Consumed volume and net depletions to the Marias River.

Month	Consumed Volume (AF)	Marias River Net Depletion (AF)	Marias River Net Depletion (gpm)
January	2.2	2.2	16.0
February	2.0	2.0	16.0
March	2.2	2.2	16.0
April	2.1	2.1	16.0
May	2.2	2.2	16.0
June	2.1	2.1	16.0
July	2.2	2.2	16.0
August	2.2	2.2	16.0
September	2.1	2.1	16.0
October	2.2	2.2	16.0
November	2.1	2.1	16.0
December	2.2	2.2	16.0
Total	25.8	25.8	-

2.0 Hydrogeologic Setting

As identified in **Figure 1**, the proposed wells (GWIC ID 320175 and 311691) are 823 ft apart and located in the NE Section 25, Township 28 North, Range 8 East, Chouteau County, in a narrow alluvial aquifer (DNRC aquifer code 110ALVM) adjacent to the Marias River. Both wells are completed at the bottom of the unconsolidated aquifer at the sandstone bedrock interface of the Eagle Formation. GWIC ID 320175 is an open bottom with a total depth of 50.5 ft below ground surface (bgs). GWIC ID 311691 has a perforated interval from 27-30 ft bgs.

The Eagle Formation bounding the alluvial aquifer at the proposed project is an Upper Cretaceous sandstone aquifer in central Montana, typically 200–400 ft thick, composed of stacked shallow-marine sandstones and shales (Feltis, 1982, Hopkins, 1976). Near outcrops in central Montana, it commonly supplies municipal, domestic, and stock wells (Feltis, 1982). In eastern Montana, the formation yields limited water due to greater depth and dominant shale and siltstone (Noble et al., 1982). Well logs near the proposed wells describe an approximately 30-ft thick sand and gravel aquifer overlying the Eagle Formation sandstone and shale. Lithologic logs for GWIC ID 320175 and 311691 report interbedded sand and clay with gravel, reflecting the weathering and reworking of shale and sandstone parent material that form the unconfined alluvial aquifer. Unconsolidated glacial deposits overlie sandstone in surrounding upland areas (**Figure 1**).

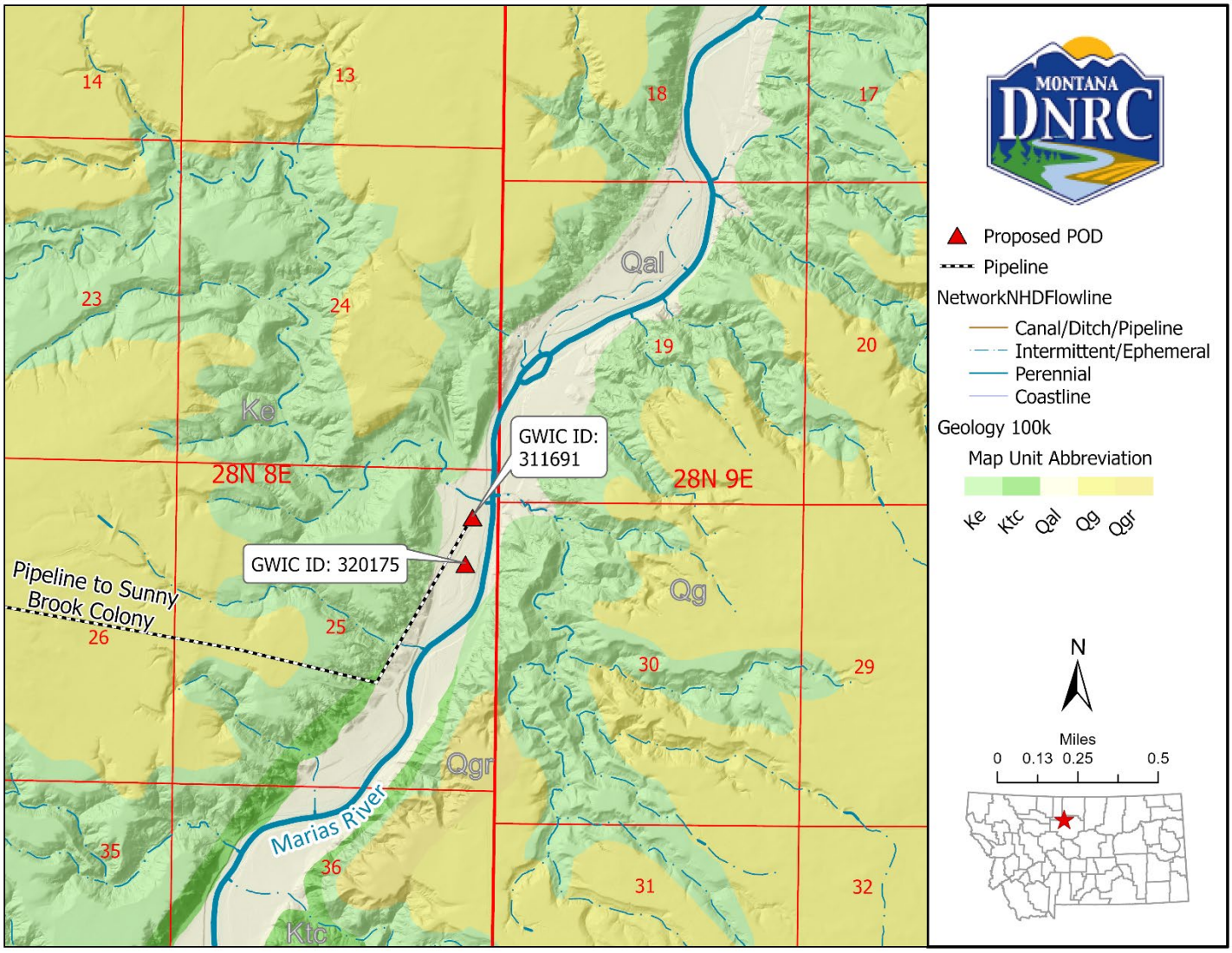


Figure 1: Map of the Applicant's proposed wells and aquifer test location.

3.0 Aquifer Test Summary

DNRC requires two different types of tests, "Aquifer Tests" and "Drawdown and Yield Tests", which are used to analyze different application criteria.

- An "Aquifer Test" is a pumping test that is meant to provide data to model aquifer properties. The minimum duration of these tests is either 24-hours or 72-hours, depending on the proposed flow rate and volume (ARM 36.12.121(3)(e)), and DNRC only requires one of these tests per application. Aquifer Tests must include observation well data, and pre-test monitoring data as well as post-test recovery data.
- A "Drawdown and Yield Test" is a pumping test that is meant to evaluate well construction and the ability of the aquifer to yield water to the well. This is also known as demonstrating "adequacy of

diversion". The minimum duration of these tests is 8-hours, and every well that is a part of the application must be tested. Observation wells, pre-test, and post-test data is not required for Drawdown and Yield Tests.

Field Methods and Equipment

The Applicant provided data collected during a 24-hr aquifer test on Production Well GWIC ID 311691 and a 78-hr aquifer test on Production Well GWIC ID 320175. Both aquifer tests were used to derive aquifer properties and are summarized in the following section. Additional aquifer test information such as the monitoring periods for the test, equipment used, collected water levels, and measured discharge can be found on Form 633. **Figure 1** identifies the location of the Production Wells. The Observation Well for the 24-hr aquifer test is located 18 ft east of the Production Well (GWIC ID 311691) and is not visible due to the scale of the map.

The 24-hour aquifer test conducted on the Production Well, GWIC ID 311691 started on November 10, 2021. The average pumping rate was 17.25 gpm. Completion details for the wells used in the aquifer test are identified in **Table 2**.

Table 2: Specification of wells for the 24-hr aquifer test.

GWIC ID	Well ID	Distance from the Production Well (ft)	Completed Well Depth (ft bgs)	Perforated Interval (ft bgs)	Casing Diameter (inches)
311691	Production	0	30	27-30	6
N/A	Observation	18	30	open bottom	6

The 78-hour aquifer test conducted on the Production Well, GWIC ID 320175 started on July 28, 2022. The average pumping rate was 29.5 gpm. Completion details for the wells used in the aquifer test are identified in **Table 3**.

Table 3: Specification of wells for the 78-hr aquifer test.

GWIC ID	Well ID	Distance from the Production Well (ft)	Completed Well Depth (ft bgs)	Perforated Interval (ft bgs)	Casing Diameter (inches)
320175	Production	0	50.5	open bottom	8
311691	Observation	823	30	27-30	6

Background, Drawdown and Recovery Data

Figures 2-5 summarize background, drawdown, and recovery water level data for the aquifer tests. As identified in **Figure 2** and **Figure 3** Production and Observation Well background data show no trends for both tests; water elevations appear stable.

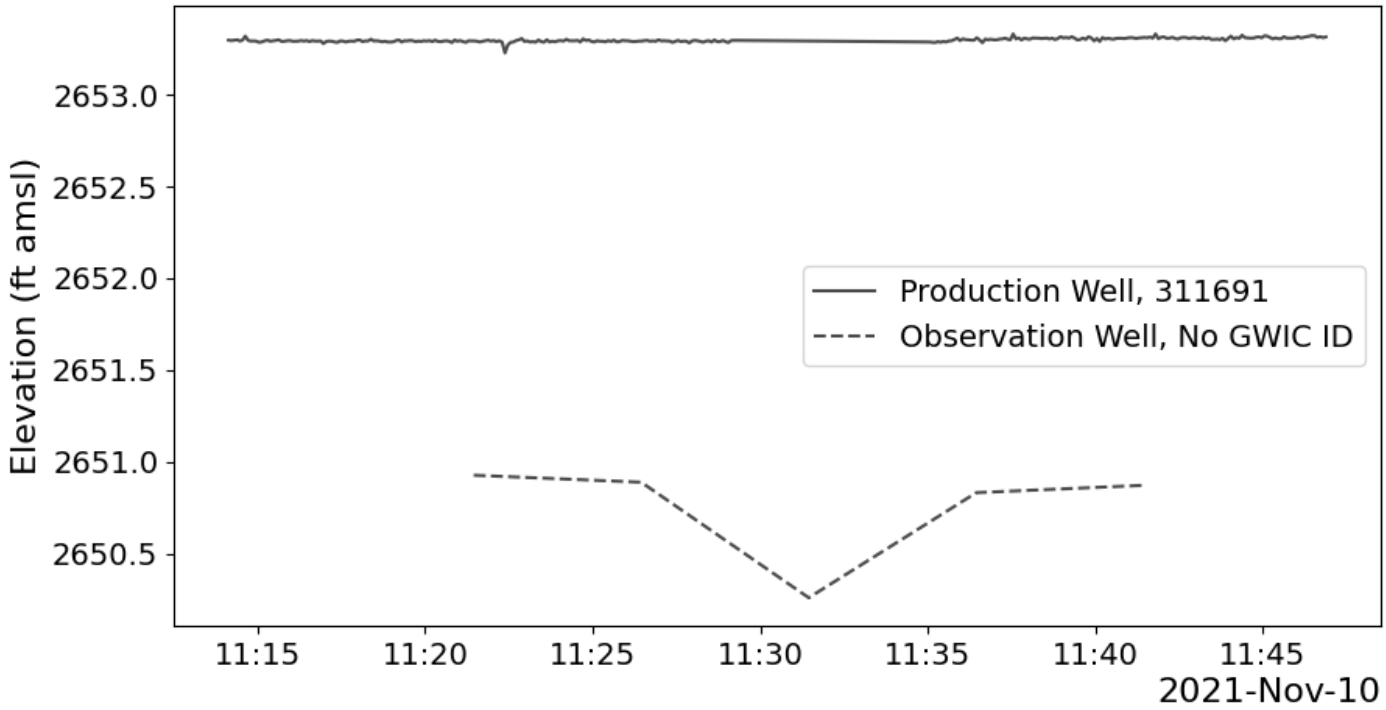


Figure 2: Background data for Production and Observation Wells prior to the 24-hr aquifer test.

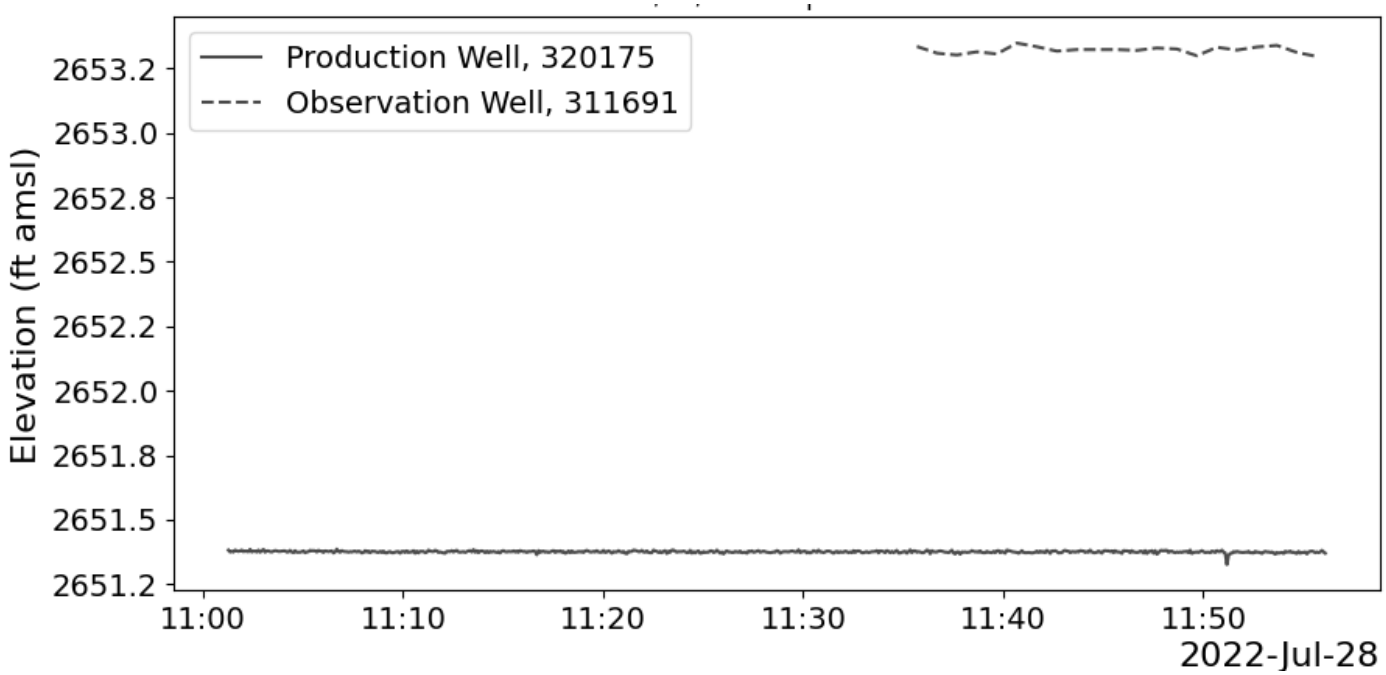


Figure 3: Background data for Production and Observation Wells prior to the 78-hr aquifer test.

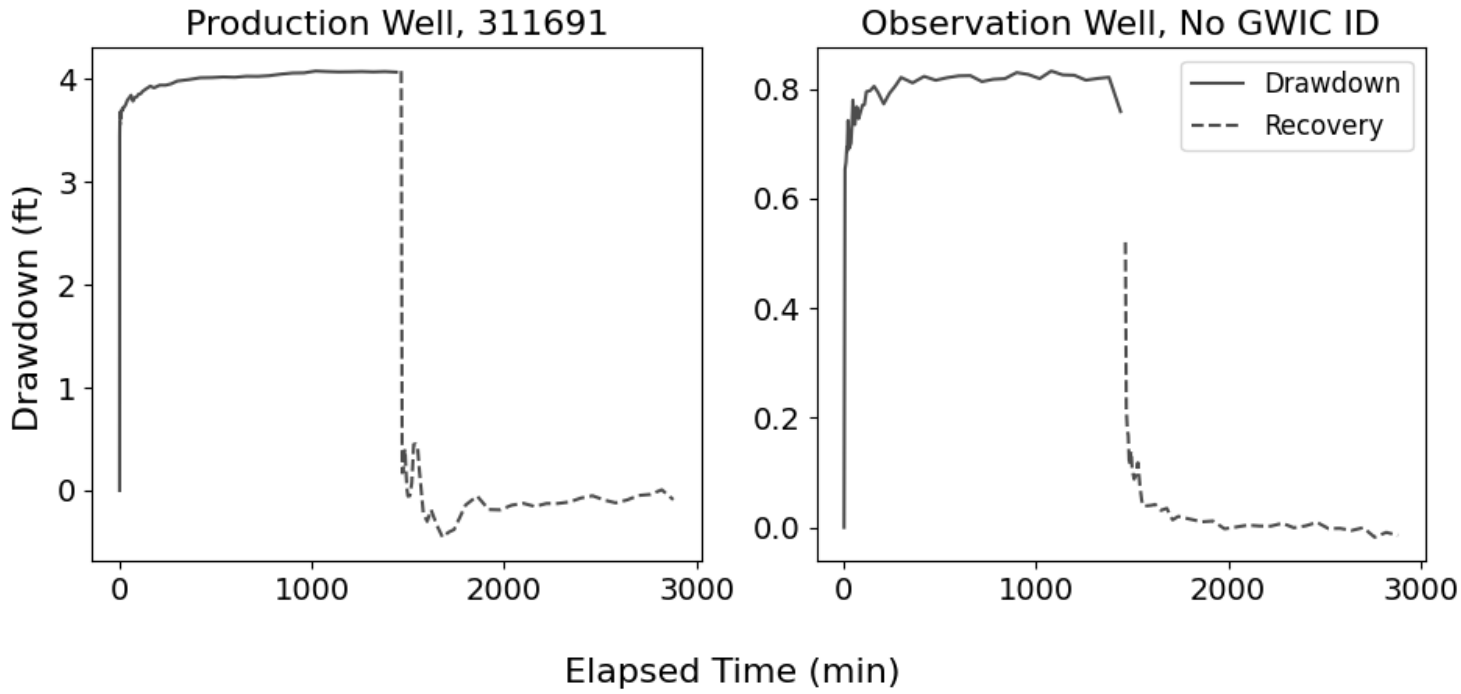


Figure 4: Drawdown and recovery data for the 24-hour aquifer test on the Production Well.

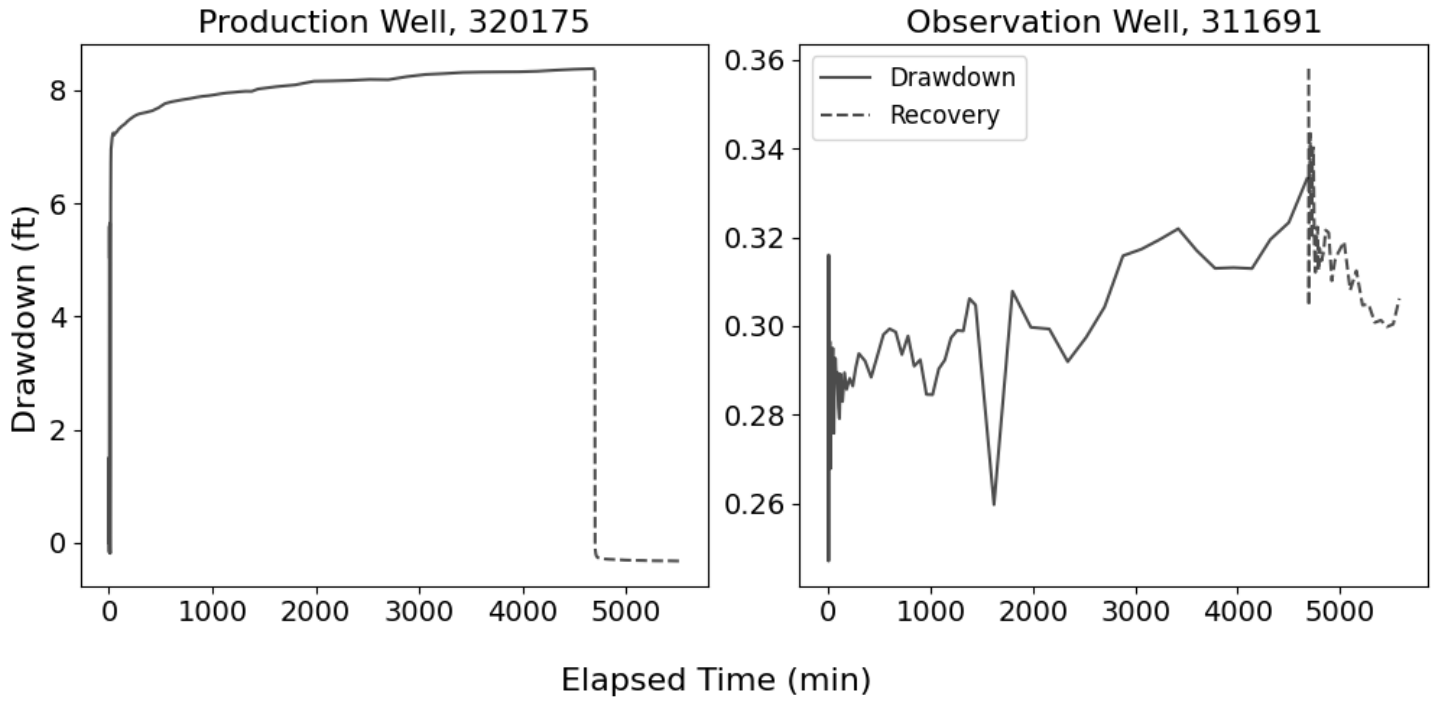


Figure 5: Drawdown and recovery data for the 78-hour aquifer test on the Production Well.

Table 4 and **Table 5** identify the maximum drawdown and available water column above the bottom of the well or perforated interval for the Production and Observation Wells at the end of the aquifer tests. Available water column was quantified by adding 3 ft to the bottom of the perforated interval or bottom of well depth, to reflect the measurement point for static water levels (top of casing).

Table 4: Available water column at the end of the 24-hr aquifer test for the Production and Observation Wells.

GWIC ID	Well ID	Static Water Level (ft btc)	Maximum Observed Drawdown (ft)	Available Water Column (ft)
311691	Production	14.02	4.08	15
N/A	Observation	16.46	0.83	15.71

Table 5: Available water column at the end of the 78-hr aquifer test for the Production and Observation Wells.

GWIC ID	Well ID	Static Water Level (ft btc)	Maximum Observed Drawdown (ft)	Available Water Column (ft)
320175	Production	16.33	8.38	28.79
311691	Observation	14.10	0.33	19

4.0 Aquifer Test Analysis

Methods

The DNRC used AQTESOLV® (HydroSOLVE, Inc., 2007) to analyze drawdown data from the aquifer test, obtain estimates of aquifer properties, and model predicted drawdown in existing wells. AQTESOLV® is an analytical modeling software that uses image well theory and the principle of superposition to simulate aquifer stress tests. Known well, aquifer, and aquitard characteristics from well logs and previous investigations are input into the model. Calculated aquifer drawdown and measured flow rates from the aquifer test, and the spatial location of each well are also input into the model. Using this compilation of data, aquifer properties including Transmissivity (T) and Storativity (S) are estimated based on a best-fit visual match between the observed and theoretical drawdown data.

Analyses

Analytical groundwater solutions were matched to Observation Well drawdown data to generate estimates of aquifer properties for the source aquifer**.** As identified in **Figures 6-8** theoretical AQTESOLV® predicted derivatives (red line) were compared to the calculated derivatives from the observed drawdown (red crosses) and predicted drawdown (blue line) compared to the observed drawdown (black squares). A summary of aquifer test analyses for Production and Observation Wells is found in **Table 6**.

Drawdown data and measured flow rates from the aquifer test, a saturated thickness of 15 ft for Production Well 311691 and 35 ft for Production Well 320175, and the spatial location of each well were input into the model.

Production Well GWIC ID 311691 is completed in 3 ft of fractured sandstone underlying sand and gravel. Production Well GWIC ID 320175 is completed in sand and gravel with fractured sandstone. The primary source of water to both wells is interpreted as the sand and gravel alluvial aquifer, as both wells were drilled

to the top of the bedrock surface and pumping would likely directly interact with the unconfined sand and gravel aquifer.

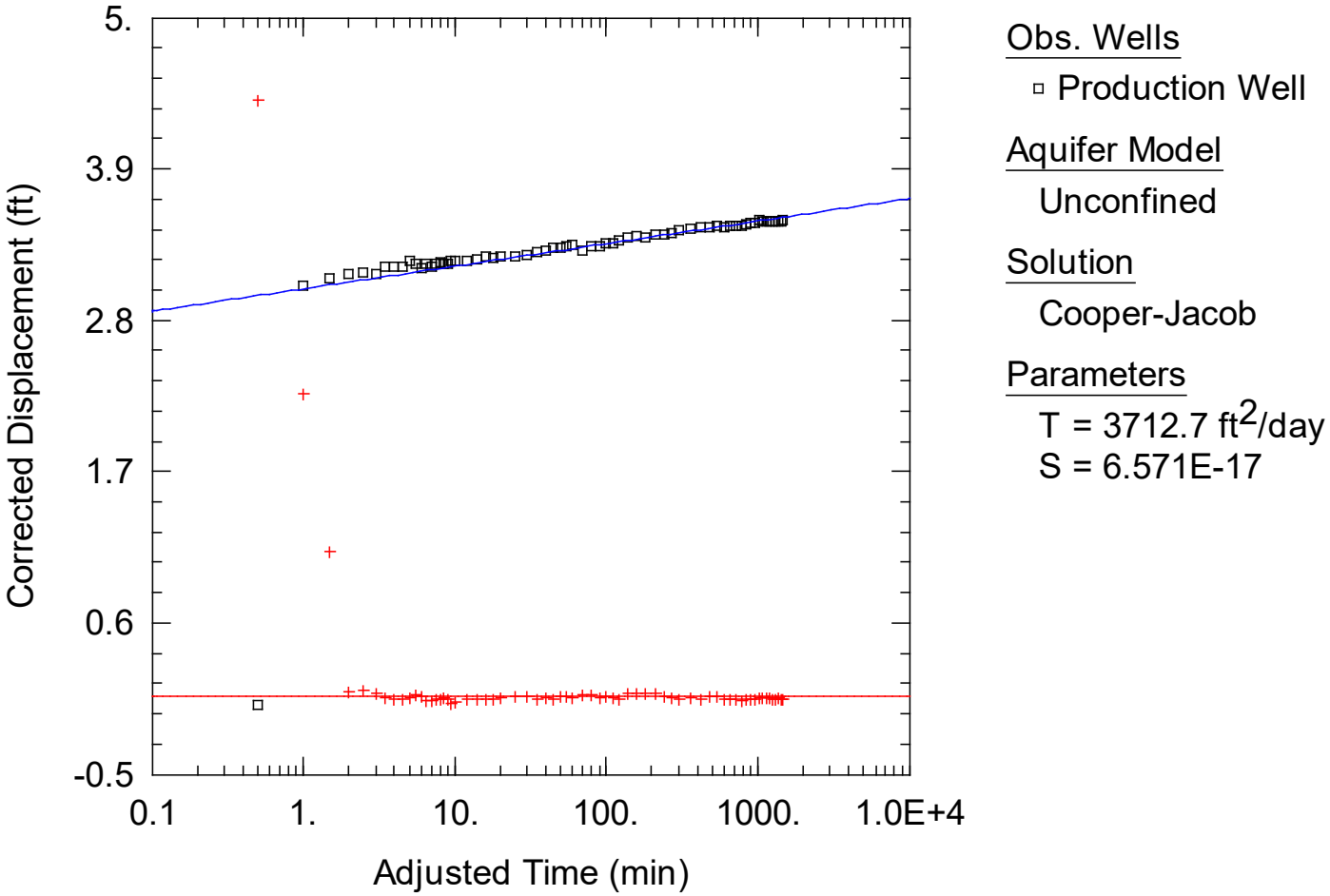


Figure 6: Cooper-Jacob (1946) solution and drawdown data used from the Production Well from the 24-hr aquifer test.

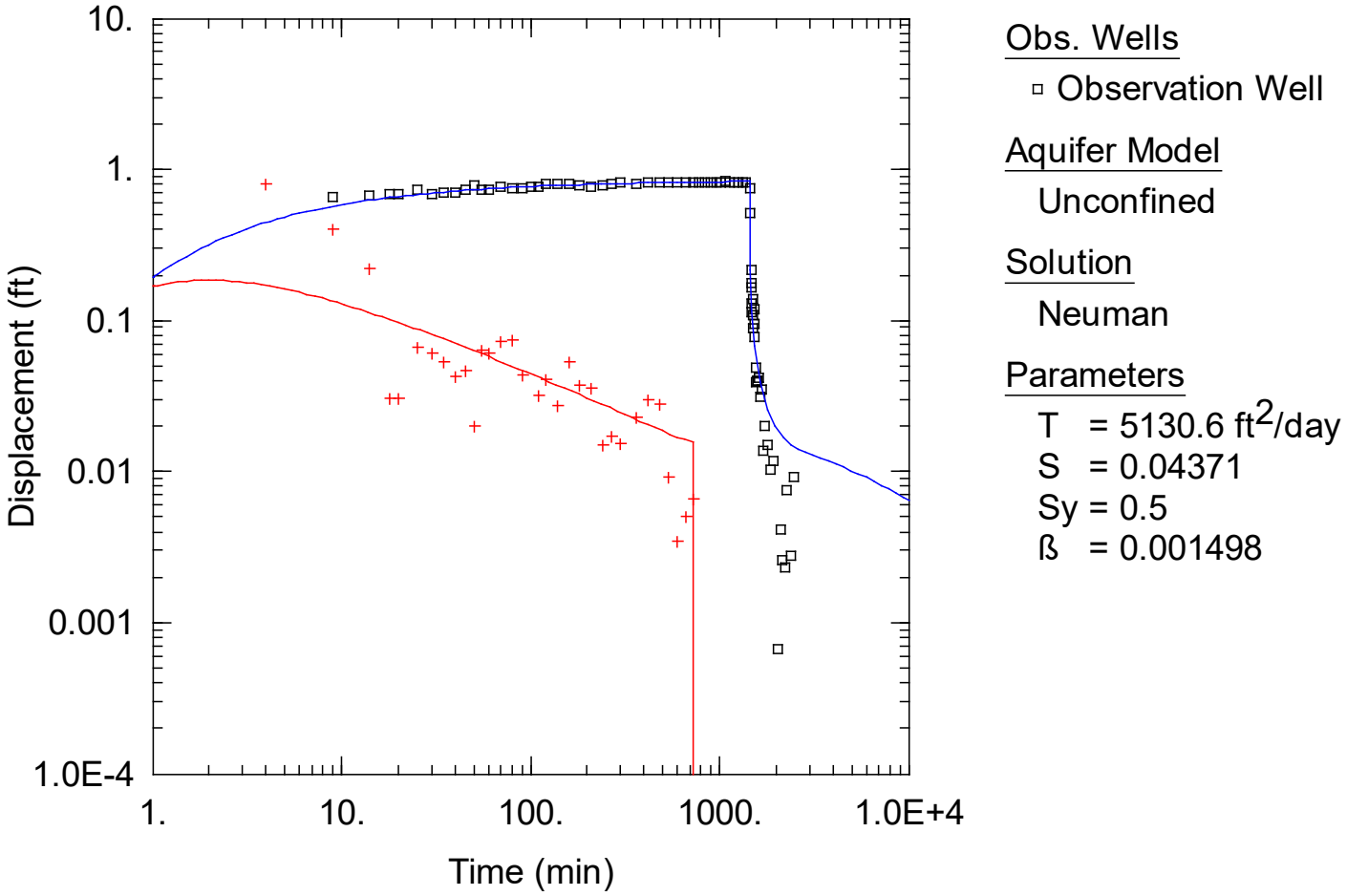


Figure 7: Neuman (1974) solution and drawdown and recovery data used from the Observation Well from the 24-hr aquifer test.

24-hr Aquifer Test

As shown in **Figure 6** the Cooper-Jacob (1946) solution was used to analyze the Production Well drawdown data. The derivative plateau for the Production Well drawdown data is indicative of infinite-acting radial flow conditions and did not exhibit boundary effects from the Marias River (recharge) or alluvial aquifer boundaries (no-flow).

As shown in **Figure 7**, the derivatives for the Observation Well drawdown data measured during the 24-hr aquifer test varied significantly but generally declined throughout the duration of the test. The decreasing rate of drawdown in the Observation Well may be indicative of the effect of a recharge boundary or onset of delayed yield. However, the relatively short duration of the aquifer test does not appear to fully capture the mechanism affecting the rate of drawdown. It is unlikely that a recharge boundary effect from the Marias River would be apparent from the beginning of the aquifer test. Infinite acting radial flow conditions would be expected at intermediate time, followed by a drawdown plateau at late time as the recharge boundary begins to influence the rate of drawdown. In addition, a recharge boundary effect was not observed in the Production Well drawdown data for the longer-duration 78-hr aquifer test, which is located at a similar distance to the river as the Production and Observation Wells for the 24-hr aquifer test.

The Neuman (1974) solution (**Figure 7**) was fit to the Observation Well drawdown data as this solution can account for delayed yield in an unconfined aquifer. Due to the close proximity of the Observation and Production Well, delayed yield effects may appear earlier in the test and manifest as an initial decrease in the rate of drawdown. However, the curve match shown in **Figure 7** produced a very low hydraulic conductivity anisotropy ratio and a high specific yield value, indicating that flow to the well is primarily horizontal with extremely slow vertical movement of water through the aquifer.

It is possible that the close proximity of the Observation and Production Well (18 ft), fluctuations in pumping rate, or errors in water level measurements affected the results of the test and produced the declining derivative trend. Due to the relatively short duration of the 24-hr aquifer test and lack of a delayed yield or recharge boundary signature in the longer duration 78-hr aquifer test, results derived from the Observation Well for the 24-hr aquifer test were determined to be unreliable.

78-hr Aquifer Test

The Cooper-Jacob (1946) aquifer solution was fit to the Production Well for the 78-hr aquifer test. The Observation Well data was not used to derive aquifer properties due to significant fluctuations in water levels during the pumping and recovery phases. The Production Well drawdown data (**Figure 8**) is indicative of infinite-acting radial flow conditions.

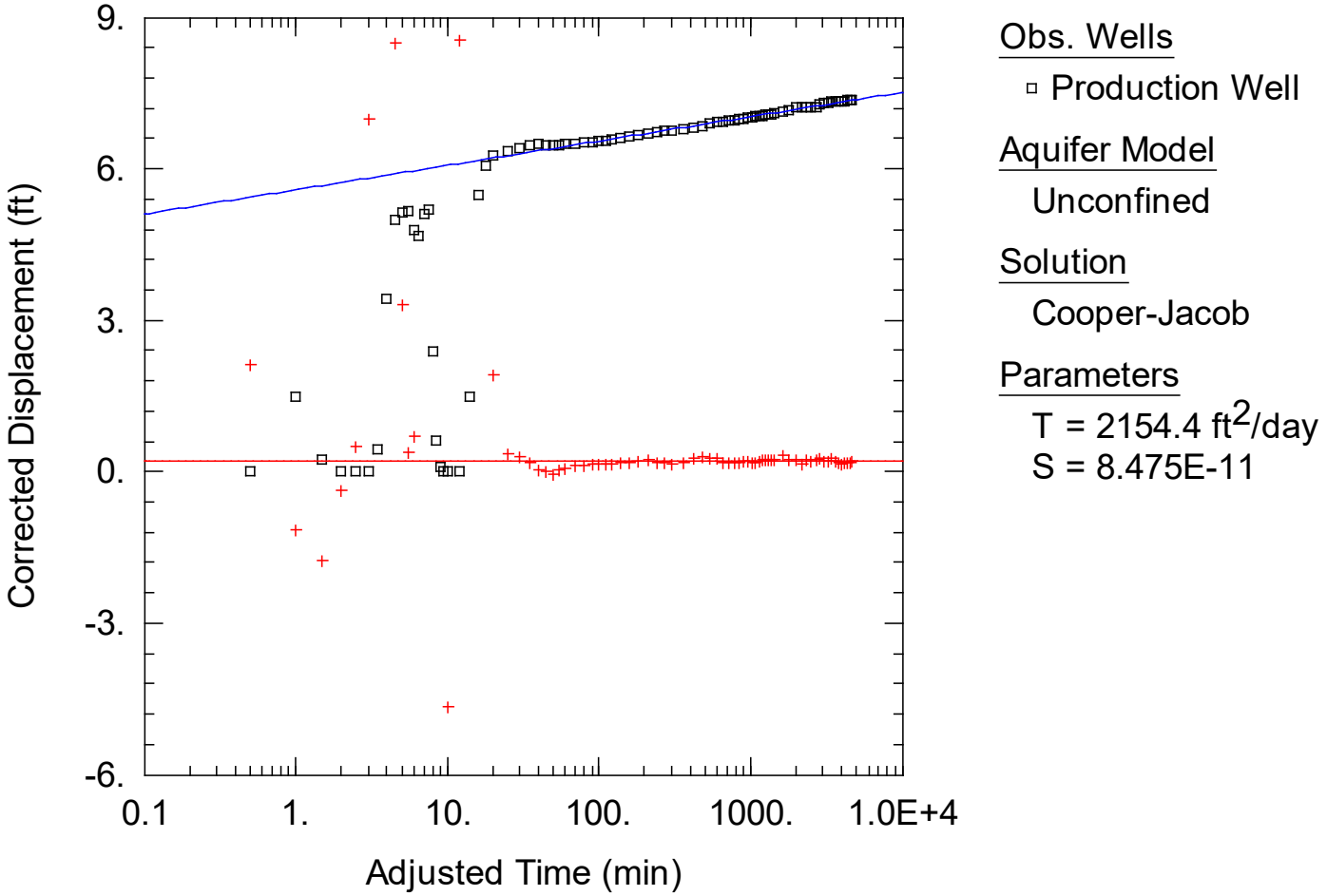


Figure 8: Cooper-Jacob (1946) and data used from the Production Well from the 78-hr aquifer test.

Table 6: A summary of aquifer test analyses completed on the Production Wells GWIC ID 311691 and 320175 for the 24-hr and 78-hr aquifer tests.

Aquifer Test Phase	Well Analyzed (GWIC ID)	Well ID	Analysis Solution	T (ft^2/day)	S or Sy
Drawdown	311691	Production	Cooper-Jacob (1946)	3,712	NA
Drawdown/Recovery	NA	Observation	Neuman (1974)	5,130	0.5
Drawdown	320175	Production	Cooper-Jacob (1946)	2,154	NA

The T derived from the Production Wells for both aquifer tests are similar and drawdown data exhibited infinite-acting radial flow conditions that were not influenced by aquifer boundaries. The properties derived from the 24-hr aquifer test Observation Well produced a higher T value, a high Sy for an unconfined aquifer with high sand and clay content, and a low anisotropy ratio. The proximity of the Observation and Production Wells for the 24-hr test are also much closer than recommended following aquifer testing guidelines (US EPA, 1993). As a result, only aquifer properties derived from the Production Wells were used.

The aquifer T to be used in forward modeling is 2,827 ft^2/day and is the geometric mean from the 24-hr and 78-hr aquifer test Production Wells. The geometric mean is used to account for aquifer heterogeneity observed between both locations. The S_y of 0.1 is from Lohman (1972) for unconfined sand and gravel aquifers. Moench (1994) states that although an unconfined aquifer test analysis can account for S_y, evaluation of S_y should be done with caution because the very early time data are subject to large errors.

Additional Aquifer Test and/or Aquifer Property Comparison

The DNRC Aquifer Test Database was queried for aquifer tests completed in unconfined alluvial aquifers and the seven nearby aquifer tests are shown in **Table 7**. No nearby aquifer test data to the proposed project was found and the closest aquifer test completed in an unconfined aquifer is 58 miles away. The derived aquifer T is reasonable when compared to other T values derived from nearby pumping test data.

Table 7: Nearby Aquifer Tests. Note: T = Transmissivity. NA = Not Available.

Water Right No.	GWIC ID	Well Depth (ft)	Distance from Applicant Well (miles)	Aquifer Test Length (hours)	Pump Rate (gpm)	T (ft2/day)
41K 6853 00	274670	202	58	25	330	16,300
41K 6853 00	34538	193	58	24	260	15,000
41K 6853 00	274667	196	58.1	25	325	18,900
41P 30117451	87581	49	59.9	71	253	20,000
41K 30150582	301863	15	60.3	28	35	1,000
41O 30000571	218332	40	63.9	24	250	8,237
41O 30149178	290231	220	63.9	24	40.4	349
41K 30047925	260103	18	91.3	24	26	324

5.0 Modeling Inputs

Technical analyses in support of the following criteria assessment: adequacy of diversion, physical availability, and adverse effect (drawdown in existing wells) were modeled in FWD:SOLV (HydroSOLVE INC., 2024) using the following inputs:

- Theis (1935) solution for fully penetrating wells in a single-porosity aquifer
- Saturated thickness of 15 ft for Production Well 311691 and 35 ft for Production Well 320175
- GWIC ID 320175: Well radius of 0.33 ft, open bottom; GWIC ID 311691: Well radius of 0.17 ft and screened interval of 3 ft.
- Well locations (Applicant supplied coordinates)
- T = 2,827 ft^2/day
- S = 0.1, Lohman (1972)

Monthly pumping schedules and boundaries used to complete technical analyses are identified in subsequent criteria sections.

6.0 Adequacy of Diversion Analysis

An evaluation of the potentially available water column remaining in the proposed well(s) was modeled in FWD:SOLV (HydroSOLVE INC., 2024) using the following:

- Proposed monthly pumping schedule identified in **Table 8** for the period of diversion.
- A no-flow boundary 560 ft west of the proposed wells to represent the sandstone bedrock of the Eagle Formation.
- A constant head boundary 245 ft east of the proposed wells to represent the Marias River.

The Applicant requests 25.8 AF per year. Water would be diverted at a constant year-round rate for multiple domestic and industrial purposes. The wells were modeled as though they were pumping simultaneously, each at half of the flow rate (8 gpm) shown in **Table 8**.

Table 8: Assumed proposed monthly pumping schedule for the proposed well(s).

Month	Domestic Diverted Volume (AF)	Industrial Diverted Volume (AF)	Batch Plant Diverted Volume (AF)	Total Diverted Volume (AF)	Total Flow Rate (gpm)
January	1.4	0.7	0.1	2.2	16.0
February	1.3	0.6	0.1	2.0	16.0
March	1.4	0.7	0.1	2.2	16.0
April	1.4	0.7	0.1	2.1	16.0
May	1.4	0.7	0.1	2.2	16.0
June	1.4	0.7	0.1	2.1	16.0
July	1.4	0.7	0.1	2.2	16.0
August	1.4	0.7	0.1	2.2	16.0
September	1.4	0.7	0.1	2.1	16.0
October	1.4	0.7	0.1	2.2	16.0
November	1.4	0.7	0.1	2.1	16.0
December	1.4	0.7	0.1	2.2	16.0
Total	16.8	8.0	1.0	25.8	

As identified in **Table 9,** total drawdown is the sum of interference drawdown and predicted drawdown with well loss. Interference drawdown is additional drawdown from pumping both wells simultaneously. Well loss is calculated by dividing the predicted theoretical maximum drawdown by a well efficiency value. Predicted theoretical drawdown for the proposed well(s) was modeled for the period of diversion using the monthly pumping schedule for each well identified in **Table 8**. Well efficiency is calculated by dividing the modeled maximum drawdown for the aquifer test by the maximum observed drawdown of the aquifer test. The aquifer adjacent to the proposed wells GWIC ID 311691 and 320175 would experience a predicted total drawdown of 2.42 ft and 2.38 ft respectively at the end of the first year (**Figure 9**). The remaining available water column for the proposed wells GWIC ID 311691 and 320175 is 17 ft and 34.8 ft respectively and is equal to the available drawdown above the bottom of the well minus total drawdown.

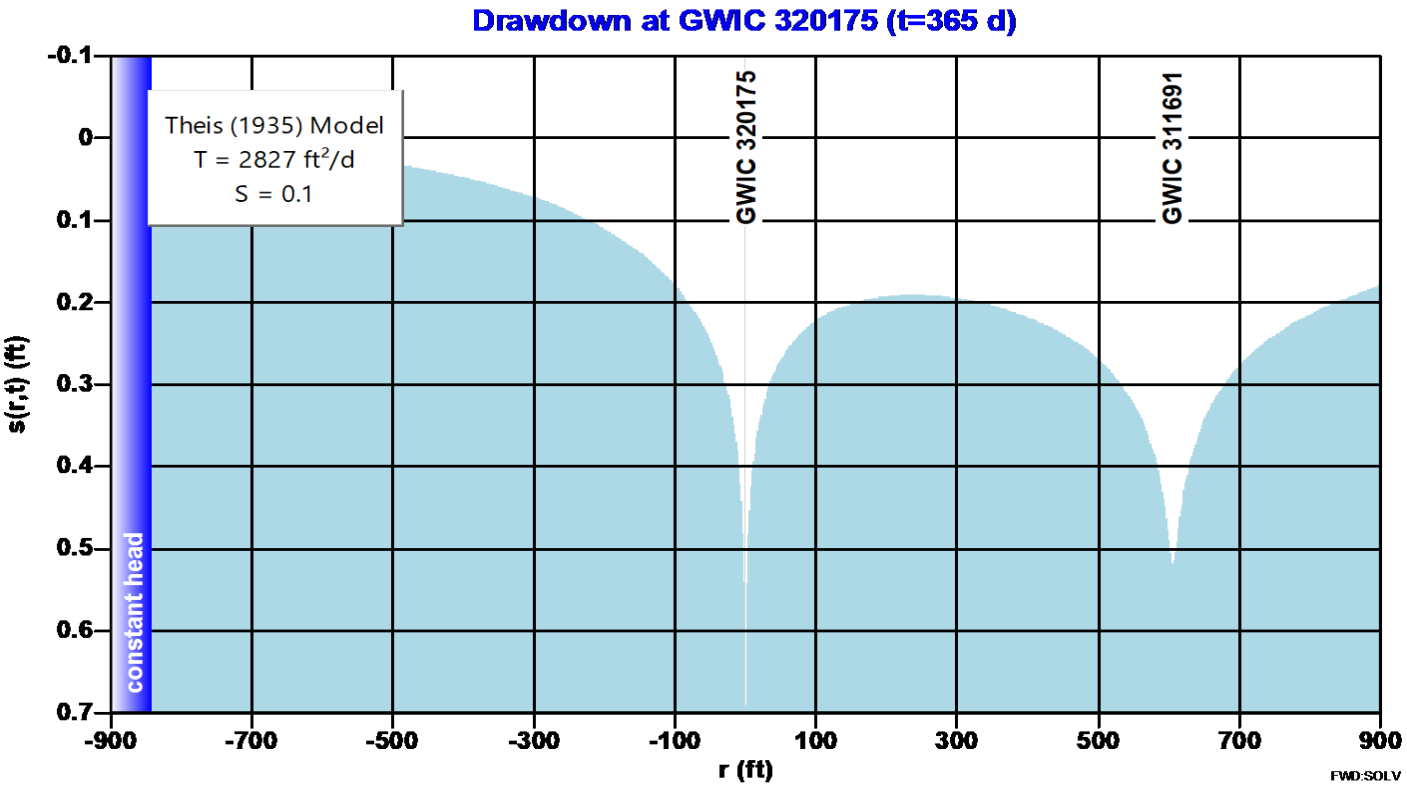


Figure 9: FWD:SOLV (HydroSOLVE INC., 2024) radial plot at the end of the first year/time-drawdown plot for the proposed pumping schedule for the proposed well. The profile is rotated 80 degrees, southwest (left side of plot) to northeast (right side of plot) to show the effect of the constant head boundary and interference drawdown.

Table 9: Remaining available water column for the proposed well(s).

Drawdown Estimate	Proposed Well 311691	Proposed Well 320175
Total Depth at Bottom of Perforated Interval (ft btc)[1]	33.00	53.50
Pre-Test Static Water Level (ft btc)	14.02	16.33
Available Drawdown Above Bottom of Well (ft)	18.98	37.17
Observed Drawdown of Aquifer Test (ft)	4.20	8.41
Modeled Drawdown Using Mean Aquifer Test Rate (ft)	1.36	2.31
Well Efficiency (%)	32%	27%
Predicted Theoretical Maximum Drawdown (ft)	0.76	0.64
Predicted Drawdown with Well Loss (ft)	2.35	2.33
Interference Drawdown (ft)	0.07	0.05
Total Drawdown (ft)	2.42	2.38
Remaining Available Water Column (ft)	**17**	**34.8**

[1]The total well depth measuring point (bgs) was adjusted to the top of well casing based on a 3 ft well casing stickup reported on the well log.

7.0 Physical Availability Analysis

An evaluation of groundwater availability in the source aquifer for the purpose of evaluating physical and legal availability was done by calculating groundwater flux through a zone of influence (ZOI) corresponding to the 0.01-foot drawdown contour. The 0.01-foot drawdown contour was modeled in FWD:SOLV (HydroSOLVE INC., 2024) using previously listed modeling inputs and the following pump schedule and boundaries:

- Constant pumping rate of 8.0 gpm for GWIC ID 320175 and 8.0 gpm for GWIC ID 3211691 for the period of diversion.
- No flow boundary 560 ft west and constant head boundary 250 ft east of the proposed wells to represent the aquifer boundaries.

The normalized pumping rate required to produce the annual volume is 16.0 gpm. The proposed wells were modeled as though they were pumping simultaneously at a constant year-round rate. According to **Figure 10** the 0.01-foot drawdown contour extends to the largest extent, approximately 5,142 ft from the Applicant's well(s). The western extent of the aquifer based on the 100k geologic map was represented as a no-flow boundary 560 ft west of the proposed wells. The Marias River was represented as a constant head boundary 250 ft east of the proposed wells. The river was treated as a constant head boundary because the Applicant proposes to pump the proposed wells at a constant year-round rate and drawdown within the aquifer will likely be influenced by boundary conditions after a prolonged period of pumping. In addition, water surface elevations for the proposed wells, calculated with 1-ft Lidar data (Montana State Library, 2020), are within 3 ft of the Marias River water surface elevation, indicating a direct connection of the alluvial aquifer with the Marias River.

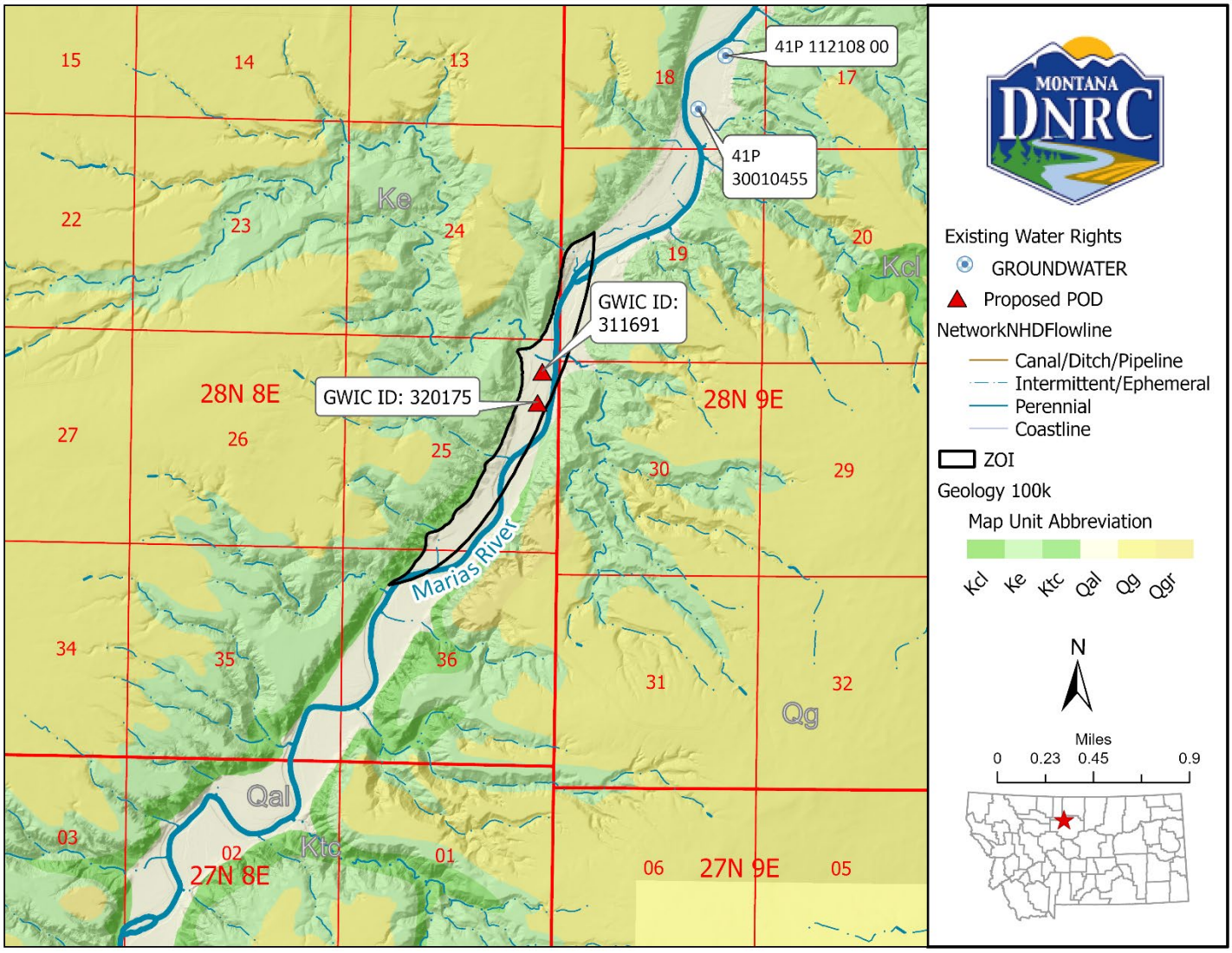


Figure 10: Map of the Zone of Influence (ZOI) and existing water rights. No groundwater rights are located within the ZOI.

No potentiometric surface maps to derive groundwater gradient and flow direction were found for this location. Therefore, groundwater gradient was calculated using the three-point solution described in Heath (1983) and Johnston and Harte (1996). The closest wells that are in a suitable configuration to produce reliable gradient estimates are approximately 6 miles south of the proposed project (**Figure 11**). These wells have similar construction and distance to the river as the proposed wells and are described in **Table 10**. The estimated gradient is 0.02 ft/ft towards the river with an azimuth of 230 degrees. Ground surface slope was also calculated at several locations and produced slope estimates ranging from 0.01 to 0.05 ft/ft in the vicinity of the proposed wells. Therefore, a groundwater gradient of 0.02 ft/ft is considered representative of conditions near the proposed project.

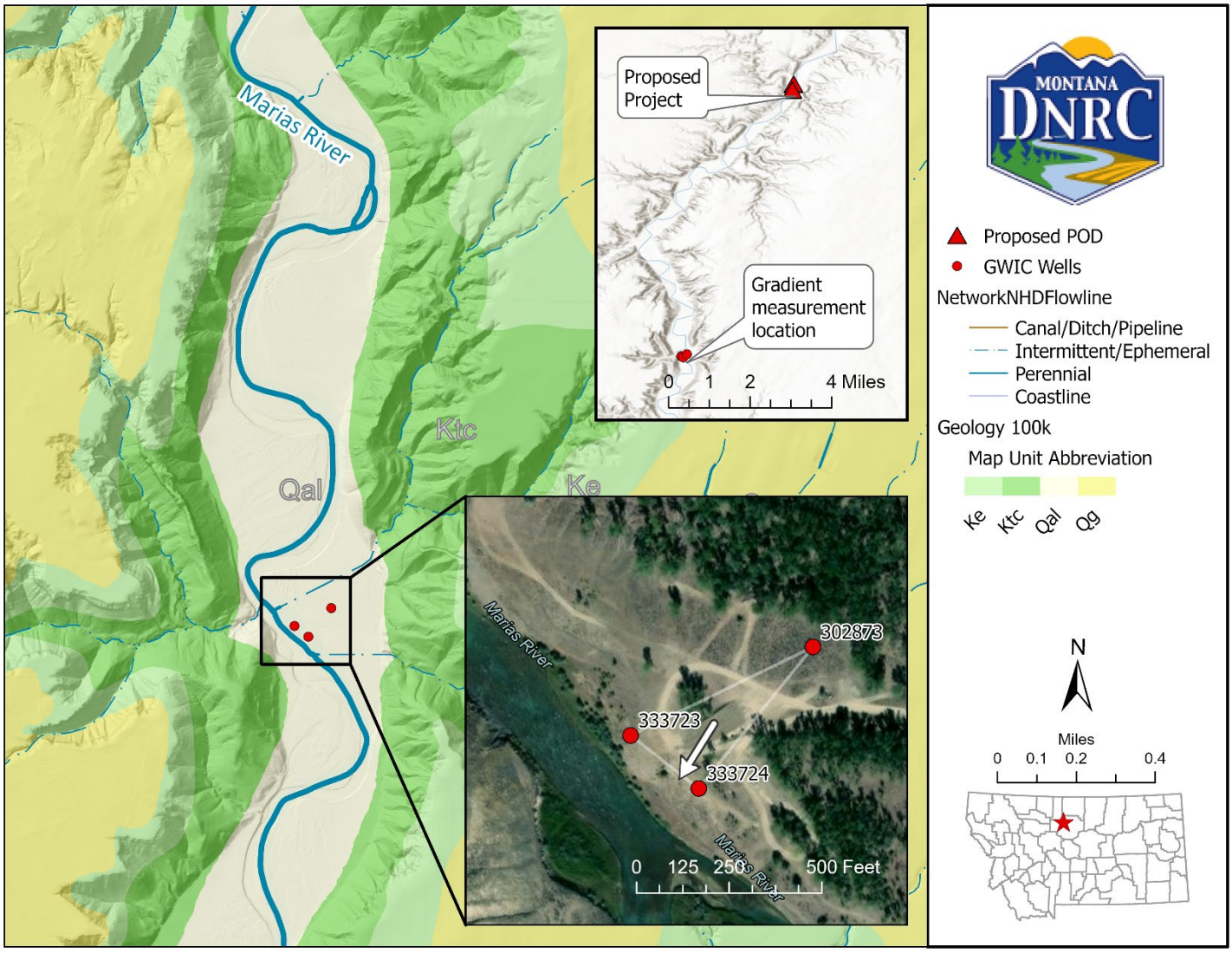


Figure 11: Map of the wells used to determine groundwater gradient and relationship to the proposed project location. Groundwater flow direction is indicated by the white arrow in the inset map.

Table 10: Construction details and water surface elevations for the wells used to determine groundwater gradient.

GWIC ID	Date Completed	Depth water enters (ft)	Static Water Level (ft)	Elevation (ft)	Water Surface Elevation (ft)
333723	9/13/2024	26	18.11	2,622	2,604
333724	9/16/2024	26	18.86	2,622	2,604
302873	7/19/2019	23	12	2,628	2,616

No active or severed water rights are located within the ZOI. The water surface elevations for GWIC ID 311691 and 320175 are 2,644 ft above mean sea level (amsl) and 2,641 ft amsl respectively as measured with 1-ft Lidar data (Montana State Library, 2020). The water surface elevation for the Marias River is approximately

2,644 ft amsl. Therefore, the groundwater flow direction is interpreted as towards the river, consistent with conditions observed from the wells used to determine gradient. Therefore, groundwater flow is predominantly to the east and the width of the ZOI that is perpendicular to groundwater flow equals 7,300 ft. The calculation for groundwater flux (Q) through the delineated area is given by Eq. 1 and is 412,742 ft^3/day or 3,458 AF/year:

$$\mathbf{Q = TWi}$$

where:
T = Transmissivity = 2,827 ft^2/day
W = Width of Zone of Influence = 7,300 ft
i = Groundwater gradient (estimated from field data) = 0.02 ft/ft

8.0 Adverse Effect Analyses

Under §85-2-402, Montana Code Annotated (MCA), using the Applicant's proposed pump schedule and associated volume, adverse effect is evaluated by modeling drawdown in nearby wells, changes in net depletions to surface water, and changes in return flows to surface water.

8.1 Groundwater - Drawdown in Existing Wells

The drawdown in existing wells was modeled in FWD:SOLV (HydroSOLVE INC., 2024) using previously listed modeling inputs and the following:

- Constant pumping rate of 8.0 gpm for GWIC ID 320175 and 8.0 gpm for GWIC ID 3211691 for a period of five years.
- No flow boundary 560 ft west and constant head boundary 250 ft east of the proposed wells to represent the aquifer boundaries.

After five years of pumping, maximum drawdown is 0.76 ft at Production Well 320175 and 0.83 ft at Production Well 311691. No groundwater rights are expected to experience drawdown greater than 1-ft from the proposed use.

8.2 Surface Water - Net Depletions (Consumed Water)

Pursuant to *Montana Trout Unlimited v. DNRC*, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the DNRC recognizes the connection between surface water and groundwater, and the effect of pre-stream capture and induced infiltration on surface waters.

Net depletions to surface water depend on propagation of drawdown to areas of the aquifer from which water can be captured. Captured water consists of two possible sources – a reduction in the natural discharge (outflow) rate of groundwater from the aquifer (pre-stream capture) or an increase in the natural/artificial recharge (inflow) rate to the aquifer (e.g. induced infiltration). Two important assumptions are made when evaluating net depletions: first the stream and underlying aquifer remain hydraulically connected by a continuous saturated zone, and second, the stream does not become dry. In addition, net depletion is not a function of groundwater flow rate or direction (Theis, 1938; Leake, 2011) and drawdown from pumping can

propagate through the entire thickness of the confining layer to overlying aquifers or surface waters (Konikow and Neuzil, 2007).

As such, net depletions are identified for hydraulically connected surface water sources, not including ditches or ephemeral streams. Net depletion is equal to consumption for proposed groundwater use and is described as the calculated volume, rate, timing, and location of reductions to surface water that are offset by return flows (non-consumed water). Net depletion is evaluated by 1.) quantifying the consumed volume associated with the proposed use; 2.) identifying hydraulically connected surface waters; and 3.) calculating the monthly rate and timing of net depletions to affected surface water(s).

1. Consumed Volume

Consumed groundwater does not return to the source aquifer. Consumed volume depends on the proposed use and its associated percentage of known consumption. Depletion is assumed to be equivalent to consumption on an annual basis unless return flows do not accrete to the potentially affected surface water.

Monthly consumption for irrigation, not including turf grass, can be calculated using ARM 36.12.115 irrigation standards and associated efficiency values or the net irrigation requirement (dry year 80% chance) calculated using the USDA Natural Resources Conservation Service (NRCS) IWR program with inputs consistent with DNRC consumptive use rules in ARM 36.12.1902. Monthly consumption for irrigation of turf grass (lawns) is calculated using either a minimum efficiency value of 70% and ARM 36.12.115 lawn and garden standards or the net irrigation requirement from IWR with inputs consistent with DNRC (2010) Consumptive Use Methodology for turf grass.

Consumption for other purposes are listed in **Table 11** and are based on the results of studies by Kimsey and Flood (1987), Vanslyke and Simpson (1974), Paul, Poeter, and Laws (2007), DNRC (2018), wastewater treatment method, operation of systems, or DNRC policy. Net evaporation is calculated using gridded monthly net evaporation values and methodologies associated with DNRC (2023). Municipal use for non-municipalities(e.g. water district) may have variable consumption rates.

Table 11: Percent consumption by use.

Purpose	Method of Treatment/Use	Consumed
Domestic/Municipal/Commercial/Institutional	Individual drainfields	10%
Domestic/Municipal/Commercial/Institutional	Central treatment facility with minimal consumption	5%
Domestic/Municipal/Commercial/Institutional	Evaporation basin or land application	100%
Municipal Use for Municipality	Variable	100%
Water Marketing/Agriculture Spraying/Stock Water/some Industrial Uses	Variable	100%
Commercial/Industrial	Aggregate Washing – construction standard for moisture allowed in the finished aggregate product.	5%
Commercial	Snow Making – depends on time of day, machine, weather at time of operation, etc.	10-30%
Fisheries, Recreation, Storage for Irrigation	Net evaporation off reservoir surface, gridded monthly net evaporation values and methodologies	AF/acre
Geothermal	Closed loop systems	0%

WSB Findings

For the subject application, wastewater for the proposed domestic and industrial uses would be treated with evaporation basin or land application, resulting in 100% consumption. The Applicant stated that the batch plant would result in 100% consumption. The total consumed volume by purpose is shown in **Table 12**.

Table 12: Consumed volumes for the proposed use.

Month	Domestic Diverted Volume (AF)	Domestic Consumed Volume (AF)	Industrial Diverted Volume (AF)	Industrial Consumed Volume (AF)	Batch Plant Diverted Volume (AF)	Batch Plant Consumed Volume (AF)	Total Diverted Volume (AF)	Total Consumed Volume (AF)
January	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
February	1.3	1.3	0.6	0.6	0.1	0.1	2.0	2.0
March	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
April	1.4	1.4	0.7	0.7	0.1	0.1	2.1	2.1
May	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
June	1.4	1.4	0.7	0.7	0.1	0.1	2.1	2.1
July	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
August	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
September	1.4	1.4	0.7	0.7	0.1	0.1	2.1	2.1
October	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
November	1.4	1.4	0.7	0.7	0.1	0.1	2.1	2.1
December	1.4	1.4	0.7	0.7	0.1	0.1	2.2	2.2
Total	16.8	16.8	8.0	8.0	1.0	1.0	25.8	25.8

2. Hydraulically Connected Surface Water(s) and Location of Net Depletions

Potentially affected surface waters in a net depletion evaluation are identified by their hydraulic connection, both direct and indirect, to the source aquifer of a proposed groundwater diversion. Hydraulic connection depends on the depth to groundwater beneath the beds of surface waters, connection between deep and overlying shallow aquifers, vertical gradients, and can vary along a reach and with time of year.

Procedures for evaluating hydraulic connection and identifying one or more potentially affected surface water(s) for a proposed well in an unconfined/confined aquifer or regional bedrock aquifer can be found in DNRC (2018) and DNRC (2019), respectively. Net depletion is apportioned between multiple potentially affected surface waters generally following procedures described in Section 3.2 of a guidance document developed by the Province of British Columbia (2016) for determining the effect of groundwater diversion on specific streams.

Following protocols in DNRC (2018) **Table 13** identifies published information used to assess hydraulically connected surface water(s). Not all data may be available for each project and is noted as “NA” when that occurs.

Table 13: Published information used to identify hydraulically connected surface water(s).

Published Information	Surface Water Source: Marias River	Surface Water Source: Unnamed Tributary to Marias River
USGS National Hydrographic Dataset (NHD)[1]	Perennial	Intermittent
USGS PROSPER Dataset[2]	Perennial (0.74-0.77)	Intermittent (0.45-0.54) at mouth, decreases upstream
MBMG GWIC wells, less than 50 ft deep, within 1,000 ft of surface water, static water levels above or within 10 ft of elevation of stream bed (DNRC, 2018)[3]	311691, 320175	311691, 320175
Published Water Table Maps, Publications, Previous Water Rights, etc.[4]	NA	NA
Gridded National Soil Survey Geographic Database[5]	Partially hydric conditions along river channel	No hydric conditions along channel
Aerial imagery	Water present	No water present
Affidavits, photographs, etc.	Flow regime controlled by Lake Elwell/Tiber Reservoir 30 miles upstream	NA

[1] Review NHD to identify perennial, intermittent, and ephemeral classifications for surface water sources most proximal to the proposed diversion(s).

[2] USGS PROSPER probability of streamflow permanence (greater than 50 percent of the time it flows).

[3] Per DNRC (2018) hydraulic connection of individual stream reaches to ground water is evaluated by comparing streambed elevations to static ground water elevations measured in MBMG GWIC wells less than 50 ft deep and within 1,000 ft of surface water or from published water table maps. Surface water within that area is considered hydraulically connected to the unconfined aquifer if static ground water elevations are above or within 10 ft of the elevation of the stream bed.

[4]No water table maps available.

[5] Review Gridded National Soil Survey Geographic Database to identify hydric soils or shallow water tables near surface water sources.

WSB Findings

Based on the review of the published information in **Table 13**, the source aquifer is hydraulically connected to the Marias River, a perennial surface water source. One nearby tributary approximately 200 ft north of GWIC ID 311691 was also considered but was determined to not be perennial (**Table 13**). Therefore, the Marias River

is the hydraulically connected surface water source and the starting point of the depleted reach starts along the southern boundary of the NENENE of Section 25, Township 28 North, Range 8 East, Chouteau County (**Figure 12**).

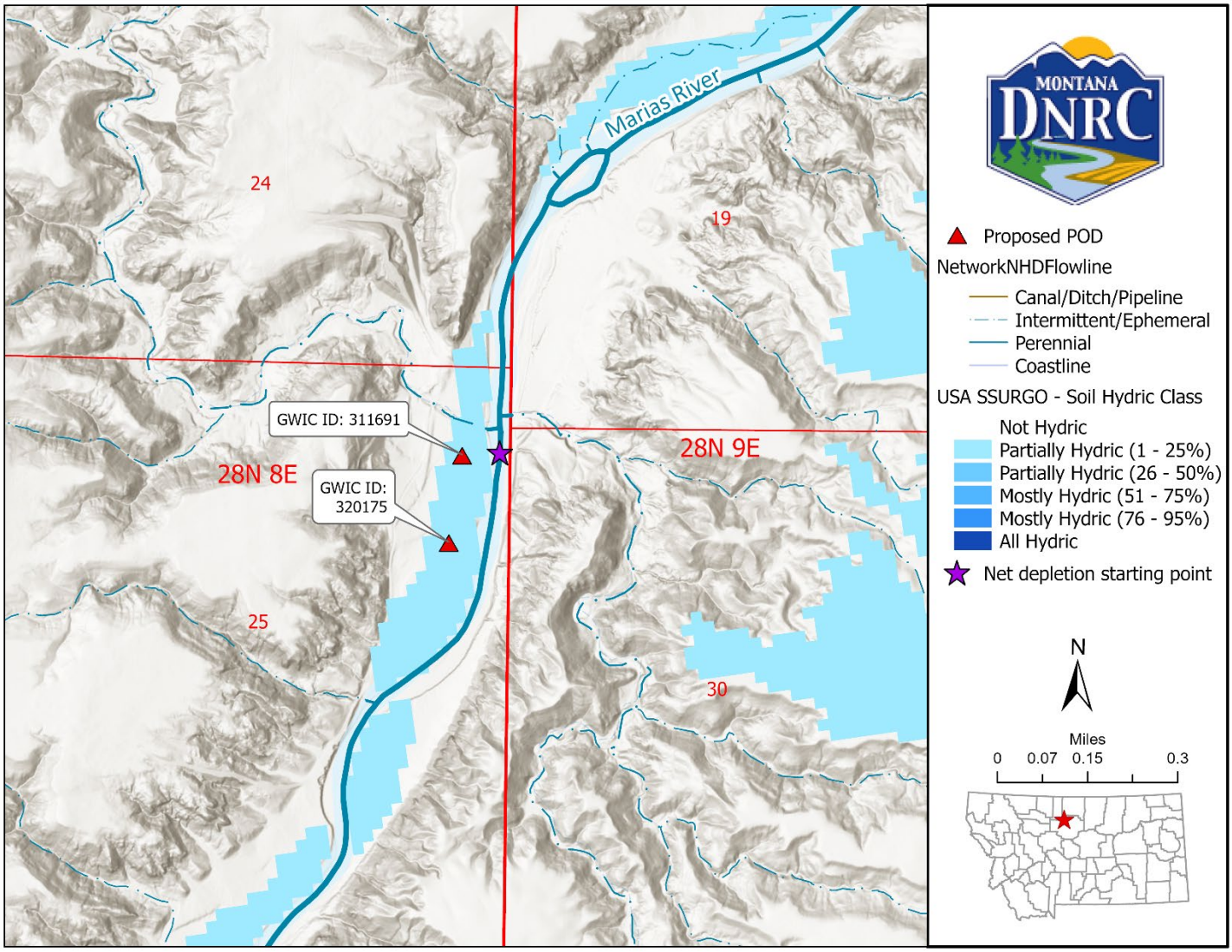


Figure 12: Data used to assess hydrologic connection and starting point of the depleted reach.

3. Rate and Timing of Depletions

Evaluations of the rate and timing of depletions caused by pumping are based on the basic concept that groundwater pumping eventually is offset by an equivalent increase in recharge or decrease in discharge (Theis, 1940; Leake et al., 2008), a process defined as capture by Lohman (1972). Capture occurs as drawdown propagates to surface water and areas of phreatophyte vegetation that takes water directly from groundwater. In the absence of credible evidence to the contrary, capture of ET by phreatophytes is neglected and net depletion is assumed to equal total capture. This assumption is justified because published estimates for conditions common in Montana alluvial valleys indicate capture of ET generally is less than 10 percent of

total capture (Xunhong, 2006). Capture of ET in ephemeral drainages may be significant and will be evaluated on an application-by-application basis.

The rate and timing of net depletion caused by pumping may be modeled using a variety of analytical and numerical models selected to fit site-specific conditions and needs. Simple models including the Alluvial Water Accounting System (AWAS), the Well Pumping Depletion Model (WPDM) or FWD:SOLV (HydroSOLVE, 2024) typically are used by DNRC to model depletions to one source with simple aquifer boundaries. Adjustments may be made for more complex conditions or multiple sources using methods like those described by Contor (2011), analytical models by Hunt (2003) and Butler et al. (2001) or a superposition numerical groundwater flow model.

Modeling is not necessary in some situations such as where a proposed use is constant year-round, because of the depth to the source aquifer, and a distance to potentially affected stream reaches. Modeling of depletions can be simplified if the proposed place of use is located the same relative distance from the potentially affected surface water as the proposed wells and all non-consumed water infiltrates the source aquifer and returns to the potentially affected surface water as return flows. Under those simplifying assumptions, depletion can be modeled based on withdrawal of the monthly consumed amounts. Otherwise, depletion by the full withdrawals and return flows need to be modeled separately with net depletion calculated as depletion minus return flows.

Net depletion by pumping in the source aquifer primarily occurs through propagation of drawdown through the unconfined aquifer to the potentially affected reach of the Marias River. The proposed use is constant year-round, therefore net depletion would occur at a constant year-round rate equal to the consumed volume. Monthly net depletions to the Marias River are identified in **Table 1**.

Review

This document has been reviewed on January 27, 2026, in accordance with Category 7 of DNRC's Water Sciences Bureau Minimum Standards of Review, Version 2, February 2024.

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Groundwater Permit Technical Analyses Report – Part B

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

Application No.	41P 30172629	**Proposed Point of Diversion**	POD Well 1: SENENE, Sec 25, T28N, R08E, Chouteau County. POD Well 2: NESENE, Sec 25, T28N, R08E, Chouteau County.
Applicant	Sunny Brook Colony		

Overview

This report is Part B of a two-part publication which 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 Groundwater Permit Technical Analyses Report – Part B contains the following sections:

Overview 1
Variances 2
1.0 Application Details 3
2.0 Surface Water Analysis of Depleted Surface Water 5
2.1 Source Description 5
2.2 Method of Estimation 5
2.3 Monthly Flow Rate and Volume 5
3.0 Area of Potential Impact Analysis of Depleted Surface Water 7
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Variances

The following variances found in ARM 36.12.121(3)(e)(iii), ARM 36.12.121(3)(g), and ARM 36.12.121(3)(h) were granted from the Havre Regional Office on December 18, 2025, for the following reasons:

72-hr Test Duration

(3)(e)(iii)

Requirement: the testing procedures for a minimum eight-hour drawdown and yield test performed on any production well must follow (a), (d), and (h)

Reason for Granting: Groundwater levels were not recorded according to the schedule on Form No. 633. The sampling interval was equal to or greater than the minimum 30-second interval for the first 10 minutes of the test and will be resampled to match the Form No. 633 schedule. The sampling interval does not affect the analysis of the aquifer test data.

24-hr Test Duration

(3)(g)

Requirement: Background groundwater levels in the production well and observation well(s) must be monitored at frequent intervals for at least two days prior to beginning the aquifer test according to Form No. 633.

Reason for Granting: Background water levels were monitored for less than 1-hr prior to the 24-hr aquifer test. The Applicant provided an analysis of precipitation and river stage prior to and during the aquifer test. This information did not show hydrologic conditions that would significantly impact the analysis of the aquifer test.

(3)(h)

Requirement: Groundwater levels in the production and/or observation well(s) must be reported with 0.01-foot precision according to the schedule specified on Form No. 633

Reason for Granting: Drawdown in the Observation Well was recorded at 5-minute intervals for the 11/10/2021 aquifer test. The sampling interval was less than the minimum interval for the first 20 minutes of the test and exceeded the minimum sampling interval for the remainder of the 24-hr aquifer test. The data will be resampled to match the Form No. 633 schedule, where applicable, and this does not affect the analysis of the aquifer test.

1.0 Application Details

The Applicant proposes to divert water from January 1 to December 31 from two wells at a rate of 29.5 GPM. 25.8 AF of water would be used from January 1 to December 31 for Multiple Domestic and Industrial use in the SE, Section 20, T28N, R08E, Chouteau County, and the NENE, Section 20, T28N, R08E, Chouteau County.

Table 1. Summary of the proposed use.

Purpose	Period of Diversion	Period of Use	Flow Rate (GPM)	Volume (AF)
Multiple Domestic: 36-38 Dwellings	01/01 - 12/31	01/01 - 12/31		16.8
Industrial: 8 Shops	01/01 - 12/31	01/01 - 12/31		8
Industrial: 1 Batch Plant	01/01 - 12/31	01/01 - 12/31		1
		Total	29.5	25.8

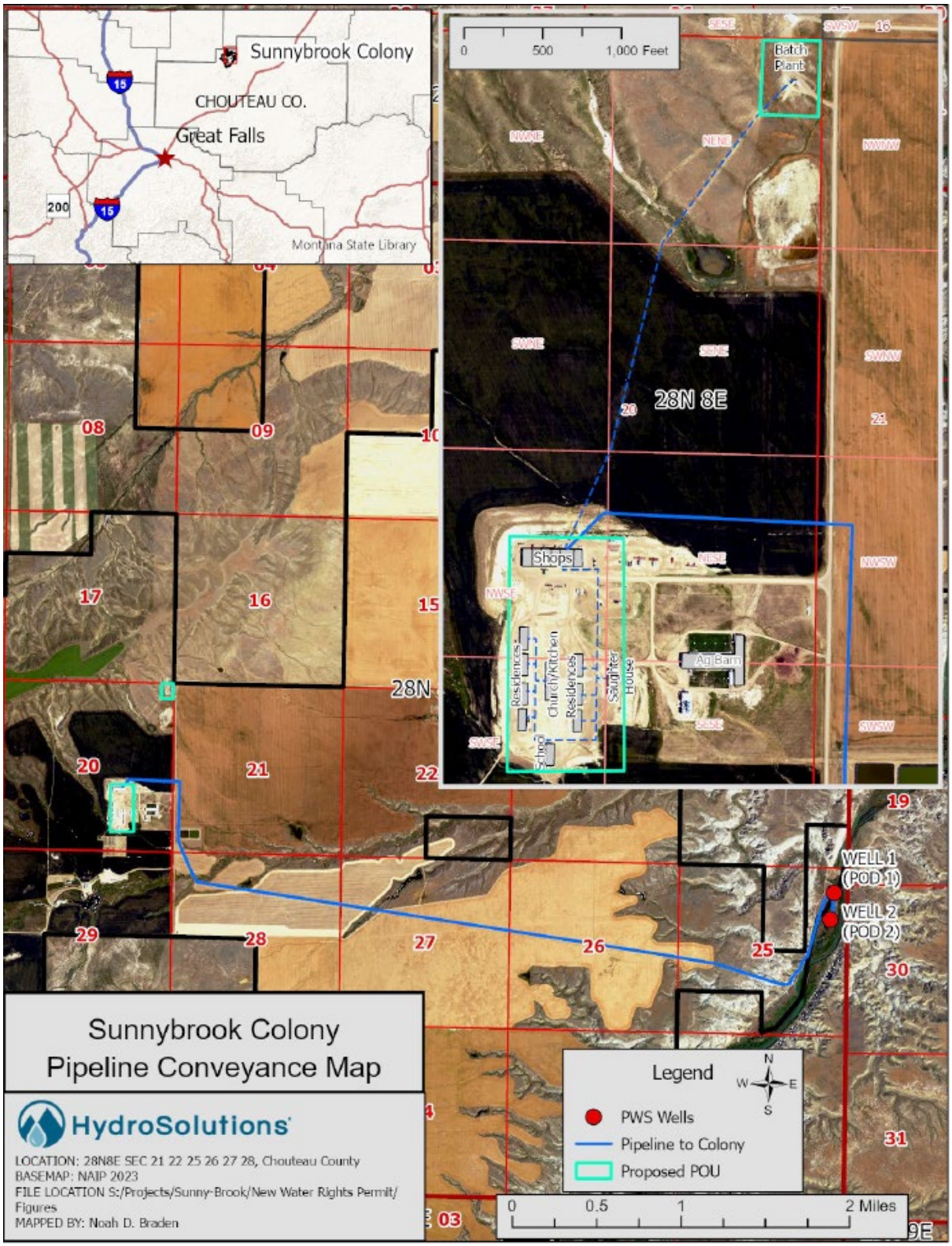


Figure 1: Undated, Applicant-Provided Map of Proposed Points of Diversion and Proposed Place of Use.

2.0 Surface Water Analysis of Depleted Surface Water

2.1 Source Description

Part A of the Technical Analyses Report includes the Groundwater Analysis, which describes the methodologies used to identify the depleted surface water source.

Depleted Source of Water: Marias River

Depleted Source Type: Perennial Stream

Location of Depletions: Point of Diversion to Gage Station #06102050, Marias River near Loma, MT.

Point of Diversions:

POD 1 (Well 1): SENENE, Sec 25, T28N, R08E, Chouteau County.
POD 2 (Well 2): NESENE, Sec 25, T28N, R08E, Chouteau County.

Gage Station: SESW, Sec 04, Lot 10, T25N, R09E, Chouteau County.

Latitude 47°56'45.25" Longitude 110°34'51.02"

2.2 Method of Estimation

Gage Name: Marias River near Loma, MT.

Gage Number: 06102050

Period of Record: October 1959 – Current

Why this gage is considered an appropriate data source: According to ARM 36.12.1702, 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 06102050, Marias River near Loma, MT, is the nearest gage to the proposed point of diversion and is approximately 17 river miles downstream of the point of diversion. The date range includes the entire period of record for this gage.

2.3 Monthly Flow Rate and Volume

The physical availability of the Marias 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 POD and the gage 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 Marias River using USGS Gage #06102050 records for each month of the proposed period of diversion (Table 2, column B). Those flows were converted to monthly volumes in AF (Table 2, 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 2, column D) by:
    i. Generating a list of existing water rights from the Marias River uppermost POD to USGS Gage #06102050 (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 2.69 AF/AC per Department water use standards for Climatic Area II.
    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 #06102050 and the POD on the Marias River (Table 2, column D) to the median of the mean monthly gage values (Table 2, column B) to determine physical availability at the POD (Table 2, column F). Physically available monthly flows were then converted to monthly volumes (Table 2, column G).

Table 2: Physical Availability at the Point of Diversion on the Marias River

A	B	C	D	E	F	G
Month	Median of the Mean Monthly Flow at Gage #06102050 (CFS)	Median of the Mean Monthly Volume at Gage #06102050 (AF)	Existing Rights from Gage #06102050 to POD (CFS)	Existing Rights from the POD to Gage #06102050 (AF)	Physically Available Water at POD (CFS)	Physically Available Water at POD (AF)
January	324.20	19,899.40	1.11	8.86	325.31	19,908.26
February	379.60	21,045.02	1.11	8.86	380.71	21,053.89
March	430.30	26,411.81	1.11	8.86	431.41	26,420.68

April	540.85	32,126.49	31.90	629.89	572.75	32,756.38
May	917.00	56,285.46	38.22	728.06	955.22	57,013.52
June	1,193.00	70,864.20	38.22	728.06	1,231.22	71,592.26
July	692.50	42,505.65	38.22	728.06	730.72	43,233.71
August	698.00	42,843.24	36.14	691.08	734.14	43,534.32
September	601.35	35,720.19	36.14	691.08	637.49	36,411.27
October	526.35	32,307.36	18.99	234.87	545.34	32,542.23
November	596.90	35,455.86	6.23	74.43	603.13	35,530.29
December	396.10	24,312.62	1.11	8.86	397.21	24,321.48

3.0 Area of Potential Impact Analysis of Depleted Surface Water

The Area of Potential Impact for this application is: The area of potential impact is approximately 5 river miles downstream of the uppermost proposed point of diversion. A total of 9 surface water rights exist within the reach, including Montana Fish, Wildlife & Parks Instream Flow Water Reservation (41P 30017508). A list of rights can be found in **Appendix A**.

Why this is an appropriate Area of Potential Impact:

Depletion modeling suggests that depletion of the Marias River will occur due to its proximity to the well field. In addition, mitigation will be provided under a Tribal (Chippewa Cree or Blackfeet) Water Service Contract that will offset the full volume consumed each month. Water will be released from Lake Elwell through Tiber Dam on a normalized monthly basis.

A list of rights can be found in **Appendix A**. To quantify the area of impacted water rights, the methodology detailed in 2.3 Monthly Flow Rate and Volume was used. Senior surface water rights could include all active Statements of Claim, Provisional Permits, Conservation District Reservations, Instream Flow Reservations, Federally Reserved Water Rights, and Hydropower Water Rights.

Review

This document has been reviewed by Matt Miles, Havre Regional Manager, on February 2, 2026.

References

Department Standard Practice for Determining Physical Availability of Surface Water
Department Standard Practice for Area of Potential Impact Analysis
Technical Memorandum: Physical Availability of Surface Water with Gage Data

Appendix A: Water Rights within the Area of Potential Impact

WATER RIGHT NUMBER	WATER RIGHT TYPE	PERIOD OF DIVERSION	FLOW RATE (CFS)	VOLUME (AF)
41P 24612 00	PROVISIONAL PERMIT	01/01 - 12/31	0.05	32.3
41P 58210 00	PROVISIONAL PERMIT	01/01 - 12/31	0.07	12.7
41P 30110255*	STATEMENT OF CLAIM	01/01 - 12/31	0.12	27.5
41P 30122516*	STATEMENT OF CLAIM	01/01 - 12/31	0.08	0.9
41P 30140369*	STATEMENT OF CLAIM	01/01 - 12/31	0.11	1.4
41P 124684 00**	STATEMENT OF CLAIM	04/01 - 11/01	1.34	94.2
41P 124683 00**	STATEMENT OF CLAIM	04/01 - 11/01	1.34	115.7
41P 105759 00	PROVISIONAL PERMIT	04/15 - 09/30	16.04	2622.2
41P 30017508	WATER RESERVATION	01/01 - 12/31	488.5	353,633.76

* These Statements of Claim were issued for Livestock Drinking Directly from the source.
** These Statements of Claim were issued for Irrigation, in which a volume was not given.

Preapplication Materials

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

Preapplication Materials

PREAPPLICATION MEETING FORM: PART B

PERMIT

§ 85-2-302, MCA

Form No. 600P-B *(Revised 02/2025)*

For Department Use Only

Application # 30172629 Basin 41P

Form Received 12/29/2025

Fee Rec'd $ 500 Check # _____

Deposit Receipt # Application # 41P 30170770

Payor _____

Form Returned _____

Refund $ _____ Date _____

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)).

The Applicant is responsible for providing a "Follow-up Responses" document for all follow-up identified in Preapplication Meeting Form Part A (Form 600P-A). The Applicant may not alter Form 600P-A. 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.

The following guidelines are applicable to both the "Follow-up Responses" and "Amended Responses" documents. Clearly label all question numbers. Answer questions in the same format as Form 600P-A. 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 included with the document.

1. ☐ **Y** ■ **N** Are you submitting this form in response to a determination by the Department that a previously submitted Form 600P-B was inadequately completed?

   If yes,

   a. Date form was returned ("Form Returned" date found in "For Department Use Only" box on the previously submitted Form 600P-B): _____

   b. If a "Follow-up Responses" or "Amended Responses" document is required by questions 2 or 3, submit complete updated documents with responses that stand-alone. The Department will only use the most recently submitted "Follow-up Responses" and "Amended Responses" documents for departmental technical analyses or scientific credibility review; the Department will not use multiple versions of a document.

2. ☐ **Y** ■ **N** Were any questions identified as requiring follow-up on Form 600P-A?

   If yes,

   a. ☐ **S** Submit "Follow-up Responses" document for all questions requiring follow-up.

3. ☐ **Y** ■ **N** Are you submitting amended responses to any questions from Form 600P-A?

If yes,

a. ☐ **S** Submit "Amended Responses" document and record in the table below each question number with an amended response. The amended response will entirely replace the previous response; the amended response cannot build off the previous response.

Question No.	Question No.	Question No.	Question No.

FOLLOW-UP AND AMENDED RESPONSES AFFIDAVIT & CERTIFICATION

"I attest that this preapplication meeting form (Form 600P-A and Form 600P-B), follow-up, and amended responses accurately portray the 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, amended responses, or follow-up materials (ARM 36.12.1302(6)(a))."

Ben P Wipf — 12-29-2025

Applicant Signature — Date

Stephen J Wipf — 12-29-25

Applicant Signature — Date

"We confirm that the preapplication form (Form 600P-A and Form 600P-B), amended responses, and follow-up information are adequate for the Department to proceed with technical analyses in ARM 36.12.1303. Or, if the Applicant has elected to complete technical analyses, we confirm they have submitted each required element of technical analysis based on the proposed project and the Department is able to proceed with the scientific credibility review (ARM 36.12.1303(8))."

Matt Miles Digitally signed by Matt Miles Date: 2025.12.31 12:47:24 -07'00'

Department Signature — Date

Department Signature — Date

PREAPPLICATION MEETING FORM: PART A
PERMIT

§ 85-2-302, MCA
Form No. 600P-A *(Revised 10/2025)*

For Department Use Only

Application # 30172629 Basin # _____

Meeting Date 12/10/25 Time 9:00 AM

Variance Request Deadline 4/27/26

Completed Form Deadline 6/8/26

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)).

The Department will fill out Permit Preapplication Meeting Form Part A (Form 600P-A) and will identify items for follow-up during the preapplication meeting. The Department and Applicant will sign the Preapplication Meeting Affidavit and Certification within 10 business days. Within 180 days of the preapplication meeting, the Applicant will complete Preapplication Meeting Form Part B (Form 600P-B), including identified follow-up, any amended responses, and Follow-up and Amended Responses Affidavit & Certification. Variance requests must be submitted on Form 653 to the Department on or before the Variance Request Deadline, which is day 138 of the 180 day-deadline for a completed preapplication meeting form. Form 653 may be submitted earlier than the Variance Request Deadline. The Department has 30 business days to process the Form 653.

Applicant Information: *Add more as necessary.*

Applicant Name SUNNY BROOK COLONY INC
Mailing Address 12495 GOOSEBILL RD City FORT BI State MT Zip 59442
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Applicant Name _____
Mailing Address 303 CLARKE ST City HELENA State MT Zip 59601
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 DAVID BALDWIN, HYDROSOLUTIONS INC
Mailing Address 303 CLARKE ST City HELENA State MT Zip 59601
Phone Numbers: Home - Work 406-431-7760 Cell -
Email Address dbaldwin@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 (ARM 36.12.122(2)). If a contact person is identified as a consultant, employee, or lessee, the applicant will receive all correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).*

Meeting Attendees: *Add more as necessary.*

Name	Role	Name	Role
DAVE BALDWIN	CONSULTANT		
KAILEE INGALLS	DNRC WRS (HAVRE RO)		

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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. Responses in the form of a table may be entered into the table provided on this form or 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. Label units in narrative responses and tables. 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".

S = Submitted. *Use when required item is included with form.*

A = See attachment. *Use when additional space is needed to answer a question.*

F = Follow-up. *Use when follow-up is necessary.*

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-up**
1. Do you elect to have DNRC conduct Technical Analyses?	■ Y ☐ N	☐ F
2. Provide a map created on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, north arrow, all proposed points of diversion labeled with a unique POD ID number (include GWIC ID, if available, for wells), all proposed places of use, all proposed conveyance structures (including ditches and pipelines), all proposed places of storage, and places of use for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.	☒ S	☐ F
3. Is the project located in a Controlled Groundwater Area or Basin Closure Area? If yes, immediately go to Mandatory Project-Specific questions 54 to 56 because Form 600 may be the incorrect form, or this project may not meet the requirements for the Department to accept a Form 600.	☐ Y ■ N	☐ F
4. Is the proposed use temporary?	☐ Y ■ N	☐ F
a. If yes, when will the appropriation cease? _____	☐ A	☐ F

5. Describe the proposed purpose information, including period of diversion (MM/DD-MM/DD), period of use (MM/DD-MM/DD), flow rate (GPM or CFS) and volume (AF).

☒ A ☐ F

Purpose	Period of Diversion	Period of Use	Flow Rate			Volume
	(MM/DD-MM/DD)	*(MM/DD-MM/DD)*	*Flow Rate*	*GPM*	*CFS*	*(AF)*
Multiple Domestic	01/01 - 12/31	01/01 - 12/31	29.5	☐	☐	16.8
Industrial - 8 Shops	01/01 - 12/31	01/01 - 12/31	29.5	☐	☐	8
Industrial - 1 Batch Plant	01/01 - 12/31	01/01 - 12/31	29.5	☐	☐	1
				☐	☐	
				☐	☐	
		Total	29.5	☐	☐	25.8

6. Does the proposed use include one or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the following table, where applicable.

☒ Y ☐ N ☐ F

Purpose	Requested Information	Response
Domestic or multiple domestic	Number of households and bedrooms served per household	36-38 Residences
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	
Irrigation (flood only)	Design slope	

7. Describe the proposed location of the point(s) 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 each POD with the POD # used for the project map (question 2).

☒ A ☐ F

POD #	¼	¼	¼	Sec	Twp	Rge	County	Lot	Block	Tract	Subdivision	Gov Lot	SW or GW	Source Name	Means
	SE	NE	NE	25	28N	8E	CHOUTEA						GW	Qal Aquifer	WELL
				25	28N	8E	CHOUTEA						GW	Qal Aquifer	WELL

8. What are the geocodes of the place of use?	☐ A	☐ F

19-3998-20-1-01-01-0000	

9. Describe the legal land description for the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres.	☐ A	☐ F

Acres	Gov't Lot	Block	¼	¼	¼	Sec	Twp	Rge	County
					SE	20	28N	08E	CHOUTEAU
				NE	NE	20	28N	08E	CHOUTEAU
	Total								

10. Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?	☐ Y ☒ N	☐ F
a. If yes, summarize how the water rights will be operated as a whole to serve the purpose(s).	☐ A	☐ F

11. For each supplemental or overlapping water right, please list the water right number, purpose, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed.	☐ A	☐ F

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

12. Will this application supplement contract water from a Federal Project, ditch company, or other source?	☐ Y ▣ N	☐ F
a. If yes, explain. _____ _____ _____	☐ A	☐ F
13. Does the project involve one or more places of storage? This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)). If yes, answer the following questions once for each place of storage. Use an "Additional Place of Storage (600P)" sheet if more than one. Additionally, you may choose to answer non-mandatory questions 76 to 80 for place of storage.	☐ Y ▣ N	☐ F
a. Is this application to enlarge an existing reservoir? If yes, list the water right numbers for the existing reservoir. _____	☐ Y ☐ N	☐ F
b. Is the place of storage located on-stream?	☐ Y ☐ N	☐ F
c. What is the capacity of the proposed place of storage or the existing place of storage after it is enlarged? 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 = Capacity (AF)* _____	☐ A	☐ F

d. What is the surface area of the place of storage?	☐ A	☐ F
14. Will your system be designed to discharge water from the project?	■ Y ☐ N	☐ F
a. If yes, explain the wastewater disposal method. A discharge permit may be required to comply with §§ 75-5-410 and 85-2-364, MCA. 100% Consumed - Domestic Evaporation basin or land application 100% Consumed - Batch Plant (Request Per Consultant) 100% Consumed - Industrial	☐ A	☐ F
15. Does the project involve an appropriation that is greater than 5.5 CFS and 4,000 AF? If yes, you must submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AF (Form 600-B) with application submittal. The criteria are found in §85-2-311(3), MCA.	☐ Y ■ N	☐ F
16. Will you be transporting water for use outside of Montana? If yes, you must 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. Does the project include the water marketing purpose? If yes, you may choose to answer non-mandatory questions 81 to 85 for water marketing. A Water Marketing Purpose Addendum (Form 600/606-WMA) will be required with application submittal.	☐ Y ■ N	☐ F
18. Are you proposing a point of diversion and/or place of use on State of Montana Trust Land? If yes, documentation of consent from the DNRC Trust Lands Management Division will be required at application submittal.	☐ Y ■ N	☐ F
19. Is the project located in designated sage grouse habitat? If yes, a review letter from the Montana Sage Grouse Habitat Conservation Program will be required at application submittal.	■ Y ☐ N	☐ F

SURFACE WATER

☐ **Applicable**, move on to question 20. ⬓ **Not Applicable**, skip to question 30.

The following questions are mandatory for surface water permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Surface Water Analysis

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-up**
20. What is the flow rate (GPM or CFS), volume (AF), period of diversion start date and end date (MM/DD-MM/DD), and source type (e.g., perennial, ephemeral) at each point of diversion? Use the same POD # as the project map (question 2) to label each point of diversion.	☐ A	☐ F

POD #	**Flow Rate**			**Volume**	**Period Start**	**Period End**
	Flow Rate	*GPM*	*CFS*	*AF*	*MM/DD*	*MM/DD*
		☐	☐			
		☐	☐			
		☐	☐			
		☐	☐			
		☐	☐			

21. Is the source type of the diversion perennial or intermittent, ephemeral, lake, or other? _____	☐ A	☐ F

Perennial or intermittent	Answer questions 22 to 25	**Ephemeral**	Answer question 26	**Lake**	Answer question 27	**Other**	Answer questions 28 to 29

Surface Water Analysis: Perennial or Intermittent

☐ **Applicable** ☐ **Not Applicable**

22. Are stream gage data available?	☐ Y ☐ N	☐ F
a. If yes, answer question 23.		
b. If no, answer question 24.		

23. Stream gage data are available.		
a. Is one stream gage located above the most upstream POD and one stream gage located below the most upstream POD?	☐ Y ☐ N	☐ F
i. If no, is only one stream gage located near the most upstream POD?	☐ Y ☐ N	☐ F
1. If yes, is the stream gage located upstream or downstream? _____		☐ F
b. List the gage name(s). Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
c. What is the distance between the gage(s) and the most upstream POD? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the most upstream POD? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, the Regional Office may provide assistance.	☐ Y ☐ N	☐ F
i. If yes, explain. _____ _____ _____	☐ A	☐ F
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F

g. Is each available stream gage operated and maintained by USGS or DNRC?	☐ Y ☐ N	☐ F
i. If yes, skip to question 23.h.		
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.		
1. How frequently are stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____		☐ F
2. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
3. 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?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
4. Were requirements established and followed for maintaining a permanent gage datum and meeting specified accuracy limits?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F

h. Do the data for one or more available stream gages 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	☐ F
i. If yes, record how many meet the standard, then skip to question 54 because this section is complete. _____		☐ F
ii. If no, answer question 24.		
24. If no gage data are available or if available gage data do 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	☐ F
a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the requirements of ARM 36.12.1702 or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 25.		
b. If yes,		
i. Submit available measurements to the Department.	☐ S	☐ F
ii. Who collected the measurements? _____	☐ A	☐ F
iii. With what method were the data collected? _____ _____	☐ A	☐ F
iv. What is the period of record? _____		☐ F
v. What is the frequency of measurement? _____		☐ F
vi. Are there gaps in the data?	☐ Y ☐ N	☐ F

1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
1. If yes, explain. _____ _____ _____	☐ A	☐ F
viii. Do 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	☐ F
1. If yes, this section is complete. Skip to question 54.		
2. If no, answer question 25.		
25. Do 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	☐ F
a. If yes,		
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A	☐ F
ii. Describe the estimation technique. _____ _____ _____ _____ _____ _____	☐ A	☐ F
b. If no, but a Department-accepted estimation technique will be appropriate for the source:		

i. Will measurements be collected prior to submission of Form 600P-B that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____	☐ A	☐ F
b. What will be the interval of measurement? _____		☐ F
c. Describe the proposed estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
2. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(1)(b)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(1)(b) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
c. If no, because no Department-accepted estimation technique will be appropriate for the source:		
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A	☐ F
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the proposed period of diversion pursuant to ARM 36.12.1702(4)?	☐ Y ☐ N	☐ F

1. If no, will measurements be collected prior to submission of a completed Form 600P that meet the Department's standard of monthly measurements throughout the proposed period of diversion?	☐ Y ☐ N	☐ F
a. If yes, with what method will the data be collected? _____ _____	☐ A	☐ F
b. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Surface Water Analysis: Ephemeral

☐ **Applicable** ☐ **Not Applicable**

26. Did you elect for the Department to conduct the Technical Analyses?	☐ Y ☐ N	☐ F
a. If yes, do you have climate or drainage area data you would like the Department to consider during Technical Analyses?	☐ Y ☐ N	☐ F
i. If yes, submit this information to the Department.	☐ S	☐ F
b. If no,		
i. Describe the estimation technique you propose to use to estimate physical availability at the point of diversion. _____ _____ _____	☐ A	☐ F
ii. What is the net annual precipitation? Include the source of this information. _____ _____	☐ A	☐ F

iii. What is the drainage area upstream of the point of diversion and how was this figure calculated? _____ _____ _____	☐ A	☐ F

Surface Water Analysis: Lakes

☐ **Applicable** ☐ **Not Applicable**

27. Has the lake volume been quantified by a qualified entity based on bathymetric data?	☐ Y ☐ N	☐ F
a. If yes, provide this information to DNRC.	☐ S	☐ F
b. If no, answer the following questions,		
i. When do you plan to collect this information? _____		☐ F
ii. What data collection method will you use? _____ _____	☐ A	☐ F

Surface Water Analysis: Other

☐ **Applicable** ☐ **Not Applicable**

28. Explain why the source type is “other”. _____ _____	☐ A	☐ F
29. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions,		
i. With what method was the measurement data collected? _____ _____	☐ A	☐ F

ii. What is the measurement interval? _____		☐ F
1. Does the interval meet the Department's standard for monthly measurements throughout the proposed period of diversion pursuant to ARM 36.12.1702(4)?	☐ Y ☐ N	☐ F
a. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline.	☐ Y ☐ N	☐ F
b. If no,		
i. When do you plan to measure? _____		☐ F
ii. What data collection method will be used? _____ _____ _____	☐ A	☐ F
iii. Do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Area of Potential Impact Analysis

No additional information needed for Technical Analyses.

GROUNDWATER

☐ **Applicable**, move on to question 30. ☐ **Not Applicable**, skip to question 54.

The following questions are mandatory for groundwater permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Groundwater Analysis for Permits

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-up**
30. What is the type of groundwater diversion? 2 WELLS	☐ A	☐ F

Well/Pumping Pit	Answer questions 31 to 35	**Developed Spring**	Answer question 36	**Pond**	Answer questions 37 to 39

Groundwater Analysis for Permits: Well/Pumping Pit

■ Applicable ☐ Not Applicable

31. Per ARM 36.12.121 a 24- or 72-hour aquifer test is required; do you propose not to conduct the test? An 8-hour test will be required, if no aquifer test is completed.	☐ Y ■ N	☐ F
a. If yes, explain. The Department will let you know if the request is reasonable and identify additional data needs. _____ _____ _____ _____ _____	☐ A	☐ F

32. Submit Aquifer Test Data Form (Form 633). If a variance is requested, Form 633 must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 633 is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	■ S	☐ F
33. Submit the Aquifer Testing Addendum (Form 600/606-ATA) and associated materials (e.g., well logs). If you request a variance, Form 600/606-ATA must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 600/606-ATA is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	■ S	☐ F
34. Are you requesting a variance from ARM 36.12.121? If you are unsure if a variance request will be needed, mark follow-up and answer this question once Form 600/606-ATA and Form 633 are complete. A variance must be requested by the Variance Request Deadline.	■ Y ☐ N	☐ F
a. If yes, submit Form 653, Form 600/606-ATA, and Form 633 together on or before the Variance Request Deadline.	■ S	☐ F
b. If no, you may choose to submit Form 600/606-ATA and Form 633 before the Variance Request Deadline, and the Department will review these two forms. However, if the Department determines a variance is needed after the Variance Request Deadline, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).		
35. Have all proposed wells/pumping pits been constructed?	■ Y ☐ N	☐ F
a. If no, answer the following questions:		
i. Submit a list of the POD IDs for all wells/pumping pits and mark whether they have or have not been constructed.	☐ S	☐ F
ii. When will all proposed wells/pumping pits be constructed? _____		☐ F
iii. Is the requested volume for each proposed well/pumping pit known?	☐ Y ☐ N	☐ F
1. If yes, list the flow rate and volume requested for each proposed well/pumping pit. Label with POD ID. _____ _____ _____	☐ A	☐ F

2. If no, what is the total requested volume (AF) and the number of proposed PODs? _____		☐ F

Groundwater Analysis for Permits: Developed Spring

☐ Applicable ■ Not Applicable

36. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, submit the measurements and answer the following questions,	☐ S	☐ F
i. Do you have flow rate (GPM or CFS) and volume measurements?	☐ Y ☐ N	☐ 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), answer the following questions. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1703(1). Variances from ARM 36.12.1703(1) are not allowed.		
i. When do you plan to measure? _____		☐ F
ii. With what method and at what interval will measurements be collected? _____ _____	☐ A	☐ F

Groundwater Analysis for Permits: Pond

☐ Applicable ■ Not Applicable

37. Submit Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test on or before the Variance Request Deadline.	☐ S	☐ F
38. Submit pond bathymetry data, survey, or engineering plans to the Department.	☐ S	☐ F
39. Is the pond fed or drained by surface water?	☐ Y ☐ N	☐ F
a. If yes,		
i. Explain. _____ _____ _____	☐ A	☐ F
ii. Submit measurements of the connected surface water source. These may include inflow and outflow measurements.	☐ S	☐ F

Surface Water Depletion Analysis

40. Is the type of groundwater diversion for your proposed project a developed spring? If yes, skip to question 45 because this section is complete. If no, move onto question 41.	☐ Y ■ N	☐ F
41. Is the type of groundwater diversion for your proposed project a pond? If yes, answer question 41.a, then skip to question 45 because this section is complete. If no, move onto question 42.	☐ Y ■ N	☐ F
a. Will any of the ponds have diversions for out-of-pond use that differ from, if year-round use, an allocation of diverted volume by the number of days in the month, or, if irrigation/lawn and garden use, the 80% dry year net irrigation requirement (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
i. If yes, provide a schedule of the diversions for out-of-pond use in the table below. Use the same POD # as the project map (question 2). Attach any additional schedules with POD # labeled.	☐ A	☐ F

POD #			
Month	**Diversions for Out-of-Pond Use Volume (AF)**	**Month**	**Diversions for Out-of-Pond Use Volume (AF)**
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	

42. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each well/pumping pit? What is the well/pumping pit depth (FT), if available, or estimated well/pumping pit depth (FT). Please use the same POD # as the project map (question 2) to match this information with the location information.	☐ A	☐ F

POD #	Flow Rate			Volume	Period of Diversion	Depth	Measured or Estimated
	Flow Rate	*GPM*	*CFS*	*AF*	*MM/DD-MM/DD*	*FT*	
1	17.3	☑	☐	9.5	01/01-12/31	30	MEASURED
2	29.5	☑	☐	16.3	01/01-12/31	50.5	MEASURED
		☐	☐				
		☐	☐				
		☐	☐				

43. Will any of the *new* wells/pumping pits have a monthly pumping schedule that differs from, if year-round use, an allocation of diverted volume by the number of days in the month, or, if irrigation/lawn and garden use, the 80% dry year net irrigation requirement (IWR, NRCS 2003)?	☐ Y ■ N	☐ F
a. If yes, provide the alternative pumping schedule(s) in the table below. Use the same POD # as the project map (question 2). Attach any additional pumping schedules with POD # labeled.	☐ A	☐ F

POD #				POD #			
Month	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

44. Will one or more *existing* wells/pumping pits be used for the proposed project?	☐ Y ■ N	☐ F
a. If yes, will any of the *existing* wells/pumping pits have a monthly pumping schedule, before or after the proposed project, that differs from an allocation of diverted volume by the number of days in the month (if year-round use) or the 80% dry year net irrigation requirement (if irrigation/lawn and garden use) (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
i. If yes, provide the pumping schedules before and after the proposed project in the table below. Use the same POD # as the project map (question 2). Attach any additional pumping schedules with POD # and before/after proposed project labeled.	☐ A	☐ F

Before proposed project: POD #				**After proposed project: POD #**			
Month	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

Surface Water Analysis of Depleted Surface Water

45. Based on the preliminary net depletion data provided by the Department at this preapplication meeting, what are the hydraulically connected surface water source(s)? **Net depletion data provided by the Department at the preapplication meeting is preliminary and is subject to change during Technical Analyses. If the source or location of net depletion data changes during Technical Analyses, then surface water analysis of depleted surface water source(s) will reflect the Technical Analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).* If the type of groundwater diversion for your proposed project is a developed spring, write "NA" and skip to question 51 because this section is complete. _____	☐ A	☐ F
46. Answer the questions in this section one time for each hydraulically connected source. Use the "Additional Hydraulically Connected Source (600P)" sheet, as necessary. For which hydraulically connected source are you answering questions 47 to 50? MARIAS RIVER		☐ F
47. Are stream gage data available?	■ Y ☐ N	☐ F
a. If yes, answer question 48.		
b. If no, answer question 49.		

48. Stream gage data are available		
a. Is one stream gage located above and one stream gage located below the start of the depleted reach?	■ Y ☐ N	☐ F
i. If no, is only one stream gage located near the start of the depleted reach?	☐ Y ☐ N	☐ F
1. If yes, is the stream gage upstream or downstream?		☐ F
b. List the gage name(s). Write "N/A" for Gage 2 if one gage available. Gage 1: MARIAS RIVER NEAR CHESTER, MT 06101500 (UPSTREAM) Gage 2: MARIAS RIVER NEAR LOMA MT 06102050 (DOWNSTREAM)		☐ F
c. What is the distance between the gage(s) and the start of the depleted reach? Write "N/A" for Gage 2 if one gage available. Gage 1: 30 STREAM MILES Gage 2: 17 STREAM MILES		☐ F
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the start of the depleted reach? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, the Regional Office may provide assistance.	☐ Y ■ N	☐ F
i. If yes, explain.	☐ A	☐ F
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: 04/01/1921 - PRESENT Gage 2: 6/13/01 - PRESENT (SEASONAL APRIL - NOV)		☐ F
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: USGS Gage 2: USGS		☐ F
g. Is each available stream gage operated and maintained by USGS or DNRC?	■ Y ☐ N	☐ F
i. If yes, skip to question 48.h.		
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.		

1. How frequently is stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____		☐ F
2. 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	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
3. 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	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
4. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions?	■ Y ☐ N	☐ F
i. If yes, record how many meet the standard, then skip to question 54 because this section is complete. _____		
ii. If no, answer question 49.		
49. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions, is the source otherwise measured?	☐ Y ☐ N	☐ F

a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the Department's measurement standards or, in combination with an approved request to deviate from the Department's standards, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 50.		
b. If yes,		
i. Submit measurements to the Department.	☐ S	☐ F
ii. Who collected the measurements? _____	☐ A	☐ F
iii. With what method was the data collected? _____ _____	☐ A	☐ F
iv. What is the period of record? _____		☐ F
v. What is the frequency of measurement? _____		☐ F
vi. Are there gaps in the data?	☐ Y ☐ N	☐ F
1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
1. If yes, explain. _____ _____ _____	☐ A	☐ F
viii. Do 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 months with net depletions?	☐ Y ☐ N	☐ F
1. If yes, this section is complete. Skip to question 54.		
2. If no, answer question 50.		

50. Do 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 calibration of a Department-accepted estimation technique?	■ Y ☐ N	☐ F
a. If yes,		
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A	☐ F
ii. Describe the estimation technique. _____ _____ _____ _____ _____ _____	☐ A	☐ F
b. If no, but a Department-accepted estimation technique will be appropriate for the hydraulically connected surface water source:		
i. Will measurements be collected prior to submission of a completed Form 600P-B that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____	☐ A	☐ F
b. What will be the interval of measurement? _____		☐ F

c. Describe the proposed estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
2. If no, do you plan on requesting to deviate from the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
c. If no, because no Department-accepted estimation technique will be appropriate for the hydraulically connected surface water source:		
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A	☐ F
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the months with net depletions?	☐ Y ☐ N	☐ F
1. If no, will measurements be collected prior to submission of a completed Form 600P that meet the Department's standard of monthly measurements throughout the months with net depletions?	☐ Y ☐ N	☐ F
a. If yes, with what method will the data be collected? _____ _____	☐ A	☐ F

b. If no, do you plan on requesting to deviate from the Department's standard for monthly measurements throughout the months with net depletions? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Area of Potential Impact Analysis of Depleted Surface Water

All information for area of potential impact of depleted surface water was collected in previous questions.

Hydrogeologic Report

51. Does your project include one or more wells, pumping pits, or ponds that are in a basin closure area? If yes, fill out questions 52 to 53. Your project must have a Hydrogeologic Report that conforms with § 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements.	☐ Y ▣ N	☐ F
52. Did you elect in question 1 for the Department to conduct the Technical Analyses?	▣ Y ☐ N	☐ F
a. If yes, the Basin Closure Area Addendum (Form 600-BCA), Form 600-HRA, and Hydrogeologic Report are not required at this time. The Department's Technical Analyses will meet requirements of §85-2-360, MCA for a Hydrogeologic Report and Form 600-HRA. Form 600-BCA will be required with application submittal.		
b. If no, submit the Basin Closure Area Addendum (Form 600-BCA) and Hydrogeologic Report Addendum (600-HRA) with your Technical Analyses.	☐ S	☐ F
53. If the Hydrogeologic Report indicates that the proposed groundwater use will impact a surface water source, identify and explain which of the following three options best describes your plan to mitigate depletions of hydraulically connected surface water and respond to the relevant questions below. ☐ Application to Change a Water Right to mitigate the adverse effects created ☑ Alternative mitigation plan ☐ Documentation to show a mitigation plan is not required		
a. Application to Change a Water Right to mitigate the adverse effects created: Submit a summary of your initial proposal. *A separate Preapplication Meeting will be required for each Application to Change a Water right to a mitigation or aquifer recharge purpose to qualify for expedited timelines and reduced filing fees for the project per ARM 36.12.1302(7)(a).*	☐ S	☐ F
b. Alternative mitigation plan: Submit a summary of your initial proposal.	▣ S	☐ F

i. Do you propose to use water with a marketing for mitigation/aquifer recharge purpose?	☐ Y ◼ N	☐ F
1. If yes,		
a. List the change authorization number(s) for all water rights proposed for use. _____	☐ A	☐ F
b. What is the area defined for marketing for all water rights proposed for use? _____	☐ A	☐ F
c. If Marketing for aquifer recharge, submit the analysis of the monthly accretions to hydraulically connected surface water(s); otherwise write “NA”. _____	☐ S	☐ F
c. Documentation to show a mitigation plan is not required: Submit all documentation.	☐ S	☐ F

MANDATORY 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.

Project-Specific Questions: Controlled Groundwater Areas and Basin Closures

Questions, Narrative Responses, and Tables	Check-boxes	Follow-up
54. Does the project include one or more groundwater points of diversion located in the East Valley Controlled Groundwater Area (EVCGWA)?	☐ Y ■ N	☐ F
a. If yes, is the use over 35 GPM or 10 AF/YR?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead Form 600-EVCGWA: East Valley Controlled Groundwater Area Permit Application.		
ii. If yes, how does this project meet the specific requirements of the East Valley Controlled Groundwater Area? Include any relevant documentation. _____ _____ _____ _____	☐ A	☐ F
b. If no, skip to question 55.		
55. Does the project include one or more groundwater points of diversion located in the Yellowstone Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes, is the proposed flow rate and volume over 35 GPM or 10 AF/YR?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead Form 600-YCGA: Yellowstone Controlled Groundwater Area Permit Application.		
ii. If yes, answer the remaining parts of question 55 and submit *Form 600 YCGA: A Yellowstone Controlled Groundwater Area Addendum Over 35 gallons per minute* with the application.		
1. Does the proposed use require a point of diversion with water temperature of 60 degrees Fahrenheit or more?	☐ Y ☐ N	☐ F
2. If an application is in a basin tributary to a category 3 or 4 stream (generally in or upstream of Yellowstone National Park), submit with the application a report prepared by a qualified professional verifying that the appropriation is not hydrologically connected to surface flow that is tributary to the reserved portion of category 3 or 4 streams.		
b. If no, skip to question 56.		

56. Is the project for surface water or groundwater and subject to one or more of the Controlled Groundwater Areas; administrative, Department ordered, or legislative basin closures; or compact closures listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas) not covered in questions 54 to 55?	☐ Y ☒ N	☐ F
a. If yes, identify each area and describe how the proposed project meets its requirements. An application must meet the specific requirements of the Controlled Groundwater Area or closure to be accepted by the Department. _____ _____ _____ _____ _____ _____ _____ _____ _____	☐ A	☐ F

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
57. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. THE PUMPS CAN BE SHUT OFF IF A VALID CALL IS MADE. A SHORTAGE IS UNLIKLEY BECAUSE A TRIBAL WATER CONTRACT FROM LAKE ELWELL WILL PROVIDE FULL MITIGATION OF THE REQUESTED VOLUME OF THE PROJECT.	☐ A
58. Explain how you can control your diversion in response to call being made. THE PUMPS CAN BE SHUT OFF IF A VALID CALL IS MADE.	☐ A
59. 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. FWP, BOR RELEASES WATER TO SATISFY FWP IN STREAM FLOW FROM TIBER RES. (STORED WATER RELEASES). (UPPER AND LOWER MARIAS)	☐ A
60. Does a water commissioner distribute water or oversee water distribution on your proposed source or depleted surface water source?	☐ Y ■ N

61. Will the point of diversion or conveyance infrastructure be shared with one or more existing water rights?	☐ Y ☒ N
a. If yes, explain how capacity of the shared point of diversion and/or conveyance infrastructure is sufficient for all water rights.	☐ A

Adequate Diversion Means and Operation

62. Submit a diagram of how you will operate your system from the point of diversion to the place of use.	☒ S
63. 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. One 6.6-in well and one 8.6-in well piped to pump house in 2-in HPDE. Pumping tests confirmed Well 1 can produce an average of 17.3 gpm and Well 2 can produce an average of 29.5 gpm. Well 1 has a Franklin 25FA5S4 5HP, 25 GPM pump. Well 2 has a 25FA7S4 7.5 HP, 26 GPM pump. Pump curves and information are provided in Appendix B of the Attachment for this form 600P-Part A.	☐ A

64. Describe the size, materials, capacity, and configuration of infrastructure to convey water from point of diversion to place of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods. You may work with the Department to estimate ditch conveyance losses but will need to provide sufficient baseline information; which includes ditch slope, dimensions, length, lining material, soil type, and location. Conveyance will be through a 3-in HPDE transmission pipeline to the Plumbers Shop at the Colony Complex. From the Plumber Shop, 3-in HPDE line distributes potable water to the residences, kitchen, school, shops, and batch plant. No losses are expected from the pipeline conveyance.	☐ A
65. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion. Pumping tests were conducted in PWS Wells 1 and 2. Well 1 produced an average of 17.3 gpm during 24.5 hrs of pumping. Well 2 produced an average of 29.5 gpm over 78.3 hours. The requested maximum flow rate is 29.5 gpm. a 3-in line is capable of transmitting the requested flow rate.	☐ A
66. Provide a plan of operations, which includes 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. Water will be diverted from one or both wells PODs, measured, and conveyed to a storage tank in the Colony Plumber Shop. From there, water is distributed for potable use to Colony buildings. Volumes are based on DNRC standards.	☐ A

67. Does the proposed conveyance require easements?	☐ Y ■ N
a. If yes, explain.	☐ A
68. Do you own the land where all proposed points of diversion are located?	■ Y ☐ N
a. If no, documentation to show you have the right to use all points of diversion located on each property you do not own will be required upon application submittal. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.	
69. 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. N/A	☐ A
70. 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. METER AT THE DIVERSION SITE.	☐ A

Beneficial Use

71. Does the Department have a standard for any of the purposes for which water is used? Department standards can be found in ARM 36.12.112 and ARM 36.12.115.	■ Y ☐ N
a. If yes, list the purposes for which the Department has a standard and note whether the proposed use falls within or outside the standard. DEPARTMENT STANDARD FOR INDUSTRIAL (1AF/SHOP - 1AC/FT - BATCH PLANT) AND MULTIPLE DOMESTIC. (16.8 AF = 100 GPM/PERSON/DAY WITH 150 PEOPLE MAX. STANDARD: .28 AC/FT)	

72. If no Departmental standard exists for any proposed purpose, or if any proposed purpose falls outside of Department standards, explain how the use is reasonable for that purpose. N/A	☐ A
73. 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
74. 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

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

b. If no,	
i. Do you own all proposed places of use?	■ Y ☐ N
1. If no,	
a. Explain. Documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use will be required at application submittal. _____ _____ _____ _____	☐ A
b. Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403.	☐ Y ☐ N
i. If no, explain. _____ _____ _____	☐ A

Non-Mandatory Project Specific Questions

Place of Storage

76. Does the proposal include at least one place of storage? If yes, answer questions 77 to 80 for each individual place of storage (use "Additional Place of Storage (600P)" sheet for additional places of storage). A Permit Storage Addendum (Form 600-SA) will be required at application submittal. If no, this section is complete, and you can skip to question 81.	☐ Y ■ N
77. Are preliminary designs available? Preliminary designs will be required at application submittal.	☐ S
a. If yes, submit preliminary designs.	☐ Y ☐ N
78. Will the place of storage be lined?	☐ Y ☐ N
79. What is the annual net evaporation of water from the place of storage, based on the Department's gridded net evaporation layer? If you propose a different method, attach an explanation and justification of the method. _____	☐ A

80. Is the place of storage capacity calculated to be greater than 50 AF?	☐ Y ☐ N
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? This will be required by application submittal.	☐ Y ☐ N

Project-Specific Questions: Water Marketing

81. Does the proposal include water marketing? If yes, please answer the questions in this section (questions 82 to 85). A Water Marketing Addendum Purpose Addendum (600/606-WMA) will be required at application submittal. If no, this section is complete.	☐ Y ■ N
82. For what purpose(s) will the marketed water be used? _____ _____ _____	☐ A
83. How will you control or limit access to the water? _____ _____ _____	☐ A
84. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N
85. Provide a service area map. Create map on an aerial photograph or topographic map and show the following: general service area boundary, section corners, township and range, scale bar, and north arrow.	☐ S

FOLLOW-UP

The tables below will identify all questions marked for follow-up. Applicant follow-up will be submitted with the completed Preapplication Meeting Form: Part B (Form 600P-B). Applicant will provide all responses to questions marked for follow-up on a separate document entitled "Follow-up Responses." At the preapplication meeting, the Department may offer to provide the Applicant with information pertinent to identified follow-up. In this case, record in the notes column what information the Department will provide and the date by which the Department will email this information to the Applicant. This information will supplement but not replace Applicant follow-up. It is the responsibility of the Applicant to provide all follow-up, including questions supplemented by Department information, in the "Follow-up Responses" document.

The "Follow-up Responses" document must conform to the following standards. Label all responses with the question number. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", "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: Part A (Form 600P-A) signed at the Preapplication Meeting**. Instead, the Applicant must use the Amended Responses procedure defined in Form 600P-B. Do not include additional information for questions that were not marked for follow-up on this table; instead include any additional information pursuant to the process for amending responses defined in Form 600P-B.*

QUESTION #	NOTES

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 meeting 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 five business days 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.

Benjamin P Wipf — 12-12-2025
Applicant Signature — Date

Stephen J Wipf — 12-12-2025
Applicant Signature — Date

12-15-2025
Department Signature — Date

SUNNYBROOK COLONY INC

PERMIT PREAPPLICATION MEETING FORM 600P

ATTACHMENT WITH SUPPLEMENTAL RESPONSES

December 10, 2025

Question 2. Provide a map created on an aerial photograph or topographic map.

Please see Maps 2a and 2b below showing location of well PODs. Map 2b shows conveyance and the place of use at the Colony complex in SE Section 20, T28N-R8E, Choteau County.

Figure 2a. Point of diversion map showing well locations.

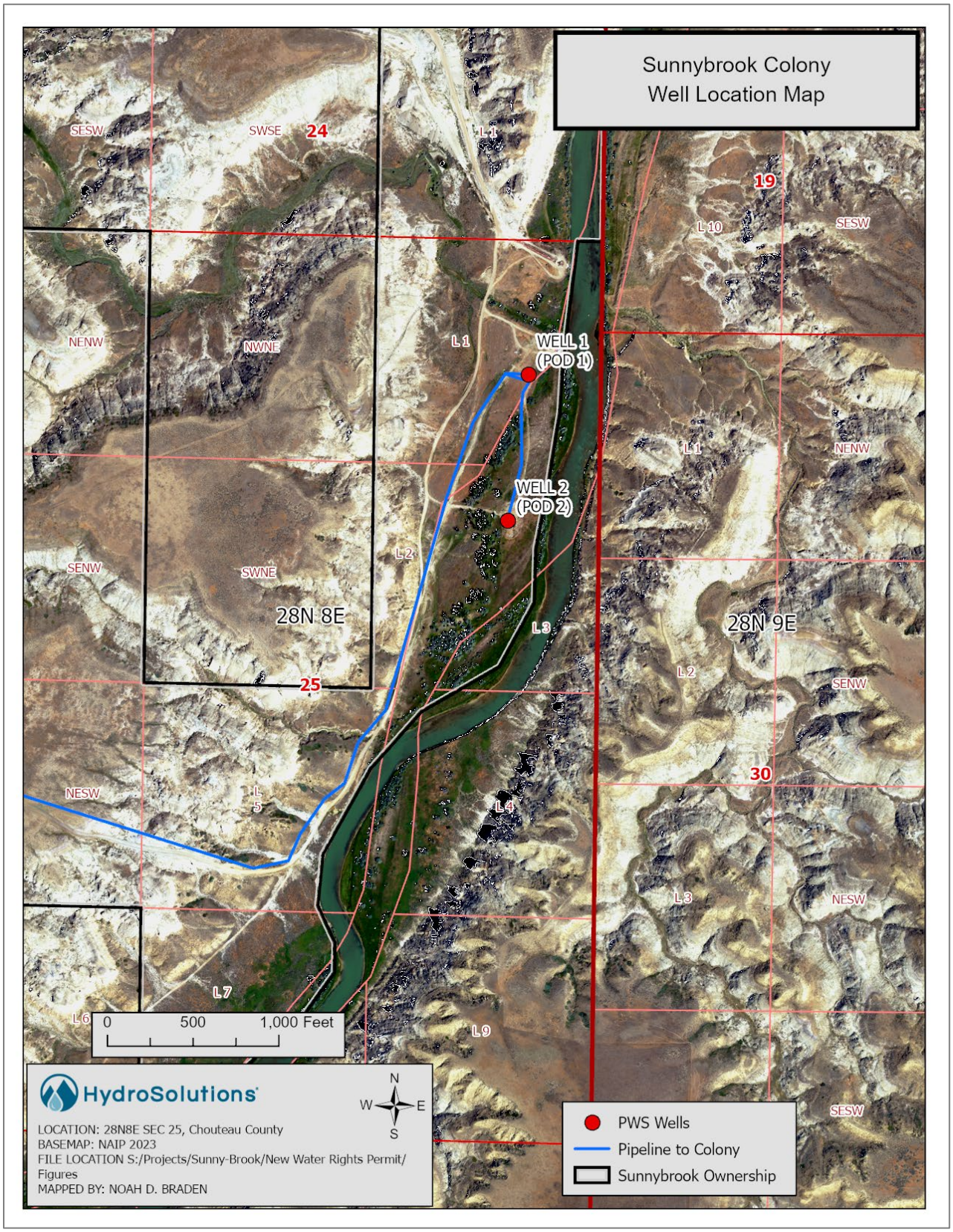
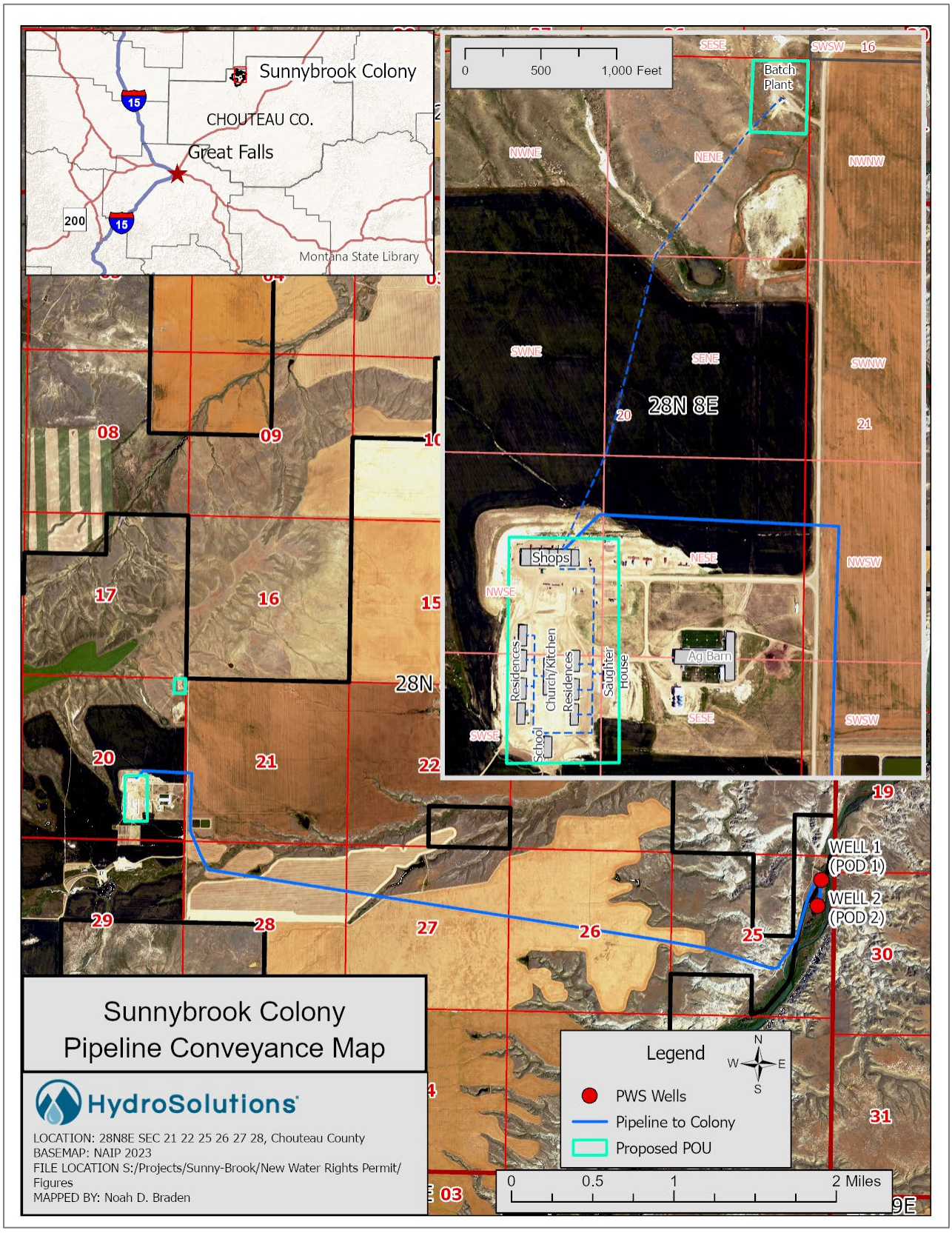


Figure 2b. Point of diversion map showing conveyance and POU at the Colony Complex.

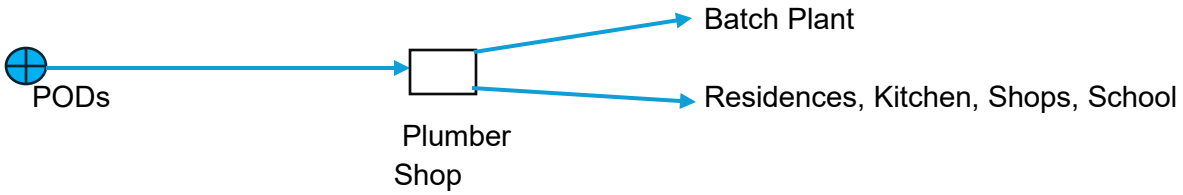


<u>Question 53 b.</u> Alternative mitigation plan: Submit a summary of your initial proposal.

Mitigation will be provided under a Tribal (Chippewa Cree or Blackfeet) water service contract that will mitigate and offset the full consumed volume for each month. Water would be released from Lake Elwell through Tibor Dam on a normalized monthly basis.

<u>Question 62.</u> Provide a diagram of how you will operate your system from the point of diversion to the place of use.

The system will operate by pumping PODs 1 and 2, conveying water through the pipeline to the Colony Plumber Shop and then distributing the water for multiple domestic and commercial use through distribution lines. This operation is shown on the maps above and represented in the following diagram.



Also see Figure 2b above.

APPENDIX A

WELL PUMP INFORMATION

93822535



The standard FPS Tri-Seal 4-inch submersible well pump features the new TRI-SEAL floating stage system. This new stage system for the submersible well pump improves efficiency and protects against wear when pumping abrasives (sand).

Item:	93822535
Model:	25FA5S4-PE

Ratings

HP	5 hp
Frequency	60 Hz
Phases	Not Applicable
Volts	Not Applicable
Motor	Encapsulated
Input Phase	Not Applicable
Maximum Flow Rate - 60 Hz	30 gpm
Minimum Flow Rate - 60 Hz	15 gpm
Flow	25 gpm
Shut Off 60 Hz	833 ft
Stages	23

Liquid

Maximum Fluid Temperature	120 °F

Materials of Construction

Pump Body Material	AISI 304 Stainless Steel
Discharge Head Material	Stainless Steel
Impeller Material	Acetal
Motor Bracket Material	Stainless Steel
Check Valve	Yes
Intake Screen Material	Stainless Steel
Diffuser Material	Noryl with 30% Fiberglass
Cable Guard Material	Stainless Steel

Dimensions

Discharge	Threaded - FNPT
Discharge Diameter	1.25 "
Diameter With Cable Guard	3.9 "
Pump	
Produ	
Pump	

Ot

Compl Numb	
Drinki Appro	

Want to be the first to know about the latest in pumping solutions?

YES, SIGN ME UP!

NO THANKS

93822540



The standard FPS Tri-Seal 4-inch submersible well pump features the new TRI-SEAL floating stage system. This new stage system for the submersible well pump improves efficiency and protects against wear when pumping abrasives (sand).

Item:	93822540
Model:	25FA7S4-PE

Ratings

HP	7.5 hp
Frequency	60 Hz
Phases	Not Applicable
Volts	Not Applicable
Motor	Encapsulated
Input Phase	Not Applicable
Maximum Flow Rate - 60 Hz	30 gpm
Minimum Flow Rate - 60 Hz	15 gpm
Flow	25 gpm
Shut Off 60 Hz	1281 ft
Stages	35

Liquid

Maximum Fluid Temperature	120 °F

Materials of Construction

Pump Body Material	AISI 304 Stainless Steel
Discharge Head Material	Stainless Steel
Impeller Material	Acetal
Motor Bracket Material	Stainless Steel
Check Valve	Yes
Intake Screen Material	Stainless Steel
Diffuser Material	Noryl with 30% Fiberglass
Cable Guard Material	Stainless Steel

Dimensions

Discharge	Threaded - FNPT
Discharge Diameter	1.25 "
Diameter With Cable Guard	3.9 "
Pump	
Produ	
Pump	

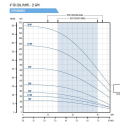
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Want to be the first to know about the latest in pumping solutions?

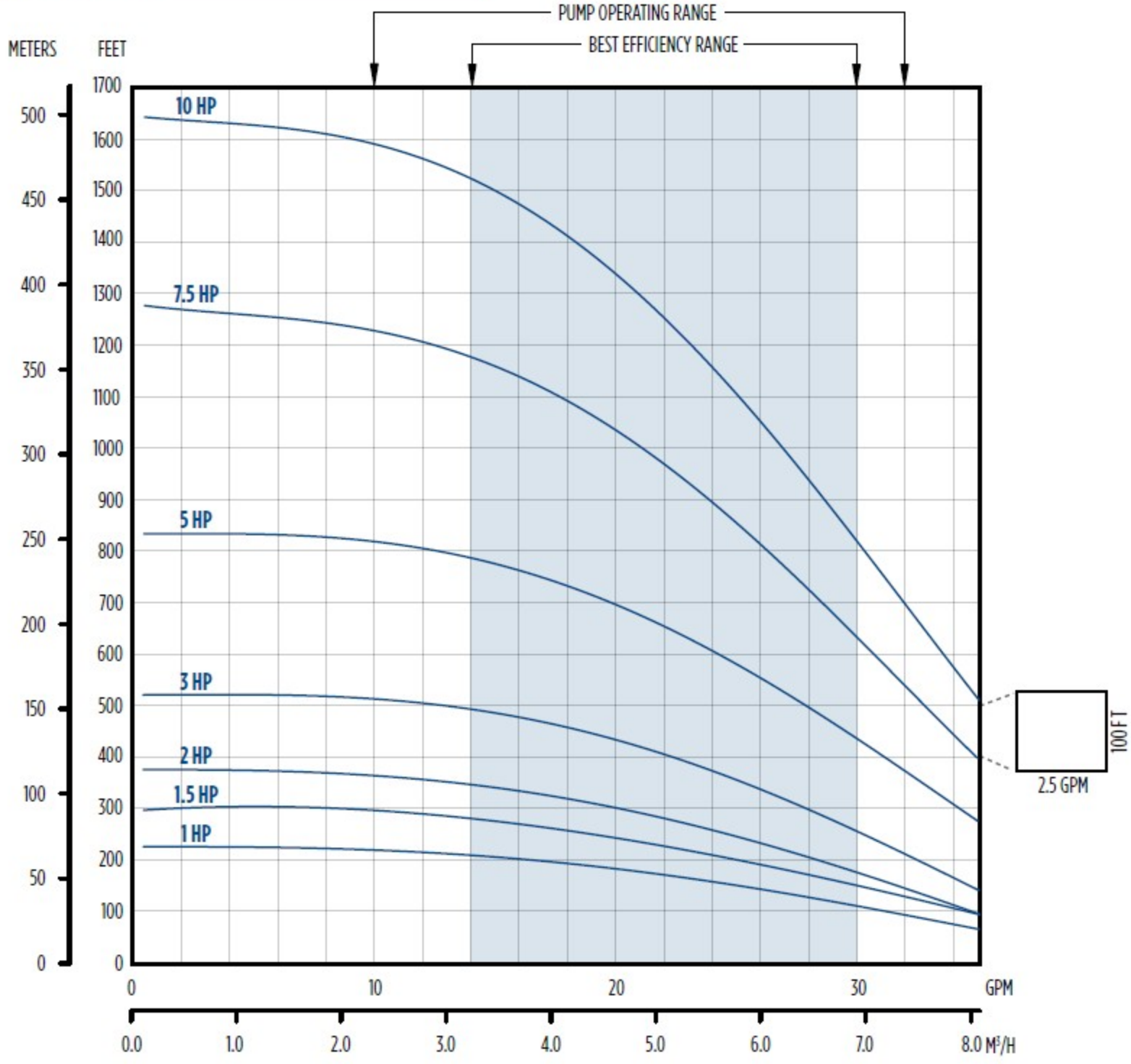
YES, SIGN ME UP!

NO THANKS


P 3x 25L/4/E - 2 GPI
NPSH
m
ft
Hz
50
60
Min. NPSH required
Q (USGPM) min.
H
m
ft
3 GPI
2 GPI
1 GPI
Q
l/s
USGPM

4" TRI-SEAL PUMPS - 25 GPM

PERFORMANCE



Excel File Placeholder

The Form 633 Aquifer test data spreadsheets are available outside of the application file.

*For **pending applications:***

- *Excel files are available upon request from the regional office. Please contact the regional office for more information.*

REQUEST FOR PREAPPLICATION MEETING

ARM 36.12.1302(2)

(Revised 02/2025)

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

RECEIVED

DNRC
HAVRE WATER RESOURCES

Date Received 12/3/2025
Received By KI
Scheduled Meeting Date 12/10/25 9AM

---

1. **Applicant Name** SUNNY BROOK COLONY INC

Mailing Address 12495 GOOSEBILL RD

City FORT BENTON State MT Zip 59442

Home Phone _____ Other Phone _____

Email: _____

2. **Representative Name** (if other than Applicant) DAVID BALDWIN, HYDROSOLUTIONS INC

☑ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other

Mailing Address 303 CLARKE ST

City HELENA State MT Zip 59601

Home Phone 406-431-7760 Other Phone SAME

Email: dbaldwin@hydrosi.com

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

☑ Permit ☐ Change

4. **Describe your project:**

The Colony has installed two shallow wells in the alluvium of the Marias River. A flow rate of 29.5 gpm and volume of 25.8 acre-feet is requested for multiple domestic and industrial purposes. From the wells near the Marias River, water will be conveyed about five miles west to the Colony headquarters complex.

To offset all monthly depletions to the Marias River from the proposed pumping, mitigation will utilize water obtained under a Bureau of Reclamation contract from Lake Elwell.

The wells have been permitted through DEQ as public supply wells for domestic use.

**This second Preapplication meeting is to correct domestic consumed volume to 100% based on use of evaporation lagoons for wastewater discharge.

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

a) The flow rate and volume of water required:

Flow Rate 29.5 ☑ GPM ☐ CFS Volume 25.8 Acre-Feet

b) The point of diversion:

Point of Diversion #1 SE 1/4 NE 1/4 NE 1/4 Section 25, Township 28 ☑ N ☐ S, Range 8 ☑ E ☐ W
County CHOUTEAU
Lot/Tract _____ Block _____ Subdivision Name _____
Point of Diversion #2 NE 1/4 SE 1/4 NE 1/4 Section 25, Township 28 ☑ N ☐ S, Range 8 ☑ E ☐ W
County CHOUTEAU
Lot/Tract _____ Block _____ Subdivision Name _____

c) The place of use:

_____ Acres ____ Lot ____ Block ____ 1/4 ____ 1/4 SE 1/4 Sec 20, Twp 28 ☑ N ☐ S, Rge 8 ☑ E ☐ W
_____ Acres ____ Lot ____ Block ____ 1/4 NE 1/4 NE 1/4 Sec 20, Twp 28 ☑ N ☐ S, Rge 8 ☑ 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: GROUNDWATER WELLS

e) The proposed purpose: MULTIPLE DOMESTIC AND INDUSTRIAL

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

Type of water right _____ Basin _____ Water Right # _____
Type of water right _____ Basin _____ Water Right # _____
Type of water right _____ Basin _____ Water Right # _____

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

Water Right #					
Point of diversion	☐	☐	☐	☐	☐
Place of use	☐	☐	☐	☐	☐
Purpose of use	☐	☐	☐	☐	☐
Place of storage	☐	☐	☐	☐	☐

g) For a change in appropriation right, an explanation of historical use of the right(s) proposed for change:

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 well or wells, the well depth(s) and location. If more than two wells, attach a separate sheet to this request:

Well #1 ☑ New Well ☐ Existing Well

For existing well, if available, Water Right # NA GWIC ID 311691

1/4 NE 1/4 NE 1/4 Section 25, Township 28 ☑N ☐S, Range 8 ☑E ☐W

County CHOUTEAU

Lot/Tract _____ Block_____ Subdivision Name_____

Estimated Well Depth 30 Feet

Well #2 ☑ New Well ☐ Existing Well

For existing well, if available, Water Right # NA GWIC ID 318635

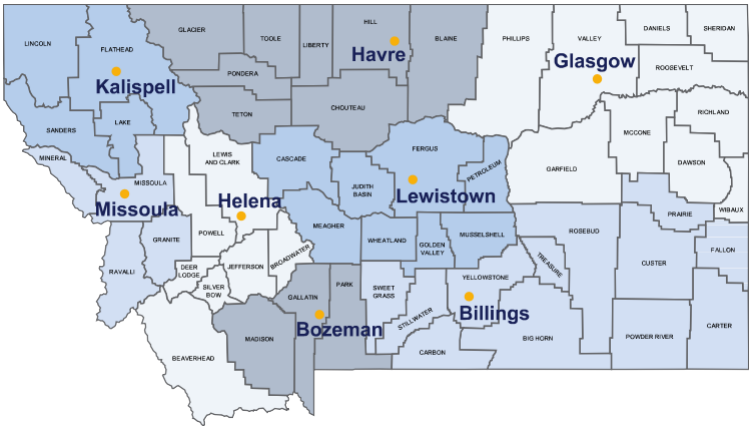
NE 1/4 SE 1/4 NE 1/4 Section 25, Township 28 ☑N ☐S, Range 8 ☑E ☐W

County CHOUTEAU

Lot/Tract _____ Block_____ Subdivision Name_____

Estimated Well Depth 52 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

Variance Information

- Variance Request Form
- WSB Variance Sheet
- Approval or Denial of Variance Request

Variance Information

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

December 18, 2025

Sunny Brook Colony

12495 Goosebill Rd.

Fort Benton, MT 59442-8870

Subject: Pre-Application 41P 30172629 Variance Request Determination Letter

Dear Applicant,

The Department of Natural Resources and Conservation (DNRC or Department) has reviewed the information provided on the DNRC's Form 653-Varience Request received on December 10, 2025. This letter is to notify you, as the requester, of the DNRC's decision to **GRANT** the following variances as requested:

ARM 36.12.121 Aquifer Testing Requirements

72-hr Test Duration

- 3(e)(iii) Drawdown was recorded on 1-minute time increments and does not meet the minimum 30-second time increment for the first 10 minutes of the test. The sampling schedule does not affect the analysis of aquifer test data.

24-hr Test Duration

- 3(g): Background water levels were monitored for less than 1-hr prior to the 24-hr aquifer test. The Applicant provided an analysis of precipitation and river stage prior to and during the aquifer test. This information did not show hydrologic conditions that would significantly impact the analysis of the aquifer test.

- 3(h): Drawdown in the Observation Well was recorded at 5-minute intervals for the 11/10/2021 aquifer test. The sampling interval was less than the minimum interval for the first 20 minutes of the test and exceeded the minimum sampling interval for the remainder of the 24-hr aquifer test. The sampling interval does not prevent analysis of the aquifer test data.

A variance request approval does not mean that the Department can grant a water right. An applicant must meet all the criteria for the issuance of a water right before it can be granted.

Please let me know if you have any further questions.

Sincerely,

Matt Miles

Digitally signed by Matt Miles
Date: 2025.12.18 09:07:34 -07'00'

Matt Miles| Regional Manager
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
PO Box 1828, Havre, MT 59501
DESK: 406-808-7122 OFFICE: 406-265-5516 EMAIL: mmiles@mt.gov

CC: David Baldwin, HydroSolutions Inc.

<dbaldwin@hydrosci.com>

303 Clarke St.

VARIANCE REQUEST

ARM 36.12.123

Form No. 653 *(Revised 11/2024)*

For Department Use Only

Application # 30172629 Basin _____

Received Date 12/10/25

Received By KI

INSTRUCTIONS

Use this form to request a variance from the requirements of ARM 36.12.121 or 36.12.1702, as provided for in ARM 36.12.123.

Submit this completed form to the appropriate regional office by the deadline established during the preapplication meeting or, if a preapplication meeting is not held, include this request with your filed application or as part of a deficiency response.

Applicant Name SUNNY BROOK COLONY INC

Mailing Address 12495 GOOSEBILL RD

City FORT BENTON State MT Zip 59442

Home Phone _____ Other Phone _____

Email: _____

Representative Name (if other than Applicant) DAVE BALDWIN / HYDROSOLUTIONS INC

☒ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other (describe) NE

Mailing Address 303 CLARKE ST

City HELENA State MT Zip 59601

Home Phone 406-431-7760 Other Phone SAME

Email: dbaldwin@hydrosi.com

Identify from which section(s) of ARM 36.12.121 or 36.12.1702 you are requesting a variance. Refer to the rule for a full list of requirements in these sections.

☐ ARM 36.12.121 Aquifer Testing Requirements

- ☐ (2)(a) map with labeled location of production and observation wells
- ☐ (2)(b) well logs of the production and observation wells
- ☐ (2)(c) Form No. 633, in electronic format, with all information and data provided
- ☐ (3)(a) pumping rate may not depart from the average pumping rate by more than +/- 5%
- ☐ (3)(b) average pumping rate equal to or greater than the proposed flow rate if the application is for one well or if the total proposed rate for multiple wells can be obtained from a single well
- ☐ (3)(c) proposed pumping rate may be demonstrated by testing multiple wells as long as (e) is met by one well and the remaining flow rate is demonstrated by eight-hour drawdown and yield tests on additional production wells under (e)(i)(i)
- ☐ (3)(d) pumping rate must be measured with a reliable measuring device and recorded with clock time according to the schedule on Form No. 633
- ☐ (3)(e) minimum duration of pumping during an aquifer test must be 24 hours for a proposed pumping rate and volume equal to or less than 150 GPM or 50 AF, or 72 hours for a proposed pumping rate and volume greater than 150 GPM or 50 AF
- ☐ (3)(e)(i) at a minimum an eight-hour drawdown and yield test is required on all new production wells
- ☐ (3)(e)(ii) In addition to (e), if more than one new production well is proposed, at a minimum an eight-hour drawdown and yield test is required on all subsequent new production wells
- ☒ (3)(e)(iii) the testing procedures for a minimum eight-hour drawdown and yield test performed on any production well must follow (a), (d), and (h)
- ☐ (3)(f) one or more observation wells must be completed in the same source aquifer as the proposed production well and close enough to the production well so that drawdown is measurable and far enough that well hydraulics do not affect the observation well
- ☒ (3)(g) background groundwater levels in the production well and observation well(s) must be monitored at frequent intervals for at least two days prior to beginning the aquifer test according to the Form No. 633
- ☒ (3)(h) groundwater levels in the production and/or observation well(s) must be reported with 0.01-foot precision according to the schedule specified on Form No. 633

Explain the specific variance you are requesting and the reason for requesting it. Also identify your proposed alternative testing methodology or aquifer test data, if applicable. Attach additional sheets if necessary.

(3.e.iii) (a) and (d) are met. (h) has a variance requested below.

(3.g) Background groundwater levels in the production well and observation wells were not monitored at frequent intervals for at least two days prior to the aquifer tests.

See the analysis of precipitation, Marias River flows, and possible impacts from other wells in the attached Variance Supplement

The lack of background monitoring did not affect the quality of the aquifer test results. Values of K and T are reasonable and similar to values reported for alluvial aquifers in professional publications.

(3.h) Pumping wells technically don't match the 633 schedule but exceeds the required sampling interval. The Obs Well data in the Well 1 test are reported at 5-minute intervals and do not comply with the schedule requirement for the first 20 minutes of the test. In the test of Well 2 the Obs Well recovery data were report on 1-minute intervals, which does not comply with requirement for the first two minutes of the test. Because the test of Well 1 lasted 24.5 hours, the data still supply excellent information for determination of aquifer properties. Recovery water levels in Obs Well during the tests of Wells 1 and 2 were not reported according to the schedule specified on Form No. 633.

Values of K and T are reasonable and similar to values reported for alluvial aquifers in professional publications.

☐ ARM 36.12.1702 Physical Surface Water Availability

- ☐ (1)(b) at a minimum, three measurements that reflect high, moderate, and low flows during the period of diversion
- ☐ (4) once monthly measurements at department-approved intervals during the proposed period of diversion

Explain the specific variance you are requesting and the reason for requesting it. Also identify your proposed alternative measurement methodology, if applicable. Attach additional sheets if necessary.

Additional Correspondence

- Emails
- Any other Correspondence

Additional Correspondence